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Alameda County  
Environmental Health

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

**Subject: Perjury Statement and Report Transmittal**

1600 – 1630 Park Street  
Alameda, California 94501  
AEI Project No. 298931  
ACEH RO#0000008

Dear Ms. Detterman:

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

If you have any questions or need additional information, please do not hesitate to call me or Mr. Peter McIntyre at AEI Consultants, (925) 746-6004.

Sincerely,

  
John Buestad  
President

JB/pm

Attachment

cc: Mr. Peter McIntyre, AEI Consultants, 2500 Camino Diablo, Walnut Creek, CA 94597



# AEI Consultants

Environmental & Engineering Services

May 4, 2012

## DATA GAP INVESTIGATION and INTERIM SOURCE REMOVAL WORKPLAN

**Property Identification:**

1630 Park Street  
Alameda, California

AEI Project No. 298931  
ACEHD Fuel Leak Case No. RO0000008

**Prepared for:**

Foley Street Investments  
Attn: Mr. John Buestad  
2533 Clement Avenue  
Alameda, CA 94501

**Prepared by:**

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May 4, 2012

Alameda County Environmental Health Department  
Attn: Ms. Karel Detterman  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502

**Subject: Data Gap Investigation and  
Interim Source Removal Workplan**  
1630 Park Street  
Alameda, California  
AEI Project No. 298931  
ACEHD Fuel Leak Case No. RO0000008

Dear Ms. Detterman:

AEI Consultants (AEI) has prepared this Data Gap Investigation and Interim Source Removal Workplan on behalf of Foley Street Investments (FSI), developer of the subject site (See Figure 1 and Figure 2). The subject of this Workplan is the leaking underground storage tank (LUST) case located at the property 1630 Park Street, known as the Good Chevrolet site. The Alameda County Environmental Health Department (ACEHD) is the agency with regulatory oversight of the LUST case. This Workplan has been prepared to present the scope of work to ACEHD as requested in a letter dated April 16, 2012. This Workplan includes the following key items:

1. A summary of the case history and data gaps analysis to assess where information is missing that will assist in understanding the site conditions and ultimately support site closure;
2. A scope of work to investigate the easterly and westerly extent of the release;
3. A scope of work to investigate the former UST hold and to excavate source material in the UST hold (if needed) and oil impacted soils;
4. A groundwater monitoring program;
5. Soil vapor assessment program;
6. Schedule for implementation of these tasks.

## **1.0 Property Overview**

### **1.1 Property Description**

The development site consisting of 1600 to 1630 Park Street is an irregularly shaped property totaling approximately 1.46 acres, of which the northern portion is the 1630 Park Street site. The site is bound by Park Street to the northwest, 1650 Park Street to the northeast, Foley Street to the Southeast, and Tilden Way to the southwest in a mixed commercial and residential area of Alameda, California. Hereinafter, unless otherwise stated, the "site" will refer to the 1630 Park Street property.

The site is currently improved with a two-story showroom and office building totaling approximately 11,264 square feet and parking lot which was until approximately 2008 occupied by Good Chevrolet. Good Chevrolet also occupied the 1600 to 1618 property to the south, which is also vacant. Refer to Figure 2 for the property layout and major site features.

### **1.2 Planned Development Project**

Foley Street Investments plans to demolish the existing buildings and construct two slab-on-grade commercial buildings. Building demolition is currently scheduled to occur no later than June 2012 with construction to begin shortly thereafter. The northern building is planned for the area of the existing Good Chevrolet building along Park Street. The remainder of the development site will be improved with paved at-grade parking areas and landscaping.

## **2.0 Site History**

Based on historical research performed during a Phase I Environmental Site Assessment (ESA) conducted in June 2011, the current building at the site was constructed in the 1940s for use as an auto garage and showroom. Good Chevrolet occupied the site from the early 1960s through 2008.

### **2.1 Prior Environmental Work**

According to records on file with the ACEHD, one 300-gallon waste-oil underground storage tank (UST) and one 500-gallon gasoline UST were removed from adjacent to the northern side of the building in 1986 at which time a release of petroleum hydrocarbons, primarily gasoline, was discovered. Due to the discovery of a release, a case was opened with the ACEHD. Following is a summary of investigation activities that followed.

- In 1987, Groundwater Technologies installed three groundwater monitoring wells (MW-1 to MW-3) and drilled two soil borings (SB-4 and SB-5) to investigate soil and groundwater conditions around the former UST hold.
- In October 1993, Geoplexus collected and analyzed soil and groundwater samples from seven soil boring (EB1 to SB7) drilled around the UST hold along with up-gradient and down-gradient of the release. It should be noted that documents indicate that two other borings (HP-1 and HP-2) were drilled up-gradient of the release area in April 1993, however details are not available. Geoplexus installed monitoring wells MW-4 and MW-5 in April 1994 in Park Street to investigate the down-gradient extent of the hydrocarbon plume.

- In January 1997, Geoplexus drilled an additional eight soil borings (EB8 to EB12 and P1 to P3) onsite around and down-gradient of the former UST hold. Soil samples were analyzed from EB8 to EB12 and groundwater samples were analyzed for all eight borings.
- In November 1998, Geoplexus collected three soil gas samples from three borings (AGP-1 to AGP-3) in the release area and within the adjacent building. Geoplexus presented an argument for "low risk" closure; however, case closure was not granted.
- In April 2008, Blymer Engineers collected soil and groundwater samples from 24 soil borings (GP1 to GP24) on and offsite to characterize the extent of soil and groundwater pollution. It should be noted that AEI was not able to locate a formal report of these activities, only tables of soil and groundwater data, boring logs, and figures have been located.
- Groundwater monitoring was conducted approximately quarterly from 1992 through 1995, then sporadically through 2003, once in 2008, and most recently by AEI in June and December 2011 and January 2012.

Based on the reports available to AEI, no remedial activities were performed at the site since backfilling of the UST excavation. Site data are summarized in Tables 1 to 9.

## 2.2 Recent Site Assessments

Following the Phase I ESA and in preparation for development of the site and property to the south (1600 to 1618 Park Street), AEI was retained by Foley Street Investments to perform a Phase II subsurface investigation of the property, relating to potential environmental issues aside from the Good Chevrolet LUST case. The areas of concern investigated include five former and five existing underground hydraulic lifts, several floor drains, three existing USTs (1 550-gallon waste-oil UST, 1 10,000 gallon 1 4,000 gallon gasoline UST), and a former gasoline station identified on the southern end of the development site at the intersection of Park Street and Tilden Way. A total of 19 soil borings (AEI-1 to AEI-19) were drilled for soil and groundwater sampling.

Results of the investigation are summarized in the August 16, 2011 *Phase II Subsurface Investigation Report*, prepared by AEI. The only significant release identified during this investigation was in the area of several former (removed) underground hydraulic lifts in the northern section of the 1630 Park Street building, just south of and on the other side of the building wall from the UST release area (Figure 2). Significant concentrations of total petroleum hydrocarbons (TPH) as gasoline (TPH-g), as diesel (TPH-d), and motor oil (TPH-mo) were detected in borings AEI-3, AEI-4, and AEI-6 to AEI-8. Based on the presence of benzene, toluene, ethyl-benzene, and xylenes (BTEX) and TPH-g in several of the samples, it is apparent that the gasoline and possibly oil from the waste oil UST has migrated beneath the building. PCBs were not detected. A more detailed discussion of the release conditions was presented in the September 28, 2011 ICAP.

As outlined in the ICAP and subsequent ICAP Addendum, on November 14, 2011 and November 15, 2011, AEI installed DPE-1 to DPE-3 and AS-1, and on December 6, 2011 three soil vapor probes (VP-1 to VP-3) were installed. The remediation wells and vapor probes were installed to complete high vacuum dual phase extraction (HVDPE) pilot test and interim corrective action activities. On December 6, 2011, AEI developed the newly installed remediation wells and conducted a groundwater sampling event to determine baseline groundwater conditions prior to the HVDPE event.

On January 17, 2012, AEI advanced soil borings AEI-20 to AEI-28 to further delineate the extent of impacted soil and groundwater and to select additional extraction well locations. Based on the results of this investigation, the dissolved phase plume has been defined towards the south (AEI-24 to AEI-26), however less well defined towards the southwest (AEI-21 and AEI-23). Monitoring results from well DPE-4 however showed significantly lower dissolved phase concentrations than borings AEI-21 and AEI-22 and, due to the common occurrence of matrix interference in soil boring "grab" groundwater samples, the data from DPE-4 is more likely representative of dissolved phase conditions. This indicates that the dissolved phase plume is limited in extent to the west. This conclusion is consistent with the GP-9 groundwater sample data from 2008.

Gasoline impacted soil appears to be centered on the former UST hold and extends laterally in each direction. To the east, south, and west, impacted soil extends approximately 20 to 40 feet from the former UST hold and is reasonably defined. To the northwest, impacted soil extended into and along park street up to 50 feet from the site and is reasonably defined by GP12. The vertical extent of impacted soil has been generally well defined by past investigations as the top of the impacted zone is at approximately 7 to 8 feet bgs and ends to between approximately 12 to 14 feet bgs. The impacted thickness of the approximately 4 to 8 feet corresponds to just above the water table (capillary fringe) to several feet below the average water table. At distance from the release area, the thickness of impacted soil generally decreases to approximately 2 to 4 feet, as observed in recent borings AEI-22, AEI- 23, and AEI-28.

On January 19, 2012 and January 20, 2012, AEI installed seven additional DPE wells (DPE-4 to DPE-6 and DPE-8 to DPE-11). DPE-7 could not be completed due to a void in the subsurface discovered during well installation; therefore this well was not completed. The void was later confirmed not to be a utility or other structure and was filled with neat cement grout on March 9, 2012.

On January 23, 2012 AEI developed each of the newly installed DPE wells and on January 24, 2012 completed a groundwater monitoring event on wells MW-1 to MW-3, DPE-1 to DPE-4, DPE-6, and DPE-9. The sampling event was performed to assess groundwater conditions following the initial HVDPE event and prior to commencing a second HVDPE event. The second HVDPE event commenced operation on January 24, 2012, and was concluded on April 28, 2012.

Based on influent data from the HVDPE system, approximately 11,300 pounds of hydrocarbons were removed from the subsurface during the second HVDPE event. As requested by ACEHD, a report of the HVPDE pilot test and interim corrective action will be presented under separate cover.

### **3.0 Geologic Setting and Hydrology**

The site is located on Alameda Island. The near surface sediments of the area are mapped as Holocene and Pleistocene Merritt Sands (Qms) deposits (Helley, et al). Depth to bedrock is estimated at 300 to 800 feet below land surface (Norfleet Consultants, 1998). According to information obtained from the U.S Geological Survey (USGS), the site is located at between 20 and 25 feet above mean sea level (amsl) with the local topography sloping gently to the northeast. The nearest surface water body is the tidal canal located approximately 1500 to 2000



feet to the northeast.

During the recent drilling conducted by AEI in July 2011, groundwater was first observed in the temporary direct push borings at depths of approximately 9 to 11 feet bgs and stabilized at between approximately 7.5 to 8.5 feet bgs. The depth to water in the groundwater monitoring wells has generally ranged from approximately 7.5 to 9.5 feet bgs since the wells were installed. Based on the groundwater monitoring conducted at the site, groundwater flows fairly consistently in a northwesterly direction at an approximate hydraulic gradient of  $1 \times 10^{-2}$  to  $2 \times 10^{-2}$  ft/ft and exists as an unconfined aquifer. Based on the logs of soil borings drilled at the site, sediments across the site are fairly consistent; consisting primarily of poorly graded fine to medium sand with varying clay and silt content to a depth of at least 25 feet bgs, the maximum depth explored. Logs of borings for remediation wells installed in November 2011 were consistent with these prior observations.

#### **4.0 Data Gap Analysis**

Based on a review of recent and historical data for the site, the following Data Gaps have been identified.

##### **4.1 Nature and Extent of Hydrocarbon Impacts**

A key issue to gaining closure for the site is to demonstrate the nature and extent of the impacts present. Currently the nature of the contaminants have been well documented: they are hydrocarbons in the range of gasoline, diesel and motor oil, and include benzene, toluene, ethylbenzene, and xylenes, with no significant fuel oxygenates (MTBE, TAME, etc...), VOC's or lead. The apparent source of the material is the former UST's located outside the north wall of the former Good Chevrolet building. A summary of all groundwater sample analytical results are included in Tables 4 through 7.

The extent of the impacts in groundwater have been defined to the south and southeast, as demonstrated by grab groundwater samples collected in January 2012, from borings AEI-24, AEI-25 and AEI-26 and to the east of the former tank pit as demonstrated by grab groundwater samples collected from borings GP3 (April 2008) and AEI-27 in (January 2012) (Tables 4 to 7). Groundwater impacts are also well defined to the northwest as demonstrated by analysis of groundwater samples collected in June 2011, from monitoring wells MW-4 and MW-5.

Grab groundwater samples collected in January 2012, from temporary borings AEI-21, AEI-22 and AEI-23 suggest that the extent of impacts are not defined west and southwest of the former UST locations. Additionally, although recent data from monitoring well MW-1 show low concentrations of gasoline range hydrocarbons (Table 7), historic grab groundwater samples collected in April 2008, from GP-1, GP-4, GP-5 and from EB-5 in October 1993, suggest that the significant hydrocarbons in groundwater may exist to the north and northeast of the former UST tank pit.

Based on the above, it appears that the extent of hydrocarbon impacts in groundwater is not defined to the west/southwest or to the north/northeast.

## **4.2 Former UST Hold Backfill**

ACEHD has expressed concern that the former UST hold may have been backfilled with untreated or unsuccessfully treated hydrocarbon impacted spoils that were generated during the 1987 tank removal. ACEHD also suspects that prior to placing the contaminated spoils, the UST excavation was lined with plastic sheeting, which would inhibit the current efforts to reduce source concentrations via extraction methods. Regrettably, the existing documentation for UST removal and tank hold backfilling are unavailable.

AEI installed two borings (DPE-3 and AS-1) within the footprint of the 1987 UST excavation patch in November, 2011. The borings were spaced approximately 1.5 feet apart and appear to have intercepted the sloped perimeter of the UST excavation outside of the UST hold. Plastic sheeting was observed in one of the borings (DPE-3) at a depth of 4 feet bgs with clean gravel/sand above it and apparently undisturbed native soil (silty sand) below. The same lithologic contact was observed in the second boring (AS-1), however, no plastic sheeting was observed.

It is currently unknown whether or not impacted spoils may exist in the former UST hold or whether that the material may be encapsulated in plastic sheeting which would inhibit remedial efforts.

## **4.3 Groundwater Monitoring Program**

Groundwater monitoring and sampling at the site has been conducted sporadically since 1987, with the most recent events conducted in December 2011, and January 2012. These data document the groundwater conditions beginning immediately after the UST's were removed and up to the initiation of remedial actions at the site. In order to gain closure, it will be necessary to document the effects of source removal and remediation on the groundwater.

A groundwater monitoring program should be established that will demonstrate the effects of remediation on groundwater at the site.

## **4.4 Soil Vapor Conditions**

Based on the volatile nature of gasoline, vapor intrusion is a potentially complete exposure pathway following construction of the commercial building, depending on soil gas conditions in the area of the proposed building within the release area. Although a soil gas survey was conducted in 1998, sampling and analytical methodologies as well as the regulatory consideration of this potential exposure pathway have significantly changed since that time.

A soil vapor investigation and monitoring program should be established to assess this potential exposure pathway. This will aid in understanding whether vapor intrusion mitigation may be prudent in the interim period between occupancy of the new building and closure for the LUST case.

## 5.0 Scope of Work

The following scope of work has been developed to address each of the Data Gaps identified in Section 4.

### 5.1 Lateral Plume Definition

As requested by ACEHD, to investigate the eastern and western lateral extent of the plume, two additional groundwater monitoring wells are proposed. A total of two (2) wells are anticipated will be installed at the locations shown on Figure 3. The wells will be used to collect groundwater elevation data and groundwater samples. Due to the upcoming demolition, grading, and construction activities, these wells will be installed once disruptions in the areas of the proposed wells have been completed. A summary of the proposed wells is presented below, along with an explanation of the purpose of each.

<u>Well ID</u>	<u>Location / Purpose</u>
MW-6	<i>East-Northeast of the former UST hold to assess groundwater conditions in the estimated cross-gradient direction.</i>
MW-7	<i>West of the former UST hold to assess groundwater conditions in the estimated cross-gradient direction.</i>

#### 5.1.1 Drilling and Well Construction

Prior to mobilizing, well construction permits will be obtained from Alameda County Public Works Agency (ACPWA), the site will be marked and underground service alert north (USAN) will be notified, and a private utility locating service retained to clear the planned drilling locations.

The drilling and well installation will be performed with a hollow stem auger or combination direct push / hollow stem auger drilling rig. Borings will be cored to log soil conditions and collect soil samples for laboratory analysis. Soil encountered in the borings will be logged by an AEI geologist in general accordance with ASTM D 2488 (Visual-Manual Procedure). Soil samples will be collected at intervals that display indications of impact and at changes in soil type. A PID will be used to screen soil samples in the field, and PID readings for each sample will be included on boring logs. Selected samples will be cut from the liners, sealed with Teflon tape and plastic end caps, and labeled immediately upon collection. Samples will then be logged onto the Chain of Custody and placed in a cooler with water ice. All samples will be delivered to a state certified laboratory under Chain of Custody documentation.

The 2" diameter wells will be installed within borings drilled with 8¼ inch diameter hollow stem augers. The boreholes will be advanced to approximately 17 feet bgs, however the exact depth will be determined based on field observations. The wells will be constructed with 2 inch diameter well casing, with approximately 10 feet of factory

slotted 0.010-inch well screen. Depths and well screen lengths may be adjusted based on field conditions but screen intervals are planned to be above anticipated high water level.

The well casings will be installed through the augers. The casing will be composed of 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 1.0 feet above the screened interval. During placement of the sand pack, the augers will be lifted from the borehole in 1-foot lifts. A minimum bentonite seal of 2 feet 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 newly installed 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.

### **5.1.2 Soil Sample Analyses**

Select soil samples will be analyzed for total petroleum hydrocarbons as motor oil (TPH<sub>mo</sub>) and TPH as diesel (TPH<sub>d</sub>) by EPA method 8015 Modified with silica gel cleanup, TPH as gasoline (TPH<sub>g</sub>) by EPA method 8015 Modified, and BTEX/MTBE by EPA method 8021B. It is anticipated that a minimum of one to three soil samples will be analyzed from each boring.

### **5.1.3 Equipment Decontamination and Waste Handling**

Sampling equipment, including sampling barrels, augers, and other equipment used to sample, will be decontaminated between samples using a triple rinse system containing Alconox™ or similar detergent. Drill cuttings, rinse water, and other investigation-derived waste (IDW) will be stored onsite in sealed 55-gallon drums, pending the results of sample analyses and proper disposal. Purge water, rinseate, and soil cuttings will be profiled for disposal at a licensed facility and transported under appropriate documentation.

## **5.2 Focused Soil Excavation**

Focused excavations are proposed to remove additional impacted material that may pose a continued threat to groundwater and to eliminate potential impediments to remediation (such as plastic sheeting), if it exists. Once the material 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. The proposed excavation areas are shown on Figure 4.

### 5.2.1 Excavation Target Soil Concentrations

The proposed excavations are not planned to extend beyond the target areas or to “chase” impacts laterally if it is found. Efforts will be made to remove the impacted soil vertically within the proposed excavations to reach the following target soil concentrations at the base of the excavated area. If encountered, remaining sidewall impacts may then require other remedial measures, such as monitored natural attenuation, in-situ treatment, or possibly continued HVDPE.

The proposed cleanup targets for the excavation bottom samples are summarized below:

<u>Constituent</u>	<u>Target Soil Concentration</u>
TPH-g	500 mg/kg
TPH-d	500 mg/kg
TPH-mo	2,500 mg/kg
Benzene	870 mg/kg
Toluene	650 mg/kg
Ethylbenzene	400 mg/kg
Total Xylenes	420 mg/kg

Based Table B-2 of the RWQCB 2008 ESL Guidance Document.

### 5.2.2 Excavation Pre-Field Work

As required, an excavation permit will be obtained from the Alameda County Public Works Agency (ACPWA) prior to beginning excavation activities, air permits will be obtained from the Bay Area Air Quality Management District (BAAQMD) and Underground Service Alert (USA) will be notified at least three (3) days in advance. Onsite underground utility locations will be reviewed and, if needed, a private utility locating service retained to clear proposed excavation locations.

### 5.2.3 Excavation Activities

An exploratory test pit will be excavated in the center of the former UST hold to determine the condition of the backfill material and the existence of a plastic liner. The test pit will be advanced to slightly beyond the original excavation, as evidenced by undisturbed soil. If the backfill material consists of apparently clean fill, a sample of the fill and one bottom sample will be collected for laboratory analysis. If the backfill material appears to consist of former excavation spoils, or if the plastic liner is observed, the entire UST hold will be excavated as described below.

If the exploratory test pit confirms the existence of former excavation spoils, or a plastic liner, the soil from the former UST hold will be excavated to an estimated depth of approximately 15 feet bgs and will extend laterally approximately 15 feet by 25 feet to the approximate location of the asphalt patch of the original UST excavation. Soil from the TPH-mo impacted areas will be excavated to an estimated depth of approximately 12 feet bgs and will extend laterally

approximately 10 feet by 8 feet at each location, if feasible based on soil conditions, or the locations may be grouped into several larger excavations. (See Figure 4).

Both the lateral extent and depth of the excavation may vary and will be determined based on both field conditions during excavation activities. However, up to 400 to 600 insitu 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 the excavation activities in order to document 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 landfill pre-approval acceptance, logistics of stockpiling soil on-site, and costs associated with equipment usage. These options will be analyzed to select the most cost effective and logical method for disposal prior to commencing the project.

#### **5.2.4 Groundwater Handling and Disposal**

Groundwater is expected to accumulate during excavation activities and will be removed from the excavations using a pump. 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 sanitary sewer (following the receipt of a City of Alameda Public Works 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.

#### **5.2.5 Confirmation Sampling**

Prior to backfilling the excavation, soil samples will be collected from the bottom and side walls of the excavation to confirm the extent to which impacted soil has been removed. The samples will be collected based on PID readings as well as visual observations. At a minimum, 2 sidewall samples and 1 bottom sample will be collected from each excavation. The number of samples may increase based on field observations. The soil 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.

#### **5.2.6 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 depths 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.

### **5.2.7 Additional Remedial Efforts**

During backfilling activities, AEI may add an oxygen release compound (ORC Advanced®) to the backfill material below the water table. ORC is a proprietary formulation of food-grade, calcium oxy-hydroxide that produces a controlled-release of molecular. The compound is intended to supply controlled-release molecular oxygen to the subsurface environment where it will enhance the rate of naturally occurring aerobic contaminant biodegradation in groundwater and saturated soils for periods of up to 12 months. ORC offers a passive, cost-effective, low intensity approach to accelerating aerobic bioremediation in the oxygen-limited contaminated subsurface. The compound will be mixed with the backfill (pea-gravel) prior to placing in the excavations at up to 0.01% by weight of backfill.

### **5.3 Groundwater Monitoring Plan**

A groundwater monitoring program will be established at the site. Groundwater monitoring data will be critical in determining groundwater conditions following source removal activities and to determine plume stability. Monitoring and sampling of the network of groundwater monitoring wells will occur on a regular basis with the first event to occur in May 2012, approximately 2 weeks after the HVDPE system was shut down.

During each monitoring event, water levels will be measured, and for new wells, light non-aqueous phase liquid (LNAPL) will be checked with an oil-water interface probe. Wells not containing measurable LNAPL will be purged using low flow sampling techniques until field readings have stabilized. During purging the following water quality measurements will be collected: temperature, pH, specific conductivity, and dissolved oxygen (DO). Groundwater samples will be collected into appropriate laboratory-supplied containers using the purge tubing which will consist of new, unused disposable tubing for each well. Samples will then be logged onto the Chain of Custody and placed in a cooler with water ice. All samples will be delivered to a state certified laboratory under Chain of Custody documentation.

One groundwater sample will be analyzed from each well for TPHmo and TPHd by EPA method 8015 Modified with silica gel cleanup, TPHg by EPA method 8015 Modified, and VOCs by EPA method 8260B.

The results of each event will be summarized in a brief report and submitted to the ACED and uploaded to GeoTracker. At a minimum, the report will contain copies of the laboratory analytical reports and chain-of-custody documentation, figures depicting the groundwater surface based on the monitoring data, copies of the field data sheets and updated summary tables for analytical data and groundwater gauging.

The proposed groundwater monitoring schedule is presented in Table 10.

#### **5.4 Soil Vapor Probe Installation**

Soil vapor monitoring is proposed in order to further investigate soil vapor conditions beneath the site. In addition to sampling the existing soil vapor probes at the site (VP-1 to VE-3), AEI proposes to install and sample additional soil vapor probes through the slab foundation of the proposed new building, once construction is complete. The locations of the new probes will be chosen once the final drawings of the proposed structure are approved.

The probes will be installed using a hand auger or rotary hammer drill to a depth of approximately 5 feet bgs. The soil vapor probes will be constructed with 1/4-inch outside diameter by 1/8-inch inside diameter stainless steel tubing and 6-inch long soil gas implants with a 0.0057-inch stainless wire mesh screen. Approximately 6-inches of No. 30 Monterey sand will be placed in the bottom of the borehole. Then, the 6-inch long stainless steel soil gas implant with 1/4-inch stainless steel tubing attached will be lowered to the terminus of the boring. A No. 30 Monterey sand will then be placed around the implant to approximately 6-inches above the top of the implant. Hydrated bentonite is placed above the sand pack to seal the probe interval from overlying soils. A gas-tight Swagelok® valve will be used to cap the sampling tube. Each probe will be finished with a flush mounted, traffic rated well box.

#### **5.5 Soil Vapor Sampling Plan**

The three existing soil vapor probes in the immediate vicinity of the former UST's will be sampled during the May 2012, groundwater sampling event. Following the installation of the proposed soil vapor probes, the existing and newly installed vapor probes will be sampled.

To begin, a 1 liter summa canister connected to a flow controller, will be connected to the probe sampling lines. Prior to collecting the sample, soil vapor will be withdrawn from the inert tubing using a calibrated syringe connected via an on-off valve. A total of three purge volumes will be removed from each probe. Following purging, soil gas will be monitored with an Eagle® field meter for oxygen (O<sub>2</sub>), carbon dioxide (CO<sub>2</sub>), and total hydrocarbons. The sample canister will then be connected, opened, and the initial vacuum recorded. Vapor samples will be collected through the regulator at approximately 200 mL/minute. Upon reaching approximately 5 in Hg vacuum in the canister, the canister will be closed and removed from the sampling line. Samples will be appropriately labeled and entered onto the chain of custody prior to shipping to the laboratory. During sampling, a leak check gas will be used to confirm that the sample train was tight and leak free.

All vapor samples will be sealed and labeled immediately upon collection. Chain of custody documentation will be initiated prior to leaving the site. All samples will be shipped to a state certified laboratory on the day of collection. Soil vapor samples will be analyzed by EPA Method TO-3 for total petroleum hydrocarbons as gasoline (TPHg) and by EPA Method TO-15 for benzene, toluene, ethylbenzene, and xylenes (BTEX). Results of the soil vapor sample analyses will be evaluated by comparison against current RWQCB Environmental Screening Levels (ESLs).



## 6.0 Schedule of Activities

The first activity will be the groundwater monitoring and sampling event scheduled for the week of May 14, 2012 along with exploration of the former UST hold data gap. The remaining field activities will commence once the demolition of existing structures is complete, which is estimated to be mid-June, 2012. The proposed schedule is provided below:

<u>Activity</u>	<u>Anticipated Start Date</u>
Groundwater Monitoring and Sampling	Week of May 14, 2012, Quarterly thereafter
Soil Vapor Sampling (initial)	Week of May 14, 2012, TBD thereafter
Exploration of UST Hold	Mid-May 2012
Excavation of Soils	June 2012
Groundwater Monitoring Well Installation	July 2012
Additional Soil Vapor Probe Installation	2013 (TBD), upon completion of construction
Soil Vapor Sampling (periodic)	2013 (TBD), upon completion of construction

## 7.0 References

- Alameda County Environmental Health Department (ACEHD), November 4, 2011. *Request for Pilot Test Workplan*
- ACEHD, November 23, 2011. *Conditional Approval of Pilot Test Workplan*
- ACEHD, April 16, 2012. *Corrective Action Plan*
- AEI Consultants (AEI), August 16, 2011. *Phase II Subsurface Investigation, 1600 to 1630 Park Street, Alameda, California*
- AEI, September 28, 2011. *Interim Corrective Action Plan, 1630 Park Street, Alameda, California*
- AEI, November 14, 2011. *ICAP Comment Letter Response and Pilot Test Workplan Details, 1630 Park Street, Alameda, California*
- AEI, February 3, 2012. *Corrective Action Plan, 1630 Park Street, Alameda, California*
- AEI, March 30, 2012. *Subsurface Investigation and Well Installation Report, 1630 Park Street, Alameda, California*
- AEI, April 25, 2012. *Response to April 16, 2012 Comments, 1630 Park Street, Alameda, California*
- GeoPlexus Incorporated, October 28, 1993. *Supplemental Site Characterization, Good Chevrolet 1630 Park Street, Alameda, CA*
- GeoPlexus Incorporated, April 30, 1997. *Phase II Remedial Investigation Report, Good Chevrolet 1630 Park Street, Alameda, CA*
- GeoPlexus Incorporated, December 18, 1998. *Preliminary Remedial Risk Assessment for Good Chevrolet 1630 Park Street, Alameda, CA*
- Groundwater Technology, Inc. April 29, 1987. *Report Subsurface investigation Good Chevrolet 1630 Park Street, Alameda, CA*
- Helley, E.J. and R.W. Graymer, 1997. *Quaternary Geology of Alameda County and Surrounding Areas, California: Derived from the Digital Database Open-File 97-97, 1997*
- Norfleet Consultants, 1998. *Groundwater Study and Water Supply History of the East Bay Plain, Alameda and Contra Costa Counties, California*. Prepared for the Friends of the San Francisco Estuary, P.O. Box 791, Oakland, California, and dated June 15, 1998.

## 8.0 Report Limitations

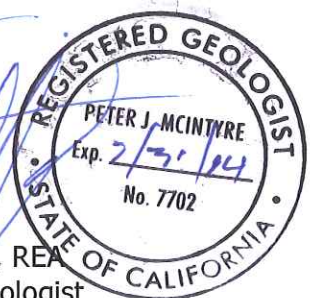
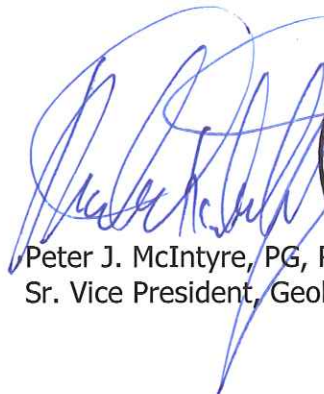
This report has been prepared by AEI Consultants relating to the property located at 1630 Park Street, in the City of Alameda, Alameda County, California. This report includes a summary of site conditions and relies heavily on information obtained from public records and other resources; AEI makes no warranty that the information summarized in this report includes consideration of all possible resources or information available for the site, whether referenced or not. 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. This document contains estimates of costs for various activities that could be implemented at the site. These estimates are based on reasonably expected costs for similar activities; however, AEI provides no guarantee implicit or explicit that costs will not be significantly higher or lower than those estimated. 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.

We welcome comments and questions from ACEHD staff. Please contact us (925) 746-6000.

Sincerely,  
**AEI Consultants**



Robert Robitaille  
Sr. Project Manager

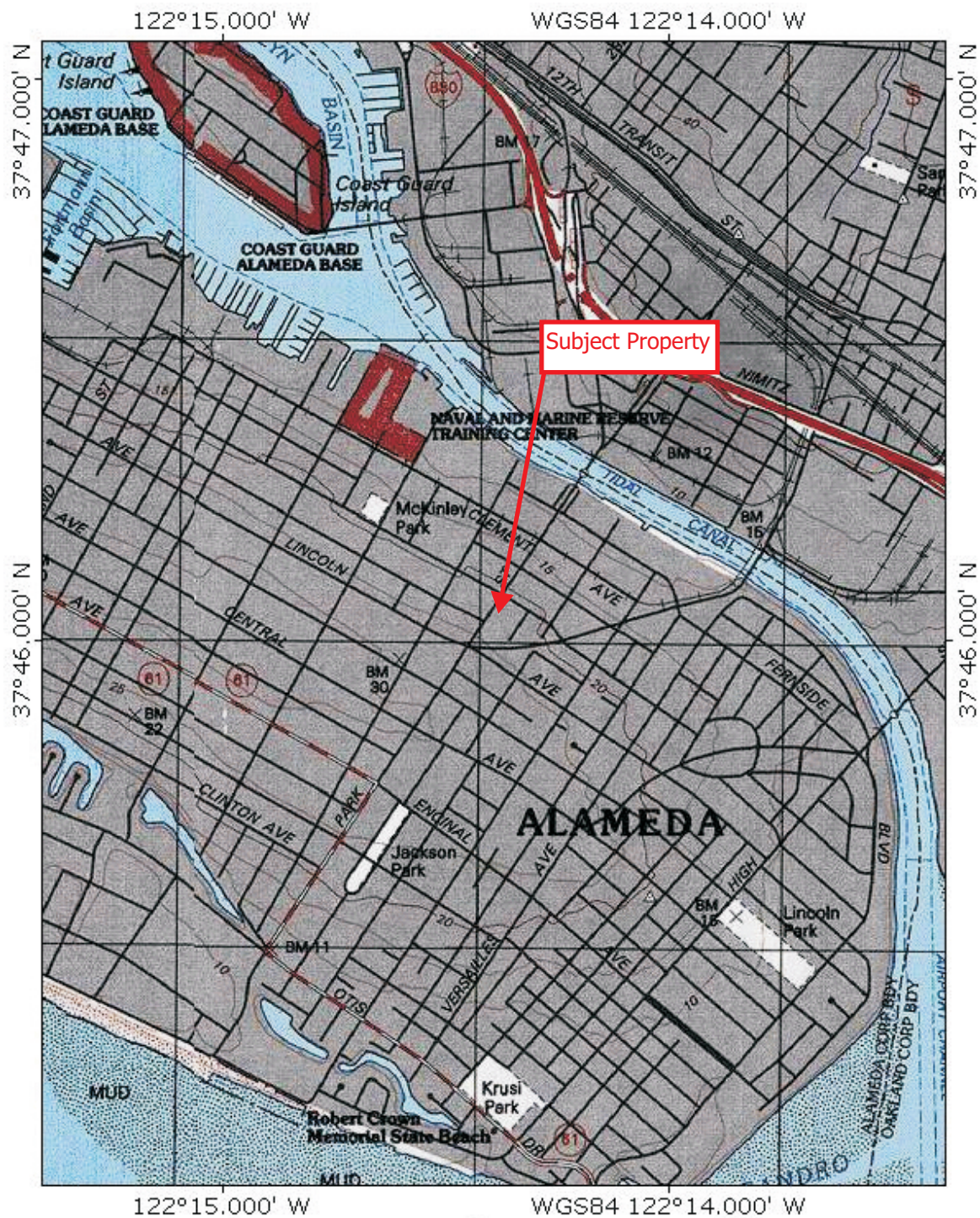


Peter J. McIntyre, PG, REA  
Sr. Vice President, Geologist

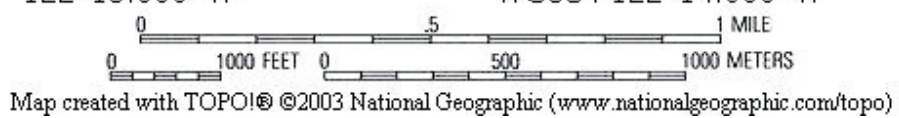
### **Distribution:**

John Buestad, Foley Street Investments  
Karel Detterman, Alameda County Environmental Health Department (FTP Upload)  
GeoTracker (Upload)

## FIGURES



TN MN  
15°



WELL



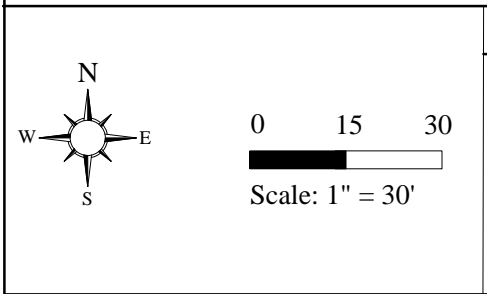
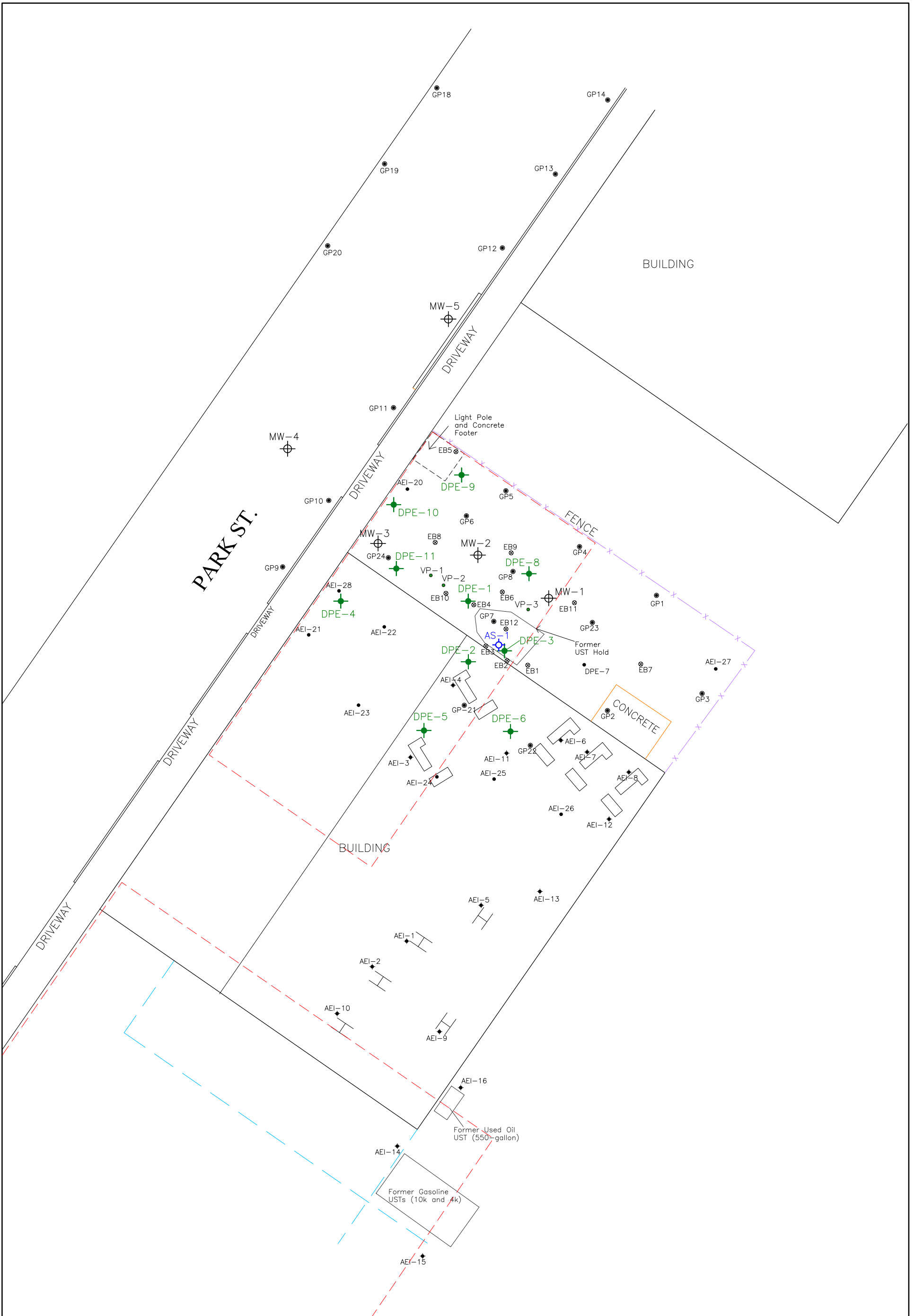
# SITE LOCATION MAP

1630 Park Street, Alameda, California

FIGURE 1

Project Number: 298931

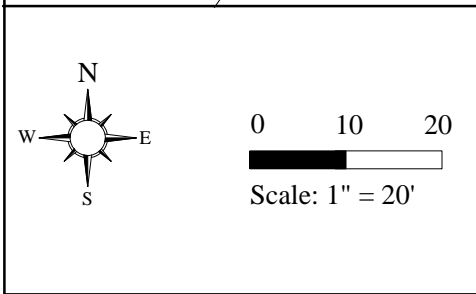
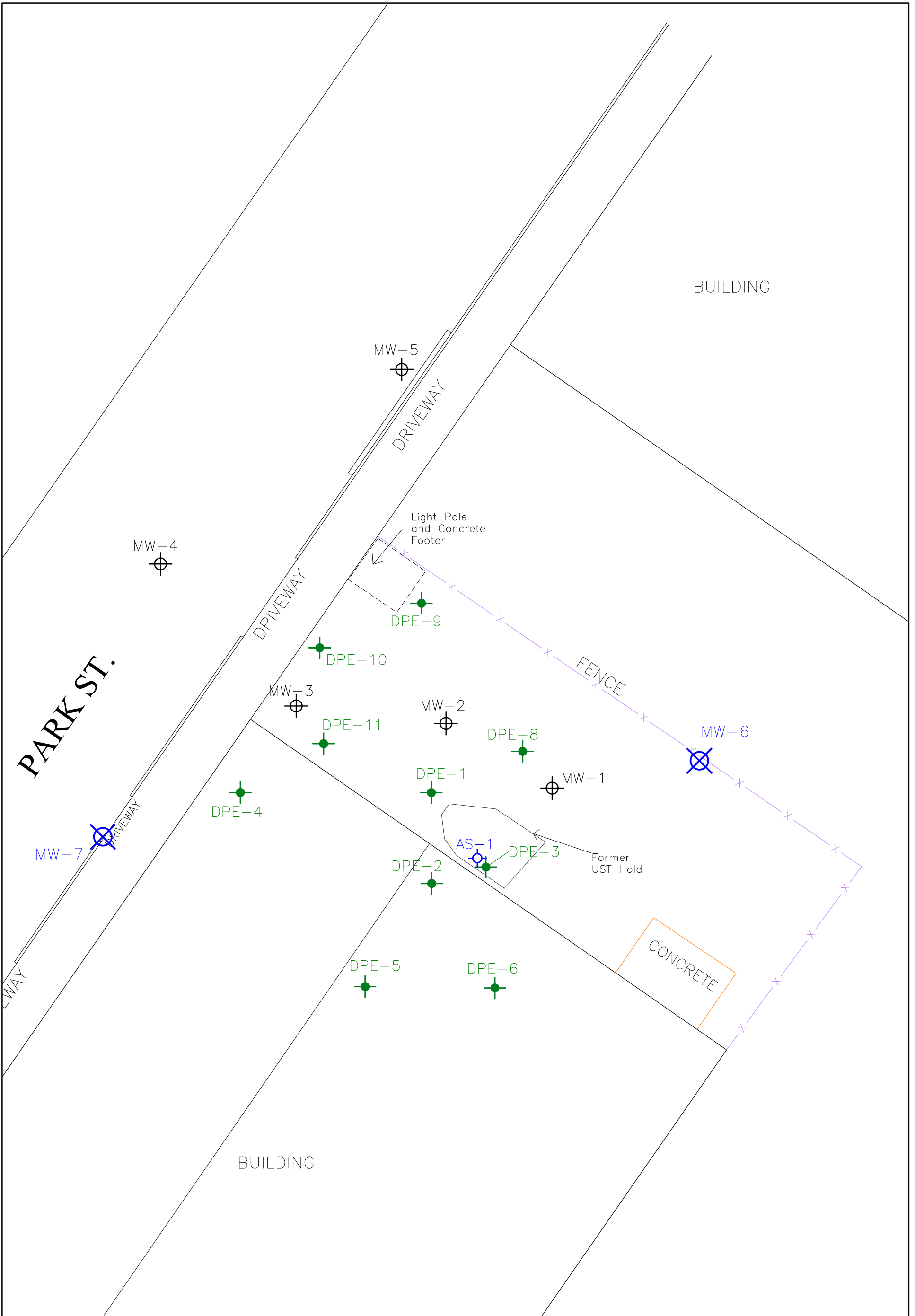




LEGEND	
	Remediation Well (12/11 and 1/12)
	AEI Soil Boring (1/12)
	Vapor Probe (12/11)
	AEI Soil Boring (7/11)
	Soil Boring (4/08)
	Soil Boring (1/97)
	Groundwater Monitoring Well
	Air Sparge Well
	Proposed Building Extents
	Existing Hydraulic Lift
	Former Hydraulic Lift

DRAFTED BY JAS 3-2-12  
 REVISED BY JAS 5-2-12

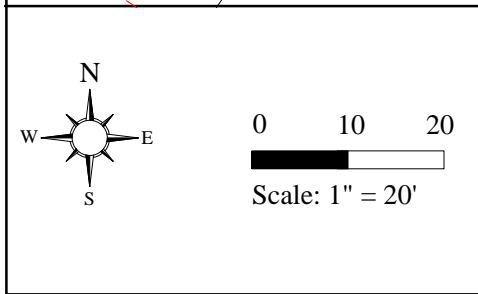
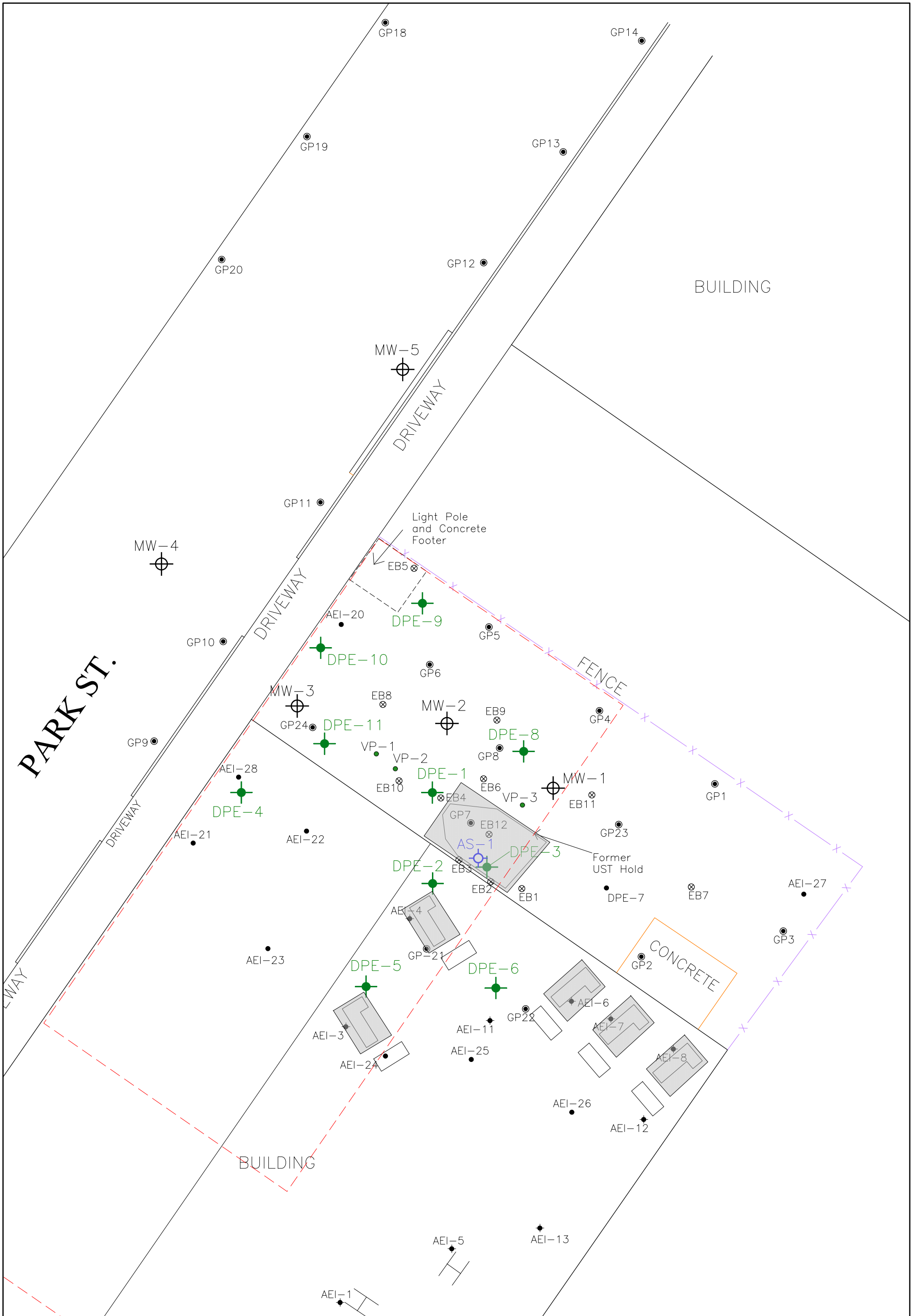
<b>AEI CONSULTANTS</b> 2500 CAMINO DIABLO, WALNUT CREEK	
<b>SITE PLAN</b>	
1630 PARK STREET ALAMEDA, CALIFORNIA	<b>FIGURE 2</b> PROJECT NO. 298931



LEGEND	
	Remediation Well (12/11 and 1/12)
	Groundwater Monitoring Well
	Air Sparge Well
	Proposed Monitoring Wells

DRAFTED BY JAS 3-2-12  
 REVISED BY JAS 3-15-12

<b>AEI CONSULTANTS</b> 2500 CAMINO DIABLO, WALNUT CREEK	
<b>PROPOSED GROUNDWATER MONITORING WELLS</b>	
1630 PARK STREET ALAMEDA, CALIFORNIA	<b>FIGURE 3</b> PROJECT NO. 298931



LEGEND	
	Remediation Well (12/11 and 1/12)
	AEI Soil Boring (1/12)
	Vapor Probe (12/11)
	AEI Soil Boring (7/11)
	Soil Boring (4/08)
	Soil Boring (1/97)
	Groundwater Monitoring Well
	Air Sparge Well
	Proposed Building Extents
	Former Hydraulic Lift
	Proposed Excavation Extents

DRAFTED BY JAS 3-2-12  
 REVISED BY JAS 5-4-12

<b>AEI CONSULTANTS</b> 2500 CAMINO DIABLO, WALNUT CREEK	
<b>PROPOSED EXCAVATION MAP</b>	
1630 PARK STREET ALAMEDA, CALIFORNIA	<b>FIGURE 4</b> PROJECT NO. 298931



## **TABLES**

**Table 1**  
**Soil Sample Analytical Data**  
**TPH, MBTEX and POG**  
 AEI Project No. 298931, 1630 Park Street, Alameda, California

Sample ID	Date Collected	Approx. Depth (feet)	TPH-g (mg/kg)	TPH-d* (mg/kg)	TPH-mo* (mg/kg)	MTBE (mg/kg) EPA Method SW8021B/8015B/m	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	POG (mg/kg) EPA Method SM5520E/F
MW-1-10	1/15/1987	10	24	-	-	-	2.9	3.6	-	1.8	-
MW-1-15	1/15/1987	15	<1.0	-	-	-	<0.1	<0.1	-	<0.1	-
MW-2-5	1/15/1987	5	<1.0	-	-	-	<0.1	<0.1	-	<0.1	-
MW-2-10	1/15/1987	10	350	-	-	-	14	22	-	23	-
MW-3-10	1/15/1987	10	200	-	-	-	9.8	16	-	16	-
MW-3-15	1/15/1987	15	<1.0	-	-	-	<0.1	<0.1	-	<0.1	-
SB-5-10	1/15/1987	10	6.5	-	-	-	<0.1	0.22	-	<0.1	-
EB1-S2	10/15/1993	8.5	510	-	-	-	0.89	10	5.8	41	-
EB1-S3	10/15/1993	11	2,300	-	-	-	22	190	57	280	-
EB2-S2	10/15/1993	10	15,000	-	-	-	84	710	260	1,400	-
EB2-S3	10/15/1993	11.5	200	-	-	-	4.3	15	3.9	20	-
EB3-S2	10/15/1993	10	2,200	-	-	-	9.4	71	42	200	-
EB3-S3	10/15/1993	12.5	610	-	-	-	1.2	3.2	4.5	2.9	-
EB4-S2	10/15/1993	8	4,900	-	-	-	32	230	84	440	-
EB4-S3	10/15/1993	10.5	7,600	-	-	-	60	390	130	630	-
EB5-S2	10/15/1993	9	1,800	-	-	-	<2.5	22	27	140	-
EB5-S3	10/15/1993	11.5	14	-	-	-	0.021	1.5	0.49	2.5	-
EB6-S2	10/15/1993	8.5	6,800	-	-	-	20	230	100	590	-
EB7-S2	10/15/1993	6.5	<50	-	-	-	<0.5	<0.5	<0.5	<0.5	-
EB7-S3	10/15/1993	8.5	1,000	-	-	-	3.8	45	21	110	-
MW4-S1	4/20/1994	4.5	<50	-	-	-	<0.5	<0.5	<0.5	0.013	-
MW4-S2	4/20/1994	9	9.7	-	-	-	1.1	0.82	0.42	1.3	-
MW4-S3	4/20/1994	14	<50	-	-	-	<0.5	0.008	<0.5	0.022	-
MW5-S1	4/20/1994	4.5	<50	-	-	-	<0.5	<0.5	<0.5	<0.5	-
MW5-S2	4/20/1994	9	1,100	-	-	-	12	43	20	93	-
MW5-S3	4/20/1994	14	1.1	-	-	-	0.033	0.17	0.044	0.22	-
EB8-S2	1/21/1997	9.5	2,000	-	-	<4	8.4	83	44	210	-
EB8-S3	1/21/1997	13.5	18	-	-	0.10	3.2	1.2	0.47	1.7	-
EB9-S1	1/21/1997	6.5	1.8	-	-	<5	0.071	0.052	0.026	0.074	-
EB9-S2	1/21/1997	9.5	1,300	-	-	<4	7.1	54	29	130	-
EB10-S1	1/21/1997	8.5	2,300	-	-	9.3	9.1	100	50	190	-

**Table 1**  
**Soil Sample Analytical Data**  
**TPH, MBTEX and POG**  
 AEI Project No. 298931, 1630 Park Street, Alameda, California

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EB11-S1	1/21/1997	9.5	3,800	-	-	<9	8.8	190	97	510	-
EB11-S2	1/21/1997	12	13	-	-	<0.1	1.1	1.6	0.47	1.4	-
EB12-S1	1/21/1997	9.5	300	-	-	<0.6	0.95	0.59	3.5	18	-
EB12-S2	1/21/1997	12	1,300	-	-	6.2	9.4	23	35	130	-
GP1-11.5	4/29/2008	11.5	130	-	-	<0.005	<0.10	0.29	<0.10	0.42	-
GP1-15	4/29/2008	15	<1.0	-	-	<0.005	<0.005	0.0081	0.0065	0.028	-
GP2-11	4/29/2008	11	120	-	-	<0.010	<0.050	0.87	0.43	1.2	-
GP2-13.5	4/29/2008	13.5	<1.0	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	-
GP3-6.75	4/29/2008	6.75	<1.0	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	-
GP3-11.5	4/29/2008	11.5	<1.0	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	-
GP4-11.5	4/29/2008	11.5	2.7	-	-	<0.005	0.14	0.052	0.072	0.17	-
GP4-14.5	4/29/2008	14.5	99	-	-	<0.020	0.48	1.4	1.0	4.5	-
GP5-11.5	4/29/2008	11.5	4.6	-	-	<0.005	0.12	0.078	0.14	0.48	-
GP5-19	4/29/2008	19	1.5	-	-	<0.005	<0.005	0.022	0.0069	0.032	-
GP6-11	4/29/2008	11	130	-	-	<0.10	0.11	1.0	1.1	5.4	-
GP7-8	4/30/2008	8	390	-	-	<0.050	0.84	2.2	4.3	18	-
GP7-19.5	4/30/2008	19.5	<1.0	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	-
GP8-8.5	5/1/2008	8.5	1,100	-	-	<0.050	<0.10	3.2	7.3	45	-
GP8-19.5	5/1/2008	19.5	5.8	-	-	<0.005	0.0091	0.067	0.048	0.21	-
GP9-7.5	5/1/2008	7.5	<1.0	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	-
GP9-11.25	5/1/2008	11.25	<1.0	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	-
GP10-7.5	4/30/2008	7.5	<1.0	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	-
GP10-19.5	4/30/2008	19.5	<1.0	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	-
GP11-6	4/30/2008	6	<1.0	-	-	<0.005	<0.005	0.011	0.0053	0.026	-
GP11-15.5	4/30/2008	15.5	2,100	-	-	<0.10	5.7	71	38	180	-
GP11-18	4/30/2008	18	87	-	-	<0.020	0.059	0.93	0.67	4.2	-
GP12-7.5	4/30/2008	7.5	<1.0	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	-
GP12-11	4/30/2008	11	4.7	-	-	<0.005	0.015	0.21	0.067	0.32	-
GP12-15.5	4/30/2008	15.5	<1.0	-	-	<0.005	<0.005	0.0071	0.0051	0.025	-
GP13-7.25	4/30/2008	7.25	<1.0	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	-
GP13-11	4/30/2008	11	<1.0	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	-
GP13-14	4/30/2008	14	<1.0	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	-
GP14-7.5	4/30/2008	7.5	<1.0	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	-

**Table 1**  
**Soil Sample Analytical Data**  
**TPH, MBTEX and POG**  
 AEI Project No. 298931, 1630 Park Street, Alameda, California

Sample ID	Date Collected	Approx. Depth (feet)	TPH-g (mg/kg)	TPH-d* (mg/kg)	TPH-mo* (mg/kg)	MTBE (mg/kg) EPA Method SW8021B/8015B/m	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	POG (mg/kg) EPA Method SM5520E/F
GP14-11	4/30/2008	11	<1.0	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	-
GP15-7.5	4/30/2008	7.5	<1.0	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	-
GP16-7.5	5/1/2008	7.5	<1.0	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	-
GP16-10.5	5/1/2008	10.5	<1.0	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	-
GP17-7.5	5/1/2008	7.5	<1.0	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	-
GP17-11.5	5/1/2008	11.5	<1.0	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	-
GP18-7.5	5/1/2008	7.5	<1.0	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	-
GP18-10	5/1/2008	10	<1.0	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	-
GP19-7	5/1/2008	7	<1.0	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	-
GP20-8	5/1/2008	8	<1.0	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	-
GP21-7.5	5/2/2008	7.5	2.1	-	-	<0.005	0.006	0.028	0.012	0.065	-
GP21-15.5	5/2/2008	15.5	<1.0	-	-	<0.005	0.0064	0.022	0.0057	0.027	-
GP21-19.5	5/2/2008	19.5	<1.0	-	-	<0.005	<0.005	0.0092	<0.005	0.023	-
GP22-10.5	5/2/2008	10.5	1,100	-	-	<0.20	0.67	13	15	70	-
GP22-15.5	5/2/2008	15.5	<1.0	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	-
GP23-7.5	5/2/2008	7.5	53	-	-	<0.005	<0.050	0.13	<0.050	0.37	-
GP23-11.5	5/2/2008	11.5	1.9	-	-	<0.005	0.062	0.041	0.043	0.18	-
GP23-16	5/2/2008	16	2	-	-	<0.005	<0.005	0.027	0.018	0.099	-
GP24-8.5	5/2/2008	8.5	3,600	-	-	<1.0	1.2	32	62	410	-
GP24-19.5	5/2/2008	19.5	<1.0	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	-
AEI-3-7'	7/25/2011	7	1,200	1,700	4,000	<10	2.6	25	10	48	-
AEI-3-15'	7/25/2011	15	<1.0	1.6	<5.0	<10	<0.005	<0.005	<0.005	<0.005	-
AEI-4-7'	7/25/2011	7	5,100	2,100	710	<50	6.2	83.0	54.0	280.0	-
AEI-4-15'	7/25/2011	15	1.2	1.3	<5.0	<0.05	0.029	0.071	0.031	0.17	-
AEI-6-7'	7/25/2011	7	470	10,000	24,000	<5.0	<0.50	<0.50	<0.50	<0.50	-
AEI-6-14'	7/25/2011	14	<1.0	1.4	<5.0	<5.0	<0.50	<0.50	<0.50	<0.50	-
AEI-7-7'	7/25/2011	7	100	6,300	14,000	-	-	-	-	-	-
AEI-7-13'	7/25/2011	13	<1.0	3.7	7.4	<5.0	<0.50	<0.50	<0.50	<0.50	-
AEI-8-7'	7/25/2011	7	<1.0	720	2,900	-	-	-	-	-	-
AEI-8-14'	7/25/2011	14	<1.0	<1.0	<5.0	<5.0	<0.50	<0.50	<0.50	<0.50	-
AEI-10-8'	7/26/2011	8	<1.0	1.2	<5.0	<5.0	<0.50	<0.50	<0.50	<0.50	-

**Table 1**  
**Soil Sample Analytical Data**  
**TPH, MBTEX and POG**  
 AEI Project No. 298931, 1630 Park Street, Alameda, California

Sample ID	Date Collected	Approx. Depth (feet)	TPH-g (mg/kg)	TPH-d* (mg/kg)	TPH-mo* (mg/kg)	MTBE (mg/kg) EPA Method SW8021B/8015B/m	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	POG (mg/kg) EPA Method SM5520E/F
AEI-11-3'	7/26/2011	3	<1.0	2.2	8.5	-	-	-	-	-	-
AEI-12-3'	7/26/2011	3	<1.0	2.6	<5.0	-	-	-	-	-	-
AEI-13-3'	7/26/2011	3	<1.0	4.2	<5.0	-	-	-	-	-	-
AEI-14-7'	7/26/2011	7	<1.0	-	-	<0.05	<0.005	<0.005	<0.005	<0.005	-
AEI-15-7'	7/26/2011	7	<1.0	-	-	<0.05	<0.005	<0.005	<0.005	<0.005	-
AEI-16-7'	7/26/2011	7	<1.0	1.4	<5.0	-	-	-	-	-	<50
AEI-17-8'	7/26/2011	8	<1.0	1.1	<5.0	<0.05	<0.005	<0.005	<0.005	<0.005	-
AEI-18-8'	7/26/2011	8	<1.0	<1.0	<5.0	<0.05	<0.005	<0.005	<0.005	<0.005	-
AEI-19-8'	7/26/2011	8	<1.0	<1.0	<5.0	<0.05	<0.005	<0.005	<0.005	<0.005	-
AEI-20-7.5'	1/17/2012	7.5	8.4	-	-	<0.05	0.0071	0.084	0.069	0.38	-
AEI-20-11'	1/17/2012	11	600	-	-	<0.50	0.89	2.9	10	39	-
AEI-20-15'	1/17/2012	15	3.3	-	-	<0.05	<0.005	0.028	<0.005	0.017	-
AEI-21-7'	1/17/2012	7	<1.0	-	-	<0.05	<0.005	<0.005	<0.005	<0.005	-
AEI-21-11'	1/17/2012	11	46	-	-	<0.05	0.020	0.42	0.27	0.60	-
AEI-21-14'	1/17/2012	14	<1.0	-	-	<0.05	<0.005	<0.005	<0.005	<0.005	-
AEI-22-9'	1/17/2012	9	3,100	-	-	<0.05	3.2	46	62	400	-
AEI-22-11'	1/17/2012	11	8.6	-	-	<0.10	0.71	0.77	0.31	1.3	-
AEI-22-14'	1/17/2012	14	3,300	-	-	<0.05	8.3	84	61	370	-
AEI-23-6'	1/17/2012	6	<1.0	<1.0	<5.0	<0.05	<0.005	<0.005	<0.005	<0.005	-
AEI-23-9.5'	1/17/2012	9.5	7.5	100	180	<0.05	<0.005	0.027	<0.005	0.0055	-
AEI-23-12.5'	1/17/2012	12.5	460	360	270	<5.0	<0.50	1.4	<0.50	0.80	-
AEI-24-7'	1/17/2012	7	<1.0	<1.0	<5.0	<0.05	<0.005	<0.005	<0.005	<0.005	-
AEI-24-10.5'	1/17/2012	10.5	<1.0	<1.0	<5.0	<0.05	<0.005	<0.005	<0.005	<0.005	-
AEI-24-13'	1/17/2012	13	<1.0	<1.0	<5.0	<0.05	<0.005	<0.005	<0.005	<0.005	-
AEI-25-7.5'	1/17/2012	7.5	<1.0	<1.0	<5.0	<0.05	<0.005	<0.005	<0.005	<0.005	-
AEI-25-10'	1/17/2012	10	<1.0	<1.0	<5.0	<0.05	<0.005	<0.005	<0.005	<0.005	-
AEI-25-14'	1/17/2012	14	<1.0	<1.0	<5.0	<0.05	<0.005	<0.005	<0.005	<0.005	-
AEI-26-7.5'	1/17/2012	7.5	<1.0	<1.0	<5.0	<0.05	<0.005	<0.005	<0.005	<0.005	-
AEI-26-10.5'	1/17/2012	10.5	<1.0	<1.0	<5.0	<0.05	<0.005	<0.005	<0.005	<0.005	-
AEI-26-14'	1/17/2012	14	<1.0	<1.0	<5.0	<0.05	<0.005	<0.005	<0.005	<0.005	-
AEI-27-3'	1/17/2012	3	<1.0	3.2	7.9	<0.05	<0.005	<0.005	<0.005	0.013	-

**Table 1**  
**Soil Sample Analytical Data**  
**TPH, MBTEX and POG**  
 AEI Project No. 298931, 1630 Park Street, Alameda, California

Sample ID	Date Collected	Approx. Depth (feet)	TPH-g (mg/kg)	TPH-d* (mg/kg)	TPH-mo* (mg/kg)	MTBE (mg/kg) EPA Method SW8021B/8015B/m	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	POG (mg/kg) EPA Method SM5520E/F
AEI-28-7'	1/17/2012	7	<1.0	<1.0	<5.0	<0.05	<0.005	<0.005	<0.005	<0.005	-
AEI-28-11'	1/17/2012	11	12,000	2,100	44	<10	21	210	210	1,000	-
AEI-28-13'	1/17/2012	13	7.8	2.0	<5.0	<0.05	0.050	0.29	0.31	1.4	-
DPE-1, 7-7.5'	11/15/2011	7	1,800	330	46	<50	9.7	64	29	150	-
DPE-2, 8-8.5'	11/15/2011	8	2,200	280	140	<15	7.6	57	34	170	-
DPE-3, 8-8.5'	11/14/2011	8	2,000	1,000	58	<50	6.7	48	47	240	-
DPE-5, 11'	1/20/2012	11	2,300	-	-	<10	15	99	33	140	-
DPE-5, 14'	1/20/2012	14	1.1	-	-	<0.05	<0.005	0.17	<0.005	0.016	-
DPE-6, 10'	1/20/2012	10	510	-	-	<1.0	<0.10	0.14	0.47	0.96	-
DPE-6, 14'	1/20/2012	14	<1.0	-	-	<0.05	<0.005	<0.005	<0.005	<0.005	-
DPE-7, 10'	1/19/2012	10	2,200	-	-	<5.0	<5.0	16	47	240	-
DPE-7, 14.5'	1/19/2012	14.5	610	-	-	<5.0	<5.0	3.9	9.5	55	-

mg/kg = milligrams per kilogram (equivalent to parts per million)  
 MDL = method detection limit      POG = petroleum oil and grease  
 TPH = total petroleum hydrocarbons      MTBE = methyl butyl tertiary ethyl  
 TPH-g = TPH as gasoline      "<" = less than  
 TPH-d = TPH as diesel      "\*" = with silica gel cleanup  
 TPH-mo = TPH as motor oil      "-" = not available

**Table 2**  
**Soil Sample Analytical Data**  
**VOCs, Fuel Oxygenates, SVOCs, and PCBs**  
 AEI Project No. 298931, 1630 Park Street, Alameda, California

Sample ID	Date Collected	Approx. Depth (feet)	1,4-Dioxane (mg/kg) EPA Method SW8260	All target VOCs (mg/kg) EPA Method SW8260	Fuel Oxygenates^ (mg/kg) EPA Method SW8260B	All target SVOCs (mg/kg) EPA Method 8270	All other target PCBs (mg/kg) EPA Method SW8082
GP1-11.5	4/29/2008	11.5	-	-	<MDL	-	-
GP1-15	4/29/2008	15	-	-	<MDL	-	-
GP2-11	4/29/2008	11	-	-	<MDL	-	-
GP2-13.5	4/29/2008	13.5	-	-	<MDL	-	-
GP3-6.75	4/29/2008	6.75	-	-	<MDL	-	-
GP3-11.5	4/29/2008	11.5	-	-	<MDL	-	-
GP4-11.5	4/29/2008	11.5	-	-	<MDL	-	-
GP4-14.5	4/29/2008	14.5	-	-	<MDL	-	-
GP5-11.5	4/29/2008	11.5	-	-	<MDL	-	-
GP5-19	4/29/2008	19	-	-	<MDL	-	-
GP6-11	4/29/2008	11	-	-	<MDL	-	-
GP7-8	4/30/2008	8	-	-	<MDL	-	-
GP7-19.5	4/30/2008	19.5	-	-	<MDL	-	-
GP8-8.5	5/1/2008	8.5	-	-	<MDL	-	-
GP8-19.5	5/1/2008	19.5	-	-	<MDL	-	-
GP9-7.5	5/1/2008	7.5	-	-	<MDL	-	-
GP9-11.25	5/1/2008	11.25	-	-	<MDL	-	-
GP10-7.5	4/30/2008	7.5	-	-	<MDL	-	-
GP10-19.5	4/30/2008	19.5	-	-	<MDL	-	-
GP11-6	4/30/2008	6	-	-	<MDL	-	-
GP11-15.5	4/30/2008	15.5	-	-	<MDL	-	-
GP11-18	4/30/2008	18	-	-	<MDL	-	-
GP12-7.5	4/30/2008	7.5	-	-	<MDL	-	-
GP12-11	4/30/2008	11	-	-	<MDL	-	-
GP12-15.5	4/30/2008	15.5	-	-	<MDL	-	-
GP13-7.25	4/30/2008	7.25	-	-	<MDL	-	-
GP13-11	4/30/2008	11	-	-	<MDL	-	-
GP13-14	4/30/2008	14	-	-	<MDL	-	-
GP14-7.5	4/30/2008	7.5	-	-	<MDL	-	-
GP14-11	4/30/2008	11	-	-	<MDL	-	-
GP15-7.5	4/30/2008	7.5	-	-	<MDL	-	-
GP16-7.5	5/1/2008	7.5	-	-	<MDL	-	-
GP16-10.5	5/1/2008	10.5	-	-	<MDL	-	-
GP17-7.5	5/1/2008	7.5	-	-	<MDL	-	-
GP17-11.5	5/1/2008	11.5	-	-	<MDL	-	-

**Table 2**  
**Soil Sample Analytical Data**  
**VOCs, Fuel Oxygenates, SVOCs, and PCBs**  
 AEI Project No. 298931, 1630 Park Street, Alameda, California

Sample ID	Date Collected	Approx. Depth (feet)	1,4-Dioxane (mg/kg) EPA Method SW8260	All target VOCs (mg/kg) EPA Method SW8260	Fuel Oxygenates^ (mg/kg) EPA Method SW8260B	All target SVOCs (mg/kg) EPA Method 8270	All other target PCBs (mg/kg) EPA Method SW8082
GP18-7.5	5/1/2008	7.5	-	-	<MDL	-	-
GP18-10	5/1/2008	10	-	-	<MDL	-	-
GP19-7	5/1/2008	7	-	-	<MDL	-	-
GP20-8	5/1/2008	8	-	-	<MDL	-	-
GP21-7.5	5/2/2008	7.5	-	-	<MDL	-	-
GP21-15.5	5/2/2008	15.5	-	-	<MDL	-	-
GP21-19.5	5/2/2008	19.5	-	-	<MDL	-	-
GP22-10.5	5/2/2008	10.5	-	-	<MDL	-	-
GP22-15.5	5/2/2008	15.5	-	-	<MDL	-	-
GP23-7.5	5/2/2008	7.5	-	-	<MDL	-	-
GP23-11.5	5/2/2008	11.5	-	-	<MDL	-	-
GP23-16	5/2/2008	16	-	-	<MDL	-	-
GP24-8.5	5/2/2008	8.5	-	-	<MDL	-	-
GP24-19.5	5/2/2008	19.5	-	-	<MDL	-	-
AEI-3-10'	7/25/2011	10	-	-	-	-	<1.0
AEI-4-10'	7/25/2011	10	-	-	-	-	<0.25
AEI-6-10'	7/25/2011	10	-	-	-	-	<0.05
AEI-7-11'	7/25/2011	11	-	-	-	-	<0.50
AEI-8-11'	7/25/2011	11	-	-	-	-	<0.05
AEI-11-3'	7/26/2011	3	-	<MDL	-	-	-
AEI-12-3'	7/26/2011	3	-	<MDL	-	-	-
AEI-13-3'	7/26/2011	3	-	<MDL	-	-	-
AEI-14-7'	7/26/2011	7	-	-	<MDL	-	-
AEI-15-7'	7/26/2011	7	-	-	<MDL	-	-
AEI-16-7'	7/26/2011	7	<0.02	<MDL	<MDL	<MDL	<0.05
AEI-27-3'	1/17/2012	3	-	<MDL	-	-	-

mg/kg = milligrams per kilogram (equivalent to parts per million)

MDL = method detection limit

VOCs = volatile organic compounds

SVOCs = semi-volatile organic compounds

PCBs = polychlorinated biphenyls

"<" = less than

"-" = not available

"^" = fuel oxygenates tert-amyl methyl ether (TAME), t-butyl alcohol (TBA),

1,2-dibromomethane (EDB), 1,2-dichloroethane (1,2-DCA), diisopropyl ether (DIPE), methanol, ethanol, ethyl tert-butyl ether (ETBE), methyl tert-butyl ether (MTBE), and 1,2-Dichloroethane (EDC)



**Table 3**  
**Soil Sample Analytical Data**  
**Metals**

AEI Project No. 298931, 1630 Park Street, Alameda, California

Sample ID	Date Collected	Approx. Depth (feet)	Cd mg/kg	Cr (total)* mg/kg	Pb mg/kg EPA Method SW6010B	Ni mg/kg	Zn mg/kg
AEI-11-3'	7/26/2011	3	<1.5	60	<5.0	24	16
AEI-12-3'	7/26/2011	3	<1.5	31	<5.0	15	10
AEI-13-3'	7/26/2011	3	<1.5	29	<5.0	14	9.7
AEI-14-7'	7/26/2011	7	-	-	<5.0	-	-
AEI-15-7'	7/26/2011	7	-	-	<5.0	-	-
AEI-16-7'	7/26/2011	7	<1.5	54	<5.0	48	27
AEI-17-8'	7/26/2011	8	-	-	<5.0	-	-
AEI-18-8'	7/26/2011	8	-	-	<5.0	-	-
AEI-19-8'	7/26/2011	8	-	-	<5.0	-	-
*AEI-27-3'	1/17/2012	3	<0.25	38	140	17	140

**Notes:**

mg/kg = milligrams per kilogram

"-" = not available

Cd = Cadmium

Cr = Chromium

Pb = Lead

Ni = Nickel

Zn = Zinc

\*AEI-27-3' = Antimony - 1.2 mg/kg, Arsenic - 4.0 mg/kg, Barium - 130 mg/kg, Cobalt - 3.7 mg/kg, Copper - 18 mg/kg, Mercury - 0.32 mg/kg and Vanadium - 28 mg/kg by CAM 17 EPA Method SW3050B.

Table 4

Groundwater Analytical Data - Grab Samples  
 TPH, MBTEX and TRPH  
 AEI Project No. 298931, 1630 Park Street, Alameda, California

Sample ID	Date Collected	TPH-g (µg/L)	TPH-d* (µg/L)	TPH-mo* (µg/L)	MTBE (µg/L) EPA Method SW8021B/8015Bm	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	TRPH (µg/L) EPA Method E418.1
HP-1	4/23/1993	<50	-	-	-	<0.5	<0.5	<0.5	<0.5	-
HP-2	4/23/1993	<50	-	-	-	<0.5	<0.5	<0.5	<0.5	-
EB3-WSIA	10/15/1993	120,000	-	-	-	9,600	20,000	3,400	14,000	-
EB5-WSIA	10/15/1993	83,000	-	-	-	3,900	15,000	3,100	13,000	-
EB8-WS1	1/21/1997	25,000	-	-	<80	2,600	3,200	780	3,600	-
EB10-WS1	1/21/1997	81,000	-	-	<370	13,000	12,000	3,300	8,000	-
EB11-WS1	1/21/1997	49,000	-	-	<180	6,900	6,000	2,100	4,600	-
EB12-WS1	1/21/1997	38,000	-	-	110	1,400	1,400	1,800	7,400	-
P1-WS1	1/21/1997	74,000	-	-	<78	1,100	5,800	3,800	18,000	-
P2-WS1	1/21/1997	6,800	-	-	<10	2,200	290	310	560	-
P3-WS1	1/21/1997	220	-	-	<5.0	1.9	17	10	49	-
GP1W	4/29/2008	70,000	-	-	<500	6,800	6,600	2,300	12,000	-
GP2W	4/29/2008	910	-	-	<5.0	0.69	2.9	30	64	-
GP3W	4/29/2008	<50	-	-	<5.0	<0.5	<0.5	<0.5	<0.5	-
GP4W	4/29/2008	46,000	-	-	<500	570	3,200	1,500	7,500	-
GP5W	4/29/2008	12,000	-	-	<60	140	480	270	1,100	-
GP6W	4/29/2008	22,000	-	-	<170	920	1,600	900	3,500	-
GP7W	4/30/2008	22,000	-	-	<180	2,600	320	810	2,600	-
GP8W	5/1/2008	140,000	-	-	<650	9,000	20,000	4,300	21,000	-
GP9W	5/1/2008	550	-	-	<5.0	53	0.52	2.1	25	-
GP10W	4/30/2008	11,000	-	-	<100	1,900	490	480	770	-

**Table 4**

**Groundwater Analytical Data - Grab Samples  
TPH, MBTEX and TRPH  
AEI Project No. 298931, 1630 Park Street, Alameda, California**

Sample ID	Date Collected	TPH-g (µg/L)	TPH-d* (µg/L)	TPH-mo* (µg/L)	MTBE (µg/L) EPA Method SW8021B/8015Bm	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	TRPH (µg/L) EPA Method E418.1
GP11W	4/30/2008	42,000	-	-	<452	1,900	4,200	1,700	7,600	-
GP12W	4/30/2008	61,000	-	-	<500	4,500	11,000	1,700	7,700	-
GP13W	4/30/2008	6,200	-	-	<10	220	53	150	440	-
GP14W	4/30/2008	300	-	-	<5.0	46	1.9	19	11	-
GP15W	4/30/2008	<50	-	-	<5.0	<0.5	0.69	<0.5	1.1	-
GP16W	5/1/2008	<50	-	-	<5.0	<0.5	<0.5	<0.5	<0.5	-
GP17W	5/1/2008	<50	-	-	<5.0	<0.5	1.7	<0.5	2	-
GP18W	5/1/2008	<50	-	-	<5.0	<0.5	2.1	0.79	4	-
GP19W	5/1/2008	85	-	-	<5.0	<0.5	0.80	<0.5	<0.5	-
GP20W	5/1/2008	<50	-	-	<5.0	<0.5	<0.5	<0.5	<0.5	-
GP21W	5/2/2008	9,400	-	-	<50	560	1,400	260	1,300	-
GP22W	5/2/2008	3,900	-	-	<25	36	160	120	610	-
GP23W	5/2/2008	16,000	-	-	<90	830	1,900	540	2,600	-
GP24W	5/2/2008	110,000	-	-	<450	6,500	4,200	3,100	13,000	-
AEI-1-W	7/25/2011	<50	<50	<250	-	-	-	-	-	-
AEI-2-W	7/25/2011	<50	<50	<250	-	-	-	-	-	-
AEI-3-W	7/25/2011	11,000	12,000	29,000	<50	1,100	1,900	210	860	-
AEI-4-W	7/25/2011	200,000	25,000	19,000	<500	21,000	30,000	3,600	16,000	-
AEI-5-W	7/25/2011	<50	<50	<250	-	-	-	-	-	-
AEI-6-W	7/25/2011	18,000	120,000	300,000	<50	<5.0	7.7	<5.0	28	-
AEI-7-W	7/25/2011	280	11,000	28,000	-	-	-	-	-	-

Table 4

**Groundwater Analytical Data - Grab Samples  
TPH, MBTEX and TRPH  
AEI Project No. 298931, 1630 Park Street, Alameda, California**

Sample ID	Date Collected	TPH-g (µg/L)	TPH-d* (µg/L)	TPH-mo* (µg/L)	MTBE (µg/L) EPA Method SW8021B/8015Bm	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	TRPH (µg/L) EPA Method E418.1
AEI-8-W	7/25/2011	<50	1,600	3,800	-	-	-	-	-	-
AEI-9-W	7/25/2011	<50	<50	<250	-	-	-	-	-	-
AEI-10-W	7/26/2011	<50	<50	400	-	-	-	-	-	-
AEI-14-W	7/26/2011	<50	-	-	<5.0	<0.5	<0.5	<0.5	<0.5	-
AEI-15-W	7/26/2011	<50	-	-	<5.0	<0.5	<0.5	<0.5	<0.5	-
AEI-16-W	7/26/2011	<50	<50	<250	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0
AEI-17-W	7/26/2011	<50	89	590	<5.0	<0.5	<0.5	<0.5	<0.5	-
AEI-18-W	7/26/2011	<50	<100	<500	<5.0	<0.5	<0.5	<0.5	<0.5	-
AEI-19-W	7/26/2011	<50	<100	<500	<5.0	<0.5	<0.5	<0.5	<0.5	-
AEI-20	1/17/2012	130,000	-	-	<500	1,200	2,200	4,400	20,000	
AEI-21	1/17/2012	110,000	-	-	<500	160	520	1,200	3,300	
AEI-22	1/17/2012	61,000	-	-	<500	790	4,400	1,500	7,200	
AEI-23	1/17/2012	9,000	8,400	1,500	<50	<5.0	16	12	<5.0	
AEI-24	1/17/2012	<50	<50	<250	<0.5	<0.5	<0.5	<0.5	<0.5	
AEI-25	1/17/2012	<50	<50	<250	<0.5	<0.5	<0.5	<0.5	<0.5	
AEI-26	1/17/2012	<50	<50	<250	<0.5	<0.5	<0.5	<0.5	<0.5	
AEI-27	1/17/2012	<50	<100	<500	<5.0	<0.5	<0.5	<0.5	<0.5	
AEI-28	1/17/2012	16,000	4,500	<250	<100	160	690	540	2,500	

µg/L = micrograms per liter  
 TPH = total petroleum hydrocarbons  
 TPH-g = TPH as gasoline  
 TPH-d = TPH as diesel

"<" = less than  
 MDL = method detection limit  
 TRPH = total recoverable petroleum hydrocarbons  
 MTBE and BTEX analysis for AEI-16-W performed by EPA Method SW8260B

**Table 4**

**Groundwater Analytical Data - Grab Samples  
TPH, MBTEX and TRPH**

AEI Project No. 298931, 1630 Park Street, Alameda, California

Sample ID	Date Collected	TPH-g (µg/L)	TPH-d* (µg/L)	TPH-mo* (µg/L)	MTBE (µg/L) EPA Method SW8021B/8015Bm	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	TRPH (µg/L) EPA Method E418.1
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TPH-mo = TPH as motor oil  
MTBE = methyl tertiary butyl ether  
"\*" = with silica gel cleanup  
"-" = not available

**Table 5**  
**Groundwater Analytical Data - Grab Samples**  
**VOCs, Fuel Oxygenates, SVOCs, and PCBs**  
 AEI Project No. 298931, 1630 Park Street, Alameda, California

Sample ID	Date Collected	1,4-Dioxane (µg/L)	TBA (µg/L)	EDB (µg/L)	EDC (µg/L) EPA Method SW8260B	MTBE (µg/L)	Fuel Oxygenates^ (µg/L)	All Target VOCs (µg/L)	All Target SVOCs (µg/L) EPA Method 8270	All Target PCBs (µg/L) EPA Method SW8082
GP1W	4/29/2008	-	<20	<5.0	<5.0	<5.0	<MDL	-	-	-
GP2W	4/29/2008	-	<2.0	<0.5	<0.5	<0.5	<MDL	-	-	-
GP3W	4/29/2008	-	<2.0	<0.5	<0.5	<0.5	<MDL	-	-	-
GP4W	4/29/2008	-	<20	<5.0	<5.0	<5.0	<MDL	-	-	-
GP5W	4/29/2008	-	<2.0	<0.5	<0.5	<0.5	<MDL	-	-	-
GP6W	4/29/2008	-	24	<5.0	<5.0	<5.0	<MDL	-	-	-
GP7W	4/30/2008	-	<20	<5.0	<5.0	<5.0	<MDL	-	-	-
GP8W	5/1/2008	-	<20	<5.0	<5.0	<5.0	<MDL	-	-	-
GP9W	5/1/2008	-	7.7	<0.5	1.1	1.2	<MDL	-	-	-
GP10W	4/30/2008	-	<20	<5.0	<5.0	<5.0	<MDL	-	-	-
GP11W	4/30/2008	-	<20	<5.0	<5.0	<5.0	<MDL	-	-	-
GP12W	4/30/2008	-	<20	<5.0	<5.0	<5.0	<MDL	-	-	-
GP13W	4/30/2008	-	8.9	<0.5	<0.5	<0.5	<MDL	-	-	-
GP14W	4/30/2008	-	<2.0	<0.5	<0.5	<0.5	<MDL	-	-	-
GP15W	4/30/2008	-	<2.0	<0.5	<0.5	<0.5	<MDL	-	-	-
GP16W	5/1/2008	-	<2.0	<0.5	<0.5	<0.5	<MDL	-	-	-
GP17W	5/1/2008	-	<2.0	<0.5	<0.5	<0.5	<MDL	-	-	-
GP18W	5/1/2008	-	<2.0	<0.5	<0.5	<0.5	<MDL	-	-	-
GP19W	5/1/2008	-	<2.0	<0.5	<0.5	<0.5	<MDL	-	-	-
GP20W	5/1/2008	-	<2.0	<0.5	<0.5	<0.5	<MDL	-	-	-

**Table 5**  
**Groundwater Analytical Data - Grab Samples**  
**VOCs, Fuel Oxygenates, SVOCs, and PCBs**  
 AEI Project No. 298931, 1630 Park Street, Alameda, California

Sample ID	Date Collected	1,4-Dioxane (µg/L)	TBA (µg/L)	EDB (µg/L)	EDC (µg/L) EPA Method SW8260B	MTBE (µg/L)	Fuel Oxygenates^ (µg/L)	All Target VOCs (µg/L)	All Target SVOCs (µg/L) EPA Method 8270	All Target PCBs (µg/L) EPA Method SW8082
GP21W	5/2/2008	-	<2.0	0.65	<0.5	<0.5	<MDL	-	-	-
GP22W	5/2/2008	-	<2.0	<0.5	<0.5	<0.5	<MDL	-	-	-
GP23W	5/2/2008	-	<20	<5.0	<5.0	<5.0	<MDL	-	-	-
GP24W	5/2/2008	-	75	<5.0	<5.0	<5.0	<MDL	-	-	-
AEI-14-W	7/26/2011	-	<2.0	<0.5	<0.5	<0.5	<MDL	-	-	-
AEI-15-W	7/26/2011	-	<2.0	<0.5	<0.5	<0.5	<MDL	-	-	-
AEI-16-W	7/26/2011	<2.0	<2.0	<0.5	<0.5	<0.5	<MDL	<MDL	<MDL	<0.5
AEI-27	1/17/2012	-	-	-	-	-	-	<MDL	-	-

mg/kg = milligrams per kilogram (equivalent to parts per million)

MDL = method detection limit

VOCs = volatile organic compounds

SVOCs = semi-volatile organic compounds

PCBs = polychlorinated biphenyls

TBA = t-butyl alcohol

EDB = 1,2-dibromomethane

EDC = 1,2-dichloroethane

MTBE = methyl tert-butyl ether

"-" = not available

"<" = less than

"^" = fuel oxygenates tert-amyl methyl ether (TAME),  
 1,2-dichloroethane (1,2-DCA), diisopropyl ether (DIPE), methanol,  
 ethanol, and ethyl tert-butyl ether (ETBE)

**Table 6**  
**Grab Groundwater Sample Analytical Data**  
**Metals**

AEI Project No. 298931, 1630 Park Street, Alameda, California

Sample ID	Date Collected	Cd µg/L	Cr (total) µg/L	Pb µg/L EPA Method E200.8	Ni µg/L	Zn µg/L
AEI-14-W*	7/26/2011	-	-	21	-	-
AEI-15-W*	7/26/2011	-	-	66	-	-
AEI-16-W**	7/26/2011	<0.25	<0.5	<0.5	8.7	<5.0

**Notes:**

µg/L = micrograms per liter

"\*" = total

"\*\*" = dissolved

Cd = Cadmium

Cr = Chromium

Pb =Lead

Ni = Nickel

Zn = Zinc



**Table 7**  
**Groundwater Analytical Data- Monitoring Wells**  
 AEI Project No. 298931, 1600-1630 Park Street, Alameda, CA

Sample ID	Date	TPH-g (µg/L)	Benzene Toluene Ethylbenzene Xylenes EPA Methods 8020, 8021B, or 8260B				MTBE (µg/L)	MTBE (µg/L)	TAME (µg/L)	TBA (µg/L)	EDB (µg/L)	1,2-DCA DIPE Ethanol ETBE EPA Method 8260B				Methanol (µg/L)	Lead (µg/L)
			(µg/L)	(µg/L)	(µg/L)	(µg/L)						(µg/L)	(µg/L)	(µg/L)	(µg/L)		
MW-1	1/21/1987	21,020	1,148	8,627	1,792	6,012	-	-	-	-	-	-	-	-	-	-	-
	1/11/1989	1,400	74	10	13	5	-	-	-	-	-	-	-	-	-	-	-
	7/12/1989	1,200	470	49	45	33	-	-	-	-	-	-	-	-	-	-	-
	4/9/1991	850	260	10	15	12	-	-	-	-	-	-	-	-	-	-	-
	7/14/1992	13,000	2,300	1,200	1,200	1,200	-	-	-	-	-	-	-	-	-	-	-
	10/7/1992	3,600	1,600	80	120	120	-	-	-	-	-	-	-	-	-	-	-
	1/11/1993	1,200	410	16	23	19	-	-	-	-	-	-	-	-	-	-	-
	4/23/1993	2,200	a 720	180	82	150	-	-	-	-	-	-	-	-	-	-	-
	7/8/1993	3,200	a 1,200	110	97	100	-	-	-	-	-	-	-	-	-	-	-
	10/15/1993	3,700	a 1,400	43	94	36	-	-	-	-	-	-	-	-	-	-	-
	1/25/1994	1,600	a 680	16	41	35	-	-	-	-	-	-	-	-	-	-	-
	4/28/1994	6,100	a 1,900	380	250	340	-	-	-	-	-	-	-	-	-	-	-
	7/27/1994	6,000	a 1,800	510	220	450	-	-	-	-	-	-	-	-	-	-	-
	10/27/1994	3,000	a 1,100	79	82	87	-	-	-	-	-	-	-	-	-	-	-
	1/26/1995	1,600	a 660	100	82	87	-	-	-	-	-	-	-	-	-	-	-
	4/13/1995	3,800	a 1,200	270	120	260	-	-	-	-	-	-	-	-	-	-	-
	7/21/1995	5,200	a 1,500	450	190	400	-	-	-	-	-	-	-	-	-	-	-
	10/25/1995	5,900	a 1,800	450	210	400	-	-	-	-	-	-	-	-	-	-	-
	1/21/1997	3,100	a 1,100	87	160	180	<7.3	-	-	-	-	-	-	-	-	-	-
	11/12/1998	1,000	a 280	3	3.3	7.9	<30	-	-	-	-	-	-	-	-	-	-
	1/16/2001	4,700	a 1,20	18	150	49	-	<5	<5.0	<25	<5.0	<5.0	<5.0	-	<5.0	-	-
	6/27/2002	5,900	a 230	7.7	<5	1,500	-	<5	<5.0	<50	<5.0	<5.0	<5.0	-	<5.0	-	-
	11/18/2002	3,100	a 890	12	310	28	-	<2.5	-	-	<2.5	<2.5	-	-	-	-	-
	2/20/2003	260	d 100	0.72	<0.5	<0.5	-	<0.5	-	-	<0.5	<0.5	-	-	-	-	-
	6/11/2003	3,100	a 480	6.7	220	420	-	<2.5	-	-	<2.5	<2.5	-	-	-	-	-
	4/3/2008	2,700	a 280	21	130	230	<25	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0	<100	<1.0	<1,000	<0.5
6/23/2011	610	a 100	6.2	46	77	-	<2.5	<2.5	<10	-	-	<2.5	-	<2.5	-	-	
12/6/2011	900	a 160	<5.0	68	76	-	<5.0	<5.0	<20	-	-	<5.0	-	<5.0	-	-	
1/24/2012	190	a 25	<1.0	1.4	4.6	<1.0	-	-	-	-	-	-	-	-	-	-	
MW-2	1/21/1987	5,018	386	1,981	285	1,432	-	-	-	-	-	-	-	-	-	-	
	1/11/1989	10,000	3,000	410	240	190	-	-	-	-	-	-	-	-	-	-	
	7/12/1989	7,600	2,700	540	250	320	-	-	-	-	-	-	-	-	-	-	
	4/9/1991	4,900	910	210	130	200	-	-	-	-	-	-	-	-	-	-	
	7/14/1992	13,000	4,400	1,500	610	1,100	-	-	-	-	-	-	-	-	-	-	
	10/7/1992	11,000	5,200	1,500	500	1,200	-	-	-	-	-	-	-	-	-	-	
	1/11/1993	17,000	940	1,100	480	930	-	-	-	-	-	-	-	-	-	-	
	4/23/1993	52,000	a 13,000	8,400	1,700	5,300	-	-	-	-	-	-	-	-	-	-	
	7/8/1993	6,400	a 2,500	470	280	530	-	-	-	-	-	-	-	-	-	-	
	10/15/1993	17,000	a 3,900	870	500	940	-	-	-	-	-	-	-	-	-	-	
	1/25/1994	16,000	a 5,400	1,140	640	1,500	-	-	-	-	-	-	-	-	-	-	
	4/28/1994	15,000	a 4,00	910	480	1,200	-	-	-	-	-	-	-	-	-	-	
	7/27/1994	18,000	a 6,000	760	630	1,600	-	-	-	-	-	-	-	-	-	-	

**Table 7**  
**Groundwater Analytical Data- Monitoring Wells**  
 AEI Project No. 298931, 1600-1630 Park Street, Alameda, CA

Sample ID	Date	TPH-g (µg/L)		Benzene Toluene Ethylbenzene Xylenes				MTBE (µg/L)	MTBE (µg/L)	TAME (µg/L)	TBA (µg/L)	EDB (µg/L)	1,2-DCA DIPE Ethanol ETBE				Methanol (µg/L)	Lead (µg/L)
				EPA Methods 8020, 8021B, or 8260B									EPA Method 8260B					
				(µg/L)	(µg/L)	(µg/L)	(µg/L)					(µg/L)	(µg/L)	(µg/L)	(µg/L)			
MW-3	10/27/1994	9,500	a	2,700	230	320	640	-	-	-	-	-	-	-	-	-	-	
	1/26/1995	5,900	a	1,900	290	230	500	-	-	-	-	-	-	-	-	-	-	
	4/13/1995	10,000	a	3,300	620	360	930	-	-	-	-	-	-	-	-	-	-	
	7/21/1995	9,900	a	3,300	320	390	830	-	-	-	-	-	-	-	-	-	-	
	10/25/1995	13,000	a	4,900	400	580	990	-	-	-	-	-	-	-	-	-	-	
	1/21/1997	7,600	a	2,600	310	330	660	<20	-	-	-	-	-	-	-	-	-	
	11/12/1998	31,000	a	11,000	750	1,500	2,300	<900	-	-	-	-	-	-	-	-	-	
	1/16/2001	23,000	a	8,200	260	1,000	820	<30	-	<30	<150	<30	<30	<30	-	<30	-	
	6/27/2002	39,000	a	7,000	1,800	690	4,000	-	<5	<5.0	<5.0	<5.0	6.1	<5.0	-	<5.0	-	
	11/18/2002	15,000	a	5,700	76	1,000	150	-	<12	-	-	<12	<12	-	-	-	-	
	2/20/2003	26,000	a	6,300	1,100	1,300	1,900	-	<5.0	-	-	<5.0	<5.0	-	-	-	-	
	6/11/2003	37,000	a	7,100	2,300	2,000	3,600	-	<25	-	-	<25	<25	-	-	-	-	
	4/3/2008	4,100	a	760	96	250	130	<50	<2.5	<2.5	<10	<2.5	<2.5	<2.5	<250	<2.5	<2,500	<0.5
	6/23/2011	6,500	a	2,100	210.0	560	310	-	<50	<50	<200	-	-	<50	-	<50	-	-
	12/6/2011	4,800	a	1,600	<50	260	<50	-	<50	<50	<200	-	-	<50	-	<50	-	-
	1/24/2012	2,500	a	100	22.0	<5.0	410	<5.0	-	-	-	-	-	-	-	-	-	-
	1/21/1987	10,287		1,428	3,281	610	2,761	-	-	-	-	-	-	-	-	-	-	-
	1/11/1989	5,300		1,800	340	150	160	-	-	-	-	-	-	-	-	-	-	-
	7/12/1989	7,800		3,100	900	300	480	-	-	-	-	-	-	-	-	-	-	-
	4/9/1991	9,400		1,400	730	200	510	-	-	-	-	-	-	-	-	-	-	-
	7/14/1992	17,000		3,500	390	390	260	-	-	-	-	-	-	-	-	-	-	-
	10/7/1992	9,200		4,300	470	390	610	-	-	-	-	-	-	-	-	-	-	-
	1/11/1993	2,000		740	29	58	28	-	-	-	-	-	-	-	-	-	-	-
	4/23/1993	6,500	a	2,600	280	260	190	-	-	-	-	-	-	-	-	-	-	-
	7/8/1993	5,200	a	2,100	260	250	180	-	-	-	-	-	-	-	-	-	-	-
	10/15/1993	11,000	a	3,500	580	430	370	-	-	-	-	-	-	-	-	-	-	-
	1/25/1994	6,200	a	2,500	270	160	28	-	-	-	-	-	-	-	-	-	-	-
	4/28/1994	5,300	a	1,700	190	210	180	-	-	-	-	-	-	-	-	-	-	-
	7/27/1994	5,900	a	2,000	360	260	330	-	-	-	-	-	-	-	-	-	-	-
	10/27/1994	8,000	a	2,200	580	260	170	-	-	-	-	-	-	-	-	-	-	-
	1/26/1995	3,700	a	1,200	150	150	190	-	-	-	-	-	-	-	-	-	-	-
	4/13/1995	4,000	a	1,400	200	180	210	-	-	-	-	-	-	-	-	-	-	-
	7/21/1995	5,700	a	2,000	280	270	280	-	-	-	-	-	-	-	-	-	-	-
	10/25/1995	11,000	a	3,500	1,100	460	680	-	-	-	-	-	-	-	-	-	-	-
	1/21/1997	2,200	a	860	63	71	80	<5	-	-	-	-	-	-	-	-	-	-
	11/12/1998	180	d	44	0.51	<0.5	0.92	<20	-	-	-	-	-	-	-	-	-	-
	1/16/2001	64	a	11	0.77	<0.5	<0.5	-	<5	<1.0	<5.0	<1.0	1.4	<1.0	-	<1.0	-	-
	6/27/2002	<50		<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<5.0	<0.5	<0.5	<0.5	-	<0.5	-	-
	11/18/2002	110	a	21	1	<0.5	<0.5	-	<0.5	-	-	<0.5	<0.5	-	-	-	-	-
	2/20/2003	<50		2.5	<0.5	<0.5	<0.5	-	<0.5	-	-	<0.5	<0.5	-	-	-	-	-
	6/11/2003	<50		<0.5	<0.5	<0.5	<0.5	-	<0.5	-	-	<0.5	<0.5	-	-	-	-	-
	4/3/2008	7,600	a	2,400	58	250	170	<100	<5.0	<5.0	<20	<5.0	<5.0	<5.0	<500	<5.0	<5,000	<0.5
	6/23/2011	1,300	a	560	21	86	150	-	<12	<12	<50	-	-	<12	-	<12	-	-
	12/6/2011	1,800	a	620	28	22	46	-	<17	<17	<67	-	-	<17	-	<17	-	-
	1/24/2012	3,700	a	1,200	68	34	130	<25	-	-	-	-	-	-	-	-	-	-

**Table 7**  
**Groundwater Analytical Data- Monitoring Wells**  
 AEI Project No. 298931, 1600-1630 Park Street, Alameda, CA

Sample ID	Date	TPH-g (µg/L)		Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	MTBE	TAME	TBA	EDB	1,2-DCA	DIPE	Ethanol	ETBE	Methanol	Lead
				EPA Methods 8020, 8021B, or 8260B				EPA Method 8260B				(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
MW-4	4/28/1994	190	b,c	3.8	2.9	2.1	3.1	-	-	-	-	-	-	-	-	-	-	-
	7/27/1994	180	a	15	9.2	7.6	28	-	-	-	-	-	-	-	-	-	-	-
	10/27/1994	130	a	8.6	6.6	4.5	17	-	-	-	-	-	-	-	-	-	-	-
	1/26/1995	110		6.5	1.2	1.8	11	-	-	-	-	-	-	-	-	-	-	-
	4/13/1995	82		3.9	<0.5	<0.5	2.5	-	-	-	-	-	-	-	-	-	-	-
	7/21/1995	130		8.8	1.3	4.5	7.6	-	-	-	-	-	-	-	-	-	-	-
	10/25/1995	95		6.6	1.7	4.3	7	-	-	-	-	-	-	-	-	-	-	-
	1/21/1997	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	11/12/1998	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1/16/2001	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	6/27/2002	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	11/18/2002	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2/20/2003	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	6/11/2003	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4/3/2008	130		1.6	<0.5	0.89	0.85	<5.0	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<50	<0.5	<500	<0.5
	6/23/2011	53	a	2.7	<0.5	1.0	1.7	-	<0.5	<0.5	<2.0	-	-	<0.5	-	<0.5	-	-
12/6/2011	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1/24/2012	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MW-5	4/28/1994	30,000	a	4,000	3,000	810	3,500	-	-	-	-	-	-	-	-	-	-	-
	7/27/1994	9,300	a	2,000	800	290	940	-	-	-	-	-	-	-	-	-	-	-
	10/27/1994	15,000	a	2,700	1,300	420	1,100	-	-	-	-	-	-	-	-	-	-	-
	1/26/1995	7,900	a	2,100	680	240	860	-	-	-	-	-	-	-	-	-	-	-
	4/13/1995	7,900	a	2,400	580	340	630	-	-	-	-	-	-	-	-	-	-	-
	7/21/1995	11,000	a	3,400	760	610	1,200	-	-	-	-	-	-	-	-	-	-	-
	10/25/1995	13,000	a	2,900	830	570	1,100	-	-	-	-	-	-	-	-	-	-	-
	1/21/1997	2,600	a	750	65	1,860	280	<5	-	-	-	-	-	-	-	-	-	-
	11/12/1998	<50		<0.5	<0.5	<0.5	<0.5	<5	-	-	-	-	-	-	-	-	-	-
	1/16/2001	<50		11	<0.5	<0.5	0.82	-	<5	<1.0	<5.0	<1.0	<1.0	<1.0	-	<1.0	-	-
	6/27/2002	<50		<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<5.0	<0.5	<0.5	<0.5	-	<0.5	-	-
	11/18/2002	130	a	17	3.8	2.1	16	-	<0.5	-	-	<0.5	<0.5	-	-	-	-	-
	2/20/2003	<50		5.6	0.51	<0.5	0.68	-	<0.5	-	-	<0.5	<0.5	-	-	-	-	-
	6/11/2003	170	a	48	<0.5	<0.5	1.4	-	<0.5	-	-	<0.5	<0.5	-	-	-	-	-
	4/3/2008	31,000	a	490	3,400	1,600	5,300	<250	<10	<10	<40	<10	<10	<10	<1,000	<10	<10,000	<0.5
	6/23/2011	82	a	5.1	<0.5	12.0	8.4	-	<0.5	<0.5	<2.0	-	-	<0.5	-	<0.5	-	-
12/6/2011	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1/24/2012	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

**Table 7**  
**Groundwater Analytical Data- Monitoring Wells**  
 AEI Project No. 298931, 1600-1630 Park Street, Alameda, CA

Sample ID	Date	TPH-g		Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	MTBE	TAME	TBA	EDB	1,2-DCA	DIPE	Ethanol	ETBE	Methanol	Lead
		(µg/L)		(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
DPE-1	12/6/2011	9,200	a	1,800	570	460	1,100	-	<50	<50	<200	-	-	<50	-	<50	-	-
	1/24/2012	3,200	a	170	58	<5.0	620	<5.0	-	-	-	-	-	-	-	-	-	-
DPE-2	12/6/2011	22,000	a	2,100	3,300	650	3,300	-	<100	<100	<400	-	-	<100	-	<100	-	-
	1/24/2012	1,100	a	44	26	11	150	<2.5	-	-	-	-	-	-	-	-	-	-
DPE-3	12/6/2011	6,400	a	550	560	180	1,000	-	<17	<17	<67	-	-	<17	-	<17	-	-
	1/24/2012	5,500	a	290	240	44	1,000	<5.0	-	-	-	-	-	-	-	-	-	-
DPE-4	1/24/2012	730	a	66	6.0	7.1	83	2.5	-	-	-	-	-	-	-	-	-	-
DPE-5	1/24/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DPE-6	1/24/2012	64*	a	<0.5	<0.5	<0.5	3.2	<0.5	-	-	-	-	-	-	-	-	-	-
DPE-8	1/24/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DPE-9	1/24/2012	4,400	a	160	390	93	1,100	<5.0	-	-	-	-	-	-	-	-	-	-
DPE-10	1/24/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DPE-11	1/24/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TPH-g= total petroleum hydrocarbons as gasoline  
 MTBE = Methyl tertiary butyl ether  
 TAME = Tertiary amyl methyl ether  
 TBA = Tertiary butyl alcohol  
 EDB = 1,2-Dibromoethane  
 1,2-DCA = 1,2-Dichloroethane  
 DIPE = Diisopropyl ether  
 ETBE = Ethyl tertiary butyl ether

µg/L = micrograms per liter (ppb)

- a = Laboratory note indicates the unmodified or weakly modified gasoline is significant.
- b = Laboratory note indicates heavier gasoline range compounds are significant (aged gas?).
- c = Laboratory note indicates gasoline range compounds are significant with no recognizable pattern.
- d = Laboratory note indicates that lighter gasoline range compounds (the most mobile fraction) are significant.
- e = Laboratory note indicates that one to a few isolated non-targeted peaks are present.

\* Total petroleum hydrocarbons as diesel = <50; Total petroleum hydrocarbons as motor oil = <250

**Table 8**  
**Groundwater Elevation Data**  
 AEI Project No. 298931, 1600-1630 Park Street, Alameda, CA

Well ID (Screen Interval)	Date Collected	Well Elevation (ft amsl)	Depth to Water (ft)	Groundwater Elevation (ft amsl)
MW-1 (5 - 20 feet bgs)	Jul-89	104.76	8.93	95.83
	Apr-91		7.59	97.17
	Jul-92		8.72	96.04
	Aug-92		9.09	95.67
	Sep-92		9.25	95.51
	Oct-92		9.34	95.42
	Nov-92		9.21	95.55
	Dec-92		9.26	95.50
	Jan-93		7.81	96.95
	Feb-93		7.32	97.44
	Mar-93		7.20	97.56
	Apr-93		7.31	97.45
	May-93		8.29	96.47
	Jul-93		8.30	96.46
	Oct-93		9.38	95.38
	Jan-94		8.80	95.96
	Apr-94		8.15	96.61
	Jul-94		8.70	96.06
	Oct-94		9.37	95.39
	Jan-94		7.18	97.58
	Apr-95		6.76	98.00
	Jan-97		7.03	97.73
	Nov-98		8.10	96.66
	Jan-01		7.70	97.06
	Jun-02		7.30	97.46
	Nov-02		8.14	96.62
	Feb-03		6.87	97.89
	Jun-03		7.05	97.71
	Apr-08	25.42	7.13	18.29
	Jun-11	25.42	7.54	17.88
Dec-11	25.37	8.02	17.35	
Jan-12	25.37	8.08	17.29	
MW-2 (5 - 20 feet bgs)	Jul-89	104.86	9.24	95.62
	Apr-91		8.01	96.85
	Jul-92		9.03	95.83
	Aug-92		9.34	95.52
	Sep-92		9.46	95.40
	Oct-92		9.52	95.34
	Nov-92		9.42	95.44
	Dec-92		9.47	95.39
	Jan-93		8.25	96.61
	Feb-93		7.85	97.01
	Mar-93		7.77	97.09
	Apr-93		7.86	97.00
	May-93		8.20	96.66
	Jul-93		8.72	96.14
	Oct-93		9.64	95.22
	Jan-94		9.12	95.74
	Apr-94		8.56	96.30
	Jul-94		9.02	95.84
	Oct-94		9.59	95.27
	Jan-94		7.71	97.15
Apr-95		7.40	97.46	

**Table 8**  
**Groundwater Elevation Data**  
 AEI Project No. 298931, 1600-1630 Park Street, Alameda, CA

Well ID (Screen Interval)	Date Collected	Well Elevation (ft amsl)	Depth to Water (ft)	Groundwater Elevation (ft amsl)
MW-2 (continued)	Jan-97		7.55	97.31
	Nov-98		8.49	96.37
	Jan-01		8.08	96.78
	Jun-02		7.77	97.09
	Nov-02		8.50	96.36
	Feb-03		7.38	97.48
	Jun-03		7.57	97.29
	Apr-08	25.52	7.67	17.85
	Jun-11	25.52	7.35	18.17
	Dec-11	25.48	8.41	17.07
	Jan-12	25.48	8.43	17.05
	MW-3 (5 - 20 feet bgs)	Jul-89	104.52	9.00
Apr-91			8.06	96.46
Jul-92			8.82	95.70
Aug-92			9.05	95.47
Sep-92			9.09	95.43
Oct-92			9.15	95.37
Nov-92			9.05	95.47
Dec-92			9.12	95.40
Jan-93			8.18	96.34
Feb-93			7.98	96.54
Mar-93			7.94	96.58
Apr-93			8.02	96.50
May-93			7.69	96.83
Jul-93			8.65	95.87
Oct-93			9.32	NC
Jan-94			8.93	NC
Apr-94			8.52	96.00
Jul-94			8.86	95.66
Oct-94			9.25	95.27
Jan-94			7.85	96.67
Apr-95			7.64	96.88
Jan-97			7.75	96.77
Nov-98			8.38	96.14
Jan-01			8.00	96.52
Jun-02			7.81	96.71
Nov-02			8.37	96.15
Feb-03			7.48	97.04
Jun-03			7.67	96.85
Apr-08		25.17	7.74	17.43
Jun-11		25.17	7.50	17.67
Dec-11	25.13	8.25	16.88	
Jan-12	25.13	8.25	16.88	
MW-4 (8 - 23 feet bgs)	Apr-94	104.86	9.29	95.57
	Jul-94		9.55	95.31
	Oct-94		9.83	95.03
	Jan-94		8.88	95.98
	Apr-95		8.80	96.06
	Jan-97		-	-
	Nov-98		-	-
	Jan-01		-	-
	Jun-02		-	-
	Nov-02		-	-

**Table 8**  
**Groundwater Elevation Data**  
 AEI Project No. 298931, 1600-1630 Park Street, Alameda, CA

Well ID (Screen Interval)	Date Collected	Well Elevation (ft amsl)	Depth to Water (ft)	Groundwater Elevation (ft amsl)
MW-4 (continued)	Feb-03		-	-
	Jun-03		-	-
	Apr-08	25.53	8.73	16.80
	Jun-11	25.53	8.52	17.01
	Dec-11	25.58	-	-
	Jan-12	25.58	-	-
MW-5 (7 - 22 feet bgs)	Apr-94	103.62	8.27	95.35
	Jul-94		8.50	95.12
	Oct-94		8.92	94.70
	Jan-94		7.61	96.01
	Apr-95		8.48	95.14
	Jan-97		6.79	96.83
	Nov-98		8.12	95.50
	Jan-01		7.67	95.95
	Jun-02		7.61	96.01
	Nov-02		8.01	95.61
	Feb-03		7.22	96.40
	Jun-03		7.43	96.19
	Apr-08	24.31	7.36	16.95
	Jun-11	24.31	7.43	16.88
	Dec-11	24.32	-	-
	Jan-12	24.32	-	-
DPE-1 (7 - 15 feet bgs)	Dec-11	25.88	8.81	17.07
	Jan-12	25.88	8.78	17.10
DPE-2 (7 - 15 feet bgs)	Dec-11	26.22	9.29	16.93
	Jan-12	26.22	7.97	18.25
DPE-3 (7 - 15 feet bgs)	Dec-11	25.27	7.92	17.35
	Jan-12	25.27	8.98	16.29
DPE-4 (8-17 feet bgs)	Jan-12	26.06	9.11	16.95
DPE-5 (8-18 feet bgs)	Jan-12	26.25	-	-
DPE-6 (8-18 feet bgs)	Jan-12	26.13	8.58	17.55
DPE-8 (8-18 feet bgs)	Jan-12	25.36	-	-
	Jan-12	25.09	8.12	16.97
DPE-9 (8-18 feet bgs)	Jan-12	25.09	8.12	16.97
DPE-10 (8-17 feet bgs)	Jan-12	25.14	-	-
DPE-11 (8-18 feet bgs)	Jan-12	25.57	-	-

ft amsl = feet above mean sea level  
 All water level depths are measured from the top of casing  
 "-" = not measured  
 bgs = below ground surface

**Table 9**

**Well Construction Details**

AEI Project No. 298931, 1630 Park Street, Alameda, California

Well ID Number	Well Installation Date	Elevation TOC (feet)	Casing Material	Total Depth (feet)	Well Depth (feet)	Borehole Diameter (inches)	Casing Diameter (inches)	Screened Interval (feet)	Slot Size (inches)	Filter Pack Interval (feet)	Filter Pack Material
AS-1	11/14/2011	-	PVC	25	25	8	2	20 - 25	0.020	20 - 25	#3 Sand
DPE-1	11/15/2011	-	PVC	16	15	10	4	7 - 15	0.010	6.5 - 16	#2/12 Sand
DPE-2	11/15/2011	-	PVC	16	15	10	4	7 - 15	0.010	6.5 - 16	#2/12 Sand
DPE-3	11/14/2011	-	PVC	16	14	10	4	7 - 14	0.010	6.5 - 16	#2/12 Sand
DPE-4	1/19/2012	-	PVC	17	17	10	4	8 - 17	0.010	7.5 - 17	#2/12 Sand
DPE-5	1/20/2012	-	PVC	18	18	10	4	8 - 18	0.010	7.5 - 18	#2/12 Sand
DPE-6	1/20/2012	-	PVC	18	18	10	4	8 - 18	0.010	7.5 - 18	#2/12 Sand
DPE-8	1/20/2012	-	PVC	18	18	10	4	8 - 18	0.010	7.5 - 18	#2/12 Sand
DPE-9	1/20/2012	-	PVC	18	18	10	4	8 - 18	0.010	7.5 - 18	#2/12 Sand
DPE-10	1/20/2012	-	PVC	17	17	10	4	8 - 17	0.010	7.5 - 17	#2/12 Sand
DPE-11	1/20/2012	-	PVC	18	18	10	4	8 - 18	0.010	7.5 - 18	#2/12 Sand
MW-1	1/15/1987	-	PVC	-	20	8	2	5 - 20	-	-	-
MW-2	1/15/1987	-	PVC	-	20	8	2	5 - 20	-	-	-
MW-3	1/15/1987	-	PVC	-	20	8	2	5 - 20	-	-	-
MW-4	4/20/1994	-	PVC	-	23	8	2	8 - 23	-	-	-
MW-5	4/20/1994	-	PVC	-	22	8	2	7 - 22	-	-	-
VP-1	12/6/2011	-	Stainless Steel	6	6	1.25	1/4	5.1 - 5.6	Mesh	4.7 - 6	#30 Mesh Sanc
VP-2	12/6/2011	-	Stainless Steel	5.9	5.9	1.25	1/4	5.1-5.6	Mesh	4.7-5.9	#30 Mesh Sanc
VP-3	12/6/2011	-	Stainless Steel	5.75	5.75	1.25	1/4	5.1-5.6	Mesh	4.7-5.75	#30 Mesh Sanc

PVC = polyvinyl chloride  
 TOC = top of casing  
 "-" = not available



**Table 10**  
**Proposed Groundwater Monitoring Schedule**  
 AEI Project No. 298931, 1630 Park Street, Alameda, California

Existing Monitoring Wells	Well Diameter in inches (screen interval in ft bgs)	Proposed Schedule				
		Q2 2011	Q3 2011	Q2 2012	Q3 2012	Q2 2013
		May	August	November	February	May
MW-1	2" (5-20)	x	x			
MW-2	2" (5-20)	x	x			
MW-3	2" (5-20)	x	x			
MW-4	2" (8-23)	x	x	x	x	x
MW-5	2" (7-22)	x	x	x	x	x
DPE-1	4" (7-15)	x	x			
DPE-2	4" (7-15)	x	x			
DPE-3	4" (7-14)	x	x			
DPE-4	4" (8-17)	x	x			
DPE-5	4" (8-18)					
DPE-6	4" (8-18)	x	x	x	x	x
DPE-8	4" (8-18)					
DPE-9	4" (8-18)					
DPE-10	4" (8-17)	x	x			
DPE-11	4" (8-18)	x	x			
MW-6	2" (7-17) - planned			x	x	x
MW-7	2" (7-17) - planned			x	x	x

Groundwater Samples will be analyzed for: TPHmo and TPHd by EPA method 8015 Modified with silica gel cleanup, TPHg by EPA method 8015 Modified, and VOCs by EPA method 8260B.

Assumes that by Q4 2012, DPE wells beneath the building will be plumbed for extraction beneath the building foundation

Assumes that MW-6 and MW-7 installed during Q4 2012