ADVANCED ENVIRONMENTAL CONCEPTS INC

December 30, 1998

Ms. Madhulla Logan
Alameda County Health Care Services
Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Regarding: **Fourth Quarterly Groundwater Sampling Report**
Prestige Products Corporation
Former Vogue Tyres Facility
240 West MacArthur Boulevard
Oakland, California

Dear Ms. Logan:

Advanced Environmental Concepts, Inc. (AEC) has prepared the Fourth Quarterly Groundwater Sampling Report for the above referenced project/location.

Enclosed please find the reports, 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 (805) 831-1646.

Respectfully yours,

Advanced Environmental Concepts, Inc.

Debbie Irwin
Project Coordinator / Office Administrator

Attachments: Report (1)

cc: Mr. Warren Dodson, Vogue Tyres

▪ADVANCED ENVIRONMENTAL CONCEPTS INC▪

November 6, 1998

Mr. Warren Dodson
Dodson Ltd.
Los Angeles, California 90015

Regarding: **Fourth Quarterly Groundwater Sampling Report**
Former Vogue Tyres Facility
240 West MacArthur Boulevard
Oakland, California

Dear Mr. Dodson:

Advanced Environmental Concepts, Inc. (AEC) is pleased to present this Third Quarter of groundwater sampling 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 service 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 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

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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 I.D.	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 (mg/kg)		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 was 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 mg/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 (ug/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 I.D.	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	270	110
BH6W	450K	13,000	870	65	570	130
Detection Limits (mg/kg)		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 was only run on BH2W and was less than 5 mg/L, and the PNAs exhibited non detectable concentrations.

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On August 7, 1997, AEC supervised three Geoprobe soil borings (BH-7, BH-8, and BH-9), and four groundwater monitoring wells (MW-1, MW-2, MW-3, and MW-4) were drilled 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 Boring
August 7, 1997
(ppm)

Sample I.D.	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 (mg/kg)		:5.00	.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 soil samples are presented in **Table 4**. Units are in micrograms per Liter (ug/L) which are equivalent to parts per billion (ppb).

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

Sample I.D.	TPH-d	TPH-g	Benzene	Toluene	Xylenes	Ethylbenzene
MW-1	ND	1,140	110	16	112	15
MW-2	ND	5,350	108	36	144	33
MW-3	ND	8,500	450	30	106	53
MW-4	ND	ND	ND	ND	ND	ND
Detection limits (mg/L):		5.00	.0050	0.0050	0.0050	0.0050

ND: Non Detected at indicated limit of detection

TABLE 5
Biological Factors
August 8, 1997
(ppb)

Sample I.D.	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 (mg/kg)		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

On December 3, 1997 AEC returned to the site to conduct the first round of quarterly groundwater sampling, on March 16, 1998 AEC conducted the second round of quarterly sampling, and on July 9, 1998 AEC returned to the site to conduct the third quarter of groundwater monitoring.

On October 19, 1998 AEC performed the fourth quarter of groundwater sampling.

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;

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3) Initial readings of pH, Temperature, and Conductivity were *obtained* (**Attachment B**);

4) A minimum of three (3) casing volumes of water (approximately 10-gallons) was purged from each well. Readings of pH, Temperature, and Conductivity were measured at 3-gallon intervals;

5) Once stabilization to 90% of original aquifer parameters was achieved, the groundwater samples were collected. The sampling equipment was washed in an Alconox solution and double-rinsed with clean deionized water;

6) 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;

7) 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;

8) The samples were analyzed by Baseline Analysis, Inc. 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 8020, respectively. The laboratory reports and chain-of-custody documentation are presented in **Attachment C**.

The following table summarizes the analytical results for **AEC**'s groundwater sampling program. Units are in micrograms per liter (µg/L) which are equivalent to parts per billion (ppb).

TABLE 6
Analytical Results - Monitoring Wells
(ppb)

Sample ID	TPH-g	Benzene	Toluene	Xylenes	Ethyl-benzene	MTBE
August 8, 1997						
MW-1	1,140	110	16	112	15	NA
MW-2	5,350	108	36	144	33	NA
MW-3	8,500	450	30	106	53	NA
MW-4	ND	ND	ND	ND	ND	NA
December 3, 1997						
MW-1	ND	ND	ND	31	ND	NA
MW-2	1,600	73	ND	ND	ND	NA
MW-3	5,200	180	6	9.3	5	NA
MW-4	ND	ND	ND	ND	ND	NA
Bailer Blank	ND	ND	ND	ND	ND	NA
March 16, 1998						
MW-1	370	8.9	ND	2.2	ND	18
MW-2	3,400	830	100	240	210	870
MW-3	1,000	6.0	ND	ND	ND	810
MW-4	ND	ND	ND	ND	ND	ND
Bailer Blank	ND	ND	ND	ND	ND	ND

TABLE 6
Analytical Results - Monitoring Wells
(ppb)

Sample ID	TPH-g	Benzene	Toluene	Xylenes	Ethyl-benzene	MTBE
July 9, 1998						
MW-1	6,400	1,300	23	58	3.7	**97**
MW-2	3,100	25	2.2	0.9	ND	**1,900**
MW-3	6,400	490	57	78	23	**220**
MW-4	ND	ND	ND	ND	ND	ND
October 19, 1998						
MW-1	2,500	360	44	150	1.3	ND
MW-2	4,300	ND	1.2	1	ND	**4,200**
MW-3	2,100	ND	ND	ND	ND	ND
MW-4	ND	ND	ND	ND	ND	ND
Detection Limit (µgm/L)	500	0.5	0.5	0.5	0.5	0.5

ND: Not detected at the indicated level of detection
TPH-g: Total Petroleum Hydrocarbons as gasoline

The samples were also analyzed for MTBE. Monitoring well MW-4 continued to exhibit non-detectable concentrations for TPH-gasoline, BTXE, and MTBE, however, the monitoring wells MW-1, MW-2, and MW-3 still exhibit elevated concentrations of petroleum range hydrocarbons.

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 indicate relative stability concerning TPH-gasoline and volatile aromatic concentrations in the water samples collected from the monitoring wells in comparison with the last three sampling events. The current flow direction is north 46 degrees west with a hydraulic gradient of 0.53'/100'. Flow direction and gradient have been very consistent for all sampling rounds. The monitoring wells yielded adequate water volume and could not be bailed dry. Recharge was adequate in all four wells.

Recommendations

Advanced Environmental Concepts, Inc. recommends continued sampling of the groundwater wells for this site for one additional quarter. If it is determined that the contaminants are stable AEC will continue to recommend well abandonment and request closure.

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Closing

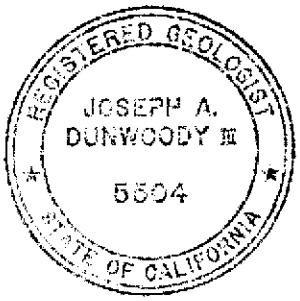
Advanced Environmental Concepts, Inc. appreciates the opportunity of providing our professional services to Mr. Warren Dodson. Should there be any questions or additional information required, please do not hesitate to contact our office at your convenience.

Respectfully yours,

Advanced Environmental Concepts, Inc.

Jonathan L. Buck
Project Hydrogeologist

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.



Joseph A. Dunwoody
California Registered Geologist #5504

Doc30GC

Map Source: Thomas Maps

ADVANCED ENVIRONMENTAL CONCEPTS INC

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

- SITE AREA -

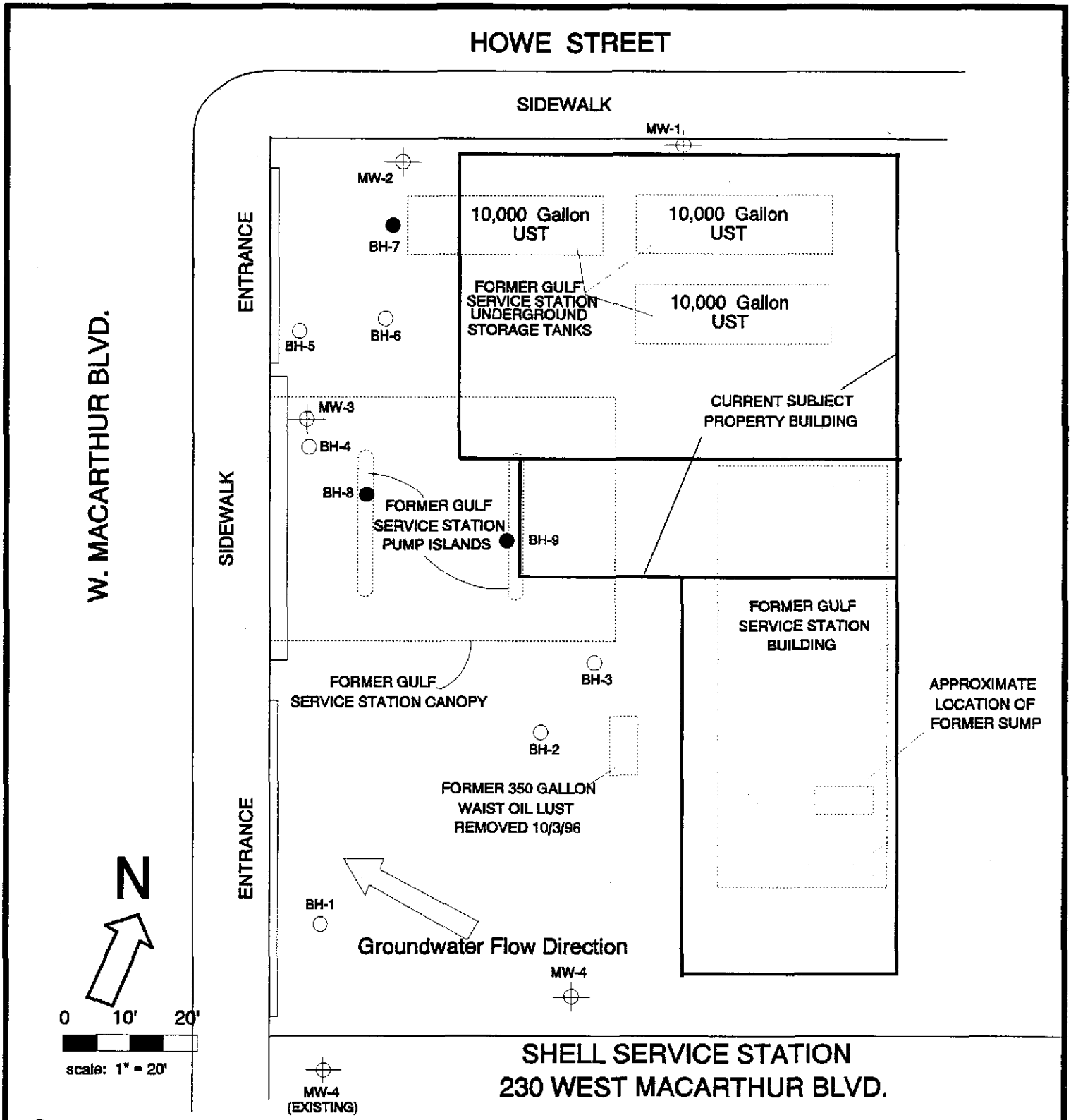
Prestige Products Corporation

240 West MacArthur Blvd.

County of Alameda - Oakland, California

FIGURE

1



ADVANCED ENVIRONMENTAL CONCEPTS INC

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

- SITE LOCATION -

VOGUE TYRES

Prestige Products Corporation

240 West MacArthur Blvd.

County of Alameda - Oakland, California

FIGURE

2

Groundwater Parameters

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

Location: 240 West MacArthur Project #: _____

Oakland, CA Date: October 19, 1998

TIME	GALLONS PURGED	CONDUCTIVITY	TEMPERATURE	pH
	MONITORING WELL # 1			
	3 gallons	2,105	67.1	7.30
	6 gallons	2,100	67.2	7.25
	MONITORING WELL # 2			
	3 gallons	1,479	67.2	7.15
	6 gallons	1,478	67.1	7.19
	MONITORING WELL # 3			
	3 gallons	1,458	67.4	7.71
	6 gallons	1,452	67.4	7.65

3 Casing Volumes

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

MW # 1 Depth to Groundwater = 15.55' Corrected Depth: 15.55' Survey: 4.39'

MW # 2 Depth to Groundwater = 14.95' Corrected Depth: 15.65' Survey: 5.09'

MW # 3 Depth to Groundwater = 14.08' Corrected Depth: 15.63' Survey: 5.94'

Groundwater Parameters

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

Location: 240 West MacArthur Project #: _____

Oakland, CA Date: October 19, 1998

TIME	GALLONS PURGED	CONDUCTIVITY	TEMPERATURE	pH
	MONITORING WELL # 4			
	3 gallons	1,841	67.2	7.84
	6 gallons	1,811	67.4	7.82
	MONITORING WELL # ___			
	MONITORING WELL # ___			

3 Casing Volumes

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

MW # 4 Depth to Groundwater = 13.90' Corrected Depth: 15.23' Survey: 5.72'

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

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

BASELINE ON-SITE ANALYSIS™

Baseline On-Site Analysis

P. O. Box 2243
Huntington Beach, California 92647

phone: (888) 753-7553
FAX: (714) 897-4235

Laboratory Report

Client:	AEC, Inc.	**Report Date:**	11/13/98
Client Address:	4400 Ashe Road #206 Bakersfield, California	**Lab Project Number:** **Client Project Number:**	98224 —
Project Name:	Vogue Tyres	**Date Sampled:**	10/19/98
Project Address:	240 West MacArthur Boulevard Oakland, California 90015	**Date Received:** **Date Analyzed:**	10/21/98 10/26/98
Contact:	John Buck	**Sample Matrix:**	Water

Sample ID	TPH-Gasoline (mg/L)	MTBE (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
MW1	2.5	ND<0.5	360	44	1.3	150
MW2	4.3	4200	ND<0.5	1.2	ND<0.5	0.88
MW3	2.1	2100	ND<0.5	ND<0.5	ND<0.5	ND<0.5
MW4	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 Practical Quantification Limit (Reporting Limit)

BASELINE ON-SITE ANALYSIS™

Baseline On-Site Analysis

P. O. Box 2243
Huntington Beach, California 92647

phone: (888) 753-7553
FAX: (714) 897-4235

Laboratory Report

Client:	AEC, Inc.	**Report Date:**	11/13/98
Client Address:	4400 Ashe Road #206 Bakersfield, California	**Lab Project Number:** **Client Project Number:**	98224 —
Project Name:	Vogue Tyres	**Date Sampled:**	10/19/98
Project Address:	240 West MacArthur Boulevard Oakland, California 90015	**Date Received:** **Date Analyzed:**	10/21/98 10/26/98
Contact:	John Buck	**Sample Matrix:**	Water

Quality Control Summary

Analytes	MS Recovery (%)	MSD Recovery (%)	RPD (%)	QC Sample
TPH as Gasoline (M8015/LUFT)	102	101	1	MW4
Volatile Aromatics (EPA 8020A)				
Toluene	106	102	4	MW4
Total Xylenes	105	100	5	MW4
Acceptable QC Limits:	*(65-130)*	*(65-130)*	*(0-30)*	

MS: Matrix Spike; MSD: Matrix Spike Duplicate; RPD: Relative Percent Difference

CHAIN-OF-CUSTODY RECORD

Client: Vogue Tyres
Project Name: Vogue Tyres
Project Address: 240 West MacArthur Blvd
Oakland, CA. 90015
Sampler's Signature: Joe Denwoods

Date: 10/19/98
Client Project#:

Turn Around Requested:
- ☐ 24-Hour-Rush
- ☐ 48-Hour-Rush
- ☑ Normal
- ☐ Mobile Lab

LAB Project # 98224

Page 1 of 1

Lab Use Only.
Sample Condition as received:
Chilled (Yes) / No
Sealed (Yes) / No

Sample	Sample Location	Date	Time	Laboratory Sample Number	Sample Matrix: Soil(S) Sludge(SL), Aqueous(A)	Analysis Requested: TPH-G	MTBE	BTEX					Number of Containers	Container / Comments
MW1	MONITORING well #1	10/19/98			A	1	1	1					2	
MW2	" " #2					1	1	1					2	
MW3	" " #3					1	1	1					2	
MW4	" " #4					1	1	1					2	

❶ Relinquished by: (Signature)
Company: AEC
Date: 10/20/98
Time: 12:47

❷ Received by: (Signature) Brian K. Kato
Company: BASELINE
Date: 10/21/98
Time: 1247

❸ Relinquished by: (Signature)
Company:
Date:
Time:

❹ Received by Laboratory: (Signature)
Company:
Date:
Time:

8 Total Number of Containers

AEC
ADVANCED ENVIRONMENTAL CONCEPTS INC
805 / 831-1646
FAX 805 / 831-1771
4400 ASHE ROAD #206
BAKERSFIELD, CA 93313