

June 11, 2003

Alameda County  
JUN 1 8 2003  
Environmental Health

## **GROUNDWATER MONITORING REPORT**

**Nineteenth Episode**  
*Second Quarter 2003*

1075 40th Street  
Oakland, California

Project No. 3119

Prepared For

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

Prepared By

**AEI Consultants**  
2500 Camino Diablo Blvd., Suite 200  
Walnut Creek, CA 94597  
(925) 283-6000

**AEI**



June 11, 2003

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

**Subject: Quarterly Groundwater Monitoring Report  
Nineteenth Episode, 2003**  
1075 40th Street  
Oakland, California  
Project No. 3119

Dear Mr. Upshaw:

AEI Consultants (AEI) has prepared this report on behalf of Mr. Upshaw, in response to his request for a groundwater investigation at the above referenced site (Figure 1: Site Location Map). The purpose of this activity was to monitor groundwater quality in the vicinity of previous 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 nineteenth episode of groundwater monitoring and sampling conducted on May 16, 2003.

### 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 in the vicinity of 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.

Due to low concentration levels from a four-point composite soil sample from the stockpile, approval was granted by Ms. Hugo of the ACHCSA to reuse the stockpiled soil as backfill material.

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.

Based on the results of these six soil borings, the ACHCSA requested the installation of a fourth groundwater monitoring well at the site, located south of the former tank locations along Yerba Buena Avenue. Monitoring well, MW-4, was installed on July 15, 1999. No detectable concentrations of petroleum hydrocarbons were found in the soil samples taken during installation.

This report describes the results of the nineteenth groundwater monitoring event that took place on May 16, 2003.

### **Summary of Activities**

AEI measured the depth to groundwater in the four wells on May 16, 2003. Prior to sampling, the depth to water from the top of the well casings was measured with an electric water level indicator. The wells were purged and sampled using clean, disposable plastic bailers. Temperature, pH, dissolved oxygen (DO), and specific conductivity were measured and the turbidity was visually noted during the purging of the wells. AEI removed at least three (3) well volumes from each well while purging. Once the groundwater parameters stabilized after three consistent readings, and following recovery of water levels to at least 90%, water samples were collected from each well. Well locations are shown in Figure 2.

Water was poured from the bailers into 1-liter amber glass bottles and 40 ml glass volatile organic analysis (VOA) vials and capped so neither headspace nor air bubbles were visible within the sample containers. Samples were shipped on ice under proper chain of custody protocol to McCampbell Analytical, Inc. of Pacheco, California (Department of Health Services Certification #1644).

Groundwater samples were submitted for chemical analysis for TPH-g (EPA Method 8015C), MTBE (EPA Method 8021B), benzene, toluene, ethylbenzene, and xylenes (BTEX) (EPA Method 8021B), and TPH-d (EPA Method 8015C).

### **Field Results**

A strong hydrocarbon odor was detected during the sampling of monitoring well MW-3. Groundwater levels for the current monitoring episode ranged from 32.90 to 37.00 feet above mean sea level (msl). These groundwater elevations were an average of 1.0 foot lower than the previous monitoring episode. The most recent calculated groundwater gradient was 0.059 foot per foot (ft/ft), and the direction of flow was towards the northwest. The groundwater gradient is slightly higher than the previous episode, but the flow direction has been consistent.

Groundwater elevation data are summarized in Table 1. The groundwater elevation contours and the groundwater flow direction are shown on Figure 2. Refer to Appendix A for Groundwater Monitoring Well Field Sampling Forms.

### **Groundwater Quality**

Significant concentrations of petroleum hydrocarbons remain in the groundwater, particularly MW-3, which contained TPH-g at 59,000 µg/L and benzene at 6,200 µg/L. The lowest concentrations were seen in MW-4 with TPH-g and benzene below the laboratory detection limits and TPH-d at 60 µg/L. These concentrations are generally consistent with the past monitoring events over the last few years.

A summary of groundwater quality data is presented in Table 2. Laboratory results and chain of custody documents are included in Appendix B.

### **Conclusions**

Groundwater analytical results from the current sampling episode indicated that elevated levels of petroleum hydrocarbons remained in the groundwater.

Recently the ACHCSA has requested clarification of the previously approved Corrective Action Plan, with a deadline for response of August 15, 2003. AEI anticipates working with the property owner and ACHCSA to address these issues. In the meantime, quarterly groundwater monitoring and sampling will continue at the site, with the next monitoring and sampling episode scheduled for August 2003.

## References

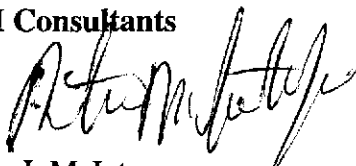
1. Phase II Soil and Groundwater Investigation Report, October 7, 1996, prepared by AEI.
2. Excavation and Disposal of Contaminated Soil Report, January 7, 1997, prepared by AEI.
3. Groundwater Monitoring Well Installation Report, dated May 30, 1997, prepared by AEI.
4. Phase II Subsurface Investigation Report, December 9, 1998, prepared by AEI.
5. Groundwater Monitoring Well and Sampling report, September 3, 1999, prepared by AEI.
6. Quarterly Groundwater Monitoring and Sampling Report (QGMSR), March 21, 2000, prepared by AEI.
7. QGMSR, July 28, 2000, prepared by AEI.
8. QGMSR, November 6, 2000, prepared by AEI.
9. QGMSR, January 29, 2001, prepared by AEI.
10. QGMSR, May 8, 2001, prepared by AEI.
11. QGMSR, August 14, 2001, prepared by AEI.
12. QGMSR, December 11, 2001, prepared by AEI.
13. Corrective Action Plan, July 31, 2001, prepared by AEI.
14. QGMSR, May 31, 2002, prepared by AEI.
15. QGMSR, June 4, 2002, prepared by AEI.
16. QGWMSR, September 9, 2002, prepared by AEI.
17. QGWMSR, January 16, 2003, prepared by AEI.
18. QGWMSR, March 6, 2003, prepared by AEI.

## 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.

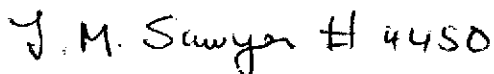
These services were performed in accordance with generally accepted practices in the environmental engineering and construction field that existed at the time and location of the work.

Sincerely,  
AEI Consultants



Peter J. McIntyre  
Project Manager, Geologist

Technical Review By:



Lorraine M. Sawyer, RG

**Figures**

- Figure 1 Site Location Map
- Figure 2 Site Plan with Hydrocarbon Concentrations
- Figure 3 Groundwater Gradient Map

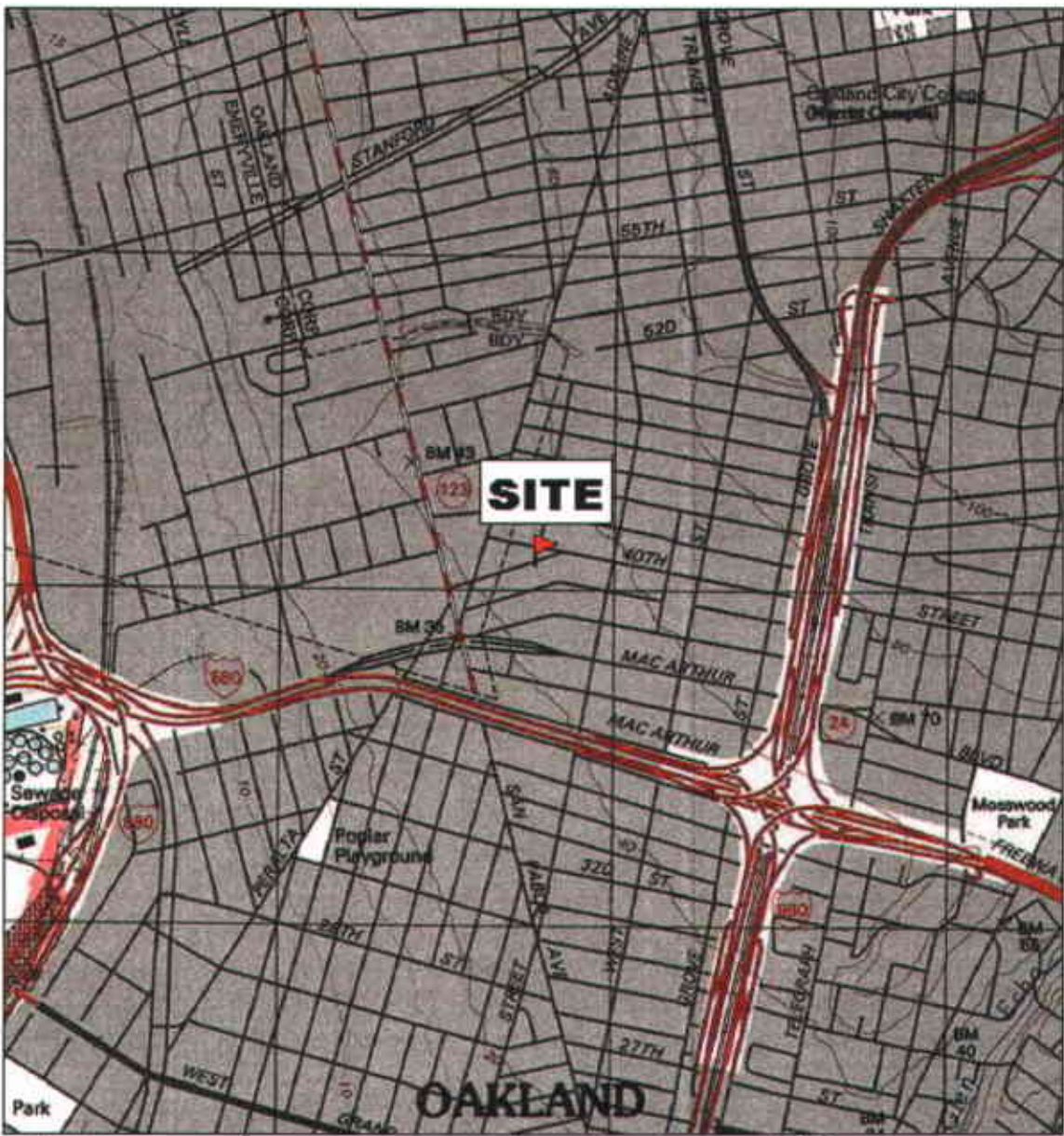
**Tables**

- Table 1 Groundwater Elevation Data
- Table 2 Groundwater Sample Analytical Data

**Appendices**

- Appendix A Groundwater Monitoring Well Field Sampling Forms
- Appendix B Laboratory Analyses With Chain of Custody Documentation

cc: Mr. Barney Chan  
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<b>AEI CONSULTANTS</b> 2500 CAMINO DIABLO, STE 200, WALNUT CREEK, CA	
<b>SITE LOCATION MAP</b>	
1075 44 TH STREET OAKLAND, CALIFORNIA	<b>FIGURE 1</b> PROJECT NO. 3119

GROUNDWATER  
FLOW DIRECTION WITH A  
GRADIENT OF 0.059 FT/FT  
MAY 16, 2003

40TH ST.

PARKING  
AND SUPPLY  
YARD AREA

MW-2  
(33.73)

OFFICES

MW-3  
(32.90)

SHOP

CONCRETE  
PAD

MW-1  
(37.00)

DRIVEWAY

WALL

SIDEWALK

PARKING LANE

YERBA BUENA AVENUE

MW-4  
(36.67)

LEGEND

 Monitoring Well

Contours drawn in Surfer v. 7.0  
Contour interval is 0.2 feet

Scale: 1" = 20'  
0 10 20



AEI CONSULTANTS

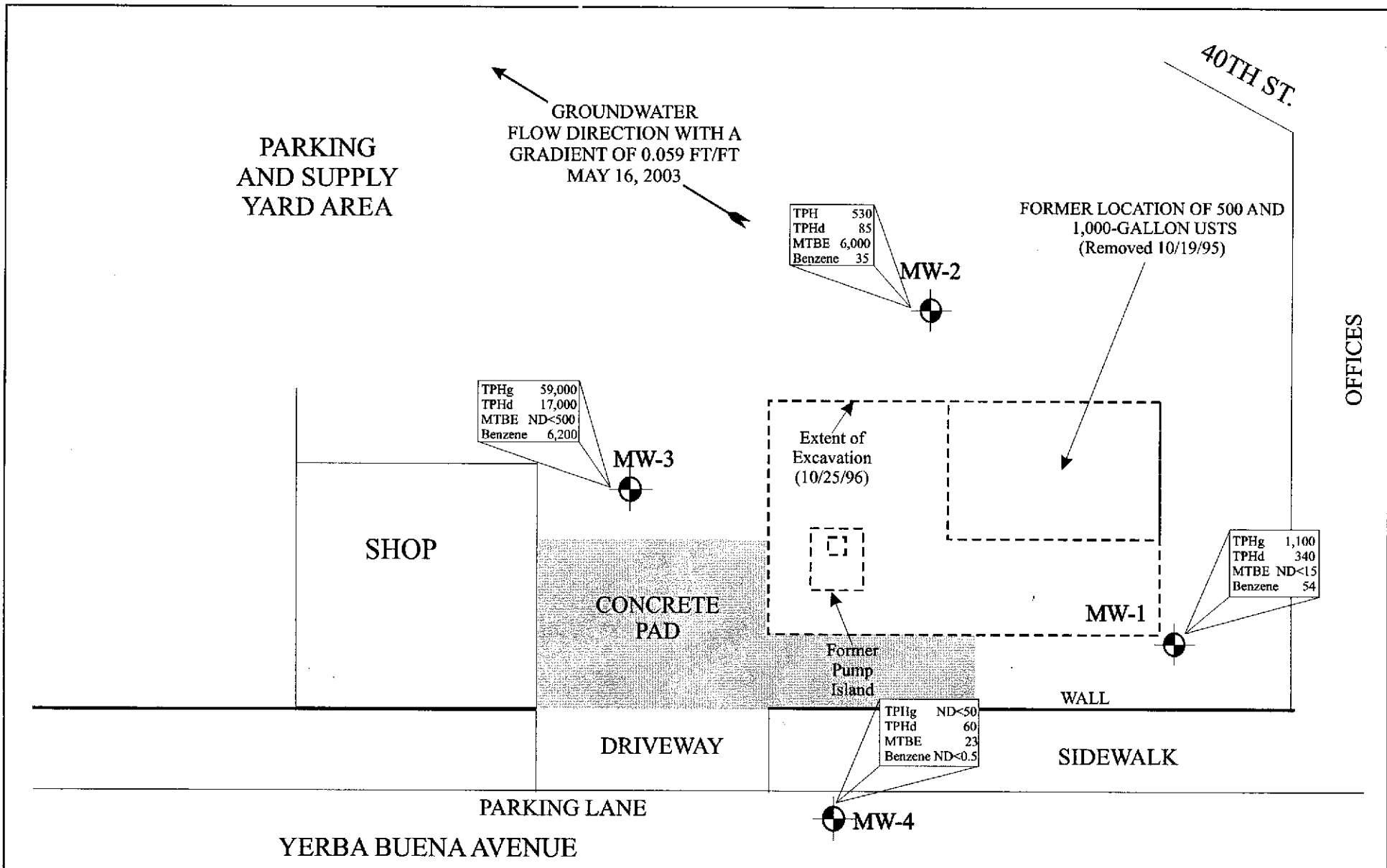
2500 CAMINO DIABLO, SUITE 200, WALNUT CREEK, CA

GROUNDWATER GRADIENT MAP

1075 40TH STREET  
OAKLAND, CALIFORNIA

FIGURE 2  
Project 3119

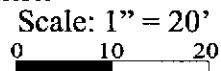




**LEGEND**



Monitoring Well  
 Groundwater results are expressed in  $\mu\text{g/L}$ .  
 TPHg = Total petroleum hydrocarbons as gasoline  
 TPHd = Total petroleum hydrocarbons as diesel  
 MTBE = Methyl tertiary butyl ether



**AEI CONSULTANTS**  
 3210 OLD TUNNEL ROAD, SUITE B, LAFAYETTE, CA

**DISSOLVED HYDROCARBON MAP**

1075 40TH STREET  
 OAKLAND, CALIFORNIA

**FIGURE 3**  
 Project: 3119

**Table 1**  
**Groundwater Elevation Data**

Well ID	Date	Elevation	Depth to Water	Groundwater Elevation
		(ft msl)	(ft)	(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
	<b>05/16/03</b>	<b>45.49</b>	<b>8.49</b>	<b>37.00</b>
	MW-2	03/19/97	44.94	8.40
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
<b>05/16/03</b>		<b>44.98</b>	<b>11.25</b>	<b>33.73</b>
MW-3		03/19/97	44.32	7.59
	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
	<b>05/16/03</b>	<b>44.37</b>	<b>11.47</b>	<b>32.90</b>
	MW-4	08/05/99	43.48	8.79
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
<b>05/16/03</b>		<b>43.48</b>	<b>6.81</b>	<b>36.67</b>

**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 Sample Analytical Data

Well ID	Date	Consultant/Lab	TPHg	MTBE	Benzene	Toluene	Ethyl-benzene	Xylenes	TPHd
			(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
MW - 1	03/19/97	AEI/MAI	ND<50	23	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<50
	06/23/97	AEI/MAI	1,300	14	150	2.1	12	19	420
	10/08/97	AEI/MAI	56	5.8	2.8	ND<0.5	ND<0.5	ND<0.5	66
	01/16/98	AEI/MAI	1,500	ND<33	95	0.72	69	8.4	910
	08/05/99	AEI/MAI	160	ND<15	1.6	ND<0.5	0.56	1.1	63
	11/18/99	AEI/MAI	79	ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<50
	02/24/00	AEI/MAI	300	ND<5.0	14	0.82	3.5	1.6	160
	05/24/00	AEI/MAI	1,300	ND<10	93	ND<0.5	17	1.6	480
	08/29/00	AEI/MAI	120	ND<5.0	0.93	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	01/12/01	AEI/MAI	360	ND<5.0	16	ND<0.5	9.3	0.69	170
	04/18/01	AEI/MAI	1,100	2,800	63	ND<0.5	34	0.73	410
	07/27/01	AEI/MAI	130	ND<5.0	1.6	ND<0.5	ND<0.5	ND<0.5	66
	11/06/01	AEI/MAI	ND<50	ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<50
	02/13/02	AEI/MAI	430	ND<5.0	17	0.51	11	0.64	270
	05/14/02	AEI/MAI	340	ND<5.0	21	ND<0.5	5.3	0.67	170
	08/15/02	AEI/MAI	96	ND<5.0	0.66	ND<0.5	ND<0.5	ND<0.5	53
	11/14/02	AEI/MAI	66,000	ND<1,200	8,300	860	3,000	11,000	23,000
02/12/03	AEI/MAI	710	ND<5.0	28	4.3	32	130	120	
05/16/03	AEI/MAI	1,100	ND<15	54	4.1	40	100	340	
MW - 2	03/19/97	AEI/MAI	ND<50	65	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<50
	06/23/97	AEI/MAI	ND<50	70	3.4	ND<0.5	ND<0.5	ND<0.5	ND<50
	10/08/97	AEI/MAI	ND<50	90	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<50
	01/16/98	AEI/MAI	ND<50	65	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<50
	08/05/99	AEI/MAI	ND<50	600	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<50
	11/18/99	AEI/MAI	ND<50	370	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<50
	02/24/00	AEI/MAI	ND<50	880	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<50
	05/24/00	AEI/MAI	ND<250	2,200	ND<0.5	ND<0.5	ND<0.5	ND<0.5	62
	08/29/00	AEI/MAI	ND<200	1,900	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<50
	01/12/01	AEI/MAI	470	2,000	8.7	3.1	16	73	70
	04/18/01	AEI/MAI	ND<50	2,800	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<50
	07/27/01	AEI/MAI	ND<100	3,300	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<50
	11/06/01	AEI/MAI	ND<100	3,000	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<50
	02/13/02	AEI/MAI	54	3,200	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<50
	05/14/02	AEI/MAI	ND<150	3,800	4.8	ND<1.0	ND<1.0	ND<1.0	ND<50
	08/15/02	AEI/MAI	ND<50	2,900	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<50
	11/14/02	AEI/MAI	ND<120	3,800	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<50
02/12/03	AEI/MAI	1,100	3,200	57	7	55	210	120	
05/16/03	AEI/MAI	530	6,000	35	3.6	22	79	85	
MW - 3	03/19/97	AEI/MAI	26,000	230	3,000	530	340	2,300	5,000
	06/23/97	AEI/MAI	25,000	270	4,400	120	540	1,500	7,000
	10/08/97	AEI/MAI	17,000	ND<280	4,400	47	280	410	5,100
	01/16/98	AEI/MAI	29,000	ND<360	5,600	740	950	3,500	7,300
	08/05/99	AEI/MAI	31,000	ND<200	5,400	150	1100	2,300	5,100
	11/18/99	AEI/MAI	74,000	ND<1,000	8,100	5,000	2,100	8,100	490,000
	02/24/00	AEI/MAI	110,000	ND<200	12,000	1,400	2,900	14,000	6,300
	05/24/00	AEI/MAI	87,000	ND<200	13,000	1,900	2,900	14,000	26,000
	08/29/00	AEI/MAI	49,000	ND<200	7,400	800	1,800	7,400	9,400
	01/12/01	AEI/MAI	69,000	ND<300	8,600	980	2,600	11,000	21,000
	04/18/01	AEI/MAI	75,000	ND<500	9,200	1,200	2,500	12,000	13,000
	07/27/01	AEI/MAI	75,000	ND<650	8,700	1,100	2,600	12,000	85,000
	11/06/01	AEI/MAI	89,000	ND<200	7,900	910	2,800	12,000	86,000
	02/13/02	AEI/MAI	85,000	ND<2000	8,500	830	2,600	11,000	13,000
	05/14/02	AEI/MAI	94,000	ND<1000	9,700	1,100	3,400	15,000	35,000
	08/15/02	AEI/MAI	37,000	ND<1200	5,200	430	1,800	5,900	9,700
	11/14/02	AEI/MAI	ND<50	ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<50
02/12/03	AEI/MAI	61,000	ND<500	6,800	500	2,400	9,800	8,400	
05/16/03	AEI/MAI	59,000	ND<500	6,200	320	2,000	6,500	17,000	
MW-4	08/05/99	AEI/MAI	ND<50	37	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<50
	11/18/99	AEI/MAI	ND<50	20	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<50
	02/24/00	AEI/MAI	ND<50	20	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<50
	05/24/00	AEI/MAI	120	31	1.3	ND<0.5	ND<0.5	ND<0.5	140
	08/29/00	AEI/MAI	ND<50	22	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	01/12/01	AEI/MAI	ND<50	25	ND<0.5	ND<0.5	ND<0.5	ND<0.5	81
	04/18/01	AEI/MAI	30	35	2.4	1.1	0.66	4.2	170
	07/27/01	AEI/MAI	87	26	1.8	ND<0.5	2	10	110
	11/06/01	AEI/MAI	200	21	4.5	1	5.2	24	59
	02/13/02	AEI/MAI	ND<50	15	ND<0.5	ND<0.5	ND<0.5	ND<0.5	91
	05/14/02	AEI/MAI	260	26	12	2.7	11	49	140
	08/15/02	AEI/MAI	ND<50	12	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<50
	11/14/02	AEI/MAI	ND<50	11	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<50
	02/12/03	AEI/MAI	170	16	3.1	0.66	6.4	27	130
	05/16/03	AEI/MAI	ND<50	23	ND<0.5	ND<0.5	ND<0.5	ND<0.5	60

Notes:  
 ug/L= micrograms per liter  
 MTBE= Methyl Tertiary Butyl Ether  
 TPHg= Total Petroleum Hydrocarbons as gasoline  
 TPHd= Total Petroleum Hydrocarbons as diesel  
 AEI = AEI Consultants  
 MAI = McCampbell Analytical Inc., Pacheco, California  
 Please refer to Appendix B: Laboratory Analysis for more detailed information including method detection limits and dilution factors

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

**Monitoring Well Number: MW-1**

Project Name:	Fidelity Roof Company	Date of Sampling:	5/16/2003
Job Number:	3119	Name of Sampler:	AN
Project Address:	1075 40th Street, 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)	8.49		
Water Elevation (feet above msl)	37.00		
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)	6.0		
Actual Volume Purged (gallons)	6.5		
Appearance of Purge Water	clear		
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	18.42	6.82	1115	0.55	-5.8	
	4	18.46	6.75	1148	0.40	-17.6	
	6	18.60	6.78	1190	0.30	-17.3	

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

Slight hydrocarbon odor

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

**Monitoring Well Number: MW-2**

Project Name:	Fidelity Roof Company	Date of Sampling:	5/16/2003
Job Number:	3119	Name of Sampler:	AN
Project Address:	1075 40th Street, 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)	11.25		
Water Elevation (feet above msl)	33.73		
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)	4.7		
Actual Volume Purged (gallons)	5.0		
Appearance of Purge Water	clear		
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
	1	19.98	6.84	1555	2.54	38.7	
	3	20.03	6.81	1550	1.84	50.9	
	5	20.09	6.79	1571	1.03	71.9	

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

no odor

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

**Monitoring Well Number: MW-3**

Project Name:	Fidelity Roof Company	Date of Sampling:	5/16/2003
Job Number:	3119	Name of Sampler:	AN
Project Address:	1075 40th Street, 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)	11.47		
Water Elevation (feet above msl)	32.90		
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)	4.6		
Actual Volume Purged (gallons)	5.0		
Appearance of Purge Water	clear		
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
	1	19.29	6.58	1530	0.95	-52.1	
	3	19.49	6.54	1957	0.53	-76.2	
	5	19.30	6.67	1788	0.76	-72.9	

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

dry @ 3.5 gallons waited 10 minutes
Strong hydrocarbon odor

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

**Monitoring Well Number: MW-4**

Project Name:	Fidelity Roof Company	Date of Sampling:	5/16/2003
Job Number:	3119	Name of Sampler:	AN
Project Address:	1075 40th Street, 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)	6.81		
Water Elevation (feet above msl)	36.67		
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)	6.3		
Actual Volume Purged (gallons)	7.0		
Appearance of Purge Water	clear		
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	20.29	6.71	1075	1.59	206.7	
	4	20.48	6.69	1045	2.09	211.7	
	6	20.30	6.69	1137	1.27	189.6	
	7	20.26	6.74	1179	1.62	218.9	

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

No hydrocarbon odor



McC Campbell Analytical Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560  
Telephone : 925-798-1620 Fax : 925-798-1622  
<http://www.mccampbell.com> E-mail: [main@mccampbell.com](mailto:main@mccampbell.com)

All Environmental, Inc. 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	Client Project ID: #3119; Fidelity Roof	Date Sampled: 05/16/03
		Date Received: 05/16/03
	Client Contact: Brandi Kiel-Reese	Date Reported: 05/22/03
	Client P.O.:	Date Completed: 05/22/03

**WorkOrder: 0305276**

May 22, 2003

Dear Brandi:

Enclosed are:

- 1). the results of 4 analyzed samples from your #3119; Fidelity Roof 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. McC Campbell 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







McC Campbell Analytical Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560  
Telephone : 925-798-1620 Fax : 925-798-1622  
http://www.mcccampbell.com E-mail: main@mcccampbell.com

All Environmental, Inc.  2500 Camino Diablo, Ste. #200  Walnut Creek, CA 94597	Client Project ID: #3119; Fidelity Roof	Date Sampled: 05/16/03
		Date Received: 05/16/03
	Client Contact: Brandi Kiel-Reese	Date Extracted: 05/16/03
	Client P.O.:	Date Analyzed: 05/19/03

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

Extraction method: SW3510C

Analytical methods: SW8015C

Work Order: 0305276

Lab ID	Client ID	Matrix	TPH(d)	DF	% SS
0305276-001B	MW-1	W	340,d	1	103
0305276-002B	MW-2	W	85,d	1	99.8
0305276-003B	MW-3	W	17,000,d,h	1	127
0305276-004B	MW-4	W	60,b	1	116

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

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

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

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation: 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 ~2 vol. % sediment; k) kerosene/kerosene range; l) bunker oil; m) fuel oil; n) stoddard solvent / mineral spirit.



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### QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: W

WorkOrder: 0305276

EPA Method: SW8021B/8015Cm		Extraction: SW5030B		BatchID: 6936		Spiked Sample ID: 0305277-001A				
Compound	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) <sup>£</sup>	ND	60	97.4	94.4	3.15	96.6	97	0.382	70	130
MTBE	ND	10	104	102	2.05	96	98.3	2.35	70	130
Benzene	ND	10	94.5	93.8	0.690	93.7	94.3	0.628	70	130
Toluene	ND	10	99.1	98.3	0.839	97.6	98.5	0.865	70	130
Ethylbenzene	ND	10	98.8	98.6	0.180	98.4	98.8	0.463	70	130
Xylenes	ND	30	100	100	0	100	103	3.28	70	130
%SS:	100	100	99.3	98.8	0.568	98.8	97.9	0.934	80	120

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 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.



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### QC SUMMARY REPORT FOR SW8015C

Matrix: W

WorkOrder: 0305276

EPA Method: SW8015C		Extraction: SW3510C		BatchID: 6945			Spiked Sample ID: N/A			
Compound	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	98.5	98.9	0.317	70	130
%SS:	N/A	100	N/A	N/A	N/A	106	106	0	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.

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

\* 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.

ACU

0308276

**McCAMPBELL ANALYTICAL INC.**

110 2<sup>nd</sup> 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: Brandi Reese      Bill To:  
 Company: AEI Consultants  
 2500 Camino Diablo, Suite 200  
 Walnut Creek, CA 94597 E-Mail:  
 Tele: ( ) 925/283-6000      Fax: ( ) 925/283-6121  
 Project #: 3119      Project Name: FIDELITY ROOF  
 Project Location: OAKLAND  
 Sampler Signature:

Analysis Request

Other

Comments

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED								
		Date	Time			Water	Soil	Air	Sludge	Other	Ice	HCl	HNO <sub>3</sub>	Other					
+ MW-1		5/16		3	1/2	X					X	X							
+ MW-2		5/16		1	1														
+ MW-3		5/16		1	1														
+ MW-4		5/16		1	1														

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	

Relinquished By: *[Signature]*      Date: 5/16      Time: 5:20  
 Received By: *[Signature]*  
 Relinquished By:      Date:      Time:      Received By:  
 Relinquished By:      Date:      Time:      Received By:

ICE/MS ✓  
 GOOD CONDITION ✓  
 HEAD SPACE ABSENT ✓  
 DECHLORINATED IN LAB \_\_\_\_\_  
 PRESERVATION APPROPRIATE ✓  
 CONTAINERS PRESERVED IN LAB \_\_\_\_\_  
 VOAS O&G METALS OTHER

**McCampbell Analytical Inc.**



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

**CHAIN-OF-CUSTODY RECORD**

WorkOrder: 0305276

**Client:**

All Environmental, Inc.  
 2500 Camino Diablo, Ste. #200  
 Walnut Creek, CA 94597

TEL: (925) 283-6000  
 FAX: (925) 283-6121  
 ProjectNo: #3119; Fidelity Roof  
 PO:

Date Received: 5/16/03  
 Date Printed: 5/16/03

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests					
					SW8015C	V8021B/8015C				
0305276-001	MW-1	Water	5/16/03	<input type="checkbox"/>	B	A				
0305276-002	MW-2	Water	5/16/03	<input type="checkbox"/>	B	A				
0305276-003	MW-3	Water	5/16/03	<input type="checkbox"/>	B	A				
0305276-004	MW-4	Water	5/16/03	<input type="checkbox"/>	B	A				

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.