

GW - 114

MONITORING REPORTS

DATE:

1/99

**1998 ANNUAL REPORT
DOWELL, A DIVISION OF
SCHLUMBERGER TECHNOLOGY CORPORATION
HOBBS, NEW MEXICO**

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- B – Work Plan for Waste Water Collection and Acid Dock SVE Modifications
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1.0 INTRODUCTION

1.0 INTRODUCTION

This report documents monitoring and remedial activities performed in 1998 at the Dowell, a division of Schlumberger Technology Corporation facility in Hobbs, New Mexico (Figures 1 and 2). Field work conducted by Western Water Consultants, Inc. (WWC) during the 4 quarters of 1998 consisted of air and ground-water monitoring, routine remediation system operation and maintenance, and remediation system modifications. The following sections provide an overview of the field work performed, an analysis of the data collected, and recommendations for 1999.

2.0 GROUND-WATER MONITORING

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Ground-water monitoring was performed 4 times in 1998 by WWC personnel. The fourth quarter monitoring event was performed October 25-27, 1998. Results of the previous sampling events for 1998 were presented in reports to the New Mexico Oil and Conservation Division (NMOCD) dated February 26, 1998, June 1, 1998, and September 14, 1998.

2.1 Static Water Level

Static water levels were measured 4 times in 1998 from all monitoring wells with an oil/water interface probe (Figures 1 and 2). The latest water level measurements are presented in Table 1 along with historic water level data for comparison. The probe was decontaminated between wells with Simple Green and a distilled water rinse. Free product has never been detected at this site.

A map of the potentiometric surface generated from the 4th quarter water level elevations is presented as Figure 3. The ground-water flow direction continues to flow to the northeast with a hydraulic gradient of 0.005 consistent with earlier determinations of ground-water flow. Ground-water elevations dropped an average of 0.82 feet over the past year.

2.2 Ground-water Sampling

Ground-water samples were collected from all monitoring wells during quarterly monitoring events in 1998. Three well volumes of ground-water were purged from each well using a Redi-flow submersible pump. The submersible pump was decontaminated with a Simple Green solution and clean water rinse between wells. Purge water was placed into two galvanized steel stock tanks on site and allowed to evaporate.

Ground-water samples were collected using disposable polyethylene bailers and analyzed for volatile organic compounds by EPA Method 8260. During the fourth quarter monitoring event duplicate samples were collected from MW-5 and MW-10. The analytical results for the fourth quarter monitoring event are provided in Table 2 along with historical data for comparison. Laboratory analytical reports for the fourth quarter monitoring event samples are presented in Appendix A.

3.0 REMEDIATION SYSTEM MODIFICATIONS

3.0 REMEDIATION SYSTEM MODIFICATIONS

The week of November 9 – 12, 1998, WWC replaced the soil vapor extraction (SVE) internal combustion AcuVac units in the former wastewater collection and acid dock areas with electric blowers. Installation of the electric blowers allowed for increased vacuum at the wells and higher air volumes to be removed. The SVE modifications were constructed according to the workplan approved by the NMOCD entitled "Workplan for the Modification of the Acid Dock and Former Waste Water Collection Pond Soil Vapor Extraction (SVE) Systems at the Dowell, a division of Schlumberger Technology Corporation Facility, in Hobbs, New Mexico." dated September 21, 1998 (Appendix B.). A combination of air sparging and SVE remediation is continuing in the former UST area.

3.1 SVE Systems Operations

Air samples were collected from the 3 SVE systems 4 to 5 times in 1998. Results of the air quality monitoring are provided on Table 3. Air quality results are provided in Table 3. Laboratory data reports are presented as part of Appendix A.

Time lines are provided (Figures 4, 5, and 6) which document when samples were collected, system shut downs for routine maintenance, or when systems were shut down for repairs since startup periods. Plots have also been constructed for SVE air emissions of total halocarbons which are provided as part of Appendix C.

4.0 RESULTS AND DISCUSSION

4.0 RESULTS AND DISCUSSION

Concentrations of volatile aromatic and chlorinated hydrocarbons remain consistent with historic trends in most of the monitoring wells (Table 2). However contaminant concentrations declined in monitoring wells MW-2 and MW-5 over the past four quarters. Total halocarbon concentrations declined in MW-4 until July 1997 but have remained consistent at the same concentrations for 1998. Contaminants have yet to be detected in the ground-water at monitoring wells MW-14 and MW-15 and only low concentrations have been detected in MW-13. Chlorinated hydrocarbons in the deeper aquifer at MW-10 have been very low or below detection limits.

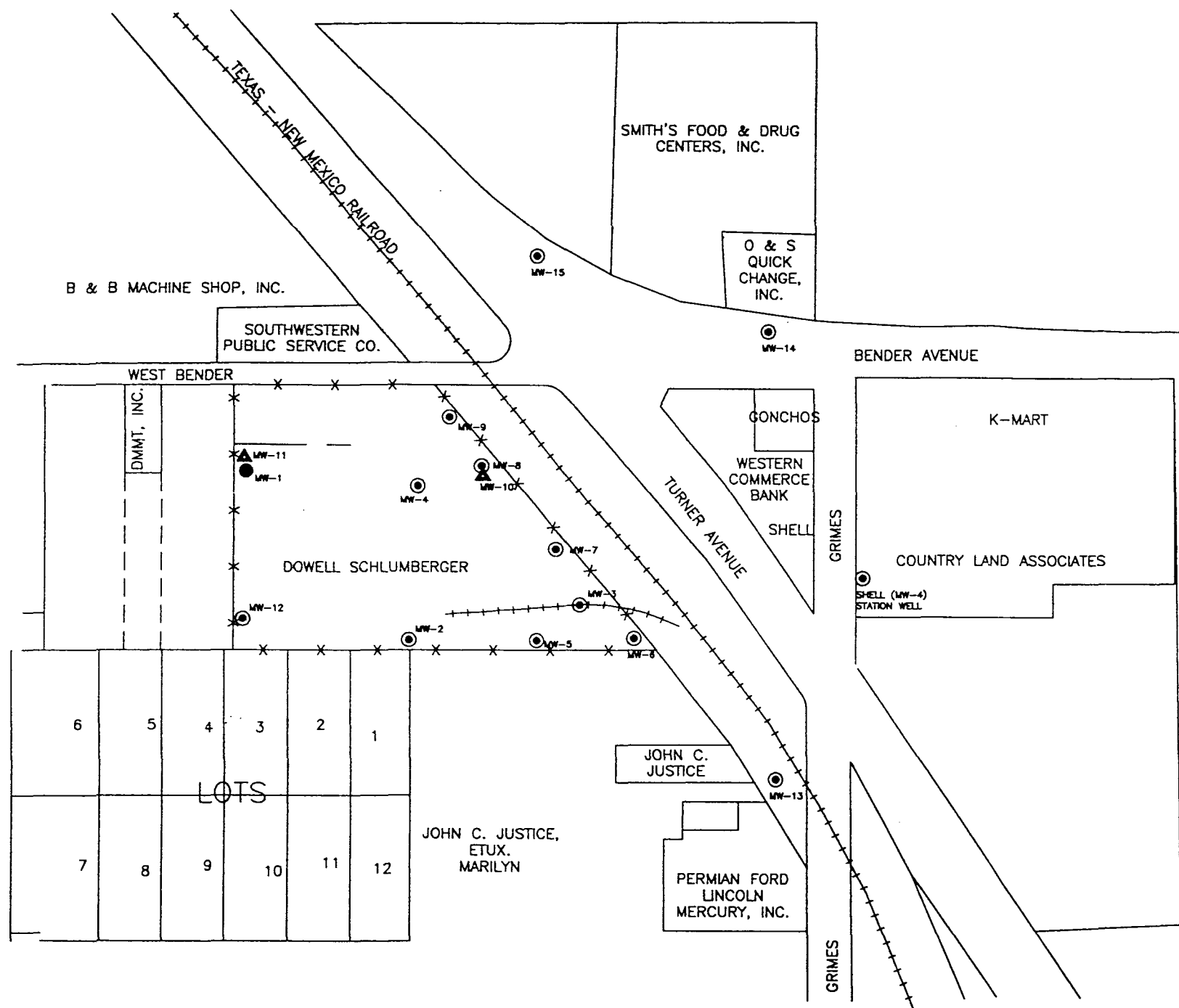
To illustrate the areal extent of chlorinated halocarbons, an isoconcentration map (Figure 7.) has been constructed. There has been no change in the distribution pattern for halocarbons over the past year. Plots were also constructed matching static water levels versus various halocarbon concentrations in individual wells. The plots are presented as part of Appendix C.

5.0 RECOMMENDATIONS

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We have now completed two years of quarterly ground-water sampling at most on-site monitoring wells. As mentioned previously, hydrocarbons remain undetected in the ground-water at monitoring wells MW-14 and MW-15 and have been declining in the former waste water collection area. In addition, ground-water at upgradient wells (MW-11 and MW-12) and monitoring well MW-10 have continued to be clean. Because of this, Dowell is recommending that the ground-water continue to be monitored quarterly and analyzed by EPA method 8260 but reduce the number of wells sampled. Sampling of monitoring wells MW-3, MW-5, MW-10, MW-11, and MW-12 would only be performed during the fourth quarter of each year. Implementation of the reduced sampling plan would take place during the first quarter sampling unless the NMOCD responds differently. Static water levels would be collected from all monitoring wells on a quarterly basis.

FIGURES



EXPLANATION

- MW-4 ● SHALLOW MONITORING WELL LOCATION AND IDENTIFICATION
- MW-1 ● ABANDONED MONITORING WELL
- MW-11 ▲ DEEP MONITORING WELL LOCATIONS

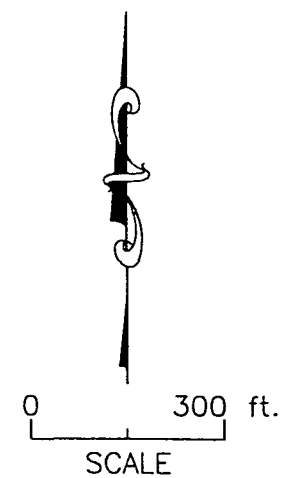


FIGURE 1
MONITORING WELL LOCATIONS

DOWELL, A DIVISION OF
SCHLUMBERGER TECHNOLOGY CORPORATION
HOBBS, NM

Western Water Consultants, Inc. WWC Engineering
Engineering Environmental Mining Water Resources

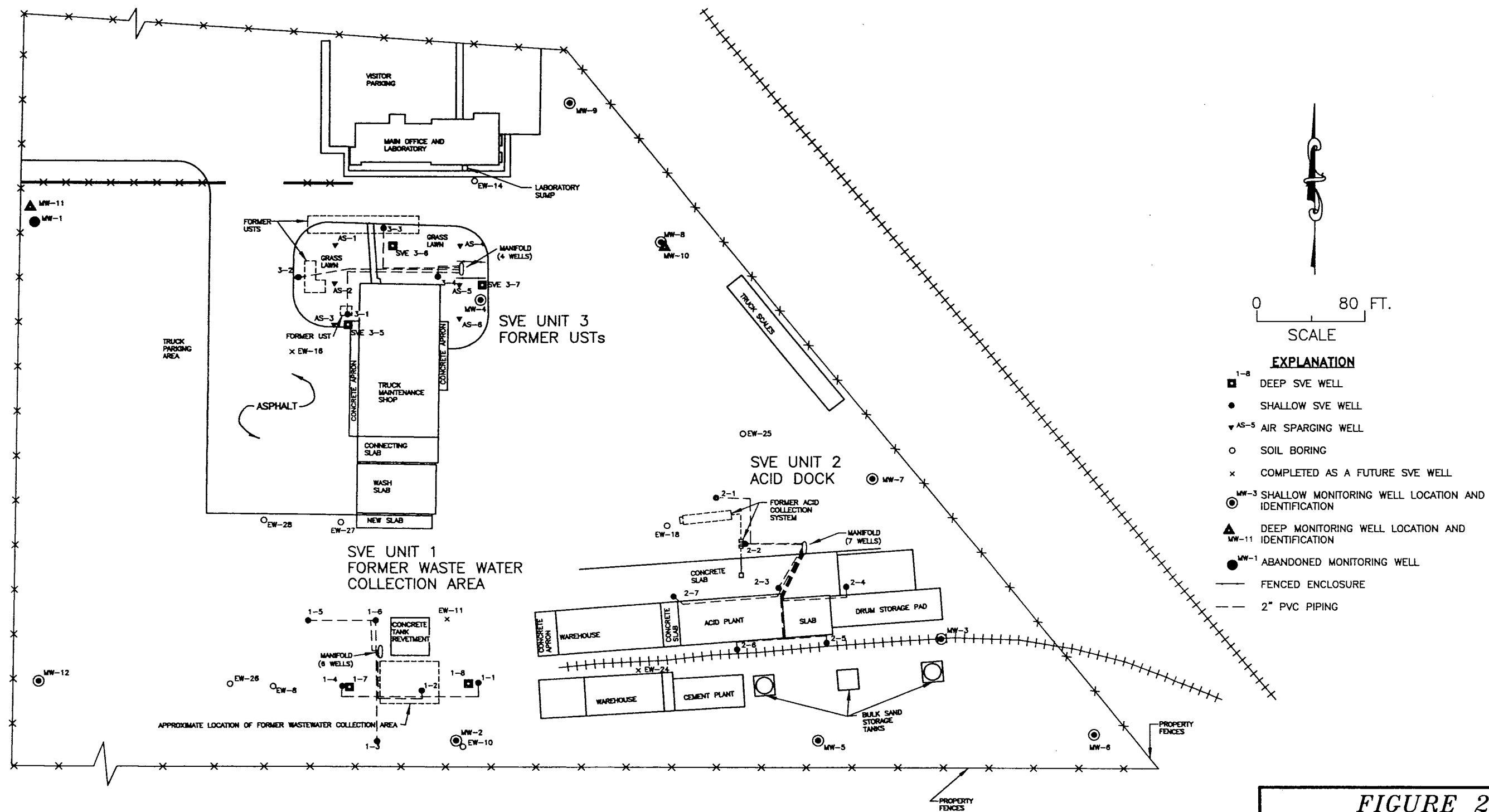
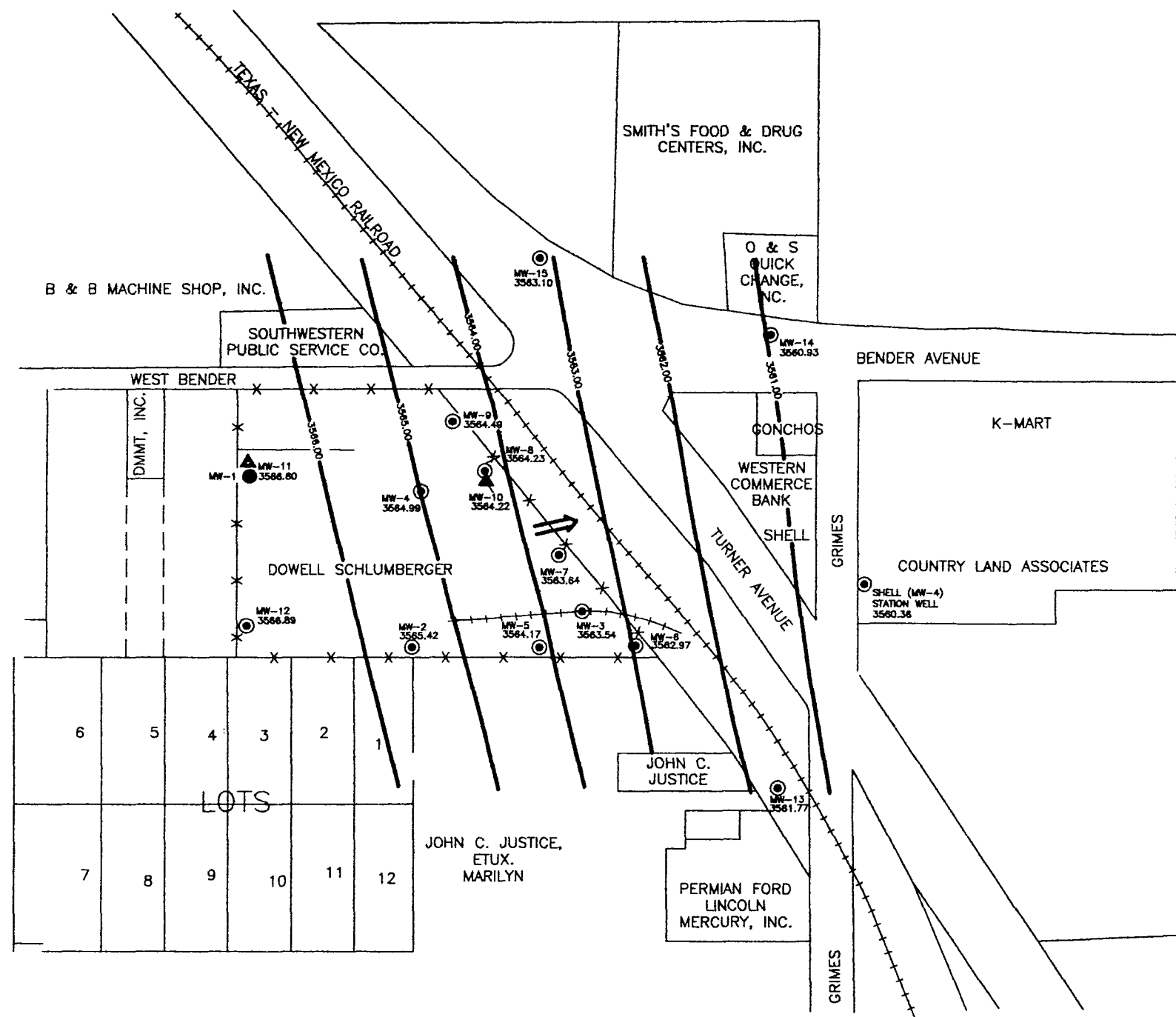


FIGURE 2
 SITE MAP AND
 LOCATION OF MONITORING AND
 REMEDIATION WELLS
 DOWELL, A DIVISION OF
 SCHLUMBERGER TECHNOLOGY CORPORATION
 HOBBS, NM



EXPLANATION

- MW-14 3560.93 ● SHALLOW MONITORING WELL LOCATION, IDENTIFICATION, AND POTENTIOMETRIC SURFACE ELEVATION
- MW-1 ● ABANDONED MONITORING WELL
- MW-11 3566.80 ▲ DEEP MONITORING WELL LOCATION IDENTIFICATION AND POTENTIOMETRIC SURFACE ELEVATION
- 3563.00 ————— POTENTIOMETRIC SURFACE CONTOURS AND ELEVATION (DASHED WHERE INFERRED)
- ⇨ GROUND-WATER FLOW DIRECTION

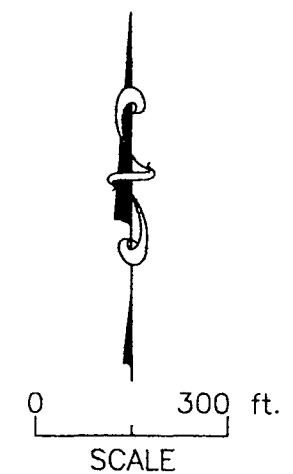


FIGURE 3
POTENTIOMETRIC SURFACE MAP
(10/25/98)

DOWELL, A DIVISION OF
SCHLUMBERGER TECHNOLOGY CORPORATION
HOBBES, NM

Western
Water
Consultants, Inc. **W** **W** **C** Engineering
Engineering Environmental Mining Water Resources

FORMER LAGOON, UNIT 1

(OPERATION PERCENTAGE 86%)



ACID PLANT, UNIT 2

(OPERATION PERCENTAGE 93%)



FORMER UST, UNIT 3

(OPERATION PERCENTAGE 60%)



ELECTRIC
BLOWER
INSTALLED

EXPLANATION

- UNIT IS RUNNING EXCEPT FOR BRIEF SHUTDOWNS FOR ROUTINE MAINTENANCE
- UNIT IS NOT OPERATING
- AIR SAMPLES COLLECTED

FIGURE 4

SVE OPERATION TIMELINE
07/01/98 THRU 12/31/98

DOWELL, A DIVISION OF
SCHLUMBERGER TECHNOLOGY CORPORATION

Western
Water
Consultants, Inc.  WWC Engineering
Engineering Environmental Mining Water Resources

FORMER WASTE WATER LAGOON, UNIT 1

(OPERATION PERCENTAGE 84%)



ACID DOCK, UNIT 2

(OPERATION PERCENTAGE 87%)



FORMER USTs, UNIT 3

(OPERATION PERCENTAGE 100%)



ELECTRIC
BLOWER

EXPLANATION

-  UNIT IS RUNNING EXCEPT FOR BRIEF SHUTDOWNS FOR ROUTINE MAINTENANCE
-  UNIT IS NOT OPERATING
-  AIR SAMPLES COLLECTED

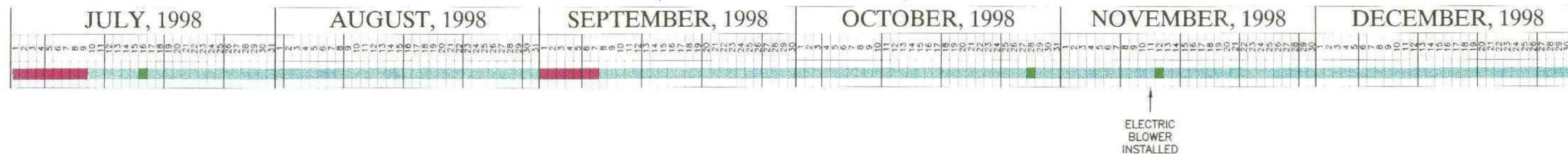
FIGURE 5
SVE OPERATION TIMELINE
01/01/98 THRU 06/30/98

DOWELL, A DIVISION OF
SCHLUMBERGER TECHNOLOGY CORPORATION

Western
Water
Consultants, Inc.  WWC Engineering
Engineering Environmental Mining Water Resources

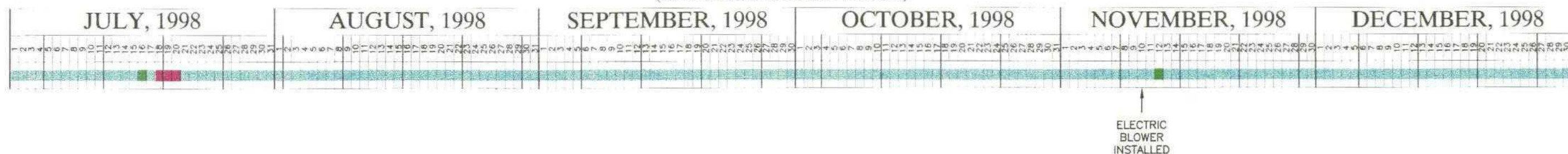
FORMER LAGOON, UNIT 1

(OPERATION PERCENTAGE 88%)



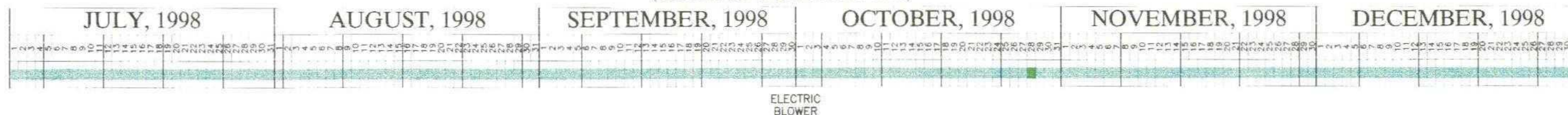
ACID PLANT, UNIT 2

(OPERATION PERCENTAGE 98%)



FORMER UST, UNIT 3

(OPERATION PERCENTAGE 100%)



EXPLANATION

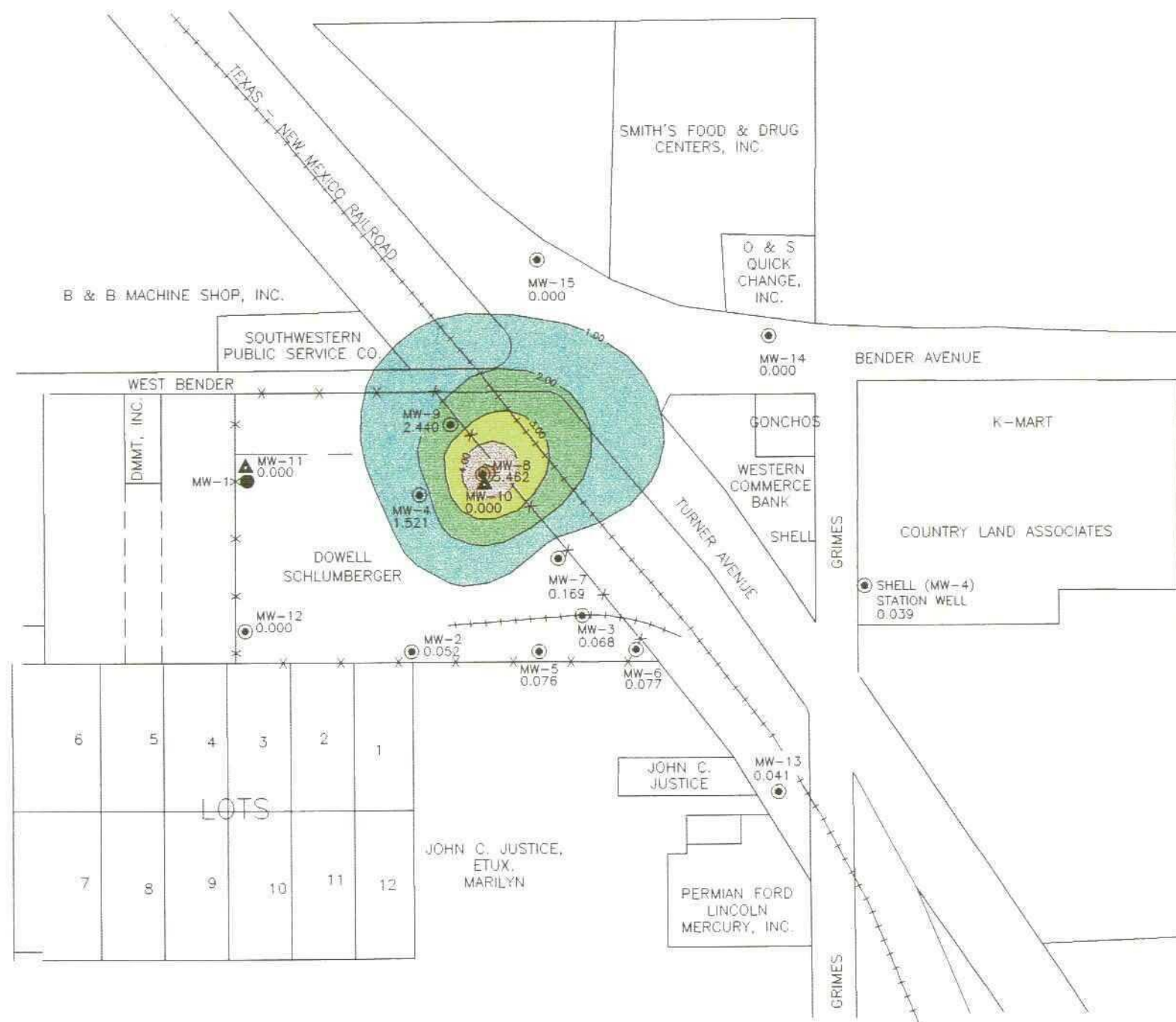
-  UNIT IS RUNNING EXCEPT FOR BRIEF SHUTDOWNS FOR ROUTINE MAINTENANCE
-  UNIT IS NOT OPERATING
-  AIR SAMPLES COLLECTED

FIGURE 6

SVE OPERATION TIMELINE
07/01/98 THRU 12/31/98

DOWELL, A DIVISION OF
SCHLUMBERGER TECHNOLOGY CORPORATION

Western
Water
Consultants, Inc.  WWC Engineering
Engineering Environmental Mining Water Resources



- EXPLANATION**
- MW-8 5.462 ● SHALLOW MONITORING WELL LOCATION, IDENTIFICATION AND TOTAL HALOCARBONS CONCENTRATIONS
 - MW-1 ● ABANDONED MONITORING WELL
 - MW-11 0.000 ▲ DEEP MONITORING WELL LOCATION, IDENTIFICATION AND TOTAL HALOCARBONS CONCENTRATIONS
 - 1.00' TOTAL HALOCARBONS CONTOURS

TOTAL HALOCARBONS CONCENTRATIONS (mg/L)

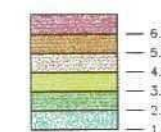


FIGURE 7
TOTAL HALOCARBONS
CONCENTRATION MAP
(10/26/98)
 DOWELL, A DIVISION OF
 SCHLUMBERGER TECHNOLOGY CORPORATION
 HOBBS, NM

TABLES

Table 1. Static Water Levels for the Dowell Facility in Hobbs, New Mexico

Well Number	Top of Casing Elevations (ft)	Date Measured	Total Depth (ft)	Depth to Water (ft)	*Static Water Elevation (ft)	Difference From Prior Level (ft)	Water Column (ft)
MW-1	3638.52	10/25/96	84	70.22	3568.30		13.78
		11/21/96		70.17	3568.35	0.05	13.83
		01/22/97		70.44	3568.08	-0.27	13.56
		05/22/97					
Abandoned							
MW-2	3637.26	10/25/96	85	70.03	3567.23		14.97
		11/21/96		70.03	3567.23	0.00	14.97
		01/22/97		70.26	3567.00	-0.23	14.74
		05/21/97		70.53	3566.73	-0.27	14.47
		07/28/97		70.69	3566.57	-0.16	14.31
		10/15/97		70.80	3566.46	-0.11	14.20
		01/05/98		71.05	3566.21	-0.25	13.95
		04/16/98		71.27	3565.99	-0.22	13.73
		07/16/98		71.61	3565.65	-0.34	13.39
		10/25/98		71.84	3565.42	-0.23	13.16
MW-3	3638.28	10/25/96	85	72.88	3565.40		12.12
		11/21/96		72.89	3565.39	-0.01	12.11
		01/22/97		73.10	3565.18	-0.21	11.90
		05/21/97		73.40	3564.88	-0.30	11.60
		07/28/97		73.54	3564.74	-0.14	11.46
		10/15/97		73.67	3564.61	-0.13	11.33
		01/05/98		73.92	3564.36	-0.25	11.08
		04/16/98		74.13	3564.15	-0.21	10.87
		07/16/98		74.46	3563.82	-0.33	10.54
		10/25/98		74.74	3563.54	-0.28	10.26
MW-4	3639.20	10/25/96	85	72.41	3566.79		12.59
		11/21/96		72.37	3566.83	0.04	12.63
		01/22/97		72.60	3566.60	-0.23	12.40
		05/21/97		72.87	3566.33	-0.27	12.13
		07/28/97		72.93	3566.27	-0.06	12.07
		10/15/97		73.03	3566.17	-0.10	11.97
		01/05/98		73.24	3565.96	-0.21	11.76
		04/16/98		73.67	3565.53	-0.43	11.33
		07/16/98		73.68	3565.52	-0.01	11.32
		10/25/98		74.21	3564.99	-0.53	10.79
MW-5	3637.70	01/22/97	85	71.90	3565.80		13.10
		05/21/97		72.21	3565.49	-0.31	12.79
		07/28/97		72.36	3565.34	-0.15	12.64
		10/15/97		72.44	3565.26	-0.08	12.56
		01/05/98		72.71	3564.99	-0.27	12.29
		04/16/98		72.92	3564.78	-0.21	12.08
		07/16/98		73.25	3564.45	-0.33	11.75
		10/25/98		73.53	3564.17	-0.28	11.47
MW-6	3637.52	01/22/97	85	72.88	3564.64		12.12
		05/21/97		73.22	3564.30	-0.34	11.78
		07/28/97		73.44	3564.08	-0.22	11.56
		10/15/97		73.48	3564.04	-0.04	11.52
		01/05/98		73.72	3563.80	-0.24	11.28
		04/16/98		73.94	3563.58	-0.22	11.06
		07/16/98		74.26	3563.26	-0.32	10.74
		10/25/98		74.55	3562.97	-0.29	10.45
MW-7	3638.62	01/22/97	85	73.31	3565.31		11.69
		05/21/97		73.63	3564.99	-0.32	11.37
		07/28/97		73.80	3564.82	-0.17	11.20
		10/15/97		73.93	3564.69	-0.13	11.07

Table 1. Static Water Levels for the Dowell Facility in Hobbs, New Mexico

Well Number	Top of Casing Elevations (ft)	Date Measured	Total Depth (ft)	Depth to Water (ft)	*Static Water Elevation (ft)	Difference From Prior Level (ft)	Water Column (ft)
MW-7 Cont.		01/05/98		74.17	3564.45	-0.24	10.83
		04/16/98		74.39	3564.23	-0.22	10.61
		07/16/98		74.71	3563.91	-0.32	10.29
		10/25/98		74.98	3563.64	-0.27	10.02
MW-8	3638.71	01/22/97	85	72.78	3565.93		12.22
		05/21/97		73.12	3565.59	-0.34	11.88
		07/28/97		73.31	3565.40	-0.19	11.69
		10/15/97		73.44	3565.27	-0.13	11.56
		01/05/98		73.63	3565.08	-0.19	11.37
		04/16/98		74.00	3564.71	-0.37	11.00
		07/16/98		74.21	3564.50	-0.21	10.79
		10/25/98		74.48	3564.23	-0.27	10.52
MW-9	3638.76	01/22/97	85	72.57	3566.19		12.43
		05/21/97		72.89	3565.87	-0.32	12.11
		07/28/97		73.08	3565.68	-0.19	11.92
		10/15/97		73.24	3565.52	-0.16	11.76
		01/05/98		73.47	3565.29	-0.23	11.53
		04/16/98		73.70	3565.06	-0.23	11.30
		07/16/98		73.99	3564.77	-0.29	11.01
		10/25/98		74.27	3564.49	-0.28	10.73
MW-10	3638.86	05/27/97	130.5	73.33	3565.53		57.17
		07/28/97		73.49	3565.37	-0.16	57.01
		10/15/97		73.61	3565.25	-0.12	56.89
		01/05/98		73.83	3565.03	-0.22	56.67
		04/16/98		74.08	3564.78	-0.25	56.42
		07/16/98		74.38	3564.48	-0.30	56.12
		10/25/98		74.64	3564.22	-0.26	55.86
MW-11	3638.55	05/26/97	208	70.70	3567.85		137.30
		07/28/97		70.89	3567.66	-0.19	137.11
		10/15/97		70.85	3567.70	0.04	137.15
		01/05/98		71.21	3567.34	-0.36	136.79
		04/16/98		71.45	3567.10	-0.24	136.55
		07/16/98		71.76	3566.79	-0.31	136.24
		10/25/98		71.95	3566.60	-0.19	136.05
MW-12	3636.15	05/26/97	85	68.05	3568.10		16.95
		07/28/97		68.14	3568.01	-0.09	16.86
		10/15/97		68.24	3567.91	-0.10	16.76
		01/05/98		68.52	3567.63	-0.28	16.48
		04/16/98		68.78	3567.37	-0.26	16.22
		07/16/98		69.10	3567.05	-0.32	15.90
		10/25/98		69.26	3566.89	-0.16	15.74
MW-13	3635.39	05/21/97	84	72.31	3563.08		11.69
		07/28/97		72.39	3563.00	-0.08	11.61
		10/15/97		72.63	3562.76	-0.24	11.37
		01/05/98		72.79	3562.60	-0.16	11.21
		04/16/98		72.93	3562.46	-0.14	11.07
		07/16/98		73.32	3562.07	-0.39	10.68
		10/25/98		73.62	3561.77	-0.30	10.38
MW-14	3637.19	05/21/97	85	74.86	3562.33		10.14
		07/28/97		75.06	3562.13	-0.20	9.94
		10/15/97		75.28	3561.91	-0.22	9.72

Table 1. Static Water Levels for the Dowell Facility in Hobbs, New Mexico

Well Number	Top of Casing Elevations (ft)	Date Measured	Total Depth (ft)	Depth to Water (ft)	*Static Water Elevation (ft)	Difference From Prior Level (ft)	Water Column (ft)
MW-14 Cont.		01/05/98		75.44	3561.75	-0.16	9.56
		04/16/98		75.61	3561.58	-0.17	9.39
		07/16/98		75.98	3561.21	-0.37	9.02
		10/25/98		76.26	3560.93	-0.28	8.74
MW-15	3636.57	05/21/97	85	72.09	3564.48		12.91
		07/28/97		72.28	3564.29	-0.19	12.72
		10/15/97		72.52	3564.05	-0.24	12.48
		01/05/98		72.70	3563.87	-0.18	12.30
		04/16/98		72.87	3563.70	-0.17	12.13
		07/16/98		73.24	3563.33	-0.37	11.76
		10/25/98		73.47	3563.10	-0.23	11.53
Shell Station MW-4	3637.69	05/25/97	82.6	75.97	3561.72		6.63
		07/28/97		76.15	3561.54	-0.18	6.45
		10/15/97		76.26	3561.43	-0.11	6.34
		01/05/98		76.52	3561.17	-0.26	6.08
		04/16/98		76.67	3561.02	-0.15	5.93
		07/16/98		78.03	3559.66	-1.36	4.57
		10/25/98		77.33	3560.36	0.70	5.27

Note: Top of casing survey elevations are based on the "City of Hobbs Control Datum" and the North American Vertical Datum

Table 2. Chemicals Detected in Ground-Water Samples, Dowell Facility, Hobbs, New Mexico

Well Number	Date Sampled	1,1-DCA (mg/L)	1,2-DCA (mg/L)	1,1-DCE (mg/L)	PCE (mg/L)	1,1,1-TCA (mg/L)	TCE (mg/L)	BENZENE (mg/L)	ETHYL-BENZENE (mg/L)	TOLUENE (mg/L)	TOTAL XYLENES (mg/L)	NAPHTHA-LENE (mg/L)	TOTAL BTEX (mg/L)	TOTAL HALOCARBONS (mg/L)
MW-1	10/25/96	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.004)	ND(0.002)	ND(0.002)	0.000
	11/21/96	0.006	ND(0.001)	ND(0.001)	0.007	0.002	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	0.015
	01/22/97	0.006	ND(0.001)	ND(0.001)	0.002	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.002)	ND(0.001)	ND(0.001)	0.008
abandoned														
MW-2	10/25/96	0.259	0.002	0.012	0.014	0.044	ND(0.002)	0.042	0.016	0.049	0.027	0.007	0.134	0.331
	10/25/96	0.268	0.002	0.015	0.024	0.044	ND(0.002)	0.044	0.016	0.049	0.026	0.006	0.135	0.353
	11/21/96	0.322	ND(0.005)	0.030	0.049	0.247	ND(0.005)	0.070	0.027	0.050	0.046	0.008	0.193	0.648
	01/22/97	0.082	ND(0.005)	0.011	0.017	0.083	ND(0.005)	0.019	0.009	0.014	0.016	ND(0.005)	0.058	0.193
	05/23/97	0.039	ND(0.001)	0.007	0.014	0.057	ND(0.001)	0.009	0.004	0.003	0.005	0.001	0.021	0.117
	06/25/97	0.590	ND(0.002)	0.009	0.027	0.180	ND(0.002)	0.004	0.011	0.007	0.007	0.001J	0.030	0.806
	07/28/97	0.031	ND(0.002)	0.004	0.011	0.097	ND(0.002)	0.004	0.001J	0.001J	0.001J	ND(0.002)	0.004	0.143
	10/16/97	0.012	ND(0.002)	0.002J	0.012	0.023	ND(0.002)	0.002	0.001J	0.001J	0.001J	ND(0.002)	0.002	0.047
	01/06/98	0.023	ND(0.002)	0.002	0.007	0.043	ND(0.002)	0.004	0.002J	0.002J	0.001J	ND(0.002)	0.004	0.075
	04/16/98	0.053	ND(0.002)	0.008	0.058	0.130	ND(0.002)	0.010	ND(0.002)	0.002J	0.001J	ND(0.002)	0.010	0.249
	04/16/98	0.058	ND(0.01)	0.008	0.064	0.142	ND(0.01)	0.010	ND(0.01)	ND(0.01)	ND(0.02)	ND(0.01)	0.010	0.272
	07/17/98	0.006	ND(0.002)	0.001J	0.034	0.013	ND(0.002)	0.011J	ND(0.002)	ND(0.002)	ND(0.004)	ND(0.002)	0.000	0.053
	10/27/98	0.020	ND(0.002)	0.003	0.018	0.011	ND(0.002)	0.002J	ND(0.002)	ND(0.002)	ND(0.004)	ND(0.002)	0.000	0.052
MW-3	10/25/96	0.023	ND(0.002)	0.007	0.012	0.007	ND(0.002)	0.002	ND(0.002)	ND(0.002)	ND(0.004)	0.006	0.002	0.049
	11/21/96	0.017	ND(0.002)	0.007	0.019	0.028	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.004)	0.001J	0.000	0.071
	01/22/97	0.027	ND(0.002)	0.010	0.016	0.014	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.004)	ND(0.002)	0.000	0.067
	05/22/97	0.026	0.001	0.015	0.016	0.015	ND(0.001)	0.002	ND(0.001)	ND(0.001)	ND(0.001)	0.004	0.000	0.073
	07/28/97	0.033	0.002J	0.012	0.012	0.008	ND(0.002)	0.003	ND(0.002)	ND(0.002)	ND(0.004)	0.005	0.003	0.065
	10/16/97	0.022	ND(0.002)	0.008	0.022	0.011	ND(0.002)	0.001J	ND(0.002)	ND(0.002)	ND(0.004)	0.002	0.000	0.063
	01/06/98	0.023	ND(0.002)	0.023	0.026	0.031	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.004)	ND(0.002)	0.000	0.103
	04/16/98	0.030	ND(0.002)	0.014	0.025	0.012	ND(0.002)	0.003	ND(0.002)	ND(0.002)	ND(0.004)	ND(0.002)	0.003	0.084
	07/17/98	0.034	ND(0.002)	0.015	0.026	0.013	ND(0.002)	0.002J	ND(0.002)	ND(0.002)	ND(0.004)	ND(0.002)	0.000	0.091
	10/27/98	0.035	ND(0.002)	0.012	0.016	0.005	ND(0.002)	0.002	ND(0.002)	ND(0.002)	ND(0.004)	ND(0.002)	0.002	0.068
MW-4	10/25/96	0.110	0.051	0.498	2.590	1.040	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.004)	ND(0.002)	0.000	4.294
	11/21/96	0.110	ND(0.05)	0.623	3.526	0.941	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.10)	ND(0.05)	0.000	5.200
	01/22/97	0.106	0.042	0.394	3.980	1.080	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.02)	0.000	5.902
	05/22/97	0.089	0.037	0.509	3.100	0.557	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.10)	ND(0.05)	0.000	4.292
	05/23/97	0.062	0.022	0.423	1.720	0.550	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.02)	ND(0.01)	0.000	2.777
	06/25/97	0.047	0.017J	0.175	1.250	0.349	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.04)	ND(0.02)	0.000	1.821
	06/25/97	0.044	0.017J	0.167	1.190	0.332	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.04)	ND(0.02)	0.000	1.733
	07/28/97	0.037	0.015J	0.124	1.060	0.267	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.04)	ND(0.02)	0.000	1.488
	10/16/97	0.031	0.011J	0.103	1.170	0.225	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.04)	ND(0.02)	0.000	1.529
	01/06/98	0.021	ND(0.002)	0.087	0.970	0.148	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.04)	0.024	0.000	1.226
	01/06/98	0.021	0.060J	0.077	0.907	0.138	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.02)	0.019	0.000	1.143
	04/16/98	0.019J	ND(0.05)	0.116	0.651	0.114	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.10)	ND(0.05)	0.000	0.881
	07/17/98	0.031	ND(0.01)	0.206	1.120	0.194	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.02)	ND(0.01)	0.000	1.351
	10/27/98	0.031	ND(0.02)	0.240	0.843	0.216	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.04)	ND(0.02)	0.000	1.330
	10/27/98	0.031J	ND(0.05)	0.201	1.080	0.209	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.10)	ND(0.05)	0.000	1.490
MW-5	01/23/97	0.180	0.002	0.020	0.012	0.036	0.001J	0.018	0.004	ND(0.001)	0.001J	ND(0.001)	0.022	0.250
	05/23/97	0.190	0.002	0.018	0.009	0.034	0.001J	0.018	0.004	ND(0.001)	0.001	0.004	0.023	0.253
	07/28/97	0.241	0.003	0.055	0.079	0.059	ND(0.002)	0.029	ND(0.002)	ND(0.002)	ND(0.004)	ND(0.002)	0.029	0.387
	10/16/97	0.258	0.004J	0.069	0.052	0.051	ND(0.005)	0.051	0.023	ND(0.005)	0.007	0.009	0.081	0.428
	01/06/98	0.214	0.004J	0.066	0.070	0.039	ND(0.01)	0.059	0.027	ND(0.01)	0.008	0.011	0.075	0.429
	04/16/98	0.215	0.004J	0.060	0.055	0.029	ND(0.01)	0.048	0.016	ND(0.01)	0.006J	0.005J	0.064	0.359
	07/17/98	0.136	0.002J	0.033	0.031	0.008	ND(0.005)	0.034	0.011	ND(0.005)	0.006J	0.009	0.045	0.208
	10/27/98	0.106	0.002J	0.023	0.029	0.007	ND(0.002)	0.002	0.007	ND(0.002)	0.001J	0.005J	0.032	0.167
	10/27/98	0.080	ND(0.01)	0.042	0.033	0.016	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.02)	ND(0.01)	0.000	0.171
	10/27/98	0.053	ND(0.002)	0.011	0.011	0.002	ND(0.002)	0.011	0.002	ND(0.002)	ND(0.004)	0.002	0.013	0.077
MW-6	01/23/97	0.041	0.001	0.004	0.003	0.004	ND(0.001)	0.001J	ND(0.001)	ND(0.001)	ND(0.002)	0.001J	0.000	0.053
	05/22/97	0.085	0.002	0.034	0.023	0.017	0.002J	0.004	ND(0.002)	ND(0.002)	ND(0.004)	0.002	0.004	0.161
	07/28/97	0.081	0.002J	0.027	0.021	0.008	0.002J	0.003	ND(0.002)	ND(0.002)	ND(0.004)	0.004	0.003	0.137
	10/16/97	0.082	0.002J	0.025	0.019	0.006	0.002J	0.003	ND(0.002)	ND(0.002)	ND(0.004)	0.003	0.003	0.132
	01/06/98	0.113	0.003J	0.038	0.024	0.012	0.002	0.003	ND(0.002)	ND(0.002)	ND(0.004)	0.003	0.003	0.189
	04/16/98	0.088	0.003	0.027	0.017	0.008	0.002J	0.002	ND(0.002)	ND(0.002)	ND(0.004)	0.003	0.002	0.143
	07/17/98	0.091	0.004	0.051	0.032	0.002	0.002	0.022J	ND(0.002)	ND(0.002)	ND(0.004)	ND(0.002)	0.000	0.202
	10/26/98	0.055	ND(0.01)	0.011	0.011	ND(0.01)	ND(0.01)	0.011	0.002J	ND(0.01)	ND(0.02)	0.002J	0.011	0.077

Table 2. Chemicals Detected in Ground-Water Samples, Dowell Facility, Hobbs, New Mexico

Well Number	Date Sampled	1,1-DCA (mg/L)	1,2-DCA (mg/L)	1,1-DCE (mg/L)	PCE (mg/L)	1,1,1-TCA (mg/L)	TCE (mg/L)	BENZENE (mg/L)	ETHYL-BENZENE (mg/L)	TOLUENE (mg/L)	TOTAL XYLENES (mg/L)	NAPHTHA-LENE (mg/L)	TOTAL BTEX HALOCARBONS (mg/L)	TOTAL (mg/L)
MW-7	01/23/97	0.047	0.001J	0.009	0.014	ND(0.001)	0.004	0.001J	ND(0.001)	ND(0.001)	0.001	0.013	0.001	0.074
	05/22/97	0.087	0.002J	0.066	0.116	0.002J	0.014	0.003	ND(0.002)	ND(0.002)	ND(0.004)	0.062	0.003	0.283
	07/28/97	0.073	0.002J	0.061	0.110	ND(0.002)	0.021	0.004	ND(0.005)	ND(0.005)	ND(0.004)	0.058	0.004	0.265
	10/16/97	0.065	ND(0.005)	0.050	0.091	ND(0.005)	0.018	0.003J	ND(0.005)	ND(0.005)	ND(0.01)	0.048	0.000	0.224
	01/06/98	0.076	ND(0.005)	0.054	0.111	ND(0.005)	0.018	0.003J	ND(0.005)	ND(0.005)	ND(0.01)	0.040	0.000	0.259
	04/16/98	0.055	ND(0.005)	0.035	0.078	ND(0.005)	0.020	0.003J	ND(0.005)	ND(0.005)	ND(0.01)	0.010	0.000	0.188
	07/17/98	0.065	ND(0.005)	0.038	0.073	ND(0.005)	0.024	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	0.010	0.000	0.200
MW-8	10/26/98	0.047	ND(0.005)	0.030	0.073	ND(0.005)	0.019	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.01)	0.014	0.000	0.169
	01/23/97	0.068	0.005J	0.280	0.810	0.460	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.02)	ND(0.01)	0.000	1.618
	05/23/97	0.082	ND(0.01)	1.360	4.150	0.805	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.02)	ND(0.01)	0.000	6.397
	06/25/97	0.077	ND(0.02)	0.975	3.600	0.774	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.04)	ND(0.02)	0.000	5.426
	07/28/97	ND(0.1)	ND(0.1)	1.120	4.520	0.798	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.2)	ND(0.1)	0.000	6.438
	10/16/97	ND(0.2)	ND(0.2)	0.858	4.570	0.596	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.4)	ND(0.2)	0.000	6.024
	01/06/98	ND(0.2)	ND(0.2)	1.230	4.650	0.798	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.4)	0.166J	0.000	6.678
MW-9	04/16/98	ND(0.2)	ND(0.2)	1.050	4.620	0.658	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.4)	0.142J	0.000	6.328
	07/17/98	ND(0.2)	ND(0.2)	1.200	5.090	0.740	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.4)	ND(0.2)	0.000	7.030
	10/27/98	0.060J	ND(0.2)	0.780	4.160	0.522	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.4)	ND(0.2)	0.000	5.462
	01/23/97	0.011	ND(0.001)	0.063	0.090	0.045	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.02)	ND(0.001)	0.000	0.209
	05/23/97	0.026	ND(0.01)	0.322	1.550	0.147	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.01)	ND(0.02)	ND(0.01)	0.000	2.045
	06/25/97	0.033	ND(0.02)	0.326	1.130	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.04)	ND(0.02)	0.000	1.489
	07/28/97	0.021	ND(0.02)	0.278	1.020	0.121	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.04)	ND(0.02)	0.000	1.440
duplicate	10/16/97	0.019J	ND(0.02)	0.278	1.160	0.104	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.04)	ND(0.02)	0.000	1.542
	01/06/98	0.023	ND(0.02)	0.321	1.160	0.141	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.04)	ND(0.02)	0.000	1.645
	01/06/98	0.033J	ND(0.1)	0.502	1.350	0.174	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.2)	ND(0.1)	0.000	2.026
	04/16/98	0.029J	ND(0.05)	0.444	1.290	0.144	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.1)	ND(0.05)	0.000	1.878
	07/17/98	0.042J	ND(0.1)	0.690	1.770	0.242	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.2)	ND(0.1)	0.000	2.702
	10/27/98	0.030J	ND(0.1)	0.507	1.740	0.193	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.2)	ND(0.1)	0.000	2.440
	05/26/97	0.004	ND(0.002)	0.007	0.026	ND(0.002)	0.001J	0.004	ND(0.002)	ND(0.002)	ND(0.004)	ND(0.002)	0.004	0.037
MW-10 duplicate	05/26/97	ND(0.002)	ND(0.002)	0.008	0.028	ND(0.002)	0.001J	0.007	ND(0.002)	ND(0.002)	ND(0.004)	ND(0.002)	0.007	0.036
	07/28/97	0.003	ND(0.002)	0.009	0.014	0.002J	ND(0.002)	0.002J	ND(0.002)	ND(0.002)	ND(0.004)	ND(0.002)	0.000	0.026
	10/16/97	ND(0.002)	ND(0.002)	0.002J	0.008	ND(0.002)	ND(0.002)	0.001J	ND(0.002)	ND(0.002)	ND(0.004)	ND(0.002)	0.000	0.008
	01/06/98	ND(0.002)	ND(0.002)	0.002J	0.008	ND(0.002)	ND(0.002)	0.001J	ND(0.002)	ND(0.002)	ND(0.004)	ND(0.002)	0.000	0.000
	04/16/98	ND(0.002)	ND(0.002)	ND(0.002)	0.002J	ND(0.002)	ND(0.002)	0.002J	ND(0.002)	ND(0.002)	ND(0.004)	ND(0.002)	0.000	0.000
	07/17/98	ND(0.001)	ND(0.001)	ND(0.001)	0.002	ND(0.001)	ND(0.001)	0.003	ND(0.001)	ND(0.001)	ND(0.002)	ND(0.001)	0.003	0.002
	10/26/98	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	0.001J	ND(0.002)	ND(0.002)	ND(0.004)	ND(0.002)	0.000	0.000
MW-11	05/24/97	0.001J	ND(0.001)	0.007J	0.002	ND(0.001)	ND(0.001)	0.002	ND(0.001)	ND(0.001)	0.001J	ND(0.001)	0.002	0.002
	07/28/97	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	0.003	ND(0.001)	ND(0.001)	0.006	ND(0.001)	0.009	0.000
	10/16/97	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	0.002	0.001J	ND(0.001)	0.003J	ND(0.001)	0.002	0.000
	01/06/98	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	0.002J	ND(0.002)	ND(0.002)	0.003J	ND(0.002)	0.000	0.000
	04/16/98	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	0.002J	ND(0.001)	ND(0.001)	0.002	ND(0.001)	0.002	0.000
	07/17/98	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	0.002	ND(0.001)	ND(0.001)	0.001J	ND(0.001)	0.002	0.000
	10/26/98	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	0.002J	ND(0.002)	ND(0.002)	ND(0.004)	ND(0.002)	0.000	0.000
MW-12	05/25/97	ND(0.001)	ND(0.001)	ND(0.001)	0.001	ND(0.001)	ND(0.001)	ND(0.001)	0.006J	0.005J	0.003J	ND(0.001)	0.000	0.001
	07/28/97	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.002)	ND(0.001)	0.000	0.000
	10/16/97	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	0.000	0.000
	01/06/98	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	0.000	0.000
	04/16/98	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	0.000	0.000
	07/17/98	ND(0.001)	ND(0.001)	ND(0.001)	0.001	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	0.000	0.001
	10/26/98	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.004)	ND(0.002)	0.000	0.000

Table 2. Chemicals Detected in Ground-Water Samples, Dowell Facility, Hobbs, New Mexico

Well Number	Date Sampled	1,1-DCA (mg/L)	1,2-DCA (mg/L)	1,1-DCE (mg/L)	PCE (mg/L)	1,1,1-TCA (mg/L)	TCE (mg/L)	BENZENE (mg/L)	ETHYL-BENZENE (mg/L)	TOLUENE (mg/L)	TOTAL XYLENES (mg/L)	NAPHTHALENE (mg/L)	TOTAL BTEX HALOCARBONS (mg/L)
MW-13	05/24/97	ND(0.001)	ND(0.001)	0.012	0.010	0.001	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.002)	ND(0.001)	0.023
	07/28/97	ND(0.001)	ND(0.001)	0.012	0.009	0.001	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.002)	ND(0.001)	0.022
duplicate	10/16/97	ND(0.002)	ND(0.001)	0.015	0.013	0.001	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.002)	ND(0.001)	0.029
	01/06/98	ND(0.002)	ND(0.002)	0.017	0.011	0.001J	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.004)	ND(0.002)	0.024
	04/16/98	ND(0.002)	ND(0.002)	0.017	0.011	0.002J	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.004)	ND(0.002)	0.028
duplicate	04/16/98	ND(0.001)	ND(0.001)	0.016	0.010	0.003	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.004)	ND(0.001)	0.029
	07/17/98	ND(0.002)	ND(0.002)	0.019	0.016	0.002J	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.004)	ND(0.002)	0.035
	10/26/98	ND(0.002)	ND(0.002)	0.019	0.020	0.002	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.004)	ND(0.002)	0.041
MW-14	05/25/97	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.002)	ND(0.001)	0.000
	07/28/97	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.002)	ND(0.001)	0.000
duplicate	07/28/97	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.002)	ND(0.001)	0.000
	10/16/97	ND(0.002)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.004)	ND(0.002)	0.000
	01/06/98	ND(0.002)	ND(0.001)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.004)	ND(0.002)	0.000
	04/16/98	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.002)	ND(0.001)	0.000
duplicate	07/17/98	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.002)	ND(0.001)	0.000
	07/17/98	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.002)	ND(0.001)	0.000
	10/26/98	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.002)	ND(0.001)	0.000
MW-15	05/25/97	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.002)	ND(0.001)	0.000
	07/28/97	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.002)	ND(0.001)	0.000
	10/16/97	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.002)	ND(0.001)	0.000
duplicate	01/06/98	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.002)	ND(0.001)	0.000
	01/06/98	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.002)	ND(0.001)	0.000
	04/16/98	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.002)	ND(0.001)	0.000
	07/17/98	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.002)	ND(0.001)	0.000
	10/26/98	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.002)	ND(0.001)	0.000
*SO4	05/25/97	0.021	ND(0.01)	0.024	ND(0.01)	0.005J	ND(0.01)	ND(0.01)	0.469	0.470	1.936	0.107	0.045
	07/28/97	0.020	ND(0.02)	0.020	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.02)	0.411	0.138	0.905	0.125	0.040
	10/16/97	0.018J	ND(0.02)	0.022	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.02)	0.322	0.039	0.713	0.102	0.022
	01/06/98	0.051	ND(0.002)	0.075	0.004	0.014	ND(0.002)	0.002	0.042	0.001J	0.019	0.024	0.144
	04/16/98	0.049	ND(0.005)	0.087	0.005	0.015	ND(0.005)	0.002J	0.008	ND(0.005)	ND(0.01)	0.024	0.156
	07/17/98	0.038	ND(0.005)	0.075	0.005	0.015	ND(0.005)	ND(0.005)	0.016	ND(0.005)	ND(0.01)	0.026	0.133
	10/26/98	0.010	ND(0.002)	0.024	0.002J	0.005	ND(0.002)	ND(0.002)	0.003	ND(0.002)	ND(0.004)	0.004	0.039

Notes:

Only commonly detected compounds are listed. Other compounds that have been detected infrequently are included in the laboratory reports.

ND - Not Detected at detection limit shown in parentheses.

J - Detected at concentration below the method detection limit.

*SO4 = Shell Service Station monitoring well MW-4

1,1-DCA - 1,1-Dichloroethane

1,2-DCA - 1,2-Dichloroethane

1,1-DCE - 1,1-Dichloroethene

PCE - Tetrachloroethane

TCA - 1,1,1-Trichloroethane

TCE - Trichloroethene

TABLE 3. SVE System Air Sample Data from the Dowell Schlumberger Facility, Hobbs, New Mexico.

FORMER LAGOON																	
Sample I.D.	Date Sampled	Sample Location	Benzene (mg/m ³)	Toluene (mg/m ³)	Ethyl-Benzene (mg/m ³)	Total Xylene (mg/m ³)	1,1-DCE (mg/m ³)	1,1-DCA (mg/m ³)	Chloromethane (mg/m ³)	1,1,1-TCA (mg/m ³)	Vinyl Chloride (mg/m ³)	TCE (mg/m ³)	PCE (mg/m ³)	Input BTEX (mg/m ³)	Output BTEX (mg/m ³)	Input Halocarbons (mg/m ³)	Output Halocarbons (mg/m ³)
007-AREA 1	11/02/94	Pilot	ND(0.1)	1	0.35	29.80	0.487			20.7	ND(0.2)	1.23	36.5				
Unit 1 (7/95) Input	07/13/95	Input	28	256	30.6	111.2	46.2	48.3	ND(0.2)	450	ND(0.2)	ND(0.2)	ND(0.2)	425.8		680.73	
Unit 1 (7/95) Exhaust		Exhaust	0.83	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	0.83			0
Unit 1 (8/95) Input	08/12/95	Input	18.3	46.4	20	51.4	23.9	35.2	ND(0.2)	216.6	ND(0.2)	1.3	19	136.1		296	
Unit 1 (8/95) Exhaust		Exhaust	1.9	ND(0.2)	ND(0.2)	ND(0.2)	5	ND(0.2)	12.8	ND(0.2)	35.7	ND(0.2)	3.7	1.9		489.03	57.2
Unit 1 Input 9/95-1	09/07/95	Input	19.1	118.3	16.6	91.2	56.7	34.8	ND(0.2)	283	ND(0.2)	2.73	111.8	245.2			
Unit 1 Output 9/95-1		Exhaust	6.5	2.9	0.6	3.4	ND(0.2)	ND(0.2)	6.8	ND(0.2)	8.6	ND(0.2)	6	13.4			21.4
Unit 1 Output 9/95-2		Exhaust 2	1.3	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	1.3			0
Unit 1 Int	11/29/95	Before Cat	1.01	ND(0.43)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	1.01		0	
Unit 1 Output		After Cat	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	15.3	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	0			15.3
93007-WatPDI Input	04/11/96	Input	ND(0.2)	114	19.1	81.5	9.7	11.4	ND(0.2)	116	ND(0.2)	ND(0.2)	120	214.6		257.1	
93007-WatPDI 4/96		Exhaust	1	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	4.1	ND(0.2)	1.2	ND(0.2)	0.5	1			5.8
93007-WP Input 7/96	07/23/96	Input	2.8	49.5	2.6	11.2	6.9	6.1	ND(0.5)	64.6	ND(0.5)	0.4	17.9	66.1		95.9	
93007-WP EXHST 7/96		Exhaust	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)	2.4	ND(0.3)	0.7	ND(0.3)	0.6	0			3.7
WP-INPUT-10/96	10/24/96	Input	2.07	44	12.1	77.1	4.9	ND(0.2)	ND(0.2)	74.4	ND(0.2)	1.02	51.9	135.27		132.22	
WP-OUTPUT-10/96		Exhaust	1.02	ND(0.2)	ND(0.2)	ND(0.4)	ND(0.2)	ND(0.2)	3.02	ND(0.2)	2.97	ND(0.2)	0.832	1.02			6.822
93-007-WP-IMP 5/97	05/13/97	Input	5.7	95.5	19.7	109.4	9.1	10.2	ND(5.0)	74.1	ND(5.0)	ND(5.0)	66.3	230.3		159.7	
93007-WP 10/97	10/14/97	Input	10.6	90.2	26.4	150.4	5.4	9.05	ND(5.0)	125	ND(5.0)	ND(5.0)	81	277.6		220.45	
93007-WP 1/98	01/06/98	Input	8.92	58	19.2	103.3	4.86	8.54	ND(2.0)	125	ND(2.0)	ND(2.0)	68.4	189.42		206.8	
93007-WP 4/98	04/28/98	Input	10.9	73.6	20.7	114.6	7.2	12.6	ND(5.0)	228	ND(5.0)	ND(5.0)	117	219.8		364.8	
93007-WP 7/98	07/16/98	Input	8.40J	66.5	19.5	116.3	ND(0.10)	7.80J	ND(0.10)	175	ND(0.10)	ND(0.10)	105	202.3		280	
93007-WP 10/98	10/28/98	Input	6.38	62.8	18	80.1	ND(2.5)	4.35	ND(2.5)	78.1	ND(2.5)	ND(2.5)	50.5	167.28		132.95	
93007-WP 11/98	11/12/98	Input	7.0J	80.9	34.6	249	ND(10.0)	ND(10.0)	ND(10.0)	72.7	ND(10.0)	ND(10.0)	121	364.5		193.7	

ACID PLANT																	
Sample I.D.	Date Sampled	Sample Location	Benzene (mg/m ³)	Toluene (mg/m ³)	Ethyl-Benzene (mg/m ³)	Total Xylene (mg/m ³)	1,1-DCE (mg/m ³)	1,1-DCA (mg/m ³)	Chloromethane (mg/m ³)	1,1,1-TCA (mg/m ³)	Vinyl Chloride (mg/m ³)	TCE (mg/m ³)	PCE (mg/m ³)	Input BTEX (mg/m ³)	Output BTEX (mg/m ³)	Input Halocarbons (mg/m ³)	Output Halocarbons (mg/m ³)
007-AREA 2	11/02/94	Pilot	4.5	23.2	11.4	46.18	4.4	12.2		88.5	ND(0.2)	ND(0.2)	30.5				
Unit 2 (7/95) Input	07/13/95	Input	3.13	27.2	12.9	46.18	1.52	1.53	ND(0.2)	3.39	ND(0.2)	ND(0.2)	6.91	89.41		13.35	
Unit 2 (7/95) Exhaust		Exhaust	ND(0.2)	0.26	ND(0.2)	1.5	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	1.76			0
Unit 2 (8/95) Input	08/12/95	Input	1.42	24.8	10.4	48.5	5.1	1.6	ND(0.2)	7	ND(0.2)	ND(0.2)	8.9	85.12		22.6	
Unit 2 (8/95) Exhaust		Exhaust	ND(0.2)	0.5	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	0.5			0
Unit 2 Output 9/95	09/07/95	Exhaust	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	0			0
93007-ACDKINPT 4/96	04/11/96	Input	0.7	17.7	5.6	30.3	1.9	0.6	ND(0.2)	5.5	ND(0.2)	0.3	19	54.3		27.3	
93007-ACDKEXH 4/96		Exhaust	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	0			0
93007-ADINPT 7/96	07/23/96	Input	ND(0.3)	1	ND(0.3)	1.1	0.8	ND(0.3)	ND(0.5)	0.9	ND(0.5)	ND(0.3)	1.6	2.1		3.3	
93007-ADEXHST 7/96		Exhaust	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.5)	ND(0.3)	ND(0.5)	ND(0.3)	ND(0.3)	0			0
AD-INPUT-10/96	10/24/96	Input	0.61	4.51	0.88	5.62	1.69	0.55	ND(0.2)	1.48	ND(0.2)	ND(0.2)	3.33	11.62		7.05	
AD-OUTPUT-10/96		Exhaust	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	0.477	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	0			0.477
93007-AD-IMP-1/97	01/21/97	Input	ND(1.0)	5.67	ND(1.0)	2.38	ND(1.0)	ND(1.0)	ND(1.0)	1.34	ND(1.0)	ND(1.0)	8.86	8.05		10.2	
93007-AD-EXH-1/97		Exhaust	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	0			0
93-007-AD-IMP 5/97	05/13/97	Input	ND(1.0)	4.06	ND(1.0)	3.88	2.19	ND(1.0)	ND(1.0)	2.09	ND(1.0)	ND(1.0)	10.3	7.94		14.58	
93007-AD 10/97	10/14/97	Input	ND(1.0)	1.31	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.74	1.31		1.74	
93007-AD 1/98	01/06/98	Input	ND(1.0)	6.4	2.46	16.36	ND(1.0)	ND(1.0)	ND(1.0)	3.98	ND(1.0)	ND(1.0)	7.29	25.22		11.27	
93007-AD 4/98	04/28/98	Input	ND(1.0)	ND(1.0)	ND(1.0)	0.75J	ND(1.0)	ND(1.0)	ND(1.0)	0.56J	ND(1.0)	ND(1.0)	1.4	0		1.4	
93007-AD 7/98	07/16/98	Input	ND(1.0)	2.08	ND(1.0)	ND(2.0)	ND(1.0)	ND(1.0)	ND(1.0)	0.69J	ND(1.0)	ND(1.0)	2.26	2.08		2.26	
93007-AD 11/98	11/12/98	Input	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	0.77J	0		0	

TABLE 3. SVE System Air Sample Data from the Dowell Schlumberger Facility, Hobbs, New Mexico.

FORMER UST

Sample I.D.	Date Sampled	Sample Location	Benzene (mg/m ³)	Toluene (mg/m ³)	Ethyl-Benzene (mg/m ³)	Total Xylene (mg/m ³)	1,1-DCE (mg/m ³)	1,1-DCA (mg/m ³)	Chloromethane (mg/m ³)	1,1,1-TCA (mg/m ³)	Vinyl Chloride (mg/m ³)	TCE (mg/m ³)	PCE (mg/m ³)	Input BTEX (mg/m ³)	Output BTEX (mg/m ³)	Input Halocarbons (mg/m ³)	Output Halocarbons (mg/m ³)
007-AREA 3	11/02/94	Pilot	1.2	5.7	5.5		ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	2.68	0.49	15.84		1379.58	
Unit 3 (7/95) Input	7/13/95	Input	2.08	5.95	1.17	6.64	281	10.9	ND(0.2)	215	ND(0.2)	2.88	870				
Unit 3 (7/95) Exhaust		Exhaust	2.89	1.41	0.72	7.88	0.27	ND(0.2)	17.2	ND(0.2)	0.87	ND(0.2)	2.76		12.9		21.1
Unit 3 (8/95) Input	8/12/95	Input	0.4	1.9	0.9	4.9	506	15.6	ND(0.2)	579	ND(0.2)	2.1	636	8.1		1738.7	
Unit 3 (8/95) Exhaust		Exhaust	4.9	ND(0.2)	ND(0.2)	ND(0.2)	2.8	ND(0.2)	48	ND(0.2)	35	0.8	21.5		4.9		108.1
Unit 3 Input 9/95-1	09/07/95	Input	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	593.4	13.3	ND(0.2)	492	ND(0.2)	2	444.4	0		1545.1	
Unit 3 Output 9/95-1		Exhaust	1.1	0.5	ND(0.2)	ND(0.2)	56.2	ND(0.2)	31.9	ND(0.2)	0.9	81.4			1.6		170.4
Unit 3 Int	11/29/95	Before Cat	1.01	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	13	ND(0.2)	35.6	ND(0.2)	9.7	1.01		56.3	
Unit 3 Output		After Cat	1.01	ND(0.2)	ND(0.2)	ND(0.2)	3.21	ND(0.2)	13	ND(0.2)	10.5	ND(0.2)	14.5		1.01		41.21
93007-TKShpInpt	04/11/96	Input	ND(0.2)	0.9	0.5	3.4	98.4	ND(0.2)	ND(0.2)	254	ND(0.2)	1	611	4.8		965.4	
93007-TKShpExh 4/96		Exhaust	0.6	ND(0.2)	ND(0.2)	ND(0.2)	0.9	ND(0.2)	10.1	ND(0.2)	6.8	0.4	8.5		0.6		26.7
93007-TSINP-7/96	07/23/96	Input	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)	47.1	4.8	ND(0.5)	ND(0.3)	ND(0.5)	0.5	46.2	0		98.6	
93007-TSEXHST-7/96		Exhaust	0.4	ND(0.3)	ND(0.3)	ND(0.3)	1.3	ND(0.3)	6.6	ND(0.3)	2.2	ND(0.3)	2.8		0.4		12.9
UST-INP-10/96	10/24/96	Input	0.35	0.35	0.24	1.01	57.6	4.37	ND(0.2)	97.7	ND(0.2)	ND(0.2)	179	1.95		338.67	
UST-OUTPUT-10/96		Exhaust	4.83	ND(0.2)	ND(0.2)	ND(0.4)	ND(0.2)	ND(0.2)	4.86	ND(0.2)	2.59	ND(0.2)	1.82		4.83		8.87
93007-UST-INP-1/97	1/21/97	Input	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	30	2.8	ND(1.0)	63.3	ND(1.0)	0.58J	205	0		301.1	
93007-UST-EXH-1/97		Exhaust	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	2.5	ND(1.0)	ND(1.0)	ND(1.0)	6.19		0		8.69
93-007-UST-INP-5/97	05/13/97	Input	ND(25.0)	ND(25.0)	ND(25.0)	ND(25.0)	21.3J	ND(25.0)	ND(25.0)	41.8	ND(25.0)	ND(25.0)	155	0		196.8	
93007-UST-1/98	01/06/98	Input	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	3.85J	ND(5.0)	ND(5.0)	8.25	ND(5.0)	ND(5.0)	102	0		110.25	
93007-UST-4/98	04/28/98	Input	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	2.15J	ND(5.0)	ND(5.0)	4.15J	ND(5.0)	ND(5.0)	121	0		121	
93007-UST-10/98	10/28/98	Input	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	2.80J	ND(5.0)	ND(5.0)	104	0		104	

Notes: mg/m³ = milligrams per cubic meter

DCA=Dichloroethane

ND=Not Detected at detection limit shown in parentheses.

DCE= Dichloroethene

APPENDIX A

Laboratory Data



ENERGY LABORATORIES, INC.

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MAILING: P.O. BOX 3258 • CASPER, WY 82602

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EPA METHOD 8260

Client: Western Water Consultants
 Project: 93007
 Sample ID: 93007-2.10/98
 Laboratory ID: C98-65649
 Matrix: Water
 Dilution Factor: 2

Date Sampled: 10/27/98
 Time Sampled: 07:25
 Date Received: 10/28/98
 Date Analyzed: 11/03/98
 Date Reported: November 17, 1998

C.A.S. #	TARGET COMPOUNDS	CONCENTRATION (µg/L)	LIMIT OF DETECTION (µg/L)
75-71-8	Dichlorodifluoromethane	ND	2.0
74-87-3	Chloromethane	ND	2.0
75-01-4	Vinyl chloride (Chloroethene)	ND	2.0
74-83-9	Bromomethane	ND	2.0
75-00-3	Chloroethane	ND	2.0
75-69-4	Trichlorofluoromethane	ND	2.0
75-35-4	1,1 - Dichloroethene	3.12	2.0
75-09-2	Methylene chloride (Dichloromethane)	ND	2.0
156-60-5	trans - 1, 2 - Dichloroethene	ND	2.0
75-34-3	1,1 - Dichloroethane	20.2	2.0
78-93-3	2 -Butanone (MEK)	ND	20.0
156-59-2	cis - 1,2 - Dichloroethene	ND	2.0
74-97-5	Bromochloromethane	ND	2.0
67-66-3	Chloroform (Trichloromethane)	ND	2.0
594-20-7	2,2 - Dichloropropane	ND	2.0
71-55-6	1,1,1 - Trichloroethane	11.3	2.0
107-06-2	1,2 - Dichloroethane	ND	2.0
563-58-6	1,1 - Dichloropropene	ND	2.0
56-23-5	Carbon tetrachloride (Tetrachloromethane)	ND	2.0
71-43-2	Benzene	1.70	2.0
74-95-3	Dibromomethane	ND	2.0
78-87-5	1,2 - Dichloropropane	ND	2.0
79-01-6	Trichloroethene	ND	2.0
75-27-4	Bromodichloromethane	ND	2.0
10061-01-5	cis - 1,3 - Dichloropropene	ND	2.0
10061-02-6	trans - 1,3 - Dichloropropene	ND	2.0
79-00-5	1,1,2 - Trichloroethane	ND	2.0
108-88-3	Toluene	ND	2.0
106-93-4	1,2 - Dibromoethane	ND	2.0
142-28-9	1,3 - Dichloropropane	ND	2.0
124-48-1	Dibromochloromethane	ND	2.0
127-18-4	Tetrachloroethene	18.4	2.0
630-20-6	1,1,1,2 - Tetrachloroethane	ND	2.0
108-90-7	Chlorobenzene	ND	2.0
100-41-4	Ethylbenzene	ND	2.0
108-38-3	m,p - Xylenes (1,3- & 1,4-Dimethylbenzene)	ND	4.0
75-25-2	Bromoform (Tribromomethane)	ND	2.0
100-42-5	Styrene (Ethenylbenzene)	ND	2.0
95-47-6	o - Xylene (1,2-Dimethylbenzene)	ND	2.0
79-34-5	1,1,2,2 - Tetrachloroethane	ND	2.0
96-18-4	1,2,3 - Trichloropropane	ND	2.0

ND - Analyte not detected at stated limit of detection

J - Meets Mass Spectral identification criteria but result is below established detection limit



EPA METHOD 8260

Client: Western Water Consultants
Sample ID: 93007-2.10/98
Laboratory ID: C98-65649

Date Sampled: 10/27/98
Date Analyzed: 11/03/98
Date Reported: November 17, 1998

mw-2

C.A.S. #	TARGET COMPOUNDS	CONCENTRATION (µg/L)	LIMIT OF DETECTION (µg/L)
98-82-8	Isopropylbenzene (1-Methylethylbenzene)	ND	2.0
108-86-1	Bromobenzene	ND	2.0
103-65-1	n - Propylbenzene	ND	2.0
95-49-8	2 - Chlorotoluene	ND	2.0
106-43-4	4 - Chlorotoluene	ND	2.0
108-67-8	1,3,5 - Trimethylbenzene	ND	2.0
98-06-6	tert - Butylbenzene	ND	2.0
95-63-6	1,2,4 - Trimethylbenzene	ND	2.0
135-98-8	sec - Butylbenzene	ND	2.0
541-73-1	1,3 - Dichlorobenzene	ND	2.0
106-46-7	1,4 - Dichlorobenzene	ND	2.0
99-87-6	4-Isopropyltoluene	ND	2.0
95-50-1	1,2 - Dichlorobenzene	ND	2.0
104-51-8	n - Butylbenzene	ND	2.0
96-12-8	1,2 - Dibromo - 3 - chloropropane	ND	10.0
120-82-1	1,2,4 - Trichlorobenzene	ND	2.0
91-20-3	Naphthalene	ND	2.0
87-68-3	Hexachlorobutadiene	ND	2.0
87-61-6	1,2 3 - Trichlorobenzene	ND	2.0

ND - Analyte not detected at stated limit of detection

J - Meets Mass Spectral identification criteria but result is below established detection limit

RUNTIME QUALITY ASSURANCE REPORT

INTERNAL STANDARDS	AREA	ICAL / CCAL AREA	PERCENT RECOVERY	ACCEPTANCE RANGE
Pentafluorobenzene	1499920	1487588	101%	50 - 200 %
Fluorobenzene	3009254	3012713	99.9%	50 - 200 %
1,4 - Difluorobenzene	2367911	2358674	100%	50 - 200 %
Chlorobenzene - d5	1685913	1674164	101%	50 - 200 %
1,4 - Dichlorobenzene - d4	651691	672866	96.9%	50 - 200 %

SYSTEM MONITORING COMPOUNDS	CONCENTRATION	PERCENT RECOVERY	ACCEPTANCE RANGE
Dibromofluoromethane	9.37	93.7%	86 - 118 %
Toluene - d8	10.1	101%	88 - 110 %
4 - Bromofluorobenzene	9.30	93.0%	86 - 115 %
1,2 - Dichlorobenzene - d4	10.2	102%	80 - 120 %

REFERENCES

Method 8260: Volatile Organics by Gas Chromatography/Mass Spectrometry (GC/MS): Capillary Technique
Test Methods for Evaluating Solid Waste, SW-846, Third Edition, USEPA, November 1990



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EPA METHOD 8260

Client: **Western Water Consultants**
 Project: 93007
 Sample ID: 93007-3.10/98
 Laboratory ID: C98-65650
 Matrix: Water
 Dilution Factor: 2

Date Sampled: 10/26/98
 Time Sampled: 17:00
 Date Received: 10/28/98
 Date Analyzed: 11/03/98
 Date Reported: November 17, 1998

mw-3

C.A.S. #	TARGET COMPOUNDS	CONCENTRATION (µg/L)	LIMIT OF DETECTION (µg/L)
75-71-8	Dichlorodifluoromethane	ND	2.0
74-87-3	Chloromethane	ND	2.0
75-01-4	Vinyl chloride (Chloroethene)	ND	2.0
74-83-9	Bromomethane	ND	2.0
75-00-3	Chloroethane	ND	2.0
75-69-4	Trichlorofluoromethane	ND	2.0
75-35-4	1,1 - Dichloroethene	12.4	2.0
75-09-2	Methylene chloride (Dichloromethane)	ND	2.0
156-60-5	trans - 1, 2 - Dichloroethene	ND	2.0
75-34-3	1,1 - Dichloroethane	35.2	2.0
78-93-3	2 -Butanone (MEK)	ND	20.0
156-59-2	cis - 1,2 - Dichloroethene	ND	2.0
74-97-5	Bromochloromethane	ND	2.0
67-66-3	Chloroform (Trichloromethane)	ND	2.0
594-20-7	2,2 - Dichloropropane	ND	2.0
71-55-6	1,1,1 - Trichloroethane	5.14	2.0
107-06-2	1,2 - Dichloroethane	ND	2.0
563-58-6	1,1 - Dichloropropene	ND	2.0
56-23-5	Carbon tetrachloride (Tetrachloromethane)	ND	2.0
71-43-2	Benzene	2.18	2.0
74-95-3	Dibromomethane	ND	2.0
78-87-5	1,2 - Dichloropropane	ND	2.0
79-01-6	Trichloroethene	1.88	2.0
75-27-4	Bromodichloromethane	ND	2.0
10061-01-5	cis - 1,3 - Dichloropropene	ND	2.0
10061-02-6	trans - 1,3 - Dichloropropene	ND	2.0
79-00-5	1,1,2 - Trichloroethane	ND	2.0
108-88-3	Toluene	ND	2.0
106-93-4	1,2 - Dibromoethane	ND	2.0
142-28-9	1,3 - Dichloropropane	ND	2.0
124-48-1	Dibromochloromethane	ND	2.0
127-18-4	Tetrachloroethene	16.1	2.0
630-20-6	1,1,1,2 - Tetrachloroethane	ND	2.0
108-90-7	Chlorobenzene	ND	2.0
100-41-4	Ethylbenzene	ND	2.0
108-38-3	m,p - Xylenes (1,3- & 1,4-Dimethylbenzene)	ND	4.0
75-25-2	Bromoform (Tribromomethane)	ND	2.0
100-42-5	Styrene (Ethenylbenzene)	ND	2.0
95-47-6	o - Xylene (1,2-Dimethylbenzene)	ND	2.0
79-34-5	1,1,2,2 - Tetrachloroethane	ND	2.0
96-18-4	1,2,3 - Trichloropropane	ND	2.0

ND - Analyte not detected at stated limit of detection

J - Meets Mass Spectral identification criteria but result is below established detection limit



EPA METHOD 8260

Client: **Western Water Consultants**
Sample ID: 93007-3.10/98
Laboratory ID: C98-65650

mw-3

Date Sampled: 10/26/98
Date Analyzed: 11/03/98
Date Reported: November 17, 1998

C.A.S. #	TARGET COMPOUNDS	CONCENTRATION (µg/L)	LIMIT OF DETECTION (µg/L)
98-82-8	Isopropylbenzene (1-Methylethylbenzene)	ND	2.0
108-86-1	Bromobenzene	ND	2.0
103-65-1	n - Propylbenzene	ND	2.0
95-49-8	2 - Chlorotoluene	ND	2.0
106-43-4	4 - Chlorotoluene	ND	2.0
108-67-8	1,3,5 - Trimethylbenzene	ND	2.0
98-06-6	tert - Butylbenzene	ND	2.0
95-63-6	1,2,4 - Trimethylbenzene	ND	2.0
135-98-8	sec - Butylbenzene	ND	2.0
541-73-1	1,3 - Dichlorobenzene	ND	2.0
106-46-7	1,4 - Dichlorobenzene	ND	2.0
99-87-6	4-Isopropyltoluene	ND	2.0
95-50-1	1,2 - Dichlorobenzene	ND	2.0
104-51-8	n - Butylbenzene	ND	2.0
96-12-8	1,2 - Dibromo - 3 - chloropropane	ND	10.0
120-82-1	1,2,4 - Trichlorobenzene	ND	2.0
91-20-3	Naphthalene	ND	2.0
87-68-3	Hexachlorobutadiene	ND	2.0
87-61-6	1,2 3 - Trichlorobenzene	ND	2.0

ND - Analyte not detected at stated limit of detection

J - Meets Mass Spectral identification criteria but result is below established detection limit

RUNTIME QUALITY ASSURANCE REPORT

INTERNAL STANDARDS	AREA	ICAL / CCAL AREA	PERCENT RECOVERY	ACCEPTANCE RANGE
Pentafluorobenzene	1475653	1487588	99.2%	50 - 200 %
Fluorobenzene	2969732	3012713	98.6%	50 - 200 %
1,4 - Difluorobenzene	2332710	2358674	98.9%	50 - 200 %
Chlorobenzene - d5	1660336	1674164	99.2%	50 - 200 %
1,4 - Dichlorobenzene - d4	619605	672866	92.1%	50 - 200 %

SYSTEM MONITORING COMPOUNDS	CONCENTRATION	PERCENT RECOVERY	ACCEPTANCE RANGE
Dibromofluoromethane	9.44	94.4%	86 - 118 %
Toluene - d8	10.1	101%	88 - 110 %
4 - Bromofluorobenzene	9.33	93.3%	86 - 115 %
1,2 - Dichlorobenzene - d4	10.3	103%	80 - 120 %

REFERENCES

Method 8260: Volatile Organics by Gas Chromatography/Mass Spectrometry (GC/MS): Capillary Technique
Test Methods for Evaluating Solid Waste, SW-846, Third Edition, USEPA, November 1990



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EPA METHOD 8260

Client: **Western Water Consultants**
 Project: 93007
 Sample ID: 93007-4.10/98
 Laboratory ID: C98-65651
 Matrix: Water
 Dilution Factor: 50

Date Sampled: 10/27/98
 Time Sampled: 09:00
 Date Received: 10/28/98
 Date Analyzed: 11/03/98
 Date Reported: November 17, 1998

mw-4

C.A.S. #	TARGET COMPOUNDS	CONCENTRATION (µg/L)	LIMIT OF DETECTION (µg/L)
75-71-8	Dichlorodifluoromethane	ND	50.0
74-87-3	Chloromethane	ND	50.0
75-01-4	Vinyl chloride (Chloroethene)	ND	50.0
74-83-9	Bromomethane	ND	50.0
75-00-3	Chloroethane	ND	50.0
75-69-4	Trichlorofluoromethane	ND	50.0
75-35-4	1,1 - Dichloroethene	201	50.0
75-09-2	Methylene chloride (Dichloromethane)	ND	50.0
156-60-5	trans - 1, 2 - Dichloroethene	ND	50.0
75-34-3	1,1 - Dichloroethane	31.0	J 50.0
78-93-3	2 -Butanone (MEK)	ND	500
156-59-2	cis - 1,2 - Dichloroethene	ND	50.0
74-97-5	Bromochloromethane	ND	50.0
67-66-3	Chloroform (Trichloromethane)	ND	50.0
594-20-7	2,2 - Dichloropropane	ND	50.0
71-55-6	1,1,1 - Trichloroethane	209	50.0
107-06-2	1,2 - Dichloroethane	ND	50.0
563-58-6	1,1 - Dichloropropene	ND	50.0
56-23-5	Carbon tetrachloride (Tetrachloromethane)	ND	50.0
71-43-2	Benzene	ND	50.0
74-95-3	Dibromomethane	ND	50.0
78-87-5	1,2 - Dichloropropane	ND	50.0
79-01-6	Trichloroethene	ND	50.0
75-27-4	Bromodichloromethane	ND	50.0
10061-01-5	cis - 1,3 - Dichloropropene	ND	50.0
10061-02-6	trans - 1,3 - Dichloropropene	ND	50.0
79-00-5	1,1,2 - Trichloroethane	ND	50.0
108-88-3	Toluene	ND	50.0
106-93-4	1,2 - Dibromoethane	ND	50.0
142-28-9	1,3 - Dichloropropane	ND	50.0
124-48-1	Dibromochloromethane	ND	50.0
127-18-4	Tetrachloroethene	1,080	50.0
630-20-6	1,1,1,2 - Tetrachloroethane	ND	50.0
108-90-7	Chlorobenzene	ND	50.0
100-41-4	Ethylbenzene	ND	50.0
108-38-3	m,p - Xylenes (1,3- & 1,4-Dimethylbenzene)	ND	100
75-25-2	Bromoform (Tribromomethane)	ND	50.0
100-42-5	Styrene (Ethenylbenzene)	ND	50.0
95-47-6	o - Xylene (1,2-Dimethylbenzene)	ND	50.0
79-34-5	1,1,2,2 - Tetrachloroethane	ND	50.0
96-18-4	1,2,3 - Trichloropropane	ND	50.0

ND - Analyte not detected at stated limit of detection

J - Meets Mass Spectral identification criteria but result is below established detection limit



EPA METHOD 8260

Client: Western Water Consultants
Sample ID: 93007-4.10/98
Laboratory ID: C98-65651

Date Sampled: 10/27/98
Date Analyzed: 11/03/98
Date Reported: November 17, 1998

mw-4

C.A.S. #	TARGET COMPOUNDS	CONCENTRATION (µg/L)	LIMIT OF DETECTION (µg/L)
98-82-8	Isopropylbenzene (1-Methylethylbenzene)	ND	50.0
108-86-1	Bromobenzene	ND	50.0
103-65-1	n - Propylbenzene	ND	50.0
95-49-8	2 - Chlorotoluene	ND	50.0
106-43-4	4 - Chlorotoluene	ND	50.0
108-67-8	1,3,5 - Trimethylbenzene	ND	50.0
98-06-6	tert - Butylbenzene	ND	50.0
95-63-6	1,2,4 - Trimethylbenzene	ND	50.0
135-98-8	sec - Butylbenzene	ND	50.0
541-73-1	1,3 - Dichlorobenzene	ND	50.0
106-46-7	1,4 - Dichlorobenzene	ND	50.0
99-87-6	4-Isopropyltoluene	ND	50.0
95-50-1	1,2 - Dichlorobenzene	ND	50.0
104-51-8	n - Butylbenzene	ND	50.0
96-12-8	1,2 - Dibromo - 3 - chloropropane	ND	250
120-82-1	1,2,4 - Trichlorobenzene	ND	50.0
91-20-3	Naphthalene	ND	50.0
87-68-3	Hexachlorobutadiene	ND	50.0
87-61-6	1,2 3 - Trichlorobenzene	ND	50.0

ND - Analyte not detected at stated limit of detection

J - Meets Mass Spectral identification criteria but result is below established detection limit

RUNTIME QUALITY ASSURANCE REPORT

INTERNAL STANDARDS	AREA	ICAL / CCAL AREA	PERCENT RECOVERY	ACCEPTANCE RANGE
Pentafluorobenzene	1430029	1487588	96.1%	50 - 200 %
Fluorobenzene	2892528	3012713	96.0%	50 - 200 %
1,4 - Difluorobenzene	2262034	2358674	95.9%	50 - 200 %
Chlorobenzene - d5	1606100	1674164	95.9%	50 - 200 %
1,4 - Dichlorobenzene - d4	590547	672866	87.8%	50 - 200 %

SYSTEM MONITORING COMPOUNDS	CONCENTRATION	PERCENT RECOVERY	ACCEPTANCE RANGE
Dibromofluoromethane	9.41	94.1%	86 - 118 %
Toluene - d8	10.2	102%	88 - 110 %
4 - Bromofluorobenzene	9.26	92.6%	86 - 115 %
1,2 - Dichlorobenzene - d4	10.2	102%	80 - 120 %

REFERENCES

Method 8260: Volatile Organics by Gas Chromatography/Mass Spectrometry (GC/MS): Capillary Technique
Test Methods for Evaluating Solid Waste, SW-846, Third Edition, USEPA, November 1990



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EPA METHOD 8260

Client: **Western Water Consultants**
 Project: 93007
 Sample ID: 93007-5.10/98
 Laboratory ID: C98-65652
 Matrix: Water
 Dilution Factor: 10

Date Sampled: 10/27/98
 Time Sampled: 07:45
 Date Received: 10/28/98
 Date Analyzed: 11/03/98
 Date Reported: November 17, 1998

mw-5

C.A.S. #	TARGET COMPOUNDS	CONCENTRATION (µg/L)	LIMIT OF DETECTION (µg/L)
75-71-8	Dichlorodifluoromethane	ND	10.0
74-87-3	Chloromethane	ND	10.0
75-01-4	Vinyl chloride (Chloroethene)	ND	10.0
74-83-9	Bromomethane	ND	10.0
75-00-3	Chloroethane	ND	10.0
75-69-4	Trichlorofluoromethane	ND	10.0
75-35-4	1,1 - Dichloroethene	41.9	10.0
75-09-2	Methylene chloride (Dichloromethane)	ND	10.0
156-60-5	trans - 1, 2 - Dichloroethene	ND	10.0
75-34-3	1,1 - Dichloroethane	79.6	10.0
78-93-3	2 -Butanone (MEK)	ND	100
156-59-2	cis - 1,2 - Dichloroethene	ND	10.0
74-97-5	Bromochloromethane	ND	10.0
67-66-3	Chloroform (Trichloromethane)	ND	10.0
594-20-7	2,2 - Dichloropropane	ND	10.0
71-55-6	1,1,1 - Trichloroethane	15.8	10.0
107-06-2	1,2 - Dichloroethane	ND	10.0
563-58-6	1,1 - Dichloropropene	ND	10.0
56-23-5	Carbon tetrachloride (Tetrachloromethane)	ND	10.0
71-43-2	Benzene	ND	10.0
74-95-3	Dibromomethane	ND	10.0
78-87-5	1,2 - Dichloropropane	ND	10.0
79-01-6	Trichloroethene	ND	10.0
75-27-4	Bromodichloromethane	ND	10.0
10061-01-5	cis - 1,3 - Dichloropropene	ND	10.0
10061-02-6	trans - 1,3 - Dichloropropene	ND	10.0
79-00-5	1,1,2 - Trichloroethane	ND	10.0
108-88-3	Toluene	ND	10.0
106-93-4	1,2 - Dibromoethane	ND	10.0
142-28-9	1,3 - Dichloropropane	ND	10.0
124-48-1	Dibromochloromethane	ND	10.0
127-18-4	Tetrachloroethene	33.3	10.0
630-20-6	1,1,1,2 - Tetrachloroethane	ND	10.0
108-90-7	Chlorobenzene	ND	10.0
100-41-4	Ethylbenzene	ND	10.0
108-38-3	m,p - Xylenes (1,3- & 1,4-Dimethylbenzene)	ND	20.0
75-25-2	Bromoform (Tribromomethane)	ND	10.0
100-42-5	Styrene (Ethenylbenzene)	ND	10.0
95-47-6	o - Xylene (1,2-Dimethylbenzene)	ND	10.0
79-34-5	1,1,2,2 - Tetrachloroethane	ND	10.0
96-18-4	1,2,3 - Trichloropropane	ND	10.0

ND - Analyte not detected at stated limit of detection



EPA METHOD 8260

Client: **Western Water Consultants**
Sample ID: 93007-5.10/98
Laboratory ID: C98-65652

Date Sampled: 10/27/98
Date Analyzed: 11/03/98
Date Reported: November 17, 1998

mw-5

C.A.S. #	TARGET COMPOUNDS	CONCENTRATION (µg/L)	LIMIT OF DETECTION (µg/L)
98-82-8	Isopropylbenzene (1-Methylethylbenzene)	ND	10.0
108-86-1	Bromobenzene	ND	10.0
103-65-1	n - Propylbenzene	ND	10.0
95-49-8	2 - Chlorotoluene	ND	10.0
106-43-4	4 - Chlorotoluene	ND	10.0
108-67-8	1,3,5 - Trimethylbenzene	ND	10.0
98-06-6	tert - Butylbenzene	ND	10.0
95-63-6	1,2,4 - Trimethylbenzene	ND	10.0
135-98-8	sec - Butylbenzene	ND	10.0
541-73-1	1,3 - Dichlorobenzene	ND	10.0
106-46-7	1,4 - Dichlorobenzene	ND	10.0
99-87-6	4-Isopropyltoluene	ND	10.0
95-50-1	1,2 - Dichlorobenzene	ND	10.0
104-51-8	n - Butylbenzene	ND	10.0
96-12-8	1,2 - Dibromo - 3 - chloropropane	ND	50.0
120-82-1	1,2,4 - Trichlorobenzene	ND	10.0
91-20-3	Naphthalene	ND	10.0
87-68-3	Hexachlorobutadiene	ND	10.0
87-61-6	1,2 3 - Trichlorobenzene	ND	10.0

ND - Analyte not detected at stated limit of detection

RUNTIME QUALITY ASSURANCE REPORT

<u>INTERNAL STANDARDS</u>	<u>AREA</u>	<u>ICAL / CCAL</u> <u>AREA</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>ACCEPTANCE</u> <u>RANGE</u>
Pentafluorobenzene	1490539	1487588	100%	50 - 200 %
Fluorobenzene	2982763	3012713	99.0%	50 - 200 %
1,4 - Difluorobenzene	2339916	2358674	99.2%	50 - 200 %
Chlorobenzene - d5	1653331	1674164	98.8%	50 - 200 %
1,4 - Dichlorobenzene - d4	641803	672866	95.4%	50 - 200 %

<u>SYSTEM MONITORING COMPOUNDS</u>	<u>CONCENTRATION</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>ACCEPTANCE</u> <u>RANGE</u>
Dibromofluoromethane	9.29	92.9%	86 - 118 %
Toluene - d8	10.1	101%	88 - 110 %
4 - Bromofluorobenzene	9.41	94.1%	86 - 115 %
1,2 - Dichlorobenzene - d4	10.1	101%	80 - 120 %

REFERENCES

Method 8260: Volatile Organics by Gas Chromatography/Mass Spectrometry (GC/MS): Capillary Technique
Test Methods for Evaluating Solid Waste, SW-846, Third Edition, USEPA, November 1990

sec: r:\reports\clients\western_water_consultants\98_65649_8260_w.xls

Analyst: yw
Reviewed: sec



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EPA METHOD 8260

Client: Western Water Consultants
Project: 93007
Sample ID: 93007-B.10/98
Laboratory ID: C98-65665
Matrix: Water
Dilution Factor: 2

*Duplicate of
mw-5*

Date Sampled: 10/27/98
Time Sampled: 10:30
Date Received: 10/28/98
Date Analyzed: 11/03/98
Date Reported: November 17, 1998

C.A.S. #	TARGET COMPOUNDS	CONCENTRATION (µg/L)	LIMIT OF DETECTION (µg/L)
75-71-8	Dichlorodifluoromethane	ND	2.0
74-87-3	Chloromethane	ND	2.0
75-01-4	Vinyl chloride (Chloroethene)	ND	2.0
74-83-9	Bromomethane	ND	2.0
75-00-3	Chloroethane	ND	2.0
75-69-4	Trichlorofluoromethane	ND	2.0
75-35-4	1,1 - Dichloroethene	10.6	2.0
75-09-2	Methylene chloride (Dichloromethane)	ND	2.0
156-60-5	trans - 1, 2 - Dichloroethene	ND	2.0
75-34-3	1,1 - Dichloroethane	52.8	2.0
78-93-3	2 -Butanone (MEK)	ND	20.0
156-59-2	cis - 1,2 - Dichloroethene	ND	2.0
74-97-5	Bromochloromethane	ND	2.0
67-66-3	Chloroform (Trichloromethane)	ND	2.0
594-20-7	2,2 - Dichloropropane	ND	2.0
71-55-6	1,1,1 - Trichloroethane	ND	2.0
107-06-2	1,2 - Dichloroethane	ND	2.0
563-58-6	1,1 - Dichloropropene	ND	2.0
56-23-5	Carbon tetrachloride (Tetrachloromethane)	ND	2.0
71-43-2	Benzene	10.8	2.0
74-95-3	Dibromomethane	ND	2.0
78-87-5	1,2 - Dichloropropane	ND	2.0
79-01-6	Trichloroethene	ND	2.0
75-27-4	Bromodichloromethane	ND	2.0
10061-01-5	cis - 1,3 - Dichloropropene	ND	2.0
10061-02-6	trans - 1,3 - Dichloropropene	ND	2.0
79-00-5	1,1,2 - Trichloroethane	ND	2.0
108-88-3	Toluene	ND	2.0
106-93-4	1,2 - Dibromoethane	ND	2.0
142-28-9	1,3 - Dichloropropane	ND	2.0
124-48-1	Dibromochloromethane	ND	2.0
127-18-4	Tetrachloroethene	10.8	2.0
630-20-6	1,1,1,2 - Tetrachloroethane	ND	2.0
108-90-7	Chlorobenzene	ND	2.0
100-41-4	Ethylbenzene	2.14	2.0
108-38-3	m,p - Xylenes (1,3- & 1,4-Dimethylbenzene)	ND	4.0
75-25-2	Bromoform (Tribromomethane)	ND	2.0
100-42-5	Styrene (Ethenylbenzene)	ND	2.0
95-47-6	o - Xylene (1,2-Dimethylbenzene)	ND	2.0
79-34-5	1,1,2,2 - Tetrachloroethane	ND	2.0
96-18-4	1,2,3 - Trichloropropane	ND	2.0

ND - Analyte not detected at stated limit of detection



EPA METHOD 8260

Client: Western Water Consultants
Sample ID: 93007-B.10/98
Laboratory ID: C98-65665

Date Sampled: 10/27/98
Date Analyzed: 11/03/98
Date Reported: November 17, 1998

*Duplicate of
mw-5*

C.A.S. #	TARGET COMPOUNDS	CONCENTRATION (µg/L)	LIMIT OF DETECTION (µg/L)
98-82-8	Isopropylbenzene (1-Methylethylbenzene)	ND	2.0
108-86-1	Bromobenzene	ND	2.0
103-65-1	n - Propylbenzene	ND	2.0
95-49-8	2 - Chlorotoluene	ND	2.0
106-43-4	4 - Chlorotoluene	ND	2.0
108-67-8	1,3,5 - Trimethylbenzene	ND	2.0
98-06-6	tert - Butylbenzene	ND	2.0
95-63-6	1,2,4 - Trimethylbenzene	3.44	2.0
135-98-8	sec - Butylbenzene	ND	2.0
541-73-1	1,3 - Dichlorobenzene	ND	2.0
106-46-7	1,4 - Dichlorobenzene	ND	2.0
99-87-6	4-Isopropyltoluene	ND	2.0
95-50-1	1,2 - Dichlorobenzene	ND	2.0
104-51-8	n - Butylbenzene	ND	2.0
96-12-8	1,2 - Dibromo - 3 - chloropropane	ND	10.0
120-82-1	1,2,4 - Trichlorobenzene	ND	2.0
91-20-3	Naphthalene	2.02	2.0
87-68-3	Hexachlorobutadiene	ND	2.0
87-61-6	1,2 3 - Trichlorobenzene	ND	2.0

ND - Analyte not detected at stated limit of detection

RUNTIME QUALITY ASSURANCE REPORT

INTERNAL STANDARDS	AREA	ICAL / CCAL AREA	PERCENT RECOVERY	ACCEPTANCE RANGE
Pentafluorobenzene	1455730	1487588	97.9%	50 - 200 %
Fluorobenzene	2988176	3012713	99.2%	50 - 200 %
1,4 - Difluorobenzene	2323247	2358674	98.5%	50 - 200 %
Chlorobenzene - d5	1651353	1674164	98.6%	50 - 200 %
1,4 - Dichlorobenzene - d4	613645	672866	91.2%	50 - 200 %

SYSTEM MONITORING COMPOUNDS	CONCENTRATION	PERCENT RECOVERY	ACCEPTANCE RANGE
Dibromofluoromethane	9.51	95.1%	86 - 118 %
Toluene - d8	10.1	101%	88 - 110 %
4 - Bromofluorobenzene	9.47	94.7%	86 - 115 %
1,2 - Dichlorobenzene - d4	10.3	103%	80 - 120 %

REFERENCES

Method 8260: Volatile Organics by Gas Chromatography/Mass Spectrometry (GC/MS): Capillary Technique
Test Methods for Evaluating Solid Waste, SW-846, Third Edition, USEPA, November 1990



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EPA METHOD 8260

Client: **Western Water Consultants**
 Project: 93007
 Sample ID: 93007-6.10/98
 Laboratory ID: C98-65653
 Matrix: Water
 Dilution Factor: 10

Date Sampled: 10/26/98
 Time Sampled: 16:40
 Date Received: 10/28/98
 Date Analyzed: 11/03/98
 Date Reported: November 17, 1998

mw-6

C.A.S. #	TARGET COMPOUNDS	CONCENTRATION (µg/L)	LIMIT OF DETECTION (µg/L)
75-71-8	Dichlorodifluoromethane	ND	10.0
74-87-3	Chloromethane	ND	10.0
75-01-4	Vinyl chloride (Chloroethene)	ND	10.0
74-83-9	Bromomethane	ND	10.0
75-00-3	Chloroethane	ND	10.0
75-69-4	Trichlorofluoromethane	ND	10.0
75-35-4	1,1 - Dichloroethene	10.8	10.0
75-09-2	Methylene chloride (Dichloromethane)	ND	10.0
156-60-5	trans - 1, 2 - Dichloroethene	ND	10.0
75-34-3	1,1 - Dichloroethane	54.7	10.0
78-93-3	2 -Butanone (MEK)	ND	100
156-59-2	cis - 1,2 - Dichloroethene	ND	10.0
74-97-5	Bromochloromethane	ND	10.0
67-66-3	Chloroform (Trichloromethane)	ND	10.0
594-20-7	2,2 - Dichloropropane	ND	10.0
71-55-6	1,1,1 - Trichloroethane	ND	10.0
107-06-2	1,2 - Dichloroethane	ND	10.0
563-58-6	1,1 - Dichloropropene	ND	10.0
56-23-5	Carbon tetrachloride (Tetrachloromethane)	ND	10.0
71-43-2	Benzene	11.0	10.0
74-95-3	Dibromomethane	ND	10.0
78-87-5	1,2 - Dichloropropane	ND	10.0
79-01-6	Trichloroethene	ND	10.0
75-27-4	Bromodichloromethane	ND	10.0
10061-01-5	cis - 1,3 - Dichloropropene	ND	10.0
10061-02-6	trans - 1,3 - Dichloropropene	ND	10.0
79-00-5	1,1,2 - Trichloroethane	ND	10.0
108-88-3	Toluene	ND	10.0
106-93-4	1,2 - Dibromoethane	ND	10.0
142-28-9	1,3 - Dichloropropane	ND	10.0
124-48-1	Dibromochloromethane	ND	10.0
127-18-4	Tetrachloroethene	11.1	10.0
630-20-6	1,1,1,2 - Tetrachloroethane	ND	10.0
108-90-7	Chlorobenzene	ND	10.0
100-41-4	Ethylbenzene	2.10	10.0
108-38-3	m,p - Xylenes (1,3- & 1,4-Dimethylbenzene)	ND	20.0
75-25-2	Bromoform (Tribromomethane)	ND	10.0
100-42-5	Styrene (Ethenylbenzene)	ND	10.0
95-47-6	o - Xylene (1,2-Dimethylbenzene)	ND	10.0
79-34-5	1,1,2,2 - Tetrachloroethane	ND	10.0
96-18-4	1,2,3 - Trichloropropane	ND	10.0

ND - Analyte not detected at stated limit of detection

J - Meets Mass Spectral identification criteria but result is below established detection limit



EPA METHOD 8260

Client: **Western Water Consultants**
Sample ID: 93007-6.10/98
Laboratory ID: C98-65653

Date Sampled: 10/26/98
Date Analyzed: 11/03/98
Date Reported: November 17, 1998

C.A.S. #	TARGET COMPOUNDS	CONCENTRATION (µg/L)	LIMIT OF DETECTION (µg/L)
98-82-8	Isopropylbenzene (1-Methylethylbenzene)	ND	10.0
108-86-1	Bromobenzene	ND	10.0
103-65-1	n - Propylbenzene	ND	10.0
95-49-8	2 - Chlorotoluene	ND	10.0
106-43-4	4 - Chlorotoluene	ND	10.0
108-67-8	1,3,5 - Trimethylbenzene	ND	10.0
98-06-6	tert - Butylbenzene	ND	10.0
95-63-6	1,2,4 - Trimethylbenzene	3.40	J 10.0
135-98-8	sec - Butylbenzene	ND	10.0
541-73-1	1,3 - Dichlorobenzene	ND	10.0
106-46-7	1,4 - Dichlorobenzene	ND	10.0
99-87-6	4-Isopropyltoluene	ND	10.0
95-50-1	1,2 - Dichlorobenzene	ND	10.0
104-51-8	n - Butylbenzene	ND	10.0
96-12-8	1,2 - Dibromo - 3 - chloropropane	ND	50.0
120-82-1	1,2,4 - Trichlorobenzene	ND	10.0
91-20-3	Naphthalene	2.30	J 10.0
87-68-3	Hexachlorobutadiene	ND	10.0
87-61-6	1,2 3 - Trichlorobenzene	ND	10.0

ND - Analyte not detected at stated limit of detection

J - Meets Mass Spectral identification criteria but result is below established detection limit

RUNTIME QUALITY ASSURANCE REPORT

INTERNAL STANDARDS	AREA	ICAL / CCAL	PERCENT RECOVERY	ACCEPTANCE RANGE
Pentafluorobenzene	1439582	1487588	96.8%	50 - 200 %
Fluorobenzene	2907667	3012713	96.5%	50 - 200 %
1,4 - Difluorobenzene	2274394	2358674	96.4%	50 - 200 %
Chlorobenzene - d5	1620924	1674164	96.8%	50 - 200 %
1,4 - Dichlorobenzene - d4	623673	672866	92.7%	50 - 200 %

SYSTEM MONITORING COMPOUNDS	CONCENTRATION	PERCENT RECOVERY	ACCEPTANCE RANGE
Dibromofluoromethane	9.41	94.1%	86 - 118 %
Toluene - d8	10.2	102%	88 - 110 %
4 - Bromofluorobenzene	9.36	93.6%	86 - 115 %
1,2 - Dichlorobenzene - d4	10.1	101%	80 - 120 %

REFERENCES

Method 8260: Volatile Organics by Gas Chromatography/Mass Spectrometry (GC/MS): Capillary Technique
Test Methods for Evaluating Solid Waste, SW-846, Third Edition, USEPA, November 1990

sec: r:\reports\clients\98\western_water_consultants\98_65649_8260_w.xls

Analyst: yw
Reviewed: sec



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EPA METHOD 8260

Client: Western Water Consultants
Project: 93007
Sample ID: 93007-7.10/98
Laboratory ID: C98-65654
Matrix: Water
Dilution Factor: 5

Date Sampled: 10/26/98
Time Sampled: 17:20
Date Received: 10/28/98
Date Analyzed: 11/03/98
Date Reported: November 17, 1998

mw-7

C.A.S. #	TARGET COMPOUNDS	CONCENTRATION (µg/L)	LIMIT OF DETECTION (µg/L)
75-71-8	Dichlorodifluoromethane	ND	5.0
74-87-3	Chloromethane	ND	5.0
75-01-4	Vinyl chloride (Chloroethene)	ND	5.0
74-83-9	Bromomethane	ND	5.0
75-00-3	Chloroethane	ND	5.0
75-69-4	Trichlorofluoromethane	ND	5.0
75-35-4	1,1 - Dichloroethene	30.4	5.0
75-09-2	Methylene chloride (Dichloromethane)	ND	5.0
156-60-5	trans - 1, 2 - Dichloroethene	ND	5.0
75-34-3	1,1 - Dichloroethane	47.4	5.0
78-93-3	2 -Butanone (MEK)	ND	50.0
156-59-2	cis - 1,2 - Dichloroethene	ND	5.0
74-97-5	Bromochloromethane	ND	5.0
67-66-3	Chloroform (Trichloromethane)	ND	5.0
594-20-7	2,2 - Dichloropropane	ND	5.0
71-55-6	1,1,1 - Trichloroethane	ND	5.0
107-06-2	1,2 - Dichloroethane	ND	5.0
563-58-6	1,1 - Dichloropropene	ND	5.0
56-23-5	Carbon tetrachloride (Tetrachloromethane)	ND	5.0
71-43-2	Benzene	ND	5.0
74-95-3	Dibromomethane	ND	5.0
78-87-5	1,2 - Dichloropropane	ND	5.0
79-01-6	Trichloroethene	18.6	5.0
75-27-4	Bromodichloromethane	ND	5.0
10061-01-5	cis - 1,3 - Dichloropropene	ND	5.0
10061-02-6	trans - 1,3 - Dichloropropene	ND	5.0
79-00-5	1,1,2 - Trichloroethane	ND	5.0
108-88-3	Toluene	ND	5.0
106-93-4	1,2 - Dibromoethane	ND	5.0
142-28-9	1,3 - Dichloropropane	ND	5.0
124-48-1	Dibromochloromethane	ND	5.0
127-18-4	Tetrachloroethene	72.6	5.0
630-20-6	1,1,1,2 - Tetrachloroethane	ND	5.0
108-90-7	Chlorobenzene	ND	5.0
100-41-4	Ethylbenzene	ND	5.0
108-38-3	m,p - Xylenes (1,3- & 1,4-Dimethylbenzene)	ND	10.0
75-25-2	Bromoform (Tribromomethane)	ND	5.0
100-42-5	Styrene (Ethenylbenzene)	ND	5.0
95-47-6	o - Xylene (1,2-Dimethylbenzene)	ND	5.0
79-34-5	1,1,2,2 - Tetrachloroethane	ND	5.0
96-18-4	1,2,3 - Trichloropropane	ND	5.0

ND - Analyte not detected at stated limit of detection



EPA METHOD 8260

Client: Western Water Consultants
Sample ID: 93007-7.10/98
Laboratory ID: C98-65654

MW-7

Date Sampled: 10/26/98
Date Analyzed: 11/03/98
Date Reported: November 17, 1998

C.A.S. #	TARGET COMPOUNDS	CONCENTRATION (µg/L)	LIMIT OF DETECTION (µg/L)
98-82-8	Isopropylbenzene (1-Methylethylbenzene)	ND	5.0
108-86-1	Bromobenzene	ND	5.0
103-65-1	n - Propylbenzene	ND	5.0
95-49-8	2 - Chlorotoluene	ND	5.0
106-43-4	4 - Chlorotoluene	ND	5.0
108-67-8	1,3,5 - Trimethylbenzene	ND	5.0
98-06-6	tert - Butylbenzene	ND	5.0
95-63-6	1,2,4 - Trimethylbenzene	ND	5.0
135-98-8	sec - Butylbenzene	ND	5.0
541-73-1	1,3 - Dichlorobenzene	ND	5.0
106-46-7	1,4 - Dichlorobenzene	ND	5.0
99-87-6	4-Isopropyltoluene	ND	5.0
95-50-1	1,2 - Dichlorobenzene	ND	5.0
104-51-8	n - Butylbenzene	ND	5.0
96-12-8	1,2 - Dibromo - 3 - chloropropane	ND	25.0
120-82-1	1,2,4 - Trichlorobenzene	ND	5.0
91-20-3	Naphthalene	13.5	5.0
87-68-3	Hexachlorobutadiene	ND	5.0
87-61-6	1,2 3 - Trichlorobenzene	ND	5.0

ND - Analyte not detected at stated limit of detection

RUNTIME QUALITY ASSURANCE REPORT

<u>INTERNAL STANDARDS</u>	<u>AREA</u>	<u>ICAL / CCAL</u>	<u>PERCENT RECOVERY</u>	<u>ACCEPTANCE RANGE</u>
Pentafluorobenzene	1495535	1487588	101%	50 - 200 %
Fluorobenzene	2991391	3012713	99.3%	50 - 200 %
1,4 - Difluorobenzene	2363319	2358674	100%	50 - 200 %
Chlorobenzene - d5	1665349	1674164	99.5%	50 - 200 %
1,4 - Dichlorobenzene - d4	643755	672866	95.7%	50 - 200 %

<u>SYSTEM MONITORING COMPOUNDS</u>	<u>CONCENTRATION</u>	<u>PERCENT RECOVERY</u>	<u>ACCEPTANCE RANGE</u>
Dibromofluoromethane	9.41	94.1%	86 - 118 %
Toluene - d8	10.0	100%	88 - 110 %
4 - Bromofluorobenzene	9.37	93.7%	86 - 115 %
1,2 - Dichlorobenzene - d4	10.1	101%	80 - 120 %

REFERENCES

Method 8260: Volatile Organics by Gas Chromatography/Mass Spectrometry (GC/MS): Capillary Technique
Test Methods for Evaluating Solid Waste, SW-846, Third Edition, USEPA, November 1990

sec: r:\reports\clients98\western_water_consultants\98_65649_8260_w.xls

Analyst: yw
Reviewed: sec



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EPA METHOD 8260

Client: **Western Water Consultants**
 Project: 93007
 Sample ID: 93007-8.10/98
 Laboratory ID: C98-65655
 Matrix: Water
 Dilution Factor: 200

Date Sampled: 10/27/98
 Time Sampled: 09:30
 Date Received: 10/28/98
 Date Analyzed: 11/03/98
 Date Reported: November 17, 1998

mw-8

C.A.S. #	TARGET COMPOUNDS	CONCENTRATION (µg/L)	LIMIT OF DETECTION (µg/L)
75-71-8	Dichlorodifluoromethane	ND	200
74-87-3	Chloromethane	ND	200
75-01-4	Vinyl chloride (Chloroethene)	ND	200
74-83-9	Bromomethane	ND	200
75-00-3	Chloroethane	ND	200
75-69-4	Trichlorofluoromethane	ND	200
75-35-4	1,1 - Dichloroethene	780	200
75-09-2	Methylene chloride (Dichloromethane)	ND	200
156-60-5	trans - 1, 2 - Dichloroethene	ND	200
75-34-3	1,1 - Dichloroethane	60.0	J 200
78-93-3	2 -Butanone (MEK)	ND	2,000
156-59-2	cis - 1,2 - Dichloroethene	ND	200
74-97-5	Bromochloromethane	ND	200
67-66-3	Chloroform (Trichloromethane)	ND	200
594-20-7	2,2 - Dichloropropane	ND	200
71-55-6	1,1,1 - Trichloroethane	522	200
107-06-2	1,2 - Dichloroethane	ND	200
563-58-6	1,1 - Dichloropropene	ND	200
56-23-5	Carbon tetrachloride (Tetrachloromethane)	ND	200
71-43-2	Benzene	ND	200
74-95-3	Dibromomethane	ND	200
78-87-5	1,2 - Dichloropropane	ND	200
79-01-6	Trichloroethene	ND	200
75-27-4	Bromodichloromethane	ND	200
10061-01-5	cis - 1,3 - Dichloropropene	ND	200
10061-02-6	trans - 1,3 - Dichloropropene	ND	200
79-00-5	1,1,2 - Trichloroethane	ND	200
108-88-3	Toluene	ND	200
106-93-4	1,2 - Dibromoethane	ND	200
142-28-9	1,3 - Dichloropropane	ND	200
124-48-1	Dibromochloromethane	ND	200
127-18-4	Tetrachloroethene	4,160	200
630-20-6	1,1,1,2 - Tetrachloroethane	ND	200
108-90-7	Chlorobenzene	ND	200
100-41-4	Ethylbenzene	ND	200
108-38-3	m,p - Xylenes (1,3- & 1,4-Dimethylbenzene)	ND	400
75-25-2	Bromoform (Tribromomethane)	ND	200
100-42-5	Styrene (Ethenylbenzene)	ND	200
95-47-6	o - Xylene (1,2-Dimethylbenzene)	ND	200
79-34-5	1,1,2,2 - Tetrachloroethane	ND	200
96-18-4	1,2,3 - Trichloropropane	ND	200

ND - Analyte not detected at stated limit of detection

J - Meets Mass Spectral identification criteria but result is below established detection limit

COMPLETE ANALYTICAL SERVICES

Page 13 of 40



EPA METHOD 8260

Client: Western Water Consultants
Sample ID: 93007-8.10/98
Laboratory ID: C98-65655

Date Sampled: 10/27/98
Date Analyzed: 11/03/98
Date Reported: November 17, 1998

MW-8

C.A.S. #	TARGET COMPOUNDS	CONCENTRATION (µg/L)	LIMIT OF DETECTION (µg/L)
98-82-8	Isopropylbenzene (1-Methylethylbenzene)	ND	200
108-86-1	Bromobenzene	ND	200
103-65-1	n - Propylbenzene	ND	200
95-49-8	2 - Chlorotoluene	ND	200
106-43-4	4 - Chlorotoluene	ND	200
108-67-8	1,3,5 - Trimethylbenzene	ND	200
98-06-6	tert - Butylbenzene	ND	200
95-63-6	1,2,4 - Trimethylbenzene	ND	200
135-98-8	sec - Butylbenzene	ND	200
541-73-1	1,3 - Dichlorobenzene	ND	200
106-46-7	1,4 - Dichlorobenzene	ND	200
99-87-6	4-Isopropyltoluene	ND	200
95-50-1	1,2 - Dichlorobenzene	ND	200
104-51-8	n - Butylbenzene	ND	200
96-12-8	1,2 - Dibromo - 3 - chloropropane	ND	1,000
120-82-1	1,2,4 - Trichlorobenzene	ND	200
91-20-3	Naphthalene	ND	200
87-68-3	Hexachlorobutadiene	ND	200
87-61-6	1,2 3 - Trichlorobenzene	ND	200

ND - Analyte not detected at stated limit of detection

J - Meets Mass Spectral identification criteria but result is below established detection limit

RUNTIME QUALITY ASSURANCE REPORT

INTERNAL STANDARDS	AREA	ICAL / CCAL AREA	PERCENT RECOVERY	ACCEPTANCE RANGE
Pentafluorobenzene	1482071	1487588	99.6%	50 - 200 %
Fluorobenzene	2974146	3012713	98.7%	50 - 200 %
1,4 - Difluorobenzene	2352288	2358674	99.7%	50 - 200 %
Chlorobenzene - d5	1652525	1674164	98.7%	50 - 200 %
1,4 - Dichlorobenzene - d4	619045	672866	92.0%	50 - 200 %

SYSTEM MONITORING COMPOUNDS	CONCENTRATION	PERCENT RECOVERY	ACCEPTANCE RANGE
Dibromofluoromethane	9.42	94.2%	86 - 118 %
Toluene - d8	10.1	101%	88 - 110 %
4 - Bromofluorobenzene	9.24	92.4%	86 - 115 %
1,2 - Dichlorobenzene - d4	10.2	102%	80 - 120 %

REFERENCES

Method 8260: Volatile Organics by Gas Chromatography/Mass Spectrometry (GC/MS): Capillary Technique
Test Methods for Evaluating Solid Waste, SW-846, Third Edition, USEPA, November 1990

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EPA METHOD 8260

Client: Western Water Consultants
Project: 93007
Sample ID: 93007-9.10/98
Laboratory ID: C98-65656
Matrix: Water
Dilution Factor: 100

Date Sampled: 10/27/98
Time Sampled: 08:20
Date Received: 10/28/98
Date Analyzed: 11/03/98
Date Reported: November 17, 1998

mw-9

C.A.S. #	TARGET COMPOUNDS	CONCENTRATION (µg/L)	LIMIT OF DETECTION (µg/L)
75-71-8	Dichlorodifluoromethane	ND	100
74-87-3	Chloromethane	ND	100
75-01-4	Vinyl chloride (Chloroethene)	ND	100
74-83-9	Bromomethane	ND	100
75-00-3	Chloroethane	ND	100
75-69-4	Trichlorofluoromethane	ND	100
75-35-4	1,1 - Dichloroethene	507	100
75-09-2	Methylene chloride (Dichloromethane)	ND	100
156-60-5	trans - 1, 2 - Dichloroethene	ND	100
75-34-3	1,1 - Dichloroethane	30.0 J	100
78-93-3	2 -Butanone (MEK)	ND	1,000
156-59-2	cis - 1,2 - Dichloroethene	ND	100
74-97-5	Bromochloromethane	ND	100
67-66-3	Chloroform (Trichloromethane)	ND	100
594-20-7	2,2 - Dichloropropane	ND	100
71-55-6	1,1,1 - Trichloroethane	193	100
107-06-2	1,2 - Dichloroethane	ND	100
563-58-6	1,1 - Dichloropropene	ND	100
56-23-5	Carbon tetrachloride (Tetrachloromethane)	ND	100
71-43-2	Benzene	ND	100
74-95-3	Dibromomethane	ND	100
78-87-5	1,2 - Dichloropropane	ND	100
79-01-6	Trichloroethene	ND	100
75-27-4	Bromodichloromethane	ND	100
10061-01-5	cis - 1,3 - Dichloropropene	ND	100
10061-02-6	trans - 1,3 - Dichloropropene	ND	100
79-00-5	1,1,2 - Trichloroethane	ND	100
108-88-3	Toluene	ND	100
106-93-4	1,2 - Dibromoethane	ND	100
142-28-9	1,3 - Dichloropropane	ND	100
124-48-1	Dibromochloromethane	ND	100
127-18-4	Tetrachloroethene	1,740	100
630-20-6	1,1,1,2 - Tetrachloroethane	ND	100
108-90-7	Chlorobenzene	ND	100
100-41-4	Ethylbenzene	ND	100
108-38-3	m,p - Xylenes (1,3- & 1,4-Dimethylbenzene)	ND	200
75-25-2	Bromoform (Tribromomethane)	ND	100
100-42-5	Styrene (Ethenylbenzene)	ND	100
95-47-6	o - Xylene (1,2-Dimethylbenzene)	ND	100
79-34-5	1,1,2,2 - Tetrachloroethane	ND	100
96-18-4	1,2,3 - Trichloropropane	ND	100

ND - Analyte not detected at stated limit of detection

J - Meets Mass Spectral identification criteria but result is below established detection limit



EPA METHOD 8260

Client: **Western Water Consultants**
Sample ID: 93007-9.10/98
Laboratory ID: C98-65656

Date Sampled: 10/27/98
Date Analyzed: 11/03/98
Date Reported: November 17, 1998

mw-9

C.A.S. #	TARGET COMPOUNDS	CONCENTRATION (µg/L)	LIMIT OF DETECTION (µg/L)
98-82-8	Isopropylbenzene (1-Methylethylbenzene)	ND	100
108-86-1	Bromobenzene	ND	100
103-65-1	n - Propylbenzene	ND	100
95-49-8	2 - Chlorotoluene	ND	100
106-43-4	4 - Chlorotoluene	ND	100
108-67-8	1,3,5 - Trimethylbenzene	ND	100
98-06-6	tert - Butylbenzene	ND	100
95-63-6	1,2,4 - Trimethylbenzene	ND	100
135-98-8	sec - Butylbenzene	ND	100
541-73-1	1,3 - Dichlorobenzene	ND	100
106-46-7	1,4 - Dichlorobenzene	ND	100
99-87-6	4-Isopropyltoluene	ND	100
95-50-1	1,2 - Dichlorobenzene	ND	100
104-51-8	n - Butylbenzene	ND	100
96-12-8	1,2 - Dibromo - 3 - chloropropane	ND	500
120-82-1	1,2,4 - Trichlorobenzene	ND	100
91-20-3	Naphthalene	ND	100
87-68-3	Hexachlorobutadiene	ND	100
87-61-6	1,2 3 - Trichlorobenzene	ND	100

ND - Analyte not detected at stated limit of detection

J - Meets Mass Spectral identification criteria but result is below established detection limit

RUNTIME QUALITY ASSURANCE REPORT

INTERNAL STANDARDS	AREA	ICAL / CCAL AREA	PERCENT RECOVERY	ACCEPTANCE RANGE
Pentafluorobenzene	1428974	1487588	96.1%	50 - 200 %
Fluorobenzene	2888184	3012713	95.9%	50 - 200 %
1,4 - Difluorobenzene	2257464	2358674	95.7%	50 - 200 %
Chlorobenzene - d5	1592596	1674164	95.1%	50 - 200 %
1,4 - Dichlorobenzene - d4	603237	672866	89.7%	50 - 200 %

SYSTEM MONITORING COMPOUNDS	CONCENTRATION	PERCENT RECOVERY	ACCEPTANCE RANGE
Dibromofluoromethane	9.44	94.4%	86 - 118 %
Toluene - d8	10.2	102%	88 - 110 %
4 - Bromofluorobenzene	9.39	93.9%	86 - 115 %
1,2 - Dichlorobenzene - d4	10.2	102%	80 - 120 %

REFERENCES

Method 8260: Volatile Organics by Gas Chromatography/Mass Spectrometry (GC/MS): Capillary Technique
Test Methods for Evaluating Solid Waste, SW-846, Third Edition, USEPA, November 1990

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Reviewed: sec



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EPA METHOD 8260

Client: Western Water Consultants
Project: 93007
Sample ID: 93007-10.10/98
Laboratory ID: C98-65657
Matrix: Water
Dilution Factor: 2

MW-10

Date Sampled: 10/26/98
Time Sampled: 15:40
Date Received: 10/28/98
Date Analyzed: 11/03/98
Date Reported: November 17, 1998

C.A.S. #	TARGET COMPOUNDS	CONCENTRATION (µg/L)	LIMIT OF DETECTION (µg/L)
75-71-8	Dichlorodifluoromethane	ND	2.0
74-87-3	Chloromethane	ND	2.0
75-01-4	Vinyl chloride (Chloroethene)	ND	2.0
74-83-9	Bromomethane	ND	2.0
75-00-3	Chloroethane	ND	2.0
75-69-4	Trichlorofluoromethane	ND	2.0
75-35-4	1,1 - Dichloroethene	ND	2.0
75-09-2	Methylene chloride (Dichloromethane)	ND	2.0
156-60-5	trans - 1, 2 - Dichloroethene	ND	2.0
75-34-3	1,1 - Dichloroethane	ND	2.0
78-93-3	2 -Butanone (MEK)	ND	20.0
156-59-2	cis - 1,2 - Dichloroethene	ND	2.0
74-97-5	Bromochloromethane	ND	2.0
67-66-3	Chloroform (Trichloromethane)	ND	2.0
594-20-7	2,2 - Dichloropropane	ND	2.0
71-55-6	1,1,1 - Trichloroethane	ND	2.0
107-06-2	1,2 - Dichloroethane	ND	2.0
563-58-6	1,1 - Dichloropropene	ND	2.0
56-23-5	Carbon tetrachloride (Tetrachloromethane)	ND	2.0
71-43-2	Benzene	1.08	J 2.0
74-95-3	Dibromomethane	ND	2.0
78-87-5	1,2 - Dichloropropane	ND	2.0
79-01-6	Trichloroethene	ND	2.0
75-27-4	Bromodichloromethane	ND	2.0
10061-01-5	cis - 1,3 - Dichloropropene	ND	2.0
10061-02-6	trans - 1,3 - Dichloropropene	ND	2.0
79-00-5	1,1,2 - Trichloroethane	ND	2.0
108-88-3	Toluene	ND	2.0
106-93-4	1,2 - Dibromoethane	ND	2.0
142-28-9	1,3 - Dichloropropane	ND	2.0
124-48-1	Dibromochloromethane	ND	2.0
127-18-4	Tetrachloroethene	ND	2.0
630-20-6	1,1,1,2 - Tetrachloroethane	ND	2.0
108-90-7	Chlorobenzene	ND	2.0
100-41-4	Ethylbenzene	ND	2.0
108-38-3	m,p - Xylenes (1,3- & 1,4-Dimethylbenzene)	ND	4.0
75-25-2	Bromoform (Tribromomethane)	ND	2.0
100-42-5	Styrene (Ethenylbenzene)	ND	2.0
95-47-6	o - Xylene (1,2-Dimethylbenzene)	ND	2.0
79-34-5	1,1,2,2 - Tetrachloroethane	ND	2.0
96-18-4	1,2,3 - Trichloropropane	ND	2.0

ND - Analyte not detected at stated limit of detection

J - Meets Mass Spectral identification criteria but result is below established detection limit



EPA METHOD 8260

Client: **Western Water Consultants**
Sample ID: 93007-10.10/98
Laboratory ID: C98-65657

Date Sampled: 10/26/98
Date Analyzed: 11/03/98
Date Reported: November 17, 1998

mw-10

C.A.S. #	TARGET COMPOUNDS	CONCENTRATION (µg/L)	LIMIT OF DETECTION (µg/L)
98-82-8	Isopropylbenzene (1-Methylethylbenzene)	ND	2.0
108-86-1	Bromobenzene	ND	2.0
103-65-1	n - Propylbenzene	ND	2.0
95-49-8	2 - Chlorotoluene	ND	2.0
106-43-4	4 - Chlorotoluene	ND	2.0
108-67-8	1,3,5 - Trimethylbenzene	ND	2.0
98-06-6	tert - Butylbenzene	ND	2.0
95-63-6	1,2,4 - Trimethylbenzene	ND	2.0
135-98-8	sec - Butylbenzene	ND	2.0
541-73-1	1,3 - Dichlorobenzene	ND	2.0
106-46-7	1,4 - Dichlorobenzene	ND	2.0
99-87-6	4-Isopropyltoluene	ND	2.0
95-50-1	1,2 - Dichlorobenzene	ND	2.0
104-51-8	n - Butylbenzene	ND	2.0
96-12-8	1,2 - Dibromo - 3 - chloropropane	ND	10.0
120-82-1	1,2,4 - Trichlorobenzene	ND	2.0
91-20-3	Naphthalene	ND	2.0
87-68-3	Hexachlorobutadiene	ND	2.0
87-61-6	1,2 3 - Trichlorobenzene	ND	2.0

ND - Analyte not detected at stated limit of detection

J - Meets Mass Spectral identification criteria but result is below established detection limit

RUNTIME QUALITY ASSURANCE REPORT

INTERNAL STANDARDS	AREA	ICAL / CCAL AREA	PERCENT RECOVERY	ACCEPTANCE RANGE
Pentafluorobenzene	1432048	1487588	96.3%	50 - 200 %
Fluorobenzene	2922461	3012713	97.0%	50 - 200 %
1,4 - Difluorobenzene	2308310	2358674	97.9%	50 - 200 %
Chlorobenzene - d5	1625141	1674164	97.1%	50 - 200 %
1,4 - Dichlorobenzene - d4	589972	672866	87.7%	50 - 200 %

SYSTEM MONITORING COMPOUNDS	CONCENTRATION	PERCENT RECOVERY	ACCEPTANCE RANGE
Dibromofluoromethane	9.56	95.6%	86 - 118 %
Toluene - d8	10.1	101%	88 - 110 %
4 - Bromofluorobenzene	9.31	93.1%	86 - 115 %
1,2 - Dichlorobenzene - d4	10.4	104%	80 - 120 %

REFERENCES

Method 8260: Volatile Organics by Gas Chromatography/Mass Spectrometry (GC/MS): Capillary Technique
Test Methods for Evaluating Solid Waste, SW-846, Third Edition, USEPA, November 1990



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EPA METHOD 8260

Client: **Western Water Consultants**
 Project: 93007
 Sample ID: 93007-A.10/98
 Laboratory ID: C98-65664
 Matrix: Water
 Dilution Factor: 2

*Duplicate
ms-10*

Date Sampled: 10/26/98
 Time Sampled: 16:00
 Date Received: 10/28/98
 Date Analyzed: 11/03/98
 Date Reported: November 17, 1998

C.A.S. #	TARGET COMPOUNDS	CONCENTRATION (µg/L)	LIMIT OF DETECTION (µg/L)
75-71-8	Dichlorodifluoromethane	ND	2.0
74-87-3	Chloromethane	ND	2.0
75-01-4	Vinyl chloride (Chloroethene)	ND	2.0
74-83-9	Bromomethane	ND	2.0
75-00-3	Chloroethane	ND	2.0
75-69-4	Trichlorofluoromethane	ND	2.0
75-35-4	1,1 - Dichloroethene	ND	2.0
75-09-2	Methylene chloride (Dichloromethane)	ND	2.0
156-60-5	trans - 1, 2 - Dichloroethene	ND	2.0
75-34-3	1,1 - Dichloroethane	ND	2.0
78-93-3	2 -Butanone (MEK)	ND	20.0
156-59-2	cis - 1,2 - Dichloroethene	ND	2.0
74-97-5	Bromochloromethane	ND	2.0
67-66-3	Chloroform (Trichloromethane)	ND	2.0
594-20-7	2,2 - Dichloropropane	ND	2.0
71-55-6	1,1,1 - Trichloroethane	ND	2.0
107-06-2	1,2 - Dichloroethane	ND	2.0
563-58-6	1,1 - Dichloropropene	ND	2.0
56-23-5	Carbon tetrachloride (Tetrachloromethane)	ND	2.0
71-43-2	Benzene	1.08	J 2.0
74-95-3	Dibromomethane	ND	2.0
78-87-5	1,2 - Dichloropropane	ND	2.0
79-01-6	Trichloroethene	ND	2.0
75-27-4	Bromodichloromethane	ND	2.0
10061-01-5	cis - 1,3 - Dichloropropene	ND	2.0
10061-02-6	trans - 1,3 - Dichloropropene	ND	2.0
79-00-5	1,1,2 - Trichloroethane	ND	2.0
108-88-3	Toluene	ND	2.0
106-93-4	1,2 - Dibromoethane	ND	2.0
142-28-9	1,3 - Dichloropropane	ND	2.0
124-48-1	Dibromochloromethane	ND	2.0
127-18-4	Tetrachloroethene	ND	2.0
630-20-6	1,1,1,2 - Tetrachloroethane	ND	2.0
108-90-7	Chlorobenzene	ND	2.0
100-41-4	Ethylbenzene	ND	2.0
108-38-3	m,p - Xylenes (1,3- & 1,4-Dimethylbenzene)	ND	4.0
75-25-2	Bromoform (Tribromomethane)	ND	2.0
100-42-5	Styrene (Ethenylbenzene)	ND	2.0
95-47-6	o - Xylene (1,2-Dimethylbenzene)	ND	2.0
79-34-5	1,1,2,2 - Tetrachloroethane	ND	2.0
96-18-4	1,2,3 - Trichloropropane	ND	2.0

ND - Analyte not detected at stated limit of detection

J - Meets Mass Spectral identification criteria but result is below established detection limit



EPA METHOD 8260

Client: Western Water Consultants
Sample ID: 93007-A.10/98
Laboratory ID: C98-65664

Date Sampled: 10/26/98
Date Analyzed: 11/03/98
Date Reported: November 17, 1998

Duplicate
mw-10

C.A.S. #	TARGET COMPOUNDS	CONCENTRATION (µg/L)	LIMIT OF DETECTION (µg/L)
98-82-8	Isopropylbenzene (1-Methylethylbenzene)	ND	2.0
108-86-1	Bromobenzene	ND	2.0
103-65-1	n - Propylbenzene	ND	2.0
95-49-8	2 - Chlorotoluene	ND	2.0
106-43-4	4 - Chlorotoluene	ND	2.0
108-67-8	1,3,5 - Trimethylbenzene	ND	2.0
98-06-6	tert - Butylbenzene	ND	2.0
95-63-6	1,2,4 - Trimethylbenzene	ND	2.0
135-98-8	sec - Butylbenzene	ND	2.0
541-73-1	1,3 - Dichlorobenzene	ND	2.0
106-46-7	1,4 - Dichlorobenzene	ND	2.0
99-87-6	4-Isopropyltoluene	ND	2.0
95-50-1	1,2 - Dichlorobenzene	ND	2.0
104-51-8	n - Butylbenzene	ND	2.0
96-12-8	1,2 - Dibromo - 3 - chloropropane	ND	10.0
120-82-1	1,2,4 - Trichlorobenzene	ND	2.0
91-20-3	Naphthalene	ND	2.0
87-68-3	Hexachlorobutadiene	ND	2.0
87-61-6	1,2 3 - Trichlorobenzene	ND	2.0

ND - Analyte not detected at stated limit of detection

J - Meets Mass Spectral identification criteria but result is below established detection limit

RUNTIME QUALITY ASSURANCE REPORT

INTERNAL STANDARDS	AREA	ICAL / CCAL AREA	PERCENT RECOVERY	ACCEPTANCE RANGE
Pentafluorobenzene	1523784	1487588	102%	50 - 200 %
Fluorobenzene	3063596	3012713	102%	50 - 200 %
1,4 - Difluorobenzene	2412154	2358674	102%	50 - 200 %
Chlorobenzene - d5	1699533	1674164	102%	50 - 200 %
1,4 - Dichlorobenzene - d4	604078	672866	89.8%	50 - 200 %

SYSTEM MONITORING COMPOUNDS	CONCENTRATION	PERCENT RECOVERY	ACCEPTANCE RANGE
Dibromofluoromethane	9.30	93.0%	86 - 118 %
Toluene - d8	10.1	101%	88 - 110 %
4 - Bromofluorobenzene	9.06	90.6%	86 - 115 %
1,2 - Dichlorobenzene - d4	9.96	99.6%	80 - 120 %

REFERENCES

Method 8260: Volatile Organics by Gas Chromatography/Mass Spectrometry (GC/MS): Capillary Technique
Test Methods for Evaluating Solid Waste, SW-846, Third Edition, USEPA, November 1990



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EPA METHOD 8260

Client: **Western Water Consultants**
 Project: 93007
 Sample ID: 93007-11.10/98
 Laboratory ID: C98-65658
 Matrix: Water
 Dilution Factor: 2

Date Sampled: 10/26/98
 Time Sampled: 11:45
 Date Received: 10/28/98
 Date Analyzed: 11/03/98
 Date Reported: November 17, 1998

mw-11

C.A.S. #	TARGET COMPOUNDS	CONCENTRATION (µg/L)	LIMIT OF DETECTION (µg/L)
75-71-8	Dichlorodifluoromethane	ND	2.0
74-87-3	Chloromethane	ND	2.0
75-01-4	Vinyl chloride (Chloroethene)	ND	2.0
74-83-9	Bromomethane	ND	2.0
75-00-3	Chloroethane	ND	2.0
75-69-4	Trichlorofluoromethane	ND	2.0
75-35-4	1,1 - Dichloroethene	ND	2.0
75-09-2	Methylene chloride (Dichloromethane)	ND	2.0
156-60-5	trans - 1, 2 - Dichloroethene	ND	2.0
75-34-3	1,1 - Dichloroethane	ND	2.0
78-93-3	2 -Butanone (MEK)	ND	20.0
156-59-2	cis - 1,2 - Dichloroethene	ND	2.0
74-97-5	Bromochloromethane	ND	2.0
67-66-3	Chloroform (Trichloromethane)	ND	2.0
594-20-7	2,2 - Dichloropropane	ND	2.0
71-55-6	1,1,1 - Trichloroethane	ND	2.0
107-06-2	1,2 - Dichloroethane	ND	2.0
563-58-6	1,1 - Dichloropropene	ND	2.0
56-23-5	Carbon tetrachloride (Tetrachloromethane)	ND	2.0
71-43-2	Benzene	1.58	J 2.0
74-95-3	Dibromomethane	ND	2.0
78-87-5	1,2 - Dichloropropane	ND	2.0
79-01-6	Trichloroethene	ND	2.0
75-27-4	Bromodichloromethane	ND	2.0
10061-01-5	cis - 1,3 - Dichloropropene	ND	2.0
10061-02-6	trans - 1,3 - Dichloropropene	ND	2.0
79-00-5	1,1,2 - Trichloroethane	ND	2.0
108-88-3	Toluene	ND	2.0
106-93-4	1,2 - Dibromoethane	ND	2.0
142-28-9	1,3 - Dichloropropane	ND	2.0
124-48-1	Dibromochloromethane	ND	2.0
127-18-4	Tetrachloroethene	ND	2.0
630-20-6	1,1,1,2 - Tetrachloroethane	ND	2.0
108-90-7	Chlorobenzene	ND	2.0
100-41-4	Ethylbenzene	ND	2.0
108-38-3	m,p - Xylenes (1,3- & 1,4-Dimethylbenzene)	ND	4.0
75-25-2	Bromoform (Tribromomethane)	ND	2.0
100-42-5	Styrene (Ethenylbenzene)	ND	2.0
95-47-6	o - Xylene (1,2-Dimethylbenzene)	ND	2.0
79-34-5	1,1,2,2 - Tetrachloroethane	ND	2.0
96-18-4	1,2,3 - Trichloropropane	ND	2.0

ND - Analyte not detected at stated limit of detection

J - Meets Mass Spectral identification criteria but result is below established detection limit



EPA METHOD 8260

Client: **Western Water Consultants**
Sample ID: 93007-11.10/98
Laboratory ID: C98-65658

Date Sampled: 10/26/98
Date Analyzed: 11/03/98
Date Reported: November 17, 1998

mw-11

C.A.S. #	TARGET COMPOUNDS	CONCENTRATION (µg/L)	LIMIT OF DETECTION (µg/L)
98-82-8	Isopropylbenzene (1-Methylethylbenzene)	9.84	2.0
108-86-1	Bromobenzene	ND	2.0
103-65-1	n - Propylbenzene	ND	2.0
95-49-8	2 - Chlorotoluene	ND	2.0
106-43-4	4 - Chlorotoluene	ND	2.0
108-67-8	1,3,5 - Trimethylbenzene	ND	2.0
98-06-6	tert - Butylbenzene	ND	2.0
95-63-6	1,2,4 - Trimethylbenzene	9.68	2.0
135-98-8	sec - Butylbenzene	ND	2.0
541-73-1	1,3 - Dichlorobenzene	ND	2.0
106-46-7	1,4 - Dichlorobenzene	ND	2.0
99-87-6	4-Isopropyltoluene	ND	2.0
95-50-1	1,2 - Dichlorobenzene	ND	2.0
104-51-8	n - Butylbenzene	ND	2.0
96-12-8	1,2 - Dibromo - 3 - chloropropane	ND	10.0
120-82-1	1,2,4 - Trichlorobenzene	ND	2.0
91-20-3	Naphthalene	ND	2.0
87-68-3	Hexachlorobutadiene	ND	2.0
87-61-6	1,2 3 - Trichlorobenzene	ND	2.0

ND - Analyte not detected at stated limit of detection

J - Meets Mass Spectral identification criteria but result is below established detection limit

RUNTIME QUALITY ASSURANCE REPORT

INTERNAL STANDARDS	AREA	ICAL / CCAL AREA	PERCENT RECOVERY	ACCEPTANCE RANGE
Pentafluorobenzene	1431282	1487588	96.2%	50 - 200 %
Fluorobenzene	2929080	3012713	97.2%	50 - 200 %
1,4 - Difluorobenzene	2300549	2358674	97.5%	50 - 200 %
Chlorobenzene - d5	1645589	1674164	98.3%	50 - 200 %
1,4 - Dichlorobenzene - d4	592370	672866	88.0%	50 - 200 %

SYSTEM MONITORING COMPOUNDS	CONCENTRATION	PERCENT RECOVERY	ACCEPTANCE RANGE
Dibromofluoromethane	9.61	96.1%	86 - 118 %
Toluene - d8	10.1	101%	88 - 110 %
4 - Bromofluorobenzene	9.17	91.7%	86 - 115 %
1,2 - Dichlorobenzene - d4	10.4	104%	80 - 120 %

REFERENCES

Method 8260: Volatile Organics by Gas Chromatography/Mass Spectrometry (GC/MS): Capillary Technique
Test Methods for Evaluating Solid Waste, SW-846, Third Edition, USEPA, November 1990



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EPA METHOD 8260

Client: **Western Water Consultants**
 Project: 93007
 Sample ID: 93007-12.10/98
 Laboratory ID: C98-65659
 Matrix: Water
 Dilution Factor: 2

MW-12

Date Sampled: 10/26/98
 Time Sampled: 16:10
 Date Received: 10/28/98
 Date Analyzed: 11/03/98
 Date Reported: November 17, 1998

C.A.S. #	TARGET COMPOUNDS	CONCENTRATION (µg/L)	LIMIT OF DETECTION (µg/L)
75-71-8	Dichlorodifluoromethane	ND	2.0
74-87-3	Chloromethane	ND	2.0
75-01-4	Vinyl chloride (Chloroethene)	ND	2.0
74-83-9	Bromomethane	ND	2.0
75-00-3	Chloroethane	ND	2.0
75-69-4	Trichlorofluoromethane	ND	2.0
75-35-4	1,1 - Dichloroethene	ND	2.0
75-09-2	Methylene chloride (Dichloromethane)	ND	2.0
156-60-5	trans - 1, 2 - Dichloroethene	ND	2.0
75-34-3	1,1 - Dichloroethane	ND	2.0
78-93-3	2 -Butanone (MEK)	ND	20.0
156-59-2	cis - 1,2 - Dichloroethene	ND	2.0
74-97-5	Bromochloromethane	ND	2.0
67-66-3	Chloroform (Trichloromethane)	ND	2.0
594-20-7	2,2 - Dichloropropane	ND	2.0
71-55-6	1,1,1 - Trichloroethane	ND	2.0
107-06-2	1,2 - Dichloroethane	ND	2.0
563-58-6	1,1 - Dichloropropene	ND	2.0
56-23-5	Carbon tetrachloride (Tetrachloromethane)	ND	2.0
71-43-2	Benzene	ND	2.0
74-95-3	Dibromomethane	ND	2.0
78-87-5	1,2 - Dichloropropane	ND	2.0
79-01-6	Trichloroethene	ND	2.0
75-27-4	Bromodichloromethane	ND	2.0
10061-01-5	cis - 1,3 - Dichloropropene	ND	2.0
10061-02-6	trans - 1,3 - Dichloropropene	ND	2.0
79-00-5	1,1,2 - Trichloroethane	ND	2.0
108-88-3	Toluene	ND	2.0
106-93-4	1,2 - Dibromoethane	ND	2.0
142-28-9	1,3 - Dichloropropane	ND	2.0
124-48-1	Dibromochloromethane	ND	2.0
127-18-4	Tetrachloroethene	ND	2.0
630-20-6	1,1,1,2 - Tetrachloroethane	ND	2.0
108-90-7	Chlorobenzene	ND	2.0
100-41-4	Ethylbenzene	ND	2.0
108-38-3	m,p - Xylenes (1,3- & 1,4-Dimethylbenzene)	ND	4.0
75-25-2	Bromoform (Tribromomethane)	ND	2.0
100-42-5	Styrene (Ethenylbenzene)	ND	2.0
95-47-6	o - Xylene (1,2-Dimethylbenzene)	ND	2.0
79-34-5	1,1,2,2 - Tetrachloroethane	ND	2.0
96-18-4	1,2,3 - Trichloropropane	ND	2.0

ND - Analyte not detected at stated limit of detection



EPA METHOD 8260

Client: **Western Water Consultants**
Sample ID: 93007-12.10/98
Laboratory ID: C98-65659

mw-12

Date Sampled: 10/26/98
Date Analyzed: 11/03/98
Date Reported: November 17, 1998

C.A.S. #	TARGET COMPOUNDS	CONCENTRATION (µg/L)	LIMIT OF DETECTION (µg/L)
98-82-8	Isopropylbenzene (1-Methylethylbenzene)	ND	2.0
108-86-1	Bromobenzene	ND	2.0
103-65-1	n - Propylbenzene	ND	2.0
95-49-8	2 - Chlorotoluene	ND	2.0
106-43-4	4 - Chlorotoluene	ND	2.0
108-67-8	1,3,5 - Trimethylbenzene	ND	2.0
98-06-6	tert - Butylbenzene	ND	2.0
95-63-6	1,2,4 - Trimethylbenzene	ND	2.0
135-98-8	sec - Butylbenzene	ND	2.0
541-73-1	1,3 - Dichlorobenzene	ND	2.0
106-46-7	1,4 - Dichlorobenzene	ND	2.0
99-87-6	4-Isopropyltoluene	ND	2.0
95-50-1	1,2 - Dichlorobenzene	ND	2.0
104-51-8	n - Butylbenzene	ND	2.0
96-12-8	1,2 - Dibromo - 3 - chloropropane	ND	10.0
120-82-1	1,2,4 - Trichlorobenzene	ND	2.0
91-20-3	Naphthalene	ND	2.0
87-68-3	Hexachlorobutadiene	ND	2.0
87-61-6	1,2 3 - Trichlorobenzene	ND	2.0

ND - Analyte not detected at stated limit of detection

RUNTIME QUALITY ASSURANCE REPORT

INTERNAL STANDARDS	AREA	ICAL / CCAL AREA	PERCENT RECOVERY	ACCEPTANCE RANGE
Pentafluorobenzene	1461141	1487588	98.2%	50 - 200 %
Fluorobenzene	2966217	3012713	98.5%	50 - 200 %
1,4 - Difluorobenzene	2300611	2358674	97.5%	50 - 200 %
Chlorobenzene - d5	1627963	1674164	97.2%	50 - 200 %
1,4 - Dichlorobenzene - d4	611518	672866	90.9%	50 - 200 %

SYSTEM MONITORING COMPOUNDS	CONCENTRATION	PERCENT RECOVERY	ACCEPTANCE RANGE
Dibromofluoromethane	9.41	94.1%	86 - 118 %
Toluene - d8	10.1	101%	88 - 110 %
4 - Bromofluorobenzene	9.31	93.1%	86 - 115 %
1,2 - Dichlorobenzene - d4	10.2	102%	80 - 120 %

REFERENCES

Method 8260: Volatile Organics by Gas Chromatography/Mass Spectrometry (GC/MS): Capillary Technique
Test Methods for Evaluating Solid Waste, SW-846, Third Edition, USEPA, November 1990



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EPA METHOD 8260

Client: **Western Water Consultants**
 Project: 93007
 Sample ID: 93007-13.10/98
 Laboratory ID: C98-65660
 Matrix: Water
 Dilution Factor: 2

Date Sampled: 10/26/98
 Time Sampled: 15:00
 Date Received: 10/28/98
 Date Analyzed: 11/03/98
 Date Reported: November 17, 1998

mw-13

C.A.S. #	TARGET COMPOUNDS	CONCENTRATION (µg/L)	LIMIT OF DETECTION (µg/L)
75-71-8	Dichlorodifluoromethane	ND	2.0
74-87-3	Chloromethane	ND	2.0
75-01-4	Vinyl chloride (Chloroethene)	ND	2.0
74-83-9	Bromomethane	ND	2.0
75-00-3	Chloroethane	ND	2.0
75-69-4	Trichlorofluoromethane	ND	2.0
75-35-4	1,1 - Dichloroethene	19.1	2.0
75-09-2	Methylene chloride (Dichloromethane)	ND	2.0
156-60-5	trans - 1, 2 - Dichloroethene	ND	2.0
75-34-3	1,1 - Dichloroethane	ND	2.0
78-93-3	2 -Butanone (MEK)	ND	20.0
156-59-2	cis - 1,2 - Dichloroethene	ND	2.0
74-97-5	Bromochloromethane	ND	2.0
67-66-3	Chloroform (Trichloromethane)	ND	2.0
594-20-7	2,2 - Dichloropropane	ND	2.0
71-55-6	1,1,1 - Trichloroethane	2.02	2.0
107-06-2	1,2 - Dichloroethane	ND	2.0
563-58-6	1,1 - Dichloropropene	ND	2.0
56-23-5	Carbon tetrachloride (Tetrachloromethane)	ND	2.0
71-43-2	Benzene	ND	2.0
74-95-3	Dibromomethane	ND	2.0
78-87-5	1,2 - Dichloropropane	ND	2.0
79-01-6	Trichloroethene	ND	2.0
75-27-4	Bromodichloromethane	ND	2.0
10061-01-5	cis - 1,3 - Dichloropropene	ND	2.0
10061-02-6	trans - 1,3 - Dichloropropene	ND	2.0
79-00-5	1,1,2 - Trichloroethane	ND	2.0
108-88-3	Toluene	ND	2.0
106-93-4	1,2 - Dibromoethane	ND	2.0
142-28-9	1,3 - Dichloropropane	ND	2.0
124-48-1	Dibromochloromethane	ND	2.0
127-18-4	Tetrachloroethene	20.0	2.0
630-20-6	1,1,1,2 - Tetrachloroethane	ND	2.0
108-90-7	Chlorobenzene	ND	2.0
100-41-4	Ethylbenzene	ND	2.0
108-38-3	m,p - Xylenes (1,3- & 1,4-Dimethylbenzene)	ND	4.0
75-25-2	Bromoform (Tribromomethane)	ND	2.0
100-42-5	Styrene (Ethenylbenzene)	ND	2.0
95-47-6	o - Xylene (1,2-Dimethylbenzene)	ND	2.0
79-34-5	1,1,2,2 - Tetrachloroethane	ND	2.0
96-18-4	1,2,3 - Trichloropropane	ND	2.0

ND - Analyte not detected at stated limit of detection



EPA METHOD 8260

Client: Western Water Consultants
Sample ID: 93007-13.10/98
Laboratory ID: C98-65660

Date Sampled: 10/26/98
Date Analyzed: 11/03/98
Date Reported: November 17, 1998

mw-13

C.A.S. #	TARGET COMPOUNDS	CONCENTRATION (µg/L)	LIMIT OF DETECTION (µg/L)
98-82-8	Isopropylbenzene (1-Methylethylbenzene)	ND	2.0
108-86-1	Bromobenzene	ND	2.0
103-65-1	n - Propylbenzene	ND	2.0
95-49-8	2 - Chlorotoluene	ND	2.0
106-43-4	4 - Chlorotoluene	ND	2.0
108-67-8	1,3,5 - Trimethylbenzene	ND	2.0
98-06-6	tert - Butylbenzene	ND	2.0
95-63-6	1,2,4 - Trimethylbenzene	ND	2.0
135-98-8	sec - Butylbenzene	ND	2.0
541-73-1	1,3 - Dichlorobenzene	ND	2.0
106-46-7	1,4 - Dichlorobenzene	ND	2.0
99-87-6	4-Isopropyltoluene	ND	2.0
95-50-1	1,2 - Dichlorobenzene	ND	2.0
104-51-8	n - Butylbenzene	ND	2.0
96-12-8	1,2 - Dibromo - 3 - chloropropane	ND	10.0
120-82-1	1,2,4 - Trichlorobenzene	ND	2.0
91-20-3	Naphthalene	ND	2.0
87-68-3	Hexachlorobutadiene	ND	2.0
87-61-6	1,2 3 - Trichlorobenzene	ND	2.0

ND - Analyte not detected at stated limit of detection

RUNTIME QUALITY ASSURANCE REPORT

INTERNAL STANDARDS	AREA	ICAL / CCAL AREA	PERCENT RECOVERY	ACCEPTANCE RANGE
Pentafluorobenzene	1415345	1487588	95.1%	50 - 200 %
Fluorobenzene	2917439	3012713	96.8%	50 - 200 %
1,4 - Difluorobenzene	2280204	2358674	96.7%	50 - 200 %
Chlorobenzene - d5	1624530	1674164	97.0%	50 - 200 %
1,4 - Dichlorobenzene - d4	587703	672866	87.3%	50 - 200 %

SYSTEM MONITORING COMPOUNDS	CONCENTRATION	PERCENT RECOVERY	ACCEPTANCE RANGE
Dibromofluoromethane	9.54	95.4%	86 - 118 %
Toluene - d8	10.1	101%	88 - 110 %
4 - Bromofluorobenzene	9.32	93.2%	86 - 115 %
1,2 - Dichlorobenzene - d4	10.3	103%	80 - 120 %

REFERENCES

Method 8260: Volatile Organics by Gas Chromatography/Mass Spectrometry (GC/MS): Capillary Technique
Test Methods for Evaluating Solid Waste, SW-846, Third Edition, USEPA, November 1990



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EPA METHOD 8260

Client: Western Water Consultants
Project: 93007
Sample ID: 93007-14.10/98
Laboratory ID: C98-65661
Matrix: Water
Dilution Factor: 1

mw-14

Date Sampled: 10/26/98
Time Sampled: 13:10
Date Received: 10/28/98
Date Analyzed: 11/03/98
Date Reported: November 17, 1998

C.A.S. #	TARGET COMPOUNDS	CONCENTRATION (µg/L)	LIMIT OF DETECTION (µg/L)
75-71-8	Dichlorodifluoromethane	ND	1.0
74-87-3	Chloromethane	ND	1.0
75-01-4	Vinyl chloride (Chloroethene)	ND	1.0
74-83-9	Bromomethane	ND	1.0
75-00-3	Chloroethane	ND	1.0
75-69-4	Trichlorofluoromethane	ND	1.0
75-35-4	1,1 - Dichloroethene	ND	1.0
75-09-2	Methylene chloride (Dichloromethane)	ND	1.0
156-60-5	trans - 1, 2 - Dichloroethene	ND	1.0
75-34-3	1,1 - Dichloroethane	ND	1.0
78-93-3	2 -Butanone (MEK)	ND	10.0
156-59-2	cis - 1,2 - Dichloroethene	ND	1.0
74-97-5	Bromochloromethane	ND	1.0
67-66-3	Chloroform (Trichloromethane)	ND	1.0
594-20-7	2,2 - Dichloropropane	ND	1.0
71-55-6	1,1,1 - Trichloroethane	ND	1.0
107-06-2	1,2 - Dichloroethane	ND	1.0
563-58-6	1,1 - Dichloropropene	ND	1.0
56-23-5	Carbon tetrachloride (Tetrachloromethane)	ND	1.0
71-43-2	Benzene	ND	1.0
74-95-3	Dibromomethane	ND	1.0
78-87-5	1,2 - Dichloropropane	ND	1.0
79-01-6	Trichloroethene	ND	1.0
75-27-4	Bromodichloromethane	ND	1.0
10061-01-5	cis - 1,3 - Dichloropropene	ND	1.0
10061-02-6	trans - 1,3 - Dichloropropene	ND	1.0
79-00-5	1,1,2 - Trichloroethane	ND	1.0
108-88-3	Toluene	ND	1.0
106-93-4	1,2 - Dibromoethane	ND	1.0
142-28-9	1,3 - Dichloropropane	ND	1.0
124-48-1	Dibromochloromethane	ND	1.0
127-18-4	Tetrachloroethene	ND	1.0
630-20-6	1,1,1,2 - Tetrachloroethane	ND	1.0
108-90-7	Chlorobenzene	ND	1.0
100-41-4	Ethylbenzene	ND	1.0
108-38-3	m,p - Xylenes (1,3- & 1,4-Dimethylbenzene)	ND	2.0
75-25-2	Bromoform (Tribromomethane)	ND	1.0
100-42-5	Styrene (Ethenylbenzene)	ND	1.0
95-47-6	o - Xylene (1,2-Dimethylbenzene)	ND	1.0
79-34-5	1,1,2,2 - Tetrachloroethane	ND	1.0
96-18-4	1,2,3 - Trichloropropane	ND	1.0

ND - Analyte not detected at stated limit of detection



EPA METHOD 8260

Client: Western Water Consultants
Sample ID: 93007-14.10/98
Laboratory ID: C98-65661

Date Sampled: 10/26/98
Date Analyzed: 11/03/98
Date Reported: November 17, 1998

mw-14

C.A.S. #	TARGET COMPOUNDS	CONCENTRATION (µg/L)	LIMIT OF DETECTION (µg/L)
98-82-8	Isopropylbenzene (1-Methylethylbenzene)	ND	1.0
108-86-1	Bromobenzene	ND	1.0
103-65-1	n - Propylbenzene	ND	1.0
95-49-8	2 - Chlorotoluene	ND	1.0
106-43-4	4 - Chlorotoluene	ND	1.0
108-67-8	1,3,5 - Trimethylbenzene	ND	1.0
98-06-6	tert - Butylbenzene	ND	1.0
95-63-6	1,2,4 - Trimethylbenzene	ND	1.0
135-98-8	sec - Butylbenzene	ND	1.0
541-73-1	1,3 - Dichlorobenzene	ND	1.0
106-46-7	1,4 - Dichlorobenzene	ND	1.0
99-87-6	4-Isopropyltoluene	ND	1.0
95-50-1	1,2 - Dichlorobenzene	ND	1.0
104-51-8	n - Butylbenzene	ND	1.0
96-12-8	1,2 - Dibromo - 3 - chloropropane	ND	5.0
120-82-1	1,2,4 - Trichlorobenzene	ND	1.0
91-20-3	Naphthalene	ND	1.0
87-68-3	Hexachlorobutadiene	ND	1.0
87-61-6	1,2 3 - Trichlorobenzene	ND	1.0

ND - Analyte not detected at stated limit of detection

RUNTIME QUALITY ASSURANCE REPORT

INTERNAL STANDARDS	AREA	ICAL / CCAL AREA	PERCENT RECOVERY	ACCEPTANCE RANGE
Pentafluorobenzene	1358974	1487588	91.4%	50 - 200 %
Fluorobenzene	2878893	3012713	95.6%	50 - 200 %
1,4 - Difluorobenzene	2229289	2358674	94.5%	50 - 200 %
Chlorobenzene - d5	1606540	1674164	96.0%	50 - 200 %
1,4 - Dichlorobenzene - d4	621557	672866	92.4%	50 - 200 %

SYSTEM MONITORING COMPOUNDS	CONCENTRATION	PERCENT RECOVERY	ACCEPTANCE RANGE
Dibromofluoromethane	11.1	111%	86 - 118 %
Toluene - d8	9.98	99.8%	88 - 110 %
4 - Bromofluorobenzene	10.3	103%	86 - 115 %
1,2 - Dichlorobenzene - d4	10.5	105%	80 - 120 %

REFERENCES

Method 8260: Volatile Organics by Gas Chromatography/Mass Spectrometry (GC/MS): Capillary Technique
Test Methods for Evaluating Solid Waste, SW-846, Third Edition, USEPA, November 1990

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EPA METHOD 8260

Client: **Western Water Consultants**
Project: 93007
Sample ID: 93007-15.10/98
Laboratory ID: C98-65662
Matrix: Water
Dilution Factor: 1

Date Sampled: 10/26/98
Time Sampled: 13:40
Date Received: 10/28/98
Date Analyzed: 11/03/98
Date Reported: November 17, 1998

MW-15

C.A.S. #	TARGET COMPOUNDS	CONCENTRATION (µg/L)	LIMIT OF DETECTION (µg/L)
75-71-8	Dichlorodifluoromethane	ND	1.0
74-87-3	Chloromethane	ND	1.0
75-01-4	Vinyl chloride (Chloroethene)	ND	1.0
74-83-9	Bromomethane	ND	1.0
75-00-3	Chloroethane	ND	1.0
75-69-4	Trichlorofluoromethane	ND	1.0
75-35-4	1,1 - Dichloroethene	ND	1.0
75-09-2	Methylene chloride (Dichloromethane)	ND	1.0
156-60-5	trans - 1, 2 - Dichloroethene	ND	1.0
75-34-3	1,1 - Dichloroethane	ND	1.0
78-93-3	2 -Butanone (MEK)	ND	10.0
156-59-2	cis - 1,2 - Dichloroethene	ND	1.0
74-97-5	Bromochloromethane	ND	1.0
67-66-3	Chloroform (Trichloromethane)	ND	1.0
594-20-7	2,2 - Dichloropropane	ND	1.0
71-55-6	1,1,1 - Trichloroethane	ND	1.0
107-06-2	1,2 - Dichloroethane	ND	1.0
563-58-6	1,1 - Dichloropropene	ND	1.0
56-23-5	Carbon tetrachloride (Tetrachloromethane)	ND	1.0
71-43-2	Benzene	ND	1.0
74-95-3	Dibromomethane	ND	1.0
78-87-5	1,2 - Dichloropropane	ND	1.0
79-01-6	Trichloroethene	ND	1.0
75-27-4	Bromodichloromethane	ND	1.0
10061-01-5	cis - 1,3 - Dichloropropene	ND	1.0
10061-02-6	trans - 1,3 - Dichloropropene	ND	1.0
79-00-5	1,1,2 - Trichloroethane	ND	1.0
108-88-3	Toluene	ND	1.0
106-93-4	1,2 - Dibromoethane	ND	1.0
142-28-9	1,3 - Dichloropropane	ND	1.0
124-48-1	Dibromochloromethane	ND	1.0
127-18-4	Tetrachloroethene	ND	1.0
630-20-6	1,1,1,2 - Tetrachloroethane	ND	1.0
108-90-7	Chlorobenzene	ND	1.0
100-41-4	Ethylbenzene	ND	1.0
108-38-3	m,p - Xylenes (1,3- & 1,4-Dimethylbenzene)	ND	2.0
75-25-2	Bromoform (Tribromomethane)	ND	1.0
100-42-5	Styrene (Ethenylbenzene)	ND	1.0
95-47-6	o - Xylene (1,2-Dimethylbenzene)	ND	1.0
79-34-5	1,1,2,2 - Tetrachloroethane	ND	1.0
96-18-4	1,2,3 - Trichloropropane	ND	1.0

ND - Analyte not detected at stated limit of detection



EPA METHOD 8260

Client: **Western Water Consultants**
Sample ID: 93007-15.10/98
Laboratory ID: C98-65662

Date Sampled: 10/26/98
Date Analyzed: 11/03/98
Date Reported: November 17, 1998

MW-15

C.A.S. #	TARGET COMPOUNDS	CONCENTRATION (µg/L)	LIMIT OF DETECTION (µg/L)
98-82-8	Isopropylbenzene (1-Methylethylbenzene)	ND	1.0
108-86-1	Bromobenzene	ND	1.0
103-65-1	n - Propylbenzene	ND	1.0
95-49-8	2 - Chlorotoluene	ND	1.0
106-43-4	4 - Chlorotoluene	ND	1.0
108-67-8	1,3,5 - Trimethylbenzene	ND	1.0
98-06-6	tert - Butylbenzene	ND	1.0
95-63-6	1,2,4 - Trimethylbenzene	ND	1.0
135-98-8	sec - Butylbenzene	ND	1.0
541-73-1	1,3 - Dichlorobenzene	ND	1.0
106-46-7	1,4 - Dichlorobenzene	ND	1.0
99-87-6	4-Isopropyltoluene	ND	1.0
95-50-1	1,2 - Dichlorobenzene	ND	1.0
104-51-8	n - Butylbenzene	ND	1.0
96-12-8	1,2 - Dibromo - 3 - chloropropane	ND	5.0
120-82-1	1,2,4 - Trichlorobenzene	ND	1.0
91-20-3	Naphthalene	ND	1.0
87-68-3	Hexachlorobutadiene	ND	1.0
87-61-6	1,2 3 - Trichlorobenzene	ND	1.0

ND - Analyte not detected at stated limit of detection

RUNTIME QUALITY ASSURANCE REPORT

INTERNAL STANDARDS	AREA	ICAL / CCAL AREA	PERCENT RECOVERY	ACCEPTANCE RANGE
Pentafluorobenzene	1419559	1487588	95.4%	50 - 200 %
Fluorobenzene	2962732	3012713	98.3%	50 - 200 %
1,4 - Difluorobenzene	2291124	2358674	97.1%	50 - 200 %
Chlorobenzene - d5	1633442	1674164	97.6%	50 - 200 %
1,4 - Dichlorobenzene - d4	632133	672866	93.9%	50 - 200 %

SYSTEM MONITORING COMPOUNDS	CONCENTRATION	PERCENT RECOVERY	ACCEPTANCE RANGE
Dibromofluoromethane	9.71	97.1%	86 - 118 %
Toluene - d8	10.1	101%	88 - 110 %
4 - Bromofluorobenzene	9.55	95.5%	86 - 115 %
1,2 - Dichlorobenzene - d4	10.2	102%	80 - 120 %

REFERENCES

Method 8260: Volatile Organics by Gas Chromatography/Mass Spectrometry (GC/MS): Capillary Technique
Test Methods for Evaluating Solid Waste, SW-846, Third Edition, USEPA, November 1990

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EPA METHOD 8260

Client: Western Water Consultants
Project: 93007
Sample ID: 93007-S04.10/98
Laboratory ID: C98-65663
Matrix: Water
Dilution Factor: 2

Shell Station

Date Sampled: 10/26/98
Time Sampled: 14:10
Date Received: 10/28/98
Date Analyzed: 11/03/98
Date Reported: November 17, 1998

C.A.S. #	TARGET COMPOUNDS	CONCENTRATION (µg/L)	LIMIT OF DETECTION (µg/L)
75-71-8	Dichlorodifluoromethane	ND	2.0
74-87-3	Chloromethane	ND	2.0
75-01-4	Vinyl chloride (Chloroethene)	ND	2.0
74-83-9	Bromomethane	ND	2.0
75-00-3	Chloroethane	ND	2.0
75-69-4	Trichlorofluoromethane	ND	2.0
75-35-4	1,1 - Dichloroethene	24.1	2.0
75-09-2	Methylene chloride (Dichloromethane)	ND	2.0
156-60-5	trans - 1, 2 - Dichloroethene	ND	2.0
75-34-3	1,1 - Dichloroethane	10.0	2.0
78-93-3	2 -Butanone (MEK)	ND	20.0
156-59-2	cis - 1,2 - Dichloroethene	ND	2.0
74-97-5	Bromochloromethane	ND	2.0
67-66-3	Chloroform (Trichloromethane)	ND	2.0
594-20-7	2,2 - Dichloropropane	ND	2.0
71-55-6	1,1,1 - Trichloroethane	5.40	2.0
107-06-2	1,2 - Dichloroethane	ND	2.0
563-58-6	1,1 - Dichloropropene	ND	2.0
56-23-5	Carbon tetrachloride (Tetrachloromethane)	ND	2.0
71-43-2	Benzene	ND	2.0
74-95-3	Dibromomethane	ND	2.0
78-87-5	1,2 - Dichloropropane	ND	2.0
79-01-6	Trichloroethene	ND	2.0
75-27-4	Bromodichloromethane	ND	2.0
10061-01-5	cis - 1,3 - Dichloropropene	ND	2.0
10061-02-6	trans - 1,3 - Dichloropropene	ND	2.0
79-00-5	1,1,2 - Trichloroethane	ND	2.0
108-88-3	Toluene	ND	2.0
106-93-4	1,2 - Dibromoethane	ND	2.0
142-28-9	1,3 - Dichloropropane	ND	2.0
124-48-1	Dibromochloromethane	ND	2.0
127-18-4	Tetrachloroethene	1.92	J 2.0
630-20-6	1,1,1,2 - Tetrachloroethane	ND	2.0
108-90-7	Chlorobenzene	ND	2.0
100-41-4	Ethylbenzene	3.38	2.0
108-38-3	m,p - Xylenes (1,3- & 1,4-Dimethylbenzene)	ND	4.0
75-25-2	Bromoform (Tribromomethane)	ND	2.0
100-42-5	Styrene (Ethenylbenzene)	ND	2.0
95-47-6	o - Xylene (1,2-Dimethylbenzene)	ND	2.0
79-34-5	1,1,2,2 - Tetrachloroethane	ND	2.0
96-18-4	1,2,3 - Trichloropropane	ND	2.0

ND - Analyte not detected at stated limit of detection

J - Meets Mass Spectral identification criteria but result is below established detection limit



EPA METHOD 8260

Client: Western Water Consultants
Sample ID: 93007-S04.10/98
Laboratory ID: C98-65663

Date Sampled: 10/26/98
Date Analyzed: 11/03/98
Date Reported: November 17, 1998

Shell Station

C.A.S. #	TARGET COMPOUNDS	CONCENTRATION (µg/L)	LIMIT OF DETECTION (µg/L)
98-82-8	Isopropylbenzene (1-Methylethylbenzene)	ND	2.0
108-86-1	Bromobenzene	ND	2.0
103-65-1	n - Propylbenzene	ND	2.0
95-49-8	2 - Chlorotoluene	ND	2.0
106-43-4	4 - Chlorotoluene	ND	2.0
108-67-8	1,3,5 - Trimethylbenzene	ND	2.0
98-06-6	tert - Butylbenzene	ND	2.0
95-63-6	1,2,4 - Trimethylbenzene	9.08	2.0
135-98-8	sec - Butylbenzene	ND	2.0
541-73-1	1,3 - Dichlorobenzene	ND	2.0
106-46-7	1,4 - Dichlorobenzene	ND	2.0
99-87-6	4-Isopropyltoluene	ND	2.0
95-50-1	1,2 - Dichlorobenzene	ND	2.0
104-51-8	n - Butylbenzene	ND	2.0
96-12-8	1,2 - Dibromo - 3 - chloropropane	ND	10.0
120-82-1	1,2,4 - Trichlorobenzene	ND	2.0
91-20-3	Naphthalene	4.34	2.0
87-68-3	Hexachlorobutadiene	ND	2.0
87-61-6	1,2 3 - Trichlorobenzene	ND	2.0

ND - Analyte not detected at stated limit of detection

J - Meets Mass Spectral identification criteria but result is below established detection limit

RUNTIME QUALITY ASSURANCE REPORT

INTERNAL STANDARDS	AREA	ICAL / CCAL AREA	PERCENT RECOVERY	ACCEPTANCE RANGE
Pentafluorobenzene	1464040	1487588	98.4%	50 - 200 %
Fluorobenzene	2891637	3012713	96.0%	50 - 200 %
1,4 - Difluorobenzene	2351626	2358674	99.7%	50 - 200 %
Chlorobenzene - d5	1654725	1674164	98.8%	50 - 200 %
1,4 - Dichlorobenzene - d4	609550	672866	90.6%	50 - 200 %

SYSTEM MONITORING COMPOUNDS	CONCENTRATION	PERCENT RECOVERY	ACCEPTANCE RANGE
Dibromofluoromethane	9.46	94.6%	86 - 118 %
Toluene - d8	10.1	101%	88 - 110 %
4 - Bromofluorobenzene	9.20	92.0%	86 - 115 %
1,2 - Dichlorobenzene - d4	10.2	102%	80 - 120 %

REFERENCES

Method 8260: Volatile Organics by Gas Chromatography/Mass Spectrometry (GC/MS): Capillary Technique
Test Methods for Evaluating Solid Waste, SW-846, Third Edition, USEPA, November 1990

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EPA METHOD 8260

Client: **Western Water Consultants**
Project: 93007
Sample ID: FIELD BLANK
Laboratory ID: C98-65666
Matrix: Water
Dilution Factor: 1

Date Sampled: 10/27/98
Time Sampled: 09:40
Date Received: 10/28/98
Date Analyzed: 11/03/98
Date Reported: November 17, 1998

C.A.S. #	TARGET COMPOUNDS	CONCENTRATION (µg/L)	LIMIT OF DETECTION (µg/L)
75-71-8	Dichlorodifluoromethane	ND	1.0
74-87-3	Chloromethane	ND	1.0
75-01-4	Vinyl chloride (Chloroethene)	ND	1.0
74-83-9	Bromomethane	ND	1.0
75-00-3	Chloroethane	ND	1.0
75-69-4	Trichlorofluoromethane	ND	1.0
75-35-4	1,1 - Dichloroethene	ND	1.0
75-09-2	Methylene chloride (Dichloromethane)	ND	1.0
156-60-5	trans - 1, 2 - Dichloroethene	ND	1.0
75-34-3	1,1 - Dichloroethane	ND	1.0
78-93-3	2 -Butanone (MEK)	ND	10.0
156-59-2	cis - 1,2 - Dichloroethene	ND	1.0
74-97-5	Bromochloromethane	ND	1.0
67-66-3	Chloroform (Trichloromethane)	ND	1.0
594-20-7	2,2 - Dichloropropane	ND	1.0
71-55-6	1,1,1 - Trichloroethane	ND	1.0
107-06-2	1,2 - Dichloroethane	ND	1.0
563-58-6	1,1 - Dichloropropene	ND	1.0
56-23-5	Carbon tetrachloride (Tetrachloromethane)	ND	1.0
71-43-2	Benzene	ND	1.0
74-95-3	Dibromomethane	ND	1.0
78-87-5	1,2 - Dichloropropane	ND	1.0
79-01-6	Trichloroethene	ND	1.0
75-27-4	Bromodichloromethane	ND	1.0
10061-01-5	cis - 1,3 - Dichloropropene	ND	1.0
10061-02-6	trans - 1,3 - Dichloropropene	ND	1.0
79-00-5	1,1,2 - Trichloroethane	ND	1.0
108-88-3	Toluene	ND	1.0
106-93-4	1,2 - Dibromoethane	ND	1.0
142-28-9	1,3 - Dichloropropane	ND	1.0
124-48-1	Dibromochloromethane	ND	1.0
127-18-4	Tetrachloroethene	ND	1.0
630-20-6	1,1,1,2 - Tetrachloroethane	ND	1.0
108-90-7	Chlorobenzene	ND	1.0
100-41-4	Ethylbenzene	ND	1.0
108-38-3	m,p - Xylenes (1,3- & 1,4-Dimethylbenzene)	ND	2.0
75-25-2	Bromoform (Tribromomethane)	ND	1.0
100-42-5	Styrene (Ethenylbenzene)	ND	1.0
95-47-6	o - Xylene (1,2-Dimethylbenzene)	ND	1.0
79-34-5	1,1,2,2 - Tetrachloroethane	ND	1.0
96-18-4	1,2,3 - Trichloropropane	ND	1.0

ND - Analyte not detected at stated limit of detection



EPA METHOD 8260

Client: Western Water Consultants
Sample ID: FIELD BLANK
Laboratory ID: C98-65666

Date Sampled: 10/27/98
Date Analyzed: 11/03/98
Date Reported: November 17, 1998

C.A.S. #	TARGET COMPOUNDS	CONCENTRATION (µg/L)	LIMIT OF DETECTION (µg/L)
98-82-8	Isopropylbenzene (1-Methylethylbenzene)	ND	1.0
108-86-1	Bromobenzene	ND	1.0
103-65-1	n - Propylbenzene	ND	1.0
95-49-8	2 - Chlorotoluene	ND	1.0
106-43-4	4 - Chlorotoluene	ND	1.0
108-67-8	1,3,5 - Trimethylbenzene	ND	1.0
98-06-6	tert - Butylbenzene	ND	1.0
95-63-6	1,2,4 - Trimethylbenzene	ND	1.0
135-98-8	sec - Butylbenzene	ND	1.0
541-73-1	1,3 - Dichlorobenzene	ND	1.0
106-46-7	1,4 - Dichlorobenzene	ND	1.0
99-87-6	4-Isopropyltoluene	ND	1.0
95-50-1	1,2 - Dichlorobenzene	ND	1.0
104-51-8	n - Butylbenzene	ND	1.0
96-12-8	1,2 - Dibromo - 3 - chloropropane	ND	5.0
120-82-1	1,2,4 - Trichlorobenzene	ND	1.0
91-20-3	Naphthalene	ND	1.0
87-68-3	Hexachlorobutadiene	ND	1.0
87-61-6	1,2 3 - Trichlorobenzene	ND	1.0

ND - Analyte not detected at stated limit of detection

RUNTIME QUALITY ASSURANCE REPORT

INTERNAL STANDARDS	AREA	ICAL / CCAL AREA	PERCENT RECOVERY	ACCEPTANCE RANGE
Pentafluorobenzene	1375587	1487588	92.5%	50 - 200 %
Fluorobenzene	2860306	3012713	94.9%	50 - 200 %
1,4 - Difluorobenzene	2240183	2358674	95.0%	50 - 200 %
Chlorobenzene - d5	1627186	1674164	97.2%	50 - 200 %
1,4 - Dichlorobenzene - d4	589260	672866	87.6%	50 - 200 %

SYSTEM MONITORING COMPOUNDS	CONCENTRATION	PERCENT RECOVERY	ACCEPTANCE RANGE
Dibromofluoromethane	9.81	98.1%	86 - 118 %
Toluene - d8	10.2	102%	88 - 110 %
4 - Bromofluorobenzene	9.31	93.1%	86 - 115 %
1,2 - Dichlorobenzene - d4	10.4	104%	80 - 120 %

REFERENCES

Method 8260: Volatile Organics by Gas Chromatography/Mass Spectrometry (GC/MS): Capillary Technique
Test Methods for Evaluating Solid Waste, SW-846, Third Edition, USEPA, November 1990

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Analyst: yw
Reviewed: sec



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EPA METHOD 8260

Client: Western Water Consultants
Project: 93007
Sample ID: 93007-WP.10/98
Laboratory ID: C98-65711
Matrix: Air
Dilution Factor: 2.5

*Former Western
Water Collection Fund
SVE Input*

Date Sampled: 10/27/98
Time Sampled: 08:15
Date Received: 10/28/98
Date Analyzed: 10/29/98
Date Reported: November 16, 1998

C.A.S. #	TARGET COMPOUNDS	CONCENTRATION (mg/m ³)	LIMIT OF DETECTION (mg/m ³)
75-71-8	Dichlorodifluoromethane	ND	2.5
74-87-3	Chloromethane	ND	2.5
75-01-4	Vinyl chloride (Chloroethene)	ND	2.5
74-83-9	Bromomethane	ND	2.5
75-00-3	Chloroethane	ND	2.5
75-69-4	Trichlorofluoromethane	ND	2.5
75-35-4	1,1 - Dichloroethene	ND	2.5
75-09-2	Methylene chloride (Dichloromethane)	ND	2.5
156-60-5	trans - 1, 2 - Dichloroethene	ND	2.5
75-34-3	1,1 - Dichloroethane	4.35	2.5
78-93-3	2 -Butanone (MEK)	ND	25.0
156-59-2	cis - 1,2 - Dichloroethene	ND	2.5
74-97-5	Bromochloromethane	ND	2.5
67-66-3	Chloroform (Trichloromethane)	ND	2.5
594-20-7	2,2 - Dichloropropane	ND	2.5
71-55-6	1,1,1 - Trichloroethane	78.1	2.5
107-06-2	1,2 - Dichloroethane	ND	2.5
563-58-6	1,1 - Dichloropropene	ND	2.5
56-23-5	Carbon tetrachloride (Tetrachloromethane)	ND	2.5
71-43-2	Benzene	6.38	2.5
74-95-3	Dibromomethane	ND	2.5
78-87-5	1,2 - Dichloropropane	ND	2.5
79-01-6	Trichloroethene	ND	2.5
75-27-4	Bromodichloromethane	ND	2.5
10061-01-5	cis - 1,3 - Dichloropropene	ND	2.5
10061-02-6	trans - 1,3 - Dichloropropene	ND	2.5
79-00-5	1,1,2 - Trichloroethane	ND	2.5
108-88-3	Toluene	62.8	2.5
106-93-4	1,2 - Dibromoethane	ND	2.5
142-28-9	1,3 - Dichloropropane	ND	2.5
124-48-1	Dibromochloromethane	ND	2.5
127-18-4	Tetrachloroethene	50.5	2.5
630-20-6	1,1,1,2 - Tetrachloroethane	ND	2.5
108-90-7	Chlorobenzene	ND	2.5
100-41-4	Ethylbenzene	18.0	2.5
108-38-3	m,p - Xylenes (1,3- & 1,4-Dimethylbenzene)	46.2	5.0
75-25-2	Bromoform (Tribromomethane)	ND	2.5
100-42-5	Styrene (Ethenylbenzene)	ND	2.5
95-47-6	o - Xylene (1,2-Dimethylbenzene)	33.9	2.5
79-34-5	1,1,2,2 - Tetrachloroethane	ND	2.5
96-18-4	1,2,3 - Trichloropropane	ND	2.5

ND - Analyte not detected at stated limit of detection

**EPA METHOD 8260**

Client: **Western Water Consultants**
Sample ID: 93007-WP.10/98
Laboratory ID: C98-65711

Date Sampled: 10/27/98
Date Analyzed: 10/29/98
Date Reported: November 16, 1998

*Former Road Collection
Butler St
SVE*

C.A.S. #	TARGET COMPOUNDS	CONCENTRATION (mg/m ³)	LIMIT OF DETECTION (mg/m ³)
98-82-8	Isopropylbenzene (1-Methylethylbenzene)	6.38	2.5
108-86-1	Bromobenzene	ND	2.5
103-65-1	n - Propylbenzene	ND	2.5
95-49-8	2 - Chlorotoluene	ND	2.5
106-43-4	4 - Chlorotoluene	ND	2.5
108-67-8	1,3,5 - Trimethylbenzene	ND	2.5
98-06-6	tert - Butylbenzene	ND	2.5
95-63-6	1,2,4 - Trimethylbenzene	15.4	2.5
135-98-8	sec - Butylbenzene	ND	2.5
541-73-1	1,3 - Dichlorobenzene	ND	2.5
106-46-7	1,4 - Dichlorobenzene	ND	2.5
99-87-6	4-Isopropyltoluene	ND	2.5
95-50-1	1,2 - Dichlorobenzene	ND	2.5
104-51-8	n - Butylbenzene	ND	2.5
96-12-8	1,2 - Dibromo - 3 - chloropropane	ND	12.5
120-82-1	1,2,4 - Trichlorobenzene	ND	2.5
91-20-3	Naphthalene	ND	2.5
87-68-3	Hexachlorobutadiene	ND	2.5
87-61-6	1,2,3 - Trichlorobenzene	ND	2.5

ND - Analyte not detected at stated limit of detection

RUNTIME QUALITY ASSURANCE REPORT

INTERNAL STANDARDS	AREA	ICAL / CCAL AREA	PERCENT RECOVERY	ACCEPTANCE RANGE
Pentafluorobenzene	1593784	1610827	98.9%	50 - 200 %
Fluorobenzene	3191442	3303720	96.6%	50 - 200 %
1,4 - Difluorobenzene	2566282	2546726	101%	50 - 200 %
Chlorobenzene - d5	1807238	1764802	102%	50 - 200 %
1,4 - Dichlorobenzene - d4	687543	699056	98.4%	50 - 200 %

SYSTEM MONITORING COMPOUNDS	CONCENTRATION	PERCENT RECOVERY	ACCEPTANCE RANGE
Dibromofluoromethane	10.6	106%	86 - 118 %
Toluene - d8	10.2	102%	88 - 110 %
4 - Bromofluorobenzene	10.4	104%	86 - 115 %
1,2 - Dichlorobenzene - d4	10.2	102%	80 - 120 %

REFERENCES

Method 8260: Volatile Organics by Gas Chromatography/Mass Spectrometry (GC/MS): Capillary Technique
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Analyst: yw
Reviewed: sec



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EPA METHOD 8260

Client: Western Water Consultants
Project: 93007
Sample ID: 93007-UST.10/98
Laboratory ID: C98-65712
Matrix: Air
Dilution Factor: 5

*Former UST Area
Site Input*

Date Sampled: 10/27/98
Time Sampled: 08:50
Date Received: 10/28/98
Date Analyzed: 10/29/98
Date Reported: November 16, 1998

C.A.S. #	TARGET COMPOUNDS	CONCENTRATION (mg/m ³)	LIMIT OF DETECTION (mg/m ³)
75-71-8	Dichlorodifluoromethane	ND	5.0
74-87-3	Chloromethane	ND	5.0
75-01-4	Vinyl chloride (Chloroethene)	ND	5.0
74-83-9	Bromomethane	ND	5.0
75-00-3	Chloroethane	ND	5.0
75-69-4	Trichlorofluoromethane	ND	5.0
75-35-4	1,1 - Dichloroethene	ND	5.0
75-09-2	Methylene chloride (Dichloromethane)	ND	5.0
156-60-5	trans - 1, 2 - Dichloroethene	ND	5.0
75-34-3	1,1 - Dichloroethane	ND	5.0
78-93-3	2 -Butanone (MEK)	ND	50.0
156-59-2	cis - 1,2 - Dichloroethene	ND	5.0
74-97-5	Bromochloromethane	ND	5.0
67-66-3	Chloroform (Trichloromethane)	ND	5.0
594-20-7	2,2 - Dichloropropane	ND	5.0
71-55-6	1,1,1 - Trichloroethane	2.80 J	5.0
107-06-2	1,2 - Dichloroethane	ND	5.0
563-58-6	1,1 - Dichloropropene	ND	5.0
56-23-5	Carbon tetrachloride (Tetrachloromethane)	ND	5.0
71-43-2	Benzene	ND	5.0
74-95-3	Dibromomethane	ND	5.0
78-87-5	1,2 - Dichloropropane	ND	5.0
79-01-6	Trichloroethene	ND	5.0
75-27-4	Bromodichloromethane	ND	5.0
10061-01-5	cis - 1,3 - Dichloropropene	ND	5.0
10061-02-6	trans - 1,3 - Dichloropropene	ND	5.0
79-00-5	1,1,2 - Trichloroethane	ND	5.0
108-88-3	Toluene	ND	5.0
106-93-4	1,2 - Dibromoethane	ND	5.0
142-28-9	1,3 - Dichloropropane	ND	5.0
124-48-1	Dibromochloromethane	ND	5.0
127-18-4	Tetrachloroethene	104	5.0
630-20-6	1,1,1,2 - Tetrachloroethane	ND	5.0
108-90-7	Chlorobenzene	ND	5.0
100-41-4	Ethylbenzene	ND	5.0
108-38-3	m,p - Xylenes (1,3- & 1,4-Dimethylbenzene)	ND	10.0
75-25-2	Bromoform (Tribromomethane)	ND	5.0
100-42-5	Styrene (Ethenylbenzene)	ND	5.0
95-47-6	o - Xylene (1,2-Dimethylbenzene)	ND	5.0
79-34-5	1,1,2,2 - Tetrachloroethane	ND	5.0
96-18-4	1,2,3 - Trichloropropane	ND	5.0

ND - Analyte not detected at stated limit of detection

J - Analyte passes MS identification criteria, but is less than stated detection limit



EPA METHOD 8260

Client: Western Water Consultants
Sample ID: 93007-UST.10/98
Laboratory ID: C98-65712

Date Sampled: 10/27/98
Date Analyzed: 10/29/98
Date Reported: November 16, 1998

Former UST
Area
Ingrum

C.A.S. #	TARGET COMPOUNDS	CONCENTRATION (mg/m ³)	LIMIT OF DETECTION (mg/m ³)
98-82-8	Isopropylbenzene (1-Methylethylbenzene)	ND	5.0
108-86-1	Bromobenzene	ND	5.0
103-65-1	n - Propylbenzene	ND	5.0
95-49-8	2 - Chlorotoluene	ND	5.0
106-43-4	4 - Chlorotoluene	ND	5.0
108-67-8	1,3,5 - Trimethylbenzene	ND	5.0
98-06-6	tert - Butylbenzene	ND	5.0
95-63-6	1,2,4 - Trimethylbenzene	ND	5.0
135-98-8	sec - Butylbenzene	ND	5.0
541-73-1	1,3 - Dichlorobenzene	ND	5.0
106-46-7	1,4 - Dichlorobenzene	ND	5.0
99-87-6	4-Isopropyltoluene (1-Methyl-4-(1-methyl)-benzene)	ND	5.0
95-50-1	1,2 - Dichlorobenzene	ND	5.0
104-51-8	n - Butylbenzene	ND	5.0
96-12-8	1,2 - Dibromo - 3 - chloropropane	ND	25.0
120-82-1	1,2,4 - Trichlorobenzene	ND	5.0
91-20-3	Naphthalene	ND	5.0
87-68-3	Hexachlorobutadiene	ND	5.0
87-61-6	1,2 3 - Trichlorobenzene	ND	5.0

ND - Analyte not detected at stated limit of detection

J - Analyte passes MS identification criteria, but is less than stated detection limit

RUNTIME QUALITY ASSURANCE REPORT

INTERNAL STANDARDS	AREA	ICAL / CCAL AREA	PERCENT RECOVERY	ACCEPTANCE RANGE
Pentafluorobenzene	1623812	1610827	101%	50 - 200 %
Fluorobenzene	3323465	3303720	101%	50 - 200 %
1,4 - Difluorobenzene	2559860	2546726	101%	50 - 200 %
Chlorobenzene - d5	1882790	1764802	107%	50 - 200 %
1,4 - Dichlorobenzene - d4	738008	699056	106%	50 - 200 %

SYSTEM MONITORING COMPOUNDS	CONCENTRATION	PERCENT RECOVERY	ACCEPTANCE RANGE
Dibromofluoromethane	10.6	106%	86 - 118 %
Toluene - d8	10.2	102%	88 - 110 %
4 - Bromofluorobenzene	10.0	100%	86 - 115 %
1,2 - Dichlorobenzene - d4	10.2	102%	80 - 120 %

REFERENCES

Method 8260: Volatile Organics by Gas Chromatography/Mass Spectrometry (GC/MS): Capillary Technique
Test Methods for Evaluating Solid Waste, SW-846, Third Edition, USEPA, November 1990

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Analyst: yw
Reviewed: sec

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EPA METHOD 8260

Client: **Western Water Consultants**
Project: 93007
Sample ID: 93007-AD.11/98
Laboratory ID: C98-70605
Matrix: Air
Dilution Factor: 1

Date Sampled: 11/12/98
Time Sampled: 12:20
Date Received: 11/13/98
Date Analyzed: 11/13/98
Date Reported: November 28, 1998

*Acid Blank
Input*

C.A.S. #	TARGET COMPOUNDS	CONCENTRATION (mg/m ³)	LIMIT OF DETECTION (mg/m ³)
75-71-8	Dichlorodifluoromethane	ND	1.0
74-87-3	Chloromethane	ND	1.0
75-01-4	Vinyl chloride (Chloroethene)	ND	1.0
74-83-9	Bromomethane	ND	1.0
75-00-3	Chloroethane	ND	1.0
75-69-4	Trichlorofluoromethane	ND	1.0
75-35-4	1,1 - Dichloroethene	ND	1.0
75-09-2	Methylene chloride (Dichloromethane)	ND	1.0
156-60-5	trans - 1, 2 - Dichloroethene	ND	1.0
75-34-3	1,1 - Dichloroethane	ND	1.0
78-93-3	2 -Butanone (MEK)	ND	10.0
156-59-2	cis - 1,2 - Dichloroethene	ND	1.0
74-97-5	Bromochloromethane	ND	1.0
67-66-3	Chloroform (Trichloromethane)	ND	1.0
594-20-7	2,2 - Dichloropropane	ND	1.0
71-55-6	1,1,1 - Trichloroethane	ND	1.0
107-06-2	1,2 - Dichloroethane	ND	1.0
563-58-6	1,1 - Dichloropropene	ND	1.0
56-23-5	Carbon tetrachloride (Tetrachloromethane)	ND	1.0
71-43-2	Benzene	ND	1.0
74-95-3	Dibromomethane	ND	1.0
78-87-5	1,2 - Dichloropropane	ND	1.0
79-01-6	Trichloroethene	ND	1.0
75-27-4	Bromodichloromethane	ND	1.0
10061-01-5	cis - 1,3 - Dichloropropene	ND	1.0
10061-02-6	trans - 1,3 - Dichloropropene	ND	1.0
79-00-5	1,1,2 - Trichloroethane	ND	1.0
108-88-3	Toluene	ND	1.0
106-93-4	1,2 - Dibromoethane	ND	1.0
142-28-9	1,3 - Dichloropropane	ND	1.0
124-48-1	Dibromochloromethane	ND	1.0
127-18-4	Tetrachloroethene	0.77	J 1.0
630-20-6	1,1,1,2 - Tetrachloroethane	ND	1.0
108-90-7	Chlorobenzene	ND	1.0
100-41-4	Ethylbenzene	ND	1.0
108-38-3	m,p - Xylenes (1,3- & 1,4-Dimethylbenzene)	ND	2.0
75-25-2	Bromoform (Tribromomethane)	ND	1.0
100-42-5	Styrene (Ethenylbenzene)	ND	1.0
95-47-6	o - Xylene (1,2-Dimethylbenzene)	ND	1.0
79-34-5	1,1,2,2 - Tetrachloroethane	ND	1.0
96-18-4	1,2,3 - Trichloropropane	ND	1.0

ND - Analyte not detected at stated limit of detection

J - Analyte passes MS identification criteria, but is less than stated detection limit



EPA METHOD 8260

Client: Western Water Consultants
Sample ID: 93007-AD.11/98
Laboratory ID: C98-70605

Date Sampled: 11/12/98
Date Analyzed: 11/13/98
Date Reported: November 28, 1998

Acid Deck
Input

C.A.S. #	TARGET COMPOUNDS	CONCENTRATION (mg/m ³)	LIMIT OF DETECTION (mg/m ³)
98-82-8	Isopropylbenzene (1-Methylethylbenzene)	ND	1.0
108-86-1	Bromobenzene	ND	1.0
103-65-1	n - Propylbenzene	ND	1.0
95-49-8	2 - Chlorotoluene	ND	1.0
106-43-4	4 - Chlorotoluene	ND	1.0
108-67-8	1,3,5 - Trimethylbenzene	1.57	1.0
98-06-6	tert - Butylbenzene	ND	1.0
95-63-6	1,2,4 - Trimethylbenzene	ND	1.0
135-98-8	sec - Butylbenzene	ND	1.0
541-73-1	1,3 - Dichlorobenzene	ND	1.0
106-46-7	1,4 - Dichlorobenzene	ND	1.0
99-87-6	4-Isopropyltoluene	ND	1.0
95-50-1	1,2 - Dichlorobenzene	ND	1.0
104-51-8	n - Butylbenzene	ND	1.0
96-12-8	1,2 - Dibromo - 3 - chloropropane	ND	5.0
120-82-1	1,2,4 - Trichlorobenzene	ND	1.0
91-20-3	Naphthalene	ND	1.0
87-68-3	Hexachlorobutadiene	ND	1.0
87-61-6	1,2 3 - Trichlorobenzene	ND	1.0

ND - Analyte not detected at stated limit of detection

J - Analyte passes MS identification criteria, but is less than stated detection limit

RUNTIME QUALITY ASSURANCE REPORT

INTERNAL STANDARDS	AREA	ICAL / CCAL AREA	PERCENT RECOVERY	ACCEPTANCE RANGE
Pentafluorobenzene	1553350	1553086	100%	50 - 200 %
Fluorobenzene	3509027	3452734	102%	50 - 200 %
1,4 - Difluorobenzene	2844089	2849611	99.8%	50 - 200 %
Chlorobenzene - d5	2095964	2006219	104%	50 - 200 %
1,4 - Dichlorobenzene - d4	686677	670214	102%	50 - 200 %

SYSTEM MONITORING COMPOUNDS	CONCENTRATION	PERCENT RECOVERY	ACCEPTANCE RANGE
Dibromofluoromethane	11.2	112%	86 - 118 %
Toluene - d8	9.97	99.7%	88 - 110 %
4 - Bromofluorobenzene	9.55	95.5%	86 - 115 %
1,2 - Dichlorobenzene - d4	10.4	104%	80 - 120 %

REFERENCES

Method 8260: Volatile Organics by Gas Chromatography/Mass Spectrometry (GC/MS): Capillary Technique
Test Methods for Evaluating Solid Waste, SW-846, Third Edition, USEPA, November 1990

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Reviewed: sec



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EPA METHOD 8260

Client: Western Water Consultants
Project: 93007
Sample ID: 93007-WP.11/98
Laboratory ID: C98-70606
Matrix: Air
Dilution Factor: 10

*Former Waste Water
Collection Area
SVE Input*

Date Sampled: 11/12/98
Time Sampled: 12:00
Date Received: 11/13/98
Date Analyzed: 11/13/98
Date Reported: November 28, 1998

C.A.S. #	TARGET COMPOUNDS	CONCENTRATION (mg/m ³)	LIMIT OF DETECTION (mg/m ³)
75-71-8	Dichlorodifluoromethane	ND	10.0
74-87-3	Chloromethane	ND	10.0
75-01-4	Vinyl chloride (Chloroethene)	ND	10.0
74-83-9	Bromomethane	ND	10.0
75-00-3	Chloroethane	ND	10.0
75-69-4	Trichlorofluoromethane	ND	10.0
75-35-4	1,1 - Dichloroethene	ND	10.0
75-09-2	Methylene chloride (Dichloromethane)	ND	10.0
156-60-5	trans - 1, 2 - Dichloroethene	ND	10.0
75-34-3	1,1 - Dichloroethane	ND	10.0
78-93-3	2 -Butanone (MEK)	ND	100
156-59-2	cis - 1,2 - Dichloroethene	ND	10.0
74-97-5	Bromochloromethane	ND	10.0
67-66-3	Chloroform (Trichloromethane)	ND	10.0
594-20-7	2,2 - Dichloropropane	ND	10.0
71-55-6	1,1,1 - Trichloroethane	72.7	10.0
107-06-2	1,2 - Dichloroethane	ND	10.0
563-58-6	1,1 - Dichloropropene	ND	10.0
56-23-5	Carbon tetrachloride (Tetrachloromethane)	ND	10.0
71-43-2	Benzene	7.00 J	10.0
74-95-3	Dibromomethane	ND	10.0
78-87-5	1,2 - Dichloropropane	ND	10.0
79-01-6	Trichloroethene	ND	10.0
75-27-4	Bromodichloromethane	ND	10.0
10061-01-5	cis - 1,3 - Dichloropropene	ND	10.0
10061-02-6	trans - 1,3 - Dichloropropene	ND	10.0
79-00-5	1,1,2 - Trichloroethane	ND	10.0
108-88-3	Toluene	80.9	10.0
106-93-4	1,2 - Dibromoethane	ND	10.0
142-28-9	1,3 - Dichloropropane	ND	10.0
124-48-1	Dibromochloromethane	ND	10.0
127-18-4	Tetrachloroethene	121	10.0
630-20-6	1,1,1,2 - Tetrachloroethane	ND	10.0
108-90-7	Chlorobenzene	ND	10.0
100-41-4	Ethylbenzene	34.6	10.0
108-38-3	m,p - Xylenes (1,3- & 1,4-Dimethylbenzene)	129	20.0
75-25-2	Bromoform (Tribromomethane)	ND	10.0
100-42-5	Styrene (Ethenylbenzene)	ND	10.0
95-47-6	o - Xylene (1,2-Dimethylbenzene)	120	10.0
79-34-5	1,1,2,2 - Tetrachloroethane	ND	10.0
96-18-4	1,2,3 - Trichloropropane	ND	10.0

ND - Analyte not detected at stated limit of detection

J - Analyte passes MS identification criteria, but is less than stated detection limit



EPA METHOD 8260

Client: Western Water Consultants
Sample ID: 93007-WP.11/98
Laboratory ID: C98-70606

Date Sampled: 11/12/98
Date Analyzed: 11/13/98
Date Reported: November 28, 1998

*Former Waste Water
Collection Area
5342 Export*

C.A.S. #	TARGET COMPOUNDS	CONCENTRATION (mg/m ³)	LIMIT OF DETECTION (mg/m ³)
98-82-8	Isopropylbenzene (1-Methylethylbenzene)	17.3	10.0
108-86-1	Bromobenzene	ND	10.0
103-65-1	n - Propylbenzene	24.2	10.0
95-49-8	2 - Chlorotoluene	ND	10.0
106-43-4	4 - Chlorotoluene	ND	10.0
108-67-8	1,3,5 - Trimethylbenzene	ND	10.0
98-06-6	tert - Butylbenzene	ND	10.0
95-63-6	1,2,4 - Trimethylbenzene	130	10.0
135-98-8	sec - Butylbenzene	ND	10.0
541-73-1	1,3 - Dichlorobenzene	ND	10.0
106-46-7	1,4 - Dichlorobenzene	ND	10.0
99-87-6	4-Isopropyltoluene (1-Methyl-4-(1-methyl)-benzene)	ND	10.0
95-50-1	1,2 - Dichlorobenzene	ND	10.0
104-51-8	n - Butylbenzene	ND	10.0
96-12-8	1,2 - Dibromo - 3 - chloropropane	ND	50.0
120-82-1	1,2,4 - Trichlorobenzene	ND	10.0
91-20-3	Naphthalene	ND	10.0
87-68-3	Hexachlorobutadiene	ND	10.0
87-61-6	1,2 3 - Trichlorobenzene	ND	10.0

ND - Analyte not detected at stated limit of detection

J - Analyte passes MS identification criteria, but is less than stated detection limit

RUNTIME QUALITY ASSURANCE REPORT

INTERNAL STANDARDS	AREA	ICAL / CCAL AREA	PERCENT RECOVERY	ACCEPTANCE RANGE
Pentafluorobenzene	1545959	1553086	99.5%	50 - 200 %
Fluorobenzene	3370552	3452734	97.6%	50 - 200 %
1,4 - Difluorobenzene	2799701	2849611	98.2%	50 - 200 %
Chlorobenzene - d5	2036771	2006219	102%	50 - 200 %
1,4 - Dichlorobenzene - d4	660276	670214	98.5%	50 - 200 %

SYSTEM MONITORING COMPOUNDS	CONCENTRATION	PERCENT RECOVERY	ACCEPTANCE RANGE
Dibromofluoromethane	9.66	96.6%	86 - 118 %
Toluene - d8	10.2	102%	88 - 110 %
4 - Bromofluorobenzene	9.71	97.1%	86 - 115 %
1,2 - Dichlorobenzene - d4	10.6	106%	80 - 120 %

REFERENCES

Method 8260: Volatile Organics by Gas Chromatography/Mass Spectrometry (GC/MS): Capillary Technique
Test Methods for Evaluating Solid Waste, SW-846, Third Edition, USEPA, November 1990

APPENDIX B

Work Plan for Waste Water Collection and Acid Dock SVE Modifications

**Former Waste Water Collection Area and Acid Dock
Blower Replacement Work Plan
Dowell Schlumberger Facility
Hobbs, NM**

September 14, 1998

History

Pilot studies for engine/blower SVE units were performed on three areas, the Former Waste Water Collection Area, the Acid Dock and the Former USTs, in the Dowell Schlumberger Hobbs, NM, Facility in November 1994. Engine/blower SVE units were then installed in all three areas in August 1995. The engine/blower units extract air containing volatile organic compounds (VOCs) from the soil and burn these compounds in the combustion process in the engine and in the catalytic converter in the exhaust system. Maintenance difficulties with the engine/blower unit in the Former USTs area necessitated its replacement with an electric blower in June 1997. The discharge from the electric blower combined with the discharges from the two remaining engine/blower units did not contain sufficient contaminants to trigger either an emissions inventory or an air quality permit. The concentrations and species of VOCs contained in the samples from the three units are shown in the attached table.

Although the air flow rates vary significantly over time, the engine/blower units appear to extract air at an average rate of approximately 50, 25 and 40 cubic feet per minute (CFM) for the three areas respectively. If the engine/blower units operated 100% of the time, the units would have performed as shown in the following table for the period from installation until replacement of the Former USTs unit with an electric blower.

Engine/blower units on all areas, Aug. 95 – Jun. 97

	Average VOC Rate Removed Tons/yr	Average VOC Rate Emitted Tons/yr	Maximum VOC Rate Removed lb/hr	Maximum VOC Rate Emitted Lb/hr	Total VOC Removed Tons
Former WW Area	0.36	0.01	0.21	0.01	0.71
Acid Dock	0.02	0.00	0.01	0.00	0.04
Former USTs	0.48	0.03	0.26	0.03	0.95
Site Total	0.87	0.05	0.48	0.04	1.70

The new electric blower increased the average air flow rate from the Former USTs area from approximately 40 CFM to 200 CFM. However, even though the air flow rate increased about five times the average VOC removal rate did not quite double due to

lower VOC concentrations in the air stream. After the Former USTs area engine/blower unit was replaced by the electric blower, the performance of the three units to date is as follows assuming 100% operation:

Electric Blower on Former USTs area, Jun. 97 – Sep. 98

	Average VOC Rate Removed Tons/yr	Average VOC Rate Emitted Tons/yr	Maximum VOC Rate Removed Lb/hr	Maximum VOC Rate Emitted lb/hr	Total VOC Removed Tons
Former WW Area	0.36	0.00	0.13	0.00	0.43
Acid Dock	0.01	0.00	0.00	0.00	0.01
Former USTs	0.71	0.71	0.40	0.40	0.86
Area Total	1.07	0.71	0.54	0.40	1.30

Proposed Modification

After receiving permission for the proposed modifications from the appropriate New Mexico regulatory agencies, WWC will replace the remaining two engine/blower units with electric blowers, both discharging approximately 200 CFM and both discharged directly to the atmosphere. The average VOC concentrations in the air streams from the Former Waste Water Collection Area and the Acid Dock area are expected to decrease similarly to the decrease seen at the Former USTs area when the air flow rate increased. However, to conservatively estimate average and peak emission rates, the concentrations are assumed to remain constant with the increased airflow rate. 100% operation is also assumed, even though actual operation is significantly less. With these assumptions and using the concentrations from August 1997 to the present, the future emissions from the site are estimated as follows:

Electric Blower on Former UST area, Jun. 97 – Sep. 98

..	Average VOC Rate Removed Tons/yr	Average VOC Rate Emitted tons/yr	Maximum VOC Rate Removed lb/hr	Maximum VOC Rate Emitted lb/hr
Former WW Area	1.43	1.43	0.52	0.52
Acid Dock	0.05	0.05	0.03	0.03
Former USTs	0.71	0.71	0.40	0.40
Site Total	2.19	2.19	0.95	0.95

These modifications will reduce the operation and maintenance costs of the SVE systems and at the same time will increase the rate of contaminant removal from the site. The maximum expected emissions from the site will be less than a tenth of that needed to either require an emission inventory or an air quality permit.

Procedure

WWC personnel will remove the existing engine/blower units from the Former Waste Water Collection Area and the Acid Dock area. Pre-fabricated structures, similar to the structure for the Former USTs area, will be placed inside the existing Accuvac fenced areas. The buildings will be wired for the blowers and the associated controls with the electrical systems sized to accommodate future addition of air-sparging blowers. WWC personnel will install the new electrically driven regenerative blowers and appurtenances in the buildings and the blower suctions will be attached to the existing SVE system piping. A schematic of the proposed electrical blower systems and an electrical one-line diagram are attached.

K:\172040\83-0071\CADD\88\88NEWBAS.DWG 09/15/88 13:44

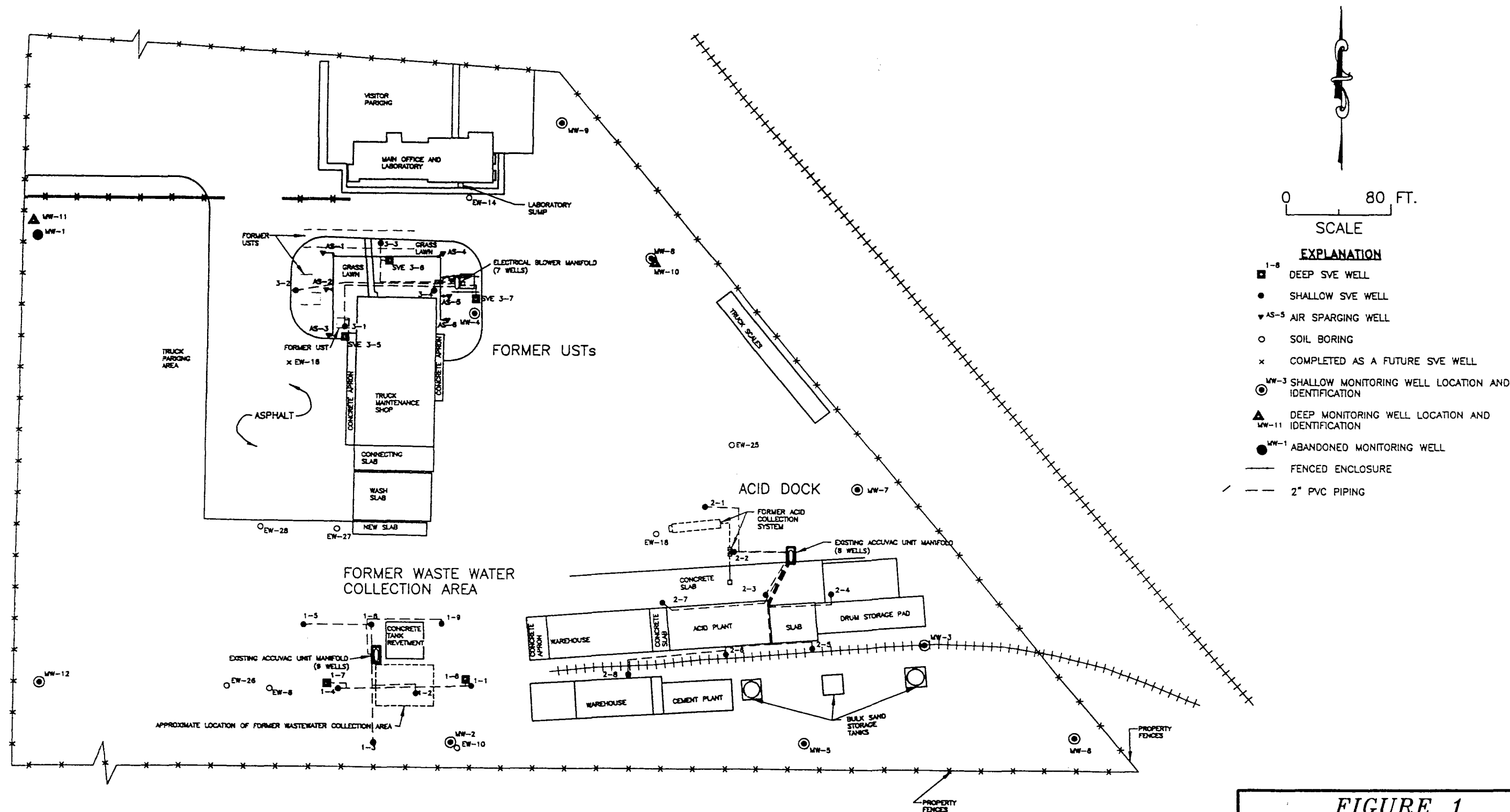


FIGURE 1
SITE MAP AND
LOCATION OF MONITORING AND
REMEDATION WELLS
DOWELL, A DIVISION OF
SCHLUMBERGER TECHNOLOGY CORPORATION
HOBBS, NEW MEXICO

PANEL BOARD
240/120 V, 3 ϕ 4W (SOLID NEUTRAL)
200 AMP MAINS, 200 AMP M.B.
NEMA 3R ENCLOSURE

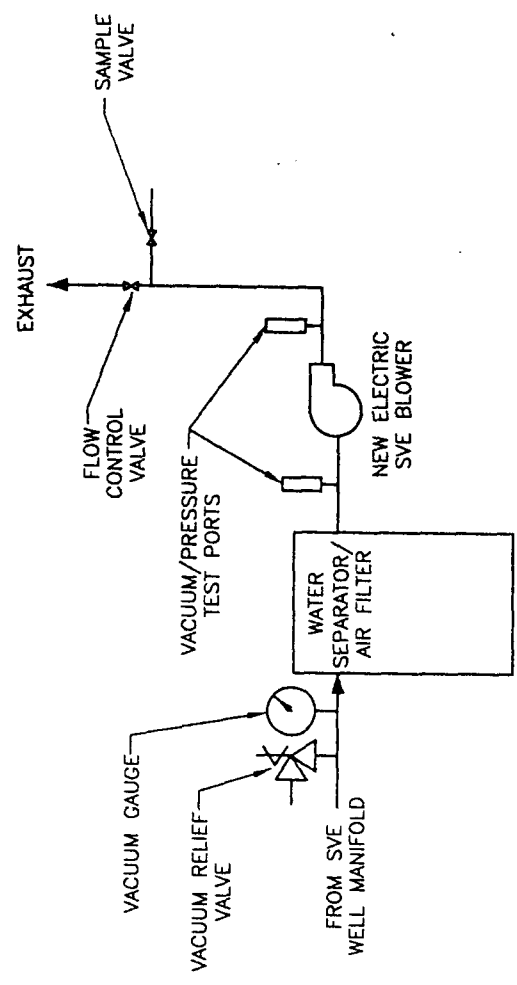
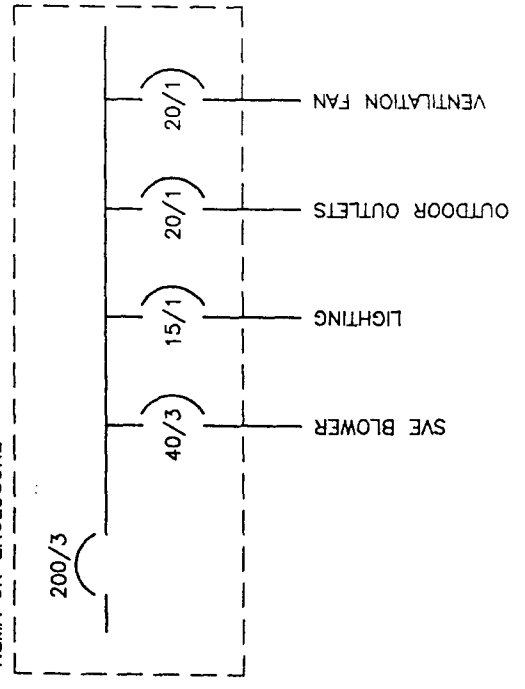


FIGURE 2
REPLACEMENT SVE UNIT SCHEMATIC
AND ELECTRICAL ONE-LINE DIAGRAM

DOWELL, A DIVISION OF
SCHLUMBERGER TECHNOLOGY CORPORATION
HOBBBS, NEW MEXICO

Western Water Consultants, Inc.
Engineering Environmental Mining Water Resources

TABLE 3. SVE System Air Sample Data from the Dowell Schlumberger Facility, Hobbs, New Mexico.

Sample I.D.	Date Sampled	Sample Location	Ethyl- Total			Vinyl Chloride			PCE (mg/m3)	TCE (mg/m3)	Total Input BTEX (mg/m3)	Total Output BTEX (mg/m3)	Total Input Halocarbons (mg/m3)	Total Output Halocarbons (mg/m3)
			Benzene (mg/m3)	Toluene (mg/m3)	Benzene (mg/m3)	Xylene (mg/m3)	1,1-DCE (mg/m3)	1,1-DCA (mg/m3)						
FORMER UST														
007-AREA 3	11/02/94	Pilot	1.2	5.7	5.5									
Unit 3 (7/95) Input	7/13/95	Input	2.08	5.95	1.17	6.64	281	10.9	ND(0.2)	ND(0.2)	215	ND(0.2)	15.84	1379.58
Unit 3 (7/95) Exhaust		Exhaust	2.89	1.41	0.72	7.88	0.27	ND(0.2)	ND(0.2)	17.2	ND(0.2)	0.87	ND(0.2)	12.9
Unit 3 (8/95) Input	8/12/95	Input	0.4	1.9	0.9	4.9	506	15.6	ND(0.2)	ND(0.2)	579	ND(0.2)	8.1	1738.7
Unit 3 (8/95) Exhaust		Exhaust	4.9	ND(0.2)	ND(0.2)	ND(0.2)	2.8	ND(0.2)	ND(0.2)	48	ND(0.2)	35	ND(0.2)	4.9
Unit 3 Input 9/95-1	09/07/95	Input	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	593.4	13.3	ND(0.2)	ND(0.2)	492	ND(0.2)	21.5	108.1
Unit 3 Output 9/95-1		Exhaust	1.1	0.5	ND(0.2)	ND(0.2)	56.2	ND(0.2)	ND(0.2)	ND(0.2)	31.9	ND(0.2)	0	1545.1
Unit 3 Int	11/29/95	Before Cat	1.01	ND(0.2)	ND(0.2)	ND(0.2)	3.21	ND(0.2)	ND(0.2)	13	ND(0.2)	35.6	ND(0.2)	1.6
Unit 3 Output		After Cat	1.01	ND(0.2)	ND(0.2)	ND(0.2)	0.9	ND(0.2)	ND(0.2)	13	ND(0.2)	10.5	ND(0.2)	1.01
93007-TKShpInpt	04/11/96	Input	ND(0.2)	0.9	0.5	3.4	99.4	ND(0.2)	ND(0.2)	ND(0.2)	254	ND(0.2)	4.8	58.3
93007-TKShpExh.4/96		Exhaust	0.6	ND(0.2)	ND(0.2)	ND(0.2)	0.9	ND(0.2)	ND(0.2)	10.1	ND(0.2)	6.8	0.4	0.6
93007-TKShpInpt.7/96	07/23/96	Input	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)	47.1	4.8	ND(0.5)	ND(0.5)	ND(0.3)	ND(0.5)	0	8.5
93007-TSEXHST.7/96		Exhaust	0.4	ND(0.3)	ND(0.3)	ND(0.3)	1.3	ND(0.3)	ND(0.3)	6.6	ND(0.3)	2.2	ND(0.3)	2.8
UST-INPT-10/96	10/24/96	Input	0.35	0.35	0.24	1.01	57.6	4.37	ND(0.2)	ND(0.2)	97.7	ND(0.2)	1.95	179
UST-OUTPUT-10/96		Exhaust	4.83	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	4.66	ND(0.2)	2.59	ND(0.2)	1.62
93007-UST-INP-1/97	1/21/97	Input	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	30	2.8	ND(1.0)	ND(1.0)	63.3	ND(1.0)	0	205
93007-UST-EXH-1/97		Exhaust	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	2.5	ND(1.0)	ND(1.0)	0	6.19
93-007-UST-INP.5/97	05/13/97	Input	ND(25.0)	ND(25.0)	ND(25.0)	ND(25.0)	21.3J	ND(25.0)	ND(25.0)	ND(25.0)	41.8	ND(25.0)	ND(25.0)	155
93-007-USTCOMP.6/97	06/25/97	Input	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	68.2	10.5	ND(1.0)	ND(1.0)	125	ND(1.0)	1.11	335
93007-UST.7/97	07/29/97	Input	ND(10.0)	ND(10.0)	ND(10.0)	ND(10.0)	10.4	ND(10.0)	ND(10.0)	ND(10.0)	30	ND(10.0)	ND(10.0)	148
93007-UST.1/98	01/06/98	Input	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	3.85J	ND(5.0)	ND(5.0)	ND(5.0)	8.25	ND(5.0)	ND(5.0)	102
93007-UST.4/98	04/28/98	Input	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	2.15J	ND(5.0)	ND(5.0)	ND(5.0)	4.15J	ND(5.0)	ND(5.0)	121
93007-UST.4/98	04/28/98	Input	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	2.15J	ND(5.0)	ND(5.0)	ND(5.0)	4.15J	ND(5.0)	ND(5.0)	121
INDIVIDUAL SVE WELLS														
93007-3-1.7/98	7/16/98	3-1	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	4.49	ND(1.0)	ND(1.0)	238
93007-3-2.7/98	7/16/98	3-2	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	0	5.2
93007-3-3.7/98	7/16/98	3-3	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	0	2.6
93007-3-4.7/98	7/16/98	3-4	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	0	0
93-007-USTDP3.6/97	06/05/97	3-5	ND(10.0)	ND(10.0)	ND(10.0)	ND(10.0)	79.8	25.1	ND(10.0)	ND(10.0)	441	ND(10.0)	ND(10.0)	871
93007-3-5.7/98	7/16/98	3-5	ND(10.0)	ND(10.0)	ND(10.0)	ND(10.0)	ND(10.0)	ND(10.0)	ND(10.0)	ND(10.0)	ND(10.0)	ND(10.0)	0	1416.9
93-007-USTDP2.6/97	06/25/97	3-6	ND(10.0)	ND(10.0)	ND(10.0)	ND(10.0)	120	13.2	ND(10.0)	ND(10.0)	114	ND(10.0)	ND(10.0)	346
93007-3-6.7/98	07/16/98	3-6	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	3.95	ND(2.5)	ND(2.5)	ND(2.5)	2.00J	ND(2.5)	ND(2.5)	8.18
93-007-USTDP1.6/97	06/25/97	3-7	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	82.8	7.31	ND(1.0)	ND(1.0)	60.2	ND(1.0)	ND(1.0)	226
93007-3-7.7/98	07/16/98	3-7	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	2.90J	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	0	12.5

Notes: mg/m3 = milligrams per cubic meter
ND=Not Detected at detection limit shown in parentheses.
DCA=Dichloroethane
DCE= Dichloroethene

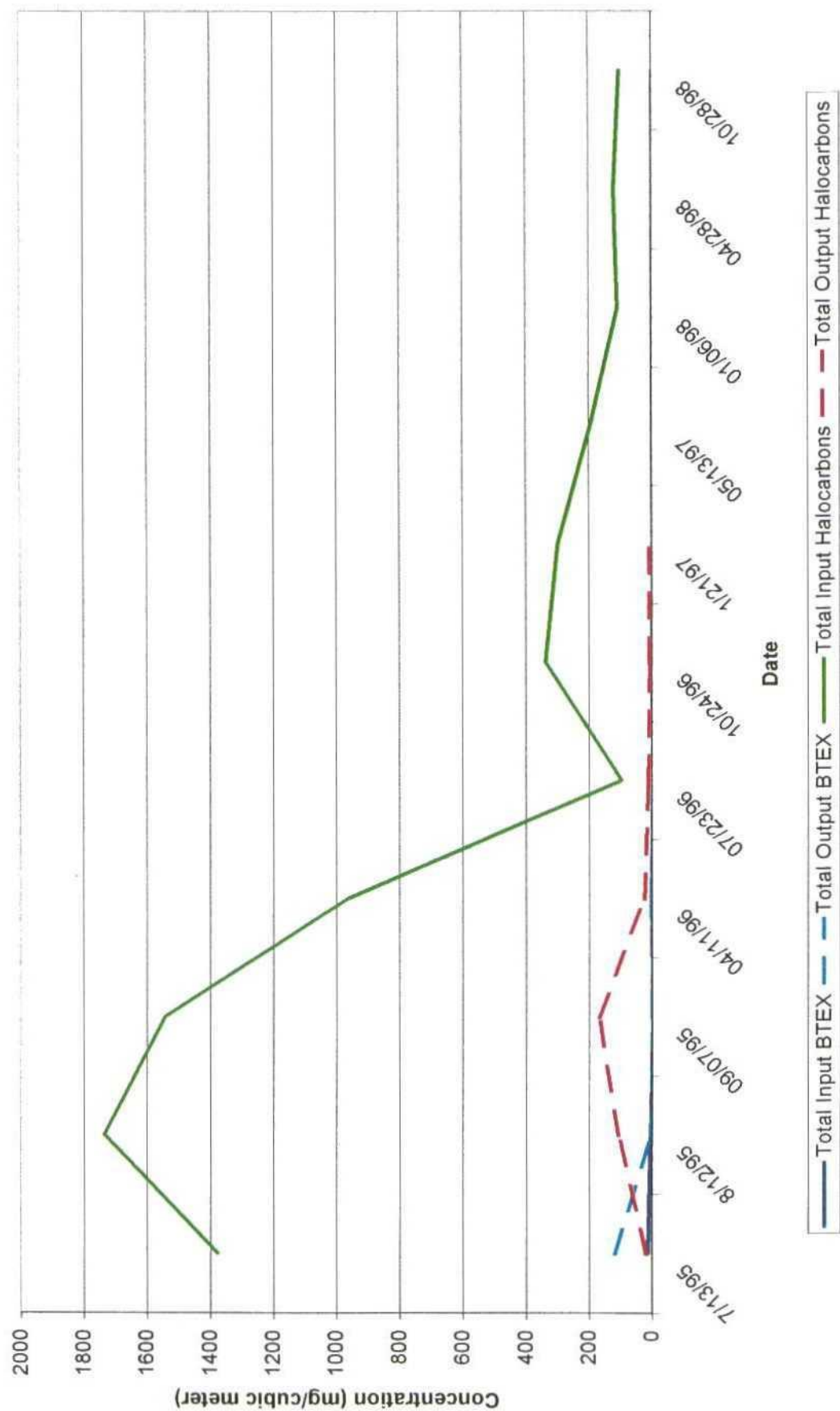
Notes: mg/m3 = milligrams per cubic meter
 ND=Not Detected at detection limit shown in parentheses.

DCA=Dichloroethane
 DCE= Dichloroethane

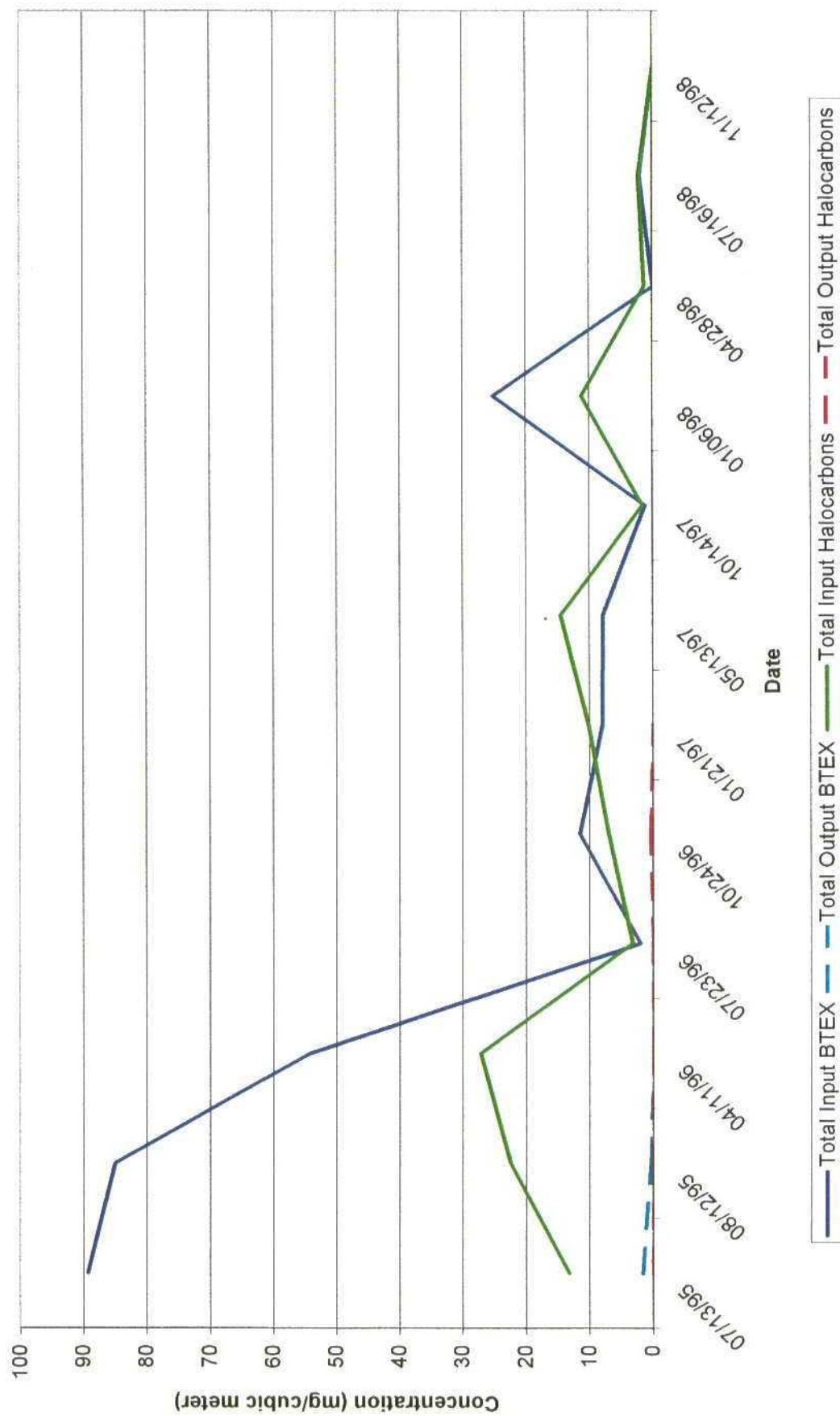
APPENDIX C

Air Emissions and Static Water Level Versus Halocarbon Concentrations Plots

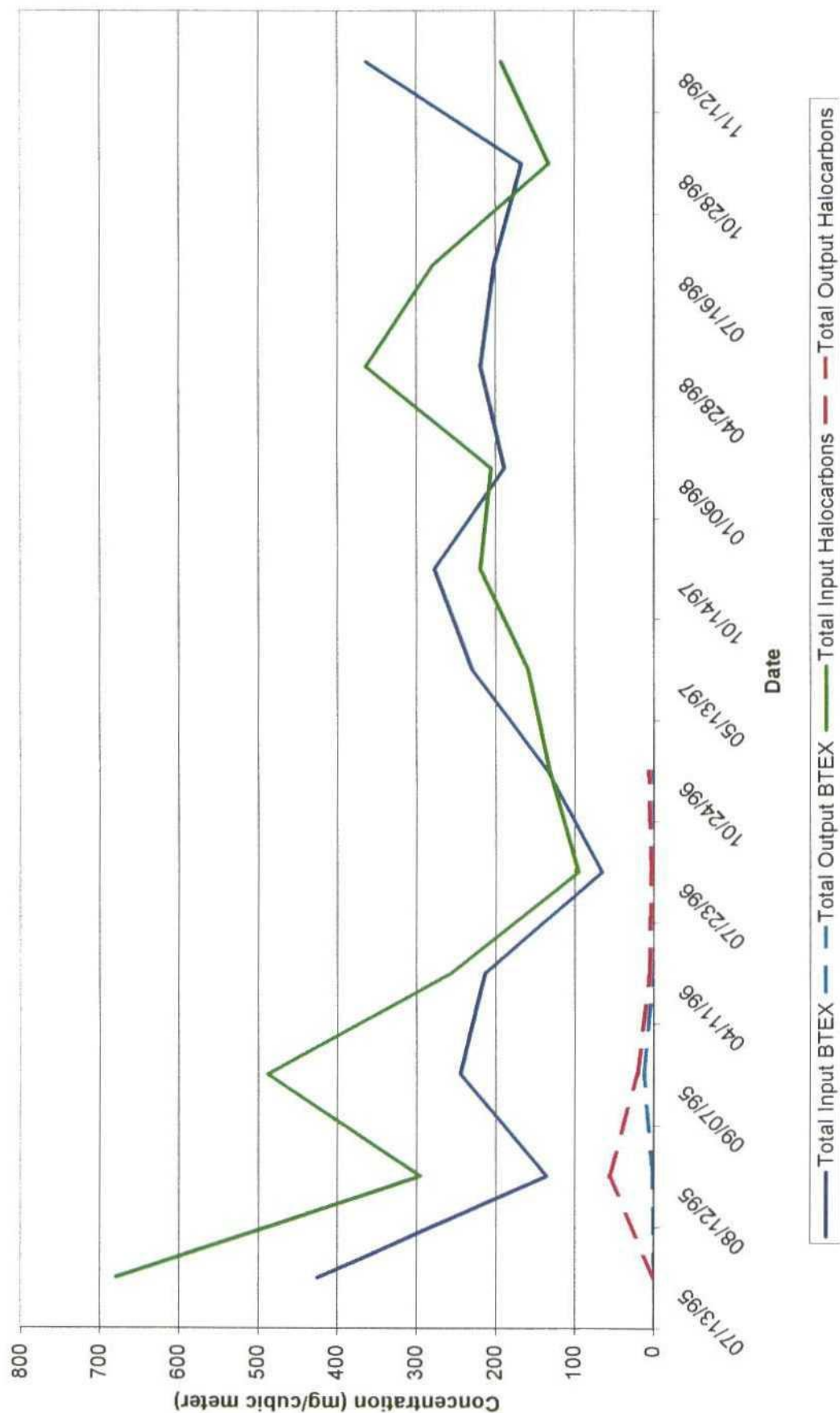
SVE Air Emissions Data Former UST Area



SVE Air Emissions Data Acid Dock Area

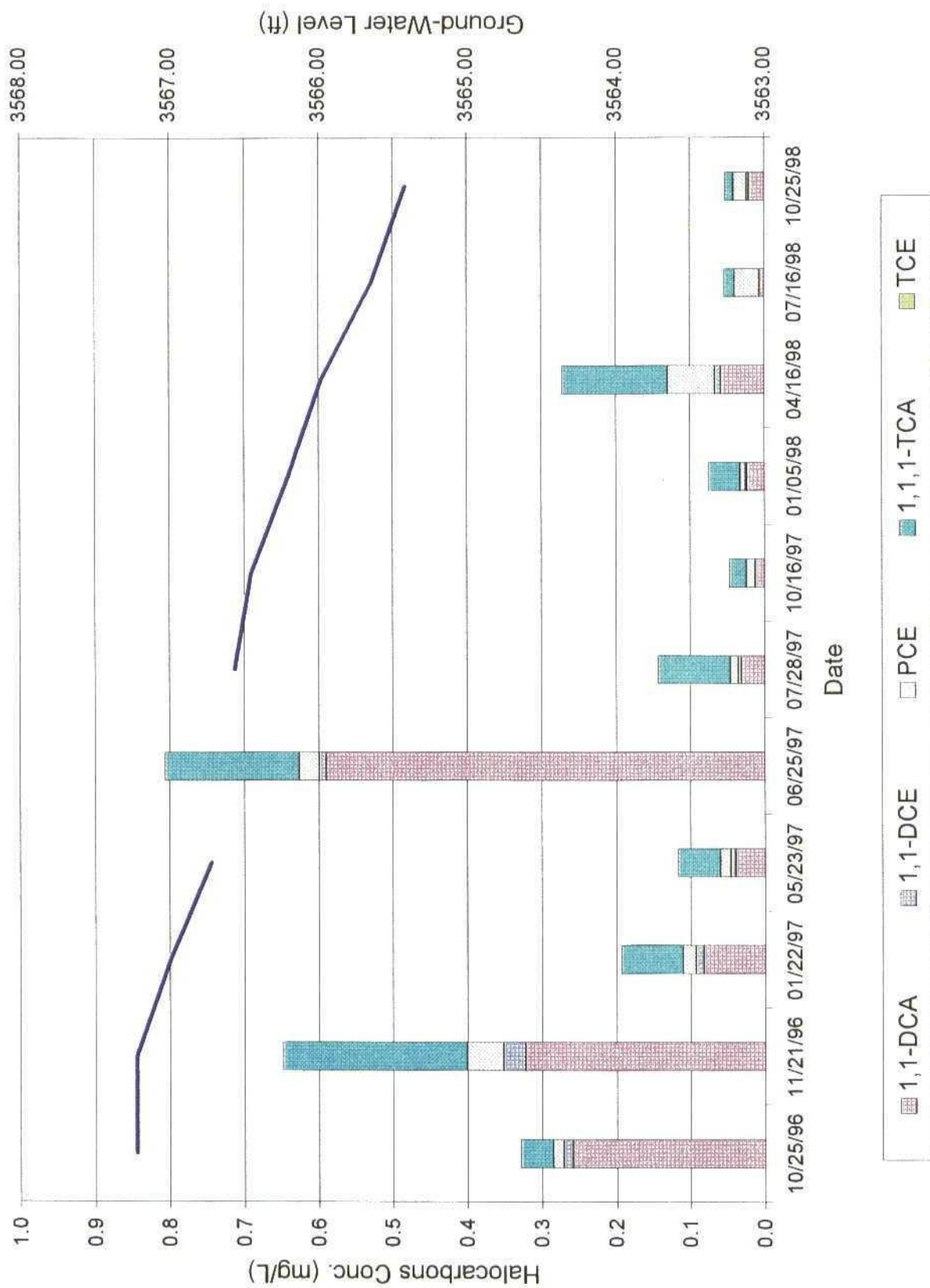


SVE Air Emissions Data Former Waste Water Collection Area

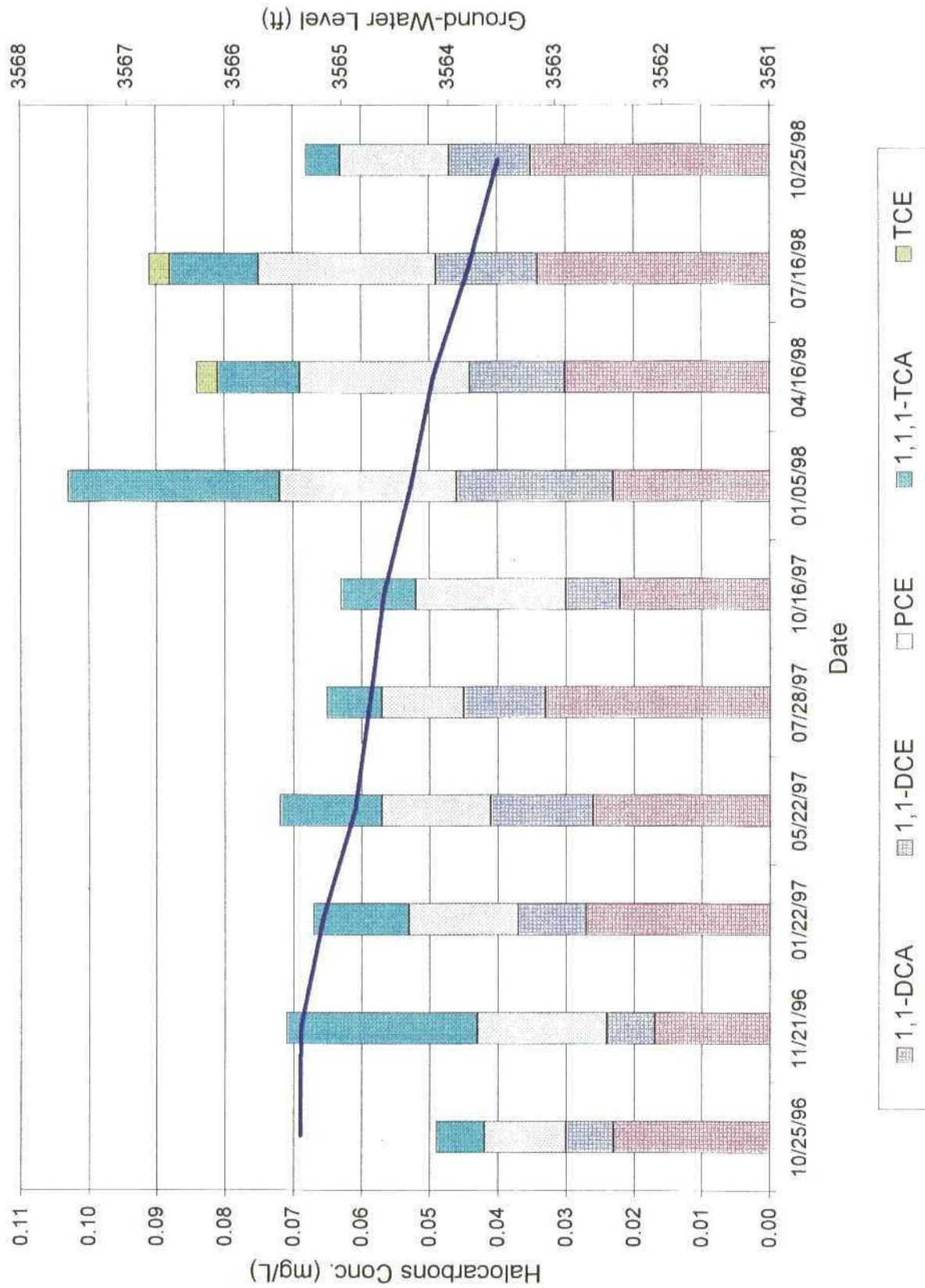


Monitoring Well MW-2

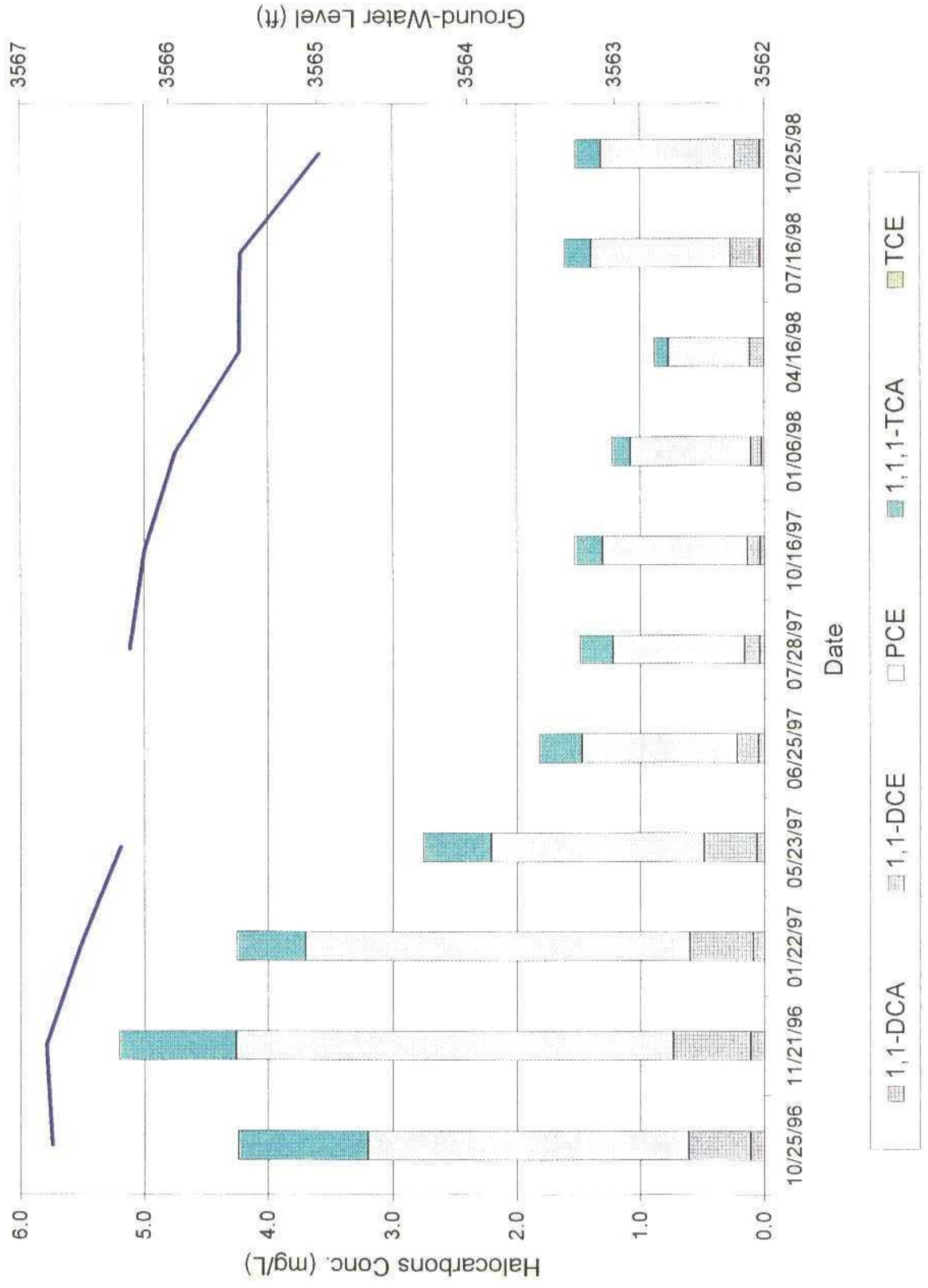
Halocarbons & Ground-Water Level



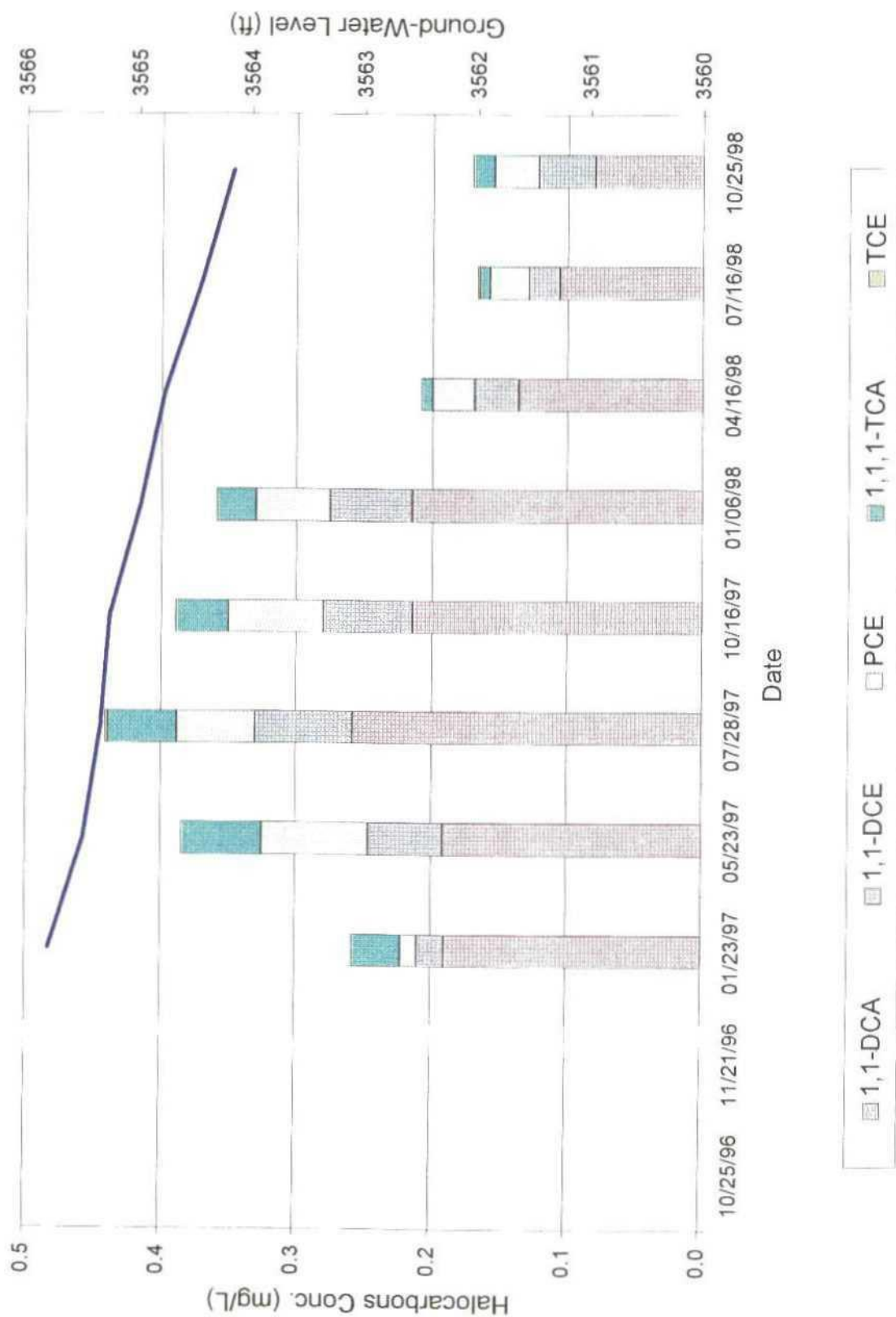
Monitoring Well MW-3 Halocarbons & Ground-Water Level



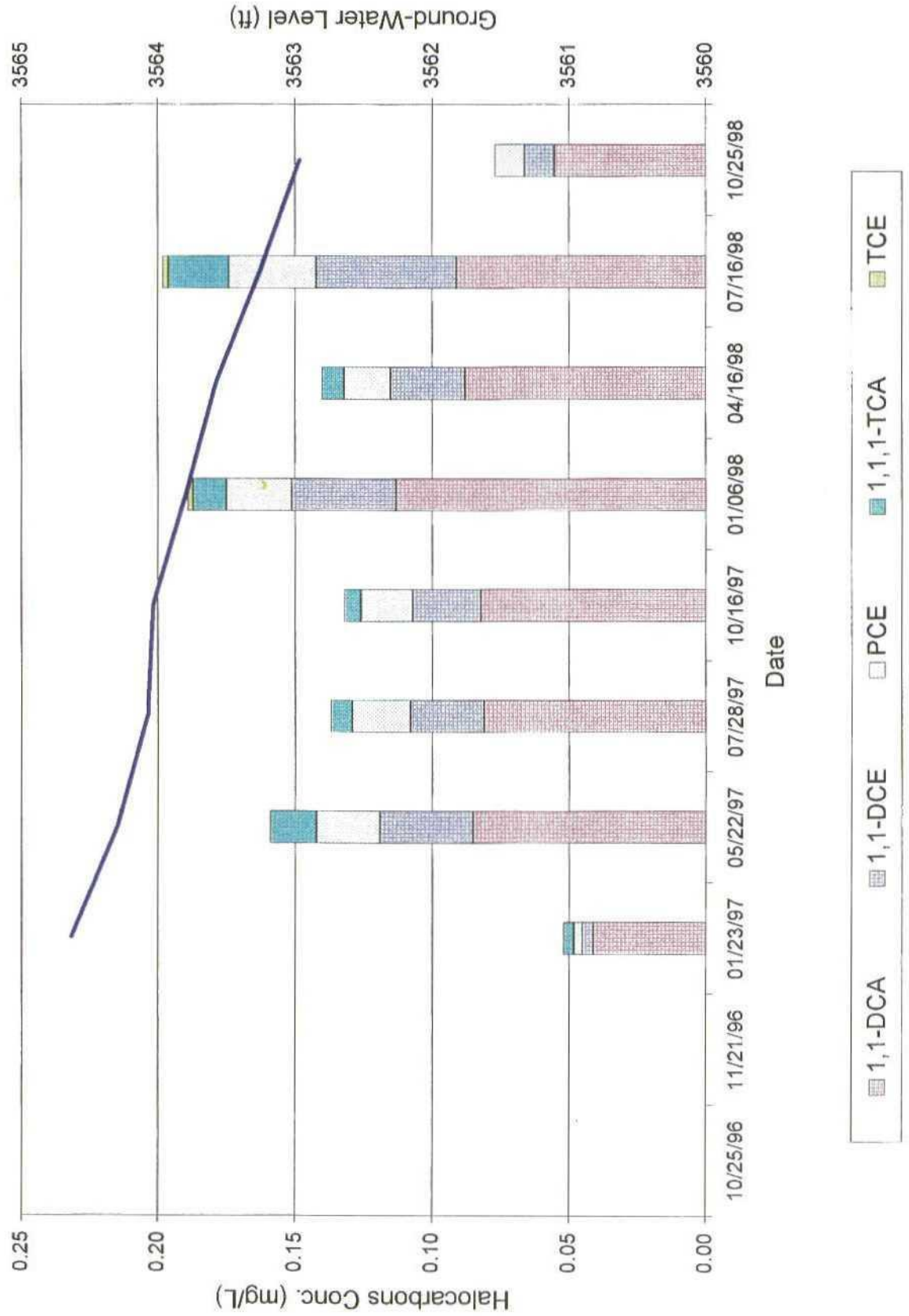
Monitoring Well MW-4 Halocarbons & Ground-Water Level



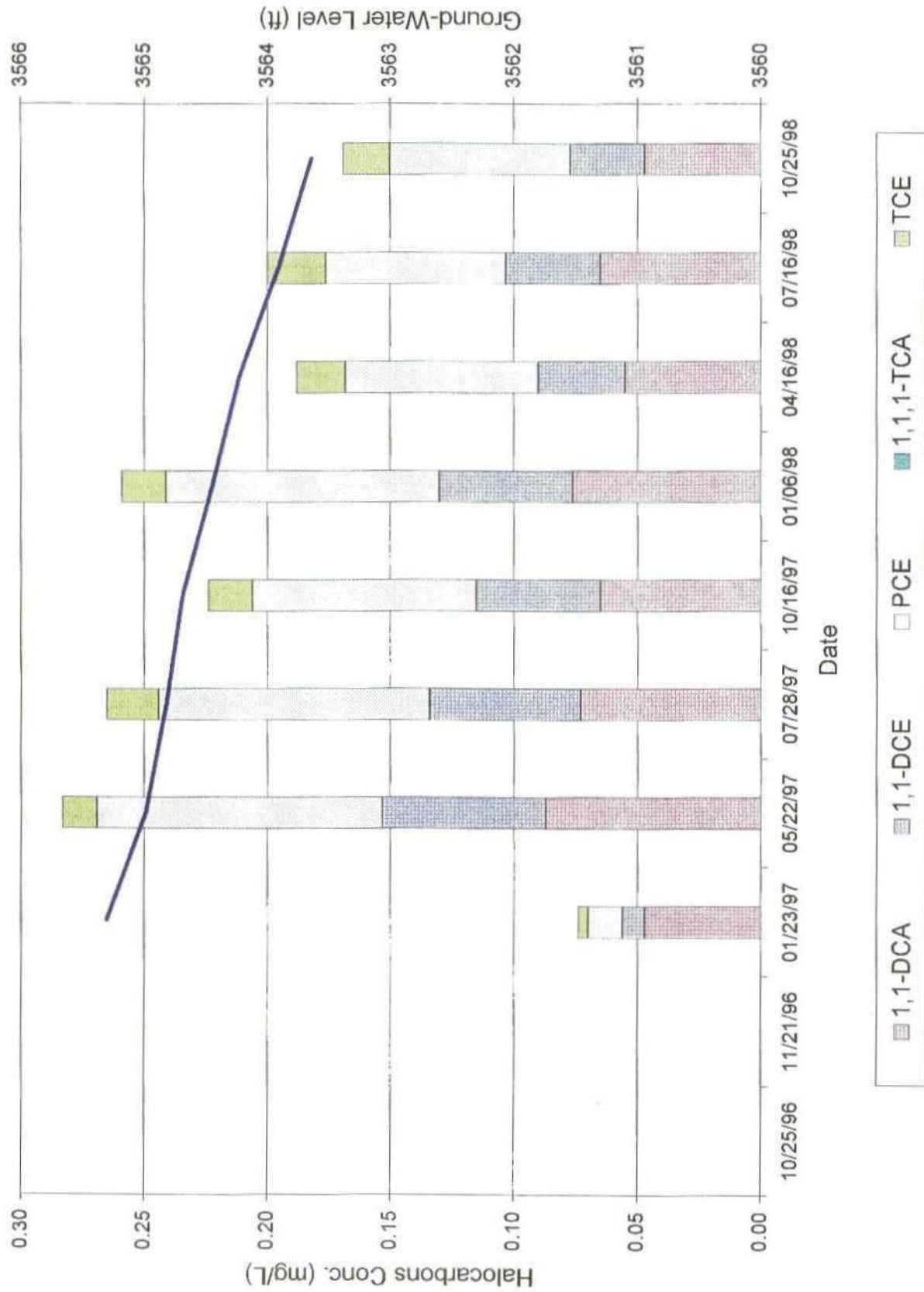
Monitoring Well MW-5 Halocarbons & Ground-Water Level



Monitoring Well MW-6 Halocarbons & Ground-Water Level



Monitoring Well MW-7 Halocarbons & Ground-Water Level



The chart displays two data series over time from October 25, 1996, to October 25, 1998. The left y-axis represents Halocarbons Concentration in mg/L, ranging from 0.0 to 8.0. The right y-axis represents Ground-Water Level in feet, ranging from 3561 to 3567. The x-axis shows dates at approximately two-month intervals.

Halocarbons Concentration (mg/L): Represented by stacked bars. The bars are divided into three segments: a bottom segment with a red cross-hatch pattern, a middle segment with a blue cross-hatch pattern, and a top segment with a solid blue color. The total concentration fluctuates, with notable peaks around May 23, 1997, and June 25, 1997.

Ground-Water Level (ft): Represented by a solid blue line. The level starts at approximately 3561.5 ft in late 1996, rises to about 3565.5 ft by early 1997, and then fluctuates between 3564.5 ft and 3566.5 ft through 1998.

Date	Halocarbons Concentration (mg/L)	Ground-Water Level (ft)
10/25/96	~0.5	~3561.5
11/21/96	~0.5	~3561.5
01/23/97	~1.5	~3561.5
05/23/97	~6.5	~3565.5
06/25/97	~5.5	~3565.0
07/28/97	~5.5	~3565.0
10/16/97	~5.5	~3565.0
01/06/98	~5.5	~3565.0
04/16/98	~5.5	~3565.0
07/16/98	~5.5	~3565.0
10/25/98	~5.5	~3565.0



Halocarbons Conc. (mg/L)

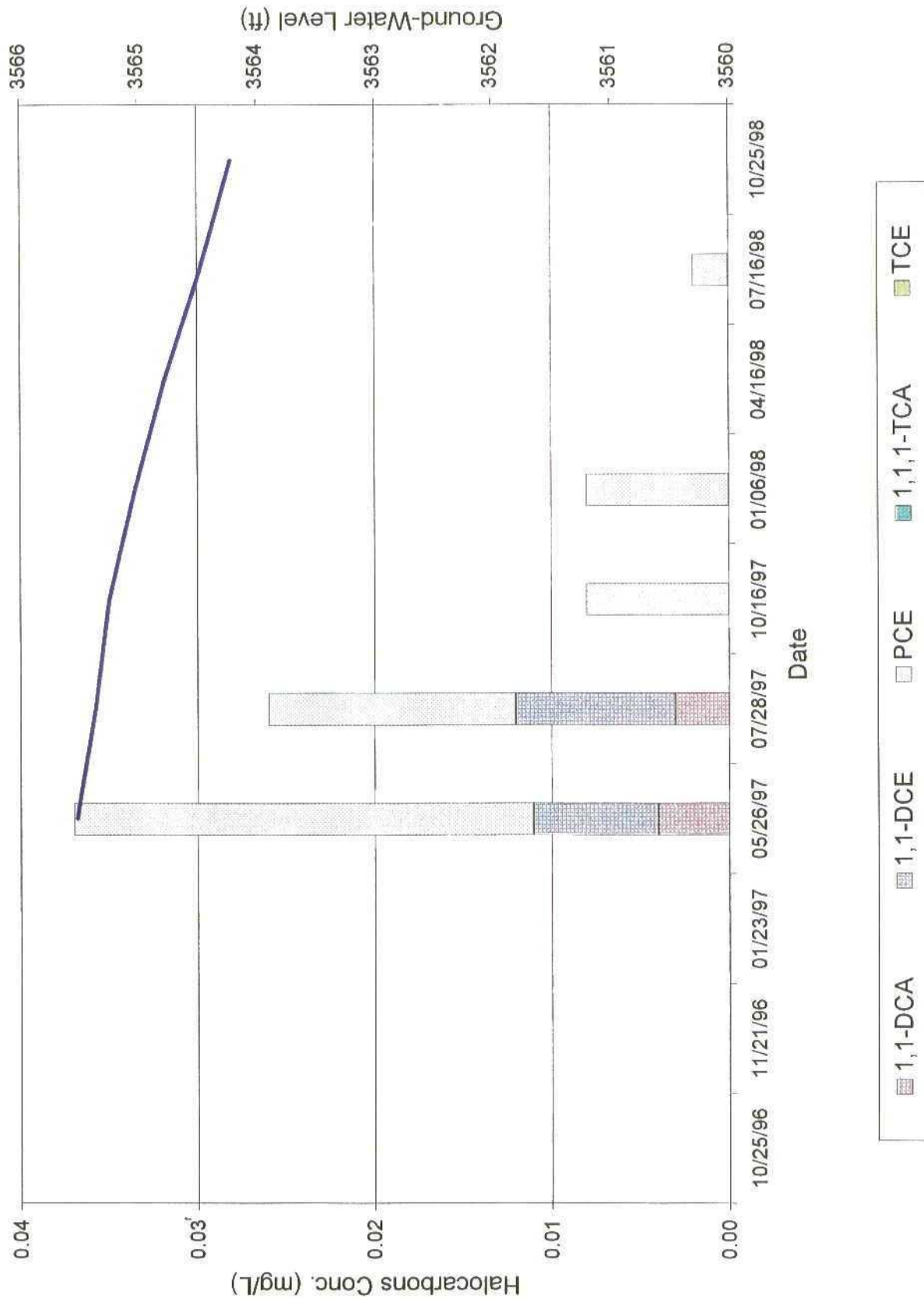
Ground-Water Level (ft)

Date

Date	Halocarbons Conc. (mg/L)	Ground-Water Level (ft)
10/25/96	0.0	3566.5
11/21/96	0.0	3566.5
01/23/97	0.2	3566.2
05/23/97	2.0	3565.8
06/25/97	1.5	3565.5
07/28/97	1.7	3565.2
10/16/97	1.4	3564.8
01/06/98	2.0	3564.5
04/16/98	1.8	3564.2
07/16/98	2.2	3563.8
10/25/98	2.1	3562.5



Monitoring Well MW-10 Halocarbons & Ground-Water Level



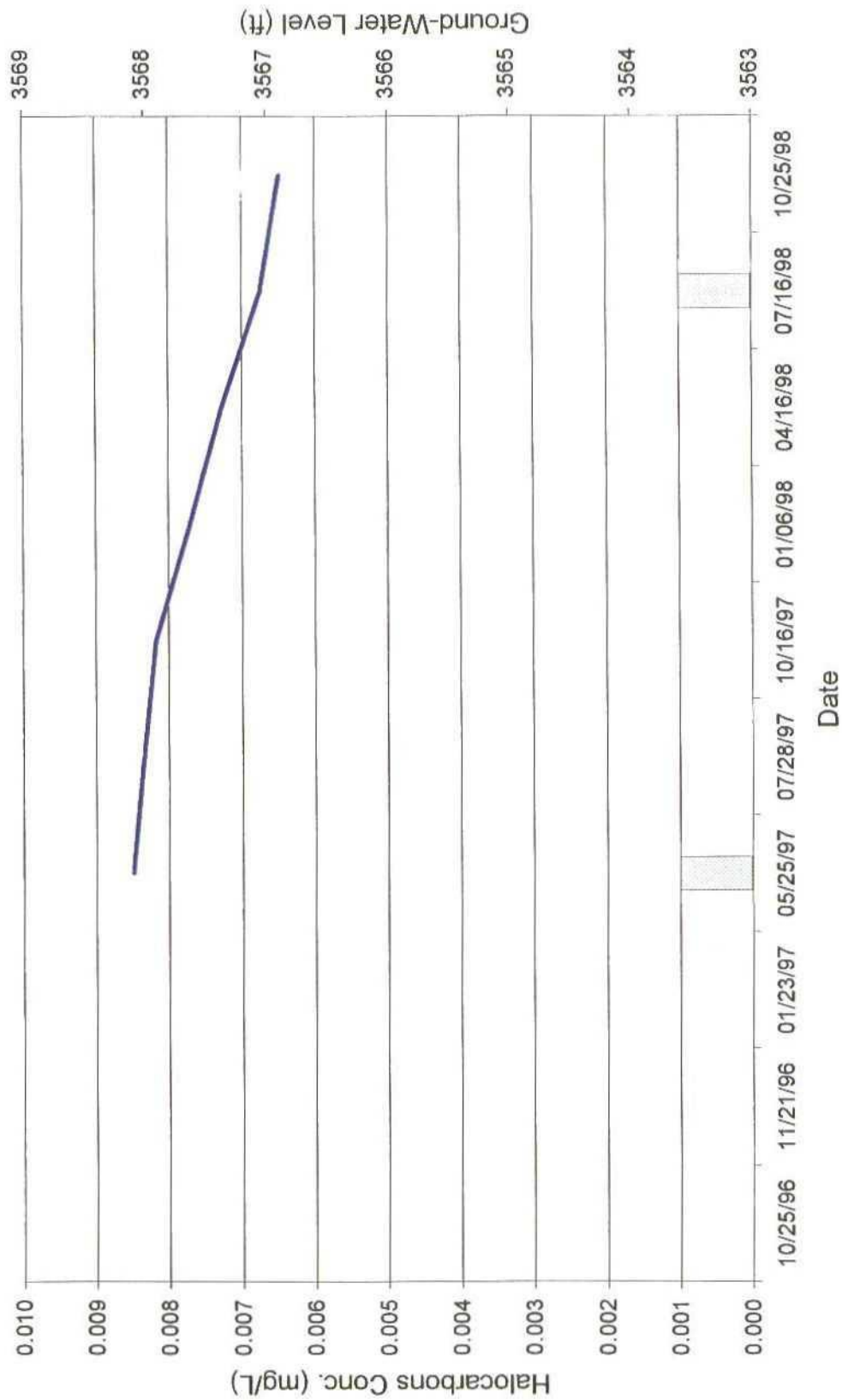
Monitoring Well MW-11

Halocarbons & Ground-Water Level



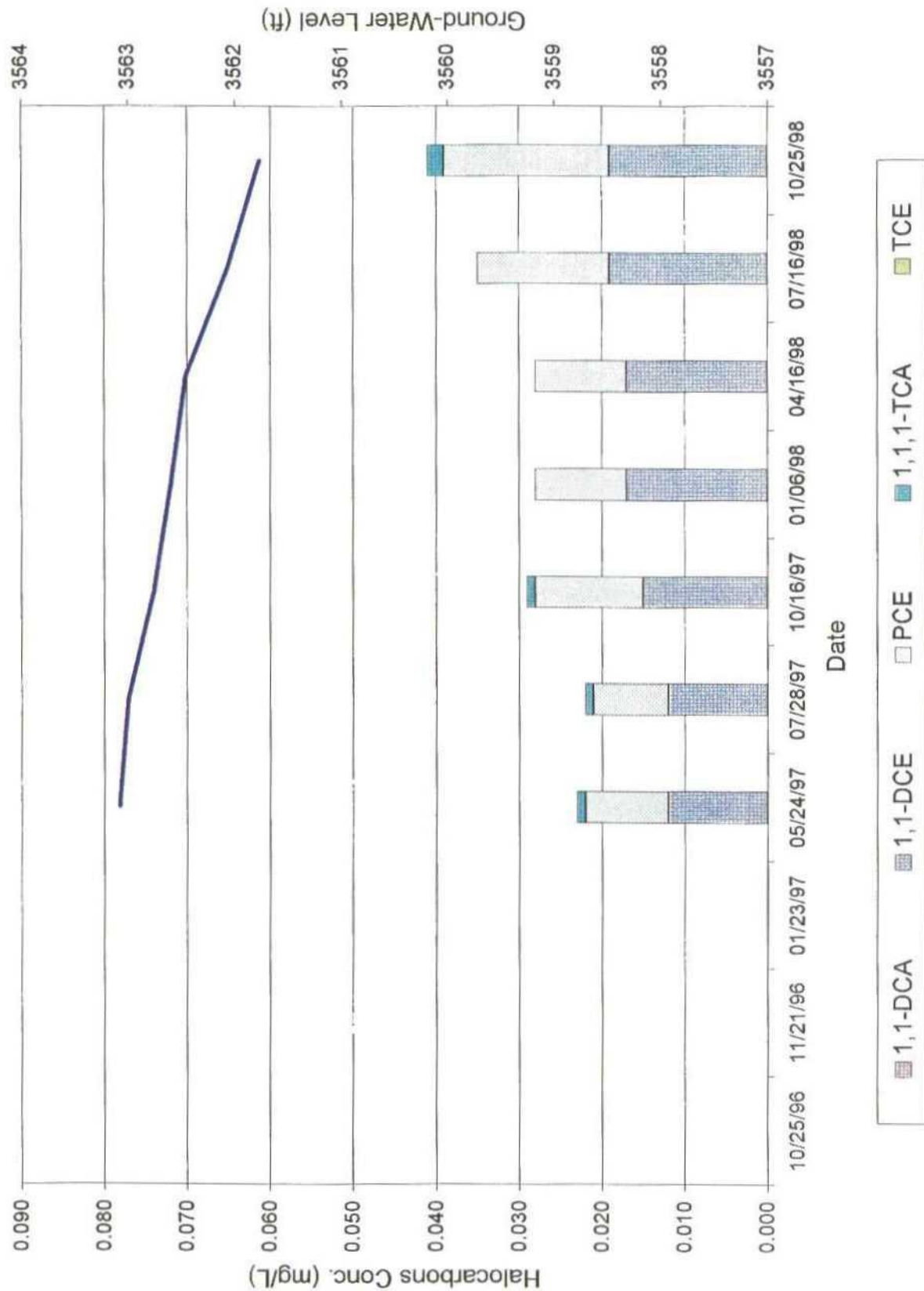
Monitoring Well MW-12

Halocarbons & Ground-Water Level



Monitoring Well MW-13

Halocarbons & Ground-Water Level



Monitoring Well MW-14 Halocarbons & Ground-Water Level



Monitoring Well MW-15 Halocarbons & Ground-Water Level



