

July 31, 2009

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Alameda County
Environmental Health

**GROUNDWATER MONITORING
WELL INSTALLATION REPORT**

3442 Adeline Street
Oakland, CA 94608

Project No. 281939

Prepared For

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Prepared By

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1.0 INTRODUCTION

AEI Consultants (AEI) has prepared this report on behalf of Ms. Steffi Zimmerman, the owner of the property located at 3442 Adeline Street in the City of Oakland, Alameda County, California. AEI has been retained by Ms. Zimmerman to provide environmental engineering and consulting services relating to the release of gasoline from a former underground storage tank (UST) on the property. The site is currently under the regulatory oversight of the Alameda County Environmental Health (ACEH). This report documents the installation of seven (7) groundwater monitoring wells and one (1) pilot injection well in accordance with requirements by the ACEH to further investigate groundwater conditions around the release.

Previous site investigations have identified a release of gasoline from the former UST. Following an onsite meeting with the ACEH on March 19, 2008, AEI prepared a workplan for source area removal and installation of groundwater monitoring wells. This report summarized the well installation activities in April and May 2009.

2.0 SITE DESCRIPTION AND PREVIOUS INVESTIGATIONS

The subject site (hereinafter referred to as the “site” or “property”) is situated on the northeast corner of 35th Street and Chestnut Street in a mixed commercial, industrial and residential area of Oakland. The main entrance to the property is on 3442 Adeline St. A second entrance is located at 3433 Chestnut St. The on-site building covers approximately 65% of the property and is used for storage. Refer to Figure 2 for an aerial photo of the property and Figure 3, Site Map.

2.1 UST Removal

On February 22, 2000, Clearwater supervised the excavation and removal of a single-wall 3,750 gallon UST. Soil samples and a groundwater sample was collected from the excavation pit and analyzed for total petroleum hydrocarbons as gasoline (TPH-g), as diesel (TPH-d), methyl tertiary butyl ether (MTBE) and BTEX (benzene, toluene, ethyl benzene, and total xylenes). Soil analyses reported concentrations of TPH-g, TPH-d and benzene at concentrations up to 920 milligrams per kilogram (mg/kg), 850 mg/kg, and 0.3 mg/kg, respectively. TPH-g, TPH-d, and benzene were reported in the excavation groundwater sample at concentrations of 7,400 micrograms per liter (µg/L), 34,000 µg/L, and 3,300 µg/L, respectively.

Following receipt of the tank removal report, the City of Oakland Fire Department requested (May 15, 2006) requested additional soil and groundwater samples to further characterize the site. The location of the former UST and sample locations are presented in Figures 3

2.2 Clearwater Phase II Investigation

In June, 2006 Clearwater performed a Phase II Environmental Site Investigation. Four (4) additional soil borings (S1 - S4) were drilled on June 23, 2006. The location of soil borings are shown in Figure 3. Analysis of groundwater samples reported TPH-g and benzene at concentrations up to 120,000 µg/L and 7,000 µg/L, respectively. TPH-d was reported as non-detectable at elevated reporting limits

2.3 AEI Consultants Site Investigation

In October and December of 2007 and May of 2008, AEI performed additional site investigations further define the nature and extent of the release. A total of thirty-one soil borings (SB-1 through SB-22) have been advanced to an approximate depth of 16 feet bgs and three I(3) soil vapor samples collected from within the building.

The maximum concentrations of TPH-g, TPH-d, and BTEX reported in soil were 1,200 mg/kg, 450 mg/kg, 6.9 mg/kg, 2.5 mg/kg, 24 mg/kg and 110 mg/kg, respectively. MTBE was reported at a concentration of 0.14 mg/kg in one sample, SB-11-15.5.

The maximum concentrations of TPH-g, TPH-d and BTEX reported in groundwater were 83,000 µg/L, 12,000 µg/L, 10,000 µg/L, 640 µg/L, 2,700 µg/L and 7,900 µg/L, respectively. No MTBE was reported in groundwater samples from any of the soil borings

The maximum concentrations of TPH-g, TPH-d and BTEX reported in soil vapor samples were 3,100 µg/m³, 130 µg/m³, 42 µg/m³, 16 µg/m³, and 49 µg/L, respectively. No MTBE was reported in soil vapor samples.

Soil and groundwater analytical data indicates gasoline plume in the soil and groundwater trend in a west to northwesterly direction, beneath the warehouse building on the property. TPH-g concentrations decrease rapidly to the north, south and east of the former UST. The results of these and previous soil, soil vapor, and groundwater analyses can be found in Tables 1, 2 and 3. Soil boring locations are shown on Figure 3.

2.4 Interim Source removal

During March and April of 2009, AEI impacted soil from down gradient of the forer UST and inside the building. The excavation measured 35 feet by 75 feet by approximately 12 feet deep. Excavated soil was disposed of at West Contra Costa Sanitary Landfill (745.37 tons) and Keller Canyon Landfill (352.84 tons). The base of the excavation was backfilled with a layer of permeable rock to allow normal groundwater movement. Five (5) 4-inch diameter casings were installed in the permeable bridge to allow of the excavation to be kept water free. The excavation and backfill activities are summarized in the Interim Source Removal Report.

3.0 GEOLOGY AND HYDROLOGY

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

The sediments in the upper four (4) to five (5) feet underlying the site are black silty clay – clayey silt containing variable amounts of scattered gravel. These sediments are considered to be bay margin sediments.

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

Groundwater was encountered in all borings, however the borings were slow to produce water and in some cases several days were required to accumulate sufficient water to allow collection of groundwater samples. Groundwater elevations range from 24.11 feet amsl (6.53 ft bgs) in well MW-7, located in Chestnut Street to the east, to 19.36 ft amsl (9.98 ft bgs) in well MW-6 adjacent to Adeline Street to the West. Groundwater flow direction is in a westerly direction at an average gradient of 0.019ft/ft. Groundwater elevation data is summarized on Figure 4 and in Table 4. Please refer to Appendix C for the Groundwater Monitoring Well Field Sampling Forms, which include water quality data and other parameters collected during well purging.

Detailed descriptions of the sediments are included on boring logs in Appendix A and Figure 11.

4.0 ENVIRONMENTAL CONCERNS

4.1 Soil

Based on the results of previous investigations significant concentrations of hydrocarbon contamination have been identified in the shallow soil, typically between a depth 5 feet and 12 feet bgs with only occasional significant impact identified below 12 feet bgs. Maximum hydrocarbon concentrations reported in the tank removal samples for TPH-g, TPH-d, and benzene were 920 mg/kg, 850 mg/kg, and 0.3 mg/kg, respectively. Maximum hydrocarbon concentrations reported in soil boring samples were 1,200 mg/kg, 450 mg/kg, and 6.9 mg/kg, respectively for TPH-g, TPH-

d, and benzene. The distribution of hydrocarbons in the soil is variable and appears related to variations in lithology and permeability. Historical soil analytical data is shown in Table 1.

4.2 Groundwater

Maximum concentrations of TPH-g and BTEX reported in groundwater samples from soil borings were 120,000 µg/L (S-4), 10,000 µg/L (SB-11) 930 µg/L (SB-11), 3,500 µg/L (S-4), and 7,900 µg/L (SB-11), respectively. No MTBE has been reported in groundwater samples. The results of historical groundwater analyses from soil borings are summarized in Table 2 and Figures 5 and 6.

The primary contaminant reported in soil and groundwater analyses is a gasoline range fuel related BTEX. Diesel range hydrocarbons are typically reported at a significantly lower concentration than TPH-g. Chromatograph charts from several wells were examined and compared to the diesel standard chromatograph chart. The comparison showed no diesel to be present and that the chart patterns are consistent with a gasoline range fuel release.

An exception to the rule of higher gasoline concentrations and significantly lower diesel concentrations is seen in water samples from soil borings SB-16, SB-18 and SB-19. These borings are located on the eastern up gradient edge of the plume in Chestnut Street and are up gradient of the former UST location. The analytical reports of diesel range hydrocarbons in these samples typically carry laboratory flags indicating the presence of oil range hydrocarbons; the results for these samples were re-quantified as both diesel and motor oil. The re-quantified results for these samples reported motor oil at a significantly higher concentration than either gasoline or diesel. Examination of the chromatograph charts for these three samples show the presence of a hydrocarbon centered in the overlap of diesel motor oil ranges. These heavier than gasoline and diesel range hydrocarbons suggest release up gradient of the site, possibly heating oil.

The calculated direction of groundwater flow is to the west, however the orientation of the hydrocarbon plume and hydrocarbon distribution in the groundwater indicates that the actual groundwater flow is sinuous and appears to follow permeable channels within the sands and gravels.

Depth to groundwater ranges from 6.53 feet bgs (MW-7, 24.51 ft amsl) to 9.98 feet bgs (MW-6, 19.36 ft amsl). Depth to groundwater measurements and gradient direction are shown on Table 3 and Figure 4.

5.0 FIELD OPERATION PROCEDURES

5.1 Setup and Clearances

Prior to beginning drilling activities, Underground Service Alert (USA) was notified and well installation permits (#W2009-0219 and W2009-0225) were obtained from the Alameda County Public Works Agency – Water Resources Well Permit. Encroachment permit # X0900494 was obtained from the City of Oakland for monitoring well MW-7 and sparge well IW-1. Copies of the well and encroachment permits are attached as Appendix A.

5.2 Well Drilling and Installation

On April 1 - 2, 2009 and May 12 - 13, 2009, AEI advanced eight soil borings (MW-1 through MW-7 and IW-1) at the property and converted seven (7) of the borings (MW-1 through MW-7) into groundwater monitoring wells and one boring (IW-1) into a injection/sparge well. The soil borings were advanced using a Geoprobe® 5400 truck-mounted rig with an auger spinner. The borings for the monitoring wells were installed using nominal 8¼-inch or 10½-inch diameter hollow stem augers depending on the casing diameter of the wells being installed. All drilling work was performed by RSI Drilling, a California C57 licensed drilling contractor #802334. All field activities were supervised by an AEI geologist working under the direct supervision of an AEI California Professional Geologist.

Soil borings were continuously cored using a Geoprobe® DT22 “dual tube sampler” which uses 2.25 in. (57 mm) OD probe rods as an outer casing. Samples are retained in removable, clear, PETG 1.125 inch inside diameter (ID), 1.375 inch outside diameter (OD) liners by 48 inches long, which are inserted inside the outer casing and into the cutting head. At selected intervals, a four (4) to six (6) inch long portion was cut from the liner for possible laboratory analysis. The ends of each portion of liner cut and retained for possible chemical analysis were sealed with Teflon® tape and plastic end caps. Each sample was labeled with at minimum, a unique identifier, project number, date, time, and sampler identification. Each sample was then entered on an appropriate chain-of custody form. Samples were placed in an individual zipper locking plastic bags and placed in a cooler on water ice, pending transportation under chain-of-custody documentation for analysis to McCampbell Analytical Inc., (DOHS Certification Number 1644) of Pittsburgh, California.

In the borings for the construction of the groundwater monitoring wells, direct push soil borings were advanced to a depth of 25 feet bgs. The direct push soil borings were sealed to a depth of approximately 17 feet bgs with neat cement then over-drilled with hollow stem augers to allow installation of the monitoring wells. At the location of the well IW-1, the direct push soil boring was advanced to a depth of 15 feet bgs. Soil borings for installation of 2-inch diameter wells were over drilled with 8¼-inch diameter augers and for

installation of 4-inch diameter wells were drilled with 10½-inch diameter augers. The wells were installed through the augers.

The groundwater monitoring wells were constructed with flush threaded, schedule 40, polyvinyl chloride (PVC) casing. Each monitoring well was constructed using ten (10) feet of factory slotted 0.020 well screen (17' - 7') with a bottom cap and blank riser to the surface. An annular sand pack (2/12) was installed in 1-foot lifts to a depth approximately 1 foot above the screened interval. A one (1) foot bentonite seal was placed above the sand and hydrated with tap water.

Injection well, IW-1, was completed at a depth of 15 feet bgs. Injection well (IW-1) was constructed using a 2-inch diameter by 2-foot long 0.010 wire wound stainless steel injection point attached to a 2-inch diameter schedule 80 PVC, flush-threaded riser with Viton[®] o-rings. An annular sand pack (2/12) was installed in 1-foot lifts to a depth approximately 1 foot above the screen interval. A two (2) foot bentonite seal was placed above the sand and hydrated with tap water.

The annulus of each well was sealed with cement grout. Grout was mixed at a ratio of one (1) 94-pound sack of Type I/II Portland Cement to each 5 gallons of water. Grout was mixed onsite under the inspection of a ACPWD representative. A flush mounted traffic rated well box was installed over each wellhead. The top of each casing was equipped with a locking expansion cap.

DWR well registration forms (DWR Form 188) have been completed for each of the wells and with copies forwarded to the DWR and ACPWD. The locations of the newly installed wells are presented on Figure 3 and well construction logs are attached as Appendix B.

A summary of the well completion details and purpose of each is presented below.

Exhibit 2: Installed Wells

<i>Well ID</i>	<i>Location / Purpose</i>	<i>Casing Diameter (inches)</i>	<i>Screen interval (ft bgs)</i>
MW-1	Nearest monitoring well to abandoned tank area within the property to assess source area.	4	7 – 17
MW-2	West of abandoned tank area to assess adjacent property	4	7 – 17
MW-3	Northwest of abandoned tank area to assess source area	4	7 – 17
MW-4	Northwest of source area to assess northwest (possibly down-gradient) extent of plume	2	7 – 17
MW-5	West of source area to assess adjacent property	2	7 – 17
MW-6	Northwest of source area to assess northwest extent of plume	2	7 – 17
MW-7	Southeast of abandoned tank location to assess alternate position of source area.	2	7 – 17
IW-1	Injection well located at the western edge of the tank excavation	2	13-15

Each well was surveyed to GeoTracker standards by a California licensed land surveyor on June 24, 2009.

5.3 Well Development and Sampling

The newly installed wells were developed no sooner than three (3) days after their date of installation. The wells were developed by first using a surge block and bailer to clear the sand pack and screen of any fine sediment, then approximately 10 well volumes of water was pumped from each well.

5.4 Quarterly Monitoring Activities

Groundwater monitoring wells MW-1 through MW-4 and MW-6 were sampled on April 17, 2009 following the installation of these wells. Groundwater monitoring wells MW-5, MW-7 and IW-1 were sampled on May 22, 2009.

Depth to groundwater was measured at the newly installed wells prior to sampling activities. Prior to measuring depth to groundwater, the well caps were removed from each well and the wells were allowed to equilibrate for at least 15 minutes. The depth to water in all monitoring wells was re-measured on June 10, 2009, at which time depth to water ranged from 76.53 feet bgs (MW-7) to 9.98 feet bgs (MW-6).

During purging the pump rate was maintained at less than 0.5 liter per minute with the draw tube at a depth of approximately 11.5 bgs. The standard groundwater parameters of pH, temperature, conductivity, dissolved oxygen (DO) and oxidation-reduction potential (ORP) will be measured along with a visual estimation of turbidity. These field parameters were recorded on the Groundwater Well Sampling Field Forms (Appendix B), which include details on the sampling of each well.

Groundwater samples were collected using the peristaltic into hydrochloric acid (HCl) preserved 1 liter amber bottles and 40 ml volatile organic analysis (VOA) vials. VOAs were capped so that no head space or air bubbles were visible within the sample containers. The samples were labeled, placed on ice and transported under chain of custody protocol to McCampbell Analytical Inc. (DOHS Certification Number 1644) of Pittsburgh, California for analysis. The groundwater samples were analyzed for TPH-g, MTBE, and BTEX by EPA Method 8015M/8021 and TPH-d by EPA Method 8015 CM with silica gel cleanup.

6.0 ANALYTICAL RESULTS

6.1 Soil Analytical Results

TPH-g was reported in soil samples collected from the monitoring wells at concentrations ranging from ND<1.0 mg/kg to 1,100 mg/kg (MW-4-1). TPH-d was reported at concentrations ranging from ND<1.0 mg/kg to 99 mg/kg (MW-4-12). Inspection of 8015 chromatographs indicates that the hydrocarbon present in the soil is weathered gasoline and that the diesel range hydrocarbon concentrations reported represent the heavy portion of gasoline component compounds.

MTBE was reported above reporting limits in samples MW-6-19 and MW-6-25 at 0.12 mg/kg and 0.029 mg/kg, respectively. Benzene was reported at concentrations ranging from ND<0.005 mg/kg to 0.81 mg/kg (MW-2-12). Toluene was reported at concentrations ranging from ND<0.005 mg/kg to 2.9 mg/kg (MW-4-12). Ethylbenzene was reported at concentrations ranging from ND<0.005 mg/kg to 6.7 mg/kg (IW-1-10.5). Xylenes were reported concentrations ranging from ND<0.005 mg/kg to 3.5 mg/kg (IW-1-10.5). Soil sample analytical data is summarized in Table 1.

6.2 Groundwater Analytical Results

TPH-g was reported in groundwater samples at concentrations ranging from 220 µg/L (MW-1) to 14,000 µg/L (MW-5). TPH-d was reported at concentrations ranging from 97 µg/L (MW-1) to 3,700 µg/L (MW-7). Inspection of 8015 chromatographs indicate that the hydrocarbons in the soil is gasoline. The diesel range hydrocarbon concentrations reported represent the heavy portion of gasoline component compounds.

MTBE was reported as non-detectable at a laboratory reporting limit of 5.0 µg/L in MW-1 and as non-detectable at elevated reporting limits in the other monitoring wells. Benzene was reported at concentrations ranging from 10 µg/L (MW-1) to 3,000 µg/L (MW-5). Toluene was reported at concentrations ranging from ND<0.5 µg/L (MW-1) to 37 µg/L (MW-7). Ethylbenzene was reported at concentrations ranging from 2.3 µg/L (IW-1) to 340 µg/L (MW-5). Xylenes were reported at a concentrations ranging from 5.4 µg/L (MW-1) to 920 µg/L (MW-3).

On March 27, 2009, TPH-g and MBTEX were reported in backfill well casing BF-1 at concentrations of 19,000 µg/L, ND<250 µg/L, 890 µg/L, 27 µg/L, 460 µg/L, and 1200 µg/L, respectively.

On June 22, 2009, TPH-g and MBTEX were reported in backfill well casing BF-1 at concentrations of 6,700 µg/L, ND<150 µg/L, 840 µg/L, 19 µg/L, 170 µg/L, and 150 µg/L, respectively.

A summary of groundwater analytical data is presented in Table 2.

7.0 WASTE STORAGE

Drill cuttings from MW-1 through MW-4 and MW-6 were stockpiled with the excavated soil. Drill cuttings from MW-5, MW-7 and IW-1 were stored with other Investigation-Derived Waste (IDW) onsite in sealed 55-gallon drums, pending the results of sample analyses. Equipment rinse water and well purge water was stored in 55-gallon drums pending appropriate disposal.

8.0 CONCLUSIONS

The results of soil sample analyses performed during this investigation are consistent with those found during prior investigations. Groundwater contaminant concentrations reported in wells closer to the former USTs location were typically significantly lower than those reported from grab water samples collected from SB-1 through SB-31. The groundwater flow direction for this monitoring event has been determined to be west.

Effective limits to the contaminant plume in the soil have been defined to below the Bay Area Regional Water Quality Control Board ESL for soil <3 meters, with groundwater potential.

Groundwater monitoring is scheduled to continue on a quarterly basis for at least 3 more quarters. The next quarterly event is tentatively scheduled to occur at the end of August 2009

9.0 RECOMMENDATIONS

AEI recommends additional actions to further delineate the lateral extent of the hydrocarbon plume in the groundwater.

- Continue quarterly groundwater monitoring through one annual hydrologic cycle (three additional quarters) then shift to semi-annual monitoring of currently existing monitoring wells except as may be required to evaluate ongoing remediation activities.
- Conduct pilot tests to determine the following:
 1. Air/ozone sparging pilot test in the pea gravel bridging the shallow aquifer across the interim source removal excavation. The test will determine the effectiveness of using the permeable bridge as a bio-reactor to intercept and remediate groundwater migrating down gradient from the location of the former UST.
 2. A vapor acceptance pilot test to determine whether air sparging or ozone injection into the impacted soil is possible and could be used as a method of remediation.
 3. Pump and/or falling head tests to evaluate the potential for groundwater removal as a method of plume control and or remediation.

Upon completion of item 1 above, on an interim basis, immediately begin maintenance of an oxygenated environment in the pea gravel permeable bridge in the interim source removal excavation to intercept and remediate impacted groundwater migrating down gradient from the former tank hold.

The additional investigations listed above are intended to be part of a feasibility study to evaluate the most cost effective approach to remediation of the soil and groundwater. Upon approval by ACEH, AEI will prepare a detailed work plan outlining the scope of work for the feasibility study.

10.0 SIGNATURES

This report has been prepared by AEI on behalf of Ms Steffi Zimmerman relating to the release of petroleum hydrocarbons on the property located at 3442 Adeline Street, Oakland, California. The discussion rendered in this report was based on field investigations and laboratory testing of material samples. This report does not reflect subsurface variations that may exist between sampling points. These variations cannot be anticipated, nor could they be entirely accounted for, in spite of exhaustive additional testing. This report 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 could be identified, treated, or removed. Undocumented, unauthorized releases of hazardous material(s), 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 was

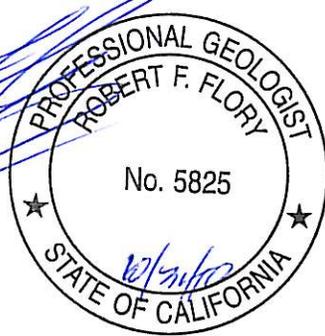
performed in accordance with generally accepted practices in environmental engineering, geology, and hydrogeology and were performed under the direction of appropriate registered professional.

Should you have any questions regarding this work plan, please contact Harmony TomSun or Robert Flory at (925) 746-6000.

Sincerely,
AEI Consultants



Harmony TomSun
Staff Geologist



Robert Flory, PG
Senior Geologist

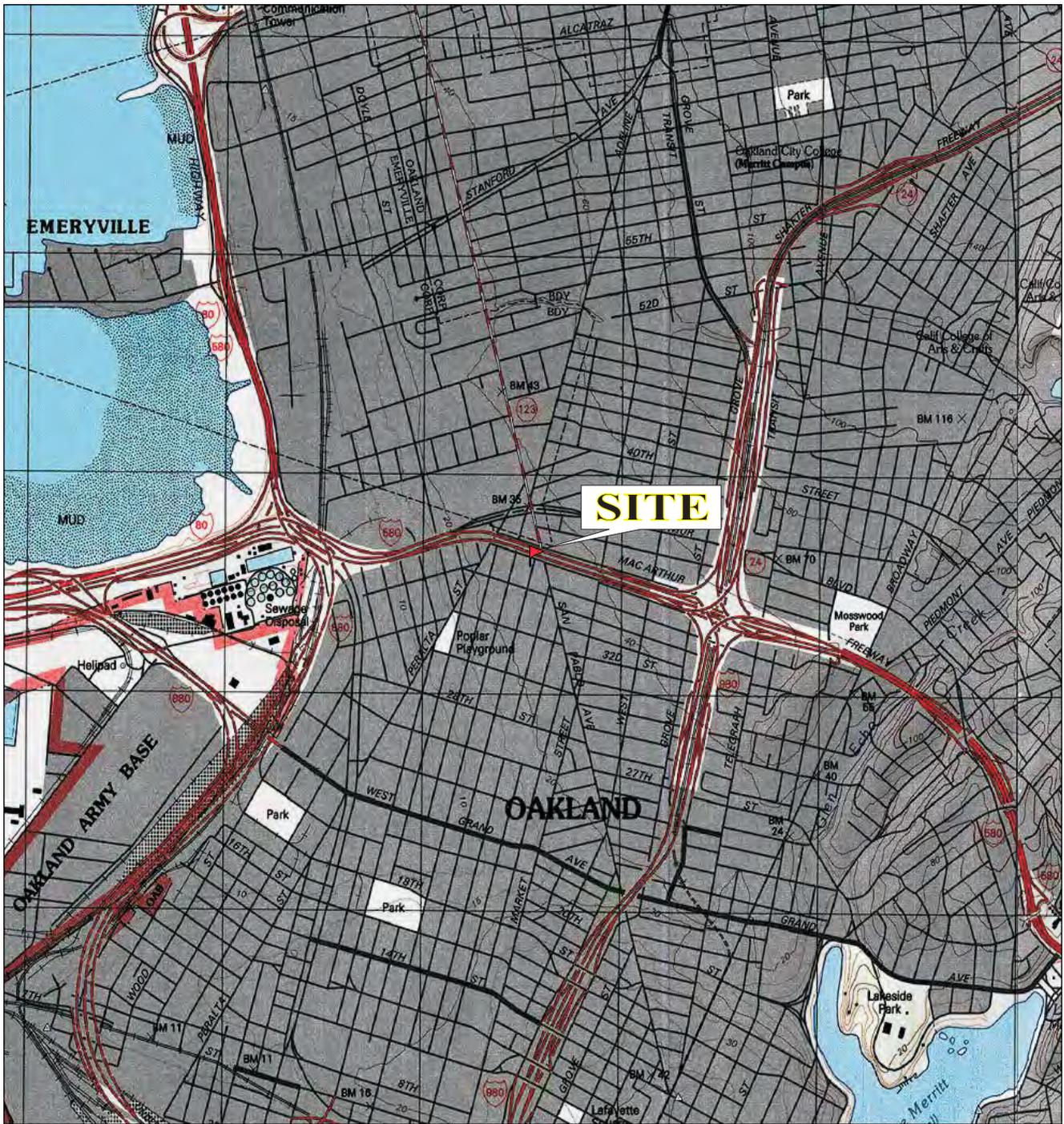
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GeoTracker

FIGURES



TN ↗ MN
15°

0 5 1 MILE
0 1000 FEET 0 500 1000 METERS
Map created with TOPO!® ©2002 National Geographic (www.nationalgeographic.com/topo)

AEI CONSULTANTS

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

Site Location Map

3442 Adeline Street
Oakland, CA 94608

FIGURE 1
Job No: 281939

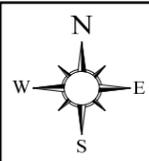


-  Property Boundary
-  Former UST Area

Approximate Scale:
1 inch = 55 feet

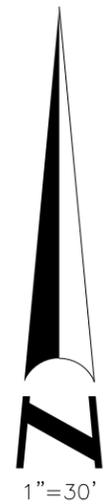
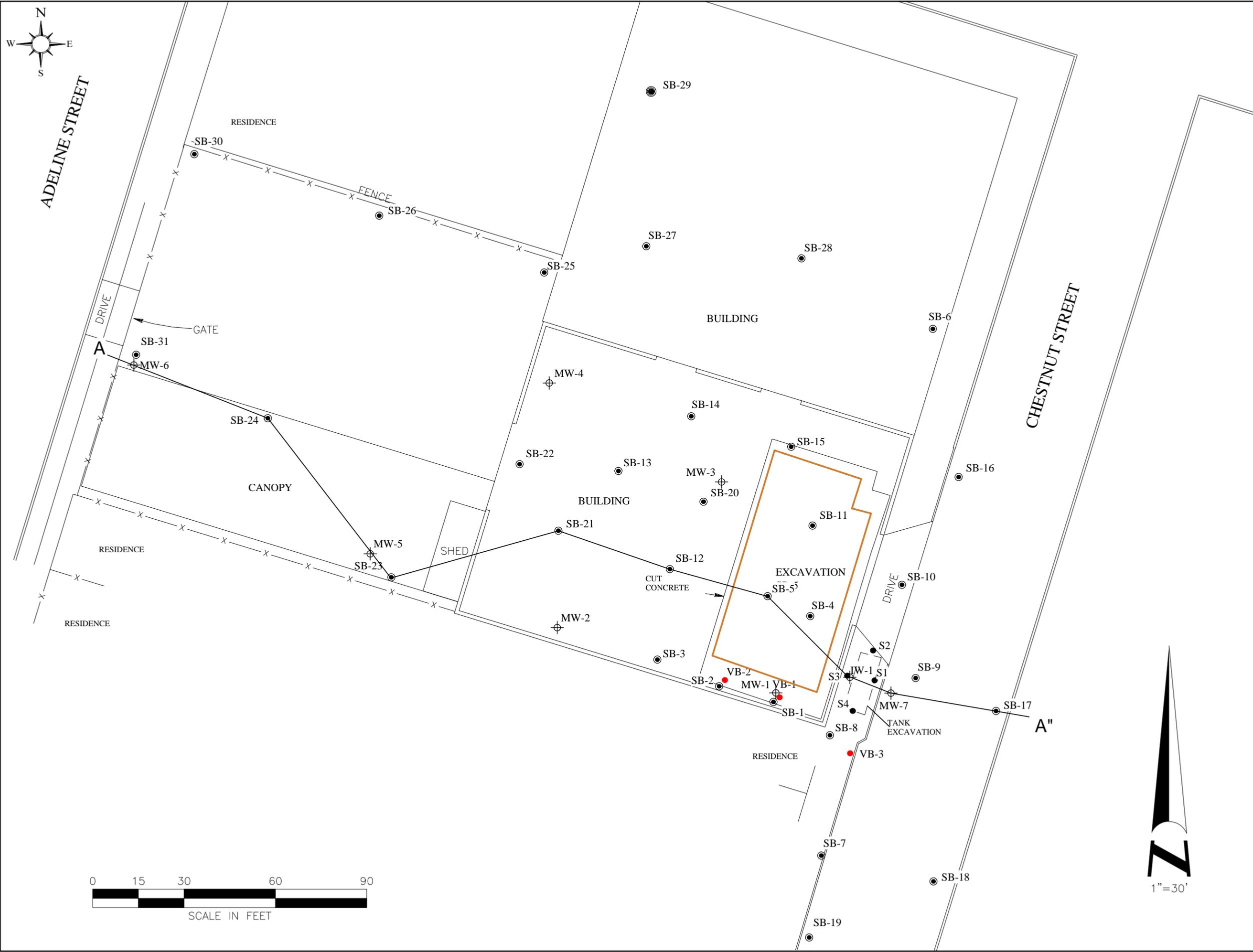


AEI CONSULTANTS 2500 Camino Diablo, Suite 200, Walnut Creek, CA 94597	
Site Vicinity Map	
3442 Adeline Street Oakland, CA 94608	FIGURE 2 Job No: 281939



ADELINE STREET

CHESTNUT STREET



AEI CONSULTANTS
 2500 CAMINO DIABLO, WALNUT CREEK

SITE PLAN

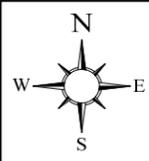
FIGURE 3
 PROJECT NO. 281939

3442 ADELINE STREET
 OAKLAND, CALIFORNIA

DRAFTED BY RFF

LEGEND

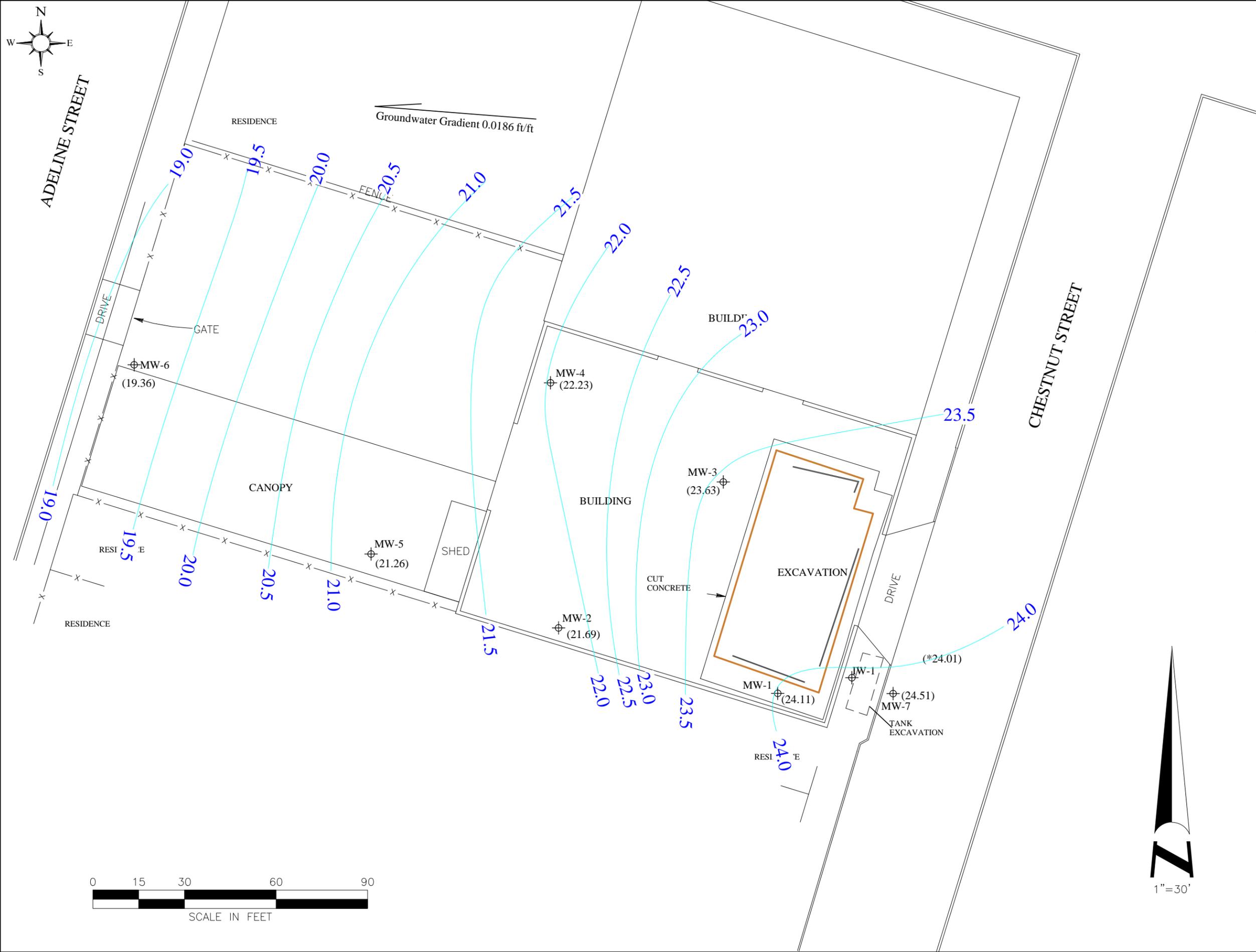
- Soil Boring - 2006
- ⊙ Soil Boring - 2007
- ⊕ Monitoring Well
- ⊖ Former UST
- Soil vapor Sample Point
- ▭ Source Removal Excavation



ADELINE STREET

Groundwater Gradient 0.0186 ft/ft

CHESTNUT STREET



LEGEND

- Soil Boring - 2006
- Soil Boring - 2007
- Monitoring Well
- Former UST
- Source Removal Excavation
- Groundwater Elevation Contour Lines
- (24.51) - Groundwater Elevation

DRAFTED BY RFF

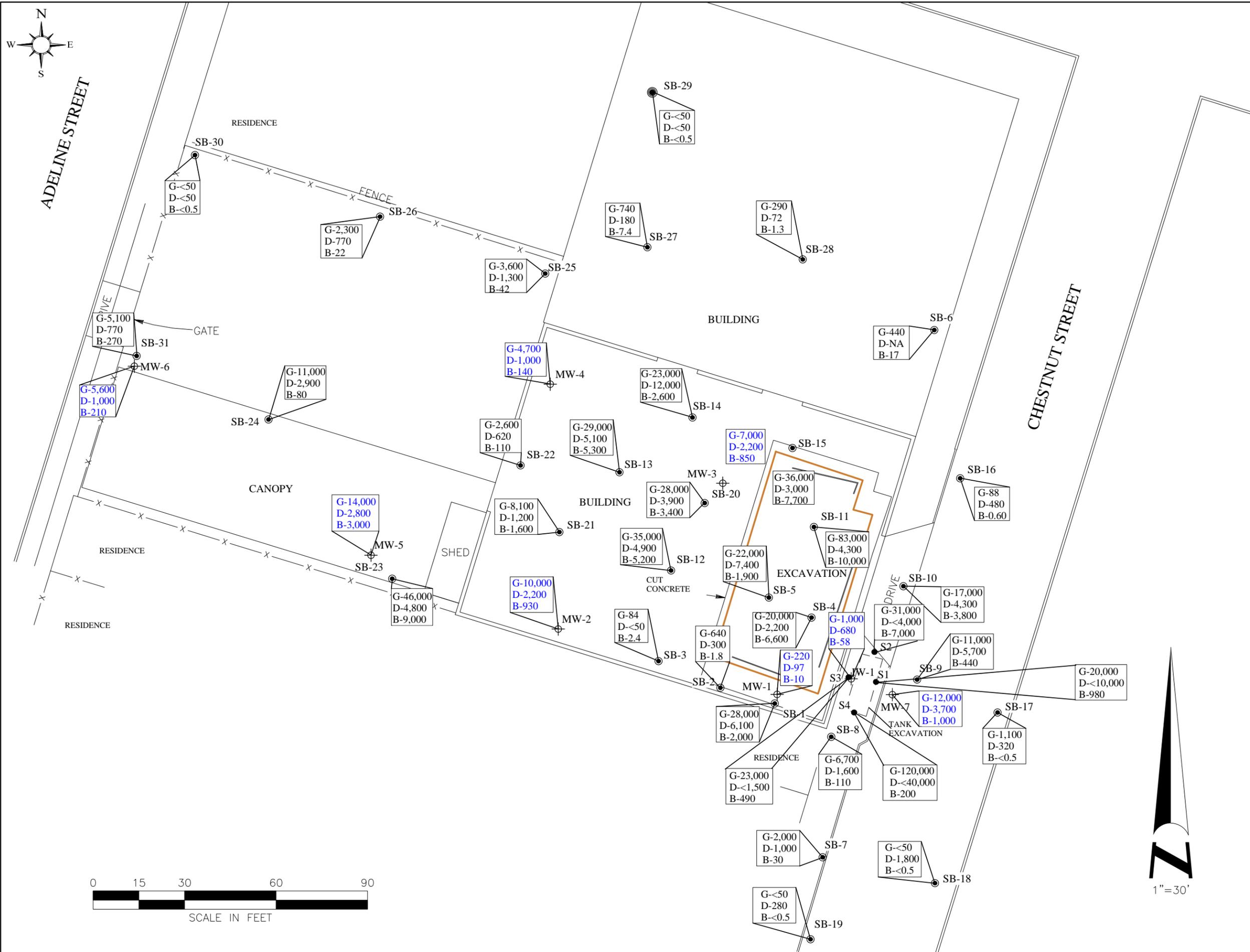
AEI CONSULTANTS

2500 CAMINO DIABLO, WALNUT CREEK

Groundwater Elevations

3442 ADELINE STREET
OAKLAND, CALIFORNIA

FIGURE 4
PROJECT NO. 281939



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2500 CAMINO DIABLO, WALNUT CREEK

Groundwater Analytical Data

FIGURE 5
PROJECT NO. 281939

3442 ADELINE STREET
OAKLAND, CALIFORNIA

DRAFTED BY RFF

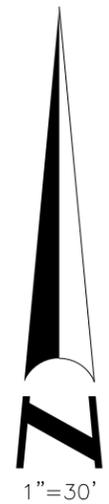
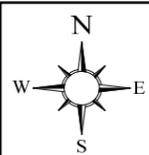
LEGEND

- Soil Boring - 2006
- ⊙ Soil Boring - 2007
- ⊕ Monitoring Well
- ⊖ Former UST
- ▭ Source Removal Excavation

G-28,000
D-3,900
B-3,400

G-7,000
D-2,200
B-850

G - Total Petroleum Hydrocarbons as Gasoline (µg/L)
D - Total Petroleum Hydrocarbons as Diesel (µg/L)
B - Benzene (µg/L)



LEGEND

- Soil Boring - 2006
- Soil Boring - 2007
- ⊕ Monitoring Well
- ⊖ Former UST
- ▭ Source Removal Excavation
- TPH-g concentration isopleth
- 890 - TPH-g Concentration (µg/L)
- * - Monitoring Well Data Not Contoured

DRAFTED BY RFF

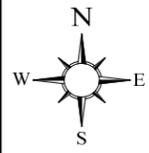
AEI CONSULTANTS

2500 CAMINO DIABLO, WALNUT CREEK

TPH-g in Grab Water Samples

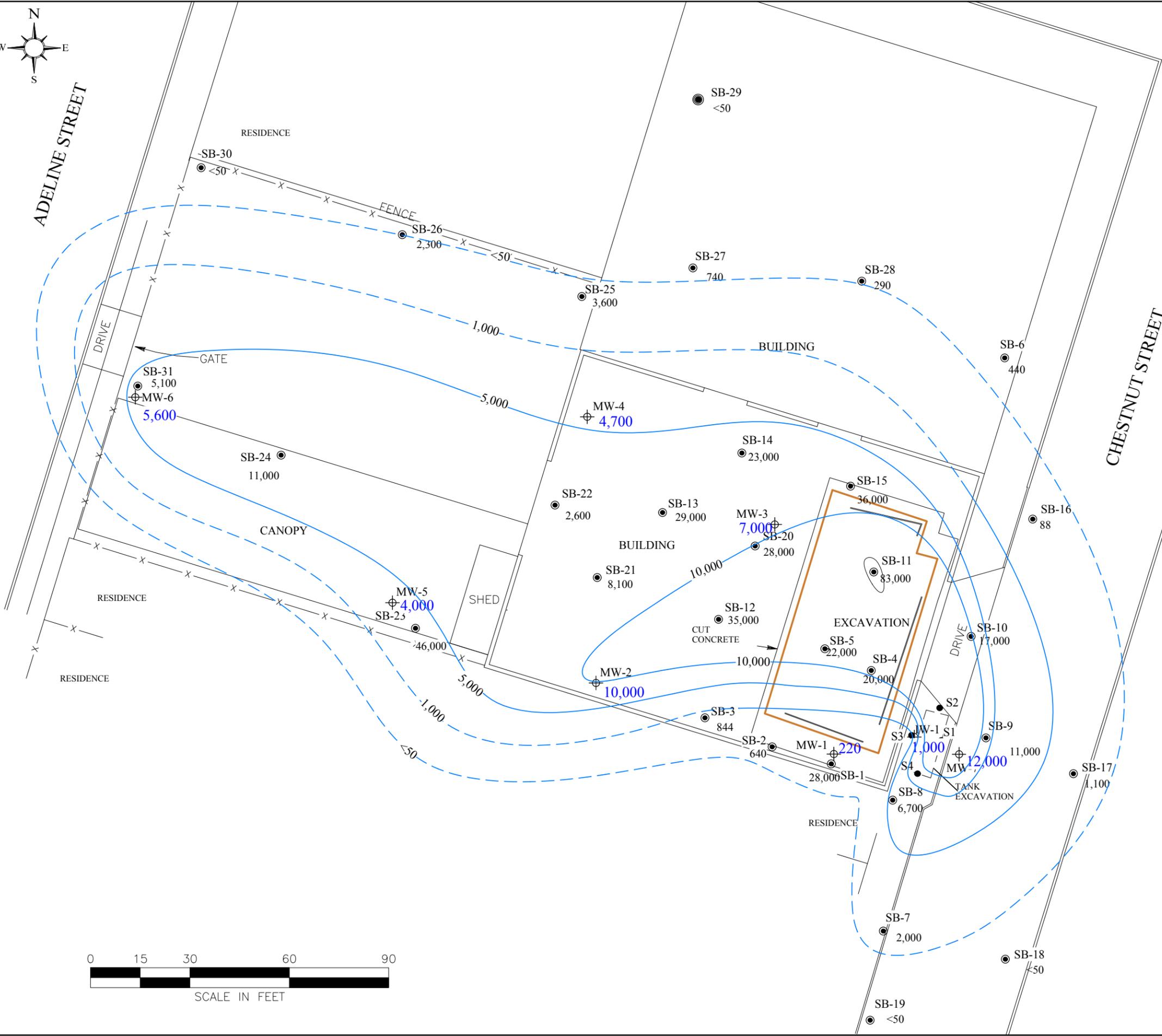
3442 ADELIN STREET
OAKLAND, CALIFORNIA

FIGURE 6
PROJECT NO. 281939



ADELINE STREET

CHESTNUT STREET



LEGEND

- Soil Boring - 2006
- Soil Boring - 2007
- ⊕ Monitoring Well
- Former UST
- ▭ Source Removal Excavation
- TPH-g concentration isopleth
- 890 Monitoring Well TPH-g Concentration (µg/L)
- 890 - TPH-g Concentration (µg/L)
Boring Data Not Contoured

DRAFTED BY RFF

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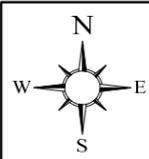
2500 CAMINO DIABLO, WALNUT CREEK

TPH-g in Monitoring Wells

3442 ADELINE STREET
OAKLAND, CALIFORNIA

FIGURE 7

PROJECT NO. 281939



ADELINE STREET

CHESTNUT STREET



LEGEND

- Soil Boring - 2006
- Soil Boring - 2007
- ⊕ Monitoring Well
- ◆ Excavation Sidewall Sample 6-8 feet bgs
- - - Former UST
- ▭ Source Removal Excavation
- TPH-g concentration isopleth
- 1,200 - TPH-g Concentration (ug/L)
- 6-8 feet bgs

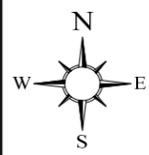
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2500 CAMINO DIABLO, WALNUT CREEK

TPH-g in Soil (6 - 8ft bgs)

3442 ADELINE STREET
OAKLAND, CALIFORNIA

FIGURE 8
PROJECT NO. 281939



ADELINE STREET

CHESTNUT STREET



LEGEND

- Soil Boring - 2006
- ⊙ Soil Boring - 2007
- ⊕ Monitoring Well
- ⊖ Former UST
- ▭ Source Removal Excavation
- ◆ Excavation Sidewall Sample 11.5 - 12 feet bgs
- TPH-g concentration isopleth
- 1,200 - TPH-g Concentration (µg/L)
- 11.5 - 12 feet bgs

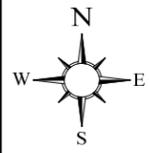
DRAFTED BY RFF

AEI CONSULTANTS
2500 CAMINO DIABLO, WALNUT CREEK

TPH-g in Soil (11.5 - 12 ft bgs)

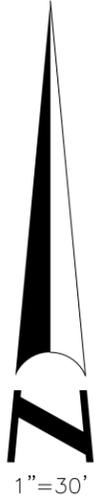
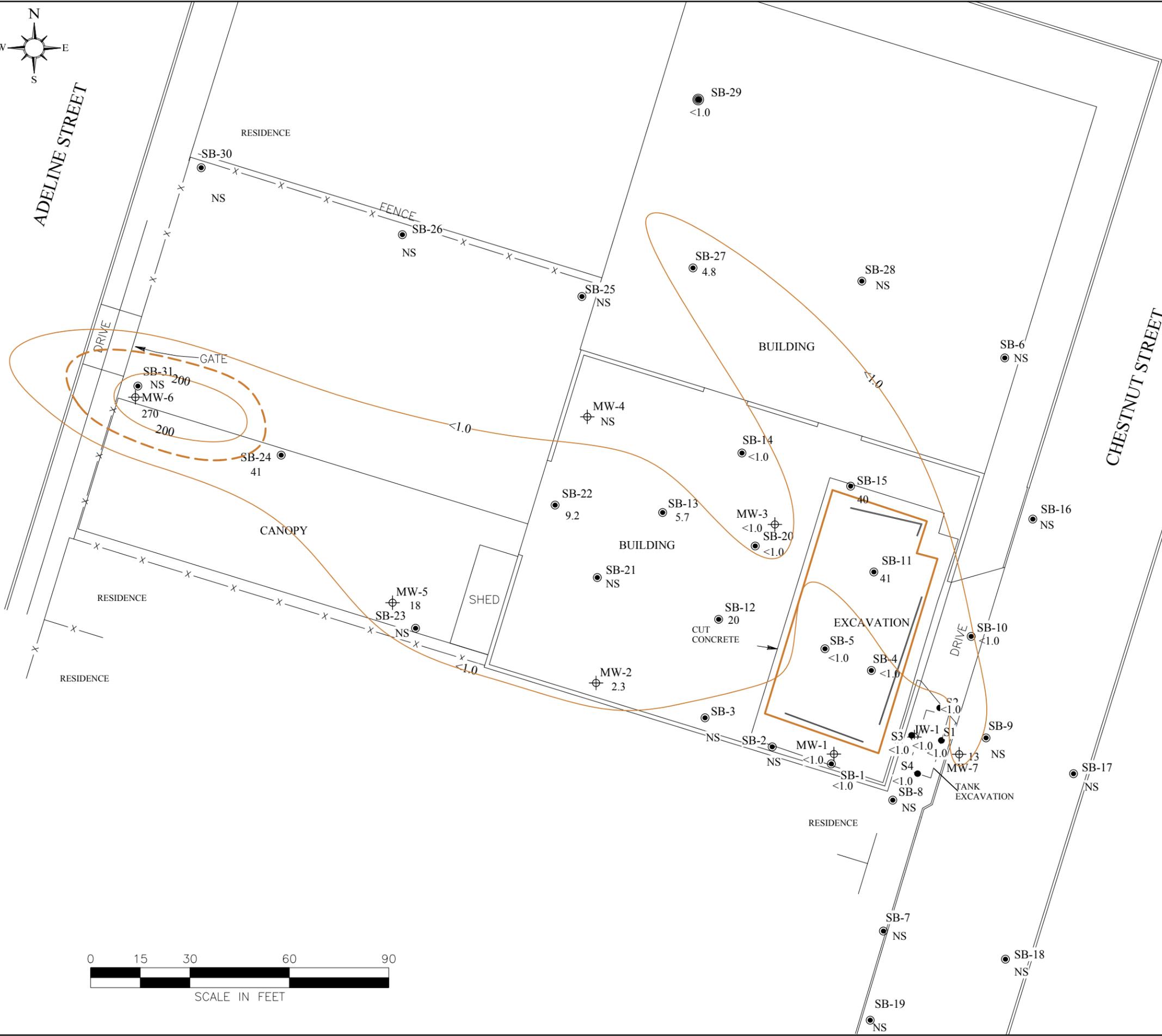
3442 ADELINE STREET
OAKLAND, CALIFORNIA

FIGURE 9
PROJECT NO. 281939



ADELINE STREET

CHESTNUT STREET



LEGEND

- Soil Boring - 2006
- Soil Boring - 2007
- ⊕ Monitoring Well
- ⊕ Former UST
- ▭ Source Removal Excavation
- TPH-g concentration isopleth
- 1,200 - TPH-g Concentration (µg/L)
- 200 - TPH-g Concentration (µg/L)

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2500 CAMINO DIABLO, WALNUT CREEK

TPH-g in Soil 16 feet bgs

3442 ADELINE STREET
OAKLAND, CALIFORNIA

FIGURE 10
PROJECT NO. 281939

A

MW-6

SB-24

MW-5

SB-21

SB-12

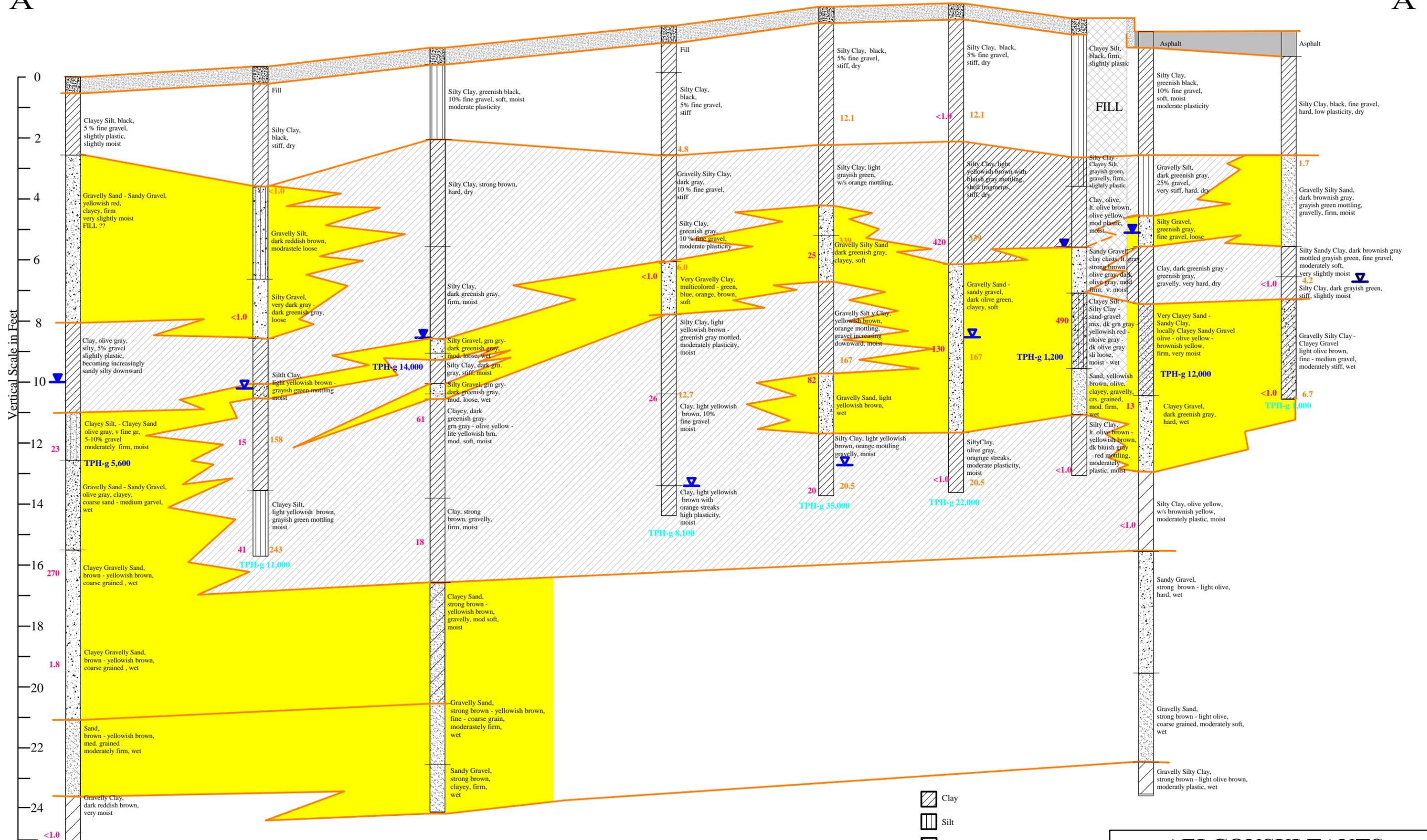
SB-5

IW-1

MW-7

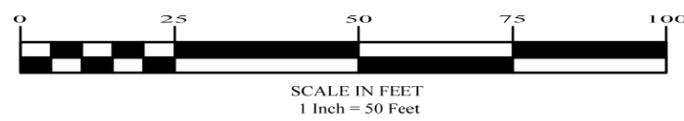
SB-17

A''



- Stable depth to water in well
- Depth to water is soil borings
- 243** PID Field Screening - PPMV
- 41** TPH-g Soil Analysis - mg/kg

- TPH-g 11,000** Grab Water Sample - ug/L
- TPH-g 14,000** Monitoring well Sample - ug/L



- Clay
- Silt
- Gravel
- Sand
- Clayey Sediments
- Silty Sediments

AEI CONSULTANTS
2500 CAMINO DIABLO, WALNUT CREEK

Cross Section A-A''

3442 Adeline Street Oakland, California	Figure 11 PROJECT NO. 274767
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TABLES

Table 1: Soil Sample Analytical Data
3442 Adeline Street St. Oakland, CA 94608
AEI Project #274761

Sample ID	Depth ft	Date	TPH-g <i>Method 8015C</i>		MTBE mg/kg	Benzene Toluene E-Benzene Xylenes <i>Method 8021B</i>				TAME mg/kg	TBA DIPE ETBE <i>Method 8260B</i>			MTBE mg/kg
			mg/kg	mg/kg		mg/kg	mg/kg	mg/kg	mg/kg		mg/kg	mg/kg	mg/kg	
NW	6.5	2/22/2000	130	130	---	0.16	0.26	0.73	6.3	---	---	---	---	---
SW	6.5	2/22/2000	920	850	---	0.3	0.37	5.3	22	---	---	---	---	---
S-1	5	6/23/2006	<1.0	5.6	---	0.011	<0.0050	<0.0050	<0.0050	---	---	---	---	---
	8		100	26	---	1.3	0.22	2.0	7.2	---	---	---	---	---
	12		67	45	---	0.098	<0.025	0.73	0.39	---	---	---	---	---
	14.5		<1.0	1.2	---	<0.0050	<0.0050	<0.0050	0.01	---	---	---	---	---
S-2	4	6/23/2006	<1.0	4.7	---	0.016	<0.0050	<0.0050	<0.0050	---	---	---	---	---
	7.5		460	84	---	1.2	0.36	9.4	24	---	---	---	---	---
	12		61	49	---	0.33	0.055	0.84	2.4	---	---	---	---	---
	14		<1.0	<1.0	---	<0.0050	<0.0050	<0.0050	<0.0050	---	---	---	---	---
S-3	3.5	6/23/2006	<1.0	3.1	---	<0.0050	<0.0050	<0.0050	<0.0050	---	---	---	---	---
	7.5		1,200	250	---	0.47	0.52	18	100	---	---	---	---	---
	10		220	76	---	0.26	<0.040	6.2	7.2	---	---	---	---	---
	14.5		<1.0	1.3	---	<0.0050	<0.0050	0.0056	0.016	---	---	---	---	---
S-4	3.5	6/23/2006	<1.0	3.5	---	<0.0050	<0.0050	<0.0050	<0.0050	---	---	---	---	---
	7.5		820	240	---	<0.20	<0.20	6.7	4.4	---	---	---	---	---
	11.5		500	120	---	0.079	<0.040	3.5	4.8	---	---	---	---	---
	14.5		<1.0	1.3	---	<0.0050	<0.0050	<0.0050	<0.0050	---	---	---	---	---
SB-1	4	10/1/2007	2.9	---	<0.05	0.016	0.0079	<0.005	0.0094	---	---	---	---	---
	7.5		1,200	450	<5.0	3.1	2.5	24	110	---	---	---	---	---
	11.5		640	90	<2.5	0.40	1.5	9.3	23	<0.33	<3.3	<0.33	<0.33	<0.33
	15.5		<1.0	---	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
SB-2	7.5	10/1/2007	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
	11		53	6.1	<0.05	<0.005	0.24	0.0084	0.19	<0.005	<0.05	<0.005	<0.005	<0.005
SB-3	7.5	10/1/2007	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
	11.5		<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005
SB-4	3.5	10/1/2007	1.2	---	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
	7.5		430	170	<1.0	1.2	0.99	3.6	1.2	---	---	---	---	---
	11.5		340	25	<1.0	2.4	0.92	7.1	9.7	<0.005	<0.05	<0.005	<0.005	<0.005
	15.5		<1.0	---	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
SB-5	3.5	10/1/2007	<1.0	---	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
	7.5		420	54	<1.5	4.0	1.1	9.5	18	---	---	---	---	---
	11.5		130	22	<1.0	0.43	0.10	1.2	0.77	<0.005	<0.05	<0.005	<0.005	<0.005
	15.5		<1.0	---	<0.05	0.017	<0.005	<0.005	<0.005	---	---	---	---	---

Table 1: Soil Sample Analytical Data
3442 Adeline Street St. Oakland, CA 94608
AEI Project #274761

Sample ID	Depth ft	Date	TPH-g	TPH-d	MTBE	Benzene	Toluene	E-Benzene	Xylenes	TAME	TBA	DIPE	ETBE	MTBE
			<i>Method 8015C</i>								<i>Method 8021B</i>			
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
SB-6	7.5	10/1/2007	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
	11.5		<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005
SB-7	7.5	10/3/2007	310	90	<1.0	<0.10	0.48	0.28	0.38	---	---	---	---	---
	11.5		120	37	<0.50	0.21	0.069	0.39	0.22	<0.020	<0.20	<0.020	<0.020	<0.020
SB-8	7.5	10/3/2007	53	23	<0.10	<0.010	0.030	0.034	0.13	---	---	---	---	---
	11.5		99	13	<0.17	0.24	0.070	0.66	0.46	<0.010	<0.10	<0.010	<0.010	<0.010
SB-9	4	10/3/2007	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
	11.5		<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005
SB-10	7.5	10/3/2007	35	5.1	<0.10	0.72	0.024	0.47	0.079	---	---	---	---	---
	11.5		750	74	<10	6.9	1.6	13	33	<0.10	<1.0	<0.10	<0.10	<0.10
	15.5		<1.0	---	<0.05	0.012	<0.005	<0.005	0.0052	---	---	---	---	---
SB-11	11.5	10/3/2007	39	13	<0.3	0.68	0.086	0.76	2.3	---	---	---	---	---
	15.5		41	10	0.14	1.1	0.071	0.55	1.5	---	---	---	---	---
SB-12	8	12/20/2007	25	1.8	<0.10	0.097	0.024	0.81	1.3	---	---	---	---	---
	12		82	23	<0.50	0.74	0.14	1.5	2.9	---	---	---	---	---
	16		20	---	<0.25	0.51	0.083	0.48	1.8	---	---	---	---	---
SB-13	8	12/20/2007	180	66	<0.50	0.46	0.10	2.5	2.7	---	---	---	---	---
	12		170	74	<0.50	1.1	0.21	2.4	6.7	---	---	---	---	---
	16		5.7	<50	<0.05	0.87	0.017	0.12	0.10	---	---	---	---	---
SB-14	8	12/20/2007	<1.0	<1.0	<0.05	0.0092	<0.005	<0.005	<0.005	---	---	---	---	---
	12		910	83	<2.5	3.3	0.43	10	16	---	---	---	---	---
	16		<1.0	---	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
SB-15	8	12/20/2007	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
	12		390	61	<2.5	2.7	0.47	6.7	13	---	---	---	---	---
	16		40	---	<0.1	0.26	0.047	0.37	1.3	---	---	---	---	---
SB-16	8	12/20/2007	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
SB-17	8	12/20/2007	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
	12		<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
SB-18	8	12/20/2007	<1.0	18	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
SB-19	8	12/20/2007	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
	12		6.7	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---

Table 1: Soil Sample Analytical Data
3442 Adeline Street St. Oakland, CA 94608
AEI Project #274761

Sample ID	Depth ft	Date	TPH-g	TPH-d	MTBE	Benzene	Toluene	E-Benzene	Xylenes	TAME	TBA	DIPE	ETBE	MTBE
			<i>Method 8015C</i>								<i>Method 8021B</i>			
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
SB-20	8	12/20/2007	89	9.7	<0.25	0.070	0.14	0.050	0.14	---	---	---	---	---
	12		99	32	<0.17	0.61	0.061	1.6	1.4	---	---	---	---	---
	16		<1.0	---	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	---	---	---	---
SB-21	8	12/21/2007	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
	12		26	5.8	<0.05	0.28	0.048	0.31	0.30	---	---	---	---	---
SB-22	8	12/21/2007	24	<1.0	<0.05	<0.005	0.070	0.016	0.059	---	---	---	---	---
	12		310	150	<1.7	0.17	<0.17	4.1	3.2	---	---	---	---	---
	16		9.2	---	<0.05	0.021	0.032	0.0052	0.0083	---	---	---	---	---
SB-23	8	5/7/2008	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
	12		310	73	<3.0	1.3	0.31	4.3	0.11	---	---	---	---	---
SB-24	8	5/7/2008	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
	12		15	3.4	<0.15	0.011	0.023	0.020	0.044	---	---	---	---	---
	16		41	<1.0	<0.50	<0.050	<0.050	0.11	0.11	---	---	---	---	---
SB-25	8	5/7/2008	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
	12		48	12	<0.50	0.027	0.079	0.029	0.11	---	---	---	---	---
SB-26	8	5/7/2008	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
	12		<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
SB-27	8	5/7/2008	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
	12		27	4.2	<0.05	<0.005	0.10	<0.005	0.061	---	---	---	---	---
	16		4.8	1.5	<0.05	0.0053	0.020	<0.005	0.0074	---	---	---	---	---
SB-28	8	5/7/2008	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
	12		19	1.6	<0.05	0.24	0.034	0.031	0.036	---	---	---	---	---
SB-29	8	5/7/2008	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
	12		<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
SB-30	8	5/7/2008	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
	12		<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
SB-31	8	5/7/2008	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
	12		1.9	<1.0	<0.05	<0.005	0.016	<0.005	<0.005	---	---	---	---	---

Table 1: Soil Sample Analytical Data
3442 Adeline Street St. Oakland, CA 94608
AEI Project #274761

Sample ID	Depth ft	Date	TPH-g <i>Method 8015C</i>		MTBE mg/kg	Benzene <i>Method 8021B</i>				TAME mg/kg	TBA <i>Method 8260B</i>			ETBE mg/kg	MTBE mg/kg
			mg/kg	mg/kg		Benzene mg/kg	Toluene mg/kg	E-Benzene mg/kg	Xylenes mg/kg		mg/kg	mg/kg	mg/kg		
MW-1	12	4/1/2009	30	1.5	<0.05	0.034	0.026	0.042	0.11	---	---	---	---	---	
	15		<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---	
MW-2	12	4/1/2009	140	21	<0.05	0.81	<0.10	1.9	2.6	---	---	---	---	---	
	16		2.3	<1.0	<0.05	0.062	<0.005	0.016	0.0091	---	---	---	---	---	
	19		<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---	
MW-3	12	4/1/2009	27	4.3	<0.10	0.57	0.049	0.69	0.62	---	---	---	---	---	
	16		<1.0	<1.0	<0.05	0.018	0.0059	0.0061	0.023	---	---	---	---	---	
MW-4	12	4/2/2009	1100	99	<10	<1.0	2.9	1.1	1.3	---	---	---	---	---	
	16		<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---	
MW-5	12	5/12/2009	61	31	<1.0	0.27	0.12	0.66	0.92	---	---	---	---	---	
	16		18	1.9	<0.05	0.15	0.0055	0.23	0.33	---	---	---	---	---	
MW-6	12	4/2/2009	23	2.3	<0.05	0.12	0.018	0.15	0.34	---	---	---	---	---	
	16		270	29	<2.5	<0.25	0.67	0.43	0.81	---	---	---	---	---	
	19		1.8	5	0.12	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---	
	25		<1.0	<1.0	0.029	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---	
MW-7	12	5/13/2009	13	<1.0	<0.05	0.067	0.030	0.042	0.020	---	---	---	---	---	
	16		<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---	
IW-1	10.5	5/12/2009	490	86	<1.0	0.19	0.69	6.7	3.5	---	---	---	---	---	
	15		<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---	
ESL			83	83	0.023	0.044	2.9	3.3	2.3	---	---	---	---	---	

Notes:

mg/kg = milligrams per kilogram

ESL = Environmental Screening Level

NW = Soil Sample Collected from northwest sidewall during excavation

SW = Soil Sample Collected from southwest sidewall during excavation

TPH-g = total petroleum hydrocarbons as gasoline

TPH-d = total petroleum hydrocarbons as diesel

E-Benzene = ethyl benzene

TAME = tert-amyl methyl ether

ETBE = ethyl tert-butyl ether

TBA = tertiary butyl alcohol

DIPE = Di-isopropyl Ether

MTBE = methyl tert-butyl ether

**Table 2: Groundwater Sample Analytical Data
3442 Adeline Street St. Oakland, CA 94608
AEI Project #274761**

Sample ID	Date	TPH-g	TPH-d	TPH-mo	MTBE	Benzene	Toluene	E-Benzene	Xylenes	TAME	ETBE	TBA	DIPE	MTBE
		<i>Method 8015</i>			<i>Method 8021B</i>					<i>Method 8260B</i>				
		µg/L	µg/L		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Pit Water	2/22/2000	34,000	7,400	---	---	3,300	930	400	6,200	---	---	---	---	---
S-1	6/23/06	20,000	<10,000	---	---	980	70	1,500	1,100	---	---	---	---	---
S-2	6/23/06	31,000	<4,000	---	---	7,000	260	920	2,800	---	---	---	---	---
S-3	6/23/06	23,000	<1,500	---	---	490	67	1,200	3,300	---	---	---	---	---
S-4	6/23/06	120,000	<40,000	---	---	200	<15	3,500	2,900	---	---	---	---	---
SB-1	10/1/2007	28,000	6,100	---	<170	2,000	77	1,600	4,100	<25	<25	<250	<25	<25
SB-2	10/1/2007	640	300	---	<5.0	1.8	2.2	1.1	4.9	<0.5	<0.5	<5.0	<0.5	<0.5
SB-3	10/1/2007	84	<50	---	<5.0	2.4	<0.5	4.2	11	<0.5	<0.5	<5.0	<0.5	<0.5
SB-4	10/1/2007	20,000	2,200	---	<600	6,600	110	390	430	<17	<17	430	<17	<17
SB-5	10/1/2007	22,000	7,400	---	<250	1,900	86	1,200	2,100	<5.0	<5.0	120	<5.0	<5.0
SB-6	10/1/2007	440	---	---	---	17	<0.5	0.99	2.2	<0.5	<0.5	18	<0.5	2.0
SB-7	10/3/2007	2,000	1,000	---	<25	30	5.1	56	82	<0.5	<0.5	<5.0	<0.5	6.1
SB-8	10/3/2007	6,700	1,600	---	---	110	6.3	160	140	<0.5	<0.5	12	<0.5	<0.5
SB-9	10/3/2007	11,000	5,700	---	<50	440	14	720	1,000	<1.7	<1.7	37	<1.7	<1.7
SB-10	10/3/2007	17,000	1,700	---	<100	3,800	55	420	830	<10	<10	510	11	<10
SB-11	10/3/2007	83,000	4,300	---	---	10,000	640	2,700	7,900	<25	<25	840	<25	<25
SB-12	12/20/2007	35,000	4,900	---	<450	5,200	110	1,000	1,800	---	---	---	---	---
SB-13	12/20/2007	29,000	5,100	---	<250	5,300	80	1,400	3,900	---	---	---	---	---
SB-14	12/20/2007	23,000	12,000	---	<240	2,600	15	1,500	1,800	---	---	---	---	---

**Table 2: Groundwater Sample Analytical Data
3442 Adeline Street St. Oakland, CA 94608
AEI Project #274761**

Sample ID	Date	TPH-g	TPH-d	TPH-mo	MTBE	Benzene	Toluene	E-Benzene	Xylenes	TAME	ETBE	TBA	DIPE	MTBE
		<i>Method 8015</i>			<i>Method 8021B</i>					<i>Method 8260B</i>				
		µg/L	µg/L		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
SB-15	12/20/2007	36,000	3,000	---	<350	7,700	190	1,600	4,700	---	---	---	---	---
SB-16	12/20/2007	88	480	1500	<5.0	0.60	<0.5	<0.5	0.83	---	---	---	---	---
SB-17	12/20/2007	1,100	320	<250	<5.0	<0.5	6.2	<0.5	4.2	---	---	---	---	---
SB-18	12/20/2007	<50	1,800	5,100	<5.0	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
SB-19	12/20/2007	<50	280	1,400	<5.0	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
SB-20	12/20/2007	28,000	3,900	---	<160	3,400	22	1,200	930	---	---	---	---	---
SB-21	12/21/2007	8,100	1,200	---	<50	1,600	<5.0	160	84	---	---	---	---	---
SB-22	12/21/2007	2,600	620	---	<10	110	0.90	150	55	---	---	---	---	---
SB-23	5/14/2008	46,000	4,800	---	<450	9,000	40	2,300	5,200	---	---	---	---	---
SB-24	5/14/2008	11,000	2,900	---	<50	80	<5.0	440	290	---	---	---	---	---
SB-25	5/9/2008	3,600	1,300	---	<5.0	42	1.90	65	36	---	---	---	---	---
SB-26	5/14/2008	2,300	770	---	<10	22	2.1	<1.0	2.4	---	---	---	---	---
SB-27	5/14/2008	740	180	---	<5.0	7.4	3.70	<0.5	1.0	---	---	---	---	---
SB-28	5/16/2008	290	72	---	<5.0	1.3	0.93	2.7	4.0	---	---	---	---	---
SB-29	5/16/2008	<50	<50	---	<5.0	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
SB-30	5/14/2008	<50	<50	---	<5.0	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
SB-31	5/14/2008	5,100	770	---	<110	270	6.3	79	7	---	---	---	---	---

**Table 2: Groundwater Sample Analytical Data
3442 Adeline Street St. Oakland, CA 94608
AEI Project #274761**

Sample ID	Date	TPH-g	TPH-d	TPH-mo	MTBE	Benzene	Toluene	E-Benzene	Xylenes	TAME	ETBE	TBA	DIPE	MTBE
		<i>Method 8015</i>			<i>Method 8021B</i>					<i>Method 8260B</i>				
		µg/L	µg/L		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MW-1	4/17/2009	220	97	---	<5.0	10	<0.5	3.0	5.4	---	---	---	---	---
MW-2	4/17/2009	7,000	2,200	---	<100	850	19.0	93	470	---	---	---	---	---
MW-3	4/17/2009	10,000	2,200	---	<110	930	5.6	270	920	---	---	---	---	---
MW-4	4/17/2009	4,700	1,200	---	<30	140	2.0	28	18	---	---	---	---	---
MW-5	5/22/2009	14,000	2,800	---	<100	3000	12	340	420	---	---	---	---	---
MW-6	4/17/2009	5,600	1,000	---	<300	210	3.0	180	160	---	---	---	---	---
MW-7	5/22/2009	12,000	3,700	---	<120	1000	37	100	36	---	---	---	---	---
IW-1	5/22/2009	1,200	680	---	<15	58	2.7	2.3	18	---	---	---	---	---
BF-1	3/27/2009	19,000	---	---	<250	890	27	460	1,200	---	---	---	---	---
	6/22/2009	6,700	---	---	<150	840	19	170	150	---	---	---	---	---
ESL		100	100		5.0	1.0	40	30	20	---	---	50,000	---	---

Notes:

µg/L = micrograms per liter

ESL = Environmental Screening Level

TPH-g = total petroleum hydrocarbons as gasoline

TPH-d = total petroleum hydrocarbons as diesel

MTBE = methyl tert-butyl ether

E-Benzene = ethyl benzene

TAME = tert-amyl methyl ether

ETBE = ethyl tert-butyl ether

TBA = tertiary butyl alcohol

DIPE = Di-isopropyl Ether

(1) = Laboratory flage reasults as "oil range hydrocarbons are significant"

Table 3: Soil Vapor Sample Analytical Data
3442 Adeline Street St. Oakland, CA 94608
AEI Project #274761

Boring	Date	Isopropyl Alcohol	TPH-g	MTBE	Benzene	Toluene	Ethyl Benzene	Xylenes
					<i>Method TO15</i>			
		$\mu\text{g}/\text{m}^3$						
VB-1	10/1/2007	<25	1,900	<48	130	35	<8.8	<27
VB-2	10/1/2007	<25	3,100	<48	32	42	11	50
VB-3	10/1/2007	<25	2,500	<48	40	42	16	49
ESL		---	26,000	9,400	85	63,000	420,000	150,000

$\mu\text{g}/\text{m}^3$ = micrograms per cubic meter
ESL = Environmental Screening Level
TPH-g = total petroleum hydrocarbons as gasoline
MTBE = methyl tert-butyl ether

Table 4
Groundwater Elevation Data
3442 Adeline Street St. Oakland, CA 94608

Well ID (Screen Interval)	Date Collected	Well Elevation (ft amsl)	Depth to Water (ft)	Groundwater Elevation (ft amsl)
MW-1 (7-17)	6/10/2009	31.12	7.01	24.11
MW-2 (7-17)	6/10/2009	31.19	9.50	21.69
MW-3 (7-17)	6/10/2009	32.07	8.44	23.63
MW-4 (7-17)	6/10/2009	31.68	9.45	22.23
MW-5 (7-17)	6/10/2009	30.39	9.13	21.26
MW-6 (7-17)	6/10/2009	29.34	9.98	19.36
MW-7 (7-17)	6/10/2009	31.04	6.53	24.51
IW-1 (13-15)	6/10/2009	31.66	7.65	24.01

Groundwater Gradient Data

Event #	Date	Average Water Table Elevation (ft amsl)	Change from Previous Episode (ft)	Flow Direction (gradient) (ft/ft)
1	6/10/2009	23.14	NA	0.0186

ft amsl = feet above mean sea level
 All water level depths are measured from the top of casing

Table 5
Monitoring Well Construction Details
3442 Adeline Street St. Oakland, CA 94608

Well ID	Date Installed	Top of Casing Elevation (ft amsl)	Well Box Rim Elevation (ft amsl)	Well Depth (ft)	Casing Diameter (in)	Slotted Casing (ft)	Slot Size (in)	Sand Interval (ft)	Sand Size	Bentonite Interval (ft)	Grout Interval (ft)
MW-1	04/01/09	31.12	32.13	17	4	7-17	0.020	6-17	# 2/12	5-6	0.75 - 5
MW-2	04/01/09	31.19	31.43	17	4	7-17	0.020	6-17	# 2/12	5-6	0.75 - 5
MW-3	04/01/09	32.07	32.39	17	4	7-17	0.020	6-17	# 2/12	5-6	0.75 - 5
MW-4	04/02/09	31.68	31.98	17	2	7-17	0.020	6-17	# 2/12	5-6	0.75 - 5
MW-5	05/12/09	30.39	30.82	17	2	7-17	0.020	6-17	# 2/12	5-6	0.75 - 5
MW-6	04/02/09	29.34	29.96	17	2	7-17	0.020	6-17	# 2/12	5-6	0.75 - 5
MW-7	05/13/09	31.04	31.45	17	2	7-17	0.020	6-17	# 2/12	5-6	0.75 - 5
IW-1	05/12/09	31.66	31.90	15	2	13-15	0.010	12-15	# 2/12	11-12	0.75-12

Notes:

ft amsl = feet above mean sea level

APPENDIX A

Permits

Alameda County Public Works Agency - Water Resources Well Permit



399 Elmhurst Street
Hayward, CA 94544-1395
Telephone: (510)670-6633 Fax:(510)782-1939

Application Approved on: 03/12/2009 By jamesy

Permit Numbers: W2009-0219 to W2009-0225
Permits Valid from 03/23/2009 to 12/18/2009

Application Id: 1236637761518
Site Location: 3442 Adeline Street
Project Start Date: 03/23/2009
Assigned Inspector: Contact Vicky Hamlin at (510) 670-5443 or vickyh@acpwa.org

City of Project Site:Oakland

Completion Date:12/18/2009

Applicant: AEI Consultants - Harmony TomSun
2500 Camino Diablo, Suite 200, Walnut Creek, CA 94597
Property Owner: Steffi Zimmerman
6330 Swainland Road, Oakland, CA 94611
Client: ** same as Property Owner **

Phone: 925-746-6000 x141

Phone: --

	Total Due:	\$2415.00
Receipt Number: WR2009-0092	Total Amount Paid:	\$2415.00
Payer Name : Peter McIntyre	Paid By: VISA	PAID IN FULL

Works Requesting Permits:

Well Construction-Monitoring-Monitoring - 7 Wells
Driller: RSI Drilling - Lic #: 802334 - Method: auger

Work Total: \$2415.00

Specifications

Permit #	Issued Date	Expire Date	Owner Well Id	Hole Diam.	Casing Diam.	Seal Depth	Max. Depth
W2009-0219	03/12/2009	06/21/2009	MW-1	10.00 in.	4.00 in.	1.00 ft	17.00 ft
W2009-0220	03/12/2009	06/21/2009	MW-2	10.00 in.	4.00 in.	1.00 ft	17.00 ft
W2009-0221	03/12/2009	06/21/2009	MW-3	10.00 in.	4.00 in.	1.00 ft	17.00 ft
W2009-0222	03/12/2009	06/21/2009	MW-4	8.00 in.	2.00 in.	1.00 ft	17.00 ft
W2009-0223	03/12/2009	06/21/2009	MW-5	8.00 in.	2.00 in.	1.00 ft	17.00 ft
W2009-0224	03/12/2009	06/21/2009	MW-6	8.00 in.	2.00 in.	1.00 ft	17.00 ft
W2009-0225	03/12/2009	06/21/2009	MW-7	8.00 in.	2.00 in.	1.00 ft	17.00 ft

Specific Work Permit Conditions

1. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.

2. Permitte, permittee's contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on or off-site storm sewers, dry wells, or waterways or be allowed to move off the property where work is being completed.

3. Prior to any drilling activities, it shall be the applicant's responsibility to contact and coordinate an Underground

Alameda County Public Works Agency - Water Resources Well Permit

Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits or agreements required for that Federal, State, County or City, and follow all City or County Ordinances. No work shall begin until all the permits and requirements have been approved or obtained. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County an Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.

4. Compliance with the well-sealing specifications shall not exempt the well-sealing contractor from complying with appropriate State reporting-requirements related to well construction or destruction (Sections 13750 through 13755 (Division 7, Chapter 10, Article 3) of the California Water Code). Contractor must complete State DWR Form 188 and mail original to the Alameda County Public Works Agency, Water Resources Section, within 60 days. Including permit number and site map.
 5. Applicant shall submit the copies of the approved encroachment permit to this office within 60 days.
 6. Applicant shall contact Vicky Hamlin for an inspection time at 510-670-5443 or email to vickyh@acpwa.org at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.
 7. Wells shall have a Christy box or similar structure with a locking cap or cover. Well(s) shall be kept locked at all times. Well(s) that become damaged by traffic or construction shall be repaired in a timely manner or destroyed immediately (through permit process). No well(s) shall be left in a manner to act as a conduit at any time.
 8. Minimum surface seal thickness is two inches of cement grout placed by tremie
 9. Minimum seal (Neat Cement seal) depth for monitoring wells is 5 feet below ground surface(BGS) or the maximum depth practicable or 20 feet.
 10. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of \$500.00.
-

Alameda County Public Works Agency - Water Resources Well Permit



399 Elmhurst Street
Hayward, CA 94544-1395
Telephone: (510)670-6633 Fax:(510)782-1939

Application Approved on: 03/03/2009 By jamesy

Permit Numbers: W2009-0182
Permits Valid from 03/13/2009 to 03/23/2009

Application Id: 1235751581892
Site Location: 3442 Adeline Street

City of Project Site:Oakland

Project Start Date: 03/13/2009
Assigned Inspector: Contact Vicky Hamlin at (510) 670-5443 or vickyh@acpwa.org

Completion Date:03/23/2009

Applicant: AEI Consultants - Robert Flory
2500 Camino Diablo, Walnut Creek, CA 94597
Property Owner: Steffi Zimmerman
3289 Lomas Verdes Place, Lafayette, CA 94549
Client: ** same as Property Owner **
Contact: Robert Flory

Phone: 925-746-6000 x122

Phone: 925-891-4428

Phone: 925-746-6000 x122
Cell: 925-457-7517

	Total Due:	\$230.00
Receipt Number: WR2009-0079	Total Amount Paid:	\$230.00
Payer Name : Robert F. Flory	Paid By: VISA	PAID IN FULL

Works Requesting Permits:

Remediation Well Construction-Injection - 2 Wells
Driller: HEW - Lic #: 384167 - Method: other

Work Total: \$230.00

Specifications

Permit #	Issued Date	Expire Date	Owner Well Id	Hole Diam.	Casing Diam.	Seal Depth	Max. Depth
W2009-0182	03/03/2009	06/11/2009	BF-1	100.00 in.	4.00 in.	1.00 ft	20.00 ft
W2009-0182	03/03/2009	06/11/2009	BF-2	100.00 in.	4.00 in.	1.00 ft	20.00 ft

Specific Work Permit Conditions

1. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.
2. Compliance with the well-sealing specifications shall not exempt the well-sealing contractor from complying with appropriate State reporting-requirements related to well construction or destruction (Sections 13750 through 13755 (Division 7, Chapter 10, Article 3) of the California Water Code). Contractor must complete State DWR Form 188 and mail original to the Alameda County Public Works Agency, Water Resources Section, within 60 days. Including permit number and site map.
3. Applicant shall submit the copies of the approved encroachment permit to this office within 60 days.
4. Applicant shall contact Vicky Hamlin for an inspection time at 510-670-5443 or email to vickyh@acpwa.org at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.
5. Minimum seal depth (Neat Cement Seal) is 2 feet below ground surface (BGS).

Alameda County Public Works Agency - Water Resources Well Permit

6. Minimum surface seal thickness is two inches of cement grout placed by tremie
7. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of \$500.00.
8. Prior to any drilling activities onto any public right-of-ways, it shall be the applicants responsibilities to contact and coordinate a Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits required for that City or to the County and follow all City or County Ordinances. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County a Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.

9. Note:

well bore is given as 100".

The wells will be installed in backfill of excavation inside warehouse with concrete floor.

Excavation will be about 25 x 50 with 5 feet of permeable rock at groundwater level.

Balance backfilled with compacted engineered fill

Surface seal to concrete floor with well box

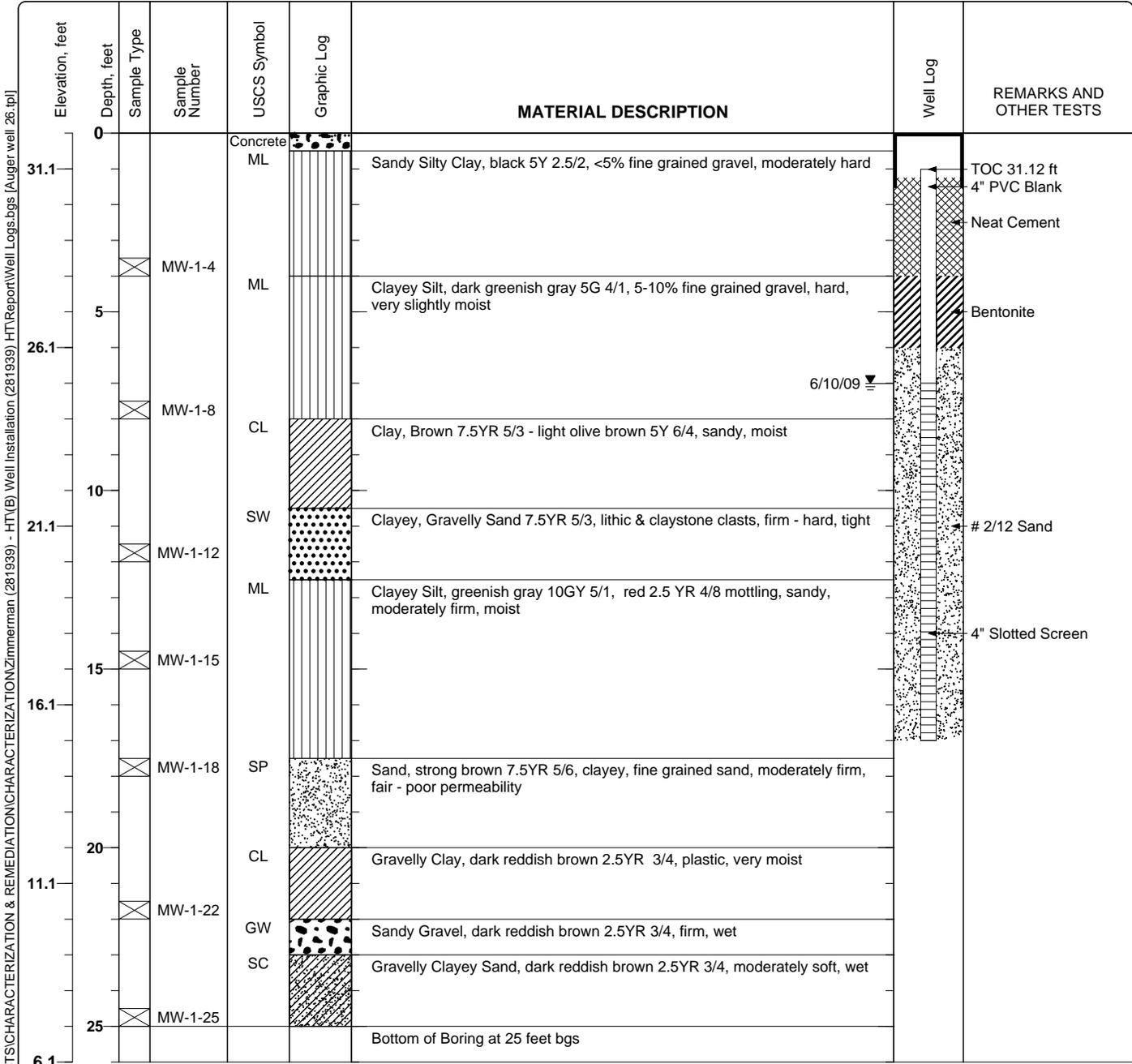
APPENDIX B

Boring/Well Logs

Project: Zimmerman
Project Location: 3442 Adeline Street, Oakland, CA 94608
Project Number: 281939

Log of Boring MW-1
 Sheet 1 of 1

Date(s) Drilled April 1, 2009	Logged By Harmony TomSun	Checked By Peter McIntyre
Drilling Method Direct Push/Hollow Stem Auger	Drill Bit Size/Type 2.25" dual tube sampler 10" augers	Total Depth of Borehole 25 feet bgs
Drill Rig Type GeoProbe	Drilling Contractor RSI Drilling	Approximate Surface Elevation 32.13 feet MSL
Groundwater Level and Date Measured 7.01 feet measured on 6/10/09	Sampling Method(s) Tube	Permit #
Borehole Backfill Well Completion	Location	



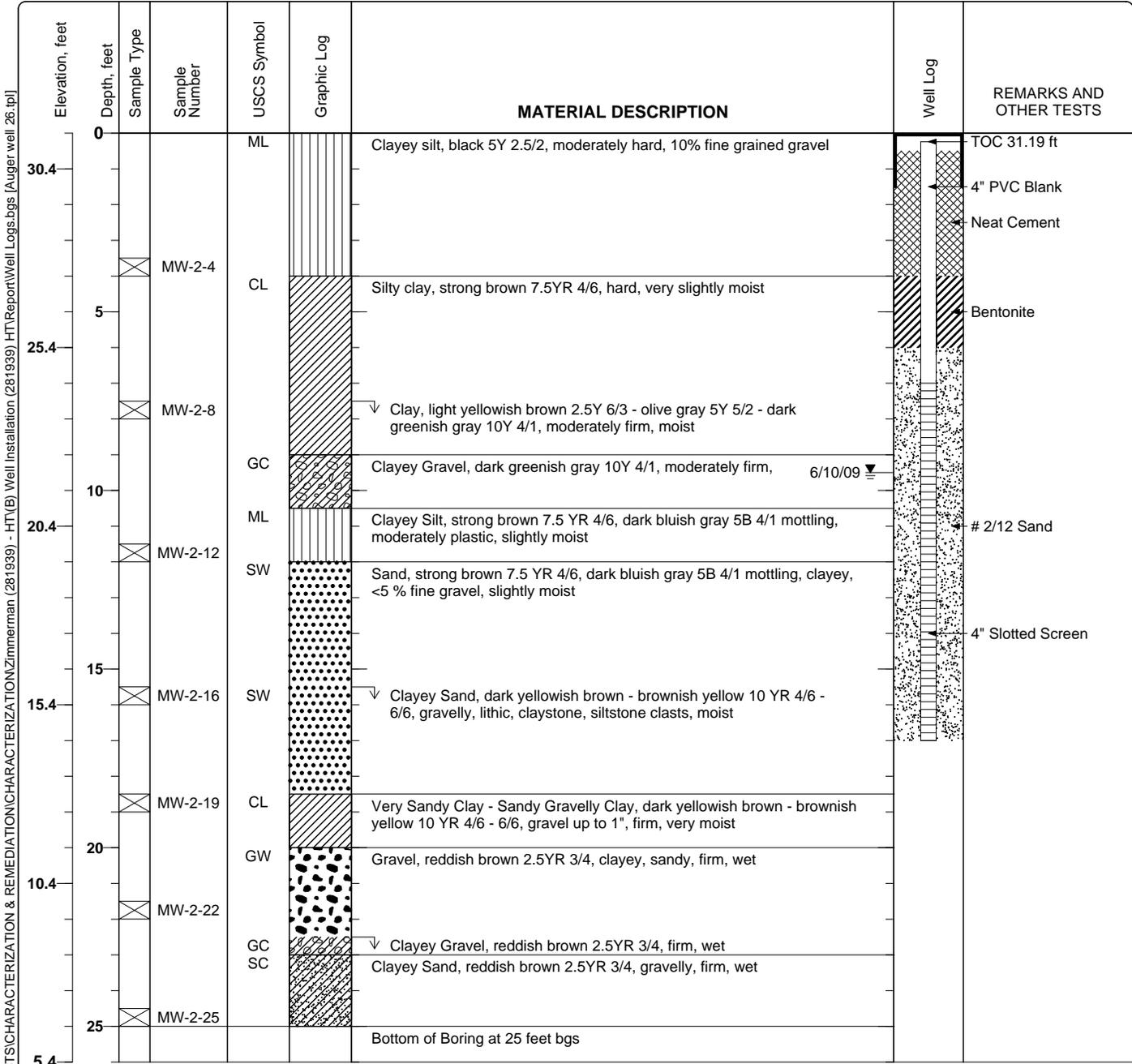
Figure

X:\PROJECTS\CHARACTERIZATION & REMEDIATION\CHARACTERIZATION\Zimmerman (281939) - HT\B Well Installation (281939) - HT\Report\Well Logs.bgs [Auger well 26.tpl]

Project: Zimmerman
Project Location: 3442 Adeline Street, Oakland, CA 94608
Project Number: 281939

Log of Boring MW-2
 Sheet 1 of 1

Date(s) Drilled April 1, 2009	Logged By Harmony TomSun	Checked By Peter McIntyre
Drilling Method Direct Push/Hollow Stem Auger	Drill Bit Size/Type 2.25" dual tube sampler, 10" augers	Total Depth of Borehole 25 feet bgs
Drill Rig Type Geoprobe	Drilling Contractor RSI Drilling	Approximate Surface Elevation 31.43 feet
Groundwater Level and Date Measured 9.5 feet measured on 6/10/09	Sampling Method(s) Tube	Permit #
Borehole Backfill Well Completion	Location	



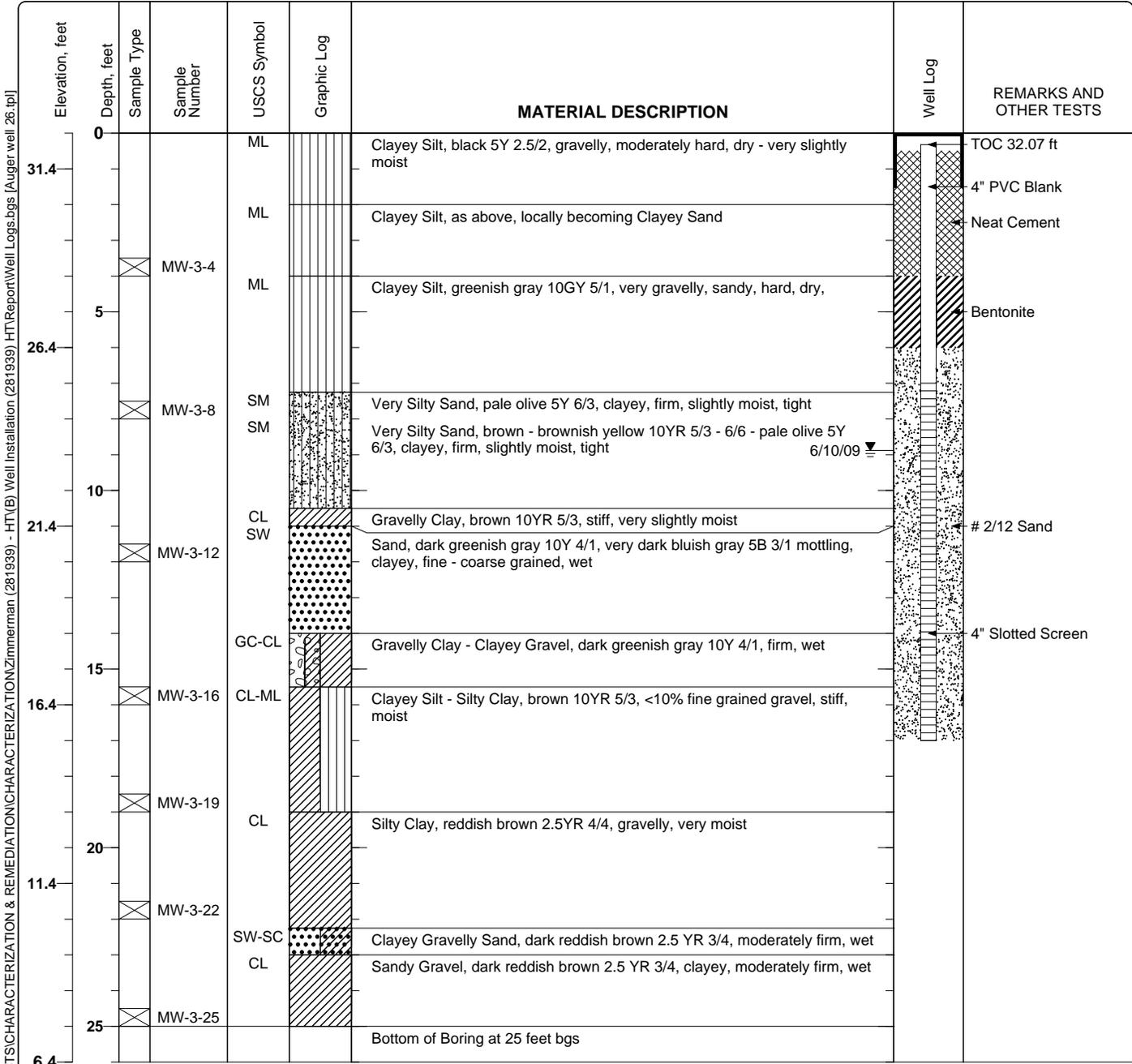
Figure

X:\PROJECTS\CHARACTERIZATION & REMEDIATION\CHARACTERIZATION\Zimmerman (281939) - HT\B Well Installation (281939) - HT\Report\Well Logs.bgs [Auger well 26.tbl]

Project: Zimmerman
Project Location: 3442 Adeline Street, Oakland, CA 94608
Project Number: 281939

Log of Boring MW-3
 Sheet 1 of 1

Date(s) Drilled April 1, 2009	Logged By Harmony TomSun	Checked By Peter McIntyre
Drilling Method Direct Push/Hollow Stem Auger	Drill Bit Size/Type 2.25" dual tube sampler, 10" augers	Total Depth of Borehole 25 feet bgs
Drill Rig Type GeoProbe	Drilling Contractor RSI Drilling	Approximate Surface Elevation 32.39 feet
Groundwater Level and Date Measured 8.88 feet measured on 6/10/09	Sampling Method(s) Tube	Permit #
Borehole Backfill Well Completion	Location	



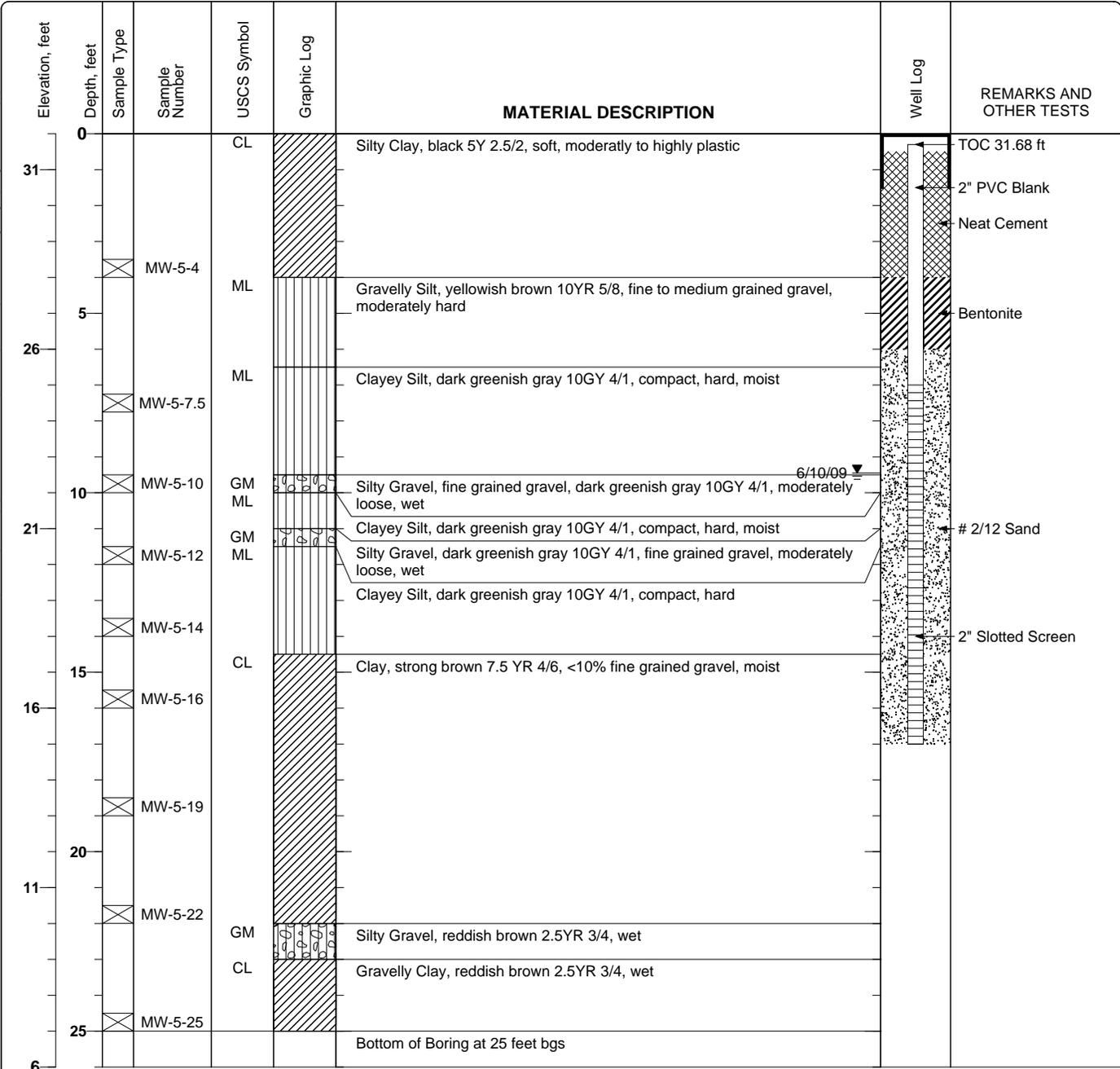
Figure

X:\PROJECTS\CHARACTERIZATION & REMEDIATION\CHARACTERIZATION\Zimmerman (281939) - HT\B Well Installation (281939) - HT\Report\Well Logs.bgs [Auger well 26.tpl]

Project: Zimmerman
Project Location: 3442 Adeline Street, Oakland, CA 94608
Project Number: 281939

Log of Boring MW-4
 Sheet 1 of 1

Date(s) Drilled April 1, 2009	Logged By Harmony TomSun	Checked By Peter McIntyre
Drilling Method Direct Push/Hollow Stem Auger	Drill Bit Size/Type 2.25" dual tube sampler, 8" augers	Total Depth of Borehole 25 feet bgs
Drill Rig Type GeoProbe	Drilling Contractor RSI Drilling	Approximate Surface Elevation 31.98 feet
Groundwater Level and Date Measured 9.45 feet measured on 6/10/09	Sampling Method(s) Tube	Permit #
Borehole Backfill Well Completion	Location	



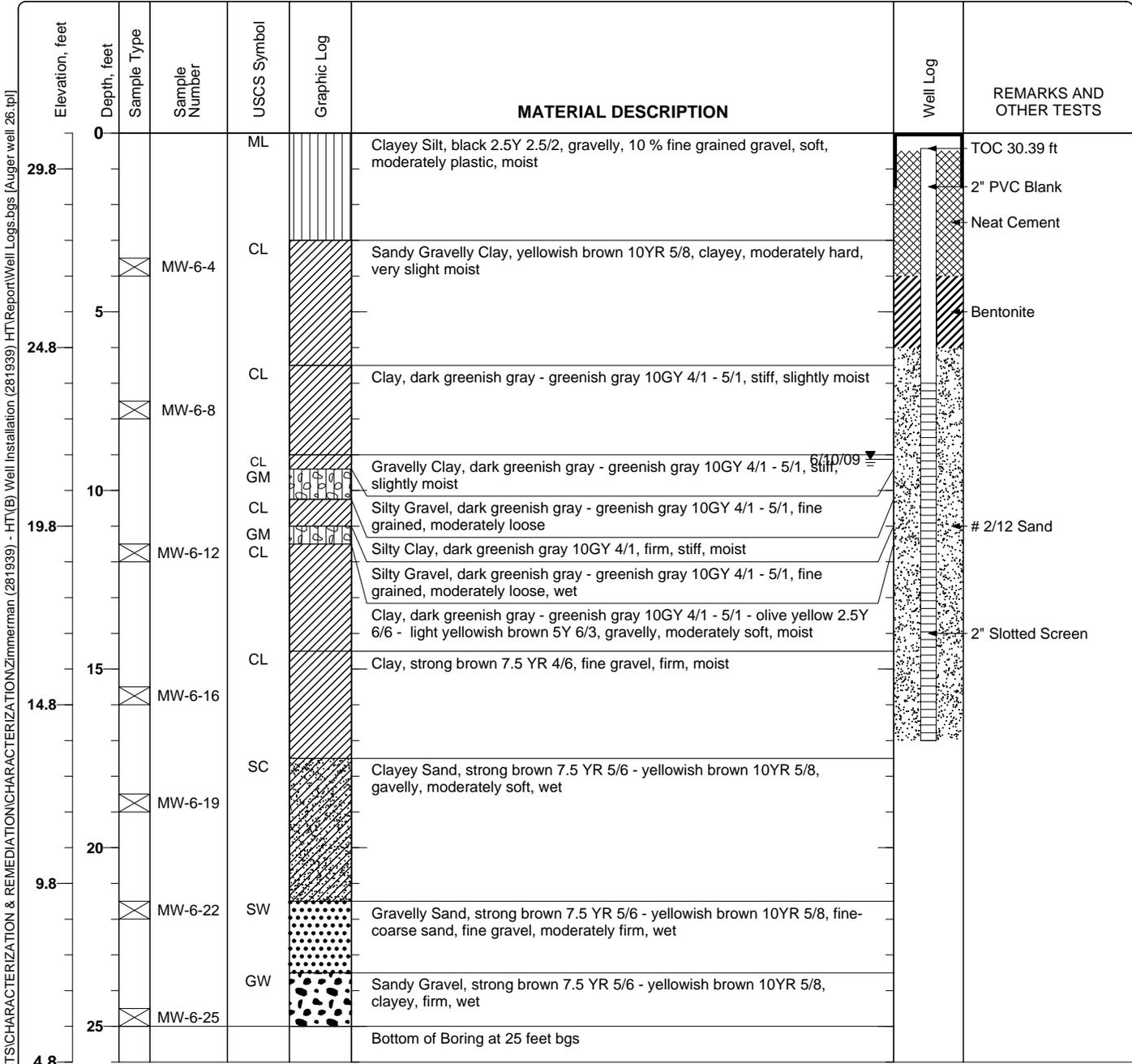
Figure

X:\PROJECTS\CHARACTERIZATION & REMEDIATION\CHARACTERIZATION\Zimmerman (281939) - HTV(B) Well Installation (281939) - HTV Report\Well Logs.bgs [Auger well 26.tpl]

Project: Zimmerman
Project Location: 3442 Adeline Street, Oakland, CA 94608
Project Number: 281939

Log of Boring MW-5
 Sheet 1 of 1

Date(s) Drilled May 12, 2009	Logged By Harmony TomSun	Checked By Peter McIntyre
Drilling Method Direct Push/Hollow Stem Auger	Drill Bit Size/Type 2.25" dual tube sampler, 8" augers	Total Depth of Borehole 25 feet bgs
Drill Rig Type GeoProbe	Drilling Contractor RSI Drilling	Approximate Surface Elevation 30.82 feet
Groundwater Level and Date Measured 9.13 feet measured on 6/10/09	Sampling Method(s) Tube	Permit #
Borehole Backfill Well Completion	Location	



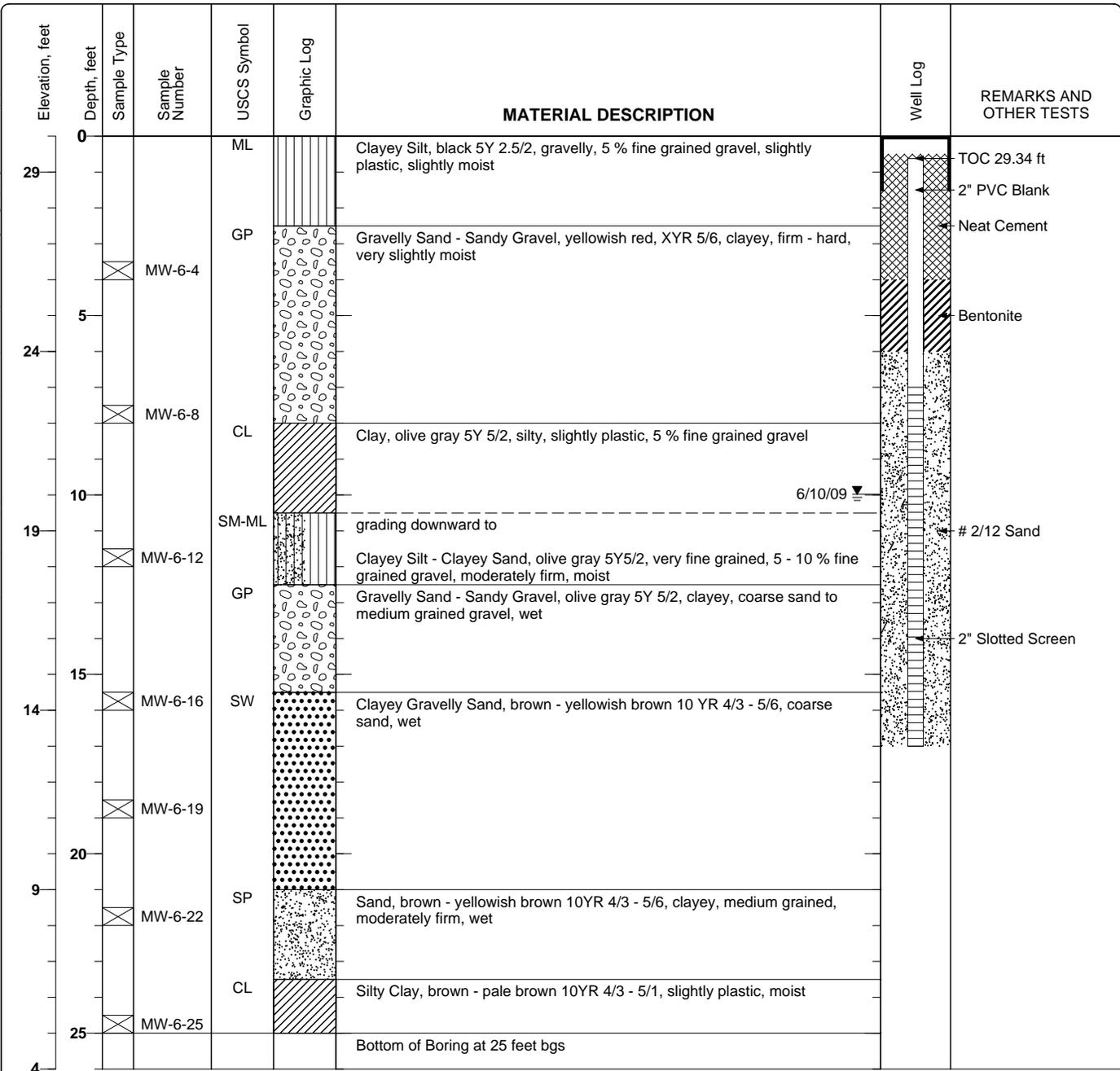
Figure

X:\PROJECTS\CHARACTERIZATION & REMEDIATION\CHARACTERIZATION\Zimmerman (281939) - HT\B Well Installation (281939) - HT\Report\Well Logs.bgs [Auger well 26.tpl]

Project: Zimmerman
Project Location: 3442 Adeline Street, Oakland, CA 94608
Project Number: 281939

Log of Boring MW-6
 Sheet 1 of 1

Date(s) Drilled April 1, 2009	Logged By Harmony TomSun	Checked By Peter McIntyre
Drilling Method Direct Push/Hollow Stem Auger	Drill Bit Size/Type 2.25" dual tube sampler, 8" augers	Total Depth of Borehole 25 feet bgs
Drill Rig Type GeoProbe	Drilling Contractor RSI Drilling	Approximate Surface Elevation 29.96 feet
Groundwater Level and Date Measured 9.98 feet measured on 6/10/09	Sampling Method(s) Tube	Permit #
Borehole Backfill Well Completion	Location	



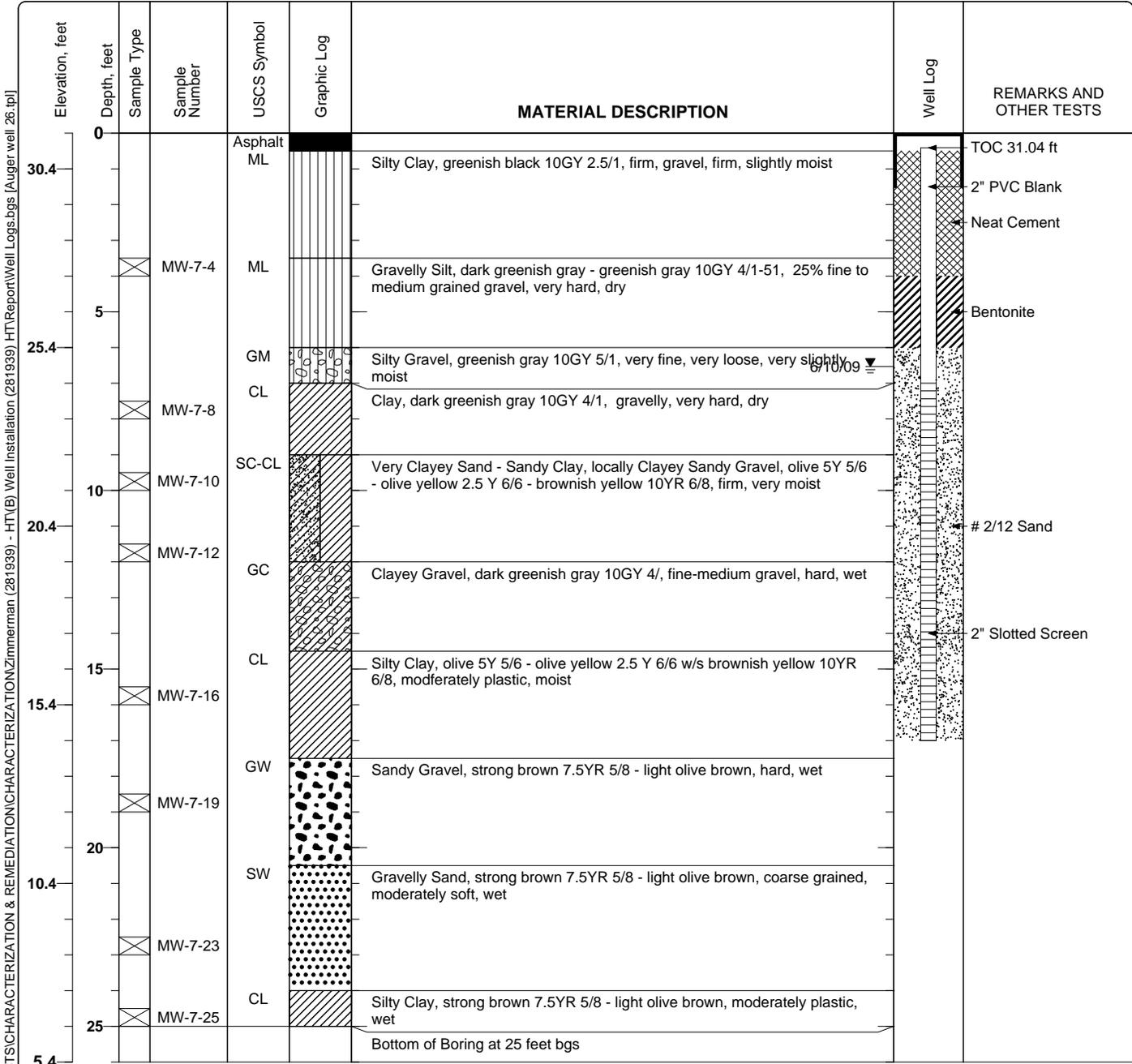
Figure

X:\PROJECTS\CHARACTERIZATION & REMEDIATION\CHARACTERIZATION\Zimmerman (281939) - HTV(B) Well Installation (281939) - HTV Report\Well_Logs.bgs [Auger well 26.tpl]

Project: Zimmerman
Project Location: 3442 Adeline Street, Oakland, CA 94608
Project Number: 281939

Log of Boring MW-7
 Sheet 1 of 1

Date(s) Drilled May 13, 2009	Logged By Harmony TomSun	Checked By Peter McIntyre
Drilling Method Direct Push/Hollow Stem Auger	Drill Bit Size/Type 2.25" dual tube samplers, 8" augers	Total Depth of Borehole 25 feet bgs
Drill Rig Type GeoProbe	Drilling Contractor RSI Drilling	Approximate Surface Elevation 31.45 feet
Groundwater Level and Date Measured 6.53 feet measured on 6/10/09	Sampling Method(s) Tube	Permit #
Borehole Backfill Well Completion	Location	



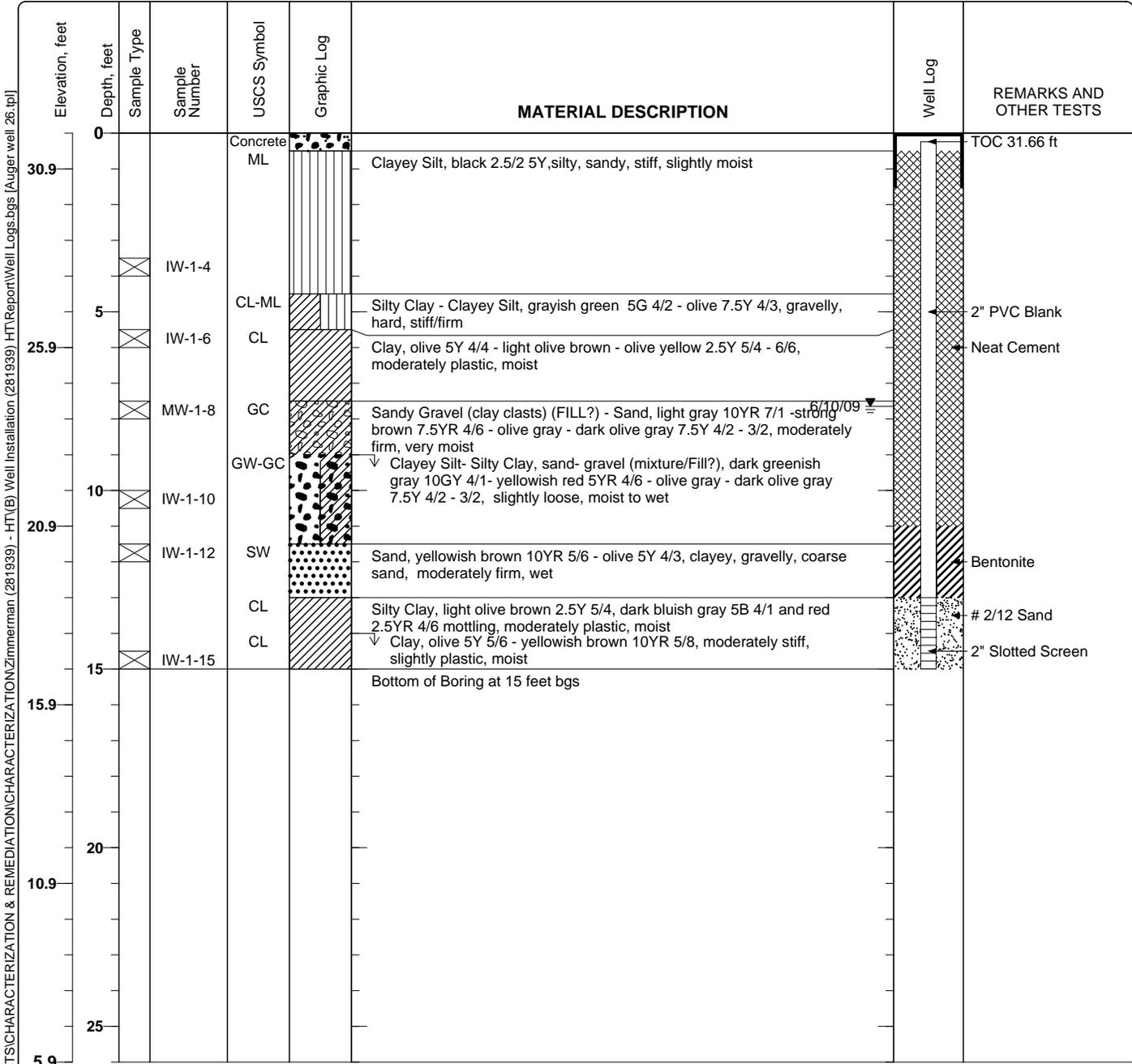
Figure

X:\PROJECTS\CHARACTERIZATION & REMEDIATION\CHARACTERIZATION\Zimmerman (281939) - HTV(B) Well Installation (281939) - HTV Report\Well_Logs.bgs [Auger well 26.tpl]

Project: Zimmerman
Project Location: 3442 Adeline Street, Oakland, CA 94608
Project Number: 281939

Log of Boring IW-1
 Sheet 1 of 1

Date(s) Drilled May 12, 2009	Logged By Harmony TomSun	Checked By Robert Flory
Drilling Method Direct Push/Hollow Stem Auger	Drill Bit Size/Type 2.25" dual tube sampler, 8" augers	Total Depth of Borehole 15 feet bgs
Drill Rig Type GeoProbe	Drilling Contractor RSI Drilling	Approximate Surface Elevation 31.9 feet
Groundwater Level and Date Measured 7.65 feet measured on 6/10/09	Sampling Method(s) Tube	Permit #
Borehole Backfill Well Completion	Location	



Figure

X:\PROJECTS\CHARACTERIZATION & REMEDIATION\CHARACTERIZATION\Zimmerman (281939) - HTV(B) Well Installation (281939) - HTV Report\Well Logs.bgs [Auger well 26.tpl]

APPENDIX C

Field Data Sheets

AEI CONSULTANTS
GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-1

Project Name:	Zimmerman	Date of Sampling:	4/17/2009
Job Number:	281939	Name of Sampler:	A Nieto
Project Address:	3442 Adeline St. Oakland Cal		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	4"		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	31.12		
Depth of Well	17.20		
Depth to Water (from top of casing)	7.01		
Water Elevation (feet above msl)	24.11		
Well Volumes Purged	Micropurged		
Actual Volume Purged (liters)	3.0		
Appearance of Purge Water	Clear		
Free Product Present?	Yes / No	Thickness (ft):	----

GROUNDWATER SAMPLES

Number of Samples/Container Size				Conductivity	DO	ORP	Comments
Time	Vol Removed (Liters)	Temperature (deg C)	pH	(μ S/cm)	(mg/L)	(meV)	
	0.5	17.42	7.46	2100	1.21	-133.4	clear
	1.0	17.32	7.42	1916	1.02	-137.7	clear
	1.5	17.24	7.39	1736	0.96	-140.3	clear
	2.0	17.22	7.36	1633	0.94	-144.1	clear
	2.5	17.15	7.35	1566	0.92	-144.1	clear
	3.0	17.09	7.34	1599	0.88	-146.1	clear

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

Clear with strong fetid hydrocarbon odor
Bottom of drop tube at 11.5 feet bgs.

AEI CONSULTANTS
GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-2

Project Name:	Zimmerman	Date of Sampling:	4/17/2009
Job Number:	281939	Name of Sampler:	A Nieto
Project Address:	3442 Adeline St. Oakland Cal		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	4"		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	31.19		
Depth of Well	17.25		
Depth to Water (from top of casing)	8.49		
Water Elevation (feet above msl)	22.70		
Well Volumes Purged	Micropurged		
Actual Volume Purged (liters)	3.5		
Appearance of Purge Water	Clear		
Free Product Present?	Yes / No	Thickness (ft):	----

GROUNDWATER SAMPLES

Number of Samples/Container Size				0			
Time	Vol Removed (Liters)	Temperature (deg C)	pH	Conductivity (μS/cm)	DO (mg/L)	ORP (meV)	Comments
	0.0						
4:10	0.5	17.72	7.07	1392	1.67	-65.5	Clear
	1.0	17.55	7.09	1412	0.79	-85.1	Clear
	1.5	17.52	7.08	1416	0.75	-92.9	Clear
	2.0	17.49	7.08	1417	0.68	-100.3	Clear
	2.5	17.48	7.08	1417	0.62	-105.6	Clear
	3.0	17.48	7.07	1418	0.52	-115.0	Clear
	3.5	17.47	7.07	1418	0.50	-117.8	Clear

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

Clear with strong hydrocarbon odor
Bottom of drop tube at 11.5 feet bgs.

AEI CONSULTANTS
GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-3

Project Name:	Zimmerman	Date of Sampling:	4/17/2009
Job Number:	281939	Name of Sampler:	A Nieto
Project Address:	3442 Adeline St. Oakland Cal		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	4"		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	32.07		
Depth of Well	17.36		
Depth to Water (from top of casing)	9.64		
Water Elevation (feet above msl)	22.43		
Well Volumes Purged	Micropurged		
Actual Volume Purged (liters)			
Appearance of Purge Water			
Free Product Present?	Yes / No	Thickness (ft):	----

GROUNDWATER SAMPLES

Number of Samples/Container Size				0			
Time	Vol Removed (Liters)	Temperature (deg C)	pH	Conductivity (μS/cm)	DO (mg/L)	ORP (meV)	Comments
	0.0	-	-	-	-	-	Clear
4:32	0.5	17.25	7.30	2081	2.44	-117.4	Clear
	1.0	17.06	7.25	1876	0.89	-127.8	Clear
	1.5	16.93	7.19	1654	0.75	-130.1	Clear
	2.0	16.88	7.16	1590	0.76	-130.6	Clear
	2.5	16.83	7.13	1532	0.81	-131.8	Clear
	3.0	16.81	7.10	1496	0.88	-133.9	Clear

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

Clear with strong hydrocarbon odor
Bottom of drop tube at 11.5 feet bgs.

AEI CONSULTANTS
GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-4

Project Name:	Zimmerman	Date of Sampling:	4/17/2009
Job Number:	281939	Name of Sampler:	A Nieto
Project Address:	3442 Adeline St. Oakland Cal		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2"		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	31.68		
Depth of Well	17.38		
Depth to Water (from top of casing)	7.78		
Water Elevation (feet above msl)	23.90		
Well Volumes Purged	Micropurged		
Actual Volume Purged (liters)			
Appearance of Purge Water	Clear		
Free Product Present?	Yes / No	Thickness (ft):	----

GROUNDWATER SAMPLES

Number of Samples/Container Size				0			
Time	Vol Removed (Liters)	Temperature (deg C)	pH	Conductivity (μS/cm)	DO (mg/L)	ORP (meV)	Comments
	0.0	-	-	-	-	-	Clear
3:53	0.5	17.39	7.39	663	1.59	-79.4	Clear
	1.0	17.07	7.26	649	0.96	-90.1	Clear
	1.5	16.96	7.23	647	0.88	-93.2	Clear
	2.0	16.93	7.19	645	0.82	-96.6	Clear
	2.5	16.87	7.15	644	0.79	-99.5	Clear
	3.0	16.82	7.12	646	0.81	-102.7	Clear

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

Clear with strong hydrocarbon odor
Bottom of drop tube at 11.5 feet bgs.

AEI CONSULTANTS
GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-5

Project Name:	Zimmerman	Date of Sampling:	5/22/2009
Job Number:	281939	Name of Sampler:	A Nieto
Project Address:	3442 Adeline St. Oakland Cal		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2"		
Wellhead Condition	OK ▼		
Elevation of Top of Casing (feet above msl)	30.39		
Depth of Well	17.37		
Depth to Water (from top of casing)	7.78		
Water Elevation (feet above msl)	22.61		
Well Volumes Purged	Micropurged		
Actual Volume Purged (liters)			
Appearance of Purge Water			
Free Product Present?	Yes / No	Thickness (ft):	----

GROUNDWATER SAMPLES

Number of Samples/Container Size				0			
Time	Vol Removed (Liters)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
9:14	1.0	15.16	7.86	1421	4.46	-76.9	Clear
	2.0	15.03	8.05	1481	2.53	-110.2	Clear
	3.0	15.02	7.92	1566	1.82	-118.1	Clear
	4.0	15.02	7.78	1604	1.54	-116.6	Clear
	5.0	15.02	7.67	1636	1.30	-116.1	Clear

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

Strong hydrocarbon odors present
Bottom of drop tubing set at 11 feet bgs.

AEI CONSULTANTS
GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-6

Project Name:	Zimmerman	Date of Sampling:	4/17/2009
Job Number:	281939	Name of Sampler:	A Nieto
Project Address:	3442 Adeline St. Oakland Cal		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2"		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	29.34		
Depth of Well	17.37		
Depth to Water (from top of casing)	9.98		
Water Elevation (feet above msl)	19.36		
Well Volumes Purged	Micropurged		
Actual Volume Purged (liters)			
Appearance of Purge Water	Slightly cloudy		
Free Product Present?	Yes / No	Thickness (ft):	----

GROUNDWATER SAMPLES

Number of Samples/Container Size				0			
Time	Vol Removed (Liters)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
	0.0	-	-	-	-	-	Clear
3:37	0.5	17.12	7.66	1480	1.81	-101.8	Slightly cloudy
	1.0	16.61	7.47	1102	1.37	-116.0	Slightly cloudy
	1.5	16.35	7.39	950	1.39	-120.2	Slightly cloudy
	2.0	16.13	7.28	841	1.44	-123.2	Slightly cloudy
	2.5	16.02	7.23	824	1.48	-124.2	Slightly cloudy
	3.0	15.95	7.19	814	1.47	-125.1	Slightly cloudy

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

Odors present.
Bottom of drop tubing at 11.5 feet bgs.

AEI CONSULTANTS
GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-7

Project Name:	Zimmerman	Date of Sampling:	5/22/2009
Job Number:	281939	Name of Sampler:	A Nieto
Project Address:	3442 Adeline St. Oakland Cal		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2"		
Wellhead Condition	OK ▼		
Elevation of Top of Casing (feet above msl)	31.04		
Depth of Well	16.96		
Depth to Water (from top of casing)	6.19		
Water Elevation (feet above msl)	24.85		
Well Volumes Purged	Micropurged		
Actual Volume Purged (liters)			
Appearance of Purge Water	Clear		
Free Product Present?	Yes / No	Thickness (ft):	----

GROUNDWATER SAMPLES

Number of Samples/Container Size				0			
Time	Vol Removed (Liters)	Temperature (deg C)	pH	Conductivity (μS/cm)	DO (mg/L)	ORP (meV)	Comments
8:27	1.0	18.44	6.96	760	3.70	-97.9	Clear
	2.0	18.52	7.08	756	3.61	-116.2	Clear
	3.0	18.61	7.14	754	5.60	-119.7	Clear
	4.0	18.75	7.16	787	5.83	-115.6	Clear
	5.0	18.77	7.18	808	6.03	-114.2	Clear
	6.0	18.77	7.18	812	6.05	-114.3	Clear

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

Slight hydrocarbon odors present.
Tubing line set at 11.5 feet bgs.

AEI CONSULTANTS
GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: IW-1

Project Name:	Zimmerman	Date of Sampling:	5/22/2009
Job Number:	281939	Name of Sampler:	A Nieto
Project Address:	3442 Adeline St. Oakland Cal		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2"		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	31.66		
Depth of Well	15.35		
Depth to Water (from top of casing)	7.65		
Water Elevation (feet above msl)	24.01		
Well Volumes Purged	Micropurged		
Actual Volume Purged (liters)			
Appearance of Purge Water	Clear		
Free Product Present?	Yes / No	Thickness (ft):	----

GROUNDWATER SAMPLES

Number of Samples/Container Size				0			
Time	Vol Removed (Liters)	Temperature (deg C)	pH	Conductivity (μS/cm)	DO (mg/L)	ORP (meV)	Comments
	1.0	18.16	7.13	1429	6.13	-15.0	Clear
	2.0	18.16	7.13	1103	5.09	-6.5	Clear

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

Strong hydrocarbon odors present.
Well went dry after purging 2 liters.

APPENDIX D

Soil Analytical Reports



McC Campbell Analytical, Inc.

"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mcccampbell.com E-mail: main@mcccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	Client Project ID: #274761; Zimmerman	Date Sampled: 04/01/09-04/02/09
		Date Received: 04/02/09
	Client Contact: Harmony TomSun	Date Reported: 04/09/09
	Client P.O.: WC081496	Date Completed: 04/09/09

WorkOrder: 0904084

April 10, 2009

Dear Harmony:

Enclosed within are:

- 1) The results of the **10** analyzed samples from your project: **#274761; Zimmerman,**
- 2) A QC report for the above samples,
- 3) A copy of the chain of custody, and
- 4) An invoice for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions or concerns, please feel free to give me a call. Thank you for choosing

McC Campbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius
Laboratory Manager
McC Campbell Analytical, Inc.

0904084

McCAMPBELL ANALYTICAL INC.

110 2ND AVENUE SOUTH, #D7
PACHECO, CA 94553-5560

Telephone: (925) 798-1620

Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME

RUSH 24 HR 48 HR 72 HR 5 DAY

EDF Required? Yes No Email PDF Report: YES

Report To: Harmony Tomsun Bill To: Same
Company: AEI Consultants PO #: W6081496
2500 Camino Diablo, Suite 200
Walnut Creek, CA 94597 E-Mail: htomsun@aeiconsultants.com
Tel: (925) 746-6000 Fax: (925) 925-6121
Project #: 274761 Project Name: Zimmerman
Project Location: 3442 Adeline Street, Oakland, CA
Sampler Signature: Harmony Tomsun

Analysis Request

Other

Comments

BTEX & TPH as Gas (602/8020 - 8015)
TPH as Diesel (8015) w/ silica gel cleanup
Total Petroleum Oil & Grease (5520 E&F,B&F)
Total Petroleum Hydrocarbons (418, 1)
HVOCS EPA 8260 (8010 list)
BTEX ~~by~~ EPA 602 / 8020 + MTBE
Pesticides EPA 608 / 8080
PCBs EPA 608 - 8080
VOCs EPA 624 / 8260
EPA 625 / 8270
PAH's / PNA's by EPA 625 / 8270 / 8310
CAM-17 Metals
LUFT 3 Metals
Lead (7240-7421/239 2/6010)
RCI
PCBs by EPA 8082
Herbicides by EPA 8150
IPH multi-range (g.d.v.v) with silica-gel clean

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED							
		Date	Time			Water	Soil	Air	Sludge	Other	Ice	HCl	HNO ₃	Other				
MW-1-4	Oakland	4/1/09	8:55	1	Line	X					X							
MW-1-8			9:00															X
MW-1-12			9:05															X
MW-1-15			9:10															X
MW-1-18			9:20															X
MW-1-22			9:25															X
MW-1-25			9:30															X
MW-2-4			11:30															X
MW-2-8			11:35															X
MW-2-12			11:40															X
MW-2-16			11:45															X
MW-2-19			11:50															X
MW-2-22			11:55															X
MW-2-25			12:00															X

Relinquished By: <u>[Signature]</u>	Date: <u>4/1/09</u>	Time: <u>7:00</u>	Received By: <u>[Signature]</u>
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

ICE/° YES 29°C PRESERVATION VOAS O&G METALS OTHER
GOOD CONDITION ✓ APPROPRIATE
HEAD SPACE ABSENT ✓ CONTAINERS ✓
DECLORINATED IN LAB ✓ PERSERVED IN LAB NO

0904084

McCAMPBELL ANALYTICAL INC.

110 2nd AVENUE SOUTH, #D7
PACHECO, CA 94553-5560

Telephone: (925) 798-1620

Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME

RUSH 24 HR 48 HR 72 HR 5 DAY

EDF Required? Yes No

Email PDF Report: YES

Report To: Harmony Tomsun Bill To: Same
Company: AEI Consultants PO #: WCD81496
2500 Camino Diablo, Suite 200
Walnut Creek, CA 94597 E-Mail: htomsun@aeiconsultants.com
Tel: (925) 746-6000 Fax: (925) 925-6121
Project #: 274761 Project Name: Zimmerman
Project Location: 3442 Adeline Street, Oakland, CA
Sampler Signature: Harmony Tomsun

Analysis Request

Other

Comments

BTLX & TPH as Gas (602, 8020 - 8015)																				
TPH as Diesel (8015) w/ silica gel cleanup																				
Total Petroleum Oil & Grease (5520 E&F/B&F)																				
Total Petroleum Hydrocarbons (418.1)																				
HVOC's EPA 8260 (8010 list)																				
BTEX (EPA 602 / 8020) + MTBE																				
Pesticides EPA 608 / 8080																				
PCBs EPA 608 / 8080																				
VOC's EPA 624 - 8260																				
EPA 625 / 8270																				
PAH's / PNA's by EPA 625 / 8270 / 8310																				
CAM-17 Metals																				
LUFT 5 Metals																				
Lead (7240/7421/239.2/6010)																				
RC1																				
PCBs by EPA 8082																				
Herbicides by EPA 8150																				
TPH multi-range (g/dm ³) with silica-gel clean																				

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED										
		Date	Time			Water	Soil	Air	Sludge	Other	Ice	HCl	HNO ₃	Other							
MW-3-4	Oakland	4/1	2:55	1	Linear	X					X										
MW-3-8			3:00																		
MW-3-12			3:05																		
MW-3-16			3:10																		
MW-3-19			3:15																		
MW-3-22			3:20																		
MW-3-25			3:25																		
MW-4-4		4/2	9:50																		
MW-4-8			9:55																		
MW-4-12			10:00																		
MW-4-16			10:05																		
MW-4-19			10:10																		
MW-4-22			10:15																		
MW-4-25			10:20																		

Relinquished By: <u>[Signature]</u>	Date: <u>4/12/09</u>	Time: <u>7:00</u>	Received By: <u>[Signature]</u>
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

ICEA[®] Yes 2900 PRESERVATION GOOD VOAS NO O&G NO METALS NO OTHER NO
 GOOD CONDITION NO APPROPRIATE CONTAINERS YES
 HEAD SPACE ABSENT NO PRESERVED IN LAB NO
 DECHLORINATED IN LAB NO

0904084

McCAMPBELL ANALYTICAL INC.
 110 2nd AVENUE SOUTH, #D7
 PACHECO, CA 94553-5560
 Telephone: (925) 798-1620 Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD
TURN AROUND TIME RUSH 24 HR 48 HR 72 HR 5 DAY
 EDF Required? Yes No Email PDF Report: YES

Report To: Harmony Tomsun Bill To: Same
 Company: AEI Consultants PO #: WC081496
 2500 Camino Diablo, Suite 200
 Walnut Creek, CA 94597 E-Mail: htomsun@aeiconsultants.com
 Tel: (925) 746-6000 Fax: (925) 925-6121
 Project #: 274761 Project Name: Zimmerman
 Project Location: 3442 Adeline Street, Oakland, CA
 Sampler Signature: [Signature]

Analysis Request Other Comments

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED							
		Date	Time			Water	Soil	Air	Sludge	Other	Ice	HCl	HNO ₃	Other				
MW-6-4	Oakland	4/2	11:20	2	low	X					X							
MW-6-8			11:25															
MW-6-12			11:30															
MW-6-16			11:35															
MW-6-19			11:40															
MW-6-22			11:45															
MW-6-25			11:50															

BTEX & TPH as Gas (602, 8020, 80151)																		
TPH as Diesel (8015) w/ silica gel cleanup																		
Total Petroleum Oil & Grease (5520 E&F, B&F)																		
Total Petroleum Hydrocarbons (418, 1)																		
HVOC's EPA 8260 (8010 list)																		
BTEX and (EPA 602 / 8020) + MTBE																		
Pesticides EPA 608 / 8080																		
PCBs EPA 608 / 8080																		
VOC's EPA 624 - 8260																		
EPA 625 - 8270																		
PAH's / PNA's by EPA 625 / 8270 / 8310																		
CAM-17 Metals																		
LUFT 5 Metals																		
Lead (7240/7421/239 2-6010)																		
RCU																		
PCBs by EPA 8082																		
Herbicides by EPA 8150																		
TPH multi-range (g/dm ³) with silica-gel clean																		
Hold																		

Relinquished By: [Signature] Date: 4/2/09 Time: 7:00 Received By: [Signature]
 Relinquished By: _____ Date: _____ Time: _____ Received By: _____
 Relinquished By: _____ Date: _____ Time: _____ Received By: _____

ICE/r YES 90°C
 GOOD CONDITION ✓
 HEAD SPACE ABSENT no
 DECHLORINATED IN LAB no
 PRESERVATION APPROPRIATE ✓
 CONTAINERS PRESERVED IN LAB no
 VOAS O&G METALS OTHER

McC Campbell Analytical, Inc.



1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0904084

ClientCode: AEL

WriteOn
 EDF
 Excel
 Fax
 Email
 HardCopy
 ThirdParty
 J-flag

Report to:	Harmony TomSun	Email: htomsun@aeiconsultants.com	Bill to:	Denise Mockel	Requested TAT: 5 days
	AEI Consultants	cc:		AEI Consultants	Date Received: 04/02/2009
	2500 Camino Diablo, Ste. #200	PO: WC081496		2500 Camino Diablo, Ste. #200	Date Printed: 04/10/2009
	Walnut Creek, CA 94597	ProjectNo: #274761; Zimmerman		Walnut Creek, CA 94597	
	(925) 283-6000 FAX: (925) 944-2895			dmockel@aeiconsultants.com	

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
0904084-003	MW-1-12	Soil	4/1/2009 9:05	<input type="checkbox"/>	A	A										
0904084-004	MW-1-15	Soil	4/1/2009 9:10	<input type="checkbox"/>	A	A										
0904084-010	MW-2-12	Soil	4/1/2009 11:40	<input type="checkbox"/>	A	A										
0904084-011	MW-2-16	Soil	4/1/2009 11:45	<input type="checkbox"/>	A	A										
0904084-017	MW-3-12	Soil	4/1/2009 15:05	<input type="checkbox"/>	A	A										
0904084-018	MW-3-16	Soil	4/1/2009 15:10	<input type="checkbox"/>	A	A										
0904084-024	MW-4-12	Soil	4/2/2009 10:00	<input type="checkbox"/>	A	A										
0904084-025	MW-4-16	Soil	4/2/2009 10:05	<input type="checkbox"/>	A	A										
0904084-031	MW-6-12	Soil	4/2/2009 11:30	<input type="checkbox"/>	A	A										
0904084-032	MW-6-16	Soil	4/2/2009 11:35	<input type="checkbox"/>	A	A										

Test Legend:

1	G-MBTX_S	2	TPH(D)WSG_S	3		4		5	
6		7		8		9		10	
11		12							

Prepared by: Samantha Arbuckle

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.



Sample Receipt Checklist

Client Name: **AEI Consultants**

Date and Time Received: **04/02/09 8:34:07 PM**

Project Name: **#274761; Zimmerman**

Checklist completed and reviewed by: **Samantha Arbuckle**

WorkOrder N°: **0904084** Matrix Soil

Carrier: Client Drop-In

Chain of Custody (COC) Information

- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Sample IDs noted by Client on COC? Yes No
- Date and Time of collection noted by Client on COC? Yes No
- Sampler's name noted on COC? Yes No

Sample Receipt Information

- Custody seals intact on shipping container/cooler? Yes No NA
- Shipping container/cooler in good condition? Yes No
- Samples in proper containers/bottles? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No

Sample Preservation and Hold Time (HT) Information

- All samples received within holding time? Yes No
 - Container/Temp Blank temperature Cooler Temp: 2.9°C NA
 - Water - VOA vials have zero headspace / no bubbles? Yes No No VOA vials submitted
 - Sample labels checked for correct preservation? Yes No
 - TTLC Metal - pH acceptable upon receipt (pH<2)? Yes No NA
 - Samples Received on Ice? Yes No
- (Ice Type: WET ICE)

* NOTE: If the "No" box is checked, see comments below.

Client contacted:

Date contacted:

Contacted by:

Comments:



McC Campbell Analytical, Inc.

"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mcccampbell.com E-mail: main@mcccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	Client Project ID: #274761; Zimmerman	Date Sampled: 04/01/09-04/02/09
	Client Contact: Harmony TomSun	Date Received: 04/02/09
	Client P.O.: WC081496	Date Extracted: 04/02/09
		Date Analyzed: 04/03/09-04/09/09

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE*

Extraction method: SW5030B

Analytical methods: SW8021B/8015Bm

Work Order: 0904084

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
003A	MW-1-12	S	30,d1	ND	0.034	0.026	0.042	0.11	1	101
004A	MW-1-15	S	ND	ND	ND	ND	ND	ND	1	86
010A	MW-2-12	S	140,d1	ND<1.0	0.81	ND<0.10	1.9	2.6	20	109
011A	MW-2-16	S	2.3,d1	ND	0.062	ND	0.016	0.0091	1	93
017A	MW-3-12	S	27,d1	ND<0.10	0.57	0.049	0.69	0.62	1	95
018A	MW-3-16	S	ND	ND	0.018	0.0059	0.0061	0.023	1	89
024A	MW-4-12	S	1100,d2,d9	ND<10	ND<1.0	2.9	1.1	1.3	200	---#
025A	MW-4-16	S	ND	ND	ND	ND	ND	ND	1	82
031A	MW-6-12	S	23,d1	ND	0.12	0.018	0.15	0.34	1	86
032A	MW-6-16	S	270,d2,d9	ND<2.5	ND<0.25	0.67	0.43	0.81	50	---#

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	5.0	0.5	0.5	0.5	0.5	ug/L
	S	1.0	0.05	0.005	0.005	0.005	0.005	mg/Kg

* water and vapor samples and all TCLP & SPLP extracts are reported in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

cluttered chromatogram; sample peak coelutes w/surrogate peak; low surrogate recovery due to matrix interference.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation:

d1) weakly modified or unmodified gasoline is significant
 d2) heavier gasoline range compounds are significant (aged gasoline?)
 d9) no recognizable pattern



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Telephone: 877-252-9262 Fax: 925-252-9269

AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	Client Project ID: #274761; Zimmerman	Date Sampled: 04/01/09-04/02/09
		Date Received: 04/02/09
	Client Contact: Harmony TomSun	Date Extracted: 04/02/09
	Client P.O.: WC081496	Date Analyzed 04/03/09-04/04/09

Total Extractable Petroleum Hydrocarbons with Silica Gel Clean-Up*

Extraction method: SW3550C/3630C

Analytical methods: SW8015B

Work Order: 0904084

Lab ID	Client ID	Matrix	TPH-Diesel (C10-C23)	DF	% SS
0904084-003A	MW-1-12	S	1.5,e4	1	109
0904084-004A	MW-1-15	S	ND	1	110
0904084-010A	MW-2-12	S	21,e4	1	116
0904084-011A	MW-2-16	S	ND	1	106
0904084-017A	MW-3-12	S	4.3,e4	1	109
0904084-018A	MW-3-16	S	ND	1	108
0904084-024A	MW-4-12	S	99,e4	1	119
0904084-025A	MW-4-16	S	ND	1	109
0904084-031A	MW-6-12	S	2.3,e4	1	90
0904084-032A	MW-6-16	S	29,e4,e2	1	109

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	NA	NA
	S	1.0	mg/Kg

* water samples are reported in µg/L, wipe samples in µg/wipe, soil/solid/sludge samples in mg/kg, product/oil/non-aqueous liquid samples in mg/L, and all DISTLC / STLC / SPLP / TCLP extracts are reported in µg/L.

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation:

e2) diesel range compounds are significant; no recognizable pattern

e4) gasoline range compounds are significant.



QC SUMMARY REPORT FOR SW8021B/8015Bm

W.O. Sample Matrix: Soil

QC Matrix: Soil

BatchID: 42446

WorkOrder 0904084

Analyte	EPA Method SW8021B/8015Bm		Extraction SW5030B						Spiked Sample ID: 0904063-012A			
	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex) [£]	ND	0.60	102	106	3.70	103	103	0	70 - 130	20	70 - 130	20
MTBE	ND	0.10	105	100	4.87	87.9	87.6	0.357	70 - 130	20	70 - 130	20
Benzene	ND	0.10	94.4	93.7	0.798	94.4	92.9	1.54	70 - 130	20	70 - 130	20
Toluene	ND	0.10	104	104	0	108	106	2.01	70 - 130	20	70 - 130	20
Ethylbenzene	ND	0.10	103	102	1.37	107	104	2.41	70 - 130	20	70 - 130	20
Xylenes	ND	0.30	115	115	0	117	115	1.34	70 - 130	20	70 - 130	20
%SS:	90	0.10	79	80	0.725	94	91	2.96	70 - 130	20	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 42446 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0904084-003A	04/01/09 9:05 AM	04/02/09	04/03/09 4:58 PM	0904084-004A	04/01/09 9:10 AM	04/02/09	04/04/09 6:12 AM
0904084-010A	04/01/09 11:40 AM	04/02/09	04/04/09 7:13 PM	0904084-011A	04/01/09 11:45 AM	04/02/09	04/04/09 6:45 AM
0904084-017A	04/01/09 3:05 PM	04/02/09	04/03/09 1:35 PM	0904084-018A	04/01/09 3:10 PM	04/02/09	04/03/09 1:01 PM
0904084-024A	04/02/09 10:00 AM	04/02/09	04/03/09 7:05 PM	0904084-025A	04/02/09 10:05 AM	04/02/09	04/03/09 3:50 PM
0904084-031A	04/02/09 11:30 AM	04/02/09	04/04/09 8:57 AM	0904084-032A	04/02/09 11:35 AM	04/02/09	04/09/09 4:38 PM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = matrix interference and/or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.



QC SUMMARY REPORT FOR SW8015B

W.O. Sample Matrix: Soil

QC Matrix: Soil

BatchID: 42445

WorkOrder 0904084

EPA Method SW8015B		Extraction SW3550C/3630C							Spiked Sample ID: 0904063-012A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH-Diesel (C10-C23)	ND	20	81.1	82.5	1.64	80.2	80.7	0.615	70 - 130	30	70 - 130	30
%SS:	89	50	80	81	0.802	80	81	0.569	70 - 130	30	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 42445 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0904084-003A	04/01/09 9:05 AM	04/02/09	04/04/09 2:33 AM	0904084-004A	04/01/09 9:10 AM	04/02/09	04/04/09 3:41 AM
0904084-010A	04/01/09 11:40 AM	04/02/09	04/04/09 4:49 AM	0904084-011A	04/01/09 11:45 AM	04/02/09	04/04/09 5:58 AM
0904084-017A	04/01/09 3:05 PM	04/02/09	04/04/09 3:41 AM	0904084-018A	04/01/09 3:10 PM	04/02/09	04/04/09 4:49 AM
0904084-024A	04/02/09 10:00 AM	04/02/09	04/04/09 5:58 AM	0904084-025A	04/02/09 10:05 AM	04/02/09	04/04/09 8:14 AM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = $100 * (MS - Sample) / (Amount Spiked)$; $RPD = 100 * (MS - MSD) / ((MS + MSD) / 2)$.

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.



QC SUMMARY REPORT FOR SW8015B

W.O. Sample Matrix: Soil

QC Matrix: Soil

BatchID: 42458

WorkOrder 0904084

EPA Method SW8015B		Extraction SW3550C/3630C							Spiked Sample ID: 0904084-031A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH-Diesel (C10-C23)	2.3	20	80.7	84.4	3.94	89.1	88.7	0.455	70 - 130	30	70 - 130	30
%SS:	90	50	81	81	0	102	103	1.19	70 - 130	30	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 42458 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0904084-031A	04/02/09 11:30 AM	04/02/09	04/03/09 4:17 PM	0904084-032A	04/02/09 11:35 AM	04/02/09	04/04/09 8:14 AM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = $100 * (MS - Sample) / (Amount Spiked)$; $RPD = 100 * (MS - MSD) / ((MS + MSD) / 2)$.

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.



McC Campbell Analytical, Inc.

"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mcccampbell.com E-mail: main@mcccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	Client Project ID: #274761; Zimmerman	Date Sampled: 04/01/09-04/02/09
		Date Received: 04/02/09
	Client Contact: Harmony TomSun	Date Reported: 04/09/09
	Client P.O.: WC081496	Date Completed: 04/15/09

WorkOrder: 0904084

April 16, 2009

Dear Harmony:

Enclosed within are:

- 1) The results of the **3** analyzed samples from your project: **#274761; Zimmerman,**
- 2) A QC report for the above samples,
- 3) A copy of the chain of custody, and
- 4) An invoice for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions or concerns, please feel free to give me a call. Thank you for choosing

McC Campbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius
Laboratory Manager
McC Campbell Analytical, Inc.

0904084

McCAMPBELL ANALYTICAL INC.

110 2nd AVENUE SOUTH, #D7
PACHECO, CA 94553-5560

Telephone: (925) 798-1620

Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME

RUSH 24 HR 48 HR 72 HR 5 DAY

EDF Required? Yes No Email PDF Report: YES

Report To: **Harmony Tomsun** Bill To: **Same**
Company: **AEI Consultants** PO #: **WLC081496**
2500 Camino Diablo, Suite 200
Walnut Creek, CA 94597 E-Mail: **htomsun@aeiconsultants.com**
Tel: (925) 746-6000 Fax: (925) 925-6121
Project #: **274761** Project Name: **Zimmerman**
Project Location: **3442 Adeline Street, Oakland, CA**
Sampler Signature: *Harmony Tomsun*

Analysis Request

Other

Comments

BTEX & TPH as Gas (602/8020 + 8015) TPH as Diesel (8015) w/ silica gel cleanup AT	Total Petroleum Oil & Grease (5520 E&F B&F)	Total Petroleum Hydrocarbons (418.1)	HVOCs EPA 8260 (8010 list)	BTEX (EPA 602 / 8020) + MTBE	Pesticides EPA 608 / 8080	PCBs EPA 608 / 8080	VOCs EPA 624 / 8260	EPA 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421/239.2/6010)	RCI	PCBs by EPA 8082	Herbicides by EPA 8150	TPH multi-range (g/dwt) with silica-gel clean	
MW-1-4	Oakland	4/1/09	8:55	1	Linear	X		X									
MW-1-8			9:00														
MW-1-12			9:05														
MW-1-15			9:10														
MW-1-18			9:20														
MW-1-22			9:25														
MW-1-25			9:30														
MW-2-4			11:30														
MW-2-8			11:35														
MW-2-12			11:40														
MW-2-16			11:45														
MW-2-19			11:50														
MW-2-22			11:55														
MW-2-25			12:00														

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED						
		Date	Time			Water	Soil	Air	Sludge	Other	Ice	HCl	HNO ₃	Other			
MW-1-4	Oakland	4/1/09	8:55	1	Linear	X					X						
MW-1-8			9:00														
MW-1-12			9:05														
MW-1-15			9:10														
MW-1-18			9:20														
MW-1-22			9:25														
MW-1-25			9:30														
MW-2-4			11:30														
MW-2-8			11:35														
MW-2-12			11:40														
MW-2-16			11:45														
MW-2-19			11:50														
MW-2-22			11:55														
MW-2-25			12:00														

Relinquished By: *[Signature]* Date: *4/1/09* Time: *7:00* Received By: *[Signature]*

Relinquished By: _____ Date: _____ Time: _____ Received By: _____

Relinquished By: _____ Date: _____ Time: _____ Received By: _____

ICE/YES *29°C* PRESERVATION APPROPRIATE VOAS O&G METALS OTHER

GOOD CONDITION CONTAINERS

HEAD SPACE ABSENT DECHLORINATED IN LAB PRESERVED IN LAB

* OFF H210 4/13/09

0904084

McCAMPBELL ANALYTICAL INC.

110 2nd AVENUE SOUTH, #D7
PACHECO, CA 94553-5560

Telephone: (925) 798-1620

Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME

RUSH 24 HR 48 HR 72 HR 5 DAY

EDF Required? Yes No Email PDF Report: YES

Report To: Harmony Tomsun Bill To: Same
Company: AEI Consultants PO #: WC081496
2500 Camino Diablo, Suite 200
Walnut Creek, CA 94597 E-Mail: htomsun@aeiconsultants.com
Tel: (925) 746-6000 Fax: (925) 925-6121
Project #: 274761 Project Name: Zimmerman
Project Location: 3442 Adeline Street, Oakland, CA
Sampler Signature: Harmony Tomsun

Analysis Request

Other

Comments

BTEX & TPH as Gas (607, 8020 - 8015)
TPH as Diesel (8015) w/ silica gel cleanup
Total Petroleum Oil & Grease (5520 E&F/B&F)
Total Petroleum Hydrocarbons (418.1)
HVOC's EPA 8260 (8010 Inst)
BTEX, ~~TPH~~ (EPA 602 / 8020) + MTBE
Pesticides EPA 608 / 8080
PCBs EPA 608 / 8080
VOC's EPA 624 / 8260
EPA 625 / 8270
PAH's / PNA's by EPA 625 / 8270 / 8310
CAM-17 Metals
LUFT 5 Metals
Lead (7240/7421/239 2/6010)
RCI
PCBs by EPA 8082
Herbicides by EPA 8150
TPH multi-range (g/dm³) with silica-gel clean

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED							
		Date	Time			Water	Soil	Air	Sludge	Other	Ice	HCl	HNO ₃	Other				
MW-3-4	Oakland	4/1	2:55	1	Linear	X					X							
MW-3-8			3:00															
MW-3-12			3:05															
MW-3-16			3:10															
MW-3-19			3:15															
MW-3-22			3:20															
MW-3-25			3:25															
MW-4-4		4/2	9:50															
MW-4-8			9:55															
MW-4-12			10:00															
MW-4-16			10:05															
MW-4-19			10:10															
MW-4-22			10:15															
MW-4-25			10:20															

Relinquished By: [Signature] Date: 4/2/09 Time: 7:00 Received By: [Signature]
Relinquished By: Date: Time: Received By:
Relinquished By: Date: Time: Received By:

ICE/YES 2900 PRESERVATION APPROPRIATE CONTAINERS ✓ PRESERVED IN LAB ✓
GOOD CONDITION ✓ VOAS O&G METALS OTHER
HEAD SPACE ABSENT ✓ NO
DECHLORINATED IN LAB ✓

0904084

McCAMPBELL ANALYTICAL INC. 110 2 ND AVENUE SOUTH, #D7 PACHECO, CA 94553-5560 Telephone: (925) 798-1620 Fax: (925) 798-1622	CHAIN OF CUSTODY RECORD TURN AROUND TIME <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> RUSH 24 HR 48 HR 72 HR 5 DAY EDF Required? <input type="checkbox"/> Yes <input type="checkbox"/> No Email PDF Report: YES
---	--

Report To: Harmony Tomsun	Bill To: Same
Company: AEI Consultants	PO #: WCO81496
2500 Camino Diablo, Suite 200	
Walnut Creek, CA 94597	
Tel: (925) 746-6000	E-Mail: htomsun@aeiconsultants.com
Project #: 274761	Fax: (925) 925-6121
Project Name: Zimmerman	
Project Location: 3442 Adeline Street, Oakland, CA	
Sampler Signature: <i>[Signature]</i>	

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED				Analysis Request	Other	Comments
		Date	Time			Water	Soil	Air	Sludge	Other	Ice	HCl	HNO ₃	Other			
MW-6-4	Oakland	4/2	11:20	1	liner	X					X						
MW-6-8			11:25														
MW-6-12			11:30														
MW-6-16			11:35														
MW-6-19			11:40														X OFF Hold 4/13/09
MW-6-22			11:45														X OFF Hold 4/13/09
MW-6-25			11:50														X OFF Hold 4/13/09

Relinquished By: <i>[Signature]</i>	Date: 4/2/09	Time: 7:00	Received By: <i>[Signature]</i>
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

ICE? <u>YES</u> 29°C	VOAS	O&G	METALS	OTHER
GOOD CONDITION <u>✓</u>	PRESERVATION APPROPRIATE			
HEAD SPACE ABSENT <u>NO</u>	CONTAINERS <u>✓</u>			
DECHLORINATED IN LAB <u>NO</u>	PRESERVED IN LAB <u>NO</u>			

McC Campbell Analytical, Inc.



1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 090408 **A**

ClientCode: AEL

WriteOn
 EDF
 Excel
 Fax
 Email
 HardCopy
 ThirdParty
 J-flag

Report to:

Harmony TomSun
AEI Consultants
2500 Camino Diablo, Ste. #200
Walnut Creek, CA 94597
(925) 283-6000 FAX (925) 944-2895

Email: htomsun@aeiconsultants.com
cc:
PO: WC081496
ProjectNo: #274761; Zimmerman

Bill to:

Denise Mockel
AEI Consultants
2500 Camino Diablo, Ste. #200
Walnut Creek, CA 94597
dmockel@aeiconsultants.com

Requested TAT: 5 days

Date Received: 04/02/2009

Date Add-On: 04/13/2009

Date Printed: 04/13/2009

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
0904084-012	MW-2-19	Soil	4/1/2009 11:50	<input type="checkbox"/>	A	A											
0904084-033	MW-6-19	Soil	4/2/2009 11:40	<input type="checkbox"/>	A	A											
0904084-035	MW-6-25	Soil	4/2/2009 11:50	<input type="checkbox"/>	A	A											

Test Legend:

1	G-MBTX_S	2	TPH(D)WSG_S	3		4		5	
6		7		8		9		10	
11		12							

Prepared by: Samantha Arbuckle

Comments: gmbtex and tph d with sg added on 4/13/09 on a std tat per H.T/ Email

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.



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"When Quality Counts"

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Telephone: 877-252-9262 Fax: 925-252-9269

AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	Client Project ID: #274761; Zimmerman	Date Sampled: 04/01/09-04/02/09
	Client Contact: Harmony TomSun	Date Received: 04/02/09
	Client P.O.: WC081496	Date Extracted: 04/13/09
		Date Analyzed: 04/14/09

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE*

Extraction method SW5030B

Analytical methods SW8021B/8015Bm

Work Order: 0904084

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
012A	MW-2-19	S	ND	ND	ND	ND	ND	ND	1	87
033A	MW-6-19	S	1.8,d1	ND<0.10	0.12	ND	0.060	ND	1	93
035A	MW-6-25	S	ND	ND	0.029	ND	0.0089	0.0054	1	87

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	5.0	0.5	0.5	0.5	0.5	ug/L
	S	1.0	0.05	0.005	0.005	0.005	0.005	mg/Kg

* water and vapor samples and all TCLP & SPLP extracts are reported in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

cluttered chromatogram; sample peak coelutes w/surrogate peak; low surrogate recovery due to matrix interference.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation:

d1) weakly modified or unmodified gasoline is significant



QC SUMMARY REPORT FOR SW8021B/8015Bm

W.O. Sample Matrix: Soil

QC Matrix: Soil

BatchID: 42629

WorkOrder: 0904084

Analyte	EPA Method SW8021B/8015Bm		Extraction SW5030B						Spiked Sample ID: 0904295-024A			
	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex) [£]	ND	0.60	108	108	0	108	105	2.48	70 - 130	20	70 - 130	20
MTBE	ND	0.10	84.7	86.1	1.58	84.6	78.9	6.95	70 - 130	20	70 - 130	20
Benzene	ND	0.10	80.5	84.6	4.99	90.1	90.7	0.659	70 - 130	20	70 - 130	20
Toluene	ND	0.10	103	107	3.85	109	109	0	70 - 130	20	70 - 130	20
Ethylbenzene	ND	0.10	106	111	4.29	110	110	0	70 - 130	20	70 - 130	20
Xylenes	ND	0.30	119	123	3.08	122	123	0.561	70 - 130	20	70 - 130	20
%SS:	97	0.10	89	93	4.74	94	96	2.38	70 - 130	20	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 42629 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0904084-012A	04/01/09 11:50 AM	04/13/09	04/14/09 3:51 PM	0904084-033A	04/02/09 11:40 AM	04/13/09	04/14/09 4:21 PM
0904084-035A	04/02/09 11:50 AM	04/13/09	04/14/09 4:51 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = matrix interference and/or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.



QC SUMMARY REPORT FOR SW8015B

W.O. Sample Matrix: Soil

QC Matrix: Soil

BatchID: 42584

WorkOrder 0904084

EPA Method SW8015B		Extraction SW3550C/3630C							Spiked Sample ID: 0904259-011A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH-Diesel (C10-C23)	36	20	76.4	86.2	3.71	98.4	99.7	1.30	70 - 130	30	70 - 130	30
%SS:	89	50	92	100	8.32	106	106	0	70 - 130	30	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 42584 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0904084-012A	04/01/09 11:50 AM	04/13/09	04/14/09 2:47 PM	0904084-033A	04/02/09 11:40 AM	04/13/09	04/14/09 3:56 PM
0904084-035A	04/02/09 11:50 AM	04/13/09	04/14/09 5:06 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.



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Web: www.mcccampbell.com E-mail: main@mcccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	Client Project ID: #281939	Date Sampled: 05/12/09-05/13/09
		Date Received: 05/13/09
	Client Contact: Harmony TomSun	Date Reported: 05/21/09
	Client P.O.:	Date Completed: 05/19/09

WorkOrder: 0905257

May 21, 2009

Dear Harmony:

Enclosed within are:

- 1) The results of the **6** analyzed samples from your project: **#281939**,
- 2) A QC report for the above samples,
- 3) A copy of the chain of custody, and
- 4) An invoice for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions or concerns, please feel free to give me a call. Thank you for choosing

McC Campbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius
Laboratory Manager
McC Campbell Analytical, Inc.

McCAMPBELL ANALYTICAL, INC.

1534 Willow Pass Road
Pittsburg, CA 94565-1701

Website: www.mccampbell.com Email: main@mccampbell.com

Telephone: (877) 252-9262

0905257
Fax: (925) 252-9269

CHAIN OF CUSTODY RECORD

TURN AROUND TIME

RUSH 24 HR 48 HR 72 HR 5 DAY

GeoTracker EDF PDF Excel Write On (DW)

Check if sample is effluent and "J" flag is required

Report To: Jeremy Tomson Bill To:
Company: AEI Consultants
2500 Camino Diablo
Walnut Creek, CA 94597 E-Mail:
Tele: (925) 746-6000 Fax: (925) 746-6099
Project #: 281939 Project Name:
Project Location: 3433 Chestnut St Oakland, CA 94608
Sampler Signature: [Signature]

Analysis Request Other Comments

SAMPLE ID	LOCATION/ Field Point Name	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED							
		Date	Time			Water	Soil	Air	Sludge	Other	ICE	HCL	HNO ₃	Other				
MW-5-4		5/12	3:10	1	luer	X												
MW-5-7.5			3:15															
MW-5-9.5			3:17															
MW-5-12			3:20															
MW-5-14			3:25															
MW-5-16			3:30															
MW-5-19			3:35															
MW-5-22.5			3:40															
MW-5-25			3:50															
MW-7-4		5/13	9:00															
MW-7-8			9:05															
MW-7-10			9:10															
MW-7-12			9:15															
MW-7-16			9:20															

BTEX & TPH as Gas (602 / 8021 + 8015) / MTBE	
TPH as Diesel (8015) <u>w/silica Gel</u>	
Total Petroleum Oil & Grease (1604 + 5520 E/B&F)	
Total Petroleum Hydrocarbons (418.1)	
EPA 503.2 / 601 / 8010 / 8021 (HVOCs)	
MTBE / BTEX ONLY (EPA 602 / 8021)	
EPA 505.608 / 8081 (51 Pesticides)	
EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners	
EPA 507 / 8141 (NP Pesticides)	
EPA 515 / 8151 (Acidic C1 Herbicides)	
EPA 524.2 / 624 / 8260 (VOCs)	
EPA 525.2 / 625 / 8270 (SVOCs)	
EPA 8270 SIM / 8310 (PAHs / PNAs)	
CAN 17 Metals (200.7 / 200.8 / 6010 / 6020)	
LC FT 5 Metals (200.7 / 200.8 / 6010 / 6020)	
Lead (200.7 / 200.8 / 6010 / 6020)	

Hold

X

Filter Samples for Metals analysis: Yes / No

Relinquished By: [Signature] Date: 5/13 Time: 2:48 Received By: Enviro-Tech Services AA
Relinquished By: Enviro-Tech SR Date: 5/13 Time: 6:00 Received By: [Signature]
Relinquished By: [Signature] Date: 5/13 Time: 6:15 Received By: [Signature]

ICE/YES 6/1/09
GOOD CONDITION
HEAD SPACE ABSENT
DECHLORINATED IN LAB
APPROPRIATE CONTAINERS
PRESERVED IN LAB
VOAS O&G METALS OTHER
PRESERVATION pH<2

COMMENTS:
OFF HOLD 5/15/09

McCAMPBELL ANALYTICAL, INC.

1534 Willow Pass Road
Pittsburg, CA 94565-1701

Website: www.mccampbell.com Email: main@mccampbell.com
Telephone: (877) 252-9262 Fax: (925) 252-9269

0905257

CHAIN OF CUSTODY RECORD

TURN AROUND TIME RUSH 24 HR 48 HR 72 HR 5 DAY
GeoTracker EDF PDF Excel Write On (DW)
 Check if sample is effluent and "J" flag is required

Report To: Harmony Tomlin Bill To: _____
Company: AET
E-Mail: _____
Tele: (925) 746 6000 Fax: (925) 746-6099
Project #: 281939 Project Name: _____
Project Location: _____
Sampler Signature: [Signature]

SAMPLE ID	LOCATION/ Field Point Name	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED				Analysis Request	Other	Comments
		Date	Time			Water	Soil	Air	Sludge	Other	ICE	HCL	HNO ₃	Other			
MW-7-19		5/13	925	1	liner	X											Filter Samples for Metals analysis: Yes / No
MW-7-23		1	930														
MW-7-25		1	935														
IW-1-4		5/12	1120														
IW-1-6		1	1125														
IW-1-8		1	1130														
IW-1-10.5		1	1135														
IW-1-12		1	1140														
IW-1-15		1	1145														

BTX & TPH as Gas (602 / 8021 + 8015) / MTBE	
TPH as Diesel (8015) w/bilua Gel	
Total Petroleum Oil & Grease (1664 / 5520 ETR&G)	
Total Petroleum Hydrocarbons (418.1)	
EPA 502.2 / 601 / 8010 / 8021 (HVOC)	
MTBE / BTEX ONLY (EPA 602 / 8021)	
EPA 505 / 608 / 8081 (C) Pesticides	
EPA 608 / 8082 PCB ONLY; Aroclors / Congeners	
EPA 507 / 8141 (NP Pesticides)	
EPA 535 / 8151 (Acidic C) Herbicides	
EPA 514.2 / 624 / 8260 (VOCs)	
EPA 525.2 / 625 / 8270 (SVOCs)	
EPA 8170 SIM / 8310 (PAHs / PNAH)	
CAM 17 Metals (200.7 / 200.8 / 6010 / 6020)	
LUFT 2 Metals (200.7 / 200.8 / 6010 / 6020)	
Lead (200.7 / 200.8 / 6010 / 6020)	

Relinquished By: [Signature] Date: 5/13 Time: 2:48
Received By: ENVIRO-TECH SERVICES AA 164 48
Relinquished By: Envirotech Date: 5/13 Time: 6:00
Received By: [Signature]
Relinquished By: [Signature] Date: 5/13 Time: 6:15
Received By: [Signature]

ICE? YES - 10C
GOOD CONDITION
HEAD SPACE ABSENT
DECONTAMINATED IN LAB
APPROPRIATE CONTAINERS
PRESERVED IN LAB
VOAS O&G METALS OTHER
PRESERVATION pH<2

McC Campbell Analytical, Inc.



1534 Willow Pass Rd
 Pittsburg, CA 94565-1701
 (925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0905257

ClientCode: AEL

WriteOn
 EDF
 Excel
 Fax
 Email
 HardCopy
 ThirdParty
 J-flag

Report to:	Harmony TomSun	Email: htomsun@aeiconsultants.com	Bill to:	Denise Mockel	Requested TAT: 5 days
	AEI Consultants	cc:		AEI Consultants	Date Received: 05/13/2009
	2500 Camino Diablo, Ste. #200	PO:		2500 Camino Diablo, Ste. #200	Date Printed: 05/15/2009
	Walnut Creek, CA 94597	ProjectNo: #281939		Walnut Creek, CA 94597	
	(925) 283-6000 FAX (925) 944-2895			dmockel@aeiconsultants.com	

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
0905257-004	MW-5-12	Soil	5/12/2009 15:20	<input type="checkbox"/>	A	A											
0905257-006	MW-5-16	Soil	5/12/2009 15:30	<input type="checkbox"/>	A	A											
0905257-013	MW-7-12	Soil	5/13/2009 9:15	<input type="checkbox"/>	A	A											
0905257-014	MW-7-16	Soil	5/13/2009 9:20	<input type="checkbox"/>	A	A											
0905257-021	IW-1-10.5	Soil	5/12/2009 11:35	<input type="checkbox"/>	A	A											
0905257-023	IW-1-15	Soil	5/12/2009 11:45	<input type="checkbox"/>	A	A											

Test Legend:

1	G-MBTX_S	2	TPH(D)WSG_S	3		4		5	
6		7		8		9		10	
11		12							

Prepared by: Samantha Arbuckle

Comments: Sample off Hold 5/15/09

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
 Hazardous samples will be returned to client or disposed of at client expense.



Sample Receipt Checklist

Client Name: **AEI Consultants**

Date and Time Received: **05/13/09 8:00:38 PM**

Project Name: **#281939**

Checklist completed and reviewed by: **Samantha Arbuckle**

WorkOrder N°: **0905257** Matrix Soil

Carrier: Benjamin Yslas (MAI Courier)

Chain of Custody (COC) Information

- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Sample IDs noted by Client on COC? Yes No
- Date and Time of collection noted by Client on COC? Yes No
- Sampler's name noted on COC? Yes No

Sample Receipt Information

- Custody seals intact on shipping container/cooler? Yes No NA
- Shipping container/cooler in good condition? Yes No
- Samples in proper containers/bottles? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No

Sample Preservation and Hold Time (HT) Information

- All samples received within holding time? Yes No
- Container/Temp Blank temperature Cooler Temp: 6.1°C NA
- Water - VOA vials have zero headspace / no bubbles? Yes No No VOA vials submitted
- Sample labels checked for correct preservation? Yes No
- TTLC Metal - pH acceptable upon receipt (pH<2)? Yes No NA
- Samples Received on Ice? Yes No

(Ice Type: WET ICE)

* NOTE: If the "No" box is checked, see comments below.

Client contacted:

Date contacted:

Contacted by:

Comments:



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Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	Client Project ID: #281939	Date Sampled: 05/12/09-05/13/09
		Date Received: 05/13/09
	Client Contact: Harmony TomSun	Date Extracted: 05/15/09
	Client P.O.:	Date Analyzed: 05/18/09-05/20/09

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE*

Extraction method: SW5030B

Analytical methods: SW8021B/8015Bm

Work Order: 0905257

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS	Comments
004A	MW-5-12	S	61	ND<1.0	0.27	0.12	0.66	0.92	20	92	d1
006A	MW-5-16	S	18	ND	0.15	0.0055	0.23	0.33	1	83	d1
013A	MW-7-12	S	13	ND	0.067	0.030	0.042	0.020	1	81	d1
014A	MW-7-16	S	ND	ND	ND	ND	ND	ND	1	91	
021A	IW-1-10.5	S	490	ND<1.0	0.19	0.69	6.7	3.5	20	101	d1
023A	IW-1-15	S	ND	ND	ND	ND	ND	ND	1	96	

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	5.0	0.5	0.5	0.5	0.5	ug/L
	S	1.0	0.05	0.005	0.005	0.005	0.005	mg/Kg

* water and vapor samples and all TCLP & SPLP extracts are reported in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

cluttered chromatogram; sample peak coelutes w/surrogate peak; low surrogate recovery due to matrix interference.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation:

d1) weakly modified or unmodified gasoline is significant



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Telephone: 877-252-9262 Fax: 925-252-9269

AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	Client Project ID: #281939	Date Sampled: 05/12/09-05/13/09
		Date Received: 05/13/09
	Client Contact: Harmony TomSun	Date Extracted: 05/15/09
	Client P.O.:	Date Analyzed 05/15/09-05/18/09

Total Extractable Petroleum Hydrocarbons with Silica Gel Clean-Up*

Extraction method SW3550C/3630C

Analytical methods: SW8015B

Work Order: 0905257

Lab ID	Client ID	Matrix	TPH-Diesel (C10-C23)	DF	% SS	Comments
0905257-004A	MW-5-12	S	31	10	101	e4
0905257-006A	MW-5-16	S	1.9	1	105	e4,e2
0905257-013A	MW-7-12	S	ND	1	99	
0905257-014A	MW-7-16	S	ND	1	106	
0905257-021A	IW-1-10.5	S	86	10	117	e4
0905257-023A	IW-1-15	S	ND	1	98	

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	NA	NA
	S	1.0	mg/Kg

* water samples are reported in µg/L, wipe samples in µg/wipe, soil/solid/sludge samples in mg/kg, product/oil/non-aqueous liquid samples in mg/L, and all DISTLC / STLC / SPLP / TCLP extracts are reported in µg/L.

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation:

e2) diesel range compounds are significant; no recognizable pattern
e4) gasoline range compounds are significant.



QC SUMMARY REPORT FOR SW8021B/8015Bm

W.O. Sample Matrix: Soil

QC Matrix: Soil

BatchID: 43210

WorkOrder: 0905257

EPA Method SW8021B/8015Bm		Extraction SW5030B							Spiked Sample ID: 0905212-021A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex) [£]	ND	0.60	94.6	101	6.67	92.6	91.4	1.34	70 - 130	20	70 - 130	20
MTBE	ND	0.10	97.5	96.6	1.00	101	99.7	1.14	70 - 130	20	70 - 130	20
Benzene	ND	0.10	105	114	7.89	104	107	2.89	70 - 130	20	70 - 130	20
Toluene	ND	0.10	100	107	6.35	98	100	2.05	70 - 130	20	70 - 130	20
Ethylbenzene	ND	0.10	104	110	5.39	100	101	0.990	70 - 130	20	70 - 130	20
Xylenes	ND	0.30	103	109	5.69	97.8	98.7	0.830	70 - 130	20	70 - 130	20
%SS:	91	0.10	101	98	2.92	103	103	0	70 - 130	20	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 43210 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0905257-004A	05/12/09 3:20 PM	05/15/09	05/18/09 3:20 PM	0905257-006A	05/12/09 3:30 PM	05/15/09	05/18/09 7:07 PM
0905257-013A	05/13/09 9:15 AM	05/15/09	05/18/09 7:38 PM	0905257-014A	05/13/09 9:20 AM	05/15/09	05/20/09 1:02 PM
0905257-021A	05/12/09 11:35 AM	05/15/09	05/18/09 4:30 PM	0905257-023A	05/12/09 11:45 AM	05/15/09	05/20/09 1:32 PM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = matrix interference and/or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.



QC SUMMARY REPORT FOR SW8015B

W.O. Sample Matrix: Soil

QC Matrix: Soil

BatchID: 43211

WorkOrder 0905257

EPA Method SW8015B		Extraction SW3550C/3630C							Spiked Sample ID: 0905212-021A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH-Diesel (C10-C23)	ND	20	98.5	98.6	0.0705	111	114	3.00	70 - 130	30	70 - 130	30
%SS:	105	50	106	106	0	105	109	3.38	70 - 130	30	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 43211 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0905257-004A	05/12/09 3:20 PM	05/15/09	05/16/09 1:14 AM	0905257-006A	05/12/09 3:30 PM	05/15/09	05/15/09 5:56 PM
0905257-013A	05/13/09 9:15 AM	05/15/09	05/18/09 9:09 PM	0905257-014A	05/13/09 9:20 AM	05/15/09	05/16/09 4:12 AM
0905257-021A	05/12/09 11:35 AM	05/15/09	05/16/09 5:21 AM	0905257-023A	05/12/09 11:45 AM	05/15/09	05/16/09 12:03 AM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = $100 * (MS - Sample) / (Amount Spiked)$; RPD = $100 * (MS - MSD) / ((MS + MSD) / 2)$.

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

APPENDIX E

Groundwater Analytical Reports



McC Campbell Analytical, Inc.

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Telephone: 877-252-9262 Fax: 925-252-9269

AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	Client Project ID: #274761; Zimmerman	Date Sampled: 04/17/09
		Date Received: 04/17/09
	Client Contact: Harmony TomSun	Date Reported: 04/23/09
	Client P.O.: #WC081560	Date Completed: 04/23/09

WorkOrder: 0904465

April 23, 2009

Dear Harmony:

Enclosed within are:

- 1) The results of the **5** analyzed samples from your project: **#274761; Zimmerman,**
- 2) A QC report for the above samples,
- 3) A copy of the chain of custody, and
- 4) An invoice for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions or concerns, please feel free to give me a call. Thank you for choosing

McC Campbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius
Laboratory Manager
McC Campbell Analytical, Inc.

0904465

McCAMPBELL ANALYTICAL INC.

1534 Willow Pass Road
Pittsburg, CA 94565

Telephone: (925) 252-9262

Fax: (925) 252-9269

CHAIN OF CUSTODY RECORD

TURN AROUND TIME

RUSH 24 HR 48 HR 72 HR 5 DAY

EDF Required? Yes No

Report To: Harmony TomSun Bill To: same P.O. #
Company: AEI Consultants
2500 Camino Diablo, Suite 200
Walnut Creek, CA 94597 E-Mail: htomsun@aeiconsultants.com
Tele: (925) 944-2899 Fax: (925) 944-2895
Project #: 274761 Project Name: Zimmerman
Project Location: 3442 Adeline Street, Oakland, CA
Sampler Signature: *[Signature]*

Analysis Request

Other

Comments

BTEX & TPH as Gas (602/8020 + 8015)/MIBE
TPH as Diesel (8015) with Silica Gel Cleanup
Total Petroleum Oil & Grease (5520 E&F/B&F)
Total Petroleum Hydrocarbons (418.1)
HVOC's EPA 8260
BTEX ONLY (EPA 662 / 8020)
TPH Multi-Range (C/D/MO) 8015 w/ Silica Gel
EPA 608 / 8080 PCB's ONLY
EPA 624 / 8260
EPA 625 / 8270 - SVOCs
PAH's : PNA's by EPA 625 / 8270 / 8310
CAM-17 Metals 6070
4UFT 5 Metals
Lead (7240/7421/239.2/6010)
RCI

+ Full

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING		# Containers	Type Containers	MATRIX				METHOD PRESERVED									
		Date	Time			Water	Soil	Air	Sludge	Other	Ice	HCl	HNO ₃	Other					
MW-1		4/17/04	17:10	4	4/L	x						x	x						
MW-2			1620			x						x	x						
MW-3			1640			x						x	x						
MW-4			1605			x						x	x						
MW-6			1545			x						x	x						

Relinquished By: *[Signature]* Date: 4/17/04 Time: 6:25 Received By: *[Signature]*
Relinquished By: Date: Time: Received By:
Relinquished By: Date: Time: Received By:

ICE? YES 30 °C
GOOD CONDITION
HEAD SPACE ABSENT
DECHLORINATED IN LAB
PRESERVATION APPROPRIATE CONTAINERS
PERSERVED IN LAB NO
VOAS O&G METALS OTHER

McC Campbell Analytical, Inc.



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Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0904465

ClientCode: AEL

WriteOn
 EDF
 Excel
 Fax
 Email
 HardCopy
 ThirdParty
 J-flag

Report to:	Harmony TomSun	Email: htomsun@aeiconsultants.com	Bill to:	Denise Mockel	Requested TAT:	5 days
	AEI Consultants	cc:		AEI Consultants	<i>Date Received:</i>	04/17/2009
	2500 Camino Diablo, Ste. #200	PO: #WC081560		2500 Camino Diablo, Ste. #200	<i>Date Printed:</i>	04/20/2009
	Walnut Creek, CA 94597	ProjectNo: #274761; Zimmerman		Walnut Creek, CA 94597		
	(925) 944-2899 FAX: (925) 944-2895			dmockel@aeiconsultants.com		

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
0904465-001	MW-1	Water	4/17/2009 17:10	<input type="checkbox"/>	B	A	A									
0904465-002	MW-2	Water	4/17/2009 16:20	<input type="checkbox"/>	B		A									
0904465-003	MW-3	Water	4/17/2009 16:40	<input type="checkbox"/>	B		A									
0904465-004	MW-4	Water	4/17/2009 16:05	<input type="checkbox"/>	B		A									
0904465-005	MW-6	Water	4/17/2009 15:45	<input type="checkbox"/>	B		A									

Test Legend:

1	G-MBTX_W	2	PREF REPORT	3	TPH(D)WSG_W	4		5	
6		7		8		9		10	
11		12							

Prepared by: Samantha Arbuckle

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.



Sample Receipt Checklist

Client Name: **AEI Consultants** Date and Time Received: **04/17/09 6:54:35 PM**
 Project Name: **#274761; Zimmerman** Checklist completed and reviewed by: **Samantha Arbuckle**
 WorkOrder N°: **0904465** Matrix Water Carrier: Client Drop-In

Chain of Custody (COC) Information

Chain of custody present? Yes No
 Chain of custody signed when relinquished and received? Yes No
 Chain of custody agrees with sample labels? Yes No
 Sample IDs noted by Client on COC? Yes No
 Date and Time of collection noted by Client on COC? Yes No
 Sampler's name noted on COC? Yes No

Sample Receipt Information

Custody seals intact on shipping container/cooler? Yes No NA
 Shipping container/cooler in good condition? Yes No
 Samples in proper containers/bottles? Yes No
 Sample containers intact? Yes No
 Sufficient sample volume for indicated test? Yes No

Sample Preservation and Hold Time (HT) Information

All samples received within holding time? Yes No
 Container/Temp Blank temperature Cooler Temp: 3.2°C NA
 Water - VOA vials have zero headspace / no bubbles? Yes No No VOA vials submitted
 Sample labels checked for correct preservation? Yes No
 TTLC Metal - pH acceptable upon receipt (pH<2)? Yes No NA
 Samples Received on Ice? Yes No
 (Ice Type: WET ICE)

* NOTE: If the "No" box is checked, see comments below.

Client contacted: Date contacted: Contacted by:

Comments:



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Telephone: 877-252-9262 Fax: 925-252-9269

AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	Client Project ID: #274761; Zimmerman	Date Sampled: 04/17/09
		Date Received: 04/17/09
	Client Contact: Harmony TomSun	Date Extracted: 04/20/09-04/22/09
	Client P.O.: #WC081560	Date Analyzed 04/20/09-04/22/09

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE*

Extraction method SW5030B

Analytical methods SW8021B/8015Bm

Work Order: 0904465

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001B	MW-1	W	220,d1	ND	10	ND	3.0	5.4	1	109
002B	MW-2	W	7000,d1	ND<100	850	19	93	470	20	98
003B	MW-3	W	10,000,d1	ND<110	930	5.6	270	920	10	115
004B	MW-4	W	4700,d1	ND<30	140	2.0	28	18	3.3	111
005B	MW-6	W	5600,d1	ND<300	210	3.0	180	160	3.3	111

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	5.0	0.5	0.5	0.5	0.5	µg/L
	S	1.0	0.05	0.005	0.005	0.005	0.005	mg/Kg

* water and vapor samples and all TCLP & SPLP extracts are reported in ug/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation:

d1) weakly modified or unmodified gasoline is significant



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AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	Client Project ID: #274761; Zimmerman	Date Sampled: 04/17/09
		Date Received: 04/17/09
	Client Contact: Harmony TomSun	Date Extracted: 04/17/09
	Client P.O.: #WC081560	Date Analyzed 04/18/09-04/21/09

Total Extractable Petroleum Hydrocarbons with Silica Gel Clean-Up*

Extraction method SW3510C/3630C

Analytical methods: SW8015B

Work Order: 0904465

Lab ID	Client ID	Matrix	TPH-Diesel (C10-C23)	DF	% SS
0904465-001A	MW-1	W	97,e4	1	109
0904465-002A	MW-2	W	2200,e4	1	108
0904465-003A	MW-3	W	2200,e4	1	108
0904465-004A	MW-4	W	1200,e4	1	107
0904465-005A	MW-6	W	1000,e4	1	109

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	µg/L
	S	NA	NA

* water samples are reported in µg/L, wipe samples in µg/wipe, soil/solid/sludge samples in mg/kg, product/oil/non-aqueous liquid samples in mg/L, and all DISTLC / STLC / SPLP / TCLP extracts are reported in µg/L.

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract/matrix interference.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation:

e4) gasoline range compounds are significant.



QC SUMMARY REPORT FOR SW8021B/8015Bm

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 42772

WorkOrder: 0904465

Analyte	EPA Method SW8021B/8015Bm		Extraction SW5030B						Spiked Sample ID: 0904479-008A			
	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex) [£]	ND	60	90.1	94.3	4.56	96	107	10.7	70 - 130	20	70 - 130	20
MTBE	ND	10	83.4	85	1.93	81.8	85.2	4.09	70 - 130	20	70 - 130	20
Benzene	ND	10	87.8	89.6	2.01	84.2	88.9	5.37	70 - 130	20	70 - 130	20
Toluene	ND	10	87.9	87.7	0.254	84.7	88.9	4.89	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	91.8	95.8	4.30	88.5	92.7	4.56	70 - 130	20	70 - 130	20
Xylenes	ND	30	102	107	4.91	97.9	102	4.45	70 - 130	20	70 - 130	20
%SS:	94	10	91	96	5.17	92	93	1.41	70 - 130	20	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 42772 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0904465-001B	04/17/09 5:10 PM	04/22/09	04/22/09 2:28 AM	0904465-002B	04/17/09 4:20 PM	04/20/09	04/20/09 6:41 PM
0904465-003B	04/17/09 4:40 PM	04/22/09	04/22/09 12:05 AM	0904465-004B	04/17/09 4:05 PM	04/22/09	04/22/09 12:36 AM
0904465-005B	04/17/09 3:45 PM	04/22/09	04/22/09 2:07 AM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = matrix interference and/or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content, or inconsistency in sample containers.



QC SUMMARY REPORT FOR SW8015B

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 42716

WorkOrder: 0904465

EPA Method SW8015B		Extraction SW3510C/3630C							Spiked Sample ID: N/A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH-Diesel (C10-C23)	N/A	1000	N/A	N/A	N/A	103	95.9	7.10	N/A	N/A	70 - 130	30
%SS:	N/A	2500	N/A	N/A	N/A	103	102	1.32	N/A	N/A	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 42716 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0904465-001A	04/17/09 5:10 PM	04/17/09	04/18/09 8:54 PM	0904465-002A	04/17/09 4:20 PM	04/17/09	04/18/09 10:02 PM
0904465-003A	04/17/09 4:40 PM	04/17/09	04/18/09 11:10 PM	0904465-004A	04/17/09 4:05 PM	04/17/09	04/21/09 4:27 PM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = $100 * (MS - Sample) / (Amount Spiked)$; $RPD = 100 * (MS - MSD) / ((MS + MSD) / 2)$.

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.



QC SUMMARY REPORT FOR SW8015B

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 42773

WorkOrder: 0904465

EPA Method SW8015B		Extraction SW3510C/3630C							Spiked Sample ID: N/A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH-Diesel (C10-C23)	N/A	1000	N/A	N/A	N/A	100	100	0	N/A	N/A	70 - 130	30
%SS:	N/A	2500	N/A	N/A	N/A	107	107	0	N/A	N/A	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 42773 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0904465-005A	04/17/09 3:45 PM	04/17/09	04/19/09 12:19 AM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = $100 * (MS - Sample) / (Amount Spiked)$; $RPD = 100 * (MS - MSD) / ((MS + MSD) / 2)$.

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.



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"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mcccampbell.com E-mail: main@mcccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	Client Project ID: #281939; Zimmerman, 3433 Chestnut	Date Sampled: 05/22/09
	Client Contact: Harmony TomSun	Date Received: 05/22/09
	Client P.O.: #WC081658	Date Reported: 05/28/09
		Date Completed: 05/28/09

WorkOrder: 0905491

May 28, 2009

Dear Harmony:

Enclosed within are:

- 1) The results of the **3** analyzed samples from your project: **#281939; Zimmerman, 3433 Chestn**
- 2) A QC report for the above samples,
- 3) A copy of the chain of custody, and
- 4) An invoice for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions or concerns, please feel free to give me a call. Thank you for choosing

McC Campbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius
Laboratory Manager
McC Campbell Analytical, Inc.

0905491

McCAMPBELL ANALYTICAL INC.
 1534 Willow Pass Road
 Pittsburg, CA 94565
 Telephone: (925) 252-9262 Fax: (925) 252-9269

CHAIN OF CUSTODY RECORD
TURN AROUND TIME RUSH 24 HR 48 HR 72 HR 5 DAY
 EDF Required? Yes No

Report To: Harmony TomSun Bill To: same P.O. # WC081658
 Company: AEI Consultants
 2500 Camino Diablo, Suite 200
 Walnut Creek, CA 94597 E-Mail: htomsun@aeiconsultants.com
 Tele: (925) 944-2899 Fax: (925) 944-2895
 Project #: 281939 Project Name: Zimmerman
 Project Location: 3433 Chestnut St, Oakland, CA
 Sampler Signature: *[Signature]*

Analysis Request		Other	Comments
BTEX & TPH as Gas (602/8020 + 8015) MTBE			
TPH as Diesel (8015) with Silica Gel Cleanup			
Total Petroleum Oil & Grease (5320 E&F-B&F)			
Total Petroleum Hydrocarbons (418 1)			
HVOC's EPA 8260			
BTEX ONLY (EPA 602 / 8020)			
TPH Multi-Range (G/D/MO) 8015 w/ Silica Gel			
EPA 608 / 8080 PCB'S ONLY			
EPA 624 / 8260			
EPA 625 / 8270 - SVOC's			
PAH's - PNA's by EPA 625 / 8270 / 8310			
CAM-17 Metals 6020			
LUFT 5 Metals			
Lead (7240/7421/239.2/6010)			
RC1			

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED								
		Date	Time			Water	Soil	Air	Sludge	Other	Ice	HCl	HNO ₃	Other					
MW-5		5/22/09	0855	4	4L	X					X								
MW-7		5/22/09	0850	"	1"	X					X								
IW-1		5/22/09	10:5	"	"	X					X								

Relinquished By: *[Signature]* Date: 5/22/09 Time: 4:00 Received By: *[Signature]*
 Relinquished By: _____ Date: _____ Time: _____ Received By: _____
 Relinquished By: _____ Date: _____ Time: _____ Received By: _____

ICE/HP 7X
 GOOD CONDITION _____
 HEAD SPACE ABSENT _____
 DECHLORINATED IN LAB _____
 PRESERVATION APPROPRIATE _____
 CONTAINERS _____
 PERSERVED IN LAB _____
 VOAS O&G METALS OTHER

McC Campbell Analytical, Inc.



1534 Willow Pass Rd
 Pittsburg, CA 94565-1701
 (925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0905491

ClientCode: AEL

WaterTrax
 WriteOn
 EDF
 Excel
 Fax
 Email
 HardCopy
 ThirdParty
 J-flag

Report to: Harmony TomSun AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597 (925) 944-2899 FAX (925) 944-2895	Email: htomsun@aeiconsultants.com cc: PO: #WC081658 ProjectNo: #281939; Zimmerman, 3433 Chestnut	Bill to: Denise Mockel AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597 dmockel@aeiconsultants.com	Requested TAT: 5 days Date Received: 05/22/2009 Date Printed: 05/22/2009
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Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
0905491-001	MW-5	Water	5/22/2009 9:55	<input type="checkbox"/>	A	A	B									
0905491-002	MW-7	Water	5/22/2009 8:40	<input type="checkbox"/>	A		B									
0905491-003	IW-1	Water	5/22/2009 10:15	<input type="checkbox"/>	A		B									

Test Legend:

1	G-MBTX_W	2	PREDF REPORT	3	TPH(D)WSG_W	4		5	
6		7		8		9		10	
11		12							

Prepared by: Ana Venegas

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
 Hazardous samples will be returned to client or disposed of at client expense.



Sample Receipt Checklist

Client Name: **AEI Consultants** Date and Time Received: **5/22/2009 7:25:59 PM**
Project Name: **#281939; Zimmerman, 3433 Chestnut** Checklist completed and reviewed by: **Ana Venegas**
WorkOrder N°: **0905491** Matrix Water Carrier: Client Drop-In

Chain of Custody (COC) Information

Chain of custody present? Yes No
Chain of custody signed when relinquished and received? Yes No
Chain of custody agrees with sample labels? Yes No
Sample IDs noted by Client on COC? Yes No
Date and Time of collection noted by Client on COC? Yes No
Sampler's name noted on COC? Yes No

Sample Receipt Information

Custody seals intact on shipping container/cooler? Yes No NA
Shipping container/cooler in good condition? Yes No
Samples in proper containers/bottles? Yes No
Sample containers intact? Yes No
Sufficient sample volume for indicated test? Yes No

Sample Preservation and Hold Time (HT) Information

All samples received within holding time? Yes No
Container/Temp Blank temperature Cooler Temp: 7.4°C NA
Water - VOA vials have zero headspace / no bubbles? Yes No No VOA vials submitted
Sample labels checked for correct preservation? Yes No
TTLC Metal - pH acceptable upon receipt (pH<2)? Yes No NA
Samples Received on Ice? Yes No

(Ice Type: WET ICE)

* NOTE: If the "No" box is checked, see comments below.

Client contacted: Date contacted: Contacted by:

Comments:



QC SUMMARY REPORT FOR SW8021B/8015Bm

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 43332

WorkOrder 0905491

EPA Method SW8021B/8015Bm		Extraction SW5030B							Spiked Sample ID: 0905404-001A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex) [£]	ND	60	115	115	0	117	117	0	70 - 130	20	70 - 130	20
MTBE	ND	10	84.8	88.4	4.16	86.9	87.8	0.991	70 - 130	20	70 - 130	20
Benzene	ND	10	101	97.4	3.15	105	104	1.12	70 - 130	20	70 - 130	20
Toluene	ND	10	101	96	4.93	108	105	2.81	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	101	96.8	4.71	106	106	0	70 - 130	20	70 - 130	20
Xylenes	ND	30	103	99.5	3.70	109	109	0	70 - 130	20	70 - 130	20
%SS:	100	10	105	99	5.45	103	102	1.23	70 - 130	20	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 43332 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0905491-001A	05/22/09 9:55 AM	05/27/09	05/27/09 9:32 PM	0905491-002A	05/22/09 8:40 AM	05/27/09	05/27/09 8:58 PM
0905491-003A	05/22/09 10:15 AM	05/27/09	05/27/09 8:24 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = matrix interference and/or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content, or inconsistency in sample containers.



QC SUMMARY REPORT FOR SW8015B

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 43325

WorkOrder 0905491

EPA Method SW8015B		Extraction SW3510C/3630C							Spiked Sample ID: N/A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH-Diesel (C10-C23)	N/A	1000	N/A	N/A	N/A	98.9	99.9	1.02	N/A	N/A	70 - 130	30
%SS:	N/A	2500	N/A	N/A	N/A	111	111	0	N/A	N/A	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 43325 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0905491-001B	05/22/09 9:55 AM	05/22/09	05/23/09 6:06 PM	0905491-002B	05/22/09 8:40 AM	05/22/09	05/23/09 7:14 PM
0905491-003B	05/22/09 10:15 AM	05/22/09	05/23/09 8:23 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = $100 * (MS - Sample) / (Amount Spiked)$; RPD = $100 * (MS - MSD) / ((MS + MSD) / 2)$.

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

APPENDIX F

Selected Chromatograph Charts and Re-quantified 8015 Results



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AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	Client Project ID: #274761; Zimmerman	Date Sampled: 12/20/07-12/21/07
		Date Received: 12/21/07
	Client Contact: Harmony TomSun	Date Extracted: 12/21/07
	Client P.O.:	Date Analyzed 12/27/07-12/31/07

Diesel Range (C10-C23) Extractable Hydrocarbons with Silica Gel Clean-Up*

Extraction method SW3510C/3630C/SW3550C/3630C

Analytical methods SW8015C

Work Order: 0712769

Lab ID	Client ID	Matrix	TPH(d)	DF	% SS
0712769-002A	SB-17-8	S	ND	1	115
0712769-003A	SB-17-12	S	ND	1	114
0712769-004B	SB-17-W	W	320,d	1	114
0712769-006A	SB-18-8	S	18,g,b	5	104
0712769-007B	SB-18-W	W	1800,g,b	2	83
0712769-009A	SB-19-8	S	ND	1	118
0712769-010A	SB-19-12	S	ND	1	115
0712769-012B	SB-19-W	W	280,g,b	2	92
0712769-014A	SB-16-8	S	ND	1	116
0712769-016B	SB-16-W	W	480,g,d	2	88
0712769-018A	SB-15-8	S	ND	1	111
0712769-019A	SB-15-12	S	61,d	20	101
0712769-022A	SB-14-8	S	ND	1	109
0712769-023A	SB-14-12	S	83,d	5	98
0712769-026A	SB-13-8	S	66,d	2	116
0712769-027A	SB-13-12	S	74,d	10	109

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	µg/L
	S	1.0	mg/Kg

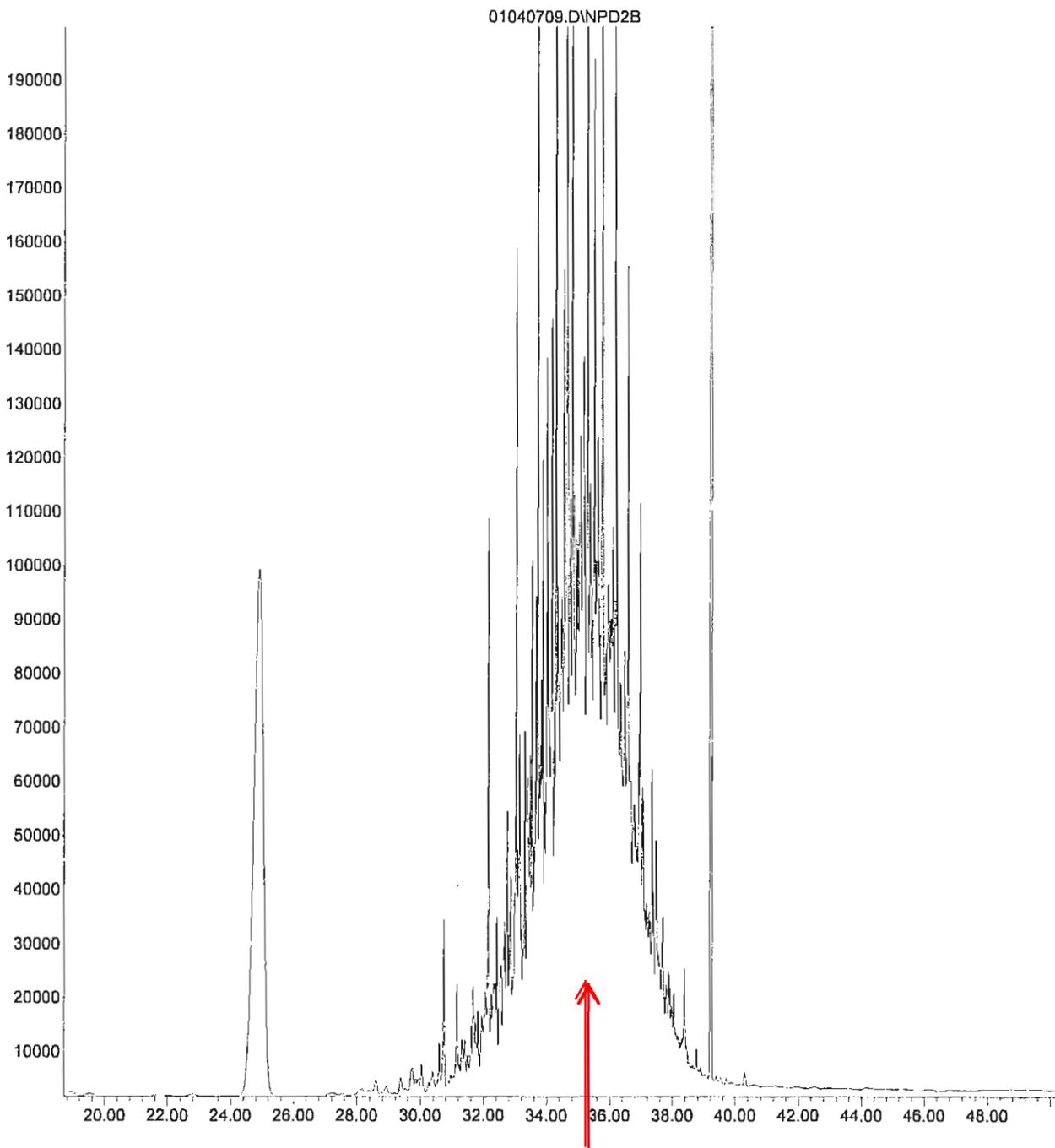
* water samples are reported in µg/L, wipe samples in µg/wipe, soil/solid/sludge samples in mg/kg, product/oil/non-aqueous liquid samples in mg/L, and all DISTLC / STLC / SPLP / TCLP extracts are reported in µg/L.

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

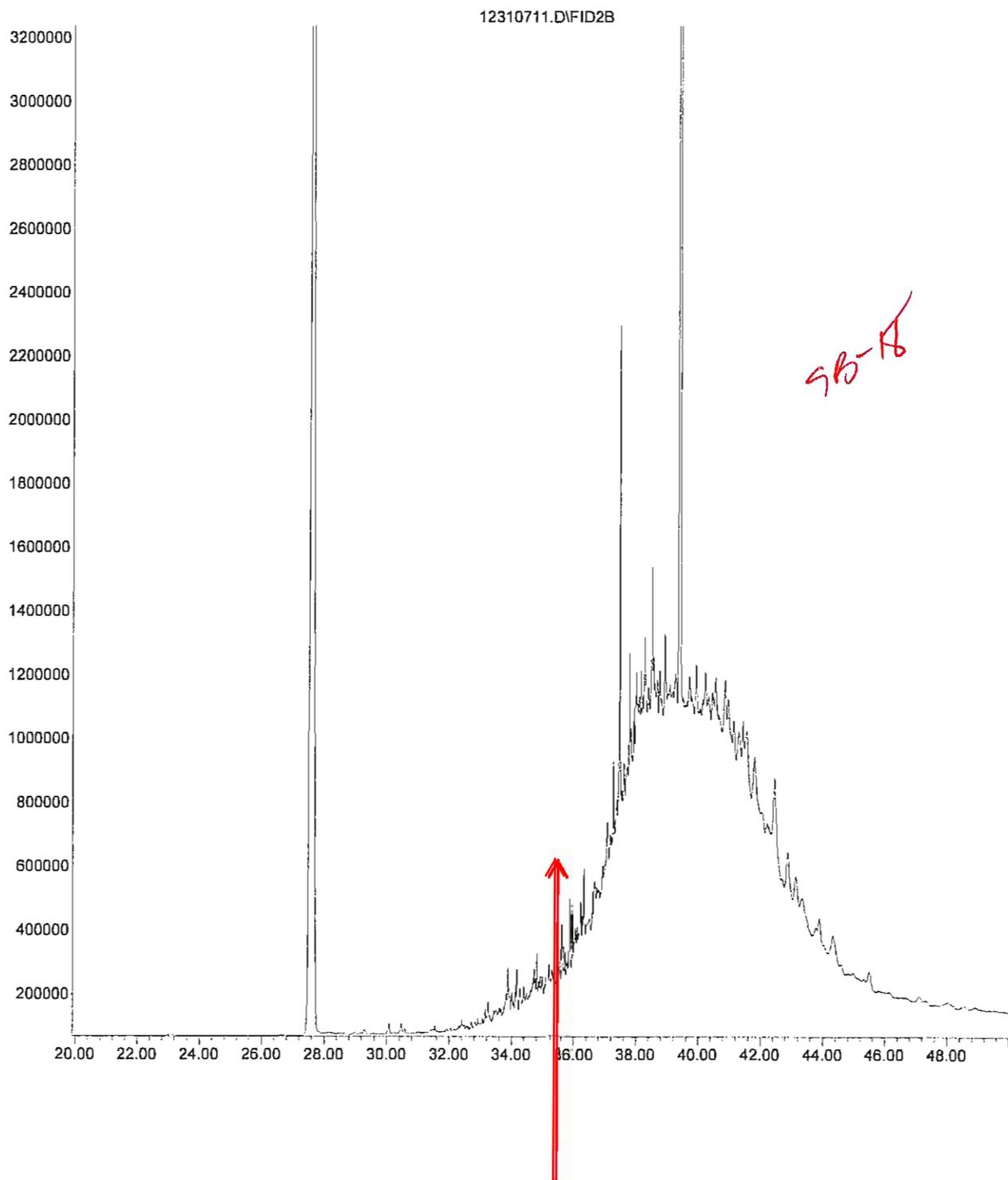
+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant; d) gasoline range compounds are significant; e) unknown medium boiling point pattern that does not appear to be derived from diesel; f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; k) kerosene/kerosene range; l) bunker oil; m) fuel oil; n) stoddard solvent/mineral spirit; r) results are reported on a dry weight basis

File : D:\HPCHEM\GC2\DATAB\01040709.D
Operator :
Acquired : 4 Jan 2007 2:42 pm using AcqMethod GC2AT.M
Instrument : GC-2
Sample Name: B
Misc Info :
Vial Number: 55

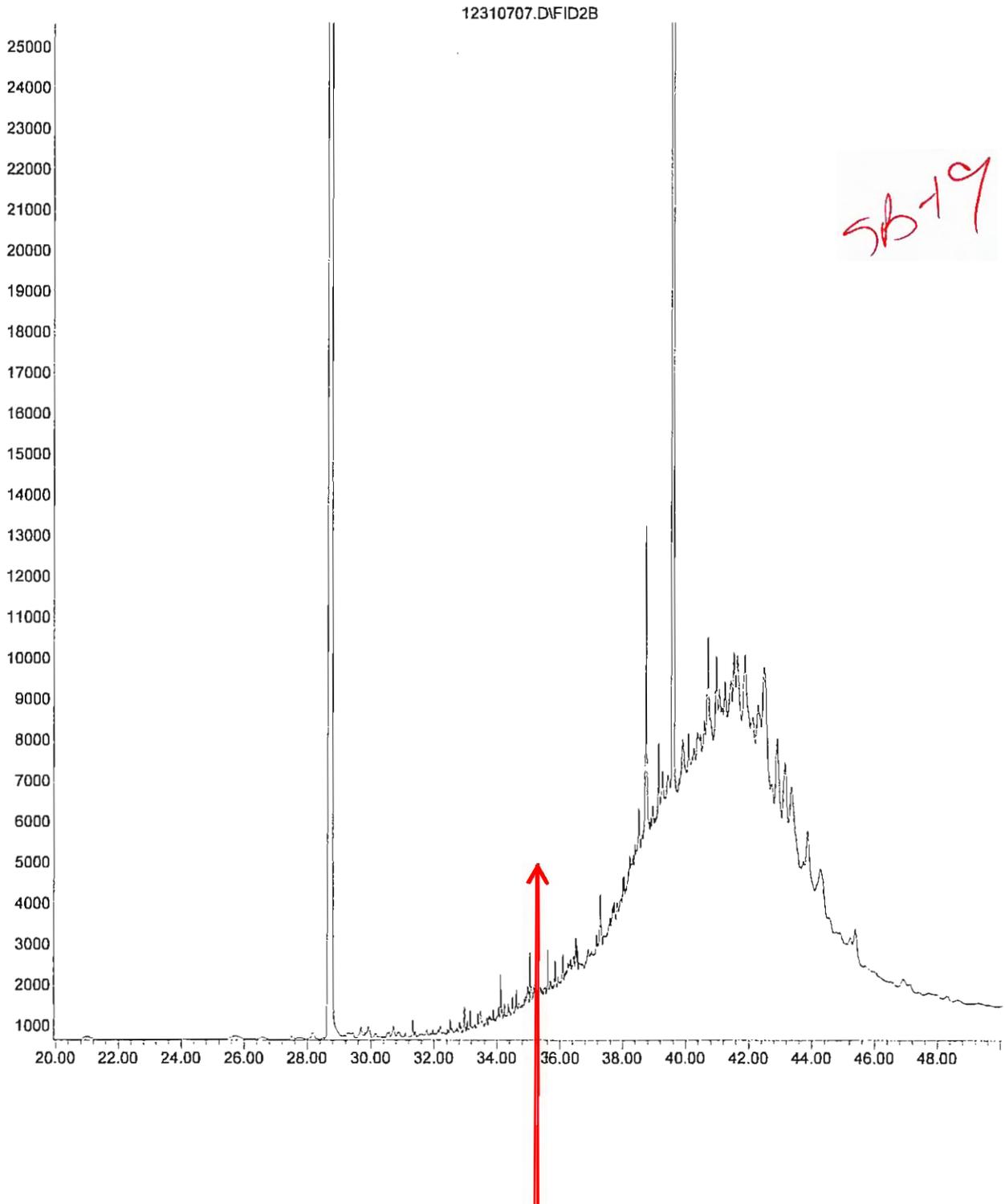
*Diesel
standard*



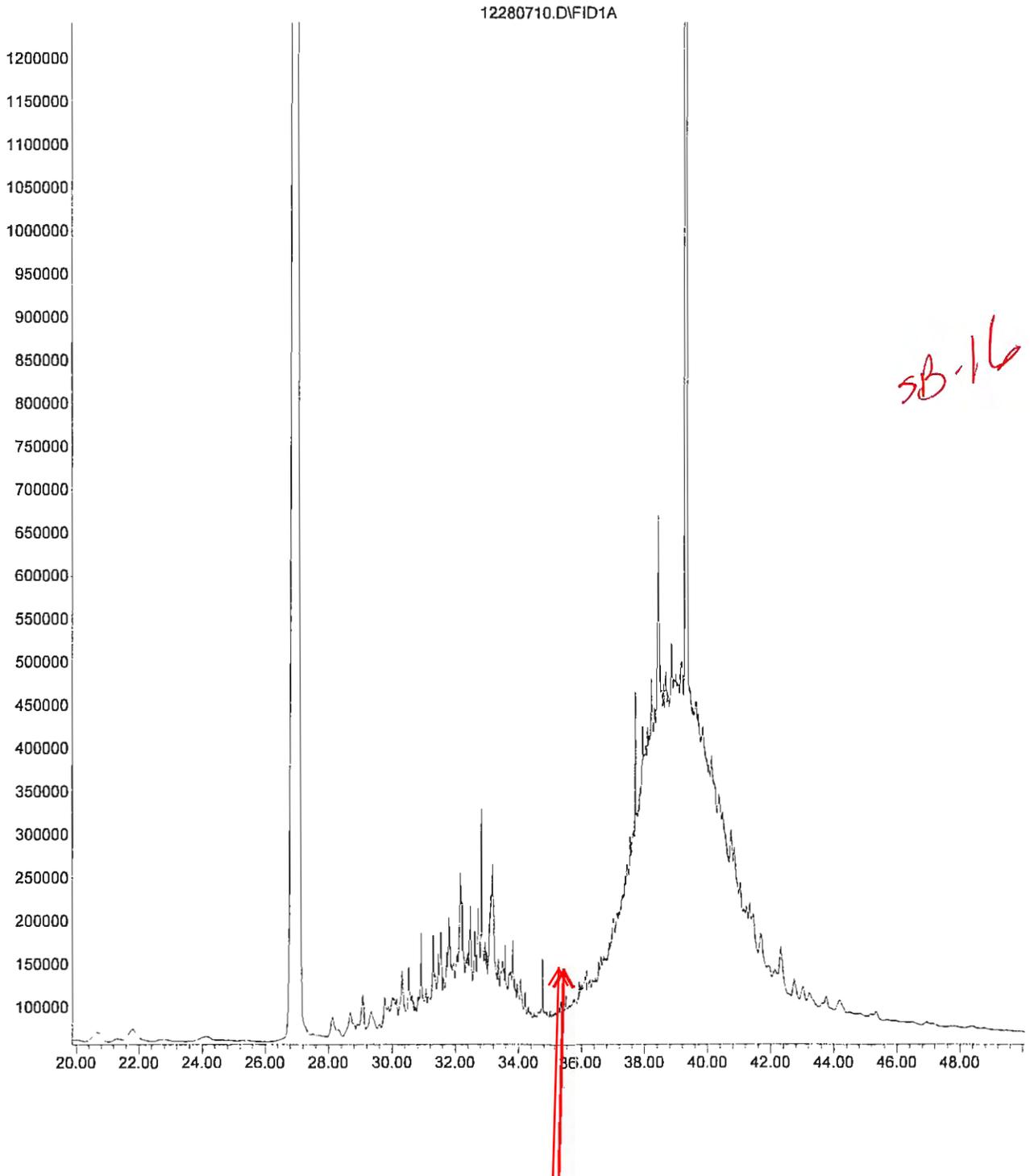
File : D:\HPCHEM\GC11\DATAB\12310711.D
Operator : Thu
Acquired : 31 Dec 2007 1:52 pm using AcqMethod GC11AU.M
Instrument : GC-11
Sample Name: 0712769-007B W
Misc Info : TPH(D)WSG_W
Vial Number: 56



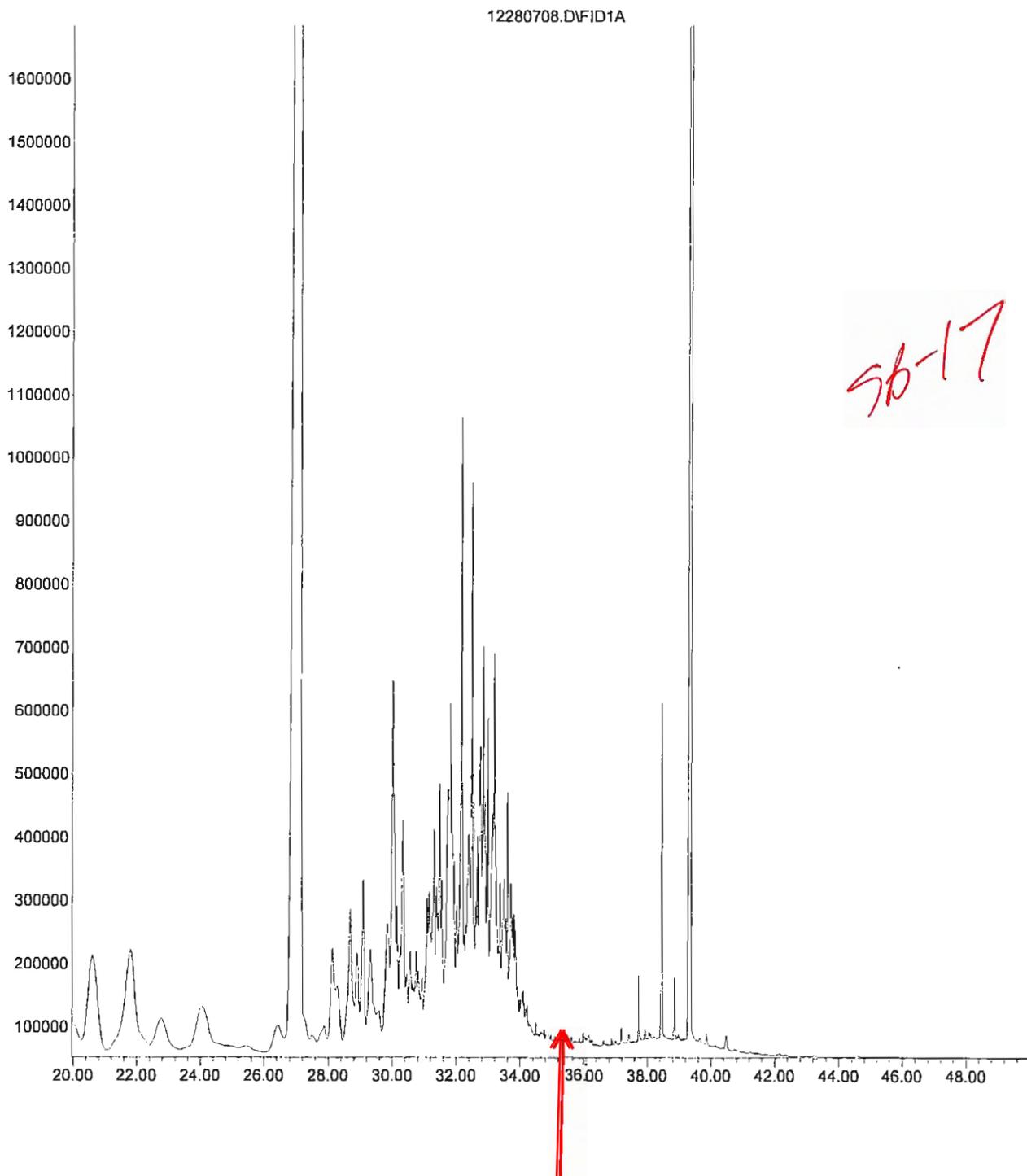
File : D:\HPCHEM\GC6\DATA\12310707.D
Operator :
Acquired : 31 Dec 2007 11:50 am using AcqMethod GC6ANEWN.M
Instrument : GC-6
Sample Name: 0712769-012B W
Misc Info : TPH(D)WSG_W
Vial Number: 54



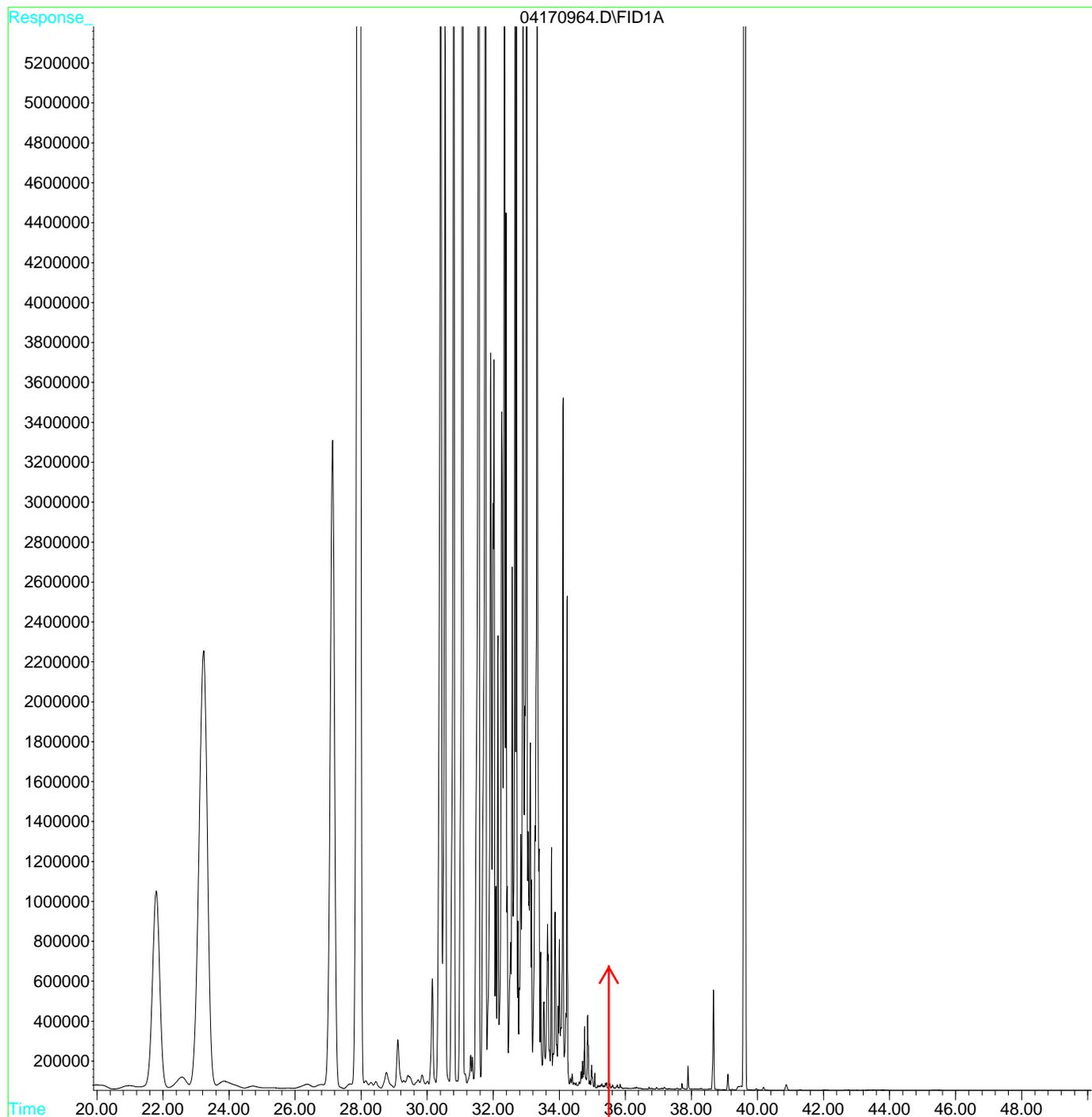
File : D:\HPCHEM\GC11\DATAA\12280710.D
Operator : Thu
Acquired : 28 Dec 2007 7:04 pm using AcqMethod GC11AU.M
Instrument : GC-11
Sample Name: 0712769-016B W
Misc Info : TPH(D)WSG_W
Vial Number: 5



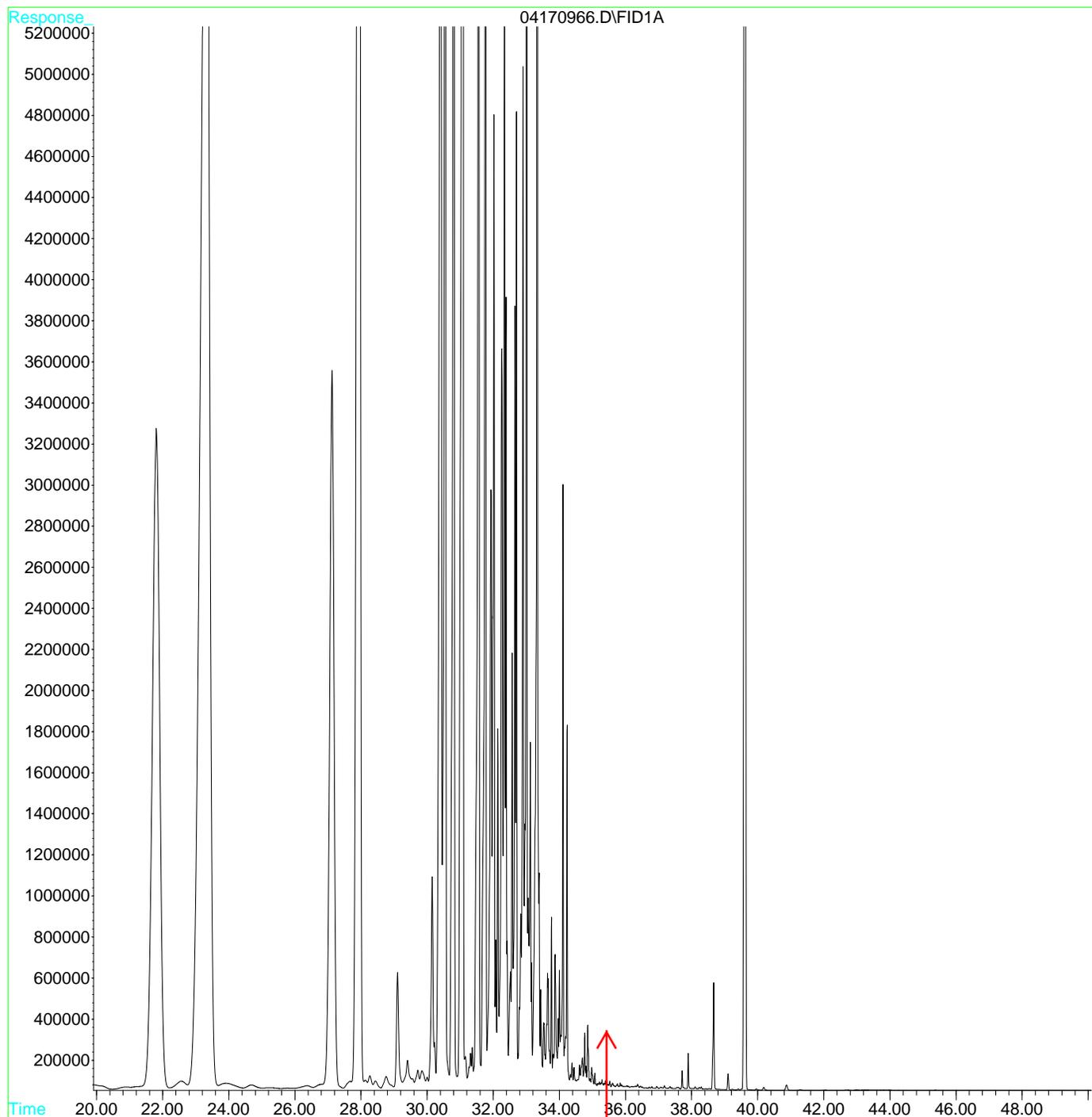
File : D:\HPCHEM\GC11\DATAA\12280708.D
Operator : Thu
Acquired : 28 Dec 2007 5:55 pm using AcqMethod GC11AU.M
Instrument : GC-11
Sample Name: 0712769-004B W
Misc Info : TPH(D)WSG_W
Vial Number: 4



File : D:\HPCHEM\GC11\DATAA\04170964.D
Operator : Thu
Acquired : 18 Apr 2009 10:02 pm using AcqMethod GC11AW.M
Instrument : GC-11
Sample Name: 0904465-002A W ← MW-2
Misc Info : TPH(D)WSG_W
Vial Number: 32



File : D:\HPCHEM\GC11\DATAA\04170966.D
Operator : Thu
Acquired : 18 Apr 2009 11:10 pm using AcqMethod GC11AW.M
Instrument : GC-11
Sample Name: 0904465-003A W MW-3
Misc Info : TPH(D)WSG_W
Vial Number: 33



File : D:\HPCHEM\GC11\DATAA\04170968.D
Operator : Thu
Acquired : 19 Apr 2009 12:19 am using AcqMethod GC11AW.M
Instrument : GC-11
Sample Name: 0904465-005A W MW-6
Misc Info : TPH(D)WSG_W
Vial Number: 34

