November 4, 2010

Paresh Khatri
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

Subject: **Authorization To Sign On Behalf of Ms. Kanwaljit Sappal**
6211 San Pablo Avenue
Oakland, California
AEI Project # 280346
Fuel Leak Case RO0000127

Dear Mr. Khatri:

This letter has been submitted to inform you that I (Ms. Kanwaljit K. Sappal) am the owner of the property located at 6211 San Pablo Avenue in San Pablo, California, and that Jeremy Smith of AEI Consultants is authorized to sign reports and correspondence submitted to the Alameda County Health Care Services Agency on my behalf. I declare, to the best of my knowledge, that the information and/or recommendations contained in the attached document are true and correct.

If you have any additional questions or require additional information, please contact me at (707) 553-1200.

Best Regards,

Kanwaljit Sappal

cc: Mr. Jeremy Smith – AEI Consultants

March 25, 2011

CORRECTIVE ACTION PLAN

Property Identification:
6211 San Pablo Avenue
Oakland, California 94608

AEI Project No. 280346
ACHCS Case No. RO0000127

Prepared for:
Mr. Pritpaul Sappal
1811 Bell Rio Drive
Lafayette, CA 94549

Prepared by:
AEI Consultants
2500 Camino Diablo
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March 25, 2011

Mr. Pritpaul Sappal
1811 Bell Rio Drive
Lafayette, CA 94549

Subject: **Corrective Action Plan**
6211 San Pablo Avenue,
Oakland, California
AEI Project No. 280346
ACHCS Case No. RO0000127

Dear Mr. Sappal:

1.0 INTRODUCTION

AEI Consultants (AEI) has prepared this Corrective Action Plan (CAP) report on behalf of Mr. Pritpaul Sappal (client), owner of the subject site, located at 6211 San Pablo Avenue, Oakland, California (Figure 1: Site Location Plan). This report has been prepared at the request of the client, as required by the Alameda County Health Care Services Agency (ACHCSA) in a letter dated February 10, 2011. The ACHCSA letter was in response to AEI's Well Installation & Feasibility Study Report dated October 5, 2010 which recommended case closure fro the site. The ACHCSA did not concur with this recommendation and requested a CAP. This document includes the following:

- A summary of the historic and current site conditions.
- A review of previously evaluated potential cleanup alternatives.
- Updated site cleanup levels and goals for soil and groundwater at the site.
- The selection of the best course of action based on previous data, expected effectiveness, technical feasibility, and cost for the remedial option to reach the proposed goals.
- A work plan for the implementation of the selected remedial alternative to complete cleanup activities and move the site towards a risk based closure.

2.0 SITE DESCRIPTION AND HISTORY

The subject property is located at 6211 San Pablo Avenue, northwest of the intersection of San Pablo Avenue and 62nd Street in a mixed residential and light commercial area of Oakland, California (Figure 1 and 2). The site currently consists of a retail gasoline station with three

USTs dispensing gasoline fuel through six dual-sided fuel dispensing islands. Site features are included in Figure 3.

In April 1999, three borings B-1 through B-3 were advanced at the site by Herschy Environmental, Inc. (Herschy). Significant concentrations of hydrocarbons were present in the soil and groundwater samples collected during the investigation. Subsequently, in June 1999, five additional soil borings were advanced (B-4 through B-8) at the site. Based on the data collected during the investigation, it was determined that additional assessment was necessary as the lateral extent of the contamination had not been determined. Therefore, in October 1999 monitoring wells MW-1 through MW-3 were installed and a groundwater monitoring program was initiated.

In November 2001, monitoring wells MW-4 through MW-6 were installed and borings B-9 through B-14 were advanced on the property. Based on the data obtained, it was determined that additional wells were necessary offsite and interim remedial action was required, therefore a workplan was prepared for the implementation of both. The offsite monitoring wells were not installed by Herschy due to difficulty obtaining an encroachment permit with the City of Oakland.

In an effort to remediate hydrocarbons at the site, five air sparge wells (AS-1 through AS-5), thirteen vapor extraction wells (VE-1 through VE-13), and one groundwater extraction well (EX-1) were installed in January 2004. In addition, well MW-1R was installed to replace well MW-1. In February 2004, three 10,000 gallon USTs and associated product piping were removed and replaced (with the current UST system) at the site. During construction activities, approximately 1,100 tons of soil and 40,000 to 60,000 gallons of groundwater was removed from the site and properly disposed of.

A soil vapor extraction (SVE) system was installed and was operational from August 31, 2006 through November 19, 2007. Initially the system operated utilizing a thermal oxidizer; however, due to low influent concentrations, the system was modified to run in catalytic mode only during January and February 2007. Shortly thereafter, it was determined that hydrocarbon removal was reaching asymptotic levels. Therefore, on May 7, 2007, a dual phase extraction (DPE) pilot test was attempted in order to determine if SVE coupled with DPE would increase removal. The test was halted after 4 hours due to high temperatures (outside the catalytic oxidizer operating range) and increasing influent concentrations. Subsequently, after acquiring the proper equipment, on February 5 and 6, 2008, the DPE test was performed for approximately 13 hours. Following the test, Herschy concluded that the limited data suggested that DPE may be a viable option. DPE was never implemented and the SVE system was removed by Herschy in August and September 2008.

In August 2007, borings DP-1 and DP-3 were installed at and in the vicinity of the site. Several offsite borings were planned; however they were not performed for a variety of reasons. In September 2008, consulting responsibilities were transferred to AEI Consultants. In response to a requirement by ACHCSA, AEI submitted the revised Site Conceptual Model (SCM) dated October 8, 2008 which updated a proposed scope of work to complete additional offsite characterization for the site. Approval for the completion of the work was issued in a letter from the ACHCSA dated October 16, 2008.

On November 24 through November 26, 2008 AEI advanced ten shallow soil borings (DP-4, SB-5, SB-7 to SB-14) in the vicinity of the subject property and four deep soil borings (DDP-1 to DDP-4) at the subject property. In addition, three nested soil vapor probes (SG-1 through SG-3) were installed at the site. Data obtained during the investigation further validated the known need for offsite monitoring wells in the vicinity of the site.

On February 11 and February 12, 2010, AEI advanced four soil borings (MW-7 through MW-10) in the vicinity of the property, and converted the borings into groundwater monitoring wells. In addition, five soil borings (SG-4 through SG-8) were advanced and converted into a permanent soil vapor monitoring probe (to a depth of approximately 4.5 feet below ground surface (bgs). Based on initial data, the total petroleum hydrocarbons as gasoline (TPHg) and benzene fractions of the groundwater plume appeared relatively well defined to the west and southwest based on data obtained from MW-8 through MW-10. The methyl tertiary butyl ether (MTBE) fraction of the plume appeared well defined to the south/southwest based on well MW-10.

On February 17, March 18, 2010, March 23, 2010, and April 12 through April 16, 2010, AEI conducted pilot study activities at the subject site. The pilot study activities were completed to assess the feasibility of Bioventing to address soil contamination and In-Situ Chemical Oxidation (ISCO) using ozone to address the groundwater plume beneath the site. The pilot study indicated that Bioventing was not feasible in the shallow soils at the site. Insufficient air flow was observed to consider this a viable option for oxygen delivery to the impacted source area soil. Results of the ISCO pilot study testing estimated an effective radius of influence (ROI) suggesting that an ISCO program using ozone sparging would be an effective method for treating the groundwater plume. Please refer to AEI's Well Installation & Feasibility Study Report dated October 5, 2010 for complete details of the pilot study and well installation activities.

The locations of all former and current site features, including previous boring locations, are included on Figures 2 and 3. Historical analytical and sampling results are included in Tables 1 to 3 and Appendix A.

3.0 GEOLOGY AND HYDROGEOLOGY

Sediments encountered during the November 2008 investigation were generally classified as fine grained sediments (a combination of silt and clay) just below the asphalt surface to depths ranging from approximately 5 to 11 feet below bgs. Grain size distribution analysis of samples encountered from this zone indicated approximately 7% to 21% sand, approximately 40% silt, and approximately 37% to 53% clay. The fine grained silty clay was underlain by a sandy, gravelly silt/clay with varying amounts of fine to coarse grained sand and minor gravel to depths ranging from approximately 11 feet bgs to 17 feet bgs (the terminus of several of the shallow borings). Grain size distribution analysis of select sediments encountered from this zone indicated approximately 4% to 26% gravel, 44% to 58% sand, and 29% to 36% fine grained silt and clay. Deep borings advanced at the site identified interbedded layers of silt and well graded sand and gravel to the maximum depth explored, 40 feet bgs. Laboratory reported physical properties of soil conditions are included on Table 4.

Sediments encountered during the February 2010 investigation generally confirmed the 2008 investigation findings and were classified as fine grained (silty clay) with varying amounts of sand and gravel throughout to depths ranging from approximately 5 to 11 feet bgs. A general increase in silt and sand content was observed beneath the silty clay in the majority of the borings with interbedded layers of silt. A well graded gravelly sand layer was observed in MW-7 from 24.5 to 26.5 feet bgs, in MW-8 from 19.5 to 23 feet bgs, and MW-9 from 10 to 11 feet bgs. The well graded gravelly sand was underlain by silt or clay to the maximum depth explored (30 feet bgs in MW-7). A detailed description of encountered soils is included in the soil borings (Appendix A) as well as the Fence Diagrams as Figures 4 and 6.

The 2008 investigation identified shallow groundwater as being present at depths ranging approximately from 11 to 14 feet bgs, and stabilizing between 5 feet to 10 feet bgs. In deep borings DDP-2 through DDP-4, deep groundwater (past 20 feet bgs) was not collected. Several potential water producing zones were identified during drilling, however the zones may be described as slow producing and upon setting screens in these borings at varying depths from 25 to 40 feet bgs, measurable groundwater was not present after approximately 1 hour. In boring DDP-1, a hydropunch screen was open from 32 to 40 feet bgs; however, it was initially dry. After approximately 3 hours, groundwater was measured at 28 feet bgs.

The February 2010 investigation identified shallow groundwater at depths ranging from 10 to 12 feet bgs in MW-7 through MW-9. Shallow water was measured in MW-10 at a depth of approximately 4 feet bgs. Borings MW-7 and MW-8 were advanced beyond the first identified water producing zone in order to investigation deeper groundwater for vertical delineation. A second water producing zone was identified based on field observations at approximately 20.5 to 24.5 feet bgs in MW-7 and 19.5 feet bgs in MW-8.

Groundwater during the recent monitoring episode on February 17, 2011 ranged from 26.97 to 31.52 feet above mean sea level (amsl). The groundwater was on average 2.50 feet higher than during the previous sampling event. The direction of the groundwater flow during the February 17, 2011 sampling event was towards the west/southwest with an estimated overall hydraulic gradient of 0.01 feet/foot, relatively consistent with historical groundwater flow data.

4.0 SITE CONDITIONS

As previously discussed in AEI's Well Installation & Feasibility Study Report dated October 5, 2010, with updated groundwater data from the February 2011 sampling event, the following conclusions regarding contamination beneath the site can be drawn:

4.1 Groundwater Conditions

Hydrocarbon concentrations remain elevated in several of the onsite monitoring wells however has generally decreased from historical highs and is at all time lows in wells MW-3 and MW-4. Offsite wells were reported to contain TPHg, benzene, and MTBE at concentrations up to 2,400 microgram per liter (µg/L) (MW-7), 35 µg/L (MW-7), and 1,300 µg/L, respectively, which are lower than detected during the first monitoring event of these wells. Based on this data, the TPHg and benzene fraction of the groundwater plume appears relatively well defined to the

west and southwest based on data obtained from MW-8 through MW-10. The MTBE fraction of the plume appears well defined to the south/southwest based on well MW-10. Additional monitoring events will help determine distribution and stability of the plume.

During the well installation activities, two additional "deep" samples were collected from the perceived deeper groundwater producing zone at the site. The "deep" groundwater sample was collected from well MW-7 and MW-8 at approximately 20.5 feet and 19.5 feet bgs, respectively. TPHg, benzene, and MTBE were not detected at or above the laboratory detection limit in the "deep" groundwater sample from MW-7. Benzene was not detected at or above the laboratory detection limit in the "deep" groundwater sample collected from MW-8, however TPHg and MTBE were detected at a concentration of 54 µg/L and 570 µg/L, respectively. Based on this data, the TPHg and benzene portions of the contamination do not appear to have significantly migrated vertically into any deeper groundwater zones. Well MW-7 is located within a zone with relatively high shallow TPHg and benzene groundwater concentrations, however they were not detected in the deeper zone at approximately 20.5 feet bgs. Although MTBE was not detected in the deep sample from MW-7, MTBE in the deep groundwater sample within the vicinity of MW-8 was detected at a concentration of 570 µg/L. This MTBE concentration from MW-8 was significantly lower than the 1,600 µg/L shallow concentration, and suggests limited vertical migration of the MTBE may occur.

4.2 Soil Conditions

Several soil samples were collected during installation of each of the offsite monitoring wells. TPHg and MTBE were reported at a maximum concentration of 220 milligrams per kilogram (mg/kg) and 0.59 mg/kg, respectively in the soil samples analyzed. Benzene was not detected at or above the laboratory detection limit in the soil samples analyzed. However, the deep soil sample from each boring was not report to contain TPHg or MTBE at or above the laboratory detection limit, with the exception of MW-9-14.5 which contained MTBE at a concentration of 0.027 mg/kg, just slightly above the MTBE ESL of 0.023 mg/kg. Based on this data, significant offsite soil contamination is not present at the site. Residual concentrations detected are likely a result of the offsite groundwater contaminant plume.

Numerous onsite soil samples have been collected to date. In general, elevated concentrations of TPHg, benzene, and MTBE have been detected throughout the site with some of the highest concentrations located west and south of the current USTs and dispenser islands. Historical onsite soil concentrations are displayed on Figure 4.

4.3 Soil Vapor Conditions

Due to the fine grained, non-permeable shallow clay observed at the site, in conjunction with the shallow groundwater, soil vapor sampling has been difficult to perform. As discussed earlier, low flow conditions were present in SG-1S, SG-1D, SG-2D, SG-3D, SG-5, SG-7, and SG-8 during the March 2010 sampling event. The low flow conditions prevented the collection of soil vapor from SG-3 at 6 feet bgs, SG-7 and SG-8. Therefore, soil vapor concentrations could not and have not been investigated in the northwestern portion of the property. Vapor samples from SG-2S and SG-6 near the western property boundary did not fall under the low flow category and indicated significant hydrocarbon concentrations are present in the soil vapor to the north and south of the onsite building. However, the vapor sample from SG-4, located

between the building the western property boundary, did not contain elevated concentrations of hydrocarbons indicating the soil vapor along the western boundary in the central portion of the site has been adequately defined. Further investigation and/or remediation may be necessary to better assess the soil and soil vapor conditions along the western property boundary north and south of the onsite building.

5.0 REMEDIATION OBJECTIVES & CLEANUP GOALS

The prior tentative target soil, soil gas, and groundwater cleanup goals for contaminants known to have been release onsite were evaluated and selected based on current land use and zoning of the property, to be adequately protective of human health and groundwater resources, and to be reasonable, cost-effective, and technically feasible to achieve within a reasonable period of time. The proposed cleanup goals have been based on a commercial / industrial land use scenario using the Environmental Screening Levels (ESLs) presented in the San Francisco Bay RWQCB's document "Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater Interim-Final", dated November 2007, revised May 2008.

5.1 Groundwater Cleanup Goals

The groundwater in the area of the site has been designated in the RWQCB Basin Plan as of beneficial use or potential beneficial use. Although the lack of production wells identified in close proximity to the site (well survey was performed in Herschy's SCM and SCM Addendum), indicates the groundwater is not currently used for drinking water, based on the RWQCB Basin Plan, the potential exists. Therefore, ESLs for drinking water resource have been adopted for the final cleanup goals. This is expected to be adequately protective of shallow water quality of the area.

Contaminant	Proposed Groundwater Goals (μg/L)	Pathway Basis for Goal
	Shallow Groundwater	
TPH-g	100	Ceiling Value
MTBE	5.0	Ceiling Value
Benzene	1.0	Drinking Water Toxicity
Toluene	40	Ceiling Value
Ethylbenzene	30	Ceiling Value
Xylenes	20	Ceiling Value

Source: May 2008 ESLs

5.2 Soil Cleanup Goals

Due to the relatively shallow groundwater present at the site, proposed cleanup goals for soil are presented for shallow soil (<10 feet bgs) only and are based on leaching potential to groundwater that is of potential beneficial use and the commercial / industrial land use exposure scenarios.

Contaminant	Proposed Soil Goals (mg/kg)	Pathway Basis for Goal
	Shallow Soil (<10 feet bgs)	
TPH-g	83	Groundwater Protection
MTBE	0.023	Groundwater Protection
Benzene	0.044	Groundwater Protection
Toluene	2.9	Groundwater Protection
Ethylbenzene	3.3	Groundwater Protection
Xylenes	2.3	Groundwater Protection

Source: May 2008 ESLs

5.3 Soil Vapor Cleanup Goals

Although the subject site is a commercial property, residential properties are located to the north and west of the site. Therefore, two sets of soil vapor cleanup goals are proposed: residential for borings near the property line which bounds residential property and commercial for onsite borings away from the residential property.

Contaminant	Proposed Soil Vapor Goals ($\mu g/m^3$)		Pathway Basis for Goal
	Shallow Soil Vapor (<5 feet bgs)		
	Residential	Commercial	
TPH-g	10,000	29,000	Vapor Intrusion
MTBE	9,400	31,000	Vapor Intrusion
Benzene	84	280	Vapor Intrusion
Toluene	63,000	180,000	Vapor Intrusion
Ethylbenzene	980	3,300	Vapor Intrusion
Xylenes	21,000	58,000	Vapor Intrusion

Source: May 2008 ESLs

6.0 SITE CLEANUP TECHNOLOGIES

Remediation of groundwater and soils impacted with petroleum hydrocarbons are broadly categorized into *in situ* and *ex situ* approaches and mass removal and diffusion-controlled technologies. In situ or onsite treatment involves either the removal of contaminants without excavation or extraction of the soil and groundwater or by destroying the hydrocarbon in place either biologically or chemically. Ex situ or offsite treatment involves the physical removal of the soil or groundwater for either above ground treatment or offsite disposal. Mass removal technologies remove source materials and may include: soil excavation, soil vapor extraction, and free product recovery. Diffusion-controlled technologies are limited by mass transfer and degradation mechanisms and may include: passive bioremediation, air sparging / biosparging, bioventing, oxygen diffusion, and in situ chemical oxidation (ISCO). The methods discussed below are not intended to be exhaustive but rather provide an overview of generally accepted methods for soil and groundwater remediation at sites impacted by petroleum hydrocarbons.

6.1 Soil Excavation

Soil excavation consists of the physical removal or excavation of impacted soil to the water table, but can often extend below the water table for removal of the smear zone. Generally, this is the most effective method of removing the source of petroleum contamination. Once above ground, soils can either be treated in aerated biopiles, among other methods, and put back in place or transported offsite to an appropriate disposal facility.

A relatively significant amount of soil beneath the site is impacted by the petroleum hydrocarbons. A conceptual excavation would be to remove the top 10 feet of soil west of the USTs and dispenser islands (downgradient direction). A preliminary estimate yields approximately 2,000 cubic yards of soil targeted for removal. It is expected that the excavation would be successful in removing a large fraction of the source mass of petroleum at the site. However, the following issues should be considered with this approach:

- The site is an active retail gasoline station. In order to perform the soil excavation, the station would have to be shut down for an extended period of time.
- Soil contaminant mass that could be under the building is not accessible.
- The site contains an extensive network of SVE wells, air sparging wells, and monitoring wells. Prior to the excavation, each of these wells in the target excavation area would have to be decommissioned and re-installed, if necessary.
- The costs associated with the excavation project of approximately 2,000 cubic yards (roughly estimated at between $250,000 and $400,00).

For the reasons stated above, soil excavation activities have not been considered as the remedial approach. These negative aspects of an excavation approach are primarily due to increased costs, therefore several alternatives were considered more effective, when considering cost effectiveness. However, as outlined below, the prior pilot testing activities have demonstrated that alternative remediation options would not be successful; therefore, the soil excavation option is now being considered as a viable and more cost effective option.

6.2 Passive Bioremediation / Monitored Natural Attenuation

Passive bioremediation or natural attenuation involves monitoring of the natural processes that degrade contaminants in the subsurface. Natural attenuation of petroleum hydrocarbon is a well-documented beneficial process occurring at most fuel sites. Based on the elevated concentrations of hydrocarbons as well as the extent of hydrocarbon distribution, a more aggressive approach than monitored natural attenuation appears necessary at the site. The ACHCSA concurred with this conclusion in their request that an active and more aggressive alternative be pursued. MNA may be used for the offsite plume once onsite soil source removal has been completed and cumulative offsite groundwater monitoring data gathered.

6.3 Soil Vapor Extraction

Soil vapor extraction (SVE) is a proven and cost-effective technology for the removal of volatile contaminants. SVE is the process of applying a vacuum to the subsurface to increase the recovery of volatile and sometime semi-volatile contaminants, such as gasoline, trapped as vapor in the soil pore space, adsorbed to the soil, dissolved in pore water, or occluded between

soil particles as free product. A 2 to 4-inch diameter extraction well, screened across the vadose zone, or sometimes an existing monitoring well if the construction is known and appropriate, is connected to a regenerative blower, rotary lobe blower, or sometimes a liquid ring pump to remove hydrocarbons from the subsurface. The extracted vapors are treated above ground by a variety of means, including: direct-fired thermal incineration or catalytic oxidation, flameless catalytic oxidation, granular activated carbon adsorption, reinjection or recirculation, or above-ground biofiltration, depending upon the influent concentrations and system flow rate. Lighter gasoline-range hydrocarbons, such as BTEX and MTBE, are amendable to SVE due to their relatively high vapor pressure. Heavier diesel-range petroleum hydrocarbons and longer chained hydrocarbons such as fuel oils are not volatile and can not be effectively removed by SVE. However, diesel and fuel oil can be removed by aerating the soil to stimulate aerobic biodegradation in a process known as bioventing. SVE systems are designed to maximum volatilization with a secondary benefit of increasing aerobic biodegradation of petroleum hydrocarbons in the vadose zone. The effectiveness of SVE is dependent upon the soil type, vapor pressure of the contaminants, soil gas permeability, and soil structure (i.e., homogeneous or heterogeneous).

An extraction well network and conveyance piping for SVE are currently present at the site. However, the extraction system has been removed by the previous consultant. As described earlier in this report, an SVE system operated at the site from August 2006 through November 2007. Due to high groundwater at the site, the permeable capillary fringe zone was not accessible and vapor concentrations reached asymptotic levels relatively quickly. Past SVE activities at the site have proven that SVE alone or coupled with air sparging is not a practical or cost-effective remedial option, therefore SVE will not be considered as a viable remedial option.

6.4 Groundwater Extraction & Treatment

Commonly called groundwater pump and treat (P&T), groundwater extraction and treatment above ground can successfully reduce the concentrations of dissolved contaminants in the groundwater. However, only a small percentage (1 to 2% in most cases) of total hydrocarbon mass exists in the dissolved phase. The effectiveness of groundwater P&T is reduced exponentially when a continuing source of free-phase or adsorbed contaminants are present. P&T is most useful for hydraulic containment. Groundwater is removed from existing monitoring wells or specially designed extraction wells using submersible electric or pneumatic bladders pumps. Above ground treatment can be accomplished by spray-aeration or air stripping for volatiles, oil-water separation for non-volatiles, granular activated carbon adsorption, biofiltration, or ozone and ultraviolet advanced oxidation processes. Federal, state, and local discharge permit requirements must be met prior to water discharge to surface drains or sanitary sewers, which often require treatment to very low to non-detectable concentrations for most contaminants. In addition to direct removal of contaminants from impacted groundwater, pumping may limit the spread of contaminants by altering the hydraulic gradient near the pumping well(s).

The dissolved phase plume is relatively large at the site (based on concentrations in wells MW-7 and MW-8), extending at least 150 feet offsite. A groundwater P&T system would have to be on a large scale and involve installing much of the infrastructure and conveyance through the public right-of-way to effect groundwater near these wells. Groundwater treatment through

P&T on this plume would be extremely costly. Therefore, groundwater extraction and treatment is not considered a cost effective remedial option at this time and alternative options will be considered.

6.5 Dual Phase Extraction

DPE is a combination of SVE and P&T activities (as described above) resulting in the removal of both liquid phase and vapor phase hydrocarbons. Given ideal site conditions, DPE can lower the groundwater table, therefore exposing more of the source area in the soil (which is often more permeable and ameanable to SVE) which can effectively remove soil vapor using the SVE portion of the remediation.

A short term (13 hours) dual phase extraction pilot test was performed in February 2008. Based on the limited pilot testing data, it was determined by Herschy that the site appears to be amenable to DPE. While Herschy concluded that DPE may work at the site, this technology does not appear to be "ideal" but rather a "best attempt" to utilize the SVE system which was already in place and was not successful. After further review, AEI does not believe that DPE is the best option for the site for the following reasons:

- All extraction and sparge wells at the site have been paved over. In order to properly run a DPE system, each well would need to be uncovered in order for well head modifications to be made (installation of a drop tube or "stinger").
- All former system components (with the exception of the onsite air compressor) have been removed from the site; therefore new equipment must be purchased. DPE seemed a logical solution based on the low cost alternative when all the equipment was at the site. However, in lieu of the system modifications and purchases necessary, other remedial options seem to be a better fit at this site.
- The onsite DPE system may effectively treat onsite contamination, however, would do little to mitigate the larger offsite groundwater plume.

6.6 In Situ Chemical Oxidation

In situ chemical oxidation (ISCO) involves the use of an oxidant such as permanganate, ozone, hydrogen peroxide, or the hydroxyl radical (Fenton's reagent) to chemically destroy the hydrocarbons. The selected oxidant must be injected into the soils and come in direct contact with the contaminant. The effectiveness of chemical oxidation is highly dependent on the nature of the contaminants, soil type, permeability, organic carbon and mineral content, heterogeneity or homogeneity of the soil matrix, distribution of contaminants, and the presence of free product.

In situ ozone oxidation, also known as ozone sparging, has recently become a widely used technology for groundwater treatment. Ozone (O_3) with an electrochemical potential of 2.07V is one of the most powerful oxidants available for in situ chemical oxidation. Ozone sparging combines traditional air sparging with the power in situ chemical oxidation to directly oxidize and convert hydrocarbons in the soil and groundwater to innocuous carbon dioxide and water. In situ ozone oxidation involves the injection of highly concentrated ozone (up to 6% by weight) blended with air below the water table using sparge points (micro-porous diffusers) or short 2 to 3-foot sections of stainless steel slotted well screen. Ozone sparging into the saturated zone shares

many similarities with air sparging by increasing volatilization, supplying oxygen for aerobic biodegradation, and promoting some degree of groundwater mixing.

The contaminants of concern at the subject site (TPHg, BTEX, and MTBE) are very favorable to ozone sparging. Ozone sparging is a proven technology at remediating groundwater plumes, and would be a reasonable approach as both a groundwater remediation treatment barrier and for mitigation of the downgradient plume and onsite source. Physical soil characteristics analyzed by the laboratory during November 2008 testing revealed that the saturated zone consist of a large portion of coarse grained sediments (gravel and sands). Coarse grained sediments are also ideal for ozone sparging at the radius of influence can greatly increase.

Furthermore, the 2010 pilot study field testing indicated that the effective ROIs for AS-2 and AS-3 were approximately 40 and feet 20 feet, respectively. Therefore, multiple lines of evidence, indicate an effective ROI for sparging in the range of 20 to 40 feet. An ROI in this range could be used to design an air, oxygen, and/or ozone sparging system and well network should this technology be selected to remediate the dissolved hydrocarbon plume.

Based in this information, it appears that ozone sparging may be a potential future option to mitigate the large offsite groundwater plume. However, at this time, the focus of remedial efforts will be on removal of the source zone (soil) mass. Once the source area has been removed, future groundwater monitoring will determine if remediation of the groundwater is necessary.

6.7 Bioventing

Bioventing is the process of venting or aerating subsurface soils to stimulate aerobic biodegradation of contaminants in the vadose zone and capillary fringe by indigenous microorganisms. Bioventing can be successfully used to treat any aerobically biodegradable contaminant, but has been most widely applied in the remediation of petroleum hydrocarbon releases such as gasoline, diesel, jet fuel, and fuel oil. A small regenerative blower or rotary lobe blower is typically used to inject or extract air (often times at lower flow rates than for SVE) into 2 to 4-inch wells screened across the vadose zone. Sometimes existing monitoring wells are used when the construction details are known and appropriate for the application of bioventing. The practical design goal is to supply at least 5% oxygen to the entire contaminated soil volume during operation, although research suggests that as little as 2 to 3% is sufficient to support bioremediation. Bioventing system are operated and optimized to maximize aerobic biodegradation and to minimize volatilization and the potential for vapor migration. At most gasoline sites with significant concentration of volatile hydrocarbons, bioventing systems are first operated in extraction mode followed by a period of air injection. This reduces the potential for uncontrolled vapor migration during the initial stages of remediation. The effectiveness of bioventing is dependent upon the same subsurface conditions as SVE, except bioventing has been proven to be effective even in marginally permeable to low permeability soils, such as clays.

During the 2010 pilot testing activities, Bioventing was evaluated to determine the feasibility of this remedial approach. Bioventing pilot testing consists of completing a series of field tests in order to determine the feasibility of Bioventing as a remedial alternative. First, the baseline soil

gas data was evaluate and used to determine if site conditions were favorable for Bioventing. The baseline soil gas survey indicated that shallow soil (<4 feet bgs) had sufficient oxygen levels to support biodegradation and injecting additional oxygen was not likely to provide any added benefit. At less than 5% by volume, the deeper soil (>4 feet bgs) did not contain sufficient oxygen levels. However, low-flow and no-flow conditions were observed in the soil which indicated that Bioventing was not a feasible option. The low soil permeability is likely due to fine-grained nature of the soil type (clay) and shallow groundwater conditions. Based on the results of the feasibility study, Bioventing does not appear to be a feasible remedial option to address residual soil contamination at the site. In other words, aerating saturated soil is not technically feasible unless combined with groundwater extraction to lower the water table. Based on the findings of the pilot study, Bioventing will not be considered as a viable remedial option.

7.0 REMEDIAL ALTERNATIVE SELECTION

AEI's October 5, 2010 Well Installation & Feasibility Study Report provided 7 factors as to why the case should be considered for a low risk case closure. The ACHCSA has not concurred with AEI's recommendation, and has requested this CAP to address hydrocarbon contamination at the site. As discussed in previous reports as well as this CAP, and demonstrated by the failure of the historical SVE system and pilot study activities, tight soils (clay), coupled with the high groundwater levels, have determined that SVE, dual phase extraction, and Bioventing will not be feasible at the site. Therefore, excavation of remaining source has been determined to be the remedial approach with the highest likelihood of achieving site goals. Although more costly in absolute terms that the previously considered alternatives, based on the high likelihood of failure of these alternatives, excavation will likely be the most cost effective alternative. AEI has preliminarily considered several other approaches, such as thermal desorption and electrical resistance heating, that may be technologically feasible for the shallow tight clay, however given the configuration of the property (utilities, active fuel system, limited area) these options are not considered feasible or cost effective. Therefore, soil excavation has been selected.

The California UST Cleanup Fund 5-Year Annual Review letter dated April 2010 concurs with this conclusion and states "We recommend that the option for over-excavation, due to the shallow nature of the source area (between 5 and 10 feet bgs), be reconsidered, followed with a basic risk assessment document to support closure, if warranted". AEI concurs with this statement and plans to address the source area contamination through soil excavation which will actively remove the hydrocarbon source. Dissolved contaminant concentrations are expected to decrease following the removal of the source area; therefore a remedial strategy to address the dissolved contaminant plume will be evaluated following several sampling events following excavation activities. A work plan for the completion of the excavation activities is detailed below.

8.0 WORK PLAN FOR SOIL EXCAVATION

The purposed of the proposed excavation is the remove the hydrocarbon contamination source (soil) at the site which has not been able to be removed through historical SVE operations. Once the majority of the source has been removed, leaching of additional hydrocarbons to groundwater is expected to significantly decrease, allowing for natural attenuation to degrade

petroleum hydrocarbons in the dissolved phase plume. The removal of the source soil is also expected to decrease the threat of vapor intrusion to nearby buildings.

8.1 Pre-Excavation Activities

Upon approval of this workplan AEI will submit an application to the Alameda County Public Works (ACPW) for destroying select wells and vapor probes as described below.

Wells Proposed for Destruction

Well IDs	*Destruction Method*
MW-3, MW-4, EX-1	Monitoring wells present to depths ranging from 20 to 30 feet bgs located within the area to be excavated. Wells will be pressure grouted prior to the excavation. During excavation activities (proposed to 10 feet bgs), the upper 10 feet will be removed and backfilled with clean fill.
AS-1 and AS-2	Air sparge wells present at a depth of 26 feet bgs located within the area to be excavated. Wells will be pressure grouted prior to the excavation. During excavation activities (proposed to 10 feet bgs), the upper 10 feet will be removed and backfilled with clean fill.
VE-1 through VE-6	Vapor extraction wells present to depths ranging from 13 to 13.5 feet bgs and located within the area to be excavated. Wells will not be destroyed prior to excavation. The entire well will be excavated during the excavation activities to 10 feet bgs. The final 3 to 3.5 feet will be "potholed" with the excavator once located (currently hard piped with no well head).
SG-2, SG-3, SG-5, SG-6, and SG-7	Soil gas probes present up to 6 feet bgs and located within the area to be excavated. Probes will not be destroyed prior to excavation. The entire probe will be excavated during the excavation activities to 10 feet bgs.

Additionally, prior to the initiation of excavation on site, the appropriate grading permits will be obtained from the City of Oakland and appropriate air permits will be obtained from the Bay Area Air Quality Management District (BAAQMD). USA North will be notified of the proposed excavation and all utilities will be marked onsite. Utilities running through the proposed excavation will be shut off and capped as necessary.

8.2 Shallow Non-Impacted Soil

Although not expected, if shallow non-impacted soil is present, based on field observations and PID readings, the shallow soil will be stockpiled away from the excavation area. The stockpiled soil will be sampled with 4 point composites sample before reuse. The soil samples will be analyzed for TPH-g, MBTEX, and lead. Copies of the analyses will be supplied to the ACHCSA before the soil is re-used as back fill.

8.3 Excavation Activities

Soil will be excavated to a depth of approximately 10 feet bgs (with the exception of the location around the Vapor Extraction wells which will be "potholed" to 13 feet bgs) to remove as much of the hydrocarbon contaminated soil as possible. The excavation will extend from west/southwest of the current UST cavity in a southern direction to the southern extent of the property boundary (See Figure 5). Both the lateral extent and depth of the excavation may

vary and will be determined based on both field and laboratory data obtained during excavation activities. However, up to 2,000 cubic yards of soil are anticipated to be removed during the excavation activities. In addition to the AEI construction department who will be responsible for the excavation activities, an AEI geologist or project scientist will be onsite during much of the excavation activities in order to facilitate the extents of the excavation.

Excavated soil will either be "hot loaded" (where a pre-approval from the landfill is obtained and during excavation trucks are immediately loaded and off-hauled to facilitate a faster removal program) or temporarily stockpiled onsite. If stored onsite, the stockpiles will be sampled and profiled for disposal. Upon approval from the appropriate landfill the soil would be loaded, transported, and disposed at a licensed facility. The disposal method to be used at the site will depend on many variables such as anticipated down time for the business, logistics of stockpiling soil in the limited space, and costs associated with equipment usage and landfill pre-approval acceptance. These options will be analyzed to select the most cost effective and logical method for disposal prior to commencing the project.

8.4 Groundwater Handling and Disposal

A significant amount of groundwater is expected to accumulate during excavation activities. Up to 60,000-gallons of groundwater was removed during the UST excavation activities, therefore it is expected that a minimum of 60,000-gallons of groundwater will be removed. A majority of the hydrocarbon source is present within the shallow saturated sediments at the site; therefore, excavating up to several feet below the water table, resulting in the removal of large amounts of groundwater, is necessary to effectively remove the hydrocarbon source.

Groundwater removed from the excavation will be stored in a tank onsite pending analysis and appropriate disposal. The groundwater will either be disposed through the storm sewer (following the receipt of an NPDES permit), or transferred to the appropriate disposal facility. Ultimately, the destination of the groundwater will be determined based on which method of disposal will be more cost effective.

8.5 Confirmation Sampling

Prior to backfilling the excavation, several soil samples will be collected from the side walls of the excavation to confirm the extent to which impacted soil has been removed. Sidewall samples will be collected based on PID readings as well as visual observations. At a minimum sidewall samples will be collected at approximately 5 and 10 feet bgs at a frequency of every 20 linear feet. The number of samples may increase based on field observations. In addition, a groundwater sample will also be collected from the base of the excavation, provided the groundwater recharges following removal. Both soil and groundwater samples will be analyzed for TPHg by EPA Method 8015 and benzene, toluene, ethyl-benzene, and xylenes (collectively referred to as BTEX) as well as MTBE by EPA Method 8021B.

8.6 Excavation Backfilling

The bottom several feet of the excavation will be backfilled with drain rock as determined necessary to bridge the water table. The exact thickness of the drain rock will be determined based on the final depth and conditions encountered during the excavation activities. Fabric

will be placed on top of the drain rock, and the upper portion of the excavation will be backfilled with compacted fine grained material. During backfilling activities, any destroyed or capped utilities will be repaired and re-run. Upon completion of backfilling the surface will be re-surfaced with asphalt and/or concrete to match existing surfaces.

8.7 Additional Remedial Efforts

During backfilling activities, AEI plans to install several 10' long PVC slotted screens. The screens are planned to be installed horizontally within the drain rock unit. 2" diameter PVC blank piping will be connected to the well screens and run back to the current system location, brought up above grade and capped. The well screens wil be installed as an inexpensive contingent measure in the event that additional remediation is required to address the dissolve phase plume in the vicinity of the excavation. AEI acknowledges that due to site limitations (dispenser islands and USTs), it may not be possible to remove all the contamination beneath the site. Therefore, if any residual contamination is shown to continue to impact groundwater, the PVC screens allows for flexibility in implementing an extraction or injection program in order to form a barrier in the downgradient direction to decrease the opportunity for contaminant movement. The installation of the screens within the permeable base rock preferential pathway is a relatively inexpensive precautionary measure to avoid potential system installation activities in the future, if required.

8.8 Monitoring Well Re-Installation

Following excavation activities, monitoring wells MW-3 and MW-4 will be replaced. AEI does not plan to replace the vapor extraction wells or air sparge wells at this time. In addition, well EX-1 will not be replaced at this time as AEI does not anticipate the need to extract groundwater from the site. These wells can be replaced at a later date if deemed necessary. Soil samples will not be collected during the well installation activities, and each well will be installed by blind drilling with 8¼ inch diameter hollow stem augers. The boreholes will be advanced to approximately 15 feet bgs and constructed with 2 inch diameter well casing, with 10 feet of factory slotted 0.010-inch well screen.

The well casings will be installed through the augers. The casing will be flush threaded PVC fitted with a threaded bottom cap. An annular sand pack (consisting of clean #2/12 Monterey Sand) will be installed through the augers to approximately 0.5 feet above the screened interval. During placement of the sand pack, the augers will be lifted from the borehole in 1-foot lifts. Given the shallow depth of the wells, a minimum bentonite seal (no more than 1 foot) will be placed above the sand and hydrated. The remainder of the well will be sealed with cement grout annular seal. Each will be equipped with a locking, expandable inner cap and finished with a flush mount traffic rated well box. The wells will be developed no sooner than 3 days after setting the well seals by surging, bailing, and purging to stabilize the formation and remove accumulated fines from the casing and sand pack.

Each well will be surveyed relative to each other, existing wells, and site features, and to mean sea level by a California licensed land surveyor, and the data will be uploaded to the state Geotracker database as required. DWR well registration forms (DWR Form 188) will be completed for each of the wells upon installation.

9.0 SCHEDULE AND REPORTING

Implementation of the proposed excavation is expected to begin immediately upon approval from the ACHCSA and client. It is anticipated that field work would be completed approximately 1 to 2 months following ACHCSA approval. A report documenting the excavation efforts will be prepared within 1 to 2 months after receiving all necessary data. The data will be consolidated and presented in a report to the ACHCSA. Evaluation of the need for treatment of the dissolved phase plume will follow additional groundwater monitoring.

10.0 REPORT LIMITATION

This report has been prepared by AEI Consultants relating to the environmental release at the property located at 6211 San Pablo Avenue, in the City of Oakland, Alameda County, California. Material samples have been collected and analyzed, and where appropriate conclusions drawn and recommendations made based on these analyses and other observations. This report may not reflect subsurface variations that may exist between sampling points. These variations cannot be fully anticipated, nor could they be entirely accounted for, in spite of exhaustive additional testing. This document should not be regarded as a guarantee that no further contamination, beyond that which could have been detected within the scope of past investigations is present beneath the property or that all contamination present at the site will be identified, treated, or removed. Undocumented, unauthorized releases of hazardous material(s) and petroleum products, the remains of which are not readily identifiable by visual inspection and/or are of different chemical constituents, are difficult and often impossible to detect within the scope of a chemical specific investigation and may or may not become apparent at a later time. All specified work has been performed in accordance with generally accepted practices in environmental engineering, geology, and hydrogeology and performed under the direction of appropriate California registered professionals.

If you have any questions regarding our investigation, please do not hesitate to contact the undersigned at (925) 746-6000.

Sincerely,
AEI Consultants

Jeremy Smith, REA II
Senior Project Manager

Peter J. McIntyre, P.G.
Sr. Vice President, Principal Geologist

REGISTERED GEOLOGIST
PETER J. MCINTYRE
Exp. 5/31/12
No. 7702
STATE OF CALIFORNIA

Report Distribution:

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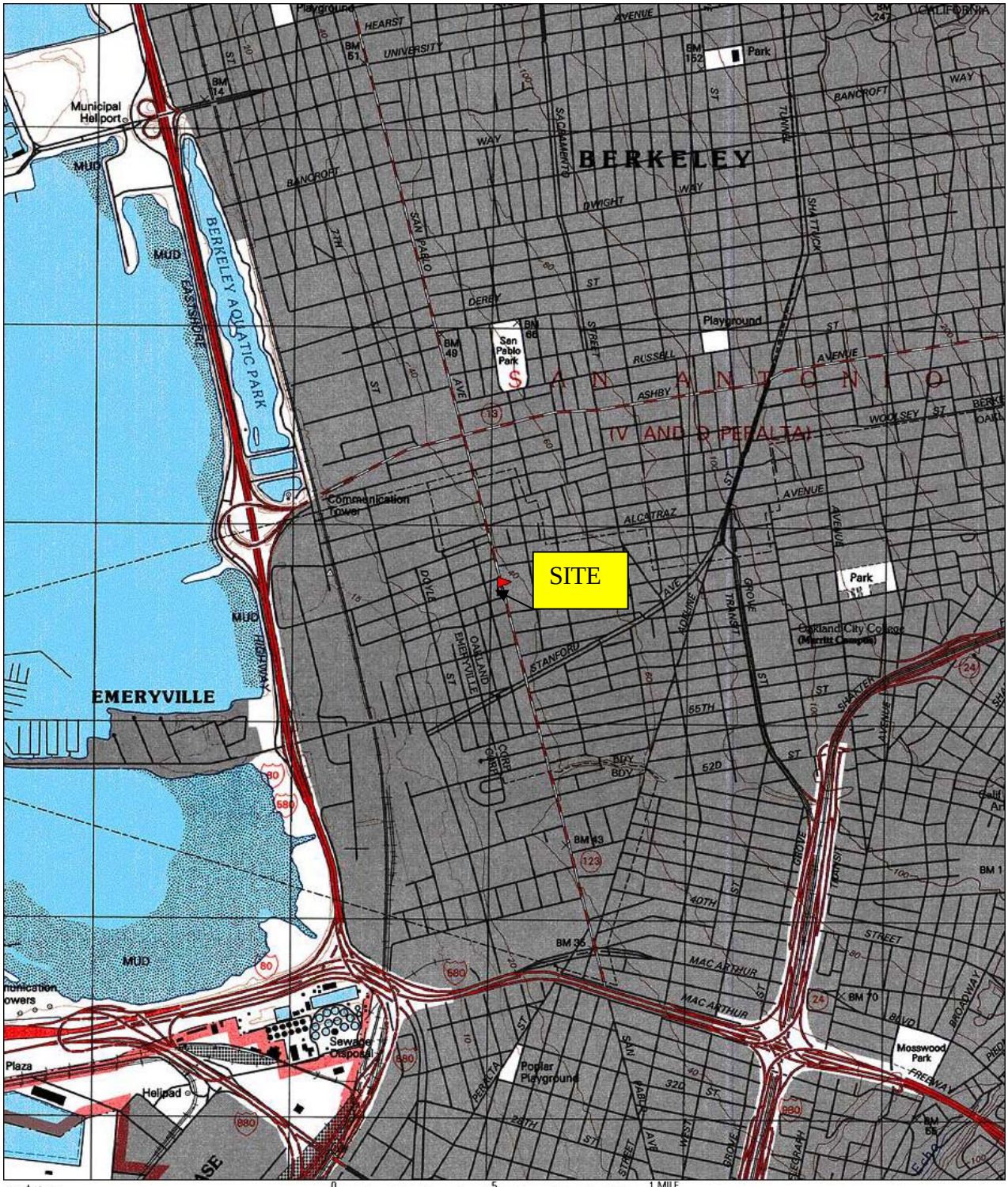
Mr. Leroy Griffin, Oakland Fire Department, 250 Frank H. Ogawa Plaza, Ste. 3341, Oakland, CA 94612
Mr. Pat Cullen, USTCF, P.O. Box 944212, Sacramento, CA 94244-2120
Geotracker (electronic upload)

FIGURES



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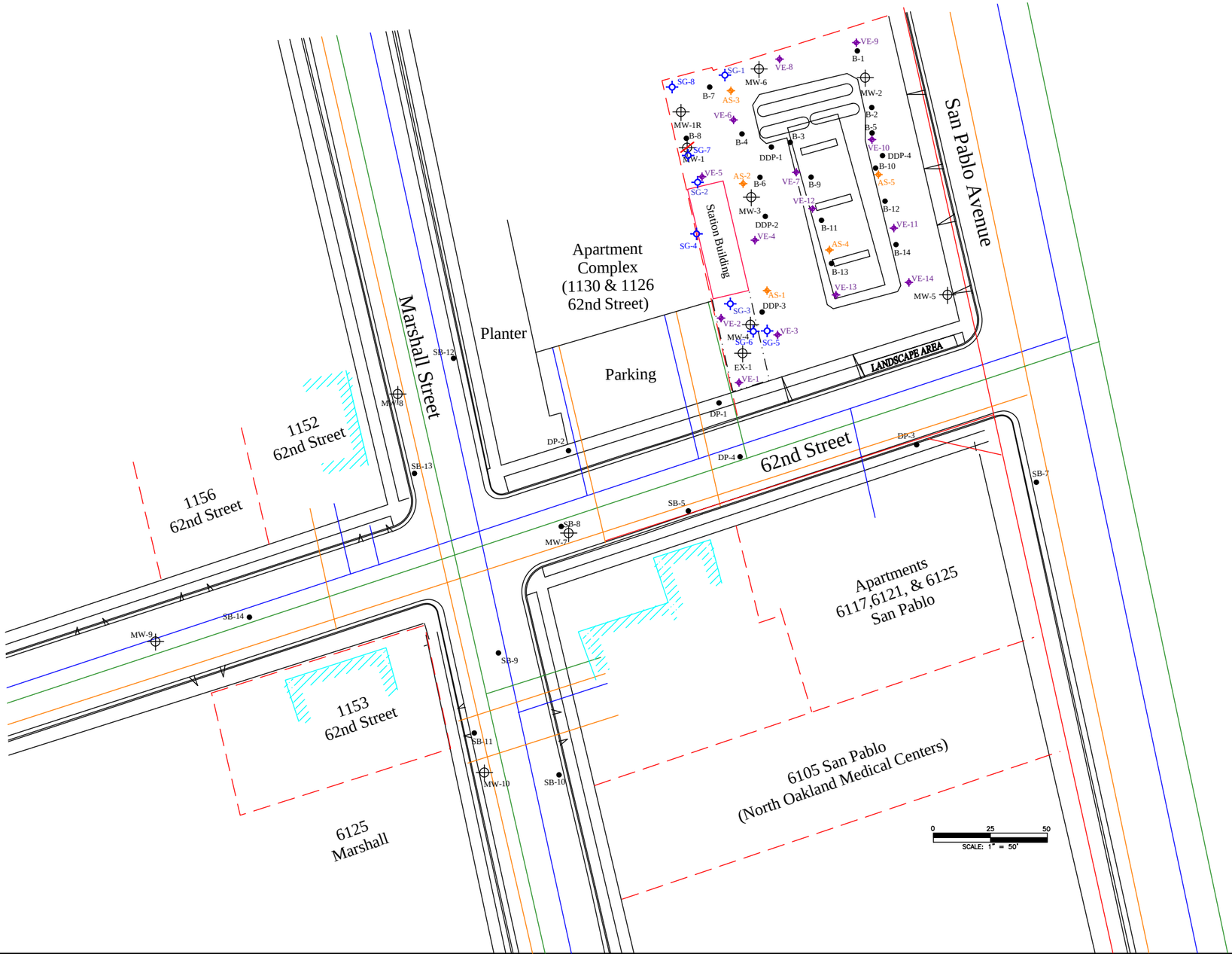
SITE LOCATION PLAN

6211 SAN PABLO AVENUE
OAKLAND, CALIFORNIA

FIGURE 1
PROJECT NO. 280346



LEGEND

- MONITORING WELL
- SOIL BORING
- ABANDONED WELL
- NESTED VAPOR PROBE
- VAPOR EXTRACTION WELL
- AIR SPARGE WELL
- APPROXIMATE PROPERTY BOUNDARY
- WATER LINE
- NATURAL GAS LINE
- ELECTRIC LINE
- SEWER LINE

DRAFTED BY JAS 9/10/08
REVISED BY JAS 9/26/08

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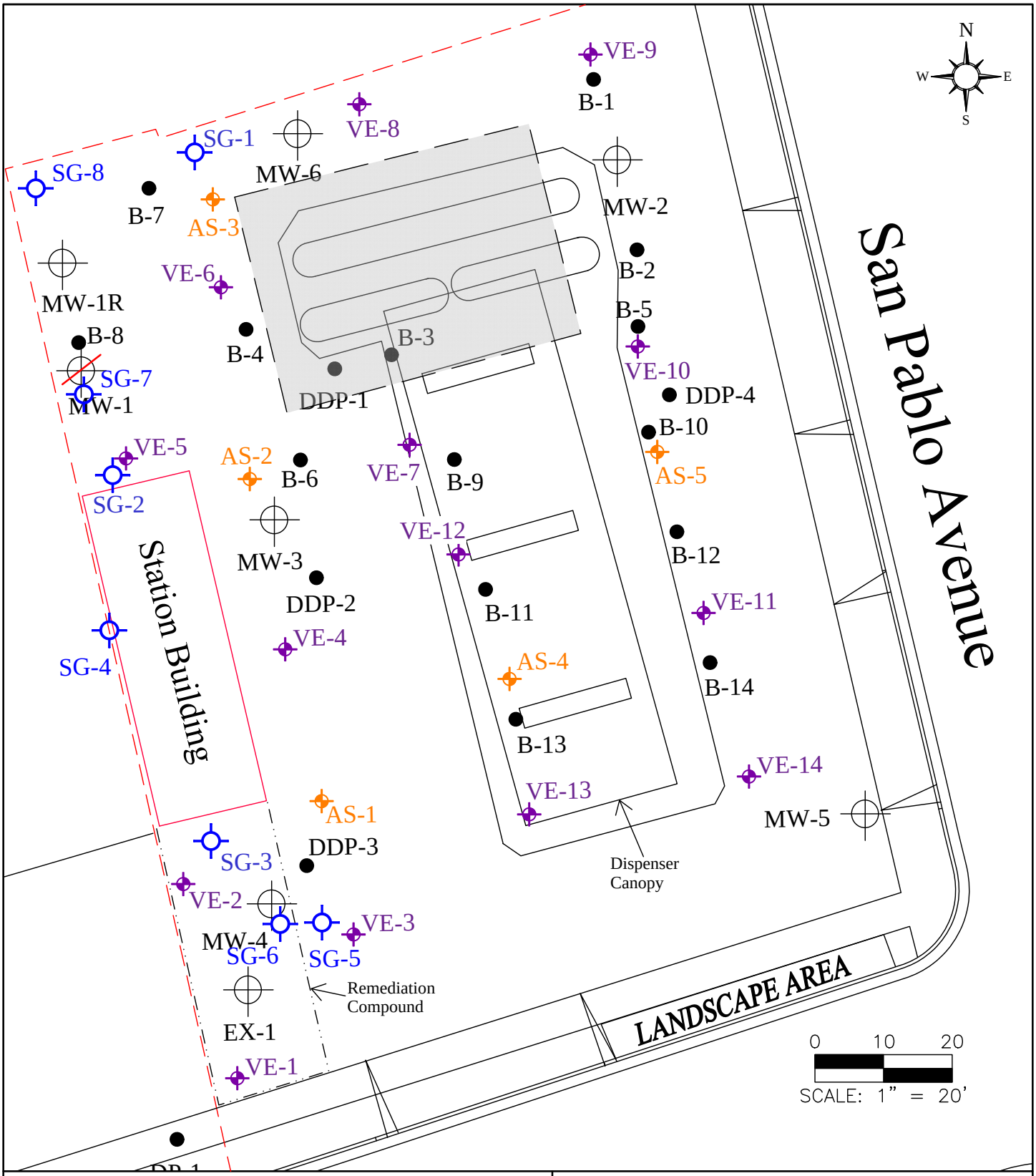
EXTENDED SITE PLAN

6211 SAN PABLO AVENUE
OAKLAND, CALIFORNIA

FIGURE 2
PROJECT NO. 280346



LEGEND

- MONITORING WELL
- SOIL BORING
- ABANDONED WELL
- SOIL VAPOR PROBE
- VAPOR EXTRACTION WELL
- AIR SPARGE WELL
- UNDERGROUND STORAGE TANK
- DISPENSER ISLAND
- FORMER UST EXCAVATION

DRAFTED BY JAS 09-10-08
REVISED BY JAS 09-26-08

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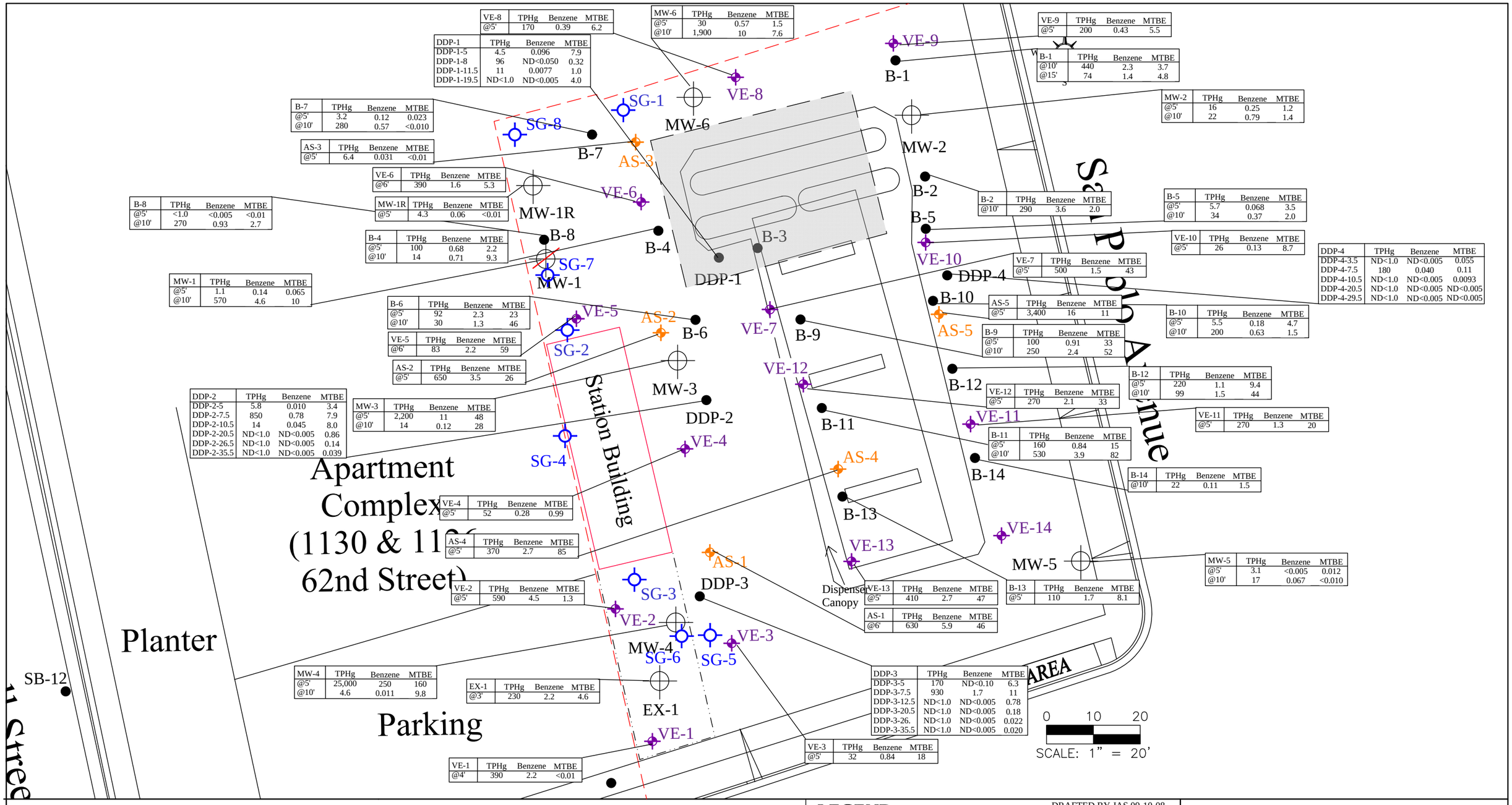
2500 CAMINO DIABLO, WALNUT CREEK

SITE PLAN

6211 SAN PABLO AVENUE
OAKLAND, CALIFORNIA

FIGURE 3
PROJECT NO. 280346



VE-8	TPHg	Benzene	MTBE
@5'	170	0.39	6.2

MW-6	TPHg	Benzene	MTBE
@5'	30	0.57	1.5
@10'	1,900	10	7.6

VE-9	TPHg	Benzene	MTBE
@5'	200	0.43	5.5

DDP-1	TPHg	Benzene	MTBE
DDP-1-5	4.5	0.096	7.9
DDP-1-8	96	ND<0.050	0.32
DDP-1-11.5	11	0.0077	1.0
DDP-1-19.5	ND<1.0	ND<0.005	4.0

B-1	TPHg	Benzene	MTBE
@10'	440	2.3	3.7
@15'	74	1.4	4.8

MW-2	TPHg	Benzene	MTBE
@5'	16	0.25	1.2
@10'	22	0.79	1.4

B-7	TPHg	Benzene	MTBE
@5'	3.2	0.12	0.023
@10'	280	0.57	<0.010

AS-3	TPHg	Benzene	MTBE
@5'	6.4	0.031	<0.01

VE-6	TPHg	Benzene	MTBE
@6'	390	1.6	5.3

B-2	TPHg	Benzene	MTBE
@10'	290	3.6	2.0

B-5	TPHg	Benzene	MTBE
@5'	5.7	0.068	3.5
@10'	34	0.37	2.0

B-8	TPHg	Benzene	MTBE
@5'	<1.0	<0.005	<0.01
@10'	270	0.93	2.7

MW-1R	TPHg	Benzene	MTBE
@5'	4.3	0.06	<0.01

VE-10	TPHg	Benzene	MTBE
@5'	26	0.13	8.7

B-4	TPHg	Benzene	MTBE
@5'	100	0.68	2.2
@10'	14	0.71	9.3

VE-7	TPHg	Benzene	MTBE
@5'	500	1.5	43

DDP-4	TPHg	Benzene	MTBE
DDP-4-3.5	ND<1.0	ND<0.005	0.055
DDP-4-7.5	180	0.040	0.11
DDP-4-10.5	ND<1.0	ND<0.005	0.0093
DDP-4-20.5	ND<1.0	ND<0.005	ND<0.005
DDP-4-29.5	ND<1.0	ND<0.005	ND<0.005

MW-1	TPHg	Benzene	MTBE
@5'	1.1	0.14	0.065
@10'	570	4.6	10

AS-5	TPHg	Benzene	MTBE
@5'	3,400	16	11

B-10	TPHg	Benzene	MTBE
@5'	5.5	0.18	4.7
@10'	200	0.63	1.5

B-6	TPHg	Benzene	MTBE
@5'	92	2.3	23
@10'	30	1.3	46

B-9	TPHg	Benzene	MTBE
@5'	100	0.91	33
@10'	250	2.4	52

VE-5	TPHg	Benzene	MTBE
@6'	83	2.2	59

B-12	TPHg	Benzene	MTBE
@5'	220	1.1	9.4
@10'	99	1.5	44

AS-2	TPHg	Benzene	MTBE
@5'	650	3.5	26

VE-12	TPHg	Benzene	MTBE
@5'	270	2.1	33

VE-11	TPHg	Benzene	MTBE
@5'	270	1.3	20

DDP-2	TPHg	Benzene	MTBE
DDP-2-5	5.8	0.010	3.4
DDP-2-7.5	850	0.78	7.9
DDP-2-10.5	14	0.045	8.0
DDP-2-20.5	ND<1.0	ND<0.005	0.86
DDP-2-26.5	ND<1.0	ND<0.005	0.14
DDP-2-35.5	ND<1.0	ND<0.005	0.039

MW-3	TPHg	Benzene	MTBE
@5'	2,200	11	48
@10'	14	0.12	28

B-11	TPHg	Benzene	MTBE
@5'	160	0.84	15
@10'	530	3.9	82

B-14	TPHg	Benzene	MTBE
@10'	22	0.11	1.5

VE-4	TPHg	Benzene	MTBE
@5'	52	0.28	0.99

AS-4	TPHg	Benzene	MTBE
@5'	370	2.7	85

VE-2	TPHg	Benzene	MTBE
@5'	590	4.5	1.3

VE-13	TPHg	Benzene	MTBE
@5'	410	2.7	47

B-13	TPHg	Benzene	MTBE
@5'	110	1.7	8.1

MW-5	TPHg	Benzene	MTBE
@5'	3.1	<0.005	0.012
@10'	17	0.067	<0.010

AS-1	TPHg	Benzene	MTBE
@6'	630	5.9	46

MW-4	TPHg	Benzene	MTBE
@5'	25,000	250	160
@10'	4.6	0.011	9.8

EX-1	TPHg	Benzene	MTBE
@3'	230	2.2	4.6

DDP-3	TPHg	Benzene	MTBE
DDP-3-5	170	ND<0.10	6.3
DDP-3-7.5	930	1.7	11
DDP-3-12.5	ND<1.0	ND<0.005	0.78
DDP-3-20.5	ND<1.0	ND<0.005	0.18
DDP-3-26.	ND<1.0	ND<0.005	0.022
DDP-3-35.5	ND<1.0	ND<0.005	0.020

VE-3	TPHg	Benzene	MTBE
@5'	32	0.84	18

VE-1	TPHg	Benzene	MTBE
@4'	390	2.2	<0.01

TPHg = Total Petroleum Hydrocarbons as gasoline
MTBE = Methyl tert-butyl ether
All results in milligrams per kilogram (mg/kg)

LEGEND

- MONITORING WELL
- SOIL BORING
- ABANDONED WELL
- SOIL VAPOR PROBE
- VAPOR EXTRACTION WELL
- AIR SPARGE WELL
- UNDERGROUND STORAGE TANK
- DISPENSER ISLAND
- FORMER UST EXCAVATION

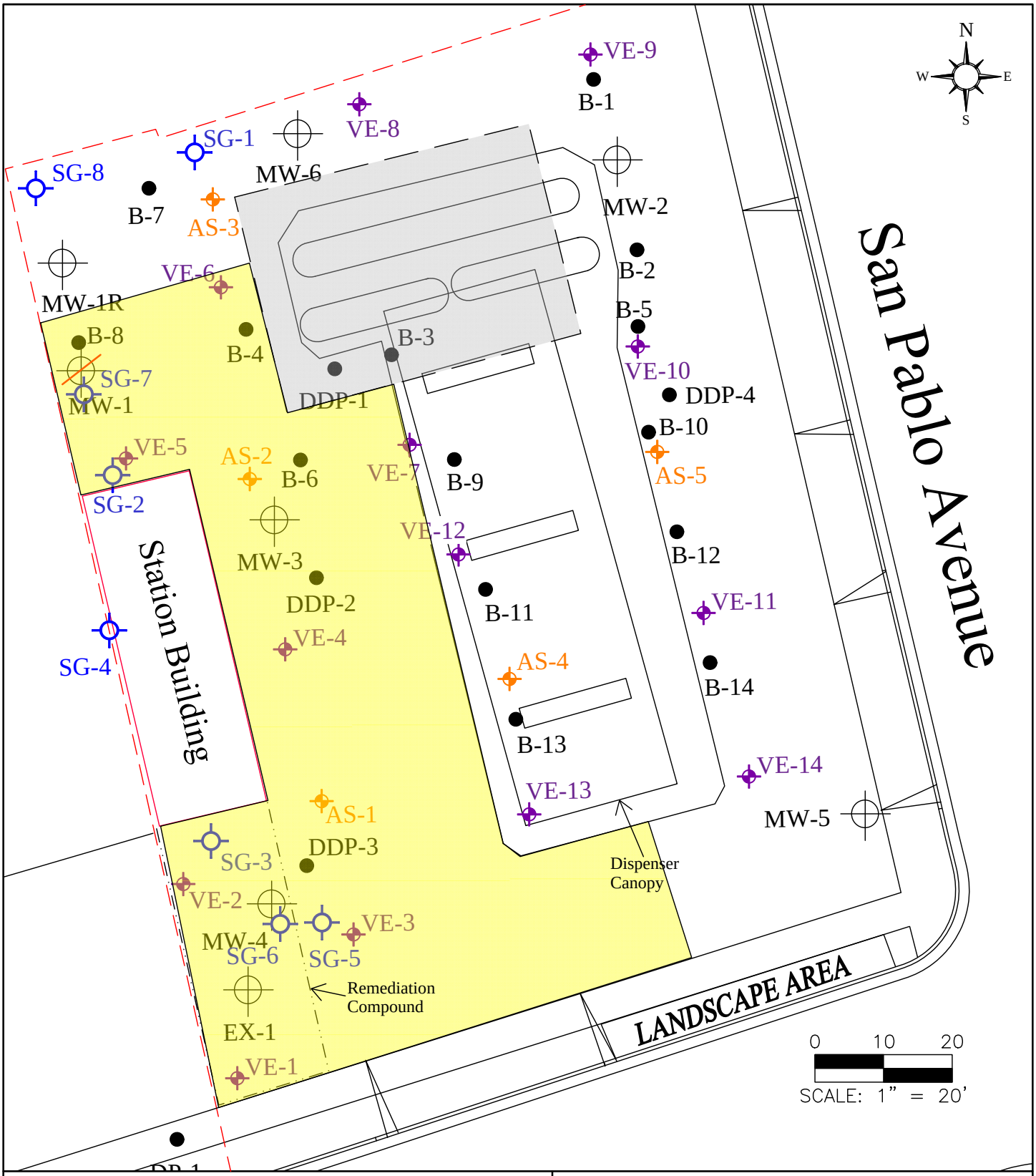
DRAFTED BY JAS 09-10-08
REVISED BY JAS 09-26-08

AEI CONSULTANTS
2500 CAMINO DIABLO, WALNUT CREEK

SOIL ANALYTICAL MAP

6211 SAN PABLO AVENUE
OAKLAND, CALIFORNIA

FIGURE 4
PROJECT NO. 280346



LEGEND

- MONITORING WELL
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- VAPOR EXTRACTION WELL
- UNDERGROUND STORAGE TANK
- DISPENSER ISLAND
- FORMER UST EXCAVATION
- PROPOSED EXCAVATION

DRAFTED BY JAS 09-10-08
REVISED BY JAS 09-26-08

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PROPOSED EXCAVATION EXTENTS

6211 SAN PABLO AVENUE
OAKLAND, CALIFORNIA

FIGURE 5
PROJECT NO. 280346

TABLES

Table 1, 6211 San Pablo Avenue, Oakland, CA - AEI Project # 280346

Soil Analytical Data

Sample ID	Date	Depth (feet bgs)	TPHg mg/kg	Benzene mg/kg	Toluene mg/kg	Ethylbenzene mg/kg	Xylenes mg/kg	MTBE mg/kg	DIPE mg/kg	ETBE mg/kg	TAME mg/kg	TBA mg/kg	1,2-DCA mg/kg	EDB mg/kg
DP-4														
DP-4-3.5	11/24/2008	3.5	**16**	ND<0.005	**0.037**	ND<0.005	**0.041**	ND<0.005	ND<0.005	ND<0.005	ND<0.005	**0.15**	ND<0.004	ND<0.004
DP-4-7.5	11/24/2008	7.5	**16**	ND<0.005	**0.12**	**0.016**	**0.032**	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05	ND<0.004	ND<0.004
DP-4-15	11/24/2008	15	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	**1.3**	ND<0.10	ND<0.10	**0.12**	ND<1.0	ND<0.080	ND<0.080
SB-5														
SB-5-7.5	11/25/2008	7.5	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05	ND<0.004	ND<0.004
SB-7														
SB-7-3.5	11/25/2008	3.5	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05	ND<0.004	ND<0.004
SB-7-10.5	11/25/2008	10.5	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05	ND<0.004	ND<0.004
SB-8														
SB-8-3.5	11/24/2008	3.5	**1.5**	ND<0.005	**0.024**	ND<0.005	ND<0.005	**0.055**	ND<0.005	ND<0.005	ND<0.005	ND<0.05	ND<0.004	ND<0.004
SB-8-6	11/24/2008	6	**14**	**0.024**	**0.12**	**0.45**	**0.087**	**0.092**	ND<0.005	ND<0.005	ND<0.005	**0.090**	ND<0.004	ND<0.004
SB-8-11.5	11/24/2008	11.5	**1.4**	ND<0.005	ND<0.005	**0.034**	**0.049**	**1.4**	ND<0.050	ND<0.050	**0.061**	**2.7**	ND<0.040	ND<0.040
SB-9														
SB-9-10	11/24/2008	10	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05	ND<0.004	ND<0.004
SB-10														
SB-10-6	11/24/2008	6	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05	ND<0.004	ND<0.004
SB-11														
SB-11-3.5	11/24/2008	3.5	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05	ND<0.004	ND<0.004
SB-11-7.5	11/24/2008	7.5	**200**	ND<0.10	**0.96**	**1.4**	**3.9**	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05	ND<0.004	ND<0.004
SB-11-15.5	11/24/2008	15.5	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	**0.023**	ND<0.005	ND<0.005	ND<0.005	ND<0.05	ND<0.004	ND<0.004
SB-12														
SB-12-3.5	11/25/2008	3.5	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	**0.0083**	ND<0.005	ND<0.005	ND<0.005	ND<0.05	ND<0.004	ND<0.004
SB-12-6.5	11/25/2008	6.5	**4.2**	**0.023**	**0.034**	**0.036**	**0.0088**	**0.26**	ND<0.010	ND<0.010	ND<0.010	**0.17**	ND<0.0080	ND<0.0080
SB-12-11.5	11/25/2008	11.5	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.050	ND<0.050	ND<0.050	ND<0.050	**2.1**	ND<0.040	ND<0.040
SB-13														
SB-13-7.5	11/25/2008	7.5	**26**	**0.010**	**0.20**	**0.18**	**0.64**	ND<0.010	ND<0.010	ND<0.010	ND<0.010	**0.12**	ND<0.0080	ND<0.0080
SB-14														
SB-14-3.5	11/24/2008	3.5	**3.0**	ND<0.050	**0.014**	ND<0.050	ND<0.050	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05	ND<0.004	ND<0.004
SB-14-7.5	11/24/2008	7.5	**120**	ND<0.050	**0.75**	**2.3**	**6.2**	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<1.0	ND<0.080	ND<0.080
SB-14-11.5	11/24/2008	11.5	ND<1.0	ND<0.050	ND<0.050	ND<0.050	ND<0.050	**0.15**	ND<0.005	ND<0.005	ND<0.005	ND<0.05	ND<0.004	ND<0.004

Table 1, 6211 San Pablo Avenue, Oakland, CA - AEI Project # 280346

Soil Analytical Data

Sample ID	Date	Depth (feet bgs)	TPHg mg/kg	Benzene mg/kg	Toluene mg/kg	Ethylbenzene mg/kg	Xylenes mg/kg	MTBE mg/kg	DIPE mg/kg	ETBE mg/kg	TAME mg/kg	TBA mg/kg	1,2-DCA mg/kg	EDB mg/kg
DDP-1														
DDP-1-5	11/25/2008	5	**4.5**	**0.096**	**0.044**	**0.017**	**0.021**	**7.9**	ND<0.25	ND<0.25	**0.28**	**12**	ND<0.20	ND<0.20
DDP-1-8	11/25/2008	8	**96**	ND<0.050	**0.93**	**0.19**	**0.13**	**0.32**	ND<0.020	ND<0.020	ND<0.020	**1.3**	ND<0.016	ND<0.016
DDP-1-11.5	11/25/2008	11.5	**11**	**0.0077**	**0.099**	**0.016**	**0.057**	**1.0**	ND<0.033	ND<0.033	**0.17**	**4.4**	ND<0.027	ND<0.027
DDP-1-19.5	11/25/2008	19.5	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	**4.0**	ND<0.20	ND<0.20	**0.26**	**7.1**	ND<0.16	ND<0.16
DDP-2														
DDP-2-5	11/26/2008	5	**5.8**	**0.010**	**0.054**	**0.0063**	**0.057**	**3.4**	ND<0.10	ND<0.10	**0.23**	**2.3**	ND<0.080	ND<0.080
DDP-2-7.5	11/26/2008	7.5	**850**	**0.78**	**4.0**	**6.8**	**63**	**7.9**	ND<0.20	ND<0.20	**0.58**	**3.4**	ND<0.16	ND<0.16
DDP-2-10.5	11/26/2008	10.5	**14**	**0.045**	**0.13**	**0.040**	**0.14**	**8.0**	ND<0.50	ND<0.50	ND<0.50	**12**	ND<0.40	ND<0.40
DDP-2-20.5	11/26/2008	20.5	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	**0.86**	ND<0.050	ND<0.050	ND<0.050	ND<0.50	ND<0.040	ND<0.040
DDP-2-26.5	11/26/2008	26.5	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	**0.14**	ND<0.005	ND<0.005	ND<0.005	ND<0.05	ND<0.004	ND<0.004
DDP-2-35.5	11/26/2008	35.5	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	**0.039**	ND<0.005	ND<0.005	ND<0.005	ND<0.05	ND<0.004	ND<0.004
DDP-3														
DDP-3-5	11/26/2008	5	**170**	ND<0.10	**1.6**	**0.81**	**20**	**6.3**	ND<0.25	ND<0.25	**0.38**	**6.6**	ND<0.20	ND<0.20
DDP-3-7.5	11/26/2008	7.5	**930**	**1.7**	**23**	**11**	**73**	**11**	ND<0.50	ND<0.50	**1.1**	ND<5.0	ND<0.40	ND<0.40
DDP-3-12.5	11/26/2008	12.5	ND<1.0	ND<0.005	**0.0075**	ND<0.005	**0.013**	**0.78**	ND<0.10	ND<0.10	ND<0.10	**12**	ND<0.080	ND<0.080
DDP-3-20.5	11/26/2008	20.5	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	**0.18**	ND<0.010	ND<0.010	ND<0.010	ND<0.10	ND<0.0080	ND<0.0080
DDP-3-26	11/26/2008	26	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	**0.022**	ND<0.005	ND<0.005	ND<0.005	ND<0.05	ND<0.004	ND<0.004
DDP-3-35.5	11/26/2008	35.5	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	**0.020**	ND<0.005	ND<0.005	ND<0.005	ND<0.05	ND<0.004	ND<0.004
DDP-4														
DDP-4-3.5	11/26/2008	3.5	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	**0.055**	ND<0.005	ND<0.005	ND<0.005	ND<0.05	ND<0.004	ND<0.004
DDP-4-7.5	11/26/2008	7.5	**180**	**0.040**	**0.84**	**0.26**	**2.5**	**0.11**	ND<0.020	ND<0.020	ND<0.020	ND<0.20	ND<0.016	ND<0.016
DDP-4-10.5	11/26/2008	10.5	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	**0.0093**	ND<0.005	ND<0.005	ND<0.005	ND<0.05	ND<0.004	ND<0.004
DDP-4-20.5	11/26/2008	20.5	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05	ND<0.004	ND<0.004
DDP-4-29.5	11/26/2008	29.5	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05	ND<0.004	ND<0.004
MW-7														
MW-7-8	2/11/2010	8	**220**	ND<0.10	**1.6**	**2.6**	**1.9**	ND<1.0*	NA	NA	NA	NA	NA	NA
MW-7-14.5	2/11/2010	14.5	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	**0.19***	NA	NA	NA	NA	NA	NA
MW-7-19.5	2/11/2010	19.5	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	**0.59***	NA	NA	NA	NA	NA	NA
MW-7-29.5	2/11/2010	29.5	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05	ND<0.004	ND<0.004
MW-8														
MW-8-4.5	2/11/2010	4.5	**19**	ND<0.005	**0.19**	**0.066**	**0.033**	ND<0.05*	NA	NA	NA	NA	NA	NA
MW-8-9.5	2/11/2010	9.5	**1.8**	ND<0.005	**0.010**	**0.022**	**0.097**	ND<0.05*	NA	NA	NA	NA	NA	NA
MW-8-14.5	2/11/2010	14.5	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	**0.40***	NA	NA	NA	NA	NA	NA
MW-8-19.5	2/11/2010	19.5	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05	ND<0.004	ND<0.004
MW-9														
MW-9-5.5	2/12/2010	5.5	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05*	NA	NA	NA	NA	NA	NA
MW-9-9.5	2/12/2010	9.5	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05*	NA	NA	NA	NA	NA	NA
MW-9-14.5	2/12/2010	14.5	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	**0.027**	ND<0.005	ND<0.005	ND<0.005	ND<0.05	ND<0.004	ND<0.004
								.						
MW-10														
MW-10-6	2/12/2010	6	**64**	ND<0.050	**0.62**	ND<0.050	ND<0.050	ND<0.50*	NA	NA	NA	NA	NA	NA
MW-10-9.5	2/12/2010	9.5	**1.9**	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05*	NA	NA	NA	NA	NA	NA
MW-10-14.5	2/12/2010	14.5	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.05*	NA	NA	NA	NA	NA	NA

Table 1, 6211 San Pablo Avenue, Oakland, CA - AEI Project # 280346

Soil Analytical Data

Sample ID	Date	Depth (feet bgs)	TPHg mg/kg	Benzene mg/kg	Toluene mg/kg	Ethylbenzene mg/kg	Xylenes mg/kg	MTBE mg/kg	DIPE mg/kg	ETBE mg/kg	TAME mg/kg	TBA mg/kg	1,2-DCA mg/kg	EDB mg/kg

Notes:
TPHg = total petroleum hydrocarbons as gasoline using EPA Method 8015
Benzene, toluene, ethylbenzene, and xylenes using EPA Method 8021B
MTBE = methyl-tertiary butyl ether using EPA Method 8260B
* = MTBE = methyl-tertiary butyl ether using EPA Method 8021B
TBA = tert-butyl alcohol using EPA Method 8260B
TAME = tert-amyl methyl ether using EPA Method 8260B
DIPE = diisopropyl ether using EPA Method 8260B
ETBE = ethyl tert-butyl ether using EPA Method 8260B
1,2-DCA = 1,2-dichloroethane using EPA Method 8260B
EDB = Ethylene dibromide using EPA Method 8260B
mg/kg = milligrams per kilogram
ND = non detect at respective reporting limit
NA = not analyzed
Soil sample proposed to be over-excavated during excavation activities

Table 2, 6211 San Pablo Avenue, Oakland, CA - AEI Project # 280346

Soil Vapor Analytical Data

Sample ID	Date	Notes	Purge Vacuum (in-H2O)	TPHg ug/m^3	Benzene ug/m^3	Toluene ug/m^3	Ethylbenzene ug/m^3	Xylenes ug/m^3	MTBE ug/m^3
Shallow Probes *(Screened Interval)*									
SG-1-3	12/3/2008	1,3,5	NA	**20,000**	ND<6.5	**25**	**10**	**39**	ND<7.3
(2.5 to 3.0')	5/15/2009	1,3,5,8	NA	**150,000**	ND<26	ND<31	ND<35	ND<110	ND<29
	3/18/2010	2,4,6,8	326	**3,800,000**	ND<250	**26,000**	ND<250	**720**	ND<2,500
SG-2-3	12/3/2008	1,3,5	NA	**18,000**	ND<26	ND<31	ND<35	ND<110	**470**
(2.5 to 3.0')	5/15/2009	8	NA	NS	NS	NS	NS	NS	NS
	3/18/2010	2,4,6,8	50	**5,700,000**	**1,900**	**57,000**	ND<1,000	**1,700**	ND<25,000
SG-3-3	12/3/2008	1,4,6	NA	**470,000**	ND<140	**10,000**	ND<120	**750**	ND<1,200
(2.5 to 3.0')	5/15/2009	1,3,5	NA	**78,000**	ND<6.5	ND<7.7	ND<8.8	ND<27	ND<7.3
	3/18/2010	2,4,6,8	93	ND<25,000	ND<250	ND<250	ND<250	ND<250	ND<2,500
SG-4	3/18/2010	2,4,6,8	90	ND<25,000	ND<250	**280**	ND<250	ND<250	**7,400**
(4 to 4.5')									
SG-5	3/18/2010	2,4,6,8	300	**59,000,000**	**730,000**	**320,000**	**75,000**	**72,000**	ND<800,000
(4 to 4.5')									
SG-6	3/18/2010	2,4,6,8	30	**1,100,000**	**9,200**	**12,000**	ND<1,700	**28,000**	**76,000**
(4 to 4.5')									
SG-7	3/18/2010	8,10	367	NS	NS	NS	NS	NS	NS
(4 to 4.5')									
SG-8	3/18/2010	10	>408	NS	NS	NS	NS	NS	NS
(4 to 4.5')									
Deep Probes									
SG-1-6	12/3/2008	1,4,6	NA	**43,000,000**	**12,000**	**480,000**	ND<7,600	**21,000**	ND<110,000
(5.5' to 6.0')	5/15/2009	1,3,7	NA	**860,000**	**3,200**	ND<500	ND<500	ND<500	ND<500
	3/18/2010	2,4,6,8	136	**48,000,000**	**42,000**	**470,000**	ND<5,000	**37,000**	ND<150,000
SG-2-6	12/3/2008	1,4,6	NA	**38,000,000**	**41,000**	**370,000**	ND<5,400	ND<8,000	ND<290,000
(5.5' to 6.0')	5/15/2009	1,3,7	NA	**860,000**	**12,000**	ND<500	ND<500	ND<500	ND<500
	3/18/2010	2,4,6	190	**41,000,000**	**72,000**	**390,000**	ND<10,000	ND<10,000	ND<200,000
SG-3-6	12/3/2008	1,4,6	NA	**1,200,000**	**890**	**26,000**	ND<1.5	**2,300**	ND<15,000
(5.5' to 6.0')	5/15/2009	1,3,7,9	NA	**860,000**	**2,300**	ND<500	ND<500	ND<500	ND<500
	3/18/2010	2,4,6,8	354	NS	NS	NS	NS	NS	NS
Replicate Samples									
SG-3-6-DUP	12/3/2008	1,4,6	NA	**440,000**	**570**	**8,800**	ND<390	**1,100**	ND<17,000
SG-3-3	5/15/2009	1,3,5	NA	**10,000**	ND<6.5	ND<7.7	ND<8.8	ND<27	ND<7.3
SG-6(Dup)	3/18/2010	2,4,6,8	35	**480,000**	**1,800**	**7,300**	ND<500	**600**	**87,000**
ESL - Residential				10,000	84	63,000	980	21,000	9,400
ESL - Commercial				29,000	280	180,000	3,300	58,000	31,000

Notes:
TPHg = total petroleum hydrocarbons as gasoline
MTBE = methyl-tertiary butyl ether
µg/m^3= micrograms per cubic meter
ND = non detect at respective reporting limit
NA = not available
NS = not sampled
ESL = Environmental Screening Level for shallow soil vapor as determined by the Regional Water Quality Control Board - San Francisco Bay Region.
190 - Red color indicates purge vacuum is greater than current "low flow" criteria of 100 in-H2O
1 - Sample collected using a summa canister
2 - Sample collected using a tedlar bag
3 - TPHg analyzed using TO3
4 - TPHg analyzed using EPA Method 8015
5 - BTEX/MTBE analyzed using Method TO15
6 - BTEX/MTBE analyzed using EPA Method 8021B
7 - BTEX/MTBE analyzed using EPA Method 8260B
8 - Water observed coming from the probe, partial or no sample collected.
9 - Low flow conditions, took 1 hour to move from -30 in-Hg to -20 in-Hg
10 - After 15+ minutes, no air collected in Tedlar Bag.

Table 3, 6211 San Pablo Avenue, Oakland, CA - AEI Project # 280346

Groundwater Analytical Data

Sample ID	Date	TPHg µg/L	Benzene µg/L	Toluene µg/L	Ethylbenzene µg/L	Xylenes µg/L	MTBE µg/L	DIPE µg/L	ETBE µg/L	TAME µg/L	TBA µg/L	1,2-DCA µg/L	EDB µg/L
MW-1	11/7/1999	5,700	170	59	22	85	20,000	NA	NA	NA	NA	NA	NA
	3/8/2001	17,000	480	150	52	170	38,000	NA	NA	NA	NA	NA	NA
	11/17/2001	10,000	230	210	60	250	22,000	NA	NA	NA	NA	NA	NA
	3/31/2002	12,000	61	ND	ND	29	35,000	NA	NA	NA	NA	NA	NA
	11/9/2003	19,000	ND	ND	ND	ND	50,000	NA	NA	NA	NA	NA	NA
	12/9/2003	22,000	150	ND	ND	ND	66,000	NA	NA	NA	NA	NA	NA
MW-1R	11/17/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	3/31/2002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	9/9/2003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	12/9/2003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2/19/2004	1,800	95	130	44	200	220	NA	NA	NA	NA	NA	NA
	5/24/2004	210	12	10	5.4	23	79	ND	ND	2.1	37	ND	ND
	9/3/2004	300	1.5	7.1	9.4	42	81	ND	ND	1.6	ND	ND	ND
	11/2/2004	290	14	30	9.5	45	45	ND	ND	1.1	ND	NA	NA
	2/17/2005	530	3.4	ND	ND	2.6	1,000	ND	ND	100	ND	NA	NA
	5/24/2005	NA	NA	NA	NA	NA	NA	ND	ND	610	ND	ND	ND
	8/15/2005	2,500	64	240	61	210	2,300	ND	ND	210	ND	ND	ND
	11/17/2005	2,500	66	290	75	290	1,300	ND	ND	110	1,600	ND	ND
	2/8/2006	3,300	100	310	86	470	1,400	ND	ND	130	1,400	ND	ND
	5/5/2006	3,400	170	350	97	550	1,100	ND	ND	100	2,400	ND	ND
	8/18/2006	5,800	190	1,000	230	1,000	490	ND	ND	36	2,900	ND	ND
	12/1/2006	410	1.7	6.3	1.2	47	100	ND	ND	4.7	100	ND	ND
	2/23/2007	ND	ND	0.51	ND	1.4	3	ND	ND	ND	ND	ND	ND
	5/10/2007	ND	ND	ND	ND	2.0	5.9	ND	ND	ND	ND	ND	ND
	8/16/2007	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	11/8/2007	1,300	11	82	54	270	1.4	ND	ND	ND	ND	ND	ND
	2/14/2008	800	7.6	31	23	150	1.7	ND	ND	ND	ND	ND	ND
	5/15/2008	3,200	20	200	110	550	4.2	ND<0.50	ND<0.50	1.0	ND<20	ND<0.50	ND<0.50
	9/10/2008	1,000	6.5	22	19	120	2.3	ND<0.50	ND<0.50	ND<0.50	4.0	ND<0.50	ND<0.50
	11/18/2008	430	4.1	18	12	100	1.8	ND<0.50	ND<0.50	ND<0.50	ND<2.0	ND<0.50	ND<0.50
	2/17/2009	220	3.6	6.1	2.0	41	1.3	ND<0.50	ND<0.50	ND<0.50	ND<2.0	ND<0.50	ND<0.50
	5/15/2009	890	6.0	17	27	110	1.8	ND<0.50	ND<0.50	ND<0.50	3.9	ND<0.50	ND<0.50
	8/13/2009	2,000	17	23	73	350	2.1	ND<0.50	ND<0.50	ND<0.50	ND<2.0	ND<0.50	ND<0.50
	2/23/2010	3,200	31	77	120	810	3.9	ND<1.7	ND<1.7	ND<1.7	ND<6.7	ND<1.7	ND<1.7
	8/12/2010	1,300	13	16	40	280	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<4.0	ND<1.0	ND<1.0
	2/17/2011	**210**	**4.0**	**1.7**	**13**	**21**	**ND<0.5**	**ND<0.5**	**ND<0.5**	**ND<0.5**	**ND<2.0**	**ND<0.5**	**ND<0.5**

Table 3, 6211 San Pablo Avenue, Oakland, CA - AEI Project # 280346

Groundwater Analytical Data

Sample ID	Date	TPHg µg/L	Benzene µg/L	Toluene µg/L	Ethylbenzene µg/L	Xylenes µg/L	MTBE µg/L	DIPE µg/L	ETBE µg/L	TAME µg/L	TBA µg/L	1,2-DCA µg/L	EDB µg/L
MW-2	11/7/1999	6,000	1,300	92	50	400	6,800	NA	NA	NA	NA	NA	NA
	3/8/2001	41,000	8,100	870	2,000	4,100	26,000	NA	NA	NA	NA	NA	NA
	11/17/2001	18,000	3,700	180	610	640	16,000	NA	NA	NA	NA	NA	NA
	3/31/2002	32,000	6,500	270	1,700	2,700	19,000	NA	NA	NA	NA	NA	NA
	9/9/2003	24,000	4,600	ND	1,200	440	19,000	NA	NA	NA	NA	NA	NA
	12/9/2003	31,000	6,200	170	1,600	2,700	19,000	NA	NA	NA	NA	NA	NA
	2/19/2004	21,000	4,600	120	970	2,000	15,000	NA	NA	NA	NA	NA	NA
	5/24/2004	1,200	120	3	63	67	1,900	ND	ND	ND	ND	ND	ND
	9/3/2004	2,300	120	ND	51	70	1,700	ND	ND	26	ND	ND	ND
	11/2/2004	530	35	ND	17	30	520	ND	ND	28	100	NA	NA
	2/17/2005	18,000	2,100	31	800	680	20,000	ND	ND	1,000	ND	NA	NA
	5/24/2005	22,000	3,200	52	1,400	1,700	16,000	ND	ND	NS	NS	ND	ND
	8/15/2005	2,000	66	ND	46	47	2,400	ND	ND	95	880	ND	ND
	11/17/2005	760	19	0.64	15	13	1,000	ND	ND	26	810	ND	ND
	2/8/2006	10,000	1,500	8	660	380	4,300	ND	ND	120	2,800	ND	ND
	5/5/2006	15,000	1,800	ND	1,200	1,200	5,800	ND	ND	150	4,300	ND	ND
	8/18/2006	360	11	ND	13	9.7	160	ND	ND	4.6	600	ND	ND
	12/1/2006	11,000	1,000	ND	990	910	2,100	ND	ND	87	2,000	ND	ND
	2/23/2007	3,200	210	ND	270	85	900	ND	ND	33	1,400	ND	ND
	5/10/2007	590	31	ND	39	22	200	ND	ND	5.9	250	ND	ND
	8/16/2007	650	49	ND	71	49	100	ND	ND	3.5	82	ND	ND
	11/8/2007	110	1.6	ND	1.9	1.6	23	ND	ND	0.64	48	ND	ND
	2/14/2008	350	24	ND	12	5.9	190	ND	ND	7.7	320	ND	ND
	5/15/2008	81	0.59	ND<0.50	0.71	0.66	38	ND<0.50	ND<0.50	1.4	54	ND<0.50	ND<0.50
	9/10/2008	150	6.4	ND<0.50	8.4	5.1	14	ND<0.50	ND<0.50	0.55	38	ND<0.50	ND<0.50
	11/18/2008	420	25	0.70	46	47	29	ND<0.50	ND<0.50	1.3	60	ND<0.50	ND<0.50
	2/17/2009	460	23	0.96	51	37	26	ND<0.50	ND<0.50	1.4	61	ND<0.50	ND<0.50
	5/15/2009	220	13	0.93	26	13	21	ND<0.50	ND<0.50	0.87	60	ND<0.50	ND<0.50
	8/13/2009	110	7.0	ND<0.50	13	5.0	7.7	ND<0.50	ND<0.50	ND<0.50	26	ND<0.50	ND<0.50
	2/23/2010	170	9.4	0.65	27	5.6	14	ND<0.50	ND<0.50	ND<0.50	36	ND<0.50	ND<0.50
	8/12/2010	ND<50	1.1	ND<0.50	1.8	0.63	3.7	ND<0.50	ND<0.50	ND<0.50	6.3	ND<0.50	ND<0.50
	2/17/2011	**ND<50**	**ND<0.5**	**ND<0.5**	**ND<0.5**	**ND<0.5**	**8.3**	**ND<0.50**	**ND<0.50**	**ND<0.50**	**ND<2.0**	**ND<0.50**	**ND<0.50**

Table 3, 6211 San Pablo Avenue, Oakland, CA - AEI Project # 280346

Groundwater Analytical Data

Sample ID	Date	TPHg µg/L	Benzene µg/L	Toluene µg/L	Ethylbenzene µg/L	Xylenes µg/L	MTBE µg/L	DIPE µg/L	ETBE µg/L	TAME µg/L	TBA µg/L	1,2-DCA µg/L	EDB µg/L
MW-3	11/7/1999	43,000	860	70	ND	65	120,000	NA	NA	NA	NA	NA	NA
	3/8/2001	90,000	1,800	ND	ND	ND	210,000	NA	NA	NA	NA	NA	NA
	11/17/2001	110,000	1,600	ND	ND	ND	300,000	NA	NA	NA	NA	NA	NA
	3/31/2002	130,000	2,400	670	300	390	300,000	NA	NA	NA	NA	NA	NA
	9/9/2003	190,000	1,600	ND	ND	ND	420,000	NA	NA	NA	NA	NA	NA
	12/9/2003	170,000	2,000	ND	ND	ND	4,500,000	NA	NA	NA	NA	NA	NA
	2/19/2004	86,000	1,800	630	ND	ND	160,000	NA	NA	NA	NA	NA	NA
	5/24/2004	120,000	2,200	ND	180	220	400,000	ND	ND	15,000	ND	ND	ND
	9/3/2004	180,000	2,000	ND	ND	ND	510,000	ND	ND	14,000	ND	ND	ND
	11/2/2004	150,000	1,700	ND	ND	ND	350,000	ND	ND	31,000	140,000	NA	NA
	2/17/2005	130,000	2,100	420	210	730	290,000	ND	ND	11,000	ND	NA	NA
	5/24/2005	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/15/2005	110,000	1,500	ND	ND	ND	260,000	ND	ND	21,000	25,000	ND	ND
	11/17/2005	200,000	2,400	ND	ND	ND	580,000	ND	ND	24,000	49,000	ND	ND
	2/8/2006	470,000	3,800	660	ND	790	490,000	ND	ND	26,000	49,000	ND	ND
	5/5/2006	400,000	3,300	ND	ND	ND	590,000	ND	ND	21,000	86,000	ND	ND
	8/18/2006	310,000	1,800	ND	ND	ND	440,000	ND	ND	23,000	79,000	ND	ND
	12/1/2006	270,000	ND	ND	ND	ND	290,000	ND	ND	11,000	90,000	ND	ND
	2/23/2007	220,000	ND	ND	ND	ND	260,000	ND	ND	15,000	33,000	ND	ND
	5/10/2007	140,000	ND	ND	ND	ND	180,000	ND	ND	7,100	80,000	ND	ND
	8/16/2007	69,000	ND	ND	ND	ND	85,000	ND	ND	3,400	180,000	ND	ND
	11/8/2007	34,000	ND	ND	ND	ND	38,000	ND	ND	1,400	140,000	ND	ND
	2/14/2008	41,000	ND	ND	ND	ND	44,000	ND	ND	1,900	110,000	ND	ND
	5/15/2008	43,000	ND<100	ND<100	ND<100	ND<100	62,000	ND<100	ND<100	1,100	200,000	ND<100	ND<100
	9/10/2008	1,600	14	8.6	7.7	23	21,000	ND<1,000	ND<1,000	ND<1,000	290,000	ND<1,000	ND<1,000
	11/18/2008	4,500	86	150	100	590	29,000	ND<1,000	ND<1,000	ND<1,000	290,000	ND<1,000	ND<1,000
	2/17/2009	2,500	45	53	35	160	16,000	ND<1,000	ND<1,000	ND<1,000	190,000	ND<1,000	ND<1,000
	5/15/2009	2,000	15	21	13	35	13,000	ND<1,000	ND<1,000	ND<1,000	260,000	ND<1,000	ND<1,000
	8/13/2009	1,300	10	11	4.1	14	7,900	ND<1,200	ND<1,200	ND<1,200	250,000	ND<1,200	ND<1,200
	2/23/2010	1,700	22	21	11	38	4,700	ND<1,700	ND<1,700	ND<1,700	260,000	ND<1,700	ND<1,700
	8/12/2010	1,600	5.8	16	5.8	16	4,200	ND<1,200	ND<1,200	ND<1,200	250,000	ND<1,200	ND<1,200
	2/17/2011	**290**	**1.0**	**5.5**	**6.5**	**8.1**	**73**	**ND<50**	**ND<50**	**ND<50**	**8,500**	**ND<50**	**ND<50**

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Groundwater Analytical Data

Sample ID	Date	TPHg µg/L	Benzene µg/L	Toluene µg/L	Ethylbenzene µg/L	Xylenes µg/L	MTBE µg/L	DIPE µg/L	ETBE µg/L	TAME µg/L	TBA µg/L	1,2-DCA µg/L	EDB µg/L
MW-4	11/17/2001	64,000	960	1,400	360	1,600	140,000	NA	NA	NA	NA	NA	NA
	3/31/2002	78,000	4,400	4,700	690	2,700	150,000	NA	NA	NA	NA	NA	NA
	9/6/2007	49,000	710	840	ND	10,000	3,600	ND	ND	510	32,000	ND	ND
	11/8/2007	64,000	1,300	2,600	1,000	8,500	1,500	ND	ND	360	14,000	ND	ND
	2/14/2008	60,000	390	460	230	2,000	52,000	ND	ND	2,000	58,000	ND	ND
	5/15/2008	22,000	670	130	740	2,700	3,300	ND<5.0	ND<5.0	340	35,000	ND<5.0	ND<5.0
	9/10/2008	16,000	500	150	730	2,500	2,000	ND<250	ND<250	ND<250	65,000	ND<250	ND<250
	11/18/2008	24,000	820	190	1,200	5,000	1,400	ND<50	ND<50	260	9,300	ND<50	ND<50
	2/17/2009	17,000	350	170	620	2,600	360	ND<10	ND<10	82	2,100	ND<10	ND<10
	5/15/2009	32,000	300	190	880	3,200	470	ND<10	ND<10	95	380	ND<10	ND<10
	8/13/2009	29,000	320	250	980	3,400	350	ND<50	ND<50	61	10,000	ND<50	ND<50
	2/23/2010	15,000	250	77	580	2,200	180	ND<5.0	ND<5.0	41	400	ND<5.0	ND<5.0
	8/12/2010	17,000	200	47	580	1,400	150	ND<10	ND<10	28	1,800	ND<10	ND<10
	2/17/2011	**7,600**	**190**	**15**	**260**	**440**	**130**	**ND<5.0**	**ND<5.0**	**29**	**790**	**ND<5.0**	**ND<5.0**
MW-5	11/17/2001	210	15	12	11	23	4.8	NA	NA	NA	NA	NA	NA
	3/31/2002	120	11	7.4	6.1	16	4.2	NA	NA	NA	NA	NA	NA
	9/9/2003	ND	1.5	ND	ND	ND	1.7	NA	NA	NA	NA	NA	NA
	12/9/2003	130	32	ND	2.6	0.57	5	NA	NA	NA	NA	NA	NA
	2/19/2004	ND	ND	ND	ND	ND	1.5	NA	NA	NA	NA	NA	NA
	5/24/2004	ND	ND	ND	ND	ND	0.55	ND	ND	ND	ND	ND	ND
	9/3/2004	100	6.4	ND	ND	0.79	4.2	ND	ND	ND	ND	ND	ND
	11/2/2004	ND	2.6	ND	1.7	0.87	1	ND	ND	ND	ND	ND	ND
	2/17/2005	51	0.74	ND	0.94	ND	1.5	ND	ND	ND	ND	ND	ND
	5/24/2005	ND	ND	ND	ND	ND	1	ND	ND	ND	ND	ND	ND
	8/15/2005	ND	ND	ND	ND	ND	0.88	ND	ND	ND	ND	ND	ND
	11/17/2005	71	0.81	ND	1.1	ND	1.4	ND	ND	ND	ND	ND	ND
	2/8/2006	50	ND	ND	ND	ND	1	ND	ND	ND	ND	ND	ND
	5/5/2006	ND	ND	ND	ND	ND	0.93	ND	ND	ND	ND	ND	ND
	8/18/2006	ND	ND	ND	ND	ND	1	ND	ND	ND	ND	ND	ND
	12/1/2006	ND	0.69	ND	ND	0.52	0.97	ND	ND	ND	ND	ND	ND
	2/23/2007	73	ND	ND	ND	ND	1.7	ND	ND	ND	ND	ND	ND
	5/10/2007	ND	ND	ND	ND	ND	1.5	ND	ND	ND	ND	ND	ND
	8/16/2007	ND	ND	ND	ND	ND	1.3	ND	ND	ND	ND	ND	ND
	11/8/2007	ND	ND	ND	ND	ND	1.5	ND	ND	ND	ND	ND	ND
	2/14/2008	ND	ND	ND	ND	ND	1.3	ND	ND	ND	ND	ND	ND
	5/15/2008	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	1.7	ND<0.50	ND<0.50	ND<0.50	ND<20	ND<0.50	ND<0.50
	9/10/2008	480	17	1.8	2.7	0.59	12	ND<0.50	ND<0.50	ND<0.50	4.4	ND<0.50	ND<0.50

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Groundwater Analytical Data

Sample ID	Date	TPHg µg/L	Benzene µg/L	Toluene µg/L	Ethylbenzene µg/L	Xylenes µg/L	MTBE µg/L	DIPE µg/L	ETBE µg/L	TAME µg/L	TBA µg/L	1,2-DCA µg/L	EDB µg/L
MW-5	11/18/2008	130	2.3	1.6	ND<0.50	ND<0.50	7.3	ND<0.50	ND<0.50	ND<0.50	ND<2.0	ND<0.50	ND<0.50
(cont.)	2/17/2009	170	ND<0.50	2.7	ND<0.50	ND<0.50	4.2	ND<0.50	ND<0.50	ND<0.50	ND<2.0	ND<0.50	ND<0.50
	5/15/2009	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	7.6	ND<0.50	ND<0.50	ND<0.50	ND<2.0	ND<0.50	ND<0.50
	8/13/2009	380	19	2.1	3.8	0.88	11	ND<0.50	ND<0.50	ND<0.50	ND<2.0	ND<0.50	ND<0.50
	2/23/2010	ND<50	ND<0.50	0.87	ND<0.50	ND<0.50	1.9	ND<0.50	ND<0.50	ND<0.50	ND<2.0	ND<0.50	ND<0.50
	8/12/2010	120	1.5	2.9	0.74	3.5	13	ND<0.50	ND<0.50	ND<0.50	3.0	ND<0.50	ND<0.50
	2/17/2011	**ND<50**	**ND<0.5**	**ND<0.5**	**ND<0.5**	**ND<0.5**	**3.7**	**ND<0.5**	**ND<0.5**	**ND<0.5**	**ND<2.0**	**ND<0.5**	**ND<0.5**
MW-6	11/17/2001	3,500	160	260	95	420	1,500	NA	NA	NA	NA	NA	NA
	3/31/2002	3,200	410	170	82	280	3,000	NA	NA	NA	NA	NA	NA
	9/9/2003	800	49	ND	7.4	ND	1,700	NA	NA	NA	NA	NA	NA
	12/9/2003	970	150	9.9	31	83	1,200	NA	NA	NA	NA	NA	NA
	2/19/2004	1,900	280	58	17	160	2,700	NA	NA	NA	NA	NA	NA
	9/3/2004	1,100	27	ND	14	27	2,200	ND	ND	85	ND	ND	ND
	11/2/2004	1,800	32	ND	5	11	4,100	ND	ND	170	270	ND	ND
	2/17/2005	5,600	190	34	41	110	10,000	ND	ND	780	2,000	ND	ND
	8/15/2005	1,800	27	ND	6	23	3,800	ND	ND	300	3,500	ND	ND
	11/17/2005	1,100	30	ND	4	9	2,400	ND	ND	190	9,500	ND	ND
	2/8/2006	3,600	220	43	66	160	2,700	ND	ND	180	7,800	ND	ND
	5/5/2006	1,600	130	21	37	65	1,400	ND	ND	53	3,100	ND	ND
	8/18/2006	270	27	ND	3	4	240	ND	ND	11	2,400	ND	ND
	12/1/2006	1,700	ND	ND	ND	ND	1,700	ND	ND	92	800	ND	ND
	2/23/2007	ND	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND
	5/10/2007	ND	3.0	ND	ND	1.9	26	ND	ND	2	48	ND	ND
	8/16/2007	ND	ND	ND	ND	ND	1.4	ND	ND	ND	ND	ND	ND
	11/8/2007	ND	ND	ND	ND	ND	5.3	ND	ND	ND	ND	ND	ND
	2/14/2008	ND	ND	ND	ND	ND	11	ND	ND	0.94	220	ND	ND
	5/15/2008	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	13	ND<0.50	ND<0.50	1.0	130	ND<0.50	ND<0.50
	9/10/2008	78	1.4	0.60	0.94	1.3	71	ND<1.0	ND<1.0	6.2	160	ND<1.0	ND<1.0
	11/18/2008	ND<50	2.4	ND<0.50	ND<0.50	0.70	72	ND<1.2	ND<1.2	7.2	180	ND<1.2	ND<1.2
	2/17/2009	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.0	ND<0.50	ND<0.50
	5/15/2009	53	3.2	ND<0.50	ND<0.50	1.7	44	ND<1.0	ND<1.0	4.3	89	ND<1.0	ND<1.0
	8/13/2009	74	5.9	0.57	0.97	5.0	27	ND<0.50	ND<0.50	2.2	140	ND<0.50	ND<0.50
	2/23/2010	ND<50	0.66	ND<0.50	ND<0.50	0.57	5.7	ND<0.50	ND<0.50	ND<0.50	15	ND<0.50	ND<0.50
	8/12/2010	92	7.5	0.94	ND<0.50	1.0	32	ND<1.0	ND<1.0	2.7	180	ND<1.0	ND<1.0
	2/17/2011	**ND<50**	**ND<0.5**	**ND<0.5**	**ND<0.5**	**ND<0.5**	**ND<0.5**	**ND<0.5**	**ND<0.5**	**ND<0.5**	**ND<2.0**	**ND<0.5**	**ND<0.5**

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Groundwater Analytical Data

Sample ID	Date	TPHg µg/L	Benzene µg/L	Toluene µg/L	Ethylbenzene µg/L	Xylenes µg/L	MTBE µg/L	DIPE µg/L	ETBE µg/L	TAME µg/L	TBA µg/L	1,2-DCA µg/L	EDB µg/L
MW-7	2/23/2010	29,000	410	380	2,100	6,100	410	ND<10	ND<10	19	1,500	ND<10	ND<10
	8/12/2010	2,000	26	17	140	250	2,400	ND<50	ND<50	75	9,600	ND<50	ND<50
	2/17/2011	**2,400**	**35**	**17**	**160**	**190**	**670**	**ND<10**	**ND<10**	**24**	**1,300**	**ND<10**	**ND<10**
MW-8	2/23/2010	690	3.5	2.8	29	40	1,600	ND<100	ND<100	ND<100	24,000	ND<100	ND<100
	8/12/2010	260	4.1	1.4	6.9	7.2	2,100	ND<170	ND<170	ND<170	25,000	ND<170	ND<170
	2/17/2011	**500**	**3.6**	**5.1**	**7.8**	**2.1**	**1,300**	**ND<100**	**ND<100**	**ND<100**	**25,000**	**ND<100**	**ND<100**
MW-9	2/23/2010	ND<50	ND<0.50	0.70	ND<0.50	ND<0.50	260	ND<10	ND<10	ND<10	1,600	ND<10	ND<10
	8/12/2010	ND<50	ND<0.50	1.6	ND<0.50	ND<0.50	85	ND<10	ND<10	ND<10	880	ND<10	ND<10
	2/17/2011	**ND<50**	**ND<0.5**	**ND<0.5**	**ND<0.5**	**ND<0.5**	**160**	**ND<5.0**	**ND<5.0**	**ND<5.0**	**1,300**	**ND<5.0**	**ND<5.0**
MW-10	2/23/2010	1,300	ND<0.50	11	3.1	2.6	2.8	ND<0.50	ND<0.50	ND<0.50	ND<2.0	ND<0.50	ND<0.50
	8/12/2010	61	ND<0.50	0.72	ND<0.50	ND<0.50	39	ND<0.50	ND<0.50	1.8	ND<2.0	ND<0.50	ND<0.50
	2/17/2011	**150**	**ND<0.5**	**1.6**	**ND<0.5**	**ND<0.5**	**6.9**	**ND<0.5**	**ND<0.5**	**ND<0.5**	**ND<2.0**	**ND<0.5**	**ND<0.5**
EX-1	2/19/2004	120,000	9,500	4,300	840	3,900	150,000	NA	NA	NA	NA	NA	NA
	2/14/2008	84,000	2,300	4,900	1,800	14,000	3,900	ND	ND	610	10,000	ND	ND
	5/15/2008	24,000	2,100	750	640	2,100	1,800	ND<0.50	ND<0.50	380	11,000	ND<0.50	ND<0.50
	9/10/2008	9,200	1,000	160	300	1,000	780	ND<100	ND<100	180	22,000	ND<100	ND<100
	11/18/2008	8,900	1,400	290	360	1,300	840	ND<100	ND<100	230	20,000	ND<100	ND<100
	2/17/2009	70,000	2,700	3,600	1,900	13,000	1,400	ND<25	ND<25	480	1,500	ND<25	ND<25
	5/15/2009	18,000	1,400	250	530	1,700	640	ND<25	ND<25	200	5,500	ND<25	ND<25
	8/13/2009	10,000	1,100	150	410	940	520	ND<25	ND<25	120	5,200	ND<25	ND<25
	2/23/2010	39,000	1,300	1,100	1,100	7,700	880	ND<25	ND<25	250	670	ND<25	ND<25
	8/12/2010	12,000	1,000	160	470	1,200	660	ND<17	ND<17	160	1,000	ND<17	ND<17
	2/17/2011	**33,000**	**1,700**	**600**	**1,100**	**6,500**	**720**	**ND<12**	**ND<12**	**220**	**600**	**ND<12**	**ND<12**

Notes:
TPHg = total petroleum hydrocarbons as gasoline using EPA Method 8015
Benzene, toluene, ethylbenzene, and xylenes using EPA Method 8021B
MTBE = methyl-tertiary butyl ether using EPA Method 8021B; EPA Method 8260B Beginning in May 2008
TBA = tert-butyl alcohol using EPA Method 8260B
TAME = tert-amyl methyl ether using EPA Method 8260B
DIPE = diisopropyl ether using EPA Method 8260B
ETBE = ethyl tert-butyl ether using EPA Method 8260B
1,2-DCA = 1,2-dichloroethane using EPA Method 8260B
EDB = Ethylene dibromide using EPA Method 8260B
µg/L= micrograms per liter
ND = non detect at respective reporting limit
NA - not analyzed

APPENDIX A

HISTORICAL SOIL ANALYTICAL DATA

7.0 – Historical Chemical Concentrations

7.1 Soil

Soil Historical Soil Analytical Results

Alaska Gasoline
6211 San Pablo Avenue
Oakland, California

	Sample ID	Sample Depth	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	DIPE	ETBE	TAME	TBA	1,2-DCA	EDB
			Parts Per Million											
4/16/1999	**B-1 @ 10'**	*10*	**440**	**2.3**	**4.8**	**7.4**	**31**	**3.7**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
4/16/1999	**B-1 @ 15'**	*15*	**74**	**1.4**	**1.6**	**1.6**	**6.3**	**4.8**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
4/16/1999	**B-2 @ 10'**	*10*	**290**	**3.6**	**9.0**	**5.8**	**24**	**2.0**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
4/16/1999	**B-3 @ 10'**	*10*	**460**	**3.8**	**18**	**7.6**	**37**	**86**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
6/29/1999	**B-4 @ 5'**	*5*	**100**	**0.68**	**1.4**	**1.5**	**7.8**	**2.2**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
6/29/1999	**B-4 @ 10'**	*10*	**14**	**0.71**	<0.0050	**0.23**	**0.11**	**9.3**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
6/29/1999	**B-5 @ 5'**	*5*	**5.7**	**0.068**	**0.0061**	**0.033**	**0.065**	**3.5**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
6/29/1999	**B-5 @ 10'**	*10*	**34**	**0.37**	**0.079**	**0.17**	**0.57**	**2.0**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
6/29/1999	**B-6 @ 5'**	*5*	**92**	**2.3**	**5.4**	**1.5**	**7.0**	**23**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
6/29/1999	**B-6 @ 10'**	*10*	**30**	**1.3**	<0.0050	<0.0050	**0.060**	**46**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
6/29/1999	**B-7 @ 5'**	*5*	**3.2**	**0.12**	<0.0050	**0.073**	**0.14**	**0.023**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
6/29/1999	**B-7 @ 10'**	*10*	**280**	**0.57**	**0.56**	**2.8**	**14**	<0.010	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
6/29/1999	**B-8 @ 5'**	*5*	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
6/29/1999	**B-8 @ 10'**	*10*	**270**	**0.93**	**2.9**	**4.6**	**20**	**2.7**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
10/11/1999	**MW-1 @ 5'**	*5*	**1.1**	**0.14**	<0.0050	**0.017**	**0.016**	**0.065**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
10/11/1999	**MW-1 @ 10'**	*10*	**570**	**4.6**	**18**	**10**	**47**	**10**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*

Soil Historical Soil Analytical Results

Alaska Gasoline
6211 San Pablo Avenue
Oakland, California

	Sample ID	*Sample Depth*	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	DIPE	ETBE	TAME	TBA	1,2-DCA	EDB
			Parts Per Million											
10/11/1999	**MW-2 @ 5'**	*5*	**16**	**0.25**	<0.0050	**0.26**	**0.30**	**1.2**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
10/11/1999	**MW-2 @ 10'**	*10*	**22**	**0.79**	**0.38**	**0.52**	**2.1**	**1.4**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
10/11/1999	**MW-3 @ 5'**	*5*	**2,200**	**11**	**63**	**35**	**170**	**48**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
10/11/1999	**MW-3 @ 10'**	*10*	**14**	**0.12**	**0.080**	<0.0050	**0.087**	**28**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
11/16/2001	**MW-4 @ 5'**	*5*	**25,000**	**250**	**1,700**	**510**	**2,700**	**160**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
11/16/2001	**MW-4 @ 10'**	*10*	**4.6**	**0.011**	**0.080**	**0.033**	**0.19**	**9.8**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
11/16/2001	**MW-5 @ 5'**	*5*	**3.1**	<0.0050	**0.0064**	**0.0051**	**0.0070**	**0.012**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
11/16/2001	**MW-5 @ 10'**	*10*	**17**	**0.067**	**0.018**	**0.20**	**0.25**	<0.010	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
11/16/2001	**MW-6 @ 5'**	*5*	**30**	**0.57**	**0.14**	**0.72**	**2.9**	**1.5**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
11/16/2001	**MW-6 @ 10'**	*10*	**1,900**	**10**	**64**	**37**	**190**	**7.6**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
11/16/2001	**B-9 @ 5'**	*5*	**100**	**0.91**	**1.8**	**1.8**	**7.9**	**33**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
11/16/2001	**B-9 @ 10'**	*10*	**250**	**2.4**	**6.6**	**4.5**	**20**	**52**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
11/16/2001	**B-10 @ 5'**	*5*	**5.5**	**0.18**	**0.015**	**0.11**	**0.16**	**4.7**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
11/16/2001	**B-10 @ 10'**	*10*	**200**	**0.63**	**4.1**	**3.6**	**19**	**1.5**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
11/16/2001	**B-11 @ 5'**	*5*	**160**	**0.84**	**4.3**	**2.6**	**15**	**15**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
11/16/2001	**B-11 @ 10'**	*10*	**530**	**3.9**	**36**	**10**	**58**	**82**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
11/16/2001	**B-12 @ 5'**	*5*	**220**	**1.1**	**6.8**	**4.2**	**21**	**9.4**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
11/16/2001	**B-12 @ 10'**	*10*	**99**	**1.5**	**4.8**	**1.8**	**9.3**	**44**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
11/16/2001	**B-13 @ 5'**	*5*	**110**	**1.7**	**5.0**	**2.1**	**11**	**8.1**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*

Soil Historical Soil Analytical Results

Alaska Gasoline
6211 San Pablo Avenue
Oakland, California

	Sample ID	Sample Depth	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	DIPE	ETBE	TAME	TBA	1,2-DCA	EDB
			Parts Per Million											
11/16/2001	**B-14 @ 10'**	*10*	**22**	**0.11**	**0.047**	**0.12**	**0.0056**	**1.5**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
1/15/2004	**AS-1 @ 6'**	*6*	**630**	**5.9**	**48**	**13**	**74**	**46**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
1/15/2004	**AS-2 @ 5'**	*5*	**650**	**3.5**	**34**	**13**	**69**	**26**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
1/14/2004	**AS-3 @ 5'**	*5*	**6.4**	**0.031**	**0.033**	**0.062**	**0.28**	<0.01	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
1/14/2004	**AS-4 @ 5'**	*5*	**370**	**2.7**	**24**	**7.2**	**44**	**85**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
1/14/2004	**AS-5 @ 5'**	*5*	**3400**	**16**	**160**	**90**	**510**	**11**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
1/13/2004	**VE-1 @ 4'**	*4*	**390**	**2.2**	**15**	**8.9**	**46**	<0.01	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
1/13/2004	**VE-2 @ 5'**	*5*	**590**	**4.5**	**29**	**14**	**73**	**1.3**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
1/13/2004	**VE-3 @ 5'**	*5*	**32**	**0.84**	**1.1**	**0.82**	**4.4**	**18**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
1/13/2004	**VE-4 @ 5'**	*5*	**52**	**0.28**	**1.6**	**1.2**	**6.3**	**0.99**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
1/13/2004	**VE-5 @ 6'**	*6*	**83**	**2.2**	**9.5**	**1.7**	**10**	**59**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
1/13/2004	**VE-6 @ 6'**	*6*	**390**	**1.6**	**14**	**9.8**	**56**	**5.3**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
1/13/2004	**VE-7 @ 5'**	*5*	**500**	**1.5**	**20**	**9.9**	**57**	**43**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
1/13/2004	**VE-8 @ 5'**	*5*	**170**	**0.39**	**2.4**	**3.0**	**17**	**6.2**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*

Soil Historical Soil Analytical Results

Alaska Gasoline
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Oakland, California

	Sample ID	Sample Depth	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	DIPE	ETBE	TAME	TBA	1,2-DCA	EDB
			Parts Per Million											
1/13/2004	**VE-9 @ 5'**	*5*	**200**	**0.43**	**2.4**	**4.5**	**22**	**5.5**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
1/13/2004	**VE-10 @ 5'**	*5*	**26**	**0.13**	**0.11**	**0.42**	**2.0**	**8.7**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
1/14/2004	**VE-11 @ 5'**	*5*	**270**	**1.3**	**0.67**	**6.9**	**35**	**20**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
1/14/2004	**VE-12 @ 5'**	*5*	**270**	**2.1**	**16**	**6.1**	**36**	**33**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
1/14/2004	**VE-13 @ 5'**	*5*	**410**	**2.7**	**22**	**9.2**	**53**	**47**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
1/12/2004	**EX-1 @ 3'**	*3*	**230**	**2.2**	**13**	**5.5**	**27**	**4.6**	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
1/12/2004	**MW-1R @ 5'**	*5*	**4.3**	**0.060**	**0.20**	**0.14**	**0.68**	<0.01	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
3/27/2007	**S-1 @ 6.5 fbg**	*6.5*	**20**	ND	**3**	ND	**2**	**5**	ND	ND	ND	**730**	ND	ND
3/27/2007	**S-2 @ 6.5 fbg**	*6.5*	**0.4**	ND	**3**	ND	ND	**7**	ND	ND	ND	**200**	ND	ND
3/27/2007	**S-3 @ 6.5 fbg**	*6.5*	**30**	ND	**15**	**7**	**8**	**20**	ND	ND	ND	**400**	ND	ND
3/27/2007	**S-4 @ 6.5 fbg**	*6.5*	**0.4**	ND	**5**	**1**	**5**	**3**	ND	ND	ND	**260**	ND	ND
8/11/2007	**DP-1 @ 6**	6	**1,200**	***3.7 J***	**17**	**20**	**99**	<12	<0.15	<0.15	<0.15	<2.9	<0.15	<0.15
8/11/2007	**DP-1 @ 10.5**	10.5	***0.4 J***	***0.006 J***	***0.01 J***	***0.007 J***	***0.03 J***	**0.013**	<0.001	<0.001	<0.001	**2.10**	<0.001	<0.01
8/11/2007	**DP-1 @ 14**	14	**1.5**	<0.006	***0.01 J***	***0.01 J***	***0.05 J***	**1.2**	<0.001	<0.001	**0.12**	***3.7 J***	<0.001	<0.001
8/11/2007	**DP-2 @ 5**	5	**530**	**2.6**	**2.9**	**13**	**66**	***1.3***	<0.160	<0.160	<0.160	<3.3	<0.160	<0.160

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	Sample ID	*Sample Depth*	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	DIPE	ETBE	TAME	TBA	1,2-DCA	EDB
			Parts Per Million											
8/11/2007	**DP-2 @ 8.5**	*8.5*	**680**	<5.0	***3.2 J***	**14**	**65**	**1.1**	<0.160	<0.160	<0.160	<3.1	<0.160	<0.160
8/11/2007	**DP-2 @ 15.5**	*15.5*	**2.4**	<0.006	<0.006	<0.006	<0.02	**1.7**	<0.006	<0.006	**0.190**	**0.83**	<0.006	<0.006
8/11/2007	**DP-3 @ 5**	*5*	**130**	***0.1 J***	**1**	**1.5**	**8.7**	<0.073	<0.150	<0.150	<0.150	<2.9	<0.150	<0.150
8/11/2007	**DP-3 @ 8**	*8*	**880**	**1.7**	**14**	**14**	**63**	*<0.075*	<0.150	<0.150	<0.150	<3.0	<0.150	<0.150
8/11/2007	**DP-3 @ 12**	*12*	**19**	**0.1**	**2.2**	**0.8**	**3.7**	*0.018 J*	<0.006	<0.006	<0.006	<0.120	<0.006	<0.006
8/11/2007	**DP-3 @ 16**	*16*	***0.8 J***	***0.01 J***	**0.1**	***0.02 J***	**0.07**	*0.006 J*	<0.001	<0.001	<0.001	<0.024	<0.001	<0.001

- "J" flag indicates a laboratory estimated value