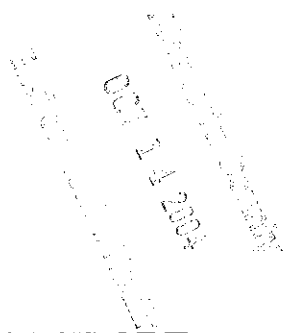
October 8, 2004



GROUNDWATER MONITORING REPORT
3rd Quarter, 2004

1200 East 12th Street
Oakland, California

Project No. 8279

Prepared For

Mr. Lawrence Y.G. Qiu
Quality Auto Service
1200 East 12th Street
Oakland, CA 94601

Prepared By

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

AEI

AEI CONSULTANTS
Environmental & Civil Engineering

2500 Camino Diablo, Suite 200, Walnut Creek, CA 94597
Phone: (925) 283-6000 Fax: (925) 944-2895

October 8, 2004

Mr. Lawrence Y.G. Qiu
Quality Auto Service
1200 East 12th Street
Oakland, CA 94601

Subject: **Quarterly Groundwater Monitoring Report**
3rd Quarter, 2003 (2nd Episode)
1200 East 12th Street
Oakland, California
Project No. 8279

Dear Mr. Qiu:

AEI Consultants (AEI) has prepared this report on behalf of Quality Auto Service to document the activities and results of the ongoing groundwater quality investigation at the property located at 1200 East 12th Street, in the City of Oakland, California (Figure 1). The project was performed at the request of the client to comply with a request by Alameda County Health Care Services Agency (ACHCSA) to further investigate a release of fuel hydrocarbons that occurred at the property. This report presents the findings of the 3rd quarter, 2004 episode of groundwater monitoring and sampling conducted on August 20, 2004.

Site Description and Background

The subject property (hereafter referred to as the "site" or "property") is located on the northeastern corner of East 12th Street and 12th Avenue. The property is approximately 7,500 square feet in size and is developed with a 9,000 square foot two-story brick building. The building occupies the entire area of the property and is currently occupied by Quality Auto Service, an automotive repair facility. The site was occupied by a gas station and auto parts store from 1927 to the mid 1960s and was utilized as a tire and auto supply company, as well as a truck and forklift maintenance facility from the mid 1960s to the late 1980s.

In 1996, two 500-gallon gasoline underground storage tanks were removed from the sidewalk along 12th Avenue at the subject property. Soil samples collected from beneath the tanks indicated elevated levels of total petroleum hydrocarbons (TPH) as gasoline at the western end of Tank 2. Further over-excavation was performed in this area and two soil samples were collected. TPH as gasoline was detected up to 210 mg/kg.

In September 1999, AEI performed a subsurface investigation at the site in accordance with the requirements of the Alameda County Health Care Services Agency (ACHCSA). Soil and groundwater samples were collected from two shallow soil borings shown in Figure 2. No significant concentrations of petroleum hydrocarbons were detected in the soil samples analyzed,

AEI CONSULTANTS
Environmental & Civil Engineering

2500 Camino Diablo, Suite 200, Walnut Creek, CA 94597
Phone: (925) 283-6000 Fax: (925) 944-2895

October 8, 2004

R0389

Mr. Amir Gholami
Alameda County Health Care Services Agency
Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

Subject: **Groundwater Monitoring Report, 3rd Quarter, 2004**
1200 East 12th Street
Oakland, CA
AEI Project No. 8279

Dear Mr. Gholami:

Enclosed is a copy of the recently completed *Groundwater Monitoring Report* for the 3rd Quarter, 2004 at the above referenced site.

Please call me at (925) 283-6000 x120 if you have any questions or concerns.

Sincerely,

Jeff Rosenberg
Project Engineer

however TPH as gasoline and benzene were detected in the groundwater up to 6,700 µg/L and 470 µg/L, respectively. Please refer to Tables 2 & 3 for soil and groundwater sample analytical results from this investigation. Based on the results of the groundwater sample analysis, Mr. Barney Chan of the ACHCSA requested the installation of one groundwater monitoring well to assess the concentration and stability of the dissolved hydrocarbon plume over time. AEI advanced a single soil boring, MW-1, and converted to a monitoring well on May 13, 2004. The results of this investigation are outlined in the *Monitoring Well Installation and Sampling Report*, dated June 9, 2004. Soil sample MW-1 10' collected during the monitoring well contained TPH-g, toluene, and xylenes above laboratory reporting limits at concentrations of 31 mg/kg, 0.024 mg/kg, and 0.021 mg/kg respectively.

The following report summarizes the findings of the 3rd Quarter, 2004 episode of groundwater monitoring conducted on August 20, 2004

Summary of Activities

On August 20, 2004 AEI measured water levels and sampled groundwater from monitoring well MW-1. The well location is shown in Figure 2. First, the well cap was removed and the monitoring well was allowed to equilibrate with atmospheric pressure. The depth to groundwater (from the top of the well casing) was measured with an electric water level indicator. The well was then purged using a battery powered submersible pump. Approximately three well volumes of water was removed. Temperature, pH, specific conductivity, dissolved oxygen (DO), and oxidation-reduction potential (ORP) were measured. Visual estimates of turbidity were noted during the purging of the well.

Once the groundwater parameters stabilized, and following recovery of the water level, water samples were collected from the well. Sample water was collected from a polyethylene bailer and placed into three (3) 40 milliliter volatile organic analysis vials (VOAs) and one (1) 1-liter amber bottle, the VOAs were subsequently capped so that neither head space or air bubbles were visible within the vials, 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 analyses for TPH-g by EPA Method 8015C, and MTBE / BTEX by EPA Method 8021B.

Field Results

No sheen or free product were encountered during monitoring activities. A hydrocarbon odor was noted during the purging and sampling activities. The depth to groundwater during this recent monitoring event was 11.54 feet bgs, 0.03 feet lower than during the previous event.

Depth to groundwater data is summarized in Table 1 of Appendix A. Refer to Appendix B for the Groundwater Monitoring Well Field Sampling Forms.

Groundwater Quality

TPH-g, and Benzene were detected in MW-1 at 540 micrograms per liter (µg/l) and 6.7 µg/L respectively. Low concentrations of Toluene and Xylenes were also detected in well MW-1 at concentrations comparable to the previous episode.

A summary of groundwater sample analytical data is presented in Table 2 of Appendix A. Field monitoring data is presented in Appendix B. Laboratory results and chain of custody documents are included in Appendix C. Data is also presented on Figure 2.

Conclusions

Slightly elevated concentrations of petroleum hydrocarbons are present in the groundwater beneath the site. Based on a conversation with Mr. Amir Gholami, the ACHCSA case manager, at a minimum the client will be required to further delineate the vertical and horizontal extents of the plume prior to being granted case closure. AEI will continue to monitor the groundwater quality in MW-1, with the next event scheduled for the week of November 20, 2004.

Previous Reports

1. *Phase II Subsurface Investigation,* October 1, 1999, prepared by AEI Consultants
2. *Monitoring Well Installation and Sampling Report,* June 9, 2004, prepared by AEI Consultants

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.

If you have any questions regarding our investigation, please do not hesitate to contact Peter McIntyre or myself at (925) 283-6000.

Sincerely,
AEI Consultants

Jeff Rosenberg
Project Engineer

Robert F. Flory, R.G.
Senior Geologist

Distribution:

Mr. Lawrence Y.G. Qiu
Quality Auto Service
1200 East 12th Street
Oakland, CA 94601

Mr. Amir Gholami
Alameda County Health Care Services Agency
1131 Harbour Bay Parkway, Suite 250
Alameda, CA 94502

Figures

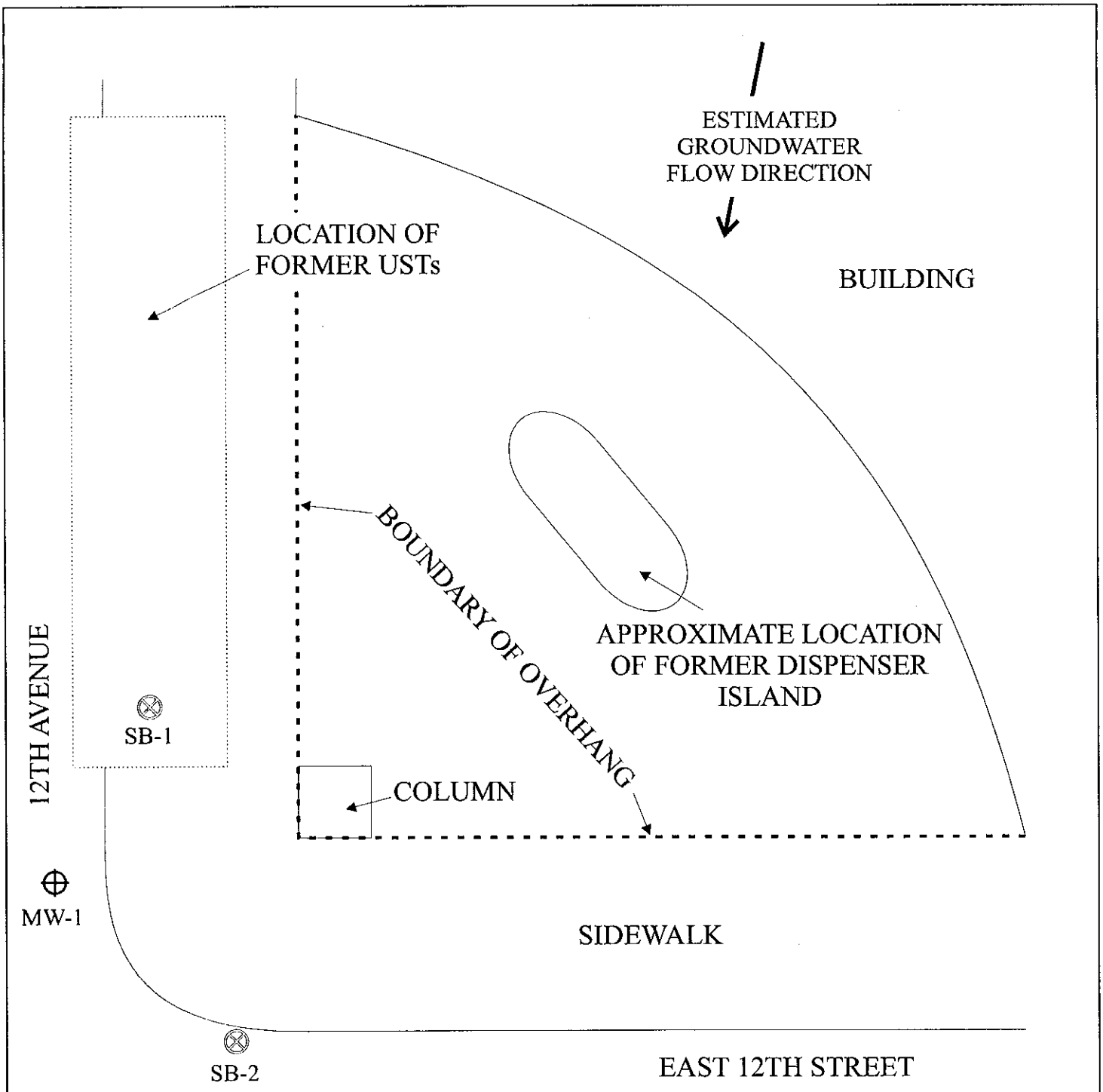
Figure 1	Site Location Map
Figure 2	Site Plan
Figure 3	Groundwater Elevation Contours

Appendix A

Table 1	Groundwater Elevation Data
Table 2	Groundwater Sample Analytical Results

Appendix B Well Field Sampling Forms

Appendix C Laboratory Analytical Report With Chain of Custody Documentation



N

⊕ GROUNDWATER MONITORING WELL LOCATION

⊗ PREVIOUS SOIL BORING LOCATIONS (9/18/99)

SCALE: 1 in. = 6 ft.

0' 3' 6'

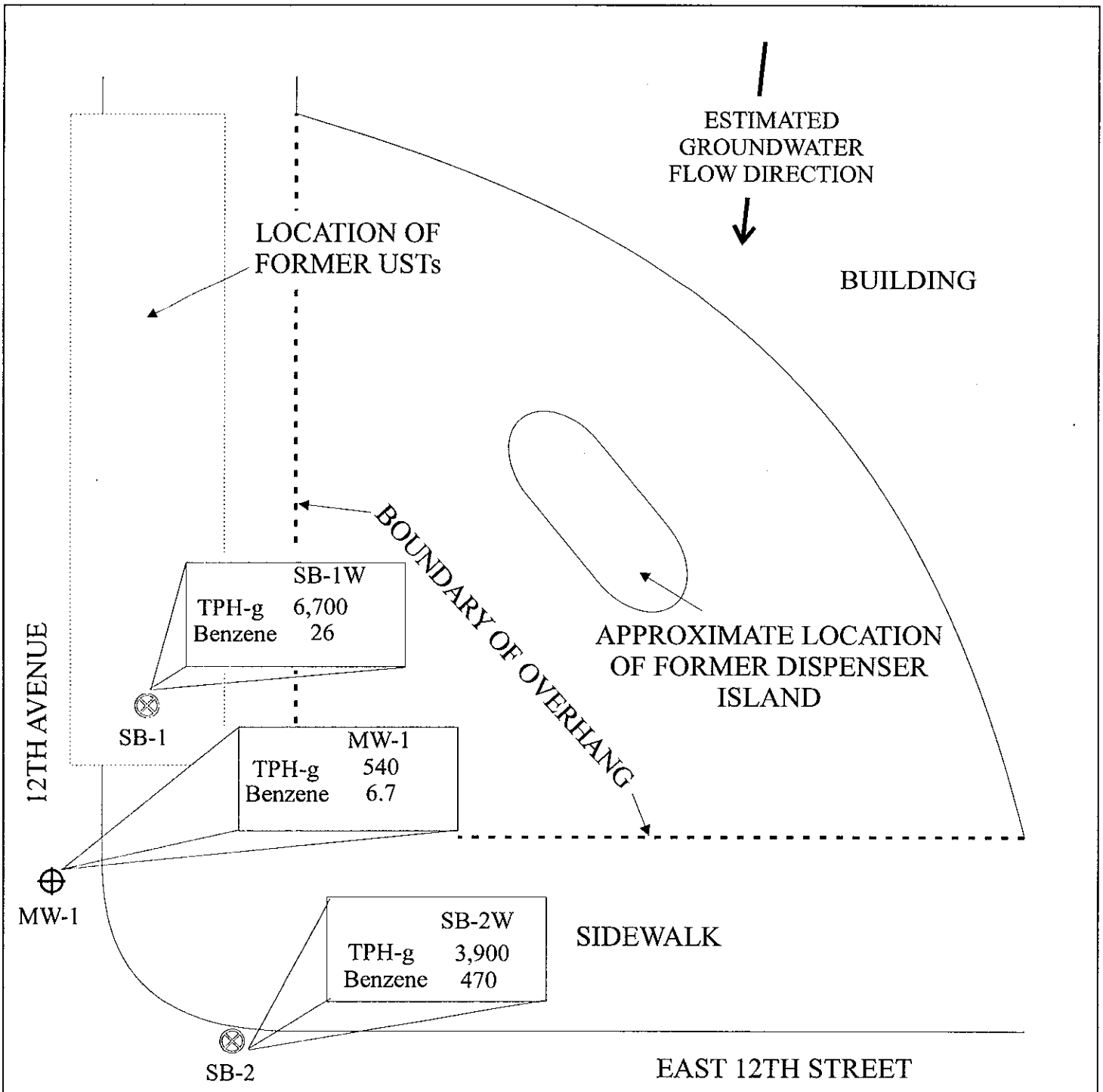
AEI CONSULTANTS

2500 CAMINO DIABLO, STE 200, WALNUT CREEK, CA

SITE PLAN

1200 EAST 12TH STREET
OAKLAND, CALIFORNIA

FIGURE 2



N

⊕ GROUNDWATER MONITORING WELL LOCATION

⊗ PREVIOUS SOIL BORING LOCATIONS (9/18/99)

GROUNDWATER CONCENTRATIONS SHOWN IN MICROGRAMS PER LITER

SCALE: 1 in. = 6 ft.

0' 3' 6'

AEI CONSULTANTS
2500 CAMINO DIABLO, STE 200, WALNUT CREEK, CA

SITE PLAN

1200 EAST 12TH STREET
OAKLAND, CALIFORNIA

FIGURE 3

Table 1 - 1200 East 12th Street, Oakland, CA
Groundwater Elevation Data

Well ID	Screen Interval (ft bgs)	Date	Depth to Water (ft toc)	Change in feet from previous episode
MW-1	**10-20**	05/21/04	11.51	-
		08/20/04	11.54	-0.03

ft bgs = feet below ground surface
ft toc = feet from the top of the well casing

Table 2 - 1200 East 12th Street, Oakland, CA
Groundwater Sample Analytical Data

Well ID	Date	TPH-g (µg/L)	MTBE (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Xylenes (µg/L)
SB-1 W	09/18/99	6,700	ND	26	6.1	22	130
SB-2 W	09/18/99	3,900	ND	470	9.5	160	57
MW - 1	05/21/04	ND<50	ND<5.0	3.7	1.7	0.90	2.3
	08/20/04	540	ND<5.0	6.7	1.5	ND<0.5	1.9
RL		50	5.0	0.5	0.5	0.5	0.5

Note:

TPH-g = Total petroleum hydrocarbons as gasoline

MTBE = Methyl tertiary-butyl ether

µg/l = Micrograms per liter

- = sample not analyzed

Please refer to Appendix C: Laboratory Analytical Data for more detailed lab information including dilution factors and reporting limits

Table 3 - 1200 East 12th Street, Oakland, CA
Soil Sample Analytical Data

Well ID	Date	TPH-g (µg/L)	MTBE (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Xylenes (µg/L)
SB-1 14'	09/18/99	ND	ND	ND	ND	ND	ND
SB-2 14'	09/18/99	2.2	ND	0.13	ND	0.07	0.021
MW-1 10'	05/13/04	31	ND	ND	0.024	ND	0.021
MW-1 15'	05/13/04	ND	ND	ND	ND	ND	ND
RL		1	0.05	0.005	0.005	0.005	0.005

Note:

TPH-g = Total petroleum hydrocarbons as gasoline

MTBE = Methyl tertiary-butyl ether

µg/l = Micrograms per liter

mg/l = Miligrams per liter

- = sample not analyzed

Please refer to Appendix C: Laboratory Analytical Data for more detailed lab information including dilution factors and reporting limits

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-1

Project Name:	Quality Auto Service	Date of Sampling:	8/20/2004
Job Number:	8279	Name of Sampler:	AN
Project Address:	1200 East 12th Street		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	Not Surveyed		
Depth of Well	20.00		
Depth to Water (from top of casing)	11.54		
Water Elevation (feet above msl)	-		
Well Volumes Purged	3		
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	**4.1**		
Actual Volume Purged (gallons)	6.0		
Appearance of Purge Water	gray color, clear at 2 gallons		
Free Product Present?	No	Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size: Two 40-mL VOAs and one 1-liter amber bottle

Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µ sec/cm)	DO (mg/L)	ORP (meV)	Comments
	2	19.63	7.07	800	0.10	-130.1	
	4	19.82	7.16	839	0.11	-136.9	
	6	19.61	7.22	925	0.20	-149.3	

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

hydrocarbon odor noted

McCampbell Analytical, Inc.

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

All Environmental, Inc.	Client Project ID: #8279; QAS	Date Sampled: 08/20/04
2500 Camino Diablo, Ste. #200		Date Received: 08/20/04
Walnut Creek, CA 94597	Client Contact: Jeff Rosenberg	Date Extracted: 08/21/04
	Client P.O.:	Date Analyzed: 08/21/04

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

Extraction method: SW5030B Analytical methods: SW8021B/8015Cm Work Order: 0408289

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	MW-1	W	540,a	ND	6.7	1.5	ND	1.9	1	108

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 non-target isolated peaks subtracted out of the TPH(g) concentration at the client's request.

DHS Certification No. 1644

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.

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

QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: W WorkOrder: 0408289

EPA Method: SW8021B/8015Cm Extraction: SW5030B BatchID: 12789 Spiked Sample ID: 0408283-001A

	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	99	99.7	0.687	101	97.5	3.82	70	130
MTBE	ND	10	103	102	0.726	102	101	0.666	70	130
Benzene	ND	10	114	111	2.77	107	106	1.53	70	130
Toluene	ND	10	106	109	2.64	102	100	1.67	70	130
Ethylbenzene	ND	10	108	106	1.79	104	95.8	8.52	70	130
Xylenes	ND	30	95	94.7	0.351	91	90.3	0.735	70	130
%SS:	85.2	10	108	108	0	105	105	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.

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

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

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

cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not 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

040 8289

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: Jeff Rosenberg Bill To: same
Company: AEI Consultants
2500 Camino Diablo, Suite 200
Walnut Creek, CA 94597 E-Mail: jrosenberg@aeiconsultants.com
Tele: (925) 944-2899 Fax: (925) 944-2895
Project #: 0274 Project Name: QAS
Project Location: 1200 East 12th St
Sampler Signature: Marcus Allen

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	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 / 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	Other	Comments
MW-1		8/20	8:30	3	Voas	X					X	X			X																
MW-1		8/20	8:35	1	Amber	X					X																				hold

Relinquished By:	Date:	Time:	Received By:
Marcus Allen	8/20	1:45	
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

	VOAS	O&G	METALS	OTHER
PRESERVATION	✓			

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

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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0408289 **ClientID: AEL**

Report to:
Jeff Rosenberg
All Environmental, Inc.
2500 Camino Diablo, Ste. #200
Walnut Creek, CA 94597

TEL: (925) 283-6000
FAX: (925) 283-6121
ProjectNo: #8279; QAS
PO:

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

Requested TAT: 5 days
Date Received: 8/20/04
Date Printed: 8/20/04

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
0408289-001	MW-1	Water	8/20/04 8:30:00 AM	☐	A														

Test Legend:

1 G-MBTEX_W	2	3	4	5
6	7	8	9	10
11	12	13	14	15

Prepared by: Sonia 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.