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Alameda County
Environmental Health

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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 A. ALLEN

April 30, 2009

**GROUNDWATER MONITORING REPORT
First 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
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ENVIRONMENTAL & ENGINEERING SERVICES

www.aeiconsultants.com

April 30, 2009

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

**Subject: Quarterly Groundwater Monitoring Report
First 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 First Quarter 2009 episode of groundwater monitoring and sampling conducted on March 17, 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 ($\mu\text{g/L}$), 420 $\mu\text{g/L}$, and 53 $\mu\text{g/L}$, 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 $\mu\text{g/l}$, 3600 $\mu\text{g/l}$, and 990 $\mu\text{g/l}$, 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 $\mu\text{g/l}$, 110,000 $\mu\text{g/l}$, and 3,300 $\mu\text{g/l}$, 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 from 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 Regenesys, 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.

II Summary of Monitoring Activities

AEI measured the depth to groundwater in the three (3) monitoring wells (labeled MW-1 through MW-3) on March 17, 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) groundwater 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 1st quarter 2009 monitoring episode ranged from 7.00 (MW-2) to 7.30 (MW-3) feet above mean sea level (amsl). Based on these measurements, groundwater flows in a south-southeasterly direction at a gradient of approximately 0.006 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 11 µg/L and 4.6 µg/L, respectively.

In MW-3, TPH-g and TPH-d were reported at concentrations of at 83,000 µg/L and 8,000 µg/L, respectively. BTEX were reported at concentrations of 7,400 µg/L, 10,000 µg/L, 1,100 µg/L, and 8,500 µg/L, respectively. EDB and 1,2-DCA were reported in well MW-3 at concentrations of 98 µg/L and 370 µg/L, respectively.

V Summary

This report documents the findings of the 1st Quarter 2009 groundwater monitoring event at the site. Overall, hydrocarbon concentrations in well MW-3 decreased from the previous monitoring event.

The next groundwater monitoring event is tentatively scheduled for the 2nd Quarter 2009, in June 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.

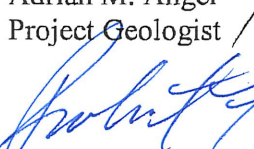
The number and location of samples are chosen to provide the requested information, but it cannot be assumed that they are representative of areas not sampled. All conclusions and/or recommendations are based on these analyses and observations, and the governing regulations. Conclusions beyond those stated and reported herein should not be inferred from this document.

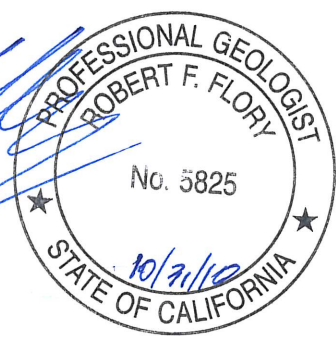
These services were performed in accordance with generally accepted practices, in the environmental engineering field, which existed at the time and location of the work.

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



Figures

Figure 1: Site Location Map

Figure 2: Site Plan

Figure 3: Water Table Elevations (3/17/09)

Figure 4: Dissolved Phase Hydrocarbon Concentrations (3/17/09)

Tables

Table 1: Monitoring Well Construction Details

Table 2: Groundwater Elevation Data

Table 3: Groundwater Monitoring Sample Analytical Data

Table 4: Groundwater Monitoring Sample Analytical Data – Fuel Additives

Appendix A: *Groundwater Monitoring Well Field Sampling Forms*

Appendix B: *Laboratory Analyses With Chain of Custody Documentation*

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

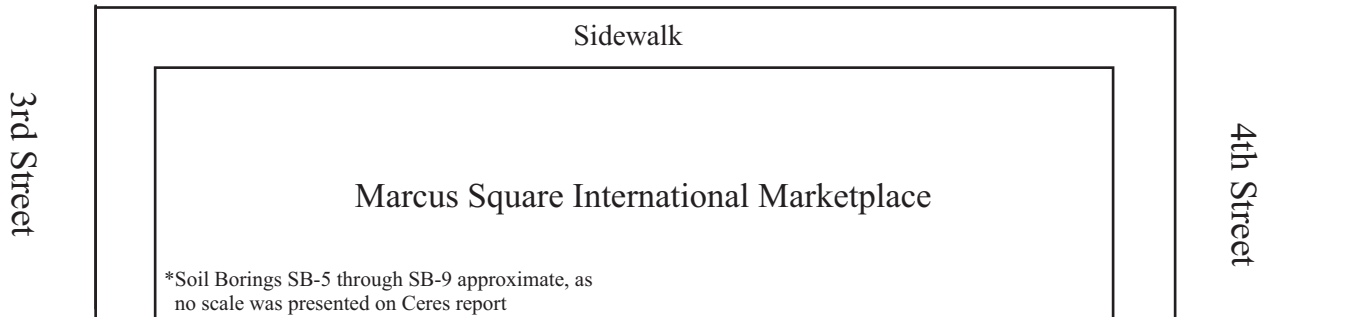
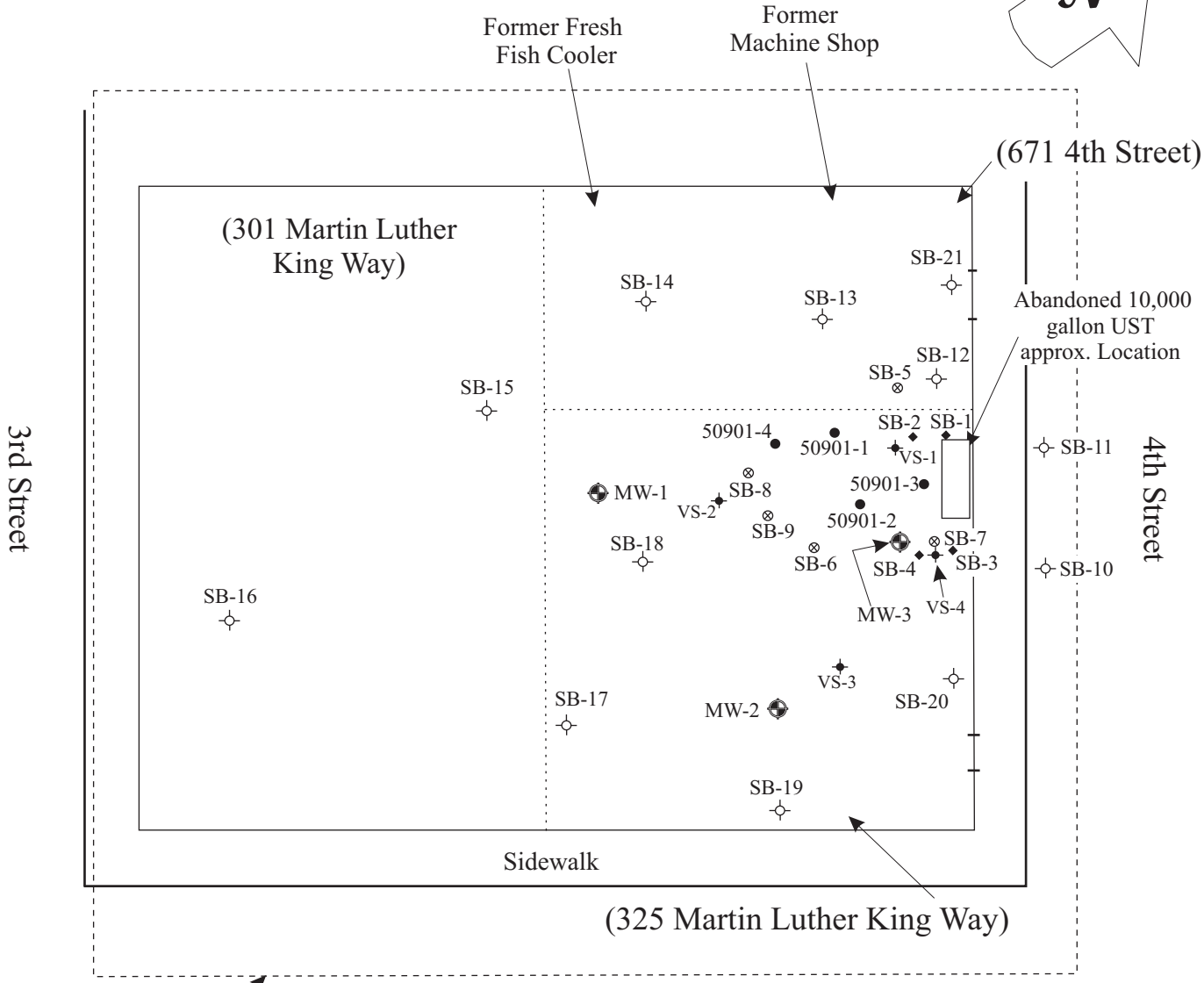
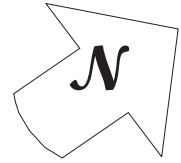
GeoTracker (electronic)

FIGURES



0' 20' 40'

Scale: 1" = 40'



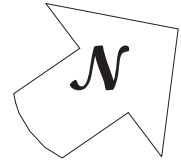
- Designates Unit Boundary
- ◆ Soil Boring Location (AEI - 5/11/05)
- Soil Boring Location (TFC - 9/8/05)
- ⊗ Soil Boring Location (Ceres - 6/6/06)
- ⊕ Soil Boring Location (AEI - 5/29-30/07)
- ⊕ Monitoring Well Location (8/21/07)
- ◆ Dual-nested Soil Vapor Probe (8/21/07)

*Soil Borings SB-1 and SB-3 aborted due to refusal

<p>AEI CONSULTANTS 2500 CAMINO DIABLO, SUITE 200 WALNUT CREEK, CA</p>	
<p>Site Plan</p>	
<p>325 Martin Luther King Jr. Way Oakland, California</p>	<p>FIGURE 2 PROJECT No. 270308</p>

0' 15' 30'

Scale: 1" = 30'



Adjacent Commercial Unit

(671 4th Street)

(301 Martin Luther King Way)

Abandoned 10,000 Gallon UST
Approx. Location

Sidewalk

Sidewalk

MW-1
(7.08)

MW-3
(7.30)

7.30

7.15

MW-2
(7.00)

7.00

Groundwater Flow Direction
(Gradient = 0.006)
3/17/2009

Roll-up Door

Sidewalk

(325 Martin Luther King Way)



Monitoring Well Locations

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

Contour Interval = 0.15 feet

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

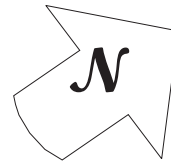
Water Table Elevations (3/17/09)

325 Martin Luther King Jr. Way
Oakland, California

FIGURE 3
PROJECT No. 270308

0' 15' 30'

Scale: 1" = 30'



Adjacent Commercial Unit

(671 4th Street)

(301 Martin Luther King Way)

Abandoned 10,000 Gallon UST
Approx. Location

Sidewalk

Sidewalk

MW-1

G - <50
D - <50
B - <0.5
M - 11

MW-3

G - 83,000
D - 8,000
B - 7,400
M - <25

MW-2

G - <50
D - <50
B - <0.5
M - <5.0

Roll-up Door

Sidewalk

(325 Martin Luther King Way)



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)

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

**Dissolved Phase Hydrocarbon
Concentrations (3/17/09)**

325 Martin Luther King Jr. Way
Oakland, California

FIGURE 4
PROJECT No. 270308

TABLES



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 - 18)	8/21/2007	14.92	8.38	6.54
	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
MW-2 (7 - 17)	8/21/2007	15.27	8.78	6.49
	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
MW-3 (8 - 18)	8/21/2007	15.26	8.59	6.67
	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

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	X (X)

ft amsl = feet above mean sea level

All water level depths are measured from the top of casing

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
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
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

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
	MW-2	8/21/2007	<0.5	<0.5	<5.0	<0.5	<0.5	<50	<500	<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	
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

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

Fuel additives analysed by EPA Method 8260

APPENDIX A

MONITORING WELL FIELD SAMPLING FORMS



AEI CONSULTANTS
GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-1

Project Name:	ALLEN	Date of Sampling:	3/17/2009
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)	7.84		
Water Elevation (feet above msl)	7.08		
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
1:23	1	16.48	6.42	963	1.77	-39.1	Clear
	2	16.15	6.81	961	1.51	-55.9	Clear
	3	16.08	6.78	997	2.21	-61.6	Clear
	4	16.19	6.76	1,010	1.90	-64.4	Clear
	5	16.34	6.75	1,001	1.27	-65.1	Clear
	6	16.54	6.76	935	1.02	-71.9	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:	3/17/2009
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)	8.27		
Water Elevation (feet above msl)	7.00		
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	Initially light brown, clears after 1 gallons		
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
1:14	1	16.73	7.23	801	4.91	-66.9	Light brown
	2	16.36	6.98	827	4.71	-63.1	Clear
	3	16.49	6.91	829	4.35	-61.6	Clear
	4	16.81	6.89	788	3.38	-60.7	Clear
	5	16.91	6.86	799	3.61	-59.1	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-3

Project Name:	ALLEN	Date of Sampling:	3/17/2009
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)	7.96		
Water Elevation (feet above msl)	7.30		
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	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
1:33	1	16.31	7.78	3,173	0.28	-176.1	Yellowish
	2	16.23	7.72	3,190	0.23	-181.9	Clear
	3	16.37	7.79	3,263	0.19	-193.9	Clear
	4	16.60	7.81	3,291	0.18	-197.6	Clear
	5	16.86	7.99	3,541	0.19	-206.8	Clear
	6	17.13	8.25	3,475	2.18	-176.2	Clear

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

Moderate petroleum odors noted.

APPENDIX B

LABORATORY ANALYTICAL AND CHAIN OF CUSTODY DOCUMENTATION





McC Campbell Analytical, Inc.

"When Quality Counts"

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

AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	Client Project ID: #270308	Date Sampled: 03/17/09
		Date Received: 03/17/09
	Client Contact: Adrian Angel	Date Reported: 03/24/09
	Client P.O.: #WC081440	Date Completed: 03/24/09

WorkOrder: 0903439

March 24, 2009

Dear Adrian:

Enclosed within are:

- 1) The results of the **3** analyzed samples from your project: **#270308**,
- 2) A QC report for the above samples,
- 3) A copy of the chain of custody, and
- 4) An invoice for analytical services.

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

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

McC Campbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius
Laboratory Manager
McC Campbell Analytical, Inc.

McCAMPBELL ANALYTICAL INC.

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

Telephone: (925) 798-1620

Fax: (925) 798-1622

0903439

CHAIN OF CUSTODY RECORD

TURN AROUND TIME

RUSH 24 HR 48 HR 72 HR 5 DAY

EDF Required? Yes No

Email PDF Report: YES

Report To: Adrian Angel Bill To: Same
 Company: AEI Consultants PO # WC081440
 2500 Camino Diablo
 Walnut Creek, CA 94597 E-Mail: aangel@aeiconsultants.com
 Tel: (409) 559-7600 Fax: (925) 944-2895
 Project #: 270308 PO# WC081193 Project Name:
 Project Location: 325 Martin Luther King Jr. Way, Oakland, CA
 Sampler Signature: *[Signature]*

Analysis Request

Other

Comments

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING		CONTAINERS		MATRIX					METHOD PRESERVED									
		Date	Time	# Containers	Type Containers	Water	Soil	Air	Sludge	Other	Ice	HCl	HNO ₃	Other						
MW-1		3/17/09	2:00	2	1/4	X					X	X								
MW-2			1:56	"	"	X					X	X								
MW-3			2:10	"	"	X					X	X								

BTEX & TPH as Gas (602/8020 + 8015)																				
TPH as Diesel (8015) w/ silica gel cleanup																				
Total Petroleum Oil & Grease (5520 E&F/B&F)																				
Total Petroleum Hydrocarbons (418.1)																				
HVOCs EPA 8260 (8010 list)																				
BTEX ONLY (EPA 602 / 8020)																				
Pesticides EPA 608 / 8080																				
PCBs EPA 608 / 8080																				
VOCs EPA 624 / 8260																				
EPA 625 / 8270																				
PAH's / PNA's by EPA 625 / 8270 / 8310																				
CAM-17 Metals																				
LUFT 5 Metals																				
Lead (7240/7421/239.2/6010)																				
Diss Hexachrome (E218.6)																				
Arsenic, Barium, Cadmium, Total Chromium, Copper, total Iron, Lead, Selenium (E200.8)																				
MTBE, EDB, and 1,2-DCA (8260)																				
TPH-g (TO-3) + MBTEX (TO-15)																				
2-propanol (TO-15)																				

Relinquished By: *[Signature]* Date: 3/17/09 Time: 5:10 Received By: *[Signature]*
 Relinquished By: Date: Time: Received By:
 Relinquished By: Date: Time: Received By:

ICE/t° YES SS.2 10
 GOOD CONDITION ✓
 HEAD SPACE ABSENT ✓
 DECHLORINATED IN LAB MA
 PRESERVATION APPROPRIATE ✓
 CONTAINERS ✓
 PERSERVED IN LAB MO
 VOAS O&G METALS OTHER

McC Campbell Analytical, Inc.



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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0903439

ClientCode: AEL

WriteOn
 EDF
 Excel
 Fax
 Email
 HardCopy
 ThirdParty
 J-flag

Report to:	Adrian Angel	Email: aangel@aeiconsultants.com	Bill to:	Denise Mockel	Requested TAT: 5 days
	AEI Consultants	cc:		AEI Consultants	Date Received: 03/17/2009
	2500 Camino Diablo, Ste. #200	PO: #WC081440		2500 Camino Diablo, Ste. #200	Date Printed: 03/17/2009
	Walnut Creek, CA 94597	ProjectNo: #270308		Walnut Creek, CA 94597	
	(408) 559-7600 FAX (408) 559-7601			dmockel@aeiconsultants.com	

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
0903439-001	MW-1	Water	3/17/2009 14:00	<input type="checkbox"/>	C	B	A	A								
0903439-002	MW-2	Water	3/17/2009 13:50	<input type="checkbox"/>	C	B		A								
0903439-003	MW-3	Water	3/17/2009 14:10	<input type="checkbox"/>	C	B		A								

Test Legend:

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

Prepared by: Samantha Arbuckle

Comments:

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



Sample Receipt Checklist

Client Name: **AEI Consultants**

Date and Time Received: **03/17/09 6:14:58 PM**

Project Name: **#270308**

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

WorkOrder N°: **0903439** 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: 5.2°C NA
- Water - VOA vials have zero headspace / no bubbles? Yes No No VOA vials submitted
- Sample labels checked for correct preservation? Yes No
- TTLC Metal - pH acceptable upon receipt (pH<2)? Yes No NA
- Samples Received on Ice? Yes No

(Ice Type: WET ICE)

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

Client contacted:

Date contacted:

Contacted by:

Comments:



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

AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	Client Project ID: #270308	Date Sampled: 03/17/09
		Date Received: 03/17/09
	Client Contact: Adrian Angel	Date Extracted: 03/21/09
	Client P.O.: #WC081440	Date Analyzed 03/21/09

Volatile Organics by P&T and GC/MS*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0903439

Lab ID	0903439-001C	0903439-002C	0903439-003C		Reporting Limit for DF =1	
Client ID	MW-1	MW-2	MW-3			
Matrix	W	W	W			
DF	1	1	50			

Compound	Concentration			ug/kg	µg/L
1,2-Dibromoethane (EDB)	ND	ND	98	NA	0.5
1,2-Dichloroethane (1,2-DCA)	4.6	ND	370	NA	0.5
Methyl-t-butyl ether (MTBE)	11	ND	ND<25	NA	0.5

Surrogate Recoveries (%)

%SS1:	79	79	76		
%SS2:	108	107	101		
%SS3:	82	79	86		

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.



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AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	Client Project ID: #270308	Date Sampled: 03/17/09
		Date Received: 03/17/09
	Client Contact: Adrian Angel	Date Extracted: 03/20/09
	Client P.O.: #WC081440	Date Analyzed 03/20/09

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

Extraction method SW5030B

Analytical methods SW8021B/8015Bm

Work Order: 0903439

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001B	MW-1	W	ND	9.8	ND	ND	ND	ND	1	96
002B	MW-2	W	ND	ND	ND	ND	ND	ND	1	93
003B	MW-3	W	83,000,d1	ND<500	7400	10,000	1100	8500	100	98

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	5	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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AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	Client Project ID: #270308	Date Sampled: 03/17/09
		Date Received: 03/17/09
	Client Contact: Adrian Angel	Date Extracted: 03/17/09
	Client P.O.: #WC081440	Date Analyzed 03/18/09

Total Extractable Petroleum Hydrocarbons with Silica Gel Clean-Up*

Extraction method: SW3510C/3630C

Analytical methods: SW8015B

Work Order: 0903439

Lab ID	Client ID	Matrix	TPH-Diesel (C10-C23)	DF	% SS
0903439-001A	MW-1	W	ND	1	97
0903439-002A	MW-2	W	ND	1	97
0903439-003A	MW-3	W	8000,e4	1	102

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

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

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

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

e4) gasoline range compounds are significant.



QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 42101

WorkOrder: 0903439

Analyte	Extraction SW5030B			Spiked Sample ID: 0903427-002B								
	Sample µg/L	Spiked µg/L	MS % Rec.	MSD % Rec.	MS-MSD % RPD	LCS % Rec.	LCSD % Rec.	LCS-LCSD % RPD	Acceptance Criteria (%)			
tert-Amyl methyl ether (TAME)	ND	10	101	96.1	4.89	96.3	96.2	0.107	70 - 130	30	70 - 130	30
Benzene	ND	10	112	110	1.76	112	110	2.39	70 - 130	30	70 - 130	30
t-Butyl alcohol (TBA)	ND	50	97.1	86.2	11.8	89.2	88.2	1.09	70 - 130	30	70 - 130	30
Chlorobenzene	ND	10	108	105	2.68	97.2	97.3	0.152	70 - 130	30	70 - 130	30
1,2-Dibromoethane (EDB)	ND	10	118	116	1.55	106	106	0	70 - 130	30	70 - 130	30
1,2-Dichloroethane (1,2-DCA)	ND	10	106	102	4.15	112	110	1.69	70 - 130	30	70 - 130	30
1,1-Dichloroethene	ND	10	92.3	90.6	1.80	87.1	84.1	3.46	70 - 130	30	70 - 130	30
Diisopropyl ether (DIPE)	ND	10	101	96.8	3.81	109	108	0.340	70 - 130	30	70 - 130	30
Ethyl tert-butyl ether (ETBE)	ND	10	110	105	4.95	117	114	2.33	70 - 130	30	70 - 130	30
Methyl-t-butyl ether (MTBE)	ND	10	102	98.1	3.85	107	104	2.83	70 - 130	30	70 - 130	30
Toluene	ND	10	120	120	0	102	102	0	70 - 130	30	70 - 130	30
Trichloroethene	ND	10	125	120	4.30	113	112	1.26	70 - 130	30	70 - 130	30
%SS1:	82	25	80	78	2.50	83	82	1.24	70 - 130	30	70 - 130	30
%SS2:	104	25	107	107	0	98	99	1.41	70 - 130	30	70 - 130	30
%SS3:	84	2.5	81	80	1.89	75	74	2.24	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 42101 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0903439-001C	03/17/09 2:00 PM	03/21/09	03/21/09 4:27 AM	0903439-002C	03/17/09 1:50 PM	03/21/09	03/21/09 5:06 AM
0903439-003C	03/17/09 2:10 PM	03/21/09	03/21/09 5:44 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 the 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.



QC SUMMARY REPORT FOR SW8021B/8015Bm

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 42099

WorkOrder 0903439

EPA Method SW8021B/8015Bm		Extraction SW5030B							Spiked Sample ID: 0903427-004A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex) [£]	ND	60	115	103	10.5	103	98.6	4.24	70 - 130	20	70 - 130	20
MTBE	ND	10	103	106	3.24	117	120	2.82	70 - 130	20	70 - 130	20
Benzene	ND	10	106	105	0.531	101	97.1	4.24	70 - 130	20	70 - 130	20
Toluene	ND	10	113	115	1.64	111	110	1.24	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	111	110	1.19	108	105	2.41	70 - 130	20	70 - 130	20
Xylenes	ND	30	122	120	2.00	120	119	0.389	70 - 130	20	70 - 130	20
%SS:	101	10	110	100	9.37	90	93	3.35	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 42099 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0903439-001B	03/17/09 2:00 PM	03/20/09	03/20/09 4:01 PM	0903439-002B	03/17/09 1:50 PM	03/20/09	03/20/09 4:35 PM
0903439-003B	03/17/09 2:10 PM	03/20/09	03/20/09 7:56 AM				

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

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

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

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

cluttered chromatogram; sample peak coelutes with surrogate peak.

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

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



QC SUMMARY REPORT FOR SW8015B

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 42081

WorkOrder: 0903439

EPA Method SW8015B		Extraction SW3510C/3630C							Spiked Sample ID: N/A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH-Diesel (C10-C23)	N/A	1000	N/A	N/A	N/A	93	90	3.27	N/A	N/A	70 - 130	30
%SS:	N/A	2500	N/A	N/A	N/A	105	104	1.19	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 42081 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0903439-001A	03/17/09 2:00 PM	03/17/09	03/18/09 4:36 AM	0903439-002A	03/17/09 1:50 PM	03/17/09	03/18/09 5:44 AM
0903439-003A	03/17/09 2:10 PM	03/17/09	03/18/09 6:52 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.