A Department of Ecology Report

WASHINGTON STATE DEPARTMENT OF ECOLOGY

Restover Truck Stop Ground Water Monitoring February and April 1995

Summary

This document is one in a series describing the results of ground water sampling at Restover Truck Stop. Ecology has conducted ground water sampling at the site from 1987 to the present. To remediate soil and ground water contamination a vapor extraction system (VES) was constructed in the summer of 1993. The VES has been operating steadily since February 1994. To help determine the effectiveness of the cleanup, ground water monitoring was expanded from semiannual to quarterly sampling in the fall of 1993. This technical document describes the results of samples collected in February and April 1995.

In February, water levels were measured in thirteen wells to determine ground water flow direction, and samples were collected from eight wells. In April, four wells were sampled. Regularly sampled wells are listed in Table 1; locations of the wells sampled are shown in Figure 1. All collected samples were analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX), and total petroleum hydrocarbons as gasoline (TPH-G).

Overall, BTEX concentrations in the upper aquifer have decreased substantially since 1989. Concentration decreases are probably due to a combination of plume spreading, dispersion, biodegradation and reduction of source loading. Since August 1991, concentrations have been relatively stable. Since the installation of the VES, the monitoring period has been too short to determine whether the VES has improved the ground water quality. BTEX concentrations continue to be elevated in well WDOE-6A. In both February and April, Model Toxic Control Act (MTCA) cleanup levels were exceeded for toluene, ethylbenzene, and total xylene in WDOE-6A and for TPH in both WDOE-6A and MW-8A. Benzene was not detected in well WDOE-6A in either sample round due to high quantitation limits. Data review and laboratory reporting sheets are presented in Appendix A.

by Pamela B. Marti
July 1995

Waterbody No. WA-13-0030GW
(Segment No. 06-13-03GW)

Ecology Report #95-339

Results

Field Observations

Depth-to-water measurements, water level elevations, purge volume, pH, specific conductance, and temperature results for both sample events are listed in Table 1. In February, static water level measurements were obtained from thirteen on-site wells. Depth-to-water ranged from 7.0 to 12.80 feet with a water-table elevation ranging from 189.48 to 192.87 feet mean sea level. The ground water flow direction in the upper aquifer was toward the north and northwest, which was consistent with flow patterns observed during previous sample events (Figure 2).

Water purged from monitoring wells MW-8A, MW-30 and WDOE-6A continues to have a hydrocarbon odor and cloudy appearance. In April, a rust colored sediment was removed from the bottom of MW-30 and WDOE-6A purge water was more viscous than in previous sample rounds. This is attributed to the presence of product.

Analytical Results

Analytical results for BTEX and TPH-G, and MTCA ground water cleanup levels are shown in Table 2 for both sample events.

In February, samples were collected from eight monitoring wells: MW-8A, MW-9A, MW-15A, MW-20A, MW-30, WDOE-6A, MW-12, and MW-16. Toluene, ethylbenzene, and xylene were detected in WDOE-6A with a total concentration of 2120 µg/L. Benzene was not detected in this well due to a high quantitation limit. Well WDOE-6A continues to show the highest volatile organics concentrations of the wells sampled. Low concentrations of benzene, ethylbenzene, and xylene were detected in MW-30. TPH-G concentrations in wells MW-8A and WDOE-6A were 2600 µg/L and 33,000 µg/L, respectively.

In April, samples were collected from monitoring wells: MW-8A, MW-20A MW-30, and WDOE-6A. All four BTEX compounds were detected in MW-30; all but benzene were detected in WDOE-6A. Total BTEX concentrations in these wells were approximately 8 µg/L and 1830 µg/L, respectively. Again, benzene was not detected in WDOE-6A due to the high quantitation limit. TPH-G concentrations in wells MW-8A and WDOE-6A were 2400 µg/L and 26,000 µg/L, respectively.

BTEX concentrations for select monitoring wells from May 1987 to November 1994 are listed in Table 3. Figure 3 shows BTEX concentrations for wells WDOE-6A and MW-8A for the same time period. BTEX concentrations in both wells decreased substantially from January 1989 to August 1991. Since August 1991, concentrations have been relatively stable. BTEX concentrations continue to be elevated in well WDOE-6A.

Conclusions

1. Results for February and April are consistent with results from previous sampling events.

2. MTCA cleanup levels were exceeded in WDOE-6A for toluene, ethylbenzene, and xylene and TPH during both sample events. Cleanup levels for TPH were also exceeded in MW-8A during both sample events. Benzene was not detected in WDOE-6A in either sample event due to high quantitation limits.

3. The vapor extraction system has only been operating steadily since February 1994. The monitoring period has been too short to determine whether the VES has improved the ground water quality.

Recommendations

1. Routine monitoring should continue to determine the effectiveness of contaminant removal by vapor extraction. Monitoring wells WDOE-6A, MW-8A, MW-9A, MW-20A, and MW-30 should continue to be sampled for BTEX. The Restover and Spencer supply wells should also continue to be sampled annually for BTEX.

2. I will work with the laboratory to achieve better analytical detection limits, particularly for benzene.

3. Wells MW-15A and MW-16 should continue to be sampled semi-annually for as long as property access is granted. Wells MW-12A and MW-31, which were installed in April 1995, should be added to the monitoring network. MW-12A was installed to replace MW-12, so that monitoring of the lower aquifer could be continued.

4. Continue to collect samples for total petroleum hydrocarbon as gasoline (TPH-G) analyses. Elevated concentrations of TPH-G were detected in most of the wells sampled in February and April 1995.

Methods

Ground Water Sampling

Ground water samples were collected from the upper and lower aquifers. The upper aquifer consists of recessional outwash. This unit is underlain by the Vashon Till, which is a regional aquitard, and advance outwash deposits which form a lower aquifer. In February static water level measurements were obtained from thirteen on-site wells to determine ground water flow direction in the upper aquifer (Table 1). Samples for benzene, toluene, ethylbenzene, and xylene (BTEX) and total petroleum hydrocarbons as gasoline (TPH-G) were also collected from six upper aquifer and two lower aquifer monitoring wells. April samples were collected from four upper aquifer monitoring wells. See Table 1 for a list of the regularly sampled wells. The sampled wells were near the vapor extraction system to help determine the effectiveness of remediation.

Prior to sampling, static water level measurements were obtained from monitoring wells using an electronic water level indicator. The meter was rinsed with deionized water and wiped clean between measurements. Based on the purge volume, wells were purged with either a teflon bailer, submersible pump or a centrifugal pump. Wells were purged until pH, specific conductance and temperature readings stabilized, and a minimum of three well volumes had been removed. Purge water was discharged onto the ground near each well, except for wells WDOE-6A and MW-30. Purge water from these wells was collected in a 55-gallon barrel and stored with other vapor extraction system (VES) waste in the enclosed tank area. This waste will be transported and disposed of in accordance with State of Washington regulations (Chapter 173-340-400 WAC).

Monitoring well samples were collected using decontaminated, bottom-emptying teflon bailers. Bailers were pre-cleaned with sequential washes of Liquinox®, hot tap water, 10% nitric acid, distilled-deionized water and pesticide-grade acetone. After cleaning, bailers were air-dried and wrapped in aluminum foil. Samples for BTEX and TPH-G analysis were collected free of headspace and preserved with 1:1 hydrochloric acid.

Chain-of-custody procedures were followed in accordance with Manchester Laboratory protocol (Ecology, 1994). All samples were analyzed by the Ecology/EPA Laboratory in Manchester.

Quality Assurance

In general the quality of the data is acceptable for use for both sample rounds. BTEX samples were analyzed using EPA SW-846 Method 8020 (U.S. EPA, 1986) and WTPH-G samples were analyzed using Washington State Method WTPH-G (Ecology, 1994). Benzene was not detected in well WDOE-6A in either sample round due to high quantitation limits.

Quality control samples collected in the field consisted of a transfer blank and blind field duplicates. A transfer blank for BTEX was obtained in February by running organic-free water through a decontaminated bailer and collecting the rinsate in a sample container. BTEX was not detected in this sample. Duplicate samples for BTEX and TPH-G were obtained from monitoring well MW-8A. Duplicate samples collected at MW-8A provide an estimate of combined sampling and laboratory precision. The numeric comparison of duplicate results is expressed as the relative percent difference or RPD. RPDs are the ratio of the difference and the mean of the duplicate results expressed as a percentage. The RPD's of the duplicate samples for TPH-G in February was 62% and in April it was 8%.

In addition to field quality control samples, a matrix spike, a matrix spike duplicate and surrogate compound recoveries were performed in the laboratory. Matrix spike and surrogate recoveries for BTEX and TPH-G were all within acceptable limits. Dickey Huntamer of the Manchester Laboratory conducted the quality assurance review, which has been included in Appendix A.

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(360) 407-6768

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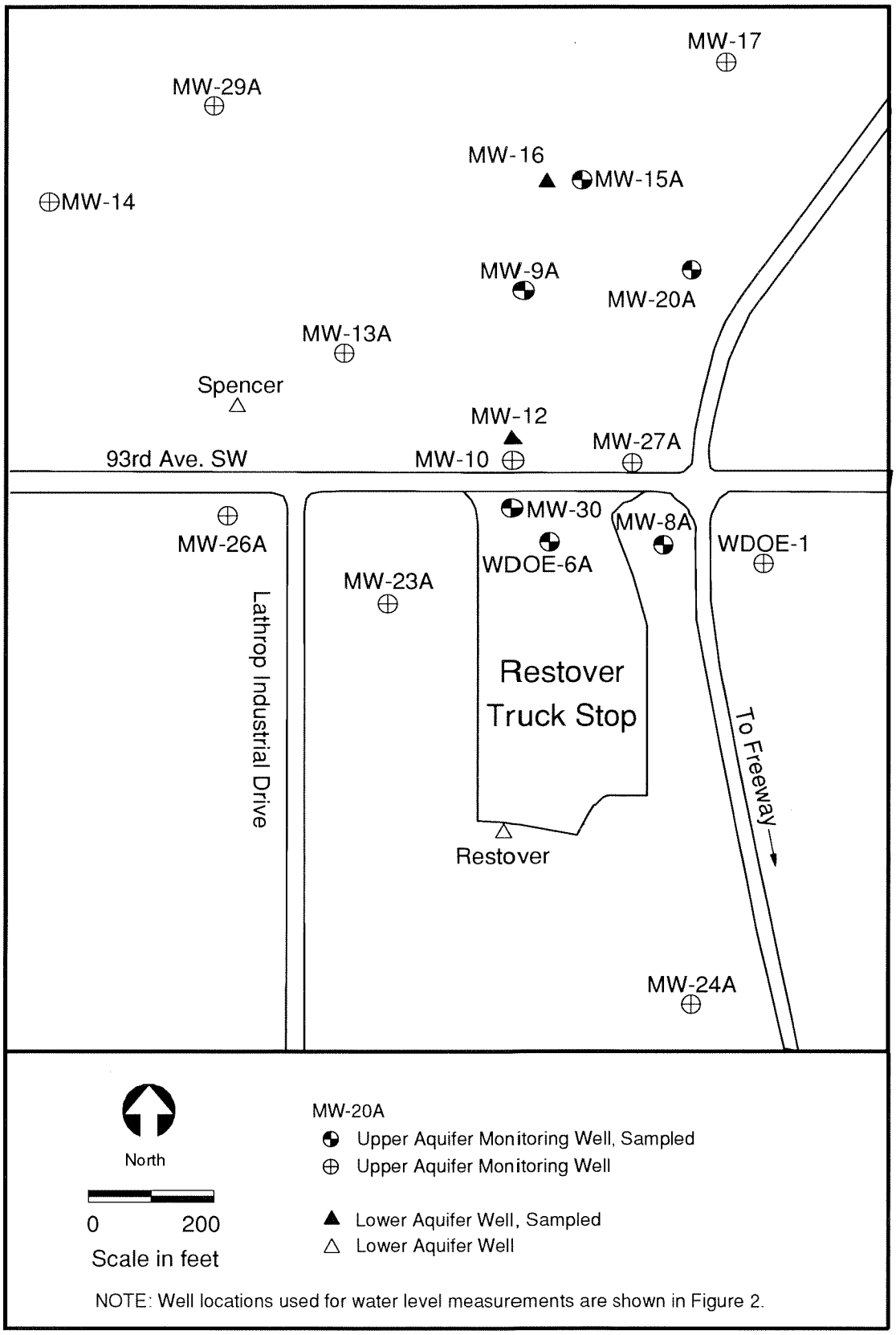


Figure 1: Well Locations, Restover Truck Stop

Table 1: Field Parameter Results for February and April, 1995

Monitoring Well	Total Depth (Feet)	Aquifer	Depth to Water (Feet)	Elevation (MSL)	pH (st. units)	Specific Conductance (umhos/cm)	Temperature (°C)	Purge Volume (gallons)
February 1995								
Water Levels								
MW-13A	19.54	Upper	8.71	190.55				
MW-18A	23.22	Upper	8.14	190.60				
MW-23A	22.10	Upper	8.82	190.48				
MW-24A	15.32	Upper	7.9	192.87				
MW-27A	16.32	Upper	11.81	191.18				
MW-29A	23.39	Upper	7.0	189.48				
WDOE-1	24.67	Upper	12.8	190.91				
Sampled Wells								
MW-8A	21.10	Upper	10.14	191.20	5.5	85	10.7	14
MW-9A	16.23	Upper	8.47	191.09	5.8	102	10.2	6
MW-20A	13.95	Upper	7.09	190.98	6.0	55	9.3	3.5
MW-30	16.78	Upper	9.5	190.51	6.2	320	14.5	15
WDOE-6A	21.68	Upper	10.63	191.18	6.1	190	14.4	5.5
MW-15A	15.80	Upper	6.86	190.97	5.8	122	10.2	8
MW-12	52.78	Lower	10.49	190.05	6.4	135	11.6	55
MW-16	53.52	Lower	7.78	190.13	6.1	70	10.2	30
April 1995								
MW-8A	21.10	Upper	9.0	192.34	5.6	--	9.4	8
MW-20A	13.95	Upper	5.94	192.13	5.8	40	9.6	4
MW-30	16.78	Upper	7.66	192.35	5.9	142	13.5	20
WDOE-6A	21.68	Upper	9.52	192.29	6.1	140	13.1	6

-- = Not measured due to probe malfunction.

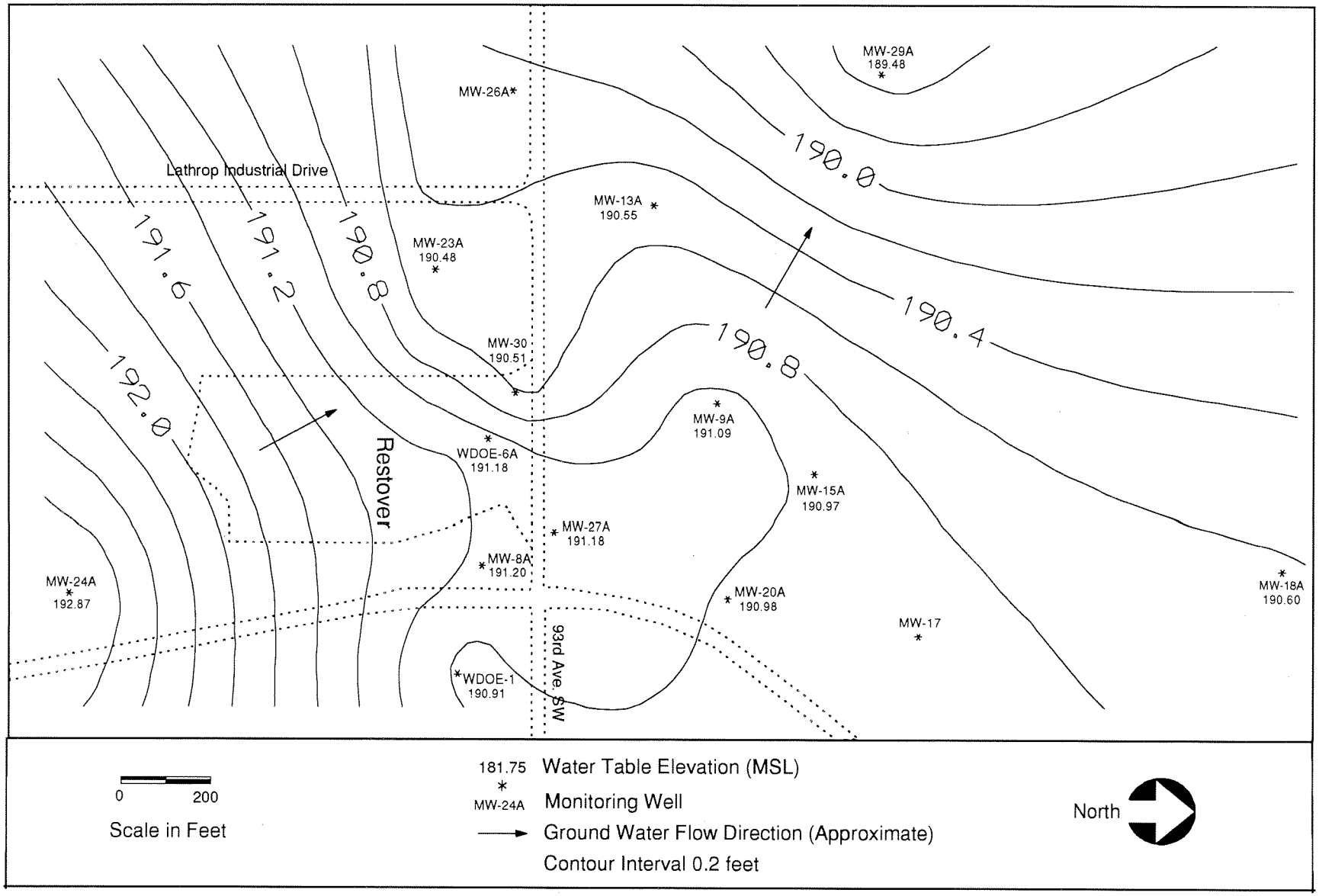


Figure 2: Restover Truck Stop - Water Table Map, February 1995

Table 2: Analytical Results (ug/L) for February 2-3, 1995 and April 19, 1995

Well Number	Benzene	Toluene	Ethylbenzene	Total Xylene	Total BTEX	TPH-G
MTCA Cleanup Levels	5.0	40.0	30.0	20.0		(Total TPH) 1000.0
February 1995						
MW-8A	2.0 U	2.0 U	2.0 U	6.0 U	ND	**1800**
MW-8B(dup)*	2.0 U	2.0 U	2.0 U	6.0 U	ND	**3400**
MW-9A	0.2 U	0.2 U	0.2 U	0.6 U	ND	60 U
MW-20A	0.2 U	0.2 U	0.2 U	0.6 U	ND	60 U
MW-30	0.74	0.2 U	0.22	7.0	7.96	160
WDOE-6A	40 U	**56**	**144**	**1920**	2120	**33000**
MW-15A	0.2 U	0.2 U	0.2 U	0.6 U	ND	60 U
MW-12	1.1	0.2 U	0.2 U	0.6 U	1.1	63
MW-16	0.2 U	0.2 U	0.2 U	0.6 U	ND	60 U
Transfer Blank	0.2 U	0.2 U	0.2 U	0.6 U	ND	NA
April 1995						
MW-8A	1.0 U	1.0 U	1.0 U	3.0 U	ND	**2300**
MW-8B(dup)*	1.0 U	1.5 U	1.0 U	3.0 U	ND	**2500**
MW-20A	0.2 U	0.2 U	0.2 U	0.6 U	ND	60 U
MW-30	4.4	0.3	2.3	0.96	7.96	350
WDOE-6A	20 U	**59**	**170**	**1600**	1829	**26000**

U : Not detected at detection limit shown.
NA: Not analyzed.
ND: Compounds Not Detected
* : MW-8B is a duplicate sample of MW-8A.

Table 3: Historical Restover Truck Stop BTEX Concentrations (ug/L)

Well Number	May 1987	September 1987	October 1988	January 1989	July 1989	January 1990	August 1990	February 1991	August 1991	February 1992	July 1992	January 1993
					Upper Aquifer							
WDOE-6A	6950	1180	5300	28000	7490	9870	5190	3460	2840	3830	2990	4784
MW-8A	230[1]	388[1]	479[1]	334[1]	64[2]	20[2]	178[2]	19[2]	20[2]	9[2]	53[2]	47[2]
MW-15A	1433	NT	NT	ND	218	NT	285	122	NT	NT	NT	NT
MW-17	ND	ND	ND	ND	ND	NT	NT	ND	ND	NT	2.7	ND
MW-20A	126	NT	NT	NT	NT	20	1400	5	293	11	452	NT(Dry)
					Lower Aquifer							
Restover	NT	NT	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Spencer	ND	ND	NT	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-12	53	5	8	ND	4	ND	6	ND	NT	NT	NT	NT

Well Number	July 1993	November 1993	January 1994	April 1994	August 1994	November 1994	February 1995	April 1995
				Upper Aquifer				
WDOE-6A	2620	3070	6360	5242	3214	4624	2120	1829
MW-8A	30[2]	41[2]	36[2]	4[2]	8[1]	32[2]	ND	ND
MW-15A	NT	NT	NT	NT	NT	NT	ND	NT
MW-17	NT	NT	NT	NT	NT	NT	NT	NT
MW-20A	162	NT(Dry)	ND	59	NT(Dry)	ND	ND	ND
MW-30	NT	NT(Dry)	NT(Dry)	2400	NT(Dry)	NT(Dry)	8	8
MW-9A	NT	NT	NT(Dry)	366	NT	NT	ND	NT
				Lower Aquifer				
Restover	0.4	NT	ND	NT	NT	NT	NT	NT
Spencer	ND	NT	NT	NT	NT	NT	NT	NT
MW-12	1.7	NT	NT	NT	NT	NT	1.1	NT

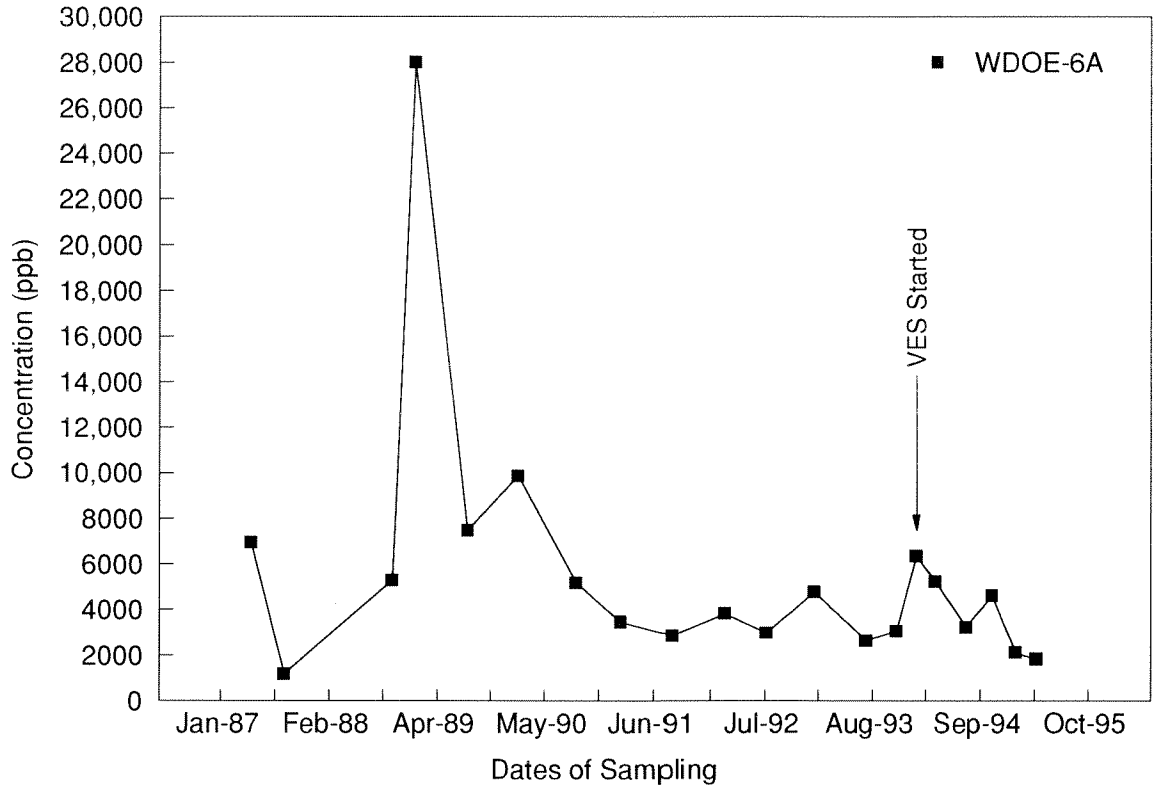
ND: Compound Not Detected
NT: Compound Not Tested

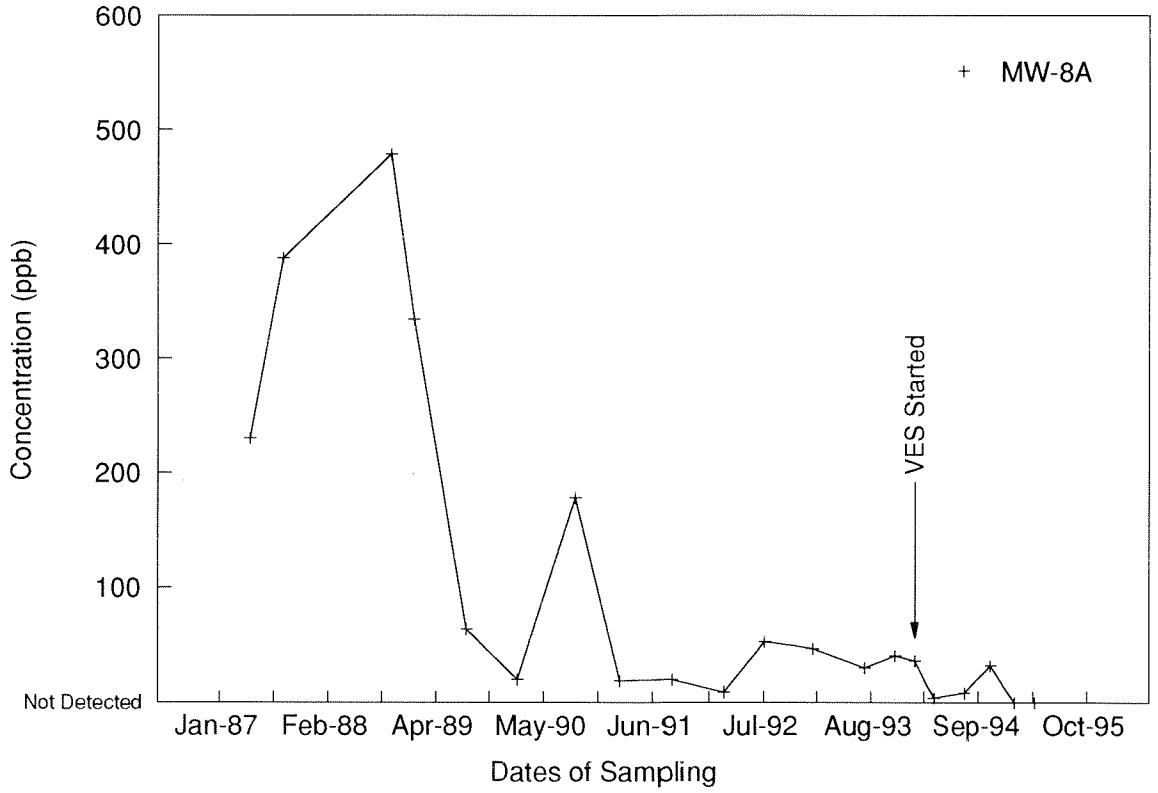
[1] : Value is based on one sample.
[2] : Value represents the mean of duplicate samples.

The upper and lower aquifers consist of recessional outwash and advance outwash, respectively. These units are separated by the Vashon Till which is a regional aquitard.

Figure 3

BTEX Concentrations in WDOE-6A and MW-8A from May 1987 to April 1995





APPENDIX A

Analytical Results
Restover Truck Stop
February 2–3, 1995 and April 19, 1995

MANCHESTER ENVIRONMENTAL LABORATORY

7411 Beach Drive E , Port Orchard Washington 98366

CASE NARRATIVE

February 23, 1995

Subject: Restover Truck Stop

Samples: 95 - 058105 to -058114

Case No. 1164 -95

Officer: Pam Marti

By: Dickey D. Huntamer
Organics Analysis Unit

BETX

ANALYTICAL METHODS:

The samples were analyzed using EPA Method SW846 8020.

HOLDING TIMES:

All sample holding times were within the recommended limits.

BLANKS:

No target analytes were detected in the laboratory blanks.

SURROGATES:

The normal surrogates compounds were added to the sample prior to extraction. All surrogate spike recoveries were within acceptable QC limits.

MATRIX SPIKE AND MATRIX SPIKE DUPLICATE:

All matrix spike recoveries were acceptable. Recoveries ranged from 95% TO 112%. The Relative Percent Difference (RPD) ranged from 1.8% to 3.1%.

ANALYTICAL COMMENTS:

No analytical problems were encountered in the analysis. the data is acceptable for use as qualified.

DATA QUALIFIER CODES:

U	-	The analyte was not detected at or above the reported value.
J	-	The analyte was positively identified. The associated numerical value is an estimate.
UJ	-	The analyte was not detected at or above the reported estimated result.
REJ	-	The data are unusable for all purposes.
EXP	-	The result is equal to the number before EXP times 10 to the power of the number after EXP. As an example 3EXP6 equals 3×10^6.
NAF	-	Not analyzed for.
N	-	For organic analytes there is evidence the analyte is present in this sample.
NJ	-	There is evidence that the analyte is present. The associated numerical result is an estimate.
E	-	This qualifier is used when the concentration of the associated value exceeds the known calibration range.
bold	-	The analyte was present in the sample. (Visual Aid to locate detected compound on report sheet.)

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Benzene, Ethylbenzene, Toluene, Xylenes

Project Name: Restover Truck Stop **LIMS Project ID:** 1164-95

Sample: BLNK5469 **Method:** SW8020
Blank ID: BW5039 **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 02/08/95 **Units:** ug/L

Analyte	Result	Qualifier
Benzene	0.20	U
Toluene	0.20	U
Ethylbenzene	0.20	U
Total Xylenes	0.60	U

Surrogate Recoveries

Benzene, 1,4-Difluoro-	**105**	**%**

Authorized By: _____ Release Date: 2/23/95 Page: 1

Manchester Environmental Laboratory

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Analysis Report for

Benzene, Ethylbenzene, Toluene, Xylenes

Project Name: Restover Truck Stop **LIMS Project ID:** 1164-95

Sample: BLNK5470 **Method:** SW8020
Blank ID: BW5040 **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 02/09/95 **Units:** ug/L

Analyte	Result	Qualifier
Benzene	0.20	U
Toluene	0.20	U
Ethylbenzene	0.20	U
Total Xylenes	0.60	U

Surrogate Recoveries

Benzene, 1,4-Difluoro-	**101**	**%**

Authorized By: _____ Release Date: 2/13/95 Page: 1

Manchester Environmental Laboratory

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Analysis Report for

Benzene, Ethylbenzene, Toluene, Xylenes

Project Name: Restover Truck Stop **LIMS Project ID:** 1164-95

Sample: 95058105 **Date Received:** 02/06/95 **Method:** SW8020
Field ID: MW-8A **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 02/08/95 **Units:** ug/L

Analyte	Result	Qualifier
Benzene	2.0	U
Toluene	2.0	U
Ethylbenzene	2.0	U
Total Xylenes	6.0	U

Surrogate Recoveries

Benzene, 1,4-Difluoro-	**98**	**%**

Authorized By: _____ Release Date: 2/23/95 Page: 1

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Department of Ecology

Analysis Report for

Benzene, Ethylbenzene, Toluene, Xylenes

Project Name: Restover Truck Stop **LIMS Project ID:** 1164-95

Sample: 95058106 **Date Received:** 02/06/95 **Method:** SW8020
Field ID: MW-8B **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 02/08/95 **Units:** ug/L

Analyte	Result	Qualifier
Benzene	2.0	U
Toluene	2.0	U
Ethylbenzene	2.0	U
Total Xylenes	6.0	U

Surrogate Recoveries

Benzene, 1,4-Difluoro-	**97**	**%**

Authorized By: D. P. [illegible] Release Date: 2/23/95 Page: 1

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Analysis Report for

Benzene, Ethylbenzene, Toluene, Xylenes

Project Name: Restover Truck Stop **LIMS Project ID:** 1164-95

Sample: 95058107 **Date Received:** 02/06/95 **Method:** SW8020
Field ID: MW-20A **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 02/09/95 **Units:** ug/L

Analyte	Result	Qualifier
Benzene	0.20	U
Toluene	0.20	U
Ethylbenzene	0.20	U
Total Xylenes	0.60	U

Surrogate Recoveries

Benzene, 1,4-Difluoro-	**99**	**%**

Authorized By: _____ Release Date: 2/23/95 Page: 1

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Department of Ecology

Analysis Report for

Benzene, Ethylbenzene, Toluene, Xylenes

Project Name: Restover Truck Stop **LIMS Project ID:** 1164-95

Sample: 95058108 **Date Received:** 02/06/95 **Method:** SW8020
Field ID: MW-30 **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 02/09/95 **Units:** ug/L

Analyte	Result	Qualifier
Benzene	**0.74**	
Toluene	0.20	U
Ethylbenzene	**0.22**	
Total Xylenes	**7.0**	

Surrogate Recoveries

Benzene, 1,4-Difluoro-	**102**	%

Authorized By: D. Young Release Date: 2/23/95 Page: 1

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Analysis Report for

Benzene, Ethylbenzene, Toluene, Xylenes

Project Name: Restover Truck Stop **LIMS Project ID:** 1164-95

Sample: 95058109 **Date Received:** 02/06/95 **Method:** SW8020
Field ID: WDOE-6A **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 02/08/95 **Units:** ug/L

Analyte	Result	Qualifier
Benzene	40	U
Toluene	**56**	
Ethylbenzene	**144**	
Total Xylenes	**1920**	

Surrogate Recoveries

Benzene, 1,4-Difluoro-	**95**	**%**

Authorized By: C. Hall Release Date: 2/13/95 Page: 1

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Analysis Report for

Benzene, Ethylbenzene, Toluene, Xylenes

Project Name: Restover Truck Stop **LIMS Project ID:** 1164-95

Sample: 95058110 **Date Received:** 02/06/95 **Method:** SW8020
Field ID: MW-12 **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 02/08/95 **Units:** ug/L

Analyte	Result	Qualifier
Benzene	**1.1**	
Toluene	0.20	U
Ethylbenzene	0.20	U
Total Xylenes	0.60	U

Surrogate Recoveries

Benzene, 1,4-Difluoro-	**106**	**%**

Authorized By: _____ Release Date: 2/23/95 Page: 1

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Department of Ecology

Analysis Report for

Benzene, Ethylbenzene, Toluene, Xylenes

Project Name: Restover Truck Stop **LIMS Project ID:** 1164-95

Sample: 95058111 **Date Received:** 02/06/95 **Method:** SW8020
Field ID: MW-16 **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 02/08/95 **Units:** ug/L

Analyte	Result	Qualifier
Benzene	0.20	U
Toluene	0.20	U
Ethylbenzene	0.20	U
Total Xylenes	0.60	U

Surrogate Recoveries

Benzene, 1,4-Difluoro-	**97**	**%**

Authorized By: D. Young Release Date: 2/23/95 Page: 1

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Benzene, Ethylbenzene, Toluene, Xylenes

Project Name: Restover Truck Stop **LIMS Project ID:** 1164-95

Sample: 95058112 **Date Received:** 02/06/95 **Method:** SW8020
Field ID: MW-15A **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 02/08/95 **Units:** ug/L

Analyte	Result	Qualifier
Benzene	0.20	U
Toluene	0.20	U
Ethylbenzene	0.20	U
Total Xylenes	0.60	U

Surrogate Recoveries

Benzene, 1,4-Difluoro-	**95**	**%**

Authorized By: D. Yuen Release Date: 2/13/95 Page: 1

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Benzene, Ethylbenzene, Toluene, Xylenes

Project Name: Restover Truck Stop **LIMS Project ID:** 1164-95

Sample: 95058113 **Date Received:** 02/06/95 **Method:** SW8020
Field ID: MW-91 **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 02/08/95 **Units:** ug/L

Analyte	Result	Qualifier
Benzene	0.20	U
Toluene	0.20	U
Ethylbenzene	0.20	U
Total Xylenes	0.60	U

Surrogate Recoveries

Benzene, 1,4-Difluoro-	**95**	**%**

Authorized By: D. Yentes Release Date: 2/23/95 Page: 1

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Benzene, Ethylbenzene, Toluene, Xylenes

Project Name: Restover Truck Stop **LIMS Project ID:** 1164-95

Sample: 95058114 **Date Received:** 02/06/95 **Method:** SW8020
Field ID: TRANSFER **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 02/08/95 **Units:** ug/L

Analyte	Result	Qualifier
Benzene	0.20	U
Toluene	0.20	U
Ethylbenzene	0.20	U
Total Xylenes	0.60	U

Surrogate Recoveries

Benzene, 1,4-Difluoro-	**99**	**%**

Authorized By: _____ Release Date: 2/23/95 Page: 1

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Benzene, Ethylbenzene, Toluene, Xylenes

Project Name: Restover Truck Stop **LIMS Project ID:** 1164-95

Sample: 95058110 (Matrix Spike - LMX1) **Date Received:** 02/06/95 **Method:** SW8020
Field ID: MW-12 **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 02/08/95 **Units:** % Recovery

Analyte	Result	Qualifier
Benzene	112	
Toluene	98	
Ethylbenzene	100	
Total Xylenes	102	

Surrogate Recoveries

Benzene, 1,4-Difluoro-	102	%

Authorized By: D. Hunter Release Date: 2/23/95 Page: 3

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Benzene, Ethylbenzene, Toluene, Xylenes

Project Name: Restover Truck Stop **LIMS Project ID:** 1164-95

Sample: 95058110 (Matrix Spike - LMX2) **Date Received:** 02/06/95 **Method:** SW8020
Field ID: MW-12 **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 02/08/95 **Units:** % Recovery

Analyte	Result	Qualifier
Benzene	**110**	
Toluene	**95**	
Ethylbenzene	**98**	
Total Xylenes	**99**	

Surrogate Recoveries

Benzene, 1,4-Difluoro-	**103**	**%**

Authorized By: _____ Release Date: 2/13/95

MANCHESTER ENVIRONMENTAL LABORATORY

7411 Beach Drive E , Port Orchard Washington 98366

CASE NARRATIVE

February 23, 1995

Subject: Restover Truck Stop

Samples: 95 - 058105 to -058113

Case No. 1164 -95

Officer: Pam Marti

By: Dickey D. Huntamer
Organics Analysis Unit

WTPH-G

ANALYTICAL METHODS:

The samples were analyzed using Washington State Method WTPH-G.

HOLDING TIMES:

All sample holding times were within the recommended limits.

BLANKS:

No target analytes were detected in the laboratory blanks.

SURROGATES:

The normal surrogates compounds were added to the sample prior to extraction. Surrogate recoveries ranged from 78% to 91%.

ANALYTICAL COMMENTS:

No analytical problems were encountered in the analysis. the data is acceptable for use as qualified.

DATA QUALIFIER CODES:

U	-	The analyte was not detected at or above the reported value.
J	-	The analyte was positively identified. The associated numerical value is an estimate.
UJ	-	The analyte was not detected at or above the reported estimated result.
REJ	-	The data are unusable for all purposes.
EXP	-	The result is equal to the number before EXP times 10 to the power of the number after EXP. As an example 3EXP6 equals 3×10^6.
NAF	-	Not analyzed for.
N	-	For organic analytes there is evidence the analyte is present in this sample.
NJ	-	There is evidence that the analyte is present. The associated numerical result is an estimate.
E	-	This qualifier is used when the concentration of the associated value exceeds the known calibration range.
bold	-	The analyte was present in the sample. (Visual Aid to locate detected compound on report sheet.)

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

TPH as Gasoline

Project Name: Restover Truck Stop **LIMS Project ID:** 1164-95

Sample: 95058105 **Date Received:** 02/06/95 **Method:** WTPH-G
Field ID: MW-8A **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 02/08/95 **Units:** mg/L

Analyte	Result	Qualifier
Gasoline	1.8	
Surrogate Recoveries		
Benzene, 1,4-Difluoro-	81	%

Authorized By: O. Kenta Release Date: 2/23/95 Page: 1

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

TPH as Gasoline

Project Name: Restover Truck Stop **LIMS Project ID:** 1164-95

Sample: 95058106
Field ID: MW-8B
Project Officer: Pam Marti

Date Received: 02/06/95
Date Analyzed: 02/08/95

Method: WTPH-G
Matrix: Water
Units: mg/L

Analyte	Result	Qualifier
Gasoline	3.4	
Surrogate Recoveries		
Benzene, 1,4-Difluoro-	83	%

Authorized By: _____ Release Date: 2/23/95 Page: 1

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

TPH as Gasoline

Project Name: Restover Truck Stop **LIMS Project ID:** 1164-95

Sample: 95058107 **Date Received:** 02/06/95 **Method:** WTPH-G
Field ID: MW-20A **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 02/09/95 **Units:** mg/L

Analyte	Result	Qualifier
Gasoline	0.06	U
Surrogate Recoveries		
Benzene, 1,4-Difluoro-	**87**	**%**

Authorized By: E. Hunter Release Date: 2/23/95 Page: 1

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

TPH as Gasoline

Project Name: Restover Truck Stop **LIMS Project ID:** 1164-95

Sample: 95058108 **Date Received:** 02/06/95 **Method:** WTPH-G
Field ID: MW-30 **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 02/09/95 **Units:** mg/L

Analyte	Result	Qualifier
Gasoline	0.16	
Surrogate Recoveries		
Benzene, 1,4-Difluoro-	91	%

Authorized By: E. Vantas Release Date: 2/23/95 Page: 1

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

TPH as Gasoline

Project Name: Restover Truck Stop **LIMS Project ID:** 1164-95

Sample: 95058109 **Date Received:** 02/06/95 **Method:** WTPH-G
Field ID: WDOE-6A **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 02/08/95 **Units:** mg/L

Analyte	Result	Qualifier
Gasoline	33	
Surrogate Recoveries		
Benzene, 1,4-Difluoro-	80	%

Authorized By: _____ Release Date: 2/23/95

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

TPH as Gasoline

Project Name: Restover Truck Stop **LIMS Project ID:** 1164-95

Sample: 95058110 **Date Received:** 02/06/95 **Method:** WTPH-G
Field ID: MW-12 **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 02/08/95 **Units:** mg/L

Analyte	Result	Qualifier
Gasoline	0.063	
Surrogate Recoveries		
Benzene, 1,4-Difluoro-	86	%

Authorized By: D Norton Release Date: 2/23/95 Page: 1

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

TPH as Gasoline

Project Name: Restover Truck Stop **LIMS Project ID:** 1164-95

Sample: 95058111 **Date Received:** 02/06/95 **Method:** WTPH-G
Field ID: MW-16 **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 02/09/95 **Units:** mg/L

Analyte	Result	Qualifier
Gasoline	0.06	U

Surrogate Recoveries

Benzene, 1,4-Difluoro-	**80**	**%**

Authorized By: _____ Release Date: 2/23/95 Page: 1

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

TPH as Gasoline

Project Name: Restover Truck Stop **LIMS Project ID:** 1164-95

Sample: 95058111 (Duplicate - LDP1) **Date Received:** 02/06/95 **Method:** WTPH-G
Field ID: MW-16 **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 02/09/95 **Units:** mg/L

Analyte	Result	Qualifier
Gasoline	0.06	U
Surrogate Recoveries		
Benzene, 1,4-Difluoro-	**86**	**%**

Authorized By: _____ Release Date: 2/25/95 Page: 2

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

TPH as Gasoline

Project Name: Restover Truck Stop **LIMS Project ID:** 1164-95

Sample: 95058112 **Date Received:** 02/06/95 **Method:** WTPH-G
Field ID: MW-15A **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 02/08/95 **Units:** mg/L

Analyte	Result	Qualifier
Gasoline	0.06	U
Surrogate Recoveries		
Benzene, 1,4-Difluoro-	**79**	**%**

Authorized By: _____ Release Date: 2/23/95 Page: 1

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

TPH as Gasoline

Project Name: Restover Truck Stop **LIMS Project ID:** 1164-95

Sample: 95058113 **Date Received:** 02/06/95 **Method:** WTPH-G
Field ID: MW-91 **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 02/08/95 **Units:** mg/L

Analyte	Result	Qualifier
Gasoline	0.06	U
Surrogate Recoveries		
Benzene, 1,4-Difluoro-	**78**	**%**

Authorized By: D. Hunter Release Date: 2/23/95 Page: 1

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

TPH as Gasoline

Project Name: Restover Truck Stop **LIMS Project ID:** 1164-95

Sample: BLNK5471 **Method:** WTPH-G
Blank ID: BW5039 **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 02/08/95 **Units:** mg/L

Analyte	Result	Qualifier
Gasoline	0.06	U
Surrogate Recoveries		
Benzene, 1,4-Difluoro-	**81**	**%**

Authorized By: D. Norton Release Date: 2/23/95 Page: 1

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

TPH as Gasoline

Project Name: Restover Truck Stop **LIMS Project ID:** 1164-95

Sample: BLNK5472 **Method:** WTPH-G
Blank ID: BW5040 **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 02/09/95 **Units:** mg/L

Analyte	Result	Qualifier
Gasoline	0.06	U
Surrogate Recoveries		
Benzene, 1,4-Difluoro-	**86**	**%**

Authorized By: _____ Release Date: 2/23/95 Page: 1

MANCHESTER ENVIRONMENTAL LABORATORY

7411 Beach Drive E , Port Orchard Washington 98366

CASE NARRATIVE

May 22, 1995

Subject: Restover Truck Stop

Samples: 95 - 168030 to -168034

Case No. 1808 - 95

Officer: Pam Marti

By: Dickey D. Huntamer
Organics Analysis Unit

BETX ANALYSIS

ANALYTICAL METHODS:

The samples were analyzed by EPA Method SW-846 - 8020. Normal laboratory QA/QC procedures were performed with the analyses.

HOLDING TIMES:

The samples were analyzed within the recommended holding times.

BLANKS:

No target compounds were detected in the laboratory blank..

SURROGATES:

Surrogate recoveries for 1,4-dichlorobenzene ranged from 91% to 128% and were within acceptable limits.

MATRIX SPIKE AND MATRIX SPIKE DUPLICATE:

A matrix spike and spike duplicate was analyzed with the sample. Recoveries ranged from 78% to 99%, precision data ranged from 0% to 1.3% and both were within acceptable limits. No qualifiers were added to the data.

ANALYTICAL COMMENTS:

No problems were encountered in the analysis of these samples. The data is acceptable to use without additional qualifiers.

DATA QUALIFIER CODES:

U	-	The analyte was not detected at or above the reported value.
J	-	The analyte was positively identified. The associated numerical value is an estimate.
UJ	-	The analyte was not detected at or above the reported estimated result.
REJ	-	The data are unusable for all purposes.
EXP	-	The result is equal to the number before EXP times 10 to the power of the number after EXP. As an example 3EXP6 equals 3×10^6.
NAF	-	Not analyzed for.
N	-	For organic analytes there is evidence the analyte is present in this sample.
NJ	-	There is evidence that the analyte is present. The associated numerical result is an estimate.
E	-	This qualifier is used when the concentration of the associated value exceeds the known calibration range.
bold	-	The analyte was present in the sample. (Visual Aid to locate detected compound on report sheet.)

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Benzene, Ethylbenzene, Toluene, Xylenes

Project Name: Restover Truck Stop **LIMS Project ID:** 1808-95

Sample: BLN51538
Blank ID: BW5115
Project Officer: Pam Marti

Date Prepared: 04/26/95
Date Analyzed: 04/26/95

Method: SW8020
Matrix: Water
Units: ug/L

Analyte	Result	Qualifier
Benzene	0.20	U
Toluene	0.20	U
Ethylbenzene	0.20	U
Total Xylenes	0.60	U

Surrogate Recoveries

Benzene, 1,4-Difluoro-	**98**	**%**

Authorized By: D. Hostetler Release Date: 5/19/95 Page: 1

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Benzene, Ethylbenzene, Toluene, Xylenes

Project Name: Restover Truck Stop **LIMS Project ID:** 1808-95

Sample: 95168030
Field ID: MW-8A
Project Officer: Pam Marti

Date Received: 04/20/95
Date Prepared: 04/26/95
Date Analyzed: 04/26/95

Method: SW8020
Matrix: Water
Units: ug/L

Analyte	Result	Qualifier
Benzene	1.0	U
Toluene	1.0	U
Ethylbenzene	1.0	U
Total Xylenes	3.0	U

Surrogate Recoveries

Benzene, 1,4-Difluoro-	**91**	**%**

Authorized By: D. Wright Release Date: 5/19/95 Page: 1

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Benzene, Ethylbenzene, Toluene, Xylenes

Project Name: Restover Truck Stop **LIMS Project ID:** 1808-95

Sample: BLN51539 **Method:** SW8020
Blank ID: BW5116 **Date Prepared:** 04/26/95 **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 04/26/95 **Units:** ug/L

Analyte	Result	Qualifier
Benzene	0.20	U
Toluene	0.20	U
Ethylbenzene	0.20	U
Total Xylenes	0.60	U

Surrogate Recoveries

Benzene, 1,4-Difluoro-	**91**	**%**

Authorized By: _____ Release Date: 5/19/95 Page: 1

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Benzene, Ethylbenzene, Toluene, Xylenes

Project Name: Restover Truck Stop **LIMS Project ID:** 1808-95

Sample: 95168031
Field ID: MW-8B
Project Officer: Pam Marti

Date Received: 04/20/95
Date Prepared: 04/26/95
Date Analyzed: 04/26/95

Method: SW8020
Matrix: Water
Units: ug/L

Analyte	Result	Qualifier
Benzene	1.0	U
Toluene	1.5	U
Ethylbenzene	1.0	U
Total Xylenes	3.0	U

Surrogate Recoveries

Benzene, 1,4-Difluoro-	**103**	**%**

Authorized By: _____ Release Date: 5/19/95

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Benzene, Ethylbenzene, Toluene, Xylenes

Project Name: Restover Truck Stop **LIMS Project ID:** 1808-95

Sample: 95168032
Field ID: MW-20A
Project Officer: Pam Marti

Date Received: 04/20/95
Date Prepared: 04/26/95
Date Analyzed: 04/26/95

Method: SW8020
Matrix: Water
Units: ug/L

Analyte	Result	Qualifier
Benzene	0.20	U
Toluene	0.20	U
Ethylbenzene	0.20	U
Total Xylenes	0.60	U

Surrogate Recoveries

Benzene, 1,4-Difluoro-	**95**	**%**

Authorized By: D. Norton Release Date: 5/19/95 Page: 1

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Benzene, Ethylbenzene, Toluene, Xylenes

Project Name: Restover Truck Stop **LIMS Project ID:** 1808-95

Sample: 95168033
Field ID: MW-30
Project Officer: Pam Marti

Date Received: 04/20/95
Date Prepared: 04/25/95
Date Analyzed: 04/25/95

Method: SW8020
Matrix: Water
Units: ug/L

Analyte	Result	Qualifier
Benzene	4.4	
Toluene	0.30	
Ethylbenzene	2.3	
Total Xylenes	0.96	

Surrogate Recoveries

Benzene, 1,4-Difluoro-	128	%

Authorized By: D. Norton Release Date: 5/19/95 Page: 1

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Benzene, Ethylbenzene, Toluene, Xylenes

Project Name: Restover Truck Stop **LIMS Project ID:** 1808-95

Sample: 95168034
Field ID: WDOE-6A
Project Officer: Pam Marti

Date Received: 04/20/95
Date Prepared: 04/26/95
Date Analyzed: 04/26/95

Method: SW8020
Matrix: Water
Units: ug/L

Analyte	Result	Qualifier
Benzene	20	U
Toluene	**59**	
Ethylbenzene	**170**	
Total Xylenes	**1600**	

Surrogate Recoveries

Benzene, 1,4-Difluoro-	**101**	%

Authorized By: D. Hostetler Release Date: 5/19/95 Page: 1

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Benzene, Ethylbenzene, Toluene, Xylenes

Project Name: Restover Truck Stop **LIMS Project ID:** 1808-95

Sample: 95168033 (Matrix Spike - LMX1) **Date Received:** 04/20/95 **Method:** SW8020
Field ID: MW-30 **Date Prepared:** 04/25/95 **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 04/25/95 **Units:** % Recovery

Analyte	Result	Qualifier
Benzene	79	
Toluene	99	
Ethylbenzene	86	
Total Xylenes	98	

Surrogate Recoveries

Benzene, 1,4-Difluoro-	109	%

Authorized By: _____ Release Date: 5/19/95 Page: 2

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Benzene, Ethylbenzene, Toluene, Xylenes

Project Name: Restover Truck Stop **LIMS Project ID:** 1808-95

Sample: 95168033 (Matrix Spike - LMX2) **Date Received:** 04/20/95 **Method:** SW8020
Field ID: MW-30 **Date Prepared:** 04/25/95 **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 04/25/95 **Units:** % Recovery

Analyte	Result	Qualifier
Benzene	78	
Toluene	99	
Ethylbenzene	86	
Total Xylenes	97	

Surrogate Recoveries

Benzene, 1,4-Difluoro-	106	%

Authorized By: D. Norton Release Date: 5/19/95 Page: 3

MANCHESTER ENVIRONMENTAL LABORATORY

7411 Beach Drive E , Port Orchard Washington 98366

CASE NARRATIVE

May 22, 1995

Subject: Restover Truck Stop

Samples: 95 - 168030 to -168034

Case No. 1808 - 95

Officer: Pam Marti

By: Dickey D. Huntamer
Organics Analysis Unit

WTPH-G

ANALYTICAL METHODS:

The samples were prepared and analyzed using method WTPH-G.

HOLDING TIMES:

All sample and extraction holding times were within the recommended limits.

BLANKS:

No target compounds were detected in the blank.

SURROGATES:

1,4-difluorobenzene was added to the samples as a surrogate compound prior to extraction. Surrogate recoveries ranged from 74% to 112% and were within acceptable QC limits.

DUPLICATE ANALYSIS:

Sample -168033 was analyzed in duplicate. The Relative Percent Difference (RPD) was 2.7.

ANALYTICAL COMMENTS:

No analytical problems were encountered in the analysis. The data is acceptable for use as qualified.

DATA QUALIFIER CODES:

U	-	The analyte was not detected at or above the reported value.
J	-	The analyte was positively identified. The associated numerical value is an estimate.
UJ	-	The analyte was not detected at or above the reported estimated result.
REJ	-	The data are unusable for all purposes.
EXP	-	The result is equal to the number before EXP times 10 to the power of the number after EXP. As an example 3EXP6 equals 3×10^6.
NAF	-	Not analyzed for.
N	-	For organic analytes there is evidence the analyte is present in this sample.
NJ	-	There is evidence that the analyte is present. The associated numerical result is an estimate.
E	-	This qualifier is used when the concentration of the associated value exceeds the known calibration range.
bold	-	The analyte was present in the sample. (Visual Aid to locate detected compound on report sheet.)

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

TPH as Gasoline

Project Name: Restover Truck Stop **LIMS Project ID:** 1808-95

Sample: 95168030
Field ID: MW-8A
Project Officer: Pam Marti

Date Received: 04/20/95
Date Prepared: 04/25/95
Date Analyzed: 04/25/95

Method: WTPH-G
Matrix: Water
Units: mg/L

Analyte	Result	Qualifier
Gasoline	2.3	
Surrogate Recoveries		
Benzene, 1,4-Difluoro-	74	%

Authorized By: D. Norton Release Date: 5/9/95 Page: 1

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

TPH as Gasoline

Project Name: Restover Truck Stop **LIMS Project ID:** 1808-95

Sample: 95168031
Field ID: MW-8B
Project Officer: Pam Marti

Date Received: 04/20/95
Date Prepared: 04/25/95
Date Analyzed: 04/25/95

Method: WTPH-G
Matrix: Water
Units: mg/L

Analyte	Result	Qualifier
Gasoline	2.5	
Surrogate Recoveries		
Benzene, 1,4-Difluoro-	76	%

Authorized By: _____ Release Date: 5/19/95

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

TPH as Gasoline

Project Name: Restover Truck Stop **LIMS Project ID:** 1808-95

Sample: 95168032
Field ID: MW-20A
Project Officer: Pam Marti

Date Received: 04/20/95
Date Prepared: 04/26/95
Date Analyzed: 04/26/95

Method: WTPH-G
Matrix: Water
Units: mg/L

Analyte	Result	Qualifier
Gasoline	0.06	U
Surrogate Recoveries		
Benzene, 1,4-Difluoro-	**75**	**%**

Authorized By: _____ Release Date: 5/19/95 Page: 1

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

TPH as Gasoline

Project Name: Restover Truck Stop **LIMS Project ID:** 1808-95

Sample: 95168033
Field ID: MW-30
Project Officer: Pam Marti

Date Received: 04/20/95
Date Prepared: 04/25/95
Date Analyzed: 04/25/95

Method: WTPH-G
Matrix: Water
Units: mg/L

Analyte	Result	Qualifier
Gasoline	0.35	
Surrogate Recoveries		
Benzene, 1,4-Difluoro-	110	%

Authorized By: D. Norton Release Date: 5/19/95 Page: 1

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

TPH as Gasoline

Project Name: Restover Truck Stop **LIMS Project ID:** 1808-95

Sample: 95168033 (Duplicate - LDP1)
Field ID: MW-30
Project Officer: Pam Marti

Date Received: 04/20/95
Date Prepared: 04/25/95
Date Analyzed: 04/25/95

Method: WTPH-G
Matrix: Water
Units: mg/L

Analyte	Result	Qualifier
Gasoline	0.37	
Surrogate Recoveries		
Benzene, 1,4-Difluoro-	112	%

Authorized By: _____ Release Date: 5/1/95

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

TPH as Gasoline

Project Name: Restover Truck Stop **LIMS Project ID:** 1808-95

Sample: 95168034
Field ID: WDOE-6A
Project Officer: Pam Marti

Date Received: 04/20/95
Date Prepared: 04/26/95
Date Analyzed: 04/26/95

Method: WTPH-G
Matrix: Water
Units: mg/L

Analyte	Result	Qualifier
Gasoline	26	
Surrogate Recoveries		
Benzene, 1,4-Difluoro-	91	%

Authorized By: _____ Release Date: 5/19/95

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

TPH as Gasoline

Project Name: Restover Truck Stop **LIMS Project ID:** 1808-95

Sample: BLN51537 **Method:** WTPH-G
Blank ID: BW5115 **Date Prepared:** 04/25/95 **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 04/25/95 **Units:** mg/L

Analyte	Result	Qualifier
Gasoline	0.06	U
Surrogate Recoveries		
Benzene, 1,4-Difluoro-	**74**	**%**

Authorized By: D. Hunter Release Date: 5/19/95 Page: 1