



February 1, 2002

FEB 05 2002

Mr. Don Hwang
Alameda County Health Care Services
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Regarding: **October 2001 Quarterly Groundwater Sampling and Summary "Hi-Vac" Report**
Former Vogue Tyres Facility
240 West MacArthur Boulevard
Oakland, California

Dear Mr. Hwang,

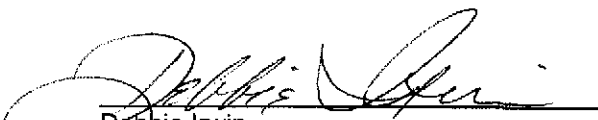
Please find enclosed the October 2001 Quarterly Groundwater Sampling and Summary "Hi-Vac" Report prepared by **Advanced Environmental Concepts, Inc. (AEC)** for the above referenced project/location.

Enclosed please find that report which AEC is submitting for your review.

Should you have any questions or require clarification on any aspects of the enclosed, please do not hesitate to contact our office at (661) 831-1646.

Respectfully yours,

Advanced Environmental Concepts, Inc.


Debbie Irwin
Office Administrator

Attachments: Report (1)

cc: Mr. Warren Dodson

• ENVIRONMENTAL CONCEPTS WITH DESIGN IN MIND •

December 15, 2001

AEC
ADVANCED ENVIRONMENTAL CONCEPTS INC.

FEB 05 2002

Mr. Warren Dodson
Dodson Ltd.
1323 South Flower Street
Los Angeles, California 90015

Regarding: **October 2001 Quarterly Groundwater Sampling and Summary "Hi-Vac" Report**
Former Vogue Tyres Facility
240 West MacArthur Boulevard
Oakland, California

Dear Mr. Dodson:

Advanced Environmental Concepts, Inc. (AEC) is pleased to present this report of groundwater sampling, and "hi-vac" feasibility study performed at the former Vogue Tyres facility, 240 West MacArthur Boulevard, Oakland, California (**Attachment A, Figure 1**).

Background

The Gulf Service Station originally operated three 10,000 gallon gasoline underground storage tanks (USTs), and one 350 gallon waste oil UST. Historical records indicate that the Gulf station existed since at least 1950. The current location of the Shell Service Station, located adjacent to, and south of the subject site was a fueling station since at least 1952. The three Gulf gasoline USTs were located at the northern portion of the property, (underneath the current building), and the waste oil UST was west of the service bays. The two pump islands were west of the northern portion of the existing building. The 350 gallon waste oil UST was removed in October 1996 by All Environmental, Inc (AEI).

On October 3, 1996, AEI removed the previously identified 350 gallon waste oil UST located west of the service bays. Visual staining of waste oil range hydrocarbons was identified on the floor and sidewalls of the excavation. Confirmation soil samples collected from the excavation indicated that soil beneath the former UST emplacement were impacted with minor concentrations of petroleum hydrocarbons. At the request of ACHCS, AEI expanded the size of the excavation, then collected additional confirmation soil samples which indicated the successful removal of the contamination. Groundwater was not encountered during this excavation phase, however, due to the estimated proximity of the contamination to groundwater, a subsurface investigation was required by the County.

On January 8, 1997, AEI conducted a subsurface investigation consisting of six borings using a Geoprobe. Borings BH-1, BH-2, BH-4, and BH-6 were advanced to 20 feet below grade level (BGL), and BH-3 and BH-5 were probed to 16 feet BGL. Soil samples were collected at intervals of 5 feet, and "grab" groundwater samples were collected from inside the borings. Groundwater was identified at approximately 16 feet BGL.

The soil samples were analyzed in accordance with California Department of Health Services (CA DHS) method for total petroleum hydrocarbons as gasoline and diesel (TPH-g,d) and EPA Method 8020 for volatile aromatics (BTXE), and methyl tertiary butyl ether (MTBE). The soil samples were also analyzed for total lead, oil and grease, and poly nuclear aromatics (PNAs). Results of the laboratory analyses are summarized below. Units are in milligrams per kilograms (mg/kg) which are equivalent to parts per million (ppm). Results of these analyses are listed in **Table 1**.

TABLE 1
Analytical Results of Soil Samples
January 10, 1997

Sample ID	TPH-d	TPH-g	Benzene	Toluene	Xylenes	Ethylbenzene
BH-1-15'	ND	ND	ND	ND	ND	ND
BH-2-15'	ND	ND	ND	ND	ND	ND
BH-3-15'	ND	ND	ND	ND	ND	ND
BH-4-15'	370	1100	ND	ND	14	4.4
BH-5-15'	1.9	2.1	0.009	0.006	0.016	ND
BH-6-15'	140	190	0.25	0.5	3.6	0.84
Detection Limits		1.0	0.005	0.005	0.005	0.005

ND: Non-detected at indicated level of detection.

Total lead concentrations ranged from 4.6 mg/kg to 23 mg/kg which is below the recommended action level of 50 mg/kg. MTBE was non-detect for all samples analyzed, oil and grease were only run on BH-2 and BH-3 and was less than 50 mg/kg, and the PNAs exhibited trace concentrations ranging between 1.1 and 41 µg/kg.

The groundwater samples were analyzed in accordance with California Department of Health Services (CA DHS) method for total petroleum hydrocarbons as gasoline and diesel (TPH-g,d) and EPA Method 8020 for volatile aromatics (BTXE), and methyl tertiary butyl ether (MTBE). Groundwater samples were also analyzed for total lead, oil and grease, and poly nuclear aromatics (PNAs). Results of the laboratory analyses are summarized below. Units are in micrograms per Liter (µg/L) which are equivalent to parts per billion (ppb). Results of these analyses are listed in **Table 2**.

TABLE 2
Analytical Results of Groundwater Samples
January 10, 1997

Sample ID	TPH-d	TPH-g	Benzene	Toluene	Xylenes	Ethylbenzene
BH1W	490	330	2.0	0.72	1.3	ND
BH2W	320	ND	ND	ND	ND	ND
BH4W	NA	6600	58	13	2740	110
BH6W	450	13,000	870	65	570	130
Detection Limits		1.0	0.005	0.005	0.005	0.005

ND: Non-detected at indicated level of detection.
 NA: Not analyzed

Soluble lead concentrations were below detection limits, MTBE ranged from below detection limits to 320 ug/L in BH6W, oil and grease were only run on BH2W and was less than 5 mg/L, and the PNAs exhibited non detectable concentrations.

On August 7, 1997, AEC supervised the drilling of three Geoprobe soil borings (BH-7, BH-8, and BH-9), and installation of four groundwater monitoring wells (MW-1, MW-2, MW-3, and MW-4) proximal to the western dispenser islands, and south, west, and north of the former UST emplacement. The investigative groundwater wells and Geoprobe borings were positioned to assess the vertical and lateral migration of hydrocarbons in the subsurface and to evaluate groundwater quality.

Soil analyses were performed by Associated Laboratories, Inc. to determine the presence and concentrations of hydrocarbons at the subject site by EPA methods 8015M and 8020. Analytical results for soil samples are presented in **Table 3**. Units are in milligrams per kilogram (mg/kg) which are equivalent to parts per million (ppm).

TABLE 3
Analytical Results - Soil Borings
August 7, 1997
(ppm)

Sample ID	TPH-d	TPH-g	Benzene	Toluene	Xylenes	Ethylbenzene
BH-7-12'	ND	ND	ND	ND	ND	ND
BH-7-16'	ND	ND	ND	ND	ND	ND
BH-8-8'	ND	ND	ND	ND	ND	ND
BH-8-12'	ND	168	0.02	ND	5.1	0.45
BH-8-16'	ND	21	0.027	0.07	0.75	ND
BH-9-8'	ND	ND	ND	0.032	0.28	0.029
BH-9-12'	ND	ND	ND	0.012	ND	ND
BH-9-16'	ND	ND	ND	ND	ND	ND
MW-1-10'	ND	ND	ND	ND	ND	ND
MW-1-17'	ND	ND	ND	0.031	ND	ND
MW-2-10'	ND	ND	ND	ND	ND	ND
MW-2-17'	ND	16	0.035	0.037	0.15	0.018
MW-3-10'	ND	ND	ND	ND	ND	ND
MW-3-15'	ND	ND	0.027	ND	ND	ND
MW-4-10'	ND	ND	ND	ND	ND	ND
MW-4-17'	ND	ND	ND	ND	ND	ND
Detection Limits		5.00	0.0050	0.0050	0.0050	0.0050

ND: Non Detected at indicated limit of detection

Water analyses were performed by Associated Laboratories, Inc. to determine the presence and concentrations of hydrocarbons at the subject site by EPA methods and 8015M and 8020. Analytical results for water samples are presented in **Table 4**. Units are in micrograms per Liter ($\mu\text{g/L}$) which are equivalent to parts per billion (ppb).

TABLE 4
Analytical Results - Monitoring Wells
August 8, 1997
(ppb)

Sample ID	TPH-d	TPH-g	Benzene	Toluene	Xylenes	Ethylbenzene
MW-1	ND	1,140	110	16	112	15
MW-2	ND	5,530	108	36	144	33
MW-3	ND	8,500	450	30	106	53
MW-4	ND	ND	ND	ND	ND	ND
Detection Limits		5.00	0.0050	0.0050	0.0050	0.0050

ND: Non Detected at indicated limit of detection

TABLE 5
Biological Factors
August 8, 1997
(ppb)

Sample ID	2580 B	300.0 (Nitrate)	300.0 Sulfate	310.1	3500 FED	360.1
MW-1	311	7.1	92	238	0.10	8.2
MW-2	331	0	43	398	0.50	6.3
MW-3	330	0	56	368	ND	7.9
MW-4	307	19.5	87	140	ND	7.8
Detection Limits		5	5	5.0	0.10	

2580B: Redox Potential @ Temp
300.0: Nitrate As NO₃ by Ion Chromatograph
310.1 Alkalinity
3500FED: Ferrous Iron
360.1: Dissolved Oxygen, Membrane Electrode

In accordance with directives issued by ACHCS in a letter dated May 16, 2000, groundwater samples collected during June 2000 were also analyzed for the presence of ether oxygenates, specifically: Tertiary Amyl Methyl Ether (TAME), Diisopropyl Ether (DIPS), Ethyl Tertiary Butyl Ether (ETBE), Tertiary Butyl Alcohol (TBA) and the following lead scavengers: Ethylene Dibromide (EDB), Ethylene Dichloride (EDC), and 1,2-Dichloroethane (1,2-DCA). **Table 6** presents the results of these additional analyses.

TABLE 6
Analytical Results
Ether Oxygenates & Lead Scavengers

Sample ID:	Date:	TAME	DIPE	ETBE	TBA	EDB	EDC	1,2-DCA
MW-1	06/26/00	<50.0	<50.0	<50.0	<1,000			<5.0
MW-2	06/26/00	<5.0	<5.0	<5.0	<100.0			<0.5
MW-3	06/26/00	<5.0	<5.0	<5.0	<100.0			<0.5
MW-4	06/26/00	<5.0	<5.0	<5.0	<100.0			<0.5
Units:	N/A	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l

On February 13, 2001 AEC drilled, sampled, and installed four additional groundwater monitoring wells (MW-5, MW-6, MW-7, and MW-8) on the subject property and offsite in MacArthur Boulevard and Howe Street. Soil and groundwater samples were collected from the newly installed wells and are presented in **Tables 7 and 8**.

TABLE 7
Analytical Results - Soil Borings
February 13, 2001
(ppm)

Sample ID	TPH-g	MTBE	Benzene	Toluene	Xylenes	Ethylbenzene
MW-5-5'	<10	<0.005	<0.005	<0.005	<0.015	<0.005
MW-5-10'	<10	<0.005	<0.005	<0.005	<0.015	<0.005
MW-5-15'	11,700	<0.005	25.6	12.0	38.6	55.8
MW-5-20'	<10	<0.005	<0.005	<0.005	<0.015	<0.005
MW-7-10'	<10	<0.005	<0.005	<0.005	<0.015	<0.005
MW-7-15'	<10	<0.005	<0.005	<0.005	<0.015	<0.005
MW-7-20'	<10	<0.005	<0.005	<0.005	<0.015	<0.005
MW-8-5'	<10	<0.005	<0.005	<0.005	<0.015	<0.005
MW-8-10'	<10	<0.005	<0.005	<0.005	<0.015	<0.005
MW-8-15'	<10	<0.005	<0.005	<0.005	<0.015	<0.005
MW-8-20'	<10	<0.0723	<0.005	<0.005	<0.015	<0.005

TABLE 8
Analytical Results - Monitoring Wells
February 14, 2001
(ppb)

Sample ID	TPH-g	MTBE	Benzene	Toluene	Xylenes	Ethylbenzene
MW-5	5,660	<0.3	76.9	21.1	312	47.3
MW-6	1,340	<0.3	17.0	0.967	51.4	11.1
MW-7	<0.005	284	<0.3	<0.3	<0.3	<0.3
MW-8	1,000	620	3.97	<0.3	1.63	3.78

This groundwater sampling report documents the methods and procedures used and the laboratory analytical results obtained from the latest groundwater sampling event conducted at the subject property on July 9, 2001.

Groundwater Sampling

The groundwater samples were collected in accordance with the following protocol.

- 1) Depth to ground water was measured in each of the wells;
- 2) A bailer was used to collect a water sample from the potentiometric surface to visually determine whether free hydrocarbons or a sheen can be identified;
- 3) Initial readings of pH, Temperature, and Conductivity were obtained (**Attachment B**);
- 4) The water samples were collected in a clean, stainless steel bailer, then transferred to 40-ml. glass VOA vials with Teflon septa. Care was exercised to ensure that no air bubbles were present in the vials;
- 5) The VOA vials were labeled, sealed with tape, wrapped in a protective covering, and placed in an ice chest chilled with frozen Blue Ice with two (2) bailer blanks for transport to the laboratory. Chain-of-custody protocol was followed to ensure sample integrity and traceability;
- 6) The October 2001 samples were analyzed by Baseline On-Site Analysis, a California-certified laboratory in Huntington Beach, California, for total petroleum hydrocarbons as gasoline (TPH-g), volatile aromatics (BTXE), and MTBE by EPA methods 8015-modified and 8021B, respectively. The laboratory reports and chain-of-custody documentation are presented in **Attachment C**.

Also, AEC conducted a vapor extraction feasibility study concurrent with this quarter of groundwater sampling. To assess the effectiveness of the extraction of groundwater using a vacuum truck, AEC initially sampled the groundwater wells on 10/22/01 prior to applying the vacuum on the wells, then re-collected water samples from the wells on 10/26/01 to evaluate the effectiveness of the water removal during the four day test period. Monitoring well MW-1 and monitoring well MW-5 have consistently exhibited the highest gasoline

concentrations in groundwater. Therefore, since the vacuum feasibility study was of such short duration, AEC focused the primary vacuum efforts of these two wells.

Prior to initiating vacuum, the wells were sounded and depth to groundwater measurements were recorded (See Groundwater Parameter Sheets). The results of AEC's groundwater measurements indicate that the depth to groundwater across the site has decreased approximately 2-feet and is reflective of the lack of precipitation during the 2000-2001 rainy season. The drop in groundwater was also viewed as a positive occurrence since it provides access to a greater thickness of unsaturated area from which to apply a vacuum, thus effecting vapor removal on the soil as well as removal of contaminated groundwater.

MW-1 was the first well connected to the vacuum truck. The well connection was configured according to the following description. A new "stinger" constructed of 1-inch diameter Schedule 40 PVC was inserted in the well to a depth of approximately 18-feet bgs. The top of the stinger was pushed through an opening in a rubber boot that was clamped in place on the well head using an adjustable metal hose clamp. The top of the stinger was fitted with a male cam-lock fitting and was connected to the vacuum hose equipped with a female cam-lock fitting. The vacuum hose was then connected to the vacuum truck. A vacuum of approximately 100-inches of water was applied to the well. A vacuum of this magnitude will lower the water table even further and maintain an equilibrium, therefore, dual vapor extraction is applied to the water-bearing formation, thus groundwater and soil vapors are being removed. Vapor stream measurements were recorded during the vacuum removal using an RFI Eagle LEL-O2 meter. MW-1 was pumped from 0900 to 1700 hours on 10/22/01. The vapor stream averaged 250 ppmv of hydrocarbons which calculates to approximately 5.4 lbs of hydrocarbons per 8 hours of extraction, or approximately 0.68-gallons of gasoline.

MW-5 was pumped from 0600 to 1700 hours on 10/23/01. The vapor stream concentration was recorded at one hour intervals and averaged 270 ppmv. This calculates to 8.1 lbs of hydrocarbons per 11 hours of extraction, or approximately 1-gallon of gasoline.

MW-2 and MW-3 were pumped for five hours each on 10/24/01. MW-2 averaged 320 ppmv in the vapor stream which calculates to 4.4 lbs per five hours of extraction, or 0.5-gallons of gasoline. MW-3 had an average vapor stream 405 ppmv which calculates to 5.5 lbs per 5 hours of extraction, or approximately 0.7-gallons of gasoline.

On 10/25/01 vacuum was again applied to MW-1 for a six hour duration. The average ppmv was 430 which equates to 7 lbs of gasoline per 6 hours of extraction, or 0.9-gallons. MW-6 was pumped for 4 hours and averaged 450 ppmv.

The analytical results indicate a significant reduction in gasoline-range hydrocarbons in MW-1 from 20,000 ppb TPH-gasoline to less than 50 ppb. Benzene decreased from 3,700 ppb to <0.5, and MTBE decreased from 2,600 ppb to <0.5. MW-1 was also the well that had the vacuum applied for the greatest duration (approximately 14 hours) and approximately 400-gallons of water was removed from the well. MW-5 exhibited a reduction of approximately 50% in hydrocarbon concentration, and this well was pumped for approximately 11 hours of time and approximately 300-gallons of water was removed. MW-2 and MW-3 were only dual extracted for a short time period, therefore, there is not the decrease that was associated with MW-1 and MW-5. The removed groundwater was transported to DeMenoo Kerdoom in Compton, California for recycling. The following table summarizes the analytical results for AEC's groundwater sampling program. Units are in micrograms per liter ($\mu\text{g/L}$) which are equivalent to parts per billion (ppb).

TABLE 9
Analytical Results - Monitoring Wells
(ppb)

Sample ID	Date	TPH-g	Benzene	Toluene	Xylenes	Ethylbenzene	MTBE
MW-1	08/8/97	1,140	110	16	112	15	NA
	12/3/97	ND	ND	ND	31	ND	NA
	03/16/98	370	8.9	ND	2.2	ND	18
	07/9/98	6,400	1,300	23	58	3.7	97
	10/19/98	2,500	360	44	150	1.3	ND
	01/19/99	2,700	1,200	28	78	140	130
	6/26/00	27,000	5,200	500	3,100	320	1,300
	12/15/00	976,000	2,490	1,420	10,100	3,640	<150
	02/14/01	NA	NA	NA	NA	NA	NA
	05/11/01	20,000	2,900	310	1,900	230	<30
	07/11/01	92,000	2,900	580	20,000	2,800	560
Pre "hi-vac"	10/22/01	20,000	3,700	560	4,600	410	2,600
Post "hi-vac"	10/26/01	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5
MW-2	08/08/97	5,350	108	36	144	33	NA
	12/3/97	1,600	73	ND	ND	ND	NA
	3/16/98	3,400	830	100	240	210	870
	07/09/98	3,100	25	2.2	0.9	ND	1,900
	10/19/98	4,300	ND	1.2	1	ND	4,200
	01/19/99	2,900	160	8.9	7.4	6.9	2,100
	06/26/00	2,700	200	17.0	16.0	30.0	680
	12/15/00	3,020	56.7	<1.5	<1.5	<3.0	3,040
	02/14/01	NA	NA	NA	NA	NA	NA
	05/11/01	720	49	<3	<3	4.6	380
	07/09/01	8,400	350	44	78	77	550
Pre "hi-vac"	10/22/01	850	170	4.9	14	5.1	260
Post "hi-vac"	10/26/01	770	86	5.5	8.5	9.6	310
MW-3	08/08/97	8,500	450	30	106	53	NA

Sample ID	Date	TPH-g	Benzene	Toluene	Xylenes	Ethylbenzene	MTBE
MW-3	12/03/97	5,200	180	6	9.3	5	NA
	03/16/98	1,000	6.0	ND	ND	ND	810
	07/09/98	6,400	490	57	78	23	220
	10/19/98	2,100	ND	ND	ND	ND	ND
	01/19/99	4,400	450	65	42	26	1,300
	06/26/00	1,700	110	13.0	13.0	34.0	96.0
	12/15/00	5,450	445	<7.5	<7.5	23.8	603
	02/14/01	NA	NA	NA	NA	NA	NA
	05/11/01	1,900	180	12	19	<3	330
	07/09/01	10,000	830	160	260	150	560
Pre "hi-vac"	10/22/01	1,400	240	7.8	15	4.1	220
Post "hi-vac"	10/26/01	1,900	200	16	30	51	290
MW-4	08/08/97	ND	ND	ND	ND	ND	NA
	12/03/97	ND	ND	ND	ND	ND	NA
	03/16/98	ND	ND	ND	ND	ND	ND
	07/09/98	ND	ND	ND	ND	ND	ND
	10/19/98	ND	ND	ND	ND	ND	ND
	01/19/99	ND	ND	ND	ND	ND	ND
	06/26/00	<50.0	<0.5	<0.5	<0.5	<0.5	<0.5
	12/15/00	<500	<0.3	<0.3	<0.3	<0.6	<0.3
	02/14/01	NA	NA	NA	NA	NA	NA
	05/11/01	<50	1.2	<0.3	1.2	0.55	2.9
07/09/01	<5	<0.5	<0.5	<0.5	<0.5	<0.5	
Pre "hi-vac"	10/22/01	<5	<0.5	<0.5	<0.5	<0.5	<0.5
Post "hi-vac"	10/26/01	<5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-5	02/14/01	5,660	76.9	21.1	312	47.3	<0.3
	05/11/01	22,000	2,600	480	2,700	220	<30
	07/09/01	72,000	3,500	1,100	22,000	4,300	2,500
Pre "hi-vac"	10/22/01	26,000	2,800	980	950	6,000	2,300

Post "hi-vac"	10/26/01	17,000	1,200	470	440	2,900	900
MW-6	02/14/01	1,340	17.0	0.967	51.4	11.1	<0.3
	05/11/01	610	15	0.97	46	<0.5	<0.5
	07/09/01	2,500	130	4.7	170	53	120
Pre "hi-vac"	10/22/01	280	18	1.2	4.7	6.2	6.3
Post "hi-vac"	10/26/01	3,600	210	20	62	170	120
MW-7	02/14/01	<0.005	<0.3	<0.3	<0.3	<0.3	284
	05/11/01	<50	0.75	0.77	2.4	0.48	1.1
	07/09/01	<5	<0.5	<0.5	<0.5	<0.5	<0.5
Pre "hi-vac"	10/22/01	<5	<0.5	<0.5	<0.5	<0.5	<0.5
Post "hi-vac"	10/26/01	6,000	170	550	120	110	970
MW-8	02/14/01	1,000	3.97	<0.3	1.63	3.78	620
	05/11/01	<50	<0.5	<0.5	<0.5	<0.5	4.4
	07/09/01	<5	<0.5	<0.5	<0.5	<0.5	<0.5
Pre "hi-vac"	10/22/01	<5	<0.5	<0.5	<0.5	<0.5	<0.5
Post "hi-vac"	10/26/01	<5	<0.5	<0.5	<0.5	<0.5	<0.5

TPH-g: Total Petroleum Hydrocarbons as gasoline

The current state maximum contaminant levels (MCLs) for drinking water set by the California Department of Health Services, Title 22 are as follows:

Benzene.....	1 µg/L
Toluene.....	2000 µg/L
Ethylbenzene.....	680 µg/L
Total Xylenes.....	1750 µg/L

Conclusions

The groundwater sampling results continue to indicate trace to non detectable concentrations of gasoline constituents analyzed within MW-4 (upgradient well) and MW-7 (downgradient well). MW-7 exhibited a marked increase in gasoline-range hydrocarbons after the vacuum extraction of groundwater; however, this appears to be an anomaly and hopefully will be proven out during the January 2002 quarter of groundwater sampling.

MW-1 and MW-5 continue to exhibit significant elevated concentrations for TPH-gasoline and volatile organic concentrations. However, after vacuum extraction of the contaminated groundwater MW-1 exhibited non-detectable gasoline-range hydrocarbon concentrations, and MW-5 exhibited a reduction of approximately 50% in gasoline-range hydrocarbon concentrations. MW-8, (lateral gradient well) again exhibited non-detectable gasoline concentrations. It is the opinion of AEC that the groundwater concentrations in MW-1 and MW-5 will show a small increase during the next quarter of sampling, then will continue to stabilize over time.

MW-2, MW-3, and MW-6 continue to indicate dissolved gasoline in groundwater, although at lower concentrations, signifying that the primary source area for the contamination appears to remain the former UST locations. Vacuum extraction was not performed on these wells for any significant duration since AEC only had five days in which to conduct the feasibility study, therefore, the lack of hydrocarbon reduction in these wells was time dependent.

Oxygenate analyses were not conducted on the groundwater samples collected in October 2001, with the exception of MTBE. The full range of VOCs and oxygenates will be assessed in the January quarter of groundwater sampling.

The current gradient was calculated to be North 71° West and the gradient is 0.27 ft/100ft. Flow direction and gradient have remained relatively consistent with previous sampling rounds. The monitoring wells yield adequate water volume and cannot be bailed dry. Recharge was good in all eight monitoring wells.

Recommendations

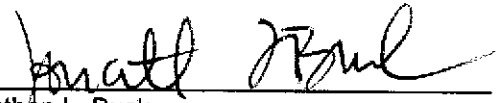
Advanced Environmental Concepts, Inc. recommends continued sampling of the groundwater wells for this site. Additionally, it does appear that the gasoline contamination decreased significantly using the vacuum truck extraction method. If remediation is required for this location, then AEC recommends "hi-vac" as a cost-effective method. If remediation is required, AEC recommends the installation of three 4-inch diameter wells to facilitate removal of the hydrocarbon laden groundwater. The groundwater extraction wells would be placed between MW-1 and MW-5; central to MW-2 and MW-3; and proximal to MW-6.

Closing

Advanced Environmental Concepts, Inc. appreciates the opportunity of providing our professional services to Mr. Warren Dodson. Should there be any questions or additional information required, please do not hesitate to contact our office at your convenience.

Respectfully yours,

Advanced Environmental Concepts, Inc.


Jonathan L. Buck
Registered Environmental Assessor II #20017

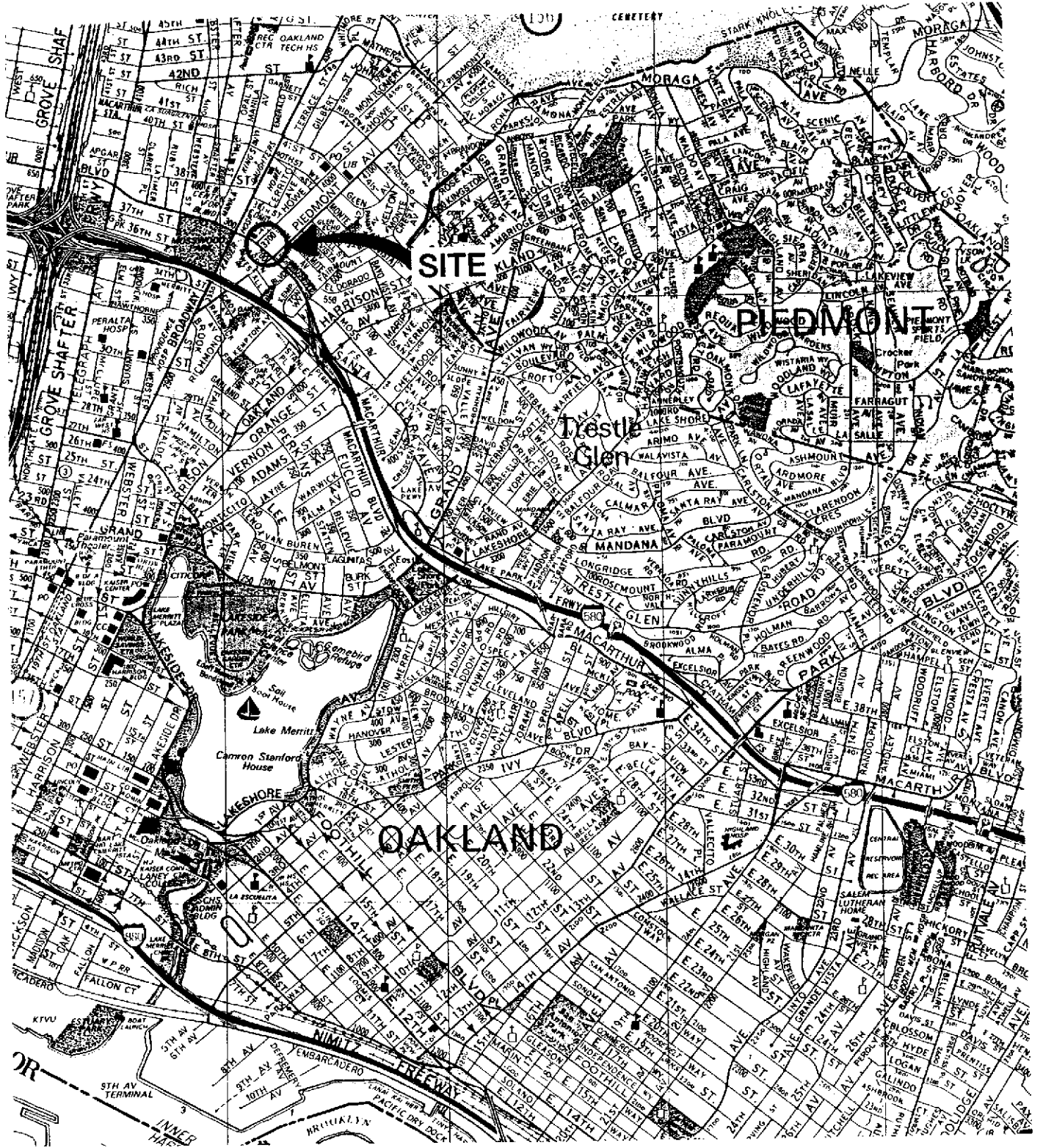


All environmental site work with which **Advanced Environmental Concepts, Inc.** was involved, was performed under my supervision to ensure proper sampling protocol and environmental assessment. This report has been technically reviewed by the undersigned.


Christian Bellue
Registered Professional Engineer #C53934



Doc3011



Map Source: Thomas Maps

- SITE AREA -

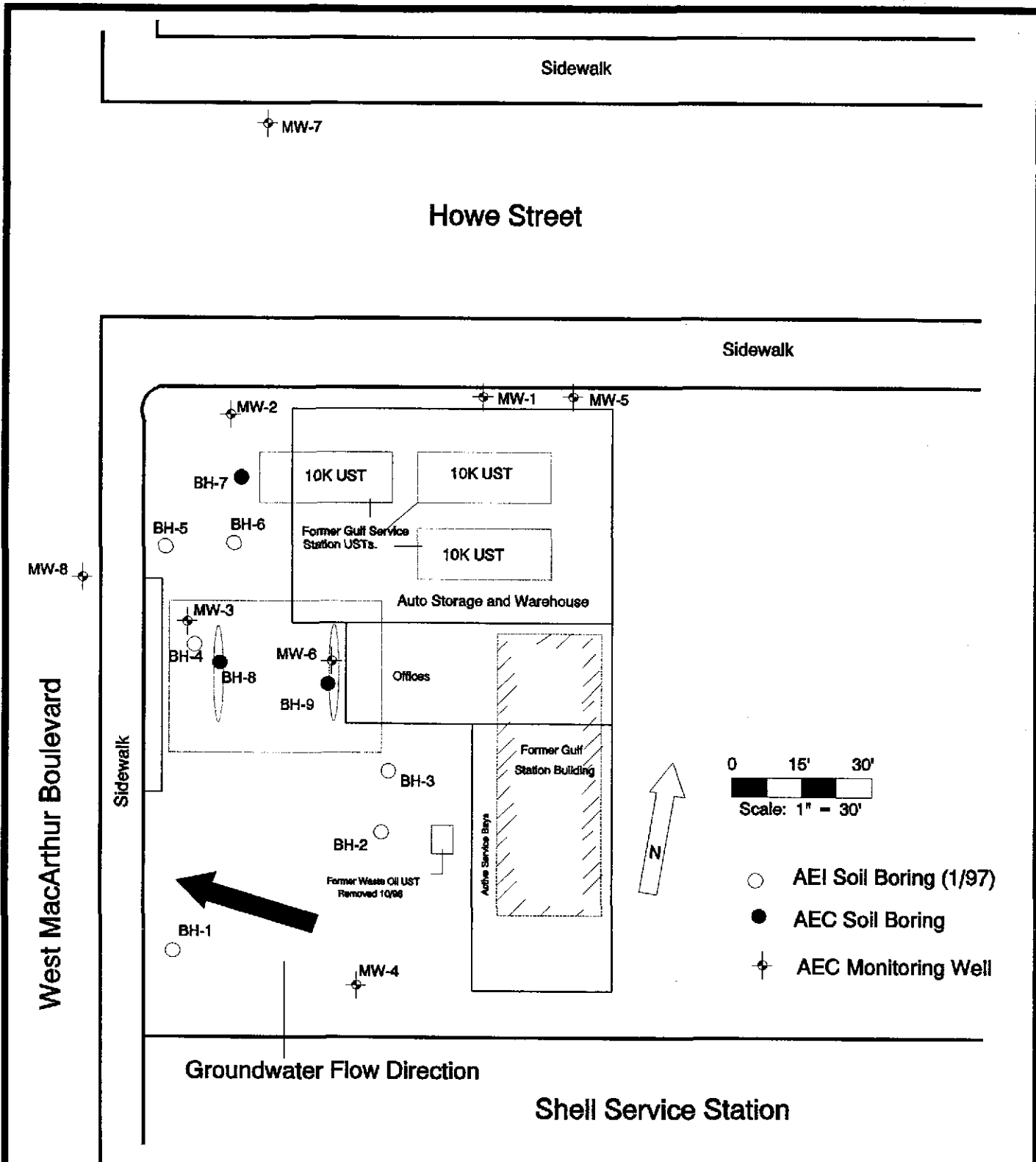
Prestige Products Corporation
 240 West MacArthur Blvd.

County of Alameda - Oakland, California

FIGURE

1

AEC
 ADVANCED ENVIRONMENTAL CONCEPTS INC.
 ADVANCED ENVIRONMENTAL CONCEPTS
 P.O. BOX 40672 BAKERSFIELD, CA 93384



ADVANCED ENVIRONMENTAL CONCEPTS
 P.O. BOX 40672 BAKERSFIELD, CA 93384

- Location Map -
 Former Vogue Tyres Facility
 240 West MacArthur Boulevard
 County of Alameda • Oakland, CA

FIGURE
 2

Groundwater Parameters

Site Name: Former Vogue Tyres AEC P.O. #: _____

Location: 240 West MacArthur Project #: _____

Oakland, CA Date: October 22, 2001

TIME	GALLONS PURGED	CONDUCTIVITY	TEMPERATURE	pH
MONITORING WELL # <u>1</u>				
		1,940	68.9	7.93
MONITORING WELL # <u>2</u>				
		1,580	66.6	6.63
MONITORING WELL # <u>3</u>				
		1,690	66.6	4.68

3 Casing Volumes

4" Screen = (.66 gal/ft) (_____ ft) = _____ 2" Screen = (.17 gal/ft) (_____ ft) = _____

MW # 1 Depth to Groundwater = 16.82' Corrected Depth: 17.05' Survey: 4.38'

MW # 2 Depth to Groundwater = 16.69' Corrected Depth: 18.34' Survey: 5.80'

MW # 3 Depth to Groundwater = 16.26' Corrected Depth: 18.08' Survey: 5.97'

Groundwater Parameters

Site Name: Former Vogue Tyres AEC P.O. #: _____

Location: 240 West MacArthur Project #: _____

Oakland, CA Date: October 22, 2001

TIME	GALLONS PURGED	CONDUCTIVITY	TEMPERATURE	pH
MONITORING WELL # <u>4</u>				
		2,010	71	2.5
MONITORING WELL # <u>5</u>				
		1,610	67.4	7.72
MONITORING WELL # <u>6</u>				
		1,740	69.	6.78

3 Casing Volumes

4" Screen = (.66 gal/ft) (_____ ft) = _____ 2" Screen = (.17 gal/ft) (_____ ft) = _____

MW # 4 Depth to Groundwater = 15.78' Corrected Depth: 17.48' Survey: 5.85'

MW # 5 Depth to Groundwater = 17.46' Corrected Depth: 17.46' Survey: 4.15'

MW # 6 Depth to Groundwater = 16.41' Corrected Depth: 17.40' Survey: 5.14'

Groundwater Parameters

Site Name: Former Vogue Tyres AEC P.O. #: _____

Location: 240 West MacArthur Project #: _____

Oakland, CA Date: October 22, 2001

TIME	GALLONS PURGED	CONDUCTIVITY	TEMPERATURE	pH
MONITORING WELL # <u>7</u>				
		2,140	73.5	1.38
MONITORING WELL # <u>8</u>				
		1,580	71.5	1.55
MONITORING WELL # _____				

3 Casing Volumes

4" Screen = (.66 gal/ft) (_____ ft) = _____ 2" Screen = (.17 gal/ft) (_____ ft) = _____

MW # 7 Depth to Groundwater = 16.52' Corrected Depth: 17.61' Survey: 5.24'

MW # 8 Depth to Groundwater = 14.62' Corrected Depth: 17.65' Survey: 7.18'

MW # _____ Depth to Groundwater = _____ Corrected Depth: _____ Survey: _____

Groundwater Parameters

Site Name: Former Vogue Tyres AEC P.O. #: _____

Location: 240 West MacArthur Project #: _____

Oakland, CA Date: October 26, 2001

TIME	GALLONS PURGED	CONDUCTIVITY	TEMPERATURE	pH
MONITORING WELL # <u>1</u>				
		1,670	59.70	7.05
MONITORING WELL # <u>2</u>				
		1,750	59.1	6.97
MONITORING WELL # <u>3</u>				
		1,710	60.6	7.43

3 Casing Volumes

4" Screen = (.66 gal/ft) (_____ ft) = _____ 2" Screen = (.17 gal/ft) (_____ ft) = _____

MW # 1 Depth to Groundwater = 17.29' Corrected Depth: 17.52' Survey: 4.38'

MW # 2 Depth to Groundwater = 16.76' Corrected Depth: 18.41' Survey: 5.80'

MW # 3 Depth to Groundwater = 15.87' Corrected Depth: 17.69' Survey: 5.97'

Groundwater Parameters

Site Name: Former Vogue Tyres AEC P.O. #: _____

Location: 240 West MacArthur Project #: _____

Oakland, CA Date: October 26, 2001

TIME	GALLONS PURGED	CONDUCTIVITY	TEMPERATURE	pH
MONITORING WELL # <u>4</u>				
		1,990	59.7	7.18
MONITORING WELL # <u>5</u>				
		1,450	58.9	76.7
MONITORING WELL # <u>6</u>				
		1,650	60.8	7.48

3 Casing Volumes

4" Screen = (.66 gal/ft) (_____ ft) = _____ 2" Screen = (.17 gal/ft) (_____ ft) = _____

MW # 4 Depth to Groundwater = 15.76' Corrected Depth: 17.46' Survey: 5.85'

MW # 5 Depth to Groundwater = 17.45' Corrected Depth: 17.45' Survey: 4.15'

MW # 6 Depth to Groundwater = 16.51' Corrected Depth: 17.50' Survey: 5.14'

Groundwater Parameters

Site Name: Former Vogue Tyres AEC P.O. #: _____

Location: 240 West MacArthur Project #: _____

Oakland, CA Date: October 26, 2001

TIME	GALLONS PURGED	CONDUCTIVITY	TEMPERATURE	pH
MONITORING WELL # <u>7</u>				
		1,870	60.2	7.25
MONITORING WELL # <u>8</u>				
		1,420	58.4	6.99
MONITORING WELL # _____				

3 Casing Volumes

4" Screen = (.66 gal/ft) (_____ ft) = _____ 2" Screen = (.17 gal/ft) (_____ ft) = _____

MW # 7 Depth to Groundwater = 16.59' Corrected Depth: 17.68 Survey: 5.24'

MW # 8 Depth to Groundwater = 14.65 Corrected Depth: 17.68' Survey: 7.18'

MW # _____ Depth to Groundwater = _____ Corrected Depth: _____ Survey: _____

Laboratory Report

Client: AEC, Inc.
Client Address: 4400 Ashe Road, #206
Bakersfield, CA 93313

Report Date: 11/5/01
Lab Project Number: 01618
Client Project Number: 22005402

Project Name: Vogue Tyres
Project Address: 240 W. MacArthur Avenue
Oakland, California
Contact: Jon Buck

Dates Sampled: 10/22/01, 10/26/01
Dates Received: 10/30/01
Dates Analyzed: 11/1/01
Sample Matrix: Water

Analyses Requested:

1. EPA M8015 – Total Petroleum Hydrocarbons as Gasoline (TPH-G)
2. EPA 8021B – Volatile Aromatics with MTBE
3. EPA 8260B – MTBE Confirmation by GC/MS

On October 30, 2001, *Baseline* received water samples from the project shown above. A Chain-of-Custody Record (COC) is attached.

Baseline analyzed the samples for the parameters shown above per the COC. In this report, *Baseline* presents the results and QA/QC summary for these analyses.



Approved
Brian K. Kato, Laboratory Manager



Baseline On-Site Analysis
 P. O. Box 2243
 Huntington Beach, CA 92647

Toll Free: 888.753.7553
 FAX: 714.840.1584

Laboratory Report

Client: AEC, Inc.
Client Address: 4400 Ashe Road, #206
 Bakersfield, CA 93313

Report Date: 11/5/01
Lab Project Number: 01618
Client Project Number: 22005402

Project Name: Vogue Tyres
Project Address: 240 W. MacArthur Avenue
 Oakland, California
Contact: Jon Buck

Dates Sampled: 10/22/01, 10/26/01
Dates Received: 10/30/01
Dates Analyzed: 11/1/01
Sample Matrix: Water

TPH as Gasoline (TPH-G) and Volatile Aromatics (BTEX) with MTBE Results

Sample ID	Date Sampled	Constituent: Method: Units:	TPH-G M8015 mg/L	MTBE 8021B µg/L	Benzene 8021B µg/L	Toluene 8021B µg/L	Ethylbenzene 8021B µg/L	Total Xylenes 8021B µg/L
MW-1	10/22/01		20	2600	3700	560	410	4600
MW-1	10/26/01		ND<0.050	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
MW-2	10/22/01		0.85	260	170	4.9	14	5.1
MW-2	10/26/01		0.77	310	86	5.5	8.5	9.6
MW-3	10/22/01		1.4	220	240	7.8	15	4.1
MW-3	10/26/01		1.9	290	200	16	30	51
MW-4	10/22/01		ND<0.050	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
MW-4	10/26/01		ND<0.050	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
MW-5	10/22/01		26	2300	2800	980	950	6000
MW-5	10/26/01		17	900	1200	470	440	2900
MW-6	10/22/01		0.28	6.3	18	1.2	4.7	6.2
MW-6	10/26/01		3.6	120	210	20	62	170
MW-7	10/22/01		ND<0.050	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
MW-7	10/26/01		6.0	170	550	120	110	970
MW-8	10/22/01		ND<0.050	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
MW-8	10/26/01		ND<0.050	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Method Blank	---		ND<0.050	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5

ND: Not detected at the indicated reporting limit.



Baseline On-Site Analysis
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 Huntington Beach, CA 92647

Toll Free: 888.753.7553
 FAX: 714.840.1584

Laboratory Report

Client: AEC, Inc.
Client Address: 4400 Ashe Road, #206
 Bakersfield, CA 93313

Report Date: 11/5/01
Lab Project Number: 01618
Client Project Number: 22005402

Project Name: Vogue Tyres
Project Address: 240 W. MacArthur Avenue
 Oakland, California
Contact: Jon Buck

Dates Sampled: 10/22/01, 10/26/01
Dates Received: 10/30/01
Dates Analyzed: 11/1/01
Sample Matrix: Water

MTBE Confirmation Results

		Constituent: MTBE
		Method: 8260B
		Units: µg/L
Sample ID	Date Sampled	
MW-1	10/22/01	1900
MW-2	10/22/01	230
MW-2	10/26/01	250
MW-3	10/22/01	170
MW-3	10/26/01	220
MW-5	10/22/01	1600
MW-5	10/26/01	780
MW-6	10/22/01	4.7
MW-6	10/26/01	95
MW-7	10/26/01	140
Method Blank	---	ND<1

ND: Not detected at the indicated reporting limit.



Baseline On-Site Analysis
P. O. Box 2243
Huntington Beach, CA 92647

Toll Free: 888.753.7553
FAX: 714.840.1584

Laboratory Report

Client: AEC, Inc.
Client Address: 4400 Ashe Road, #206
Bakersfield, CA 93313

Report Date: 11/5/01
Lab Project Number: 01618
Client Project Number: 22005402

Project Name: Vogue Tyres
Project Address: 240 W. MacArthur Avenue
Oakland, California
Contact: Jon Buck


Dates Sampled: 10/22/01, 10/26/01
Dates Received: 10/30/01
Dates Analyzed: 11/1/01
Sample Matrix: Water

Quality Control Summary

Analytes	MS Recovery (%)	MSD Recovery (%)	RPD (%)	QC Sample
TPH-Gasoline (EPA 8015)	98	95	3	LCS/LCSD
Toluene (EPA 8021B)	96	94	2	LCS/LCSD
Total Xylenes (EPA 8021B)	99	95	4	LCS/LCSD
MTBE (EPA 8260B)	87	95	9	LCS/LCSD
Acceptable QC Limits:	(65-135)	(65-135)	(0-30)	

MS: Matrix Spike; MSD: Matrix Spike Duplicate; RPD: Relative Percent Difference
LCS/LCSD: Lab Control Sample/Duplicate

CHAIN-OF-CUSTODY RECORD

Client AEC		Date 10/30/01		Laboratory Sample Number	Sample Matrix: Soil(S) Sludge(SL), Aqueous(A)	Analysis Requested						Number of Containers	LAB Project #
Project Name VOGUE Tyres		Client/Project #				TPH-g/BTEX/MTBE 8260B							Page <u>1</u> of <u>1</u>
Project Address 240 W MacArthur Blvd		Turn Around Requested:											
Sampler's Signature <i>Matthew Brude</i>		<input type="checkbox"/> 24-Hour-Rush <input type="checkbox"/> 48-Hour-Rush <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Mobile Lab											
Sample	Sample Location	Date	Time										
MW-1		10/22/01			A	/					2/2	Validate MTBE	
MW-1		10/20/01			A	/					2/2	Hits by 8260B.	
MW-2		10/22/01			A	/					2/2		
MW-2		10/20/01			A	/					2/2		
MW-3		10/22/01			A	/					2/2		
MW-3		10/20/01			A	/					2/2		
MW-4		10/22/01			A	/					2/2		
MW-4		10/20/01			A	/					2/2		
MW-5		10/22/01			A	/					2/2		
MW-5		10/22/01			A	/					2/2		
MW-6		10/22/01			A	/					2/2		
MW-6		10/20/01			A	/					2/2		
MW-7		10/22/01			A	/					2/2		
MW-7		10/20/01			A	/					2/2		
MW-8		10/22/01			A	/					2/2		
MW-8		10/20/01			A	/					2/2		
① Relinquished by: (Signature) <i>Matthew Brude</i>		Date 10/30/01		② Received by: (Signature) <i>Brk. Gots</i>				Date 30 OCT 01		Total Number of Containers			
Company: AEC		Time 8:30		Company: BASELINE				Time 0845					
③ Relinquished by: (Signature)		Date		④ Received by Laboratory: (Signature)				Date		 *ADVANCED ENVIRONMENTAL CONCEPTS INC.* 661/831-1646 4400 ASHE ROAD, #206 FAX 661/831-1771 BAKERSFIELD, CA 93313 E-mail: advanced@lightspeed.net			
Company:		Time		Company:				Time					