RECEIVED

10:47 am, Aug 19, 2011
Alameda County
Environmental Health

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

SUBJECT: Perjury Statement

To Whom It May Concern:

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

Signed: Jane Anne Allen

JANE A. ALLEN

July 30, 2010

HYDROGEN PEROXIDE INFUSION REPORT

325 Martin Luther King Jr. Way
Oakland, California

Project No. 277915

Prepared For

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

Prepared By

AEI Consultants
2500 Camino Diablo
Walnut Creek, CA 94597
(925) 746-6000

AEI

AEI CONSULTANTS
ENVIRONMENTAL & ENGINEERING SERVICES
2500 Camino Diablo, Walnut Creek, CA 94597
tel 800-801-3224
fax 925-944-2895
www.aeiconsultants.com

July 30, 2010

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

Subject: **Hydrogen Peroxide Infusion Progress Report**
325 Martin Luther King Jr. Way
Oakland, California
AEI Project No. 270308

Dear Mr. and Mrs. Allen:

AEI Consultants (AEI) has prepared this progress report to document the ongoing groundwater remediation at the above referenced site (Figure 1, Site Location Map). The groundwater remediation is being performed in accordance with the requirements of the Alameda County Environmental Health (ACEH). The purpose of these activities is to oxygenate the groundwater quality in the vicinity of the identified release of fuel products at the site by infusion of hydrogen peroxide in wells IW-1 through IW-3. This report presents the includes progress monitoring of the H^2O^2 infusion through July 19, 2010.

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 pumping remaining sludge out of the tank, steam cleaning 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 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 (µg/L), 420 µg/L, and 53 µg/L, respectively.

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

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

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

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

In May of 2007, AEI performed a soil and groundwater investigation which included of drilling additional twelve (12) soil borings at the property. Low to moderate concentrations of petroleum hydrocarbons were detected in the soil adjacent to the abandoned UST and in groundwater. The investigation indicated that the dissolved contaminant plume 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. Wells MW-1 and MW-2 were hydrocarbon free. In well MW-3, which is located immediately down gradient of abandoned UST, TPH-g and MBTEX were reported at concentrations of 24,000 µg/l, ND<180 µg/l , 2,600 µg/l, 3,500 µg/l, 450 µg/l, and 2,400 µg/l, respectively. The details of well installation are contained in AEI's *Monitoring Well Installation Report*, dated September 21, 2008. The locations of the wells are shown on Figure 2, Site Plan

A *Corrective Action Pilot Test Workplan*, dated April 7, 2008, for a pilot-scale evaluation of in-situ chemical oxidation as a potential method of remediating the site was prepared fro the ACEH. The workplan proposed five injection points in the immediate area of source well MW-3, targeting the saturated zone as well as the lower vadose zone using the product RegenOx™ manufactured by Regenesis, Inc. The workplan was approved by the ACEH in a letter dated May 13, 2008. On July 17 and 18, 2008, 720 lbs of RegenOx™ 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. The marked increase in dissolved hydrocarbons concentrations appears to be the result of the release of hydrocarbons bonded to sediments in the capillary fringe saturated zone resulting from the treatment with RegenOx™.

Following evaluation of the pilot test data, AEI selected H_2O_2 infusion through permanently installed wells as a lower cost approach to remediation. A *Hydrogen Peroxide Infusion Pilot Test Workplan*, dated August 12, 2009, was completed for the site and approved by the ACEH in a letter dated August 21, 2009.

On October 10, 2009, AEI installed three (3) 2-inch diameter infusion wells, IW-1 located at the north end of the abandoned UST, IW-2 located on the west side of the abandoned UST, and IW-3 located at the south end of the abandoned UST.

On October 30, 2009, following installation of wells IW-1 through IW-3 and prior to the infusion testing, infusion wells IW-1 through IW-3 and monitoring well MW-3 were sampled. Following collection of groundwater samples, AEI performed an injection/infusion test using clear water to determine the rate of fluid acceptance. Fluid acceptance ranged from 1.0 (IW-2) to 5.0 (IW-3) gallons per minute at 5.0 psi and 0.5 to 3 gallons per minute at 0.0 psi.

On November 5, 2009, prior to H^2O^2 infusion testing, well IW-3 was sampled following purging 3 liters of water with a peristaltic pump. AEI performed fluid acceptance test using 2.0 %, 1.0 % and 0.5 % H^2O^2 solution. Significant back pressure due to bubble block occurred at concentrations of 1.0% and 2.0 % H^2O^2 solution. Fluid acceptance of 0.5% H^2O^2 ranged from 0.5 gallons per minute (gpm) in IW-2 to 2.5 gpm in IW-3. Well IW-3 was re-sampled on November 23, 2009 the results of the groundwater analyses are shown on Table 3. Approximately 50 gallons of H^2O^2 were injected into they wells during the acceptance test.

II Summary of Hydrogen Peroxide Infusion and Sampling Activities

In December of 2009, a 2400 gallon poly tank was placed on the site and manifolded to wells IW-1, IW-2 and IW-3. Between December 29, 2009, and January 29, 2010, 8,000 gallons of 0.5% H^2O^2 was infused primarily into injection wells IW-2 through IW-3 with H^2O^2 infused into. Initial infusion total rate was approximately 2 gallons per minute. The infusion rate decreased to approximately 0.125 gallons per minute as the infusion progressed and oxygen levels increased to above saturation and bubbles created back pressure which impeded the movement of H^2O^2 through the fine grained sand.

On February 8 and 24, 2010 following the infusion of 8,000 gallons of 0.5% H^2O^2 solution, wells MW-3, IW-2, and IW-3 were sampled to determine the effects of the H^2O^2 infusion. The samples were analyzed for TPH-g and MBTEX by EPA Method 8021B/8015Cm.

TPH-g in MW-3 decreased from 59,000 µg/L on October 30, 2009 to 13,000 µg/L on February 8, 2010 and rebounded to 16,000 µg/L on February 24, 2010. TPH-g in IW-2 decreased from 15,000 µg/L on October 30, 2009 to 630 µg/L on February 8, 2010 and rebounded to 3,500 µg/L on February 24, 2010. IW-3 decreased from 77,000 µg/L on November 23, 2009 to 18,000 µg/L on February 8, 2010 and rebounded to 36,000 µg/L on February 24, 2010.

On March 16, 2010, prior to initiating a second phase of H^2O^2 infusion, AEI conducted the regularly scheduled groundwater-monitoring event at the site. The well caps were removed from well MW-3 and IW-1 through IW-3. The wells were allowed to equilibrate with the atmosphere for a minimum of 15 minutes. The depth from the top of the well casing to static groundwater was measured with an electric water level indicator to ± 0.01 ft. 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 sampling event and previous quarterly monitoring or sampling 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). 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).

TPH-g in wells MW-1 and MW-2 remained below standard reporting limits. TPH-g in MW-3 increased from 16,000µg/L on February 24, 2010 to 34,000 µg/L on March 16, 2010. TPH-g in IW-2 increased from 3,500 µg/L on February 24, 2010 to 20,000 µg/L on March 16, 2010. IW-3 increased from 36,000 µg/L on February 24, 2010 to 44,000 µg/L on March 16, 2010.

On March 16, 2010 infusion of H^2O^2 was renewed into wells IW-2 and IW-3 directly manifolded to the 7,400 gallon Poly Tank as had been done previously. After several hours it became apparent that the well seals in IW-2 and IW-3 had failed and solution began flowing around the seals and charging the space below the floor slab. The infusion system was modified to include valves to restrict the flow in to the wells so that fluid inflow was such to maintain a fluid level in Wells IW-2 and IW-3 at just below ground level.

Between March 16, 2010 and May 12, 2010, 15,800 gallons of 0.5% H^2O^2 were infused into wells IW-2 and IW-3. Between May 24, 2010 and June 29, 2010, 7,900 gallons of 1.25% H^2O^2 were infused primarily into well IW-3.

III Post Infusion Groundwater Monitoring

On July 19, 2010 wells MW-3, IW-2, IW-3 were sampled for TPH-g, MBTEX as described above. TPH-g in MW-3 decreased from 34,000 µg/L on March 16, 2010 to 270 µg/L. TPH-g in IW-2 decreased from 20,000 µg/L on March 16, 2010 to 600 µg/L. IW-3 decreased from 44,000 µg/L on March 16, 2010 to 4,100 µg/L.

Field DO concentrations were reported as 31.92 mg/L in well MW-3, as 34.20 mg/L in well IW-1, and as 13.91 mg/L in well IW-3. All of these concentrations are significantly above the concentration of 2 mg/L to 3 mg/L typically reported in clean wells prior to H^2O^2 infusion.

The analytical results from the July 19, 2010 progress monitoring an previous sampling events are summarized in Table 2, Groundwater Elevation Data and Table 3, Groundwater Analytical Data. Groundwater Monitoring Well Field Sampling Forms,

which include water quality data and other parameters collected during well purging are attached as Appendix A.

IV Summary

This report documents the results to date of H^2O^2 infusion at the site. Overall hydrocarbon concentrations at the site have decreased significantly H^2O^2 infusion, as shown on Figure 5: MW-3 Hydrocarbons vs. Time.

Concentrations of TPH-g in well MW-3 decreased from 59,000 µg/L on October 30, 2009 to 270 µg/L on July 19, 2010. Concentrations of TPH-g in well IW-2 increased from 15,000 µg/L on October 30, 2009 to 20,000 µg/L on March 16, 2010 suggesting that the initial infusion mobilized hydrocarbons that were adhered to the sediment then decreased to 600 µg/L on July 19, 2010. Concentrations of TPH-g in well IW-3 increased from 61,000 µg/L on October 30, 2009 to 77,000 µg/L on November 23, 2009 suggesting that the initial infusion pilot testing mobilized hydrocarbons that were adhered to the sediment then decreased to 4,100 µg/L on July 19, 2010.

Progress sampling of wells IW-1, IW-3, and MW-3 will continue through August 2010 or until DO concentration drop to pre-infusion levels to evaluate biodegradation rates and hydrocarbon concentrations. The semi-annual groundwater monitoring event is scheduled for mid-September 2010, unless as decision is made that an addition round of H^2O^2 infusion is required, in which case the monitoring event will occur immediately prior to initiation of the new infusion event.

V Report Limitations

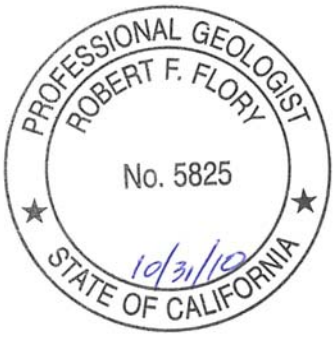
This report presents a summary of work completed by AEI Consultants. The completed work includes observations and descriptions of site conditions encountered. Where appropriate, it includes analytical results for samples taken during the course of the work. The number and location of samples are chosen 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.

Should 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, GIT
Project Geologist



Robert F. Flory, PG
Senior Geologist

Figures

Figure 1: Site Location Map
Figure 2: Site Plan
Figure 3: MW-3 TPH-g, Benzene vs. Time

Tables

Table 1: Monitoring Well Construction Details
Table 2: Groundwater Elevation Data
Table 3: Groundwater Monitoring Sample Analytical Data

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:

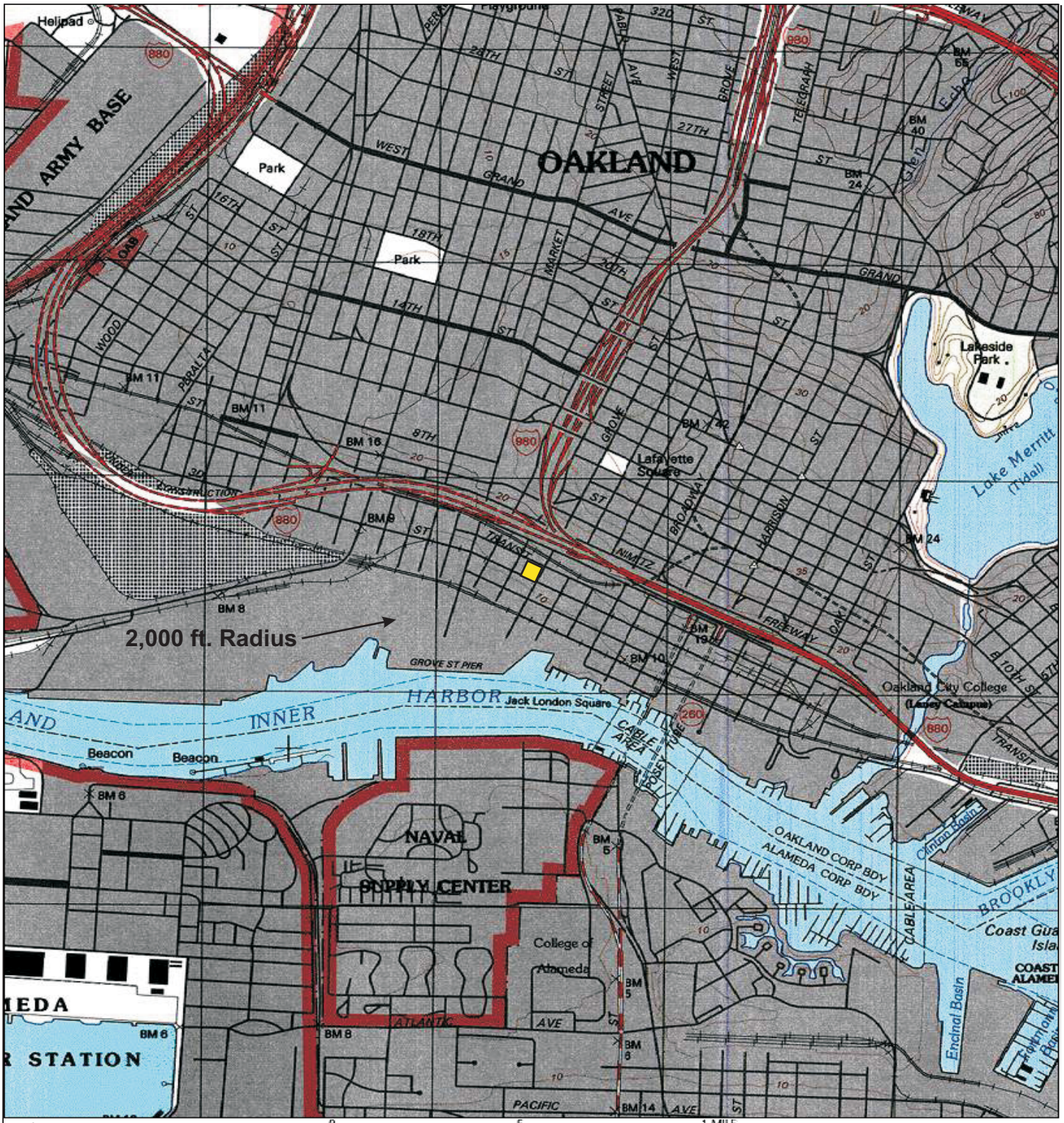
Jane and Kimball Allen (2 hard copies)
2 Lone Tree Way
Mill Valley, CA 94549

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

GeoTracker (electronic)

FIGURES

AEI CONSULTANTS



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

LEGEND

N

SITE LOCATION

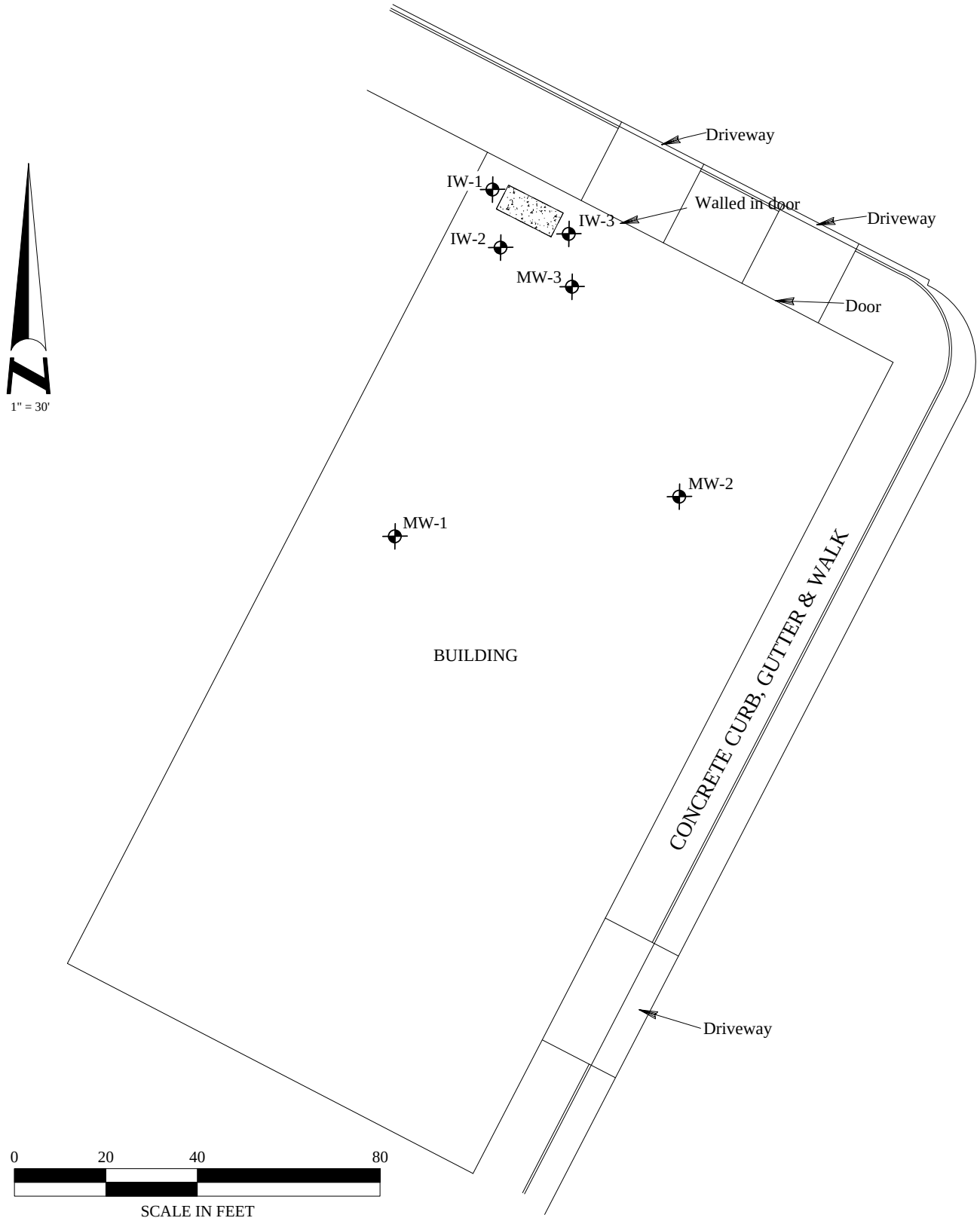
AEI CONSULTANTS

2500 Camino Diablo, Walnut Creek, CA 94597

Site Location Map

325 Martin Luther King Jr. Way
Oakland, CA 94607

FIGURE 1
Job No: 277915



2" Monitoring / Infusion Well

Abandoned in place UST

AEI CONSULTANTS

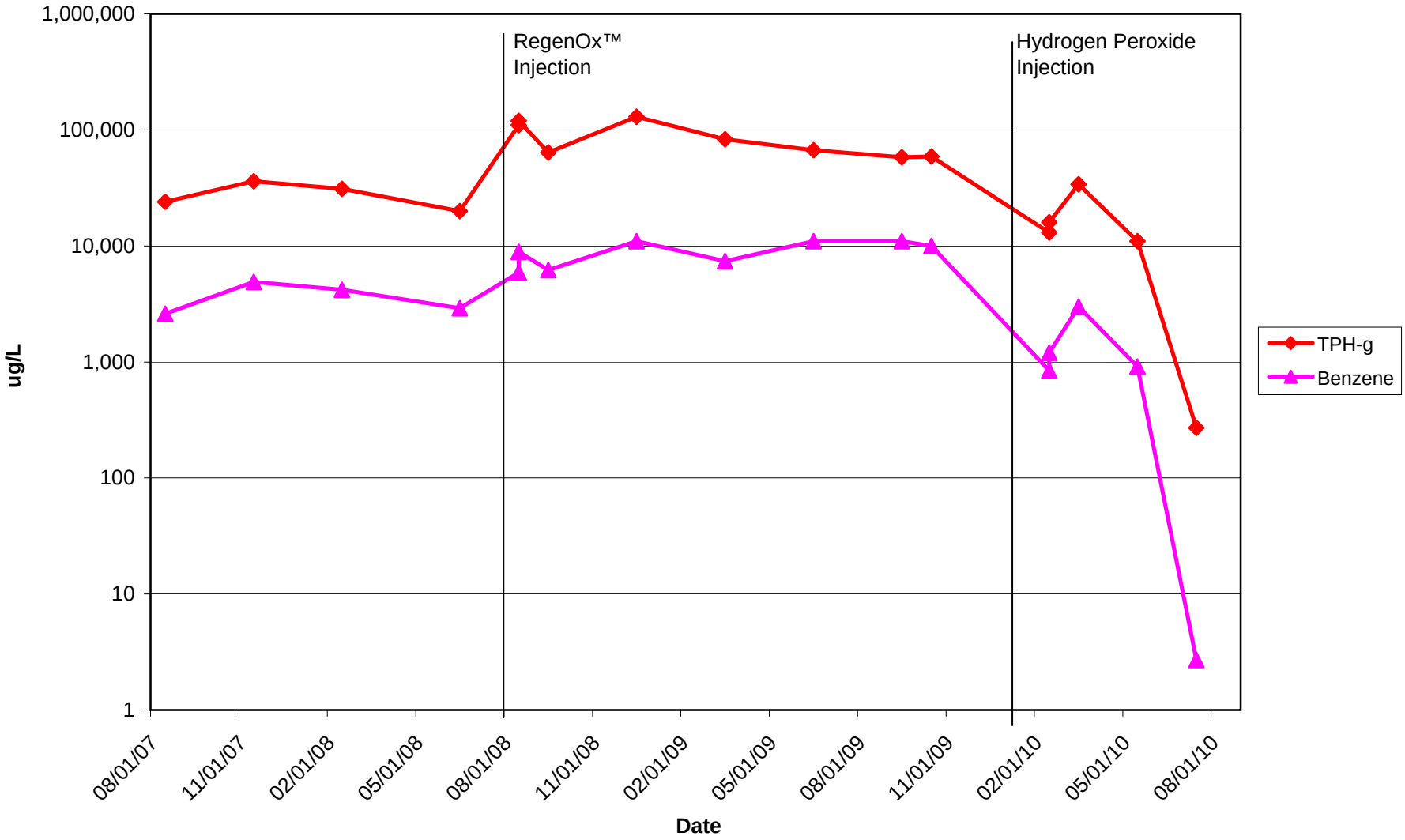
2500 Camino Diablo, Walnut Creek, CA

Site Plan

325 Martin Luther king Jr. Way
Oakland, California

FIGURE 2
AEI Project # 277915

FIGURE 3 - MW-3 TPH-g, Benzene vs. Time



TABLES

AEI CONSULTANTS

Table 1 - Well Construction Details

AEI Project # 277915

Well ID	Date Installed	Top of Casing Elevation (ft amsl)	Well Box 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	14.87*	15.34	18	8 - 18	0.010	7 - 18	# 2/12	7 - 8	0.75 - 7
MW-2	08/10/07	15.27	15.52	17	7 - 17	0.010	6 - 17	# 2/12	6 - 7	0.75 - 6
MW-3	08/10/07	15.11*	15.57	18	8 - 18	0.010	7 - 18	# 2/12	7 - 8	0.75 - 7
IW-1	02/09/10	15.23	15.61	15	5 - 15	0.010	4 - 15	2/12	3 - 4	0.5 - 3
IW-2	02/09/10	15.06	15.63	15	5 - 15	0.010	4 - 15	2/12	3 - 4	0.5 - 3
IW-3	02/09/10	15.30	15.6	15	5 - 15	0.010	4 - 15	2/12	3 - 4	0.5 - 3

Notes:
ft amsl = feet above mean sea level
14.87* = Casing elevation changes, 02/09/10

Table 2 - Groundwater Elevation Data

AEI Project # 277915

Well ID (Screen Interval)	Date Collected	Well Elevation *(ft amsl)*	Depth to Water *(ft)*	Groundwater Elevation *(ft amsl)*	Elevation Change *(ft)*
MW-1	8/21/2007	14.92	8.38	6.54	----
(8 - 18)	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
	9/18/2009	14.92	8.59	6.33	-0.28
	3/16/2010*	**14.87**	**7.80**	**7.07**	**----**
MW-2	8/21/2007	15.27	8.78	6.49	----
(7 - 17)	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
	9/18/2009	15.27	8.98	6.29	-0.27
	3/16/2010	**15.27**	**8.19**	**7.08**	**0.79**
MW-3	8/21/2007	15.26	8.59	6.67	----
(8 - 18)	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
	9/18/2009	15.26	8.78	6.48	-0.31
	10/30/2009	15.26	8.62	6.64	-0.15
	3/16/2010	15.11	7.57	7.54	----
	7/19/2010	**15.11**	**8.53**	6.58	**-0.96**
IW-1	10/30/2009	15.23	8.53	6.70	**----**
	3/16/2010	15.23	7.68	7.55	0.85
IW-2	10/30/2009	15.06	8.37	6.69	----
	3/16/2010	15.06	7.57	7.49	0.80
	7/19/2010	**15.06**	**8.29**	**6.77**	**-0.72**
IW-3	10/30/2009	15.30	8.68	6.62	----
	3/16/2010	15.30	7.82	7.48	0.86
	7/19/2010	**15.30**	**8.51**	**6.79**	**-0.69**

Notes

14.87* = Casing elevation changes, 02/09/10

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)
8	6/15/2009	6.65	-0.47	SW 0.004)
9	9/18/2009	6.37	-0.29	SW (0.006)
10**	3/16/2010	7.24	----	SW (0.006)
11†	7/19/2010	8.44	----	SW (0.006)

ft amsl = feet above mean sea level
All water level depths are measured from the top of casing
** Average calculated for all wells with 2/9/10 re-survey elevations
† = Average MW-3, IW-1, IW-3

Table 3 - Groundwater Analytical Data
AEI Project # 277915

Sample ID	Date	Depth to Water	TPHg	TPHd	MTBE	Benzene	Toluene	Ethyl benzene	Xylenes	Notes
			Method 8015		Method 8021B					
			µg/L							
MW-1	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	
	9/18/2009	8.59	<50	<50	-	<0.5	<0.5	<0.5	<0.5	
	3/16/2010		<50	-	-	<0.5	<0.5	<0.5	<0.5	
MW-2	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	
	9/18/2009	8.98	<50	<50	-	<0.5	<0.5	<0.5	<0.5	
	3/16/2010		<50	-	-	<0.5	<0.5	<0.5	<0.5	
MW-3	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	

Table 3 - Groundwater Analytical Data
AEI Project # 277915

Sample ID	Date	Depth to Water	TPHg	TPHd	MTBE	Benzene	Toluene	Ethyl benzene	Xylenes	Notes
			Method 8015		Method 8021B					
			µg/L							
MW-3 continued	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	
	9/18/2009	8.78	58,000	16,000	-	11,000	7,000	1,400	4,700	
	10/30/2009	6.64	59,000	-	-	10,000	7,100	1,200	3,900	
	2/8/2010	7.74	13,000	-	<50	840	1,500	120	1,700	After 8,000 0.5%
	2/24/2010	8.03	16,000	-	<50	1,200	1,700	200	1,900	
	3/16/2010	7.75	34,000	-	<250	3,000	4,100	580	4,100	3/16 start 7900 gal
	4/15/2010	-	-	-	-	-	-	-	-	4/15 start 7900 gal 0.5%
	5/24/2010	-	11,000	-	<250	910	1,600	120	2,400	5/24 start 7900 gal 1.25%
	7/19/2010	**8.33**	**270**	**-**	**<5.0**	**2.7**	**2.9**	**<0.5**	**4.8**	
IW-1	10/30/2009	8.53	<50	-	<5.0	<0.5	<0.5	<0.5	<0.5	
	3/16/2010	7.68	<50	<50	<5.0	<0.5	<0.5	<0.5	<0.5	
IW-2	10/30/2009	8.37	15,000	-	-	1,100	2,100	630	2,400	
	2/8/2010	7.70	630	-	<5.0	4.4	17	3.7	78	After 8,000 0.5%
	2/24/2010	-	3,500	-	<50	22	220	57	590	
	3/16/2010	7.57	20,000	-	<100	320	2,100	450	4,000	3/16 start 7900 gal
	4/15/2010	-	-	-	-	-	-	-	-	4/15 start 7900 gal 0.5%
	5/24/2010	-	190	-	<5.0	0.82	6.9	1.0	20	5/24 start 7900 gal 1.25%
	7/19/2010	**8.29**	**600**	**-**	**<5.0**	**5.8**	**43**	**5.3**	**110**	
IW-3	10/30/2009	8.68	61,000	-	<1,000	10,000	14,000	1,400	9,800	
	11/5/2009	8.60	64,000	-	<150	4,000	7,500	1,100	1,100	after 20 gallons 0.16%
	11/23/2009	-	77,000	-	<250	6,700	11,000	430	11,000	30 gallons 0.5%
	2/8/2010	7.74	18,000	-	<50	790	910	38	2,600	After 8,000 0.5%
	2/24/2010	-	36,000	-	<250	2,400	4,300	320	460	
	3/16/2010	7.82	44,000	-	<500	3,200	6,000	650	5,400	3/16 start 7900 gal 0.5%
	4/15/2010	-	-	-	-	-	-	-	-	4/15 start 7900 gal 0.5%
	5/24/2010	-	4,300	-	<60	170	430	19	680	5/24 start 7900 gal 1.25%
	7/19/2010	**8.51**	**4,100**	**-**	**<50**	**190**	**450**	**28**	**440**	

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

APPENDIX A

MONITORING WELL FIELD SAMPLING FORMS

AEI CONSULTANTS

AEI CONSULTANTS
GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-3

Project Name:	ALLEN	Date of Sampling:	7-19-10
Job Number:	270308	Name of Sampler:	Adam Hawkins
Project Address:	325 Martin Luther King Jr Way, Oakland CA		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2"		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	15.26		
Depth of Well	18.00		
Depth to Water (from top of casing)	8.53		
Water Elevation (feet above msl)	15.26		
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 (µ sec/cm)	DO (mg/L)	ORP (meV)	Comments
1126	1	18.27	6.92	770	13.80	312.4	Clear
1129	2	18.08	6.81	817	30.98	312.2	"
1132	3	18.06	6.80	819	31.08	311.4	"
1135	4	18.09	6.80	818	31.35	310.7	"
1139	5	18.14	6.80	802	31.92	310.2	"

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

Purge line @ 18.0 ft b gs

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: IW-2

Project Name:	ALLEN	Date of Sampling:	7-19-10
Job Number:	270308	Name of Sampler:	Adam Hawkins
Project Address:	325 Martin Luther King Jr Way, Oakland CA		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2"		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	15.26		
Depth of Well	18.00		
Depth to Water (from top of casing)	8.29		
Water Elevation (feet above msl)	15.26		
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 (µ sec/cm)	DO (mg/L)	ORP (meV)	Comments
1100	1	18.34	7.78	461	18.67	308.8	clear
1103	2	18.07	6.83	421	32.43	313.1	" "
1105	3	17.99	6.61	411	33.55	313.6	" "
1108	4	17.96	6.58	413	34.15	313.0	" "
1111	5	17.95	6.57	414	34.20	312.4	" "

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

Purge line @ 10.0 ft b gs

8.33

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: IW-3

Project Name:	ALLEN	Date of Sampling:	7/29/2010
Job Number:	270308	Name of Sampler:	Adam Hawkins
Project Address:	325 Martin Luther King Jr Way, Oakland CA		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2"		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	15.26		
Depth of Well	18.00		
Depth to Water (from top of casing)	8.51		
Water Elevation (feet above msl)	15.26		
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 (µ sec/cm)	DO (mg/L)	ORP (meV)	Comments
1154	1	18.91	6.08	243	3.18	306.7	Clear
1157	2	18.89	5.96	236	1.67	306.6	"
1200	3	18.90	6.93	233	1.83	305.7	"
1203	4	19.00	5.86	226	11.45	303.3	"
1206	5	18.94	5.88	226	13.67	305.6	"
1209	6	18.97	5.87	226	13.91	305.8	"

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

Purge line @ 10.0 ft b gs

APPENDIX B

LABORATORY ANALYTICAL AND CHAIN OF CUSTODY DOCUMENTATION

AEI CONSULTANTS

McCampbell Analytical, Inc.
"When Quality Counts"

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

AEI Consultants	Client Project ID: #277915; Allen	Date Sampled: 07/19/10
		Date Received: 07/19/10
2500 Camino Diablo, Ste. #200	Client Contact: Robert Flory	Date Reported: 07/23/10
Walnut Creek, CA 94597	Client P.O.: #WC082527	Date Completed: 07/22/10

WorkOrder: 1007484

July 23, 2010

Dear Robert:

Enclosed within are:

1) The results of the **3** analyzed samples from your project: **#277915; Allen,**
2) A QC report for the above samples,
3) A copy of the chain of custody, and
4) An invoice for analytical services.

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

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

McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius
Laboratory Manager
McCampbell Analytical, Inc.

107464

McCampbell Analytical, Inc.

1534 WILLOW PASS ROAD
PITTSBURG, CA 94565-1701
Telephone: (925) 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) ☐

Report To: Robert Flory	**Bill To:** Same
Company: AEI Consultants	
2500 Camino Diablo	
Walnut Creek, CA 94597	**E-Mail:** rflory@aeiconsultants.com
Tel: (925) 746-6000	**Fax:** (925) 746-6099
Project #: 277915 **PO:** WC082527	**Project Name:** Allen
Project Location: 325 Martin Luther King, Jr. Way, Oakland	
Sampler Signature:	

SAMPLE ID	LOCATION (Field Point Name)	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	MATRIX Soil	MATRIX Air	MATRIX Sludge	MATRIX Other	METHOD PRESERVED Ice	METHOD PRESERVED HCl	METHOD PRESERVED HNO_3	METHOD PRESERVED Other	BTEX & TPH as Gas (602/8021B + 8015)/MTBE	TPH- multirange (8015)	Total Petroleum Oil & Grease (5520 E&F/B&F)	Total Petroleum Hydrocarbons (418.1)	HVOCs EPA 8260 – 8010 basic list	MTBE, EDB, 1,2 DCA only (epa 602 / 8020)	Pesticides EPA 608 / 8080	PCBs EPA 608 / 8080	EPA 624 / 8260 VOCs	EPA 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421/239.2/6010)	Other	Other	Other	Other	Comments
(+) MW-3	MW-3	7/19/10	1145	3		X					X	X			X																	Filter Samples for Metals Analysis: Yes / No
(r) IW-2	IW-2		1115	3		X					X	X			X																	
(†) IW-3	IW-3		1210	3		X					X	X			X																	

Relinquished By:	Date:	Time:	Received By:
	7/19/10	233	
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

	VOAS	O&G	METALS	OTHER
ICE/t° 11.2c				
GOOD CONDITION ✓	PRESERVATION ✓			
HEAD SPACE ABSENT ✓	APPROPRIATE CONTAINERS ✓			
DECHLORINATED IN LAB _____	PERSERVED IN LAB _____			

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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1007484 **ClientCode: AEL**

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

Report to:
Robert Flory
AEI Consultants
2500 Camino Diablo, Ste. #200
Walnut Creek, CA 94597
(925) 283-6000 FAX (925) 283-6121

Email: rflory@aeiconsultants.com
cc:
PO: #WC082527
ProjectNo: #277915; Allen

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

Requested TAT: 5 days

Date Received: **07/19/2010**
Date Printed: **07/19/2010**

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
1007484-001	MW-3	Water	7/19/2010 11:45	☐	A	A										
1007484-002	IW-2	Water	7/19/2010 11:15	☐	A											
1007484-003	IW-3	Water	7/19/2010 12:10	☐	A											

Test Legend:

1	G-MBTEX_W	2	PREDF REPORT	3		4		5	
6		7		8		9		10	
11		12							

Prepared by: Melissa Valles

Comments:

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

McCampbell Analytical, Inc.
"When Quality Counts"

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

Sample Receipt Checklist

Client Name: **AEI Consultants**

Date and Time Received: **7/19/2010 4:19:14 PM**

Project Name: **#277915; Allen**

Checklist completed and reviewed by: Melissa Valles

WorkOrder N°: **1007484** 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: 11.2°C		NA ☐
Water - VOA vials have zero headspace / no bubbles?	Yes ☑	No ☐	No VOA vials submitted ☐
Sample labels checked for correct preservation?	Yes ☑	No ☐	
Metal - pH acceptable upon receipt (pH<2)?	Yes ☐	No ☐	NA ☑
Samples Received on Ice?	Yes ☑	No ☐	

(Ice Type: WET ICE)

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

Client contacted: Date contacted: Contacted by:

Comments:

McCampbell Analytical, Inc.
"When Quality Counts"

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

AEI Consultants	Client Project ID: #277915; Allen	Date Sampled: 07/19/10
		Date Received: 07/19/10
2500 Camino Diablo, Ste. #200	Client Contact: Robert Flory	Date Extracted: 07/20/10-07/22/10
Walnut Creek, CA 94597	Client P.O.: #WC082527	Date Analyzed: 07/20/10-07/22/10

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

Extraction method: SW5030B Analytical methods: SW8021B/8015Bm Work Order: 1007484

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS	Comments
001A	MW-3	W	270	ND	2.7	2.9	ND	4.8	1	105	d1
002A	IW-2	W	600	ND	5.8	43	5.3	110	1	109	d1
003A	IW-3	W	4100	ND<50	190	450	28	440	10	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	µg/L
	S	1.0	0.05	0.005	0.005	0.005	0.005	mg/Kg

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

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

%SS = Percent Recovery of Surrogate Standard
DF = Dilution Factor

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

d1) weakly modified or unmodified gasoline is significant

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"

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

QC SUMMARY REPORT FOR SW8021B/8015Bm

W.O. Sample Matrix: Water QC Matrix: Water BatchID: 51874 WorkOrder 1007484

EPA Method SW8021B/8015Bm **Extraction SW5030B** **Spiked Sample ID: 1007420-002A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex)£	ND	60	121	119	1.46	123	128	3.48	70 - 130	20	70 - 130	20
MTBE	ND	10	97.6	105	7.02	102	114	11.1	70 - 130	20	70 - 130	20
Benzene	ND	10	92.5	94.3	1.91	90.1	94.5	4.81	70 - 130	20	70 - 130	20
Toluene	ND	10	91.4	93.2	1.98	89	93.6	5.02	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	91.9	93.4	1.64	90.1	94.7	4.91	70 - 130	20	70 - 130	20
Xylenes	ND	30	91.6	93.3	1.89	89.7	94.6	5.37	70 - 130	20	70 - 130	20
%SS:	104	10	93	92	0.260	92	91	1.39	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 51874 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1007484-001A	07/19/10 11:45 AM	07/22/10	07/22/10 1:14 AM	1007484-002A	07/19/10 11:15 AM	07/20/10	07/20/10 9:00 PM
1007484-003A	07/19/10 12:10 PM	07/20/10	07/20/10 9:32 PM				

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

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

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

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

cluttered chromatogram; sample peak coelutes with surrogate peak.

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

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