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Alameda, CA 94502-6577

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10:46 am, Aug 19, 2011

Alameda County  
Environmental Health

**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

September 30, 2009

**GROUNDWATER MONITORING REPORT  
Third 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](http://www.aeiconsultants.com)

September 30, 2009

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

**Subject: Quarterly Groundwater Monitoring Report  
Third 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 Environmental Health (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 third Quarter 2009 episode of groundwater monitoring and sampling conducted on September 18, 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 4<sup>th</sup> 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 4<sup>th</sup> Street with the property building covering essentially 100% of the land area. The northwestern portion of the building along 4<sup>th</sup> Street has also had the address 671 4<sup>th</sup> 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 4<sup>th</sup> 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 hydrocarbons as gasoline (TPH-g), 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™ 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 previously bound to clay and sand particles 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<sub>2</sub>O<sub>2</sub> 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 ACEH dated August 21, 2009.

## **II Summary of Monitoring Activities**

On September 18, 2009, AEI conducted the regularly scheduled groundwater-monitoring event at the site. The well caps were removed from each well (MW-1, MW-2, and MW-3). The wells were allowed to equilibrate with the atmosphere for a minimum of 15 minutes, then the depth to static groundwater from the top of the well casings was measured with an electric water level indicator prior to sampling. A peristaltic pump, with a drop tube set at a depth of 10 feet bgs, was used to purge all wells on site. During purging, 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. 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, MBTEX, and fuel oxygenates were collected in hydrochloric acid (HCl) preserved 40-milliliter (ml) volatile organic analysis vials (VOAs). The VOAs were capped with zero headspace. Samples collected for TPH-d analysis were placed in HCL preserved 1-liter amber glass bottles. 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).

Three (3) samples were analyzed for TPH-g; methyl tertiary-butyl ether (MTBE), benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA methods 8021B/8015Cm; 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 elevations for the Third Quarter 2009 monitoring event ranged from 6.29 (MW-2) to 6.48 (MW-3) feet above mean sea level (amsl). Based on these measurements, groundwater flows in a southwesterly 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. MTBE and 1,2-DCA reported in MW-1 at concentrations of 0.73 µg/L and 5.2 µg/L, respectively.

TPH-g and TPH-d were reported in MW-3, at concentrations of at 58,000 µg/L and 16,000 µg/L, respectively. BTEX were reported at concentrations of 11,000 µg/L, 7,000 µg/L, 1,400 µg/L, and 4,700 µg/L, respectively. EBD and 1,2-DCA were reported in well MW-3 at concentrations of 110 µg/L and 500 µg/L, respectively. 1,2-DCA and MTBE were detected in MW-1 at concentrations of 5.2 µg/L and 0.73 µg/L, respectively. No other target analytes were detected in MW-3.

## V Summary

This report documents the findings of the Third 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.

## 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) 746-6000.

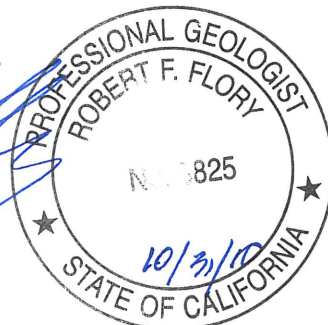
Sincerely,  
AEI Consultants



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 (9/18/09)*

*Figure 4: Dissolved Phase Hydrocarbon Concentrations (9/18/09)*

## **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  
AEI Consultants, *Hydrogen Peroxide Infusion Pilot Test Workplan*, August 12, 2009  
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:

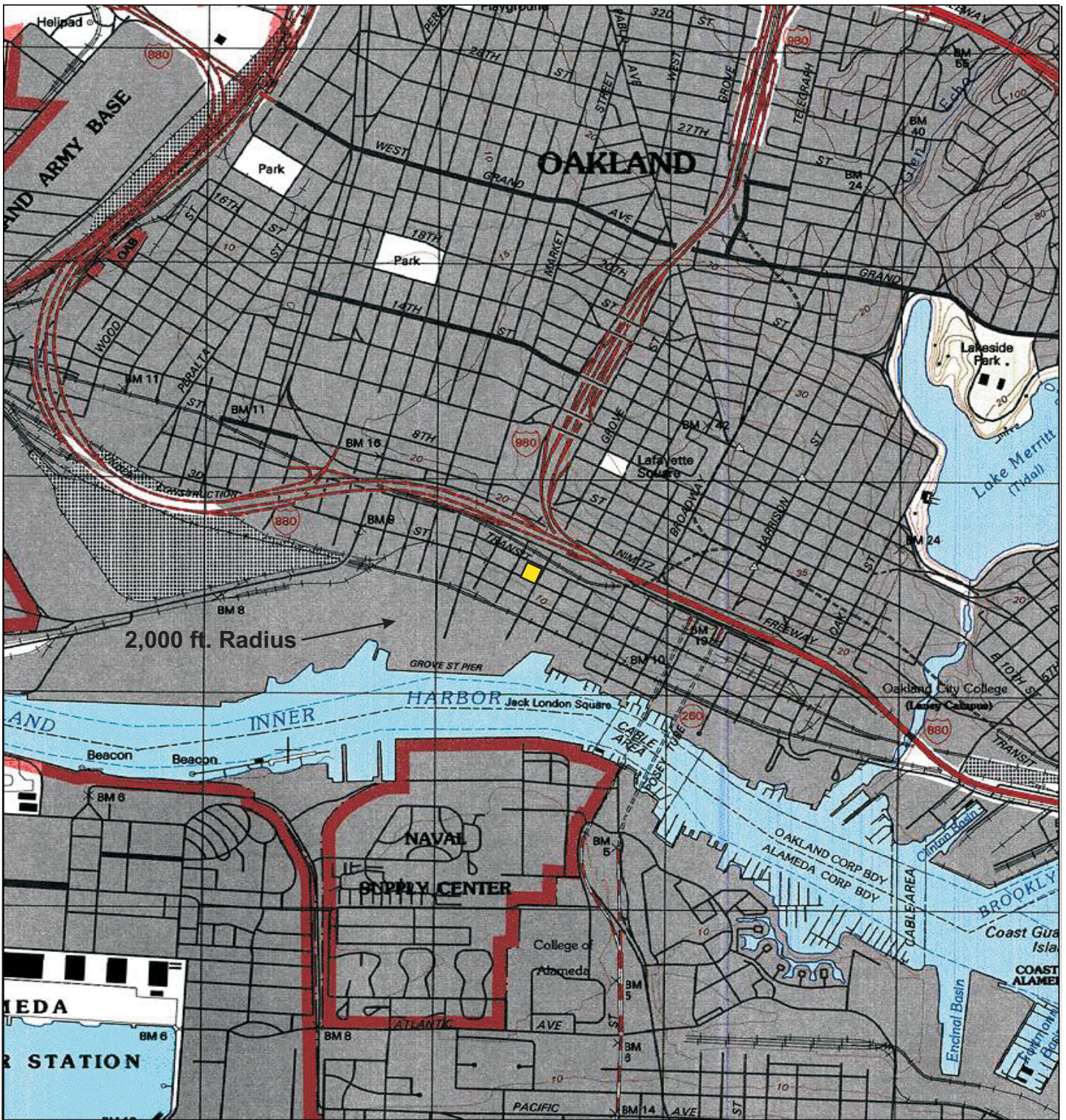
Jane and Kimball Allen (2 hard copies)  
2 Lone Tree Way  
Mill Valley, CA 94549

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

GeoTracker (electronic)


# FIGURES






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

**LEGEND**

 **N**

 **SITE LOCATION**

**AEI CONSULTANTS**  
 2500 Camino Diablo, Suite 200, Walnut Creek, CA 94597

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**Well Survey**

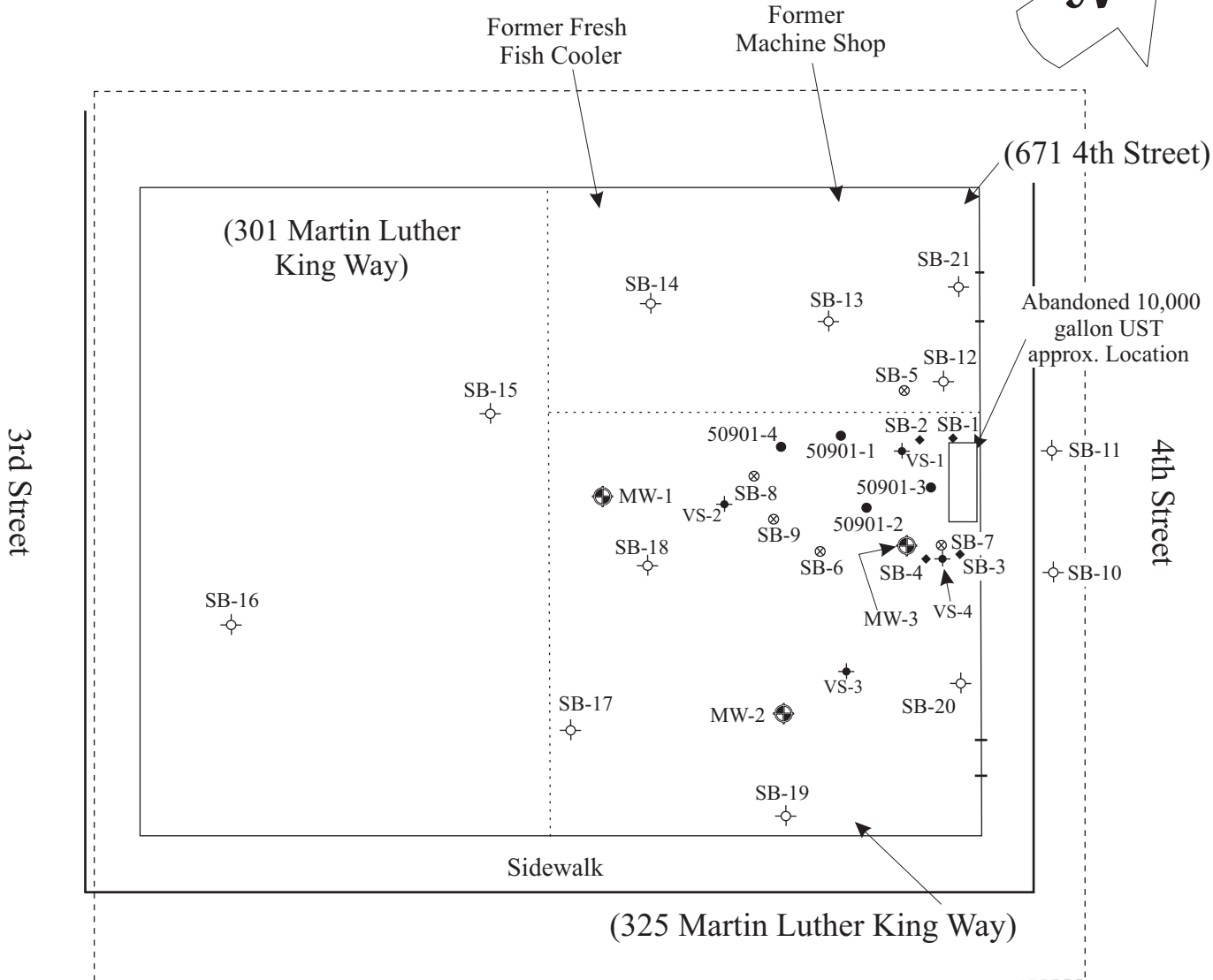
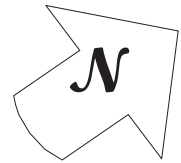
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325 Martin Luther King Jr. Way  
 Oakland, CA 94607

**FIGURE 1**  
 Job No: 270308

0' 20' 40'

Scale: 1" = 40'



Inset for Figures 3 through 4



\*Soil Borings SB-5 through SB-9 approximate, as no scale was presented on Ceres report

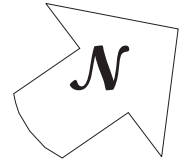
\*Soil Borings SB-1 and SB-3 aborted due to refusal

- 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)

<p><b>AEI CONSULTANTS</b> 2500 CAMINO DIABLO, SUITE 200 WALNUT CREEK, CA</p>	
<p><b>Site Plan</b></p>	
<p>325 Martin Luther King Jr. Way Oakland, California</p>	<p><b>FIGURE 2</b> 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  
(6.33)

MW-3  
(6.48)

6.50

6.40

MW-2  
(6.29)

6.30

Roll-up Door

Groundwater Flow Direction  
(Gradient = 0.006) 6/18/2009

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 = 0.10 feet

**AEI CONSULTANTS**  
2500 CAMINO DIABLO, WALNUT CREEK, CA

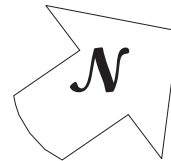
**Water Table Elevations (9/18/09)**

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 - 5.2

MW-3

G - 58,000  
D - 16,000  
B - 11,000  
M - <17

MW-2

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

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, WALNUT CREEK, CA

**Dissolved Phase Hydrocarbon  
Concentrations (9/18/09)**

325 Martin Luther King Jr. Way  
Oakland, California

**FIGURE 4**  
PROJECT No. 270308

# TABLES



**Table 1 - Well Construction Details**  
**AEI Project # 270308**

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	8 - 18	0.010	7 - 18	# 2/12	7 - 8	0.75 - 7
MW-2	08/10/07	15.27	17	7 - 17	0.010	6 - 17	# 2/12	6 - 7	0.75 - 6
MW-3	08/10/07	15.26	18	8 - 18	0.010	7 - 18	# 2/12	7 - 8	0.75 - 7

Notes:  
ft amsl = feet above mean sea level



**Table 2 - Groundwater Elevation Data  
AEI Project # 270308**

Well ID (Screen Interval)	Date Collected	Well Elevation (ft amsl)	Depth to Water (ft)	Groundwater Elevation (ft amsl)	Elevation Change (ft)
MW-1 (8 - 18)	8/21/2007	14.92	8.38	6.54	----
	11/21/2007	14.92	8.37	6.55	0.01
	2/26/2008	14.92	7.98	6.94	0.39
	6/18/2008	14.92	8.41	6.51	-0.43
	9/19/2008	14.92	8.56	6.36	-0.15
	12/29/2008	14.92	8.66	6.26	-0.10
	3/17/2009	14.92	7.84	7.08	0.82
	6/15/2009	14.92	8.31	6.61	-0.47
	<b>9/18/2009</b>	<b>14.92</b>	<b>8.59</b>	<b>6.33</b>	<b>-0.28</b>
MW-2 (7 - 17)	8/21/2007	15.27	8.78	6.49	----
	11/21/2007	15.27	8.72	6.55	0.06
	2/26/2008	15.27	8.37	6.90	0.35
	6/18/2008	15.27	8.82	6.45	-0.45
	9/19/2008	15.27	8.92	6.35	-0.10
	12/29/2008	15.27	8.87	6.40	0.05
	3/17/2009	15.27	8.27	7.00	0.60
	6/15/2009	15.27	8.71	6.56	-0.44
	<b>9/18/2009</b>	<b>15.27</b>	<b>8.98</b>	<b>6.29</b>	<b>-0.27</b>
MW-3 (8 - 18)	8/21/2007	15.26	8.59	6.67	----
	11/21/2007	15.26	8.55	6.71	0.04
	2/26/2008	15.26	8.11	7.15	0.44
	6/18/2008	15.26	8.62	6.64	-0.51
	8/4/2008	15.26	8.65	6.61	-0.03
	8/20/2008	15.26	8.68	6.58	-0.03
	9/19/2008	15.26	8.74	6.52	-0.06
	12/29/2008	15.26	8.67	6.59	0.07
	3/17/2009	15.26	7.96	7.30	0.71
	6/15/2009	15.26	8.47	6.79	-0.51
	<b>9/18/2009</b>	<b>15.26</b>	<b>8.78</b>	<b>6.48</b>	<b>-0.31</b>

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	SW (0.006 )
	6/15/2009	6.65	-0.47	SW 0.004 )
<b>8</b>	<b>9/18/2009</b>	<b>6.37</b>	<b>-0.29</b>	<b>SW ( )</b>

ft amsl = feet above mean sea level

All water level depths are measured from the top of casing

**Table 3 - Groundwater Analytical Data**  
**AEI Project # 270308**

Sample ID	Date	Depth to Water	TPHg Method 8015 µg/L	TPHd µg/L	MTBE µg/L	Benzene µg/L	Toluene Method 8021B µg/L	Ethylbenzene µg/L	Xylenes µg/L
<b>MW-1</b>	8/21/2007	8.38	<50	<50	15	<0.5	<0.5	<0.5	<0.5
	11/21/2007	8.37	<50	<50	12	<0.5	<0.5	<0.5	<0.5
	2/26/2008	7.98	<50	<50	-	<0.5	<0.5	<0.5	<0.5
	6/18/2008	8.41	<50	<50	-	<0.5	<0.5	<0.5	<0.5
	9/19/2008	8.56	<50	<50	-	<0.5	<0.5	<0.5	<0.5
	12/29/2008	8.66	<50	<50	-	<0.5	<0.5	<0.5	<0.5
	3/17/2009	7.84	<50	<50	-	<0.5	<0.5	<0.5	<0.5
	6/15/2009	8.31	<50	<50	-	<0.5	<0.5	<0.5	<0.5
	<b>9/18/2009</b>	<b>8.59</b>	<b>&lt;50</b>	<b>&lt;50</b>	-	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>
<b>MW-2</b>	8/21/2007	8.78	<50	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	11/21/2007	8.72	<50	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	2/26/2008	8.37	<50	<50	-	<0.5	<0.5	<0.5	<0.5
	6/18/2008	53.00	<50	<50	-	<0.5	<0.5	<0.5	<0.5
	9/19/2008	8.92	<50	<50	-	<0.5	<0.5	<0.5	<0.5
	12/29/2008	8.87	<50	<50	-	<0.5	<0.5	<0.5	<0.5
	3/17/2009	8.27	<50	<50	-	<0.5	<0.5	<0.5	<0.5
	6/15/2009	8.71	<50	<50	-	<0.5	<0.5	<0.5	<0.5
	<b>9/18/2009</b>	<b>8.98</b>	<b>&lt;50</b>	<b>&lt;50</b>	-	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>
<b>MW-3</b>	8/21/2007	8.59	24,000	2,100	<180	2,600	3,500	450	2,400
	11/21/2007	8.55	36,000	3,800	<500	4,900	1,200	230	2,700
	2/26/2008	8.11	31,000	5,400	-	4,200	1,900	590	2,200
	6/18/2008	8.62	20,000	3,000	-	2,900	1,100	390	990
	8/4/2008	8.65	110,000	27,000	-	5,900	9,000	76	8,100
	8/20/2008	8.68	120,000	6,500	-	8,900	18,000	930	12,000
	9/19/2008	8.74	64,000	4,500	-	6,200	9,200	660	6,600
	12/29/2008	8.67	130,000	7,900	-	11,000	19,000	1,800	11,000
	3/17/2009	7.96	83,000	8,000	-	7,400	10,000	1,100	8,500
	6/15/2009	8.47	67,000	21,000	-	11,000	9,100	1,200	6,80
<b>9/18/2009</b>	<b>8.78</b>	<b>58,000</b>	<b>16,000</b>	-	<b>11,000</b>	<b>7,000</b>	<b>1,400</b>	<b>4,700</b>	

Notes:

TPHg = total petroleum hydrocarbons as gasoline (C6-C12)  
Benzene, toluene, ethylbenzene, and xylenes using EPA Method 8021B  
µg/L= micrograms per liter

TPHd = total petroleum hydrocarbons as diesel (C10-C23)  
MTBE = methyl-tertiary butyl ether  
ND<50 = non detect at respective reporting limit

**Table 4 - Groundwater Analytical Data - Fuel Additives**  
**AEI Project # 270308**

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
<b>MW-1</b>	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
	<b>9/18/2009</b>	<b>0.7</b>	-	-	-	-	-	-	<b>&lt;0.5</b>	<b>5.2</b>
<b>MW-2</b>	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
	<b>9/18/2009</b>	<b>&lt;0.5</b>	-	-	-	-	-	-	<b>&lt;0.5</b>	<b>&lt;0.5</b>
<b>MW-3</b>	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
<b>9/18/2009</b>	<b>&lt;17</b>	-	-	-	-	-	-	<b>110</b>	<b>500</b>	

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:	9/18/2009
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)	8.59		
Water Elevation (feet above msl)	6.33		
Well Volumes Purged	Micropurged with peristaltic pump		
Actual Volume Purged (liters)	3.5		
Appearance of Purge Water	Clear		
Free Product Present?	No	Thickness (ft):	----

**GROUNDWATER SAMPLES**

Number of Samples/Container Size							
Time	Volume Removed (liters)	Temperature (deg C)	pH	Conductivity ( $\mu$ sec/cm)	DO (mg/L)	ORP (meV)	Comments
	0.5	19.11	6.10	994	3.56	65.9	
	1.0	18.89	5.79	992	3.51	87.1	
	1.5	18.92	5.73	991	3.54	92.1	
	2.0	18.89	5.64	991	3.55	94.7	
	2.5	18.82	5.66	992	3.54	97.3	
	3.0	18.77	5.65	992	3.50	98.0	
	3.5	18.64	5.64	996	3.54	99.7	

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

Clear, no petroleum odors noted.
Purge line @ 10.0 ft b gs

**AEI CONSULTANTS**  
GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

**Monitoring Well Number: MW-2**

Project Name:	ALLEN	Date of Sampling:	9/18/2009
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)	8.98		
Water Elevation (feet above msl)	6.29		
Well Volumes Purged	Micropurged with peristaltic pump		
Actual Volume Purged (liters)	3.0		
Appearance of Purge Water	Clear		
Free Product Present?	No	Thickness (ft):	----

**GROUNDWATER SAMPLES**

Number of Samples/Container Size							
Time	Volume Removed (liters)	Temperature (deg C)	pH	Conductivity ( $\mu$ sec/cm)	DO (mg/L)	ORP (meV)	Comments
	0.5	19.20	6.10	800	5.83	73.5	
	1.0	19.19	6.01	800	4.84	77.9	
	1.5	19.18	5.86	799	4.61	86.8	
	2.0	19.20	5.77	803	4.65	92.8	
	2.5	19.16	5.75	808	4.65	94.3	
	3.0	19.14	5.79	811	4.65	92.1	

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

Clear, no petroleum odors noted.
Purge line @ 10.0 ft b gs

**AEI CONSULTANTS**  
GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

**Monitoring Well Number: MW-3**

Project Name:	ALLEN	Date of Sampling:	9/18/2009
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 <span style="float:right">▼</span>		
Elevation of Top of Casing (feet above msl)	15.26		
Depth of Well	18.00		
Depth to Water (from top of casing)	8.78		
Water Elevation (feet above msl)	6.48		
Well Volumes Purged	Micropurged with peristaltic pump		
Actual Volume Purged (liters)	3.0		
Appearance of Purge Water	Clear		
Free Product Present?	No	Thickness (ft):	----

**GROUNDWATER SAMPLES**

Number of Samples/Container Size							
Time	Volume Removed (liters)	Temperature (deg C)	pH	Conductivity ( $\mu$ sec/cm)	DO (mg/L)	ORP (meV)	Comments
	0.5	19.04	6.73	2,651	1.20	-172.9	
	1.0	19.03	6.71	2,650	0.98	-174.9	
	1.5	19.03	6.69	2,651	0.81	-176.3	
	2.0	19.01	6.68	2,657	0.68	-178.3	
	2.5	18.98	6.68	2,662	0.63	-179.6	
	3.0	18.94	6.70	2,669	0.62	-181.9	

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

Strong petroleum odors noted.
Purge line @ 10.0 ft b gs

## **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.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: Allen; Martin Luther King	Date Sampled: 09/18/09
		Date Received: 09/18/09
	Client Contact: Adrian Angel	Date Reported: 09/24/09
	Client P.O.:	Date Completed: 09/24/09

**WorkOrder 0909558**

September 24, 2009

Dear Adrian:

Enclosed within are:

- 1) The results of the **3** analyzed samples from your project: **Allen; Martin Luther King,**
- 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.

0909558



**McCAMPBELL ANALYTICAL, INC.**

1534 WILLOW PASS ROAD  
PITTSBURG, CA 94565-1701

Website: [www.mccampbell.com](http://www.mccampbell.com) Email: [main@mccampbell.com](mailto: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: *A.E.I. consultants* Bill To: *Same*  
Company: *Adrian Angel*  
E-Mail: \_\_\_\_\_  
Tele: ( ) Fax: ( )  
Project #: \_\_\_\_\_ Project Name: *ALLEN*  
Project Location: *Martin Luther King Jr Oakland*  
Sampler Signature: *[Signature]*

Analysis Request Other Comments

SAMPLE ID	LOCATION/ Field Point Name	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED				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 (CI Pesticides)	EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners	EPA 507 / 8141 (NP Pesticides)	EPA 515 / 8151 (Acidic CI 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)	Filter Samples for Metals analysis: Yes / No							
		Date	Time			Water	Soil	Air	Sludge	Other	ICE	HCL	HNO <sub>3</sub>	Other																							
<i>Mw-1</i>		<i>9/18/09</i>	<i>3:25</i>	<i>4</i>	<i>4/L</i>	<i>X</i>							<i>X</i>	<i>X</i>																							
<i>Mw-2</i>		<i>↓</i>	<i>3:50</i>	<i>↓</i>	<i>"</i>	<i>X</i>							<i>X</i>	<i>X</i>																							
<i>Mw-3</i>		<i>↓</i>	<i>4:18</i>	<i>↓</i>	<i>"</i>	<i>X</i>							<i>X</i>	<i>X</i>																							

Relinquished By: *[Signature]* Date: *9/18/09* Time: *19:30* Received By: *[Signature]*  
Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ Received By: \_\_\_\_\_  
Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ Received By: \_\_\_\_\_

ICE/° *44* COMMENTS:  
GOOD CONDITION \_\_\_\_\_  
HEAD SPACE ABSENT \_\_\_\_\_  
DECHLORINATED IN LAB \_\_\_\_\_  
APPROPRIATE CONTAINERS \_\_\_\_\_  
PRESERVED IN LAB \_\_\_\_\_  
PRESERVATION VOAS O&G METALS OTHER  
pH<2

# McC Campbell Analytical, Inc.



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

# CHAIN-OF-CUSTODY RECORD

WorkOrder: 0909558

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: Allen; Martin Luther King	Bill to: Denise Mockel AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597 dmockel@aeiconsultants.com	Requested TAT: <b>5 days</b>  Date Received: <b>09/18/2009</b> Date Printed: <b>09/18/2009</b>
--	--	---	---

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
0909558-001	MW-1	Water	9/18/2009 15:25	<input type="checkbox"/>	A	A	B									
0909558-002	MW-2	Water	9/18/2009 15:50	<input type="checkbox"/>	A		B									
0909558-003	MW-3	Water	9/18/2009 16:15	<input type="checkbox"/>	A		B									

**Test Legend:**

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

Prepared by: Ana Venegas

**Comments:**

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



**Sample Receipt Checklist**

Client Name: **AEI Consultants** Date and Time Received: **9/18/2009 8:16:23 PM**  
Project Name: **Allen; Martin Luther King** Checklist completed and reviewed by: **Ana Venegas**  
WorkOrder N°: **0909558** 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: 4.4°C NA   
Water - VOA vials have zero headspace / no bubbles? Yes  No  No VOA vials submitted   
Sample labels checked for correct preservation? Yes  No   
TTLC Metal - pH acceptable upon receipt (pH<2)? Yes  No  NA   
Samples Received on Ice? Yes  No

(Ice Type: WET ICE )

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

-----

Client contacted: Date contacted: Contacted by:

Comments:



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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: Allen; Martin Luther King	Date Sampled: 09/18/09
	Client Contact: Adrian Angel	Date Received: 09/18/09
	Client P.O.:	Date Extracted: 09/22/09
		Date Analyzed: 09/22/09

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

Extraction method: SW5030B

Analytical methods: SW8021B/8015Bm

Work Order: 0909558

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS	Comments
001A	MW-1	W	ND	ND	ND	ND	ND	ND	1	105	
002A	MW-2	W	ND	ND	ND	ND	ND	ND	1	99	
003A	MW-3	W	58,000	ND<600	11,000	7000	1400	4700	50	104	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	0.5	µg/L
	S	1.0	0.05	0.005	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 McC Campbell Analytical is not responsible for their interpretation:

d1) weakly modified or unmodified gasoline is significant



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AEI Consultants  2500 Camino Diablo, Ste. #200  Walnut Creek, CA 94597	Client Project ID: Allen; Martin Luther King	Date Sampled: 09/18/09
	Client Contact: Adrian Angel	Date Received: 09/18/09
	Client P.O.:	Date Analyzed: 09/21/09-09/23/09
		Date Extracted: 09/18/09

### Total Extractable Petroleum Hydrocarbons\*

Extraction method SW3510C

Analytical methods: SW8015B

Work Order: 0909558

Lab ID	Client ID	Matrix	TPH-Diesel (C10-C23)	DF	% SS	Comments
0909558-001B	MW-1	W	ND	1	81	
0909558-002B	MW-2	W	ND	1	80	
0909558-003B	MW-3	W	16,000	1	97	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 ug/L, wipe samples in µg/wipe, soil/solid/sludge samples in mg/kg, product/oil/non-aqueous liquid samples in mg/L, and all DISTLC / STLC / SPLP / TCLP extracts are reported in µg/L.

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

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

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



**QC SUMMARY REPORT FOR SW8021B/8015Bm**

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 45946

WorkOrder: 0909558

Analyte	EPA Method SW8021B/8015Bm		Extraction SW5030B						Spiked Sample ID: 0909558-002A			
	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) <sup>£</sup>	ND	60	115	99.1	14.8	99.3	101	1.95	70 - 130	20	70 - 130	20
MTBE	ND	10	119	117	2.37	117	117	0	70 - 130	20	70 - 130	20
Benzene	ND	10	111	108	3.40	108	107	0.659	70 - 130	20	70 - 130	20
Toluene	ND	10	99.7	97.2	2.61	97.1	97.6	0.518	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	100	97.6	2.39	98.2	97.7	0.457	70 - 130	20	70 - 130	20
Xylenes	ND	30	113	110	2.35	112	112	0	70 - 130	20	70 - 130	20
%SS:	99	10	101	99	1.93	98	98	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 45946 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0909558-001A	09/18/09 3:25 PM	09/22/09	09/22/09 7:08 PM	0909558-002A	09/18/09 3:50 PM	09/22/09	09/22/09 4:07 PM
0909558-003A	09/18/09 4:15 PM	09/22/09	09/22/09 5:58 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: 45830

WorkOrder 0909558

Analyte	Extraction SW3510C			Spiked Sample ID: N/A								
	Sample µg/L	Spiked µg/L	MS % Rec.	MSD % Rec.	MS-MSD % RPD	LCS % Rec.	LCSD % Rec.	LCS-LCSD % RPD	Acceptance Criteria (%)			
TPH-Diesel (C10-C23)	N/A	1000	N/A	N/A	N/A	98.5	98.7	0.195	N/A	N/A	70 - 130	30
%SS:	N/A	2500	N/A	N/A	N/A	94	94	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 45830 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0909558-001B	09/18/09 3:25 PM	09/18/09	09/21/09 8:56 PM	0909558-002B	09/18/09 3:50 PM	09/18/09	09/21/09 10:09 PM
0909558-003B	09/18/09 4:15 PM	09/18/09	09/23/09 1:23 AM				

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

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

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

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

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





**McC Campbell Analytical, Inc.**

"When Quality Counts"

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

AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	Client Project ID: Allen; Martin Luther King	Date Sampled: 09/18/09
		Date Received: 09/18/09
	Client Contact: Adrian Angel	Date Reported: 09/24/09
	Client P.O.:	Date Completed: 09/24/09

**WorkOrder: 0909558**

September 24, 2009

Dear Adrian:

Enclosed within are:

- 1) The results of the **3** analyzed samples from your project: **Allen; Martin Luther King,**
- 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.

0909558



**McCAMPBELL ANALYTICAL, INC.**  
 1534 WILLOW PASS ROAD  
 PITTSBURG, CA 94565-1701  
 Website: [www.mccampbell.com](http://www.mccampbell.com) Email: [main@mccampbell.com](mailto: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: A.E.I. Consultants Bill To: Same  
 Company: Adrian Angel  
 E-Mail:  
 Tele: ( ) Fax: ( )  
 Project #: Project Name: ALLEN  
 Project Location: Martin Luther King Jr Oakland  
 Sampler Signature: [Signature]

Analysis Request Other Comments

SAMPLE ID	LOCATION/ Field Point Name	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED				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 (CI Pesticides)	EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners	EPA 507 / 8141 (NP Pesticides)	EPA 515 / 8151 (Acidic CI Herbicides)	EPA 824.2 / 624 / 8260 (VOCs)	EPA 825.2 / 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)	mtbe, eob, 1,2-DCA added 9/21/09	Filter Samples for Metals analysis: Yes / No						
		Date	Time			Water	Soil	Air	Sludge	Other	ICE	HCL	HNO <sub>3</sub>	Other																							
✓ MW-1		9/18/09	325	4	1/6	X								X	X																						
✓ MW-2		↓	350	↓	"	X								X	X																						
✓ MW-3		↓	478	↓	"	X								X	X																						

Relinquished By: [Signature] Date: 9/18/09 Time: 1930 Received By: [Signature]  
 Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ Received By: \_\_\_\_\_  
 Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ Received By: \_\_\_\_\_

ICE/° 44  
 GOOD CONDITION \_\_\_\_\_  
 HEAD SPACE ABSENT \_\_\_\_\_  
 DECHLORINATED IN LAB \_\_\_\_\_  
 APPROPRIATE CONTAINERS \_\_\_\_\_  
 PRESERVED IN LAB \_\_\_\_\_  
 VOAS O&G METALS OTHER  
 PRESERVATION pH<2

COMMENTS:

# McC Campbell Analytical, Inc.



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

# CHAIN-OF-CUSTODY RECORD

WorkOrder: 090955 **A**

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  
 (925) 283-6000    FAX (925) 944-2895

Email: aangel@aeiconsultants.com  
 cc:  
 PO:  
 ProjectNo: Allen; Martin Luther King

**Bill to:**

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

**Requested TAT: 5 days**

**Date Received: 09/18/2009**

**Date Add-On: 09/21/2009**

**Date Printed: 09/24/2009**

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	
0909558-001	MW-1	Water	9/18/2009 15:25	<input type="checkbox"/>	C												
0909558-002	MW-2	Water	9/18/2009 15:50	<input type="checkbox"/>	C												
0909558-003	MW-3	Water	9/18/2009 16:15	<input type="checkbox"/>	C												

**Test Legend:**

1	8260VOC_W	2		3		4		5	
6		7		8		9		10	
11		12							

**Prepared by: Ana Venegas**

**Comments:** MTBE, EDB, and 1,2-DCA added 9/21/09 per A.A.

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

AEI Consultants  2500 Camino Diablo, Ste. #200  Walnut Creek, CA 94597	Client Project ID: Allen; Martin Luther King	Date Sampled: 09/18/09
	Client Contact: Adrian Angel	Date Received: 09/18/09
	Client P.O.:	Date Extracted: 09/22/09-09/23/09
		Date Analyzed: 09/22/09-09/23/09

### Volatile Organics by P&T and GC/MS\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0909558

Lab ID	0909558-001C	0909558-002C	0909558-003C		Reporting Limit for DF =1	
Client ID	MW-1	MW-2	MW-3			
Matrix	W	W	W			
DF	1	1	33			

Compound	Concentration			ug/kg	µg/L
1,2-Dibromoethane (EDB)	ND	ND	110	NA	0.5
1,2-Dichloroethane (1,2-DCA)	5.2	ND	500	NA	0.5
Methyl-t-butyl ether (MTBE)	0.73	ND	ND<17	NA	0.5

### Surrogate Recoveries (%)

%SS1:	76	90	90		
%SS2:	94	100	101		

### 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.



**QC SUMMARY REPORT FOR SW8260B**

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 45948

WorkOrder: 0909558

Analyte	Extraction SW5030B			Spiked Sample ID: 0909550-014C								
	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	91.9	94.5	2.80	83.9	84	0.104	70 - 130	30	70 - 130	30
Benzene	ND	10	97.8	99.2	1.43	107	109	1.59	70 - 130	30	70 - 130	30
t-Butyl alcohol (TBA)	ND	50	95.8	102	6.63	81.5	80.4	1.41	70 - 130	30	70 - 130	30
Chlorobenzene	ND	10	103	103	0	97.7	99.7	2.04	70 - 130	30	70 - 130	30
1,2-Dibromoethane (EDB)	ND	10	96.4	101	4.79	94.4	94.8	0.397	70 - 130	30	70 - 130	30
1,2-Dichloroethane (1,2-DCA)	ND	10	99.6	101	1.79	90.2	90.6	0.443	70 - 130	30	70 - 130	30
1,1-Dichloroethene	ND	10	111	113	2.35	102	102	0	70 - 130	30	70 - 130	30
Diisopropyl ether (DIPE)	ND	10	106	108	1.97	111	113	1.48	70 - 130	30	70 - 130	30
Ethyl tert-butyl ether (ETBE)	ND	10	97.4	100	2.90	96.4	96.8	0.439	70 - 130	30	70 - 130	30
Methyl-t-butyl ether (MTBE)	ND	10	96	99.9	3.94	91.8	91.9	0.0393	70 - 130	30	70 - 130	30
Toluene	ND	10	98.6	102	3.01	101	102	1.24	70 - 130	30	70 - 130	30
Trichloroethene	ND	10	107	108	1.15	107	107	0	70 - 130	30	70 - 130	30
%SS1:	95	25	74	74	0	74	74	0	70 - 130	30	70 - 130	30
%SS2:	102	25	100	101	0.619	95	95	0	70 - 130	30	70 - 130	30
%SS3:	125	2.5	87	89	2.76	89	92	3.97	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 45948 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0909558-001C	09/18/09 3:25 PM	09/22/09	09/22/09 9:16 PM	0909558-002C	09/18/09 3:50 PM	09/23/09	09/23/09 4:13 PM

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

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

\* MS 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 SW8260B

W.O. Sample Matrix: Water

QC Matrix: Water

BatchID: 45955

WorkOrder: 0909558

Analyte	Extraction SW5030B			Spiked Sample ID: 0909576-001A								
	Sample µg/L	Spiked µg/L	MS % Rec.	MSD % Rec.	MS-MSD % RPD	LCS % Rec.	LCSD % Rec.	LCS-LCSD % RPD	Acceptance Criteria (%)			
									MS / MSD	RPD	LCS/LCSD	RPD
tert-Amyl methyl ether (TAME)	ND	10	84.8	84.2	0.642	89.3	93.2	4.29	70 - 130	30	70 - 130	30
Benzene	ND	10	110	109	1.24	93.9	97.6	3.89	70 - 130	30	70 - 130	30
t-Butyl alcohol (TBA)	ND	50	77.7	83.4	7.14	89.9	94.5	4.98	70 - 130	30	70 - 130	30
Chlorobenzene	ND	10	104	104	0	95.1	99.2	4.31	70 - 130	30	70 - 130	30
1,2-Dibromoethane (EDB)	ND	10	99.5	96.9	2.71	91.8	97	5.41	70 - 130	30	70 - 130	30
1,2-Dichloroethane (1,2-DCA)	ND	10	92.8	90	3.00	96.9	101	4.33	70 - 130	30	70 - 130	30
1,1-Dichloroethene	ND	10	104	102	1.28	106	111	5.15	70 - 130	30	70 - 130	30
Diisopropyl ether (DIPE)	ND	10	113	112	1.72	103	107	3.90	70 - 130	30	70 - 130	30
Ethyl tert-butyl ether (ETBE)	ND	10	97.5	96.8	0.794	95.6	99.8	4.25	70 - 130	30	70 - 130	30
Methyl-t-butyl ether (MTBE)	ND	10	94.5	93.3	1.25	95.1	99.9	4.89	70 - 130	30	70 - 130	30
Toluene	ND	10	107	108	0.182	95.3	99.5	4.28	70 - 130	30	70 - 130	30
Trichloroethene	ND	10	113	109	3.12	103	106	3.44	70 - 130	30	70 - 130	30
%SS1:	77	25	72	72	0	75	75	0	70 - 130	30	70 - 130	30
%SS2:	95	25	97	95	1.66	100	100	0	70 - 130	30	70 - 130	30
%SS3:	88	2.5	88	84	4.59	89	93	4.69	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 45955 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0909558-003C	09/18/09 4:15 PM	09/23/09	09/23/09 12:32 PM				

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

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

\* MS 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.