Environmental Health Services
Environmental Protection
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

SUBJECT: Perjury Statement

To Whom It May Concern:

I declare, under penalty of perjury, that the information and/or recommendations contained in the requested attached reports in your letter dated August 8, 2011 are true and correct to the best of my knowledge.

Signed: Jane Anne Allen

JANE A. ALLEN

August 31, 2009

GROUNDWATER MONITORING REPORT
Second Quarter, 2009

325 Martin Luther King Jr. Way
Oakland, California

Project No. 270308

Prepared For

Jane and Kimball Allen
2 Lone Tree Avenue
Mill Valley, CA 94941

Prepared By

AEI Consultants
2500 Camino Diablo, Suite 200
Walnut Creek, CA 94597
(925) 283-6000

AEI

AEI CONSULTANTS
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August 31, 2009

Jane and Kimball Allen
2 Lone Tree Avenue
Mill Valley, California 94941

Subject: **Quarterly Groundwater Monitoring Report**
Second Quarter, 2009
325 Martin Luther King Jr. Way
Oakland, California
AEI Project No. 270308

Dear Mr. and Mrs. Allen:

AEI Consultants (AEI) has prepared this report on behalf of Jane and Kimball Allen to document the ongoing groundwater investigation at the above referenced site (Figure 1, Site Location Map). The groundwater investigation is being performed in accordance with the requirements of the Alameda County Health Care Services Agency (ACEH). The purpose of these activities is to monitor groundwater quality in the vicinity of the identified release of fuel products at the site. This report presents the findings of the Second Quarter 2009 episode of groundwater monitoring and sampling conducted on June 15, 2009 at the site.

I Background

The subject property is located on the western corner of the intersection of Martin Luther King Jr. Way and 4th Street in a mixed commercial and industrial area of Oakland. The property measures approximately 100 feet along Martin Luther King and approximately 150 feet along 4th Street with the property building covering essentially 100% of the land area. The northwestern portion of the building along 4th Street has also had the address 671 4th Street. The building is currently vacant, but was previously occupied by Pucci Enterprises as warehouse space and cold storage freezers.

A Phase I Environmental Site Assessment (ESA) of the property dated November 1, 1993 identified a 10,000-gallon former fuel UST that currently exists below the north side of the building. The fuel UST was used to provide fuel for the Pucci Enterprises truck fleet.

On October 20, 1993, the tank decommissioned by steam cleaning the tank, pumping remaining sludge out of the tank, and filling the tank with concrete slurry. At the time of the UST closure, the eastern section of the building had not yet been built. The tank could not be removed because of its proximity to the footing of the 671 4th Street

building. After tank closure, the eastern portion of the building (325 Martin Luther King) was constructed. Although records show that the UST was abandoned following proper procedures applicable at that time, no documentation was available of sampling around the tank prior to abandonment.

A number of site investigations were performed by several environmental consultants during 2005 and 2006.

In May 2005, AEI performed a Phase II Subsurface Investigation. Soil borings SB-1 and SB-3 encountered refusal at 4 feet bgs, possibly the top of the concrete filled UST. Soil borings SB-2 and SB-4 were advanced into the groundwater. Total petroleum hydrocarbon (TPH) as gasoline (TPH-g), TPH as diesel (TPH-d), and benzene were reported in groundwater from boring SB-2 at concentrations up to 780 micrograms per liter (µg/L), 420 µg/L, and 53 µg/L, respectively.

In September 2005, an additional investigation was performed by Terra Firma. Groundwater samples were collected from four (4) soil borings (labeled 50901-1 to 50901-4). Analysis of groundwater reported the highest concentrations of from the two borings to the south of the UST, where TPH-g, TPH-d, and benzene were reported in boring 50901-3 at concentrations of 20,000 µg/l, 3600 µg/l, and 990 µg/l, respectively.

In June 2006, Ceres Associated performed another subsurface investigation. The project included the analyses of soil and groundwater from five soil borings (SB-5 thru SB-9). The highest concentrations of hydrocarbons were reported in boring SB-7, located southeast of the UST. Maximum concentrations of TPH-g, TPH-d, and benzene were reported in sample SB-7-10 at concentrations of 20,000 mg/kg, 3,300 mg/kg, 200 mg/kg, respectively. Analysis of groundwater samples from SB-7 reported TPH-g, TPH-d, and benzene at concentrations of 110,000 µg/l, 110,000 µg/l, and 3,300 µg/l, respectively.

LRM Consulting prepared release notification documentation and a workplan for the ACEH in August 2006. The workplan included additional file and data base research into possible additional source locations (dispenser, piping, offsite releases, etc) and installing three (3) 2-inch diameter monitoring wells a screened interval of 5 to 20 feet bgs.

Following ACEH comments relating to the work plan and previous investigations, AEI was retained to prepare a comprehensive workplan. The *Site Characterization Workplan*, dated March 31, 2007, outlined the scope of work for installation of 12 additional soil borings and three groundwater monitoring wells to further characterize the release.

In May of 2007, AEI performed a soil and groundwater investigation which included of drilling additional twelve (12) soil borings at the property. Low to moderate concentrations of petroleum hydrocarbons were detected in the soil adjacent to the abandoned UST and in groundwater. Contaminant distributions in groundwater indicate that the release of hydrocarbons is limited to the 325 Martin Luther King Jr. Way unit.

On August 10, 2007, AEI installed three (3) groundwater monitoring wells (MW-1 thru MW-3) down gradient of the abandoned in place UST. Significant concentrations of petroleum hydrocarbons were reported in well MW-3, which is located immediately down gradient of abandoned UST. A site map and well construction details are contained in AEI's *Monitoring Well Installation Report*, dated September 21, 2008.

A *Corrective Action Pilot Test Workplan*, dated April 7, 2008, for a pilot-scale evaluation of in-situ chemical oxidation as a potential method of remediating the site was prepared fro the ACEH. The workplan proposed five injection points in the immediate area of source well MW-3, targeting the saturated zone as well as the lower vadose zone using the product RegenOx™ manufactured by Regenesis, Inc. The workplan was approved by the ACEH in a letter dated May 13, 2008. On July 17 and 18, 2008, 720 lbs of RegenOx™ (Part A and Part B) was injected in five locations (IP-1 through IP-5) at spacing approximately five feet away from well MW-3.

Following the pilot test, groundwater samples collected on August 4, 2008 from well MW-3 reported an increase in TPH-g from pre-pilot concentration of 20,000 µg/L to 110,000 µg/L. Follow up sampling on August 20, 2008 reported TPH-g at a concentration of 120,000 µg/L. At the time of the present monitoring event TPG-g in well MW-3 was reported at a concentration of 83,000 µg/L. This increase is believed to be due to the release of hydrocarbons bound to the soil in the smear zone and below the top the groundwater.

The marked increase in dissolved hydrocarbons concentrations appears to be the result of hydrocarbons bonded to sediments in the capillary fringe saturated zone that were desorbed from the soil as a result of treatment with RegenOx. This data and review of past soil analytical indicate that the residual source area around the abandoned in place UST is significantly greater than had been anticipated and that several rounds of injection would be required to remediate the site. Based on the relative high cost of multiple direct push infusions using RegenOx, installation of permanent injection points and alternate remedial approaches were evaluated. Following evaluation of the pilot test data, AEI selected H_2O_2 infusion through permanently installed wells as a lower cost approach to remediation. A *Hydrogen Peroxide Infusion Pilot Test Workplan*, dated August 12, 2009, was completed for the site and approved in a letter from the ACHCSA dated August 21, 2009.

II Summary of Monitoring Activities

AEI measured the depth to groundwater in the three (3) monitoring wells (labeled MW-1 through MW-3) on June 15, 2009. The depth to static groundwater from the top of the well casings was measured with an electric water level indicator prior to sampling.

The wells were purged with a battery-powered submersible pump. Temperature, pH, specific conductivity, dissolved oxygen (DO), and the oxidation-reduction potential (ORP) were measured and the turbidity was visually noted during purging of the wells.

At least three (3) well volumes of water were purged from each well. The wells were allowed to recharge to at least 90% of their original level prior to sample collection.

Groundwater samples were collected with new disposable plastic bailers into 40 ml volatile organic analysis (VOA) vials and 1-liter amber bottles. VOAs were capped so that no head space or air bubbles were visible within the sample containers. Samples were transported on ice under appropriate chain of custody protocol to McCampbell Analytical, Inc. of Pittsburgh, California (Department of Health Services Certification #1644).

Three (3) samples were analyzed for total petroleum hydrocarbons as gasoline (TPH-g); methyl tertiary-butyl ether (MTBE), benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA methods 8021B/8015Cm; total petroleum hydrocarbons as diesel (TPH-d) by EPA method 8015C; and MTBE, 1,2-Dibromoethane (EDB), and 1,2-dichloroethane (1,2-DCA) by EPA Method 8260B.

III Field Results

Groundwater levels for the Second Quarter 2009 monitoring episode ranged from 6.65 (MW-2) to 6.79 (MW-3) feet above mean sea level (amsl). Based on these measurements, groundwater flows in a south-southeasterly direction at a gradient of approximately 0.004 ft/ft. The flow direction and hydraulic gradient are consistent with previous episodes.

Groundwater elevation data, flow direction, and hydraulic gradient are summarized in Table 2: Groundwater Elevation Data. The water table elevations and the estimated groundwater flow direction are presented on Figures 3: Water Table Elevations. Please refer to Appendix A for the Groundwater Monitoring Well Field Sampling Forms, which include water quality data and other parameters collected during well purging.

IV Groundwater Quality

No petroleum hydrocarbons were reported in the groundwater samples collected from monitoring wells MW-1 and MW-2, with the exception of MTBE and 1,2-DCA reported in MW-1 at concentrations of 8.1 µg/L and 5.8 µg/L, respectively.

In MW-3, TPH-g and TPH-d were reported at concentrations of at 67,000 µg/L and 21,000 µg/L, respectively. BTEX were reported at concentrations of 11,000 µg/L, 9,100 µg/L, 1,200 µg/L, and 6,800 µg/L, respectively. EBD and 1,2-DCA were reported in well MW-3 at concentrations of 87 µg/L and 490 µg/L, respectively. No other target analytes were detected in MW-3.

V Summary

This report documents the findings of the Second Quarter 2009 groundwater monitoring event at the site. Overall, hydrocarbon concentrations in well MW-3 are consistent with previous monitoring events following the initial direct push injections.

The *Hydrogen Peroxide Infusion Pilot Test Workplan*, dated August 12, 2009, was approved in a letter from the ACHCSA dated August 21, 2009. It is expected that the UST location and injection well activities will take place near the end of September 2009.

The next groundwater monitoring event is to serve as the baseline monitoring event prior to hydrogen peroxide infusion, the baseline event of which is expected to take place in November of 2009.

VI Report Limitations

This report presents a summary of work completed by AEI Consultants. The completed work includes observations and descriptions of site conditions encountered. 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 the requested information, but it cannot be assumed that they are representative of areas not sampled. All conclusions and/or recommendations are based on these analyses and observations, and the governing regulations. Conclusions beyond those stated and reported herein should not be inferred from this document.

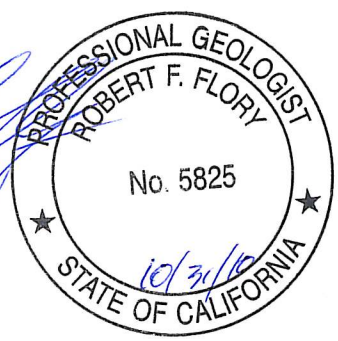
These services were performed in accordance with generally accepted practices, in the environmental engineering field, which existed at the time and location of the work.

If you have any questions regarding our investigation, please do not hesitate to contact either of the undersigned at (925) 283-6000.

Sincerely,
AEI Consultants

Adrian M. Angel
Project Geologist

Robert F. Flory, PG
Senior Geologist



AEI

Figures

Tables

Previous Documentation

AEI Consultants, *Phase II Subsurface Investigation Report*, May 18, 2005

AEI Consultants, *Site Characterization Workplan*, March 8, 2007

AEI Consultants, *Soil and Groundwater Investigation Report*, September 21, 2007

AEI Consultants, *Corrective Action Pilot Test Workplan*, April 7, 2008

Alameda County Health Care Services Agency, *Fuel Leak Case No. RO0002930, 325 Martin Luther King Jr. Way, Oakland, CA 94607,* December 22, 2006

Alameda County Health Care Services Agency, *Fuel Leak Case No. RO0002930, 325 Martin Luther King Jr. Way, Oakland, CA 94607,* May 13, 2008

Ceres Associates, *Soil and Groundwater Investigation Report,* June 8, 2006

Helley, E.J., et al, *Quaternary Geology of Alameda County and Surrounding Areas, California*, 1997

LRM Consulting, Inc., *Notice of Unauthorized Release* and *Supplemental Investigation Workplan,* August 29, 2006

Norfleet Consultants, *Groundwater Study and Water Supply History of the East Bay Plain, Alameda and Contra Costa Counties, CA*, June 19, 1998

Terra Firma, *Findings of Environmental Subsurface Investigation,* September 16, 2005

Touchstone Developments, *Phase I Investigation*, November 1, 1993

Distribution:

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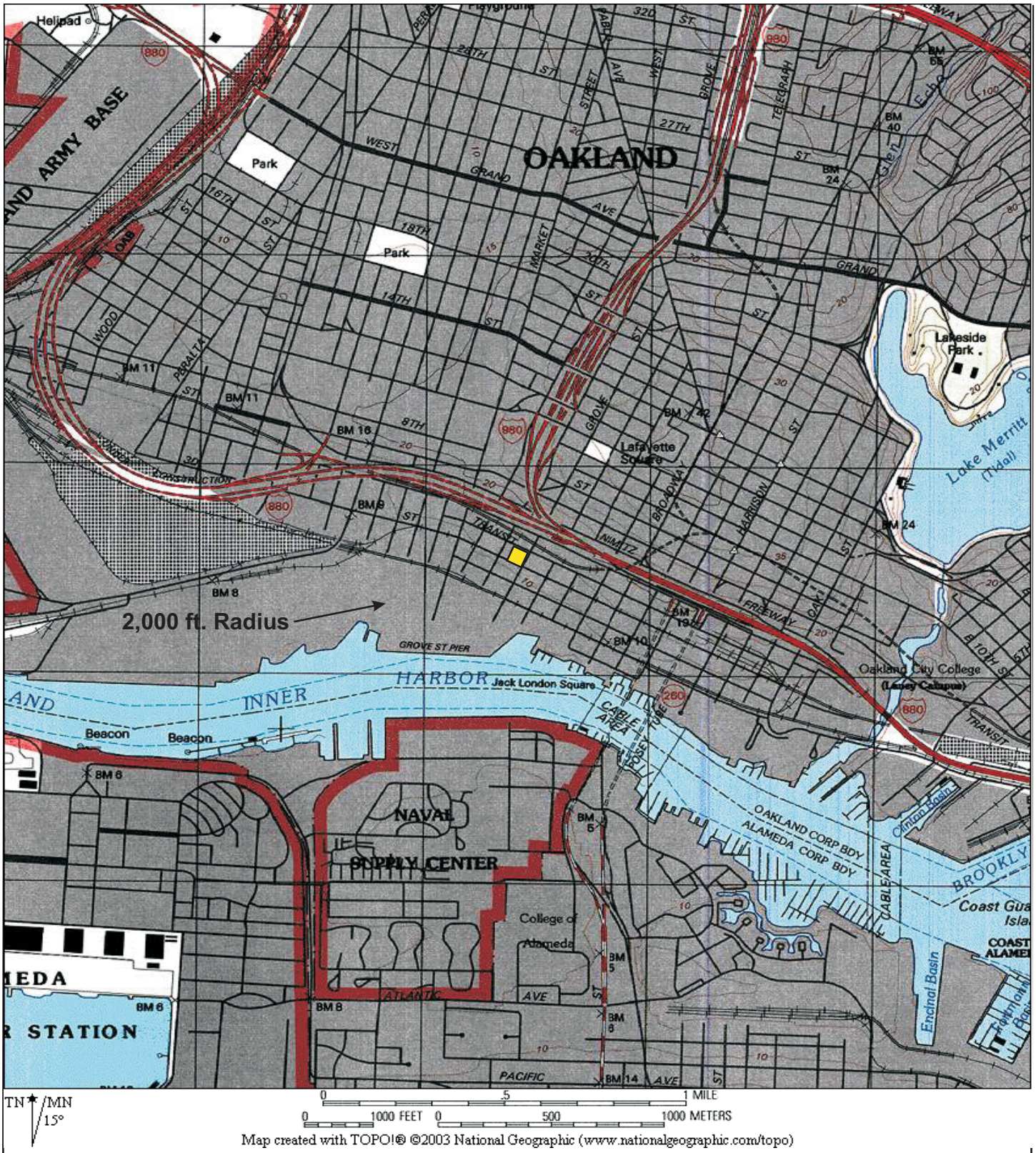
Alameda County Environmental Health Services (ACEHS) (electronic)
Attn: Mr. Jerry Wickham
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

GeoTracker (electronic)

FIGURES

AEI CONSULTANTS



Map created with TOPO!® ©2003 National Geographic (www.nationalgeographic.com/topo)

LEGEND

N

SITE LOCATION

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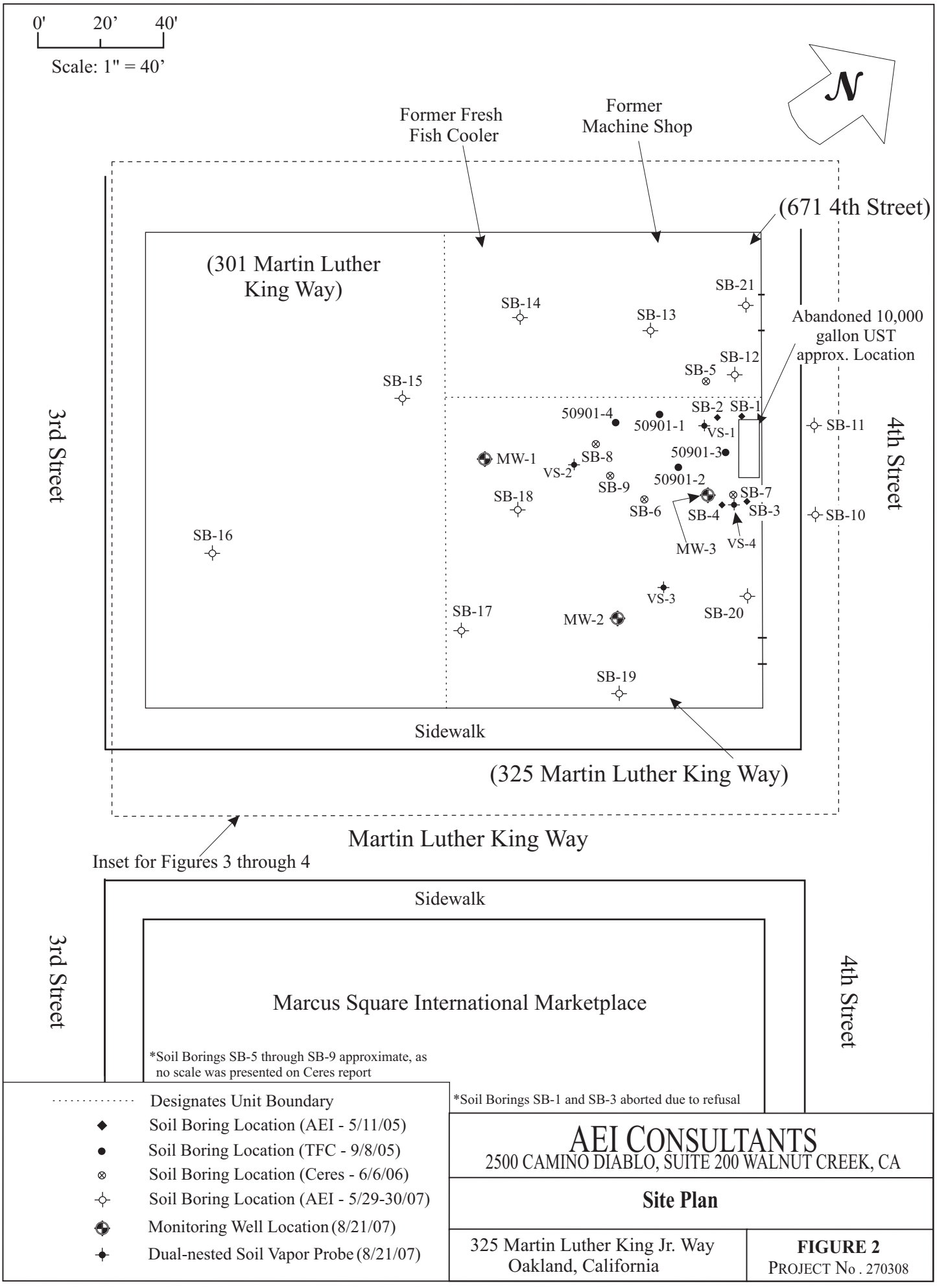
Well Survey

325 Martin Luther King Jr. Way
Oakland, CA 94607

FIGURE 1
Job No: 270308

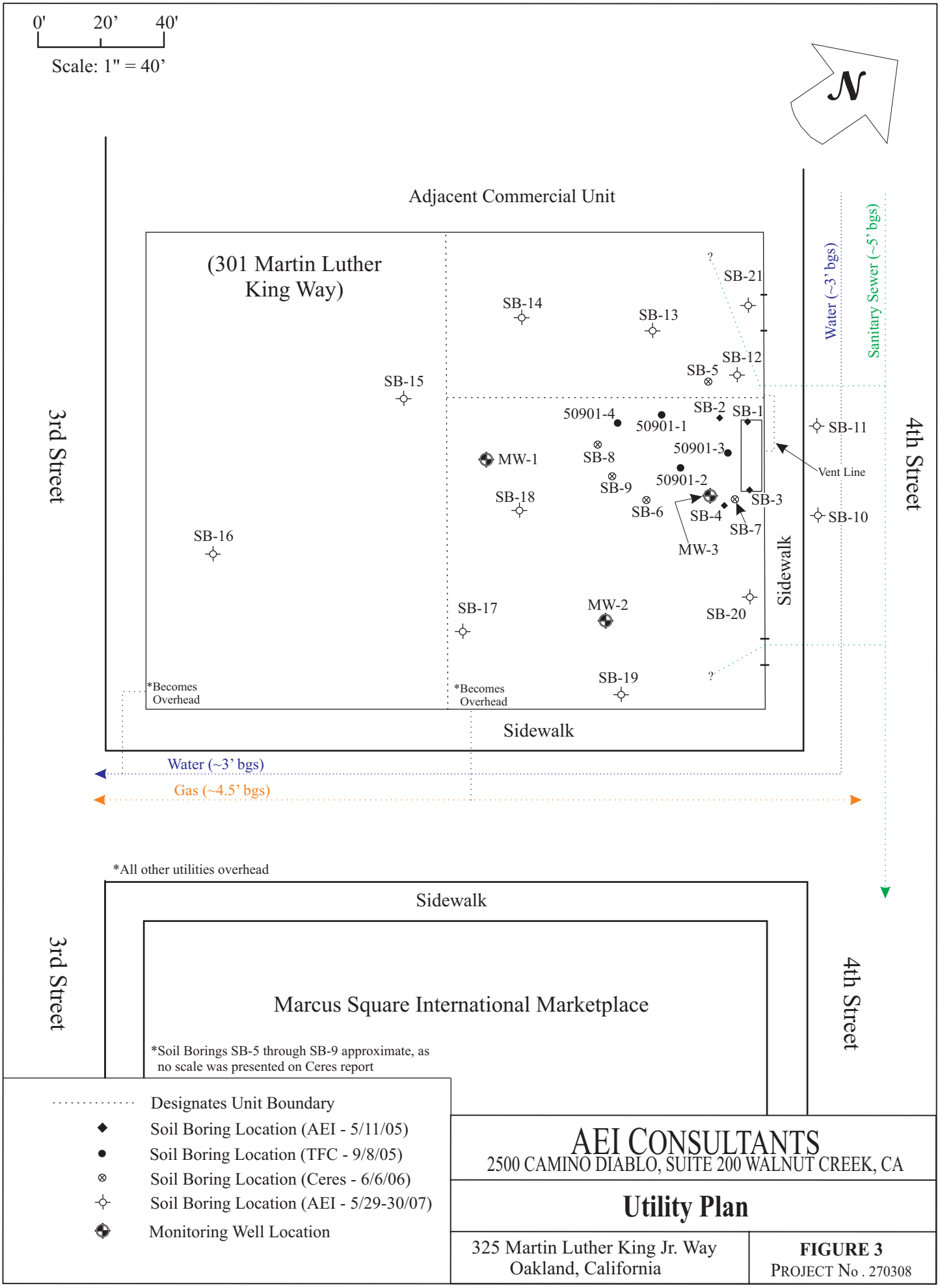


AEI CONSULTANTS
2500 CAMINO DIABLO, SUITE 200 WALNUT CREEK, CA

Site Plan

325 Martin Luther King Jr. Way
Oakland, California

FIGURE 2
PROJECT No . 270308

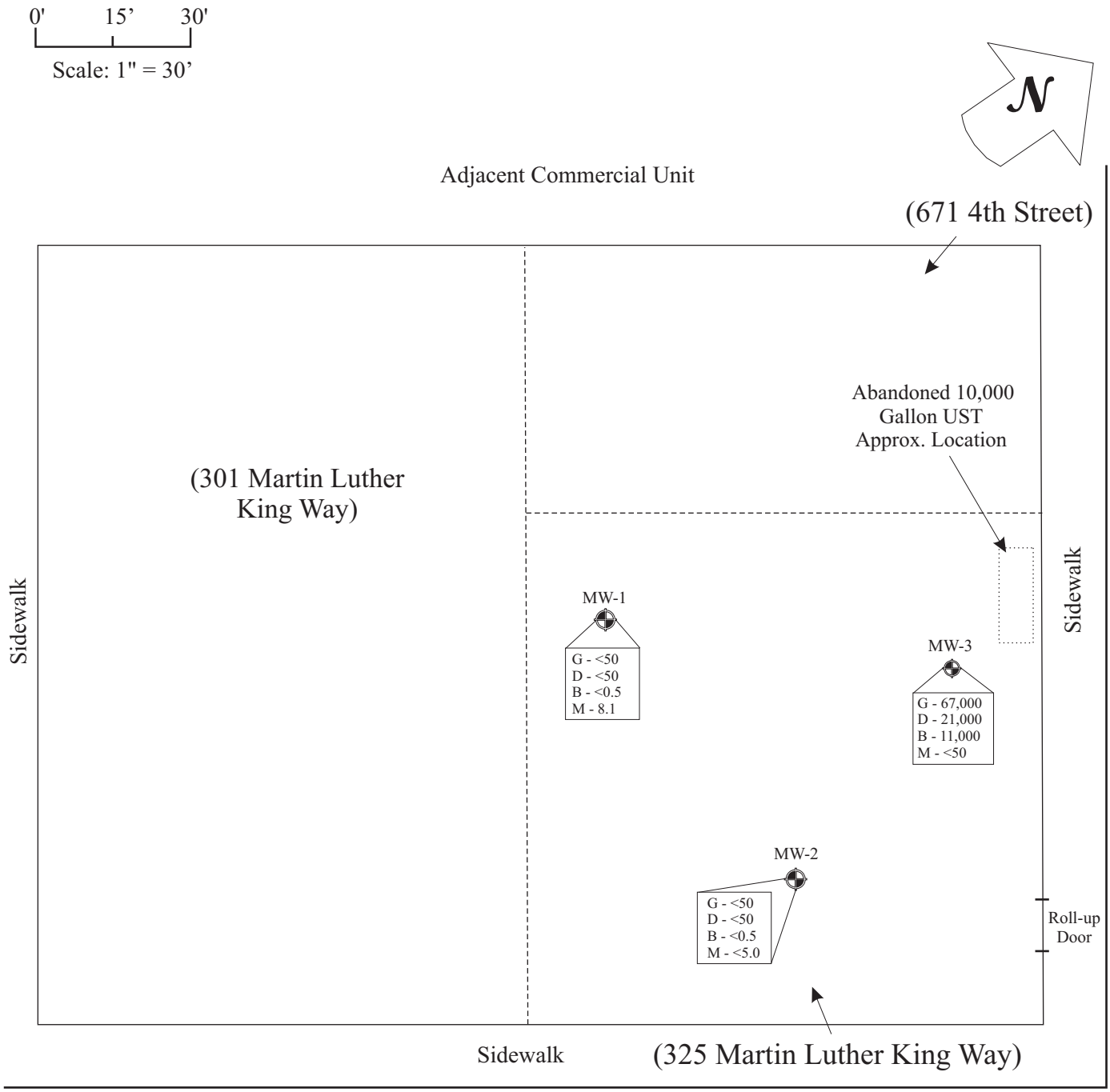


AEI CONSULTANTS
2500 CAMINO DIABLO, SUITE 200 WALNUT CREEK, CA

Utility Plan

325 Martin Luther King Jr. Way
Oakland, California

FIGURE 3
PROJECT No . 270308



Monitoring Well Locations

Hydrocarbon concentrations expressed in ug/L
(Refer to Tables 3 & 4 for details)

G = total petroleum hydrocarbons as gasoline
D = total petroleum hydrocarbons as diesel
B = benzene
M = methyl tertiary butyl ether (MTBE)

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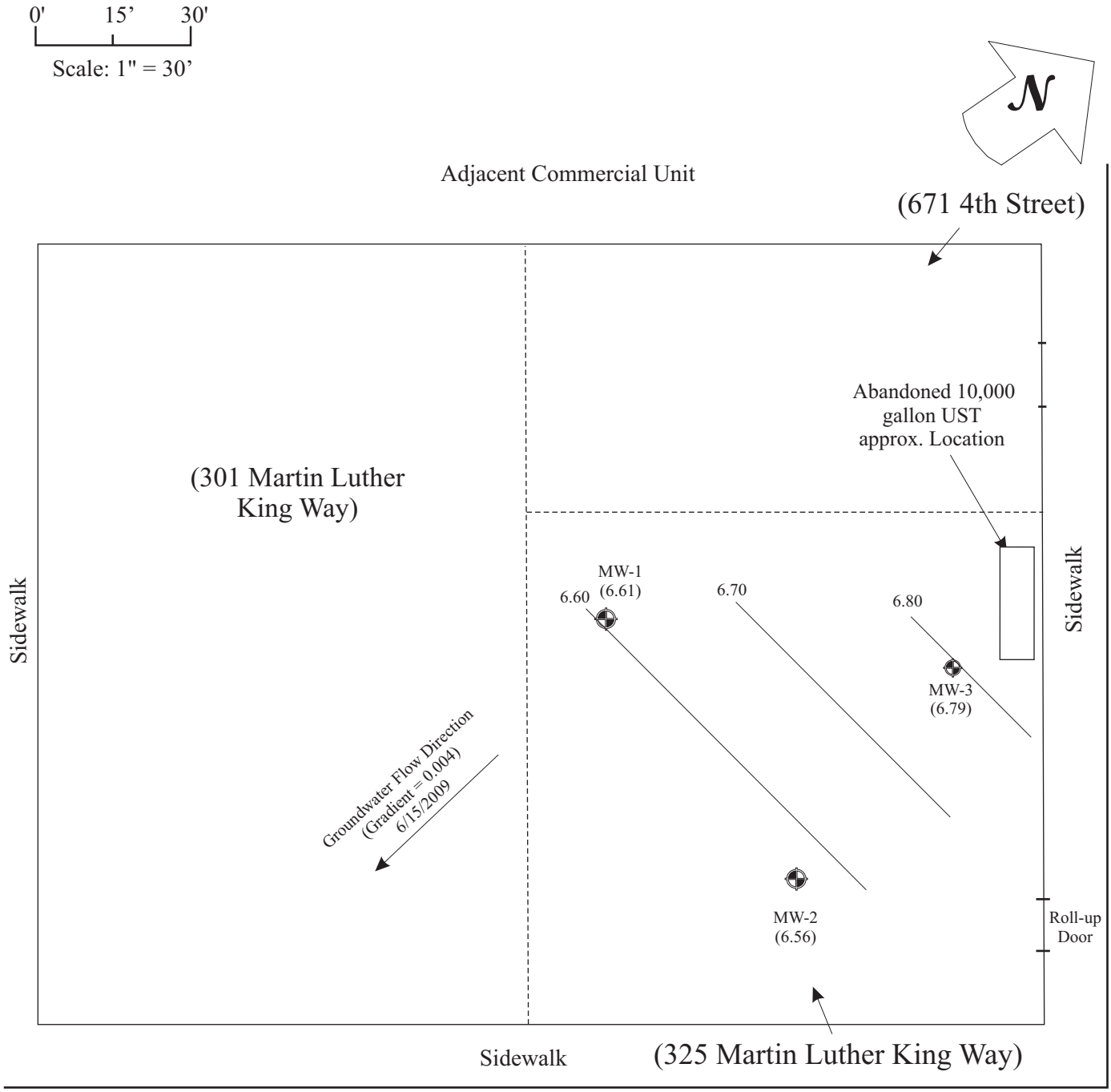
2500 CAMINO DIABLO, SUITE 200 WALNUT CREEK, CA

Dissolved Phase Hydrocarbon Concentrations (6/15/09)

325 Martin Luther King Jr. Way
Oakland, California

FIGURE 4

PROJECT No . 270308



Monitoring Well Locations

MW-2 (6.49) Water table elevations shown in parentheses in feet ams (above mean sea level)

Contour Interval = 0.1 feet

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Water Table Elevations (6/15/09)

325 Martin Luther King Jr. Way
Oakland, California

FIGURE 5
PROJECT No . 270308

TABLES

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Table 1 - AEI Project # 270308
Monitoring Well Construction Details

Well ID	Date Installed	Top of Casing Elevation (ft amsl)	Well Depth (ft)	Slotted Casing (ft)	Slot Size (in)	Sand Interval (ft)	Sand Size	Bentonite Interval (ft)	Grout Interval (ft)
MW-1	08/10/07	14.92	18.0	8 - 18	0.010	7 - 18	# 2/12	7 - 8	0.75 - 7
MW-2	08/10/07	15.27	17.0	7 - 17	0.010	6 - 17	# 2/12	6 - 7	0.75 - 6
MW-3	08/10/07	15.26	18.0	8 - 18	0.010	7 - 18	# 2/12	7 - 8	0.75 - 7

Notes:
ft amsl = feet above mean sea level

Table 2 - AEI Project # 270308

Groundwater Elevation Data

Well ID (Screen Interval)	Date Collected	Well Elevation *(ft amsl)*	Depth to Water *(ft)*	Groundwater Elevation *(ft amsl)*
MW-1	8/21/2007	14.92	8.38	6.54
(8 - 18)	11/21/2007	14.92	8.37	6.55
	2/26/2008	14.92	7.98	6.94
	6/18/2008	14.92	8.41	6.51
	9/19/2008	14.92	8.56	6.36
	12/29/2008	14.92	8.66	6.26
	3/17/2009	14.92	7.84	7.08
	6/15/2009	**14.92**	**8.31**	**6.61**
MW-2	8/21/2007	15.27	8.78	6.49
(7 - 17)	11/21/2007	15.27	8.72	6.55
	2/26/2008	15.27	8.37	6.90
	6/18/2008	15.27	8.82	6.45
	9/19/2008	15.27	8.92	6.35
	12/29/2008	15.27	8.87	6.40
	3/17/2009	15.27	8.27	7.00
	6/15/2009	**15.27**	**8.71**	**6.56**
MW-3	8/21/2007	15.26	8.59	6.67
(8 - 18)	11/21/2007	15.26	8.55	6.71
	2/26/2008	15.26	8.11	7.15
	6/18/2008	15.26	8.62	6.64
	8/4/2008	15.26	8.65	6.61
	8/20/2008	15.26	8.68	6.58
	9/19/2008	15.26	8.74	6.52
	12/29/2008	15.26	8.67	6.59
	3/17/2009	15.26	7.96	7.30
	6/15/2009	**15.26**	**8.47**	**6.79**

Event #	Date	Average Water Table Elevation (ft amsl)	Change from Previous Episode (ft)	Flow Direction (gradient) (ft/ft)
1	8/21/2007	6.57	NA	S (0.003)
2	11/21/2007	6.60	0.04	S (0.005)
3	2/26/2008	7.00	0.39	S (0.005)
4	6/18/2008	6.53	-0.46	SSE (0.004)
5	9/19/2008	6.41	-0.12	S (0.003)
6	12/29/2008	6.42	0.01	SSW (0.005)
7	3/17/2009	7.13	0.71	SSW (0.006)
8	**6/15/2009**	**6.65**	**-0.47**	**SSW (0.004)**

ft amsl = feet above mean sea level

Table 3 - AEI Project # 270308

Groundwater Monitoring Sample Analytical Data

Sample ID	Date	TPHg µg/L	TPHd µg/L	MTBE µg/L	Benzene µg/L	Toluene µg/L	Ethylbenzene µg/L	Xylenes µg/L
MW-1	8/21/2007	<50	<50	15	<0.5	<0.5	<0.5	<0.5
	11/21/2007	<50	<50	12	<0.5	<0.5	<0.5	<0.5
	2/26/2008	<50	<50	-	<0.5	<0.5	<0.5	<0.5
	6/18/2008	<50	<50	-	<0.5	<0.5	<0.5	<0.5
	9/19/2008	<50	<50	-	<0.5	<0.5	<0.5	<0.5
	12/29/2008	<50	<50	-	<0.5	<0.5	<0.5	<0.5
	3/17/2009	<50	<50	-	<0.5	<0.5	<0.5	<0.5
	6/15/2009	**<50**	**<50**	**-**	**<0.5**	**<0.5**	**<0.5**	**<0.5**
MW-2	8/21/2007	<50	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	11/21/2007	<50	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	2/26/2008	<50	<50	-	<0.5	<0.5	<0.5	<0.5
	6/18/2008	<50	<50	-	<0.5	<0.5	<0.5	<0.5
	9/19/2008	<50	<50	-	<0.5	<0.5	<0.5	<0.5
	12/29/2008	<50	<50	-	<0.5	<0.5	<0.5	<0.5
	3/17/2009	<50	<50	-	<0.5	<0.5	<0.5	<0.5
	6/15/2009	**<50**	**<50**	**-**	**<0.5**	**<0.5**	**<0.5**	**<0.5**
MW-3	8/21/2007	24,000	2,100	<180	2,600	3,500	450	2,400
	11/21/2007	36,000	3,800	<500	4,900	1,200	230	2,700
	2/26/2008	31,000	5,400	-	4,200	1,900	590	2,200
	6/18/2008	20,000	3,000	-	2,900	1,100	390	990
	8/4/2008	110,000	27,000	-	5,900	9,000	76	8,100
	8/20/2008	120,000	6,500	-	8,900	18,000	930	12,000
	9/19/2008	64,000	4,500	-	6,200	9,200	660	6,600
	12/29/2008	130,000	7,900	-	11,000	19,000	1,800	11,000
	3/17/2009	83,000	8,000	-	7,400	10,000	1,100	8,500
	6/15/2009	**67,000**	**21,000**	**-**	**11,000**	**9,100**	**1,200**	**6,800**

Notes:
TPHd = total petroleum hydrocarbons as diesel (C10-C23) using EPA Method 8015
TPHg = total petroleum hydrocarbons as gasoline (C6-C12) using EPA Method 8015
Benzene, toluene, ethylbenzene, and xylenes using EPA Method 8021B
MTBE = methyl-tertiary butyl ether using EPA Method 8021B
µg/L= micrograms per liter
ND<50 = non detect at respective reporting limit

Table 4 - AEI Project # 270308

Groundwater Monitoring Sample Analytical Data

Fuel Additives

Sample ID	Date	MTBE µg/L	TAME µg/L	TBA µg/L	DIPE µg/L	ETBE µg/L	Ethanol µg/L	Methanol µg/L	EDB µg/L	1,2-DCA µg/L
MW-1	8/21/2007	18	<0.5	<5.0	<0.5	<0.5	<50	<500	<0.5	5.2
	11/21/2007	-	-	-	-	-	-	-	-	-
	2/26/2008	16	-	-	-	-	-	-	<0.5	6.9
	6/18/2008	15	-	-	-	-	-	-	<0.5	5.4
	9/19/2008	4.2	-	-	-	-	-	-	<0.5	6.8
	12/29/2008	0.62	-	-	-	-	-	-	<0.5	6.8
	3/17/2009	11	-	-	-	-	-	-	<0.5	4.6
	6/15/2009	**8.1**	**-**	**-**	**-**	**-**	**-**	**-**	**<0.5**	**5.8**
MW-2	8/21/2007	<0.5	<0.5	<5.0	<0.5	<0.5	<50	<500	<0.5	<0.5
	11/21/2007	-	-	-	-	-	-	-	-	-
	2/26/2008	<0.5	-	-	-	-	-	-	<0.5	<0.5
	6/18/2008	<0.5							<0.5	<0.5
	9/19/2008	<0.5							<0.5	<0.5
	12/29/2008	<0.5							<0.5	<0.5
	3/17/2009	<0.5							<0.5	<0.5
	6/15/2009	**<0.5**							**<0.5**	**<0.5**
MW-3	8/21/2007	<5.0	<5.0	<50	<5.0	<5.0	<500	<5000	34	140
	11/21/2007	-	-	-	-	-	-	-	-	-
	2/26/2008	<12	-	-	-	-	-	-	31	220
	6/18/2008	<5.0	-	-	-	-	-	-	21	190
	8/4/2008	<50	-	-	-	-	-	-	220	410
	8/20/2008	<50	-	-	-	-	-	-	330	410
	9/19/2008	<17	-	-	-	-	-	-	160	320
	12/29/2008	<50	-	-	-	-	-	-	200	440
	3/17/2009	<25	-	-	-	-	-	-	98	370
	6/15/2009	**<50**	**-**	**-**	**-**	**-**	**-**	**-**	**87**	**490**

Notes:
µg/L= micrograms per liter
ND<50 = non detect at respective reporting limit
MTBE - methyl tertiary butyl ether
TAME - tert-amyl methyl ether
TBA - tert-butyl alcohol
DIPE - diisopropyl ether
ETBE - ethyl tert-butyl ether
1,2-DCA - 1,2 - dichloroethane
EDB - 1,2 - dibromoethane

APPENDIX A

MONITORING WELL FIELD SAMPLING FORMS

AEI CONSULTANTS

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-1

Project Name:	ALLEN	Date of Sampling:	6/15/2009
Job Number:	270308	Name of Sampler:	A. Nieto
Project Address:	325 Martin Luther King Jr Way, Oakland Ca		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2"		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	14.92		
Depth of Well	18.00		
Depth to Water (from top of casing)	8.31		
Water Elevation (feet above msl)	6.61		
Well Volumes Purged	3		
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	**4.8**		
Actual Volume Purged (gallons)	6.0		
Appearance of Purge Water	Clear		
Free Product Present?	No	Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size

Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µ sec/cm)	DO (mg/L)	ORP (meV)	Comments
	1	16.95	6.83	938	3.25	86.7	Clear
	2	16.99	6.78	954	3.54	99.6	Clear
	3	16.93	6.73	971	3.61	107.3	Clear
	4	16.86	6.68	974	3.34	117.9	Clear
	5	16.81	6.57	949	2.71	131.1	Clear

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

No petroleum odors noted.

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-2

Project Name:	ALLEN	Date of Sampling:	6/15/2009
Job Number:	270308	Name of Sampler:	A. Nieto
Project Address:	325 Martin Luther King Jr Way, Oakland Ca		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2"		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	15.27		
Depth of Well	17.00		
Depth to Water (from top of casing)	8.71		
Water Elevation (feet above msl)	6.56		
Well Volumes Purged	3		
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	**4.1**		
Actual Volume Purged (gallons)	5.0		
Appearance of Purge Water	Clear		
Free Product Present?	No	Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size

Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µ sec/cm)	DO (mg/L)	ORP (meV)	Comments
	1	17.31	6.49	779	5.52	133.8	Clear
	2	17.37	6.39	805	5.29	146.2	Clear
	3	17.31	6.35	773	4.67	143.1	Clear
	4	17.27	6.36	761	4.31	144.1	Clear
	5	17.27	6.37	767	4.21	139.3	Clear

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

No petroleum odors noted.

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-3

Project Name:	ALLEN	Date of Sampling:	6/15/2009
Job Number:	270308	Name of Sampler:	A. Nieto
Project Address:	325 Martin Luther King Jr Way, Oakland Ca		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2"		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	15.26		
Depth of Well	18.00		
Depth to Water (from top of casing)	8.47		
Water Elevation (feet above msl)	6.79		
Well Volumes Purged	3		
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	**4.8**		
Actual Volume Purged (gallons)	5.0		
Appearance of Purge Water	Initially yellowish, clears quickly		
Free Product Present?	No	Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size

Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µ sec/cm)	DO (mg/L)	ORP (meV)	Comments
	1	17.41	6.43	2,933	0.25	-154.4	Yellowish
	2	17.21	6.47	2,955	0.21	-161.9	Clear
	3	17.14	6.54	3,009	0.18	-170.9	Clear
	4	17.11	6.69	3,173	0.17	-183.9	Clear
	5	17.11	6.91	3,319	0.17	-191.1	Clear

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

Moderate petroleum odors noted.

APPENDIX B

LABORATORY ANALYTICAL AND CHAIN OF CUSTODY DOCUMENTATION

AEI CONSULTANTS

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 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	Client Project ID: #270308; ALLEN	Date Sampled: 06/15/09
		Date Received: 06/16/09
	Client Contact: Adrian Angel	Date Reported: 06/19/09
	Client P.O.:	Date Completed: 06/18/09

WorkOrder: 0906504

June 19, 2009

Dear Adrian:

Enclosed within are:

1) The results of the **3** analyzed samples from your project: **#270308; ALLEN,**
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.

0906504

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

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: Adrian Angel Bill To: Same

Company: AEI consultants

E-Mail:

Tele: ( ) Fax: ( )

Project #: 270308 Project Name: ALLEN

Project Location: Martin Luther King Jr Oakland.

Sampler Signature:

SAMPLE ID	LOCATION/ 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
MW-1		6/5/09	1520	4	V/L	X					X	X		
MW-2		"	1530	"	"	X					X	X		
MW-3		"	1540	"	"	X					X	X		

Analysis Request

BTEX & TPH as Gas (602 / 8021 + 8015) / ~~MTBE~~	TPH as Diesel (8015)	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 502.2 / 601 / 8010 / 8021 (HVOCs)	MTBE / BTEX ONLY (EPA 602 / 8021)	EPA 505/ 608 / 8081 (Cl Pesticides)	EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners	EPA 507 / 8141 (NP Pesticides)	EPA 515 / 8151 (Acidic Cl Herbicides)	EPA 524.2 / 624 / 8260 (VOCs)	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAs)	CAM 17 Metals (200.7 / 200.8 / 6010 / 6020)	LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020)	Lead (200.7 / 200.8 / 6010 / 6020)	Other	Comments
X	X															OFF Hold 6/16/09 per A.A	Filter Samples for Metals analysis: Yes / No
X	X															HOLD	
																X X MTBE, EDB, 1,2 DCA (8260)	

Relinquished By:	Date:	Time:	Received By:
	6/5/09	7:20	
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

ICE/t° 4.2
GOOD CONDITION
HEAD SPACE ABSENT
DECHLORINATED IN LAB
APPROPRIATE CONTAINERS
PRESERVED IN LAB

	VOAS	O&G	METALS	OTHER
PRESERVATION			pH<2	

COMMENTS:

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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0906504 **ClientCode: AEL**

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

Report to:
Adrian Angel
AEI Consultants
2500 Camino Diablo, Ste. #200
Walnut Creek, CA 94597
(408) 559-7600 FAX (408) 559-7601

Email: aangel@aeiconsultants.com
cc:
PO:
ProjectNo: #270308; ALLEN

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

Requested TAT: 5 days

Date Received: **06/16/2009**
Date Printed: **06/16/2009**

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
0906504-001	MW-1	Water	6/15/2009 15:20	☐	B	A	A	C								
0906504-002	MW-2	Water	6/15/2009 15:30	☐	B	A		C								
0906504-003	MW-3	Water	6/15/2009 15:40	☐	B	A		C								

Test Legend:

1	8260VOC_W	2	G-MBTEX_W	3	PREDF REPORT	4	TPH(D)_W	5	
6		7		8		9		10	
11		12							

Prepared by: Ana Venegas

Comments: off hold 6/16/09

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.

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

Sample Receipt Checklist

Client Name: **AEI Consultants**

Date and Time Received: **6/16/2009 7:08:17 PM**

Project Name: **#270308; ALLEN**

Checklist completed and reviewed by: Ana Venegas

WorkOrder N°: **0906504** 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: 4.2°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	Client Project ID: #270308; ALLEN	Date Sampled: 06/15/09
		Date Received: 06/16/09
2500 Camino Diablo, Ste. #200	Client Contact: Adrian Angel	Date Extracted: 06/18/09
Walnut Creek, CA 94597	Client P.O.:	Date Analyzed 06/18/09

Volatile Organics by P&T and GC/MS*

Extraction Method: SW5030B Analytical Method: SW8260B Work Order: 0906504

Lab ID	0906504-001B	0906504-002B	0906504-003B		Reporting Limit for DF =1	
Client ID	MW-1	MW-2	MW-3			
Matrix	W	W	W			
DF	1	1	100		S	W
Compound	**Concentration**				ug/kg	µg/L
1,2-Dibromoethane (EDB)	ND	ND	87		NA	0.5
1,2-Dichloroethane (1,2-DCA)	5.8	ND	490		NA	0.5
Methyl-t-butyl ether (MTBE)	8.1	ND	ND<50		NA	0.5
Surrogate Recoveries (%)						
%SS1:	78	80	79			
%SS2:	93	94	91			
Comments						

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

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

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AEI Consultants	Client Project ID: #270308; ALLEN	Date Sampled: 06/15/09
		Date Received: 06/16/09
2500 Camino Diablo, Ste. #200	Client Contact: Adrian Angel	Date Extracted: 06/17/09-06/18/09
Walnut Creek, CA 94597	Client P.O.:	Date Analyzed: 06/17/09-06/18/09

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

Extraction method: SW5030B Analytical methods: SW8021B/8015Bm Work Order: 0906504

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS	Comments
001A	MW-1	W	ND	---	ND	ND	ND	ND	1	102	
002A	MW-2	W	ND	---	ND	ND	ND	ND	1	99	
003A	MW-3	W	67,000	---	11,000	9100	1200	6800	100	117	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 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 McCampbell Analytical is not responsible for their interpretation:

d1) weakly modified or unmodified gasoline is significant

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Angela Rydelius, Lab Manager

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

AEI Consultants	Client Project ID: #270308; ALLEN	Date Sampled: 06/15/09
		Date Received: 06/16/09
2500 Camino Diablo, Ste. #200	Client Contact: Adrian Angel	Date Extracted: 06/16/09
Walnut Creek, CA 94597	Client P.O.:	Date Analyzed 06/17/09

Total Extractable Petroleum Hydrocarbons*

Extraction method SW3510C Analytical methods: SW8015B Work Order: 0906504

Lab ID	Client ID	Matrix	TPH-Diesel (C10-C23)	DF	% SS	Comments
0906504-001C	MW-1	W	ND	1	111	
0906504-002C	MW-2	W	ND	1	109	
0906504-003C	MW-3	W	21,000	1	109	e4,e2

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.

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

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

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Angela Rydelius, Lab Manager

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QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water QC Matrix: Water BatchID: 43895 WorkOrder: 0906504

EPA Method: SW8260B **Extraction: SW5030B** **Spiked Sample ID: 0906494-008A**

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
tert-Amyl methyl ether (TAME)	ND	10	96	97.5	1.60	93.6	91.8	1.95	70 - 130	30	70 - 130	30
Benzene	ND	10	115	116	0.984	112	108	4.14	70 - 130	30	70 - 130	30
t-Butyl alcohol (TBA)	ND	50	79.6	84.5	5.90	78.5	77.5	1.30	70 - 130	30	70 - 130	30
Chlorobenzene	ND	10	107	110	2.68	105	101	4.61	70 - 130	30	70 - 130	30
1,2-Dibromoethane (EDB)	ND	10	109	110	1.66	104	102	1.19	70 - 130	30	70 - 130	30
1,2-Dichloroethane (1,2-DCA)	ND	10	108	109	0.811	105	103	1.84	70 - 130	30	70 - 130	30
1,1-Dichloroethene	ND	10	94.2	94.7	0.530	91.8	90.1	1.84	70 - 130	30	70 - 130	30
Diisopropyl ether (DIPE)	ND	10	95.1	96.9	1.90	93	90.5	2.64	70 - 130	30	70 - 130	30
Ethyl tert-butyl ether (ETBE)	ND	10	107	109	1.56	105	102	3.30	70 - 130	30	70 - 130	30
Methyl-t-butyl ether (MTBE)	ND	10	93.2	95.8	2.68	90.1	88	2.39	70 - 130	30	70 - 130	30
Toluene	ND	10	126	128	1.03	122	117	4.62	70 - 130	30	70 - 130	30
Trichloroethene	ND	10	119	120	0.695	117	113	3.95	70 - 130	30	70 - 130	30
%SS1:	82	25	85	86	0.277	86	86	0	70 - 130	30	70 - 130	30
%SS2:	94	25	107	107	0	109	107	1.52	70 - 130	30	70 - 130	30
%SS3:	69	2.5	89	88	1.47	93	90	3.31	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 43895 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0906504-001B	06/15/09 3:20 PM	06/18/09	06/18/09 3:21 AM	0906504-002B	06/15/09 3:30 PM	06/18/09	06/18/09 4:36 AM
0906504-003B	06/15/09 3:40 PM	06/18/09	06/18/09 5:14 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 and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to th amount spiked, or b) if that specific sample matrix interferes with 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.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

DHS ELAP Certification 1644

QA/QC Officer

McCampbell Analytical, Inc.
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QC SUMMARY REPORT FOR SW8015B

W.O. Sample Matrix: Water QC Matrix: Water BatchID: 43842 WorkOrder 0906504

EPA Method SW8015B **Extraction SW3510C** **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	114	112	1.26	N/A	N/A	70 - 130	30
%SS:	N/A	2500	N/A	N/A	N/A	106	106	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 43842 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0906504-001C	06/15/09 3:20 PM	06/16/09	06/17/09 9:03 AM	0906504-002C	06/15/09 3:30 PM	06/16/09	06/17/09 10:13 AM
0906504-003C	06/15/09 3:40 PM	06/16/09	06/17/09 11:59 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.

DHS ELAP Certification 1644

QA/QC Officer

McCampbell Analytical, Inc.
"When Quality Counts"

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

QC SUMMARY REPORT FOR SW8021B/8015Bm

W.O. Sample Matrix: Water QC Matrix: Water BatchID: 43882 WorkOrder 0906504

EPA Method SW8021B/8015Bm **Extraction SW5030B** **Spiked Sample ID: 0906480-005A**

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	97.2	107	9.49	98.2	98.2	0	70 - 130	20	70 - 130	20
MTBE	ND	10	101	113	10.9	95.5	97.9	2.51	70 - 130	20	70 - 130	20
Benzene	ND	10	89.3	90.8	1.64	105	107	1.10	70 - 130	20	70 - 130	20
Toluene	ND	10	87.7	89.2	1.67	101	104	2.92	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	87.3	88.3	1.22	105	106	0.255	70 - 130	20	70 - 130	20
Xylenes	ND	30	87.4	89.4	2.26	105	103	1.92	70 - 130	20	70 - 130	20
%SS:	103	10	94	95	0.463	100	99	0.219	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 43882 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0906504-001A	06/15/09 3:20 PM	06/18/09	06/18/09 9:05 PM	0906504-002A	06/15/09 3:30 PM	06/17/09	06/17/09 9:59 PM
0906504-003A	06/15/09 3:40 PM	06/18/09	06/18/09 12:28 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.