A Department of Ecology Report

WASHINGTON STATE DEPARTMENT OF ECOLOGY

Lakewood/Plaza Cleaners Long-term Monitoring January and August 1999

Abstract

This document is one in a series describing the results of long-term groundwater sampling at Lakewood/Plaza Cleaners. The Washington State Department of Ecology (Ecology) has conducted semi-annual groundwater sampling at the site since 1991. The objective of this sampling is to collect groundwater quality data for the Toxics Cleanup Program to evaluate the effectiveness of Lakewood supply wells H1 and H2 (Figure 1) to contain and remove contaminated groundwater caused by Plaza Cleaners. On January 21, 1999 samples were collected from one municipal well (H1) and three monitoring wells: MW-20A, MW-20B, and MW-27. Well MW-16A, which is part of the long-term monitoring network, was not sampled due to failure of the dedicated pump. The pump was repaired prior to the August sampling. On August 2, 1999, samples were collected from one municipal well (H1) and seven monitoring wells: MW-16A, MW-19A, MW-20A, MW-20B, MW-27, MW-31, and MW-33. All samples were analyzed for volatile organics (VOAs).

Monitoring wells MW-20B and MW-16A, as well as municipal well H1, continue to have tetrachloroethene (PERC) concentrations that exceed the Model Toxic Control Act (MTCA) cleanup standard of 5.0 µg/L. PERC concentrations in these wells during the past year of sampling were MW-20B (708 µg/L and 722 µg/L), MW-16A (22 µg/L), and H1 (1.5 µg/L and 5.2 µg/L). Trichloroethene (TCE) was detected in MW-20B at concentrations of 5.2 µg/L and 8.4 µg/L, which also exceeds the MTCA cleanup standard for TCE of 5.0 µg/L. Cis-1,2-dichloroethene (cis-1,2-DCE) was detected in wells MW-20B (12 µg/L and 16 µg/L) and MW-16A (1.1 µg/L). Overall, concentrations are similar to those reported in previous sampling rounds.

by Pamela B. Marti
Waterbody No. WA-225274471570GW
Ecology Report #99-344
October 1999

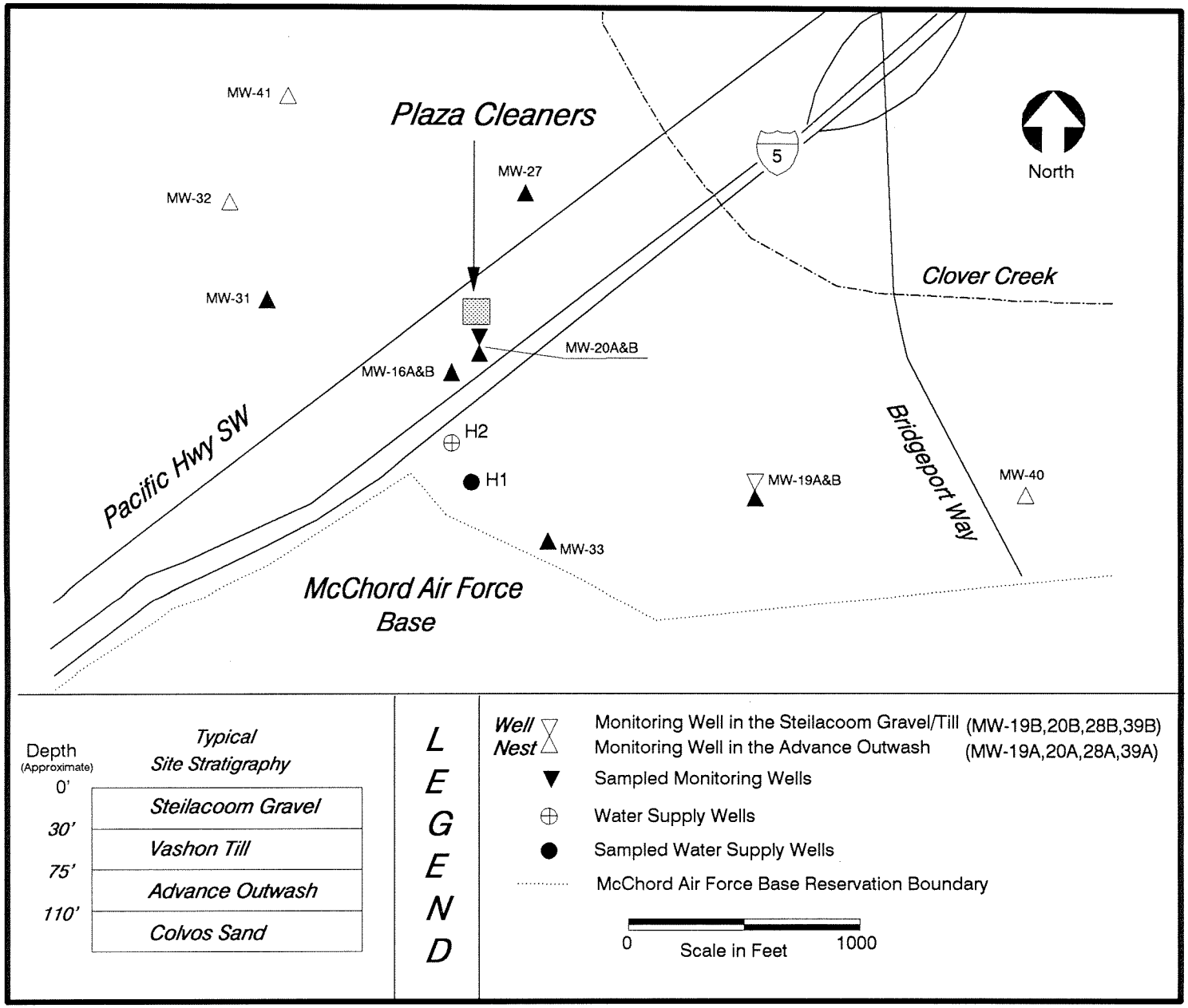


Figure 1: Well Location Map - Lakewood/Plaza Cleaners

Results

Field Observations

Table 1 lists field observations for each of the wells sampled, including well depth, static water level, pH, specific conductance, temperature, and purged volume. Sampling procedures are discussed in Appendix A.

Table 1. Summary of Field Parameters Results for January 21 and August 2, 1999.

	MW-16A	*MW-19A*	*MW-20A*	*MW-20B*	*MW-27*	*MW-31*	*MW-33*	*H1*
Total Depth (feet)	109	97.5	97.3	50.4	96.4	91.5	99.3	110
Depth to Water (ft)	44.14	40.37	25.02-35.57	27.14-37.18	++	++	++	++
pH (standard units)	7.2	7.1	7.9-8.4	6.8-7.0	6.7-7.0	7.1	7.3	6.3-6.8
Spec. Conductance (umhos/cm)	220	182	212-228	370-425	178-190	170	194	130-185
Temperature (°C)	13.2	12.0	12.0-13.2	12.7-13.7	11.8-12.5	12.3	12.0	10.1-12.8
PurgeVolume (gal)	130	28	31-41	7-13	30-35	30	30	>1000

++ = Dedicated pump obstructs water-level measurement.

All field parameters were within expected ranges. The specific conductance in well MW-20B (370-425 umhos/cm), which is screened in a fine-grained till unit, was approximately two times greater than the other wells. Specific conductance readings are typically higher for water from fine-grained units. The other wells are screened in an advanced outwash unit.

Well MW-16A could not be sampled in January due to failure of the dedicated pump.

Laboratory Results

All samples were analyzed for volatile organics (VOAs) using EPA SW846 Method 8260 (modified). Table 2 summarizes laboratory results. The quality of the data is acceptable for use for both sample rounds. Discussion of quality assurance along with the laboratory reporting sheets for both sample rounds are presented in Appendix B.

Table 2. Summary of Analytes Detected (µg/L) in Samples Collected January 21 and August 2, 1999.

	MW-20B	*MW-16A*	*MW-20A*	*MW-27*	*MW-31*	*MW-33*	*MW-19A*	*H1*
January 1999								
Tetrachloroethene	708	---	1 U	1 U	---	---	---	1.5
Trichloroethene	5.2	---	2 U	2 U	---	---	---	1 U
Cis-1,2-Dichloroethene	12	---	1 U	1 U	---	---	---	1 U
August 1999								
Tetrachloroethene	722	22	0.78 J	1 U	0.91 J	1 U	1 U	5.2
Trichloroethene	8.4 J	0.38 J	2 U	2 U	2 U	2 U	0.36 J	0.21 J
Cis-1,2-Dichloroethene	16 J	1.1	1 U	1 U	0.38 J	1 U	1 U	1 U

(Model Toxic Control Act Method A Cleanup Standard for PERC in groundwater is 5 µg/L)

U = The analyte was not detected at or above the reported value
J = The analyte was positively identified. The associated numerical result is an estimate
-- = Not tested

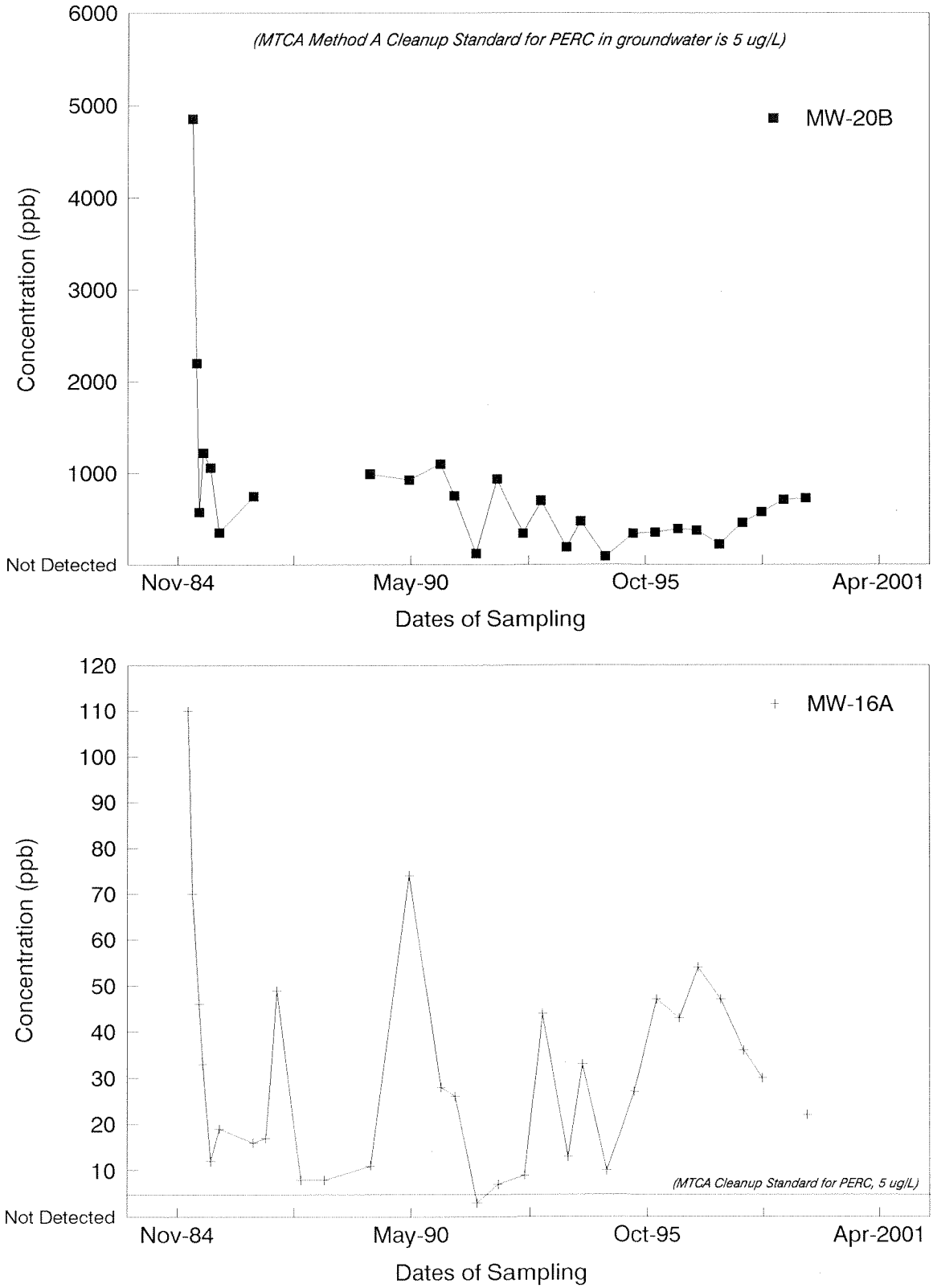
In January, tetrachloroethene (PERC), trichloroethene (TCE), and cis-1,2-dichloroethene (cis-1,2-DCE) were detected in well MW-20B at concentrations of 708 µg/L, 5.2 µg/L, and 12 µg/L, respectively. Municipal well H1 had a PERC concentration of 1.5 µg/L.

In August, PERC, TCE, and cis-1,2-DCE concentrations in well MW-20B were 722 µg/L, 8.4 µg/L, and 16 µg/L, respectively. PERC and cis-1,2-DCE were also detected in MW-16A with concentrations of 22 µg/L and 1.1 µg/L, respectively. Municipal well H1 had a PERC concentration of 5.2 µg/L. PERC, TCE, and cis-1,2-DCE were detected below the practical quantitation limit of 1 µg/L in some of the wells as shown in Table 2.

Table 3 summarizes PERC, TCE, and cis-1,2-DCE concentrations for sampling events from January 1991 through August 1999. Table 4 shows PERC and TCE concentrations that have exceeded the MTCA cleanup standard of 5.0 µg/L for the same time period.

PERC concentrations continue to be elevated in wells MW-20B and MW-16A. Municipal wells H1/H2, which were added to the monitoring program in 1995, also have elevated PERC concentrations. Figure 2 shows PERC concentrations for MW-20B and MW-16A between 1984 and 1999. Since 1984, PERC concentrations in both wells have varied substantially. PERC concentrations decreased initially in MW-20B from March 1985 (4800 ppb) to May 1985 (570 ppb). After May 1985, concentrations have ranged between 86 ppb and 1200 ppb. In the past two years PERC concentrations have gradually increased. Over the monitoring period PERC concentrations in MW-16A have varied between 3 ppb and 110 ppb.

The next sample round is scheduled for January 2000.



PERC Concentrations for Wells MW-20B and MW-16A from 1984 to 1999

Figure 2

Table 3: Summary of Sample Results (ug/L) from January 1991 to August 1999

Well	January 1991			May 1991			November 1991			May 1992			December 1992		
Number	PERC	TCE	cis-1,2-DCE	PERC	TCE	cis-1,2-DCE	PERC	TCE	cis-1,2-DCE	PERC	TCE	cis-1,2-DCE	PERC	TCE	cis-1,2-DCE
MW-16A	28	1 J	2.4 J	26	0.6 J	2	2.7 J	1 U	0.6 J	7	1 U	1	9 J	0.3 J	0.8 J
MW-20A	1 U	1 U	1 U	0.4 J	1 U	1 U	0.4 J	1 U	1 U	0.5 J	1 U	1 U	0.8 J	1 UJ	1 UJ
MW-20B	1100 D	18	33	752	16	30	120	2.6 J	6.7	940	13	32	340 J	14 J	20 J
MW-21	2.1 J	1 U	1 J	2	1 U	0.7 J	2.2 J	1 U	1.0 J	2	1 U	0.6 J	2	0.2 J	0.3 J
MW-27	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 UJ
MW-28A	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-31	1 J	1 U	1.9 J	0.6 J	1 U	2	0.9 J	1 U	2.2 J	0.8 J	1 U	1	0.5 J	1 UJ	0.9 J
MW-32	1 J	1 U	1.1 J	1	1 U	2	0.6 J	1 U	0.6 J	0.7 J	1 U	1	0.7 J	1 UJ	0.5 J
MW-41	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 UJ
MW-19A	--	--	--	--	--	--	1 U	0.5 J	1 U	--	--	--	1 UJ	1 UJ	1 UJ
MW-33	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-40	1 U	1 U	1 U	--	--	--	1 U	1 U	1 U	--	--	--	1 UJ	1 UJ	1 UJ
H1/H2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Well	May 1993			December 1993			April 1994			November 1994			July 1995		
Number	PERC	TCE	cis-1,2-DCE	PERC	TCE	cis-1,2-DCE	PERC	TCE	cis-1,2-DCE	PERC	TCE	cis-1,2-DCE	PERC	TCE	cis-1,2-DCE
MW-16A	44	10 U	2 J	13	0.3 J	0.7 J	33	0.6	1.4	9.7	0.3 J	0.5 J	27	0.5 J	0.8 J
MW-20A	10 U	10 U	10 U	0.3 J	1 U	1 U	0.4	0.2 U	0.2 U	0.3 J	1 U	1 U	0.4 J	1 U	1 U
MW-20B	700 D	12	21	187	50 U	8.2 J	472	8.6 J	12.6	86	50 U	3 J	340 D	8.4	17
MW-21	1 J	10 U	10 U	1.6	1 U	0.4 J	1.5	0.2 J	0.3	1.8	0.2 J	0.3 J	--	--	--
MW-27	10 U	10 U	10 U	1 U	1 U	1 U	0.2 U	0.2 U	0.2 U	1 U	1 U	1 U	1 U	1 U	1 U
MW-28A	--	--	--	--	--	--	--	--	--	--	--	--	1 U	1 U	1 U
MW-31	10 U	10 U	10 U	0.8 J	1 U	1.2 J	0.7	0.2 U	1.0	0.8 J	1 U	1	0.6 J	1 U	0.5 J
MW-32	10 U	10 U	10 U	0.7 J	1 U	0.6 J	0.7	0.2 U	0.6	0.6 J	1 U	0.5 J	0.7 J	1 U	0.5 J
MW-41	10 U	10 U	10 U	1 U	1 U	1 U	0.2 U	0.2 U	0.2 U	1 U	1 U	1 U	1 U	1 U	1 U
MW-19A	--	--	--	1 U	0.4	1 U	0.2 U	0.5	0.2 U	--	--	--	1 U	0.4 J	1 U
MW-33	--	--	--	--	--	--	--	--	--	--	--	--	1 U	1 U	1 U
MW-40	--	--	--	1 U	1 U	1 U	0.2 U	0.2 U	0.2 U	--	--	--	1 U	1 U	1 U
H1/H2	--	--	--	--	--	--	--	--	--	--	--	--	9	0.3 J	1 U

U = The analyte was not detected at or above the reported result.
J = The analyte was positively identified. The associated numerical result is an estimate.
UJ = The analyte was not detected at or above the reported estimated result.
D = Analysis performed at secondary dilution.
E = The concentration of the associated value exceeds the known calibration range.
-- = Not Tested
= The analyte was positively identified.

Table 3 continued: Summary of Sample Results (ug/L) from January 1991 to August 1999

Well	January 1996			July 1996			January 1997			July 1997			February 1998		
Number	PERC	TCE	cis-1,2-DCE	PERC	TCE	cis-1,2-DCE	PERC	TCE	cis-1,2-DCE	PERC	TCE	cis-1,2-DCE	PERC	TCE	cis-1,2-DCE
MW-16A	**47 E**	**0.8 J**	**1.5**	**43**	**0.7 J**	**1.9**	**54**	**1.1**	**3.1**	**47**	**0.7 J**	**2.5**	**36**	**0.7 J**	**2 J**
MW-20A	**0.2 J**	1 U	1 U	**0.4 J**	1 U	1 U	**0.4 J**	1 U	1 U	**0.3 J**	1 U	2 U	**0.4 J**	1 U	1 U
MW-20B	**353**	**7.2**	**15**	**387**	**7.6**	**15**	**373**	100 U	**6.4 J**	**222**	**4**	**6.4**	**456**	**7 J**	**12**
MW-21	--	--	--	Well Decommissioned											
MW-27	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U	1 U	1 U
MW-28A	1 U	1 U	1 U	Well Decommissioned											
MW-31	**0.6 J**	1 U	**0.7 J**	--	--	--	--	--	--	**0.9 J**	1 U	**0.9 J**	--	--	--
MW-32	**0.8 J**	1 U	**0.6 J**	--	--	--	--	--	--	--	--	--	--	--	--
MW-41	1 U	1 U	1 U	--	--	--	--	--	--	--	--	--	--	--	--
MW-19A	--	--	--	--	--	--	--	--	--	1 U	**0.3 J**	2 U	--	--	--
MW-33	--	--	--	1 U	1 U	1 U	--	--	--	1 U	1 U	2 U	--	--	--
MW-40	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
H1/H2	**8.4**	**0.2 J**	**0.2 J**	**0.14 J**	1 U	1 U	**18**	**0.4 J**	**0.4 J**	**8.8**	**0.3 J**	**0.6 J**	**11**	**0.4 J**	**0.3 J**

Well	July 1998			January 1999			August 1999		
Number	PERC	TCE	cis-1,2-DCE	PERC	TCE	cis-1,2-DCE	PERC	TCE	cis-1,2-DCE
MW-16A	**30**	1 U	**1.5 J**	--	--	--	**22**	**0.38 J**	**1.1**
MW-20A	**0.6 J**	1 U	1 U	1 U	2 U	1 U	**0.78 J**	2 U	1 U
MW-20B	**575 D**	**10**	**23**	**708**	**5.2**	**12**	**722**	**8.4 J**	**16 J**
MW-27	**0.05 J**	1 U	1 U	1 U	2 U	1 U	1 U	2 U	1 U
MW-31	--	--	--	--	--	--	**0.91 J**	2 U	**0.38 J**
MW-32	--	--	--	--	--	--	--	--	--
MW-41	--	--	--	--	--	--	--	--	--
MW-19A	--	--	--	--	--	--	1 U	**0.36 J**	1 U
MW-33	1 U	1 U	1 U	--	--	--	1 U	2 U	1 U
MW-40	--	--	--	--	--	--	--	--	--
H1/H2	**10**	1 U	**0.1 J**	**1.5**	1 U	1 U	**5.2**	**0.21 J**	1 U

U = The analyte was not detected at or above the reported result.
J = The analyte was positively identified. The associated numerical result is an estimate.
UJ = The analyte was not detected at or above the reported estimated result.
D = Analysis performed at secondary dilution.
E = The concentration of the associated value exceeds the known calibration range.
-- = Not Tested
= The analyte was positively identified.

Table 4. Summary of PERC and TCE concentrations that exceeded MTCA Method A Cleanup Standard of 5 µg/L.

	1991	*1992*	*1993*	*1994*	*1995*	*1996*	*1997*	*1998*	*1999*
MW-20B									
Tetrachloroethene	120-1100	340J-940	187-700	86-472	340	353-387	222-373	456-575	708-722
Trichloroethene	2.6J-18	13-14J	12	8.6J	8.4	7.2-7.6	4	7J-10	5.2-8.4J
MW-16A									
Tetrachloroethene	2.7J-28	7-9J	13-44	9.7-33	27	43-47	47-54	30-36	22
H1/H2									
Tetrachloroethene	---	---	---	---	9	0.14J-8.4	8.8-18	10-11	1.5-5.2

(Model Toxic Control Act Method A Cleanup Standard for PERC and TCE in groundwater is 5 µg/L)

J = The analyte was positively identified. The associated numerical result is an estimate
-- = Not Tested

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Appendix A

Methods for Groundwater Sampling

Methods for Groundwater Sampling

On January 21, samples were collected from municipal well H1 and monitoring wells MW-20A, MW-20B and MW-27. Well MW-16A could not be sampled due to failure of the dedicated pump. The pump was repaired prior to the August sampling. On August 2, samples were collected from municipal well H1 and seven monitoring wells: MW-16A, MW-19A, MW-20A, MW-20B, MW-27, MW-31, and MW-33 (Figure 1). Prior to sample collection, static water level measurements were obtained using an electronic water level probe. The probe was rinsed with deionized water after each use. All monitoring wells were purged a minimum of three well volumes and until pH, temperature, and specific conductance readings stabilized. Purge water was discharged to storm drains or to the ground near each well. All monitoring wells were purged and sampled using dedicated bladder pumps, except for MW-20B. Well MW-20B was purged and sampled with a decontaminated teflon bailer. Municipal well H1/H2, which pumps continuously, was sampled from a tap nearest the well. Samples collected for volatile organics were free of headspace and preserved with two drops of 1:1 hydrochloric acid.

The bailer was pre-cleaned with a Liquinox® wash and sequential rinses of hot tap water, 10% nitric acid, distilled/deionized water, and pesticide-grade acetone. After cleaning, the bailer was air-dried and wrapped in aluminum foil. Chain-of-custody procedures were followed in accordance with Manchester Laboratory protocol (Ecology, 1994).

Appendix B

Quality Assurance Samples

Quality Assurance Samples

Quality control samples collected in the field for groundwater monitoring consisted of a blind duplicate sample. Blind duplicate samples were collected from well MW-20B in January, and from well MW-16A in August. Duplicate samples are two sets of samples collected from a well simultaneously and submitted to the laboratory with different identification. In addition to quality control samples collected in the field, laboratory quality control samples consisted of matrix spikes, matrix spike duplicates, and surrogate compound recoveries. Volatile organic samples were analyzed using EPA SW-846 Method 8260 (modified) (U.S. EPA, 1986).

The quality of the data is acceptable for use. Volatile organic analyses were performed by the Manchester Laboratory. Karin Feddersen of the Manchester Laboratory conducted the quality assurance review. Duplicate samples collected at MW-20B and MW-16A 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 for PERC, TCE, and cis-1,2-DCE were within 9% for January, and 31%, 11%, and 10%, respectively for August. Most of the surrogate matrix spike and spike duplicate recoveries are within acceptable limits for the samples. In August, the sample from well MW-20B was analyzed after the recommended holding time of 14 days due to an instrument malfunction. The sample was stored properly until being analyzed; therefore, it is stated that analysis beyond the recommended holding time should not have a significant effect upon the results.

Manchester Environmental Laboratory

7411 Beach Drive E, Port Orchard Washington 98366

CASE NARRATIVE

February 8, 1999

Project:	**Lakewood/Plaza Cleaners**
Samples:	99038111 through 99038117
Project ID:	108399
Project Officer:	Pam Marti
By:	Karin Feddersen KF

VOLATILE ORGANIC ANALYSIS

SUMMARY:

Sample 99038117 was analyzed before it was determined that it was a field duplicate of sample 99038115. The data has been included for additional sampling and analysis precision information. The data is usable as reported.

ANALYTICAL METHODS:

Volatile organic compounds were analyzed using the Manchester Laboratory modification of the EPA Method 8260 purge-trap procedure and capillary Gas Chromatography with Mass Spectrometer (GC/MS) analysis. Routine QA/QC procedures were performed.

BLANKS:

No analytes of interest were detected above the reporting limit in the blank.

SURROGATES:

Surrogate recoveries were within acceptable limits for all samples.

HOLDING TIMES:

The samples were analyzed within the recommended 14 day holding time.

MATRIX SPIKE AND MATRIX SPIKE DUPLICATE:

Aliquots of sample 99038115 were analyzed with the samples as matrix spikes. All recoveries were within acceptable limits with one exception which does not affect the results.

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.
NAF	-	Not analyzed for.
N	-	There is evidence the analyte is present in the 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. The associated numerical result is an estimate.
bold	-	The analyte was present in the sample. (Visual Aid to locate detected compounds on report sheet.)

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Volatile Organic Analysis

Project Name: Lakewood Plaza Cleaners **LIMS Project ID:** 1083-99

Sample: 99038111 **Date Collected:** 01/21/99 **Method:** SW8260
Field ID: H1 **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 01/22/99 **Units:** ug/L

Analyte	Result	Qualifier	Analyte	Result	Qualifier
Dichlorodifluoromethane	40	U	**Tetrachloroethene**	**1.5**	
Chloromethane	2	U	**Dibromochloromethane**	**.67**	**J**
Vinyl Chloride	1	U	1,2-Dibromoethane (EDB)	2	U
Bromomethane	2	U	Chlorobenzene	1	U
Chloroethane	2	U	1,1,1,2-Tetrachloroethane	2	U
Trichlorofluoromethane	1	U	Ethylbenzene	1	U
Ethyl Ether	1	U	m & p-Xylene	2	U
1,1,2 Trichlorotrifluoroethane	1	U	o-Xylene	1	U
1,1-Dichloroethene	5	U	Styrene	1	U
Acetone	2	U	Bromoform	2	U
Methyl Iodide	2	U	Isopropylbenzene (Cumene)	1	U
Carbon Disulfide	1	U	1,1,2,2-Tetrachloroethane	2	U
Methylene Chloride	1	U	Trans-1,4-Dichloro-2-butene	5	U
2-Methyoxy-2-Methylpropane	2	U	1,2,3-Trichloropropane	2	U
Trans-1,2-Dichloroethene	1	U	Bromobenzene	1	U
1,1-Dichloroethane	1	U	n-Propylbenzene	1	U
2-Butanone	5	U	2-Chlorotoluene	1	U
Cis-1,2-Dichloroethene	1	U	1,3,5-Trimethylbenzene	1	U
2,2-Dichloropropane	1	U	4-Chlorotoluene	1	U
Bromochloromethane	1	U	Tert-Butylbenzene	1	U
Chloroform	**.28**	**J**	1,2,4-Trimethylbenzene	1	U
Tetrahydrofuran	2	U	Pentachloroethane	1	U
1,1,1-Trichloroethane	1	U	Sec-Butylbenzene	1	U
1,1-Dichloropropene	1	U	p-Isopropyltoluene	1	U
Carbon Tetrachloride	1	U	1,3-Dichlorobenzene	1	U
1,2-Dichloroethane	1	U	1,4-Dichlorobenzene	1	U
Benzene	1	U	n-Butylbenzene	2	U
Trichloroethene	1	U	1,2-Dichlorobenzene	1	U
1,2-Dichloropropane	1	U	Hexachloroethane	5	U
Dibromomethane	5	U	1,2-Dibromo-3-Chloropropane	5	U
Bromodichloromethane	**.62**	**J**	1,2,4-Trichlorobenzene	5	U
Cis-1,3-Dichloropropene	1.1	U	Hexachlorobutadiene	2	U
4-Methyl-2-Pentanone	2	U	Naphthalene	5	U
Toluene	1	U	1,2,3-Trichlorobenzene	5	U
Trans-1,3-Dichloropropene	1.9	U			
1,1,2-Trichloroethane	1	U			
1,3-Dichloropropane	2	U			
2-Hexanone	4	U			

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Analysis Report for

Volatile Organic Analysis

Project Name: Lakewood Plaza Cleaners **LIMS Project ID:** 1083-99

Sample: 99038111 **Date Collected:** 01/21/99 **Method:** SW8260
Field ID: H1 **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 01/22/99 **Units:** ug/L

Surrogate Recoveries

1,2-Dichloroethane-D4	118	%
1,4-Difluorobenzene	105	%
Toluene-D8	106	%
p-Bromofluorobenzene	96	%
1,2-Dichlorobenzene-D4	102	%

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Analysis Report for

Volatile Organic Analysis

Project Name: Lakewood Plaza Cleaners **LIMS Project ID:** 1083-99

Sample: 99038112 **Date Collected:** 01/21/99 **Method:** SW8260
Field ID: MW-27 **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 01/22/99 **Units:** ug/L

Analyte	Result	Qualifier	Analyte	Result	Qualifier
Dichlorodifluoromethane	40	U	Tetrachloroethene	1	U
Chloromethane	2	U	Dibromochloromethane	1	U
Vinyl Chloride	1	U	1,2-Dibromoethane (EDB)	2	U
Bromomethane	2	U	Chlorobenzene	1	U
Chloroethane	2	U	1,1,1,2-Tetrachloroethane	2	U
Trichlorofluoromethane	1	U	Ethylbenzene	1	U
Ethyl Ether	1	U	m & p-Xylene	2	U
1,1,2 Trichlorotrifluoroethane	1	U	o-Xylene	1	U
1,1-Dichloroethene	5	U	Styrene	1	U
Acetone	2	U	Bromoform	2	U
Methyl Iodide	2	U	Isopropylbenzene (Cumene)	1	U
Carbon Disulfide	1	U	1,1,2,2-Tetrachloroethane	2	U
Methylene Chloride	1	U	Trans-1,4-Dichloro-2-butene	5	U
2-Methyoxy-2-Methylpropane	2	U	1,2,3-Trichloropropane	2	U
Trans-1,2-Dichloroethene	1	U	Bromobenzene	1	U
1,1-Dichloroethane	1	U	n-Propylbenzene	1	U
2-Butanone	5	U	2-Chlorotoluene	1	U
Cis-1,2-Dichloroethene	1	U	1,3,5-Trimethylbenzene	1	U
2,2-Dichloropropane	1	U	4-Chlorotoluene	1	U
Bromochloromethane	1	U	Tert-Butylbenzene	1	U
Chloroform	1	U	1,2,4-Trimethylbenzene	1	U
Tetrahydrofuran	2	U	Pentachloroethane	1	U
1,1,1-Trichloroethane	1	U	Sec-Butylbenzene	1	U
1,1-Dichloropropene	1	U	p-Isopropyltoluene	1	U
Carbon Tetrachloride	1	U	1,3-Dichlorobenzene	1	U
1,2-Dichloroethane	1	U	1,4-Dichlorobenzene	1	U
Benzene	1	U	n-Butylbenzene	2	U
Trichloroethene	2	U	1,2-Dichlorobenzene	1	U
1,2-Dichloropropane	1	U	Hexachloroethane	5	U
Dibromomethane	5	U	1,2-Dibromo-3-Chloropropane	5	U
Bromodichloromethane	2	U	1,2,4-Trichlorobenzene	5	U
Cis-1,3-Dichloropropene	1.1	U	Hexachlorobutadiene	2	U
4-Methyl-2-Pentanone	2	U	Naphthalene	5	U
Toluene	1	U	1,2,3-Trichlorobenzene	5	U
Trans-1,3-Dichloropropene	1.9	U			
1,1,2-Trichloroethane	1	U			
1,3-Dichloropropane	2	U			
2-Hexanone	4	U			

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Analysis Report for

Volatile Organic Analysis

Project Name: Lakewood Plaza Cleaners **LIMS Project ID:** 1083-99

Sample: 99038112 **Date Collected:** 01/21/99 **Method:** SW8260
Field ID: MW-27 **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 01/22/99 **Units:** ug/L

Surrogate Recoveries

1,2-Dichloroethane-D4	115	%
1,4-Difluorobenzene	106	%
Toluene-D8	106	%
p-Bromofluorobenzene	97	%
1,2-Dichlorobenzene-D4	105	%

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Analysis Report for

Volatile Organic Analysis

Project Name: Lakewood Plaza Cleaners **LIMS Project ID:** 1083-99

Sample: 99038114 **Date Collected:** 01/21/99 **Method:** SW8260
Field ID: MW-20BDUP **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 01/22/99 **Units:** ug/L

Analyte	Result	Qualifier	Analyte	Result	Qualifier
Dichlorodifluoromethane	40	U	**Tetrachloroethene**	**488**	**E**
Chloromethane	2	U	Dibromochloromethane	1	U
Vinyl Chloride	1	U	1,2-Dibromoethane (EDB)	2	U
Bromomethane	2	U	Chlorobenzene	1	U
Chloroethane	2	U	1,1,1,2-Tetrachloroethane	2	U
Trichlorofluoromethane	1	U	Ethylbenzene	1	U
Ethyl Ether	1	U	m & p-Xylene	2	U
1,1,2 Trichlorotrifluoroethane	1	U	o-Xylene	1	U
1,1-Dichloroethene	5	U	Styrene	1	U
Acetone	2	U	Bromoform	2	U
Methyl Iodide	2	U	Isopropylbenzene (Cumene)	1	U
Carbon Disulfide	1	U	1,1,2,2-Tetrachloroethane	2	U
Methylene Chloride	1	U	Trans-1,4-Dichloro-2-butene	5	U
2-Methyoxy-2-Methylpropane	2	U	1,2,3-Trichloropropane	2	U
Trans-1,2-Dichloroethene	1	U	Bromobenzene	1	U
1,1-Dichloroethane	1	U	n-Propylbenzene	1	U
2-Butanone	5	U	2-Chlorotoluene	1	U
Cis-1,2-Dichloroethene	**11**		1,3,5-Trimethylbenzene	1	U
2,2-Dichloropropane	1	U	4-Chlorotoluene	1	U
Bromochloromethane	1	U	Tert-Butylbenzene	1	U
Chloroform	1	U	1,2,4-Trimethylbenzene	1	U
Tetrahydrofuran	2	U	Pentachloroethane	1	U
1,1,1-Trichloroethane	1	U	Sec-Butylbenzene	1	U
1,1-Dichloropropene	1	U	p-Isopropyltoluene	1	U
Carbon Tetrachloride	1	U	1,3-Dichlorobenzene	1	U
1,2-Dichloroethane	1	U	1,4-Dichlorobenzene	1	U
Benzene	1	U	n-Butylbenzene	2	U
Trichloroethene	**5.2**		1,2-Dichlorobenzene	1	U
1,2-Dichloropropane	1	U	Hexachloroethane	5	U
Dibromomethane	5	U	1,2-Dibromo-3-Chloropropane	5	U
Bromodichloromethane	2	U	1,2,4-Trichlorobenzene	5	U
Cis-1,3-Dichloropropene	1.1	U	Hexachlorobutadiene	2	U
4-Methyl-2-Pentanone	2	U	Naphthalene	5	U
Toluene	1	U	1,2,3-Trichlorobenzene	5	U
Trans-1,3-Dichloropropene	1.9	U			
1,1,2-Trichloroethane	1	U			
1,3-Dichloropropane	2	U			
2-Hexanone	4	U			

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Analysis Report for

Volatile Organic Analysis

Project Name: Lakewood Plaza Cleaners **LIMS Project ID:** 1083-99

Sample: 99038114 **Date Collected:** 01/21/99 **Method:** SW8260
Field ID: MW-20BDUP **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 01/22/99 **Units:** ug/L

Surrogate Recoveries

1,2-Dichloroethane-D4	116	%
1,4-Difluorobenzene	105	%
Toluene-D8	109	%
p-Bromofluorobenzene	97	%
1,2-Dichlorobenzene-D4	103	%

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Department of Ecology

Analysis Report for

Volatile Organic Analysis

Project Name: Lakewood Plaza Cleaners **LIMS Project ID:** 1083-99

Sample: 99038114 (Dilution - DIL1) **Date Collected:** 01/21/99 **Method:** SW8260
Field ID: MW-20BDUP **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 01/22/99 **Units:** ug/L

Analyte	Result	Qualifier	Analyte	Result	Qualifier
Dichlorodifluoromethane	1000	U	**Tetrachloroethene**	**713**	
Chloromethane	250	U	Dibromochloromethane	100	U
Vinyl Chloride	50	U	1,2-Dibromoethane (EDB)	50	U
Bromomethane	50	U	Chlorobenzene	50	U
Chloroethane	250	U	1,1,1,2-Tetrachloroethane	100	U
Trichlorofluoromethane	50	U	Ethylbenzene	250	U
Ethyl Ether	50	U	m & p-Xylene	100	U
1,1,2 Trichlorotrifluoroethane	50	U	o-Xylene	50	U
1,1-Dichloroethene	250	U	Styrene	100	U
Acetone	100	U	Bromoform	100	U
Methyl Iodide	50	U	Isopropylbenzene (Cumene)	50	U
Carbon Disulfide	100	U	1,1,2,2-Tetrachloroethane	50	U
Methylene Chloride	50	U	Trans-1,4-Dichloro-2-butene	250	U
2-Methyoxy-2-Methylpropane	100	U	1,2,3-Trichloropropane	100	U
Trans-1,2-Dichloroethene	50	U	Bromobenzene	50	U
1,1-Dichloroethane	50	U	n-Propylbenzene	50	U
2-Butanone	250	U	2-Chlorotoluene	100	U
Cis-1,2-Dichloroethene	50	U	1,3,5-Trimethylbenzene	100	U
2,2-Dichloropropane	100	U	4-Chlorotoluene	100	U
Bromochloromethane	50	U	Tert-Butylbenzene	100	U
Chloroform	50	U	1,2,4-Trimethylbenzene	100	U
Tetrahydrofuran	100	U	Pentachloroethane	50	U
1,1,1-Trichloroethane	50	U	Sec-Butylbenzene	50	U
1,1-Dichloropropene	500	U	p-Isopropyltoluene	100	U
Carbon Tetrachloride	50	U	1,3-Dichlorobenzene	100	U
1,2-Dichloroethane	50	U	1,4-Dichlorobenzene	50	U
Benzene	250	U	n-Butylbenzene	250	U
Trichloroethene	50	U	1,2-Dichlorobenzene	50	U
1,2-Dichloropropane	250	U	Hexachloroethane	250	U
Dibromomethane	250	U	1,2-Dibromo-3-Chloropropane	250	U
Bromodichloromethane	100	U	1,2,4-Trichlorobenzene	250	U
Cis-1,3-Dichloropropene	106	U	Hexachlorobutadiene	100	U
4-Methyl-2-Pentanone	100	U	Naphthalene	250	U
Toluene	50	U	1,2,3-Trichlorobenzene	250	U
Trans-1,3-Dichloropropene	94	U			
1,1,2-Trichloroethane	100	U			
1,3-Dichloropropane	100	U			
2-Hexanone	500	U			

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Analysis Report for

Volatile Organic Analysis

Project Name: Lakewood Plaza Cleaners **LIMS Project ID:** 1083-99

Sample: 99038114 (Dilution - DIL1) **Date Collected:** 01/21/99 **Method:** SW8260
Field ID: MW-20BDUP **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 01/22/99 **Units:** ug/L

Surrogate Recoveries

1,2-Dichloroethane-D4	99	%
1,4-Difluorobenzene	114	%
Toluene-D8	111	%
p-Bromofluorobenzene	97	%
1,2-Dichlorobenzene-D4	104	%

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Analysis Report for

Volatile Organic Analysis

Project Name: Lakewood Plaza Cleaners **LIMS Project ID:** 1083-99

Sample: 99038115 **Date Collected:** 01/21/99 **Method:** SW8260
Field ID: MW-20A **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 01/22/99 **Units:** ug/L

Analyte	Result	Qualifier	Analyte	Result	Qualifier
Dichlorodifluoromethane	40	U	Tetrachloroethene	1	U
Chloromethane	2	U	Dibromochloromethane	1	U
Vinyl Chloride	1	U	1,2-Dibromoethane (EDB)	2	U
Bromomethane	2	U	Chlorobenzene	1	U
Chloroethane	2	U	1,1,1,2-Tetrachloroethane	2	U
Trichlorofluoromethane	1	U	Ethylbenzene	1	U
Ethyl Ether	1	U	m & p-Xylene	2	U
1,1,2 Trichlorotrifluoroethane	1	U	o-Xylene	1	U
1,1-Dichloroethene	5	U	Styrene	1	U
Acetone	2	U	Bromoform	2	U
Methyl Iodide	2	U	Isopropylbenzene (Cumene)	1	U
Carbon Disulfide	1	U	1,1,2,2-Tetrachloroethane	2	U
Methylene Chloride	1	U	Trans-1,4-Dichloro-2-butene	5	U
2-Methyoxy-2-Methylpropane	2	U	1,2,3-Trichloropropane	2	U
Trans-1,2-Dichloroethene	1	U	Bromobenzene	1	U
1,1-Dichloroethane	1	U	n-Propylbenzene	1	U
2-Butanone	5	U	2-Chlorotoluene	1	U
Cis-1,2-Dichloroethene	1	U	1,3,5-Trimethylbenzene	1	U
2,2-Dichloropropane	1	U	4-Chlorotoluene	1	U
Bromochloromethane	1	U	Tert-Butylbenzene	1	U
Chloroform	1	U	1,2,4-Trimethylbenzene	1	U
Tetrahydrofuran	2	U	Pentachloroethane	1	U
1,1,1-Trichloroethane	1	U	Sec-Butylbenzene	1	U
1,1-Dichloropropene	1	U	p-Isopropyltoluene	1	U
Carbon Tetrachloride	1	U	1,3-Dichlorobenzene	1	U
1,2-Dichloroethane	1	U	1,4-Dichlorobenzene	1	U
Benzene	1	U	n-Butylbenzene	2	U
Trichloroethene	2	U	1,2-Dichlorobenzene	1	U
1,2-Dichloropropane	1	U	Hexachloroethane	5	U
Dibromomethane	5	U	1,2-Dibromo-3-Chloropropane	5	U
Bromodichloromethane	2	U	1,2,4-Trichlorobenzene	5	U
Cis-1,3-Dichloropropene	1.1	U	Hexachlorobutadiene	2	U
4-Methyl-2-Pentanone	2	U	Naphthalene	5	U
Toluene	1	U	1,2,3-Trichlorobenzene	5	U
Trans-1,3-Dichloropropene	1.9	U			
1,1,2-Trichloroethane	1	U			
1,3-Dichloropropane	2	U			
2-Hexanone	4	U			

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Analysis Report for

Volatile Organic Analysis

Project Name: Lakewood Plaza Cleaners **LIMS Project ID:** 1083-99

Sample: 99038115 **Date Collected:** 01/21/99 **Method:** SW8260
Field ID: MW-20A **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 01/22/99 **Units:** ug/L

Surrogate Recoveries

1,2-Dichloroethane-D4	**119**	**%**
1,4-Difluorobenzene	**107**	**%**
Toluene-D8	**108**	**%**
p-Bromofluorobenzene	**97**	**%**
1,2-Dichlorobenzene-D4	**107**	**%**

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Department of Ecology

Analysis Report for

Volatile Organic Analysis

Project Name: Lakewood Plaza Cleaners **LIMS Project ID:** 1083-99

Sample: 99038115 (Matrix Spike - LMX1) **Date Collected:** 01/21/99 **Method:** SW8260
Field ID: MW-20A **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 01/22/99 **Units:** % Recovery

Analyte	Result	Qualifier	Analyte	Result	Qualifier
Dichlorodifluoromethane	172		Tetrachloroethene	102	
Chloromethane	103		Dibromochloromethane	92	
Vinyl Chloride	100		1,2-Dibromoethane (EDB)	105	
Bromomethane	102		Chlorobenzene	102	
Chloroethane	106		1,1,1,2-Tetrachloroethane	96	
Trichlorofluoromethane	102		Ethylbenzene	98	
Ethyl Ether	103		m & p-Xylene	107	
1,1,2 Trichlorotrifluoroethane	136		o-Xylene	108	
1,1-Dichloroethene	116		Styrene	107	
Acetone	91		Bromoform	90	
Methyl Iodide	107		Isopropylbenzene (Cumene)	101	
Carbon Disulfide	111		1,1,2,2-Tetrachloroethane	102	
Methylene Chloride	103		Trans-1,4-Dichloro-2-butene	92	
2-Methyoxy-2-Methylpropane	101		1,2,3-Trichloropropane	89	
Trans-1,2-Dichloroethene	115		Bromobenzene	96	
1,1-Dichloroethane	108		n-Propylbenzene	104	
2-Butanone	96		2-Chlorotoluene	103	
Cis-1,2-Dichloroethene	107		1,3,5-Trimethylbenzene	109	
2,2-Dichloropropane	93		4-Chlorotoluene	102	
Bromochloromethane	95		Tert-Butylbenzene	118	
Chloroform	99		1,2,4-Trimethylbenzene	105	
Tetrahydrofuran	86		Pentachloroethane	87	
1,1,1-Trichloroethane	101		Sec-Butylbenzene	101	
1,1-Dichloropropene	120		p-Isopropyltoluene	112	
Carbon Tetrachloride	112		1,3-Dichlorobenzene	99	
1,2-Dichloroethane	99		1,4-Dichlorobenzene	99	
Benzene	100		n-Butylbenzene	113	
Trichloroethene	102		1,2-Dichlorobenzene	97	
1,2-Dichloropropane	107		Hexachloroethane	92	
Dibromomethane	97		1,2-Dibromo-3-Chloropropane	81	
Bromodichloromethane	97		1,2,4-Trichlorobenzene	88	
Cis-1,3-Dichloropropene	97		Hexachlorobutadiene	108	
4-Methyl-2-Pentanone	102		Naphthalene	83	
Toluene	111		1,2,3-Trichlorobenzene	87	
Trans-1,3-Dichloropropene	83				
1,1,2-Trichloroethane	94				
1,3-Dichloropropane	95				
2-Hexanone	88				

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Analysis Report for

Volatile Organic Analysis

Project Name: Lakewood Plaza Cleaners **LIMS Project ID:** 1083-99

Sample: 99038115 (Matrix Spike - LMX1) **Date Collected:** 01/21/99 **Method:** SW8260
Field ID: MW-20A **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 01/22/99 **Units:** % Recovery

Surrogate Recoveries

1,2-Dichloroethane-D4	105	%
1,4-Difluorobenzene	110	%
Toluene-D8	104	%
p-Bromofluorobenzene	110	%
1,2-Dichlorobenzene-D4	98	%

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Department of Ecology

Analysis Report for

Volatile Organic Analysis

Project Name: Lakewood Plaza Cleaners **LIMS Project ID:** 1083-99

Sample: 99038115 (Matrix Spike - LMX2) **Date Collected:** 01/21/99 **Method:** SW8260
Field ID: MW-20A **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 01/22/99 **Units:** % Recovery

Analyte	Result	Qualifier	Analyte	Result	Qualifier
Dichlorodifluoromethane	171		Tetrachloroethene	104	
Chloromethane	112		Dibromochloromethane	91	
Vinyl Chloride	115		1,2-Dibromoethane (EDB)	103	
Bromomethane	103		Chlorobenzene	104	
Chloroethane	110		1,1,1,2-Tetrachloroethane	96	
Trichlorofluoromethane	122		Ethylbenzene	101	
Ethyl Ether	100		m & p-Xylene	107	
1,1,2 Trichlorotrifluoroethane	143		o-Xylene	109	
1,1-Dichloroethene	126		Styrene	108	
Acetone	89		Bromoform	94	
Methyl Iodide	114		Isopropylbenzene (Cumene)	107	
Carbon Disulfide	117		1,1,2,2-Tetrachloroethane	98	
Methylene Chloride	107		Trans-1,4-Dichloro-2-butene	88	
2-Methyoxy-2-Methylpropane	100		1,2,3-Trichloropropane	97	
Trans-1,2-Dichloroethene	118		Bromobenzene	102	
1,1-Dichloroethane	110		n-Propylbenzene	110	
2-Butanone	91		2-Chlorotoluene	106	
Cis-1,2-Dichloroethene	110		1,3,5-Trimethylbenzene	113	
2,2-Dichloropropane	99		4-Chlorotoluene	108	
Bromochloromethane	98		Tert-Butylbenzene	124	
Chloroform	102		1,2,4-Trimethylbenzene	112	
Tetrahydrofuran	93		Pentachloroethane	91	
1,1,1-Trichloroethane	105		Sec-Butylbenzene	118	
1,1-Dichloropropene	125		p-Isopropyltoluene	120	
Carbon Tetrachloride	112		1,3-Dichlorobenzene	105	
1,2-Dichloroethane	98		1,4-Dichlorobenzene	105	
Benzene	100		n-Butylbenzene	122	
Trichloroethene	110		1,2-Dichlorobenzene	101	
1,2-Dichloropropane	103		Hexachloroethane	94	
Dibromomethane	98		1,2-Dibromo-3-Chloropropane	88	
Bromodichloromethane	97		1,2,4-Trichlorobenzene	90	
Cis-1,3-Dichloropropene	102		Hexachlorobutadiene	118	
4-Methyl-2-Pentanone	103		Naphthalene	87	
Toluene	112		1,2,3-Trichlorobenzene	90	
Trans-1,3-Dichloropropene	84				
1,1,2-Trichloroethane	93				
1,3-Dichloropropane	100				
2-Hexanone	87				

Authorized By: _____ Release Date: 2/8/99

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Volatile Organic Analysis

Project Name: Lakewood Plaza Cleaners **LIMS Project ID:** 1083-99

Sample: 99038115 (Matrix Spike - LMX2) **Date Collected:** 01/21/99 **Method:** SW8260
Field ID: MW-20A **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 01/22/99 **Units:** % Recovery

Surrogate Recoveries

1,2-Dichloroethane-D4	103	%
1,4-Difluorobenzene	111	%
Toluene-D8	103	%
p-Bromofluorobenzene	105	%
1,2-Dichlorobenzene-D4	101	%

Authorized By: _____ Release Date: 2/8/99

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Volatile Organic Analysis

Project Name: Lakewood Plaza Cleaners **LIMS Project ID:** 1083-99

Sample: 99038116 **Date Collected:** 01/21/99 **Method:** SW8260
Field ID: MW-20B **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 01/22/99 **Units:** ug/L

Analyte	Result	Qualifier	Analyte	Result	Qualifier
Dichlorodifluoromethane	40	U	**Tetrachloroethene**	**512**	**E**
Chloromethane	2	U	Dibromochloromethane	1	U
Vinyl Chloride	1	U	1,2-Dibromoethane (EDB)	2	U
Bromomethane	2	U	Chlorobenzene	1	U
Chloroethane	2	U	1,1,1,2-Tetrachloroethane	2	U
Trichlorofluoromethane	1	U	Ethylbenzene	1	U
Ethyl Ether	1	U	m & p-Xylene	2	U
1,1,2 Trichlorotrifluoroethane	1	U	o-Xylene	1	U
1,1-Dichloroethene	5	U	Styrene	1	U
Acetone	2	U	Bromoform	2	U
Methyl Iodide	2	U	*Isopropylbenzene (Cumene)*	1	U
Carbon Disulfide	1	U	1,1,2,2-Tetrachloroethane	2	U
Methylene Chloride	1	U	Trans-1,4-Dichloro-2-butene	5	U
2-Methyoxy-2-Methylpropane	2	U	1,2,3-Trichloropropane	2	U
Trans-1,2-Dichloroethene	1	U	Bromobenzene	1	U
1,1-Dichloroethane	1	U	n-Propylbenzene	1	U
2-Butanone	5	U	2-Chlorotoluene	1	U
Cis-1,2-Dichloroethene	**12**		1,3,5-Trimethylbenzene	1	U
2,2-Dichloropropane	1	U	4-Chlorotoluene	1	U
Bromochloromethane	1	U	Tert-Butylbenzene	1	U
Chloroform	1	U	1,2,4-Trimethylbenzene	1	U
Tetrahydrofuran	2	U	Pentachloroethane	1	U
1,1,1-Trichloroethane	1	U	Sec-Butylbenzene	1	U
1,1-Dichloropropene	1	U	p-Isopropyltoluene	1	U
Carbon Tetrachloride	1	U	1,3-Dichlorobenzene	1	U
1,2-Dichloroethane	1	U	1,4-Dichlorobenzene	1	U
Benzene	1	U	n-Butylbenzene	2	U
Trichloroethene	**5.2**		1,2-Dichlorobenzene	1	U
1,2-Dichloropropane	1	U	Hexachloroethane	5	U
Dibromomethane	5	U	1,2-Dibromo-3-Chloropropane	5	U
Bromodichloromethane	2	U	1,2,4-Trichlorobenzene	5	U
Cis-1,3-Dichloropropene	1.1	U	Hexachlorobutadiene	2	U
4-Methyl-2-Pentanone	2	U	Naphthalene	5	U
Toluene	1	U	1,2,3-Trichlorobenzene	5	U
Trans-1,3-Dichloropropene	1.9	U			
1,1,2-Trichloroethane	1	U			
1,3-Dichloropropane	2	U			
2-Hexanone	4	U			

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Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Volatile Organic Analysis

Project Name: Lakewood Plaza Cleaners **LIMS Project ID:** 1083-99

Sample: 99038116 **Date Collected:** 01/21/99 **Method:** SW8260
Field ID: MW-20B **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 01/22/99 **Units:** ug/L

Surrogate Recoveries

1,2-Dichloroethane-D4	119	%
1,4-Difluorobenzene	106	%
Toluene-D8	107	%
p-Bromofluorobenzene	97	%
1,2-Dichlorobenzene-D4	104	%

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Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Volatile Organic Analysis

Project Name: Lakewood Plaza Cleaners **LIMS Project ID:** 1083-99

Sample: 99038116 (Dilution - DIL1) **Date Collected:** 01/21/99 **Method:** SW8260
Field ID: MW-20B **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 01/22/99 **Units:** ug/L

Analyte	Result	Qualifier	Analyte	Result	Qualifier
Dichlorodifluoromethane	1000	U	**Tetrachloroethene**	**708**	
Chloromethane	250	U	Dibromochloromethane	100	U
Vinyl Chloride	50	U	1,2-Dibromoethane (EDB)	50	U
Bromomethane	50	U	Chlorobenzene	50	U
Chloroethane	250	U	1,1,1,2-Tetrachloroethane	100	U
Trichlorofluoromethane	50	U	Ethylbenzene	250	U
Ethyl Ether	50	U	m & p-Xylene	100	U
1,1,2 Trichlorotrifluoroethane	50	U	o-Xylene	50	U
1,1-Dichloroethene	250	U	Styrene	100	U
Acetone	100	U	Bromoform	100	U
Methyl Iodide	50	U	Isopropylbenzene (Cumene)	50	U
Carbon Disulfide	100	U	1,1,2,2-Tetrachloroethane	50	U
Methylene Chloride	50	U	Trans-1,4-Dichloro-2-butene	250	U
2-Methyoxy-2-Methylpropane	100	U	1,2,3-Trichloropropane	100	U
Trans-1,2-Dichloroethene	50	U	Bromobenzene	50	U
1,1-Dichloroethane	50	U	n-Propylbenzene	50	U
2-Butanone	250	U	2-Chlorotoluene	100	U
Cis-1,2-Dichloroethene	50	U	1,3,5-Trimethylbenzene	100	U
2,2-Dichloropropane	100	U	4-Chlorotoluene	100	U
Bromochloromethane	50	U	Tert-Butylbenzene	100	U
Chloroform	50	U	1,2,4-Trimethylbenzene	100	U
Tetrahydrofuran	100	U	Pentachloroethane	50	U
1,1,1-Trichloroethane	50	U	Sec-Butylbenzene	50	U
1,1-Dichloropropene	500	U	p-Isopropyltoluene	100	U
Carbon Tetrachloride	50	U	1,3-Dichlorobenzene	100	U
1,2-Dichloroethane	50	U	1,4-Dichlorobenzene	50	U
Benzene	250	U	n-Butylbenzene	250	U
Trichloroethene	50	U	1,2-Dichlorobenzene	50	U
1,2-Dichloropropane	250	U	Hexachloroethane	250	U
Dibromomethane	250	U	1,2-Dibromo-3-Chloropropane	250	U
Bromodichloromethane	100	U	1,2,4-Trichlorobenzene	250	U
Cis-1,3-Dichloropropene	106	U	Hexachlorobutadiene	100	U
4-Methyl-2-Pentanone	100	U	Naphthalene	250	U
Toluene	50	U	1,2,3-Trichlorobenzene	250	U
Trans-1,3-Dichloropropene	94	U			
1,1,2-Trichloroethane	100	U			
1,3-Dichloropropane	100	U			
2-Hexanone	500	U			

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Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Volatile Organic Analysis

Project Name: Lakewood Plaza Cleaners **LIMS Project ID:** 1083-99

Sample: 99038116 (Dilution - DIL1) **Date Collected:** 01/21/99 **Method:** SW8260
Field ID: MW-20B **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 01/22/99 **Units:** ug/L

Surrogate Recoveries

1,2-Dichloroethane-D4	103	%
1,4-Difluorobenzene	112	%
Toluene-D8	108	%
p-Bromofluorobenzene	94	%
1,2-Dichlorobenzene-D4	108	%

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Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Volatile Organic Analysis

Project Name: Lakewood Plaza Cleaners **LIMS Project ID:** 1083-99

Lab ID: ODBW9022B **Method:** SW8260
QC Type: Laboratory Method Blank **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 01/22/99 **Units:** ug/L

Analyte	Result	Qualifier	Analyte	Result	Qualifier
Dichlorodifluoromethane	40	U	Tetrachloroethene	1	U
Chloromethane	2	U	Dibromochloromethane	1	U
Vinyl Chloride	1	U	1,2-Dibromoethane (EDB)	2	U
Bromomethane	2	U	Chlorobenzene	1	U
Chloroethane	2	U	1,1,1,2-Tetrachloroethane	2	U
Trichlorofluoromethane	1	U	Ethylbenzene	1	U
Ethyl Ether	1	U	m & p-Xylene	2	U
1,1,2 Trichlorotrifluoroethane	1	U	o-Xylene	1	U
1,1-Dichloroethene	5	U	Styrene	1	U
Acetone	2	U	Bromoform	2	U
Methyl Iodide	2	U	Isopropylbenzene (Cumene)	1	U
Carbon Disulfide	1	U	1,1,2,2-Tetrachloroethane	2	U
Methylene Chloride	1	U	Trans-1,4-Dichloro-2-butene	5	U
2-Methyoxy-2-Methylpropane	2	U	1,2,3-Trichloropropane	2	U
Trans-1,2-Dichloroethene	1	U	Bromobenzene	1	U
1,1-Dichloroethane	1	U	n-Propylbenzene	1	U
2-Butanone	5	U	2-Chlorotoluene	1	U
Cis-1,2-Dichloroethene	1	U	1,3,5-Trimethylbenzene	1	U
2,2-Dichloropropane	1	U	4-Chlorotoluene	1	U
Bromochloromethane	1	U	Tert-Butylbenzene	1	U
Chloroform	1	U	1,2,4-Trimethylbenzene	1	U
Tetrahydrofuran	2	U	Pentachloroethane	1	U
1,1,1-Trichloroethane	1	U	Sec-Butylbenzene	1	U
1,1-Dichloropropene	1	U	p-Isopropyltoluene	1	U
Carbon Tetrachloride	1	U	1,3-Dichlorobenzene	1	U
1,2-Dichloroethane	1	U	1,4-Dichlorobenzene	1	U
Benzene	1	U	n-Butylbenzene	2	U
Trichloroethene	2	U	1,2-Dichlorobenzene	1	U
1,2-Dichloropropane	1	U	Hexachloroethane	5	U
Dibromomethane	5	U	1,2-Dibromo-3-Chloropropane	5	U
Bromodichloromethane	2	U	1,2,4-Trichlorobenzene	5	U
Cis-1,3-Dichloropropene	1.1	U	Hexachlorobutadiene	2	U
4-Methyl-2-Pentanone	2	U	Naphthalene	5	U
Toluene	1	U	1,2,3-Trichlorobenzene	5	U
Trans-1,3-Dichloropropene	1.9	U			
1,1,2-Trichloroethane	1	U			
1,3-Dichloropropane	2	U			
2-Hexanone	4	U			

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Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Volatile Organic Analysis

Project Name: Lakewood Plaza Cleaners **LIMS Project ID:** 1083-99

Lab ID: ODBW9022B **Method:** SW8260
QC Type: Laboratory Method Blank **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 01/22/99 **Units:** ug/L

Surrogate Recoveries

1,2-Dichloroethane-D4	112	%
1,4-Difluorobenzene	104	%
Toluene-D8	111	%
p-Bromofluorobenzene	98	%
1,2-Dichlorobenzene-D4	106	%

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Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Volatile Organic Analysis

Project Name: Lakewood Plaza Cleaners **LIMS Project ID:** 1083-99

Lab ID: ODBW9028 **Method:** SW8260
QC Type: Laboratory Method Blank **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 01/28/99 **Units:** ug/L

Analyte	Result	Qualifier	Analyte	Result	Qualifier
Dichlorodifluoromethane	20	U	Tetrachloroethene	1	U
Chloromethane	5	U	Dibromochloromethane	2	U
Vinyl Chloride	1	U	1,2-Dibromoethane (EDB)	1	U
Bromomethane	1	U	Chlorobenzene	1	U
Chloroethane	5	U	1,1,1,2-Tetrachloroethane	2	U
Trichlorofluoromethane	1	U	Ethylbenzene	5	U
Ethyl Ether	1	U	m & p-Xylene	2	U
1,1,2 Trichlorotrifluoroethane	1	U	o-Xylene	1	U
1,1-Dichloroethene	5	U	Styrene	2	U
Acetone	2	U	Bromoform	2	U
Methyl Iodide	1	U	Isopropylbenzene (Cumene)	1	U
Carbon Disulfide	2	U	1,1,2,2-Tetrachloroethane	1	U
Methylene Chloride	1	U	Trans-1,4-Dichloro-2-butene	5	U
2-Methyoxy-2-Methylpropane	2	U	1,2,3-Trichloropropane	2	U
Trans-1,2-Dichloroethene	1	U	Bromobenzene	1	U
1,1-Dichloroethane	1	U	n-Propylbenzene	1	U
2-Butanone	5	U	2-Chlorotoluene	2	U
Cis-1,2-Dichloroethene	1	U	1,3,5-Trimethylbenzene	2	U
2,2-Dichloropropane	2	U	4-Chlorotoluene	2	U
Bromochloromethane	1	U	Tert-Butylbenzene	2	U
Chloroform	1	U	1,2,4-Trimethylbenzene	2	U
Tetrahydrofuran	2	U	Pentachloroethane	1	U
1,1,1-Trichloroethane	1	U	Sec-Butylbenzene	1	U
1,1-Dichloropropene	10	U	p-Isopropyltoluene	2	U
Carbon Tetrachloride	1	U	1,3-Dichlorobenzene	2	U
1,2-Dichloroethane	1	U	1,4-Dichlorobenzene	1	U
Benzene	5	U	n-Butylbenzene	5	U
Trichloroethene	1	U	1,2-Dichlorobenzene	1	U
1,2-Dichloropropane	5	U	Hexachloroethane	5	U
Dibromomethane	5	U	1,2-Dibromo-3-Chloropropane	5	U
Bromodichloromethane	2	U	1,2,4-Trichlorobenzene	5	U
Cis-1,3-Dichloropropene	2.1	U	Hexachlorobutadiene	2	U
4-Methyl-2-Pentanone	2	U	Naphthalene	5	U
Toluene	1	U	1,2,3-Trichlorobenzene	5	U
Trans-1,3-Dichloropropene	1.9	U			
1,1,2-Trichloroethane	**.43**	**J**			
1,3-Dichloropropane	2	U			
2-Hexanone	10	U			

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Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Volatile Organic Analysis

Project Name: Lakewood Plaza Cleaners **LIMS Project ID:** 1083-99

Lab ID: ODBW9028
QC Type: Laboratory Method Blank
Project Officer: Pam Marti **Date Analyzed:** 01/28/99

Method: SW8260
Matrix: Water
Units: ug/L

Surrogate Recoveries

1,2-Dichloroethane-D4	102	%
1,4-Difluorobenzene	110	%
Toluene-D8	110	%
p-Bromofluorobenzene	99	%
1,2-Dichlorobenzene-D4	102	%

Authorized By: _____ Release Date: 2/8/99

Manchester Environmental Laboratory

7411 Beach Drive E, Port Orchard Washington 98366

August 27, 1999

Project:	**Lakewood/Plaza Cleaners**
Samples:	99318030 through 99318038
Project ID:	174499
Project Officer:	Pam Marti
By:	Karin Feddersen KF

VOLATILE ORGANIC ANALYSIS

SUMMARY:

The data is usable as reported.

ANALYTICAL METHODS:

Volatile organic compounds were analyzed using the Manchester Laboratory modification of the EPA Method 8260 purge-trap procedure and capillary Gas Chromatography with Mass Spectrometer (GC/MS) analysis. Routine QA/QC procedures were performed.

BLANKS:

No analytes of interest were detected above the reporting limit in the blank.

SURROGATES:

Surrogate recoveries were within acceptable limits for all samples, with one exception. 1,2-Dichloroethane-d4 recoveries were slightly high in some samples. No analytes were detected in the same range of as this surrogate. No qualification of the data was warranted for this condition.

HOLDING TIMES:

The samples were analyzed within the recommended holding time of 14 days from collection, with one exception. Due to instrument malfunctions, one sample, 99318038 was analyzed fifteen days after collection. This sample was stored in the proper container at the proper temperature, therefore, analysis beyond the recommended holding time should not have a significant effect upon the results. No qualification of the data was warranted for this condition.

MATRIX SPIKE AND MATRIX SPIKE DUPLICATE:

Aliquots of sample 99318031 were analyzed with the samples as matrix spikes. All recoveries were within acceptable limits, with one exception. Acetone recoveries were much lower than expected. Acetone was also below the method limits in the calibration check standards. All results for this analyte have been qualified as estimates.

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.
NAF	-	Not analyzed for.
N	-	There is evidence the analyte is present in the 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. The associated numerical result is an estimate.
bold	-	The analyte was present in the sample. (Visual Aid to locate detected compounds on report sheet.)

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Volatile Organic Analysis

Project Name: Lakewood Plaza Cleaners - 9931 **LIMS Project ID:** 1744-99

Sample: 99318030 **Date Collected:** 08/02/99 **Method:** SW8260
Field ID: H1 **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 08/12/99 **Units:** ug/L

Analyte	Result	Qualifier	Analyte	Result	Qualifier
Dichlorodifluoromethane	2	U	**Tetrachloroethene**	**5.2**	
Chloromethane	2	U	Dibromochloromethane	1	U
Vinyl Chloride	1	U	1,2-Dibromoethane (EDB)	1	U
Bromomethane	1	U	Chlorobenzene	1	U
Chloroethane	1	U	1,1,1,2-Tetrachloroethane	1	U
Trichlorofluoromethane	2	U	Ethylbenzene	1	U
Ethyl Ether	1	U	m & p-Xylene	2	U
1,1,2 Trichlorotrifluoroethane	1	U	o-Xylene	1	U
1,1-Dichloroethene	1	U	Styrene	1	U
Acetone	2	UJ	Bromoform	1	U
Methyl Iodide	1	U	Isopropylbenzene (Cumene)	1	U
Carbon Disulfide	2	U	1,1,2,2-Tetrachloroethane	1	U
Methylene Chloride	2	U	Trans-1,4-Dichloro-2-butene	1	U
2-Methyoxy-2-Methylpropane	1	U	1,2,3-Trichloropropane	2	U
Trans-1,2-Dichloroethene	1	U	Bromobenzene	1	U
1,1-Dichloroethane	1	U	n-Propylbenzene	1	U
2-Butanone	2	U	2-Chlorotoluene	1	U
Cis-1,2-Dichloroethene	1	U	1,3,5-Trimethylbenzene	1	U
2,2-Dichloropropane	1	U	4-Chlorotoluene	1	U
Bromochloromethane	1	U	Tert-Butylbenzene	1	U
Chloroform	1	U	1,2,4-Trimethylbenzene	1	U
Tetrahydrofuran	1	U	Pentachloroethane	2	U
1,1,1-Trichloroethane	**.16**	**J**	Sec-Butylbenzene	1	U
1,1-Dichloropropene	1	U	p-Isopropyltoluene	1	U
Carbon Tetrachloride	1	U	1,3-Dichlorobenzene	1	U
1,2-Dichloroethane	1	U	1,4-Dichlorobenzene	1	U
Benzene	1	U	n-Butylbenzene	1	U
Trichloroethene	**.21**	**J**	1,2-Dichlorobenzene	1	U
1,2-Dichloropropane	1	U	Hexachloroethane	5	U
Dibromomethane	1	U	1,2-Dibromo-3-Chloropropane	2	U
Bromodichloromethane	1	U	1,2,4-Trichlorobenzene	2	U
Cis-1,3-Dichloropropene	1.1	U	Hexachlorobutadiene	1	U
4-Methyl-2-Pentanone	2	U	Naphthalene	1	U
Toluene	1	U	1,2,3-Trichlorobenzene	5	U
Trans-1,3-Dichloropropene	.94	U			
1,1,2-Trichloroethane	1	U			
1,3-Dichloropropane	2	U			
2-Hexanone	2	U			

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Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Volatile Organic Analysis

Project Name: Lakewood Plaza Cleaners - 9931 **LIMS Project ID:** 1744-99

Sample: 99318030 **Date Collected:** 08/02/99 **Method:** SW8260
Field ID: H1 **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 08/12/99 **Units:** ug/L

Surrogate Recoveries

1,2-Dichloroethane-D4	**103**	**%**
1,4-Difluorobenzene	**100**	**%**
Toluene-D8	**102**	**%**
p-Bromofluorobenzene	**92**	**%**
1,2-Dichlorobenzene-D4	**95**	**%**

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Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Volatile Organic Analysis

Project Name: Lakewood Plaza Cleaners - 9931 **LIMS Project ID:** 1744-99

Sample: 99318031 **Date Collected:** 08/02/99 **Method:** SW8260
Field ID: MW-19A **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 08/12/99 **Units:** ug/L

Analyte	Result	Qualifier	Analyte	Result	Qualifier
Dichlorodifluoromethane	2	U	Tetrachloroethene	1	U
Chloromethane	2	U	Dibromochloromethane	1	U
Vinyl Chloride	1	U	1,2-Dibromoethane (EDB)	1	U
Bromomethane	1	U	Chlorobenzene	1	U
Chloroethane	1	U	1,1,1,2-Tetrachloroethane	1	U
Trichlorofluoromethane	2	U	Ethylbenzene	1	U
Ethyl Ether	1	U	m & p-Xylene	2	U
1,1,2 Trichlorotrifluoroethane	1	U	o-Xylene	1	U
1,1-Dichloroethene	1	U	Styrene	1	U
Acetone	2	UJ	Bromoform	1	U
Methyl Iodide	1	U	Isopropylbenzene (Cumene)	1	U
Carbon Disulfide	2	U	1,1,2,2-Tetrachloroethane	1	U
Methylene Chloride	2	U	Trans-1,4-Dichloro-2-butene	1	U
2-Methyoxy-2-Methylpropane	1	U	1,2,3-Trichloropropane	2	U
Trans-1,2-Dichloroethene	1	U	Bromobenzene	1	U
1,1-Dichloroethane	1	U	n-Propylbenzene	1	U
2-Butanone	2	U	2-Chlorotoluene	1	U
Cis-1,2-Dichloroethene	1	U	1,3,5-Trimethylbenzene	1	U
2,2-Dichloropropane	1	U	4-Chlorotoluene	1	U
Bromochloromethane	1	U	Tert-Butylbenzene	1	U
Chloroform	1	U	1,2,4-Trimethylbenzene	1	U
Tetrahydrofuran	1	U	Pentachloroethane	2	U
1,1,1-Trichloroethane	1	U	Sec-Butylbenzene	1	U
1,1-Dichloropropene	1	U	p-Isopropyltoluene	1	U
Carbon Tetrachloride	1	U	1,3-Dichlorobenzene	1	U
1,2-Dichloroethane	1	U	1,4-Dichlorobenzene	1	U
Benzene	1	U	n-Butylbenzene	1	U
Trichloroethene	**.36**	**J**	1,2-Dichlorobenzene	1	U
1,2-Dichloropropane	1	U	Hexachloroethane	5	U
Dibromomethane	1	U	1,2-Dibromo-3-Chloropropane	2	U
Bromodichloromethane	1	U	1,2,4-Trichlorobenzene	2	U
Cis-1,3-Dichloropropene	1.1	U	Hexachlorobutadiene	1	U
4-Methyl-2-Pentanone	2	U	Naphthalene	1	U
Toluene	1	U	1,2,3-Trichlorobenzene	5	U
Trans-1,3-Dichloropropene	.94	U			
1,1,2-Trichloroethane	1	U			
1,3-Dichloropropane	2	U			
2-Hexanone	2	U			

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Analysis Report for

Volatile Organic Analysis

Project Name: Lakewood Plaza Cleaners - 9931 **LIMS Project ID:** 1744-99

Sample: 99318031 **Date Collected:** 08/02/99 **Method:** SW8260
Field ID: MW-19A **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 08/12/99 **Units:** ug/L

Surrogate Recoveries

1,2-Dichloroethane-D4	**97**	**%**
1,4-Difluorobenzene	**100**	**%**
Toluene-D8	**100**	**%**
p-Bromofluorobenzene	**93**	**%**
1,2-Dichlorobenzene-D4	**98**	**%**

Authorized By: _____ Release Date: 8/23/99

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Department of Ecology

Analysis Report for

Volatile Organic Analysis

Project Name: Lakewood Plaza Cleaners - 9931 **LIMS Project ID:** 1744-99

Sample: 99318031 (Matrix Spike - LMX1) **Date Collected:** 08/02/99 **Method:** SW8260
Field ID: MW-19A **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 08/12/99 **Units:** % Recovery

Analyte	Result	Qualifier	Analyte	Result	Qualifier
Dichlorodifluoromethane	95		Tetrachloroethene	83	
Chloromethane	81		Dibromochloromethane	92	
Vinyl Chloride	83		1,2-Dibromoethane (EDB)	94	
Bromomethane	91		Chlorobenzene	93	
Chloroethane	83		1,1,1,2-Tetrachloroethane	93	
Trichlorofluoromethane	99		Ethylbenzene	92	
Ethyl Ether	110		m & p-Xylene	101	
1,1,2 Trichlorotrifluoroethane	96		o-Xylene	93	
1,1-Dichloroethene	99		Styrene	107	
Acetone	30		Bromoform	85	
Methyl Iodide	96		Isopropylbenzene (Cumene)	92	
Carbon Disulfide	88		1,1,2,2-Tetrachloroethane	97	
Methylene Chloride	94		Trans-1,4-Dichloro-2-butene	82	
2-Methyoxy-2-Methylpropane	105		1,2,3-Trichloropropane	97	
Trans-1,2-Dichloroethene	94		Bromobenzene	93	
1,1-Dichloroethane	92		n-Propylbenzene	93	
2-Butanone	91		2-Chlorotoluene	93	
Cis-1,2-Dichloroethene	98		1,3,5-Trimethylbenzene	94	
2,2-Dichloropropane	79		4-Chlorotoluene	97	
Bromochloromethane	99		Tert-Butylbenzene	98	
Chloroform	97		1,2,4-Trimethylbenzene	96	
Tetrahydrofuran	87		Pentachloroethane	91	
1,1,1-Trichloroethane	91		Sec-Butylbenzene	92	
1,1-Dichloropropene	92		p-Isopropyltoluene	95	
Carbon Tetrachloride	97		1,3-Dichlorobenzene	100	
1,2-Dichloroethane	102		1,4-Dichlorobenzene	96	
Benzene	93		n-Butylbenzene	92	
Trichloroethene	95		1,2-Dichlorobenzene	94	
1,2-Dichloropropane	92		Hexachloroethane	86	
Dibromomethane	99		1,2-Dibromo-3-Chloropropane	111	
Bromodichloromethane	96		1,2,4-Trichlorobenzene	107	
Cis-1,3-Dichloropropene	90		Hexachlorobutadiene	92	
4-Methyl-2-Pentanone	105		Naphthalene	107	
Toluene	91		1,2,3-Trichlorobenzene	98	
Trans-1,3-Dichloropropene	85				
1,1,2-Trichloroethane	98				
1,3-Dichloropropane	99				
2-Hexanone	91				

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Analysis Report for

Volatile Organic Analysis

Project Name: Lakewood Plaza Cleaners - 9931 **LIMS Project ID:** 1744-99

Sample: 99318031 (Matrix Spike - LMX1) **Date Collected:** 08/02/99 **Method:** SW8260
Field ID: MW-19A **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 08/12/99 **Units:** % Recovery

Surrogate Recoveries

1,2-Dichloroethane-D4	**108**	**%**
1,4-Difluorobenzene	**98**	**%**
Toluene-D8	**104**	**%**
p-Bromofluorobenzene	**111**	**%**
1,2-Dichlorobenzene-D4	**100**	**%**

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Analysis Report for

Volatile Organic Analysis

Project Name: Lakewood Plaza Cleaners - 9931 **LIMS Project ID:** 1744-99

Sample: 99318031 (Matrix Spike - LMX2) **Date Collected:** 08/02/99 **Method:** SW8260
Field ID: MW-19A **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 08/12/99 **Units:** % Recovery

Analyte	Result	Qualifier	Analyte	Result	Qualifier
Dichlorodifluoromethane	90		Tetrachloroethene	82	
Chloromethane	83		Dibromochloromethane	88	
Vinyl Chloride	80		1,2-Dibromoethane (EDB)	91	
Bromomethane	87		Chlorobenzene	96	
Chloroethane	84		1,1,1,2-Tetrachloroethane	89	
Trichlorofluoromethane	101		Ethylbenzene	94	
Ethyl Ether	98		m & p-Xylene	102	
1,1,2 Trichlorotrifluoroethane	107		o-Xylene	92	
1,1-Dichloroethene	99		Styrene	101	
Acetone	38		Bromoform	88	
Methyl Iodide	96		Isopropylbenzene (Cumene)	96	
Carbon Disulfide	92		1,1,2,2-Tetrachloroethane	91	
Methylene Chloride	97		Trans-1,4-Dichloro-2-butene	86	
2-Methyoxy-2-Methylpropane	103		1,2,3-Trichloropropane	95	
Trans-1,2-Dichloroethene	97		Bromobenzene	95	
1,1-Dichloroethane	96		n-Propylbenzene	100	
2-Butanone	90		2-Chlorotoluene	94	
Cis-1,2-Dichloroethene	97		1,3,5-Trimethylbenzene	93	
2,2-Dichloropropane	78		4-Chlorotoluene	99	
Bromochloromethane	90		Tert-Butylbenzene	99	
Chloroform	94		1,2,4-Trimethylbenzene	95	
Tetrahydrofuran	94		Pentachloroethane	88	
1,1,1-Trichloroethane	90		Sec-Butylbenzene	96	
1,1-Dichloropropene	90		p-Isopropyltoluene	100	
Carbon Tetrachloride	92		1,3-Dichlorobenzene	101	
1,2-Dichloroethane	95		1,4-Dichlorobenzene	99	
Benzene	92		n-Butylbenzene	98	
Trichloroethene	92		1,2-Dichlorobenzene	100	
1,2-Dichloropropane	88		Hexachloroethane	89	
Dibromomethane	92		1,2-Dibromo-3-Chloropropane	103	
Bromodichloromethane	92		1,2,4-Trichlorobenzene	109	
Cis-1,3-Dichloropropene	92		Hexachlorobutadiene	86	
4-Methyl-2-Pentanone	98		Naphthalene	111	
Toluene	88		1,2,3-Trichlorobenzene	99	
Trans-1,3-Dichloropropene	82				
1,1,2-Trichloroethane	91				
1,3-Dichloropropane	92				
2-Hexanone	87				

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Analysis Report for

Volatile Organic Analysis

Project Name: Lakewood Plaza Cleaners - 9931 **LIMS Project ID:** 1744-99

Sample: 99318031 (Matrix Spike - LMX2) **Date Collected:** 08/02/99 **Method:** SW8260
Field ID: MW-19A **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 08/12/99 **Units:** % Recovery

Surrogate Recoveries

1,2-Dichloroethane-D4	**103**	**%**
1,4-Difluorobenzene	**100**	**%**
Toluene-D8	**100**	**%**
p-Bromofluorobenzene	**110**	**%**
1,2-Dichlorobenzene-D4	**100**	**%**

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Analysis Report for

Volatile Organic Analysis

Project Name: Lakewood Plaza Cleaners - 9931 **LIMS Project ID:** 1744-99

Sample: 99318032 **Date Collected:** 08/02/99 **Method:** SW8260
Field ID: MW-33 **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 08/12/99 **Units:** ug/L

Analyte	Result	Qualifier	Analyte	Result	Qualifier
Dichlorodifluoromethane	2	U	Tetrachloroethene	1	U
Chloromethane	2	U	Dibromochloromethane	1	U
Vinyl Chloride	1	U	1,2-Dibromoethane (EDB)	1	U
Bromomethane	1	U	Chlorobenzene	1	U
Chloroethane	1	U	1,1,1,2-Tetrachloroethane	1	U
Trichlorofluoromethane	2	U	Ethylbenzene	1	U
Ethyl Ether	1	U	m & p-Xylene	2	U
1,1,2 Trichlorotrifluoroethane	1	U	o-Xylene	1	U
1,1-Dichloroethene	1	U	Styrene	1	U
Acetone	2	UJ	Bromoform	1	U
Methyl Iodide	1	U	Isopropylbenzene (Cumene)	1	U
Carbon Disulfide	2	U	1,1,2,2-Tetrachloroethane	1	U
Methylene Chloride	2	U	Trans-1,4-Dichloro-2-butene	1	U
2-Methyoxy-2-Methylpropane	1	U	1,2,3-Trichloropropane	2	U
Trans-1,2-Dichloroethene	1	U	Bromobenzene	1	U
1,1-Dichloroethane	1	U	n-Propylbenzene	1	U
2-Butanone	2	U	2-Chlorotoluene	1	U
Cis-1,2-Dichloroethene	1	U	1,3,5-Trimethylbenzene	1	U
2,2-Dichloropropane	1	U	4-Chlorotoluene	1	U
Bromochloromethane	1	U	Tert-Butylbenzene	1	U
Chloroform	1	U	1,2,4-Trimethylbenzene	1	U
Tetrahydrofuran	1	U	Pentachloroethane	2	U
1,1,1-Trichloroethane	1	U	Sec-Butylbenzene	1	U
1,1-Dichloropropene	1	U	p-Isopropyltoluene	1	U
Carbon Tetrachloride	**.12**	**J**	1,3-Dichlorobenzene	1	U
1,2-Dichloroethane	1	U	1,4-Dichlorobenzene	1	U
Benzene	1	U	n-Butylbenzene	1	U
Trichloroethene	2	U	1,2-Dichlorobenzene	1	U
1,2-Dichloropropane	1	U	Hexachloroethane	5	U
Dibromomethane	1	U	1,2-Dibromo-3-Chloropropane	2	U
Bromodichloromethane	1	U	1,2,4-Trichlorobenzene	2	U
Cis-1,3-Dichloropropene	1.1	U	Hexachlorobutadiene	1	U
4-Methyl-2-Pentanone	2	U	Naphthalene	1	U
Toluene	1	U	1,2,3-Trichlorobenzene	5	U
Trans-1,3-Dichloropropene	.94	U			
1,1,2-Trichloroethane	1	U			
1,3-Dichloropropane	2	U			
2-Hexanone	2	U			

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Analysis Report for

Volatile Organic Analysis

Project Name: Lakewood Plaza Cleaners - 9931 **LIMS Project ID:** 1744-99

Sample: 99318032 **Date Collected:** 08/02/99 **Method:** SW8260
Field ID: MW-33 **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 08/12/99 **Units:** ug/L

Surrogate Recoveries

1,2-Dichloroethane-D4	**99**	**%**
1,4-Difluorobenzene	**101**	**%**
Toluene-D8	**103**	**%**
p-Bromofluorobenzene	**88**	**%**
1,2-Dichlorobenzene-D4	**95**	**%**

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Analysis Report for

Volatile Organic Analysis

Project Name: Lakewood Plaza Cleaners - 9931 **LIMS Project ID:** 1744-99

Sample: 99318033 **Date Collected:** 08/02/99 **Method:** SW8260
Field ID: MW-27 **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 08/12/99 **Units:** ug/L

Analyte	Result	Qualifier	Analyte	Result	Qualifier
Dichlorodifluoromethane	2	U	Tetrachloroethene	1	U
Chloromethane	2	U	Dibromochloromethane	1	U
Vinyl Chloride	1	U	1,2-Dibromoethane (EDB)	1	U
Bromomethane	1	U	Chlorobenzene	1	U
Chloroethane	1	U	1,1,1,2-Tetrachloroethane	1	U
Trichlorofluoromethane	2	U	Ethylbenzene	1	U
Ethyl Ether	1	U	m & p-Xylene	2	U
1,1,2 Trichlorotrifluoroethane	1	U	o-Xylene	1	U
1,1-Dichloroethene	1	U	Styrene	1	U
Acetone	2	UJ	Bromoform	1	U
Methyl Iodide	1	U	Isopropylbenzene (Cumene)	1	U
Carbon Disulfide	2	U	1,1,2,2-Tetrachloroethane	1	U
Methylene Chloride	2	U	Trans-1,4-Dichloro-2-butene	1	U
2-Methyoxy-2-Methylpropane	1	U	1,2,3-Trichloropropane	2	U
Trans-1,2-Dichloroethene	1	U	Bromobenzene	1	U
1,1-Dichloroethane	1	U	n-Propylbenzene	1	U
2-Butanone	2	U	2-Chlorotoluene	1	U
Cis-1,2-Dichloroethene	1	U	1,3,5-Trimethylbenzene	1	U
2,2-Dichloropropane	1	U	4-Chlorotoluene	1	U
Bromochloromethane	1	U	Tert-Butylbenzene	1	U
Chloroform	1	U	1,2,4-Trimethylbenzene	1	U
Tetrahydrofuran	1	U	Pentachloroethane	2	U
1,1,1-Trichloroethane	1	U	Sec-Butylbenzene	1	U
1,1-Dichloropropene	1	U	p-Isopropyltoluene	1	U
Carbon Tetrachloride	1	U	1,3-Dichlorobenzene	1	U
1,2-Dichloroethane	1	U	1,4-Dichlorobenzene	1	U
Benzene	1	U	n-Butylbenzene	1	U
Trichloroethene	2	U	1,2-Dichlorobenzene	1	U
1,2-Dichloropropane	1	U	Hexachloroethane	5	U
Dibromomethane	1	U	1,2-Dibromo-3-Chloropropane	2	U
Bromodichloromethane	1	U	1,2,4-Trichlorobenzene	2	U
Cis-1,3-Dichloropropene	1.1	U	Hexachlorobutadiene	1	U
4-Methyl-2-Pentanone	2	U	Naphthalene	1	U
Toluene	1	U	1,2,3-Trichlorobenzene	5	U
Trans-1,3-Dichloropropene	.94	U			
1,1,2-Trichloroethane	1	U			
1,3-Dichloropropane	2	U			
2-Hexanone	2	U			

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Analysis Report for

Volatile Organic Analysis

Project Name: Lakewood Plaza Cleaners - 9931 **LIMS Project ID:** 1744-99

Sample: 99318033 **Date Collected:** 08/02/99 **Method:** SW8260
Field ID: MW-27 **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 08/12/99 **Units:** ug/L

Surrogate Recoveries

1,2-Dichloroethane-D4	**104**	**%**
1,4-Difluorobenzene	**100**	**%**
Toluene-D8	**99**	**%**
p-Bromofluorobenzene	**91**	**%**
1,2-Dichlorobenzene-D4	**101**	**%**

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Analysis Report for

Volatile Organic Analysis

Project Name: Lakewood Plaza Cleaners - 9931 **LIMS Project ID:** 1744-99

Sample: 99318034 **Date Collected:** 08/02/99 **Method:** SW8260
Field ID: MW-31 **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 08/12/99 **Units:** ug/L

Analyte	Result	Qualifier	Analyte	Result	Qualifier
Dichlorodifluoromethane	2	U	**Tetrachloroethene**	**.91**	**J**
Chloromethane	2	U	Dibromochloromethane	1	U
Vinyl Chloride	1	U	1,2-Dibromoethane (EDB)	1	U
Bromomethane	1	U	Chlorobenzene	1	U
Chloroethane	1	U	1,1,1,2-Tetrachloroethane	1	U
Trichlorofluoromethane	2	U	Ethylbenzene	1	U
Ethyl Ether	1	U	m & p-Xylene	2	U
1,1,2 Trichlorotrifluoroethane	1	U	o-Xylene	1	U
1,1-Dichloroethene	1	U	Styrene	1	U
Acetone	2	UJ	Bromoform	1	U
Methyl Iodide	1	U	Isopropylbenzene (Cumene)	1	U
Carbon Disulfide	2	U	1,1,2,2-Tetrachloroethane	1	U
Methylene Chloride	2	U	Trans-1,4-Dichloro-2-butene	1	U
2-Methyoxy-2-Methylpropane	1	U	1,2,3-Trichloropropane	2	U
Trans-1,2-Dichloroethene	1	U	Bromobenzene	1	U
1,1-Dichloroethane	1	U	n-Propylbenzene	1	U
2-Butanone	2	U	2-Chlorotoluene	1	U
Cis-1,2-Dichloroethene	**.38**	**J**	1,3,5-Trimethylbenzene	1	U
2,2-Dichloropropane	1	U	4-Chlorotoluene	1	U
Bromochloromethane	1	U	Tert-Butylbenzene	1	U
Chloroform	1	U	1,2,4-Trimethylbenzene	1	U
Tetrahydrofuran	1	U	Pentachloroethane	2	U
1,1,1-Trichloroethane	1	U	Sec-Butylbenzene	1	U
1,1-Dichloropropene	1	U	p-Isopropyltoluene	1	U
Carbon Tetrachloride	1	U	1,3-Dichlorobenzene	1	U
1,2-Dichloroethane	1	U	1,4-Dichlorobenzene	1	U
Benzene	1	U	n-Butylbenzene	1	U
Trichloroethene	2	U	1,2-Dichlorobenzene	1	U
1,2-Dichloropropane	1	U	Hexachloroethane	5	U
Dibromomethane	1	U	1,2-Dibromo-3-Chloropropane	2	U
Bromodichloromethane	1	U	1,2,4-Trichlorobenzene	2	U
Cis-1,3-Dichloropropene	1.1	U	Hexachlorobutadiene	1	U
4-Methyl-2-Pentanone	2	U	Naphthalene	1	U
Toluene	1	U	1,2,3-Trichlorobenzene	5	U
Trans-1,3-Dichloropropene	.94	U			
1,1,2-Trichloroethane	1	U			
1,3-Dichloropropane	2	U			
2-Hexanone	2	U			

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Analysis Report for

Volatile Organic Analysis

Project Name: Lakewood Plaza Cleaners - 9931 **LIMS Project ID:** 1744-99

Sample: 99318034 **Date Collected:** 08/02/99 **Method:** SW8260
Field ID: MW-31 **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 08/12/99 **Units:** ug/L

Surrogate Recoveries

1,2-Dichloroethane-D4	**103**	**%**
1,4-Difluorobenzene	**97**	**%**
Toluene-D8	**106**	**%**
p-Bromofluorobenzene	**95**	**%**
1,2-Dichlorobenzene-D4	**98**	**%**

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Analysis Report for

Volatile Organic Analysis

Project Name: Lakewood Plaza Cleaners - 9931 **LIMS Project ID:** 1744-99

Sample: 99318035 **Date Collected:** 08/02/99 **Method:** SW8260
Field ID: MW-16A **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 08/12/99 **Units:** ug/L

Analyte	Result	Qualifier	Analyte	Result	Qualifier
Dichlorodifluoromethane	2	U	**Tetrachloroethene**	**22**	
Chloromethane	2	U	Dibromochloromethane	1	U
Vinyl Chloride	1	U	1,2-Dibromoethane (EDB)	1	U
Bromomethane	1	U	Chlorobenzene	1	U
Chloroethane	1	U	1,1,1,2-Tetrachloroethane	1	U
Trichlorofluoromethane	2	U	Ethylbenzene	1	U
Ethyl Ether	1	U	m & p-Xylene	2	U
1,1,2 Trichlorotrifluoroethane	1	U	o-Xylene	1	U
1,1-Dichloroethene	1	U	Styrene	1	U
Acetone	2	UJ	Bromoform	1	U
Methyl Iodide	1	U	Isopropylbenzene (Cumene)	1	U
Carbon Disulfide	2	U	1,1,2,2-Tetrachloroethane	1	U
Methylene Chloride	2	U	Trans-1,4-Dichloro-2-butene	1	U
2-Methyoxy-2-Methylpropane	1	U	1,2,3-Trichloropropane	2	U
Trans-1,2-Dichloroethene	1	U	Bromobenzene	1	U
1,1-Dichloroethane	1	U	n-Propylbenzene	1	U
2-Butanone	2	U	2-Chlorotoluene	1	U
Cis-1,2-Dichloroethene	**1.1**		1,3,5-Trimethylbenzene	1	U
2,2-Dichloropropane	1	U	4-Chlorotoluene	1	U
Bromochloromethane	1	U	Tert-Butylbenzene	1	U
Chloroform	1	U	1,2,4-Trimethylbenzene	1	U
Tetrahydrofuran	1	U	Pentachloroethane	2	U
1,1,1-Trichloroethane	1	U	Sec-Butylbenzene	1	U
1,1-Dichloropropene	1	U	p-Isopropyltoluene	1	U
Carbon Tetrachloride	1	U	1,3-Dichlorobenzene	1	U
1,2-Dichloroethane	1	U	1,4-Dichlorobenzene	1	U
Benzene	1	U	n-Butylbenzene	1	U
Trichloroethene	**.38**	**J**	1,2-Dichlorobenzene	1	U
1,2-Dichloropropane	1	U	Hexachloroethane	5	U
Dibromomethane	1	U	1,2-Dibromo-3-Chloropropane	2	U
Bromodichloromethane	1	U	1,2,4-Trichlorobenzene	2	U
Cis-1,3-Dichloropropene	1.1	U	Hexachlorobutadiene	1	U
4-Methyl-2-Pentanone	2	U	Naphthalene	1	U
Toluene	1	U	1,2,3-Trichlorobenzene	5	U
Trans-1,3-Dichloropropene	.94	U			
1,1,2-Trichloroethane	1	U			
1,3-Dichloropropane	2	U			
2-Hexanone	2	U			

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Analysis Report for

Volatile Organic Analysis

Project Name: Lakewood Plaza Cleaners - 9931 **LIMS Project ID:** 1744-99

Sample: 99318035 **Date Collected:** 08/02/99 **Method:** SW8260
Field ID: MW-16A **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 08/12/99 **Units:** ug/L

Surrogate Recoveries

1,2-Dichloroethane-D4	**104**	%
1,4-Difluorobenzene	**99**	%
Toluene-D8	**98**	%
p-Bromofluorobenzene	**90**	%
1,2-Dichlorobenzene-D4	**101**	%

Authorized By: _____ Release Date: 8/19/99

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Analysis Report for

Volatile Organic Analysis

Project Name: Lakewood Plaza Cleaners - 9931 **LIMS Project ID:** 1744-99

Sample: 99318036 **Date Collected:** 08/02/99 **Method:** SW8260
Field ID: MW-16B **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 08/12/99 **Units:** ug/L

Analyte	Result	Qualifier	Analyte	Result	Qualifier
Dichlorodifluoromethane	2	U	**Tetrachloroethene**	**16**	
Chloromethane	2	U	Dibromochloromethane	1	U
Vinyl Chloride	1	U	1,2-Dibromoethane (EDB)	1	U
Bromomethane	1	U	Chlorobenzene	1	U
Chloroethane	1	U	1,1,1,2-Tetrachloroethane	1	U
Trichlorofluoromethane	2	U	Ethylbenzene	1	U
Ethyl Ether	1	U	m & p-Xylene	2	U
1,1,2 Trichlorotrifluoroethane	1	U	o-Xylene	1	U
1,1-Dichloroethene	1	U	Styrene	1	U
Acetone	2	UJ	Bromoform	1	U
Methyl Iodide	1	U	Isopropylbenzene (Cumene)	1	U
Carbon Disulfide	2	U	1,1,2,2-Tetrachloroethane	1	U
Methylene Chloride	2	U	Trans-1,4-Dichloro-2-butene	1	U
2-Methyoxy-2-Methylpropane	1	U	1,2,3-Trichloropropane	2	U
Trans-1,2-Dichloroethene	1	U	Bromobenzene	1	U
1,1-Dichloroethane	1	U	n-Propylbenzene	1	U
2-Butanone	2	U	2-Chlorotoluene	1	U
Cis-1,2-Dichloroethene	**1**		1,3,5-Trimethylbenzene	1	U
2,2-Dichloropropane	1	U	4-Chlorotoluene	1	U
Bromochloromethane	1	U	Tert-Butylbenzene	1	U
Chloroform	1	U	1,2,4-Trimethylbenzene	1	U
Tetrahydrofuran	1	U	Pentachloroethane	2	U
1,1,1-Trichloroethane	1	U	Sec-Butylbenzene	1	U
1,1-Dichloropropene	1	U	p-Isopropyltoluene	1	U
Carbon Tetrachloride	1	U	1,3-Dichlorobenzene	1	U
1,2-Dichloroethane	1	U	1,4-Dichlorobenzene	1	U
Benzene	1	U	n-Butylbenzene	1	U
Trichloroethene	**.34**	**J**	1,2-Dichlorobenzene	1	U
1,2-Dichloropropane	1	U	Hexachloroethane	5	U
Dibromomethane	1	U	1,2-Dibromo-3-Chloropropane	2	U
Bromodichloromethane	1	U	1,2,4-Trichlorobenzene	2	U
Cis-1,3-Dichloropropene	1.1	U	Hexachlorobutadiene	1	U
4-Methyl-2-Pentanone	2	U	Naphthalene	1	U
Toluene	1	U	1,2,3-Trichlorobenzene	5	U
Trans-1,3-Dichloropropene	.94	U			
1,1,2-Trichloroethane	1	U			
1,3-Dichloropropane	2	U			
2-Hexanone	2	U			

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Analysis Report for

Volatile Organic Analysis

Project Name: Lakewood Plaza Cleaners - 9931 **LIMS Project ID:** 1744-99

Sample: 99318036 **Date Collected:** 08/02/99 **Method:** SW8260
Field ID: MW-16B **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 08/12/99 **Units:** ug/L

Surrogate Recoveries

1,2-Dichloroethane-D4	**104**	**%**
1,4-Difluorobenzene	**100**	**%**
Toluene-D8	**100**	**%**
p-Bromofluorobenzene	**93**	**%**
1,2-Dichlorobenzene-D4	**99**	**%**

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Analysis Report for

Volatile Organic Analysis

Project Name: Lakewood Plaza Cleaners - 9931 **LIMS Project ID:** 1744-99

Sample: 99318037 **Date Collected:** 08/02/99 **Method:** SW8260
Field ID: MW-20A **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 08/13/99 **Units:** ug/L

Analyte	Result	Qualifier	Analyte	Result	Qualifier
Dichlorodifluoromethane	2	U	**Tetrachloroethene**	**.78**	**J**
Chloromethane	2	U	Dibromochloromethane	1	U
Vinyl Chloride	1	U	1,2-Dibromoethane (EDB)	1	U
Bromomethane	1	U	Chlorobenzene	1	U
Chloroethane	1	U	1,1,1,2-Tetrachloroethane	1	U
Trichlorofluoromethane	2	U	Ethylbenzene	1	U
Ethyl Ether	1	U	m & p-Xylene	2	U
1,1,2 Trichlorotrifluoroethane	1	U	o-Xylene	1	U
1,1-Dichloroethene	1	U	Styrene	1	U
Acetone	2	UJ	Bromoform	1	U
Methyl Iodide	1	U	Isopropylbenzene (Cumene)	1	U
Carbon Disulfide	2	U	1,1,2,2-Tetrachloroethane	1	U
Methylene Chloride	2	U	Trans-1,4-Dichloro-2-butene	1	U
2-Methyoxy-2-Methylpropane	1	U	1,2,3-Trichloropropane	2	U
Trans-1,2-Dichloroethene	1	U	Bromobenzene	1	U
1,1-Dichloroethane	1	U	n-Propylbenzene	1	U
2-Butanone	2	U	2-Chlorotoluene	1	U
Cis-1,2-Dichloroethene	1	U	1,3,5-Trimethylbenzene	1	U
2,2-Dichloropropane	1	U	4-Chlorotoluene	1	U
Bromochloromethane	1	U	Tert-Butylbenzene	1	U
Chloroform	1	U	1,2,4-Trimethylbenzene	1	U
Tetrahydrofuran	1	U	Pentachloroethane	2	U
1,1,1-Trichloroethane	1	U	Sec-Butylbenzene	1	U
1,1-Dichloropropene	1	U	p-Isopropyltoluene	1	U
Carbon Tetrachloride	1	U	1,3-Dichlorobenzene	1	U
1,2-Dichloroethane	1	U	1,4-Dichlorobenzene	1	U
Benzene	1	U	n-Butylbenzene	1	U
Trichloroethene	2	U	1,2-Dichlorobenzene	1	U
1,2-Dichloropropane	1	U	Hexachloroethane	5	U
Dibromomethane	1	U	1,2-Dibromo-3-Chloropropane	2	U
Bromodichloromethane	1	U	1,2,4-Trichlorobenzene	2	U
Cis-1,3-Dichloropropene	1.1	U	Hexachlorobutadiene	1	U
4-Methyl-2-Pentanone	2	U	Naphthalene	1	U
Toluene	1	U	1,2,3-Trichlorobenzene	5	U
Trans-1,3-Dichloropropene	.94	U			
1,1,2-Trichloroethane	1	U			
1,3-Dichloropropane	2	U			
2-Hexanone	2	U			

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Analysis Report for

Volatile Organic Analysis

Project Name: Lakewood Plaza Cleaners - 9931 **LIMS Project ID:** 1744-99

Sample: 99318037 **Date Collected:** 08/02/99 **Method:** SW8260
Field ID: MW-20A **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 08/13/99 **Units:** ug/L

Surrogate Recoveries

1,2-Dichloroethane-D4	**100**	**%**
1,4-Difluorobenzene	**100**	**%**
Toluene-D8	**103**	**%**
p-Bromofluorobenzene	**92**	**%**
1,2-Dichlorobenzene-D4	**97**	**%**

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Analysis Report for

Volatile Organic Analysis

Project Name: Lakewood Plaza Cleaners - 9931 **LIMS Project ID:** 1744-99

Sample: 99318038 **Date Collected:** 08/02/99 **Method:** SW8260
Field ID: MW-20B **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 08/17/99 **Units:** ug/L

Analyte	Result	Qualifier	Analyte	Result	Qualifier
Dichlorodifluoromethane	40	U	**Tetrachloroethene**	**722**	
Chloromethane	40	U	Dibromochloromethane	20	U
Vinyl Chloride	20	U	1,2-Dibromoethane (EDB)	20	U
Bromomethane	20	U	Chlorobenzene	20	U
Chloroethane	20	U	1,1,1,2-Tetrachloroethane	20	U
Trichlorofluoromethane	40	U	Ethylbenzene	20	U
Ethyl Ether	20	U	m & p-Xylene	40	U
1,1,2 Trichlorotrifluoroethane	20	U	o-Xylene	20	U
1,1-Dichloroethene	20	U	Styrene	20	U
Acetone	40	UJ	Bromoform	20	U
Methyl Iodide	20	U	Isopropylbenzene (Cumene)	20	U
Carbon Disulfide	40	U	1,1,2,2-Tetrachloroethane	20	U
Methylene Chloride	40	U	Trans-1,4-Dichloro-2-butene	20	U
2-Methyoxy-2-Methylpropane	20	U	1,2,3-Trichloropropane	40	U
Trans-1,2-Dichloroethene	20	U	Bromobenzene	20	U
1,1-Dichloroethane	20	U	n-Propylbenzene	20	U
2-Butanone	40	U	2-Chlorotoluene	20	U
Cis-1,2-Dichloroethene	**16**	**J**	1,3,5-Trimethylbenzene	20	U
2,2-Dichloropropane	20	U	4-Chlorotoluene	20	U
Bromochloromethane	20	U	Tert-Butylbenzene	20	U
Chloroform	20	U	1,2,4-Trimethylbenzene	20	U
Tetrahydrofuran	20	U	Pentachloroethane	40	U
1,1,1-Trichloroethane	20	U	Sec-Butylbenzene	20	U
1,1-Dichloropropene	20	U	p-Isopropyltoluene	20	U
Carbon Tetrachloride	20	U	1,3-Dichlorobenzene	20	U
1,2-Dichloroethane	20	U	1,4-Dichlorobenzene	20	U
Benzene	20	U	n-Butylbenzene	20	U
Trichloroethene	**8.4**	**J**	1,2-Dichlorobenzene	20	U
1,2-Dichloropropane	20	U	Hexachloroethane	100	U
Dibromomethane	20	U	1,2-Dibromo-3-Chloropropane	40	U
Bromodichloromethane	20	U	1,2,4-Trichlorobenzene	40	U
Cis-1,3-Dichloropropene	21	U	Hexachlorobutadiene	20	U
4-Methyl-2-Pentanone	40	U	Naphthalene	20	U
Toluene	20	U	1,2,3-Trichlorobenzene	100	U
Trans-1,3-Dichloropropene	19	U			
1,1,2-Trichloroethane	20	U			
1,3-Dichloropropane	40	U			
2-Hexanone	40	U			

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Analysis Report for

Volatile Organic Analysis

Project Name: Lakewood Plaza Cleaners - 9931 **LIMS Project ID:** 1744-99

Sample: 99318038 **Date Collected:** 08/02/99 **Method:** SW8260
Field ID: MW-20B **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 08/17/99 **Units:** ug/L

Surrogate Recoveries

1,2-Dichloroethane-D4	**120**	**%**
1,4-Difluorobenzene	**102**	**%**
Toluene-D8	**102**	**%**
p-Bromofluorobenzene	**104**	**%**
1,2-Dichlorobenzene-D4	**102**	**%**

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Analysis Report for

Volatile Organic Analysis

Project Name: Lakewood Plaza Cleaners - 9931 **LIMS Project ID:** 1744-99

Lab ID: ODBW9224 **Method:** SW8260
QC Type: Laboratory Method Blank **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 08/12/99 **Units:** ug/L

Analyte	Result	Qualifier	Analyte	Result	Qualifier
Dichlorodifluoromethane	2	U	Tetrachloroethene	1	U
Chloromethane	2	U	Dibromochloromethane	1	U
Vinyl Chloride	1	U	1,2-Dibromoethane (EDB)	1	U
Bromomethane	1	U	Chlorobenzene	1	U
Chloroethane	1	U	1,1,1,2-Tetrachloroethane	1	U
Trichlorofluoromethane	2	U	Ethylbenzene	1	U
Ethyl Ether	1	U	m & p-Xylene	2	U
1,1,2 Trichlorotrifluoroethane	1	U	o-Xylene	1	U
1,1-Dichloroethene	1	U	Styrene	1	U
Acetone	2	UJ	Bromoform	1	U
Methyl Iodide	1	U	Isopropylbenzene (Cumene)	1	U
Carbon Disulfide	2	U	1,1,2,2-Tetrachloroethane	1	U
Methylene Chloride	2	U	Trans-1,4-Dichloro-2-butene	1	U
2-Methyoxy-2-Methylpropane	1	U	1,2,3-Trichloropropane	2	U
Trans-1,2-Dichloroethene	1	U	Bromobenzene	1	U
1,1-Dichloroethane	1	U	n-Propylbenzene	1	U
2-Butanone	2	U	2-Chlorotoluene	1	U
Cis-1,2-Dichloroethene	1	U	1,3,5-Trimethylbenzene	1	U
2,2-Dichloropropane	1	U	4-Chlorotoluene	1	U
Bromochloromethane	1	U	Tert-Butylbenzene	1	U
Chloroform	1	U	1,2,4-Trimethylbenzene	1	U
Tetrahydrofuran	1	U	Pentachloroethane	2	U
1,1,1-Trichloroethane	1	U	Sec-Butylbenzene	1	U
1,1-Dichloropropene	1	U	p-Isopropyltoluene	1	U
Carbon Tetrachloride	1	U	1,3-Dichlorobenzene	1	U
1,2-Dichloroethane	1	U	1,4-Dichlorobenzene	1	U
Benzene	1	U	n-Butylbenzene	1	U
Trichloroethene	2	U	1,2-Dichlorobenzene	1	U
1,2-Dichloropropane	1	U	Hexachloroethane	5	U
Dibromomethane	1	U	1,2-Dibromo-3-Chloropropane	2	U
Bromodichloromethane	1	U	1,2,4-Trichlorobenzene	2	U
Cis-1,3-Dichloropropene	1.1	U	Hexachlorobutadiene	1	U
4-Methyl-2-Pentanone	2	U	Naphthalene	1	U
Toluene	1	U	1,2,3-Trichlorobenzene	5	U
Trans-1,3-Dichloropropene	.94	U			
1,1,2-Trichloroethane	1	U			
1,3-Dichloropropane	2	U			
2-Hexanone	2	U			

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Analysis Report for

Volatile Organic Analysis

Project Name: Lakewood Plaza Cleaners - 9931 **LIMS Project ID:** 1744-99

Lab ID: ODBW9224 **Method:** SW8260
QC Type: Laboratory Method Blank **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 08/12/99 **Units:** ug/L

Surrogate Recoveries

1,2-Dichloroethane-D4	**100**	%
1,4-Difluorobenzene	**99**	%
Toluene-D8	**100**	%
p-Bromofluorobenzene	**93**	%
1,2-Dichlorobenzene-D4	**101**	%

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Analysis Report for

Volatile Organic Analysis

Project Name: Lakewood Plaza Cleaners - 9931 **LIMS Project ID:** 1744-99

Lab ID: ODBW9225 **Method:** SW8260
QC Type: Laboratory Method Blank **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 08/13/99 **Units:** ug/L

Analyte	Result	Qualifier	Analyte	Result	Qualifier
Dichlorodifluoromethane	2	U	Tetrachloroethene	1	U
Chloromethane	2	U	Dibromochloromethane	1	U
Vinyl Chloride	1	U	1,2-Dibromoethane (EDB)	1	U
Bromomethane	1	U	Chlorobenzene	1	U
Chloroethane	1	U	1,1,1,2-Tetrachloroethane	1	U
Trichlorofluoromethane	2	U	Ethylbenzene	1	U
Ethyl Ether	1	U	m & p-Xylene	2	U
1,1,2 Trichlorotrifluoroethane	1	U	o-Xylene	1	U
1,1-Dichloroethene	1	U	Styrene	1	U
Acetone	2	UJ	Bromoform	1	U
Methyl Iodide	1	U	Isopropylbenzene (Cumene)	1	U
Carbon Disulfide	**.12**	**J**	1,1,2,2-Tetrachloroethane	1	U
Methylene Chloride	2	U	Trans-1,4-Dichloro-2-butene	1	U
2-Methyoxy-2-Methylpropane	1	U	1,2,3-Trichloropropane	2	U
Trans-1,2-Dichloroethene	1	U	Bromobenzene	1	U
1,1-Dichloroethane	1	U	n-Propylbenzene	1	U
2-Butanone	2	U	2-Chlorotoluene	1	U
Cis-1,2-Dichloroethene	1	U	1,3,5-Trimethylbenzene	1	U
2,2-Dichloropropane	1	U	4-Chlorotoluene	1	U
Bromochloromethane	1	U	Tert-Butylbenzene	1	U
Chloroform	1	U	1,2,4-Trimethylbenzene	1	U
Tetrahydrofuran	1	U	Pentachloroethane	2	U
1,1,1-Trichloroethane	1	U	Sec-Butylbenzene	1	U
1,1-Dichloropropene	1	U	p-Isopropyltoluene	1	U
Carbon Tetrachloride	1	U	1,3-Dichlorobenzene	1	U
1,2-Dichloroethane	1	U	1,4-Dichlorobenzene	1	U
Benzene	1	U	n-Butylbenzene	1	U
Trichloroethene	2	U	1,2-Dichlorobenzene	1	U
1,2-Dichloropropane	1	U	Hexachloroethane	5	U
Dibromomethane	1	U	1,2-Dibromo-3-Chloropropane	2	U
Bromodichloromethane	1	U	1,2,4-Trichlorobenzene	2	U
Cis-1,3-Dichloropropene	1.1	U	Hexachlorobutadiene	1	U
4-Methyl-2-Pentanone	2	U	Naphthalene	1	U
Toluene	1	U	1,2,3-Trichlorobenzene	5	U
Trans-1,3-Dichloropropene	.94	U			
1,1,2-Trichloroethane	1	U			
1,3-Dichloropropane	2	U			
2-Hexanone	2	U			

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Analysis Report for

Volatile Organic Analysis

Project Name: Lakewood Plaza Cleaners - 9931 **LIMS Project ID:** 1744-99

Lab ID: ODBW9225
QC Type: Laboratory Method Blank
Project Officer: Pam Marti **Date Analyzed:** 08/13/99

Method: SW8260
Matrix: Water
Units: ug/L

Surrogate Recoveries

1,2-Dichloroethane-D4	**105**	%
1,4-Difluorobenzene	**100**	%
Toluene-D8	**101**	%
p-Bromofluorobenzene	**92**	%
1,2-Dichlorobenzene-D4	**101**	%

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Analysis Report for

Volatile Organic Analysis

Project Name: Lakewood Plaza Cleaners - 9931 **LIMS Project ID:** 1744-99

Lab ID: ODBW9229 **Method:** SW8260
QC Type: Laboratory Method Blank **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 08/17/99 **Units:** ug/L

Analyte	Result	Qualifier	Analyte	Result	Qualifier
Dichlorodifluoromethane	2	U	Tetrachloroethene	1	U
Chloromethane	2	U	Dibromochloromethane	1	U
Vinyl Chloride	1	U	1,2-Dibromoethane (EDB)	1	U
Bromomethane	1	U	Chlorobenzene	1	U
Chloroethane	1	U	1,1,1,2-Tetrachloroethane	1	U
Trichlorofluoromethane	2	U	Ethylbenzene	1	U
Ethyl Ether	1	U	m & p-Xylene	2	U
1,1,2 Trichlorotrifluoroethane	1	U	o-Xylene	1	U
1,1-Dichloroethene	1	U	Styrene	1	U
Acetone	2	UJ	Bromoform	1	U
Methyl Iodide	1	U	Isopropylbenzene (Cumene)	1	U
Carbon Disulfide	2	U	1,1,2,2-Tetrachloroethane	1	U
Methylene Chloride	2	U	Trans-1,4-Dichloro-2-butene	1	U
2-Methyoxy-2-Methylpropane	1	U	1,2,3-Trichloropropane	2	U
Trans-1,2-Dichloroethene	1	U	Bromobenzene	1	U
1,1-Dichloroethane	1	U	n-Propylbenzene	1	U
2-Butanone	2	U	2-Chlorotoluene	1	U
Cis-1,2-Dichloroethene	1	U	1,3,5-Trimethylbenzene	1	U
2,2-Dichloropropane	1	U	4-Chlorotoluene	1	U
Bromochloromethane	1	U	Tert-Butylbenzene	1	U
Chloroform	1	U	1,2,4-Trimethylbenzene	1	U
Tetrahydrofuran	1	U	Pentachloroethane	2	U
1,1,1-Trichloroethane	1	U	Sec-Butylbenzene	1	U
1,1-Dichloropropene	1	U	p-Isopropyltoluene	1	U
Carbon Tetrachloride	1	U	1,3-Dichlorobenzene	1	U
1,2-Dichloroethane	1	U	1,4-Dichlorobenzene	1	U
Benzene	1	U	n-Butylbenzene	1	U
Trichloroethene	2	U	1,2-Dichlorobenzene	1	U
1,2-Dichloropropane	1	U	Hexachloroethane	5	U
Dibromomethane	1	U	1,2-Dibromo-3-Chloropropane	2	U
Bromodichloromethane	1	U	1,2,4-Trichlorobenzene	2	U
Cis-1,3-Dichloropropene	1.1	U	Hexachlorobutadiene	1	U
4-Methyl-2-Pentanone	2	U	Naphthalene	1	U
Toluene	1	U	1,2,3-Trichlorobenzene	5	U
Trans-1,3-Dichloropropene	.94	U			
1,1,2-Trichloroethane	1	U			
1,3-Dichloropropane	2	U			
2-Hexanone	2	U			

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Analysis Report for

Volatile Organic Analysis

Project Name: Lakewood Plaza Cleaners - 9931 **LIMS Project ID:** 1744-99

Lab ID: ODBW9229 **Method:** SW8260
QC Type: Laboratory Method Blank **Matrix:** Water
Project Officer: Pam Marti **Date Analyzed:** 08/17/99 **Units:** ug/L

Surrogate Recoveries

1,2-Dichloroethane-D4	**120**	**%**
1,4-Difluorobenzene	**103**	**%**
Toluene-D8	**99**	**%**
p-Bromofluorobenzene	**102**	**%**
1,2-Dichlorobenzene-D4	**97**	**%**