



**EMCON**

603 Royal Street West • P.O. Drawer B • Kelso, Washington 98626-0079 • (360) 423-3580 • Fax (360) 423-7518

Time Oil 01-308

Food Mart 308

December 5, 1995

Project 40541-004.002

VCP NW1495

LUST 4598

Ms. Angela Côté  
Time Oil Company  
2737 West Commodore Way  
Seattle, WA 98199-1233

Re: June and September 1995 - Groundwater Monitoring Report - Auburn, Washington  
Site #01-308

ENTERED  
Previously  
9-9  
2005

Dear Ms. Côté:

EMCON is pleased to submit this letter report outlining groundwater monitoring activities conducted on June 30 and September 29, 1995, at the Time Oil Company site #01-308. The site is located at 1602 A Street Southeast in Auburn, Washington (Figure 1). The objectives of the monitoring and sampling activities are to evaluate groundwater quality and groundwater flow direction beneath the site.

## SCOPE OF WORK

Activities completed on June 30, 1995, and September 29, 1995, are listed below:

- Measured depth to groundwater.
- Collected groundwater samples from on-site monitoring wells MW-1, MW-2, MW-3 and MW-4 (Figure 2).
- Collected and stored water during well purging. Collected samples of the contained purge water to evaluate disposal options. Discharged purge water into City of Kelso sanitary sewer under a discharge permit issued to EMCON by the City of Kelso Public Works Department on July 3, 1995.

## METHODS

### Groundwater

Depth to groundwater measurements were collected using a Solinst brand oil/water interface probe, and were measured from known reference elevations marked on the top of each PVC well riser. The measuring probe was decontaminated between each well using methanol and distilled water rinses, respectively. Depth to water measurements were converted to groundwater elevations based on an arbitrary site datum of 100 feet that was established by EMCON during previous site investigation activities.

The presence of light non-aqueous phase liquids (LNAPLs) were checked using a Solinst brand oil/water interface indicator prior to well purging. LNAPL was not detected in any of the monitoring wells during either the June 30 or September 29, 1995, monitoring events.



## Sample Collection

Monitoring wells were purged using polyethylene disposable bailers attached to nylon string. A minimum of three well casing volumes of water was removed from each well with field measurements (pH, temperature, and specific conductance) recorded after removing each well volume.

Samples were collected with polyethylene disposable bailers equipped with low-flow emptying devices to minimize aeration of the sample. Samples for dissolved lead analysis were field filtered using a peristaltic pump and disposable 0.45-micron nitrocellulose in-line filters. Pump tubing was decontaminated after each use using a non-phosphatic detergent rinse, tap water rinse, dilute nitric acid rinse, and a final distilled water rinse.

Samples were stored in cooled shipping containers and delivered to National Environmental Testing, Inc., in Portland, Oregon under chain of custody documentation. Field Sampling Data sheets are included in Appendix A.

## Quantitative Chemical Analyses

Samples were analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX) using USEPA Methods 820, total petroleum hydrocarbons as gasoline (TPH-G) using Washington Department of Ecology Method WTPH-G and total and dissolved lead using USEPA Method 6010.

## RESULTS

### Groundwater

LNAPL was not detected in any of the on-site monitoring wells during either the June 30 or September 29, 1995, monitoring events. Depth to groundwater ranged from 23.53 to 24.54 feet below top of PVC riser (approximate ground surface) for the June 30, 1995, monitoring event and 26.60 to 27.30 feet for the September 29, 1995, monitoring event. The apparent groundwater flow direction was to the east at an approximate gradient of 0.007 feet/foot for June 30, 1995, and to the northeast at 0.005 feet/foot for September 29, 1995. Groundwater flow direction and gradient were not significantly changed from the last monitoring event completed on March 30, 1995. Groundwater measurements are outlined in Table 1 and groundwater data maps are presented in Figures 2 and 3.

## Quantitative Chemical Results

Samples from MW-1, MW-2, MW-3, and MW-4 indicated that BTEX and TPH-G were below laboratory method reporting limits for both monitoring events. Dissolved lead concentrations were below laboratory method reporting limits in samples from MW-2, MW-3, and MW-4 for both events. Samples from MW-1 had a dissolved lead concentration of 6 µg/L (ppb) for the June 30, 1995, event and not detected for the September 29, 1995, event.

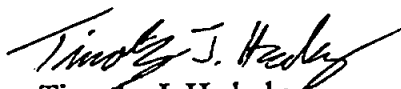
Total lead concentrations for MW-1, MW-2, and MW-4 were above MTCA Method A<sup>1</sup> cleanup levels for the June 30, 1995, event. Total lead concentrations were most likely elevated due to the silty nature of the groundwater at the time of sample collection. Total lead was not detected in any of the samples for the September 29, 1995, monitoring event.


Table 2 outlines historic and current groundwater quality analytical results. Analytical results and chain of custody documentation are included in Appendix B.

If you have any questions please call Jim Jakubiak or me at (360) 423-3580.

Sincerely,

EMCON

  
Timothy J. Haderly  
Project Manager

  
James L. Jakubiak  
Project Director

Attachments: Limitations  
Table 1 - Groundwater Measurements  
Table 2 - Groundwater Sample Analytical Results  
Figure 1 - Site Location Map  
Figure 2 - Groundwater Data Map (June 30, 1995)  
Figure 3 - Groundwater Data Map (September 29, 1995)  
Appendix A - Field Sampling Data Sheets  
Appendix B - Analytical Reports and Chain of Custody

<sup>1</sup> Chapter 173-340 WAC, *The Model Toxics Control Act Cleanup Regulation; Method A Cleanup Levels*. Amended December 1993.

## LIMITATIONS

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The services described in this report were performed consistent with generally accepted professional consulting principles and practices. No other warranty, express or implied, is made. These services were performed consistent with our agreement with our client. This report is solely for the use and information of our client unless otherwise noted. Any reliance on this report by a third party is at such party's sole risk.

Opinions and recommendations contained in this report apply to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and project parameters indicated. We are not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. We do not warrant the accuracy of information supplied by others, nor the use of segregated portions of this report.

**Table 1**

**Groundwater Measurements  
Time Oil Co. Site #01-308  
Auburn, Washington**

Well	Date	Reference Elevation (ft) <sup>1</sup>	Depth to Water (ft) <sup>2</sup>	Water Table Elevation (ft) <sup>3</sup>
MW-1	5/2/94	99.40	23.58	75.82
	3/30/95	99.40	20.23	79.17
	6/30/95	99.40	24.03	75.37
	9/29/95	99.40	26.71	72.69
MW-2	5/2/94	99.66	23.70	75.96
	3/30/95	99.66	20.62	79.04
	6/30/95	99.66	24.20	75.46
	9/29/95	99.66	26.83	72.83
MW-3	5/2/94	100.13	24.06	76.07
	3/30/95	100.13	20.78	79.35
	6/30/95	100.13	24.54	75.59
	9/29/95	100.13	27.30	72.83
MW-4	5/2/94	99.54	23.03	76.51
	3/30/95	99.54	19.56	79.98
	6/30/95	99.54	23.53	76.01
	9/29/95	99.54	26.60	72.94

NOTE: ND = Not detected.  
 1 Reference elevation relative to an arbitrary site datum of 100.00 feet.  
 2 Distance from established reference elevation marked on top of PVC well riser to water table.  
 3 Water table elevation relative to arbitrary site datum of 100.00 feet.

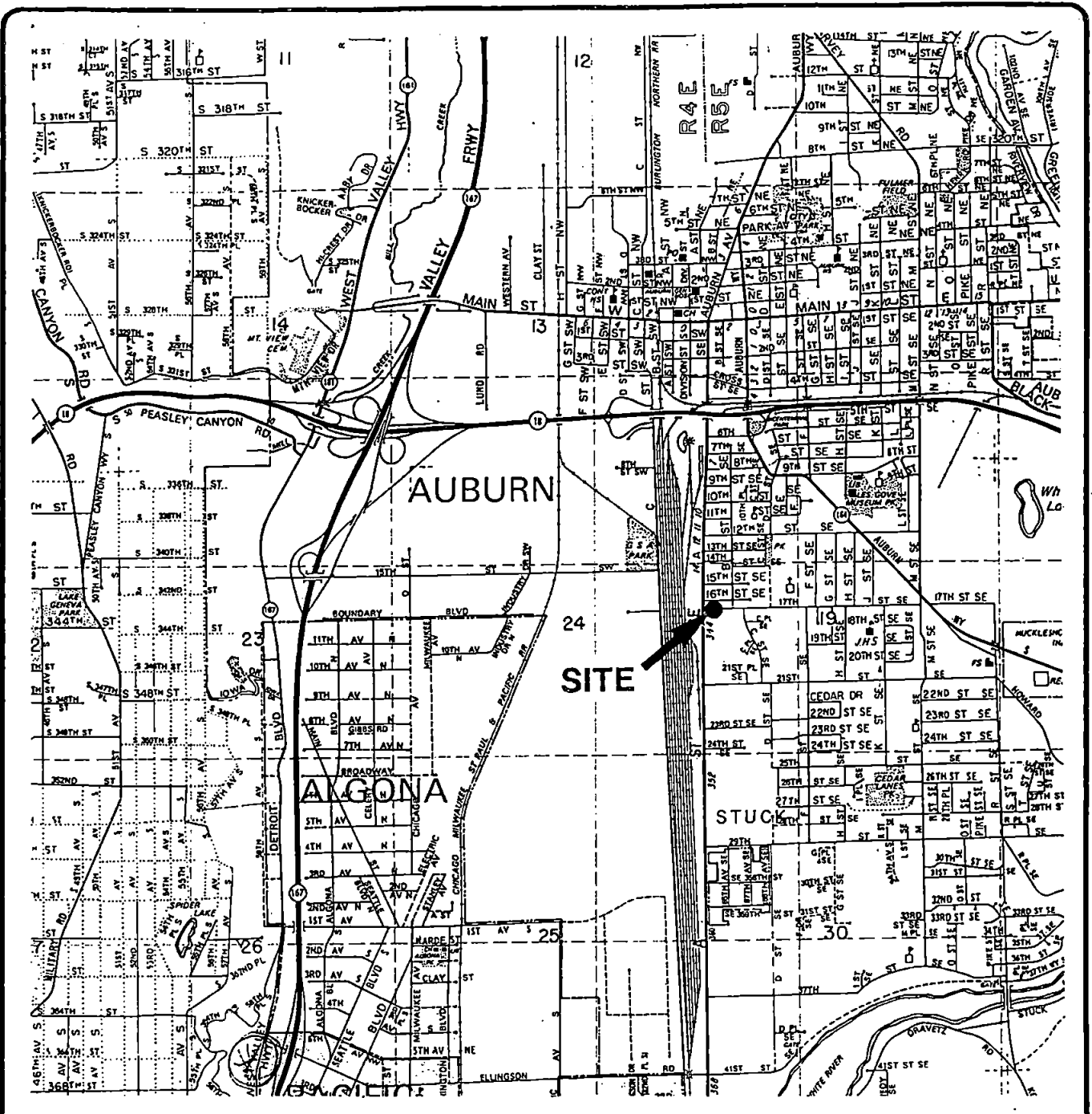
Table 2

**Groundwater Sample Analytical Results  
Time Oil Company Site 01-308  
Auburn, Washington**

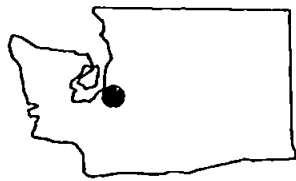
Well Number	Date Sampled	Sample Collector	Benzene <sup>1</sup> (µg/l)	Toluene <sup>1</sup> (µg/l)	Ethyl- benzene <sup>1</sup> (µg/l)	Total Xylenes <sup>1</sup> (µg/l)	TPH as Gasoline <sup>2</sup> (µg/l)	Dissolved Lead <sup>3</sup> (µg/l)	Total Lead <sup>3</sup> (µg/l)
MTCA Method A Cleanup Levels <sup>4</sup>			5	40	30	20	1000	---	5
MW-1  Duplicate	4/27/94	EMCON	ND	ND	ND	ND	ND	---	---
	3/30/95	EMCON	ND	ND	ND	ND	ND	ND	7
	6/30/95	EMCON	ND	ND	ND	ND	ND	6	8
	6/30/95	EMCON	ND	ND	ND	ND	ND	ND	29
	9/29/95	EMCON	ND	ND	ND	ND	ND	ND	ND
MW-2  Duplicate	4/27/94	EMCON	ND	ND	ND	ND	ND	---	---
	3/30/95	EMCON	ND	ND	ND	ND	ND	ND	5
	3/30/95	EMCON	ND	ND	ND	ND	ND	ND	7
	6/30/95	EMCON	ND	ND	ND	ND	ND	ND	7
	9/29/95	EMCON	ND	ND	ND	ND	ND	ND	ND
MW-3  Duplicate	4/27/95	EMCON	ND	ND	ND	ND	ND	---	---
	3/30/95	EMCON	ND	ND	ND	ND	ND	ND	ND
	6/30/95	EMCON	ND	ND	ND	ND	ND	ND	ND
	9/29/95	EMCON	ND	ND	ND	ND	ND	ND	ND
	9/29/95	EMCON	ND	ND	ND	ND	ND	ND	ND
MW-4	4/27/94	EMCON	ND	ND	ND	ND	ND	---	---
	3/30/95	EMCON	ND	ND	ND	ND	ND	ND	12
	6/30/95	EMCON	ND	ND	ND	ND	ND	ND	10
	9/29/95	EMCON	ND	ND	ND	ND	ND	ND	ND

NOTE: ND = Analyte not detected at or above the method reporting limit  
 --- = Not analyzed for particular analyte.  
 µg/l = Approximates parts per billion (ppb) concentrations.  
 Shaded values exceed MTCA Method A cleanup levels.

<sup>1</sup> BTEX (EPA Method 8020).  
<sup>2</sup> Total petroleum hydrocarbons as gasoline (Ecology Method WTPH-G).  
<sup>3</sup> Total and dissolved lead (EPA Method 6010).  
<sup>4</sup> Chapter 173-340 WAC, The Model Toxics Control Act Cleanup Regulations, Method A Cleanup Limits. Amended December 1993.



SOURCE: THOMAS BROTHERS GUIDE



WASHINGTON



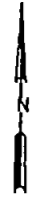
\*Reproduced with permission granted by THOMAS BROS. MAPS. This map is copyrighted by THOMAS BROS. MAPS. It is unlawful to copy or reproduce all or any part thereof, whether for personal use or resale, without permission.



**Emcon**  
Northwest, Inc.

DATE 6-94  
DWN. MLP  
REV. \_\_\_\_\_  
APPR. \_\_\_\_\_  
PROJECT NO. 40541-004.002

Figure 1  
TIME OIL CO. #01-308  
AUBURN, WASHINGTON  
**SITE LOCATION MAP**



MW-1	
TPH-G	ND
B	ND
T	ND
E	ND
X	ND

MW-4	
TPH-G	ND
B	ND
T	ND
E	ND
X	ND

MW-3	
TPH-G	ND
B	ND
T	ND
E	ND
X	ND

MW-2	
TPH-G	ND
B	ND
T	ND
E	ND
X	ND

**LEGEND**

MW-1 ◆ Monitoring Well

CB □ Catch Basin

ND Not Detected at the Method Reporting Limits

MW-2	
TPH-G	ND
B	ND
T	ND
E	ND
X	ND

Groundwater Sample Laboratory Results in Parts per Billion (ppb)

TPH-G = Total Petroleum Hydrocarbons as Gasoline

B = Benzene

T = Toluene

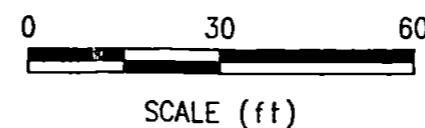
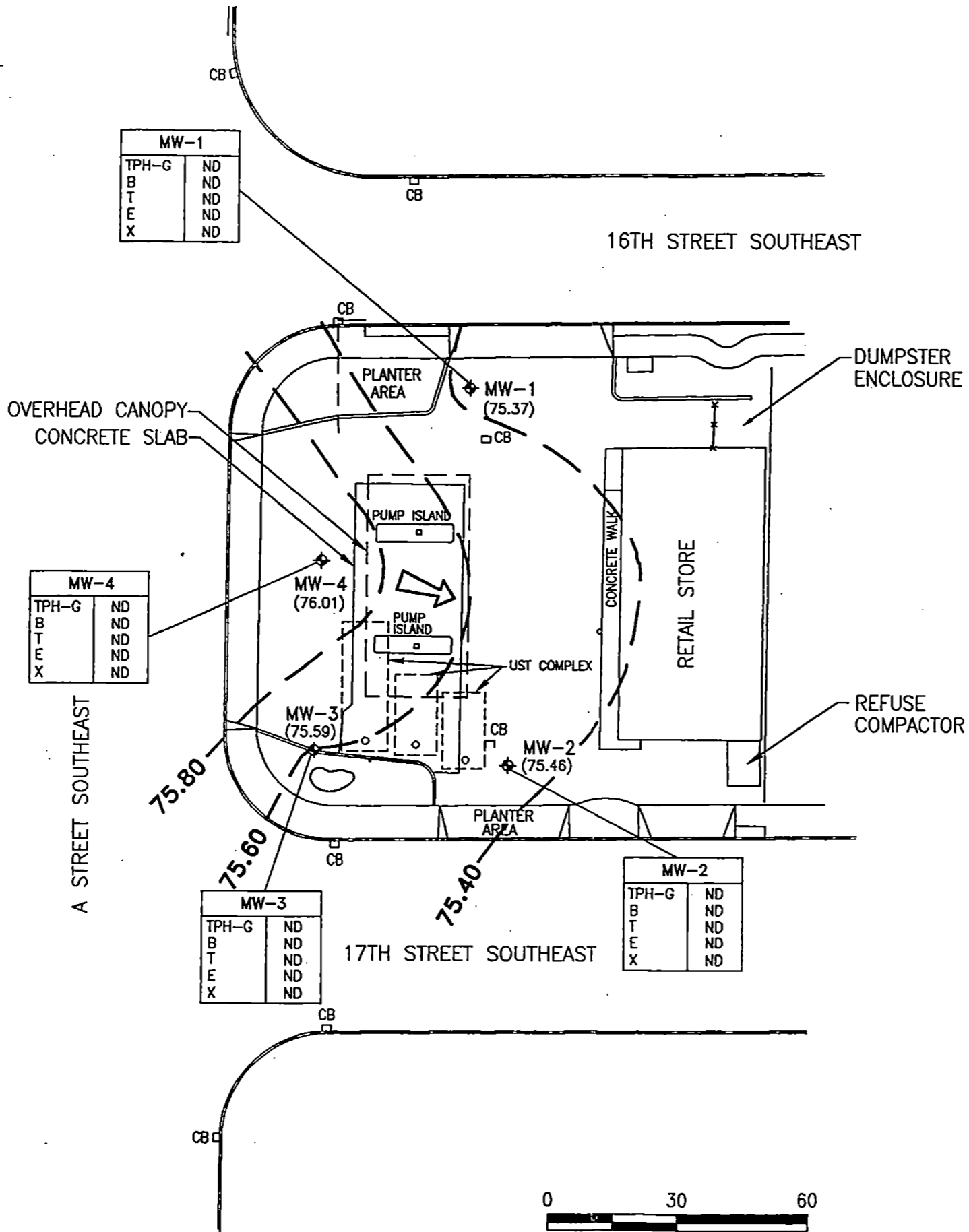
E = Ethylbenzene

X = Total Xylenes

—75.80— Relative Groundwater Elevation Contour (feet)

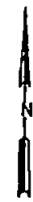
(75.46) Measured Groundwater Elevation (feet) June 30, 1995

➔ Inferred Groundwater Flow Direction



DATE 11/95  
 DWN. MMM  
 APPR. \_\_\_\_\_  
 REVS. \_\_\_\_\_  
 PROJECT NO. \_\_\_\_\_  
 40541-004.002

Figure 2  
 TIME OIL CO. #01-308  
 AUBURN, WASHINGTON  
**GROUNDWATER DATA MAP**  
 JUNE 30, 1995



MW-1	
TPH-G	ND
B	ND
T	ND
E	ND
X	ND

MW-4	
TPH-G	ND
B	ND
T	ND
E	ND
X	ND

MW-3	
TPH-G	ND
B	ND
T	ND
E	ND
X	ND

MW-2	
TPH-G	ND
B	ND
T	ND
E	ND
X	ND

**LEGEND**

- MW-1 ◆ Monitoring Well
- CB □ Catch Basin
- ND Not Detected at the Method Reporting Limits

MW-2	
TPH-G	ND
B	ND
T	ND
E	ND
X	ND

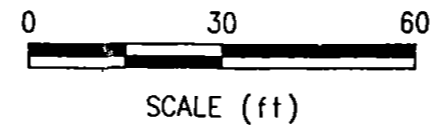
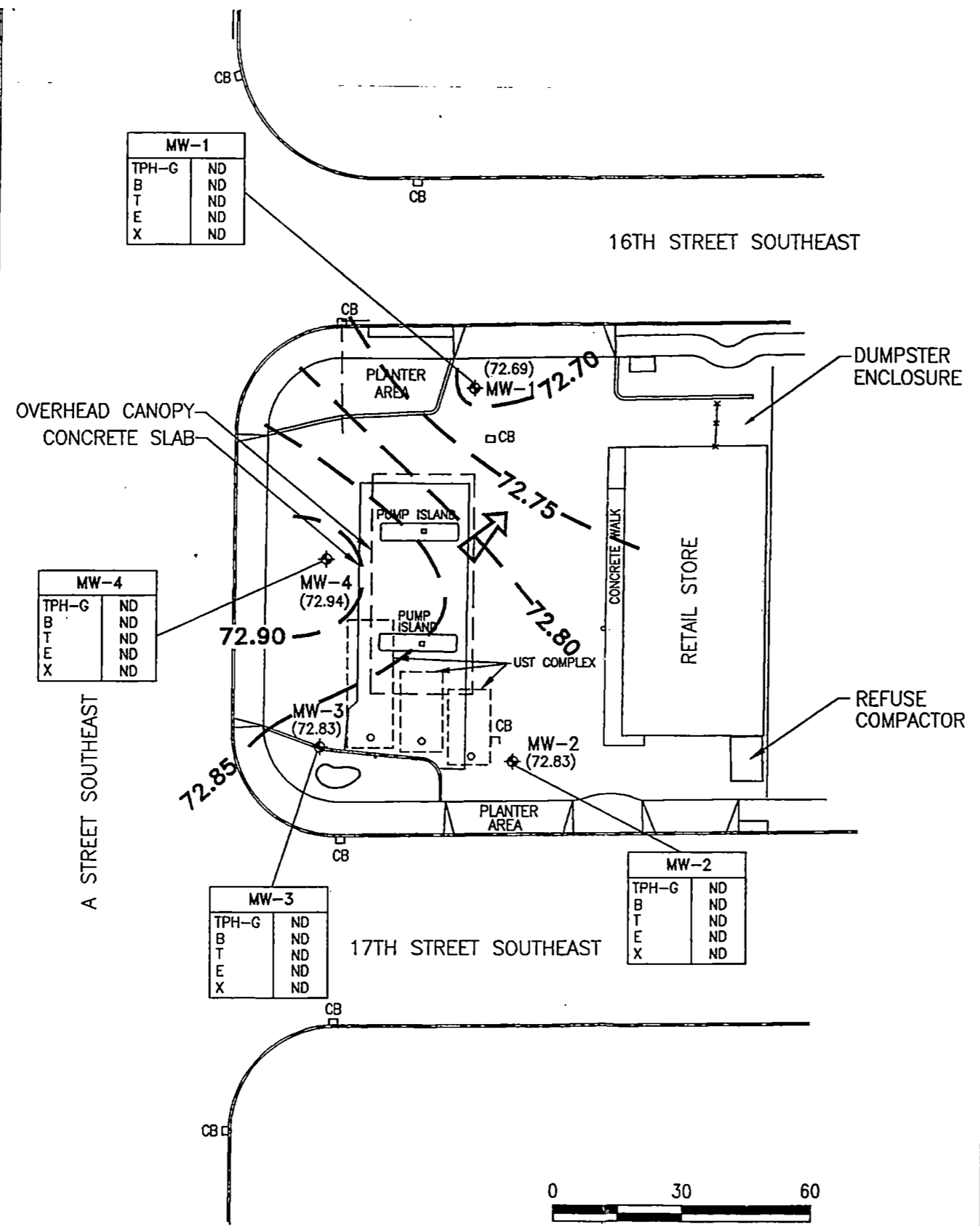
Groundwater Sample Laboratory Results in Parts per Billion (ppb)

- TPH-G = Total Petroleum Hydrocarbons as Gasoline
- B = Benzene
- T = Toluene
- E = Ethylbenzene
- X = Total Xylenes

—72.80— Relative Groundwater Elevation Contour (feet)

(72.69) Measured Groundwater Elevation (feet) September 29, 1995

➔ Inferred Groundwater Flow Direction



DATE 11/95  
 DWN. MMM  
 APPR. \_\_\_\_\_  
 REVIS. \_\_\_\_\_  
 PROJECT NO.  
 40541-004.002

Figure 3  
 TIME OIL CO. #01-308  
 AUBURN, WASHINGTON  
 GROUNDWATER DATA MAP  
 SEPTEMBER 29, 1995

**APPENDIX A**  
**FIELD SAMPLING DATA SHEETS**



# Field Sampling Data

LOCATION/ADDRESS Time Oil Auburn  
 PROJECT NAME \_\_\_\_\_  
 CLIENT/CONTACT \_\_\_\_\_

Well or Surface Site Number MW-1 \*  
 Sample Designation MW063095-2  
 Date, Time 6/30/95 12:30  
 Weather Hot, Clear 85°

### HYDROLOGY MEASUREMENTS:

(Nearest .01 ft.) Elevation \_\_\_\_\_ Date, Time 6/30/95 11:12 Method (Level Meter # or Code)/Comments Interface probe  
24.03 \_\_\_\_\_

### WELL EVACUATION: 0.9 Gallons/Pore Volume

Gallons 2.8 Pore Volumes 3 Method Used disposable Rinse Method \_\_\_\_\_ Date, Time 6/30/95 1305  
Bailer \_\_\_\_\_  
 Surface Water Flow Speed \_\_\_\_\_ Measurement Method \_\_\_\_\_ Date, Time \_\_\_\_\_

### SAMPLING:

Sample	Date, Time	Method	Volume (ml)	Container Type	Depth Taken (feet)	Field Filtered (yes,no)	Preservative	Iced (yes,no)	Sampler Cleaning Method
<u>3 VOA</u>	<u>6/30/95</u>	<u>Bail</u>	<u>40</u>	<u>Clear Glass</u>	<u>~25</u>	<u>N</u>	<u>HCl</u>	<u>YES</u>	Non-Phosphatic detergent wash H2O rinse MeOH rinse Distilled H2O rinse *Hexane rinse if oily
<u>Red</u>	<u>1310</u>	<u>Bail</u>	<u>500</u>	<u>poly</u>		<u>N</u>			
<u>Red</u>		<u>pump</u>	<u>500</u>	<u>↓</u>		<u>Y</u>	<u>HNO3</u>	<u>↓</u>	

### FIELD WATER QUALITY TESTS:

Por Vol. Number	pH	Temp (c°)	Conductivity (uS/cm)	Conductivity @ 25° (uS/cm)
<u>1</u>	<u>6.13</u>	<u>14.1</u>		<u>114</u>
<u>2</u>	<u>6.15</u>	<u>14.0</u>		<u>116</u>
<u>3</u>	<u>6.08</u>	<u>14.2</u>		<u>120</u>

### NOTES:

Silty, Brown in color, No odor dtb = 29.79

\* Duplicate

MW063095-5 @ 1410

LAB: NET SAMPLERS: Russ Hebert

Total # of Bottles: 5 Signature: Russ Hebert



# Field Sampling Data

LOCATION/ADDRESS Time Oil Auburn  
 PROJECT NAME \_\_\_\_\_  
 CLIENT/CONTACT \_\_\_\_\_

Well or Surface Site Number MW-2  
 Sample Designation MW 063095-1  
 Date, Time 6/30/95 11:26  
 Weather partly cloudy 850

### HYDROLOGY MEASUREMENTS:

(Nearest .01 ft.) Elevation \_\_\_\_\_ Date, Time \_\_\_\_\_ Method (Level Meter # or Code)/Comments \_\_\_\_\_  
24.20 \_\_\_\_\_ 6/30/95 INTERFACE probe  
 \_\_\_\_\_ \_\_\_\_\_ 10:56 \_\_\_\_\_

### WELL EVACUATION: 1.3 Gallons/Pore Volume

Gallons \_\_\_\_\_ Pore Volumes \_\_\_\_\_ Method Used \_\_\_\_\_ Rinse Method \_\_\_\_\_ Date, Time \_\_\_\_\_  
4 \_\_\_\_\_ 3 \_\_\_\_\_ disposable \_\_\_\_\_ \_\_\_\_\_ 6/30/95  
 \_\_\_\_\_ \_\_\_\_\_ Basler \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_  
 Surface Water Flow Speed \_\_\_\_\_ Measurement Method \_\_\_\_\_ Date, Time \_\_\_\_\_

### SAMPLING:

Sample	Date, Time	Method	Volume (ml)	Container Type	Depth Taken (feet)	Field Filtered (yes,no)	Preservative	Iced (yes,no)	Sampler Cleaning Method
<u>3 VOAS</u>	<u>6/30/95</u>	<u>Bail</u>	<u>40</u>	<u>Clear glass</u>	<u>~28</u>	<u>N</u>	<u>HCL</u>	<u>Y</u>	<div style="border: 1px solid black; padding: 5px;">           Non-Phosphatic detergent wash            H2O rinse            MeOH rinse            Distilled H2O rinse            Hexane rinse if oily         </div>
<u>T Red</u>	<u>1158</u>	<u>Bail</u>	<u>500</u>	<u>poly</u>		<u>X</u>			
<u>D Red</u>		<u>pump</u>	<u>500</u>	<u>↓</u>		<u>Y</u>	<u>HNO3</u>		

### FIELD WATER QUALITY TESTS:

Por Vol. Number	pH	Temp (c°)	Conductivity (uS/cm)	Conductivity @ 25° (uS/cm)
<u>1</u>	<u>6.80</u>	<u>13.3</u>		<u>323</u>
<u>2</u>	<u>6.89</u>	<u>13.1</u>		<u>244</u>
<u>3</u>	<u>7.38</u>	<u>13.0</u>		<u>235</u>

### NOTES:

Heavy silt, Brown in color, No odor at b= 32.45

LAB: NET      SAMPLERS: Russ Hubert  
 Total # of Bottles: 5      Signature: Russ Hubert



# Field Sampling Data

LOCATION/ADDRESS Time Oil Auburn  
 PROJECT NAME:  
 CLIENT/CONTACT

Well or Surface Site Number MW-3  
 Sample Designation MW063095-3  
 Date, Time 6/30/95 12:30  
 Weather Sunny, HOT 85°

### HYDROLOGY MEASUREMENTS:

(Nearest .01, ft.) 24.54 Elevation / Date, Time 6/30/95 Method (Level Meter # or Code)/Comments INTERFACE probe  
10:59

WELL EVACUATION: 8 Gallons/Pore Volume  
 Gallons 25 Pore Volumes 3 Method Used Disposable Dailer Rise Method / Date, Time 6/30/95 12:34  
 Surface Water Flow Speed / Measurement Method / Date, Time /

### SAMPLING:

Sample	Date, Time	Method	Volume (ml)	Container Type	Depth Taken (feet)	Field Filtered (yes,no)	Preservative	Iced (yes,no)	Sampler Cleaning Method
3 VOA	6/30/95	Dailer	40	Clearbloss	~35	NO	HCL	YES	Non-Phosphatic detergent wash H2O rinse MeOH rinse Distilled H2O rinse *Hexane-rinse if oily
T Red	1330	Dailer	500	Poly		NO			
O Red		pump	500	Poly		YES	HNO3		

### FIELD WATER QUALITY TESTS:

Por Vol. Number	pH	Temp (c°)	Conductivity (uS/cm)	Conductivity @ 25° (uS/cm)
1	6.40	14.7	/	178
2	6.35	14.6	/	175
3				

### NOTES:

Bailed dry after 2 pore volumes @ 12:34 at b = 37.49  
at approx 16 gal  
Clear Sample, No silt, No odor

LAB: NET SAMPLERS: Ross Hubert  
Shay Hill  
 Total # of Bottles: 5 Signature: /



# Field Sampling Data

LOCATION/ADDRESS Time Oil Auburn  
 PROJECT NAME \_\_\_\_\_  
 CLIENT/CONTACT \_\_\_\_\_

Well or Surface Site Number MW-4  
 Sample Designation MW063095-4  
 Date, Time 6/30/95 1050  
 Weather Hot, Sunny 94°

### HYDROLOGY MEASUREMENTS:

(Nearest .01 ft.) Elevation \_\_\_\_\_ Date, Time \_\_\_\_\_ Method (Level Meter # or Code)/Comments \_\_\_\_\_  
23.53 \_\_\_\_\_ 6/30/95 Interface probe  
 \_\_\_\_\_ 11:02 \_\_\_\_\_

WELL EVACUATION: 1.3 Gallons/Pore Volume  
 Gallons \_\_\_\_\_ Pore Volumes \_\_\_\_\_ Method Used \_\_\_\_\_ Rinse Method \_\_\_\_\_ Date, Time \_\_\_\_\_  
4 3 Disposable \_\_\_\_\_ \_\_\_\_\_ 6/30/95  
pa.ter \_\_\_\_\_ 1345  
 Surface Water Flow Speed \_\_\_\_\_ Measurement Method \_\_\_\_\_ Date, Time \_\_\_\_\_

### SAMPLING:

Sample	Date, Time	Method	Volume (ml)	Container Type	Depth Taken (feet)	Field Filtered (yes,no)	Preservative	Iced (yes,no)
<u>3 UDA</u>	<u>6/30/95</u>	<u>pa.ter</u>	<u>40</u>	<u>Wear glass</u>	<u>28</u>	<u>N</u>	<u>HCL</u>	<u>YES</u>
<u>T Red</u>	<u>1349</u>	<u>pa.ter</u>	<u>500</u>	<u>pa.ter</u>		<u>N</u>		
<u>P Red</u>		<u>P pump</u>	<u>500</u>	<u>pa.ter</u>		<u>Y</u>	<u>HCL</u>	<u>Y</u>

Sampler Cleaning Method  
 Non-Phosphatic detergent wash  
 H2O rinse  
 MeOH rinse  
 Distilled H2O rinse  
 \*Hexane rinse if oily

### FIELD WATER QUALITY TESTS:

Por Vol. Number	pH	Temp (c°)	Conductivity (uS/cm)	Conductivity @ 25° (uS/cm)
<u>1</u>	<u>7.03</u>	<u>15.6</u>		<u>132</u>
<u>Sample</u>	<u>7.12</u>	<u>15.0</u>		<u>140</u>

NOTES:  
Bailed dry at 11:25 approx 1gal at 6' 32.11  
Heavy SILT, stale odor.

LAB: NET SAMPLERS: Russ Hubert  
 Total # of Bottles: 5 Signature: Dennis Hubert



# Field Sampling Data

LOCATION/ADDRESS Time Oil Auburn  
 PROJECT NAME \_\_\_\_\_  
 CLIENT/CONTACT \_\_\_\_\_

Well or Surface Site Number MW-1  
 Sample Designation MW-1  
 Date, Time 9/29/95 10:00  
 Weather overcast, cool.

### HYDROLOGY MEASUREMENTS:

(Nearest .01 ft.) Elevation Date, Time Method (Level Meter # or Code)/Comments  
26.71 / / 9/29/95 /  
10:35

### WELL EVACUATION: 0.5 Gallons/Pore Volume

Gallons Pore Volumes Method Used Rinse Method Date, Time  
1.5 3 Disposable / 9/29/95  
Paillet 11:05

Surface Water Flow Speed \_\_\_\_\_ Measurement Method \_\_\_\_\_ Date, Time \_\_\_\_\_

### SAMPLING:

Sample	Date, Time	Method	Volume (ml)	Container Type	Depth Taken (feet)	Field Filtered (yes,no)	Preservative	Iced (yes,no)	Sampler Cleaning Method
3 UOA	9/29/95	D Paillet	40	Merckless	~28	No	HCl	Yes	<div style="border: 1px solid black; padding: 5px;">           Non-Phosphatic detergent wash            H2O rinse            MeOH rinse *            Distilled H2O rinse            *Hexane rinse if oily         </div>
1 Red	11:10	pump	500	poly		Yes	HNO3		
1 white		D Paillet	500	↓		No			

### FIELD WATER QUALITY TESTS:

Por Vol. Number	pH	Temp (c°)	Conductivity (uS/cm)	Conductivity @ 25° (uS/cm)
1	7.64	12.7	/	178
1	7.74	12.5	/	177
3	7.65	12.5	/	188

NOTES: Tan/brown, Heavy silt, No odor.

$$d/H_6 = 29.68 + 0.24 = 29.92$$

LAB: NET SAMPLERS: Russ Hebert  
 Total # of Bottles: 5 Signature: Russ Hebert



# Field Sampling Data

LOCATION/ADDRESS Time Oil Auburn  
 PROJECT NAME \_\_\_\_\_  
 CLIENT/CONTACT \_\_\_\_\_

Well or Surface Site Number MW-2  
 Sample Designation MW-2  
 Date, Time 9/29/95 10:00  
 Weather \_\_\_\_\_

**HYDROLOGY MEASUREMENTS:**

(Nearest .01 ft.) 26.93 Elevation \_\_\_\_\_ Date, Time 9/29/95 10:20 Method (Level Meter # or Code)/Comments \_\_\_\_\_

**WELL EVACUATION:** 0.9 Gallons/Pore Volume

Gallons 2.8 Pore Volumes 3 Method Used disposable bailer Rinse Method \_\_\_\_\_ Date, Time 9/29/95 11:40  
 Surface Water Flow Speed \_\_\_\_\_ Measurement Method \_\_\_\_\_ Date, Time \_\_\_\_\_

**SAMPLING:**

Sample	Date, Time	Method	Volume (ml)	Container Type	Depth Taken (feet)	Field Filtered (yes,no)	Preservative	Iced (yes,no)
<u>3000</u>	<u>9/29/95</u>	<u>DBailer</u>	<u>40</u>	<u>Clear glass</u>	<u>~29</u>	<u>NO</u>	<u>HCl</u>	<u>YES</u>
<u>1 Red</u>	<u>11:45</u>	<u>ppm12</u>	<u>500</u>	<u>poly</u>		<u>YES</u>	<u>HNO3</u>	
<u>1 white</u>		<u>DBailer</u>	<u>500</u>	<u>↓</u>		<u>NO</u>		

Sampler Cleaning Method  
 Non-Phosphatic detergent wash  
 H2O rinse  
 MeOH rinse 9/29  
 Distilled H2O 9/29 rinse  
 \*Hexane rinse if oily

**FIELD WATER QUALITY TESTS:**

Por Vol. Number	pH	Temp (c°)	Conductivity (uS/cm)	Conductivity @ 25° (uS/cm)
<u>1</u>	<u>6.74</u>	<u>12.5</u>		<u>191</u>
<u>2</u>	<u>7.27</u>	<u>12.0</u>		<u>182</u>
<u>3</u>	<u>7.29</u>	<u>12.0</u>		<u>184</u>

NOTES: Tan/brownish, Heavy silt, No odor  
clth = 32.4/1 + 0.24 =

LAB: NET SAMPLERS: Russ Hebert  
 Total # of Bottles: 5 Signature: Russ Hebert





# Field Sampling Data

LOCATION/ADDRESS Time oil Auburn  
 PROJECT NAME \_\_\_\_\_  
 CLIENT/CONTACT \_\_\_\_\_

Well or Surface Site Number mw-4  
 Sample Designation mw-4  
 Date, Time 9/29/95  
 Weather \_\_\_\_\_

### HYDROLOGY MEASUREMENTS:

(Nearest .01 ft.) 26.60 Elevation / Date, Time 9/29/95  
10:32 Method (Level Meter # or Code)/Comments \_\_\_\_\_

### WELL EVACUATION: 0.9 Gallons/Pore Volume

Gallons 0.9 Pore Volumes 1 Method Used Disposable  
Bailer Rinse Method / Date, Time 9/29/95  
10:47

Surface Water Flow Speed \_\_\_\_\_ Measurement Method \_\_\_\_\_ Date, Time \_\_\_\_\_

### SAMPLING:

Sample	Date, Time	Method	Volume (ml)	Container Type	Depth Taken (feet)	Field Filtered (yes,no)	Preservative	Iced (yes,no)	Sampler Cleaning Method
3 VOC	9/29/95	DBailer	40	Clear/black	~32	No	HCL	yes	<div style="border: 1px solid black; padding: 5px;">           Non-Phosphatic detergent wash            H2O rinse            MeOH rinse + Dil            Distilled H2O            rinse            Hexane rinse if oily         </div>
1 Red	1255	PPump	500	poly		yes	HNO3		
1 white		DBailer	↓	↓		No			

### FIELD WATER QUALITY TESTS:

Por Vol. Number	pH	Temp (c°)	Conductivity (uS/cm)	Conductivity @ 25° (uS/cm)
1	7.07	12.8	/	195

### NOTES:

Bailed dry after 1st and 0.9 gal at 10:47  
clear on top, brown/black silt on bottom  
d/t = 32.12 + 0.124232.36

LAB: NST SAMPLERS: Russ Hebert  
 Total # of Bottles: 5 Signature: Russ Hebert

**APPENDIX B**  
**ANALYTICAL REPORTS AND CHAIN OF CUSTODY FORMS**



NATIONAL ENVIRONMENTAL TESTING, INC.

Portland Division  
17400 SW Upper Boones Ferry Rd.  
Suite #260  
Portland, OR 97224  
Tel: (503) 624-5449  
Fax: (503) 639-6889

Kevin Murphy  
Time Oil Company  
2737 West Commodore Way  
Seattle, WA 98199-1233

Date: 07/11/1995  
NET Account No.: 60270  
NET Job Number: 95.02033

Project: Time Oil - Auburn  
Location: 40541-004-002

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Sample Number	Sample Description	Matrix Type	Date Taken	Date Received
42616	MW063095-1 (mw-2)	GROUND WATER	06/30/1995	07/06/1995
42617	MW063095-1 Diss. (mw-2)	GROUND WATER	06/30/1995	07/06/1995
42618	MW063095-2 (mw-1)	GROUND WATER	06/30/1995	07/06/1995
42619	MW063095-2 Diss. (mw-1)	GROUND WATER	06/30/1995	07/06/1995
42620	MW063095-3 (mw-3)	GROUND WATER	06/30/1995	07/06/1995
42621	MW063095-3 Diss. (mw-3)	GROUND WATER	06/30/1995	07/06/1995
42622	MW063095-4 (mw-4)	GROUND WATER	06/30/1995	07/06/1995
42623	MW063095-4 Diss. (mw-4)	GROUND WATER	06/30/1995	07/06/1995
42624	MW063095-5 (mw-1 duplicate)	GROUND WATER	06/30/1995	07/06/1995
42625	MW063095-5 Diss. (mw-1 duplicate)	GROUND WATER	06/30/1995	07/06/1995

Approved by:

Tabatha Brochu  
NET, INC. Project Manager



# ANALYTICAL REPORT

Kevin Murphy  
 Time Oil Company  
 2737 West Commodore Way  
 Seattle, WA 98199-1233

07/11/1995  
 Job No.: 95.02033  
 Page: 2

Project Name: Time Oil - Auburn  
 Date Received: 07/06/1995

Sample Number      Sample Description  
 42616              MW063095-1 (mw-2)

<u>PARAMETERS</u>	<u>METHODS</u>	<u>RESULTS</u>	<u>REPORT LIMIT</u>	<u>UNITS</u>	<u>DATE ANALYZED</u>	<u>FLAG</u>
ICP/AA Digestion - Water	ICP	-			07/06/1995	
Lead, ICP	6010	0.007	0.005	mg/L	07/07/1995	
BTEX/WPTH-Gasoline (W)						
Dilution Factor		1			07/07/1995	
Benzene	8020	ND	0.5	ug/L	07/07/1995	
Toluene	8020	ND	0.5	ug/L	07/07/1995	
Ethyl Benzene	8020	ND	0.5	ug/L	07/07/1995	
Xylenes, total	8020	ND	0.5	ug/L	07/07/1995	
WTPH-Gasoline	WTPH-G	ND	50	ug/L	07/07/1995	

Sample Number      Sample Description  
 42617              MW063095-1 Diss. (mw-2)

<u>PARAMETERS</u>	<u>METHODS</u>	<u>RESULTS</u>	<u>REPORT LIMIT</u>	<u>UNITS</u>	<u>DATE ANALYZED</u>	<u>FLAG</u>
ICP/AA Digestion - Water	ICP	-			07/06/1995	
Lead, Dissolved, ICP	6010	ND	0.005	mg/L	07/07/1995	

Sample Number      Sample Description  
 42618              MW063095-2 (mw-1)

<u>PARAMETERS</u>	<u>METHODS</u>	<u>RESULTS</u>	<u>REPORT LIMIT</u>	<u>UNITS</u>	<u>DATE ANALYZED</u>	<u>FLAG</u>
ICP/AA Digestion - Water	ICP	-			07/06/1995	
Lead, ICP	6010	0.008	0.005	mg/L	07/07/1995	
BTEX/WPTH-Gasoline (W)						
Dilution Factor		1			07/07/1995	
Benzene	8020	ND	0.5	ug/L	07/07/1995	
Toluene	8020	ND	0.5	ug/L	07/07/1995	
Ethyl Benzene	8020	ND	0.5	ug/L	07/07/1995	
Xylenes, total	8020	ND	0.5	ug/L	07/07/1995	
WTPH-Gasoline	WTPH-G	ND	50	ug/L	07/07/1995	

A sample result of ND indicates the parameter was Not Detected at the reporting limit.

# ANALYTICAL REPORT

Kevin Murphy  
 Time Oil Company  
 2737 West Commodore Way  
 Seattle, WA 98199-1233

07/11/1995  
 Job No.: 95.02033

Page: 3

Project Name: Time Oil - Auburn  
 Date Received: 07/06/1995

Sample Number	Sample Description					
42619	MW063095-2 Diss. (mw-1)					
<u>PARAMETERS</u>		<u>METHODS</u>	<u>RESULTS</u>	<u>REPORT LIMIT</u>	<u>UNITS</u>	<u>DATE ANALYZED</u>
ICP/AA Digestion - Water		ICP	-			07/06/1995
Lead, Dissolved, ICP		6010	0.006	0.005	mg/L	07/07/1995

Sample Number	Sample Description					
42620	MW063095-3 (mw-3)					
<u>PARAMETERS</u>		<u>METHODS</u>	<u>RESULTS</u>	<u>REPORT LIMIT</u>	<u>UNITS</u>	<u>DATE ANALYZED</u>
ICP/AA Digestion - Water		ICP	-			07/06/1995
Lead, ICP		6010	ND	0.005	mg/L	07/07/1995
BTEX/WPTH-Gasoline (W)						
Dilution Factor			1			07/07/1995
Benzene		8020	ND	0.5	ug/L	07/07/1995
Toluene		8020	ND	0.5	ug/L	07/07/1995
Ethyl Benzene		8020	ND	0.5	ug/L	07/07/1995
Xylenes, total		8020	ND	0.5	ug/L	07/07/1995
WTPH-Gasoline		WTPH-G	ND	50	ug/L	07/07/1995

Sample Number	Sample Description					
42621	MW063095-3 Diss. (mw-3)					
<u>PARAMETERS</u>		<u>METHODS</u>	<u>RESULTS</u>	<u>REPORT LIMIT</u>	<u>UNITS</u>	<u>DATE ANALYZED</u>
ICP/AA Digestion - Water		ICP	-			07/06/1995
Lead, Dissolved, ICP		6010	ND	0.005	mg/L	07/07/1995

Sample Number	Sample Description					
42622	MW063095-4 (mw-4)					
<u>PARAMETERS</u>		<u>METHODS</u>	<u>RESULTS</u>	<u>REPORT LIMIT</u>	<u>UNITS</u>	<u>DATE ANALYZED</u>
ICP/AA Digestion - Water		ICP	-			07/06/1995
Lead, ICP		6010	0.010	0.005	mg/L	07/07/1995
BTEX/WPTH-Gasoline (W)						
Dilution Factor			1			07/07/1995

A sample result of ND indicates the parameter was Not Detected at the reporting limit.

# ANALYTICAL REPORT

Kevin Murphy  
 Time Oil Company  
 2737 West Commodore Way  
 Seattle, WA 98199-1233

07/11/1995  
 Job No.: 95.02033

Page: 4

Project Name: Time Oil - Auburn  
 Date Received: 07/06/1995

Sample Number 42622      Sample Description MW063095-4 (mw-4)

<u>PARAMETERS</u>	<u>METHODS</u>	<u>RESULTS</u>	<u>REPORT LIMIT</u>	<u>UNITS</u>	<u>DATE ANALYZED</u>	<u>FLAG</u>
Benzene	8020	ND	0.5	ug/L	07/07/1995	
Toluene	8020	ND	0.5	ug/L	07/07/1995	
Ethyl Benzene	8020	ND	0.5	ug/L	07/07/1995	
Xylenes, total	8020	ND	0.5	ug/L	07/07/1995	
WTPH-Gasoline	WTPH-G	ND	50	ug/L	07/07/1995	

Sample Number 42623      Sample Description MW063095-4 Diss. (mw-4)

<u>PARAMETERS</u>	<u>METHODS</u>	<u>RESULTS</u>	<u>REPORT LIMIT</u>	<u>UNITS</u>	<u>DATE ANALYZED</u>	<u>FLAG</u>
ICP/AA Digestion - Water	ICP	-			07/06/1995	
Lead, Dissolved, ICP	6010	ND	0.005	mg/L	07/07/1995	

Sample Number 42624      Sample Description MW063095-5 (mw-1 Dup.)

<u>PARAMETERS</u>	<u>METHODS</u>	<u>RESULTS</u>	<u>REPORT LIMIT</u>	<u>UNITS</u>	<u>DATE ANALYZED</u>	<u>FLAG</u>
ICP/AA Digestion - Water	ICP	-			07/06/1995	
Lead, ICP	6010	0.029	0.005	mg/L	07/07/1995	
BTEX/WPTH-Gasoline (W)					07/07/1995	
Dilution Factor		1				
Benzene	8020	ND	0.5	ug/L	07/07/1995	
Toluene	8020	ND	0.5	ug/L	07/07/1995	
Ethyl Benzene	8020	ND	0.5	ug/L	07/07/1995	
Xylenes, total	8020	ND	0.5	ug/L	07/07/1995	
WTPH-Gasoline	WTPH-G	ND	50	ug/L	07/07/1995	

Sample Number 42625      Sample Description MW063095-5 Diss. (mw-1 Dup.)

<u>PARAMETERS</u>	<u>METHODS</u>	<u>RESULTS</u>	<u>REPORT LIMIT</u>	<u>UNITS</u>	<u>DATE ANALYZED</u>	<u>FLAG</u>
ICP/AA Digestion - Water	ICP	-			07/06/1995	

A sample result of ND indicates the parameter was Not Detected at the reporting limit.

# ANALYTICAL REPORT

Kevin Murphy  
Time Oil Company  
2737 West Commodore Way  
Seattle, WA 98199-1233

07/11/1995  
Job No.: 95.02033

Page: 5

Project Name: Time Oil - Auburn  
Date Received: 07/06/1995

Sample Number      Sample Description  
42625                MW063095-5 Diss.

(mw-1 Dup.)

<u>PARAMETERS</u>	<u>METHODS</u>	<u>RESULTS</u>	<u>REPORT LIMIT</u>	<u>UNITS</u>	<u>DATE ANALYZED</u>	<u>FLAG</u>
Lead, Dissolved, ICP	6010	ND	0.005	mg/L	07/07/1995	

A sample result of ND indicates the parameter was Not Detected at the reporting limit.

# SURROGATE REPORT

Kevin Murphy  
 Time Oil Company  
 2737 West Commodore Way  
 Seattle, WA 98199-1233

07/11/1995  
 Job No.: 95.02033

Page: 6

Project Name: Time Oil - Auburn  
 Date Received: 07/06/1995

SURROGATES                      METHODS    RESULTS                      DATE ANALYZED    FLAG

Sample Number      Sample Description  
 42616                      MW063095-1

aaa-TFT (BTEX-Surr.)	8020	91	‡	07/07/1995
aaa-TFT (Gas Surr.)	WTPH-G	92	‡	07/07/1995

Sample Number      Sample Description  
 42618                      MW063095-2

aaa-TFT (BTEX-Surr.)	8020	98	‡	07/07/1995
aaa-TFT (Gas Surr.)	WTPH-G	98	‡	07/07/1995

Sample Number      Sample Description  
 42620                      MW063095-3

aaa-TFT (BTEX-Surr.)	8020	91	‡	07/07/1995
aaa-TFT (Gas Surr.)	WTPH-G	91	‡	07/07/1995

Sample Number      Sample Description  
 42622                      MW063095-4

aaa-TFT (BTEX-Surr.)	8020	98	‡	07/07/1995
aaa-TFT (Gas Surr.)	WTPH-G	98	‡	07/07/1995

Sample Number      Sample Description  
 42624                      MW063095-5

aaa-TFT (BTEX-Surr.)	8020	93	‡	07/07/1995
aaa-TFT (Gas Surr.)	WTPH-G	92	‡	07/07/1995

# QUALITY CONTROL REPORT CONTINUING CALIBRATION VERIFICATION

Time Oil Company  
2737 West Commodore Way  
Seattle, WA 98199-1233

Date: 07/11/1995

NET Job Number: 95.02033

Contact: Kevin Murphy  
Project: Time Oil - Auburn

Analyte	CCV			
	True Concentration	Concentration Found	Percent Recovery	Date Analyzed
Lead, Dissolved, ICP	0.500	0.520	104.0	07/07/1995
BTEX/WPTH-Gasoline (W)				
WTPH-Gasoline	700	683	97.6	07/07/1995

CCV - Continuing Calibration Verification

Note: Recovery limits for 8240, 8260, 8270, 8010, 8020, 624, 625 specified in method.  
Gasoline, Diesel, 418.1, 418.1M limits 80-120%. Metals recovery limits 80-120%.

# QUALITY CONTROL REPORT LABORATORY CONTROL STANDARD

Time Oil Company  
2737 West Commodore Way  
Seattle, WA 98199-1233

Date: 07/11/1995

NET Job Number: 95.02033

Contact: Kevin Murphy  
Project: Time Oil - Auburn

Analyte	LCS	Concentration Found	LCS	Date Analyzed
	True Concentration		% Recovery	
Lead, Dissolved, ICP	0.500	0.510	102.0	07/07/1995
BTEX/WPTH-Gasoline (W)				
WTPH-Gasoline	350	310	88.6	07/07/1995
BTEX/WPTH-Gasoline (W)				
WTPH-Gasoline	350	363	103.7	07/07/1995

LCS - Laboratory Control Standard

Note: Recovery limits for fuels 80-120%. 8010, 8020, 8240, 8260, 8270, 624, 625 specified in method.  
Recovery limits for metals analyses 80-120%. 418.1 limits are 90-140%.

# QUALITY CONTROL REPORT MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Time Oil Company  
2737 West Commodore Way  
Seattle, WA 98199-1233

Date: 07/11/1995  
Job Number: 95.02033

Contact: Kevin Murphy  
Project: Time Oil - Auburn

Analyte	Matrix	Sample	Spike	Units	Percent	MSD		Percent	MS/MSD	
	Spike					MSD	Spike			Recovery
	Result	Result	Amount		Recovery	Result	Amount	Units	Recovery	RPD
Lead, Dissolved, ICP	0.510	ND	0.500	mg/L	102.0	0.500	0.500	mg/L	100.0	2.0
Lead, Dissolved, ICP	0.510	0.006	0.500	mg/L	100.8	0.500	0.500	mg/L	98.8	1.9
BTEX/WPTH-Gasoline (W)										
Benzene	973	ND	1270	ug/L	76.6	1067	1270	ug/L	84.0	9.2
Toluene	3108	ND	3840	ug/L	80.9	3468	3840	ug/L	90.3	11.0
WTPH-Gasoline	32300	ND	35000	ug/L	92.3	36300	35000	ug/L	103.7	11.5

NOTE: Matrix Spike Samples may not be samples from this job.

MS = Matrix Spike  
MSD = Matrix Spike Duplicate  
RPD = Relative Percent Difference  
dil. = Diluted Out

# QUALITY CONTROL REPORT BLANKS

Time Oil Company  
2737 West Commodore Way  
Seattle, WA 98199-1233

Date: 07/11/1995

NET Job Number: 95.02033

Contact: Kevin Murphy  
Project: Time Oil - Auburn  
Location: 40541-004-002

Analyte	Blank Analysis	MDL	Units	Date Analyzed
Lead, Dissolved, ICP	ND	0.005	mg/L	07/07/1995
BTEX/WPTH-Gasoline (W)				
Dilution Factor	1			07/07/1995
Benzene	ND	0.5	ug/L	07/07/1995
Toluene	ND	0.5	ug/L	07/07/1995
Ethyl Benzene	ND	0.5	ug/L	07/07/1995
Xylenes, total	ND	0.5	ug/L	07/07/1995
WTPH-Gasoline	ND	50	ug/L	07/07/1995
aaa-TFT (Gas Surr.)	99		%	07/07/1995
aaa-TFT (BTEX-Surr.)	99		%	07/07/1995

#### Advisory Control Limits for Blanks:

Metals/Wet Chemistry/ Conventional/GC - all compounds should be less than the Reporting Limit.

GC/MS - Semi-Volatiles - all compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the reporting limit.

A This sample does not have a typical gasoline pattern.

B1 This sample does not have a typical diesel pattern.

B The blank exhibited a positive result greater than the reporting limit for this compound.

C The sample appears to contain a lighter hydrocarbon than gasoline.

D The sample appears to extend to a heavier hydrocarbon range than gasoline.

E The sample appears to extend to a lighter hydrocarbon range than diesel.

F The sample appears to extend to a heavier hydrocarbon range than diesel.

G The positive result for gasoline is due to single component contamination.

H The gasoline elution pattern for the sample is not typical.

I The oil pattern for this sample is not typical.

J The result for this compound is an estimated concentration.

L The LCS recovery exceeded control limits. See the LCS page of this report.

M MS and/or MSD percent recovery exceeds control limits.

MR The MS/MSD RPD is greater than 20%. The sample was re-extracted and re-analyzed with similar results. This is due to a matrix interference, likely a non-homogeneity of the sample.

P A post digestion spike was analyzed, and recoveries are within control limits.

Q Detection limits elevated due to sample matrix.

R The duplicate RPD was greater than 20%. The sample was re-extracted and re-analyzed with similar results. This indicates a matrix interference in the sample, likely a non-homogeneity of the sample.

SR Surrogate recovery outside control limits. See the surrogate page of the report.

W The duplicate RPD was greater than 20%. Due to insufficient sample, re-analysis was not possible.

X Sample was analyzed outside recommended holding times.

Y The result for this parameter was greater than the TCLP regulatory limit.

Z The pattern seen for the parameter being analyzed is not typical.



NATIONAL ENVIRONMENTAL TESTING, INC.

17400 SW Upper Boones Ferry Rd.  
Suite # 260  
Portland, OR 97224  
PH: (503) 624-5449 FAX: (503) 639-6889

# CHAIN OF CUSTODY RECORD

COMPANY Time Oil Co  
ADDRESS Seattle WA  
PHONE (206) 286 4490 FAX (206) 283-8036  
PROJECT NAME/LOCATION Auburn WA #1-308  
PROJECT NUMBER 40541-004.002  
PROJECT MANAGER Tim Hebel

9502033

REPORT TO: Tim Hebel  
INVOICE TO: Kevin Murphy  
P.O. NO. \_\_\_\_\_  
NET QUOTE NO. \_\_\_\_\_

SAMPLED BY  
Russ Hebel  
(PRINT NAME)  
\_\_\_\_\_  
(PRINT NAME)

Russ Hebel  
SIGNATURE  
\_\_\_\_\_  
SIGNATURE

## ANALYSES

To assist us in selecting the proper method

Is this work being conducted for regulatory compliance monitoring? Yes  No

Is this work being conducted for regulatory enforcement action? Yes  No

Which regulations apply: RCRA  NPDES Wastewater   
UST  Drinking Water   
Other  None

DATE	TIME	SAMPLE ID/DESCRIPTION	MATRIX	GRAB	COMP	# and Type of Containers					OTHER	WT/PA-G	BTEX	Total Lead	Dissolved Lead
						HCl	NaOH	HNO <sub>3</sub>	H <sub>2</sub> SO <sub>4</sub>						
6/2/95	1158	MW063095-1	W	X		3	1	1			X	X	X	X	
	1310	MW063095-2		X		3	1	1			X	X	X	X	
	1330	MW063095-3		X		3	1	1			X	X	X	X	
	1349	MW0630-95-4		X		3	1	1			X	X	X	X	
	1410	MW0630-95-5		X		3	1	1			X	X	X	X	

COMMENTS

CONDITION OF SAMPLE: BOTTLES INTACT? YES / NO  
FIELD FILTERED? YES / NO

COC SEALS PRESENT AND INTACT? YES / NO  
VOLATILES FREE OF HEADSPACE? YES / NO

TEMPERATURE UPON RECEIPT: \_\_\_\_\_  
Bottles supplied by NET?  YES / NO

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA \_\_\_\_\_  
I REQUEST NET TO DISPOSE OF ALL SAMPLE REMAINDERS \_\_\_\_\_ DATE \_\_\_\_\_

RELINQUISHED BY: Russ Hebel DATE: 7/5/95 TIME: \_\_\_\_\_ RECEIVED BY: \_\_\_\_\_ DATE: 7/6/95 TIME: 9:30 RECEIVED FOR NET BY: Judy Richardson

METHOD OF SHIPMENT: URS.Fr./EX REMARKS: \_\_\_\_\_



**NET-PORTLAND  
17400 SW UPPER BOONES FERRY ROAD  
SUITE 260  
PORTLAND OR 97224**

**PHONE: (503) 624-5449  
1-800-619-2765  
FAX: (503) 639-6889**

SERVICE REQUEST

NET CONTACT(S)

- |                                 |                                   |
|---------------------------------|-----------------------------------|
| 1. Analytical Prices and Quotes | Cindy Richardson<br>Moira Holland |
| 2. Analytical Scheduling        | Cindy Richardson<br>Moira Holland |
| 3. Results Status               | Cindy Richardson<br>Moira Holland |
| 4. Technical Assistance         | Tabatha Brochu<br>Marty French    |
| 5. Bottle kits/Courier          | Cindy Richardson<br>Moira Holland |
| 6. Invoicing/Billings           | Cindy Richardson                  |
| 7. National Account Info.       | Tabatha Brochu<br>Moira Holland   |

**Marty French**

Portland Division Manager

**Cindy Richardson**

Client Services/Administrative Assistant

**Moira Holland**

Client Services/Administrative Assistant

**Tabatha Brochu**

Quality Assurance Coordinator

**Tom Riddle**

Business Development Director  
Home Office (503) 635-2198  
Pager (503) 833-8183

**AFTER HOURS PAGER #(503) 833-9163**

RECEIVING HOURS ARE MONDAY - FRIDAY FROM 7AM TO 6PM  
SATURDAY WITH PRIOR ARRANGEMENTS

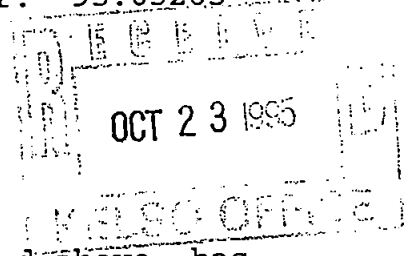


**NATIONAL ENVIRONMENTAL TESTING, INC.**

Portland Division  
 17400 SW Upper Boones Ferry Rd.  
 Suite #260  
 Portland, OR 97224  
 Tel: (503) 624-5449  
 Fax: (503) 639-6889

Kevin Murphy  
 Time Oil Company  
 2737 West Commodore Way  
 Seattle, WA 98199-1233

Date: 10/09/1995  
 NET Account No.: 60270  
 NET Job Number: 95.03265



Project: Time Oil - Auburn  
 Location: 40541-004.002

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Sample Number	Sample Description	Matrix Type	Date Taken	Date Received
48398	MW-1	GROUND WATER	09/29/1995	10/03/1995
48399	MW-1 diss	GROUND WATER	09/29/1995	10/03/1995
48400	MW-2	GROUND WATER	09/29/1995	10/03/1995
48401	MW-2 diss	GROUND WATER	09/29/1995	10/03/1995
48402	MW-3	GROUND WATER	09/29/1995	10/03/1995
48403	MW-3 diss	GROUND WATER	09/29/1995	10/03/1995
48404	MW-5	GROUND WATER	09/29/1995	10/03/1995
48405	MW-5 diss	GROUND WATER	09/29/1995	10/03/1995
48406	MW-4	GROUND WATER	09/29/1995	10/03/1995
48407	MW-4 diss	GROUND WATER	09/29/1995	10/03/1995
48408	Purge H2O	GROUND WATER	10/02/1995	10/03/1995

Approved by:

Tabatha Brochu  
 NET, INC. Project Manager



# ANALYTICAL REPORT

Kevin Murphy  
 Time Oil Company  
 2737 West Commodore Way  
 Seattle, WA 98199-1233

10/09/1995  
 Job No.: 95.03265

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Project Name: Time Oil - Auburn  
 Date Received: 10/03/1995

Sample Number      Sample Description  
 48398              MW-1

<u>PARAMETERS</u>	<u>METHODS</u>	<u>RESULTS</u>	<u>REPORT LIMIT</u>	<u>UNITS</u>	<u>DATE ANALYZED</u>	<u>FLAG</u>
ICP/AA Digestion - Water	ICP	-			10/04/1995	
Lead, ICP	6010	ND	0.005	mg/L	10/04/1995	
BTEX/WTPH-Gasoline (W)						
Dilution Factor		1			10/04/1995	
Benzene	8020	ND	0.5	ug/L	10/04/1995	
Toluene	8020	ND	0.5	ug/L	10/04/1995	
Ethyl Benzene	8020	ND	0.5	ug/L	10/04/1995	
Xylenes, total	8020	ND	0.5	ug/L	10/04/1995	
WTPH-Gasoline	WTPH-G	ND	50	ug/L	10/04/1995	

Sample Number      Sample Description  
 48399              MW-1 diss

<u>PARAMETERS</u>	<u>METHODS</u>	<u>RESULTS</u>	<u>REPORT LIMIT</u>	<u>UNITS</u>	<u>DATE ANALYZED</u>	<u>FLAG</u>
ICP/AA Digestion - Water	ICP	-			10/04/1995	
Lead, Dissolved, ICP	6010	ND	0.005	mg/L	10/04/1995	

Sample Number      Sample Description  
 48400              MW-2

<u>PARAMETERS</u>	<u>METHODS</u>	<u>RESULTS</u>	<u>REPORT LIMIT</u>	<u>UNITS</u>	<u>DATE ANALYZED</u>	<u>FLAG</u>
ICP/AA Digestion - Water	ICP	-			10/04/1995	
Lead, ICP	6010	ND	0.005	mg/L	10/04/1995	
BTEX/WTPH-Gasoline (W)						
Dilution Factor		1			10/04/1995	
Benzene	8020	ND	0.5	ug/L	10/04/1995	
Toluene	8020	ND	0.5	ug/L	10/04/1995	
Ethyl Benzene	8020	ND	0.5	ug/L	10/04/1995	
Xylenes, total	8020	ND	0.5	ug/L	10/04/1995	
WTPH-Gasoline	WTPH-G	ND	50	ug/L	10/04/1995	

A sample result of ND indicates the parameter was Not Detected at the reporting limit.

# ANALYTICAL REPORT

Kevin Murphy  
 Time Oil Company  
 2737 West Commodore Way  
 Seattle, WA 98199-1233

10/09/1995  
 Job No.: 95.03265

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Project Name: Time Oil - Auburn  
 Date Received: 10/03/1995

Sample Number      Sample Description  
 48401              MW-2 diss

<u>PARAMETERS</u>	<u>METHODS</u>	<u>RESULTS</u>	<u>REPORT LIMIT</u>	<u>UNITS</u>	<u>DATE ANALYZED</u>	<u>FLAG</u>
ICP/AA Digestion - Water	ICP	-			10/04/1995	
Lead, Dissolved, ICP	6010	ND	0.005	mg/L	10/04/1995	

Sample Number      Sample Description  
 48402              MW-3

<u>PARAMETERS</u>	<u>METHODS</u>	<u>RESULTS</u>	<u>REPORT LIMIT</u>	<u>UNITS</u>	<u>DATE ANALYZED</u>	<u>FLAG</u>
ICP/AA Digestion - Water	ICP	-			10/04/1995	
Lead, ICP	6010	ND	0.005	mg/L	10/04/1995	
BTEX/WTPH-Gasoline (W)					10/04/1995	
Dilution Factor		1				
Benzene	8020	ND	0.5	ug/L	10/04/1995	
Toluene	8020	ND	0.5	ug/L	10/04/1995	
Ethyl Benzene	8020	ND	0.5	ug/L	10/04/1995	
Xylenes, total	8020	ND	0.5	ug/L	10/04/1995	
WTPH-Gasoline	WTPH-G	ND	50	ug/L	10/04/1995	

Sample Number      Sample Description  
 48403              MW-3 diss

<u>PARAMETERS</u>	<u>METHODS</u>	<u>RESULTS</u>	<u>REPORT LIMIT</u>	<u>UNITS</u>	<u>DATE ANALYZED</u>	<u>FLAG</u>
ICP/AA Digestion - Water	ICP	-			10/04/1995	
Lead, Dissolved, ICP	6010	ND	0.005	mg/L	10/04/1995	

Sample Number      Sample Description  
 48404              MW-5

<u>PARAMETERS</u>	<u>METHODS</u>	<u>RESULTS</u>	<u>REPORT LIMIT</u>	<u>UNITS</u>	<u>DATE ANALYZED</u>	<u>FLAG</u>
ICP/AA Digestion - Water	ICP	-			10/04/1995	
Lead, ICP	6010	ND	0.005	mg/L	10/04/1995	
BTEX/WTPH-Gasoline (W)					10/04/1995	
Dilution Factor		1				

A sample result of ND indicates the parameter was Not Detected at the reporting limit.

# ANALYTICAL REPORT

Kevin Murphy  
 Time Oil Company  
 2737 West Commodore Way  
 Seattle, WA 98199-1233

10/09/1995  
 Job No.: 95.03265

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Project Name: Time Oil - Auburn  
 Date Received: 10/03/1995

Sample Number      Sample Description  
 48404                MW-5

<u>PARAMETERS</u>	<u>METHODS</u>	<u>RESULTS</u>	<u>REPORT LIMIT</u>	<u>UNITS</u>	<u>DATE ANALYZED</u>	<u>FLAG</u>
Benzene	8020	ND	0.5	ug/L	10/04/1995	
Toluene	8020	ND	0.5	ug/L	10/04/1995	
Ethyl Benzene	8020	ND	0.5	ug/L	10/04/1995	
Xylenes, total	8020	ND	0.5	ug/L	10/04/1995	
WTPH-Gasoline	WTPH-G	ND	50	ug/L	10/04/1995	

Sample Number      Sample Description  
 48405                MW-5 diss

<u>PARAMETERS</u>	<u>METHODS</u>	<u>RESULTS</u>	<u>REPORT LIMIT</u>	<u>UNITS</u>	<u>DATE ANALYZED</u>	<u>FLAG</u>
ICP/AA Digestion - Water	ICP	-			10/04/1995	
Lead, Dissolved, ICP	6010	ND	0.005	mg/L	10/04/1995	

Sample Number      Sample Description  
 48406                MW-4

<u>PARAMETERS</u>	<u>METHODS</u>	<u>RESULTS</u>	<u>REPORT LIMIT</u>	<u>UNITS</u>	<u>DATE ANALYZED</u>	<u>FLAG</u>
ICP/AA Digestion - Water	ICP	-			10/04/1995	
Lead, ICP	6010	ND	0.005	mg/L	10/04/1995	
BTEX/WTPH-Gasoline (W)					10/04/1995	
Dilution Factor		1				
Benzene	8020	ND	0.5	ug/L	10/04/1995	
Toluene	8020	ND	0.5	ug/L	10/04/1995	
Ethyl Benzene	8020	ND	0.5	ug/L	10/04/1995	
Xylenes, total	8020	ND	0.5	ug/L	10/04/1995	
WTPH-Gasoline	WTPH-G	ND	50	ug/L	10/04/1995	

Sample Number      Sample Description  
 48407                MW-4 diss

<u>PARAMETERS</u>	<u>METHODS</u>	<u>RESULTS</u>	<u>REPORT LIMIT</u>	<u>UNITS</u>	<u>DATE ANALYZED</u>	<u>FLAG</u>
ICP/AA Digestion - Water	ICP	-			10/04/1995	

A sample result of ND indicates the parameter was Not Detected at the reporting limit.

# ANALYTICAL REPORT

Kevin Murphy  
 Time Oil Company  
 2737 West Commodore Way  
 Seattle, WA 98199-1233

10/09/1995  
 Job No.: 95.03265

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Project Name: Time Oil - Auburn  
 Date Received: 10/03/1995

Sample Number      Sample Description  
 48407              MW-4 diss

<u>PARAMETERS</u>	<u>METHODS</u>	<u>RESULTS</u>	<u>REPORT LIMIT</u>	<u>UNITS</u>	<u>DATE ANALYZED</u>	<u>FLAG</u>
Lead, Dissolved, ICP	6010	ND	0.005	mg/L	10/04/1995	

Sample Number      Sample Description  
 48408              Purge H2O

<u>PARAMETERS</u>	<u>METHODS</u>	<u>RESULTS</u>	<u>REPORT LIMIT</u>	<u>UNITS</u>	<u>DATE ANALYZED</u>	<u>FLAG</u>
Fats, Oils & Grease (W)						
Polar	SM 5520B	ND	0.5	mg/L	10/06/1995	
Non-Polar	SM 5520F	1.0	0.5	mg/L	10/06/1995	
BTEX (W)						
Dilution Factor	8020	1			10/04/1995	
Benzene	8020	ND	0.5	ug/L	10/04/1995	
Toluene	8020	ND	0.5	ug/L	10/04/1995	
Ethyl Benzene	8020	ND	0.5	ug/L	10/04/1995	
Xylenes, total	8020	ND	0.5	ug/L	10/04/1995	
IR PREP (W)	TPH-IR	-	-		10/06/1995	

A sample result of ND indicates the parameter was Not Detected at the reporting limit.

# SURROGATE REPORT

Kevin Murphy  
 Time Oil Company  
 2737 West Commodore Way  
 Seattle, WA 98199-1233

10/09/1995  
 Job No.: 95.03265

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Project Name: Time Oil - Auburn  
 Date Received: 10/03/1995

<u>SURROGATES</u>	<u>METHODS</u>	<u>RESULTS</u>	<u>DATE ANALYZED</u>	<u>FLAG</u>
Sample Number	Sample Description			
48398	MW-1			
aaa-TFT (BTEX-Surr.)	8020	91	‡	10/04/1995
aaa-TFT (Gas Surr.)	WTPH-G	92	‡	10/04/1995
Sample Number	Sample Description			
48400	MW-2			
aaa-TFT (BTEX-Surr.)	8020	92	‡	10/04/1995
aaa-TFT (Gas Surr.)	WTPH-G	93	‡	10/04/1995
Sample Number	Sample Description			
48402	MW-3			
aaa-TFT (BTEX-Surr.)	8020	90	‡	10/04/1995
aaa-TFT (Gas Surr.)	WTPH-G	92	‡	10/04/1995
Sample Number	Sample Description			
48404	MW-5			
aaa-TFT (BTEX-Surr.)	8020	93	‡	10/04/1995
aaa-TFT (Gas Surr.)	WTPH-G	95	‡	10/04/1995
Sample Number	Sample Description			
48406	MW-4			
aaa-TFT (BTEX-Surr.)	8020	90	‡	10/04/1995
aaa-TFT (Gas Surr.)	WTPH-G	95	‡	10/04/1995
Sample Number	Sample Description			
48408	Purge H2O			
aaa-TFT (Surr.)	8020	92	‡	10/04/1995

# QUALITY CONTROL REPORT CONTINUING CALIBRATION VERIFICATION

Time Oil Company  
2737 West Commodore Way  
Seattle, WA 98199-1233

Date: 10/09/1995

NET Job Number: 95.03265

Contact: Kevin Murphy  
Project: Time Oil - Auburn

Analyte	CCV			Date Analyzed
	True Concentration	Concentration Found	Percent Recovery	
Fats, Oils & Grease (W) Non-Polar	49.2	50.1	101.8	10/06/1995
Fats, Oils & Grease (W) Non-Polar	49.2	50.2	102.0	10/06/1995
Lead, Dissolved, ICP	0.500	0.530	106.0	10/04/1995
BTEX/WTPH-Gasoline (W) Benzene	20.0	21.0	105.0	10/04/1995
Toluene	20.0	21.4	107.0	10/04/1995
WTPH-Gasoline	700	750	107.1	10/04/1995
BTEX (W)				

CCV - Continuing Calibration Verification

Note: Recovery limits for 8240, 8260, 8270, 8010, 8020, 624, 625 specified in method.  
Gasoline, Diesel, 418.1, 418.1M limits 80-120%. Metals recovery limits 80-120%.

# QUALITY CONTROL REPORT LABORATORY CONTROL STANDARD

Time Oil Company  
2737 West Commodore Way  
Seattle, WA 98199-1233

Date: 10/09/1995

NET Job Number: 95.03265

Contact: Kevin Murphy  
Project: Time Oil - Auburn

Analyte	LCS		LCS % Recovery	Date Analyzed
	True Concentration	Concentration Found		
Fats, Oils & Grease (W) Non-Polar	1.00	1.36	136.0	10/06/1995
Fats, Oils & Grease (W) Non-Polar	1.00	1.38	138.0	10/06/1995
Lead, Dissolved, ICP	0.500	0.530	106.0	10/04/1995
BTEX/WTPH-Gasoline (W) Benzene	12.7	13.7	107.9	10/04/1995
Toluene	38.4	42.0	109.4	10/04/1995
WTPH-Gasoline	350	390	111.4	10/04/1995
BTEX/WTPH-Gasoline (W) Benzene	12.7	13.8	108.7	10/04/1995
Toluene	38.4	43.0	112.0	10/04/1995
WTPH-Gasoline	350	370	105.7	10/04/1995
BTEX (W)				
BTEX (W)				

LCS - Laboratory Control Standard

Note: Recovery limits for fuels 80-120%. 8010, 8020, 8240, 8260, 8270, 624, 625 specified in method.  
Recovery limits for metals analyses 80-120%. 418.1 limits are 90-140%.

# QUALITY CONTROL REPORT MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Time Oil Company  
2737 West Commodore Way  
Seattle, WA 98199-1233

Date: 10/09/1995

Job Number: 95.03265

Contact: Kevin Murphy  
Project: Time Oil - Auburn

Analyte	Matrix	Sample	Spike	Units	Percent	MSD		Percent	MS/MSD
	Spike					MSD	Spike		
	Result	Result	Amount		Recovery	Result	Amount	Recovery	--RPD
Lead, Dissolved, ICP	0.530	ND	0.500	mg/L	106.0	0.530	0.500	106.0	0.0
Lead, Dissolved, ICP	0.530	ND	0.500	mg/L	106.0	0.540	0.500	108.0	1.9
BTEX/WTPH-Gasoline (W)									
Benzene	680	ND	635	ug/L	107.1	690	635	108.7	1.5
Toluene	2040	ND	1920	ug/L	106.3	2100	1920	109.4	2.9
WTPH-Gasoline	20,600	ND	17,500	ug/L	117.7	20,700	17,500	118.3	0.5

NOTE: Matrix Spike Samples may not be samples from this job.

MS = Matrix Spike

MSD = Matrix Spike Duplicate

RPD = Relative Percent Difference

dil.= Diluted Out

# QUALITY CONTROL REPORT BLANKS

Time Oil Company  
2737 West Commodore Way  
Seattle, WA 98199-1233

Date: 10/09/1995

NET Job Number: 95.03265

Contact: Kevin Murphy  
Project: Time Oil - Auburn  
Location: 40541-004.002

Analyte	Blank Analysis	MDL	Units	Date Analyzed
Fats, Oils & Grease (W)				
Polar	ND	0.5	mg/L	10/06/1995
Non-Polar	ND	0.5	mg/L	10/06/1995
Lead, Dissolved, ICP	ND	0.005	mg/L	10/04/1995
BTEX/WTPH-Gasoline (W)				
Dilution Factor	1			10/04/1995
Benzene	ND	0.5	ug/L	10/04/1995
Toluene	ND	0.5	ug/L	10/04/1995
Ethyl Benzene	ND	0.5	ug/L	10/04/1995
Xylenes, total	ND	0.5	ug/L	10/04/1995
WTPH-Gasoline	ND	50	ug/L	10/04/1995
aaa-TFT (Gas Surr.)	95		%	10/04/1995
aaa-TFT (BTEX-Surr.)	97		%	10/04/1995

#### Advisory Control Limits for Blanks:

Metals/Wet Chemistry/ Conventional/GC - all compounds should be less than the Reporting Limit.

GC/MS - Semi-Volatiles - all compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the reporting limit.

A This sample does not have a typical gasoline pattern.

B1 This sample does not have a typical diesel pattern.

B The blank exhibited a positive result greater than the reporting limit for this compound.

C The sample appears to contain a lighter hydrocarbon than gasoline.

D The sample appears to extend to a heavier hydrocarbon range than gasoline.

E The sample appears to extend to a lighter hydrocarbon range than diesel.

F The sample appears to extend to a heavier hydrocarbon range than diesel.

G The positive result for gasoline is due to single component contamination.

H The gasoline elution pattern for the sample is not typical.

I The oil pattern for this sample is not typical.

J The result for this compound is an estimated concentration.

L The LCS recovery exceeded control limits. See the LCS page of this report.

M MS and/or MSD percent recovery exceeds control limits.

MR The MS/MSD RPD is greater than 20%. The sample was re-extracted and re-analyzed with similar results. This is due to a matrix interference, likely a non-homogeneity of the sample.

P A post digestion spike was analyzed, and recoveries are within control limits.

Q Detection limits elevated due to sample matrix.

R The duplicate RPD was greater than 20%. The sample was re-extracted and re-analyzed with similar results. This indicates a matrix interference in the sample, likely a non-homogeneity of the sample.

SR Surrogate recovery outside control limits. See the surrogate page of the report.

W The duplicate RPD was greater than 20%. Due to insufficient sample, re-analysis was not possible.

X Sample was analyzed outside recommended holding times.

Y The result for this parameter was greater than the TCLP regulatory limit.

Z The pattern seen for the parameter being analyzed is not typical.