



August 2, 1998

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

Regarding: **Third 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 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.

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).

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 this third quarter of groundwater monitoring.

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) 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 ($\mu\text{g/L}$) 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 410ppb
MW-3	5,200	180	6	9.3	5	NA 130ppb
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
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
Detection Limit ($\mu\text{g/L}$)	500	0.3	0.3	0.6	0.3	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 $\mu\text{g/L}$
Toluene.....	2000 $\mu\text{g/L}$
Ethylbenzene.....	680 $\mu\text{g/L}$
Total Xylenes.....	1750 $\mu\text{g/L}$

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

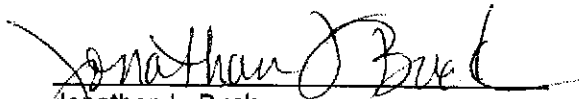
Advanced Environmental Concepts, Inc. recommends continued sampling of the groundwater wells for this site for one additional quarter. If it is determined that the contaminants are stable AEC will continue to recommend well abandonment and request closure.

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



Doc30FX



Map Source: Thomas Maps

- 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

HOWE STREET

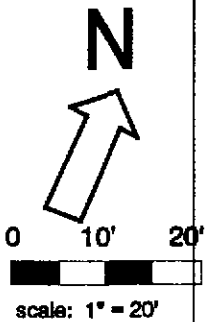
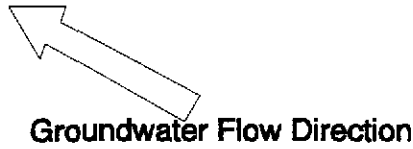
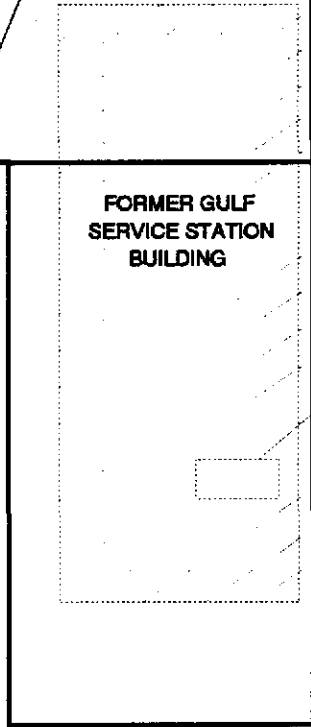
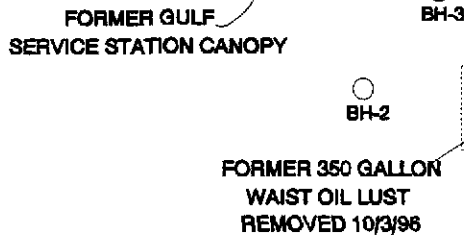
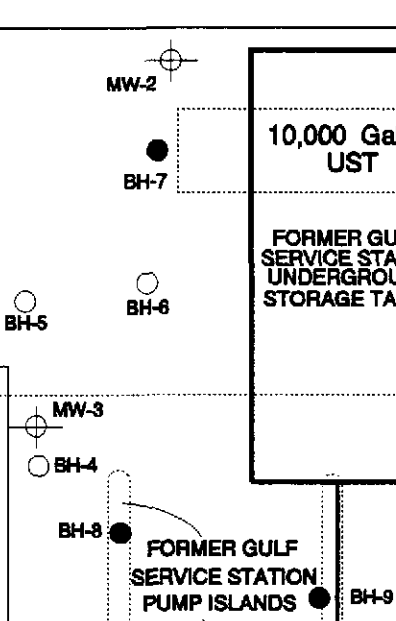
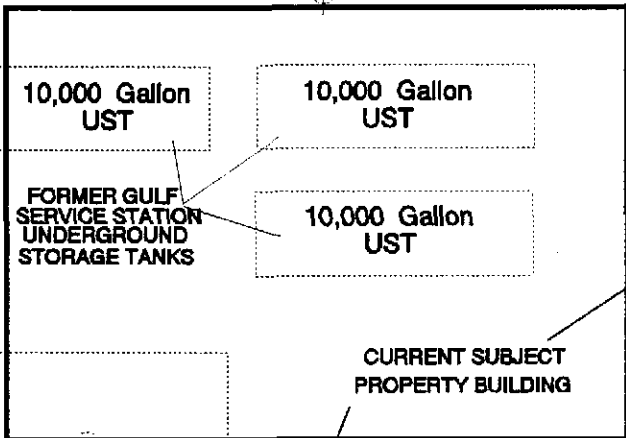
SIDEWALK

W. MACARTHUR BLVD.

ENTRANCE

SIDEWALK

ENTRANCE



SHELL SERVICE STATION
230 WEST MACARTHUR BLVD.



AEC MONITORING WELL LOCATIONS

● AEC SOIL BORING LOCATION

○ AEI SOIL BORING LOCATIONS DRILLED 1/10/97



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: July 9, 1998

TIME	GALLONS PURGED	CONDUCTIVITY	TEMPERATURE	pH
MONITORING WELL # 1				
	3 gallons	2,100	67.2	7.29
	6 gallons	2,050	67.3	7.19
MONITORING WELL # 2				
	3 gallons	1,480	67.3	7.14
	6 gallons	1,460	67.3	7.09
MONITORING WELL # 3				
	3 gallons	1,460	67.5	7.72
	6 gallons	1,440	67.5	7.58

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: July 9, 1998

TIME	GALLONS PURGED	CONDUCTIVITY	TEMPERATURE	pH
MONITORING		WELL # <u>4</u>		
	3 gallons	1,840	67.3	7.83
	6 gallons	1,810	67.5	7.81
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
P. O. Box 2243 Toll Free: (888) 753-7553
Huntington Beach, CA 92647 FAX: (714) 842-2947

Laboratory Report

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

Report Date: 7/30/98
Lab Project Number: 98126
Client Project Number: —

Project Name: Vogue Tyres
Project Address: —
—
Contact: John Buck

Date Sampled: 7/9/98
Date Received: 7/11/98
Date Analyzed: 7/17-19/98
Physical State: Water

Analyses Requested:

1. M8015 - TPH as Gasoline
2. EPA 8020A - Volatile Aromatics with MTBE

On July 11, 1998, *Baseline* received four water samples collected at the site shown above. A Chain-of-Custody Record is attached.

Baseline analyzed all of the samples for Total Petroleum Hydrocarbons as gasoline (M8015/LUFT) and Volatile Aromatics (EPA 8020A) including MTBE. In this report, *Baseline* presents the results and QA/QC summary for all of these analyses.

Approved

Brian K. Kato, Laboratory Manager

Laboratory Report

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

Report Date: 7/30/98
Lab Project Number: 98126
Client Project Number: —

Project Name: Vogue Tyres
Project Address: —

Date Sampled: 7/9/98
Date Received: 7/11/98
Date Analyzed: 7/17-19/98

Contact: John Buck

Physical State: Water

<u>Sample ID</u>	<u>TPH-Gasoline</u> (mg/l)	<u>MTBE</u> (µg/l)	<u>Benzene</u> (µg/l)	<u>Toluene</u> (µg/l)	<u>Ethylbenzene</u> (µg/l)	<u>Total Xylenes</u> (µg/l)
MW-1	6.4	97	1300	23	3.7	58
MW-2	3.1	1900	25	2.2	ND<0.5	0.90
MW-3	6.4	220	490	57	23	78
MW-4	ND<.050	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Method Blank	ND<.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)

Laboratory Report

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

Report Date: 7/30/98
Lab Project Number: 98126
Client Project Number: —

Project Name: Vogue Tyres
Project Address: —

Date Sampled: 7/9/98
Date Received: 7/11/98
Date Analyzed: 7/17-19/98

Contact: John Buck


Physical State: Water

Quality Control Summary

<u>Analytes</u>	MS Recovery (%)	MSD Recovery (%)	RPD (%)	QC Sample
TPH as Gasoline (LUFT)	119	114	3.7	LCS/LCSD
<i>Volatile Aromatics (EPA 8020A)</i>				
Toluene	102	94	7.7	LCS/LCSD
Total Xylenes	99	90	9.1	LCS/LCSD
Acceptable QC Limits:	(65-130)	(65-130)	(0-30)	

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

CHAIN-OF-CUSTODY RECORD

Client <i>William Dodson</i>		Date <i>7-10-98</i>		Analysis Requested	LAB Project #			
Project Name <i>Vogue Towers</i>		Client Project#				Page <i>1</i> of <i>1</i>		
Project Address <i>240 W. McArthur Blvd</i>		Turn Around Requested:						
Sampler's Signature <i>[Signature]</i>		<input type="checkbox"/> 24-Hour-Rush <input type="checkbox"/> 48-Hour-Rush <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Mobile Lab		Number of Containers	Lab Use Only. Sample Condition as received: Chilled Yes / No Sealed Yes / No			
Laboratory Sample Number Sample Matrix: Soil(S) / Sludge(SL), Aqueous(A) <i>TPH-G</i> <i>BTX/E/MTBE</i>					Container / Comments			
Sample	Sample Location	Date	Time					
<i>MW-1</i>		<i>7/9/98</i>			<i>A</i>	<i>✓</i>	<i>✓</i>	<i>2</i>
<i>MW-2</i>					<i>A</i>	<i>✓</i>	<i>✓</i>	<i>2</i>
<i>MW-3</i>					<i>A</i>	<i>✓</i>	<i>✓</i>	<i>2</i>
<i>MW-4</i>		<i>7/9/98</i>			<i>A</i>	<i>✓</i>	<i>✓</i>	<i>2</i>
1 Relinquished by: (Signature) <i>[Signature]</i>		Date <i>7/9/98</i>		2 Received by: (Signature) <i>[Signature]</i>		Date <i>7/11/98</i>		Total Number of Containers
Company: <i>AEC</i>		Time		Company: <i>BASILINE</i>		Time <i>8:00 AM</i>		
3 Relinquished by: (Signature)		Date		4 Received by Laboratory: (Signature)		Date		 ADVANCED ENVIRONMENTAL CONCEPTS INC.
Company:		Time		Company:		Time		