AEI CONSULTANTS
Environmental & Civil Engineering

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

R0202

March 29, 2004

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

Subject: **Quarterly Monitoring Report –1st Quarter 2004 (11th Episode)**
245 8th Street
Oakland, CA
AEI Project #4332

Dear Mr. Chan:

Enclosed is the Quarterly Monitoring Report for the most recent episode of sampling performed at the above referenced property.

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

Sincerely,

Peter McIntyre
Project Manager, Geologist

AEI CONSULTANTS
ENVIRONMENTAL & CIVIL ENGINEERING

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

R0202

March 24, 2004

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

Subject: 245 8th Street
Oakland, California
AEI Project No. 5404

Dear Mr. Chan:

This letter is an addendum to the Interim Source Removal Work Plan, dated January 14, 2004, pursuant to our conversation regarding the site and scope of work. AEI has been retained by Mr. Vic Lum to provide environmental engineering services associated with the release of petroleum hydrocarbons from the former underground storage tank system on the property.

In summary, the plan outlines the installation of additional monitoring and remediation wells on and around the property. MW-5 to MW-7: onsite extraction wells; MW-8 and MW-9 offsite monitoring wells; and MW-10 to MW-12: offsite monitoring and extraction wells. The well installation work is to be phased; with onsite wells being installed as the first phase to allow for quicker initiation of source removal while access agreements (708 Alice Street is private property) and permitting (City of Oakland encroachment permits) are underway.

Wells to be used for extraction will be constructed to straddle the most contaminated zones, across the capillary fringe and the top portion of the water table for implementing the pilot test outlined below. Slightly higher (shallower) screened intervals may be installed in wells near the former tank hold (MW-6 and MW-7) if during installation significant contamination is observed above the capillary fringe. The screen interval will extend to a depth to expose only the first homogeneous water-bearing unit to limit the intake of deeper clean water during extraction and to ensure that an impermeable (aquitard) is not punctured. Anticipated screen intervals will be 12 to 22 feet below ground surface (bgs) although final screening will be determined by the onsite AEI geologist at the time of installation.

The initially proposed method of source removal was soil vapor extraction (SVE) to remove contaminant mass from soils around the former tank vault and on the water table. Following our conversation and review of information on similar nearby releases, we are proposing to perform a dual phase extraction (DPE) pilot test. DPE technology consists of simultaneous extraction of groundwater and soil vapors from a common extraction well(s) under high vacuum (up to +/- 20 inches of mercury). The pilot test is proposed for a period of 5 days (120 continuous hours).

The DPE test is planned for wells MW-5, MW-6, and MW-7. DPE will be performed on each well individually for a period of 12 to 24 hours. During the test on each well, water levels, free product thickness (if present), and induced vacuums will be measured on adjacent wells, including those not being extracted from and wells MW-1 to MW-3. In addition, water

extraction rates and vapor flow rates will be measured. Vapor samples will be collected at the beginning, at several intervals during, and following the test on each well. Water samples will also be collected. Following the individual well tests, a combination test will be run, on a minimum of two wells (likely MW-6 and MW-7) for the remainder of the test period. Note: it is expected that MW-5 may have limited vapor extraction radius of influence on due to its location in tank backfill.

The extraction will be induced in the well by utilizing a suction tube lowered into the well through the sealed wellhead. The suction tube (stinger) will be lowered slowly to create a drawdown nominally set at 5 feet below static water level. Soil vapor and water will be pulled up the tube, through a air-water separator (knock-out) tank, from which vapors will be routed to a thermal oxidizer for treatment. Water will be treated in a spray-aeration unit and routed to a temporary storage tank. Water will either be discharged to the sanitary sewer under EBMUD permit or transported from the site to an approved disposal facility.

The DPE system will consist of a diesel generator, liquid ring vacuum pump, knock-out tank, spray-aeration unit, and thermal oxidizer. The equipment will have a multi-site Bay Area Air Quality Management District (BAAQMD) permit and be equipped with noise abatement equipment to comply with City noise ordinances to allow for 24-hour operation.

Upon completion of the 5-day DPE pilot test, data will be evaluated and a report presented, summarizing the methods and results of the test. The report will include the following:

- Tabulated data obtained during the test including wellhead vapor flow rates, water flow rates, water level measurements and induced vacuums in observation wells.
- Summary of vapor and water analyses for TPH-g, BTEX, and MTBE
- Vacuum versus vapor flow rates
- Estimated mass removal total and mass removal rates at applied vacuums
- Drawdown in observation wells versus vacuum.
- Estimated radius of influence (ROI) for vapor extraction
- If successful, recommendations for longer-term operation of DPE, including optimum configuration and plan for cost effective extracted water treatment and disposal.

AEI anticipates beginning the first phase of well installation within approximately 1 month of approval to proceed by ACHCSA and the property owner. The ACHCSA will be notified of the schedule for drilling and of the pilot test to arrange for a field inspection if necessary. The pilot test report will be completed within approximately 1 month of completion of the pilot test.

We look forward to you comments and to beginning this project. If you have any questions or need any additional information, please don't hesitate to contact either of the undersigned.

Sincerely,

Peter McIntyre
Project Manager, Geologist

Robert F. Flory, RG
Senior Project Geologist

March 29, 2004

GROUNDWATER MONITORING REPORT
1st Quarter, 2004

245 8th Street
Oakland, California

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

AEI CONSULTANTS
ENVIRONMENTAL & CIVIL ENGINEERING

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Phone: (925) 283-6000 Fax: (925) 944-2895

March 29, 2004

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

Subject: **Quarterly Groundwater Monitoring Report**
1st 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 1st Quarter 2004 (11th) episode of groundwater monitoring and sampling for the four onsite wells conducted on February 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. Currently, an interim source removal plan is under review by the ACHCSA.

Summary of Monitoring Activities

Monitoring of water and product levels and sample collection occurred on February 9, 2004. The well locations are shown in Figure 2. 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 using a battery powered submersible pump, and groundwater samples were collected from the wells using clean, disposable plastic bailers.

Temperature, pH, dissolved oxygen (DO), oxidation-reduction potential (ORP), and specific conductivity were measured and the turbidity was visually noted during the purging of the wells. Approximately three well volumes of water were purged from each well prior to sample collection. Once the above parameters had stabilized, and the wells were allowed to recharge to a minimum of 90% of their original water volume, a water sample was collected.

Each groundwater sample was collected into three 40-ml volatile organic analysis (VOA) vials and capped so no head-space or 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).

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

Field Results

Well MW-1 had approximately 0.18 feet of LNAPL when measured with an interface meter, as compared to 1.27 feet measured during the November 2003 event. For this reason, no samples

were collected from MW-1, and the depth to water reading was not used in the calculation of groundwater flow direction and gradient. No measurable thickness of free product was apparent using an interface meter in well MW-2.

Groundwater levels for the current monitoring episode ranged from 12.71 to 13.43 feet above mean sea level (msl) in the three wells (MW-2 through MW-4). These groundwater elevations were an average of 1.39 feet higher than the previous monitoring episode. This rise in the water table elevation appears to be a seasonal occurrence and coincides with heavy rainfall events. The groundwater flow direction at the time of measurement was south-southeast. The hydraulic gradient of the water table was calculated at 0.006 ft/ft; both the flow direction and gradient are nearly identical to the previous episode.

Groundwater elevation data are summarized in Table 1. The 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

Hydrocarbon concentrations in the wells sampled remained highest in MW-2, as they have been for the previous monitoring events. TPH-g, MTBE, and benzene were detected at 130,000 micrograms per liter (µg/l), 19,000 µg/l, and 27,000 µg/l, respectively, in this well. Well MW-3 contained 190 µg/l TPH-g and 3.6 µg/l of toluene, which is consistent with previous findings. No petroleum hydrocarbons were detected above laboratory reporting limits in MW-4. A summary of groundwater quality data is presented in Table 2. Laboratory results and chain of custody documents are included in Appendix B.

Conclusions

The findings of this episode are very consistent with previous monitoring events. The remaining free product and high dissolved phase contaminant concentrations in MW-1 and MW-2 indicate that significant mass of petroleum product remains in the subsurface. Interim source removal will begin upon approval by the ACHCSA and property owner. AEI anticipates that installation of the necessary wells will occur within the second quarter 2004 with interim source removal to follow shortly thereafter. In the meantime, monitoring will continue, with the next event scheduled to occur in May 2004.

Report Limitations and Signatures

This report presents a summary of work completed by AEI Consultants, including observations and descriptions of site conditions. Where appropriate, it includes analytical results for samples taken during the course of the work. The number and location of samples are chosen to provide required information, but it cannot be assumed that they are entirely representative of all areas not sampled. All conclusions and recommendations are based on these analyses, observations,

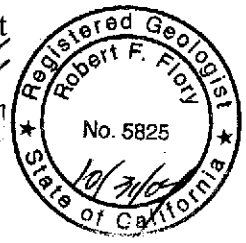
and the governing regulations. Conclusions beyond those stated and reported herein should not be inferred from this document.

These services were performed in accordance with generally accepted practices in the environmental engineering and construction field that existed at the time and location of the work. If you have any questions or need any additional information, please contact either of the undersigned at 925/283-6000.

Sincerely,
AEI Consultants

Peter McIntyre
Project Manager, Geologist

Robert F. Flory, R.G.
Senior Project Geologist



Figures

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

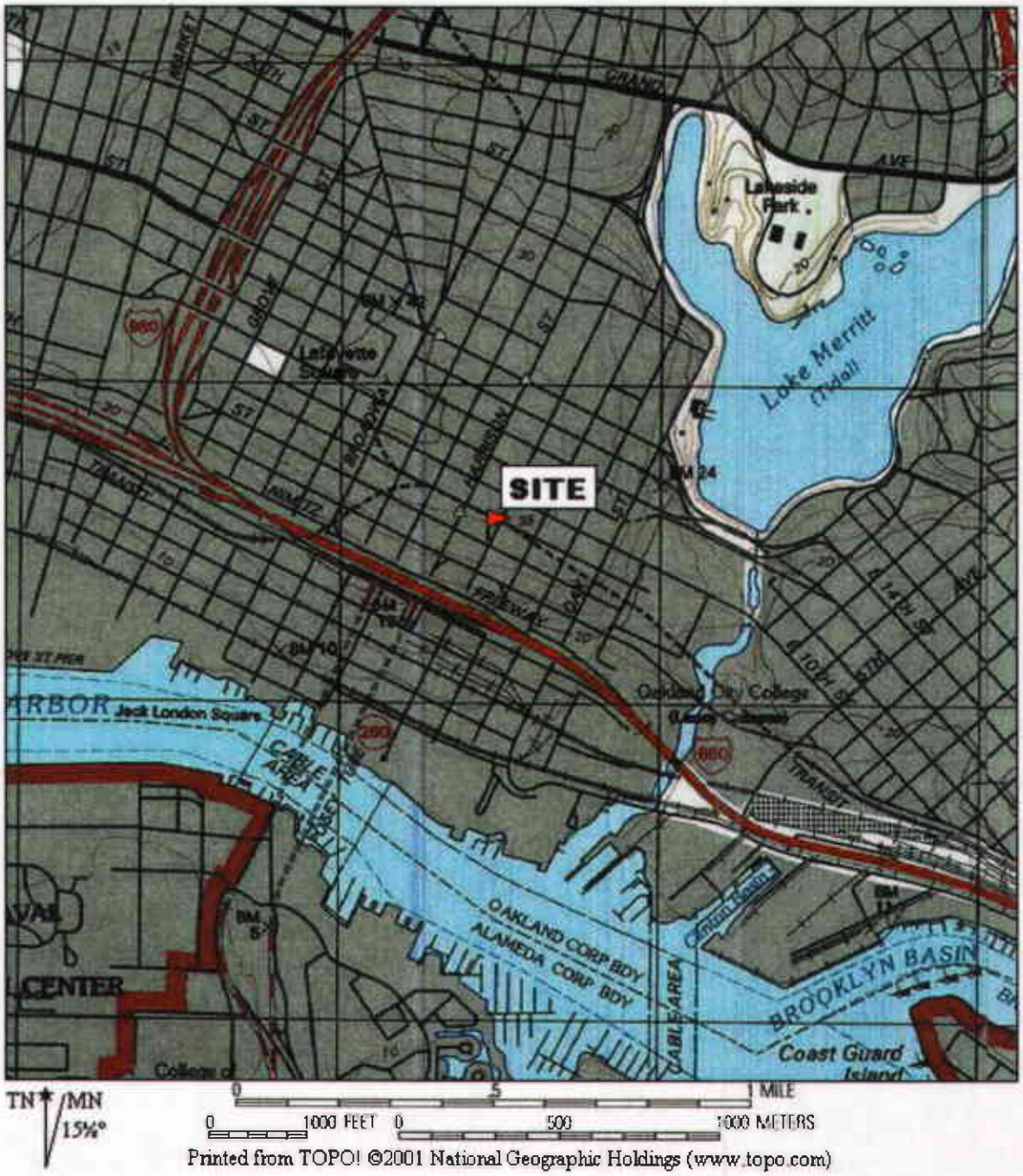
Tables

Table 1	Groundwater Elevation Data
Table 2	Groundwater Sample Analytical Data

Appendix A 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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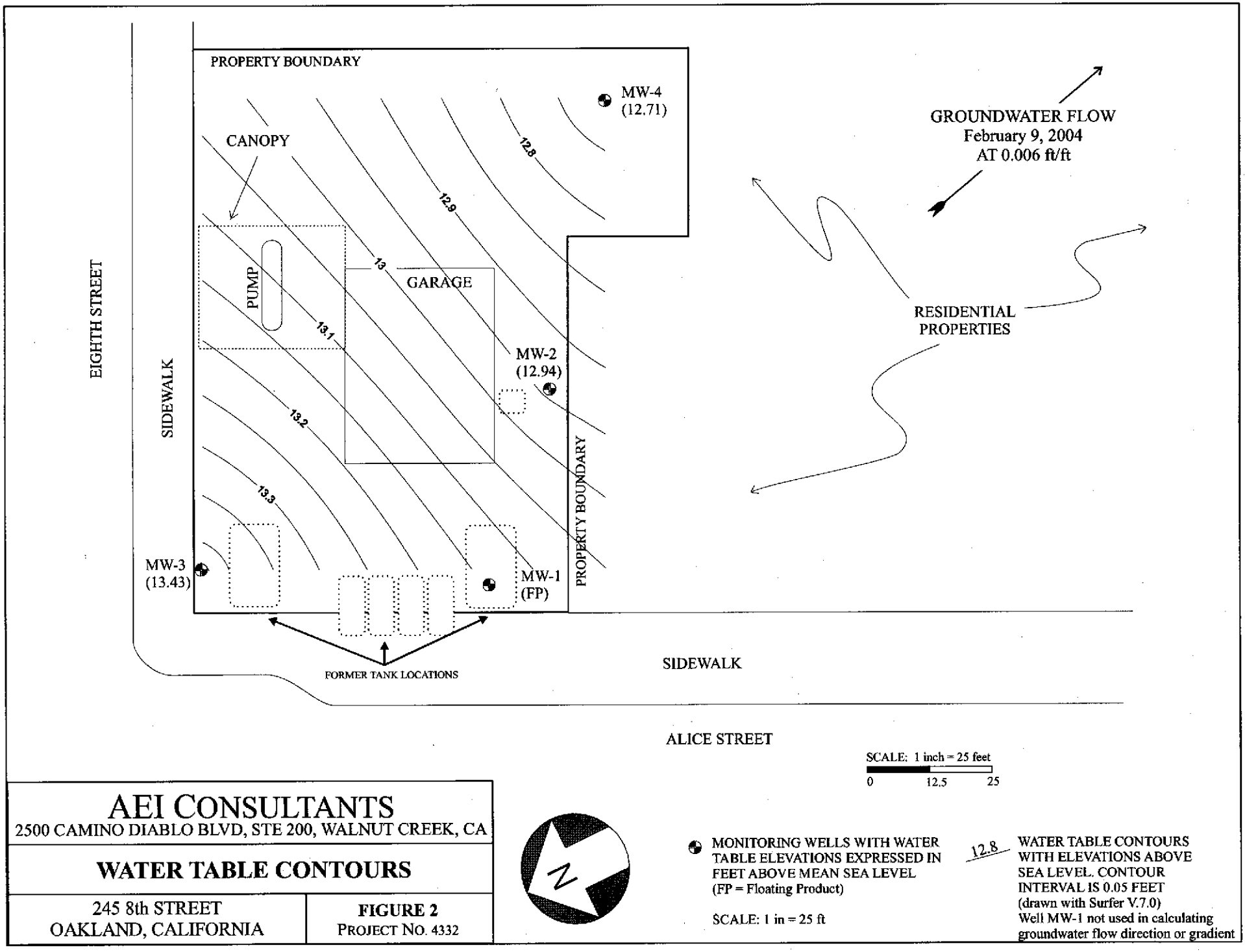
2500 CAMINO DIABLO BLVD, STE 200, WALNUT CREEK

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

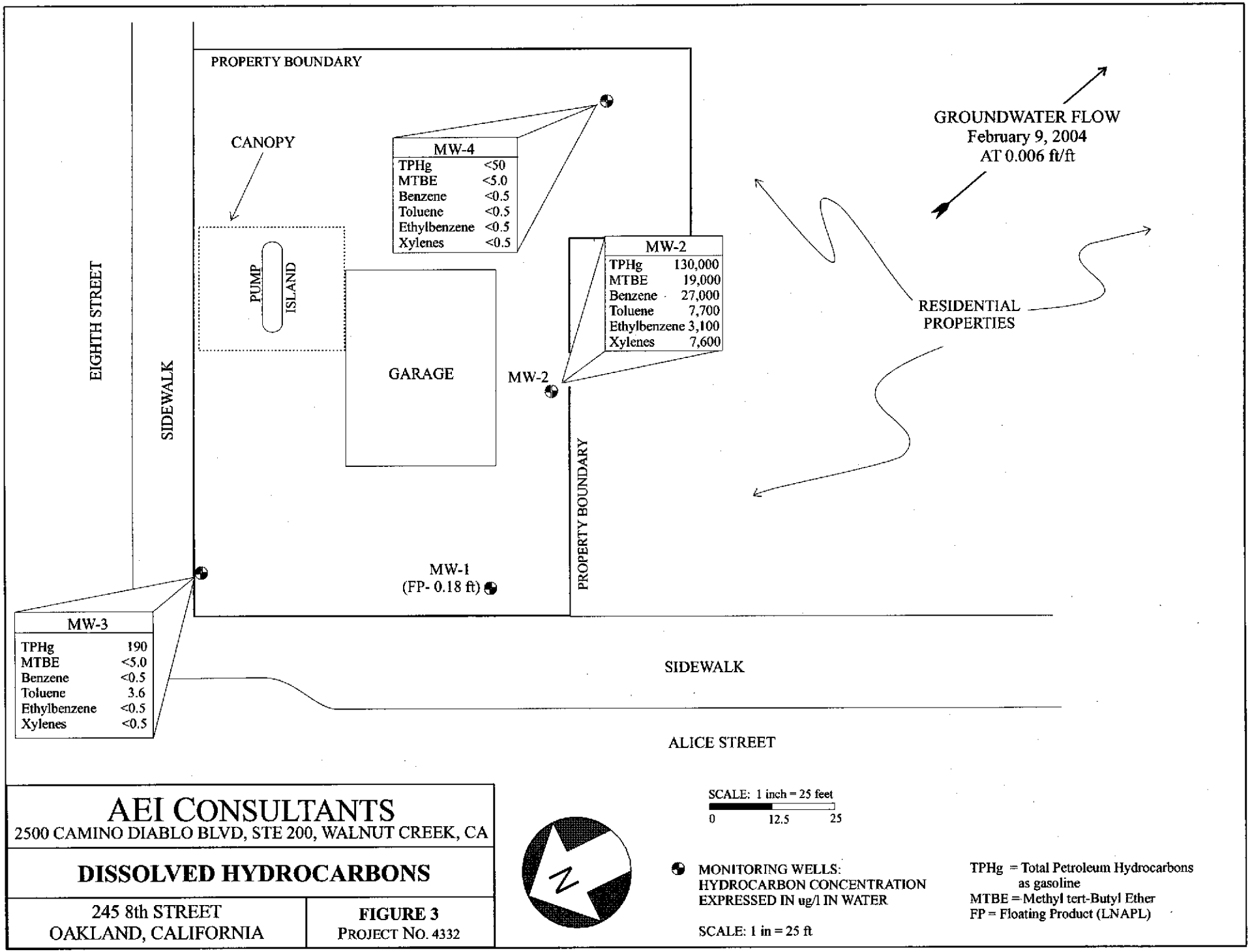
245 8th STREET
OAKLAND, CALIFORNIA

FIGURE 2
PROJECT NO. 4332

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

SCALE: 1 in = 25 ft

12.8 WATER TABLE CONTOURS WITH ELEVATIONS ABOVE SEA LEVEL. CONTOUR INTERVAL IS 0.05 FEET
(drawn with Surfer V.7.0)
Well MW-1 not used in calculating groundwater flow direction or gradient



AEI CONSULTANTS

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

DISSOLVED HYDROCARBONS

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**
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**
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**	-	-
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**	-	-

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)**

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

* = Measured groundwater level affected by LNAPL and/or pump presence, not used to calculate water table elevation

All well elevations are measured from the top of the casing

- = not applicable

ft amsl = feet above mean sea level

Table 2
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**
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**
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**
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**

µg/L micrograms per liter

TPHg total petroleum hydrocarbons as gasoline

MTBE methyl tertiary butyl ether

* samples re-analyzed by EPA Method 8260 (expressed as EPA 8020 / EPA 8260)

ns/fp = not sampled / free product

ND = not detected

Please refer to Appendix B: Lab Results for further detailed lab information including dilution factors

LNAPL = Light Non Aqueous Phase Liquid

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-1

Project Name:	Vic's Automotive	Date of Sampling:	2/9/2004
Job Number:	4332	Name of Sampler:	AN
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)	14.61		
Depth to Free Product (from top of casing)	14.43		
Water Elevation (feet above msl)	13.12		
Well Volumes Purged	0		
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	**0.0**		
Actual Volume Purged (gallons)	na		
Appearance of Purge Water	na		
Free Product Present?	Yes	Thickness (ft):	0.18

GROUNDWATER SAMPLES

Number of Samples/Container Size: Not sampled

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.)

well not sampled, free product present

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-2

Project Name:	Vic's Automotive	Date of Sampling:	2/9/2004
Job Number:	4332	Name of Sampler:	AN
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)	15.22		
Water Elevation (feet above msl)	12.94		
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)	**4.7**		
Actual Volume Purged (gallons)	6.0		
Appearance of Purge Water	clear at 2.5 gallons		
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	18.13	6.13	943	0.93	-274.9	
	4	18.20	6.16	894	0.56	-266.6	
	6	18.32	6.21	866	0.25	-266.4	

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

Initially dark grey color, clears by 2.5 gallons. Strong hydrocarbon odor

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-3

Project Name:	Vic's Automotive	Date of Sampling:	2/9/2004
Job Number:	4332	Name of Sampler:	AN
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)	15.78		
Water Elevation (feet above msl)	13.43		
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)	**18.0**		
Actual Volume Purged (gallons)	19		
Appearance of Purge Water	clear at 2.5 gallons		
Free Product Present?	no	Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size: Not sampled

Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
	3	19.30	7.23	240	0.97	156.6	
	6	19.44	7.09	239	0.65	-189.3	
	9	19.46	7.04	229	0.59	-201.6	
	12	19.50	6.98	222	0.62	-211.5	
	15	19.65	6.85	220	0.41	-240.9	
	19	19.68	6.80	222	0.29	-251.1	

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

Initially light grey, clears by 2.5 gallons

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-4

Project Name:	Vic's Automotive	Date of Sampling:	2/9/2004
Job Number:	4332	Name of Sampler:	AN
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)	16.67		
Water Elevation (feet above msl)	12.71		
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)	**16.2**		
Actual Volume Purged (gallons)	18.0		
Appearance of Purge Water	clear at 2.5 gallons		
Free Product Present?		Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size: Not sampled

Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
	3	18.42	6.68	394	1.90	-133.6	
	6	18.41	6.61	397	1.93	-124.0	
	9	18.48	6.42	395	1.70	-130.9	
	12	18.54	6.36	417	1.65	-128.9	
	15	18.61	6.31	419	1.80	-122.9	
	18	18.69	6.17	436	2.16	-98.1	

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

Initially brown color. No hydrocarbon odor. Dry at14 gallons (recharge +/- 10 minutes)

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's Automotive	Date Sampled: 02/09/04
		Date Received: 02/09/04
	Client Contact: Peter McIntyre	Date Reported: 02/13/04
	Client P.O.:	Date Completed: 02/13/04

WorkOrder: 0402112

February 13, 2004

Dear Peter:

Enclosed are:

1). the results of 3 analyzed samples from your **#4332; Vic's Automotive 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. 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	Client Project ID: #4332; Vic's Automotive	Date Sampled: 02/09/04
		Date Received: 02/09/04
	Client Contact: Peter McIntyre	Date Extracted: 02/10/04
	Client P.O.:	Date Analyzed: 02/10/04

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

Extraction method: SW5030B Analytical methods: SW8021B/8015Cm Work Order: 0402112

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	MW-2	W	130,000,a	19,000	27,000	7700	3100	7600	100	104
002A	MW-3	W	190,m	ND	ND	3.6	ND	ND	1	---#
003A	MW-4	W	ND	ND	ND	ND	ND	ND	1	104
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 ~2 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.

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: 0402112

EPA Method: SW8021B/8015Cm	Extraction: SW5030B	BatchID: 10278	Spiked Sample ID: 0402108-009A

	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	94.1	93.7	0.404	93.3	92.4	0.988	70	130
MTBE	ND	10	87.4	86.9	0.568	103	84.1	20.1	70	130
Benzene	ND	10	100	102	1.30	100	99	1.49	70	130
Toluene	ND	10	103	105	2.13	104	102	1.50	70	130
Ethylbenzene	ND	10	105	106	1.35	106	104	1.77	70	130
Xylenes	ND	30	107	107	0	107	107	0	70	130
%SS:	102	10	109	111	1.34	109	110	1.16	70	130

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

NONE

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

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

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

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

cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not 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

TL QA/QC Officer

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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0402112

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

TEL: (925) 283-6000
FAX: (925) 283-6121
ProjectNo: #4332; Vic's Automotive
PO:

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

Requested TAT: 5 days
Date Received: 2/9/04
Date Printed: 2/9/04

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
0402112-001	MW-2	Water	2/9/04	☐	A														
0402112-002	MW-3	Water	2/9/04	☐	A														
0402112-003	MW-4	Water	2/9/04	☐	A														

Test Legend:

1 G-MBTEX_W	2	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.

aeh

040212

McCAMPBELL ANALYTICAL INC.

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

CHAIN OF CUSTODY RECORD

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

EDF Required? ☐ Yes ☐ No

Report To: Peter McIntyre	Bill To:
Company: AEI Consultants	
2500 Camino Diablo, Suite 200	
Walnut Creek, CA 94597	E-Mail:
Tele: (925) 944-2899	Fax: (925) 944-2895
Project #: 4332	Project Name: Vic's Automotive
Project Location: 245 8th St Oakland	
Sampler Signature: Adrian Niet	

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	Soil	Air	Sludge	Other	METHOD PRESERVED Ice	HCl	HNO_3	Other
+ MW-2		2/9		3	VOA	X					X	X		
+ MW-3		"		1	"	X					X	X		
+ MW-4		"		1	"	X					X	X		

Analysis Request

BTEX & TPH as Gas (602/8020 + 8015)/MTBE	TPH as Diesel (8015)	Total Petroleum Oil & Grease (5520 E&F/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 601 / 8010	BTEX ONLY (EPA 602 / 8020)	EPA 608 / 8080	EPA 608 / 8080 PCB's ONLY	EPA 624 / 8240 / 8260	EPA 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421/239.2/6010)	RCI
+														
+														
+														

Other | Comments

Relinquished By:	Date:	Time:	Received By:
Adrian Niet	2/9	5:30	
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

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

MW