February 29, 2008

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Alameda County Environmental Health

# GROUNDWATER MONITORING REPORT First Quarter, 2008

807 75th Avenue Oakland, California

AEI Project No. 262157 ACHCS # RO0000508

Prepared For

Mr. Allan Kanady Omega Termite 807 75th Avenue Oakland, CA 95621

Prepared By

AEI Consultants 2500 Camino Diablo Blvd. Walnut Creek, CA 94597 (925) 944-2899



ENVIRONMENTAL & ENGINEERING SERVICES

February 29, 2008

Mr. Allan Kanady Omega Termite 807 75th Avenue Oakland, CA 95621

Subject: Quarterly Groundwater Monitoring Report First Quarter, 2008 807 75th Avenue Oakland, California AEI Project No. 262157 ACHCS # RO0000508

Dear Mr. Kanady:

AEI Consultants (AEI) has prepared this report to document the results of the First Quarter, 2008 groundwater monitoring event at the above referenced site (Figure 1: Site Location Map). This groundwater investigation has been performed in accordance with the requirements of the Alameda County Health Care Services Agency (ACHCSA). The purpose of this activity is to monitor groundwater quality near the location of previously removed underground storage tanks (USTs) at the site.

#### Site Description and Background

The site is located in an industrial area of the City of Oakland, on the northern corner of the intersection of 75<sup>th</sup> Avenue and Snell Street, just east of San Leandro Street. The property is approximately 10,000 square feet in size and currently developed with two buildings, occupied by Omega Termite.

On September 15, 1996, AEI removed three (3) gasoline USTs from the subject property. The tanks consisted of one 8,000-gallon UST, one 1,000-gallon UST, and one 500-gallon UST. The former locations of the tanks are shown on Figure 2. Soil and groundwater samples collected during the tank removal activities revealed that a release had occurred from the tank system. Total petroleum hydrocarbons as gasoline (TPH-g), benzene, and methyl tertiary butyl ether (MTBE) were detected in the soil samples at concentrations up to 4,300 mg/kg, 13 mg/kg, and 25 mg/kg, respectively.

In October 1997, soil and groundwater samples were collected from six (6) soil borings (BH-1 through BH-6). In June 1999, four (4) groundwater monitoring wells (MW-1 through MW-4) were also installed by AEI. The construction details for the groundwater monitoring wells on site are

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summarized in Table 1. Monitoring well locations are shown on Figure 2. Historical groundwater elevation and historical groundwater sample analytical data are presented in Tables 2 and 3.

Under the direction of the ACHCSA, additional soil was removed from the excavation in March 2000. The excavation was extended to 29 by 48 feet in size and 8 feet deep at the east end of the excavation and 11.5 at the west end. During the excavation activities, an additional 500-gallon UST was discovered at the eastern end of the excavation. This tank was removed under the direction of Oakland Fire Services Agency (OFSA). Six additional soil samples were collected from the sidewalls and bottom of the excavation.

The resulting excavation was then backfilled with pea gravel to bridge the water table, with the remainder of the excavation being filled with the previously aerated soil and later with imported fill. The newly excavated soil was stockpiled on the northern portion of the property. A total of 7,400 gallons of hydrocarbon-impacted groundwater were pumped from the excavation, treated on-site, and discharged to the sanitary sewer system under an East Bay Municipal Utility District permit.

On October 9 and 10, 2003, AEI drilled seven temporary Geoprobe® boreholes (SB-7 through SB-13) to depths ranging from 15 to 20 feet bgs to further delineate the lateral extent of contamination in the Shallow aquifer. One borehole, SB-14 was advanced to a depth of 30 feet bgs to determine if the second aquifer at the site had been impacted. Soil samples were collected in the vadose zone above the first aquifer and from the aquitard between the first and second aquifers. The results of chemical analyses of soil samples collected and analyzed during this investigation and earlier investigations appear to have effectively defined the limits of impacted soil in the vadose zone. A significant amount of impacted soil appears remain in the immediate vicinity of boring SB-14.

The analysis of the water sample from the second aquifer (Soil Boring SB-14, 28 feet bgs) reported TPH-g, TPH-d, MTBE and benzene at concentrations of 2,300  $\mu$ g/L, 72,000  $\mu$ g/L, 45  $\mu$ g/L and 120 ug/L, respectively. Light non-aqueous phase liquid was observed on the sampler and in the water sample.

On February 15 and February 16, 2006, AEI advanced five soil borings (MW-6 through MW-10) on the site, and completed the borings as groundwater monitoring wells. The Monitoring wells were drilled with a Marl 2.5 D drilling rig. Shallow Zone well MW-6 and Deeper Zone wells MW-7 through MW-10, were drilled with nominal 8-inch diameter hollow stem augers and completed as 2" groundwater monitoring wells. The details of the well completions are summarized in Table 1.

These and existing well were sampled on March 13, 2006. Maximum concentrations of TPH-g, TPH-d, and TPH-mo reported from the Shallow Zone were 3,200  $\mu$ g/L (MW-1), 2,400  $\mu$ g/L (MW-2), and 320  $\mu$ g/L (MW-1), respectively. The maximum concentrations of benzene reported was 1,400  $\mu$ g/L in MW-1.

Maximum concentrations of TPH-g, TPH-d, and TPH-mo reported from the Deeper Zone were 1,100  $\mu$ g/L, 14,000  $\mu$ g/L, and 4,100  $\mu$ g/L, respectively in MW-9 with the notation of light

immiscible hydrocarbons present in the sample. The maximum concentration of benzene reported was  $85 \mu g/L$  in MW-9.

The results of this investigation are summarized in *Deeper Aquifer Soil and Groundwater Investigation Report*, April 28, 2006.<sup>(7)</sup>

In a letter dated May 25, 2006, the ACHCSA requested a work plan for installation and pilot testing of the ozone sparging system recommended by AEI. The *Well and Ozone Micro-Sparge System Installation Work Plan*<sup>(8)</sup> was approved by the ACHCSA in a letter dated August 11, 2006. The Ozone Micro-Sparge System was installed during February and March and began continuous operation in early May.

## **Geology and Hydrology**

The site is located at an elevation approximately 11 feet above mean sea level (msl). The site is essentially flat; however, the general topography of the area slopes gently to the west. The surface sediments at the site are mapped as Holocene natural levee and basin deposits (Qhl and Qhb, OF 97-97, E.J. Helley and R.W. Graymer). The Natural Levee Deposits (Holocene) are described as "loose, moderately to well-sorted sandy or clayey silt grading to sandy or silty clay". The Basin Deposits (Holocene) are described as "very fine silty clay to clay deposits occupying flat-floored basins at the distal edge of alluvial fans adjacent to the bay mud (Qhbm)". The presence of gravels in several of the onsite soil borings indicates that stream channel deposits are also present.

Based on the soil borings advanced by AEI, the near surface sediments beneath the site can be divided into several water bearing zones which are separated by clay layers. Sediments immediately below the surface consist of black to gray brown to olive brown silty clay depths ranging from 7.5 to 10 feet bgs. No groundwater was encountered during drilling of this interval.

The surface clay is underlain by variable and somewhat discontinuous silty sand and clayey silt, which make up the Shallow Zone. The Shallow Zone extends from the base of the surface clay to depths ranging from 18 to 21 feet bgs. This zone has low to medium permeability. Groundwater is typically seen in the first permeable silt or sand encountered during drilling of this interval. Once encountered, groundwater level typically stabilizes at a depth of 5 feet bgs or less, indicating the zone is at least a semi-confined aquifer.

The Shallow Zone is underlain by several feet of moderately dry light olive brown to yellowish brown clay, except in MW-7, drilled through the former tank hold, in which the clay exhibited significant discoloration (dark greenish gray clay).

At depths ranging from 18 ft (MW-9) to 21 feet (MW-8) bgs second (intermediate) discontinuous water bearing zone (Intermediate Zone) is present. The Intermediate Zone consists of discontinuous gravel, clayey gravel, and silty sand, clayey sand, and clayey silt which are interbedded with clay layers. Permeability in the Intermediate Zone ranges from high (gravel) to poor (clayey silt). The

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Intermediate Zone is separated from the Deeper Zone by a layer of brown silty clay that ranges in thickness of 2 to 7 feet.

A third water bearing zone (Deeper Zone) was encountered at a depth of approximately 27 to 28 feet bgs. The lower permeable zone is made up of clayey silt, clayey sand, clean sand and sandy gravel.

### **Summary of Activities**

AEI conducted quarterly groundwater sampling and monitoring of five Shallow Zone monitoring wells (MW-1 through MW-4 and MW-6) and six deeper Zone wells (MW-7 through MW-12) on January 18, 2008. Backfill well TW-5, which has been damaged and is scheduled for destruction, was not sampled.

Prior to measuring the depth to water, the well caps were removed and the water levels in each well were allowed to equilibrate with atmospheric pressure for at least 15 minutes. The depth to groundwater (from the top of the well casings) for each well was then measured with an electric water level indicator. The wells were then purged using a battery-powered submersible pump. Approximately three (3) well volumes were removed from each well. During purging activities, the groundwater parameters: temperature, pH, specific conductivity, dissolved oxygen (DO), and oxidation-reduction potential (ORP) were measured. A visual evaluation of turbidity was made and noted. Groundwater parameters measured in the field are reported on the field sampling forms included in Appendix A.

Following recovery of water levels to 90% of the original level, water samples were collected from each well. Groundwater samples were collected using new disposable bailers and placed into 40-milliliter (ml) Volatile Organic Analysis (VOA) vials and 1-liter amber bottles. The VOAs were filled so that no headspace or air bubbles were visible within the sample containers. Samples were transported in a cooler on ice under appropriate chain-of-custody protocol to McCampbell Analytical, Inc. of Pacheco, California (Department of Health Services Certification #1644).

Groundwater samples from the wells were analyzed for TPH-g, benzene, toluene, ethyl benzene, xylenes (BTEX), MTBE by SW8021B/8015Cm, and TPH-d (as diesel) and TPH-mo (as motor oil) by SW8015C.

## **Field Results**

Groundwater elevations in the Shallow Zone monitoring wells ranged from 5.96 (MW-6) to 6.24 (MW-3, and MW-4)) feet above mean sea level (amsl). These elevations are an average of 0.65 feet higher than the previous quarterly monitoring event. The groundwater hydraulic gradient in the Shallow Zone is 0.003 ft/ft to the northwest.

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Groundwater elevations in the Deep Zone monitoring wells ranged from 6.09 (MW-9) to 7.07 (MW-8) feet amsl. These elevations are an average of 0.96 feet higher than the previous quarterly monitoring event. The groundwater hydraulic gradient in the Deep Zone is 0.015 ft/ft to the southeast.

Current and historical groundwater elevation data are summarized in Tables 3 and 3a. The groundwater elevation contours and the groundwater flow directions are presented in Figures 3 and 4. Groundwater Monitoring Well Field Sampling Forms are presented Appendix A.

## **Groundwater Quality**

TPH-g, Benzene, and Xylene concentrations in Shallow Zone monitoring well MW-1 increased from 500  $\mu$ g/L to 4,400  $\mu$ g/L, from 140  $\mu$ g/L to 1,300  $\mu$ g/L, and from 8.0  $\mu$ g/L to 84  $\mu$ g/L respectively. TPH-d, Toluene, and Ethylbenzene concentration in MW-1 increased slightly from 440 $\mu$ g/L to 560  $\mu$ g/L, from ND <0.5 to 2.5  $\mu$ g/L, and from 1.8  $\mu$ g/L to 11  $\mu$ g/L. TPH-mo remained at 260 $\mu$ g/L.

TPH-g and TPH-d concentrations in Shallow Zone monitoring well MW-2 increased from 660  $\mu$ g/L to 2,200 and from 1,300  $\mu$ g/L to 3,200 $\mu$ g/L respectively. TPH-mo, Benzene and Toluene increased slightly to 350  $\mu$ g/L, to 4.1  $\mu$ g/L, and to 3.7  $\mu$ g/L, respectively. Ethylbenzene and Xylene concentrations decreased slightly to 26  $\mu$ g/L and to 40  $\mu$ g/L.

TPH-g, Benzene, Toluene, Ethylbenzene, and Xylene concentrations in Shallow Zone monitoring well MW-3 increased slightly to 470  $\mu$ g/L, to 29  $\mu$ g/L, to 1.5  $\mu$ g/L, to 34  $\mu$ g/L, and to 20 $\mu$ g/L, respectively. TPH-d concentrations decreased slightly to 200  $\mu$ g/L and TPH –mo remained at ND<250  $\mu$ g/L.

TPH-g, Benzene, Ethylbenzene, and Xylene concentrations in Shallow Zone monitoring well MW-4 decreased slightly 100  $\mu$ g/L, to 18  $\mu$ g/L, to 6.2  $\mu$ g/L, and to 1.4  $\mu$ g/L. TPH-d, TPH-mo and Toluene concentrations remained below standard laboratory detection levels.

Ethylbenzene concentration increased slightly in Shallow Zone monitoring well MW-6 to 1.3  $\mu$ g/L. TPH-d concentration decreased to ND<50  $\mu$ g/L. TPH-g, TPH-mo, MTBE, Benzene, Toluene, Xylene concentrations all remained below standard laboratory detection levels.

TPH-g, TPH-d, TPH-mo, MTBE, and BTEX, concentrations remained below standard laboratory detection limits in Deep Zone monitoring well MW-7.

TPH-g, TPH-d, TPH-mo, MTBE, and BTEX, concentrations remained below standard laboratory detection limits in Deep Zone monitoring well MW-8.

The Benzene concentration in Deep Zone monitoring well MW-9 increased from ND< $0.5 \mu g/L$  to 100  $\mu g/L$ . TPH-d, TPH-g, Ethylbenzene, and Xylene concentrations increased slightly to 160  $\mu g/L$ ,

to 250  $\mu$ g/L, to 1.3  $\mu$ g/L and to 7.6  $\mu$ g/L, respectively. TPH-mo, MTBE and Toluene concentrations remained below standard laboratory detection levels.

TPH-g and TPH-d concentrations in Deep Zone monitoring well MW-10 increased slightly to 79  $\mu$ g/L and to 220  $\mu$ g/L respectively. MTBE, BTEX and TPH-mo remained below laboratory detection levels.

TPH-g, TPH-d, TPH-mo, MTBE and BTEX were all reported below laboratory detection levels in Deeper Zone monitoring wells MW-11 and MW-12.

A summary of groundwater analytical data is presented in Table 2 and Figure 5. TPH-g contaminant isopleths of the Shallow Zone wells is presented in Figures 6. Laboratory results and chain of custody documents are included in Appendix B.

### Summary

Overall the contaminant concentrations in the Shallow Zone monitoring wells are continuing on an overall downward trend, further indication that the operation of the ozone injection system is having an effect on hydrocarbon concentrations.

There was a slight increase in contamination concentrations in the Deep Zone monitoring wells; however all wells remain very low in hydrocarbon concentration levels.

The next quarterly groundwater monitoring event is tentatively scheduled for June, 2008.

## **Report Limitations and Signatures**

This report presents a summary of work completed by AEI Consultants, 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 required 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, observations, and the governing regulations. Conclusions beyond those stated and reported herein should not be inferred from this document.

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These services were performed in accordance with generally accepted practices in the geologic, environmental engineering and construction fields that existed at the time and location of the work.

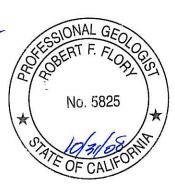
Please contact Robert F. Flory at (925) 944-2899 extension 122, if you have any questions regarding the findings and recommendations included in this report.

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Sincerely, AEI Consultants

Russell Bartlett Staff Scientist

Robert F. Flory, P.G. Senior Geologist



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# Attachments

# Figures

Figure 1	Site Location Map
Figure 2	Site Plan
Figure 3	Groundwater Elevation Contours – Shallow Zone (1/18/08)
Figure 4	Groundwater Elevation Contours – Deeper Zone (1/18/08)
Figure 5	Analytical Results (1/18/08)
Figure 6	TPH-g Shallow Zone Isopleths (1/18/08)

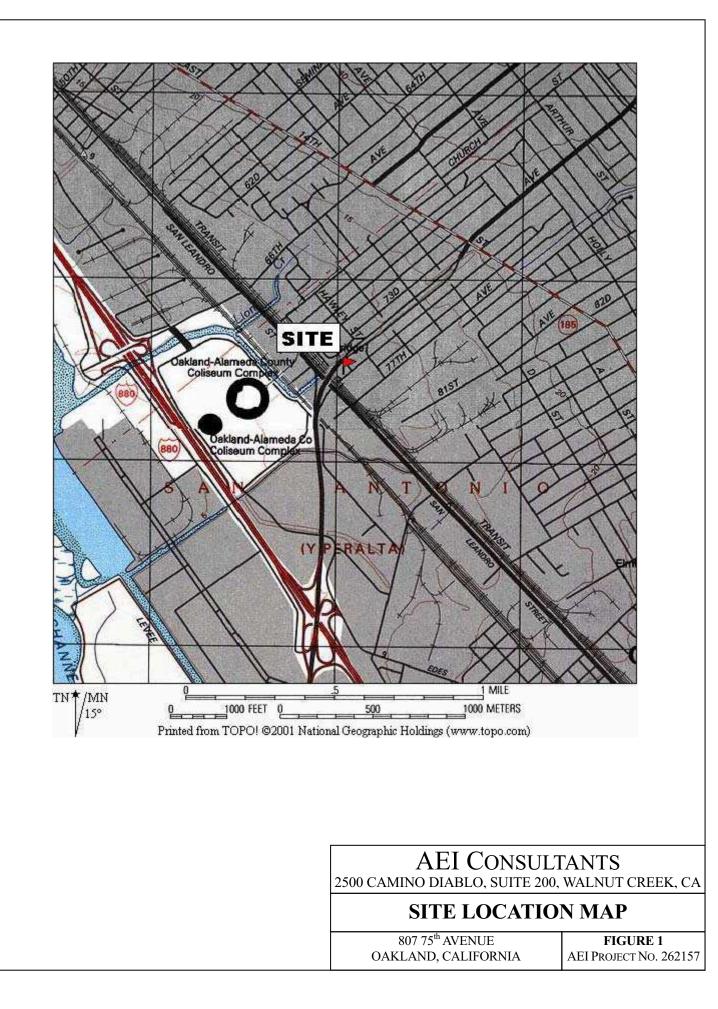
# Tables

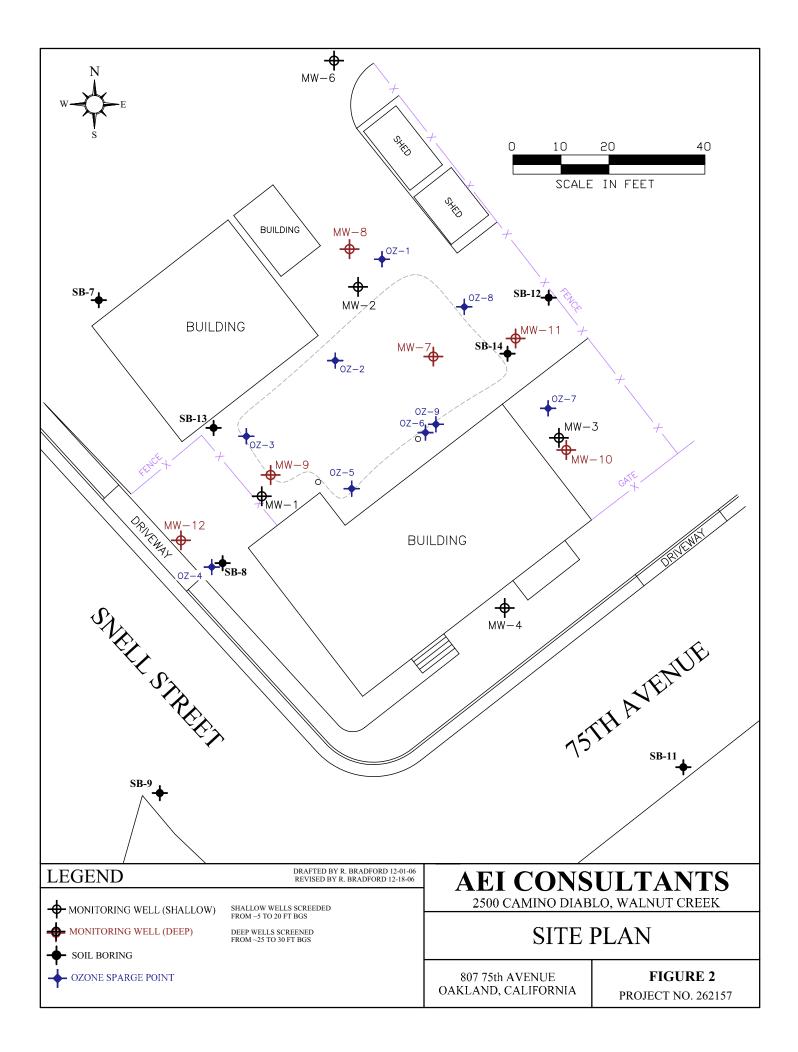
Table 1	Groundwater Elevation Data
Table 2	Groundwater Analytical Data
Table 3	Groundwater Elevation and Flow Direction Summary
Appendix A	Groundwater Monitoring Well Field Sampling Forms
Appendix B	Laboratory Analytical Documentation and Chain of Custody Documentation

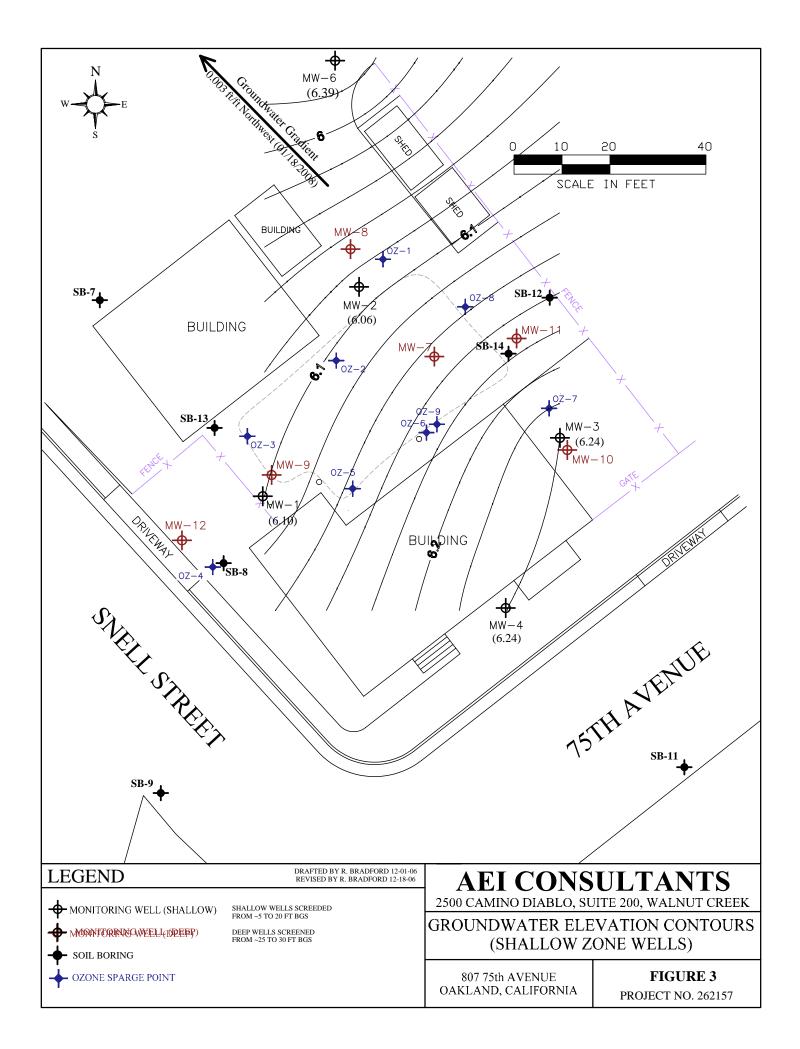
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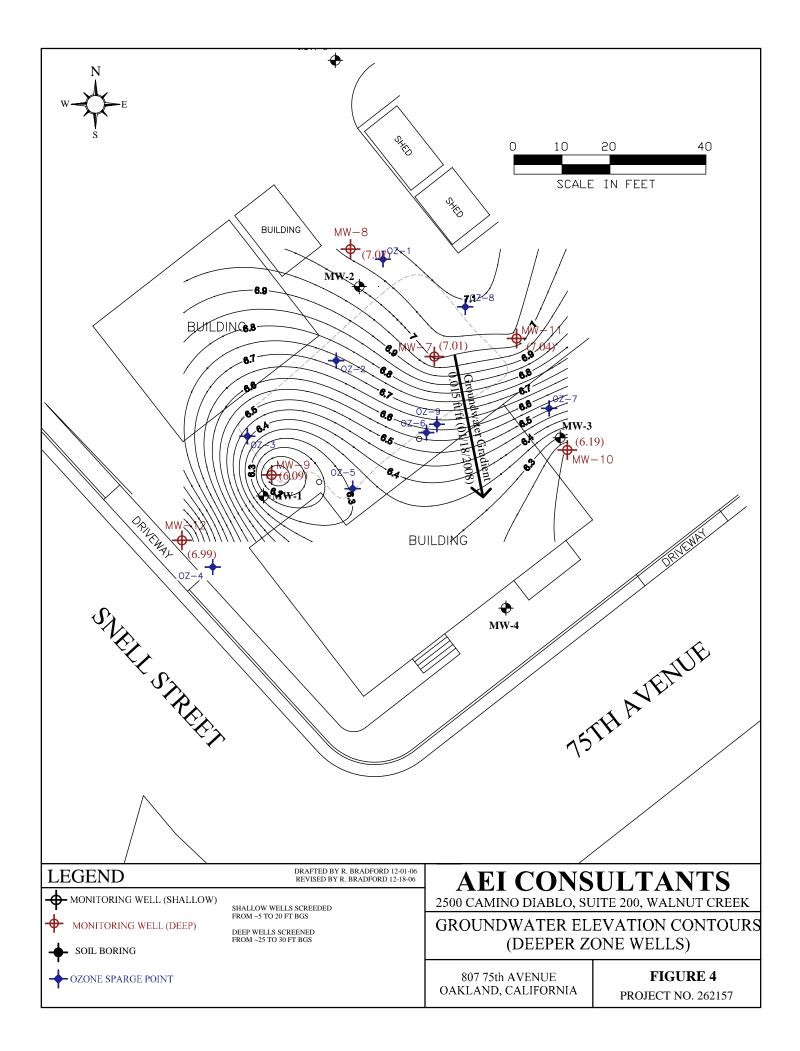
Mr. Allan Kanady Omega Termite 807 75th Avenue Oakland, CA 95621	(2 copies)
Mr. Jerry Wickham Alameda Health Care Services Agency 1131 Harbor Bay Parkway, Suite 250 Alameda, CA 94502	electronic
Betty Graham San Francisco Bay Regional Water Quality Control Board 1515 Clay Street, Suite 1400 Oakland CA 94612	electronic
GeoTracker	

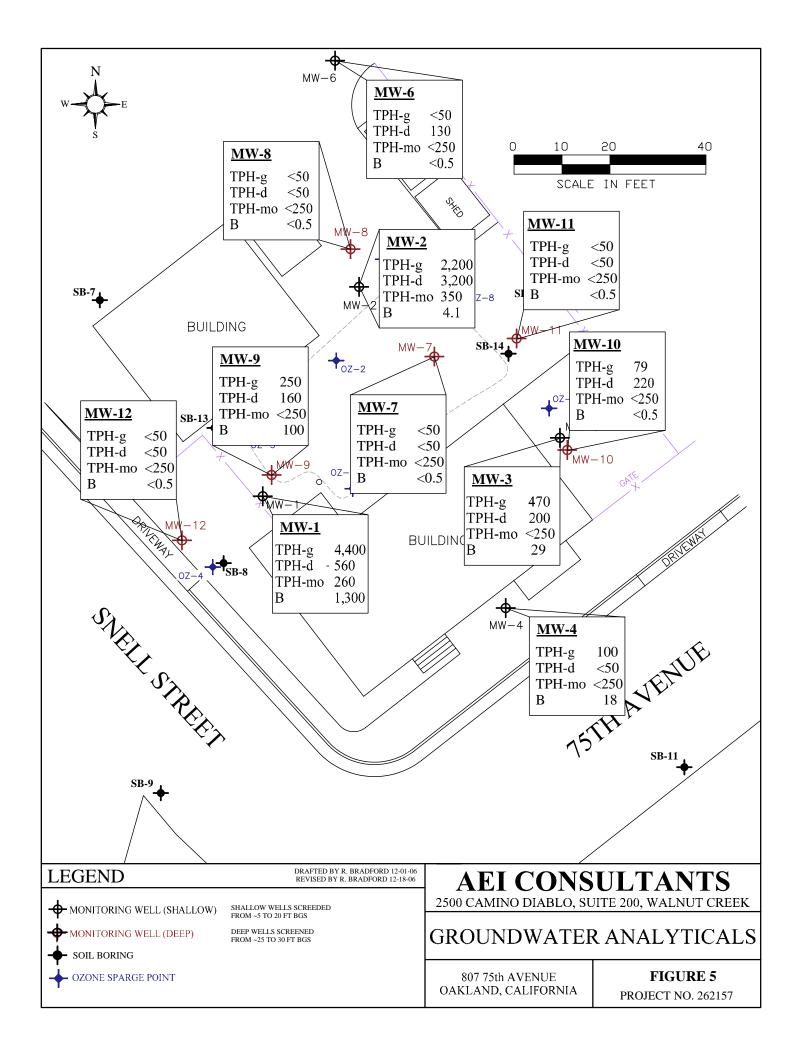
**FIGURES** 

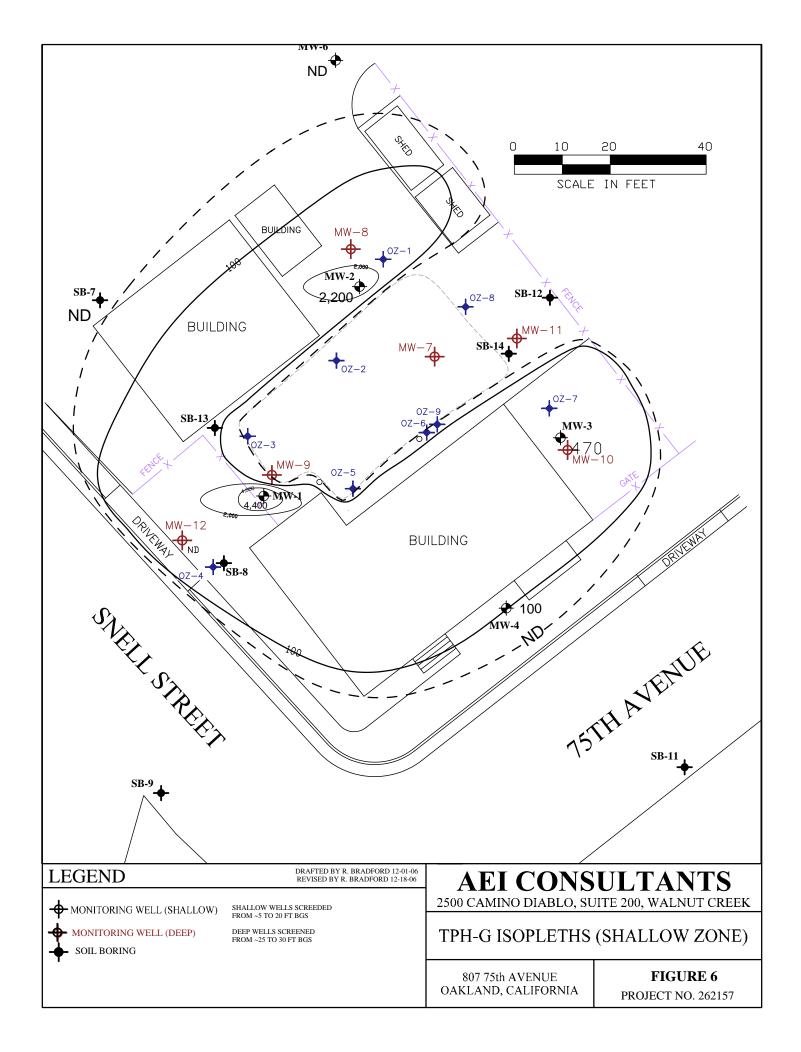












TABLES

Well ID	Date	Well Elevation *	Depth to Water	Groundwater Elevation	Elevation Change
		(ft amsl)	( <b>ft</b> )	(ft amsl)	(ft)
MW-1	07/30/99	10.68	5.82	4.86	
	11/09/99	10.68	5.70	4.98	0.12
	02/23/00	10.68	2.84	7.84	2.86
	05/26/00	10.68	5.50	5.18	-2.66
	10/10/00	10.68	5.70	4.98	-0.20
	02/07/01	10.68	5.25	5.43	-0.20
	05/25/01	10.68	5.25	5.43	0.00
	09/19/01	10.68	5.51	5.17	-0.26
	02/06/02	10.68	NM	NM	NM
	05/17/02	10.68	5.30	5.38	
	08/20/02	10.68	5.39	5.29	-0.09
	01/10/03	10.68	4.11	6.57	1.28
	04/14/03	10.68	4.85	5.83	-0.74
	07/14/03	10.68	5.08	5.60	-0.23
	10/14/03	10.68	5.63	5.05	-0.55
	01/13/04	10.68	4.53	6.15	1.10
	04/15/04	10.68	5.14	5.54	-0.61
	07/15/04	10.68	5.42	5.26	-0.28
	10/18/04	10.68	5.24	5.44	0.18
		10.68	4.47	6.21	0.18
	01/25/05				
	04/19/05	10.68	4.66	6.02	-0.19
	07/18/05	10.68	4.91	5.77	-0.25
	10/18/05	10.68	5.24	5.44	-0.33
	11/03/05	10.68	5.31	5.37	-0.07
	01/11/06	10.68	4.08	6.60	1.23
	03/13/06	10.68	3.76	6.92	0.32
	06/15/06	10.68	4.79	5.89	-1.03
	08/02/06	10.68	5.14	5.54	-0.35
	09/20/06	10.68	5.38	5.30	-0.24
	01/02/07	10.68	4.64	6.04	0.74
	6/6/2007	10.68	5.14	5.54	-0.50
	10/04/07	10.68	5.32	5.36	-0.18
	01/18/08	10.68	4.58	6.10	0.74
MW-2	07/30/99	12.15	6.64	5.51	
141 44 -2	11/09/99	12.15	6.42	5.73	0.22
	02/23/00	12.15	3.31	8.84	3.11
	05/26/00	12.15	6.34	5.81	-3.03
	10/10/00	12.15	6.52	5.63	-0.18
	02/07/01	12.15	5.90	6.25	0.62
	05/25/01	12.15	6.08	6.07	-0.18
	09/19/01	12.15	6.53	5.62	-0.45
	02/06/02	12.15	5.72	6.43	0.81
	05/17/02	12.15	6.17	5.98	-0.45
	08/20/02	12.15	NM	NM	NM
	01/10/03	12.15	5.12	7.03	
	04/14/03	12.15	4.98	7.17	0.14
	07/14/03	12.15	5.99	6.16	-1.01
		12.15	6.43	5.72	-0.44
	10/14/03				
	01/13/04	12.15	5.42	6.73	1.01
	04/15/04	12.15	6.02	6.13	-0.60
	07/15/04	12.15	5.27	6.88	0.75
	10/18/04	12.15	6.12	6.03	-0.85
	04/19/05	12.15	5.61	6.54	0.51
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Well ID	Date	Well Elevation *	Depth to Water	Groundwater Elevation	Elevation Change
		(ft amsl)	( <b>ft</b> )	(ft amsl)	(ft)
MW-2	10/19/05	12.15	6.17	5.98	-0.33
continued	11/03/05	12.15	6.21	5.94	-0.04
	01/11/06	12.15	5.11	7.04	1.10
	03/13/06	12.15	5.24	6.91	-0.13
	06/15/06	12.15	6.23	5.92	-0.99
	09/20/06	12.15	6.63	5.52	-0.40
	01/02/06	12.15	6.09	6.06	0.54
	6/6/2007	12.15	6.57	5.58	-0.48
	10/04/07	12.15	6.63	5.52	-0.06
	01/18/08	12.15	6.06	6.09	0.57
MW-3	07/30/99	10.40	5.35	5.05	
	11/09/99	10.40	5.11	5.29	0.24
	02/23/00	10.40	2.37	8.03	2.74
	05/26/00	10.40	4.98	5.42	-2.61
	10/10/00	10.40	5.24	5.16	-0.26
	02/07/01	10.40	4.73	5.67	0.51
	05/25/01	10.40	4.73	5.67	0.00
	09/19/01	10.40	5.07	5.33	-0.34
	02/06/02	10.40	4.69	5.71	0.38
	05/17/02	10.40	4.80	5.60	-0.11
	08/20/02	10.40	4.97	5.43	-0.17
	01/10/03	10.40	3.59	6.81	1.38
	04/14/03	10.40	5.40	5.00	-1.81
	07/14/03	10.40	4.69	5.71	0.71
	10/14/03	10.40	5.16	5.24	-0.47
	01/13/04	10.40	4.15	6.25	1.01
	04/15/04	10.40	4.73	5.67	-0.58
	07/15/04	10.40	5.03	5.37	-0.30
	10/18/04	10.40	4.85	5.55	0.18
	01/25/05	10.40	4.13	6.27	0.72
	04/19/05	10.40	4.23	6.17	-0.10
	07/18/05	10.40	4.56	5.84	-0.33
	10/18/05	10.40	4.82	5.58	-0.26
	11/03/05	10.40	4.87	5.53	-0.05
	01/11/06	10.40	3.62	6.78	1.25
	03/13/06	10.40	3.47	6.93	0.15
	06/15/06	10.40	4.38	6.02	-0.91
	08/02/06	10.40	4.69	5.71	-0.31
	09/20/26	10.40	4.84	5.56	-0.15
	01/02/07	10.40	3.73	6.67	1.11
	6/6/2007	10.40	4.7	5.7	-0.97
	10/04/07 <b>01/18/08</b>	10.40 <b>10.40</b>	4.75 <b>4.16</b>	5.65 <b>6.24</b>	-0.05 <b>0.59</b>

Well ID	Date	Well Elevation *	Depth to Water	Groundwater Elevation	Elevation Change
		(ft amsl)	( <b>ft</b> )	(ft amsl)	(ft)
MW-4	07/30/99	10.31	5.45	4.86	
1.1.1.1	11/09/99	10.31	5.31	5.00	0.14
	02/23/00	10.31	2.72	7.59	2.59
	05/26/00	10.31	5.07	5.24	-2.35
	10/10/00	10.31	5.32	4.99	-0.25
	02/07/01	10.31	4.73	5.58	0.59
	05/25/01	10.31	4.90	5.41	-0.17
	09/19/01	10.31	5.16	5.15	-0.26
	02/06/02	10.31	4.65	5.66	0.51
	05/17/02	10.31	4.90	5.41	-0.25
	08/20/02	10.31	5.02	5.29	-0.12
	01/10/03	10.31	3.78	6.53	-0.12
	04/14/03	10.31	4.11	6.20	-0.33
	07/14/03	10.31	4.75	5.56	-0.53
			4.75 5.28	5.03	
	10/14/03	10.31	5.28 4.07	5.03 6.24	-0.53 1.21
	01/13/04	10.31			
	04/15/04	10.31	4.70	5.61	-0.63
	07/15/04	10.31	5.09	5.22	-0.39
	10/18/04	10.31	4.86	5.45	0.23
	01/25/05	10.31	4.02	6.29	0.84
	04/19/05	10.31	4.17	6.14	-0.15
	07/18/05	10.31 4.49		5.82	-0.32
	10/18/05	10.31	4.83	5.48	-0.34
	11/03/05	10.31	4.88	5.43	-0.05
	01/11/06		3.58	6.73	1.30
	03/13/06	10.31	3.28	7.03	0.30
	06/15/06	10.31	4.37	5.94	-1.09
	09/20/06	10.31	4.86	5.45	-0.49
	01/02/07	10.31	4.17	6.14	0.69
	6/6/2007	10.31	4.68	5.63	-0.51
	10/04/07	10.31	4.78	5.53	-0.10
	01/18/08	10.31	4.07	6.24	0.71
TW-5	09/19/01		6.59		
	05/17/02		6.56		0.03
	08/20/02		6.62		-0.06
	01/10/03		4.66		1.96
	04/14/03		5.30		-0.64
	07/14/03		5.84		-0.54
	07/14/03		5.84		0.00
	10/14/03		6.08		-0.24
	01/13/04		4.83		1.25
	04/15/04		5.64		-0.81
	07/15/04		5.89		-0.25
	10/18/04		5.95		-0.06
	01/25/05		5.13		0.82
	04/19/05		5.27		-0.14
	07/18/05		5.76		-0.14
	10/18/05		6.04		-0.49
	11/03/05		6.09		-0.28
	01/11/06		4.72		-0.03
	03/13/06		4.72		0.21
	04/26/06		5.02		-0.51
	04/20/00		5.02		-0.31

Well ID	Date	Well Elevation *	Depth to Water	Groundwater Elevation	Elevatior Change
		(ft amsl)	( <b>f</b> t)	(ft amsl)	( <b>ft</b> )
MW-6	03/13/06	12.35	5.69	6.66	
	06/15/06	12.35	6.50	5.85	-0.81
	09/20/06	12.35	6.84	5.51	-0.34
	01/02/07	12.35	6.44	5.91	0.40
	6/6/2007	12.35	6.82	5.53	-0.38
	10/04/07	12.35	6.83	5.52	-0.01
	01/18/08	12.35	6.39	5.96	0.44
MW-7	03/13/06	11.16	3.36	7.80	
	06/15/06	11.16	3.95	7.21	-0.59
	09/20/06	11.16	4.77	6.39	-0.82
	01/02/07	11.16	4.17	6.99	0.60
	6/6/2007	11.16	4.69	6.47	-0.52
	10/04/07	11.16	5.15	6.01	-0.46
	01/18/08	11.16	4.15	7.01	1.00
<b>MW-8</b>	03/13/06	12.42	4.64	7.78	
	06/15/06	12.42	5.21	7.21	-0.57
	09/20/06	12.42	6.03	6.39	-0.82
	01/02/07	12.42	5.97	6.45	0.06
	6/6/2007	12.42	5.93	6.49	0.04
	10/04/07	12.42	6.64	5.78	-0.71
	01/18/08	12.42	5.35	7.07	1.29
MW-9	03/13/06	11.22	4.32	6.90	
	06/15/06	11.22	5.35	5.87	-1.03
	08/02/06	11.22	5.70	5.52	-0.35
	09/20/06	11.22	5.81	5.41	-0.11
	01/02/07	11.22	5.19	6.03	0.62
	6/6/2007	11.22	5.67	5.55	-0.48
	10/04/07	11.22	5.89	5.33	-0.22
	01/18/08	11.22	5.13	6.09	0.76
MW-10	03/13/06	10.31	3.28	7.03	
	06/15/06	10.31	4.34	5.97	-1.06
	08/02/06	10.31	4.66	5.65	-0.32
	09/20/06	10.31	4.79	5.52	-0.13
	01/02/07	10.31	4.26	6.05	0.53
	6/6/2007	10.31	4.66	5.65	-0.40
	10/04/07	10.31	4.74	5.57	-0.08
	01/18/08	10.31	4.12	6.19	0.62
MW-11	01/02/07	10.96	3.94	7.02	
	6/6/2007	10.96	4.51	6.45	-0.57
	10/04/07	10.96	5.03	5.93	-0.52
	01/18/08	10.96	3.92	7.04	1.11
MW-12	01/02/07	10.46	3.43	7.03	
	6/6/2007	10.46	3.81	6.65	-0.38
	10/04/07	10.46	4.38	6.08	-0.57
	01/18/08	10.46	3.32	7.14	1.06

\* Original wells surveyed 12/9/02 by Morrow Surveying, resurveyed on 3/02/06, 1/16/07 by Morrow Surveying Depth to water measured from the top of well casing NM - not monitored

ft amsl = feet above mean sea level

$ \begin{tabular}{ c c c c c c c c c c c c c c c c c c c$	Sample ID	Sample	Depth to	TPH-g	TPH-d	TPH-mo	MTBE	MTBE	Benzene	Toluene	Ethyl	Xylenes
Image: https://mathematical and the set of		Date	water	FPA	Method	8015	8260B		FΡΔ	Method 80		
110999       5.70       1,800         ND<10       1,50       1.5       2.6       60         022300       2.84       3,800         ND<10       1,500       5.6       7.8       35         052600       5.50       7,100         ND<5.0       260       2.9       10       11         0207010       5.25       570         ND<5.0       180       18.4       9       9.3         05/2501       5.25       18,000         ND<5.0       190       4.0       4.6       5.3         05/7102       5.30       13,000       920         ND<5.0       190       4.0       4.6       5.3         08/2002       5.39       2,100       740       ND<5.000        ND<5.0       87       1.3       4.3       5.6         0/1/1403       5.63       200       930       460.0        ND<5.0       87       1.3       4.3       5.6         0/1/1403       5.63       200       930       460.0        ND<5.0       190       1.7       11       18.0 <th></th> <th></th> <th>_</th> <th></th> <th></th> <th></th> <th>0200D</th> <th>(µg/L)</th> <th></th> <th>I</th> <th></th> <th>(µg/L)</th>			_				0200D	(µg/L)		I		(µg/L)
110999       5.70       1,800         ND<10	MW-1	07/30/99	5 82	2 700				ND<10	920	55	18	130
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$												
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$												
10/10/00       5.70       980         ND<5.0												
02/07(01)         5.25         570            ND<50         150         1.8         4.9         9.3           05/25/01         5.25         18,000            ND<100												
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$												
09/1901         5.51         840            ND<5.0         190         4.0         4.6         5.3           0517/02         5.30         13,000         920           ND<5.0												
05/17/02         5.30         13,000         920           ND<5.0         4.500         29         50         58           08/20/02         5.39         2,100         740         ND<5.00				,								
08/20/02         5.39         2,100         740         ND         ND         820         4.5         6.4         9.6           01/10/03         4.11         95         260         ND         ND         23         0.66         3.9         6.5           04/14/03         5.08         750         700          ND         50         87         1.3         4.3         5.6           07/14/03         5.63         200         930         460.0          ND         62         0.83         2.2         2.7           01/13/04         5.14         740         490         ND         ND         5.0         100         1.7         11         18.0           04/15/04         5.14         740         490         ND         250          ND         5.0         33         0.75         1.7         3.5           01/15/04         5.42         250         420         260          ND         5.0         33         0.75         1.7         3.5           01/15/05         4.47         240         390         ND          ND         50         3.0         8.6         0.13 <th></th> <td></td> <td></td> <td></td> <td>920</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>					920							
01/10/03         4.11         95         260         ND<5,00          ND<5.0         23         0.66         3.9         6.5           04/14/03         4.85         340         310           ND<5.0						ND<5.000						
04/14/03         4.85         340         310           ND<5.0         87         1.3         4.3         5.6           07/14/03         5.08         750         700          ND<10												
07/14/03         5.08         750         700           ND<10         420         0.84         3.7         6.0           10/14/03         5.63         200         930         460.0          ND<5.0												
10/14/03       5.63       200       930       460.0        ND<5.0												
01/13/04         4.53         510         440         ND<250          ND<5.0         190         1.7         11         18.0           04/15/04         5.14         740         490         ND<250						460.0						
04/15/04         5.14         740         490         ND<250          ND<10         240         ND<0.5         5.0         9.6           07/15/04         5.42         250         420         260          ND<5.0												
07/15/04       5.42       250       420       260        ND<5.0												
10/18/04       5.42       170       510       290        ND<5.0												
01/25/05       4.47       240       390       ND<250												
04/19/05       4.66       5,100       460       ND<250												
07/18/05       4.91       3,300       700       350        ND<45												
10/18/05       5.24       560       550       330        ND<5.0       190       ND<0.5       3.0       8.6         01/11/06       4.08       240       270       ND<250												
01/11/06       4.08       240       270       ND<250												
03/13/06       3.76       840       260       ND<250												
06/15/06       4.79       3,200       640       320        ND<25							0.89					
09/21/06         5.38         3,500         550         270          ND<25         1,700         ND<2.5         14         23           01/02/07         4.64         410         240         ND<250												
01/02/07         4.64         410         240         ND<250          ND<5.0         150         0.55         1.0         7           06/06/07         5.54         2,500         540         300          ND<20			5.38							ND<2.5		
06/06/07         5.54         2,500         540         300          ND<20         910         3.4         7.7         55           07/11/07          2,000         450         ND<250		01/02/07				ND<250		ND<5.0			1.0	
07/11/07          2,000         450         ND<250          ND<10         620         1.5         5.9         31           10/04/07         5.32         500         440         260          ND<5.0		06/06/07	5.54			300		ND<20				55
10/04/07         5.32         500         440         260          ND<5.0         140         ND<0.5         1.8         8           MW-2         07/30/99         6.64         1,200            ND<10         29         2.5         51         100           11/09/99         6.42         1,300            ND<30         26         1.1         55         32           02/23/00         3.31         5,000            ND<10         200         18         390         440           05/26/00         6.34         2,700           ND<10         200         18         390         440           05/26/00         6.34         2,700           ND<10         200         18         390         440           05/26/00         6.34         2,700           ND<10         17         4.7         42         46           02/07/01         5.90         2,600           ND<10         70         15         80         100         00 <th< td=""><th></th><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>620</td><td></td><td>5.9</td><td></td></th<>									620		5.9	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$			5.32			260						
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		01/18/08	4.58	4,400	560	260		ND<25	1,300	2.5	11.0	84
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	<b>MW-2</b>											
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		11/09/99	6.42	1,300				ND<30	26	1.1	55	32
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		02/23/00	3.31	5,000				ND<10	200	18	390	440
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		05/26/00	6.34	2,700				ND<10	69	13	83	68
05/25/01       6.08       2,400         ND<5.0		10/10/00	6.52	810				ND<10	17	4.7	42	46
09/19/01       6.53       1,200         ND<5.0		02/07/01	5.90	2,600				ND<10	70	15	80	100
02/06/02       5.72       1,800         ND<50		05/25/01	6.08	2,400				ND<5.0	75	16	85	100
05/17/026.172,0008608.1191.10.758801/10/035.122,000910ND<5000		09/19/01	6.53	1,200				ND<5.0	10	8.5		
01/10/03 5.12 2,000 910 ND<5000 ND<50 11 11 96 100 04/14/03 4.98 2,400 800 ND<10 16 10 100 73		02/06/02	5.72	1,800					14	11	58	
04/14/03 4.98 2,400 800 ND<10 16 10 100 73		05/17/02	6.17	2,000	860			8.1	19	1.1	0.75	88
		01/10/03	5.12	2,000	910	ND<5000		ND<50	11	11	96	100
		04/14/03	4.98	2,400	800	-		ND<10	16	10	100	73
07/14/03 5.99 1,900 970 ND<15 18 4.8 79 78		07/14/03	5.99	1,900	970	-		ND<15	18	4.8	79	78
10/14/03 6.43 1,600 1,300 ND<250 ND<10 14 5.9 87 78		10/14/03	6.43	1,600	1,300	ND<250		ND<10	14	5.9	87	78

Sample ID	Sample	Depth to	TPH-g	TPH-d	TPH-mo	MTBE	MTBE	Benzene	Toluene	Ethyl	Xylenes
	Date	Water	FD	A Method 8	8015	8260B		FDA	Method 80	benzene	
		-	$\frac{LFF}{(\mu g/L)}$	(µg/L)	(µg/L)	8200 <b>B</b>	(µg/L)	$(\mu g/L)$	(µg/L)	(µg/L)	(µg/L)
	01/12/04	5 70					ND -50	26		100	150
NAME OF	01/13/04	5.72	2,900	960	ND<250		ND<50	26 28	13	190 120	150
MW-2	04/15/04	6.02 5.27	2,700	1,100	ND<250		ND<15	28	11	120	100
continued	07/15/04	5.27	2,300	1,000	ND<250		ND<10	8.8	3.8	96 68	84 72
	10/18/04	5.27	2,400	910	ND<250		ND<10	8.6	8.9	68 170	72
	01/25/05 04/19/05	5.41	3,500	1,200	ND<250		ND<50	21 15	11	170	120 94
	04/19/03 07/18/05	5.61	3,400	1,700	ND<250		ND<15	13	7.4 9.7	150	94 89
		5.84	3,400	1,400	ND<250 270		ND<5.0			100	
	10/18/05	6.17 5.11	3,000	2,000	270 ND<250		ND<5.0 ND<90	8.4	6.7 9.4	88 170	86 87
	01/11/06	5.11	3,400	1,700				18			
	03/13/06	5.24	3,400	1,200	ND<250	0.76	ND<50	20	9.4	110	80 72
	06/15/06	6.23	2,200	2,400	270		ND<10	8.4	ND<1.0	81	72
	09/20/06	6.63	2,400	860	ND<250		ND<50	12	13	46	65 120
	01/02/07 06/06/07	6.09	3,800	2,100	ND<250		ND<25 ND<20	11 17	7.6	110	120
		6.57	3,800	1,500	ND<250 480			17	17	75 47	58 72
	07/11/07 10/04/07		5,300 660	2,900			ND<17 ND<5.0	10	8	47 40	72 45
	<b>01/18/08</b>	6.63 <b>6.06</b>	<b>2,200</b>	1,300 <b>3,200</b>	ND<250 350		ND<5.0 ND<5.0	1.8 1.1	0.83 <b>3.40</b>	40 26	43 <b>40</b>
				-,							
MW-3	07/30/99	5.35	2,700				ND<10	220	15	130	230
	11/09/99	5.11	3,100				15	440	8.8	150	96
	02/23/00	2.37	1,800				ND<15	180	11	82	79
	05/26/00	4.98	1,600				6.4	140	10	69	63
	10/10/00	5.24	1,100				ND<10	110	4.4	63	51
	02/07/01	4.73	1,100				ND<10	130	5.1	68	65
	05/25/01	4.73	1,200				ND<6.0	120	5.4	69	64
	09/19/01	5.07	800				<5.0	78	3.5	52	37
	02/06/02	4.69	1,100				ND<10	130	4.7	77	71
	05/17/02	4.80	2,800	810		2.0	ND<50	410	23	160	210
	08/20/02	4.97	780	270	ND<5000		ND<10	110	2.8	63	41
	01/10/03	3.59	1,100	510	ND<5000		ND<20	160	3.4	98	84
	04/14/03	5.40	690	230	-		ND<5.0	60	2.3	44	34
	07/14/03	4.69	900	380	-		ND<5.0	130	2.0	70	43
	10/14/03	5.16	500	200	ND<250		ND<10	50	2.3	37	18
	01/13/04	4.15	1,500	400	ND<250		ND<30	200	6.2	120	88
	04/15/04	4.73	1,100	280	ND<250		ND<15	130	3.7	75	53
	07/15/04	5.03	610	240	ND<250		ND<5.0	73	2.1	51	29
	10/18/04	5.03	370	270	ND<250		ND<5.0	45	1.2	47	28
	01/25/05	4.13	840	300	ND<250		ND<5.0	85	2.4	68	45
	04/19/05	4.23	1,100	380	ND<250		ND<5.0	140	4.0	95	59
	07/18/05	4.66	740	290	ND<250		ND<5.0	98	2.0	70	35
	10/18/05	4.82	420	220	ND<250		ND<5.0	38	1.1	35	16
	01/11/06	3.73	740	260	ND<250		ND<5.0	75	2.5	60	32
	03/13/06	3.76	1,300	380	ND<250	1.1	ND<17	90	2.5	87	72
	06/15/06	4.38	670	300	ND<250		ND<5.0	76	1.3	60	40
	09/20/09	4.84	510	300	310		ND<17	49	ND<1.7	50	36
	01/02/07	4.73	380	180	ND<250		ND<5.0	33	1.3	32	17

Sample ID	Sample Date	Depth to Water	TPH-g	TPH-d	TPH-mo	MTBE	MTBE	Benzene	Toluene	Ethyl benzene	Xylenes
			EPA	A Method a	8015	8260B		EPA	Method 80		
		-	(µg/L)	(µg/L)	(µg/L)		(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
	06/06/07	4.70	460	230	ND<250		ND<5.0	40	1.9	39	22
	10/04/07	4.75	320	230	ND<250		ND<5.0	28	ND<0.5	29	17
	01/18/08	<b>4.16</b>	470	<b>200</b>	ND<250		ND<5.0	20 29	1.5	34	20
N. A. X. X. A	07/20/00	5 45	240				ND -10	57	2.2	05	6.9
<b>MW-4</b>	07/30/99 11/09/99	5.45 5.31	340				ND<10 ND<10	57 220	2.2 <0.5	8.5 17	6.8
	02/23/00	2.72	1,000							33	7.1 27
		5.07	980 760				ND<5.0 5.7	260 170	7		13
	05/26/00		760 520						4.8	22	
	10/10/00	5.32	520				ND<10	130	2.3	22	10
	02/07/01	4.73	680				ND<8.0	180	3.7	29	21
	05/25/01	4.90	1,700				ND<10	510	9.6	44	46
	09/19/01	5.16	680				ND<10	200	2.6	33	12
	02/06/02	4.65	710				ND<15	220	2.8	40	21
	05/17/02	4.90	1,300	190		3.3	ND<10	330	5.6	61	51
	08/20/02	5.02	580	120	ND<5,000		ND<5.0	160	1.7	34	13
	01/10/03	3.78	800	85	ND<5,000		ND<20	240	2.5	46	28
	04/14/03	4.11	850	120			ND<10	220	2.7	47	26
	07/14/03	4.75	780	170			ND<20	220	1.4	44	23
	10/14/03	5.25	420	110	ND<250		ND<5.0	120	0.95	31	8.2
	01/13/04	4.07	120	69	ND<250		ND<10	30	0.52	8.1	4.7
	04/15/04	4.70	660	120	ND<250		ND<25	200	2.2	39	24
	07/15/04	5.09	500	92	ND<250		ND<5.0	130	1.3	35	15
	10/18/04	5.09	350	18	ND<250		ND<5.0	76	0.68	22	4.9
	01/25/05	4.02	580	110	ND<250		ND<5.0	140	1.2	37	20
	04/19/05	4.17	790	130	ND<250		ND<5.0	200	1.7	51	28
	07/18/05	4.49	490	140	ND<250		ND<5.0	140	0.99	36	11
	10/18/05	4.83	320	84	ND<250		ND<5.0	72	0.59	20	4.4
	01/11/06	3.58	310	98	ND<250		ND<5.0	88	0.65	26	9.0
	03/13/06	3.58	490	77	ND<250	1.9	ND<5.0	92	0.88	31	15
	06/15/06	4.37	460	86	ND<250		ND<25	93	ND<0.5	29	9.2
	09/20/06	4.86	260	170	360		ND<10	63	ND<0.5	23	4.7
	01/02/07	4.17	160	78	ND<250		ND<5.0	27	ND<0.5	10	2.0
	06/06/07	4.68	190	59	ND<250		ND<5.0	40	ND<0.5	14	3.6
	10/04/07	4.78	180	ND<50	ND<250		ND<5.0	44	ND<0.5	12	2.2
	01/18/08	4.07	100	ND<50	ND<250		ND<5.0	18	ND<0.5	6	1.4
TW-5	10/10/00		5,800	2,900	ND<250		ND<50	650	60	190	230
	02/07/01		720	650	450		ND<5.0	6.0	4.5	3.2	4.5
	05/25/01		370	420	ND<250		ND<5.0	13.0	4.1	1.6	1.3
	09/19/01	6.59	15,000		$^{1}1,100,000^{1}$		530	29	2.7	14	240
	02/06/02		280	55,000	$18,000^{1}$		ND<5.0	2.3	0.74	ND<0.5	0.70
	05/17/02	6.56	480	41,000		ND<5.0	ND<5.0	1.6	1.1	0.8	ND<0.5
	08/20/02	6.62	240	21,000	ND<5,000		ND<5.0	8.0	1.2	1.1	0.54
	01/10/03	4.66	ND<50	1,300	ND<5,000		ND<5.0	5.4	0.58	ND<0.5	1.10
	4/14/2003	5.30	160	2,300			ND<5.0	18	5.7	5.9	1.10
	7/14/2003	5.84	100	16,000			ND<5.0	1.2	0.77	0.63	1.2

#### Sample ID Sample Depth to TPH-g TPH-d TPH-mo MTBE MTBE Benzene Toluene Ethyl **Xylenes** Date Water benzene EPA Method 8015 8260B EPA Method 8021B $(\mu g/L)$ 6.08 10/14/03 120 10,000 4,600 ND<5.0 1.6 1.6 ND<0.5 1.2 ---1,400 01/13/04 4.83 2,100 ND<5.0 8.4 ND<0.5 110 1.2 3.9 ---04/15/04 5.64 170 2,200 1,100 ND<5.0 2.5 1.2 ND<0.5 5.1 ---07/15/04 5.89 81 3,000 1,600 ND<5.0 5 1.3 0.85 4.1 ---**TW-5** 230 0.54 0.93 10/18/04 5.89 3,700 1,600 ND<5.0 3.4 ND<0.5 ---640 continued 01/25/05 5.13 63 750 ND<5.0 ND<0.5 0.78 ND<0.5 1.3 ---04/19/05 5.27 ND<50 1,100 660 ND<5.0 ND<0.5 ND<0.5 ND<0.5 ND<0.5 ---07/18/05 5.76 ND<50 490 ND<5.0 0.88 770 ND<0.5 ND<0.5 ND<0.5 \_\_\_\_ 10/18/05 6.04 78 1,600 1,100 ND<5.0 ND<0.5 1.6 ND<0.5 ND<0.5 ---01/11/06 4.72 ND<50 680 550 ND<0.5 ND<5.0 ND<0.5 ND<0.5 ND<0.5 ND<0.5 4.51 ND<5.0 03/13/06 ND<50 180 260 ND<0.5 ND<0.5 ND<0.5 ND<0.5 ND<0.5 06/15/06 Not sampled, well damaged - will be destroyed 01/02/07 Well Destroyed 12/20/06 MW-6 03/13/06 5.69 87 160 310 ND<0.5 ND<5.0 ND<0.5 0.83 1.3 0.80 06/15/09 6.50 ND<50 110 ND<250 ND<5.0 ND<0.5 ND<0.5 1.0 0.58 \_\_\_\_ 09/20/06 6.84 ND<50 59 ND<250 ND<5.0 ND<0.5 ND<0.5 ND<0.5 ND<0.5 ---6.44 120 ND<5.0 ND<0.5 ND<0.5 ND<0.5 01/02/07 ND<50 ND<250 ND<0.5 ---06/06/07 6.82 ND<50 76 ND<250 ND<5.0 ND<0.5 ND<0.5 ND<0.5 ND<0.5 ---100 ND<5.0 ND<0.5 ND<0.5 ND<0.5 10/04/07 6.83 ND<50 ND<250 ND<0.5 ---01/18/08 6.39 ND<50 130 ND<250 ND<5.0 ND<0.5 ND<0.5 1.3 ND<0.5 ---**MW-7** 03/13/06 3.36 460 3,500 360 ND<0.5 ND<5.0 2.5 1.0 ND<0.5 3.3 06/15/09 3.95 ND<50 520 ND<250 ND<5.0 ND<0.5 ND<0.5 ND<0.5 ND<0.5 --4.77 09/20/06 ND<50 150 ND<250 --ND<5.0 ND<0.5 ND<0.5 ND<0.5 ND<0.5 4.17 99 ND<5.0 ND<0.5 ND<0.5 ND<0.5 01/02/07 ND<50 ND<250 ND<0.5 --4.69 ND<50 ND<5.0 ND<0.5 ND<0.5 ND<0.5 06/06/07 ND<50 ND<250 --ND<0.5 ND<5.0 17 ND<0.5 ND<0.5 07/11/07 ---67 150 ND<250 --ND<0.5 10/04/07 5.15 ND<50 ND<50 ND<250 ND<5.0 ND<0.5 ND<0.5 ND<0.5 ND<0.5 --ND<0.5 ND<0.5 ND<0.5 01/18/08 4.15 ND<50 ND<50 ND<250 ---ND<5.0 ND<0.5 **MW-8** 4.64 280 ND<5.0 ND<0.5 2.0 ND<0.5 1.3 03/13/06 130 ND<250 ND<0.5 06/15/09 5.21 ND<50 140 ND<250 ND<5.0 ND<0.5 ND<0.5 ND<0.5 ND<0.5 ---09/20/06 6.03 ND<50 65 ND<250 ND<5.0 ND<0.5 ND<0.5 ND<0.5 ND<0.5 --01/02/07 5.97 ND<50 70 ND<250 ND<5.0 ND<0.5 ND<0.5 ND<0.5 ND<0.5 --06/06/07 5.93 ND<50 ND<50 ND<250 ND<5.0 ND<0.5 ND<0.5 ND<0.5 ND<0.5 --10/04/07 6.64 ND<50 ND<50 ND<250 ND<5.0 ND<0.5 ND<0.5 ND<0.5 ND<0.5 --01/18/08 5.35 ND<50 ND<50 ND<250 ND<5.0 ND<0.5 ND<0.5 ND<0.5 ND<0.5 -- $14,000^{1}$ **MW-9** 03/13/06 4.32 1,100 4,100 ND<5.0 85 1.8 0.64 100 2.4 06/15/09 5.35 460 2,100 710 ND<5.0 170 0.73 1.3 8.3 ---09/21/06 5.81 130 1.400 460 ND<5.0 20 1.2 ND<0.5 2.6--01/02/06 5.19 88 4,300 1,000 ---ND<5.0 5.1 0.67 ND<0.5 ND<0.5 5.67 64 320 250 ND<5.0 12 ND<0.5 ND<0.5 ND<0.5 06/06/07 ---10/04/07 5.89 ND<250 ND<0.5 ND<0.5 ND<0.5 ND<0.5 ND<50 140 ND<5.0 ---5.13 250 100 1.3 7.6 01/18/08 160 ND<250 --ND<5.0 ND<0.5

Sample ID	Sample	Depth to	TPH-g	TPH-d	TPH-mo	MTBE	MTBE	Benzene	Toluene	Ethyl	Xylenes
-	Date	Water	-							benzene	-
			EPA	Method 8	015	8260B		EPA Method 8021B			
			(µg/L)	(µg/L)	(µg/L)		(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
<b>MW-10</b>	03/13/06	3.28	ND<50	220	ND<250	2.7	ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	06/15/09	4.38	ND<50	300	ND<250		ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	09/21/06	4.79	ND<50	280	460		ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	01/02/07	4.66	ND<50	230	ND<250		ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	06/06/07		ND<50	230	ND<250		ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	10/04/07	4.74	ND<50	120	ND<250		ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	01/18/08	4.12	79	220	ND<250		ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5
<b>MW-11</b>	01/02/07	3.94	160	2,700	ND<250		ND<5.0	ND<0.5	ND<0.5	ND<0.5	1.7
IVI VV -11	6//06/07	3.94 4.51	ND<50	2,700 ND<50	ND<250		ND<3.0 ND<5.0	ND<0.5	ND<0.5	ND<0.5	1.7 ND<0.5
	07/11/07	4.95	ND<50	ND<50	ND<250		ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	10/04/07	4.93 5.03	ND<50	ND<50	ND<250		ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	<b>01/18/08</b>	3.92	ND<50	ND<50	ND<250		ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	01/10/00	3.74	ND<50	ND<50	ND<250		ND<3.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5
<b>MW-12</b>	01/02/07	3.43	53	130	ND<250		1.4	ND<0.5	ND<0.5	ND<0.5	0.95
	06/06/07	3.81	ND<50	ND<50	ND<250		ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	10/04/07	4.38	ND<50	ND<50	ND<250		ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	01/18/08	3.32	ND<50	ND<50	ND<250		ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<5.0
SB7-W-15	10/09/03		ND <50				ND <5.0	ND <0.5	ND <0.5	ND <0.5	ND <0.5
SB8-W-20	10/09/03		1,700				8.3	940	2.7	0.58	2.2
SB9-W-20	10/09/03		ND <50				ND < 5.0	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5
SB10-W-15	10/09/03		ND <50				ND < 5.0	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5
SB11-W-15	10/09/03		ND <50				ND < 5.0	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5
SB12-W-15	10/09/03		ND <50	150	320	320	ND < 5.0	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5
SB13-W-20	10/10/03		891				ND <5.0	27	0.53	2.4	6.2
SB14-W-30	10/10/03		$2,300^{1}$	$72,000^{1}$	ND <57	ND <57	45	120	7.8	35	100
GW	09/15/96		4,800.0				<130	4,100	3,500	21,000	6,400
BH-1	01/31/97		13,000				<60	770	67	530	1,800
BH-4	01/31/97		25,000				<50	1,300	110	1,200	2,400
BH-6	01/31/97		27,000				230	5,000	410	1,100	2,400

TPH-g = total petroleum hydrocarbons as gasoline TPH-d = total petroleum hydrocarbons as diesel TPH-mo = total petroleum hydrocarbons as motor oil 1 = light non-aqueous phase liquid

 $\mu g/L = micrograms$  per liter (parts per billion)

----- not sampled

MTBE = methyl tert-butyl ether

ND = not detected

Episode #	Date	Average Elevation (ft)	Elevation Change (ft)	Flow Direction / Gradient
1	07/30/99	5.07	-	
2	11/09/99	5.25	0.18	0.0056 / SW
3	02/23/00	8.08	2.83	0.008 / S
4	05/26/00	5.41	-2.66	0.003 / SW
5	10/10/00	5.19	-0.22	0.0036 / S
6	02/07/01	5.73	0.54	0.008 / S
7	05/25/01	5.65	-0.09	0.006 / S
8	09/19/01	5.32	-0.33	0.004 / S
9	02/06/02	5.93	0.62	0.005 / SE
10	05/17/02	5.59	-0.34	0.003 / SW
11	08/20/02	5.34	-0.26	0.002 / S
12	01/10/03	6.74	1.40	0.006 / E-NE
13	04/14/03	6.05	-0.69	0.016 / E-NE
14	07/14/03	5.76	-0.29	.0017 / S-SE
15	10/14/03	5.26	-0.50	0.003 / SE
16	01/13/04	6.34	1.08	0.001 / W
17	04/15/04	5.74	h	0.001 / W
18	07/15/04	5.68	-0.05	0.001 / W
19	10/18/04	5.62	-0.07	0.002 / N
20	01/25/05	6.33	0.71	0.002 / N
21	04/19/05	6.16	-0.17	0.001 / N
22	07/18/05	5.85	-0.31	0.0004 / S
23	10/18/05	5.61	-0.24	0.0017 / SW
24	01/11/06	6.79	1.18	0.0047 / N
25	3/13/06	6.57	-0.21	Shallow Zone .0004 / NW
	3/13/06	7.38		Deeper zone 0.036 / S
26	6/15/06	5.92	-0.65	Shallow Zone 0.0004 / NW
	6/15/06	6.40	-0.98	Deeper zone 0.06 / S
27	9/20/06	5.52	-0.41	Shallow Zone 0.005 / SW
	9/20/06	5.93	-0.47	Deeper zone 0.004/ S
28	1/2/07	6.02	0.50	Shallow Zone 0.0004 / NW
	1/2/07	6.38	0.45	Deeper Zone 0.06 / S
29	6/6/07	6.04	0.02	Shallow Zone 0.0004 / NW
	6/6/07	5.67	-0.71	Deeper Zone 0.06 / S
30	10/4/07	5.52	-0.53	Shallow Zone 0.005 / SW
	10/4/07	5.72	0.05	Deeper Zone 0.012/ S
31	1/18/08	6.17	0.65	Shallow Zone 0.003/ NW
	1/18/08	6.68	0.96	Deeper Zone .015/ SE

# Table 3:Groundwater Elevation and Flow Direction Summary<br/>Omega Termite, 807 75th Ave., Oakland, CA

Average water table elevation calculated using Microsoft Excel Shallow Zone Wells: MW-1, MW-2, MW-3, MW-4, MW-6 Deeper Zone Wells: MW-7. MW-8, MW-9, MW-10, MW-11, MW-12

# **APPENDIX A** Groundwater Monitoring Well Field Sampling Forms

### AEI CONSULTANTS

#### GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

# Monitoring Well Number: MW-1

Project Name:	Omega Termite	Date of Sampling:	1/18/2008
Job Number:	262157	Name of Sampler:	Adrian
Project Address:	807 75th Avenue Oakland		

MONITORING WELL DATA							
Well Casing Diameter (2"/4"/6")	2						
Wellhead Condition	ОК		▼ ]				
Elevation of Top of Casing (feet above msl)		10.68					
Depth of Well		20.00					
Depth to Water (from top of casing)	4.58						
Water Elevation (feet above msl)	6.10						
Well Volumes Purged		3					
Calculated Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	7.4						
Actual Volume Purged (gallons)	8.0						
Appearance of Purge Water	Clears quickly						
Free Product Present?	nt? No Thickness (ft): NA						

GROUNDWATER SAMPLES							
Number of Sample	Number of Samples/Container Size						
Time	Vol Removed (gal)	Temperature (deg C)	рН	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
12:21	1	17.81	6.78	2694	0.51	-0.4	Clear
12:22	2	17.52	6.77	2688	0.46	-5.9	Clear
12:23	3	17.46	6.75	2724	0.4	-11.7	Clear
12:24	4	17.61	6.73	2756	0.37	-13.4	Clear
12:25	5	17.96	6.70	2813	0.3	-17.3	Clear
12:26	6	183.10	6.70	2829	0.29	-19.4	Clear
12:27	7	18.17	6.70	2837	0.29	-20.8	Clear
12:28	8	18.33	6.69	2854	0.29	-23.4	Clear

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

Started light grey with slightly Hydrocarbon smells notabled

# Monitoring Well Number: MW-2

Project Name:	Omega Termite	Date of Sampling:	1/18/2008
Job Number:	262157	Name of Sampler:	Adrian
Project Address:	807 75th Avenue Oakland		

# MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2			
Wellhead Condition	ОК			
Elevation of Top of Casing (feet above msl)		12.15		
Depth of Well		20.00		
Depth to Water (from top of casing)		6.06		
Water Elevation (feet above msl)	6.09			
Well Volumes Purged	3			
Calculated Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	6.9			
Actual Volume Purged (gallons)		7.0		
Appearance of Purge Water	Fast clearing			
Free Product Present?	No	Thickness (ft):	NA	

# **GROUNDWATER SAMPLES**

Number of Sample		2 - 40ml VOA	s, 1 L Amber				
Time	Vol Removed (gal)	Temperature (deg C)	рН	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
11:25	1	18.45	6.93	2234	0.40	-57.0	Clear
11:26	2	18.07	6.94	2256	0.58	-46.5	Clear
11:27	3	18.23	6.90	2251	0.66	-47.5	Clear
11:28	4	18.42	6.88	2247	0.53	-52.9	Clear
11:29	5	18.61	6.90	2226	0.40	-58.8	Clear
11:30	6	18.99	6.92	2224	0.33	-64.6	Clear
11:31	7	19.18	6.93	2226	0.33	-66.3	Clear

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

Slight grey color with moderate hydrocarbon odors noted. Clears fast

# Monitoring Well Number: MW-3

Project Name:	Omega Termite	Date of Sampling:	1/18/2008
Job Number:	262157	Name of Sampler:	Adrian
Project Address:	807 75th Avenue Oakland		

MONITORING WELL DATA						
Well Casing Diameter (2"/4"/6")	2					
Wellhead Condition	ОК		-			
Elevation of Top of Casing (feet above msl)		10.40				
Depth of Well		20.00				
Depth to Water (from top of casing)	4.16					
Water Elevation (feet above msl)	6.24					
Well Volumes Purged		3				
Calculated Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	7.6					
Actual Volume Purged (gallons)	8.0					
Appearance of Purge Water	Fast clearing					
Free Product Present?	No	Thickness (ft):	NA			

<b>GROUNDWATER SAMPL</b>	ES
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Number of Samples/Container Size				2 - 40ml VOA	s, 1 L Amber		
Time	Vol Removed (gal)	Temperature (deg C)	рН	Conductivity (μS/cm)	DO (mg/L)	ORP (meV)	Comments
	1	17.72	6.69	3166	1.38	530.8	Clear
	2	17.00	6.67	3158	1.39	537.9	Clear
	3	16.74	6.66	3141	1.42	539.2	Clear
	4	17.17	6.63	3170	0.8	535.3	Clear
	5	17.92	6.63	3207	0.51	409.7	Clear
	6	18.09	6.67	3230	0.43	131.7	Clear
	7	18.22	6.67	3243	0.42	40.7	Clear
	8	18.32	6.76	3226	0.43	33.6	Clear

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

Almost clear with no hydrocarbon odors

### Monitoring Well Number: MW-4

ſ	Project Name:	Omega Termite	Date of Sampling:	1/18/2008
	Job Number:	262157	Name of Sampler:	Adrian
	Project Address:	807 75th Avenue Oakland		

### MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")		2		
Wellhead Condition	ОК		•	
Elevation of Top of Casing (feet above msl)		10.31		
Depth of Well		20.00		
Depth to Water (from top of casing)	4.07			
Water Elevation (feet above msl)	6.24			
Well Volumes Purged	3			
Calculated Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	7.6			
Actual Volume Purged (gallons)	8.0			
Appearance of Purge Water	Clear			
Free Product Present?	No	Thickness (ft):	NA	

#### **GROUNDWATER SAMPLES** Number of Samples/Container Size 2 - 40ml VOAs, 1 L Amber Vol Removed Temperature Conductivity DO ORP Time pН Comments (gal) (deg C) (µS/cm) (mg/L) (meV) 1 2289 Clear 9:26am 18.74 6.76 3.20 290 2 1796 6.80 2123 3.53 275.6 Clear 3 17.93 6.78 2135 3.07 271.2 Clear 4 6.75 2249 271 Clear 18.18 2.90 5 18.34 6.73 2305 2.77 274.9 Clear 6 6.71 287.1 Clear 18.59 2419 2.35 7 18.83 6.69 2643 1.82 326.6 Clear 8 9:33am 18.86 6.66 2848 1.41 350.5 Clear

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

Clear with no hydrocarbon odors noted.

# Monitoring Well Number: MW-6

Project Name:	Omega Termite	Date of Sampling:	1/18/2008
Job Number:	262157	Name of Sampler:	Adrian
Project Address:	807 75th Avenue Oakland		

### MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")		2		
Wellhead Condition	ок			
Elevation of Top of Casing (feet above msl)		12.35		
Depth of Well		14.00		
Depth to Water (from top of casing)	6.39			
Water Elevation (feet above msl)	5.96			
Well Volumes Purged				
Calculated Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	4.0			
Actual Volume Purged (gallons)	4.0			
Appearance of Purge Water	clear at 2 gallons			
Free Product Present?	No	Thickness (ft):	NA	

### GROUNDWATER SAMPLES

Number of Samples/Container Size			2 - 40ml VOA	s, 1 L Amber				
Time	Vol Removed (gal)	Temperature (deg C)	pН	Conductivity (μS/cm)	DO (mg/L)	ORP (meV)	Comments	
10:25	1	17.05	6.89	2256	0.52	52.0	Clear	
	2	17.12	6.86	2240	0.44	52.9	Clear	
	3	17.57	6.82	2241	0.37	57.2	Clear	
10:28am	4	17.62	6.81	2241	0.36	57.7	Clear	

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

Brown with no hydrocarbon odors noted.

# Monitoring Well Number: MW-7

Project Name:	Omega Termite	Date of Sampling:	1/18/2008
Job Number:	262157	Name of Sampler:	Adrian
Project Address:	807 75th Avenue Oakland		

MONITORING WELL DATA						
Well Casing Diameter (2"/4"/6")	2					
Wellhead Condition	ОК		•			
Elevation of Top of Casing (feet above msl)		11.16				
Depth of Well		35.00				
Depth to Water (from top of casing)	4.15					
Water Elevation (feet above msl)		7.01				
Well Volumes Purged		3				
Calculated Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	14.8					
Actual Volume Purged (gallons)	15.0					
Appearance of Purge Water	clear					
Free Product Present?	No	Thickness (ft): N/	4			

# **GROUNDWATER SAMPLES**

Number of Samples/Container Size			2 - 40ml VOAs, 1 L Amber				
Time	Vol Removed (gal)	Temperature (deg C)	рН	Conductivity (μS/cm)	DO (mg/L)	ORP (meV)	Comments
	1	18.60	6.87	3702	7.95	206.2	
	2	18.62	6.87	3702	8.14	192.8	
	3	18.63	6.86	3699	8.26	172.5	
	4	18.64	6.86	3699	8.5	159	
	6	18.65	6.86	3696	8.57	149.2	
	8	18.65	6.85	3689	8.54	138.0	
	10	18.65	6.85	3686	8.57	133.8	
	12	18.66	6.85	3678	8.64	128.5	
	15	18.67	6.84	3659	8.76	123.0	

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

No hydrocarbon odors noted.

Monitoring Well Number:						
Omega Termite	Date of Sampling:	1/18/2008				
262157	Name of Sampler:	Adrian				
807 75th Avenue Oakland						
MONITORING WELL DATA						
	Omega Termite 262157 807 75th Avenue Oakland	Omega Termite     Date of Sampling:       262157     Name of Sampler:       807 75th Avenue Oakland     MONITORING WELL DATA				

MONITORING WELL DATA							
Well Casing Diameter (2"/4"/6")		2					
Wellhead Condition	ОК	•					
Elevation of Top of Casing (feet above msl)		12.42					
Depth of Well		35.00					
Depth to Water (from top of casing)		5.35					
Water Elevation (feet above msl)	7.07						
Well Volumes Purged	3						
Calculated Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	14.2						
Actual Volume Purged (gallons)	15.0						
Appearance of Purge Water	Brown changing to clear @ 3.5gal.						
Free Product Present?	No	Thickness (ft): NA					

GROUNDWATER SAMPLES							
Number of Sample	es/Container S	Size		2 - 40ml VOA	s, 1 L Amber		
Time	Vol Removed (gal)	Temperature (deg C)	рН	Conductivity (μS/cm)	DO (mg/L)	ORP (meV)	Comments
11:08am	1	18.71	6.94	4976	4.56	104.9	Brown
	2	18.74	6.92	4975	4.82	108.2	Brown
	3	18.75	6.91	4985	508	110.7	Brown
	4	18.64	6.89	4984	4.71	112.2	Brown
	5	18.60	6.89	4981	4.39	1117	Brown
	7	18.49	6.86	4988	3.40	107.7	Brown
	9	18.51	6.85	4987	2.86	107.7	Brown
	11	18.57	6.85	4985	2.54	106.4	Brown
	13	18.60	6.84	1983	2.43	105.7	Brown
11:17am	15	18.6	6.84	4978	2.27	105	Brown

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

Milky brown with No hydrocarbon odors noted. Light brwon at 1.5 gallons

Monitoring Well Number:					
	Omogo Tormito	Data of Compliant	4/40/0000		
Project Name:	Omega Termite	Date of Sampling:	1/18/2008		
Job Number:	262157	Name of Sampler:	Adrian		
Project Address:	807 75th Avenue Oakland				
	MONITORING WELL DA	ΤΔ			

MONITORING WELL DATA						
Well Casing Diameter (2"/4"/6")		2				
Wellhead Condition	ОК					
Elevation of Top of Casing (feet above msl)		11.22				
Depth of Well		35.00				
Depth to Water (from top of casing)	5.13					
Water Elevation (feet above msl)	6.09					
Well Volumes Purged		3				
Calculated Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	14.3					
Actual Volume Purged (gallons)	15.0					
Appearance of Purge Water	Light brown at 2 gallons					
Free Product Present?	No	Thickness (ft): NA				

GROUNDWATER SAMPLES							
Number of Sampl	Number of Samples/Container Size				s, 1 L Amber		
Time	Vol Removed (gal)	Temperature (deg C)	рН	Conductivity (μS/cm)	DO (mg/L)	ORP (meV)	Comments
	1	18.62	7.16	3118	14.73	37.9	Light brown
	2	18.59	7.12	3114	1411	43.8	Light brown
	3	18.47	7.09	3105	13.00	50.3	Light brown
	4	18.31	7.06	3091	11.60	54.8	Light brown
	5	18.26	7.05	3087	11.14	56.3	Light brown
	7	18.57	6.94	3069	6.71	62.5	Light brown
	9	18.67	6.97	3405	5.27	64.2	Light brown
	11	18.63	6.95	3467	4.46	64.6	Light brown
	13	18.72	6.84	3024	5.3	76	Light brown
	15	18.67	6.83	3024	4.49	78.9	Light brown

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

Brown with no hydrocarbon odors. .

Light brown @ 2 gallons. Went dry at 11 gallons @ 11:45 am

Recharged @ 12:13 pm

## AEI CONSULTANTS GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

	Mor	Monitoring Well Number:	
Project Name	Omega Termite	Date of Sampling:	1/18/2008
Job Number	262157	Name of Sampler:	Adrian

807 75th Avenue Oakland

Project Address:

MONITORING WELL DATA						
Well Casing Diameter (2"/4"/6")	2					
Wellhead Condition	ОК	-				
Elevation of Top of Casing (feet above msl)		10.31				
Depth of Well		35.00				
Depth to Water (from top of casing)		4.12				
Water Elevation (feet above msl)	6.19					
Well Volumes Purged	3					
Calculated Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	14.6					
Actual Volume Purged (gallons)	15.0			15.0		
Appearance of Purge Water	Brown, clears fast					
Free Product Present?	nt? No Thickness (ft): NA					

	GROUNDWATER SAMPLES						
Number of Sampl	es/Container S	Size		2 - 40ml VOA	s, 1 L Amber		
Time	Vol Removed (gal)	Temperature (deg C)	рН	Conductivity (μS/cm)	DO (mg/L)	ORP (meV)	Comments
	1	18.65	6.79	3512	3.29	27.0	clear
	2	18.52	6.80	3517	3.74	29.7	clear
	3	18.34	6.80	3520	3.62	14.5	clear
	5	18.11	6.80	3511	3.41	1.3	clear
	7	17.85	6.81	3495	3.14	-9.1	clear
	9	18.68	6.63	3824	0.56	27.8	clear
	11	18.72	6.66	3416	2.61	-26.0	light brown
	13	18.79	6.67	3400	1.28	-34.1	clear
	15	18.78	6.68	3402	1.12	-36.9	clear

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

Brown with hydrocarbon odors noted. Clears @ 1 gallon

Well dry at 9.5 gallons 9;47am, recharged @ 10:13 am

## AEI CONSULTANTS GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring	g Well Number:	MW-11

ſ	Project Name:	Omega Termite	Date of Sampling:	10/3/2007
	Job Number:	262157	Name of Sampler:	Adrian
Ī	Project Address:	807 75th Avenue Oakland		

MONITORING WELL DATA					
Well Casing Diameter (2"/4"/6")		2			
Wellhead Condition	ОК	▼			
Elevation of Top of Casing (feet above msl)		10.96			
Depth of Well		35.00			
Depth to Water (from top of casing)	3.92				
Water Elevation (feet above msl)	7.04				
Well Volumes Purged	3				
Calculated Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	<sup>1g</sup> 14.9				
Actual Volume Purged (gallons)	16.0				
Appearance of Purge Water		Initially brown, then clear @ 2.5 gal.			
Free Product Present?	No	Thickness (ft): NA			

GROUNDWATER SAMPLE	S
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Number of Samples/Container Size			2 - 40ml VOAs, 1 L Amber				
Time	Vol Removed (gal)	Temperature (deg C)	рН	Conductivity (μS/cm)	DO (mg/L)	ORP (meV)	Comments
	1	18.60	7.37	2822	16.52	140.1	light brown
	2	18.65	7.35	2807	18.19	146.1	clear
	3	18.66	7.33	2805	18.31	148.9	clear
	4	18.67	7.32	2803	18.36	152.2	clear
	6	18.68	7.30	2801	18.31	154.1	clear
	8	18.68	7.29	1799	18.22	155.2	clear
	10	18.69	7.27	2796	18.00	156.6	clear
	12	18.69	7.25	2795	17.87	155.6	clear
	14	18.69	7.25	2795	17.81	156.8	clear
	16	18.7	7.25	2794	17.78	159.1	clear
				1			

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

No hydrocarbon odor. Clear at 2.5 Gallons

## AEI CONSULTANTS GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number	: MW-12
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ſ	Project Name:	Omega Termite	Date of Sampling:	1/18/2008
	Job Number:	262157	Name of Sampler:	Adrian
ĺ	Project Address:	807 75th Avenue Oakland		

MONITORING WELL DATA				
Well Casing Diameter (2"/4"/6")		2		
Wellhead Condition	ОК	▼		
Elevation of Top of Casing (feet above msl)		10.46		
Depth of Well		35.00		
Depth to Water (from top of casing)	3.32			
Water Elevation (feet above msl)	7.14			
Well Volumes Purged	3			
Calculated Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	15.2			
Actual Volume Purged (gallons)	16.0			
Appearance of Purge Water	milky brown. Clears @ 1.5gal			
Free Product Present?	Free Product Present? No Thickness (ft): NA			

GROUNDWATER SAMPLES							
mber of Sam	nples/Container S	Size		2 - 40ml VOA	s, 1 L Amber		
Time	Vol Removed (gal)	Temperature (deg C)	рН	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
	1	18.95	7.40	2532	16.97	122.6	Light brown
	2	19.05	7.36	2535	17.15	127.9	clear
	3	19.03	7.32	2544	16.93	133.6	clear
	4	19.02	7.30	2547	16.64	136.2	clear
	6	18.93	7.23	2554	15.55	138.1	clear
	8	18.83	7.17	2565	14.20	141.2	clear
	10	18.82	7.16	2572	13.80	143.2	clear
	12	18.82	7.12	2575	12.88	147.2	clear
	14	18.82	7.1	2580	12.45	148.4	clear
	16	18.83	7.09	2582	12.03	149.8	clear

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

Brown with No hydrocarbon odor. Clears @ 1.5 Gallons

## **APPENDIX B**

Laboratory Analytical Documentation and Chain of Custody Documentation

When Ouality		Web: www.mc	ow Pass Road, Pittsburg, campbell.com E-mail: m one: 877-252-9262 Fax:	ain@mccampbell.com
AEI Consultants	Client Project ID: #262157	7; Omega Termite	Date Sampled:	01/18/08
2500 Camino Diablo, Ste. #200			Date Received:	01/18/08
Walnut Creek, CA 94597	Client Contact: Robert Flo	ory	Date Reported:	01/25/08
Wundt Crock, CIT 94397	Client P.O.:		Date Completed:	01/25/08

### WorkOrder: 0801471

January 25, 2008

Dear Robert:

Enclosed within are:

- 1) The results of the 11 analyzed samples from your project: #262157; Omega Termite,
- 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.

Telephone: (925)	McCAM 252-9262	1538 W	ANAL Villow Pass Point, CA 94	Road	CA	L, I			: (92	25)	252-9	926	9	-	-	_	Sec.	DU	HAND	TIM	AE.		RI	USH	L	24 1	k			R	۲2 I	HR	5 DA
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Report To: Rober	and the second se	ky Bradf	ord B	ill To	: Sar	ne					_		-	-			_	A	nary	SIS F	tequ	iest							Ull	ler	+	.01111	ients
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E-Mail: rflory@ae				ax: (				5						Dia no			SO1	The			DB,		/ 83										
Tel: (925) 944-289 Project #: 262157	9, ext. 122;	ext. 140		rojec	and the second se				Terr	nite			-	DCTORIGITZOR ANS)			1700				E		270										
Project Location:	807 75 <sup>th</sup> Av	enue Oal			t I tai	ne.	Ulli	ega	Terr	mu	-				5	SC)	se (				) inc		5/8			0							
Sampler Signatur	//	112	Manu, Cr											19	200	108	Uenes	704	[]]		60B		1 62			09/							
	c. fr fr	SAMP	LING		SIS		MA	TRI	х		METI		D	BILAWMIBL	(SW8015C)	MC) II	Ce (er	(c) en	SW802	8080	SW82		by EP/			/239.2							
SAMPLE ID (Field Point Name)	LOCATION	Date	Time	# Containers	Type Containers	Water	Soil	Air	Other	Γ			1	TPH as gas w/ B1	TPH as diesel (2	1 PH as motor oil (SW8015C)	Total Petroleum Oil & Grease (5520 E&F/B&F) Holocommed WOCs (SW9760B ) # 9010 list)	nalogenated vO	BTEX ONLY! (SW8021B)	PCBs EPA 608 / 8080	Fuel Additives (SW8260B) inc., EDB, TCA	EPA 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421/239.2/6010)	RCI				-		
MW-1		1/18/08	1:10e	4	VIL	X			-	X	x		+	X	X	X		T															
MW-2		1	Nip	1		R				X	V			X	X	X																	
MW-3			11:05			R				X	11			X	X	X																	
MW-4			1205			K				X	K			X	X	X																	
TW-5			1001		1	Ŕ				X	K			X	X	X															4	DAM.	AGI
MW-6			12:00			È				k	N			X	X	X																	
MW-7	7		9:55	+	1	r		-		k	X			X	X	X	1																
MW-8			12:50	+	1	A		-	-				+	X	X	X	-																
MW-9			1.00			F		+	+	1×	10		+	X	x	X		1															
MW-10			10:55			A		-	-	K	1	-	+	X	X	X		-															
MW-11			10:00			K			-	k	A		-	X	X	X	-	-									-			T			
MW-12					1	6				K	1				x		-	+			-	$\square$				-	-	$\vdash$		T			
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## McCampbell Analytical, Inc.

AW
18 C

1534 Willow Pass Rd

## CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Pittsburg (925) 25	g, CA 94565-1701 2-9262				Work	Order	: 0801	471	(	lientII	): AEL					
			✓ EDF	Ľ	Excel		Fax		🖌 Email		Hard	dCopy	🗌 Thi	irdParty		
AEI Consulta	o Diablo, Ste. #200	(925) 283-600( #262157; Om	( )	44-28	95	AE 25 Wa	enise M El Consi 00 Carr alnut Cr nockel @	ultants nino Di reek, C	A 94597	7		Dat	uested e Rece e Prin	eived:	5 0 01/18/ 01/22/	
								Req	uested	Tests	(See le	gend b	elow)			
Sample ID	ClientSampID	Matrix	Collection Date	Hold	1	2	3	4	5	6	7	8	9	10	11	12
0801471-001	MW-1	Water	1/18/2008 1:10:00		А	А	В							T	Τ	
0801471-002	MW-2	Water	1/18/2008		Α		В									
0801471-003	MW-3	Water	1/18/2008		А		В									
0801471-004	MW-4	Water	1/18/2008		А		В									
0801471-005	MW-6	Water	1/18/2008		А		В									
0801471-006	MW-7	Water	1/18/2008 9:55:00		А		В									
0801471-007	MW-8	Water	1/18/2008		Α		В									
0801471-008	MW-9	Water	1/18/2008 1:00:00		Α		В									
0801471-009	MW-10	Water	1/18/2008		Α		В									
0801471-010	MW-11	Water	1/18/2008		Α		В									
0801471-011	MW-12	Water	1/18/2008		Α		В									

**Test Legend:** 

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

### Prepared by: Samantha Arbuckle

#### **Comments:**

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



# McCampbell Analytical, Inc. "When Ouality Counts"

## Sample Receipt Checklist

Client Name:	AEI Consultants				Date a	and Time Received:	1/18/08 4:	32:23 PM
Project Name:	#262157; Omega	Termite			Check	klist completed and re	eviewed by:	Samantha Arbuckle
WorkOrder N°:	0801471	Matrix <u>Water</u>			Carrie	r: <u>Client Drop-In</u>		
		c	Chain of C	ustodv (C	COC) Informa	ation		
Chain of custody	v present?	-	Yes		No 🗆			
	•							
Chain of custody	/ signed when relinqui	shed and receiv	ed? Yes	$\checkmark$	No 🗆			
Chain of custody	agrees with sample	abels?	Yes	$\checkmark$	No 🗌			
Sample IDs noted	d by Client on COC?		Yes	V	No 🗆			
Date and Time of	f collection noted by Cl	ient on COC?	Yes	✓	No 🗆			
Sampler's name	noted on COC?		Yes	✓	No 🗆			
			Sample	a Rocaint	t Information			
Custody seals in	tact on shipping conta	iner/cooler?	Yes	$\checkmark$	No 🗆		NA 🗆	
Shipping contain	er/cooler in good conc	lition?	Yes	$\checkmark$	No 🗆			
Samples in prop	er containers/bottles?		Yes	✓	No 🗆			
Sample containe	ers intact?		Yes	✓	No 🗆			
Sufficient sample	e volume for indicated	test?	Yes	✓	No 🗌			
		Sample P	reservatio	on and Ho	old Time (HT)	) Information		
All samples rece	ived within holding tim	e?	Yes	$\checkmark$	No 🗌		_	
Container/Temp	Blank temperature		Coo	ler Temp:	7.2°C		NA 🗆	
Water - VOA via	ls have zero headspa	ce / no bubbles?	? Yes	✓	No 🗆	No VOA vials subm	itted 🗌	
Sample labels cl	hecked for correct pre	servation?	Yes	✓	No 🗌			
TTLC Metal - pH	acceptable upon rece	ipt (pH<2)?	Yes		No 🗆		NA 🗹	

Client contacted:

Date contacted:

Contacted by:

Comments:

	McCampbell	Analy uality Counts		<u>.</u>	Web: www.m		ittsburg, CA 94565 E-mail: main@mcca 2 Fax: 925-252-9	mpbell.com		
AEI Co	onsultants		Client Proj	ect ID: #262	157; Omega To			d: 01/18/08		
2500 Ca	amino Diablo, Ste. #200						Date Receive	ed: 01/18/08		
			Client Cor	tact: Robert	Flory		Date Extract	ed: 01/19/08	-01/24	/08
Walnut	Creek, CA 94597		Client P.O.	:			Date Analyz	ed 01/19/08	-01/24/	/08
		e Range (		-		line with BTH	X and MTBE			
Extraction	n method SW5030B Client ID	Matrix	Analy TPH(g)	vtical methods SV	Benzene	Toluene	Ethylbenzene	Work Order Xylenes	: 0801	471 % SS
	Cheft ID	WIAUTX	IF H(g)	MIDE	Belizelle	Toluelle	Euryibenzene	Aylelles		70 55
001A	MW-1	W	4400,a,i	ND<25	1300	2.5	11	84	5	91
002A	MW-2	W	2200,b,m,i	ND	4.1	3.7	26	40	1	114
003A	MW-3	W	470,a,i	ND	29	1.5	34	20	1	101
004A	MW-4	W	100,a,i	ND	18	ND	6.2	1.4	1	96
005A	MW-6	W	ND,i	ND	ND	ND	1.3	ND	1	93
006A	MW-7	W	ND,i	ND	ND	ND	ND	ND	1	94
007A	MW-8	W	ND,i	ND	ND	ND	ND	ND	1	92
008A	MW-9	W	250,a,i	ND	100	ND	1.3	7.6	1	97
009A	MW-10	W	79,g,i	ND	ND	ND	ND	ND	1	105
010A	MW-11	W	ND,i	ND	ND	ND	ND	ND	1	117
011A	MW-12	W	ND,i	ND	ND	ND	ND	ND	1	108
	orting Limit for DF =1;	W	50	5.0	0.5	0.5	0.5	0.5	1	μg/L
	neans not detected at or we the reporting limit	S	NA	NA	NA	NA	NA	NA	1	mg/K

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

# cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) reporting limit raised due to high MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern; n) TPH(g) range non-target isolated peaks subtracted out of the TPH(g) concentration at the client's request; p) see attached narrative.



<u>McC</u>	ampbell Analyti "When Ouality Counts"	cal, Inc.	Web: www.mcc	ow Pass Road, Pittsburg, CA 945 ampbell.com E-mail: main@mc ne: 877-252-9262 Fax: 925-252	campbell.cor	n		
AEI Consultants	when Ouanty Counts	Client Project	D: #262157; Omega		/18/08			
2500 Camino Diab	lo. Ste. #200	Termite	-	Date Received: 01	/18/08			
		Client Contact	: Robert Flory	Date Extracted: 01/	/18/08			
Walnut Creek, CA	.94597	Client P.O.:		Date Analyzed 01/	/19/08-01/	/22/08		
]	Diesel (C10-23) and Oil (	C18+) Range Ex	tractable Hydrocarbons :	as Diesel and Motor Oil*	sel and Motor Oil*			
Extraction method: SW3	510C	Analytical	methods: SW8015C	Wor	rk Order: 0	801471		
Lab ID	Client ID	Matrix	TPH(d)	TPH(mo)	DF	% SS		
0801471-001B	MW-1	W	560,a,d,i	260	1	102		
0801471-002B	MW-2	W	3200,d,k,i	350	1	110		
0801471-003B	MW-3	W	200,d,b,i	ND	1	102		
0801471-004B	MW-4	W	ND,i	ND	1	102		
0801471-005B	MW-6	W	130,b,d,i	ND	1	102		
0801471-006B	MW-7	W	ND,i	ND	1	103		
0801471-007B	MW-8	W	ND,i	ND	1	103		
0801471-008B	MW-9	W	160,b,i	ND	1	102		
0801471-009B	MW-10	W	220,k,i	ND	1	102		
0801471-010B	MW-11	W	ND,i	ND	1	101		
0801471-011B	MW-12	W	ND,i	ND	1	116		
-	ng Limit for DF =1;	W	50	250	μ	g/L		
	ns not detected at or the reporting limit	S	NA	NA	mg	g/Kg		

\* water samples are reported in  $\mu g/L$ , wipe samples in  $\mu g/wipe$ , 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  $\mu g/L$ .

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

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant); d) gasoline range compounds are significant; e) unknown medium boiling point pattern that does not appear to be derived from diesel; f) one to a few isolated peaks present; g) oil range compounds are significant (cooking oil?); h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; k) kerosene/kerosene range; l) bunker oil range (?); no recognizable pattern; m) fuel oil; n) stoddard solvent/mineral spirits; p) see attached narrative.



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## QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder 0801471

EPA Method SW8021B/8015Cm	Extra	ction SW	5030B		Bat	chID: 33	243	Sp	iked Sam	ole ID:	0801432-00	5A
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acc	eptance	Criteria (%)	
Analyte	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex <sup>f</sup> )	ND	60	109	109	0	101	111	8.88	70 - 130	30	70 - 130	30
MTBE	ND	10	124	121	1.95	123	117	5.05	70 - 130	30	70 - 130	30
Benzene	ND	10	93.5	97.3	4.06	106	101	4.47	70 - 130	30	70 - 130	30
Toluene	ND	10	104	107	3.21	116	112	3.75	70 - 130	30	70 - 130	30
Ethylbenzene	ND	10	102	106	3.67	110	110	0	70 - 130	30	70 - 130	30
Xylenes	ND	30	110	113	2.99	120	120	0	70 - 130	30	70 - 130	30
%SS:	107	10	89	89	0	98	93	4.27	70 - 130	30	70 - 130	30
All target compounds in the Method E NONE	Blank of this	extraction	batch we	ere ND les	ss than the	method F	RL with th	e following	exceptions:			

#### BATCH 33243 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0801471-001A	01/18/08 1:10 PM	01/23/08	01/23/08 5:12 AM	0801471-002A	01/18/08 12:50 PM	01/23/08	01/23/08 1:40 AM
0801471-003A	01/18/08 11:05 AM	01/19/08	01/19/08 6:58 AM	0801471-004A	01/18/08 12:05 PM	01/19/08	01/19/08 7:32 AM

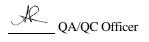
MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% 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.

 $\pounds$  TPH(btex) = sum of BTEX areas from the FID.

# cluttered chromatogram; sample peak coelutes with surrogate peak.





"When Ouality Counts"

## QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder 0801471

EPA Method SW8021B/8015Cm	Extra	ction SW	5030B		Bat	chID: 33	276	Sp	iked Sam	ole ID:	0801476-00	4A
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acc	eptance	Criteria (%)	
/ ildiyio	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex) <sup>£</sup>	ND	60	108	99.7	8.13	122	118	3.17	70 - 130	30	70 - 130	30
MTBE	ND	10	107	111	3.64	94.4	96.7	2.41	70 - 130	30	70 - 130	30
Benzene	ND	10	97.8	101	3.48	95.2	96.8	1.63	70 - 130	30	70 - 130	30
Toluene	ND	10	98.2	100	2.25	94.5	96.3	1.84	70 - 130	30	70 - 130	30
Ethylbenzene	ND	10	102	103	1.63	97.4	101	3.72	70 - 130	30	70 - 130	30
Xylenes	ND	30	110	110	0	110	110	0	70 - 130	30	70 - 130	30
%SS:	92	10	92	95	2.73	90	92	1.94	70 - 130	30	70 - 130	30

#### BATCH 33276 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0801471-005A	01/18/08 12:10 PM	01/19/08	01/19/08 8:05 AM	0801471-006A	01/18/08 9:55 AM	01/19/08	01/19/08 8:39 AM
0801471-007A	01/18/08 12:00 PM	01/19/08	01/19/08 9:12 AM	0801471-008A	01/18/08 1:00 PM	01/19/08	01/19/08 9:46 AM
0801471-009A	01/18/08 10:55 AM	01/24/08	01/24/08 11:09 PM	0801471-010A	01/18/08 10:10 AM	01/23/08	01/23/08 5:42 PM
0801471-011A	01/18/08 12:55 PM	01/19/08	01/19/08 12:04 PM				

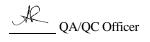
MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% 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.

 $\pounds$  TPH(btex) = sum of BTEX areas from the FID.

# cluttered chromatogram; sample peak coelutes with surrogate peak.





<u>McCampbell Analytical, Inc.</u>

"When Ouality Counts"

## QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder 0801471

EPA Method SW8015C	Extraction SW3510C				BatchID: 33196			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(d)	N/A	1000	N/A	N/A	N/A	112	115	1.95	N/A	N/A	70 - 130	30
%SS:	N/A	2500	N/A	N/A	N/A	114	111	2.88	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 33196 SUMMARY Date Extracted Sample ID **Date Sampled** Date Extracted Date Analyzed Sample ID **Date Sampled** Date Analyzed 0801471-001B 01/18/08 1:10 PM 01/18/08 01/19/08 1:40 AM 0801471-002B 01/18/08 12:50 PM 01/18/08 01/22/08 3:41 PM 0801471-003B 01/18/08 11:05 AM 01/18/08 01/19/08 6:14 AM 0801471-004B 01/18/08 12:05 PM 01/18/08 01/19/08 7:22 AM 0801471-005B 01/18/08 12:10 PM 01/18/08 01/19/08 8:30 AM 0801471-006B 01/18/08 9:55 AM 01/18/08 01/19/08 9:39 AM 0801471-007B 0801471-008B 01/19/08 11:55 AM 01/18/08 12:00 PM 01/18/08 01/19/08 10:47 AM 01/18/08 1:00 PM 01/18/08 0801471-009B 01/18/08 10:55 AM 01/18/08 01/19/08 1:04 PM 0801471-010B 01/18/08 10:10 AM 01/18/08 01/19/08 2:12 PM 0801471-011B 01/18/08 12:55 PM 01/18/08 01/22/08 12:53 PM

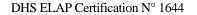
MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% 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.



~ QA/QC Officer