



May 7, 1993
Project 0556-019.20

Mr. Frank Fossati
Shell Oil Company
511 North Brookhurst Street
P.O. Box 4848
Anaheim, California 92803

Re: Groundwater Sampling Report
Former Shell Station 71315
21641 Maple Valley Highway
Maple Valley, Washington 98036
WIC 246-5068-0101

RECEIVED
MAY 18 1993

DEPT. OF ECOLOGY

5/12/93
CW

DEPARTMENT OF ECOLOGY	
NWRO/TCP TANK UNIT	
# 3431	
INTERIM CLEANUP REPORT	<input checked="" type="checkbox"/>
SITE CHARACTERIZATION	<input type="checkbox"/>
FINAL CLEANUP REPORT	<input type="checkbox"/>
OTHER _____	<input type="checkbox"/>
AFFECTED MEDIA: SOIL	<input checked="" type="checkbox"/>
OTHER _____ GW	<input checked="" type="checkbox"/>
INSPECTOR (INIT.) <i>RN</i>	DATE <i>10/29/93</i>

Dear Mr. Fossati:

EMCON Northwest, Inc., is pleased to submit this letter report describing the groundwater sampling event conducted on April 9, 1993, at the former Shell service station referenced above (Figure 1).

EMCON personnel collected groundwater samples from three monitoring wells (Figure 2). Prior to sample collection, depth-to-water readings were measured with an electronic well sounding tape. The depth-to-water readings were used to calculate the volume of water standing in the well casing (pore volume). A minimum of three pore volumes were removed from each well prior to collection of samples.

Field measurements of pH, specific conductance, and temperature were recorded during well purging. Measurements were collected following the removal of each pore volume and recorded. Following stabilization of the field parameters (less than ten percent change between pore volumes), dissolved oxygen measurements were obtained and a sample was collected.

Each sample was properly labelled and placed into an iced cooler. The samples were delivered under standard chain-of-custody protocol to North Creek Analytical of Bothell, Washington, for quantitative chemical analyses. The samples were analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX) by EPA Method 5030/8020, and total petroleum hydrocarbons (TPH) as gasoline by WTPH-G.



RECEIVED

MAY 18 1993

<input type="checkbox"/>	INSPECTOR (INT.)
<input type="checkbox"/>	OTHER
<input type="checkbox"/>	AFFECTED MEDIA:
<input type="checkbox"/>	OTHER
<input type="checkbox"/>	FINAL CLEANUP REPORT
<input type="checkbox"/>	SITE CHARACTERIZATION
<input type="checkbox"/>	INTERIM CLEANUP REPORT

DEPARTMENT OF ECOLOGY
Hazardous Waste Unit

Independent Action Report Update

Site Name: Texaco Station Maple Valley

Inc. #: 3431 Date of Report: 5/7/93

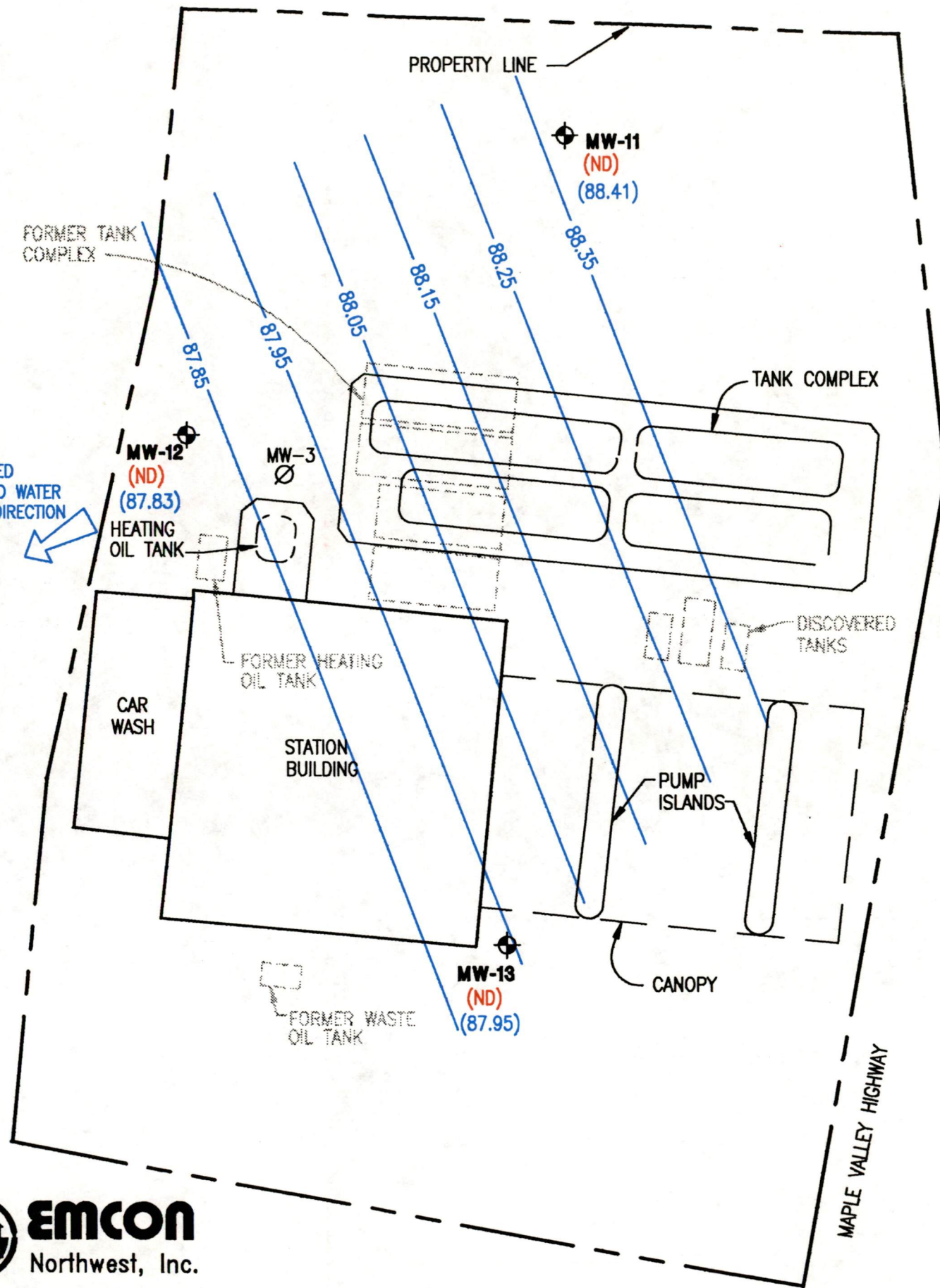
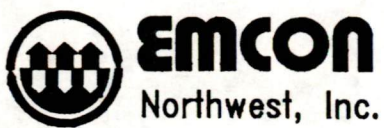
County: King Date Report Rec'd: 5/18/93

Reviewed by: R. Nye

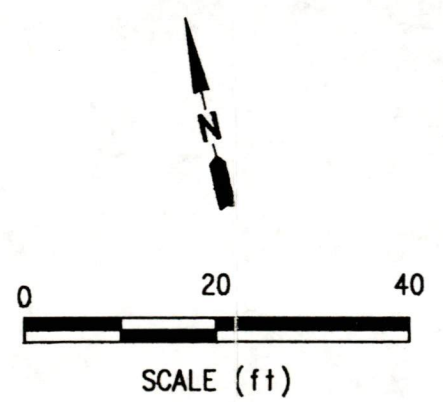
Comments (please include: free prod., tank info., media, contaminant migration, GW conc. trends, PCS treated/fate?):

This site underwent an UST replacement
and large (900 cu yds.) soil cleanup
during summer 1992. GW 20 ft. deep -
not encountered during cleanup. 3 GW
monitoring wells were installed however, to
monitor GW after tank excavation was
accidentally flushed with 10,000 gallons of
water from a ruptured line.

This report is sampling results from the
3 wells, April, 1993. TPH G-D-014, BTEX
all non-detect.



- LEGEND**
- MW-11 Monitoring Well
 - MW-3 Decommissioned Monitoring Well
 - 88.05 — Approximate Groundwater Elevation Contour (feet)
 - (87.90) Measured Groundwater Elevation (feet) April 9, 1993
 - (ND) Measured Benzene Concentration in Groundwater (ppm) April 9, 1993
 - ND Not Detected



DATE 5-93
 DWN. MLP
 REV. _____
 APPR. _____
 PROJECT NO.
 0556-014.20

Figure 2
 FORMER SHELL STATION
 21641 MAPLE VALLEY HIGHWAY
 MAPLE VALLEY, WASHINGTON
SITE MAP - GROUNDWATER DATA

Mr. Frank Fossati
May 7, 1993
Page 2

Project 0556-019.20

Groundwater analytical results are summarized in Table 1. Analytical results for benzene and groundwater elevation data are shown on Figure 2. A summary of the groundwater elevations and stabilized groundwater parameters is included as Table 2. BTEX and TPH as gasoline were not detected in the samples collected from the three wells. A copy of the laboratory report and a summary of previous groundwater quality data are included in Appendix A.

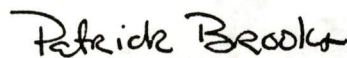
If you have any questions regarding the information presented here, please call.

Sincerely,

EMCON Northwest, Inc.



Lisa A. Rutan
Project Engineer



Patrick Brooks
Project Manager

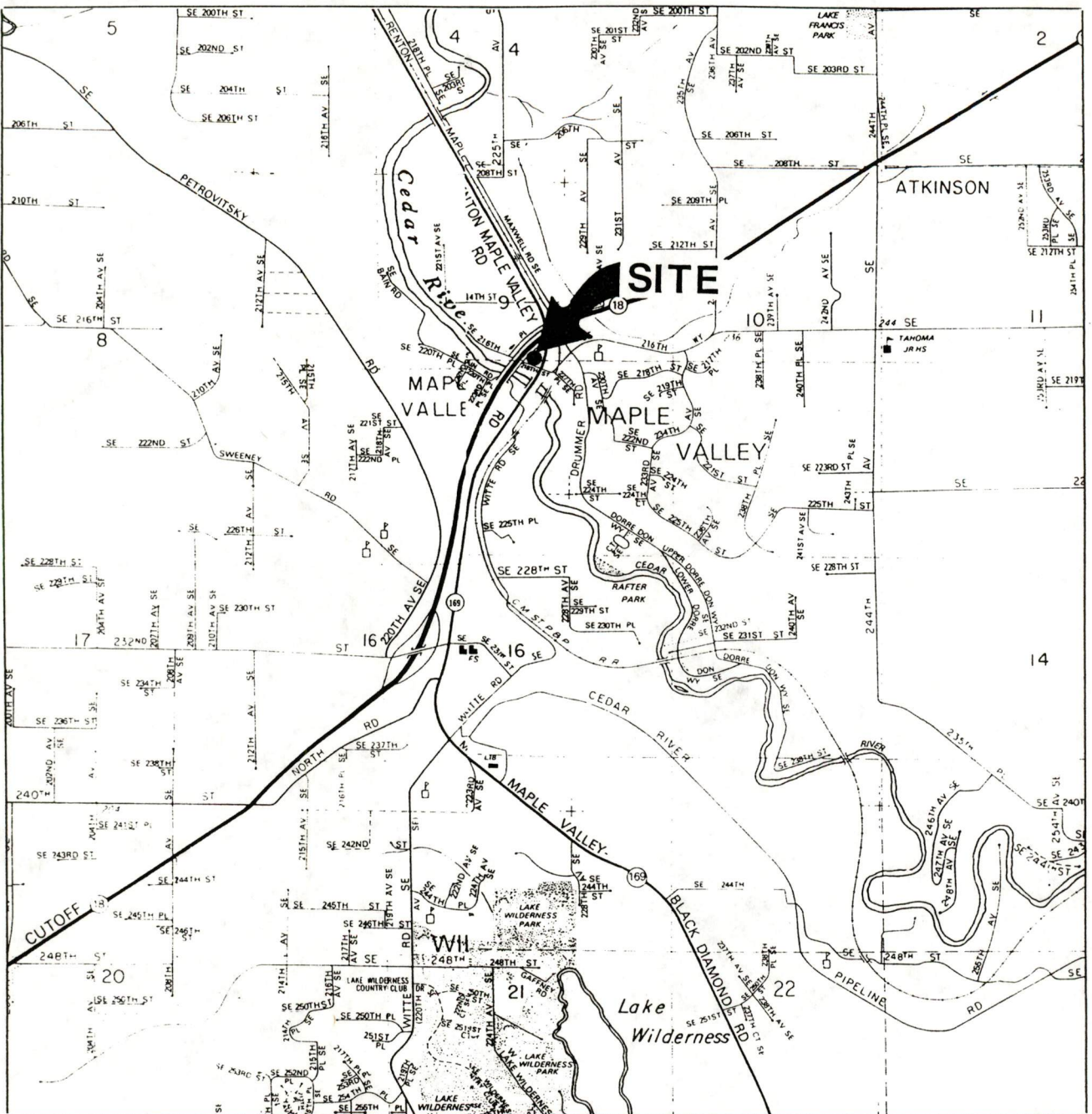
Attachments: Figure 1 - Site Vicinity Map
Figure 2 - Site Map — Groundwater Data
Table 1 - Groundwater Sample Chemical Analyses
Table 2 - Groundwater Depth and Parameters
Appendix A - Laboratory Report and Groundwater Quality Summary
Table

cc/att: Lynn Chun, Texaco Refining and Marketing, Inc.
Mark Wells, Texaco Environmental Services

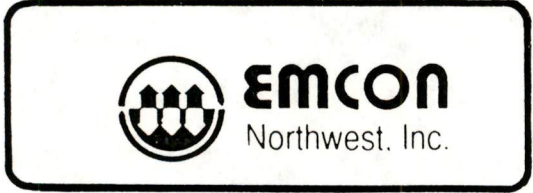
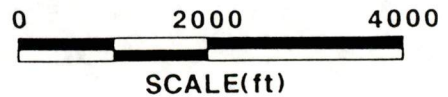
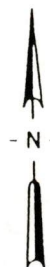
LIMITATIONS

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.



WASHINGTON



DATE 8/90
 DWN. KLM
 APPR. [Signature]
 REVIS.
 PROJECT NO. 0556.019.06

Figure 1
 SHELL SERVICE STATION # 71315
 MAPLE VALLEY, WASHINGTON
 SITE VICINITY MAP

Table 1
Shell Oil Company
Groundwater Sample Chemical Analyses
21641 Maple Valley Highway Maple Valley, Washington
WIC 246-5068-0101

Sample Location	Sample Date	Sample ID	BTEX Compounds ^a (ppm)				TPH as Gasoline ^b (ppm)	Dissolved Oxygen ^c (mg/l)	Total Lead ^d (ppm)
			Benzene	Toluene	Ethyl-benzene	Total Xylenes			
MTCA ^e Method A Cleanup Levels			0.005	0.040	0.0330	0.020	1	—	0.005
MW-11	04/09/93	MW-11-0493	ND	ND	ND	ND	ND	2.4	—
MW-12	04/09/93	MW-12-0493	ND ✓	ND	ND	ND	ND	5.5	—
MW-12(dup)	04/09/93	MW-14-0493	ND ✓	ND	ND	ND	ND	—	—
MW-13	04/09/93	MW-13-0493	ND	ND	ND	ND	ND	7.9	—
Field Blank	04/09/93	FB-1-0493	ND	ND	ND	ND	ND	—	—
Trip Blank	04/08/93	Trip Blank	ND	ND	ND	ND	ND	—	—

NOTES: ND Not detected.
 — Not analyzed.

Shading indicates value exceeded MTCA Method A cleanup levels.

^a Results for analyses of groundwater samples for BTEX were obtained using EPA Method 5030/8020 (Purge and Trap) and reported as mg/l (ppm).

^b Results for analyses of groundwater samples for total petroleum hydrocarbons as gasoline were obtained using Washington State Department of Ecology Method WTPH-G and reported as mg/l (ppm).

^c Dissolved oxygen measurements obtained with a YSI Dissolved Oxygen Meter.

^d Results for analyses of groundwater samples for total lead were obtained using EPA Method 7421 and reported as mg/l (ppm).

^e Chapter 173-340 WAC, "The Model Toxics Control Act Cleanup Regulations, Method A Cleanup Limits." Amended February 1991. Caution on misusing Method A tables. Method A tables have been developed for specific purposes. They are intended to provide conservative cleanup levels for sites undergoing routine cleanup actions or those sites with relatively few hazardous substances. The tables may not be appropriate for defining cleanup levels at other sites. For these reasons, the values in these tables should not automatically be used to define cleanup levels that must be met for financial, real estate, insurance coverage or placement, or similar transactions or purposes. Exceedances of the values in these tables do not necessarily trigger requirements for cleanup action under this chapter.

Table 2
Shell Oil Company
Groundwater Depth and Parameters
21641 Maple Valley Highway Maple Valley, Washington
WIC 246-5068-0101

Sample Location	Sample Date	Measured Depth to Elevation (ft)	Groundwater Elevation (ft)	pH	Specific Conductance (μ mhos/cm)	Temperature ($^{\circ}$ C)
MW-11	04/09/93	11.32	88.41	6.88	150	11.0
MW-12	04/09/93	12.73	87.83	6.94	150	10.5
MW-13	04/09/93	12.42	87.95	6.90	140	10.5

NOTE: Specific conductance measured at 25 $^{\circ}$ C.

APPENDIX A

**LABORATORY REPORT AND GROUNDWATER QUALITY
SUMMARY TABLE**

SHELL MAPLE VALLEY GROUNDWATER QUALITY SUMMARY

0556-019.20

WELL #, DATE	BENZENE (PPM)	TOLUENE (PPM)	ETHYLBENZENE (PPM)	XYLENES (PPM)	TPH-G (PPM)	TPH-D (PPM)	TPH-OIL (PPM)	DISSOLVED OXYGEN (PPM)	DEPTH TO WATER (FT)
=====									
MW-3									
08/09/90	ND	ND	ND	ND	ND	--	--	---	13.32
05/08/91	ND	ND	ND	ND	ND	ND	--	---	12.60
Well decommissioned									
MW-11									
08/17/92	ND	ND	ND	ND	ND	--	--	---	11.83
04/09/93	ND	ND	ND	ND	ND	--	--	2.4	11.32
MW-12									
08/17/92	ND	ND	ND	ND	ND	--	--	---	13.19
04/09/93	ND	ND	ND	ND	ND	--	--	5.5	12.73
MW-13									
08/17/92	ND	ND	ND	ND	ND	--	ND	---	12.92
04/09/93	ND	ND	ND	ND	ND	--	--	7.9	12.42

EMCON Northwest	Client Project ID: Shell, #0556-019.20	Sampled: Apr 9, 1993
18912 N. Creek Parkway, #100	Matrix Descript: Water	Received: Apr 9, 1993
Bothell, WA 98011	Analysis Method: WTPH-G	Analyzed: Apr 12, 1993
Attention: Pat Brooks	First Sample #: 304-0531	Reported: Apr 23, 1993

TOTAL PETROLEUM FUEL HYDROCARBONS (WTPH-G)

Sample Number	Sample Description	Volatile Hydrocarbons mg/L (ppm)	Surrogate Recovery %
304-0531	MW-11-0493	N.D.	102
304-0532	MW-12-0493	N.D.	79
304-0533	MW-13-0493	N.D.	93
304-0534	MW-14-0493	N.D.	84
304-0535	FB-1-0493	N.D.	95
304-0536	Trip Blank 4/8/93	N.D.	91
BLK041293	Method Blank	N.D.	96

ORIG
IN PP
F

Reporting Limits:

0.050

4-Bromofluorobenzene Surrogate Recovery Control Limits are 50 - 150 %.
 Volatile Hydrocarbons are quantitated as Gasoline Range Organics (toluene - dodecane).
 Analytes reported as N.D. were not detected above the stated Reporting Limit.

NORTH CREEK ANALYTICAL inc

Matthew T. Essig
 Project Manager

EMCON Northwest 18912 N. Creek Parkway, #100 Bothell, WA 98011 Attention: Pat Brooks	Client Project ID: Shell, #0556-019.20 Matrix Descript: Water Analysis Method: EPA 5030/8020 First Sample #: 304-0531	Sampled: Apr 9, 1993 Received: Apr 9, 1993 Analyzed: Apr 12, 1993 Reported: Apr 23, 1993
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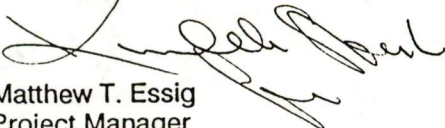
BTEX DISTINCTION

Sample Number	Sample Description	Benzene mg/L (ppm)	Toluene mg/L (ppm)	Ethyl Benzene mg/L (ppm)	Xylenes mg/L (ppm)	Surrogate Recovery %
304-0531	MW-11-0493	N.D.	N.D.	N.D.	N.D.	91
304-0532	MW-12-0493	N.D.	N.D.	N.D.	N.D.	91
304-0533	MW-13-0493	N.D.	N.D.	N.D.	N.D.	93
304-0534	MW-14-0493	N.D.	N.D.	N.D.	N.D.	92
304-0535	FB-1-0493	N.D.	N.D.	N.D.	N.D.	91
304-0536	Trip Blank 4/8/93	N.D.	N.D.	N.D.	N.D.	93
BLK041293	Method Blank	N.D.	N.D.	N.D.	N.D.	94

Reporting Limits:	0.00050	0.00050	0.00050	0.0010
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4-Bromofluorobenzene surrogate recovery control limits are 74 - 130 %.
 Analytes reported as N.D. were not detected above the stated Reporting Limit.

NORTH CREEK ANALYTICAL inc


 Matthew T. Essig
 Project Manager

EMCON Northwest
 18912 N. Creek Parkway, #100
 Bothell, WA 98011
 Attention: Pat Brooks

 Client Project ID: Shell, #0556-019.20
 EPA Method: 5030/8020
 Sample Matrix: Water
 Units: mg/L (ppm)
 QC Sample #: 304-0532

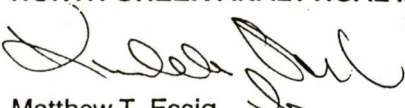
 Analyst: R. Lister
 K. Wilke
 F. Shino
 Analyzed: Apr 12, 1993
 Reported: Apr 23, 1993

MATRIX SPIKE QUALITY CONTROL DATA REPORT

ANALYTE	Benzene			
	Benzene	Toluene	Ethyl Benzene	Xylenes
Sample Result:	N.D.	N.D.	N.D.	N.D.
Spike Conc. Added:	0.0050	0.0050	0.0050	0.015
Spike Result:	0.0049	0.0045	0.0047	0.014
Spike % Recovery:	98%	90%	94%	93%
Spike Dup. Result:	0.0049	0.0045	0.0046	0.014
Spike Duplicate % Recovery:	98%	90%	92%	93%
Upper Control Limit %:	113	112	119	129
Lower Control Limit %:	81	80	88	68
Relative % Difference:	0%	0%	2%	0%
Maximum RPD:	11	17	11	19

NORTH CREEK ANALYTICAL inc

$$\% \text{ Recovery} = \frac{\text{Spike Result} - \text{Sample Result}}{\text{Spike Conc. Added}} \times 100$$

$$\text{Relative \% Difference} = \frac{\text{Spike Result} - \text{Spike Dup. Result}}{(\text{Spike Result} + \text{Spike Dup. Result}) / 2} \times 100$$

 Matthew T. Essig
 Project Manager

EMCON Northwest 18912 N. Creek Parkway, #100 Bothell, WA 98011 Attention: Pat Brooks	Client Project ID: Shell, #0556-019.20 EPA Method: WTPH-G Sample Matrix: Water Units: µg/L (ppb)	Analyst: R. Lister K. Wilke F. Shino Analyzed: Apr 12, 1993 Reported: Apr 23, 1993
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HYDROCARBON QUALITY CONTROL DATA REPORT

ACCURACY ASSESSMENT Laboratory Control Sample

Gasoline

Spike Conc.
Added: 0.010

Spike
Result: 0.085

%
Recovery: 85

Upper Control
Limit %: 120

Lower Control
Limit %: 80

PRECISION ASSESSMENT Sample Duplicate

Volatile
Hydrocarbons

Sample
Number: 304-0531

Original
Result: N.D.

Duplicate
Result: N.D.

Relative % Difference Relative Percent Difference values are not reported at sample concentration levels less than 10 times the Detection Limit.

Maximum
RPD: 20

NORTH CREEK ANALYTICAL inc

Matthew T. Essig
Matthew T. Essig
Project Manager

% Recovery:	$\frac{\text{Spike Result}}{\text{Spike Concentration Added}} \times 100$	
Relative % Difference:	$\frac{\text{Original Result} - \text{Duplicate Result}}{(\text{Original Result} + \text{Duplicate Result}) / 2} \times 100$	



SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No: _____

Date: 7/7/93
Page 1 of 1

Site Address: 21641 Maple Valley Highway,
Maple Valley, WA

WIC#: 2116-5068-0101

Shell Engineer: Frank Fossati

Phone No.: 714-520-3362
Fax #: 520-3313

Consultant Name & Address: EMCON Northwest, Inc.
. 18912 North Creek Parkway, #100, Bothell, WA 98011

Consultant Contact: Pat Brooks

Phone No.: 206-485-5000
Fax #: 486-9766

Comments: Project No. 0556-019.20

Sampled by: Holly Corner

Printed Name: Holly Corner

Analysis Required

TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020	SM520F (EMCON FOG)	Asbestos	Container Size	Preparation Used	Composite Y/N
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LAB: North Creek Analytical

CHECK ONE (1) BOX ONLY	CT/DT	TURN AROUND TIME
G.W. Monitoring <input checked="" type="checkbox"/>	4461	24 hours <input type="checkbox"/>
Site Investigation <input type="checkbox"/>	4441	48 hours <input type="checkbox"/>
Soil Classify/Disposal <input type="checkbox"/>	4442	15 days <input checked="" type="checkbox"/> (Normal)
Water Classify/Disposal <input type="checkbox"/>	4443	Other <input type="checkbox"/>
Soil/Air Rem. or Sys. O & M <input type="checkbox"/>	4452	
Water Rem. or Sys. O & M <input type="checkbox"/>	4453	
Other <input type="checkbox"/>		

NOTE: Notify Lab as soon as Possible of 24/48 hrs. TAT.

UST AGENCY: _____

Sample ID	Date	Sludge	Soil	Water	Air	No. of conds.	TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020	SM520F (EMCON FOG)	Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
MW-11-0493	7/9/93			X		2						X							3040531
MW-12-0493				X		2						X							3040532
MW-13-0493				X		2						X							3040533
MW-14-0493				X		2						X							3040534
FB-1-0493	4/6/93			X		2						X							3040535
Trip Blank	4/6/93			X		1						X							3040536

Relinquished By (signature): Holly Corner	Printed Name: Holly Corner	Date: 7/7/93 Time: 1550	Received (signature): Dana Heinz NCA	Printed Name: DANA HEINZ	Date: 7/7/93 Time: 1650
Relinquished By (signature):	Printed Name:	Date:	Received (signature):	Printed Name:	Date:
Relinquished By (signature):	Printed Name:	Date:	Received (signature):	Printed Name:	Date:

THE LABORATORY MUST PROVIDE A COPY OF THIS CHAIN-OF-CUSTODY WITH INVOICE AND RESULTS

Sent Direct



EMCON

Northwest, Inc.

18912 North Creek Parkway • Suite 100 • Bothell, WA 98011-8016 • Office (206) 485-5000 • FAX (206) 486-9766

TRANSMITTAL

Date 05/17/93

Project 0550-009.20(15)

To: Mr. Joe Hickey
 Department of Ecology
 Northwest Regional Office
 3190 160th Avenue SE
 Bellevue, WA 98008-5452

RECEIVED
 MAY 18 1993
 DEPT. OF ECOLOGY

We are enclosing:

Copies	Description
<u>1</u>	<u>Groundwater Sampling Report</u>
	<u>WIC # 246-5068-0101</u>
	<u>Former Shell Station 71315</u>
	<u>21641 Maple Valley Highway</u>
	<u>Maple Valley WA 98036</u>

For your _____ Use Sent by First Class Mail
 _____ Approval _____ Federal Express
 Information _____ Other _____

Comments: Joe, A Request For clean closure is
currently in progress. UAR

cc: Lisa Rutan