December 31, 2009

GROUNDWATER MONITORING REPORT
Fourth Quarter, 2009

3442 Adeline Street
Oakland, California

AEI Project No. 281939
ACHCS # RO 02936

Prepared For

Ms. Steffi Zimmerman
3289 Lomas Verdes Place
Lafayette, CA 94545

Prepared By

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Ms. Steffi Zimmerman
3289 Lomas Verdes Place
Lafayette, CA 94545

Subject: **Quarterly Groundwater Monitoring Report**
Fourth Quarter, 2009
3442 Adeline Street
Oakland, California
AEI Project No. 281939
ACHCS # RO0002936

Dear Ms. Zimmerman:

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.

Previous site investigations have identified a release of gasoline from the former UST. This report summarizes the results of the Fourth Quarter 2009 Groundwater Monitoring event.

Site Description and Background

The subject site (hereinafter referred to as the "site" or "property") is located 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 Street. A second entrance is located at 3433 Chestnut Street. The on-site building covers approximately 65% of the property and is currently being used as a warehouse facility. Refer to Figure 2 for an aerial photo of the property and Figure 3, Site Map.

UST Removal

A single-wall 3,750 gallon UST was removed from the site on February 22, 2000. Soil and groundwater samples were collected from the tank excavation pit and analyzed for total petroleum hydrocarbons as gasoline (TPH-g), as diesel (TPH-d), and BTEX (benzene, toluene, ethyl benzene, and total xylenes). Analyses of the soil sidewall samples reported TPH-g, TPH-d and BTEX at concentrations up to 920 milligrams per kilogram (mg/kg), 850 mg/kg, 0.3 mg/kg, 0.37 mg/kg, 0.73 mg/kg, and 0.22 mg/kg, respectively. TPH-g, TPH-d, and BTEX 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, 930 µg/L, 400 µg/L, and 6,200 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 Figure 3.

Site Investigations

In June, 2006 Clearwater Group (Clearwater) performed a Phase II Environmental Site Investigation. Four (4) additional soil borings (S1 - S4) were drilled by the Clearwater Group (Clearwater) on June 23, 2006. The location of soil borings are shown in Figure 3.

Analyses of the soil samples reported TPH-g, TPH-d and BTEX at concentrations up to 1,200 mg/kg, 250 mg/kg, 1.3 mg/kg, 0.52 mg/kg, 18 mg/kg, and 100 mg/kg, respectively. Analysis of groundwater samples reported TPH-g, and BTEX at concentrations up to 120,000 µg/L, 7,000 µg/L, 260 µg/L, 3,500 µg/L, and 3,300 µg/L, respectively. TPH-d was reported as non-detectable at reporting limits ranging from 1,500 µg/L to 40,000 µg/L.

In October and December of 2007 and May of 2008, AEI advanced thirty-one soil borings (SB-1 through SB-31) to depths up to 16 feet bgs and three (3) soil vapor samples (VB-1 through VB-3). Soil boring and vapor sample locations are shown on Figure 3.

The maximum concentrations of TPH-g, TPH-d, and BTEX reported in soil analyses 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 in only one sample, SB-11-15.5, at a concentration of 0.14 mg/kg. 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 $\mu g/m^3$, 130 $\mu g/m^3$, 42 $\mu g/m^3$, 16 $\mu g/m^3$, and 49 µg/L, respectively. No MTBE was reported in soil vapor samples.

The results of these and previous soil, soil vapor, and groundwater analyses can be found in *Site Investigation Report*, dated February 14, 2008 and *Groundwater Monitoring Well Installation Report*, dated July 31, 2009.

During March and April of 2009, AEI excavated impacted soil from down gradient of the former UST and inside the building. The excavation measured 35 feet by 75 feet by approximately 12 feet deep. 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 dewatering of the excavation. These casings, BF-1 through BF-5, were left in place. The excavation and backfill activities are summarized in the *Interim Source Removal Report*, dated August 31, 2009.

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 an injection/sparge well. The monitoring wells were installed at a depth of 17 feet bgs, the sparge well was installed at a depth of 15 feet bgs. The locations of the wells are shown on Figure 3. The details of the well installation are summarized in the *Groundwater Monitoring Well Installation Report*, dated July 31, 2009.

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 a maximum concentration of 0.81 mg/kg (MW-2-12). Toluene was reported at a maximum concentration of 2.9 mg/kg (MW-4-12). Ethylbenzene was reported at a maximum concentration of 6.7 mg/kg (IW-1-10.5). Xylenes were reported at a maximum concentration of 3.5 mg/kg (IW-1-10.5).

TPH-g and TPH-d were reported in groundwater samples at maximum concentrations of 14,000 µg/L (MW-5) and 3,700 µg/L (MW-7), respectively. Inspection of 8015 chromatographs indicated that the hydrocarbons present in the soil is gasoline. The diesel range hydrocarbon concentrations reported represent the heavy portion of gasoline component compounds.

BTEX was reported at maximum concentrations of 3,000 µg/L (MW-5), 37 µg/L (MW-7), 340 µg/L (MW-5), and 920 µg/L (MW-3), respectively. 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.

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.

Environmental Concerns

Soil

Gasoline contamination has 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 were samples for TPH-g, and benzene were 920 mg/kg and 0.3 mg/kg, respectively. Maximum hydrocarbon concentrations reported in soil boring samples were 1,200 mg/kg and 6.9 mg/kg, respectively for TPH-g and benzene. The distribution of hydrocarbons in the soil is variable and appears related to variations in lithology and permeability.

Groundwater

The primary contaminant reported in soil and groundwater analyses is a gasoline range fuel with related BTEX. Diesel range hydrocarbons are reported in the groundwater but examination of chart patterns shows the diesel range hydrocarbons to be weathered gasoline.

As discussed in the *Well Installation Report*, examination of 8015 chromatograph charts for groundwater samples from soil borings SB-16, SB-18 and SB-19 show the presence of a hydrocarbon centered in the overlap between the diesel and motor oil ranges. These borings are located on the up gradient edge of the plume in Chestnut Street and are up gradient of the former UST location. These heavier than gasoline range hydrocarbons suggest a separate release up gradient of the site, possibly of heavy heating oil.

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. Contaminant concentrations reported in groundwater samples from monitoring wells were significantly lower than earlier concentrations reported from soil borings. Maximum TPH-g and BTEX reported in monitoring wells were in samples from MW-2 at concentrations of 26,000 µg/L, 3,600 µg/L, 70 µg/L, 1,500 µg/L, and 3,000 µg/L, respectively. No MTBE has been reported in monitoring well water samples.

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 somewhat sinuous and appears to follow permeability channels (sands and gravels).

Historically depth to groundwater has ranged from 5.71 feet bgs (MW-7, 25.33 ft amsl) to 11.84 feet bgs (MW-6, 17.50 ft amsl).

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 ranged from 25.33 feet amsl (5.71 ft bgs) in well MW-7, located in Chestnut Street to the east, to 20.75 ft amsl (8.59 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 0.019 ft/ft.

Summary of Activities

The 4th quarter 2009 groundwater monitoring event was performed on December 15, 2009. The well caps were removed from each well (MW-1 through MW-7 and IW-1) and the wells allowed to equilibrate with the atmosphere for a minimum of 15 minutes. Wells MW-1 through MW-7 were purged with the sampling tubing at a depth of approximately 10.0 feet below ground surface (bgs). Groundwater parameters of temperature, pH, specific conductivity, dissolved oxygen (DO), and oxidation-reduction potential (ORP) were measured during purging. A visual evaluation of turbidity was made and noted. Groundwater measurements recorded in the field are reported on the field sampling forms included in Appendix A.

Groundwater samples were collected from backfill casings BF-1 and BF-5 using the peristaltic pump after purging 2 liters of water.

The depth to water measurements from this and previous quarterly monitoring events are summarized on Tables 3 and 3a.

When groundwater parameters of the purged water stabilized, water samples were collected using the peristaltic pump. Samples for TPH-g and MBTEX were collected in hydrochloric acid (HCl) preserved 40-milliliter (ml) volatile organic analysis vials (VOAs). The VOAs were capped with zero headspace. All samples were labeled with at minimum, project number, sample number, time, date, and sampler's name.

The samples were then entered on an appropriate chain-of-custody form and placed on water ice in a cooler pending same day transportation under chain of custody protocols to McCampbell Analytical, Inc. of Pittsburg, California (Department of Health Services Certification # 1644).

Groundwater samples from the wells were analyzed for TPH-g, MTBE, benzene, toluene, ethyl benzene, and total xylenes (MBTEX), by SW8021B/8015Cm.
Groundwater parameters measured in the field are reported on the field sampling forms included in Appendix A.

Field Results

December 15, 2009, groundwater elevations in the monitoring wells ranged from 25.33 (MW-7) to 20.75 (MW-6) feet above mean sea level (amsl). These elevations are an average of 1.55 feet higher than the previous quarterly monitoring event. The groundwater hydraulic gradient is 0.018 ft/ft to the west.

Current and historical groundwater elevation data are summarized in Tables 3 and 3a. The groundwater elevation contours and the groundwater flow directions are presented in Figures 3 and 4. Groundwater Monitoring Well Field Sampling Forms are presented Appendix A.

Groundwater Quality

Backfill Casings

On December 15, 2009, TPH-g concentration in backfill casing BF-1 was reported at a concentration of 200 µg/L. BTEX concentrations were reported at concentrations of 12 µg/L, <0.5 µg/L, 2.2 µg/L, and 9.6 µg/L, respectively. MTBE in BF-1 was reported as non-detectable at reporting limits of 5.0 µg/L.

On December 15, 2009, TPH-g concentration in backfill casing BF-5 was reported at a concentration of 130 µg/L. BTEX concentrations were reported at concentrations of 40 µg/L, ND<0.5 µg/L, 0.91 µg/L, and ND<0.5 µg/L, respectively. MTBE in BF-5 was reported as non-detectable at reporting limits of 5.0 µg/L.

Monitoring Wells

MTBE was not reported in the groundwater sample from sparge well IW-1 at a reporting limit of ND<5.0 µg/L. No MTBE was reported in groundwater samples from wells MW-1 through MW-7 at elevated reporting limits ranging from ND<50 µg/L to ND<250 µg/L.

TPH-g and benzene concentrations are summarized below. Toluene, ethylbenzene and total xylenes concentrations are not detailed below but typically vary in a similar fashion to benzene concentrations.

The TPH-g concentrations in monitoring well MW-1 decreased from 7,000 µg/L on August 27, 2009 to 2,500 µg/L on December 15, 2009. Benzene concentrations in MW-1 decreased from 610 µg/L on August 27 to 170 µg/L on December 15, 2009.

The TPH-g concentration in monitoring well MW-2 decreased from 26,000 µg/L on August 27, 2009 to 25,000 µg/L on December 15, 2009. Benzene concentrations in MW-2 decreased from 3,600 µg/L on August 27, 2009 to 2,900 µg/L on December 15, 2009.

The TPH-g concentrations in monitoring well MW-3 decreased from 17,000 µg/L on August 27, 2009 to 4,900 µg/L on December 15, 2009. Benzene concentrations in MW-3 decreased from 3,800 µg/L in August to 890 µg/L on December 15, 2009.

The TPH-g concentration in monitoring well MW-4 decreased from 4,300 µg/L in August to 3,000 µg/L on December 15, 2009. Benzene concentrations in MW-4 decreased from 75 µg/L in August to 64 µg/L on December 15, 2009.

The TPH-g concentration in monitoring well MW-5 decreased from 25,000 µg/L in August to 8,200 µg/L on December 15, 2009. Benzene concentrations in MW-5 decreased from 3,300 µg/L in August to 1,200 µg/L on December 15, 2009.

The TPH-g concentration in monitoring well MW-6 increased from 2,200 µg/L in August to 4,700 µg/L on December 15, 2009. Benzene concentrations in MW-6 increased from 98 µg/L in August to 370 µg/L on December 15, 2009.

The TPH-g concentration in monitoring well MW-7 decreased from 12,000 µg/L in August to 9,600 µg/L on December 15, 2009. Benzene concentrations in MW-6 increased from 550 µg/L in August to 620 µg/L on December 15, 2009.

The TPH-g concentration in monitoring well IW-1 increased from 160 µg/L in August to 220 µg/L on December 15, 2009. Benzene concentrations in MW-6 increased from 4.1 µg/L in August to 5.4 µg/L on December 15, 2009.

A summary of groundwater analytical data is presented in Table 3 and Figure 5. TPH-g contaminant isopleths are presented in Figure 6. Laboratory results and chain of custody documents are included in Appendix B.

Summary

The analytical results from the fourth quarter 2009 groundwater monitoring event confirm the results of the initial monitoring event. TPH-g in monitoring wells ranged from 25,000 µg/L to 2,500 µg/L (MW-1). Hydrocarbon concentrations in sparge well IW-1 are consistently lower than in other wells. This difference is likely due the fact that the screened interval is below the water table.

TPH-g concentrations in wells completed in the backfilled excavation are significantly lower than concentrations in the monitoring wells due the higher oxygen levels in the permeable fill in the base of the backfill and the resulting biodegradation of dissolved hydrocarbons. The excavation appears to have effectively cut off the groundwater plume from the original source area around the former gasoline UST.

The next quarterly groundwater monitoring event is tentatively scheduled for March 2010. AEI is preparing a work plan for a remediation feasibility study.

Report Limitations and Signatures

This report presents a summary of work completed by AEI Consultants, including observations and descriptions of site conditions. Where appropriate, it includes analytical results for samples taken during the course of the work. The number and location of samples are chosen to provide required information, but it cannot be assumed that they are entirely representative of all areas not sampled. All conclusions and recommendations are based on these analyses, observations, and the governing regulations. Conclusions beyond those stated and reported herein should not be inferred from this document.

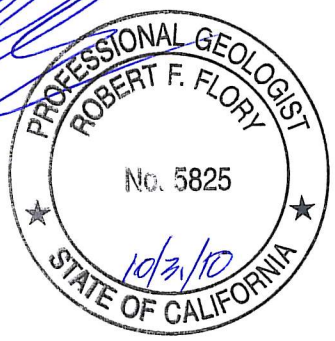
These services were performed in accordance with generally accepted practices in the geologic, environmental engineering and construction fields that existed at the time and location of the work.

Please contact Robert F. Flory at (925) 944-2899 extension 122, if you have any questions regarding the findings and recommendations included in this report.

Sincerely,
AEI Consultants

Harmony TomSun
Project Geologist

Robert F. Flory, P.G.
Senior Geologist



Attachments

Figures

Tables

Distribution:

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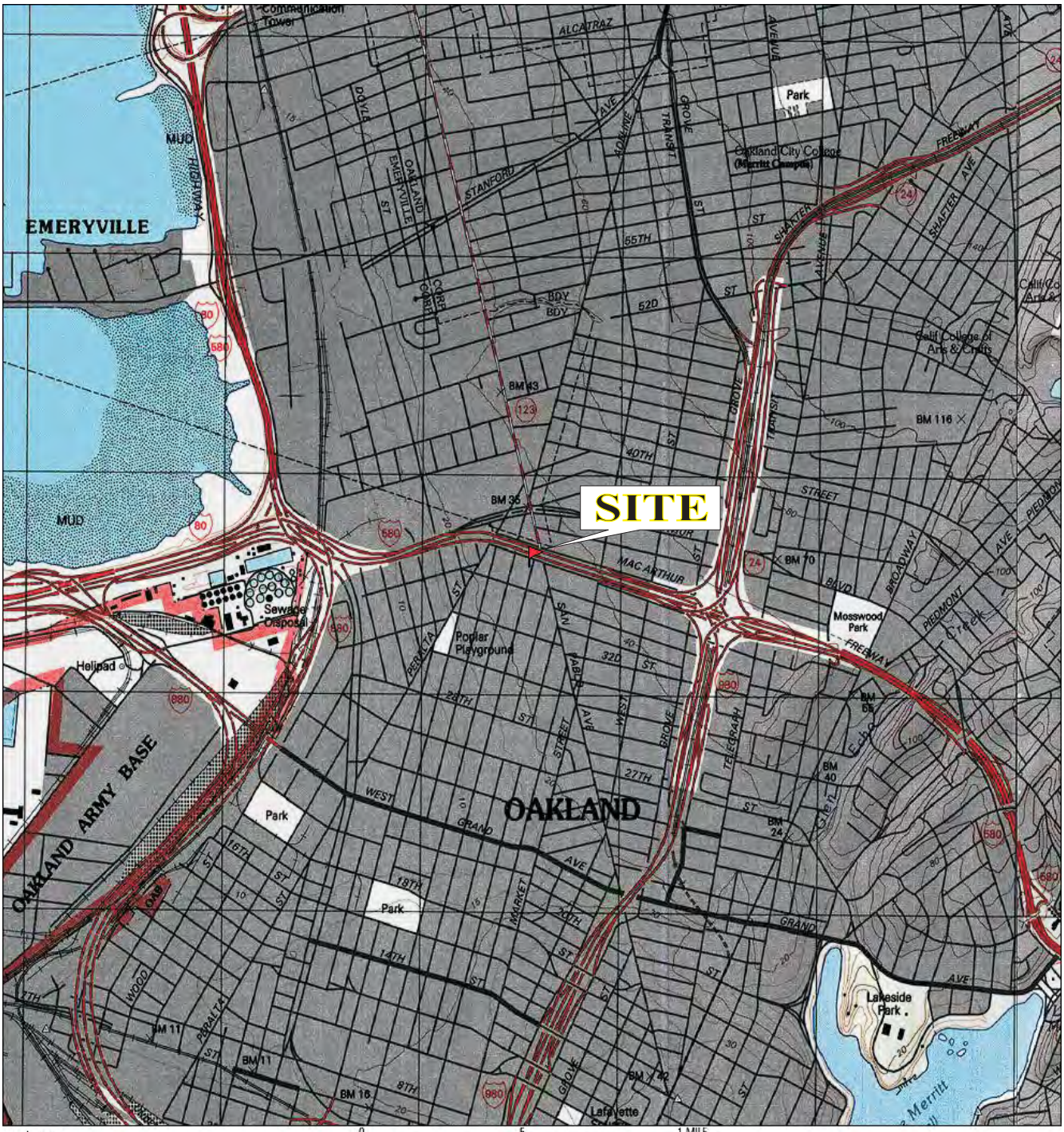
FIGURES



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Site Location Map

3442 Adeline Street
Oakland, CA 94608

FIGURE 1
Job No: 281939

Property Boundary

Former UST Area

Approximate Scale:
1 inch = 55 feet

0’ 55’

N

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Site Vicinity Map

3442 Adeline Street
Oakland, CA 94608

FIGURE 2
Job No: 281939

LEGEND

- Soil Boring - 2006
- Soil Boring - 2007
- Monitoring Well
- Former UST
- Soil vapor Sample Point
- Source Removal Excavation

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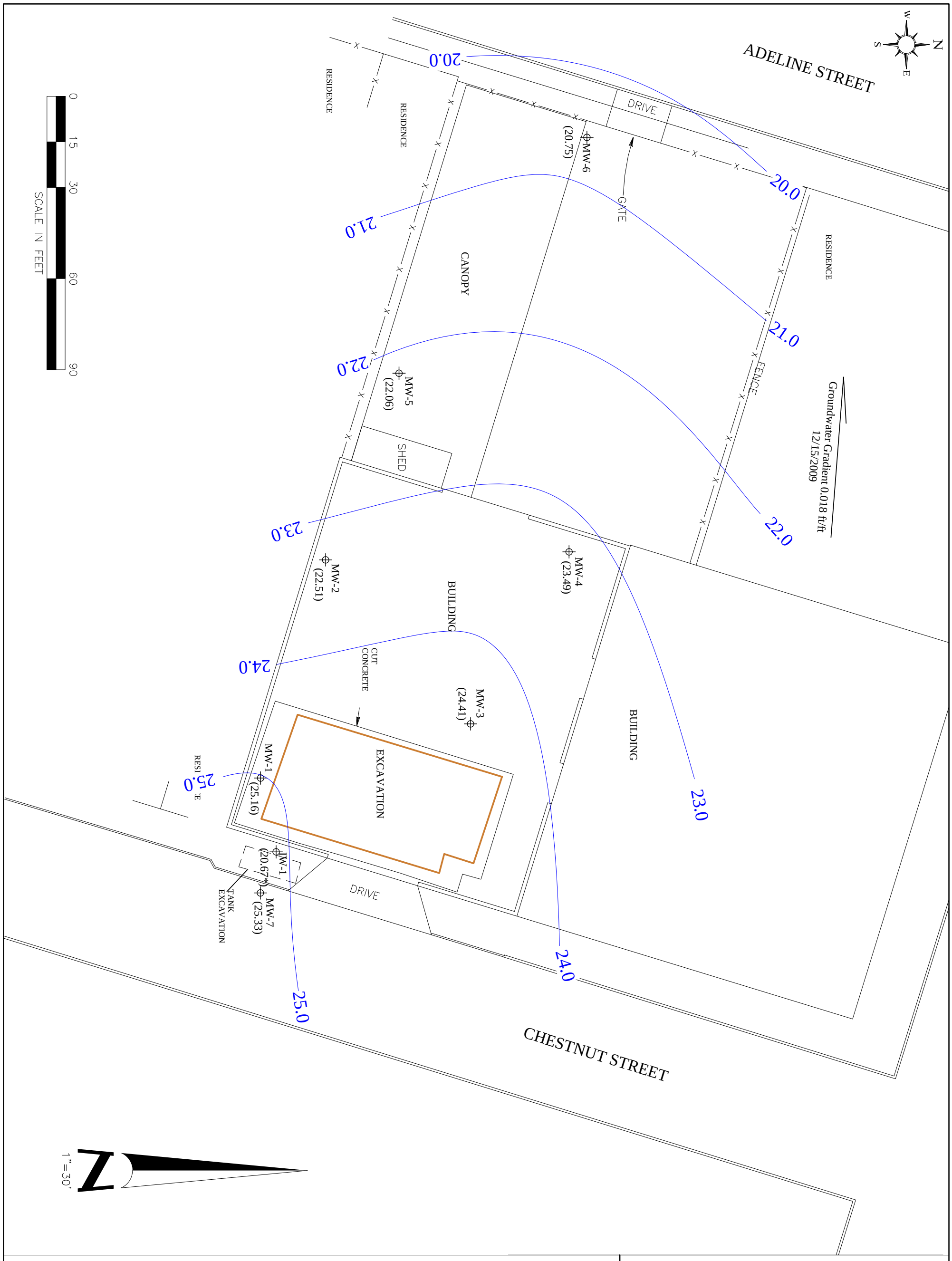
2500 CAMINO DIABLO, WALNUT CREEK

SITE PLAN

3442 ADELINE STREET
OAKLAND, CALIFORNIA

FIGURE 3
PROJECT NO. 281939



LEGEND

Soil Boring - 2006

Soil Boring - 2007

Monitoring Well

Former UST

Source Removal Excavation

Groundwater Elevation Contour Lines

(24.51) - Groundwater Elevation

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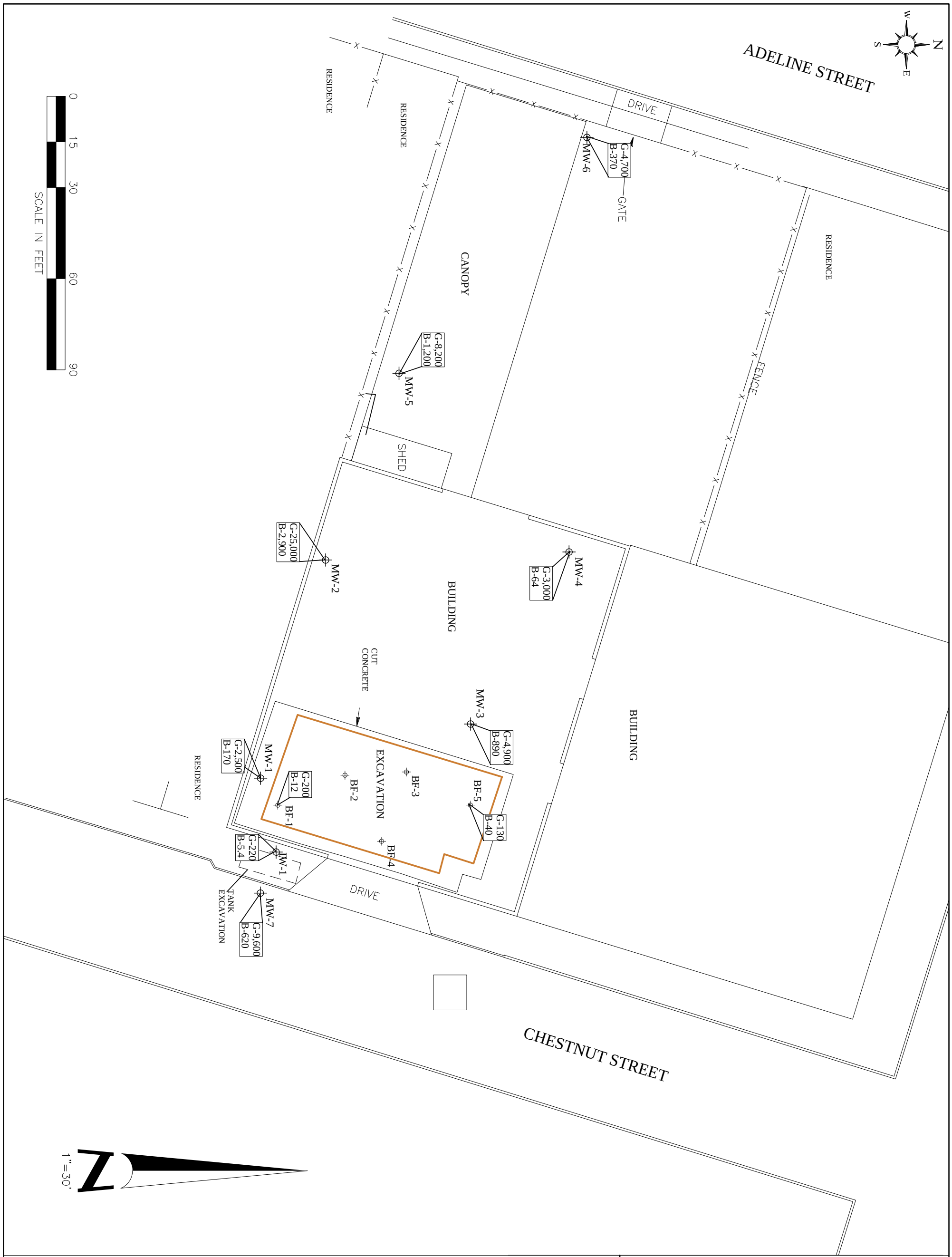
2500 CAMINO DIABLO, WALNUT CREEK

Groundwater Elevations (12/15/09)

3442 ADELINE STREET
OAKLAND, CALIFORNIA

FIGURE 4

PROJECT NO. 281939



LEGEND

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Monitoring Well

Former UST

Source Removal Excavation

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

G-7,000
B-850
Monitoring Well Data

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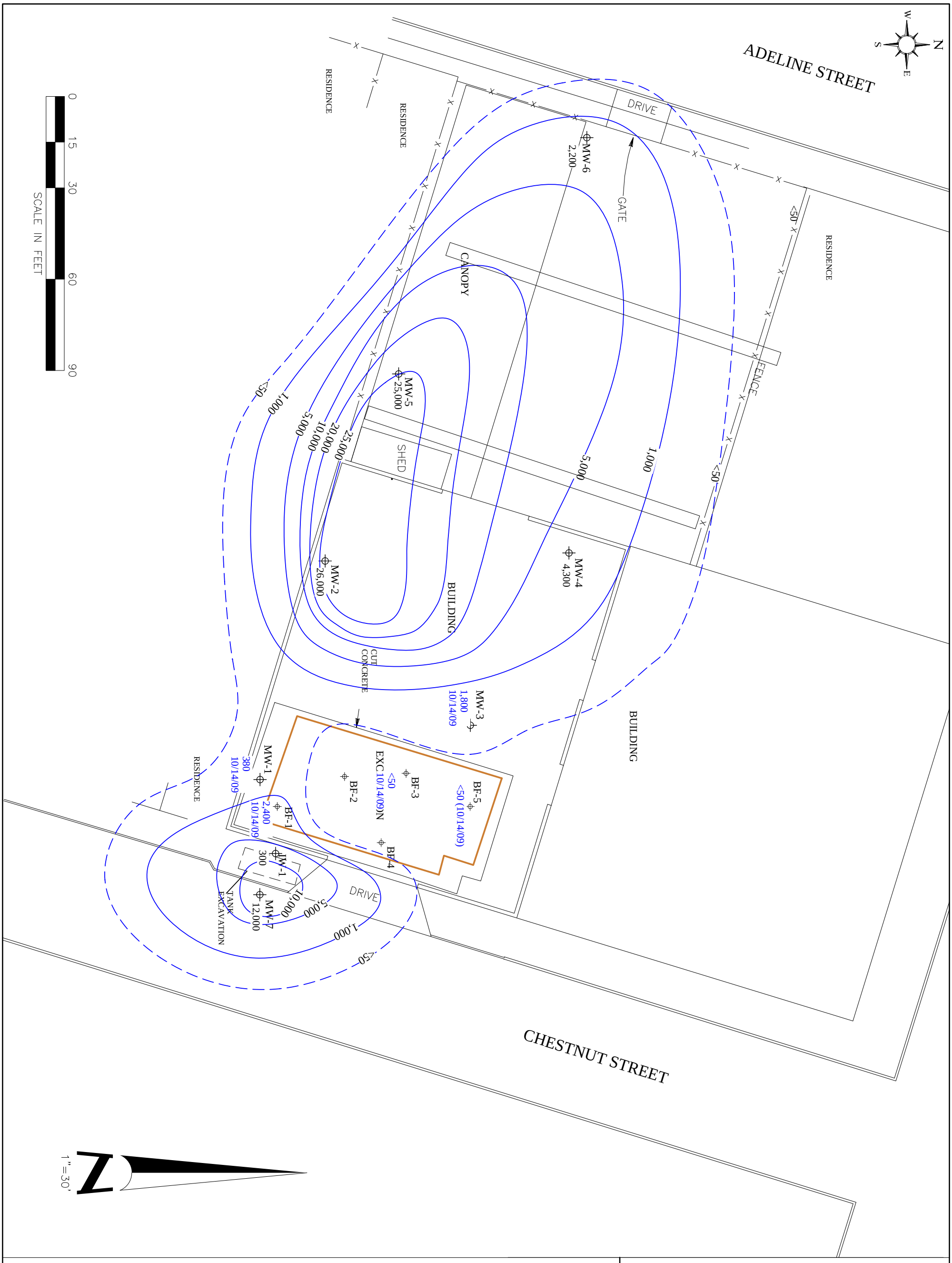
Groundwater Analytical Data

3442 ADELINE STREET
OAKLAND, CALIFORNIA

FIGURE 5
PROJECT NO. 281939



LEGEND

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- Monitoring Well
- Former UST
- Source Removal Excavation
- TPH-g concentration isopleth

890 TPH-g Concentration (µg/L) 8/27/2009

890 - TPH-g Concentration (µg/L) 10/14/2009

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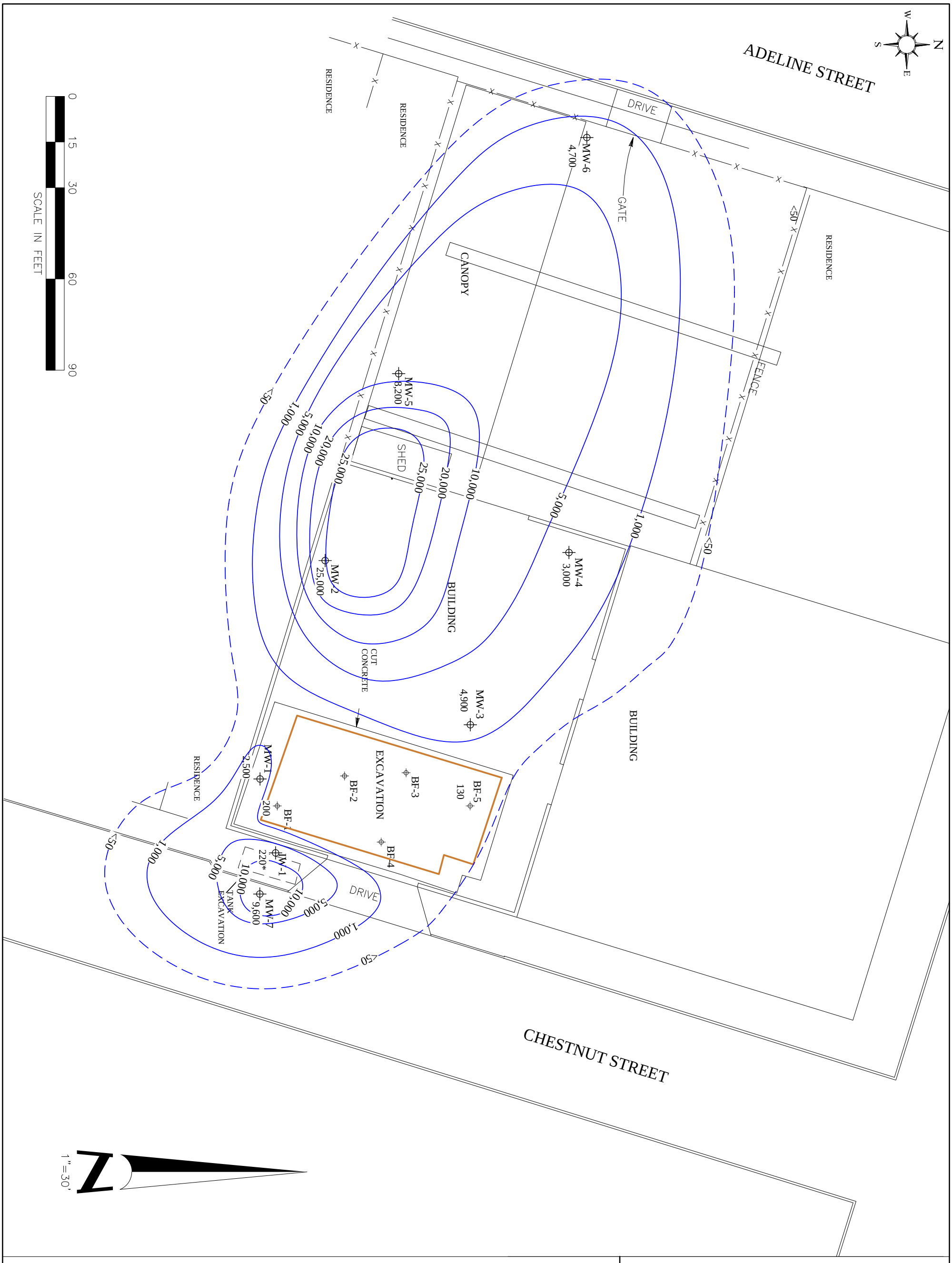
2500 CAMINO DIABLO, WALNUT CREEK

TPH-g in Monitoring Wells as of 10/14/09

3442 ADELINE STREET
OAKLAND, CALIFORNIA

FIGURE 6

PROJECT NO. 281939



LEGEND

Monitoring Well
Former UST
Source Removal Excavation
TPH-g concentration isopleth
890 TPH-g Concentration (µg/L)12/15/2009

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2500 CAMINO DIABLO, WALNUT CREEK

TPH-g in Monitoring Wells as of 12/15/09

3442 ADELINE STREET
OAKLAND, CALIFORNIA

FIGURE 7
PROJECT NO. 281939

TABLES

Table 1
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

Table 2
Groundwater Elevation Data
3442 Adeline Street St. Oakland, CA 94608

Well ID (Screen Interval)	Date Collected	Top of Casing Elevation *(ft amsl)*	Depth to Water *(ft)*	Groundwater Elevation *(ft amsl)*	Elevation Change *(ft)*
MW-1	6/10/2009	31.12	7.01	24.11	----
(7-17)	8/27/2009	31.12	6.96	24.16	0.05
	12/15/2009	31.12	5.96	25.16	1.00
MW-2	6/10/2009	31.19	9.50	21.69	----
(7-17)	8/27/2009	31.19	10.50	20.69	-1.00
	12/15/2009	31.19	8.68	22.51	1.82
MW-3	6/10/2009	32.07	8.44	23.63	----
(7-17)	8/27/2009	32.07	8.59	23.48	-0.15
	12/15/2009	32.07	7.66	24.41	0.93
MW-4	6/10/2009	31.68	9.45	22.23	----
(7-17)	8/27/2009	31.68	10.29	21.39	-0.84
	12/15/2009	31.68	8.19	23.49	2.10
MW-5	6/10/2009	30.39	9.13	21.26	----
(7-17)	8/27/2009	30.39	9.54	20.85	-0.41
	12/15/2009	30.39	8.33	22.06	1.21
MW-6	6/10/2009	29.34	9.98	19.36	
(7-17)	8/27/2009	29.34	11.84	17.50	-1.86
	12/15/2009	29.34	8.59	20.75	3.25
MW-7	6/10/2009	31.04	6.53	24.51	----
(7-17)	8/27/2009	31.04	6.19	24.85	0.34
	12/15/2009	31.04	5.71	25.33	0.48
IW-1	6/10/2009	31.66	7.65	24.01	----
(13-15)	8/27/2009	31.66	7.70	23.96	-0.05
	12/15/2009	31.66	10.99	20.67	-3.29

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	22.40	----	West (0.0186)
2	8/27/2009	21.85	-0.55	West (0.0186)
3	12/15/2009	23.39	1.54	**West (0.0181)**

Table 3: Groundwater Analytical Data
3442 Adeline Street St. Oakland, CA 94608

Sample ID	Date	Depth to Water	TPH-d	TPH-g	MTBE	Benzene	Toluene	Ethyl benzene	Xylenes
			Method 8015C		*Method 8021B*				
		(ft)	(µg/L)						
ESL - current or potenital DW			100	100	5.0	1.0	40	30	20
ESL - not potenital DW			210	210	1,800	46	130	43	100
MW-1	04/17/09	7.01	97	220	<5.0	10	<0.5	3.0	5.4
	08/27/09	6.96	----	7,000	<180	610	10	320	220
	09/17/09	----	----	92	<15	0.91	0.70	<0.5	<0.5
	10/14/09	----	----	380	<30	25	0.83	7.2	12
	12/15/09	5.96	----	**2500**	**<50**	**170**	**6.4**	**66**	**120**
MW-2	04/17/09	9.50	2,200	7,000	<100	850	19	93	470
	08/27/09	10.50	----	26,000	<1,200	3,600	<25	1,200	3,000
	12/15/09	8.68	----	**25,000**	**<250**	**2,900**	**70**	**1,500**	**2,400**
MW-3	04/17/09	8.44	2,200	10,000	<110	930	5.6	270	920
	08/27/09	**8.59**	----	17,000	<250	3800	38	730	710
	09/17/09	----	----	260	<15	1.8	1.0	<0.5	2.1
	10/14/09	----	----	1,800	<30	220	13	37	130
	12/15/09	**7.66**	**----**	**4,900**	**<50**	**890**	**13**	**160**	**130**
MW-4	04/17/09	9.45	1,200	4,700	<30	140	2.0	28	18
	08/27/09	10.29	----	4,300	<25	75	11	8.6	3.4
	12/15/09	**8.19**	**----**	**3,000**	**<15**	**64**	**11**	**5.6**	**3.3**
MW-5	05/22/09	9.13	2,800	14,000	<100	3,000	12	340	420
	08/27/09	9.54	----	25,000	<400	3,300	36	110	160
	12/15/09	**8.33**	**----**	**8,200**	**<250**	**1,200**	**6.9**	**300**	**610**
MW-6	04/17/09	9.98	1,000	5,600	<300	210	3.0	180	160
	08/27/09	11.84	----	2,200	<120	98	7.9	20	1.1
	12/15/09	**8.59**	**----**	**4,700**	**<250**	**370**	**6.9**	**260**	**300**
MW-7	04/17/09	6.53	3,700	12,000	<120	1,000	37	100	36
	08/27/09	6.19	----	12,000	<100	550	30	130	33
	12/15/09	**5.71**	**----**	**9,600**	**<100**	**620**	**26**	**140**	**20**
IW-1	05/22/09	7.65	680	1,200	<15	58	2.7	2.3	18
	08/27/09	7.70	----	160	<5.0	4.1	0.5	0.8	1.6
	09/17/09	----	----	300	<5.0	8.0	1.5	1.4	0.85
	12/15/09	**10.99**	**----**	**220**	**<5.0**	**5.4**	**1.4**	**0.65**	**0.7**

Table 3: Groundwater Analytical Data
3442 Adeline Street St. Oakland, CA 94608

Sample ID	Date	Depth to Water	TPH-d	TPH-g	MTBE	Benzene	Toluene	Ethyl benzene	Xylenes
			Method 8015C		*Method 8021B*				
		(ft)	(µg/L)						
ESL - current or potenital DW			100	100	5.0	1.0	40	30	20
ESL - not potenital DW			210	210	1,800	46	130	43	100
BF-1	03/27/09	----	----	19,000	<250	890	27	460	1,200
post H_2O_2	06/17/09	----	----	6,700	<150	840	19	170	150
pre-aeration	08/10/09	----	----	11,000	<120	710	14	440	290
post aeration	08/27/09	----	----	9,600	<90	590	14	350	220
	09/13/09	----	----	<50	<5.0	1.2	<0.5	<0.5	<0.5
	10/14/09	----	----	2,400	<10	83	1.9	5.0	120
	12/11/09	6.70	----	**200**	**<5.0**	**12**	**<0.5**	**2.2**	**9.6**
BF-3	10/14/09	----	----	<50	<5.0	<0.5	<0.5	<0.5	<0.5
BF-5	08/27/09	----	----	170	<25	32	0.55	4.2	220
	10/14/09	----	----	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	12/11/09	7.25	----	**130**	**<5.0**	**40**	**<0.5**	**0.91**	**<0.5**

Notes:
µg/L = micrograms per liter
ESL = Environmental Screening Level
TPH-g = total petroleum hydrocarbons as gasoline
680 = Current concentration above ESL
TPH-d = total petroleum hydrocarbons as diesel
MTBE = methyl tert-butyl ether
680 = most recent sample

APPENDIX A

Groundwater Monitoring Well
Field Sampling Forms

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-1

Project Name:	Zimmerman	Date of Sampling:	12/15/2009
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	17.00		
Depth to Water (from top of casing)	5.96		
Water Elevation (feet above msl)	25.16		
Well Volumes Purged	Micropurged		
Actual Volume Purged (liters)	4.0		
Appearance of Purge Water	Clear		
Free Product Present?	No	Thickness (ft):	----

GROUNDWATER SAMPLES

Number of Samples/Container Size: 3 VOA

Time	Vol Removed (Liters)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
	0.0	17.87	5.69	824	1.64	-83.6	Clear
	1.0	18.01	5.76	826	0.80	-94.3	Clear
	1.5	18.05	5.80	827	0.55	-99.4	Clear
	2.0	18.07	5.82	827	0.49	-101.2	Clear
	3.0	18.09	5.85	828	0.45	-103.3	Clear
	4.0	18.09	5.85	828	0.45	-105.3	Clear

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

Clear with hydrocarbon odor

Bottom of drop tube at 11.5 feet bgs. Purge rate <0.5 liters per minute.

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-2

Project Name:	Zimmerman	Date of Sampling:	12/15/2009
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	17.00		
Depth to Water (from top of casing)	8.68		
Water Elevation (feet above msl)	22.51		
Well Volumes Purged	Micropurged		
Actual Volume Purged (liters)	3.0		
Appearance of Purge Water	Clear		
Free Product Present?	No	Thickness (ft):	----

GROUNDWATER SAMPLES

Number of Samples/Container Size: 3 VOA

Time	Vol Removed (Liters)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
	0.0	17.87	5.4	921	2.37	-138	Clear
	0.5	18.11	5.58	926	0.56	-145.2	Clear
	1.0	18.14	5.51	926	0.48	-147.2	Clear
	1.5	18.13	5.55	926	0.62	-149.5	Clear
	2.0	18.13	5.56	925	0.71	-150.4	Clear
	3.0	18.14	5.58	925	0.71	-152.3	Clear

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

Clear with strong hydrocarbon odor

Bottom of drop tube at 11.0 feet bgs. Purge rate <0.5 liters per minute.

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-3

Project Name:	Zimmerman	Date of Sampling:	12/15/2009
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	17.00		
Depth to Water (from top of casing)	7.66		
Water Elevation (feet above msl)	24.41		
Well Volumes Purged	Micropurged		
Actual Volume Purged (liters)	3.0		
Appearance of Purge Water	Clear		
Free Product Present?	No	Thickness (ft):	----

GROUNDWATER SAMPLES

Number of Samples/Container Size: 3 VOA

Time	Vol Removed (Liters)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
	0.0	18.66	5.51	970	1.40	-129.9	Clear
	1.0	18.81	5.59	968	0.50	-141.5	Clear
	1.5	18.81	5.63	966	0.41	-145.8	Clear
	2.0	18.85	5.66	963	0.38	-148.5	Clear
	3.0	18.86	5.68	950	0.39	-149.3	Clear
	3.5	18.86	5.69	942	0.42	-148.9	Clear

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

Clear with hydrocarbon odor

Bottom of drop tube at 12.0 feet bgs. Purge rate <0.5 liters per minute.

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-4

Project Name:	Zimmerman	Date of Sampling:	12/15/2009
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	17.00		
Depth to Water (from top of casing)	8.19		
Water Elevation (feet above msl)	23.49		
Well Volumes Purged	Micropurged		
Actual Volume Purged (liters)	4.0		
Appearance of Purge Water	Clear		
Free Product Present?	No	Thickness (ft):	----

GROUNDWATER SAMPLES

Number of Samples/Container Size: 3 VOA

Time	Vol Removed (Liters)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
	0.0	18.35	5.21	592	1.07	-125.2	Clear
	1.0	18.35	5.34	592	1.09	-127.3	Clear
	2.0	18.34	5.44	594	1.21	-126.7	Clear
	2.5	18.31	5.48	596	1.17	-16.4	Clear
	3.0	18.27	5.53	960	1.02	-124.5	Clear
	3.5	18.25	5.55	604	0.93	-127.6	Clear
	4.0	18.25	5.55	606	0.89	-123.6	Clear

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

Clear with hydrocarbon odor

Bottom of drop tube at 11.0 feet bgs. Purge rate <0.5 liters per minute.

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-5

Project Name:	Zimmerman	Date of Sampling:	12/15/2009
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	17.00		
Depth to Water (from top of casing)	8.33		
Water Elevation (feet above msl)	22.06		
Well Volumes Purged	Micropurged		
Actual Volume Purged (liters)	4.0		
Appearance of Purge Water	Clear		
Free Product Present?	No	Thickness (ft):	----

GROUNDWATER SAMPLES

Number of Samples/Container Size: 3 VOA

Time	Vol Removed (Liters)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
	0.0	16.17	5.79	1103	2.83	-169.3	Clear
	0.5	16.22	5.94	1080	1.3	-173.4	Clear
	1.0	16.18	5.95	1060	0.92	-170.3	Clear
	2.0	16.13	5.95	1044	0.64	-164.8	Clear
	3.0	16.11	5.92	1045	0.56	-161.3	Clear
	4.0	16.10	5.41	1044	0.50	-158.8	Clear

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

Clear with strong hydrocarbon odor

Bottom of drop tube at 11.0 feet bgs. Purge rate <0.5 liters per minute.

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-6

Project Name:	Zimmerman	Date of Sampling:	12/15/2009
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	17.00		
Depth to Water (from top of casing)	8.59		
Water Elevation (feet above msl)	20.75		
Well Volumes Purged	Micropurged		
Actual Volume Purged (liters)	4.0		
Appearance of Purge Water	Clear		
Free Product Present?	No	Thickness (ft):	----

GROUNDWATER SAMPLES

Number of Samples/Container Size: 3 VOA

Time	Vol Removed (Liters)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
	0.0	17.54	5.37	687	5.10	-177.9	Clear
	1.0	17.94	5.34	686	1.66	-125.5	Clear
	1.5	17.96	5.37	686	1.25	-128.3	Clear
	2.5	17.9	5.45	687	0.93	-130.7	Clear
	3.0	17.85	5.52	688	0.75	-133.5	Clear
	4.0	17.81	5.57	688	0.62	-137.7	Clear

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

Clear with slight hydrocarbon odor

Bottom of drop tube at 13.0 feet bgs. Purge rate <0.5 liters per minute.

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-7

Project Name:	Zimmerman	Date of Sampling:	12/15/2009
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	17.00		
Depth to Water (from top of casing)	5.71		
Water Elevation (feet above msl)	25.33		
Well Volumes Purged	Micropurged		
Actual Volume Purged (liters)	4.0		
Appearance of Purge Water	Clear		
Free Product Present?	No	Thickness (ft):	----

GROUNDWATER SAMPLES

Number of Samples/Container Size: 3 VOA

Time	Vol Removed (Liters)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
	0.0	18.35	5.25	661	1.97	-76.3	Clear
	0.5	18.43	5.58	663	1.69	-98.8	Clear
	1.0	18.56	5.73	667	1.56	-108.0	Clear
	1.5	18.90	5.86	671	1.22	-119.4	Clear
	2.0	19.07	5.97	673	0.85	-129.6	Clear
	2.5	19.12	5.98	671	0.71	-132.7	Clear
	3.0	19.11	5.97	673	1.06	-132.6	Clear
	3.5	19.15	5.96	676	0.84	-132.1	Clear
	4.0	19.16	5.95	677	0.79	-133.2	Clear

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

Clear with strong hydrocarbon odor

Bottom of drop tube at 12.0 feet bgs. Purge rate <0.5 liters per minute.

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: IW-1

Project Name:	Zimmerman	Date of Sampling:	12/15/2009
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)	10.99		
Water Elevation (feet above msl)	20.67		
Well Volumes Purged	Micropurged		
Actual Volume Purged (liters)	2.0		
Appearance of Purge Water	Clear		
Free Product Present?	No	Thickness (ft):	----

GROUNDWATER SAMPLES

Number of Samples/Container Size: 3 VOA

Time	Vol Removed (Liters)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
	0.0	18.65	5.62	1246	2.60	-60.7	Clear
	1.0	19.00	5.69	1263	1.14	-68.3	Clear
	1.5	19.13	5.72	1267	0.96	-72.3	Clear
	2.0	19.19	5.74	1266	0.99	-74.9	Clear

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

Clear with hydrocarbon odor

Bottom of drop tube at 13.0 feet bgs. Purge rate <0.5 liters per minute.

Screened interval - 13-15 feet bgs

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: BF-1

Project Name:	Zimmerman	Date of Sampling:	12/15/2009
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)			
Depth of Well	12.00		
Depth to Water (from top of casing)	6.74		
Water Elevation (feet above msl)			
Well Volumes Purged	Micropurged		
Actual Volume Purged (liters)	3.0		
Appearance of Purge Water	Clear		
Free Product Present?	No	Thickness (ft):	----

GROUNDWATER SAMPLES

Number of Samples/Container Size: 3 VOA

Time	Vol Removed (Liters)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
	0.5	18.91	5.82	742	1.18	-67.9	
	1.0	19.03	5.91	750	0.57	-83.9	
	1.5	19.05	5.93	753	0.32	-88.8	
	2.0	19.08	5.95	756	0.27	-91.4	
	3.0	19.07	5.95	758	0.24	-91.3	

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

Clear with no hydrocarbon odor

Bottom of drop tube at 10.0 feet bgs. Purge rate <0.5 liters per minute.

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: BF-5

Project Name:	Zimmerman	Date of Sampling:	12/15/2009
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)			
Depth of Well	12.00		
Depth to Water (from top of casing)	7.24		
Water Elevation (feet above msl)			
Well Volumes Purged	Micropurged		
Actual Volume Purged (liters)	3.0		
Appearance of Purge Water	Clear		
Free Product Present?	No	Thickness (ft):	----

GROUNDWATER SAMPLES

Number of Samples/Container Size: 3 VOA

Time	Vol Removed (Liters)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
	0.0	18.98	5.79	818	1.25	-130.3	Clear
	1.0	19.15	5.87	806	0.87	-137.8	Clear
	1.5	19.18	5.90	798	0.72	-137.7	Clear
	2.0	19.20	5.93	795	0.69	-137.6	Clear
	2.5	19.21	5.96	795	0.66	-138.2	Clear
	3.0	19.22	5.97	795	0.65	-138.5	Clear

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

Clear with slight hydrocarbon odor

Bottom of drop tube at 11.0 feet bgs. Purge rate <0.5 liters per minute.

APPENDIX B

Laboratory Analytical Reports
With
Chain of Custody Documentation

McCampbell Analytical, Inc.
"When Quality Counts"

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

AEI Consultants	Client Project ID: #281939; Zimmerman	Date Sampled: 10/14/09
2500 Camino Diablo, Ste. #200		Date Received: 10/14/09
Walnut Creek, CA 94597	Client Contact: Robert Flory	Date Reported: 10/20/09
	Client P.O.: #WC082028	Date Completed: 10/20/09

WorkOrder: 0910415

October 20, 2009

Dear Robert:

Enclosed within are:

1) The results of the **5** analyzed samples from your project: **#281939; 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

McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius
Laboratory Manager
McCampbell Analytical, Inc.

0910415

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: Robert Flory	**Bill To:** same	**PO:** WC082028
Company: AEI Consultants`		
2500 Camino Diablo		
Walnut Creek, CA 94597	**E-Mail:** rflory@aeiconsultants.com	
Tele: (925) 746-6000	**Fax:** (925) 746-6099	
Project #: 281939	**Project Name:** Zimmerman	
Project Location: 3442 Adeline Street, Oakland, CA		
Sampler Signature:		

SAMPLE ID	Field Point Name	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	MATRIX Soil	MATRIX Air	MATRIX Sludge	MATRIX Other	METHOD PRESERVED Ice	METHOD PRESERVED HCl	METHOD PRESERVED HNO_3	METHOD PRESERVED Other	Analysis Request: MBTEX & TPH as Gas (602/8020 + 8015)	TPH as Diesel (8015) –Multi-range w silica gel	Hexane Extractable Materia w/sil gel EPA 1664	Total Petroleum Hydrocarbons (418.1)	HVOCs 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 - SVOCs	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals 6020	LUFT 5 Metals	Lead (7240/7421/239.2/6010)	RCI	Other	Comments
MW-1	MW-1	10/14/09	945	3	VOAs	X					X				X																
MW-3	MW-3	"	935	"	"	X					X				X																
BF-1	BF-1	"	920	"	"	X					X				X																
BF-3	BF-3	"	1000	"	"	X					X				X																
BF-5	BF-5	"	900	"	"	X					X				X																

Relinquished By:	Date:	Time:	Received By:
	10/14/09	1532	
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

ICE/t° YES 6.4 °C ✓
GOOD CONDITION ✓
HEAD SPACE ABSENT ✓
DECHLORINATED IN LAB N/A

PRESERVATION APPROPRIATE CONTAINERS ✓	VOAS	O&G	METALS	OTHER

PERSERVED IN LAB N/A

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0910415 **ClientCode: AEL**

☐ WaterTrax ☐ WriteOn ☑ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
Robert Flory
AEI Consultants
2500 Camino Diablo, Ste. #200
Walnut Creek, CA 94597
(925) 283-6000 FAX (925) 283-6121
Email: rflory@aeiconsultants.com
cc:
PO: #WC082028
ProjectNo: #281939; 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: **10/14/2009**
Date Printed: **10/14/2009**

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
0910415-001	MW-1	Water	10/14/2009 9:45	☐	A	A										
0910415-002	MW-3	Water	10/14/2009 8:35	☐	A											
0910415-003	BF-1	Water	10/14/2009 9:20	☐	A											
0910415-004	BF-3	Water	10/14/2009 10:00	☐	A											
0910415-005	BF-5	Water	10/14/2009 9:00	☐	A											

Test Legend:

1	G-MBTEX_W	2	PREDF REPORT	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.

McCampbell Analytical, Inc.
"When Quality Counts"

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

Sample Receipt Checklist

Client Name: **AEI Consultants**

Date and Time Received: **10/14/2009 3:51:43 PM**

Project Name: **#281939; Zimmerman**

Checklist completed and reviewed by: Samantha Arbuckle

WorkOrder N°: **0910415** 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: 6.4°C		NA ☐
Water - VOA vials have zero headspace / no bubbles?	Yes ☑	No ☐	No VOA vials submitted ☐
Sample labels checked for correct preservation?	Yes ☑	No ☐	
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:

McCampbell Analytical, Inc.
"When Quality Counts"

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

AEI Consultants	Client Project ID: #281939; Zimmerman	Date Sampled: 10/14/09
		Date Received: 10/14/09
2500 Camino Diablo, Ste. #200	Client Contact: Robert Flory	Date Extracted: 10/15/09-10/16/09
Walnut Creek, CA 94597	Client P.O.: #WC082028	Date Analyzed: 10/15/09-10/16/09

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

Extraction method: SW5030B Analytical methods: SW8021B/8015Bm Work Order: 0910415

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS	Comments
001A	MW-1	W	380	ND<30	25	0.83	7.2	12	1	98	d1
002A	MW-3	W	1800	ND<30	220	13	37	130	1	80	d1
003A	BF-1	W	2400	ND<10	83	1.9	5.0	120	2	110	d1
004A	BF-3	W	ND	ND	ND	ND	ND	ND	1	95	
005A	BF-5	W	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	µg/L
	S	1.0	0.05	0.005	0.005	0.005	0.005	mg/Kg

* water and vapor samples are reported in ug/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts 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 McCampbell Analytical is not responsible for their interpretation:

d1) weakly modified or unmodified gasoline is significant

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"

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

QC SUMMARY REPORT FOR SW8021B/8015Bm

W.O. Sample Matrix: Water QC Matrix: Water BatchID: 46455 WorkOrder: 0910415

EPA Method SW8021B/8015Bm **Extraction SW5030B** **Spiked Sample ID: 0910377-001A**

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	105	103	2.04	99.7	107	6.94	70 - 130	20	70 - 130	20
MTBE	ND	10	90.7	83	8.78	88	95.3	7.96	70 - 130	20	70 - 130	20
Benzene	ND	10	94.8	101	6.29	88.9	94.4	6.07	70 - 130	20	70 - 130	20
Toluene	ND	10	93.4	99.1	5.95	87.7	92.9	5.76	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	92.5	96.6	4.35	86.6	91.8	5.81	70 - 130	20	70 - 130	20
Xylenes	ND	30	93.6	95.9	2.51	87.2	92.9	6.26	70 - 130	20	70 - 130	20
%SS:	103	10	98	104	6.23	96	96	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 46455 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0910415-001A	10/14/09 9:45 AM	10/15/09	10/15/09 10:08 PM	0910415-002A	10/14/09 8:35 AM	10/15/09	10/15/09 10:38 PM
0910415-003A	10/14/09 9:20 AM	10/16/09	10/16/09 10:23 PM	0910415-004A	10/14/09 10:00 AM	10/15/09	10/15/09 11:38 PM
0910415-005A	10/14/09 9:00 AM	10/16/09	10/16/09 12:07 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.

DHS ELAP Certification 1644

QA/QC Officer

McCampbell Analytical, Inc.
"When Quality Counts"

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

AEI Consultants	Client Project ID: #281939; Zimmerman	Date Sampled: 12/15/09
2500 Camino Diablo, Ste. #200		Date Received: 12/15/09
Walnut Creek, CA 94597	Client Contact: Harmony TomSun	Date Reported: 12/18/09
	Client P.O.: #WC082127	Date Completed: 12/18/09

WorkOrder: 0912416

December 18, 2009

Dear Harmony:

Enclosed within are:

1) The results of the **10** analyzed samples from your project: **#281939; 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

McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius
Laboratory Manager
McCampbell Analytical, Inc.

0912416

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. # WC082127
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: 3442 Adeline Street, Oakland, CA
Sampler Signature: [signature]

SAMPLE ID	Field Point Name	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	MATRIX Soil	MATRIX Air	MATRIX Sludge	MATRIX Other	METHOD PRESERVED Ice	METHOD PRESERVED HCl	METHOD PRESERVED HNO_3	METHOD PRESERVED Other	BTEX & TPH as Gas (602/8020 + 8015)/MTBE	TPH as Diesel (8015) with Silica Gel Cleanup	Total Petroleum Oil & Grease (5520 E&F/B&F)	Total Petroleum Hydrocarbons (418.1)	HVOCs 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 - SVOCs	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals 6020	LUFT 5 Metals	Lead (7240/7421/239.2/6010)	RCI	Other	Comments
MW-1	MW-1	12/15/09	1440	3	VOAs	X					X				X																
MW-2	MW-2		1505			X					X				X																
MW-3	MW-3		1320			X					X				X																
MW-4	MW-4		1300			X					X				X																
MW-5	MW-5		1525			X					X				X																
MW-6	MW-6		1550			X					X				X																
MW-7	MW-7		1655			X					X				X																
IW-1	IW-1		1630			X					X				X																
BF-1	BF-1		1425			X					X				X																
BF-5	BF-5		1345			X					X				X																

Relinquished By:	Date:	Time:	Received By:
[signature]	12/15/09	1825	[signature] 12/15/09 18:25

ICE/t° 6.2 yes
GOOD CONDITION ✓
HEAD SPACE ABSENT ✓
DECHLORINATED IN LAB N/A

	VOAS	O&G	METALS	OTHER
PRESERVATION				

APPROPRIATE CONTAINERS ✓
PERSERVED IN LAB N/A

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0912416 **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:
ProjectNo: #281939; 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: **12/15/2009**
Date Printed: **12/15/2009**

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
0912416-001	MW-1	Water	12/15/2009 14:10	☐	A	A										
0912416-002	MW-2	Water	12/15/2009 15:05	☐	A											
0912416-003	MW-3	Water	12/15/2009 13:20	☐	A											
0912416-004	MW-4	Water	12/15/2009 13:00	☐	A											
0912416-005	MW-5	Water	12/15/2009 15:25	☐	A											
0912416-006	MW-6	Water	12/15/2009 15:50	☐	A											
0912416-007	MW-7	Water	12/15/2009 16:55	☐	A											
0912416-008	IW-1	Water	12/15/2009 16:30	☐	A											
0912416-009	BF-1	Water	12/15/2009 14:25	☐	A											
0912416-010	BF-5	Water	12/15/2009 13:45	☐	A											

Test Legend:

1	G-MBTEX_W	2	PREDF REPORT	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.

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

Sample Receipt Checklist

Client Name: **AEI Consultants**

Date and Time Received: **12/15/2009 6:44:40 PM**

Project Name: **#281939; Zimmerman**

Checklist completed and reviewed by: Samantha Arbuckle

WorkOrder N°: **0912416** 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: 8.2°C		NA ☐
Water - VOA vials have zero headspace / no bubbles?	Yes ☑	No ☐	No VOA vials submitted ☐
Sample labels checked for correct preservation?	Yes ☑	No ☐	
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:

McCampbell Analytical, Inc.
"When Quality Counts"

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

AEI Consultants	Client Project ID: #281939; Zimmerman	Date Sampled: 12/15/09
		Date Received: 12/15/09
2500 Camino Diablo, Ste. #200	Client Contact: Harmony TomSun	Date Extracted: 12/16/09-12/18/09
Walnut Creek, CA 94597	Client P.O.: #WC082127	Date Analyzed: 12/16/09-12/18/09

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

Extraction method: SW5030B Analytical methods: SW8021B/8015Bm Work Order: 0912416

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS	Comments
001A	MW-1	W	2500	ND<50	170	6.4	66	120	10	118	d1
002A	MW-2	W	25,000	ND<250	2900	70	1500	2400	50	108	d1
003A	MW-3	W	4900	ND<50	890	13	160	130	10	115	d1
004A	MW-4	W	3000	ND<15	64	11	5.6	3.3	1	102	d1
005A	MW-5	W	8200	ND<250	1200	6.9	300	610	5	93	d1
006A	MW-6	W	4700	ND<250	370	6.9	260	300	5	87	d1
007A	MW-7	W	9600	ND<100	620	26	140	37	20	115	d1
008A	IW-1	W	220	ND	5.4	1.4	0.65	0.68	1	112	d1
009A	BF-1	W	200	ND	12	ND	2.2	9.6	1	108	d1
010A	BF-5	W	130	ND	40	ND	0.91	ND	1	99	d1

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 are reported in ug/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts 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 McCampbell Analytical is not responsible for their interpretation:

d1) weakly modified or unmodified gasoline is significant

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"

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

QC SUMMARY REPORT FOR SW8021B/8015Bm

W.O. Sample Matrix: Water QC Matrix: Water BatchID: 47637 WorkOrder: 0912416

EPA Method SW8021B/8015Bm **Extraction SW5030B** **Spiked Sample ID: 0912399-002A**

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	107	110	2.60	106	109	2.10	70 - 130	20	70 - 130	20
MTBE	ND	10	112	115	2.77	114	115	0.325	70 - 130	20	70 - 130	20
Benzene	ND	10	101	106	5.19	105	106	0.892	70 - 130	20	70 - 130	20
Toluene	ND	10	89.9	95.7	6.28	94.9	95.9	0.994	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	91.1	93.2	2.27	95.5	95.1	0.448	70 - 130	20	70 - 130	20
Xylenes	ND	30	102	109	6.68	109	109	0	70 - 130	20	70 - 130	20
%SS:	99	10	99	100	0.250	100	100	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 47637 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0912416-001A	12/15/09 2:10 PM	12/16/09	12/16/09 4:54 PM	0912416-002A	12/15/09 3:05 PM	12/16/09	12/16/09 5:27 PM
0912416-003A	12/15/09 1:20 PM	12/16/09	12/16/09 7:40 PM	0912416-004A	12/15/09 1:00 PM	12/16/09	12/16/09 10:59 PM
0912416-005A	12/15/09 3:25 PM	12/18/09	12/18/09 4:18 AM	0912416-006A	12/15/09 3:50 PM	12/18/09	12/18/09 4:48 AM
0912416-007A	12/15/09 4:55 PM	12/16/09	12/16/09 8:14 PM	0912416-008A	12/15/09 4:30 PM	12/18/09	12/18/09 3:18 AM
0912416-009A	12/15/09 2:25 PM	12/17/09	12/17/09 1:10 AM	0912416-010A	12/15/09 1:45 PM	12/17/09	12/17/09 1:43 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.

DHS ELAP Certification 1644

QA/QC Officer