AEI CONSULTANTS
Environmental & Civil Engineering

2500 Camino Diablo, Suite 200, Walnut Creek, CA 94597
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RO 202 new cw

December 17, 2004

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

Subject: 245 8th Street
Oakland, CA
AEI Project #4332

Dear Mr. Chan:

Enclosed is the Quarterly Monitoring Report for the 4th Quarterly 2004 groundwater monitoring and sampling conducted at the above referenced property.

Please call me at (925) 283-6000 if you have any questions or need any additional information.

Sincerely,

Adrian Angel
Staff Geologist

December 17, 2004

GROUNDWATER MONITORING REPORT
4th Quarter, 2004

245 8th Street
Oakland, California

AEI Project No. 4332

Prepared For

Mr. Vic Lum
Vic's Automotive
245 8th Street
Oakland, CA 94607

Prepared By

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

AEI

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Environmental & Civil Engineering

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

December 17, 2004

Mr. Vic Lum
Vic's Automotive
245 8th Street
Oakland, CA 94607

Subject: **Quarterly Groundwater Monitoring Report**
4th Quarter, 2004
245 8th Street
Oakland, California
AEI Project No. 4332

Dear Mr. Lum:

AEI Consultants (AEI) has prepared this report on your behalf to document the continued groundwater investigation at the above referenced site (Figure 1: Site Location Map). This work is being performed in accordance with the requirements of the Alameda County Health Care Services Agency (ACHCSA) to document the groundwater quality associated with the release of fuel hydrocarbons from the former underground storage tank system. This report presents the findings of the 4th Quarter 2004 episode of groundwater monitoring and sampling for the four on-site wells conducted on November 9, 2004.

Site Description and Background

The subject property (hereafter referred to as the "site" or "property") is located in a commercial and residential area of Oakland. The site is a lot on the south corner of Alice Street and 8th Street, and is currently developed with a gasoline station and auto repair facility. Refer to Figure 2 for a visual description of the site.

Between June 1993 and August 1994, AEI removed a total of seven (7) underground storage tanks (USTs) from the property. The tanks consisted of four (4) 1,000-gallon and two (2) 6,000-gallon gasoline tanks and one (1) 250-gallon waste oil tank. The former locations of the tanks are shown on Figure 2. Impacted soil was removed from beneath the former tank area. Groundwater was encountered beneath the former 6,000-gallon tanks. Light non-aqueous phase liquid (LNAPL) was observed on the water table beneath the southern tank. The excavated soil was transported to an appropriate disposal facility and the excavation was backfilled with clean fill material. A new tank system was installed just west of the dispenser island.

Two groundwater monitoring wells (MW-1 and MW-2) were installed in July 1995. The first two episodes of monitoring revealed total petroleum hydrocarbons as gasoline (TPH-g) and benzene up

to 210,000 µg/L and 720 µg/L, respectively, in MW-2. Floating gasoline product, a LNAPL, was discovered in MW-1, which ranged from 1.20 to 4.39 feet thick between December 1995 and March 1996.

Three soil borings (SB-1 through SB-3) were advanced in August 1996. Groundwater samples collected from each of the borings contained TPH-g and benzene ranging from 120,000 to 140,000 µg/L, and from 12,000 to 19,000 µg/L, respectively. Methyl tertiary-butyl ether (MTBE) was also present in all three samples, up to 27,000 µg/L. Although free product was not observed in the field, qualitative laboratory observations indicated immiscible sheen. Manual bailing and pumping of NAPL from MW-1, and monitoring of MW-2 occurred intermittently through 1997.

Two additional groundwater monitoring wells (MW-3 and MW-4) were installed in May 2001. Refer to Tables 1 and 2 for data collected from these wells. A free product recovery pump was installed in MW-1 in June 2001. Fourteen (14) additional soil borings were performed on and offsite in 2003, from which soil, groundwater, and soil vapor samples were collected to further characterize the extent of the release.

Summary of Monitoring Activities

Monitoring and sampling activities were performed on November 9, 2004. The well locations are shown in Figure 2. After opening the wells and allowing water levels to equilibrate with atmospheric pressure, the depth to static groundwater from the top of the well casings was measured prior to sampling with an electric water level indicator. A floating product interface meter was used in MW-1 and MW-2. The three wells with no measurable thickness of floating product (MW-2 through MW-4) were purged of at least three well volumes of water with a submersible purge pump. During well purging, the following water quality parameters were measured: temperature, pH, specific conductivity, dissolved oxygen (DO), and oxidation-reduction potential (ORP); turbidity was visually noted. Once water levels recovered to at least 90% of their original levels, a water sample was collected.

Groundwater samples were collected with new, disposable bailers into 40-millileter volatile organic analysis (VOA) vials. The vials were capped so that visible no head space or air bubbles were present within the sample containers. The samples were placed under chain of custody and transported over ice to McCampbell Analytical, Inc. of Pacheco, California (Department of Health Services Certification #1644).

The three groundwater samples collected were analyzed for TPH-g (EPA method 8015C), benzene, toluene, ethylbenzene, and xylenes (BTEX) (EPA method 8Q21B), and MTBE (EPA method 8021B).

Field Results

Free product thickness was measured in well MW-1 at 0.24 feet thick. No measurable thickness of free product was present in the remaining wells. Groundwater levels for the current monitoring episode ranged from 11.49 to 11.95 feet above mean sea level (msl) in the wells MW-2 through MW-4. These groundwater elevations were an average of 0.62 feet lower than the previous monitoring episode (August 9, 2004). The groundwater flow direction at the time of measurement was south-southeast with a hydraulic gradient calculated at 0.004 ft/ft. The calculated groundwater flow direction and gradient are nearly identical to the previous episode.

Groundwater elevation data are summarized in Table 1. A summary of groundwater elevations and flow directions is presented in Table 2. Water table contours and the groundwater flow direction are depicted in Figure 2. Refer to Appendix A for the Groundwater Monitoring Well Field Sampling Forms.

Groundwater Quality

Groundwater sample analytical data is consistent with previous findings. Again, the highest concentrations were detected in MW-2. TPH-g, MTBE, and benzene in this well were detected at 100,000 micrograms per liter (µg/L), 23,000 µg/L, and 27,000 µg/L. Low to non-detected concentrations of site contaminants were detected in MW-3 and MW-4. A summary of groundwater quality data is presented in Table 3 and on Figure 3. Laboratory results and chain of custody documents are included in Appendix B.

Summary

This report presents the findings of the 4th Quarter 2004 groundwater monitoring event performed at the site. The findings of this event are consistent with previous results. Quarterly monitoring of the site will continue during the course of the upcoming remedial investigation and pilot testing activities. The next event is tentatively scheduled for February 2005. Installation of additional on and offsite wells is currently scheduled to occur in early January 2005 in preparation for interim dual phase extraction activities.

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 or need any additional information, please contact myself or Peter McIntyre at 925/283-6000, extension 104.

Sincerely,
AEI Consultants

Adrian Angel
Staff Geologist

Peter McIntyre, R.G.
Program Manager

REGISTERED GEOLOGIST
PETER J. MCINTYRE
Exp. 5/31/06
No. 7702
STATE OF CALIFORNIA

Figures

Figure 1	Site Location Map
Figure 2	Site Plan with Water Table Contours
Figure 3	Site Plan with Dissolved Hydrocarbons

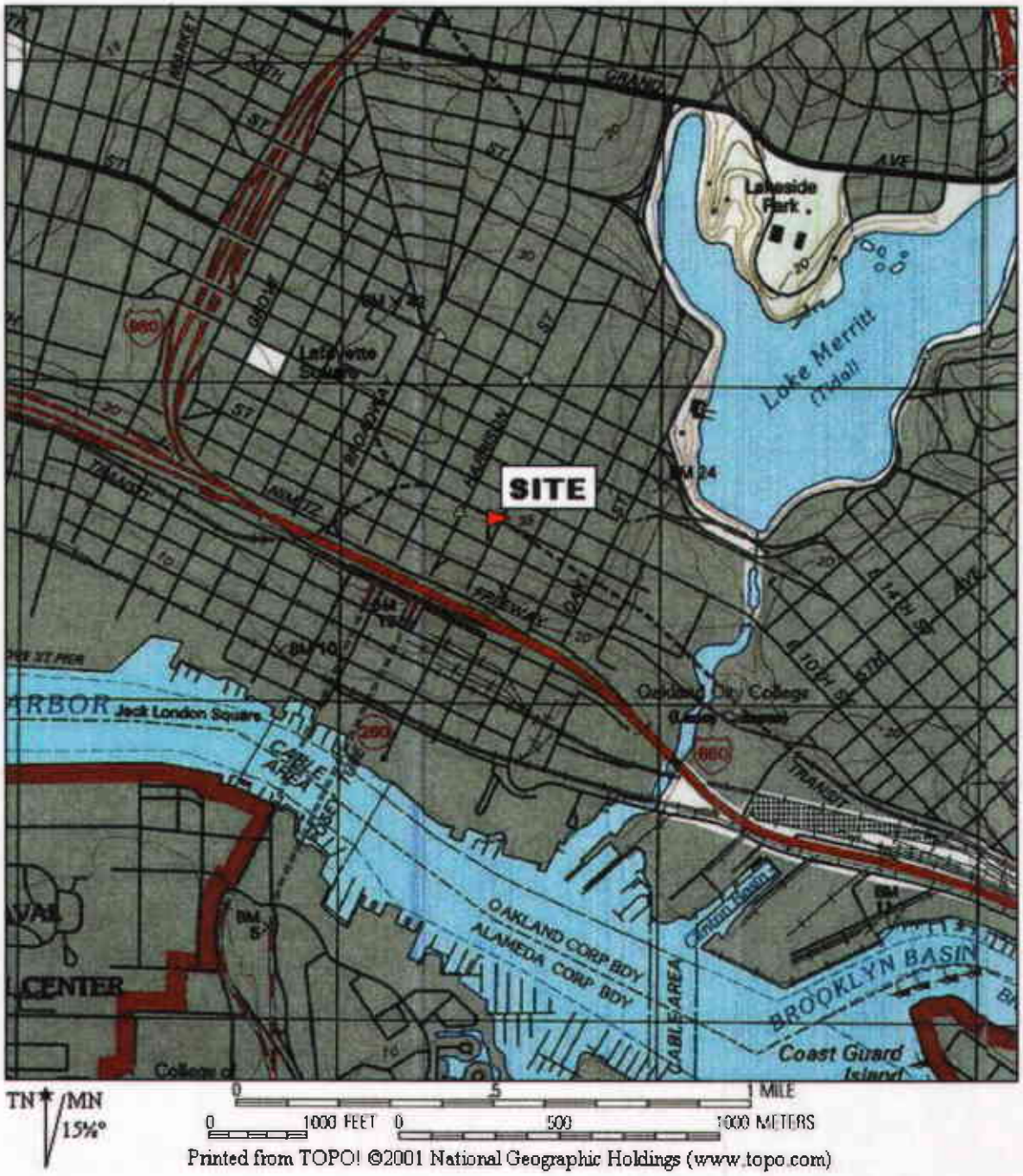
Tables

Table 1	Groundwater Elevation Data
Table 2	Groundwater Flow Summary
Table 3	Groundwater Sample Analytical Data

Appendix A Monitoring Well Field Sampling Forms

Appendix B Laboratory Reports With Chain of Custody Documentation

cc: Mr. Barney Chan
ACHCSA
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502



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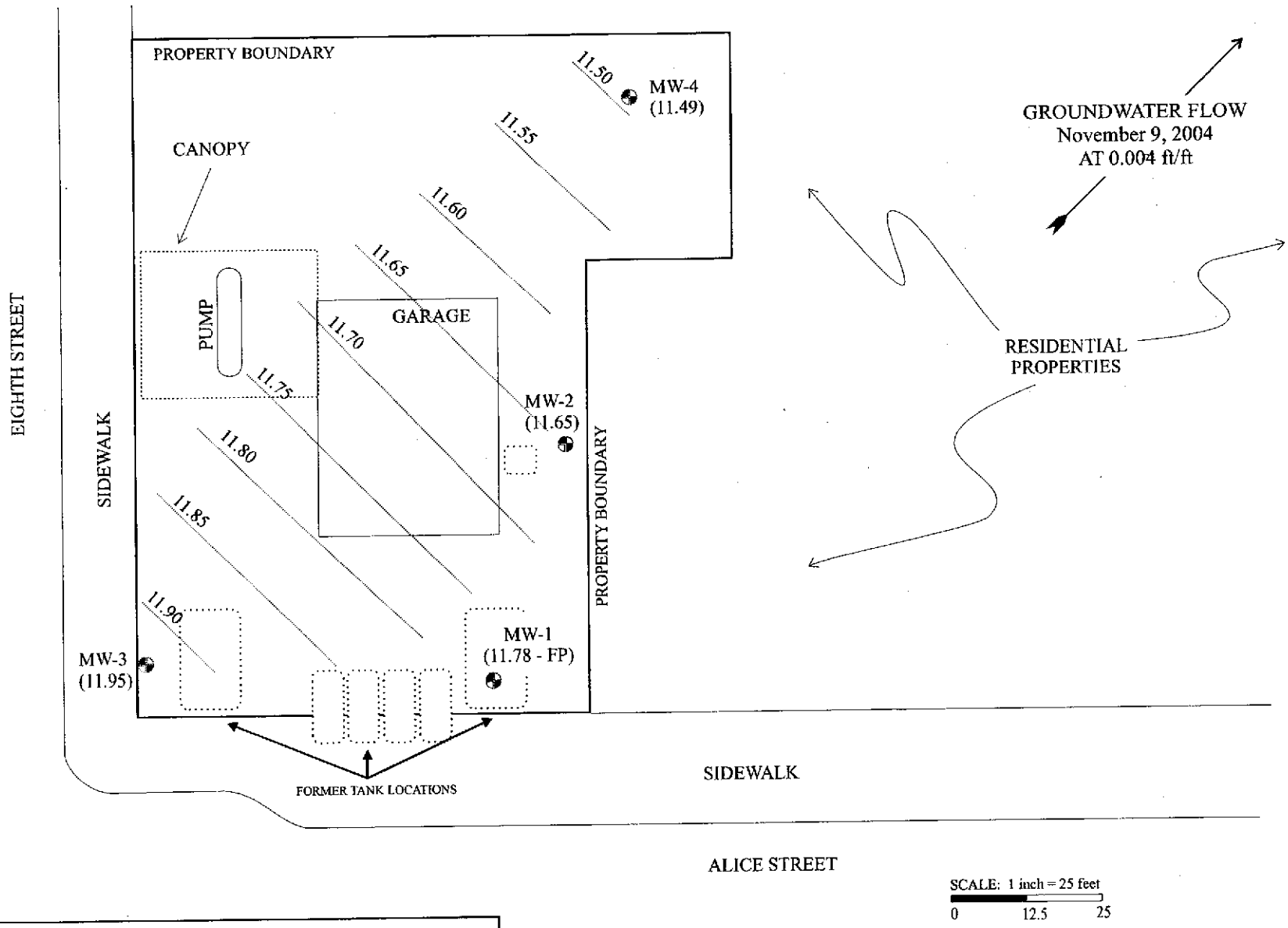
2500 CAMINO DIABLO BLVD, STE 200, WALNUT CREEK

SITE LOCATION MAP

245 8th STREET
OAKLAND, CALIFORNIA

FIGURE 1
PROJECT NO. 4332



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2500 CAMINO DIABLO BLVD, STE 200, WALNUT CREEK, CA

WATER TABLE CONTOURS

245 8th STREET
OAKLAND, CALIFORNIA

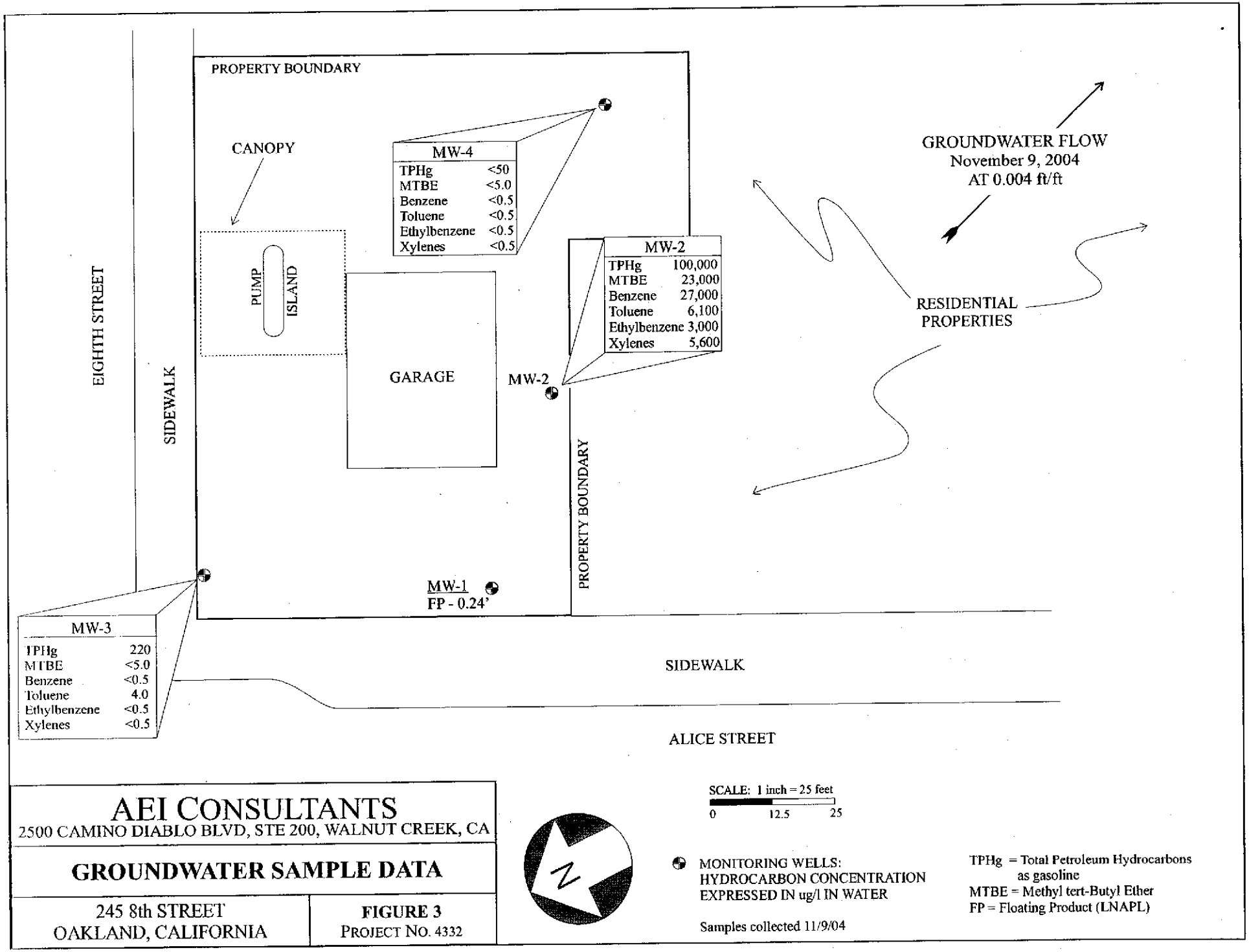
FIGURE 2
PROJECT NO. 4332

● MONITORING WELLS WITH WATER TABLE ELEVATIONS EXPRESSED IN FEET ABOVE MEAN SEA LEVEL
(FP = Floating Product)

Measurements collected 11/9/04

12.5 WATER TABLE CONTOURS WITH ELEVATIONS ABOVE SEA LEVEL. CONTOUR INTERVAL IS 0.5 FEET

Well MW-1 not used in calculating groundwater flow direction or gradient



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2500 CAMINO DIABLO BLVD, STE 200, WALNUT CREEK, CA

GROUNDWATER SAMPLE DATA

245 8th STREET
OAKLAND, CALIFORNIA

FIGURE 3
PROJECT NO. 4332

Table 1
Groundwater Elevation Data

Well ID	Date Collected	Well Elevation (ft amsl)	Depth to Water (ft)	Groundwater Elevation (ft aamsl)	Depth to LNAPL (ft)	Apparent LNAPL Thickness (ft)
MW-1	6/29/2001	27.73	16.52	*	14.89	1.63
	10/10/2001	27.73	15.45	*	15.37	0.08
	1/9/2002	27.73	12.61	15.12*	-	<0.01
	4/24/2002	27.73	13.35	14.38*	-	<0.01
	7/24/2002	27.73	14.19	13.44*	-	<0.01
	11/5/2002	27.73	14.85	12.88*	-	<0.01
	2/4/2003	27.73	14.91	12.82*	-	<0.01
	5/2/2003	27.73	14.43	13.30*	-	0.08
	8/4/2003	27.73	15.24	12.49*	15.01	0.23
	11/3/2003	27.73	16.94	10.79*	15.67	1.27
	2/9/2004	27.73	14.61	13.12*	14.43	0.18
	5/10/2004	-	-	-	-	Inaccessible
	8/9/2004	27.73	15.24	12.49*	15.03	0.21
	11/9/2004	**27.73**	**15.95**	**11.78**	**15.71**	**0.24**
MW-2	6/29/2001	28.16	16.14	12.02	-	-
	10/10/2001	28.16	16.43	11.73	-	-
	1/9/2002	28.16	13.50	14.66	-	-
	4/24/2002	28.16	14.40	13.76	-	-
	7/24/2002	28.16	14.91	13.25	-	-
	11/5/2002	28.16	16.96	11.20	-	-
	2/4/2003	28.16	15.42	12.74	-	-
	5/2/2003	28.16	15.24	12.92	-	-
	8/4/2003	28.16	15.98	12.18	-	-
	11/3/2003	28.16	16.60	11.56	-	Sheen
	2/9/2004	28.16	15.22	12.94	-	Sheen
	5/10/2004	28.16	15.34	12.82	-	Sheen
	8/9/2004	28.16	15.92	12.24	-	Sheen
	11/9/2004	**28.16**	**16.51**	**11.65**	-	**Sheen**
MW-3	6/29/2001	29.21	16.60	12.61	-	-
	10/10/2001	29.21	16.92	12.29	-	-
	1/9/2002	29.21	14.20	15.01	-	-
	4/24/2002	29.21	15.07	14.14	-	-
	7/24/2002	29.21	16.40	12.81	-	-
	11/5/2002	29.21	16.47	12.74	-	-
	2/4/2003	29.21	16.92	12.29	-	-
	5/2/2003	29.21	15.45	13.76	-	-
	8/4/2003	29.21	16.46	12.75	-	-
	11/3/2003	29.21	17.15	12.06	-	-
	2/9/2004	29.21	15.78	13.43	-	-
	5/10/2004	29.21	15.77	13.44	-	-
	8/9/2004	29.21	16.45	12.76	-	-
	11/9/2004	**29.21**	**17.26**	**11.95**	-	-
MW-4	6/29/2001	29.38	17.71	11.67	-	-
	10/10/2001	29.38	18.00	11.38	-	-
	1/9/2002	29.38	15.02	14.36	-	-
	4/24/2002	29.38	15.74	13.64	-	-
	7/24/2002	29.38	16.69	12.69	-	-
	11/5/2002	29.38	17.64	11.74	-	-
	2/4/2003	29.38	16.02	13.36	-	-
	5/2/2003	29.38	16.72	12.66	-	-
	8/4/2003	29.38	17.51	11.87	-	-
	11/3/2003	29.38	18.09	11.29	-	-
	2/9/2004	29.38	16.67	12.71	-	-
	5/10/2004	29.38	16.89	12.49	-	-
	8/9/2004	29.38	17.44	11.94	-	-
	11/9/2004	**29.38**	**17.89**	**11.49**	-	-

* = Groundwater elevation affected by free product
All well elevations are measured from the top of the casing
LNAPL = light non-aqueous phase liquid (floating free product)
- = not applicable
ft amsl = feet above mean sea level

Table 2
Groundwater Flow Summary

Episode #	Date	Average Water Table Elevation*	Change from Previous Episode	Flow direction (gradient)
1	6/29/2001	12.10	-	SSE (0.0074)
2	10/10/2001	11.80	-0.30	SSE (0.0071)
3	1/9/2002	14.68	2.88	SE (0.0054)
4	4/24/2002	13.85	-0.83	SSW (0.005)
5	7/24/2002	12.92	-0.93	NE (0.021)
6	11/5/2002	11.89	-1.02	SW (0.019)
7	2/4/2003	12.80	0.90	NNW (0.01)
8	5/2/2003	13.11	0.32	SSE (0.01)
9	8/4/2003	12.27	-0.85	SSE(0.007)
10	11/3/2003	11.64	-0.63	SSE (0.006)
11	2/9/2004	13.03	1.39	SSE (0.006)
12	5/10/2004	12.92	-0.11	SSE (0.008)
13	8/9/2004	12.31	-0.60	SSE (0.006)
13	**11/9/2004**	**11.70**	**-0.62**	**SSE (0.004)**

LNAPL = light non-aqueous phase liquid (floating free product)

* MW-2 to MW-4 only

Water table elevations in feet above mean sea level

- = not applicable

Table 3
Groundwater Sample Analytical Data

Well/Sample ID	Date Collected	Apparent LNAPL thickness (ft)	TPHg µg/L	MTBE µg/L	Benzene µg/L	Toluene µg/L	Ethylbenzene µg/L	Xylenes µg/L
MW-1	6/29/2001	1.63	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp
	10/10/2001	0.08	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp
	1/9/2002	<0.01	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp
	4/24/2002	<0.01	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp
	7/24/2002	~0.01	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp
	11/5/2002	~0.01	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp
	2/4/2003	~0.01	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp
	5/2/2003	0.08	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp
	8/4/2003	0.23	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp
	11/3/2003	1.27	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp
	2/9/2004	0.18	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp
	5/10/2004	Inaccessible	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp
	8/9/2004	0.21	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp
	11/9/2004	**0.24**	**ns/fp**	**ns/fp**	**ns/fp**	**ns/fp**	**ns/fp**	**ns/fp**
MW-2	6/29/2001	0.0	69,000	4100/4400*	7,200	6,100	1,500	7,000
	10/10/2001	0.0	87,000	14,000	22,000	12,000	2,700	9,100
	1/9/2002	0.0	130,000	11,000	30,000	19,000	3,800	14,000
	4/24/2002	Sheen	210,000	32,000	38,000	23,000	4,600	19,000
	7/24/2002	Sheen	170,000	36,000	48,000	12,000	3,700	8,600
	11/5/2002	Sheen	190,000	36,000	45,000	25,000	4,600	16,000
	2/4/2003	Sheen	150,000	27,000	51,000	24,000	4,200	14,000
	5/2/2003	Sheen	150,000	35,000	39,000	11,000	3,800	9,900
	8/4/2003	Sheen	120,000	29,000	32,000	5,000	3,200	7,200
	11/3/2003	Sheen	120,000	24,000	33,000	4,300	3,200	5,400
	2/9/2004	Sheen	130,000	19,000	27,000	7,700	3,100	7,600
	5/10/2004	Sheen	67,000	13,000	20,000	3,000	2,300	4,100
	8/9/2004	Sheen	100,000	22,000	27,000	7,100	2,800	6,600
	11/9/2004	**Sheen**	**100,000**	**23,000**	**27,000**	**6,100**	**3,000**	**5,600**
MW-3	6/29/2001	0.0	550	<5.0	<0.5	3.1	3.2	1.2
	10/10/2001	0.0	470	<5.0	0.77	5.3	3.3	5.9
	1/9/2002	0.0	1,000	<5.0	0.90	7.6	7.8	25
	4/24/2002	0.0	1,500	<5.0	0.64	7.2	12	14
	7/24/2002	0.0	1,200	<5.0	10	17.0	11	25
	11/5/2002	0.0	1,800	<25	33	43.0	18	31
	2/4/2003	0.0	450	<5.0	<0.5	5.0	<0.5	0.77
	5/2/2003	0.0	340	<5.0	7.3	10.0	2.5	7.3
	8/4/2003	Sheen	170	<5.0	5.8	5.9	1.5	4.9
	11/3/2003	0.0	54	<5.0	<0.5	<0.5	<0.5	<0.5
	2/9/2004	0.0	190	<5.0	<0.5	3.6	<0.5	<0.5
	5/10/2004	0.0	280	<5.0	<0.5	3.4	<0.5	<0.5
	8/9/2004	0.0	290	<5.0	<0.5	3.8	<0.5	<0.5
	11/9/2004	**0.0**	**220**	**<5.0**	**<0.5**	**4.0**	**<0.5**	**<0.5**
MW-4	6/29/2001	0.0	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	10/10/2001	0.0	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	1/9/2002	0.0	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	4/24/2002	0.0	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	7/24/2002	0.0	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	11/5/2002	0.0	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	2/4/2003	0.0	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	5/2/2003	0.0	500	10	68	71	18	65
	8/4/2003	Sheen	270	<5.0	30	29	9.2	32
	11/3/2003	0.0	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	2/9/2004	0.0	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	5/10/2004	0.0	<50	<5.0	<0.5	<0.5	<0.5	<0.5
	8/9/2004	0.0	130	<5.0	14	13	5.3	17
	11/9/2004	**0.0**	**ND<50**	**<5.0**	**<0.005**	**<0.005**	**<0.005**	**<0.005**

µg/L micrograms per liter
TPHg total petroleum hydrocarbons as gasoline
MTBE methyl tertiary butyl ether
ns/fp = not sampled / free product
ND = not detected
LNAPL = Light Non Aqueous Phase Liquid
* samples re-analyzed by EPA Method 8260 (expressed as EPA 8020 / EPA 8260)
Please refer to Appendix B: Lab Results for further detailed lab information including dilution factors

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GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-1

Project Name:	Vic's Automotive	Date of Sampling:	11/9/2004
Job Number:	4332	Name of Sampler:	Adrian N
Project Address:	245 8th Street, Oakland		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	4		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	27.73		
Depth of Well	25.00		
Depth to Water (from top of casing)	15.95		
Depth to Free Product (from top of casing)	15.71		
Water Elevation (feet above msl)	11.78		
Well Volumes Purged	na		
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	**na**		
Actual Volume Purged (gallons)	na		
Appearance of Purge Water	na		
Free Product Present?	Yes	Thickness (ft):	0.24

GROUNDWATER SAMPLES

Number of Samples/Container Size				na			
Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments

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

Due to free product, well not purged or sampled

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-2

Project Name:	Vic's Automotive	Date of Sampling:	11/9/2004
Job Number:	4332	Name of Sampler:	Adrian N
Project Address:	245 8th Street, Oakland		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	28.16		
Depth of Well	25.00		
Depth to Water (from top of casing)	16.51		
Water Elevation (feet above msl)	11.65		
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)	7.0		
Appearance of Purge Water	sheen observed		
Free Product Present?	Yes	Thickness (ft):	Sheen

GROUNDWATER SAMPLES

Number of Samples/Container Size: 3 VOAs

Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
	2	18.49	6.62	1527	0.78	-143.9	
	4	18.52	6.60	1412	0.36	-155.7	
	6	18.53	6.54	1302	0.12	-176.9	
	7	18.51	6.50	1283	0.10	-179.3	

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

Black with strong hydrocarbon odor. Sheen present while purging

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-3

Project Name:	Vic's Automotive	Date of Sampling:	11/9/2004
Job Number:	4332	Name of Sampler:	Adrian N
Project Address:	245 8th Street, Oakland		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	4		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	29.21		
Depth of Well	25.00		
Depth to Water (from top of casing)	17.26		
Water Elevation (feet above msl)	11.95		
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)	**16.7**		
Actual Volume Purged (gallons)	17		
Appearance of Purge Water	clears at 2 gallons		
Free Product Present?	no	Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size: 3 VOAs

Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
	4	20.18	6.38	264	0.74	72.8	
	8	20.54	6.37	259	0.82	64.1	
	12	20.54	6.55	247	0.07	-83.9	
	16	20.52	6.58	241	0.06	-101.9	
	17	20.49	6.55	237	0.03	-104.3	

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

Light grey with slight hydrocarbon odor. Clears at 2 gallons

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-4

Project Name:	Vic's Automotive	Date of Sampling:	11/9/2004
Job Number:	4332	Name of Sampler:	Adrian N
Project Address:	245 8th Street, Oakland		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	4		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	29.38		
Depth of Well	25.00		
Depth to Water (from top of casing)	17.89		
Water Elevation (feet above msl)	11.49		
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)	**13.9**		
Actual Volume Purged (gallons)	15.0		
Appearance of Purge Water	clears quickly		
Free Product Present?	No	Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size: 3 VOAs

Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
	3	18.86	6.28	446	2.24	95.5	
	6	19.19	6.22	401	2.41	92.3	
	9	19.23	6.21	436	2.12	90.1	
	12	19.15	6.22	464	2.10	88.3	
	15	19.01	6.23	472	2.17	86.2	

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

Light brown with no hydrocarbon odor, clears quickly

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. 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	Client Project ID: #4332; Vic Lum	Date Sampled: 11/09/04
		Date Received: 11/09/04
	Client Contact: Robert Flory	Date Reported: 11/12/04
	Client P.O.:	Date Completed: 11/12/04

WorkOrder: 0411140

November 12, 2004

Dear Robert:

Enclosed are:

1). the results of 3 analyzed samples from your **#4332; Vic Lum 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.

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: #4332; Vic Lum	Date Sampled: 11/09/04
2500 Camino Diablo, Ste. #200		Date Received: 11/09/04
Walnut Creek, CA 94597	Client Contact: Robert Flory	Date Extracted: 11/10/04
	Client P.O.:	Date Analyzed: 11/10/04

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

Extraction method: SW5030B Analytical methods: SW8021B/8015Cm Work Order: 0411140

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	MW-2	W	100,000,a,h	23,000	27,000	6100	3000	5600	100	96.0
002A	MW-3	W	220,m	ND	ND	4.0	ND	ND	1	99.0
003A	MW-4	W	ND	ND	ND	ND	ND	ND	1	115
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

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0411140

EPA Method: SW8021B/8015Cm Extraction: SW5030B BatchID: 13882 Spiked Sample ID: 0411140-003A

Analyte	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	93.9	102	7.89	96.3	96.2	0.0851	70	130
MTBE	ND	10	102	105	2.86	105	110	4.85	70	130
Benzene	ND	10	103	108	5.14	107	113	5.16	70	130
Toluene	ND	10	92.3	109	16.4	108	114	4.87	70	130
Ethylbenzene	ND	10	102	104	2.30	102	106	4.11	70	130
Xylenes	ND	30	91	91	0	90.3	91.3	1.10	70	130
%SS:	115	10	109	111	1.47	113	115	1.35	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

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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0411140 **ClientID: AEL**

Report to:
Robert Flory
All Environmental, Inc.
2500 Camino Diablo, Ste. #200
Walnut Creek, CA 94597
TEL: (925) 283-6000
FAX: (925) 283-6121
ProjectNo: #4332; Vic Lum
PO:

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

Requested TAT: 5 days
Date Received: 11:30 PM
Date Printed: 11/9/04

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
0411140-001	MW-2	Water	11/9/04	☐	A	A													
0411140-002	MW-3	Water	11/9/04	☐	A														
0411140-003	MW-4	Water	11/9/04	☐	A														

Test Legend:

1	G-MBTEX_W	2	PREDF REPORT	3		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.

04111 40

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? Coelt (Normal) No Write On (DW) No

Report To: Robert Flory	**Bill To:**
Company: AEI Consultants	AEI Consultants
2500 Camino Diablo, Suite 200	
	E-Mail: rflory@aeiconsultants.com
Tele: (925) 944-2899 ext. 122	**Fax:** (925) 944-2895
Project #: 4332	**Project Name:** Vic Lum
Project Location: Error! Reference source not found., Oakland, CA	
Sampler Signature: Adrian Mccue	

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	MATRIX Soil	MATRIX Air	MATRIX Sludge	MATRIX Other	METHOD PRESERVED Ice	METHOD PRESERVED HCl	METHOD PRESERVED HNO_3	METHOD PRESERVED Other	BTEX & TPH as Gas (602/8020 + 8015)/MTBE	TPH as Diesel /motor oil(8015)	Total Petroleum Oil & Grease (5520 E&F/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 601 / 8010 basic list by 8012B	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) Toatal lead	RCI	Other: Fuel Oxygenates (8260) MTBE/TAME/ETBA/TBA/DIPE	Comments
~~MW-1~~		11/09/06			✓		✓																								Not Sample
MW-2		"		3	✓	X	X				X	X			X																PDF Please
MW-3		"		3	"	X					X	X			X																
MW-4		"		3	"	X					X	X			X																

Relinquished By:	Date:	Time:	Received By:
Adrian Mccue	11/09/06	3:50	Mel Vallo
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

	VOAS	O&G	METALS	OTHER
ICE/t° ✓				
GOOD CONDITION ✓	PRESERVATION APPROPRIATE			
HEAD SPACE ABSENT ✓	CONTAINERS ✓			
DECHLORINATED IN LAB	PERSERVED IN LAB			