



Attn 3341

00 AUG - 7 PM 01 02
RECEIVED
PROJECT SECTION

July 28, 2000

Mr. Scott Seery
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

**Subject: Quarterly Groundwater Monitoring and Sampling Report
Second Quarter 2000**
1075 40th Street
Oakland, CA 94608
AEI Project No. 3119

Dear Mr. Seery:

Enclosed is the Quarterly Groundwater Monitoring and Sampling Report for the second quarter of the year 2000. Peter McIntyre will be managing the groundwater sampling for this site, since I am leaving AEI. Please direct any questions you may have to him. It's been a pleasure doing business with you.

Sincerely,

Carrie E. Locke
Project Engineer

Corporate Headquarters

Los Angeles
(310) 798-4255

Phoenix
(602) 240-5990

San Francisco
(800) 801-3224

Seattle
(425) 401-8500

New York
(212) 279-7770

July 28, 2000

**QUARTERLY GROUNDWATER
AND SAMPLING REPORT**

1075 40TH Street
Oakland, California

Project No. 3119

Prepared For

Fidelity Roof Company
1075 40th Street
Oakland, CA 94608

Prepared By

AEI Consultants
3210 Old Tunnel Road, Suite B
Lafayette, CA 94549
(800) 801-3224

AEI



July 28, 2000

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

RE: Quarterly Groundwater Monitoring and Sampling Report
Second Quarter 2000
1075 40th Street
Oakland, California
Project No. 3119

Dear Mr. Upshaw:

AEI Consultants (AEI) has prepared this report on your behalf, in response to your request for a groundwater investigation at the above referenced site (Figure 1: Site Location Map). The investigation was initiated by the property owner in accordance with the requirements of the Alameda County Health Care Services Agency (ACHCSA). The purpose of this activity is to monitor groundwater quality in the vicinity of previous underground storage tanks. This report presents the findings of the second episode of groundwater monitoring and sampling for the year 2000, conducted on May 24, 2000.

Site Description and Background

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

On December 19, 1995, Tank Protect Engineering 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. The excavated soil was stockpiled north of the excavation. Three discrete soil samples were collected from beneath the USTs. Analysis of the samples indicated that soil beneath the 1,000 gallon UST was impacted with minor concentrations of Total Petroleum Hydrocarbons (TPH) as gasoline, TPH as diesel, benzene, toluene, ethylbenzene and total xylenes (BTEX) and methyl tertiary butyl ether (MTBE). A single soil sample collected from beneath the 500 gallon UST indicated 100 mg/kg of TPH as gasoline and 96 mg/kg of TPH as diesel were present.

On September 12, 1996, AEI advanced four soil borings in the vicinity of the former UST excavation (Ref. 1). Soil samples were collected from all of the borings and

Corporate Headquarters

Los Angeles
(310) 798-4255

Phoenix
(602) 240-5990

San Francisco
(800) 801-3224

Seattle
(425) 401-8500

New York
(212) 279-7770

groundwater samples were collected from two of the borings. Analytical results from the subsurface investigation revealed significant levels of gasoline and diesel present in soil to the south and to the west of the open excavation, believed to extend beneath the existing pump island. Groundwater analysis indicated maximum concentrations of 5,500 µg/L of TPH as gasoline, 340 µg/L of benzene, and 2,100 µg/L of TPH as diesel. Due to the high concentrations of petroleum hydrocarbons within the groundwater, the ACHCSA required further investigation into the extent and magnitude of the groundwater contaminant plume.

During the Phase II Subsurface Investigation, AEI collected four soil samples from the stockpile. The samples were combined by the laboratory into one composite sample for analysis. Analysis of the samples indicated concentrations of 3.8 mg/kg of TPH as gasoline, 28 mg/kg of TPH as diesel, and minor concentrations of BTEX. 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 west (Ref. 2). Soil was removed to a depth of 9 feet below ground surface (bgs). The contaminated soil was stockpiled on-site and profiled for disposal into a Class III Landfill. The dispenser island and associated piping were also removed. Groundwater was not encountered during the excavation activities. Four confirmation soil samples were collected from the excavation sidewalls. Analyses of the soil samples collected from the excavation sidewalls indicated that up to 150 mg/kg of TPH as gasoline, 16 mg/kg of benzene, and 300 mg/kg of TPH as diesel remains within the western sidewall of the excavation.

The excavated soil was profiled and accepted for disposal at the BFI Vasco Road Sanitary Landfill, in Livermore, California. In November, 1996, approximately 235 tons of contaminated soil was loaded and transported to the landfill, under non-hazardous waste manifest, for disposal.

On March 6, 1997, AEI installed three groundwater monitoring wells (Ref. 3). The wells were subsequently sampled in March, 1997, June, 1997, October, 1997 and January, 1998. The analytical data from January 1998 indicated 29,000 µg/L of TPH as gasoline, 5,600 µg/L of benzene and 7,300 µg/L of TPH as diesel were present in the groundwater.

At the request of the ACHCSA, six additional soil borings were drilled south and west of the well locations on November 4, 1998 (Ref. 4). The locations of these borings were chosen to assess the lateral extent of impacted groundwater at the site. TPH as diesel was detected in the groundwater to the south of the former excavation at 2,400 µg/L. 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 and two soil samples at 10 and 14 feet bgs were analyzed from the boring (Ref. 5). No detectable concentrations of petroleum hydrocarbons were found in the soil samples.

The analytical results of prior groundwater sampling episodes are included in Table 2. This report describes the results of the subsequent groundwater monitoring event which took place on May 24, 2000.

Summary of Activities

AEI measured the depth to groundwater in the four wells on May 24, 2000. The depth from the top of the well casings was measured prior to sampling with an electric water level indicator. The wells were purged and sampled using disposable Teflon bailers. Temperature, pH, and turbidity were measured during the purging of the wells. AEI removed at least 3 well volumes. Once the temperature, pH, and turbidity stabilized, a water sample was collected. The well locations are shown in Figure 2.

Water was poured from the bailers into 1 liter amber bottles and 40 ml VOA vials and capped so that there was no head space or visible air bubbles within the sample containers. Samples were shipped on ice under proper chain of custody protocol to McCampbell Analytical, Inc. of Pacheco, California (State Certification #1644).

Groundwater samples were submitted for chemical analysis for Total Petroleum Hydrocarbons (TPH) as gasoline (EPA Method 5030/8015), MTBE (EPA Method 8020/602), benzene, toluene, ethylbenzene, and xylenes (BTEX) (EPA Method 8020/602), and TPH as diesel (EPA Method 3510/8015).

Field Results

A strong hydrocarbon odor was detected during the sampling of monitoring well MW-3, and a hydrocarbon sheen was observed. A slight hydrocarbon odor and sheen were also observed during the sampling of monitoring well MW-2. No sheen or free product was encountered during monitoring activities of the remaining wells. Groundwater levels for the current monitoring episode ranged from 35.95 to 37.02 feet above Mean Sea Level (MSL). These groundwater elevations were an average of 0.94 feet lower than the previous monitoring episode. The direction of the groundwater flow at the time of measurement was towards the southwest. The latest estimated groundwater gradient is approximately 0.026 feet per foot.

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

Groundwater Quality

Concentrations of petroleum hydrocarbons have increased since the last sampling episode. The increase in concentrations may be due to the shift in direction of groundwater flow and varying depths of groundwater. Analysis of groundwater samples from well MW-3 continues to indicate high levels of hydrocarbon contamination: 87,000 µg/L of TPH as gasoline, 26,000 µg/L of TPH as diesel, and 13,000 µg/L of benzene. TPH as gasoline and TPH as diesel were detected in wells MW-1 and MW-4 at significantly higher concentrations than the previous sampling event. MTBE was also detected at a much higher concentration, 2,200 µg/L, in well MW-2.

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

Recommendations

It is apparent from this monitoring episode, as well as those conducted previously, that significant amounts of petroleum hydrocarbons remain in the groundwater. AEI Consultants recommends the continued quarterly groundwater monitoring and sampling of the wells. The next monitoring and sampling episode is scheduled for August, 2000, as per the requirements of the ACHCSA.

References

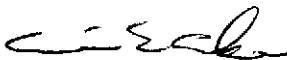
1. Phase II Soil and Groundwater Investigation report, October 7, 1996, prepared by AEI.
2. Excavation and Disposal of Contaminated Soil report, January 7, 1997, prepared by AEI.
3. Groundwater Monitoring Well Installation report, dated May 30, 1997, prepared by AEI.
4. Phase II Subsurface Investigation 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, March 21, 2000, prepared by AEI.

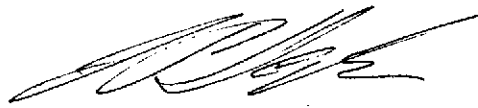
Report Limitations and Signatures

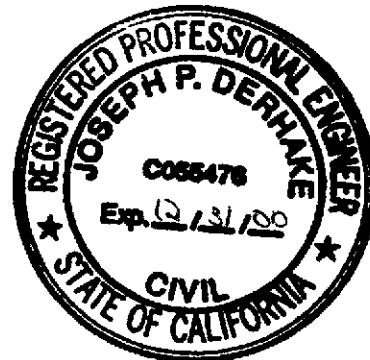
This report presents a summary of work completed by AEI Consultants including observations and descriptions of site conditions. Where appropriate, it includes analytical results for samples taken during the course of the work. The number and location of samples are chosen to provide required information, 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 which existed at the time and location of the work.

Sincerely,
AEI Consultants


Carrie E. Locke
Project Engineer


J. P. Derhake, PE, CAC
Senior Author



Figures

- Figure 1 Site Location Map
- Figure 2 Site Plan

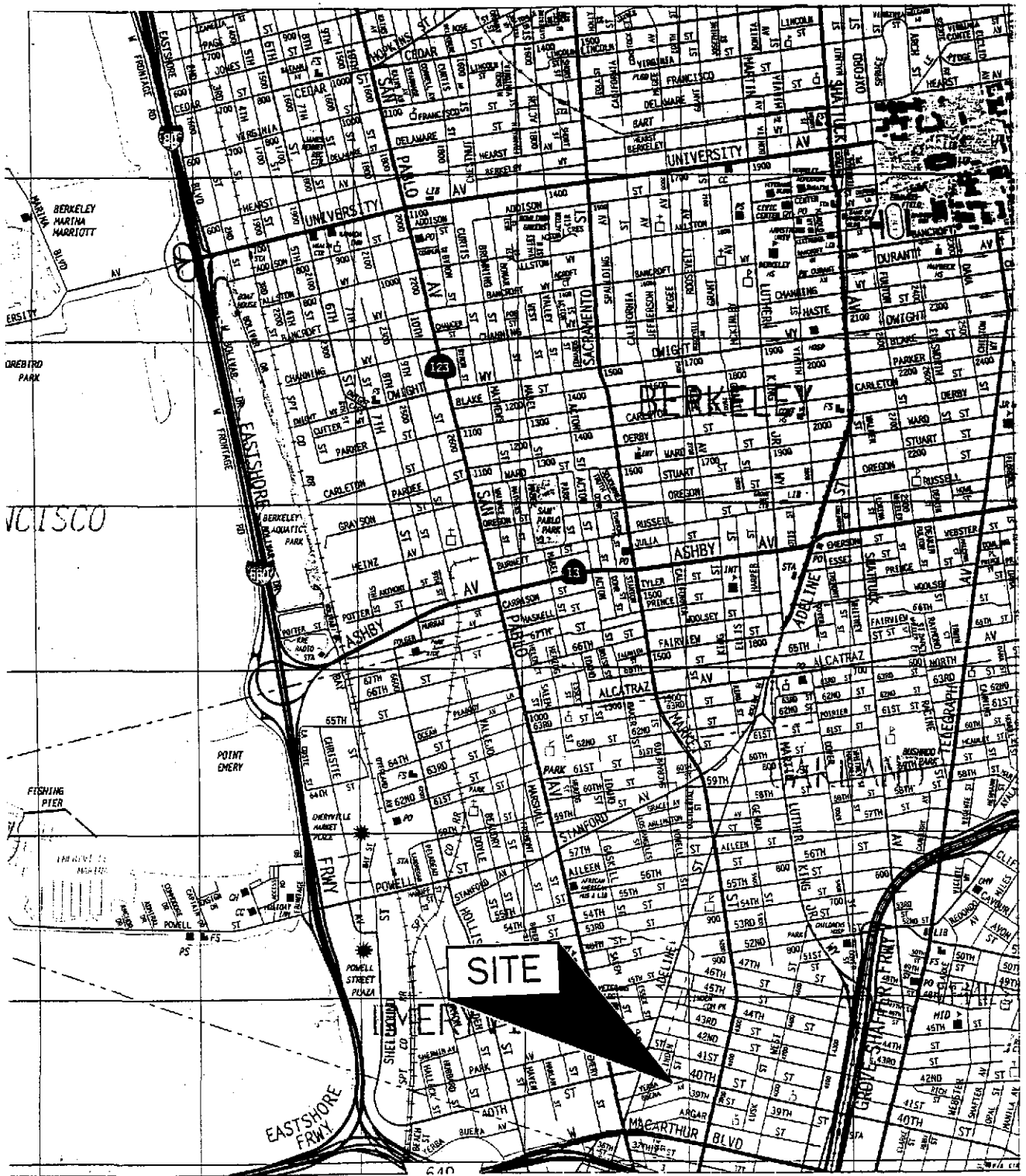
Tables

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

Appendices

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

cc: Mr. Scott Seery, Alameda County Health Care Services Agency, 1131 Harbor Bay Parkway, Suite 250, Alameda, CA 94502-6577



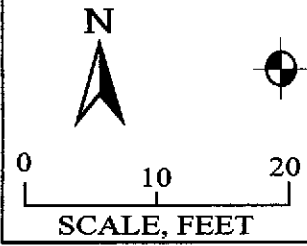
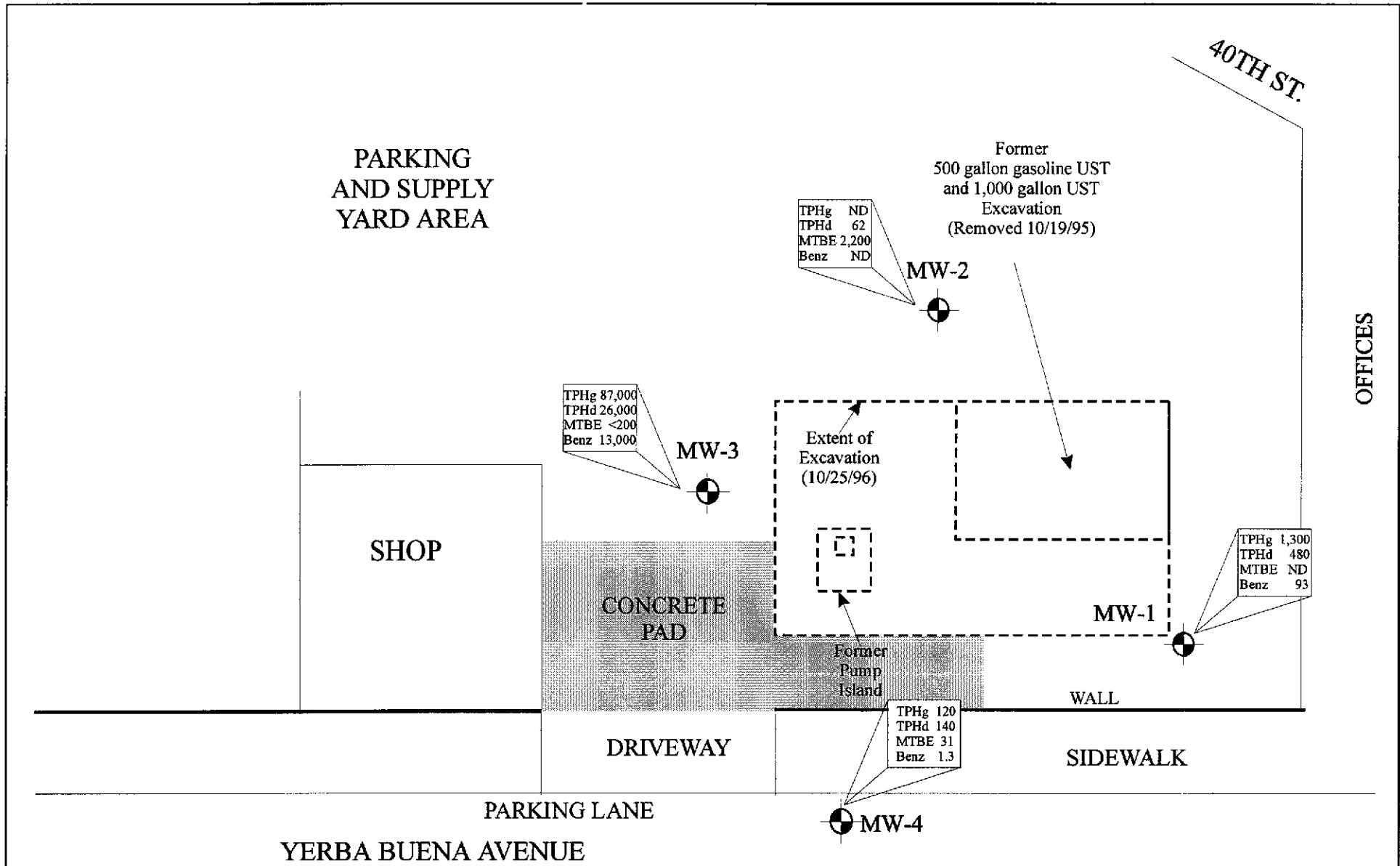
101500

SITE



SOURCE:
THOMAS GUIDE
1997
SCALE: 1" = 2,400'

<p>AEI CONSULTANTS 3210 OLD TUNNEL ROAD, SUITE B, LAFAYETTE, CA</p>	
<p>SITE LOCATION MAP</p>	
<p>1075 40th STREET OAKLAND, CALIFORNIA</p>	<p>FIGURE 1 PROJECT No. 3119</p>



 **MONITORING WELL LOCATIONS AND IDENTIFICATION**

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

Benz = Benzene

AEI CONSULTANTS	
3210 OLD TUNNEL ROAD, SUITE B, LAFAYETTE, CA	
WELL LOCATION MAP	
1075 40TH STREET OAKLAND, CALIFORNIA	FIGURE 1

40TH ST.

PARKING AND SUPPLY YARD AREA

Former 500 gallon gasoline UST and 1,000 gallon UST Excavation (Removed 10/19/95)

MW-2

OFFICES

GROUNDWATER FLOW DIRECTION WITH A GRADIENT OF 0.026 FT/FT MAY 24, 2000

MW-3

SHOP

CONCRETE PAD

MW-1

Former Pump Island

WALL

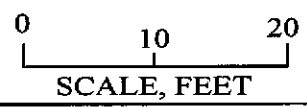
DRIVEWAY

SIDEWALK

PARKING LANE

MW-4

YERBA BUENA AVENUE



MONITORING WELL

GROUNDWATER CONTOUR IN FEET ABOVE MSL

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

GROUNDWATER GRADIENT MAP

1075 40TH STREET
OAKLAND, CALIFORNIA

FIGURE 2

**Table 1
Groundwater Levels**

Well ID	Date	Well Elevation (ft msl)	Depth to Water (ft)	Groundwater Elevation (ft msl)
MW-1	3/19/97	45.41	8.25	37.16
	6/20/97	45.41	9.10	36.31
	10/8/97	45.41	9.95	35.46
	1/16/98	45.41	7.57	37.84
	8/5/99	45.49	10.16	35.33
	11/18/99	45.49	8.52	36.97
	2/24/00	45.49	7.65	37.84
	5/24/00	45.49	8.47	37.02
MW-2	3/19/97	44.94	8.40	36.54
	6/20/97	44.94	8.85	36.09
	10/8/97	44.94	9.80	35.14
	1/16/98	44.94	5.28	39.66
	8/5/99	44.98	9.32	35.66
	11/18/99	44.98	10.20	34.78
	2/24/00	44.98	7.03	37.95
	5/24/00	44.98	8.01	36.97
MW-3	3/19/97	44.32	7.59	36.73
	10/8/97	44.32	9.98	34.34
	6/20/97	44.32	8.36	35.96
	1/16/98	44.32	9.18	35.14
	8/5/99	44.37	10.56	33.81
	11/18/99	44.37	10.92	33.45
	2/24/00	44.37	8.49	35.88
	5/24/00	44.37	8.42	35.95
MW-4	8/5/99	43.48	8.79	34.69
	11/18/99	43.48	8.11	35.37
	2/24/00	43.48	5.19	38.29
	5/24/00	43.48	7.23	36.25

Notes:

All wells re-surveyed after the installation of MW-4

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 (µg/l)	MTBE (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl- Benzene (µg/l)	Xylenes (µg/l)	TPHd (µg/l)
MW - 1	3/19/97	AEI/MAI	<50	23	<0.5	<0.5	<0.5	<0.5	<50
	6/23/97	AEI/MAI	1,300	14	150	2.1	12	19	420
	10/8/97	AEI/MAI	56	5.8	2.8	<0.5	<0.5	<0.5	66
	1/16/98	AEI/MAI	1,500	<33	95	0.72	69	8.4	910
	8/5/99	AEI/MAI	160	<15	1.6	<0.5	0.56	1.1	63
	11/18/99	AEI/MAI	79	<5.0	<0.5	<0.5	<0.5	<0.5	<50
	2/24/00	AEI/MAI	300	<5.0	14	0.82	3.5	1.6	160
	5/24/00	AEI/MAI	1,300	ND<10	93	<0.5	17	1.6	480
MW - 2	3/19/97	AEI/MAI	<50	65	<0.5	<0.5	<0.5	<0.5	<50
	6/23/97	AEI/MAI	<50	70	3.4	<0.5	<0.5	<0.5	<50
	10/8/97	AEI/MAI	<50	90	<0.5	<0.5	<0.5	<0.5	<50
	1/16/98	AEI/MAI	<50	65	<0.5	<0.5	<0.5	<0.5	<50
	8/5/99	AEI/MAI	<50	600	<0.5	<0.5	<0.5	<0.5	<50
	11/18/99	AEI/MAI	<50	370	<0.5	<0.5	<0.5	<0.5	<50
	2/24/00	AEI/MAI	<50	880	<0.5	<0.5	<0.5	<0.5	<50
	5/24/00	AEI/MAI	ND<250	2,200	<0.5	<0.5	<0.5	<0.5	62
MW -3	3/19/97	AEI/MAI	26,000	230	3,000	530	340	2,300	5,000
	6/23/97	AEI/MAI	25,000	270	4,400	120	540	1,500	7,000
	10/8/97	AEI/MAI	17,000	ND<280	4,400	47	280	410	5,100
	1/16/98	AEI/MAI	29,000	ND<360	5,600	740	950	3,500	7,300
	8/5/99	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
	2/24/00	AEI/MAI	110,000	ND<200	12,000	1,400	2,900	14,000	6,300
	5/24/00	AEI/MAI	87,000	ND<200	13,000	1,900	2,900	14,000	26,000
MW-4	8/5/99	AEI/MAI	<50	37	<0.5	<0.5	<0.5	<0.5	<50
	11/18/99	AEI/MAI	<50	20	<0.5	<0.5	<0.5	<0.5	<50
	2/24/00	AEI/MAI	<50	20	<0.5	<0.5	<0.5	<0.5	<50
	5/24/00	AEI/MAI	120	31	1.3	<0.5	<0.5	<0.5	140

Notes: µg/l = micrograms per liter
 ND = Not detected
 MTBE Methyl Tertiary Butyl Ether
 TPHg Total Petroleum Hydrocarbons as gasoline
 TPHd Total Petroleum Hydrocarbons as diesel
 AEI All Environmental, Inc.
 MAI McCampbell Analytical Inc., Pacheco, California

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

Monitoring Well Number: MW-1

Project Name: Fidelity Roof, Co	Date of Sampling: 5/24/00
Job Number: 3119	Name of Sampler: CL
Project Address: 1075 40 th Street, Oakland	

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2
Seal at Grade -- Type and Condition	Cement / Good
Well Cap & Lock -- OK/Replace	OK
Elevation of Top of Casing	45.49
Depth of Well	21.0
Depth to Water	8.47
Water Elevation	37.02
Three Well Volumes (gallons)*	
2" casing: (TD - DTW)(0.16)(3)	6.01
4" casing: (TD - DTW)(0.65)(3)	
6" casing: (TD - DTW)(1.44)(3)	
Actual Volume Purged (gallons)	6
Appearance of Purge Water	Slightly cloudy

GROUNDWATER SAMPLES

Number of Samples/Container Size	(2) 40 ml VOAS, 1-liter amber bottle
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Time	Vol Remvd (gal)	Temp (deg C)	pH	Cond (mS)	Comments
11:41	2	717.7	7.57	1,135	
11:46	4	69.1	7.11	1,100	
11:51	6	68.4	6.94	1,099	

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

No hydrocarbon sheen or odor

TD - Total Depth of Well
DTW - Depth To Water

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

Monitoring Well Number: MW-2

Project Name: Fidelity Roof, Co	Date of Sampling: 5/24/00
Job Number: 3119	Name of Sampler: CL
Project Address: 1075 40 th Street, Oakland	

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2"
Seal at Grade -- Type and Condition	Cement / Good
Well Cap & Lock -- OK/Replace	OK
Elevation of Top of Casing	44.98
Depth of Well	21.0
Depth to Water	8.01
Water Elevation	36.97
Three Well Volumes (gallons)*	
2" casing: (TD - DTW)(0.16)(3)	6.23
4" casing: (TD - DTW)(0.65)(3)	
6" casing: (TD - DTW)(1.44)(3)	
Actual Volume Purged (gallons)	6
Appearance of Purge Water	Slightly murky

GROUNDWATER SAMPLES

Number of Samples/Container Size		(2) 40 ml VOAS, 1-liter amber bottle			
Time	Vol Remvd (gal)	Temp (deg C)	pH	Cond (mS)	Comments
11:23	2	71.8	7.19	1,293	
11:27	4	73.5	7.37	1,299	
11:32	6	73.0	7.75	1,257	

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

Slight hydrocarbon odor and sheen

TD - Total Depth of Well
DTW - Depth To Water

AEI CONSULTANTS - GROUNDWATER MONITORING WELL FIELD SAMPLING FORM					
Monitoring Well Number: MW-3					
Project Name: Fidelity Roof, Co			Date of Sampling: 5/24/00		
Job Number: 3119			Name of Sampler: CL		
Project Address: 1075 40 th Street, Oakland					
MONITORING WELL DATA					
Well Casing Diameter (2"/4"/6")			2"		
Seal at Grade -- Type and Condition			Cement / Good		
Well Cap & Lock -- OK/Replace			OK		
Elevation of Top of Casing			44.37		
Depth of Well			21.0		
Depth to Water			8.42		
Water Elevation			35.95		
Three Well Volumes (gallons)*					
2" casing: (TD - DTW)(0.16)(3)			6.04		
4" casing: (TD - DTW)(0.65)(3)					
6" casing: (TD - DTW)(1.44)(3)					
Actual Volume Purged (gallons)			6		
Appearance of Purge Water			Murky		
GROUNDWATER SAMPLES					
Number of Samples/Container Size			(2) 40 ml VOAS, 1-liter amber bottle		
Time	Vol Remvd (gal)	Temp (deg C)	pH	Cond (mS)	Comments
11:05	2	71.5	6.84	1,458	
11:09	4	70.9	6.75	1,470	
11:15	6	70.7	6.81	1,458	
COMMENTS (i.e., sample odor, well recharge time & percent, etc.)					
Strong hydrocarbon odor and sheen present					

TD - Total Depth of Well
DTW - Depth To Water

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

Monitoring Well Number: MW-4

Project Name: Fidelity Roof, Co	Date of Sampling: 5/24/00
Job Number: 3119	Name of Sampler: CL
Project Address: 1075 40 th Street, Oakland	

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2"
Seal at Grade -- Type and Condition	Cement / Good
Well Cap & Lock -- OK/Replace	OK
Elevation of Top of Casing	43.48
Depth of Well	20.0
Depth to Water	7.23
Water Elevation	36.25
Three Well Volumes (gallons)*	
2" casing: (TD - DTW)(0.16)(3)	6.13
4" casing: (TD - DTW)(0.65)(3)	
6" casing: (TD - DTW)(1.44)(3)	
Actual Volume Purged (gallons)	6
Appearance of Purge Water	Slightly murky

GROUNDWATER SAMPLES

Number of Samples/Container Size	(2) 40 ml VOAS, 1-liter amber bottle
----------------------------------	--------------------------------------

Time	Vol Remvd (gal)	Temp (deg C)	pH	Cond (mS)	Comments
10:45	2	72.6	6.39	1,173	
10:51	4	71.1	6.67	1,140	
10:56	6	71.3	6.73	1,152	

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

No hydrocarbon odor or sheen

TD - Total Depth of Well
DTW - Depth To Water



McCAMPBELL 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

All Environmental, Inc. 3210 Old Tunnel Road, Suite B Lafayette, CA 94549-4157	Client Project ID: #3119; Fidelity Roof	Date Sampled: 05/24/2000
		Date Received: 05/24/2000
	Client Contact: Carrie Locke	Date Extracted: 05/24-05/25/2000
	Client P.O:	Date Analyzed: 05/24-05/25/2000

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with Methyl tert-Butyl Ether* & BTEX*

EPA methods 5030, modified 8015, and 8020 or 602; California RWQCB (SF Bay Region) method GCFID(5030)

Lab ID	Client ID	Matrix	TPH(g) ⁺	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	% Recovery Surrogate
38769	MW-1	W	1300,a	ND<10	93	ND	17	1.6	---
38770	MW-2	W	ND<250	2200	ND	ND	ND	ND	99
38771	MW-3	W	87,000,a,h	ND<200	13,000	1900	2900	14,000	96
38772	MW-4	W	120,a	31	1.3	ND	ND	ND	99
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit	W		50 ug/L	5.0	0.5	0.5	0.5	0.5	
	S		1.0 mg/kg	0.05	0.005	0.005	0.005	0.005	

* water and vapor samples are reported in ug/L, wipe samples in ug/wipe, soil and sludge samples in mg/kg, and all TCLP and SPLP extracts in ug/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 (?); f) one to a few isolated peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment; j) no recognizable pattern.



McCAMPBELL 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

All Environmental, Inc. 3210 Old Tunnel Road, Suite B Lafayette, CA 94549-4157	Client Project ID: #3119; Fidelity Roof	Date Sampled: 05/24/2000
		Date Received: 05/24/2000
	Client Contact: Carrie Locke	Date Extracted: 05/24/2000
	Client P.O:	Date Analyzed: 05/24-06/01/2000

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

EPA methods modified 8015, and 3550 or 3510; California RWQCB (SF Bay Region) method GCFID(3550) or GCFID(3510)

Lab ID	Client ID	Matrix	TPH(d) ⁺	% Recovery Surrogate
38769	MW-1	W	480,d,b	102
38770	MW-2	W	62,b	105
38771	MW-3	W	26,000,d,h	105
38772	MW-4	W	140,d,b	104
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit	W		50 ug/L	
	S		1.0 mg/kg	

* water and vapor samples are reported in ug/L, wipe samples in ug/wipe, soil and sludge samples in mg/kg, and all TCLP / STLC / SPLP extracts in ug/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) medium boiling point pattern that does not match diesel (?); f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment.

 Edward Hamilton, Lab Director



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QC REPORT

Date: 05/24/00 Matrix: Water

Extraction: N/A

Compound	Concentration: ug/L			%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	

SampleID: 38090

Instrument: GC-3

Surrogate1	0.000	103.0	99.0	100.00	103	99	4.0
Xylenes	0.000	291.0	263.0	300.00	97	88	10.1
Ethyl Benzene	0.000	100.0	89.0	100.00	100	89	11.6
Toluene	0.000	102.0	90.0	100.00	102	90	12.5
Benzene	0.000	105.0	92.0	100.00	105	92	13.2
MTBE	0.000	105.0	93.0	100.00	105	93	12.1
GAS	0.000	914.4	858.9	1000.00	91	86	6.3

SampleID: 52400

Instrument: GC-6 A

Surrogate1	0.000	113.0	112.0	100.00	113	112	0.9
TPH (diesel)	0.000	326.0	321.0	300.00	109	107	1.5

$$\% \text{ Recovery} = \frac{(MS - \text{Sample})}{\text{Amount Spiked}} \cdot 100$$

$$RPD = \frac{(MS - MSD)}{(MS + MSD)} \cdot 2100$$

RPD means Relative Percent Deviation

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

CHAIN OF CUSTODY RECORD
 TURN AROUND TIME
 RUSH 24 HOUR 48 HOUR 5 DAY

Report To: Carrie Locke Bill To:
 Company: All Environmental
 901 Moraga Road, Suite C
 Lafayette, CA 94549
 Tele: (925) 283-6000 Fax: (925) 283-6121
 Project #: 3119 Project Name: Fidelity Roof
 Project Location: Oakland
 Sampler Signature: [Signature]

SAMPLE ID	LOCATION	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED				Analysis Request	Other	Comments																
		Date	Time			Water	Soil	Air	Sludge	Other	Ice	HCl	HNO ₃	Other				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	
<u>MW-1</u>		<u>8/24/00</u>	<u>12:55</u>	<u>3</u>		X					X	X																					<u>38769</u>
<u>MW-2</u>			<u>12:55</u>	<u>3</u>		X					X	X																					<u>38770</u>
<u>MW-3</u>			<u>12:36</u>	<u>3</u>		X					X	X																					<u>38771</u>
<u>MW-4</u>			<u>12:15</u>	<u>3</u>		X					X	X																					<u>38772</u>

Relinquished By: [Signature] Date: 8/24/00 Time: 3:30 Received By: [Signature]
 Relinquished By: _____ Date: _____ Time: _____ Received By: _____
 Relinquished By: _____ Date: _____ Time: _____ Received By: _____

Remarks:
 ICE/ PRESERVATION
 GOOD CONDITION APPROPRIATE
 HEAD SPACE ABSENT CONTAINERS
 VOAS ORG METALS OTHER

(x) (x) (x) (x)

[Signature]