RO-186

AEI CONSULTANTS
ENVIRONMENTAL & CIVIL ENGINEERING

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July 23, 2004

Mr. Don Huang
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Subject: **Quarterly Groundwater Monitoring Report**
Second Quarter 2004
1075 40th Street
Oakland, California
AEI Project No. 3119

Dear Mr. Huang:

Enclosed is a copy of the quarterly groundwater report for the second quarter 2004 groundwater monitoring event. I am working up the data from the pilot test and will have the report done shortly.

Please call me at (925) 944-2899 x122, if you have any questions.

Sincerely,
AEI Consultants

Robert F. Flory, RG

July 23, 2004

GROUNDWATER MONITORING REPORT

Second Quarter 2004

1075 40th Street
Oakland, California

R0186

Project No. 8326

Prepared For

Mr. Monte Upshaw
Fidelity Roof Company
1075 40th Street
Oakland, CA 94608

Prepared By

AEI Consultants
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AEI

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July 23, 2004

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Fidelity Roof Company
1075 40th Street
Oakland, CA 94608

Subject: **Quarterly Groundwater Monitoring Report**
Second Quarter 2004
1075 40th Street
Oakland, California
Project No. 8326

Dear Mr. Upshaw:

AEI Consultants (AEI) has prepared this report on behalf of Fidelity Roof Company to document the ongoing groundwater investigation at the above referenced site (Figure 1: Site Location Map). The purpose of this activity was to monitor groundwater quality near the previously removed underground storage tanks (USTs). The work was performed in compliance with requirements of the Alameda County Health Care Services Agency (ACHCSA). This report presents the findings of the second quarter 2004 groundwater monitoring and sampling event conducted on June 8, 2004.

Site Description and Background

The site currently supports the operation of Fidelity Roof Company and is located in a mixed residential and commercial area of Oakland at 1075 40th Street.

On December 19, 1995, Tank Protect Engineering, Inc. removed one (1) 1,000 gallon diesel underground storage tank (UST) and one (1) 500 gallon gasoline UST from the southeast corner of the property. The removal of the tanks produced a single excavation. Analysis of the soil samples indicated that soil beneath the 1,000 gallon UST had been impacted by minor concentrations of total petroleum hydrocarbons as gasoline (TPH-g), TPH as diesel (TPH-d), benzene, toluene, ethylbenzene and total xylenes (BTEX) and methyl tertiary butyl ether (MTBE).

On September 12, 1996, AEI advanced four soil borings near the former UST excavation. Analytical results from the subsurface investigation revealed significant levels of gasoline and diesel petroleum hydrocarbons present in soil and groundwater to the south and to the west of the open excavation. Due to the high concentrations of petroleum hydrocarbons within the groundwater, the ACHCSA required further investigation of the extent and magnitude of the groundwater contaminant plume.

On October 25, 1996, AEI extended the excavation laterally 7 feet to the south and 12 feet to the west. Soil was removed to a depth of 9 feet below ground surface (bgs). The dispenser island and associated piping were also removed. Analyses of the soil samples collected from the excavation sidewalls indicated that up to 150 mg/kg of TPH-g, 16 mg/kg of benzene, and 300 mg/kg of TPH-d remained within the western sidewall of the excavation.

On March 6, 1997, AEI installed three groundwater monitoring wells. At the request of the ACHCSA, six additional soil borings were drilled south and west of the well locations on November 4, 1998. TPH-d was detected at a concentration of 2,400 µg/L in groundwater to the south of the former excavation. No significant concentrations of petroleum hydrocarbons were detected from the other borings. Monitoring well MW-4 was installed on July 15, 1999, south of the former tank locations along Yerba Buena Avenue. Well construction details for the four (4) groundwater monitoring wells are summarized in Table 1.

On May 6, 2004, AEI installed one vapor extraction well (VES-1) and two (2) air sparge wells (AS1 and AS-1). Six (6) shallow vapor monitoring mini-wells (DP-I through DP-6) were installed on May 13, 2004. On May 19 through 20 AEI carried out a soil vapor extraction and air sparge pilot test was carried out. Currently the test data is undergoing analysis and a report summarizing the results of the pilot test is being prepared. Well construction details for the shallow vapor extraction well, the two (2) air sparge wells and the six (6) shallow vapor monitoring wells are summarized in Table 1.

Summary of Activities

AEI measured the depth to groundwater in the four wells (MW-1 to MW-4) on June 8, 2004. Well locations are shown on Figure 2. Prior to sampling, the depth to water from the top of the well casings was measured with an electric water level indicator. Each well was then purged of at least 3 well volumes with a submersible pump. Temperature, pH, specific conductivity, dissolved oxygen (DO) and oxidation-reduction potential (ORP) were measured during the purging of the wells and turbidity was visually noted. Once water levels had recovered to at least 90% of their original level, a water sample was collected.

The groundwater samples were collected from each well using clean disposable bailers. The water samples were collected into 1-liter amber glass bottles and 40 ml glass volatile organic analysis (VOA) vials. The VOAs were capped so no headspace or air bubbles were present within the sample containers. Samples were delivered on ice under proper chain of custody protocol to McCampell Analytical, Inc. of Pacheco, California (Department of Health Services Certification #1644).

Four groundwater samples were submitted for chemical analysis for TPH-g, MTBE, benzene, toluene, ethylbenzene, and xylenes (BTEX) by method SW 8021B/8015Cm and TPH-d by method SW 8015C.

Field Results

A strong hydrocarbon odor and sheen were observed during the purging and sampling of MW-3, however no measurable free phase fuel product was present in this well. Groundwater elevations for the current monitoring episode ranged from 34.48 to 36.10 feet above mean sea level (msl). These groundwater elevations were an average of 1.34 lower than the previous monitoring event. Based on these water level measurements, the direction of the groundwater flow at the time of measurement was towards the northwest with a hydraulic gradient of 0.02 ft/ft. This flow direction and gradient are consistent with previous episodes.

Groundwater elevation data and groundwater sample analytical data are summarized in Tables 2 and 3. The groundwater elevation contours and the groundwater flow direction are shown on Figure 3. Refer to Appendix A for Groundwater Monitoring Well Field Sampling Forms, which include field measurements and observations made during the monitoring activities.

Groundwater Quality

Significant concentrations of hydrocarbons remain in MW-3, with TPH-g and TPH-d detected at 90,000 µg/l and 26,000 µg/l, respectively. Benzene was detected in this well at 6,700 µg/l. TPH-d was detected in MW-1 at 78 µg/l. MTBE was detected in wells MW-2 and MW-4 at 3,400 µg/l and 11 µg/l, respectively by the standard 8015/8021B analysis; however, no other 8015/8021B target analytes were detected in either of these wells above the reported detected limits. However, analysis for fuel oxygenates by EPA Method 8260 reported MTBE in wells MW-1 through MW-4 at concentrations of 1.8 µg/l, 4,300 µg/l, 99 µg/l and 15 µg/l, respectively. 1,2-Dichloroethane (1,2-DCA) was also reported in wells MW-1 and MW-4 at concentrations of 1.5 µg/l and 0.79 µg/l, respectively.

Groundwater sample analytical data is presented in Table 3. Selected analytical data is presented on Figure 2. Laboratory results and chain of custody documents are included in Appendix B.

Summary

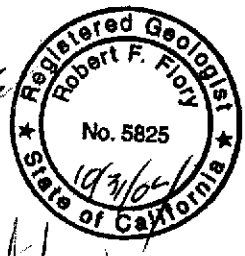
Significant hydrocarbons remain in the groundwater beneath the site, particularly west and north of the former excavation. Although seasonal concentration fluctuations have been observed, long-term concentration trends indicate no significant attenuation is occurring. AEI will continue quarterly monitoring, with the next episode scheduled for September 2004.

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.

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.

Sincerely,
AEI Consultants



Robert F. Flory, RG
Senior Project Geologist

Peter McIntyre
Program Manager

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Figure 2 *Sample Analytical Data*
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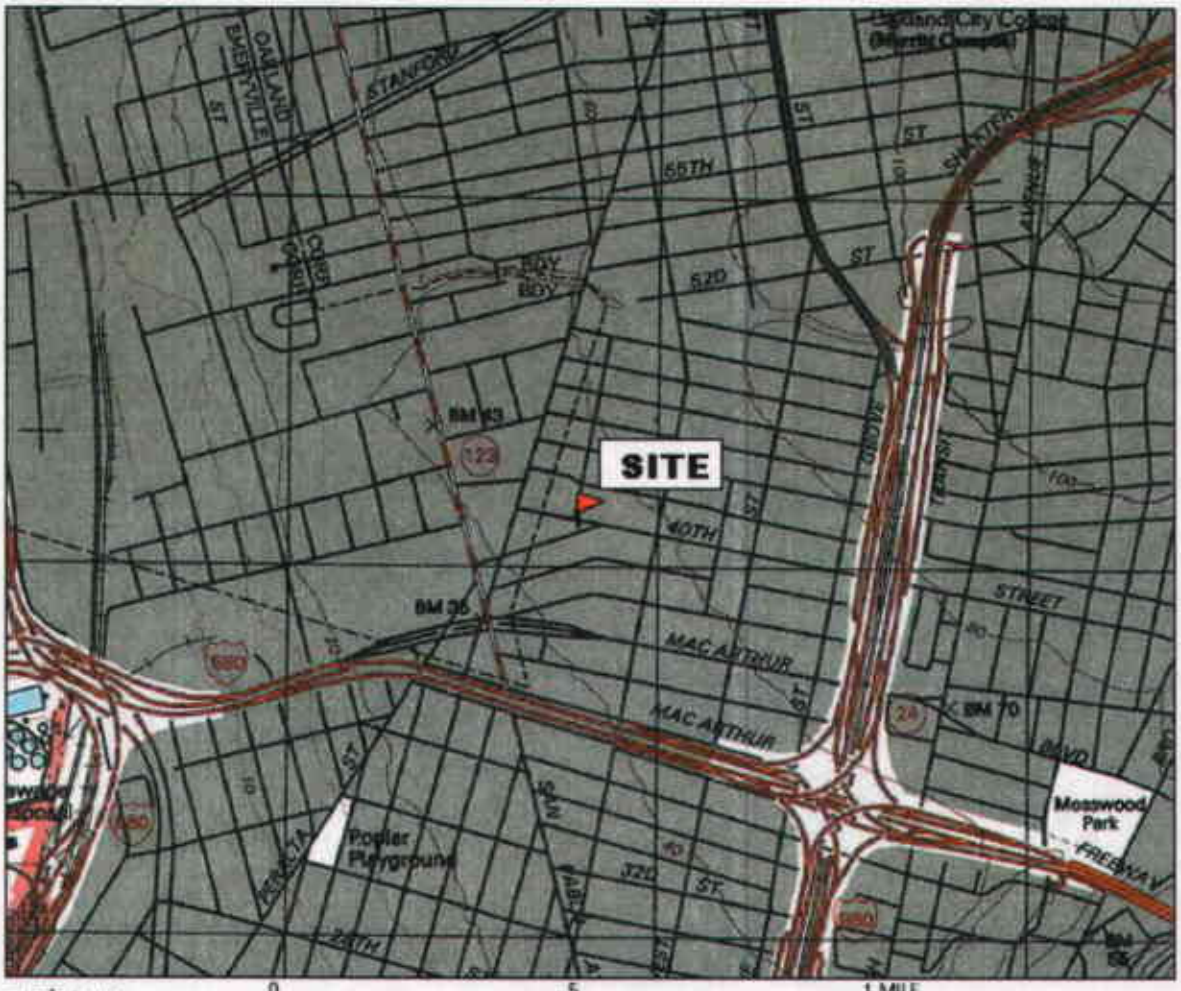
Table 2 *Groundwater Elevation Data*
Table 3 *Groundwater Analytical Data*
Table 4 *Fuel Oxygenate Analytical Data*

Appendices

Appendix A *Groundwater Monitoring Well Field Sampling Forms*

Appendix B *Laboratory Analyses with Chain of Custody Documentation*

cc: Don Huang
ACHCSA
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577



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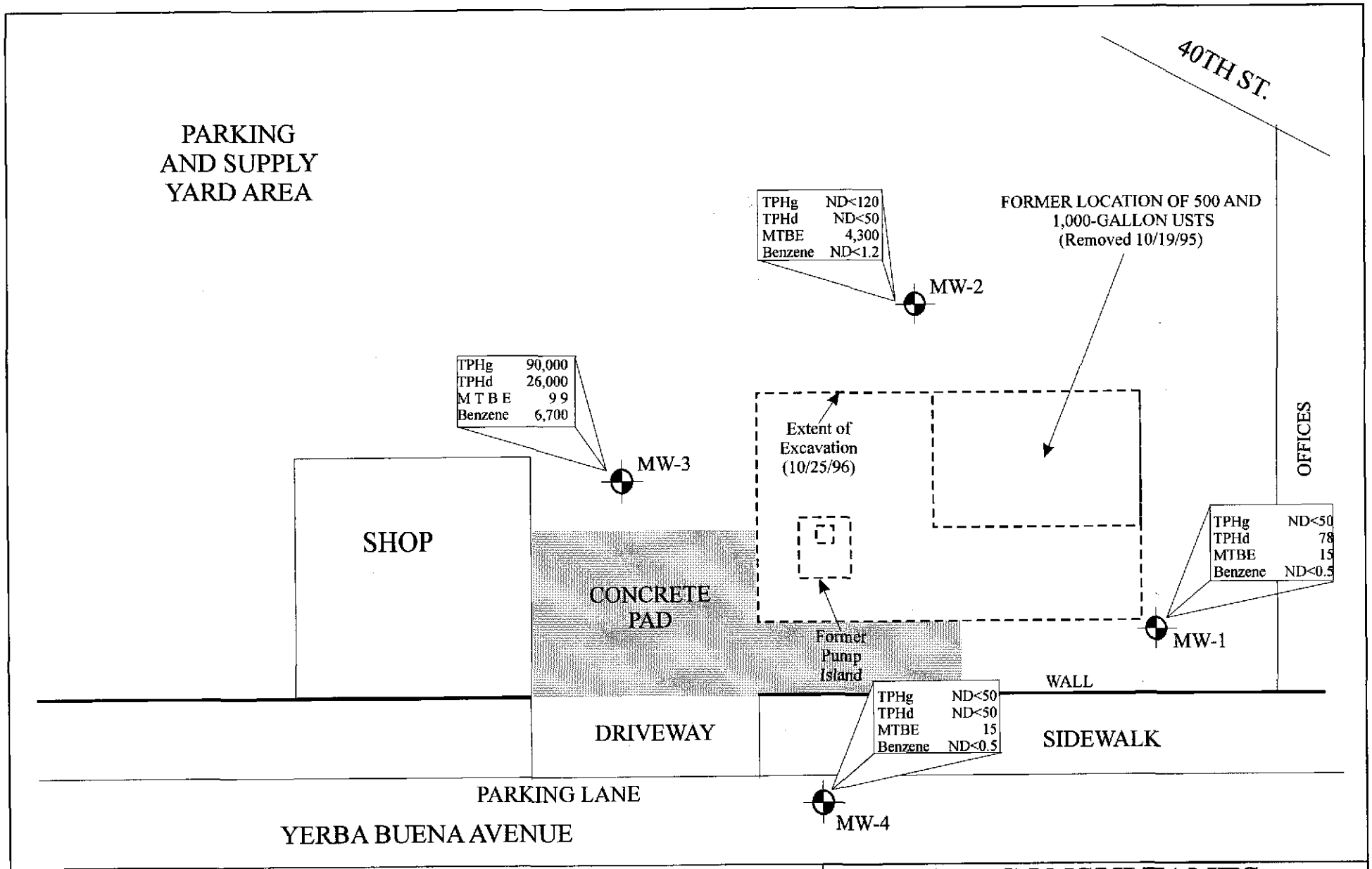
AEI CONSULTANTS	
SITE LOCATION MAP	
1075 40th STREET OAKLAND, CALIFORNIA	**FIGURE 1** PROJECT NO. 8326



Monitoring Well

Groundwater results are expressed in µg/L.
TPHg = Total petroleum hydrocarbons as gasoline
TPHd = Total petroleum hydrocarbons as diesel
MTBE = Methyl tertiary butyl ether by 8260

Scale: 1" = 20'

0 10 20

N

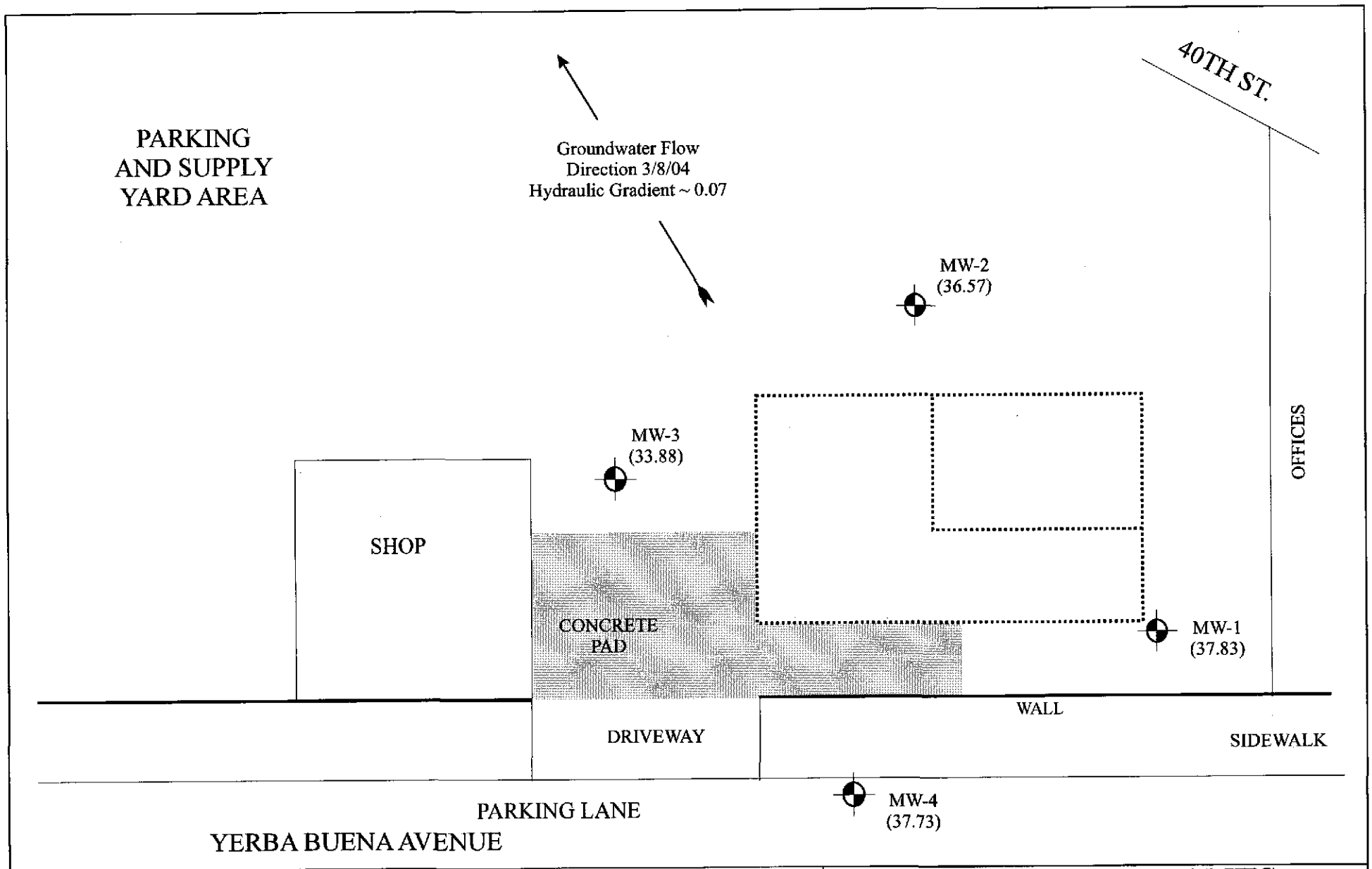
AEI CONSULTANTS

2500 CAMINO DIABLO, SUITE 100, WALNUT CREEK, CA

SAMPLE ANALYTICAL DATA - 06/08/04

1075 40TH AVENUE
OAKLAND, CALIFORNIA

Figure 2
AEI Project: 3119



MW-3
(33.88)

Monitoring Well
Water table elevations in feet above mean sea level

Scale: 1" = 20'

0 10 20

N

AEI CONSULTANTS

2500 CAMINO DIABLO, SUITE 200, WALNUT CREEK, CA

GROUNDWATER GRADIENT

1075 40TH AVENUE
OAKLAND, CALIFORNIA

Figure 3
AEI Project: 3119

Table 1: Well Construction Details, Fidelity Roof Company, 1075 40th Street, Oakland, California

Well ID	Date Drilled	Elevation (ft msl)	Water Depth 03/08/04 (ft)	Boring Depth (ft)	Slotted Casing (ft)	Slot Size (in)	Blank Casing (ft)	Sand Interval (ft)	Sand Size	Bentonite Interval (ft)	Grout Interval (ft)
MW-1	03/06/97	45.41	**7.66**	21.0	6-21	0.020	0.5-6	5-21	#3	4-5	0.5-4
MW-2	03/19/97	44.94	**8.41**	21.0	6-21	0.020	0.5-6	5-21	#3	4-5	0.5-4
MW-3	03/19/97	44.32	**10.49**	21.0	6-21	0.020	0.5-6	5-21	#3	4-5	0.5-4
MW-4	08/05/99	43.48	**5.75**	20.0	5-21	0.020	0.55	4-20	#3	3-4	0.5-3
AS-1	05/06/04	45.2 est	----	30.0	25-30	0.010	0.75-25	22-30	2/12	19-22	1.0-19
AS-2	05/06/04	45.2 est.	----	30.0	25-30	0.010	0.75-25	22-30	2/12	19-22	1.0-19
VE-1	05/06/04	45.0 est.	----	10.0	5-10	0.010	0.75-10	4-10	2/12	3-4	1.0-3
DP-1	05/13/04	44.0 est.	----	16.0	5.5-15.5	# 40 mesh	5.5-0.5	4.5-15.5	#30	3.5-4.5	0.75-3.5
DP-2	05/13/04	44.6 est.	----	16.0	5.5-15.5	# 40 mesh	5.5-0.5	4.5-15.5	#30	3.5-4.5	0.75-3.5
DP-3	05/13/04	44.7 est.	----	16.0	5.5-15.5	# 40 mesh	5.5-0.5	4.5-15.5	#30	3.5-4.5	0.75-3.5
DP-4	05/13/04	44.8 est.	----	16.0	5.5-15.5	# 40 mesh	5.5-0.5	4.5-15.5	#30	3.5-4.5	0.75-3.5
DP-5	05/13/04	45.0 est.	----	16.0	5.5-15.5	# 40 mesh	5.5-0.5	4.5-15.5	#30	3.5-4.5	0.75-3.5
DP-6	05/13/04	44.3 est.	----	16.0	5.5-15.5	# 40 mesh	5.5-0.5	4.5-15.5	#30	3.5-4.5	0.75-3.5

Notes:
All well elevations are measured from the top of the casing and
ft msl = feet above mean sea level

Table 2: Groundwater Elevation Data, Fidelity Roofing, 1075 40th Street, Oakland, California

Well ID	Date	Elevation (ft msl)	Depth to Water (ft)	Groundwater Elevation (ft msl)
MW-1	03/19/97	45.41	8.25	37.16
	06/20/97	45.41	9.10	36.31
	10/08/97	45.41	9.95	35.46
	01/16/98	45.41	7.57	37.84
	08/05/99	45.49	10.16	35.33
	11/18/99	45.49	8.52	36.97
	02/24/00	45.49	7.65	37.84
	05/24/00	45.49	8.47	37.02
	08/29/00	45.49	10.28	35.21
	01/12/01	45.49	8.50	36.99
	04/18/01	45.49	8.77	36.72
	07/27/01	45.49	10.50	34.99
	11/06/01	45.49	10.28	35.21
	02/13/02	45.49	8.47	37.02
	05/14/02	45.49	9.50	35.99
	08/15/02	45.49	10.39	35.10
	11/14/02	45.49	9.08	36.41
	02/12/03	45.49	8.36	37.13
	05/16/03	45.49	8.49	37.00
	08/29/03	45.49	9.91	35.58
	12/02/03	45.49	8.88	36.61
	03/08/04	45.49	7.66	37.83
	06/08/04	45.49	**9.39**	**36.10**
MW-2	03/19/97	44.94	8.40	36.54
	06/20/97	44.94	8.85	36.09
	10/08/97	44.94	9.80	35.14
	01/16/98	44.94	5.28	39.66
	08/05/99	44.98	9.32	35.66
	11/18/99	44.98	10.20	34.78
	02/24/00	44.98	7.03	37.95
	05/24/00	44.98	8.01	36.97
	08/29/00	44.98	11.07	33.91
	01/12/01	44.98	8.60	36.38
	04/18/01	44.98	8.80	36.18
	07/27/01	44.98	11.10	33.88
	11/06/01	44.98	12.21	32.77
	02/13/02	44.98	7.98	37.00
	05/14/02	44.98	10.48	34.50
	08/15/02	44.98	10.64	34.34
	11/14/02	44.98	11.69	33.29
	02/12/03	44.98	9.07	35.91
	05/16/03	44.98	11.25	33.73
	08/29/03	44.98	12.19	32.79
	12/02/03	44.98	10.92	34.06
	03/08/04	44.98	8.41	36.57
	06/08/04	**44.98**	**10.19**	**34.79**

Table 2: Groundwater Elevation Data, Fidelity Roofing, 1075 40th Street, Oakland, California

Well ID	Date	Elevation (ft msl)	Depth to Water (ft)	Groundwater Elevation (ft msl)
MW-3	03/19/97	44.32	7.59	36.73
	10/08/97	44.32	9.98	34.34
	06/20/97	44.32	8.36	35.96
	01/16/98	44.32	9.18	35.14
	08/05/99	44.37	10.56	33.81
	11/18/99	44.37	10.92	33.45
	02/24/00	44.37	8.49	35.88
	05/24/00	44.37	8.42	35.95
	08/29/00	44.37	12.00	32.37
	01/12/01	44.37	10.50	33.87
	04/18/01	44.37	9.50	35.22
	07/27/01	44.37	11.61	32.76
	11/06/01	44.37	11.73	32.64
	02/13/02	44.37	9.36	35.01
	05/14/02	44.37	9.00	35.37
	08/15/02	44.37	11.72	32.65
	11/14/02	44.37	11.28	33.09
	02/12/03	44.37	10.17	34.20
	05/16/03	44.37	11.47	32.90
	08/29/03	44.37	11.92	32.45
	12/02/04	44.37	10.96	33.41
	03/08/04	44.37	10.49	33.88
	06/08/04	**44.37**	**9.89**	**34.48**
MW-4	08/05/99	43.48	8.79	34.69
	11/18/99	43.48	8.11	35.37
	02/24/00	43.48	5.19	38.29
	05/24/00	43.48	7.23	36.25
	08/29/00	43.48	9.04	34.44
	01/12/01	43.48	6.40	37.08
	04/18/01	43.48	7.30	36.18
	07/27/01	43.48	9.16	34.32
	11/06/01	43.48	9.03	34.45
	02/13/02	43.48	6.60	36.88
	05/14/02	43.48	7.19	36.29
	08/15/02	43.48	8.97	34.51
	11/14/02	43.48	7.52	35.96
	02/12/03	43.48	6.37	37.11
	05/16/03	43.48	6.81	36.67
	08/29/03	43.48	8.56	34.92
	12/02/03	43.48	6.02	37.46
	03/08/04	43.48	5.75	37.73
	06/08/04	**43.48**	**8.19**	**35.29**

Notes:
All well elevations are measured from the top of the casing and not from the ground surface
ft msl = feet above mean sea level

Table 2: Groundwater Elevation Data, Fidelity Roofing, 1075 40th Street, Oakland, California

Well ID	Date	Elevation (ft msl)	Depth to Water (ft)	Groundwater Elevation (ft msl)

Episode	Date	Average Water Table Elevation (ft amsl)	Water Table Elevation Change (ft)	Hydraulic Gradient/ Flow Direction (ft/ft)
1	03/19/97	36.81	----	----
2	06/20/97	35.58	-1.23	----
3	10/08/97	35.52	-0.06	----
4	01/16/98	37.55	2.03	----
5	08/05/99	34.87	-2.67	----
6	11/18/99	35.14	0.27	----
7	02/24/00	37.49	2.35	----
8	05/24/00	36.55	-0.94	----
9	08/29/00	33.98	-2.57	NW (0.09)
10	01/12/01	36.08	2.10	W (0.06)
11	04/18/01	36.08	0.00	W (0.02)
12	07/27/01	33.99	-2.09	W (0.02)
13	11/06/01	33.77	-0.22	NW (0.05)
14	02/13/02	36.48	2.71	NW (0.05)
15	05/14/02	35.54	-0.94	N (0.04)
16	08/15/02	34.15	-1.39	W (0.05)
17	11/14/02	34.69	0.54	N (0.08)
18	02/12/03	36.09	1.40	NW (0.03)
19	05/16/03	35.08	-1.01	NW (0.06)
20	08/29/03	33.94	-1.14	NW (0.04)
21	12/02/03	35.39	1.45	NW (0.05)
21	03/08/04	36.50	1.12	NW (0.04)
22	**06/08/04**	35.17	-1.34	**NW (0.02)**

Note - average water table elevation and change were not calculated for the first 8 episodes

Table 4: Fuel Oxygenate Analytical Data, Fidelity Roofing, 1075 40th Street, Oakland, California

Well ID	Date	TAME (µg/L)	TBA (µg/L)	EDB (µg/L)	1,2-DCA (µg/L)	DIPE (µg/L)	ETBE benzene (µg/L)	MTBE (µg/L)
MW - 1	06/08/04	ND<0.5	ND<5.0	ND<0.5	1.5	ND<0.5	ND<0.5	1.8
MW - 2	06/08/04	ND<100	ND<1000	ND<100	ND<100	ND<100	ND<100	4,300
MW -3	06/08/04	ND<5.0	ND<50	ND<5.0	ND<5.0	ND<5.0	ND<5.0	99
MW-4	06/08/04	ND<0.5	ND<5.0	ND<0.5	0.79	ND<0.5	ND<0.5	15

Notes:

(µg/L)	micrograms per liter	1,2-DCA	1,2-Dichloroethane
TAME	tert-Amyl methyl ether	DIPE	Diisopropyl ether
TBA	t-Butyl alcohol	ETBE	Ethyl tert-butyl ether
EDB	1,2-Dibromethane	MTBE	Methyl Tertiary Butyl Ether

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-1

Project Name:	Fidelity Roof Company	Date of Sampling:	6/8/2004
Job Number:	3119	Name of Sampler:	Adrian Nieto
Project Address:	1075 40th Avenue, Oakland		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	45.49		
Depth of Well	21.00		
Depth to Water (from top of casing)	9.39		
Water Elevation (feet above msl)	36.10		
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)	**5.6**		
Actual Volume Purged (gallons)	8.0		
Appearance of Purge Water	clear at 2 gallons		
Free Product Present?	No	Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size: 2 40mL VOA, 1 1L

Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µ sec/cm)	DO (mg/L)	ORP (meV)	Comments
	2	19.17	6.61	879	.59	-2.1	
	4	19.12	6.59	892	.64	-6.6	
	6	19.26	6.56	870	.65	-16.7	
	8	19.31	6.53	872	.68	-12.6	

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

Brown and no hydrocarbon odor present

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-2

Project Name:	Fidelity Roof Company	Date of Sampling:	6/8/2004
Job Number:	3119	Name of Sampler:	Adrian Nieto
Project Address:	1075 40th Avenue, Oakland		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2	
Wellhead Condition	OK	
Elevation of Top of Casing (feet above msl)	44.98	
Depth of Well	21.00	
Depth to Water (from top of casing)	10.19	
Water Elevation (feet above msl)	34.79	
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)	**5.2**	
Actual Volume Purged (gallons)	6.0	
Appearance of Purge Water	clear up at 2.5 gallons	
Free Product Present?		Thickness (ft):

GROUNDWATER SAMPLES

Number of Samples/Container Size: 2 40mL VOA, 1 1L

Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µ sec/cm)	DO (mg/L)	ORP (meV)	Comments
	2	20.45	7.11	1341	.84	-248.9	
	4	20.26	7.10	1327	.84	-291.9	
	6	20.29	7.13	1307	.81	-223.8	

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

Started light brown color and slightly hydrocarbon odor. Dry at 6.5 (11:26am.recharge at 11:46am)

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-3

Project Name:	Fidelity Roof Company	Date of Sampling:	6/8/2004
Job Number:	3119	Name of Sampler:	Adrian Nieto
Project Address:	1075 40th Avenue, Oakland		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	44.37		
Depth of Well	21.00		
Depth to Water (from top of casing)	9.89		
Water Elevation (feet above msl)	34.48		
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)	**5.3**		
Actual Volume Purged (gallons)	6.0		
Appearance of Purge Water	clear at 3 gallons		
Free Product Present?	yes	Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size: 2 40mL VOA, 1 1L

Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µ sec/cm)	DO (mg/L)	ORP (meV)	Comments
	2	19.66	7.04	1480	.57	-59.7	
	4	19.83	6.97	1484	.45	-88.9	
	6	20.04	6.83	1595	.38	-141.9	

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

Initially light grey and strong hydrocarbon odor. Went dry at4.5 gallons recharge in 10 minutes

Thick sheen present

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-4

Project Name:	Fidelity Roof Company	Date of Sampling:	6/8/2004
Job Number:	3119	Name of Sampler:	Adrian Nieto
Project Address:	1075 40th Avenue, Oakland		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	43.48		
Depth of Well	20.00		
Depth to Water (from top of casing)	8.19		
Water Elevation (feet above msl)	35.29		
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)	**5.7**		
Actual Volume Purged (gallons)	8.0		
Appearance of Purge Water	claers up very quickly		
Free Product Present?	No	Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size: 2 40mL VOA, 1 1L

Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µ sec/cm)	DO (mg/L)	ORP (meV)	Comments
	2	20.98	6.42	936	.64	-128.3	
	4	21.05	6.58	1007	.68	-192.8	
	6	20.51	6.57	1090	.77	-245.1	
	8	20.36	6.54	1063	.78	-257.4	

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

Show up brown color and no hydrocarbon odor present

McCampbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
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Website: www.mccampbell.com E-mail: main@mccampbell.com

All Environmental, Inc. 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	Client Project ID: #8326; Fidelity	Date Sampled: 06/08/04
		Date Received: 06/08/04
	Client Contact: Peter McIntyre	Date Reported: 06/15/04
	Client P.O.:	Date Completed: 06/15/04

WorkOrder: 0406120

June 15, 2004

Dear Peter:

Enclosed are:

1). the results of **4** analyzed samples from your **#8326; Fidelity project,**

2). a QC report for the above samples

3). a copy of the chain of custody, and

4). a bill 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 please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.

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Telephone : 925-798-1620 Fax : 925-798-1622
Website: www.mccampbell.com E-mail: main@mccampbell.com

All Environmental, Inc.	Client Project ID: #8326; Fidelity	Date Sampled: 06/08/04
2500 Camino Diablo, Ste. #200		Date Received: 06/08/04
Walnut Creek, CA 94597	Client Contact: Peter McIntyre	Date Extracted: 06/11/04-06/15/04
	Client P.O.:	Date Analyzed: 06/11/04-06/15/04

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

Extraction method: SW5030B Analytical methods: SW8021B/8015Cm Work Order: 0406120

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	MW-1	W	ND	ND	ND	ND	ND	ND	1	101
002A	MW-2	W	ND<120,j	3400	ND<1.2	ND<1.2	ND<1.2	ND<1.2	2.5	97.0
003A	MW-3	W	90,000,a,h	ND<1200	6700	580	2500	13,000	250	105
004A	MW-4	W	ND	11	ND	ND	ND	ND	1	100

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	1	µg/L
	S	NA	NA	NA	NA	NA	NA	1	mg/Kg

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

cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: 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 IP's subtracted out of the TPH(g) concentration at the client's request.

DHS Certification No. 1644

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.

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Telephone : 925-798-1620 Fax : 925-798-1622
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All Environmental, Inc.	Client Project ID: #8326; Fidelity	Date Sampled: 06/08/04
		Date Received: 06/08/04
2500 Camino Diablo, Ste. #200	Client Contact: Peter McIntyre	Date Extracted: 06/08/04
Walnut Creek, CA 94597	Client P.O.:	Date Analyzed: 06/10/04-06/15/04

Diesel Range (C10-C23) Extractable Hydrocarbons as Diesel*

Extraction method: SW3510C Analytical methods: SW8015C Work Order: 0406120

Lab ID	Client ID	Matrix	TPH(d)	DF	% SS
0406120-001C	MW-1	W	78,b	1	105
0406120-002C	MW-2	W	ND	1	108
0406120-003C	MW-3	W	26,000,d,b,g,h	10	114
0406120-004C	MW-4	W	ND	1	109

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.

+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; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; k) kerosene/kerosene range/jet fuel range; l) bunker oil; m) fuel oil; n) stoddard solvent/mineral spirit.

DHS Certification No. 1644

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.

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Website: www.mccampbell.com E-mail: main@mccampbell.com

All Environmental, Inc.	Client Project ID: #8326; Fidelity	Date Sampled: 06/08/04
2500 Camino Diablo, Ste. #200		Date Received: 06/08/04
Walnut Creek, CA 94597	Client Contact: Peter McIntyre	Date Extracted: 06/10/04-06/11/04
	Client P.O.:	Date Analyzed: 06/10/04-06/11/04

Oxygenated Volatile Organics + EDB and 1,2-DCA by P&T and GC/MS*

Extraction Method: SW5030B Analytical Method: SW8260B Work Order: 0406120

Lab ID	0406120-001B	0406120-002B	0406120-003B	0406120-004B	Reporting Limit for DF =1	
Client ID	MW-1	MW-2	MW-3	MW-4		
Matrix	W	W	W	W		
DF	1	200	10	1	S	W
Compound	**Concentration**				ug/kg	µg/L
tert-Amyl methyl ether (TAME)	ND	ND<100	ND<5.0	ND	NA	0.5
t-Butyl alcohol (TBA)	ND	ND<1000	ND<50	ND	NA	5.0
1,2-Dibromoethane (EDB)	ND	ND<100	ND<5.0	ND	NA	0.5
1,2-Dichloroethane (1,2-DCA)	1.5	ND<100	ND<5.0	0.79	NA	0.5
Diisopropyl ether (DIPE)	ND	ND<100	ND<5.0	ND	NA	0.5
Ethyl tert-butyl ether (ETBE)	ND	ND<100	ND<5.0	ND	NA	0.5
Methyl-t-butyl ether (MTBE)	1.8	4300	99	15	NA	0.5
Surrogate Recoveries (%)						
%SS:	91.1	85.8	86.4	94.3		
Comments			h			

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

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content.

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Angela Rydelius, Lab Manager

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QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: W WorkOrder: 0406120

EPA Method: SW8021B/8015Cm Extraction: SW5030B BatchID: 11871 Spiked Sample ID: 0406117-017A

	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
TPH(btex)£	ND	60	97.7	97	0.772	98	97.2	0.819	70	130
MTBE	ND	10	97.6	102	4.77	103	109	5.03	70	130
Benzene	ND	10	103	112	8.61	107	106	0.820	70	130
Toluene	ND	10	99.4	107	7.38	105	101	3.68	70	130
Ethylbenzene	ND	10	103	113	8.41	107	104	2.63	70	130
Xylenes	ND	30	91	100	9.42	95.3	91	4.65	70	130
%SS:	102	10	101	105	3.93	104	106	1.54	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

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

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

* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

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

cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not applicable or 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 Certification No. 1644

QA/QC Officer

McCampbell Analytical, Inc.

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Telephone : 925-798-1620 Fax : 925-798-1622
Website: www.mccampbell.com E-mail: main@mccampbell.com

QC SUMMARY REPORT FOR SW8015C

Matrix: W WorkOrder: 0406120

EPA Method: SW8015C Extraction: SW3510C BatchID: 11870 Spiked Sample ID: N/A

	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
TPH(d)	N/A	7500	N/A	N/A	N/A	101	100	1.16	70	130
%SS:	N/A	2500	N/A	N/A	N/A	108	107	1.13	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

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

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

* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.
NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

DHS Certification No. 1644

QA/QC Officer

McCampbell Analytical, Inc.

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Telephone : 925-798-1620 Fax : 925-798-1622
Website: www.mccampbell.com E-mail: main@mccampbell.com

QC SUMMARY REPORT FOR SW8260B

Matrix: W WorkOrder: 0406120

EPA Method: SW8260B Extraction: SW5030B BatchID: 11872 Spiked Sample ID: 0406117-020C

	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
tert-Amyl methyl ether (TAME)	ND	10	84	83.9	0.0974	85.1	86.5	1.64	70	130
t-Butyl alcohol (TBA)	ND	50	85.5	81.7	4.61	92.2	92	0.189	70	130
1,2-Dibromoethane (EDB)	ND	10	101	104	2.47	100	102	1.73	70	130
1,2-Dichloroethane (1,2-DCA)	ND	10	109	107	1.15	108	109	1.42	70	130
Diisopropyl ether (DIPE)	ND	10	115	114	1.51	115	116	0.781	70	130
Ethyl tert-butyl ether (ETBE)	ND	10	108	106	2.05	107	108	1.26	70	130
Methyl-t-butyl ether (MTBE)	ND	10	101	99.8	1.02	100	97.6	2.61	70	130
%SS1:	98.6	10	89.4	87	2.71	79.5	79.1	0.552	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

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

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

* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.
NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

DHS Certification No. 1644

QA/QC Officer

McCampbell Analytical, Inc.
110 Second Avenue South, #D7
Pacheco, CA 94553-5560
(925) 798-1620

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0406120 **ClientID: AEL**

Report to:
Peter McIntyre
All Environmental, Inc.
2500 Camino Diablo, Ste. #200
Walnut Creek, CA 94597
TEL: (925) 283-6000
FAX: (925) 283-6121
ProjectNo: #8326; Fidelity
PO:

Bill to:
Lesliegh Alderman
All Environmental, Inc.
2500 Camino Diablo, Ste. #200
Walnut Creek, CA 94597

Requested TAT: 5 days
Date Received: 6/8/04
Date Printed: 6/8/04

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below)														
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
0406120-001	MW-1	Water	6/8/04	☐	B	A	C												
0406120-002	MW-2	Water	6/8/04	☐	B	A	C												
0406120-003	MW-3	Water	6/8/04	☐	B	A	C												
0406120-004	MW-4	Water	6/8/04	☐	B	A	C												

Test Legend:

1	5-OXYS+PBSCV_W	2	G-MBTEX_W	3	TPH(D)_W	4		5	
6		7		8		9		10	
11		12		13		14		15	

Prepared by: Melissa Valles

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.

ARV

0406120

McCAMPBELL ANALYTICAL INC.

110 2nd AVENUE SOUTH, #D7
PACHECO, CA 94553-5560
Telephone: (925) 798-1620 Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HR ☐ 48 HR ☐ 72 HR ☒ 5 DAY

EDF Required? ☐ Yes ☒ No

Report To: Peter McIntyre Bill To:
Company: AEI Consultants
2500 Camino Diablo, Suite 200
Walnut Creek, CA 94597 E-Mail:
Tele: (925) 944-2899 Fax: (925) 944-2895
Project #: 8326 Project Name: Fidelity
Project Location: 1075 40th St Oakland
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
MW-1		6/2/04	AM	5	VOA	X					X	X		
MW-2		"	"	3	"	X					X	X		
MW-3		"	"	3	"	X					X	X		
MW-4		"	"	3	"	X					X	X		

Analysis Request

BTEX & TPH as Gas (602/8020 + 8015)/MTBE	TPH as Diesel (8015)	Total Petroleum Oil & Grease (5520 E&F/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 601 / 8010	BTEX ONLY (EPA 602 / 8020)	EPA 608 / 8080	EPA 608 / 8080 PCB's ONLY	EPA 624 / 8240 / 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)	RCI
X	X													
X	X													
X	X													
X	X													

Other: 5 Fuel @ 8015 + 2 Pb Scav

X	X		
X	X		
X	X		

Comments:

Relinquished By:	Date:	Time:	Received By:
[signature]	6/4/04	4:40pm	[signature]
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

ICE/t° ✓
GOOD CONDITION ✓
HEAD SPACE ABSENT ✓
DECHLORINATED IN LAB _____

	VOAS	O&G	METALS	OTHER
PRESERVATION	✓			
APPROPRIATE				
CONTAINERS	✓			

PERSERVED IN LAB _____