AEI Consultants
Environmental & Engineering Services

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By Alameda County Environmental Health 8:17 am, Jul 07, 2016

June 29, 2016

Ms. Karel Detterman
Alameda County Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

Subject: **Perjury Statement and Report Transmittal**
Zimmerman Property
3442 Adeline Street
Oakland, California 94608
ACEH Fuel Leak Case No. RO0002936
AEI Project Number: 281939

Dear Ms. Detterman:

I declare under penalty of perjury that the information and/or recommendations contained in the attached report and work plan for the above-referenced site are true and correct to the best of my knowledge.

If you have any questions or need additional information, please contact me at (925) 457-5607 or Mr. Adrian Angel at AEI Consultants at (408) 559-7600.

Sincerely,

Sandra Lee Mouat / Bill Mouat

Steffi Zimmerman
c/o Sandra Lee and Bill Mouat, Owner Representatives

June 29, 2016

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UPDATED SITE CONCEPTUAL MODEL AND DATA GAPS INVESTIGATION WORKPLAN

Property Identification:
3442 Adeline Street
Oakland, California

AEI Project No. 281939
ACEH Site: RO0002936

Prepared for:
Steffi R. Zimmerman Trust
c/o Mr. Bill Mouat
3289 Lomas Verdes Place
Lafayette, CA 94545

Prepared by:
AEI Consultants
2500 Camino Diablo
Walnut Creek, California 94597
(925) 746-6000

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TABLES

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June 29, 2016

Ms. Karel Detterman
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, California 94602

Subject: **Updated Site Conceptual Model and Data Gap Investigation Work Plan**
3442 Adeline Street, Oakland, California 94608
AEI Project No. 281939
ACEH Site: RO0002936

Dear Ms. Detterman:

On behalf of the Steffi Zimmerman Trust (the Trust), AEI Consultants (AEI) has prepared this *Updated Site Conceptual Model and Data Gaps Investigation Work Plan*, for the property located at 3442 Adeline Street in the City of Oakland, Alameda County, California ("the Site"). AEI has prepared this document in response to the April 22, 2016 letter received from Alameda County Environmental Health (ACEH) requesting this an updated site conceptual model (SCM) and work plan to close data gaps if found in the SCM. The SCM has been developed relative to the California State Water Resources Control Board's *Low-Threat Underground Storage Tank Case Closure Policy* (LTCP) including where the data show that the requirements of the LTCP have been met and those were additional data may be necessary. Significant reductions in residual petroleum hydrocarbon concentrations have been observed in groundwater since the initial release was identified in 2000. Based upon the evaluation presented below, it appears that the Site meets the majority of the LTCP requirements, with the exception of the identified data gaps, including potential exposure to shallow soil and soil vapor requires further characterization. For those areas where additional information is necessary, a work plan to collect the additional data is presented.

1.0 SITE DESCRIPTION AND BACKGROUND

The Site is located on the northeast corner of 35th Street and Chestnut Street in an urban mixed commercial/industrial and residential area of Oakland. The warehouse building covers approximately 65% of the property and is currently being used as a warehouse and a sports facility. The balance of the Site is paved with concrete is used for parking and storage. Figure 1 presents the Site location and Vicinity. Figure 2 presents an aerial photo showing the Site vicinity. Figure 3 presents the Site plan.

On February 22, 2000, Clearwater Group (Clearwater) removed a reportedly steel single-wall 3,750-gallon underground storage tank (UST) from a location immediately adjacent to the eastern property boundary. Sidewall soil samples and a grab groundwater sample were collected from

the tank excavation for chemical analysis. Each of the two sidewall soil samples and the one groundwater sample yielded elevated concentrations of petroleum hydrocarbons suggesting a release of petroleum hydrocarbons had occurred from the former UST.

Subsurface investigations to characterize the lateral and vertical extent of petroleum hydrocarbons released from the former UST commenced in 2006. The investigation activities have included:

- Between 2006 and 2009, a total of 43 soil borings have been advanced to collect 107 soil samples and 36 grab groundwater samples from locations across the Site, and off-site.
- In April 2009, seven groundwater monitoring wells, MW-1 through MW-7 were installed. Periodic groundwater monitoring of the groundwater in each of the monitoring wells has been performed, including a total of 11 monitoring events.
- In May 2009, one sparge well, IW-1, was installed within the former UST location to for potential remedial activities.

In March and April of 2009, an interim remedial excavation was performed on-site and immediately down-gradient of the former UST location and inside one of the on-site buildings. The excavation measured 35 feet by 75 feet by approximately 12 feet deep. The excavation was advanced until photoionization detector (PID) measurements were below 100 parts per million by volume (ppmv) and a yellowish brown soil layer. A total of 1,098.21 tons of petroleum-impacted soils were removed and property disposed. Dewatering during excavation generated approximately 5,000 gallons that was discharged under permit to the sanitary sewer. A total of 19 confirmation soil samples were collected from the excavation sidewalls at depths of 7 and 11.5 feet bgs. Tables 1, 2, and 3 present summaries of the soil, groundwater, and soil vapor data collected at the Site, respectively. Table 4 presents a summary of well construction details. Table 5 presents a summary of petroleum hydrocarbon concentrations in groundwater.

As part of the excavation activities, dewatering wells were constructed to a total depth of thirteen-feet bgs in the backfill as the excavation progressed, identified as BF-1 through BF-5. During backfill of the excavation, three horizontal soil vapor extraction wells were installed at a depth of seven-feet bgs along the north, east, and south sides of the excavation identified as SVE-1, SVE-2, and SVE-3. Following evaluation of soil gas concentrations in the horizontal SVE wells along the north, south and east sides of the excavation the SVE wells SVE-1, SVE-2, SVE-3 and backfill well BF-4 were destroyed on January 19, 2010. The former locations of the SVE wells and further information are included in AEI's Interim Corrective Action Report, dated August 31, 2009.

2.0 SITE CONCEPTUAL MODEL

AEI has prepared the following SCM presenting our understanding of geologic and hydrologic setting of the Site, the source of contaminants, release mechanism, and the nature and extent of contaminants in the subsurface. A matrix exhibiting the SCM is presented in Table 7.

2.1 Geologic Setting and Hydrology

The Site lies on the distal end of the Temescal Creek Alluvial Fan at approximately 45 feet North American Vertical Datum 1988 (NAVD88). The Temescal Alluvial Fan is a low relief broad alluvial fan sloping westerly and southwesterly from the mouth of the Temescal Creek. The Holocene age alluvial fan deposits are mapped as Quaternary Holocene alluvial fan deposits (Qhaf) (Helley 1997). The sediments are described as typically, brown to tan gravelly sand or sandy gravel, which generally grades upward into sandy or silty clay.

The majority of the drilling work at the site occurred between 2006 and 2009. A summary of prior interpretations is presented below. Figure 4 presents and updated lithologic cross-section, updated with 2016 monitoring data. Sediments encountered at the Site in the upper four to five feet underlying the Site consist of black silty clay – clayey silt containing variable amounts of scattered gravel. These sediments are considered to be bay margin sediments.

The shallow fine grained surface layer is underlain by alluvial deposits of intercalated, lenticular bodies of silt, clay, sand, and gravel. The sediments are typically highly variable mixtures of the four primary soil types. Permeability (transmissivity) of the coarse grained sediments is typically low due to the presence of interstitial clay; however, scattered clean sands and gravels are present with good permeability. These individual permeable channel deposits appear to act as preferential channels for groundwater flow across the Site and are the likely cause of the slightly sinuous, asymmetric appearance of the hydrocarbon plume in the soil and groundwater.

Table 5 presents a summary of the groundwater elevation measurements collected at the Site. Table 5a presents a summary of changes in groundwater elevations and general flow directions observed during each groundwater monitoring event. The potentiometric groundwater surface suggests a groundwater flow direction primarily to the west, with groundwater elevation fluctuating up to 2.94 feet between monitoring events.

2.2 Release Source

The source of the release of petroleum hydrocarbons to the subsurface was a single walled, 3,750-gallon steel tank located under the sidewalk at the south east corner of the property that was removed in February 2000. Investigations performed to-date have shown that petroleum hydrocarbons have been released to the subsurface and have migrated laterally, generally in a westerly direction. The presence of elevated concentrations of benzene in soil and groundwater samples collected suggest that the UST likely stored gasoline.

2.2.1 Off-Site Releases

There are two releases near the Site. Both do not appear to have impacted the Site, and include:

- A closed release case is located up-gradient from the Site at 3501 San Pablo Avenue. There is limited information provided on the GeoTracker database beyond noted soil contamination of waste oil, motor, hydraulic, and lubricating oils and that a remedial excavation was performed. No groundwater data is available.
- An adjacent site, the Former City of Paris Cleaners (3516 Adeline Street), located northwest of the Site. A release from USTs of Stoddard Solvent, a dry cleaning solvent used during

operation of the dry cleaning facility until the 1960s when the facility was closed. In 1990, one 750-gallon and two 1,000-gallon underground tanks used to store Stoddard Solvent were removed from the site. In 1991, an additional 250-gallon UST was removed. The site is referenced at eligible for closure as of February 2016.

2.3 Contaminants of Concern

Under the LTCP, the primary contaminants of concern (COCs) include total petroleum hydrocarbons as gasoline, benzene, and methyl tertiary butyl ether (MTBE). The ACEH has requested sampling for volatile and semi-volatile organic compounds (VOCs and SVOCs) that will be performed during the next scheduled groundwater monitoring event. If additional chemicals are identified of concern, they will be further evaluated at that time. The nature and extent of each of each of these COC is discussed below.

2.3.1 COCs in Soil

Table 1 presents a summary of the historic soil sample analytical results for the Site. Historic COC concentrations in soil are shown on Figure 5. Residual petroleum hydrocarbons in the unsaturated zone are present in the vicinity of the former UST location. There appears to have been some migration of petroleum hydrocarbons towards the west and south, likely secondary impacts from migration in groundwater. The interim remedial excavation performed removed on-site soils that were impacted by petroleum hydrocarbons. Sidewall samples indicated that the bulk of impacted soil in this area had been removed.

Soil samples collected at depths of less than 7.5 feet have not yielded significant concentrations of COCs. At depths below 7.5 feet bgs and above 9 feet bgs elevated concentrations of COCs are present at the location of the former UST and the along the south end of the interim remedial excavation.

At depths below 9 feet bgs saturated soil samples analyzed yielded COCs in the area of the former UST excavation, along the south and east sides of the source removal excavation. The impacted soil in this interval appears to be related to COC-impacted groundwater migrating in the more-permeable gravels layers at the Site.

2.3.2 COCs in Groundwater

Tables 2 and 6 present a summary of COC concentrations in grab groundwater and monitoring well samples collected. Figure 6 and 7 present the historical and current extent of TPHg and benzene in groundwater at the Site. MTBE was only detected in one groundwater sample during the most recent groundwater monitoring event. As shown on the figures the remedial activities and natural processes including biological degradation, dispersion, and dilution have significantly reduced COC concentrations and their extent in groundwater beneath the Site. Therefore, the plumes show to be stables and/or decreasing in size and concentration. As shown on Figure 7, the benzene plume that previously extended approximately up to 300-feet in a westerly direction have significantly reduced in size and concentration. Table A presents a summary of current COC concentrations in groundwater samples collected in January 2016.

Table A - Summary of Current COC Concentrations in Groundwater

Well ID	TPHg (ug/L)	Benzene (ug/L)	MTBE (ug/L)
MW-1	<50	<0.5	<5.0
MW-2	330	97	<5.0
MW-3	Well has been inaccessible since December 2009		
MW-4	<50	<0.5	<5.0
MW-5	110	2.7	<5.0
MW-6	<5.0	1.8	<5.0
MW-7	1,800	400	31
IW-1	<50	<0.5	<5.0
BF-1	<50	<0.5	<5.0
BF-5	<50	<0.5	<5.0

The significant reductions in dissolved COC concentration in groundwater can be summarized as follows:

- Groundwater samples collected from monitoring well MW-2 had previously yielded the most elevated concentration of TPHg of 27,000 ug/L in May 2011, has seen a reduction to 330 ug/L in January 2016.
- Groundwater samples collected from MW-3 previously yielded the most elevated benzene concentration of 3,800 ug/L in August 2009. MW-2, which also yielded similarly elevated benzene concentrations, with a maximum of 3,600 ug/L reported in August 2009, has seen a reduction to 97 ug/L in January 2016.
- MTBE has only been detected in one groundwater sample collected from the monitoring well network, and during the most recent sampling event. The groundwater sample collected from monitoring well MW-7 yielded MTBE at a concentration of 31 ug/L.

The historical lateral extent of the benzene plume was not defined to the west and into Adeline Street beyond SB-31 and MW-6, toward the south beyond SB-23, MW-2 and MW-5, and towards the east across Chestnut Street beyond MW-7 and SB-17. However, following remedial efforts groundwater samples collected from the monitoring well network has shown that the plume has collapsed towards the south and west. Towards the south TPHg was detected at concentrations of 330 ug/L and 110 ug/L in groundwater samples collected from monitoring wells MW-2 and MW-5, respectively. Similarly, benzene was detected at concentrations of 97 ug/L and 2.7 ug/L in groundwater samples collected from monitoring wells MW-2 and MW-5, respectively. Towards the west, TPHg was not detected and benzene was detected at a concentration of 1.8 ug/L in the groundwater sample collected from monitoring well MW-6. Therefore, further lateral delineation is not warranted to south and the west.

Groundwater samples collected from MW-7 to the east of the former UST location, show reductions to a lesser extent. TPHg and benzene were detected at concentrations of 1,800 ug/L and 400 ug/L. However, as benzene was not detected in the grab groundwater sample from borings SB-16 through SB-18, the benzene plume to the east is considered delineated.

The current plume lengths for TPHg and benzene were compared to the average, 90th percentile, and maximum plume lengths (LTCP Table 1) for 500 petroleum UST sites in the Los Angeles area, as presented in the LTCP's Technical Justification for Groundwater Media-Specific Criteria, dated April 24, 2012. The TPHg and benzene plumes and the current measurements from the source area are shown on Figures 6 and 7, respectively. The calculated current plume length for TPHg at the Site is approximately 210 feet long, which is below the study's average, 90th percentile, and maximum plume lengths for TPHg. The calculated current plume length for benzene at the Site is approximately 180 feet long, which is also below the study's average, 90th percentile, and maximum plume lengths for benzene. An MTBE plume does not exist at the Site.

2.3.3 COCs in Soil Vapor

Three soil vapor samples were collected at the Site in October 2007 from locations VB-1, VB-2, and VB-3 located south of the remedial excavation and along Chestnut Street. TPHg and benzene were detected at maximum concentrations of 3,100 and 130 micrograms per cubic meter (ug/m^3). MTBE was not detected. The maximum detections of TPHg and benzene were below the Environmental Screening Level (ESL) for commercial exposure of 30,000 ug/m^3, and 420 ug/m^3, respectively. Benzene is also slightly above the ESL for residential exposure of 48 ug/m^3.

2.4 Sensitive Receptors and Preferential Pathways

As part of investigation activities at the Site, the following efforts were preformed to identify potential preferential pathways and sensitive receptors:

- AEI obtained the Well Drillers reports from the California Department of Water resources (DWR) for all wells within 1,000 feet of the subject site. Additionally, as requested in the ACEH's April 22, 2106 directive letter, this well survey was amended by reviewing Alameda County Public Works Agency (ACPWA) for all wells within 1,500 feet of the subject site.

- A utility survey has been performed for the Site. AEI requested utility maps from Pacific Gas and Electric (PG&E) and East Bay Municipal District (EBMUD). AEI performed a geophysical survey to confirm the accuracy of these maps. The survey included ground penetrating radar (GPR), passive and active electromagnetic detectors. The geophysical survey identified a sanitary sewer, gas main, water lines and lateral lines along Adeline Street. A sanitary sewer, two gas lines, two water lines and lateral lines were located along Chestnut Street.

The results of the well and utility surveys indicated the following:

- The DWR and ACPWA results of the well survey demonstrate that no wells are threatened by the petroleum hydrocarbon plume. The locations of these wells are shown on Figure 12.

- A utility trench along Chestnut Street may have acted as a preferential pathway for lateral migration of contaminants. The locations of identified utility conduits are shown on Figure 10.

3.0 LTCP Evaluation

The California State Water Resources Control Board's LTCP was developed as an evaluation method to close low-threat petroleum release cases. Therefore, AEI has developed the following evaluation of whether this Site meets the criteria of the LTCP. The LTCP presents general criteria and media specific criteria that must be met for the Site to be considered low-threat and acceptable for closure. A matrix presenting the LTCP criteria, site-specific comments, and identified data gaps are presented in Table 9. The activities performed and the current data show that the Site meets each of the General Criteria a through g.

Based on the LTCP evaluation, the site has satisfied the Groundwater Specific Criteria #4. Dissolved benzene has been delineated to the north, south, east, and west and an MTBE plume does not exist at the Site.

However, as requested by the ACDEH and to satisfy Petroleum Vapor Intrusion to Indoor Air and Direct Contact and Outdoor Air Exposure criteria's, shallow soil sampling will be performed across the Site. Additionally, shallow soil gas sampling is warranted to evaluate current petroleum hydrocarbons in soil gas at the Site.

The additional shallow soil and soil gas sampling is intended to satisfy Petroleum Vapor Intrusion to Indoor Air Criterion and Direct Contact and Outdoor Air Exposure Criterion a.

4.0 DATA GAP WORK PLAN

AEI prepared the following work plan to address the data gaps identified in the SCM and/or the LTCP evaluation including the petroleum hydrocarbons in shallow soil, soil vapor, and to confirm groundwater concentrations. AEI proposed the following investigation to close the identified data gaps at the Site:

- Advance ten additional soil borings at the Site to collect shallow soil samples.
- Install 12 soil vapor probes at the Site to characterize petroleum hydrocarbons in soil vapor.
- Locate and rehabilitate groundwater monitoring well MW-3.
- Analyze the next round of groundwater samples collected for additional analyzed to identify whether additional chemicals of concern are present including volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs).

Each of these activities are presented below.

4.1 Preliminary Field Activities

Prior to performing the additional investigation activities proposed, AEI will perform the following:

- Obtain a subsurface drilling permit will be obtained from the ACWD prior to drilling activities.
- Notify the ACDEH of the proposed field schedule.
- Notify Underground Services Alert of the activities to identify the location of public utilities.
- Contract a private utility locator to clear the boring locations of subsurface utility conflicts.

4.2 Soil Sampling

To collect soil samples to characterize petroleum hydrocarbons in shallow soils, AEI proposed to advance ten soil borings (SB-32 through SB-41) at locations across the Site. The locations are show on Figure 11. Locations were selected based upon the known extent of the petroleum hydrocarbon plume to confirm that there are not additional shallow soil impacts.

Each soil boring will be advanced with a direct-push drilling rig (GeoProbe or similar) using 2.25-inch diameter drilling rods to a total approximate depth of ten-feet bgs. AEI will contract a State of California licensed drilling contractor (C-57) to advance the soil borings.

Soil will be continuously collected from each boring in approximately 4-foot long, 2-inch diameter acrylic liners. The borings will be logged by an AEI field geologist or engineer, under the direction of a California Professional Geologist or Professional Engineer. Soils will be described using the Unified Soil Classification System (USCS). Soil samples will be cut from the liners at intervals of approximately two feet, or more frequently based on field observations and organic vapor measurements collected in the field.

A sub-sample of each sample collected for potential chemical testing will be placed into a zip-top bag and screened for the presence of organic vapors with a photo-ionization detector (PID). Samples will be selected for analysis based on PID readings, sensory observations of impact, and changes in soil types. Selected soil samples will be sealed with Teflon tape and end caps, labeled with a unique identifier, and placed in an ice-chilled cooler for transport to the laboratory. We anticipate collecting soil samples from each boring from intervals of 2.0 feet to 2.5 feet bgs, 3.5 feet to 4.0 feet bgs, 6.0 to 6.5 feet bgs, and 7.5 feet to 8.0 feet bgs. and 9.5 to 10.0 feet bgs, or from the most impacted sections of the two intervals (0 to 5 feet and 5 to 10 feet bgs).

4.2.1 Soil Sample Analysis

At least one soil sample from each 0 to 5 feet and 5 to 10 feet interval will be submitted for chemical testing. The soil samples will be analyzed for TPH-g, TPH-d, and TPH-mo using US EPA Method Testing 8015M, BTEX, MTBE, naphthalene, and fuel oxygenates using US EPA Testing Method 8260B.

4.2.2 Soil Boring Destruction

Upon completion of sampling, each soil boring will be backfilled with neat cement grout. The grout will be mixed at a ratio of one 94-pound bag of Type II Portland cement (or equivalent) to five-gallons of water.

4.3 Soil Gas Probes

AEI proposed to installed twelve permanent soil gas probes (VB-4 through VB-15) at locations across the Site as shown on Figure 11. The locations of the soil gas probes were selected to characterize the lateral extent of petroleum hydrocarbons in soil gas and at locations above the historic groundwater plume.

A door to door survey was performed at the select residences to inquire as to whether the structures possess basements or not; none were identified. The subject Site does not have a basement. Therefore, the soil gas probes will be constructed to collect soil gas samples from a depth of five-feet bgs.

The construction and sampling will be performed in accordance with the procedures and guidance provided in the Department of Toxic Substances Control's Advisory – Active Soil Gas Investigations (updated July 2015).

4.3.1 Soil Gas Probe Installation

To install the soil gas probes, soil borings will be advanced using a direct-push drilling rig (GeoProbe or similar) using 2.25-inch diameter drilling rods. AEI will contract a State of California licensed drilling contractor to advance and install the soil gas probes.

The soil gas probes will be constructed inside open boreholes. Each probe will be constructed using an approximately 6-inch long stainless steel vapor implant. 0.25-inch outside diameter nylaflow tubing or stainless steel tubing will be connected to the implant which will be lowered to the bottom of the borehole. First, a layer of clean #30 mesh Monterey sand will be poured into the bottom of the boring using a tremie pipe around the implant such that the implant is situated within 1 foot of sand. One foot of dry granular bentonite will be placed on top of the sand pack. Bentonite grout will then be placed in 0.5 foot lifts in the remainder of the borehole to grade. A 0.25-inch Swagelok® plug valve will be installed on the top of each soil gas probe to allow for a shut in test and the tubing will be connected to the laboratory supplied vapor sampling manifold. The probe will be finished at grade with a small diameter well box.

4.3.2 Soil Gas Sample Collection

After construction of each of the soil gas probes, and allowing greater than 48-hours for the soil gas probes to equilibrate with the subsurface. Initially, the probe caps will be removed and the laboratory supplied canister and manifold will be connected to the vapor probes. Prior to collecting the samples, a shut in test will be performed by placing a vacuum on the sampling train above grade with the swage lock at the top of the probe in the closed position. The vacuum will be observed for approximately 1 minute and, if the vacuum had not changed, the above ground sampling train will be considered free of leaks.

Soil gas will then be purged from the probe. Approximately three-purge volumes will be purged prior to collecting the sampling from the probe. The probes will be purged using a syringe or with a dedicated purge canister. Following purging of the sampling lines, a one-liter Summa canister, which will be connected to the sampling manifold, will open and the initial vacuum will be recorded. Vapor samples will be collected through the laboratory-supply regulator at approximately 167 milliliters per minute. After a vacuum of five-inches of mercury is reached in the canister, the canister will be closed and removed from the sampling line. Samples will be appropriately labeled and enter onto chain of custody prior to shipping to the laboratory.

Following sampling with the Summa canister, a second sample will be collected using a sorbent tube for analysis using US EPA Testing Method TO-17.

During sampling, a leak-check compound, isopropyl alcohol or helium, will be used to confirm that the sample train and probe seal are tight and leak free.

4.3.3 Soil Gas Sample Analyses

The collected soil gas samples will be submitted to a State of California-certified laboratory for analysis of BTEX, MTBE, and TPH-g using US EPA Testing Method TO-15, naphthalene using US EPA Testing Method TO-17, and for atmospheric gases oxygen (O_2), methane (CH_4), carbon dioxide (CO_2) and nitrogen (N_2), and the selected leak-check compound.

4.4 Equipment Decontamination and Waste Handling

The probe rods, soil samplers, augers, and other tooling used during the characterization work will be scrubbed and cleaned with Alconox™ or equivalent detergent and rinsed with clean water between borings to minimize the potential for cross-contamination. Soil cuttings, rinsate, and other investigation-derived wastes (IDWs) will be temporarily stored in sealed 55-gallon drums or sealed 5-gallon buckets in a secure location on-site pending proper disposal. IDW will include soil cuttings, plastic sample liners, and other sampling disposables. Equipment rinse water will also be stored in 55-gallon drums or 5-gallon buckets, separate from solid IDW. Upon receipt of analytical results, the waste will be profiled into appropriate disposal or recycling facilities and transported from the site under appropriate manifest. Copies of manifest(s) will be made available once final copies are received from the disposal facility(s).

4.5 Well MW-3

Well MW-3 has been inaccessible since the first quarter of 2010. It appears that the well may have been covered by concrete. This well was surveyed at the time of installation. AEI will contract a State of California-licensed land surveyor to locate and mark the location of the well. An area of approximately two-feet by two-feet will be cut in this area and the concrete will be removed using a jack-hammer or equivalent to expose the well. The well box and casing will be inspection and its condition documented. Should the well be compromised and non-functional, the ACEH will be contacted to discuss potential replacement of the well.

While MW-3 is being re-located by the land surveyor, wells BF-1 and BF-5 will be surveyed in accordance with the GeoTracker requirements.

4.6 Groundwater Monitoring for Additional Analytes

As requested by the ACEH in their April 22, 2016 letter, groundwater samples collected during the next scheduled groundwater monitoring event will include additional analyses for VOCs using US EPA Testing Method 8260B and semi-VOC US EPA Testing Method 8270C. The next groundwater monitoring event is scheduled for July 2016.

4.7 Reporting

Following receipt of all laboratory analytical, a technical report will be prepared. The report will detail the results of soil sample analyses and the installation and sampling of the soil gas wells. The final report will include figures, data tables, logs of borings and soil gas well construction details, an updated Site Conceptual Model, an updated comparison to the LTCP, and make recommendations for next steps or closure. The technical report will be uploaded to the ACEH

FTP site and Geotracker. All other relevant data will be uploaded to the Geotracker database, as necessary.

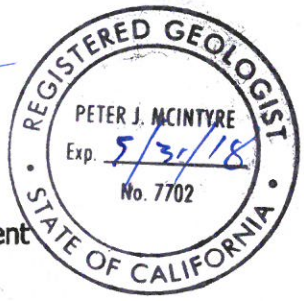
Closing

AEI appreciates working with the ACDEH to move this Site towards closure and trust that this document meets with your approval. Please contact either of the undersigned at (925) 746-6000 if you have any questions or need any additional information.

Sincerely,
AEI Consultants

Adrian M. Angel, GIT
Project Geologist

Peter J. McIntyre, PG
Principal Geologist, Executive Vice President



DISTRIBUTION

Ms. Steffi Zimmerman
c/o Mr. Bill Moaut
3289 Loma Verdes Place
Lafayette, California 94549

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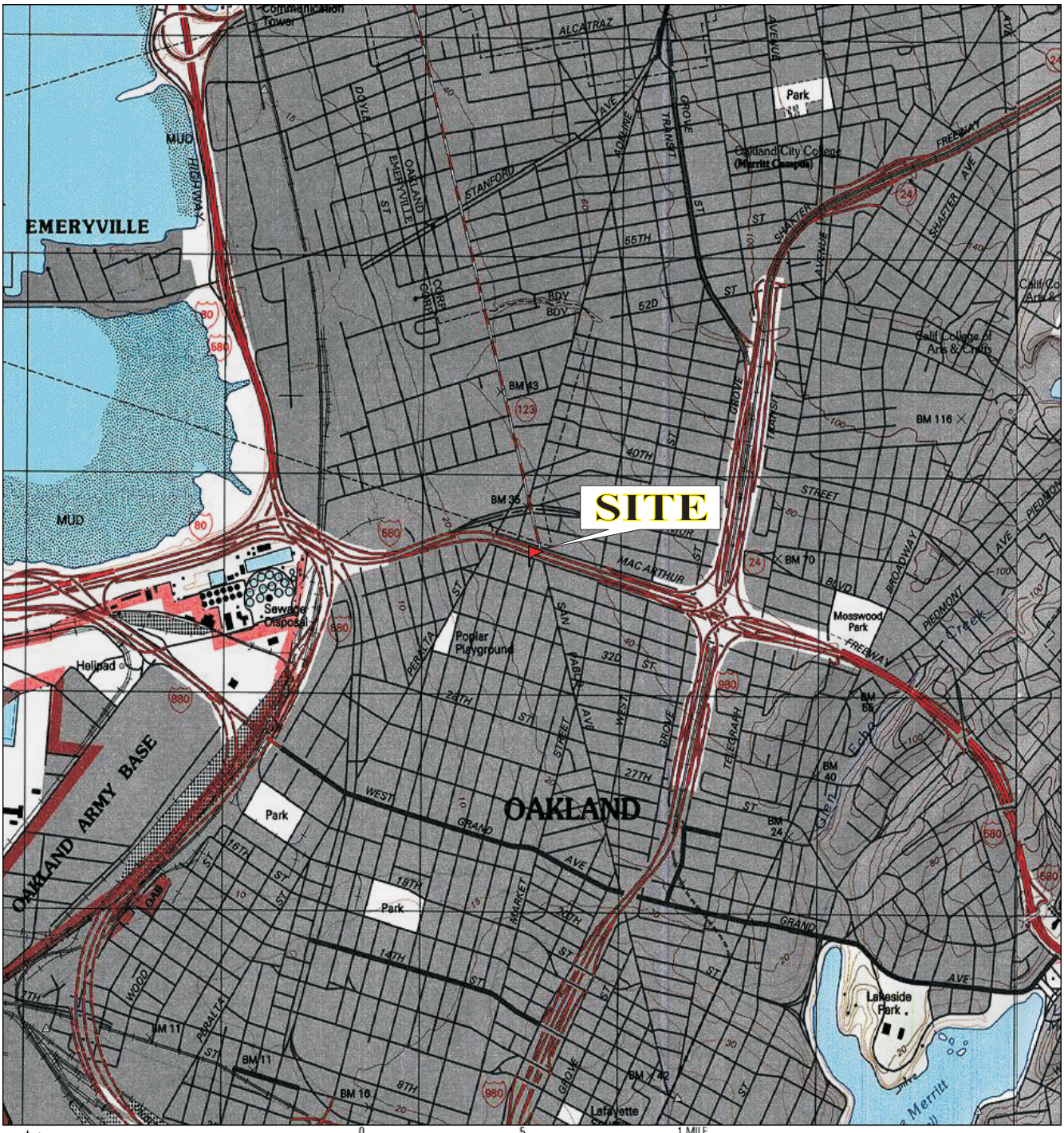

AEI CONSULTANTS 2500 Camino Diablo, Suite 200, Walnut Creek, CA 94597	
Site Location Map	
3442 Adeline Street Oakland, CA 94608	**FIGURE 1** Job No: 281939

Property Boundary

Former UST Area

Approximate Scale:
1 inch = 55 feet

0′ 55′

N

AEI CONSULTANTS
2500 Camino Diablo, Suite 200, Walnut Creek, CA 94597

Site Vicinity Map

3442 Adeline Street
Oakland, CA 94608

FIGURE 2
Job No: 281939

0 15 30 60 90

SCALE IN FEET

ADELINE STREET

DRIVE

RESIDENCE

RESIDENCE (NO BASEMENT)

RESIDENCE (NO BASEMENT)

RESIDENCE (NO BASEMENT)

CANOPY

GATE

MW-6

SB-31

SB-30

SB-24

RESIDENCE (NO BASEMENT)

MW-5

SB-23

SB-26

SHED

SB-22

MW-4

SB-25

MW-2

SB-21

BUILDING

SB-13

SB-27

SB-29

VACANT LOT

RESIDENCE (NO BASEMENT)

RESIDENCE (NO BASEMENT)

SB-3

SB-12

SB-20

SB-14

BUILDING

SB-2

VB-2

SW1

SW4

MW-3

SB-5

SW6

SB-1

MW-1

BF-2

BF-3

SW7

VB-1

B1

SB-15

BF-5

SB-28

SW2

BF-1

SB-4

REMEDIAL EXCAVATION

B2

SW10

SB-11

B3

SB-19

SB-7

TANK EXCAVATION

SW3

SW5

SW9

SB-8

S3

SW8

VB-3

S4

IW-1

S1

S2

DRIVE

MW-7

SB-18

SB-9

SB-10

SB-6

SB-17

SB-16

CHESTNUT STREET

LEGEND

DRAFTED BY RFF

- Subject Property Boundary
- Monitoring Well/Backfill Casings (Installed in 2009)
- Excavation Confirmation Sample (2009)
- AEI Soil Boring (2007 - 2008)
- Soil Vapor Sample (2007)
- Clear Water Soil Boring (2006)
- UST Removal Soil Sample (2000)
- Former Gasoline UST
- Interim Source Removal Excavation (to 13 feet bgs)

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2500 CAMINO DIABLO, WALNUT CREEK

SITE PLAN

3442 ADELINE STREET
OAKLAND, CALIFORNIA

FIGURE 3

PROJECT NO. 281939

A

A'

MW-6 SB-24 MW-5 SB-21 SB-12 SB-5 BF-1 IW-1 MW-7 SB-17

Gas Mains | Sanitary Sewer | Water Mains | Gas & Water Mains | Gas Mains | Sanitary Sewer | Water Mains

Vertical Scale in Feet: 0, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24

16" Gas line dead | 6" Gas line | water line

Asphalt

Fill

Clayey Silt, black, 5 % fine gravel, slightly plastic, slightly moist

Gravelly Sand - Sandy Gravel, yellowish red, clayey, firm very slightly moist FILL 22

TPH-g 63 (1/12/16)

High Groundwater level in well.

First groundwater borings.

Low Groundwater level in wells.

Clay, olive gray, silty, 5% gravel slightly plastic, becoming increasingly sandy silty downward

Clayey Silt, - Clayey Sand olive gray, v.fine gr. 5-10% gravel moderately firm, moist

Gravelly Sand - Sandy Gravel, olive gray, clayey, coarse sand - medium garvel, wet

Clayey Gravelly Sand, brown - yellowish brown, coarse grained , wet

Clayey Gravelly Sand, brown - yellowish brown, coarse grained , wet

Sand, brown - yellowish brown, med. grained moderately firm, wet

Gravelly Clay, dark reddish brown, very moist

Silty Clay, black, stiff, dry

Gravelly Silt, dark reddish brown, moderately loose

Silty Gravel, very dark gray - dark greenish gray, loose

Silty Clay, light yellowish brown - grayish green mottling moist

Clayey Silt, light yellowish brown, grayish green mottling moist

Silty Clay, greenish black, 10% fine gravel, soft, moist moderate plasticity

Silty Clay, strong brown, hard, dry

TPH-g 110 (1/12/16)

Silty Clay, dark greenish gray, firm, moist

Silty Gravel, grn gry- dark greenish gray, mod. loose, wet

Silty Clay, dark grn. gray, stiff, moist

Silty Gravel, grn gry- dark greenish gray, mod. loose, wet

Clayey, dark greenish gray- grn gray - olive yellow - lite yellowish brn, mod. soft, moist

Clay, strong brown, gravelly, firm, moist

Clayey Sand, strong brown - yellowish brown, gravelly, mod soft, moist

Gravelly Sand, strong brown - yellowish brown, fine - coarse grain, moderastely firm, wet

Sandy Gravel, strong brown, clayey, firm, wet

Fill

Silty Clay, black, 5% fine gravel, stiff

Gravelly Silty Clay, dark gray, 10 % fine gravel, stiff

Silty Clay, greenish gray, 10 % fine gravel, moderate plasticity

Very Gravelly Clay, multicolored - green, blue, orange, brown, soft

Silty Clay, light yellowish brown - greenish gray mottled, moderately plasticity, moist

Clay, light yellowish brown, 10% fine gravel moist

Clay, light yellowish brown with orange streaks high plasticity, moist

TPH-g 8,100

Silty Clay, black, 5% fine gravel, stiff, dry

Silty Clay, light grayish green, w/s orange mottling

Gravelly Silty Sand dark greenish gray, clayey, soft

Gravelly Silty Clay yellowish brown, orange mottling, gravel increasing downward, moist

Gravelly Sand, light yellowish brown, wet

Silty Clay, light yellowish brown, orange mottling gravelly, moist

Clay, light yellowish brown, orange mottling, moist

TPH-g 35,000

Silty Clay, black, 5% fine gravel, stiff, dry

SiltyClay, olive gray, oragnge streaks, moderate plasticity, moist

TPH-g 22,000

FILL

Silty Clay, lt. olive brown - yellowish brown, dk bluish gray - red mottling moderately plastic, moist

Asphalt

Silty Clay, greenish black, 10% fine gravel, soft, moist moderate plasticity

Gravelly Silt, dark greenish gray, 25% gravel, very stiff, hard, dry

Silty Gravel, greenish gray, fine gravel, loose

Clay, dark greenish gray - greenish gray, gravelly, very hard, dry

TPH-g 1,800 (1/12/16)

Very Clayey Sand - Sandy Clay, locally Clayey Sandy Gravel olive - olive yellow - brownish yellow, firm, very moist

Clayey Gravel, dark greenish gray, hard, wet

Silty Clay, olive yellow, w/s brownish yellow, moderately plastic, moist

Sandy Gravel, strong brown - light olive, hard, wet

Gravelly Sand, strong brown - light olive, coarse grained, moderately soft, wet

Gravelly Silty Clay, strong brown - light olive brown, moderatly plastic, wet

Asphalt

Silty Clay, black, fine gravel, hard, low plasticity, dry

Water line

Gravelly Silty Sand, darkel brown, silty, gray grayish green mottling, gravelly, firm, moist

High Groundwater level in wells.

Low Groundwater level in wells.

Silty Sandy Clay, dark brownish gray mottled grayish green, fine gravel, moderately soft, very slightly moist

Silty Clay, dark grayish green, stiff, slightly moist

First groundwater borings.

Gravelly Silty Clay - Clayey Gravel light olive brown, fine - median gravel, moderately stiff, wet

TPH-g 1,000

0 25 50 75 100

SCALE IN FEET

Stable depth to water in well

Depth to water is soil borings

243 PID Field Screening - PPMV

41 TPH-g Soil Analysis - mg/kg

TPH-g 11,000 Grab Water Sample - ug/L

TPH-g 14,000 Monitoring Well Sample - ug/L (date)

Clay

Silt

Gravel

Sand

Clayey Sediments

Permeable Intervals

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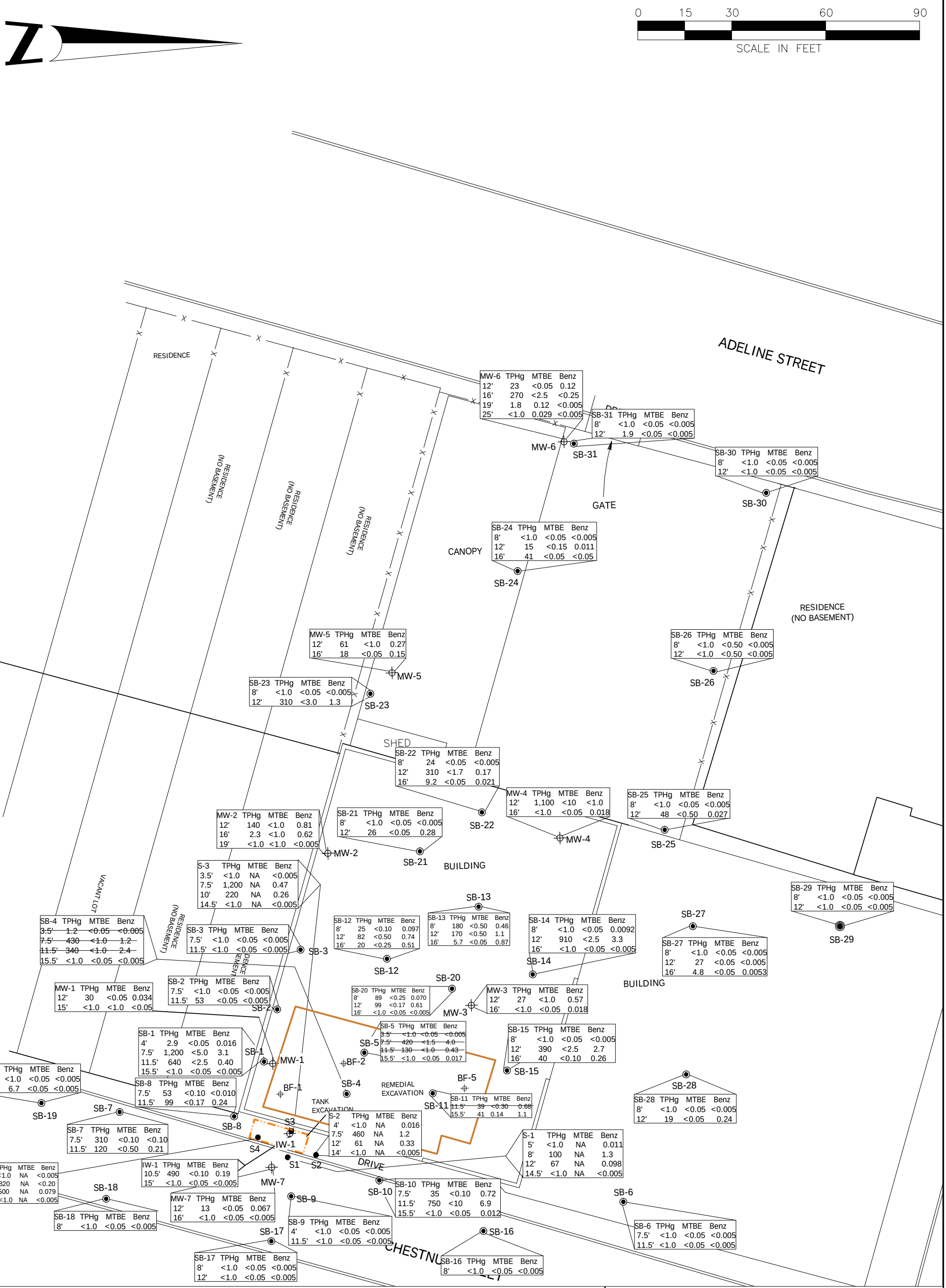
2500 CAMINO DIABLO, WALNUT CREEK

Cross Section

3442 Adeline Street
Oakland, California

Figure 4

PROJECT NO. 281939



LEGEND

- Monitoring Well/Backfill Casings (installed 2009)
- AEI Soil Boring (2007 - 2008)
- Clear Water Soil Boring (2006)
- Former Gasoline UST
- Interim Source Removal Excavation

DRAFTED BY RFF

Sample Location ID — S-4 TPHg MTBE Benz
Depth in feet bgs — 3.5' <1.0 NA <0.005
7.5' 820 NA <0.20
11.5' 500 NA 0.079
14.5' <1.0 NA <0.005
Concentration in mg/kg

TPHg = Total Petroleum Hydrocarbons as gasoline
MTBE = methyl tertiary butyl ether
Benz = benzene
NA = not analyzed for
< = less than stated laboratory detection limit

AEI CONSULTANTS

2500 CAMINO DIABLO, WALNUT CREEK

SOIL ANALYTICAL DATA

3442 ADELINE STREET
OAKLAND, CALIFORNIA

FIGURE 5
PROJECT NO. 281939

0 15 30 60 90

SCALE IN FEET

ADELINE STREET

RESIDENCE

RESIDENCE (NO BASEMENT)

RESIDENCE (NO BASEMENT)

RESIDENCE (NO BASEMENT)

VACANT LOT

RESIDENCE (NO BASEMENT)

RESIDENCE (NO BASEMENT)

DRIVE

MW-6 (9,300 (max) / 63)

SB-31 (5,100)

GATE

SB-30 (<50)

CANOPY

SB-24 (11,000)

100 ug/L

Approximate Plume length 220 feet

RESIDENCE (NO BASEMENT)

MW-5 (25,000 (max) / 110)

SB-23 (46,000)

SB-26 (2,300)

SHED

100 ug/L

SB-22 (46,000)

(27,000 (max) / 330)

MW-2

SB-21 (8,100)

BUILDING

MW-4 (6,100 (max) / <50)

SB-25 (3,600)

SB-13 (29,000)

SB-27 (740)

100 ug/L

SB-29 (<50)

SB-3 (84)

SB-12 (35,000)

(28,000)

SB-20

SB-14 (23,000)

BUILDING

100 ug/L

SB-2 (640)

MW-3 (17,000 (max) / 4,900*)

(22,000)

SB-5

BF-3

(36,000)

SB-15

SB-1 (28,000)

MW-1 (7,000 (max) / <50)

BF-2

BF-1 (19,000 (max) / <50)

SB-4 (20,000)

REMEDIAL EXCAVATION

BF-5 (170 (max) / <50)

SB-11 (83,000)

SB-28 (290)

SB-19 (<50)

SB-7 (2,000)

SB-8 (6,700)

(23,000)

S3

EXCAVATION

IW-1 (1,200 (max) / <50)

S4 (120,000)

(31,000)

S1 (20,000)

S2

DRIVE

MW-7 (1,800)

SB-18 (<50)

SB-9 (11,000)

SB-10 (17,000)

SB-6 (440)

SB-17 (1,100)

SB-16 (88)

CHESTNUT STREET

LEGEND

DRAFTED BY RFF

- Monitoring Well/Backfill Casings (Sampled 1/12-13-16)
- AEI Soil Boring (2007 - 2008)
- Clear Water Soil Boring (2006)
- TPH-g Concentration Isocontour Line (100 ug/L) Based on Most Recent Monioring Well Data
- Maximum TPH-g Plume Isocontour (100 ug/L) Based on 2006 - 2009 Grab Groundwater Investigations

(12,000 (max) / 400)

Maximum Historical Detection in Well — Most Recent Groundwater Detection

*Well last sampled on 12/15/09

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2500 CAMINO DIABLO, WALNUT CREEK

TPH-G IN GROUNDWATER

3442 ADELINE STREET
OAKLAND, CALIFORNIA

FIGURE 6

PROJECT NO. 281939

0 15 30 60 90

SCALE IN FEET

ADELINE STREET

RESIDENCE

RESIDENCE (NO BASEMENT)

RESIDENCE (NO BASEMENT)

RESIDENCE (NO BASEMENT)

VACANT LOT

RESIDENCE (NO BASEMENT)

RESIDENCE (NO BASEMENT)

DRIVE

MW-6 (9,300 (max) / 1.8)

SB-31 (270)

GATE

SB-30 (<0.5)

CANOPY

SB-24 (80)

5 ug/L

RESIDENCE (NO BASEMENT)

MW-5 (25,000 (max) / 2.7)

SB-23 (9,000)

SHED

Approximate Plume length 185 feet

SB-26 (22)

SB-22 (110)

MW-4 (6,100 (max) / <0.5)

SB-25 (42)

MW-2 (27,000 (max) / 97)

SB-21 (1,600)

BUILDING

SB-13 (5,300)

5 ug/L

SB-27 (7.4)

SB-29 (<0.5)

SB-3 (2.4)

SB-12 (5,200)

(3,400)

SB-20

SB-14 (2,600)

BUILDING

SB-2 (1.8)

MW-3 (17,000 (max) / 890*)

(1,900)

SB-5

1,000 ug/L

SB-1 (2,000)

MW-1 (7,000 (max) / <0.5)

BF-2

BF-3

(7,700)

SB-15

BF-5 (170 (max) / <0.5)

SB-4 (6,600)

REMEDIAL EXCAVATION

SB-11 (10,000)

BF-1 (19,000 (max) / <0.5)

TANK EXCAVATION

SB-28 (1.3)

SB-19 (<0.5)

SB-7 (30)

(490)

S3

SB-8 (110)

IW-1 (1,200 (max) / <0.5)

S4 (200)

S1 (980)

S2 (7,000)

DRIVE

MW-7 (12,000 (max) / 400)

SB-10 (3,800)

SB-6 (17)

SB-18 (<0.5)

SB-9 (440)

SB-17 (<0.5)

SB-16 (0.60)

CHESTNUT STREET

LEGEND

DRAFTED BY RFF

- Monitoring Well/Backfill Casings (Sampled 1/12-13-16)
- AEI Soil Boring (2007 - 2008)
- Clear Water Soil Boring (2006)
- Benzene Concentration Isocontour Line (5 ug/L) Based on Most Recent Monioring Well Data
- Maximum Historical Benzene Plume Isocontour (5 ug/L) Based on 2006 - 2009 Grab Groundwater Investigations
- Benzene Plume Isocontour (1,000 ug/L)
- Current Extent of Benzene Plume Exceeding 1,000 ug/L

(12,000 (max) / 400)

Maximum Historical Detection in Well / Most Recent Groundwater Detection

*Well last sampled on 12/15/09

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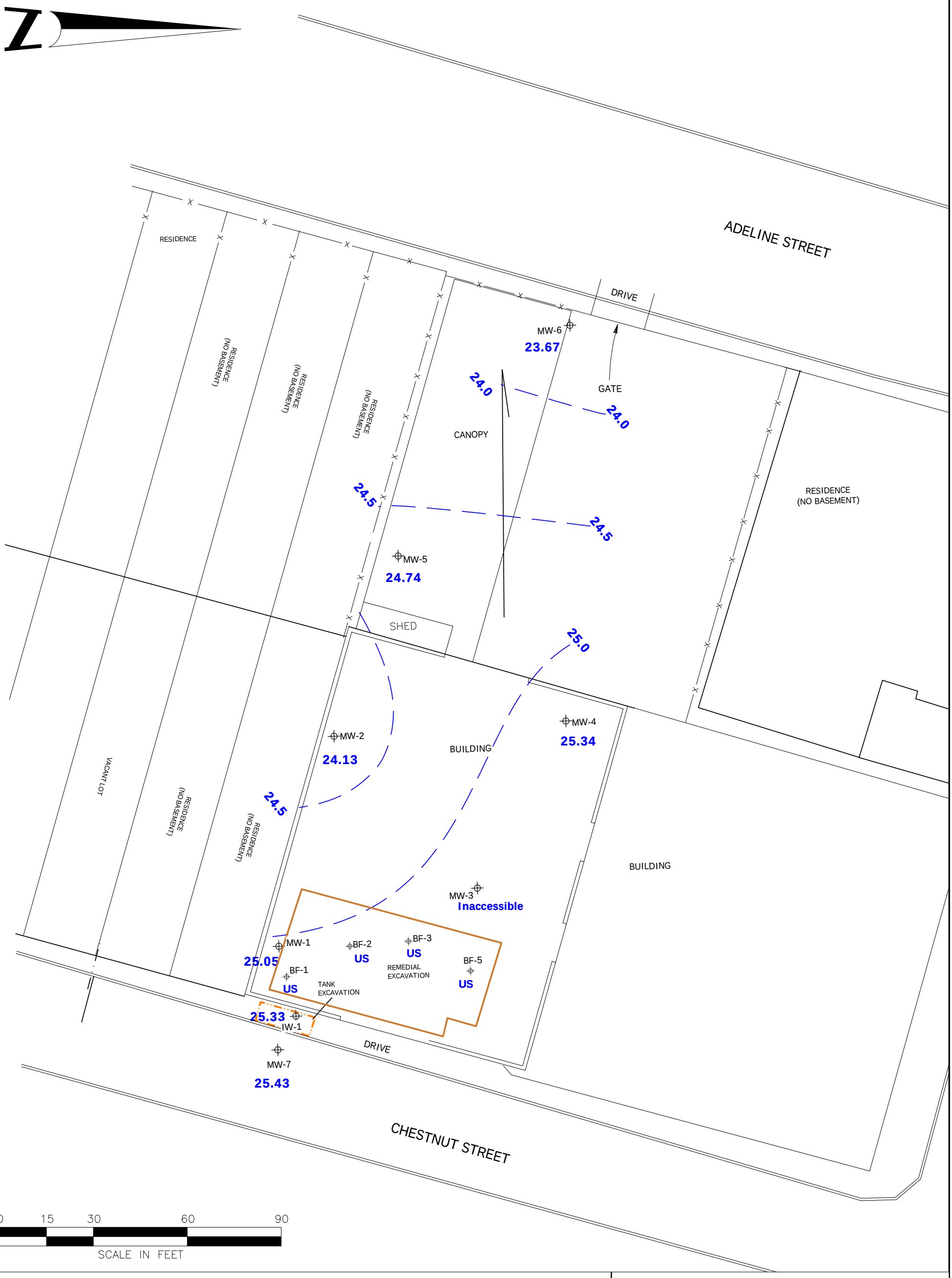
2500 CAMINO DIABLO, WALNUT CREEK

BENZENE IN GROUNDWATER

3442 ADELINE STREET
OAKLAND, CALIFORNIA

FIGURE 7

PROJECT NO. 281939



LEGEND

DRAFTED BY RFF

- Monitoring Well/Backfill Casing Groundwater Elevation Feet Above Mean Sea Level (MSL) — 25.34
- Groundwater Elevation Contour
- US = Unsurveyed
- Former Gasoline UST
- Interim Source Removal Excavation

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2500 CAMINO DIABLO, WALNUT CREEK

Groundwater Elevation Map (1/12-13/2016)

3442 ADELINE STREET
OAKLAND, CALIFORNIA

FIGURE 8
PROJECT NO. 281939

LEGEND

DRAFTED BY RFF

- Monitoring Well
- NS Not Sampled
- backfill casing
- Former Gasoline UST
- Interim Source Removal Excavation

G 86
B <0.5

Total Petroleum Hydrocarbons as gasoline (Units µg/L)
Benzene (Units µg/L)
<0.5 = not reported at or above the stated detection limit

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2500 CAMINO DIABLO, WALNUT CREEK

GROUNDWATER ANALYTICAL DATA - WELLS
(1/12-13/2016)

3442 ADELINE STREET
OAKLAND, CALIFORNIA

FIGURE 9
PROJECT NO. 281939

1" = 30'

A

A'

ADELINE STREET

CHESTNUT STREET

Gas line estimated 2-4 ft bgs

Btm SS 8.0 ' bgs

Wtr line 6 ft bgs

Wtr line 7 ft bgs

Gas line estimated 2.5 ft bgs

Btm SS 8.0 ft bgs

10"Sanitary Sewer

6" gas line

RESIDENCE

RESIDENCE

RESIDENCE

RESIDENCE

RESIDENCE

RESIDENCE

DRIVE

DRIVE

GATE

CANOPY

SHED

BUILDING

BUILDING

REMEDIAL EXCAVATION

TANK EXCAVATION

MW-1 MW-2 MW-3 MW-4 MW-5 MW-6 MW-7

SB-1 SB-2 SB-3 SB-4 SB-5 SB-6 SB-7 SB-8 SB-9 SB-10 SB-11 SB-12 SB-13 SB-14 SB-15 SB-16 SB-17 SB-18 SB-19 SB-20 SB-21 SB-22 SB-23 SB-24 SB-25 SB-26 SB-27 SB-28 SB-29 SB-30

VB-1 VB-2 VB-3

BF-1 BF-2 BF-3 BF-5

IW-1

S1 S2 S3 S4

0 15 30 60 90

SCALE IN FEET

LEGEND

DRAFTED BY RFF

- Monitoring Well
- AEI Soil Boring
- Clear Water Soil Boring
- Soil Vapor Sample
- Cross Section A - A'
- Former Gasoline UST
- Interim Source Removal Excavation
- Natural Gas Main
- Natural Gas lateral
- Sanitary Sewer
- Water Main
- Poor trace - unidentified
- Former Gasoline UST

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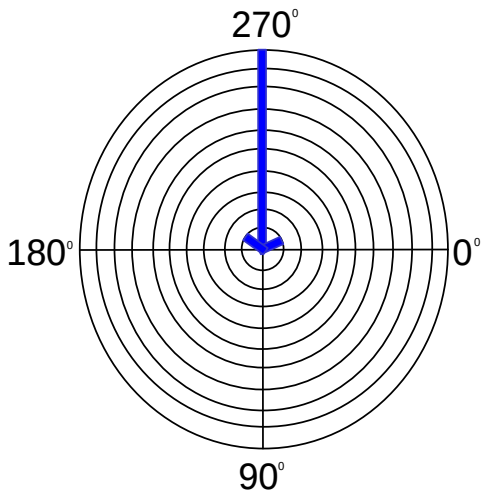
2500 CAMINO DIABLO, WALNUT CREEK

Utility Map

3442 ADELINE STREET
OAKLAND, CALIFORNIA

FIGURE 10
PROJECT NO. 281939



Historic Groundwater
Flow Direction
(2009 - 2016)
Each ring consitutes flow direction for one groundwater monitoring event

LEGEND

DRAFTED BY RFF

- Monitoring Well/Backfill Casings (Sampled 1/12-13-16)
- AEI Soil Boring (2007 - 2008)
- Clear Water Soil Boring (2006)
- Soil Vapor Sample (2007)
- Proposed Permanent Soil Gas Probe
- Proposed Soil Boring
- Former Gasoline UST
- Interim Source Removal Excavation

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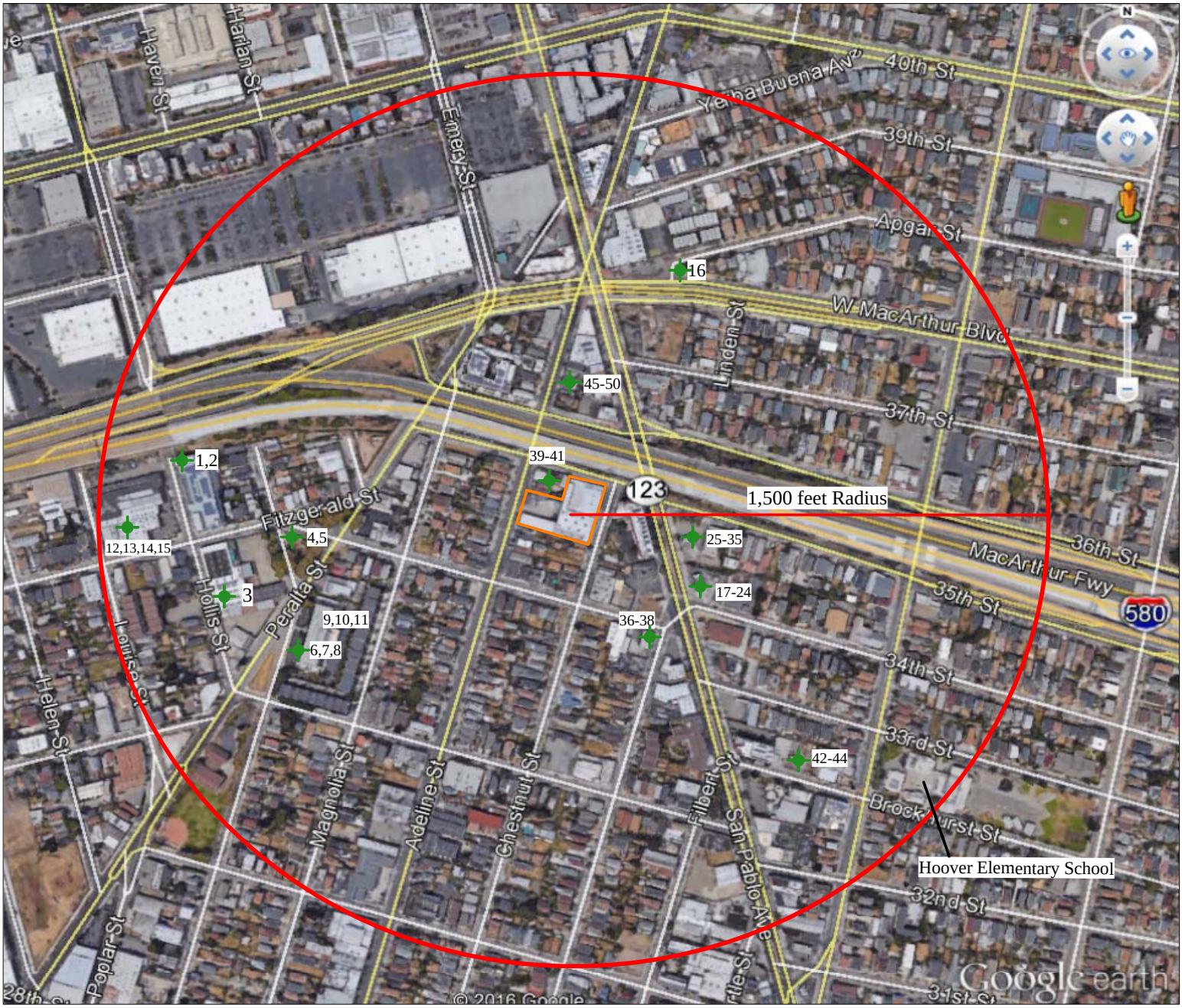
2500 CAMINO DIABLO, WALNUT CREEK

Nearby Basements, Rose Diagram, and Proposed Soil Borings and Soil Gas Probes

3442 ADELINE STREET
OAKLAND, CALIFORNIA

FIGURE 11
PROJECT NO. 281939



LEGEND:

Subject Property

Approximate Well Location

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2500 CAMINO DIABLO, WALNUT CREEK

Well Survey and Sensitive Receptor Map

3442 ADELINE STREET
OAKLAND, CALIFORNIA

FIGURE 12
PROJECT NO. 281939

TABLES

Table 1: Summary of Soil Sample Analytical Data
3442 Adeline Street, Oakland, CA 94608

Sample ID	Depth	Date	TPH-d	TPH-g	MTBE	Benzene	Toluene	Ethyl-benzene	Xylenes	TAME	TBA	DIPE	ETBE	MTBE
			Method 8015C		Method 8021B					Method 8260B				
	ft		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
UST Removal Samples														
NW	6.5	2/22/00	130	130	---	0.16	0.26	0.73	6.3	---	---	---	---	---
SE	6.5	2/22/00	850	920	---	0.3	0.37	5.3	22	---	---	---	---	---
2006-2008 Soil Borings														
S-1	5	6/23/06	5.6	<1.0	---	0.011	<0.0050	<0.0050	<0.0050	---	---	---	---	---
	8		26	100	---	1.3	0.22	2.0	7.2	---	---	---	---	---
	12		45	67	---	0.098	<0.025	0.73	0.39	---	---	---	---	---
	14.5		1.2	<1.0	---	<0.0050	<0.0050	<0.0050	0.01	---	---	---	---	---
S-2	4	6/23/06	4.7	<1.0	---	0.016	<0.0050	<0.0050	<0.0050	---	---	---	---	---
	7.5		84	460	---	1.2	0.36	9.4	24	---	---	---	---	---
	12		49	61	---	0.33	0.055	0.84	2.4	---	---	---	---	---
	14		<1.0	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	---	---	---	---	---
S-3	3.5	6/23/06	3.1	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	---	---	---	---	---
	7.5		250	1,200	---	0.47	0.52	18	100	---	---	---	---	---
	10		76	220	---	0.26	<0.040	6.2	7.2	---	---	---	---	---
	14.5		1.3	<1.0	---	<0.0050	<0.0050	0.0056	0.016	---	---	---	---	---
S-4	3.5	6/23/06	3.5	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	---	---	---	---	---
	7.5		240	820	---	<0.20	<0.20	6.7	4.4	---	---	---	---	---
	11.5		120	500	---	0.079	<0.040	3.5	4.8	---	---	---	---	---
	14.5		1.3	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	---	---	---	---	---
SB-1	4	10/1/07	---	2.9	<0.05	0.016	0.0079	<0.005	0.0094	---	---	---	---	---
	7.5		450	1,200	<5.0	3.1	2.5	24	110	---	---	---	---	---
	11.5		90	640	<2.5	0.40	1.5	9.3	23	<0.33	<3.3	<0.33	<0.33	<0.33
	15.5		---	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
SB-2	7.5	10/1/07	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
	11		6.1	53	<0.05	<0.005	0.24	0.0084	0.19	<0.005	<0.05	<0.005	<0.005	<0.005

Table 1: Summary of Soil Sample Analytical Data
3442 Adeline Street, Oakland, CA 94608

Sample ID	Depth	Date	TPH-d	TPH-g	MTBE	Benzene	Toluene	Ethyl-benzene	Xylenes	TAME	TBA	DIPE	ETBE	MTBE
			Method 8015C		Method 8021B					Method 8260B				
	ft		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
SB-3	7.5	10/1/07	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
	11.5		<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005
SB-4	3.5	10/1/07	~~---~~	~~1.2~~	~~<0.05~~	~~<0.005~~	~~<0.005~~	~~<0.005~~	~~<0.005~~	~~---~~	~~---~~	~~---~~	~~---~~	~~---~~
	7.5		~~170~~	~~430~~	~~<1.0~~	~~1.2~~	~~0.99~~	~~3.6~~	~~1.2~~	~~---~~	~~---~~	~~---~~	~~---~~	~~---~~
	11.5		~~25~~	~~340~~	~~<1.0~~	~~2.4~~	~~0.92~~	~~7.1~~	~~9.7~~	~~<0.005~~	~~<0.05~~	~~<0.005~~	~~<0.005~~	~~<0.005~~
	15.5		---	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
SB-5	~~3.5~~	10/1/07	~~---~~	~~<1.0~~	~~<0.05~~	~~<0.005~~	~~<0.005~~	~~<0.005~~	~~<0.005~~	~~---~~	~~---~~	~~---~~	~~---~~	~~---~~
	~~7.5~~		~~54~~	~~420~~	~~<1.5~~	~~4.0~~	~~1.1~~	~~9.5~~	~~18~~	~~---~~	~~---~~	~~---~~	~~---~~	~~---~~
	~~11.5~~		~~22~~	~~130~~	~~<1.0~~	~~0.43~~	~~0.10~~	~~1.2~~	~~0.77~~	~~<0.005~~	~~<0.05~~	~~<0.005~~	~~<0.005~~	~~<0.005~~
	15.5		---	<1.0	<0.05	0.017	<0.005	<0.005	<0.005	---	---	---	---	---
SB-6	7.5	10/1/07	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
	11.5		<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005
SB-7	7.5	10/3/07	90	310	<1.0	<0.10	0.48	0.28	0.38	---	---	---	---	---
	11.5		37	120	<0.50	0.21	0.069	0.39	0.22	<0.020	<0.20	<0.020	<0.020	<0.020
SB-8	7.5	10/3/07	23	53	<0.10	<0.010	0.030	0.034	0.13	---	---	---	---	---
	11.5		13	99	<0.17	0.24	0.070	0.66	0.46	<0.010	<0.10	<0.010	<0.010	<0.010
SB-9	4	10/3/07	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
	11.5		<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005
SB-10	7.5	10/3/07	5.1	35	<0.10	0.72	0.024	0.47	0.079	---	---	---	---	---
	11.5		74	750	<10	6.9	1.6	13	33	<0.10	<1.0	<0.10	<0.10	<0.10
	15.5		---	<1.0	<0.05	0.012	<0.005	<0.005	0.0052	---	---	---	---	---
SB-11	~~11.5~~	10/3/07	~~13~~	~~39~~	~~<0.3~~	~~0.68~~	~~0.086~~	~~0.76~~	~~2.3~~	~~---~~	~~---~~	~~---~~	~~---~~	~~---~~
	15.5		10	41	0.14	1.1	0.071	0.55	1.5	---	---	---	---	---

Table 1: Summary of Soil Sample Analytical Data
3442 Adeline Street, Oakland, CA 94608

Sample ID	Depth	Date	TPH-d	TPH-g	MTBE	Benzene	Toluene	Ethyl-benzene	Xylenes	TAME	TBA	DIPE	ETBE	MTBE
			Method 8015C		Method 8021B					Method 8260B				
	ft		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
SB-12	8	12/20/07	1.8	25	<0.10	0.097	0.024	0.81	1.3	---	---	---	---	---
	12		23	82	<0.50	0.74	0.14	1.5	2.9	---	---	---	---	---
	16		---	20	<0.25	0.51	0.083	0.48	1.8	---	---	---	---	---
SB-13	8	12/20/07	66	180	<0.50	0.46	0.10	2.5	2.7	---	---	---	---	---
	12		74	170	<0.50	1.1	0.21	2.4	6.7	---	---	---	---	---
	16		<50	5.7	<0.05	0.87	0.017	0.12	0.10	---	---	---	---	---
SB-14	8	12/20/07	<1.0	<1.0	<0.05	0.0092	<0.005	<0.005	<0.005	---	---	---	---	---
	12		83	910	<2.5	3.3	0.43	10	16	---	---	---	---	---
	16		---	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
SB-15	8	12/20/07	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
	12		61	390	<2.5	2.7	0.47	6.7	13	---	---	---	---	---
	16		---	40	<0.1	0.26	0.047	0.37	1.3	---	---	---	---	---
SB-16	8	12/20/07	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
SB-17	8	12/20/07	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
	12		<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
SB-18	8	12/20/07	18	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
SB-19	8	12/20/07	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
	12		<1.0	6.7	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
SB-20	8	12/20/07	9.7	89	<0.25	0.070	0.14	0.050	0.14	---	---	---	---	---
	12		32	99	<0.17	0.61	0.061	1.6	1.4	---	---	---	---	---
	16		---	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
SB-21	8	12/21/07	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
	12		5.8	26	<0.05	0.28	0.048	0.31	0.30	---	---	---	---	---

Table 1: Summary of Soil Sample Analytical Data
3442 Adeline Street, Oakland, CA 94608

Sample ID	Depth	Date	TPH-d	TPH-g	MTBE	Benzene	Toluene	Ethyl-benzene	Xylenes	TAME	TBA	DIPE	ETBE	MTBE
			Method 8015C		Method 8021B					Method 8260B				
	ft		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
SB-22	8	12/21/07	<1.0	24	<0.05	<0.005	0.070	0.016	0.059	---	---	---	---	---
	12		150	310	<1.7	0.17	<0.17	4.1	3.2	---	---	---	---	---
	16		---	9.2	<0.05	0.021	0.032	0.0052	0.0083	---	---	---	---	---
SB-23	8	5/7/08	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
	12		73	310	<3.0	1.3	0.31	4.3	0.11	---	---	---	---	---
SB-24	8	5/7/08	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
	12		3.4	15	<0.15	0.011	0.023	0.020	0.044	---	---	---	---	---
	16		<1.0	41	<0.50	<0.050	<0.050	0.11	0.11	---	---	---	---	---
SB-25	8	5/7/08	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
	12		12	48	<0.50	0.027	0.079	0.029	0.11	---	---	---	---	---
SB-26	8	5/7/08	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
	12		<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
SB-27	8	5/7/08	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
	12		4.2	27	<0.05	<0.005	0.10	<0.005	0.061	---	---	---	---	---
	16		1.5	4.8	<0.05	0.0053	0.020	<0.005	0.0074	---	---	---	---	---
SB-28	8	5/7/08	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
	12		1.6	19	<0.05	0.24	0.034	0.031	0.036	---	---	---	---	---
SB-29	8	5/7/08	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
	12		<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
SB-30	8	5/7/08	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
	12		<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
SB-31	8	5/7/08	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
	12		<1.0	1.9	<0.05	<0.005	0.016	<0.005	<0.005	---	---	---	---	---

Table 1: Summary of Soil Sample Analytical Data
3442 Adeline Street, Oakland, CA 94608

Sample ID	Depth	Date	TPH-d	TPH-g	MTBE	Benzene	Toluene	Ethyl-benzene	Xylenes	TAME	TBA	DIPE	ETBE	MTBE
			Method 8015C		Method 8021B					Method 8260B				
	ft		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Excavation Samples														
Sidewall Samples														
SW1	7.0	3/4/09	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005					
	11.5	3/4/09	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005					
SW2	8.0	3/4/09	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005					
	11.5	3/4/09	5.8	24	<0.05	0.17	<0.005	0.26	0.19					
SW3	7.5	3/4/09	65	180	<1.0	0.88	0.28	2.9	4.2					
	11.5	3/4/09	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005					
SW4	6.0	3/5/09	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005					
	11.5	3/5/09	21	100	<1.0	0.49	0.10	1.5	4.2					
SW5	6.5	3/5/09	16	87	<0.50	0.23	0.11	0.62	0.49					
SW6	6.5	3/5/09	<1.0	17	<0.10	0.02	<0.010	<0.010	0.032					
	12	3/11/09	<1.0	4.9	<0.05	0.54	<0.005	0.15	0.16					
SW7	6.5	3/5/09	210	200	<1.0	0.2	<0.10	0.49	0.71					
	11.5	3/9/09	310	1,200	<2.5	2.3	1.4	18	41					
SW8	6.5	3/11/09	5.2	12	<0.05	0.085	0.0084	0.027	0.07					
	11.5	3/11/09	1.1	12	<0.05	0.0091	0.0091	0.15	0.19					
SW9	6.5	3/11/09	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005					
	12	3/11/09	<1.0	5.0	<0.05	0.82	<0.005	0.2	0.2					
SW10-6.5	6.5	3/11/09	<1.0	5.6	<0.05	0.045	0.0062	0.0089	0.012					
Bottom Samples														
B1-13	13	3/4/09	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005					

Table 1: Summary of Soil Sample Analytical Data
3442 Adeline Street, Oakland, CA 94608

Sample ID	Depth	Date	TPH-d	TPH-g	MTBE	Benzene	Toluene	Ethyl-benzene	Xylenes	TAME	TBA	DIPE	ETBE	MTBE
			Method 8015C		Method 8021B					Method 8260B				
	ft		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
B2-13	13	3/4/09	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005					
B-3-11	11	3/9/09	3.6	38	<0.50	2.6	<0.050	0.49	0.58					
B-3 (B-4-11)	12	3/11/09	13	130	<0.50	0.81	0.12	1.5	2.5					
Well Installation Samples														
MW-1	12	4/1/09	1.5	30	<0.05	0.034	0.26	0.042	0.11	---	---	---	---	---
	15	4/1/09	<1.0	<1.0	<1.0	<0.05	<0.05	<0.05	<0.05	---	---	---	---	---
MW-2	12	4/1/09	21	140	<1.0	0.81	<0.10	1.9	2.6	---	---	---	---	---
	16	4/1/09	<1.0	2.3	<1.0	0.62	<0.005	0.016	0.0091	---	---	---	---	---
	19	4/1/09	<1.0	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
MW-3	12	4/1/09	4.3	27	<1.0	0.57	0.049	0.69	0.62	---	---	---	---	---
	16	4/1/09	<1.0	<1.0	<0.05	0.018	0.0059	0.0061	0.023	---	---	---	---	---
MW-4	12	4/1/09	99	1100	<10	<1.0	2.9	1.1	1.3	---	---	---	---	---
	16	4/1/09	<1.0	<1.0	<0.05	0.018	0.0059	1.0061	0.023	---	---	---	---	---
MW-5	12	5/12/09	31	61	<1.0	0.27	0.12	0.66	0.92	---	---	---	---	---
	16	5/12/09	1.9	18	<0.05	0.15	0.0055	0.23	0.33	---	---	---	---	---
MW-6	12	4/2/09	2.3	23	<0.05	0.12	0.018	0.15	0.34	---	---	---	---	---
	16	4/2/09	29	270	<2.5	<0.25	0.67	0.43	0.81	---	---	---	---	---
	19	4/2/09	5	1.8	0.12	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
	25	4/2/09	<1.0	<1.0	0.029	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
MW-7	12	5/13/09	<1.0	13	<0.05	0.067	0.03	0.042	0.02	---	---	---	---	---
	16		<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
IW-1	10.5	5/12/09	86	490	<1.0	0.19	0.69	6.7	3.5	---	---	---	---	---
	15	5/12/09	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---

Table 1: Summary of Soil Sample Analytical Data
3442 Adeline Street, Oakland, CA 94608

Sample ID	Depth	Date	TPH-d	TPH-g	MTBE	Benzene	Toluene	Ethyl-benzene	Xylenes	TAME	TBA	DIPE	ETBE	MTBE
			Method 8015C		Method 8021B					Method 8260B				
	ft		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg

Notes:

mg/kg = milligrams per kilogram

NW = Soil Sample Collected from northwest sidewall during excavation

SW = Soil Sample Collected from southwest sidewall during excavation

TPH-g = total petroleum hydrocarbons as gasoline

TPH-d = total petroleum hydrocarbons as diesel

E-Benzene = ethyl benzene

TAME = tert-amyl methyl ether

ETBE = ethyl tert-butyl ether

TBA = tertiary butyl alcohol

DIPE = Di-isopropyl Ether

MTBE = methyl tert-butyl ether

~~Strikethrough~~ = Removed during 2009 Excavation

Table 2: Summary of Grab Groundwater Analytical Data
3442 Adeline Street, Oakland, CA 94608

Sample ID	Date	TPH-d	TPH-g	MTBE	Benzene	Toluene	E-Benzene	Xylenes	TAME	ETBE	TBA	DIPE	MTBE
		Method 8015		Method 8021B					Method 8260B				
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Pit Water	02/22/00	34,000	7,400	---	3,300	930	400	6,200	---	---	---	---	---
S-1	6/23/06	<10,000	20,000	---	980	70	1,500	1,100	---	---	---	---	---
S-2	6/23/06	<4,000	31,000	---	7,000	260	920	2,800	---	---	---	---	---
S-3	6/23/06	<1,500	23,000	---	490	67	1,200	3,300	---	---	---	---	---
S-4	6/23/06	<40,000	120,000	---	200	<15	3,500	2,900	---	---	---	---	---
SB-1	10/1/2007	6,100	28,000	<170	2,000	77	1,600	4,100	<25	<25	<250	<25	<25
SB-2	10/1/2007	300	640	<5.0	1.8	2.2	1.1	4.9	<0.5	<0.5	<5.0	<0.5	<0.5
SB-3	10/1/2007	<50	84	<5.0	2.4	<0.5	4.2	11	<0.5	<0.5	<5.0	<0.5	<0.5
SB-4	10/1/2007	2,200	20,000	<600	6,600	110	390	430	<17	<17	430	<17	<17
SB-5	10/1/2007	7,400	22,000	<250	1,900	86	1,200	2,100	<5.0	<5.0	120	<5.0	<5.0
SB-6	10/1/2007	---	440	---	17	<0.5	0.99	2.2	<0.5	<0.5	18	<0.5	2.0
SB-7	10/3/2007	1,000	2,000	<25	30	5.1	56	82	<0.5	<0.5.	<5.0	<0.5	6.1
SB-8	10/3/2007	1,600	6,700	---	110	6.3	160	140	<0.5	<0.5	12	<0.5	<0.5
SB-9	10/3/2007	5,700	11,000	<50	440	14	720	1,000	<1.7	<1.7	37	<1.7	<1.7
SB-10	10/3/2007	1,700	17,000	<100	3,800	55	420	830	<10	<10	510	11	<10
SB-11	10/3/2007	4,300	83,000	---	10,000	640	2,700	7,900	<25	<25	840	<25	<25
SB-12	12/20/2007	4,900	35,000	<450	5,200	110	1,000	1,800	---	---	---	---	---
SB-13	12/20/2007	5,100	29,000	<250	5,300	80	1,400	3,900	---	---	---	---	---
SB-14	12/20/2007	12,000	23,000	<240	2,600	15	1,500	1,800	---	---	---	---	---
SB-15	12/20/2007	3,000	36,000	<350	7,700	190	1,600	4,700	---	---	---	---	---

Table 2: Summary of Grab Groundwater Analytical Data
3442 Adeline Street, Oakland, CA 94608

Sample ID	Date	TPH-d	TPH-g	MTBE	Benzene	Toluene	E-Benzene	Xylenes	TAME	ETBE	TBA	DIPE	MTBE
		Method 8015		Method 8021B					Method 8260B				
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
SB-16	12/20/2007	480	88	<5.0	0.60	<0.5	<0.5	0.83	---	---	---	---	---
SB-17	12/20/2007	320	1,100	<5.0	<0.5	6.2	<0.5	4.2	---	---	---	---	---
SB-18	12/20/2007	1,800	<50	<5.0	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
SB-19	12/20/2007	280	<50	<5.0	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
SB-20	12/20/2007	3,900	28,000	<160	3,400	22	1,200	930	---	---	---	---	---
SB-21	12/21/2007	1,200	8,100	<50	1,600	<5.0	160	84	---	---	---	---	---
SB-22	12/21/2007	620	2,600	<10	110	0.90	150	55	---	---	---	---	---
SB-23	5/14/2008	4,800	46,000	<450	9,000	40	2,300	5,200	---	---	---	---	---
SB-24	5/14/2008	2,900	11,000	<50	80	<5.0	440	290	---	---	---	---	---
SB-25	5/9/2008	1,300	3,600	<5.0	42	1.90	65	36	---	---	---	---	---
SB-26	5/14/2008	770	2,300	<10	22	2.1	<1.0	2.4	---	---	---	---	---
SB-27	5/14/2008	180	740	<5.0	7.4	3.70	<0.5	1.0	---	---	---	---	---
SB-28	5/16/2008	72	290	<5.0	1.3	0.93	2.7	4.0	---	---	---	---	---
SB-29	5/16/2008	<50	<50	<5.0	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
SB-30	5/14/2008	<50	<50	<5.0	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
SB-31	5/14/2008	770	5,100	<110	270	6.3	79	7.2	---	---	---	---	---

Notes:
µg/L = micrograms per liter
TPH-g = total petroleum hydrocarbons as gasoline
TPH-d = total petroleum hydrocarbons as diesel
MTBE = methyl tert-butyl ether
E-Benzene = ethyl benzene
TAME = tert-amyl methyl ether
ETBE = ethyl tert-butyl ether
TBA = tertiary butyl alcohol
DIPE = Di-isopropyl Ether

Table 3: Summary of Soil Vapor Sample Analytical Data
3442 Adeline Street, Oakland, CA 94608

Boring	Date	Isopropyl Alcohol*	TPH-g	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes
		Method TO15						
		µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
VB-1	10/1/2007	<25	1,900	<48	130	35	<8.8	<27
VB-2	10/1/2007	<25	3,100	<48	32	42	11	50
VB-3	10/1/2007	<25	2,500	<48	40	42	16	49

Notes:
µg/m^3 = micrograms per cubic meter
TPH-g = total petroleum hydrocarbons as gasoline
MTBE = methyl tert-butyl ether
* = leak check compound
Soil gas samples collected from a depth of 5 feet below ground surface

Table 4: Summary of Monitoring Well Construction Details
3442 Adeline Street St. Oakland, CA 94608

Well ID	Date Installed	Top of Casing Elevation (ft)	Well Box Rim Elevation (ft)	Well Depth (ft bgs)	Casing Material	Casing Diameter (in)	Slotted Casing (ft)	Slot Size (in)	Sand Interval (ft)	Sand Size
BF-1	03/09/09	NA	NA	13	PVC	4	8-13	0.020	7-13	# 2/12
BF-2	03/09/09	NA	NA	13	PVC	4	8-13	0.020	7-13	# 2/12
BF-3	03/09/09	NA	NA	13	PVC	4	8-13	0.020	7-13	# 2/12
BF-5	03/09/09	NA	NA	13	PVC	4	8-13	0.020	7-13	# 2/12
BF-6	03/09/09	NA	NA	13	PVC	4	8-13	0.020	7-13	# 2/12
MW-1	04/01/09	31.12	32.13	17	PVC	4	7-17	0.020	6-17	# 2/12
MW-2	04/01/09	31.19	31.43	17	PVC	4	7-17	0.020	6-17	# 2/12
MW-3	04/01/09	32.07	32.39	17	PVC	4	7-17	0.020	6-17	# 2/12
MW-4	04/02/09	31.68	31.98	17	PVC	2	7-17	0.020	6-17	# 2/12
MW-5	05/12/09	30.39	30.82	17	PVC	2	7-17	0.020	6-17	# 2/12
MW-6	04/02/09	29.34	29.96	17	PVC	2	7-17	0.020	6-17	# 2/12
MW-7	05/13/09	31.04	31.45	17	PVC	2	7-17	0.020	6-17	# 2/12
IW-1	05/12/09	31.66	31.90	15	stainless	2	13-15	40 mesh	12-15	# 2/12

Notes:

Elevations provided in reference to North American Vertical Datum 1988

NA = no available information

Table 5: Summary of Groundwater Elevation Data
3442 Adeline Street St. Oakland, CA 94608

Well ID (Screen Interval)	Date Collected	Top of Casing Elevation (ft)	Depth to Water (ft)	Groundwater Elevation (ft)	Elevation Change (ft)
MW-1	6/10/2009	31.12	7.01	24.11	----
(7-17)	8/27/2009	31.12	6.96	24.16	0.05
	12/15/2009	31.12	5.96	25.16	1.00
	3/12/2010	31.12	5.06	26.06	0.90
	10/21/2010	31.12	7.00	24.12	-1.94
	5/5/2011	31.12	5.88	25.24	1.12
	4/25/2012	31.12	5.33	25.79	0.55
	12/12/2012	31.12	5.35	25.77	-0.02
	4/4/2013	31.12	6.63	24.49	-1.28
	4/30/2014	31.12	5.42	25.70	1.21
	1/12/2016	**31.12**	**6.07**	**25.05**	**-0.65**
MW-2	6/10/2009	31.19	9.50	21.69	----
(7-17)	8/27/2009	31.19	10.50	20.69	-1.00
	12/15/2009	31.19	8.68	22.51	1.82
	3/12/2010	31.19	5.09	26.10	3.59
	10/21/2010	31.19	7.51	23.68	-2.42
	5/5/2011	31.19	6.68	24.51	0.83
	4/25/2012	31.19	5.58	25.61	1.10
	12/12/2012	31.19	6.47	24.72	-0.89
	4/4/2013	31.19	7.56	23.63	-1.09
	4/30/2014	31.19	6.62	24.57	0.94
	1/13/2016	**31.19**	**7.06**	**24.13**	**-0.44**
MW-3	6/10/2009	32.07	8.44	23.63	----
(7-17)	8/27/2009	32.07	8.59	23.48	-0.15
	12/15/2009	32.07	7.66	24.41	0.93
	3/12/2010	Well inaccessible	----	----	----
	10/21/2010	Well inaccessible	----	----	----
MW-4	6/10/2009	31.68	9.45	22.23	----
(7-17)	8/27/2009	31.68	10.29	21.39	-0.84
	12/15/2009	31.68	8.19	23.49	2.10
	3/12/2010	31.68	5.45	26.23	2.74
	10/21/2010	31.68	9.93	21.75	-4.48
	5/5/2011	31.68	6.60	25.08	3.33
	4/25/2012	31.68	5.73	25.95	0.87
	12/12/2012	31.68	6.21	25.47	-0.48
	4/4/2013	31.68	7.88	23.80	-1.67
	4/30/2014	31.68	6.92	24.76	0.96
	1/13/2016	**31.68**	**6.34**	**25.34**	**0.58**

Table 5: Summary of Groundwater Elevation Data
3442 Adeline Street St. Oakland, CA 94608

Well ID (Screen Interval)	Date Collected	Top of Casing Elevation (ft)	Depth to Water (ft)	Groundwater Elevation (ft)	Elevation Change (ft)
MW-5	6/10/2009	30.39	9.13	21.26	----
(7-17)	8/27/2009	30.39	9.54	20.85	-0.41
	12/15/2009	30.39	8.33	22.06	1.21
	3/12/2010	Well inaccessible	----	----	----
	10/21/2010	30.39	6.85	23.54	1.48
	5/5/2011	30.39	3.25	27.14	3.60
	4/25/2012	30.39	4.50	25.89	-1.25
	12/12/2012	30.39	5.43	24.96	-0.93
	4/4/2013	30.39	7.25	23.14	-1.82
	4/30/2014	Well inaccessible	----	----	----
	1/12/2016	**30.39**	**5.65**	**24.74**	**----**
MW-6	6/10/2009	29.34	9.98	19.36	
(7-17)	8/27/2009	29.34	11.84	17.50	-1.86
	12/15/2009	29.34	8.33	21.01	3.51
	3/12/2010	29.34	4.66	24.68	3.67
	10/21/2010	29.34	10.00	19.34	-5.34
	5/5/2011	29.34	5.59	23.75	4.41
	4/25/2012	29.34	4.82	24.52	0.77
	12/20/2012	29.34	5.23	24.11	-0.41
	4/4/2013	29.34	7.37	21.97	-2.14
	4/30/2014	29.34	5.89	23.45	1.48
	1/12/2016	**29.34**	**5.67**	**23.67**	**0.22**
MW-7	6/10/2009	31.04	6.53	24.51	----
(7-17)	8/27/2009	31.04	6.19	24.85	0.34
	12/15/2009	31.04	5.71	25.33	0.48
	3/12/2010	31.04	5.34	25.70	0.37
	10/21/2010	31.04	6.59	24.45	-1.25
	5/5/2011	31.04	5.98	25.06	0.61
	4/25/2012	31.04	5.71	25.33	0.27
	12/20/2012	Well inaccessible	----	----	----
	4/4/2013	31.04	6.18	24.86	-0.47
	4/30/2014	31.04	6.29	24.75	-0.11
	1/12/2016	**31.04**	**5.61**	**25.43**	**0.68**
IW-1	6/10/2009	31.66	7.65	24.01	----
(13-15)	8/27/2009	31.66	7.70	23.96	-0.05
	12/15/2009	31.66	10.99	20.67	-3.29
	3/12/2010	31.66	6.00	25.66	4.99
	10/21/2010	31.66	9.35	22.31	-3.35
	5/5/2011	31.66	6.73	24.93	2.62
	4/25/2012	31.66	8.05	23.61	-1.32
	12/20/2012	31.66	12.88	18.78	-4.83
	4/4/2013	31.66	12.81	18.85	0.07
	4/30/2014	31.66	6.01	25.65	6.80
	1/12/2016	**31.66**	**6.33**	**25.33**	**-0.32**

Notes:
Elevations provided in reference to North American Vertical Datum 1988

Table 5a: Summary of Groundwater Elevation Data
3442 Adeline Street St. Oakland, CA 94608

Event	Date	Average Water Table Elevation (ft)	Change from Previous Episode (ft)	Flow Direction (gradient) (ft/ft)
1	6/10/2009	22.40	----	West (0.0186)
2	8/27/2009	21.85	-0.55	West (0.0186)
3	12/15/2009	23.42	1.58	West (0.0181)
4	3/12/2010	25.75	2.33	West (0.004)
5	10/21/2010	22.81	-2.94	North Northwest (0.041)
6	5/5/2011	25.13	2.32	West (0.01)
7	4/25/2012	25.52	0.38	West (0.01)
8	12/20/2012	25.01	-0.51	West (0.01)
9	4/4/2013	23.41	-1.60	West (0.01)
10	4/30/2014	24.62	1.21	West (0.01)
11	1/12-13/2016	24.55	-0.07	West (0.01)

Notes:
Elevations provided in reference to North American Vertical Datum 1988

Table 6: Summary of Groundwater Analytical Data
3442 Adeline Street St. Oakland, CA 94608

Sample ID	Date	Depth to Water	TPH-d	TPH-g	MTBE	Benzene	Toluene	Ethyl-benzene	Xylenes
			Method 8015C		*Method 8021B*				
		(ft)	(µg/L)						
MW-1	04/17/09	7.01	97	220	<5.0	10	<0.5	3.0	5.4
	08/27/09	6.96	----	7,000	<180	610	10	320	220
	09/17/09	----	----	92	<15	0.91	0.70	<0.5	<0.5
	12/15/09	5.96	----	2500	<50	170	6.4	66	120
	03/12/10	5.06	----	500	<5.0	4.0	1.1	0.6	0.7
	10/21/10	7.00	----	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	05/05/11	5.88	----	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	04/25/12	5.33	----	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	12/20/12	5.35	----	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	04/04/13	6.63	----	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	04/30/14	5.42	----	83	<5.0	<0.5	0.53	<0.5	<0.5
	01/12/16	**6.07**	----	**<50**	**<5.0**	**<0.5**	**<0.5**	**<0.5**	**<1.5**
MW-2	04/17/09	9.50	2,200	7,000	<100	850	19	93	470
	08/27/09	10.50	----	26,000	<1,200	3,600	<25	1,200	3,000
	12/15/09	8.68	----	25,000	<250	2,900	70	1,500	2,400
	03/12/10	5.69	----	7,300	<350	590	7.0	6.4	680
	10/21/10	7.51	----	1,900	<15	140	1.4	28	140
	05/05/11	6.68	----	27,000	<180	2,300	13	1,700	2,600
	04/25/12	5.58	----	9,600	<120	440	8.8	260	920
	12/20/12	6.47	----	2,900	<35	63	2.6	21	85
	04/04/13	7.56	----	7,900	<150	960	10	380	690
	04/30/14	6.62	----	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	01/13/16	**7.06**	----	**330**	**<5.0**	**97**	**<0.5**	**2.5**	**14**
MW-3	04/17/09	8.44	2,200	10,000	<110	930	5.6	270	920
	08/27/09	8.59	----	17,000	<250	3800	38	730	710
	09/17/09	----	----	260	<15	1.8	1.0	<0.5	2.1
	10/14/09	----	----	1,800	<30	220	13	37	130
	12/15/09	7.66	----	4,900	<50	890	13	160	130
	03/12/10	Well inaccessible							
	10/21/10	Well inaccessible							

Table 6: Summary of Groundwater Analytical Data
3442 Adeline Street St. Oakland, CA 94608

Sample ID	Date	Depth to Water	TPH-d	TPH-g	MTBE	Benzene	Toluene	Ethyl-benzene	Xylenes
			Method 8015C		*Method 8021B*				
		(ft)	(µg/L)						
MW-4	04/17/09	9.45	1,200	4,700	<30	140	2.0	28	18
	08/27/09	10.29	----	4,300	<25	75	11	8.6	3.4
	12/15/09	8.19	----	3,000	<15	64	11	5.6	3.3
	03/12/10	5.45	----	6,100	<35	1200	14	170	6.2
	10/21/10	9.93	----	1,900	<15	120	4.7	5.7	1.8
	05/05/11	6.60	----	4,900	<25	560	2.6	41	17
	04/25/12	5.73	----	330	<5.0	23	1.4	2.0	4.2
	12/20/12	6.21	----	150	<5.0	5.8	<0.5	<0.5	<0.5
	04/04/13	7.88	----	1,000	<5.0	30	4.6	0.61	0.65
	04/30/14	6.92	----	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	01/13/16	**6.34**	----	**<50**	**<5.0**	**<0.5**	**<0.5**	**<0.5**	**<1.5**
MW-5	05/22/09	9.13	2,800	14,000	<100	3,000	12	340	420
	08/27/09	9.54	----	25,000	<400	3,300	36	110	160
	12/15/09	8.33	----	8,200	<250	1,200	6.9	300	610
	03/12/10	Well inaccessible							
	10/21/10	6.85	----	<50	<5.0	1.3	<0.5	<0.5	<0.5
	05/05/11	3.25	----	790	<20	140	1.0	29	30
	04/25/12	4.51	----	67	<5.0	3.4	<0.5	1.4	0.83
	12/20/12	5.43	----	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	04/04/13	7.25	----	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	04/30/14	Well inaccessible		----	----	----	----	----	----
	01/12/16	**5.65**	**----**	**110**	**<5.0**	**2.7**	**<0.5**	**<0.5**	**<1.5**
MW-6	04/17/09	9.98	1,000	5,600	<300	210	3.0	180	160
	08/27/09	11.84	----	2,200	<120	98	7.9	20	1.1
	12/15/09	8.59	----	4,700	<250	370	6.9	260	300
	03/12/10	4.66	----	9,300	<90	210	12	250	110
	10/21/10	10.00	----	380	<5.0	35	1.2	4.6	3.8
	05/05/11	5.59	----	7,000	<75	80	2.9	120	28
	04/25/12	4.82	----	7,400	<150	99	11.0	100	27
	12/20/12	5.23	----	5,500	<50	81	3.1	78	16
	04/04/13	7.37	----	5,300	<70	76	5.7	50	12
	04/30/14	5.89	----	670	<5.0	12	2.4	2.3	0.77
	01/12/16	**5.67**	**----**	**63**	**<5.0**	**1.8**	**<0.5**	**<0.5**	**<1.5**

Table 6: Summary of Groundwater Analytical Data
3442 Adeline Street St. Oakland, CA 94608

Sample ID	Date	Depth to Water	TPH-d	TPH-g	MTBE	Benzene	Toluene	Ethyl-benzene	Xylenes
			Method 8015C		*Method 8021B*				
		(ft)	(µg/L)						
MW-7	04/17/09	6.53	3,700	12,000	<120	1,000	37	100	36
	08/27/09	6.19	----	12,000	<100	550	30	130	33
	12/15/09	5.71	----	9,600	<100	620	26	140	20
	03/12/10	5.34	----	10,000	<25	850	33	87	28
	10/21/10	6.59	----	7,900	<180	1,100	22	44	21
	05/05/11	5.98	----	9,300	<200	690	23	42	21
	04/25/12	5.71	----	8,600	<75	1,000	31	10	20
	12/20/12	Well inaccessible due to parked car							
	04/04/13	6.18	----	12,000	<210	2,800	51	96	37
	04/30/14	6.29	----	220	<5.0	39	0.75	0.53	<0.5
	01/12/16	**5.61**	**----**	**1,800**	**31**	**400**	**6.8**	**9.7**	**7.6**
IW-1	05/22/09	7.65	680	1,200	<15	58	2.7	2.3	18
	08/27/09	7.70	----	160	<5.0	4.1	0.5	0.8	1.6
	09/17/09	----	----	300	<5.0	8.0	1.5	1.4	0.85
	12/15/09	10.99	----	220	<5.0	5.4	1.4	0.65	0.7
	03/12/10	6.00	----	<50	<5.0	1.9	<0.5	<0.5	<0.5
	10/21/10	9.35	**----**	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	05/05/11	6.73	**----**	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	04/25/12	8.05	**----**	<50	<5.0	0.91	<0.5	<0.5	0.57
	12/20/12	12.88	----	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	04/04/13	12.81	----	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	04/30/14	6.01	----	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	01/12/16	**6.33**	**----**	**<50**	**<5.0**	**<0.5**	**<0.5**	**<0.5**	**<1.5**
BF-1	03/27/09	----	----	19,000	<250	890	27	460	1,200
post H_2O_2	06/17/09	----	----	6,700	<150	840	19	170	150
pre-aeration	08/10/09	----	----	11,000	<120	710	14	440	290
post aeration	08/27/09	----	----	9,600	<90	590	14	350	220
	09/13/09	----	----	<50	<5.0	1.2	<0.5	<0.5	<0.5
	10/14/09	----	----	2,400	<10	83	1.9	5.0	120
	12/11/09	6.70	----	200	<5.0	12	<0.5	2.2	9.6
	03/12/10	5.61	----	<50	<0.5	2.9	<0.5	<0.5	<0.5
	10/21/10	7.95	----	560	<5.0	68	1.5	6.7	25
	05/05/11	6.25	----	<50	<5.0	0.65	<0.5	<0.5	<0.5
	04/25/12	5.85	----	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	12/20/12	5.82	----	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	04/04/13	6.78	----	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	04/30/14	5.36	----	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	01/12/16	**6.58**	**----**	**<50**	**<5.0**	**<0.5**	**<0.5**	**<0.5**	**<1.5**

Table 6: Summary of Groundwater Analytical Data
3442 Adeline Street St. Oakland, CA 94608

Sample ID	Date	Depth to Water	TPH-d	TPH-g	MTBE	Benzene	Toluene	Ethyl-benzene	Xylenes
			Method 8015C		*Method 8021B*				
		(ft)	(µg/L)						
BF-5	08/27/09	----	----	170	<25	32	0.55	4.2	220
	10/14/09	----	----	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	12/11/09	7.25	**----**	130	<5.0	40	<0.5	0.91	<0.5
	03/12/10	6.09	**----**	<50	<5.0	4.3	<0.5	0.91	<0.5
	10/21/10	8.62	**----**	80	<5.0	8.8	<0.5	1.4	4.5
	05/05/11	6.75	**----**	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	04/25/12	6.37	**----**	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	12/20/12	6.33	----	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	04/04/13	7.25	----	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	04/30/14	5.83	----	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	01/12/16	**7.09**	**----**	**<50**	**<5.0**	**<0.5**	**<0.5**	**<0.5**	**<1.5**

Notes:
µg/L = micrograms per liter
ESL = Environmental Screening Level
TPH-g = total petroleum hydrocarbons as gasoline
TPH-d = total petroleum hydrocarbons as diesel
MTBE = methyl tert-butyl ether
NE = not established
Bold Value = most recent sample

Table 7: Conceptual Site Model - Updated July 2016
3442 Adeline Street, Oakland, CA

SCM Element	SCM Sub-Element	Description	References	Data Gap Identified	Proposed Method to Address Data Gap
Geology & Hydrogeology	Regional	The Site lies on the distal end of the Temescal Creek Alluvial Fan at approximately 45 feet North American Vertical Datum 1988 (NAVD88). The Temescal Alluvial Fan is a low relief broad alluvial fan sloping westerly and southwesterly from the mouth of the Temescal Creek. The Holocene age alluvial fan deposits are mapped as Quaternary Holocene alluvial fan deposits (Qhaf) (Helley 1997). The sediments are described as typically, brown to tan gravelly sand or sandy gravel, which generally grades upward into sandy or silty clay.	Figure 1	None	n/a
	Site	**Geology:** The majority of the drilling work at the site occurred between 2006 and 2009. A summary of prior interpretations is presented below. The Cross Section presented in Figure 10 is earlier graphical representation of those interpretations, updated with 2016 monitoring data. Sediments encountered at the Site in the upper four to five feet underlying the Site consist of black silty clay – clayey silt containing variable amounts of scattered gravel. These sediments are considered to be bay margin sediments. **Hydrology:** The shallow fine grained surface layer is underlain by alluvial deposits of intercalated, lenticular bodies of silt, clay, sand, and gravel. The sediments are typically highly variable mixtures of the four primary soil types. Permeability (transmissivity) of the coarse grained sediments is typically low due to the presence of interstitial clay; however, scattered clean sands and gravels are present with good permeability. These individual permeable channel deposits appear to act as preferential channels for groundwater flow across the Site and are the likely cause of the slightly sinuous, asymmetric appearance of the hydrocarbon plume in the soil and groundwater**.**The potentiometric groundwater surface suggests a groundwater flow direction primarily to the west. However, the orientation of the hydrocarbon plume and hydrocarbon distribution in the groundwater indicates that the actual groundwater flow is somewhat sinuous and appears to follow permeability channels (sands and gravels). The permeability of the sediments is highly variable and appears to have been deposited by braided stream flowing down the alluvial fan. The excavation up to 13 feet bgs did not produce appreciable volumes water.	Figure 10 August 31, 2009 Interim Source Removal Report July 31, 2009, Groundwater Monitoring Well Installation Report February 14, 2008 Site Investigation Report August 16, 2006 Phase II Subsurface Investigation Report	None	n/a
Surface Water Bodies		The nearest surface water body is the San Francisco Bay located approximately 1600 feet to the west-northwest.	Figure 1	None	n/a
Nearby Wells		AEI obtained the Well Drillers reports from the California Department of Water resources (DWR) for all wells within 1,000 feet of the subject site. Additionally, as requested in the ACEH's April 22, 2106 directive letter, this well survey was amended by reviewing Alameda County Public Works Agency (ACPWA) for all wells within 1,500 feet of the subject site. The results of the well search were reviewed and indicated that the wells in the vicinity consist of either monitoring or test wells. The DWR and ACPWA results demonstrate that no wells are threatened by the petroleum hydrocarbon plume.	Figure 11 and Table 8	None	n/a
Potential Source(s)	Site	**Former UST (Eastern portion of Site):** On February 22, 2000, Clearwater Group (Clearwater) removed a reportedly steel single-wall 3,750-gallon underground storage tank (UST) from a location immediately adjacent to the eastern property boundary. Sidewall soil samples and a grab groundwater sample were collected from the tank excavation for chemical analysis. Each of the two sidewall soil samples and the one groundwater sample yielded elevated concentrations of petroleum hydrocarbons suggesting a release of petroleum hydrocarbons had occurred from the former UST.	August 16, 2006 Phase II Subsurface Investigation Report March 21, 2000, UST Closure Report	None	n/a

Table 7: Conceptual Site Model - Updated July 2016
3442 Adeline Street, Oakland, CA

SCM Element	SCM Sub-Element	Description	References	Data Gap Identified	Proposed Method to Address Data Gap
Potential Source(s)	Off Site	There are two releases near the Site. Both do not appear to have impacted the Site, and include: • A closed release case is located up-gradient from the Site at 3501 San Pablo Avenue. There is limited information provided on the GeoTracker database beyond noted soil contamination of waste oil, motor, hydraulic, and lubricating oils and that a remedial excavation was performed. No groundwater data is available. • An adjacent site, USTs atthe Former City of Paris Cleaners (3516 Adeline Street), located northwest of the Site. A release from USTs , were used to storeof Stoddard Solvent, athe dry cleaning solvent used during operation of the dry cleaning facility until the 1960s when the facility was closed. In 1990, one 750-gallon and two 1,000-gallon underground tanks used to store Stoddard Solvent were removed from the site. In 1991, an additional 250-gallon UST was removed. The site is referenced at eligible for closure as of February 2016.	January 22, 2013, Revised Site Conceptual Model and Amended Additional Site Investigation Workplan, Former City of Paris Cleaners GeoTracker	None	n/a
Release Occurrence	Fuel UST	The presumed source of the release of petroleum hydrocarbons to the subsurface was a single walled, 3,750-gallon steel tank located under the sidewalk at the south east corner of the property that has been removed. Investigations performed to-date have shown that petroleum hydrocarbons have been released to the subsurface that have migrated laterally generally in a westerly direction. The presence of elevated concentrations of benzene in soil and groundwater samples collected suggest that the UST likely stored gasoline.	August 16, 2006 Phase II Subsurface Investigation Report March 21, 2000, UST Closure Report	None	n/a
Constituents of Concern		Under the LTCP, the primary contaminants of concern (COCs) include total petroleum hydrocarbons as gasoline, benzene, and methyl tertiary butyl ether (MTBE). At the ACDEH's request, groundwater samples collected during the next monitoring event will also be analyzed for VOCs and SVOCs to screen for potential additional COCs.	April 22, 2016 Letter	Additional COCs	Include the requested additional analytes during the next scheduled groundwater monitoring event in July 2016.
Nature and Extent of Impacts	Impacts in Soil	Table 1 presents a summary of the historic soil sample analytical results for the Site. Historic COC concentrations in soil are shown on Figure 4. Residual petroleum hydrocarbons in the unsaturated zone are present in the vicinity of the former UST location. There appears to have been some migration of petroleum hydrocarbons towards the west and south, likely secondary impacts from migration in groundwater. The interim remedial excavation performed removed on-site soils that were impacted by petroleum hydrocarbons. Sidewall samples indicated that the bulk of impacted soil in this area had been removed. Soil samples collected at depths of less than 7.5 feet have not yielded significant concentrations of COCs. At depths below 7.5 feet bgs and above 9 feet bgs elevated concentrations of COCs are present at the location of the former UST and the along the south end of the interim remedial excavation. At depths below 9 feet bgs saturated soil samples analyzed yielded COCs in the area of the former UST excavation, along the south and east sides of the source removal excavation. The impacted soil in this interval appears to be related to COC-impacted groundwater migrating in the more-permeable gravels layers at the Site. However, the ACEH has requested additional shallow soil sampling from intervals of 0 to 5 feet bgs and 5 to 10 feet bgs to assess impact to shallow soil.	Figures 4 and 10 August 31, 2009 Interim Source Removal Report July 31, 2009, Groundwater Monitoring Well Installation Report February 14, 2008 Site Investigation Report August 16, 2006 Phase II Subsurface Investigation Report	Shallow soil impact	Collect shallow soil samples to address potential shallow soil impact (0 to 10 feet bgs)

Table 7: Conceptual Site Model - Updated July 2016
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SCM Element	SCM Sub-Element	Description	References	Data Gap Identified	Proposed Method to Address Data Gap
	Impacts in Groundwater	Tables 2 and 6 present a summary of COC concentrations in grab groundwater and monitoring well samples collected. Figure 5 presents the historical and current extent of benzene in groundwater at the Site. As shown on the figures the remedial activities and natural processes including biological degradation, dispersion, and dilution have significantly reduced COC concentrations and their extent in groundwater beneath the Site. As shown on Figure 5, the benzene plume that previously extended approximately up to 300-feet in a westerly direction have significantly reduced in size and concentration. The historical lateral extent of the benzene plume was not defined to the west and into Adeline Street beyond SB-31 and MW-6, toward the south beyond SB-23, MW-2 and MW-5, and towards the east across Chestnut Street beyond MW-7 and SB-17. However, following remedial efforts groundwater samples collected from the monitoring well network has shown that the plume has collapsed towards the south and west. Towards the south TPHg was detected at concentrations of 330 ug/L and 110 ug/L in groundwater samples collected from monitoring wells MW-2 and MW-5, respectively. Similarly, benzene was detected at concentrations of 97 ug/L and 2.7 ug/L in groundwater samples collected from monitoring wells MW-2 and MW-5, respectively. Towards the west, TPHg was not detected and benzene was detected at a concentration of 1.8 ug/L in the groundwater sample collected from monitoring well MW-6. Therefore, further lateral delineation is not warranted to south and the west. While TPHg is currently undefined to the east, the plume is considered defined per LTCP as the benzene is considered defined as the grab groundwater sample from SB-17 reported benzene as non-detect below 0.5 ug/L. The current TPHg and benzene plumes are presented in Figures 5 and 6.	Figures, 5, 6, and 11 August 31, 2009 Interim Source Removal Report July 31, 2009, Groundwater Monitoring Well Installation Report February 14, 2008 Site Investigation Report August 16, 2006 Phase II Subsurface Investigation Report	None	n/a
	Impacts in Vapor Phase	Three soil vapor samples were collected at the Site in October 2007 from locations VB-1, VB-2, and VB-3 located south of the remedial excavation and along Chestnut Street. TPHg and benzene were detected at maximum concentrations of 3,100 and 130 micrograms per cubic meter (ug/m3). MTBE was not detected. The maximum detections of TPHg and benzene are below the Environmental Screening Level (ESL) for commercial exposure of 30,000 ug/m3, and 420 ug/m3, respectively. Benzene is also slightly above the ESL for residential exposure of 48 ug/m3. Given the significant decreases observed in TPHg and benzene groundwater concentrations since 2007, current soil vapor concentrations have likely been similarly reduced.	Table 3 February 14, 2008 Site Investigation Report	None	n/a

Table 7: Conceptual Site Model - Updated July 2016
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SCM Element	SCM Sub-Element	Description	References	Data Gap Identified	Proposed Method to Address Data Gap
Migration Pathways	Preferential Pathways / Conduits - Part 1	In 2013, AEI requested utility maps from Pacific Gas and Electric (PG&E) and East Bay Municipal District (EBMUD). In April 2013, AEI performed a geophysical survey to confirm the accuracy of these maps. The survey included ground penetrating radar (GPR), passive and active electromagnetic detectors. The maps and AEI's geophysical survey identified a sanitary sewer, gas main, water lines and lateral lines down gradient of the site in Adeline Street. No storm drains are present adjacent to the subject site. The locations of the lines are consistent with those shown on both the public utilities' maps and the City of Paris Cleaners map prepared by Taber. The water, sewer, and gas lines are approximately 16 feet, 25 feet, and 45 feet from the down gradient edge of the site. The down gradient property line is approximately 265 feet down gradient of the former UST. The depth of the bottom of sanitary sewer pipe was measured at the manhole adjacent to the site in Adeline Street at 8.0 feet bgs and flows to the south. The bottom of the utility trench is expected to be no more than 18 inches deeper than the bottom of the pipe or 9.5 feet bgs. Based on GPR, the depths of the water main and gas are 6 feet and 3.5 feet bgs, respectively. The depth first groundwater in monitoring MW-6 is approximately 11 feet bgs. The shallow aquifer is confined and although the groundwater level in MW-6 has been as shallow as 4.66 feet below the top of the casing (btc), the utility trenches do not appear to intersect the shallow aquifer.	Figure 9 December 13, 2013 Preferential Pathway Study and Data Gaps Investigation Work Plan	None	n/a
Migration Pathways	Preferential Pathways / Conduits - Part 2	A sanitary sewer, two gas lines, two water lines and lateral lines were located up gradient of the site in Chestnut Street. A gas line, unidentified line, water line, gas line, sanitary sewer, and second water line are located approximately 4 feet, 6 feet, 7 feet, 1 feet, 23 feet, and 45 feet, respectively, from the up gradient edge of the former UST. The depth of the former UST excavation is estimated to be approximately 13-feet bgs. Based on GPR interpretation, depth of the closest gas line is 2.5 feet bgs, the depth of the closest water main is 7-feet bgs and the second gas main is 2.5 feet bgs. The depth of the water and first gas line trenches are estimated at 8.0-feet to 3.5 feet bgs, respectively. The depth of the bottom of sanitary sewer pipe was measured at the manhole adjacent to the northeast corner of the site Chestnut Creek Street at a depth of 7.0 feet bgs. The bottom of the utility trench is expected to be 8.5-feet bgs. The depth to first groundwater in monitoring MW-7 was approximately 12-feet bgs. The shallow aquifer is confined and although the groundwater level in MW-7 has been as shallow as 5.34 feet below the top of the casing (btc), it appears that the utility trenches do not intersect the shallow aquifer. However, distribution of hydrocarbons in the shallow soil south of the former USTs location and significant soil contamination at a depth of 6-feet bgs in the remedial excavation suggest that the water line immediately adjacent to and up gradient of the former UST may acted as a conduit. In summary, based on the above, a utility trench along Chestnut Street may have acted as a preferential pathway for lateral migration of contaminants. The locations of identified utility conduits are shown on Figure 8. Soil borings advanced delineated the lateral extent of migration in these conduits, specifically SB-7 and SB-19.	Figure 9 December 13, 2013 Preferential Pathway Study and Data Gaps Investigation Work Plan	None	n/a
Potential Receptors & Risks	On Site	Potable water is and will be provided by municipal sources for the foreseeable future, therefore direct contact with groundwater is not considered. Potential receptors at the site could include future construction workers who could come into contact with soil or groundwater containing low concentrations of petroleum hydrocarbons.	n/a	None	n/a
	Off Site	None	n/a	None	n/a

Table 8: Summary of Well Survey Results
3442 Adeline Street St. Oakland, CA 94608

Well No. / Figure ID	Well Owner	Well Address	City	Total Well Depth	Distance / Direction from Site (ft)	Well Use
1	Catellus Development Corp	Hollis St & 1-580	Emeryville	24	1,165 W	EXT
2	Catellus Development Corp	Hollis St & 1-580	Emeryville	25	1,165 W	EXT
3	Romak Iron Works	3250 Hollis Street	Oakland	22	1,000 W-SW	MON
4	Susan Hamsath	3250 Hollis Street	Oakland	25	800 W-SW	MON
5	Susan Hemsath	3250 Hollis Street	Oakland	25	800 W-SW	MON
6	Clawson School	Union Street & 32nd Street	Oakland	17	800-900 SW	MON
7	Clawson School	Union Street & 32nd Street	Oakland	34	800-900 SW	MON
8	Clawson School	Union Street & 32nd Street	Oakland	19	800-900 SW	MON
9	Clawson School MW-1	3315 Magnolia Street	Oakland	21	800-900 SW	MON
10	Clawson School MW-2	3315 Magnolia Street	Oakland	22	800-900 SW	MON
11	Clawson School MW-3	3315 Magnolia Street	Oakland	21	800-900 SW	MON
12	Orbit Prop. Corp MW1	3421 Hollis Street	Oakland	25	1,250 W	TES
13	Orbit Prop. Corp MW2	3421 Hollis Street	Oakland	25	1,250 W	TES
14	Orbit Prop. Corp MW3	3421 Hollis Street	Oakland	25	1,250 W	TES
15	Orbit Property Co MW3	3421 Hollis Street	Oakland	25	1,250 W	MON
16	Blazic Industrial Balanci	1016 W MacArthur Blvd	Oakland	25	900 N-NE	MON
17	Acro Petroleum	3400 San Pablo Avenue	Oakland	25	350 S-SE	TES
18	Acro Petroleum	3400 San Pablo Avenue	Oakland	25	350 S-SE	TES
19	Acro Petroleum	3400 San Pablo Avenue	Oakland	25	350 S-SE	TES
20	Thrifty Oil Company	3400 San Pablo Avenue	Oakland	15	350 S-SE	MON
21	Thrifty Oil Company	3400 San Pablo Avenue	Oakland	15	350 S-SE	MON
22	Thrifty Oil Company	3400 San Pablo Avenue	Oakland	15	350 S-SE	MON
23	Thrifty Oil Company	3400 San Pablo Avenue	Oakland	15	350 S-SE	MON
24	Thrifty Oil Company	3400 San Pablo Avenue	Oakland	25	350 S-SE	MON
25	Shell Oil Company	3420 San Pablo Avenue	Oakland	25	350 E	MON
26	Shell Oil Company	3420 San Pablo Avenue	Oakland	19	350 E	MON
27	Shell Oil Company	3420 San Pablo Avenue	Oakland	27	350 E	MON
28	Shell Oil Company	3420 San Pablo Avenue	Oakland	25	350 E	MON
29	Shell Oil Company	3420 San Pablo Avenue	Oakland	25	350 E	MON
30	Shell Oil Company	3420 San Pablo Avenue	Oakland	20	350 E	MON
31	Shell Oil Company	3420 San Pablo Avenue	Oakland	20	350 E	MON
32	Shell Oil Company	3420 San Pablo Avenue	Oakland	20	350 E	MON
33	Shell Oil Company	34200 San Pablo Avenue	Oakland	20	350 E	MON
34	Shell Oil Company	3420 San Pablo Avenue	Oakland	19	350 E	TES
35	Shell Oil Company	3420 San Pablo Avenue	Oakland	22	350 E	TES
36	Dougco Metal Finish. MW1	34th Street & Linden Street	Oakland	14	350 S-SE	MON
37	Dougco Metal Finish. MW2	34th Street & Linden Street	Oakland	16	350 S-SE	MON
38	Dougco Metal Finish. MW3	34th Street & Linden Street	Oakland	14	350 S-SE	MON
39	Champion Estate MW-1	3516 Adeline Street	Oakland	30	0 NW	MON
40	Champion Estate MW-2	3516 Adeline Street	Oakland	30	0 NW	MON
41	Champion Estate MW-3	3516 Adeline Street	Oakland	30	0 NW	MON
42	Loomis Armored, Inc.	936 Brockhurst Street	Oakland	17	1,200 SE	MON
43	Loomis Armored, Inc.	936 Brockhurst Street	Oakland	35	1,200 SE	MON
44	Loomis Armored, Inc.	936 Brockhurst Street	Oakland	35	1,200 SE	MON
45	Owens Financial	3623 Adeline St	Emeryville	29	350 N	MON
46	Owens Financial	3623 Adeline St	Emeryville	29	350 N	MON
47	Owens Financial	3623 Adeline St	Emeryville	29	350 N	MON
48	Owens Financial	3623 Adeline St	Emeryville	29	350 N	MON
49	Owens Financial	3623 Adeline St	Emeryville	29	350 N	MON
50	Owens Financial	3623 Adeline St	Emeryville	29	350 N	MON

Notes:
ft = feet
MON = monitoring well
TES = test well
EXT = extraction/vapor well

Table 9: ACEH Low Threat Closure Policy Checklist
3442 Adeline Street, Oakland, CA 94608

Low Threat Closure Policy General Criteria	Site-Specific Comments	Data Gap / How to Address
General Criteria a: The unauthorized release is located within the service area of a public water system.	The site meets the required criteria as water is currently provided to the Site and surounding area by the East Bay Municipal Utility District (EBMD).	None.
Required Information: Please identify the local provider for the public water system and confirm that the property has a hook-up and uses the public water system. Identify any other sources of water for the property such as wells, cisterns, or other water capture systems.		
General Criteria b: The unauthorized release consists only of petroleum.	The only known source is a former UST that reportedly contained gasoline. Investigation efforts have focused petroleum hydrocarbons. No information to suggest that other chemicals were released from the UST has not been identified.	None.
Required Information: Please describe the site history, types of products or chemicals used at the site, and history of any types of releases other than petroleum. Present the sampling results for all chemicals other than petroleum such as volatile organic compounds, metals, semi-volatile organic compounds, PCBs, phenol, 1,4-dioxane, dibenzofurans, or dioxins.		
General Criteria c: The unauthorized ("primary") release from the UST system has been stopped.	The primary release from the UST system was stopped with the removal of the UST from the subsurface.	None.
Required Information: Please describe the history of releases and the actions that were taken to stop each release. Please evaluate and account for changing contaminant concentrations over the full time period of site investigations.		
General Criteria d: Free product has been removed to the maximum extent practicable.	Signifcant free product has not been identified at the Site. A limited sheen was noted seeping in to the remedial excavation. No measurable free product or light non-aqueous phase liquid (LNAPL) has been identified in the monitoring well network.	None.
Required Information: Please describe the investigation and monitoring activities that have been undertaken to assess whether free product is present. Present data including tables and figures showing any observations and measurements of free product. Describe the corrective actions that were taken to remove free product, dates of the removal actions, and volume removed. If free product remains at the site, present an evaluation of whether free product removal is practicable. If free product removal is not practicable, fully describe the conditions that prevent free product removal.		

Table 9: ACEH Low Threat Closure Policy Checklist
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Low Threat Closure Policy General Criteria	Site-Specific Comments	Data Gap / How to Address
General Criteria e: A conceptual site model has been developed. Required Information: Please present your complete conceptual site model (CSM) that includes a site history, receptor survey, description of releases, geologic and hydrogeologic assessment, identified stratigraphic and manmade migration pathways, identified controls on contaminant migration, delineation of the lateral and vertical extent of contamination in all affected media, assessment of vapor intrusion pathways, groundwater monitoring and evaluation of plume stability, and description of the type and effectiveness of corrective actions. The CSM must be complete and thorough enough to evaluate whether site characterization is complete and identify any remaining data gaps.	The conceptual site model has for the Site has been prepared and is included as Table 8. Based on the summary, additional shallow soil sampling to address shallow soil contamination and additional shallow soil gas sampling are required to complete definition.	None.
General Criteria f: Secondary source removal has been addressed. The secondary source is the petroleum-impacted soil, free product, or groundwater that acts as a long term source releasing contamination to the surrounding area. Unless site conditions prevent secondary source removal (e.g. physical or infrastructural constraints exist whose removal or relocation would be technically or economically infeasible), petroleum-release sites are required to undergo secondary source removal to the extent practicable. Required Information: Please present the history of corrective actions for the site including the types of cleanup actions taken, dates of the actions, mass removed, figures depicting the location of the removal action, and confirmation sampling results which demonstrate the effectiveness of secondary source removal, as well as a brief narrative description of the actions and areas of success or infeasibility of actions. For any in-situ corrective actions, long-term monitoring data must be presented that demonstrate that concentrations have not rebounded following the cessation of corrective action.	The interim remedial excavation performed removed approximately 1,098.21 tons of petroleum hydrocarbon-impacted soils that were accessible. In March and April of 2009, an interim remedial excavation was performed on-site and immediately down-gradient of the former UST location and inside one of the on-site buildings. The excavation measured 35 feet by 75 feet by approximately 12 feet deep. The excavation was advanced until photoionization detector (PID) measurements were below 100 parts per million by volume (ppmv) and a yellowish brown soil layer. A total of 1,098.21 tons of petroleum-impacted soils were removed and property disposed. Dewatering during excavation generated approximately 5,000 gallons that was discharged under permit to the sanitary sewer. A total of 19 confirmation soil samples were collected from the excavation sidewalls at depths of 7 and 11.5 feet bgs. Historic soil sample data is summarized in Table 1.	None.

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Low Threat Closure Policy General Criteria	Site-Specific Comments	Data Gap / How to Address
General Criteria g: Soil or groundwater has been tested for MTBE and results reported in accordance with Health and Safety Code section 25296.15. Required Information: Please present sufficient data to assess whether MTBE is or was present in soil and groundwater at the site.	MBTE has not been detected in any of the grab groundwater samples, but has been detected in soil samples at relatively low levels. For the first time, MTBE was detected in one well, up-gradient well MW-7 on 1/12/16 at 31 ug/L.	None.
General Criteria h: Nuisance as defined by Water Code section 13050 does not exist at the site. Required Information: Please present sufficient data to support your evaluation of whether a nuisance condition currently exists or potentially could exist in the future. This evaluation should describe whether any site contamination is present in locations that have the potential to pose nuisance conditions during common or reasonably expected site activities. This data should be incorporated into the CSM. These locations would include but not necessarily be limited to surface soils, near surface soils, utility corridors, and basements or other subsurface structures. The types of data presented should include descriptions of the type and vertical and lateral extent of shallow soil or lateral extent of surface soil contamination, depths to contamination, analytical results for surface soil, shallow soil, and groundwater samples, discussion of any odors or visual evidence of contamination, preferential pathway and utility conduit surveys, review of potential points for exposure (such as groundwater seeps into basements), current use of the site, expected future use of site, and description of surface water runoff from the property to storm drains or other sites.	At depths below 9 feet bgs saturated soil samples analyzed yielded COCs in the area of the former UST excavation, along the south and east sides of the source removal excavation. The impacted soil in this interval appears to be related to COC-impacted groundwater migrating in the more-permeable gravels layers at the Site.Soil samples collected at depths of less than 7.5 feet have not yielded significant concentrations of COCs. However, as requested by the ACEH, additional sampling will be performed throughout the site for collection of shallow soil samples, as well as shallow soil gas samples, to further address potential nuisance conditions.	Require shallow soil data - perform shallow soil sampling from intervals of 0 to 5 feet bgs and 5 to 10 feet bgs

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Low Threat Closure Policy General Criteria	Site-Specific Comments	Data Gap / How to Address
Media-Specific Criteria 1. Groundwater: If groundwater with a designated beneficial use is affected by an unauthorized release, to satisfy the media-specific criteria for groundwater, the contaminant plume that exceeds water quality objectives must be stable or decreasing in areal extent, and meet all of the additional characteristics of one of the five classes of sites listed in the Policy. A plume that is "stable or decreasing" is a contaminant mass that has expanded to its maximum extent: the distance from the release where attenuation exceeds migration.	Groundwater monitoring has demonstrated that the plume is stable and decreasing in length. Groundwater samples collected from monitoring well MW-2 had previously yielded the most elevated concentration of TPHg of 27,000 ug/L in May 2011, has seen a reduction to 330 ug/L in January 2016. Groundwater samples collected from MW-3 previously yielded the most elevated benzene concentration of 3,800 ug/L in August 2009. MW-2, which also yielded similarly elevated benzene concentrations, with a maximum of 3,600 ug/L reported in August 2009, has seen a reduction to 97 ug/L in January 2016. MTBE has only been detected in one groundwater sample collected from the monitoring well network, and during the most recent sampling event. The groundwater sample collected from monitoring well MW-7 yielded MTBE at a concentration of 31 ug/L. The DWR and ACPWA results demonstrate that no wells are threatened by the petroleum hydrocarbon plume. Based upon the conceptual site model the groundwater plume meets criteria 4. <u>Groundwater Specific Criteria #4</u> a) The contaminant plume that exceeds water quality objectives is less than 1,000 feet in length. b) There is no free product. c) The nearest existing water supply well or surface water body is greater than 1,000 feet from the defined plume boundary. d) The dissolved concentration of benzene is less than 1,000 µg/L and the dissolved concentration of MTBE is less than 1,000 µg/L.	None.
Required Information: In general, the Low-Threat Groundwater Classes are classified on stable or decreasing plumes, status of free product removal, distance to the nearest groundwater or surface water receptor from the plume boundary, and other factors that may be required to demonstrate a low-threat. Sufficient data must be presented to demonstrate that site characterization activities have defined the horizontal and vertical extent of the plume and that the plume is stable. Plume stability must be demonstrated using a valid technical analysis that considers the accuracy of data from the wells, well placement within the plume, changes in areal extent of the plume, and valid concentration trends within the plume. Factors such as seasonal variability, water level changes, sampling methods, well construction, and other factors that can affect data quality must be considered. Plotting of decreasing concentrations using data from a single well is not likely to be sufficient. A recent well survey that uses all available well from both the Department of Water Resources and local agencies (Zone 7 Water Agency or Alameda County Public Works as appropriate) is required. Water supply wells located within 2,000 feet of the site are to be presented on a site figure with a table identifying each well along with the well construction details. Following completion of a complete CSM and consideration of the above factors, please present your evaluation of whether your site fits within one of the five classes in the Policy.		

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Low Threat Closure Policy General Criteria	Site-Specific Comments	Data Gap / How to Address
Media-Specific Criteria 2. Petroleum Vapor Intrusion to Indoor Air: The low-threat vapor-intrusion criteria in the Policy apply to release sites and impacted or potentially impacted adjacent parcels when: (1) existing buildings are occupied or may be reasonably expected to be occupied in the future, or (2) buildings for human occupancy are reasonably expected to be constructed in the near future.	Three soil vapor samples were collected. TPHg and benzene were detected at maximum concentations of 3,100 and 130 ug/m3, which are both below the current ESL for commercial/industrial exposure, but benzene remains slightly above the ESL for residential exposure.	Shallow soil vapor sampling to confirm current petroleum hydrocarbons in soil vapor at the Site.
Required Information: Sufficient data must be presented to demonstrate that site characterization is complete and that the data demonstrate that the site-specific conditions satisfy all the assumptions, characteristics, and screening criteria of scenarios 1 through 3 or all of the characteristics and screening criteria of scenario 4 of the Policy. Input to the scenarios include any evidence of LNAPL, soil data and where applicable, soil gas data to demonstrate that a continuous bioattenuation zone is or is not present, concentrations of benzene in groundwater, and direct measurements of soil gas concentrations. Results from preferential pathway and utility conduit surveys are to be presented and evaluated to determine whether a continuous bioattenuation zone is present. Please present site data using figures, tables, and text in a complete CSM that evaluates site data relative to the conditions defined by the vapor intrusion scenarios in the Policy. Such factors as data representativeness, quality, spatial distribution relative to current or potential receptors and sources, and temporal variability must be considered in the evaluation. Following completion of a comprehensive CSM and consideration of the above factors, please present your evaluation of whether your site fits within one of the vapor intrusion scenarios in the Policy or site-specific risk assessment for the vapor intrusion pathway demonstrates that human health is protected. Although satisfaction of media-specific criteria is not required for active commercial fueling facilities except in cases where release characteristics can be reasonably believed to pose an unacceptable health risk, the above evaluation is required to assess whether nearby facilities potentially may be impacted by petroleum vapor intrusion.		

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3442 Adeline Street, Oakland, CA 94608

Low Threat Closure Policy General Criteria	Site-Specific Comments	Data Gap / How to Address
Media-Specific Criteria 3. Direct Contact and Outdoor Air Exposure. Release sites where human exposure may occur satisfy the media-specific criteria for direct contact and outdoor air exposure and shall be considered low-threat if they meet any of the following: a. Maximum concentrations of petroleum constituents in soil are less than or equal to those listed in Table 1 for the specified depth below ground surface (bgs). The concentration limits for 0 to 5 feet bgs protect from ingestion of soil, dermal contact with soil, inhalation of volatile soil emissions and inhalation of particulate emissions, and the 5 to 10 feet bgs concentration limits protect from inhalation of volatile soil emissions. Both the 0 to 5 feet bgs concentration limits and the 5 to 10 feet bgs concentration limits for the appropriate site classification (Residential or Commercial/Industrial) shall be satisfied. In addition, if exposure to construction workers or utility trench workers are reasonably anticipated, the concentration limits for Utility Worker shall also be satisfied; or b. Maximum concentrations of petroleum constituents in soil are less than levels that a site specific risk assessment demonstrates will have no significant risk of adversely affecting human health; or c. As a result of controlling exposure through the use of mitigation measures or through the use of institutional or engineering controls, the regulatory agency determines that the concentrations of petroleum constituents in soil will have no significant risk of adversely affecting human health.	There is no current direct exposure route to shallows soils at the Site other than by a potential future construction worker. There is little evidence that shallow soil remains impacted by residual petroleum hydrocarbons since the former UST has been removed and the interim remedial excavation was performed. However, as requested by the ACEH, additional sampling will be performed throughout the site for collection of shallow soil samples, as well as shallow soil gas samples, to further address direct contact and outdoor exposure.	Require shallow soil data - perform shallow soil sampling from intervals of 0 to 5 feet bgs and 5 to 10 feet bgs
Required Information: Sufficient data must be presented to demonstrate that site characterization is complete for the prescribed depth ranges of 0 to 5 feet and 5 to 10 feet bgs in order to assess potential direct contact and outdoor air exposure. Please present figures and tables showing the soil data for each of the prescribed depth ranges with a comparison to the screening levels for each exposure scenario. Analytical data for all chemicals of concern including total petroleum hydrocarbons are to be presented in order to assess whether unique conditions not considered in the Policy may exist at the site. For all data, such factors as data representativeness, quality, spatial distribution relative to current or potential receptors and sources, and temporal variability must be considered in the evaluation. In addition, please describe the current and expected future land use, redevelopment, or construction for the site.		