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 attached reports is true and correct to the best of my knowledge.

Signed: Jesse A. Allen

Date 10-6-11

September 30, 2011

Third Quarter 2011 Progress Monitoring Report and Workplan for Hydrogen Peroxide Infusion

Property Identification:
325 Martin Luther King Jr. Way
Oakland, California

AEI Project No. 277915
ACEH Site: RO0002930

Prepared for:
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1.0 INTRODUCTION

AEI Consultants (AEI) has prepared this report to document the ongoing groundwater remediation 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 remediation progress and groundwater quality in the vicinity of the identified release of gasoline at the site. This report presents the findings of the third quarter 2011 progress groundwater monitoring event conducted on August 9, 2011 at the site and includes a workplan for additional remediation to complete removal of the residual source material at the site.

2.0 SITE DESCRIPTION AND HISTORY

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 gasoline UST that currently exists below the north side of the building. The gasoline UST was used to provide fuel for the Pucci Enterprises truck fleet.

2.1 Tank Closure

On October 20, 1993, the tank was abandoned in place 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. However; 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 at that time, no documentation was available of sampling around the tank prior to abandonment.

2.2 2005 AEI Investigation

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.

2.3 2005 Terra Firma Investigation

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

2.4 2006 Ceres Investigation

In June 2006, Ceres Associates (Ceres) advanced five soil borings (SB5 through SB9). The highest concentrations of hydrocarbons in the soil were reported in boring SB-7 (located southeast of the UST) where 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 SB7 reported TPH-g, TPH-d, and benzene at concentrations of 110,000 µg/l, 110,000 µg/l, and 3,300 µg/l, respectively. Concentrations of TPH-g in the other soil borings ranged from ND <50 µg/l (SB5-GW) to 610 µg/l (SB8-GW).

2.5 LRM Consulting Workplan

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.

2.6 2007 AEI Investigation

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 the drilling of additional twelve (12) soil borings at the property. Significant concentrations of TPH-g, TPH-d, and benzene in the soil were reported only in monitoring well MW-3 (MW-3-10), located down gradient of abandoned UST, at concentrations of 1,500 mg/kg, 240 mg/kg, and 6.0 mg/kg, respectively. Low concentrations (<210 µg/l) of TPH were reported down gradient of the abandoned UST in soil boring SB-10, SB-12, SB-13, SB-16, SB-17, SB-18, and SB-19.

Data from these investigations demonstrate that the dissolved hydrocarbon plume is limited to the eastern most portion of 325 Martin Luther King Jr. Way, immediately down gradient of the abandoned in place UST. 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 TPH-g, TPH-d and benzene were reported only in well MW-3 at concentrations of 24,000 µg/l, 1,200 µg/l, and 2,600 µg/l, respectively. A site map and well construction details are contained in AEI's *Monitoring Well Installation Report*, dated September 21, 2008.

2.7 Chemical Oxidation Pilot Test

A *Corrective Action Pilot Test Workplan*, dated April 7, 2008, was prepared for the ACEH. The workplan proposed five injection points around monitoring well MW-3 using a RegenOx™ solution. 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 was the result of release of hydrocarbons adsorbed to clay, silt and sand grains in the smear zone (between 9 - 11 feet bgs).

This significant increase in TPH-g concentration indicated 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. AEI determined that H_2O_2 infusion through permanently installed wells was 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.

2.8 H^2O^2 Infusion

In December of 2009, a 2,400 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 and IW-3.

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. TPH-g in MW-3 decreased from 59,000 µg/L on October 30, 2009 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 3,500 µg/L on February 24, 2010. IW-3 decreased from 77,000 µg/L on November 23, 2009 to 36,000 µg/L on February 24, 2010.

On March 16, 2010, prior to starting a second round of H^2O^2, AEI conducted the regularly scheduled groundwater-monitoring event at the site. TPH-g in wells MW-1 and MW-2 remained below standard reporting limits. TPH-g concentrations in MW-3, IW-2, and IW-3 rebounded to 34,000 µg/L, 20,000 µg/L, and 44,000 µg/L, respectively.

Between March 16, 2010 and May 12, 2010, 9,400 gallons of 0.5% H^2O^2 were infused into wells IW-2 and IW-3. Between May 24, 2010 and June 29, 2010, 4,900 gallons of 1.25% H^2O^2 were infused primarily into well IW-3.

Progress monitoring sampling was performed on May 24, July 19, and August 5, 2010. The results of the progress sampling through July 19, 2010 is summarized in Table 3 and in the *Hydrogen Peroxide Infusion Report* dated July 30, 2010.

Following the Third Quarter 2010 semi-annual monitoring event on September 9, 2010 hydrogen peroxide infusion into well IW-3 was resumed. Between September 21, 2010 and December 29, 2010 an additional 18,000 gallons of 0.5 % hydrogen peroxide was infused in well IW-3.

All onsite wells were sampled during the regularly scheduled First Quarter 2011 semiannual monitoring event on March 24, 2011. No TPH-g or BTEX was reported in wells MW-1, MW-2, IW-1, or IW-2 at standard laboratory reporting limits.

TPH-g was reported in wells MW-3 and IW-3 at concentrations of 140 μg/L and 390 μg/L respectively.

TPH-g in well IW-3 decreased to a concentration of 390 μg/L. Benzene increased to a concentration of 3.7μg/L. TPH-d was reported at a concentration of 290 μg/L.

3.0 SUMMARY OF GROUNDWATER SAMPLING ACTIVITIES

On August 9, 2011, wells IW-2, IW-3, and MW-3 were sampled for TPH-g, TPH-d and MBTEX to determine whether significant rebound was occurring.

The well cap was removed from each well to be sampled. Approximately two gallons was purged from each well with the bottom of the drop tube placed at approximately 10 feet bgs and then a water sample collected was collected using the peristaltic pump. The water samples were collected in hydrochloric acid (HCl) preserved one liter amber bottles and 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 entered on an appropriate chain-of-custody form and placed on water ice in an ice chest pending same day transportation under chain of custody protocols to McCampbell Analytical, Inc. of Pittsburg, California (Department of Health Services Certification # 1644). The samples were analyzed for TPH-g and MBTEX using methods SW8021B/8015Bm and for TPH-d using method SW8015B.

4.0 ANALYTICAL RESULTS

TPH-g and benzene concentrations in well MW-3 increased from concentrations of 140 μg/L and 4.9 μg/L, respectively on March 24, 2011 to 590 μg/L and 38 μg/L, respectively on August 9, 2011. The concentration of TPH-d increased from ND<50 μg/L to 200 μg/L.

TPH-g concentration in well IW-2 increased from ND<50 μg/L on March 24, 2011 to 1,700 μg/L and on August 9, 2011. Benzene concentration in well IW-2 increased from ND<50 μg/L on March 24, 2011 to 40 μg/L and on August 9, 2011.

TPH-g and benzene concentrations in well IW-3 increased from concentrations of 390 μg/L and 3.7 μg/L, respectively on March 24, 2011 to 9,600 μg/L and 2,400 μg/L, respectively on August 9, 2011. The concentration of TPH-d increased from 290 μg/L to 800 μg/L.

5.0 SUMMARY

The rebound in hydrocarbon concentrations in wells IW-1, IW-3, and MW-3 indicate that some residual soil source remains in the soil underlying the site. The lower rebound seen in well MW-3 relative to wells IW-2 and IW-3 suggest the bulk of the soil residual appears to be located up gradient of wells IW-2 and IW-3.

AEI recommends additional H^2O^2 infusion following installation of an additional up gradient infusion well (IW-4) and re-completion of wells MW-3, IW-2 and IW-3 to restore the surface seals which failed during the last round of H^2O^2 infusion. The workplan for additional remediation can be found below in Section 6.0.

6.0 WORKPLAN FOR WELL INSTALLATION AND ADDITIONAL REMEDIATION

AEI proposes the following additional remediation at the subject site:

- Installation of one additional infusion point up gradient of IW-1 and IW-3.
- Re-complete well MW-3, IW-2 and IW-3 to repair the surface seals that failed during the previous rounds of H^2O^2 infusion.
- Perform additional H^2O^2 to reduce residual soil contamination to acceptable levels.

6.1 Installation of well IW-4

AEI proposes to install additional infusion well (IW-4) to be located between the UST and the footing of the northeast wall of the building. The well will be installed under an Alameda County Public Works Agency (ACPWA) permit by a C57 licensed drilling contractor. The well will be installed in a boring drilled with a limited-access rotary drilling rig, using nominal 8¼-inch diameter hollow stem augers. The borehole will be advanced to a target depth of 15 feet bgs. The well will be constructed with 5-feet of 2-inch diameter factory slotted 0.010 inch well screen and 10 feet of blank 2-inch diameter blank riser. A traffic rated well box will be installed at the surface.

The well casings will be installed through the augers. The casing will be flush threaded PVC. An annular sand pack will be installed through the augers, to approximately 1 foot above the top of slotted casing, in 1-foot lifts. A bentonite seal will be placed above the sand and the remainder of the boring will be sealed with cement grout. Each well will be finished with an expanding, lockable inner cap and a flush-mounted well box.

The wells will be developed no sooner than 3 days after setting the well seals by surging, bailing, and purging to stabilize the sand pack and remove accumulated fines from the casing and sand pack. The new well will be surveyed relative to texisting wells and mean sea level by a California licensed land surveyor, with accuracy appropriate for Geotracker uploads.

Drilling cuttings and other investigation-derived waste (IDW) will be stored onsite in sealed 55-gallon drums, pending the results of sample analyses. Equipment rinse water and well purge water will be stored in 55-gallon drums. Upon receipt of necessary analytical results, the waste will be profiled for disposal and transported from the site under appropriate manifest to approved disposal or recycling facility(s).

6.2 Recompletion of Wells MW-3, IW-2, and IW-3

Infusion wells IW-1, IW-2, and IW-3 were installed with screened intervals from 5 to 15 feet bgs to allow the peroxide to disperse above the smear zone. Unfortunately during early infusion events where a significant head was applied to these wells, their seals failed and peroxide travelled under across the top of the sediment. Some peroxide came to the surface in floor joints near IW-2 and in the MW-3 well box where the seal between surface seal and the well box and floor was weak. A new well box was placed over MW-3 with a good seal between the surface seal, box and concrete floor. It is not clear whether the surface seal in well MW-3 was damaged.

For this reason AEI is proposing that at the same time that well IW-4 is being installed, that IW-1, IW-2, and IW-3 be recompleted with 5-feet of screen as proposed for well IW-4 above. The installation and recompletion can all be done on a single permit. This should reduce the potential for peroxide break-through to the surface, allowing a higher head during infusion.

6.3 Perform Additional Hydrogen Peroxide Infusions

Past infusion events have shown that a concentration of 0.05% of H^2O^2 is sufficient to raise dissolved oxygen (DO) concentrations in the water to above 20 mg/L. This results in an increase in biomass and rapid biodegradation of hydrocarbons in the soil and groundwater.

AEI plans to allow infusion of a 0.05 % H^2O^2 solution of water into wells IW-1 through IW-4 with an approximately 3.5 to 5 feet of hydraulic head. The wells will be directly manifolded to the tank with individual metering valves. Each well will have a clear poly tube attached to a riser on the well which will prevent a gas bubble forming in the wellhead and tubing and preventing fluid from entering the well. The ends of each of the clear poly tubes will be secured inside the top of the tank to contain any blowback caused by excess oxygen production.

AEI expects that approximately 15,000 gallons of 0.05% H^2O^2 infused over a 2 to 3 month period will be sufficient to reduce the residual hydrocarbons to a level low enough that the natural oxygen content (1.8 – 2.0 mg/L) of the groundwater coming on to the site can maintain a sufficient biomass to ultimately reduce the concentrations of hydrocarbons to acceptable levels.

6.4 Groundwater Monitoring

Following completion of the installation of IW-4 and recompletion of wells MW-3, IW-2, and IW-3, a regular groundwater monitoring event including all seven (7) wells on the site will be performed. One month after completion of infusion activities a second monitoring event will be performed. Water samples will be analyzed for TPH-g, MBTEX by method SW8021B/8015Bm and for 7 fuel additives by method 8260B.

6.5 Reporting

AEI will prepare a technical report following the installation of well IW-4, recompletion of wells MW-3, IW-2, and IW-3, and the initial monitoring event. The report will summarize the well construction activities and the results of the groundwater monitoring event. A second technical report will be prepared following completion of peroxide infusion and the second monitoring event. This report will summarize infusion activities and the results of the groundwater monitoring event.

7.0 REPORT LIMITATIONS AND SIGNATURES

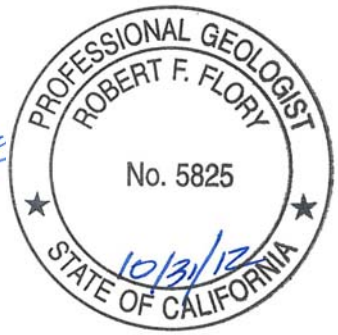
This report presents a summary of work completed by AEI, including observations and descriptions of site conditions. Where appropriate, it includes analytical results for samples taken during the course of the work. The number and location of samples are chosen to provide requested information, but it cannot be assumed that they are entirely representative of all areas not sampled. All conclusions and recommendations are based on these analyses and observations. 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 and construction field that existed at the time and location of the work. If you have any questions regarding this report, we can be reached at (925) 746-6000.

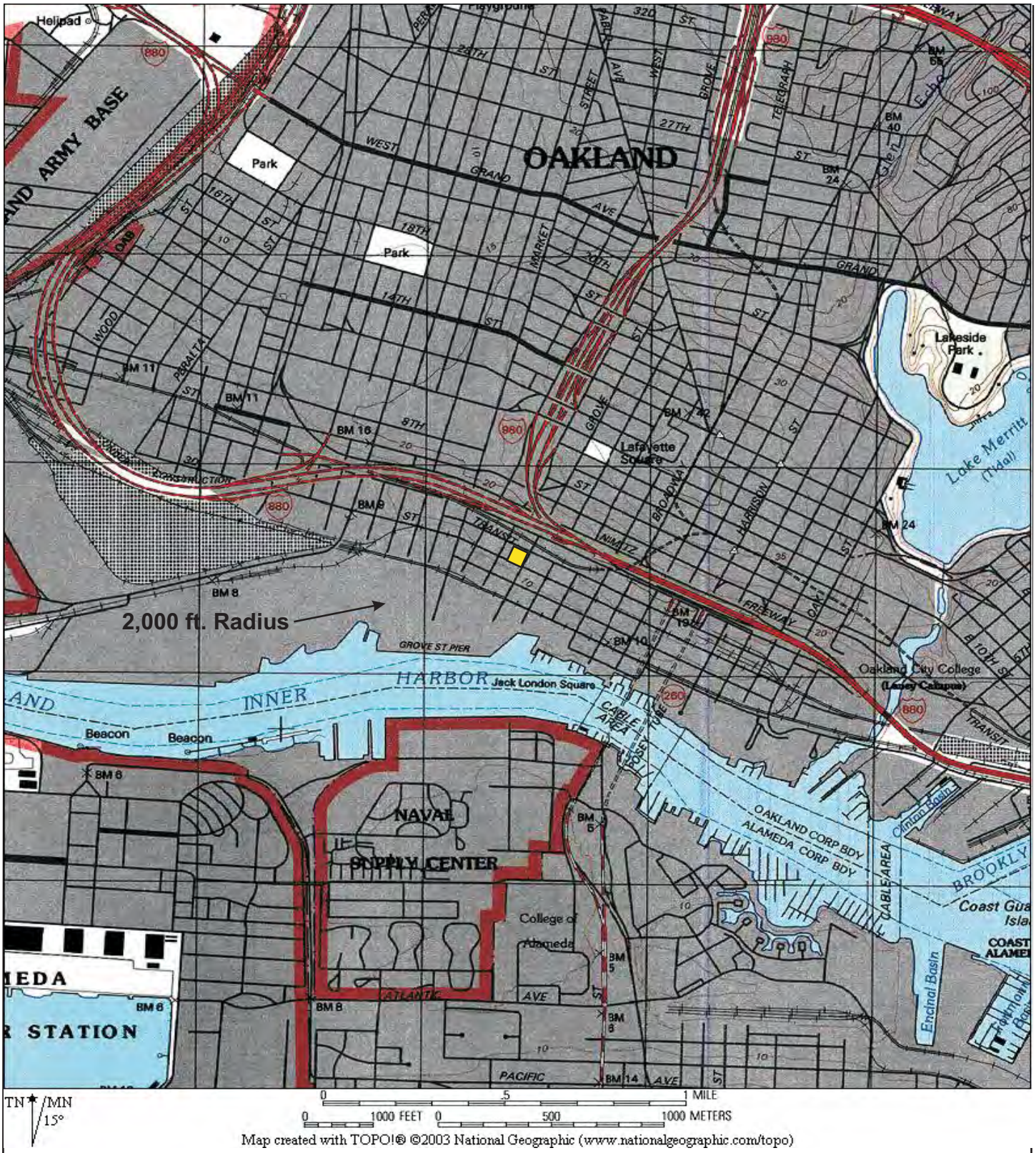
Sincerely,
AEI Consultants

Adrian M. Angel, GIT
Project Geologist

Robert F. Flory, PG
Senior Geologist



FIGURES



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

LEGEND

N

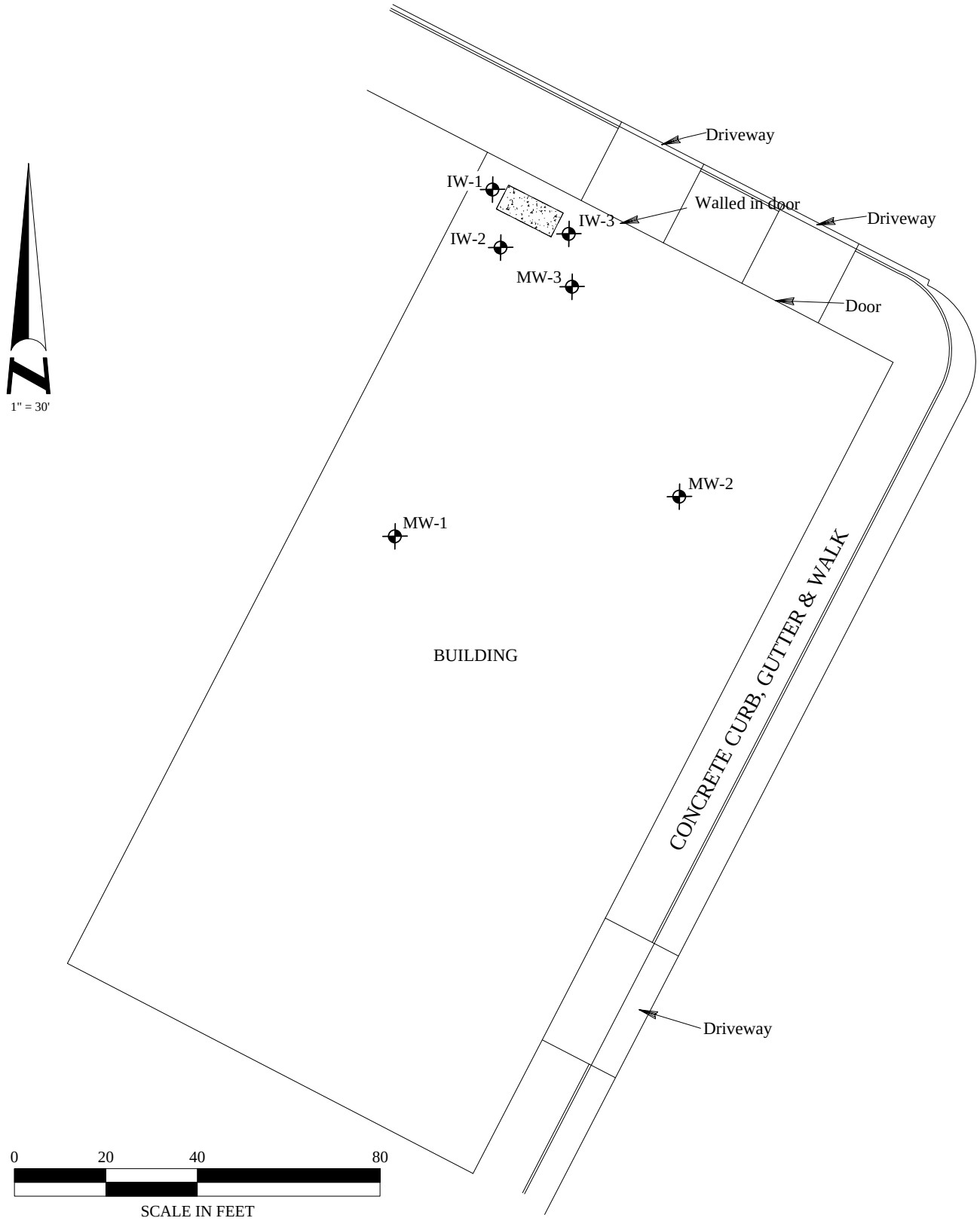
SITE LOCATION

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

Well Survey

325 Martin Luther King Jr. Way
Oakland, CA 94607

FIGURE 1
Job No: 270308



2" Monitoring / Infusion Well

Abandoned in place UST

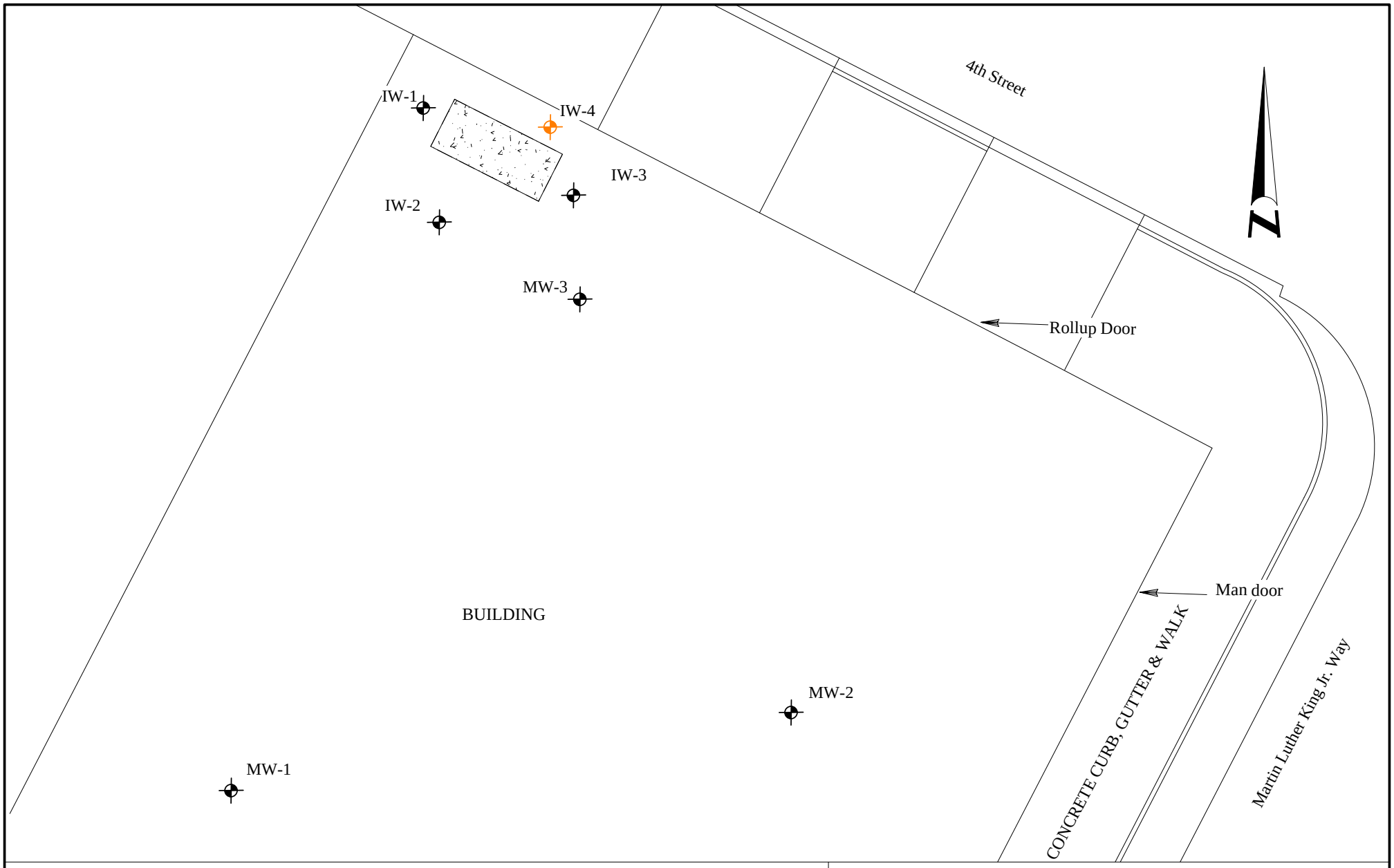
AEI CONSULTANTS

2500 Camino Diablo, Walnut Creek, CA

Site Plan

325 Martin Luther king Jr. Way
Oakland, California

FIGURE 2
AEI Project # 277915



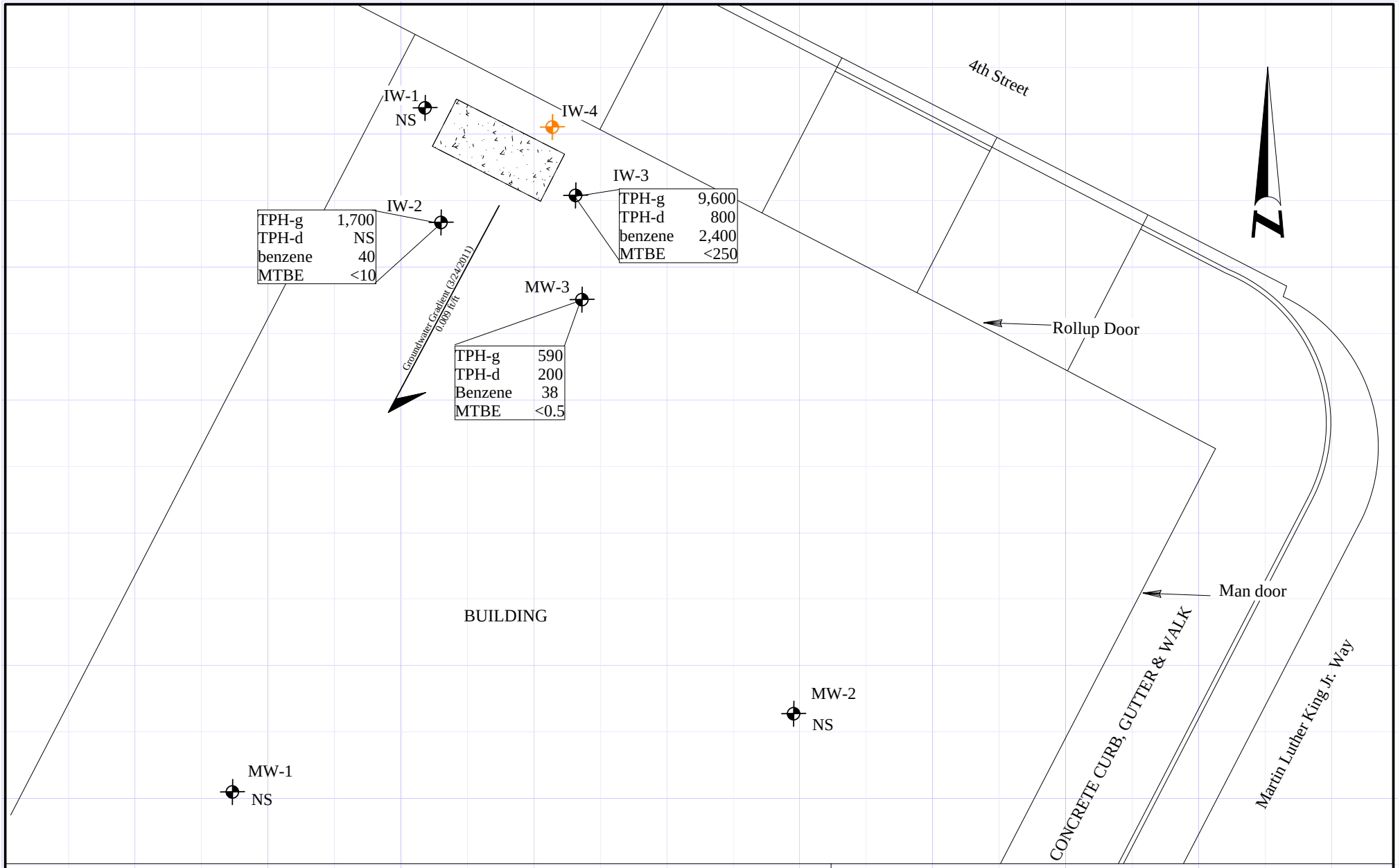
AEI CONSULTANTS

2500 Camino Diablo, Walnut Creek, CA

Detail Site Plan

325 Martin Luther king Jr. Way
Oakland, California

FIGURE 3
AEI Project # 277915



AEI CONSULTANTS

2500 Camino Diablo, Walnut Creek, CA

Groundwater Analytical Data (9/8/2011)

325 Martin Luther king Jr. Way
Oakland, California

FIGURE 4
AEI Project # 277915

TABLES

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
Proposed well/re-completion										
IW-2A	----	----	----	16	11-16	0.010	10-16	2/12	9-10	0.5-9
IW-3A	----	----	----	16	11-16	0.010	10-16	2/12	9-10	0.5-9
IW-4	----	----	----	16	11-16	0.010	10-16	2/12	9-10	0.5-9

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	----
	9/9/2010	14.87	8.75	6.12	-0.95
	3/24/2011	**14.87**	**7.66**	**7.21**	**1.09**
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
	9/9/2010	15.27	9.04	6.23	-0.85
	3/24/2011	**15.27**	**7.89**	**7.38**	**1.15**
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
	9/9/2010	15.11	8.73	6.38	-0.20
	3/24/2011	**15.11**	**7.35**	**7.76**	**1.38**

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)*
IW-1	10/30/2009	15.23	8.53	6.70	**----**
	3/16/2010	15.23	7.68	7.55	0.85
	9/9/2010	15.23	8.72	6.51	-1.04
	3/24/2011	15.23	**7.36**	**7.87**	**1.36**
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
	9/9/2010	15.06	8.62	6.44	-0.33
	3/24/2011	**15.06**	**7.26**	**7.80**	**1.36**
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
	9/9/2010	15.30	8.83	6.47	-0.32
	3/24/2011	**15.30**	**7.44**	**7.86**	**1.39**

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	9/9/2010	**6.36**	----	SW (0.005)
12	**3/24/2011**	**7.65**	**1.29**	**SW (0.009)**

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
			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	7.80	<50	-	-	<0.5	<0.5	<0.5	<0.5
	9/9/2010	7.75	<50	-	-	<0.5	<0.5	<0.5	<0.5
	3/24/2011	**7.66**	**<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	8.19	<50	-	-	<0.5	<0.5	<0.5	<0.5
	9/9/2010	9.04	<50	-	-	<0.5	<0.5	<0.5	<0.5
	3/24/2011	**7.89**	**<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
	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
	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
	4/15/2010	-	-	-	-	-	-	-	-
	5/24/2010	-	11,000	-	<250	910	1,600	120	2,400
	7/19/2010	8.33	270	-	<5.0	2.7	2.9	<0.5	4.8
	8/5/2010	8.35	350	-	<5.0	15.0	6.3	4	46
	9/9/2010	8.67	1,200	360	-	57.0	8.3	18	160
	12/29/2010	-	130	-	<5.0	0.79	1.2	<0.5	3.1
	2/7/2011	-	<50	-	<5.0	2.3	1.0	<0.5	6.4
	3/24/2011	7.35	140	<50	<5.0	4.9	6.7	0.6	19.0
	8/9/2011	-	**590**	**200**	**<5.0**	**38.0**	**2.3**	**<0.5**	**60.0**

Table 3 - Groundwater Analytical Data
AEI Project # 277915

Sample ID	Date	Depth to Water	TPHg	TPHd	MTBE	Benzene	Toluene	Ethyl benzene	Xylenes
			Method 8015		Method 8021B				
			µg/L						
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
	9/9/2010	8.73	<50	-	-	<0.5	<0.5	<0.5	<0.5
	3/24/2011	7.36	<50	-	-	<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
	2/24/2010	-	3,500	-	<50	22	220	57	590
	3/16/2010	7.57	20,000	-	<100	320	2,100	450	4,000
	4/15/2010	-	-	-	-	-	-	-	-
	5/24/2010	-	190	-	<5.0	0.82	6.9	1.0	20
	7/19/2010	8.29	600	-	<5.0	5.8	43	5.3	110
	8/5/2010	8.39	340	-	<5.0	1.8	14	2.7	74
	9/9/2010	8.62	5,100	660	-	59.0	330	57.0	1,100
	12/29/2010	-	<50	-	<5.0	<0.5	<0.5	<0.5	0.62
	2/7/2011	-	<50	<50	<5.0	<0.5	<0.5	<0.5	0.98
	3/24/2011	7.26	<50	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	8/9/2011	-	**1,700**	-	**<10**	**40**	**2.5**	**1.9**	**270**
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
	11/23/2009	-	77,000	-	<250	6,700	11,000	430	11,000
	2/8/2010	7.74	18,000	-	<50	790	910	38	2,600
	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
	4/15/2010	-	-	-	-	-	-	-	-
	5/24/2010	-	4,300	-	<60	170	430	19	680
	7/19/2010	8.51	4,100	-	<50	190	450	28	440
	8/5/2010	8.56	5,400	-	<50	360	780	62	730
	9/9/2010	8.83	22,000	3,230	-	1,800	3,900	310	3,300
	12/29/2010	-	<50	-	<5.0	<0.5	<0.5	<0.5	<0.5
	2/7/2011	-	2,700	870	<50	180	330	18	360
	3/24/2011	7.44	390	290	<5.0	3.7	7.4	2.4	53
	8/9/2011	-	**9,600**	**800**	**<250**	**2400**	**940**	**150**	**1300**
GW ESL (NDW) Gross Contaminat			2,500	2,500	1,800	2,000	400	300	5,300
GW ESL (NDW) Aquatic Habitat			210	210	1,800	46	130	43	100

Notes:

TPHg = total petroleum hydrocarbons as gasoline (C6-C12)

TPHd = total petroleum hydrocarbons as diesel (C10-

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

Laboratory Analytical Reports
With
Chain of Custody Documentation

McCampbell Analytical, Inc.
"When Quality Counts"

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

Analytical Report

AEI Consultants	Client Project ID: #277915; Allen	Date Sampled: 08/09/11
		Date Received: 08/09/11
2500 Camino Diablo, Ste. #200	Client Contact: Robert Flory	Date Reported: 08/16/11
Walnut Creek, CA 94597	Client P.O.: #WC083225	Date Completed: 08/12/11

WorkOrder: 1108267

August 16, 2011

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.

The analytical results relate only to the items tested.

1108267

McCAMPBELL ANALYTICAL INC.

1534 Willow Pass Road
Pittsburg, CA 94565
Telephone: (925) 252-9262 Fax: (925) 252-9269

CHAIN OF CUSTODY RECORD

TURN AROUND TIME RUSH 24 HR 48 HR 72 HR **5 DAY**

EDF Required? ■ Yes ☐ No | Email PDF Report: YES

Report To: Robert Flory	Bill To: Same
Company: AEI Consultants	PO #: WC083225
2500 Camino Diablo	
Walnut Creek, CA 94597	E-Mail: rflory@aeiconsultants.com
Tel: (925) 746-6000	Fax: (925) 946-6099
Project #:277915	Project Name: Allen
Project Location: 325 Martin Luther King Jr. Way	
Sampler Signature:	

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	Soil	Air	Sludge	Other	METHOD PRESERVED Ice	HCl	HNO_3	Other	MBTEX & TPH as Gas (602/8020 + 8015)	TPH as Diesel (8015) w/ silica gel cleanup	Total Petroleum Oil & Grease (5520 E&F/B&F)	Total Petroleum Hydrocarbons (418.1)	HVOCs EPA 8260 (8010 list)	BTEX ONLY (EPA 602 / 8020)	Pesticides EPA 608 / 8080	PCBs EPA 608 / 8080	VOCs EPA 624 / 8260	EPA 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421/239.2/6010)	Diss Hexachrome (E218.6)	Arsenic, Barium, Cadmium, Total Chromium, Copper, total Iron, Lead, Selenium (E200.8)	5 Fuel Additives , EDB, and 1,2-DCA (8260)	TPH-g (TO-3) + MBTEX (TO-15)	2-propanol (TO-15)	Comments
MW-3						X					X	X			X	X																			
IW-2						X					X	X			X																				
IW-3						X					X	X			X	X																			

Relinquished By:	Date:	Time:	Received By:
Regina Rippelle	8/9/11	4:55	
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

ICE/t° 2.4 VOAS | O&G | METALS | OTHER
GOOD CONDITION ____ PRESERVATION ____ | ____ | ____ | ____
HEAD SPACE ABSENT ____ APPROPRIATE
DECHLORINATED IN LAB ____ CONTAINERS ____
PERSERVED IN LAB ____

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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1108267 **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: #WC083225
ProjectNo: #277915; Allen

Bill to:
Sara Guerin
AEI Consultants
2500 Camino Diablo, Ste. #200
Walnut Creek, CA 94597
sguerin@aeiconsultants.com

Requested TAT: 5 days

Date Received: **08/09/2011**
Date Printed: **08/09/2011**

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
1108267-001	MW-3	Water	8/9/2011	☐	A	A	B									
1108267-002	IW-2	Water	8/9/2011	☐	A											
1108267-003	IW-3	Water	8/9/2011	☐	A		B									

Test Legend:

1	G-MBTEX_W	2	PREDF REPORT	3	TPH(D)WSG_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.

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Sample Receipt Checklist

Client Name: **AEI Consultants**
Date and Time Received: **8/9/2011 5:34:22 PM**
Project Name: **#277915; Allen**
Checklist completed and reviewed by: Ana Venegas
WorkOrder N°: **1108267** 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: 2.6°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:

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AEI Consultants	Client Project ID: #277915; Allen	Date Sampled: 08/09/11
		Date Received: 08/09/11
2500 Camino Diablo, Ste. #200	Client Contact: Robert Flory	Date Extracted: 08/10/11-08/12/11
Walnut Creek, CA 94597	Client P.O.: #WC083225	Date Analyzed: 08/10/11-08/12/11

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

Extraction method: SW5030B Analytical methods: SW8021B/8015Bm Work Order: 1108267

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS	Comments
001A	MW-3	W	590	ND	38	2.3	ND	62	1	91	d1
002A	IW-2	W	1700	ND<10	40	2.5	1.9	270	2	106	d1
003A	IW-3	W	9600	ND<250	2400	940	150	1300	10	106	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"

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AEI Consultants	Client Project ID: #277915; Allen	Date Sampled: 08/09/11
		Date Received: 08/09/11
2500 Camino Diablo, Ste. #200	Client Contact: Robert Flory	Date Extracted 08/09/11
Walnut Creek, CA 94597	Client P.O.: #WC083225	Date Analyzed 08/12/11-08/15/11

Total Extractable Petroleum Hydrocarbons with Silica Gel Clean-Up*

Extraction method: SW3510C/3630C Analytical methods: SW8015B Work Order: 1108267

Lab ID	Client ID	Matrix	TPH-Diesel (C10-C23)	DF	% SS	Comments
1108267-001B	MW-3	W	200	1	112	e2
1108267-003B	IW-3	W	800	1	103	e4,e2

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

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

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract/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:
e2) diesel range compounds are significant; no recognizable pattern
e4) gasoline range compounds are significant.

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

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QC SUMMARY REPORT FOR SW8021B/8015Bm

W.O. Sample Matrix: Water QC Matrix: Water BatchID: 60304 WorkOrder: 1108267

EPA Method: SW8021B/8015Bm **Extraction: SW5030B** **Spiked Sample ID: 1108290-067A**

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	79.8	88.2	9.96	88.1	89.3	1.27	70 - 130	20	70 - 130	20
MTBE	ND	10	118	122	3.39	108	111	2.77	70 - 130	20	70 - 130	20
Benzene	ND	10	103	111	6.69	105	101	3.63	70 - 130	20	70 - 130	20
Toluene	ND	10	92.8	98.9	6.29	91.9	90.3	1.75	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	94.8	97.4	2.71	92.3	91.4	1.00	70 - 130	20	70 - 130	20
Xylenes	ND	30	109	110	1.31	105	103	1.18	70 - 130	20	70 - 130	20
%SS:	98	10	100	105	4.44	102	99	3.08	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 60304 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1108267-001A	08/09/11	08/10/11	08/10/11 4:22 PM	1108267-002A	08/09/11	08/12/11	08/12/11 2:08 AM
1108267-003A	08/09/11	08/11/11	08/11/11 6:25 AM				

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

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

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

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

cluttered chromatogram; sample peak coelutes with surrogate peak.

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

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

DHS ELAP Certification 1644 QA/QC Officer

McCampbell Analytical, Inc.
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QC SUMMARY REPORT FOR SW8015B

W.O. Sample Matrix: Water QC Matrix: Water BatchID: 60286 WorkOrder: 1108267

EPA Method: SW8015B **Extraction: SW3510C/3630C** **Spiked Sample ID: N/A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH-Diesel (C10-C23)	N/A	1000	N/A	N/A	N/A	83.5	89.8	7.28	N/A	N/A	70 - 130	30
%SS:	N/A	625	N/A	N/A	N/A	80	90	11.5	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 60286 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1108267-001B	08/09/11	08/09/11	08/12/11 6:23 AM	1108267-003B	08/09/11	08/09/11	08/15/11 1:57 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.

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

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

DHS ELAP Certification 1644

QA/QC Officer