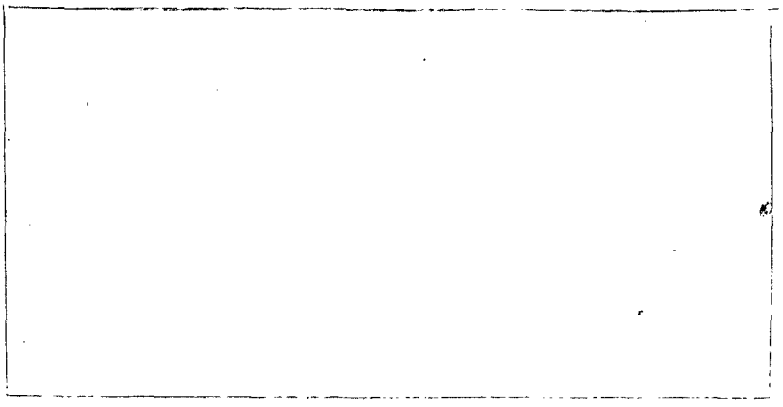
GW - 73

# REPORTS

# YEAR(S):

1998-1997



# Western Water Consultants, Inc.

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AND ENVIRONMENTAL CONSULTING

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Oil Conservation Division

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Schlumberger Oilfield Services

Oilfield Services Shared Resources

**John A. Miller**
Remediation Manager

RECEIVED
JUN 29 1998
OIL CONSERVATION DIVISION

June 12, 1998

Mr. Jack Ford
Environmental Bureau
New Mexico Oil Conservation Division
2040 S. Pacheco
Santa Fe, New Mexico 87505

Re: Air-Sparging Pilot Test Report for the Dowell, a division of Schlumberger Technology Corporation Facility in Hobbs, New Mexico

Dear Mr. Ford:

Enclosed are two copies of the air-sparging pilot test report for the Dowell, a division of Schlumberger Technology Corporation facility in Hobbs, New Mexico pending your review, we plan to continue to operate both the air-sparging and SVE systems. If you have any questions concerning this report, please call me at (281)285-8498.

Sincerely,

John A. Miller
Remediation Manager

cc: WWC

Mr. Wayne Price
New Mexico Oil Conservation Division
Hobbs District Office
PO Box 1980
Hobbs, New Mexico 88240

bcc: B. Curtis
B. Schindler
C. Brannan

P.O. Box 2727, Houston, Texas 77252-2727
300 Schlumberger Drive, Sugar Land, Texas 77478
(281) 285-8498 (281) 285-8526 (fax)

# AIR-SPARGING PILOT TEST REPORT FOR DOWELL, A DIVISION OF SCHLUMBERGER TECHNOLOGY CORPORATION FACILITY IN HOBBS, NEW MEXICO

**June 24, 1998**

Prepared For:

Dowell, a division of Schlumberger
Technology Corporation
300 Schlumberger Drive
Sugar Land, Texas 77478

Prepared By:


Western Water Consultants, Inc.
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A – Air Quality Laboratory Data Reports

# *1.0 INSTALLATION*

## 1.0 INTRODUCTION

This report documents the installation and results to date of an air-sparging (AS) pilot test performed at the Dowell, a division of Schlumberger Technology Corporation facility in Hobbs, New Mexico (Figure 1). Six air-sparging wells and three deep soil vapor extraction (SVE) wells were installed by Western Water Consultants, Inc. (WWC) in the former UST Area. Details of the AS and deep SVE well installation were presented in a report to the New Mexico Oil and Conservation Division (NMOCD) entitled "Report for the Second Quarter-water Monitoring Event and Additional Site Investigation at the Dowell, a division of Schlumberger Technology Corporation Facility in Hobbs, New Mexico" dated July 3, 1997. The three deep SVE wells were incorporated into the existing SVE system the week of June 23-26, 1997. Details were provided in a report to the NMOCD entitled "Report Presenting Modifications Made to the Existing Soil Vapor Extraction (SVE) Systems at the Dowell, a division of Schlumberger Technology Corporation Facility in Hobbs, New Mexico".

W.D. 2nd completion info in 2/27/98 rpt

The AS distribution piping and the blower equipment, consisting of a positive displacement blower assembly and an air cooler unit, were installed during the week of October 13-16, 1997 by WWC in the former underground storage tank (UST) area (Figure 2). Modifications were made to the AS system and repairs were made to the SVE system the following month. The pilot test was initiated during the week of November 17 –21, 1997. The New Mexico Environmental Department of Air Pollution Control Bureau granted these modifications to the existing SVE system in a letter dated May 22, 1997.

# *2.0 AIR-SPARGING REMEDIATION SYSTEM INSTALLATION*

## 2.0 AIR-SPARGING REMEDIATION SYSTEM INSTALLATION

### 2.1 Air-sparging Wells

The six air-sparging wells, AS-1 through AS-6, were drilled and installed May 24-25, 1997 at the locations shown on Figures 1 and 2. The wells were drilled with a 6.125-inch OD bit by an air rotary rig to a depth of approximately 85 feet. The depth to the static water level in the six wells is approximately 72.5 to 73 feet. One-inch, flush-joint, schedule 40, PVC casing was installed with one-foot of factory slotted 0.020-inch screen at the bottom of the casing. An 8/16 mesh silica sand filter pack approximately four-foot deep was installed at the bottom of each well. Bentonite seals approximately eight-foot long were placed on top of the filter packs.

### 2.2 Air-sparging System Design Parameters

The existing SVE system is housed in a prefabricated building surrounded by a chain link fence and is large enough to accommodate a blower assembly for an air supply system (Figure 2). The electrical panel excess capacity at this building was capable of supplying a maximum standard electric motor of 10 horsepower. This value was used as the limiting drive horsepower.

The EPA in their "Guide for Corrective Action" 1994 suggests the air-sparging flow rate should be somewhere between 20 and 80 percent of the SVE flow rate and the flow rate per individual air-sparging well should be 3 to 25 SCFM. (Chapter VII, Page 18) The SVE flow rate in this system is approximately 195 SCFM taken from the blower performance curve. The 20 and 80 percent values of 195 SCFM are 39 and 156 SCFM respectively. Dividing by the 6 air-sparging wells gives 6.5 and 26 SCFM per well for the range of suggested values.

The air-sparging pressure is a function of the pressure head needed to displace the water column in the air-sparging well, pressure head needed to overcome the capillary fringe at the water table surface, the friction loss in the distribution piping and the friction loss in the formation. The loss in the formation is the least known factor, depending on the pore size and spacing of the formation, and is one of the parameters to be more precisely determined from the air-sparging pilot test. However, as the cross sectional area of the formation increases at least linearly with the distance from the well, and the basic formation is sand, this factor was assumed to decrease rapidly away from the well casing. The screened portion of the well has at least twice as much open area as the cross sectional area of 1-inch well casing, and the filter pack,

being well graded sand has an even greater open area next to the casing. The interface area between the filter pack and the formation is greater than 900 square inches, so with an assumed porosity of 18% for the formation (Comprehensive Site Assessment, Hobbs City Wells UST Site, Daniel B. Stephens & Associates, 1994), an open area of more than 150 square inches is expected. From these values the friction loss into the formation was assumed to be relatively low. At a flow rate of 25 SCFM per well the four factors were estimated to be:

| | | |
|---|---|---|
| Water column in well | 13 ft | 5.6 psig |
| Capillary fringe pressure | 4 ft | 1.6 psig |
| Distribution piping friction loss | 3 ft | 1.4 psig (worst case) |
| Friction loss in formation | 3 ft | 1.5 psig |
| Totals | 26 ft | 10.1 psig |

The estimated pressure for the proposed pilot air-sparging system mandated the use of a positive displacement compressor. Cost and efficiency considerations further limited the choices to sliding vane compressors or rotary lobe blowers. Neither of these choices was ideal for this application. A single sliding vane compressor cannot supply the high end of the specified volume range, and a rotary lobe blower will be operating near the maximum allowable pressure and cannot supply the low end of the specified volume range. The sliding vane compressor also had an unacceptably long delivery time. A Roots rotary positive blower was selected, but the assembly was designed for only 102 SCFM at 11 psig to allow for some pressure variability and to remain within the allowable 10 horsepower size. A prepackaged unit with inlet and outlet silencers, an inlet filter, a discharge pressure gauge and a pressure relief valve set to 10 psig was ordered.

The discharge temperature rise from the blower assembly at 102 SCFM and 11-psig differential pressure is 209 degrees Fahrenheit. Under most operating conditions this discharge temperature will be too high for either PVC or CPVC piping. A cooler with sufficient capacity to drop the discharge temperature by approximately 150 degrees Fahrenheit was added.

A diagram of the installed AS system is shown in Figure 3.

## 2.3 System Installation

The manifold piping, blower assembly and cooler unit were installed and started up by Western Water Consultants, Inc. personnel during the week of October 13 – 17, 1997.

### 2.3.1 Manifold Piping

The air-supply piping loop for the air-sparging wells, shown in Figure 2 in plan view, was buried to a depth of 8 to 18 inches to protect the line from damage. The routing, a daisy-chain with AS-3 and AS-6 as the ends of the chain, was selected to avoid an office trailer on the site near SVE well 3-6 and to minimize the necessity of cutting asphalt paving. Except for a short section of 3-inch schedule 40 PVC line between the main air-supply line and AS-4, the air-supply piping loop is 2-inch schedule 40 PVC. The main air supply line is 3-inch schedule 40 PVC up to the 2½-inch flexible hose connection to the air cooler unit.

The air supply loop was sloped so that condensation from the air supply system will drain to the wells. The individual wells are connected to the loop through full-bore access, right angle, and valves. The valves were installed so that airflow to the individual wells could be regulated yet instrumentation can still be introduced into the well bores.

### 2.3.2 Air Supply Unit Installation

The prepackaged Roots rotary positive blower assembly was installed in the prefabricated SVE building. Inspection of the blower revealed incorrect belt pulley sizing. A replacement sheave was procured and installed to achieve the specified speed ratio. The cooler unit was placed outside the building, but within the chain link fence. An electrical box with motor starters for the blower assembly and the cooler fan was mounted next to the existing electrical distribution panel. The electrical controls for the system included a cycle timer so the air-sparging compressor could be surged if so desired, and an interlock with the SVE blower so that the air-sparging system will not operate unless the SVE blower is running. A flexible hose was installed between the blower assembly and the cooler unit.

## 2.4 System Startup

When the system was started, the discharge pressure increased until the relief valve opened. The system was immediately shut down and a bypass ball valve was installed to bleed off discharge air during startup. The system was again started with the bypass valve open. The bypass valve was then slowly closed until the relief valve was just ready to open. The system was allowed to operate and the bypass valve was periodically adjusted. After 4 hours of operation, the bypass valve could not be fully closed without the relief valve opening. The relief valve was adjusted to about 11.5 psig, but the bypass valve could still not be fully closed. The relief valve was briefly held closed manually and the discharge pressure stabilized at 14 psig.

The SVE system was experiencing frequent shutdowns by the overload circuit of the magnetic starter. Voltage and current measurements for the unit indicated high voltage and current draw on one leg. The SVE blower was removed and sent to the supplier for testing. The air-sparging system was not operated while the SVE blower was being tested.

The SVE blower was reinstalled and modifications were made to the air-sparging blower during the week of November 17 – 21, 1997. A check valve was added to the discharge piping of the blower assembly to prevent back flow from the air-sparging wells. Discharge piping and a muffler were added to the bypass valve to allow continuous operation of the bypass. The SVE system and the air-sparging system were restarted, and the bypass valve was adjusted to maintain about 11-psig pressure at the discharge of the air-sparging blower. The system has been operated to date in this manner.

# *3.0 AIR QUALITY MONITORING*

## 3.0 AIR QUALITY MONITORING

Two composite samples have been collected from the UST SVE system since the air sparge system was brought on line. Samples were collected from a port in the exhaust stack using tedlar bags and submitted for laboratory analysis by EPA Method 8260 for volatile organics. In addition, an air sample was collected from each of the 3 deep SVE wells after they were connected to the existing SVE system. Results of the air quality sampling are presented along with historical air quality data as Table 1. Laboratory data sheets are presented as Appendix A.

# *4.0 DATA EVALUATION AND CONCLUSIONS*

## 4.0 DATA EVALUATION AND CONCLUSIONS

Two air samples were collected (January 6, 1998 and April 28, 1998) since the SVE extraction system was changed from an IC engine system to the present electric motor driven blower and the AS pilot system was placed in operation. As shown on Table 1, BTEX was absent in both samples and total halocarbon concentrations ranged from 110-120 $mg/m^3$. The concentrations and analytes detected are consistent with the historical SVE data which has shown a gradual overall decline in concentrations. With air quality results from these two samples supporting the decline in concentrations, a firm conclusion about the effectiveness of the AS system cannot be made.

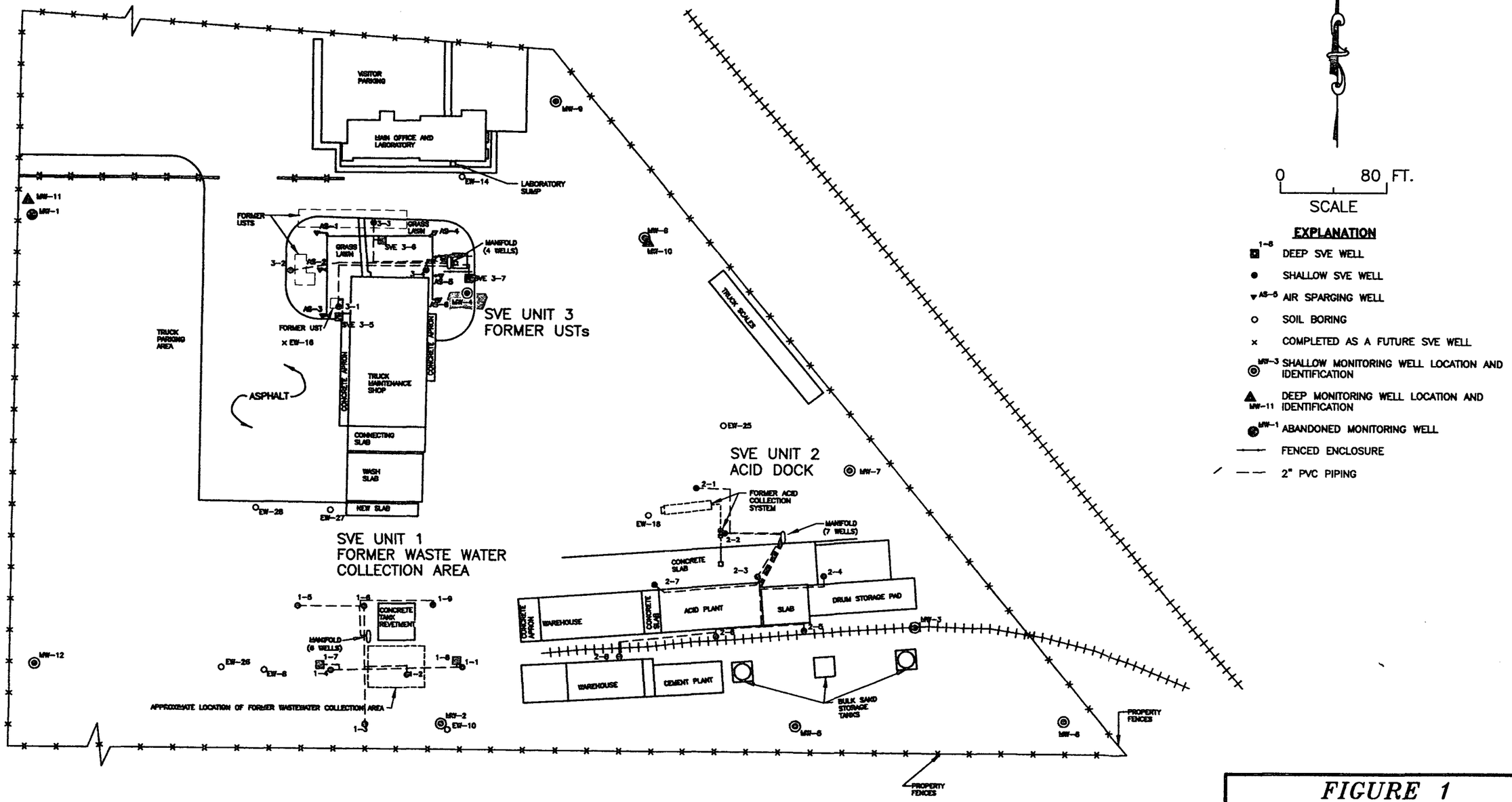
The current removal rate for the SVE system at an average concentration of 115 $mg/m^3$ is about 38 grams per hour. About 170 pounds of halocarbons were removed by the SVE system prior to the AS system startup. An additional 300 pounds have been removed since the AS system was started on November 17, 1997.

The steady decline of halocarbons in the ground water at MW-4 (Table 2) indicates the SVE system has been effective (Figure 4). Large concentrations of hydrocarbons were removed by the three deep SVE wells when they were first installed in June 1997 (Table 1). Improvements in the groundwater quality at MW-4 may also be attributable to the increased removal from these wells. A longer time frame will be necessary to more fully evaluate the AS system's effect on the rate of contaminant removal from the ground-water.

Dowell is recommending the AS pilot test be continued to better establish contaminant concentration trends in both the ground water and discharge air from the SVE system.

# *FIGURES*

K:\1720040\93-007L\CADD\96\WWBASBLDWG 08/10/98 16:13



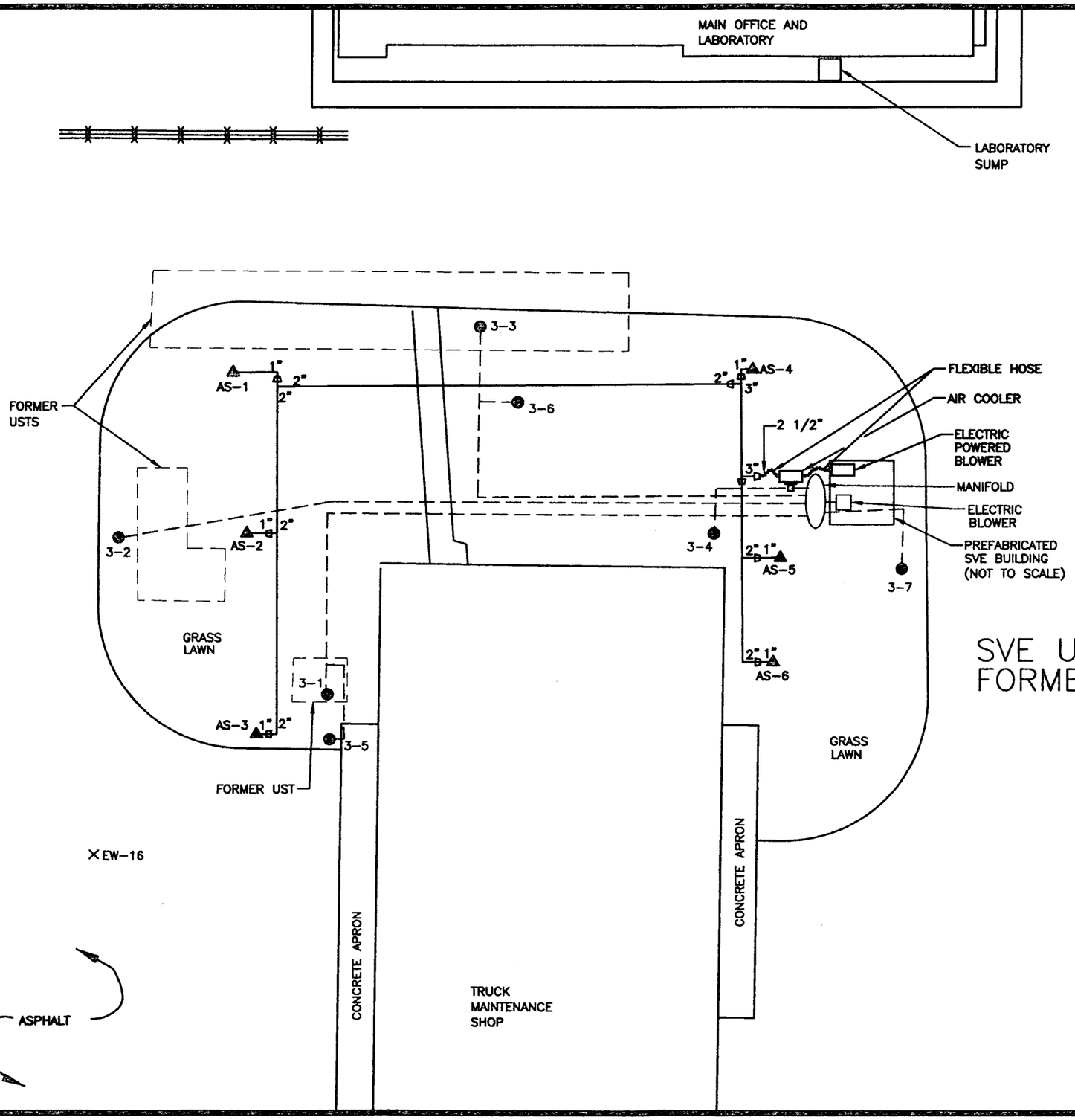

# *FIGURE 1*

## SITE MAP AND LOCATION OF MONITORING AND REMEDIATION WELLS

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

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

K:\172040\03-007L\CADD\98\3SVE.DWG 06/10/98 15:09




0 20 FT.
SCALE

# SVE UNIT 3 FORMER USTs

**EXPLANATION**

- COMPLETED AS SVE WELL
- 2" PVC AIR SPARGING PIPING
- 2" PVC SVE PIPING
- × TO BE RECONSTRUCTED AS AN ADDITIONAL SVE WELL
- AIR SPARGING WELL
- 1" 2" PIPE REDUCER

## *FIGURE 2*

SITE MAP
UNIT 3 AIR SPARGING SYSTEM
PIPING PLAN
DOWELL, A DIVISION OF
SCHLUMBERGER TECHNOLOGY CORPORATION
HOBBS, NEW MEXICO

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

K:\172040\93-007L\CADD\98\FIG-2.DWG 06/12/98 09:26

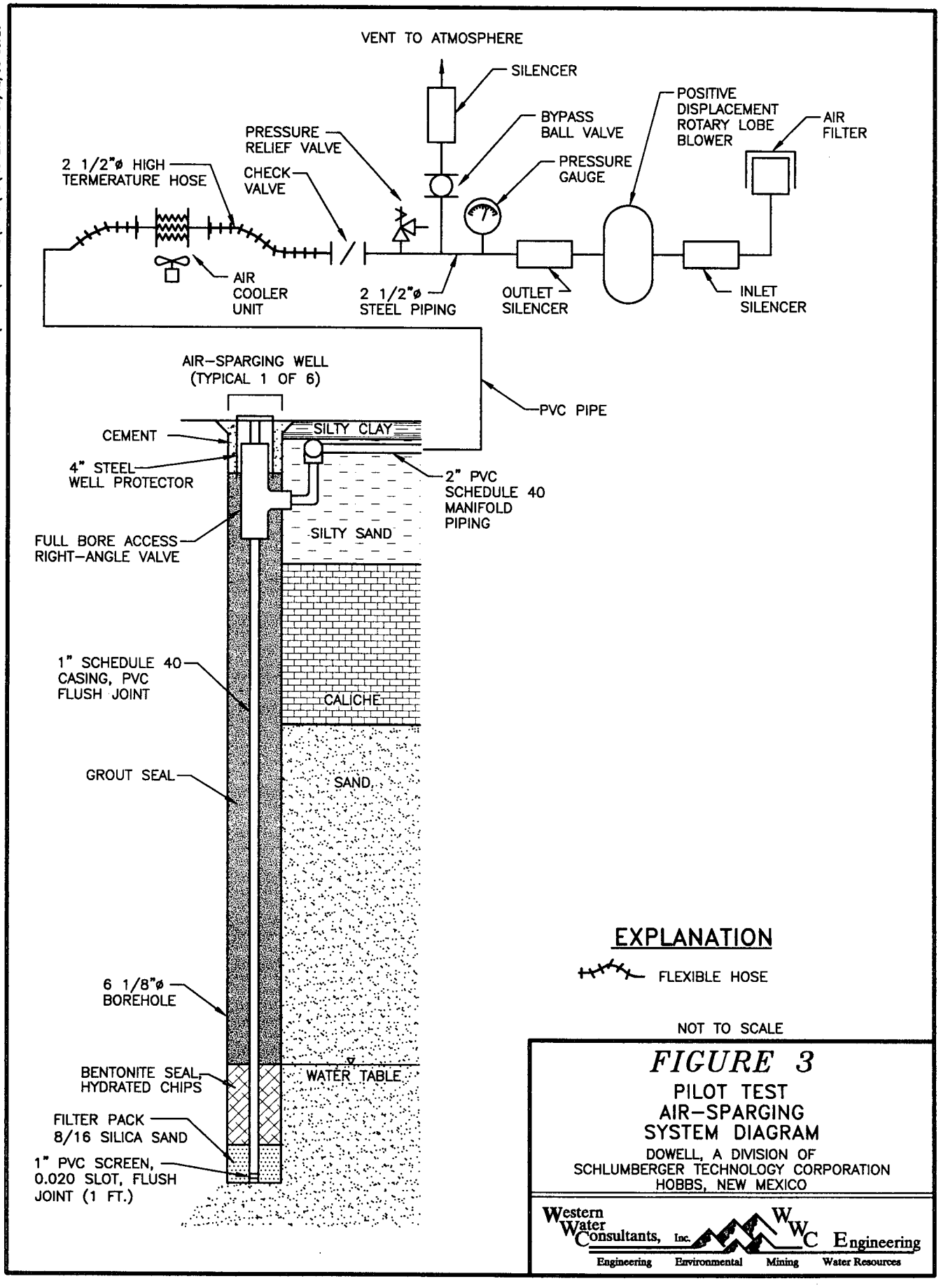



*FIGURE 3*

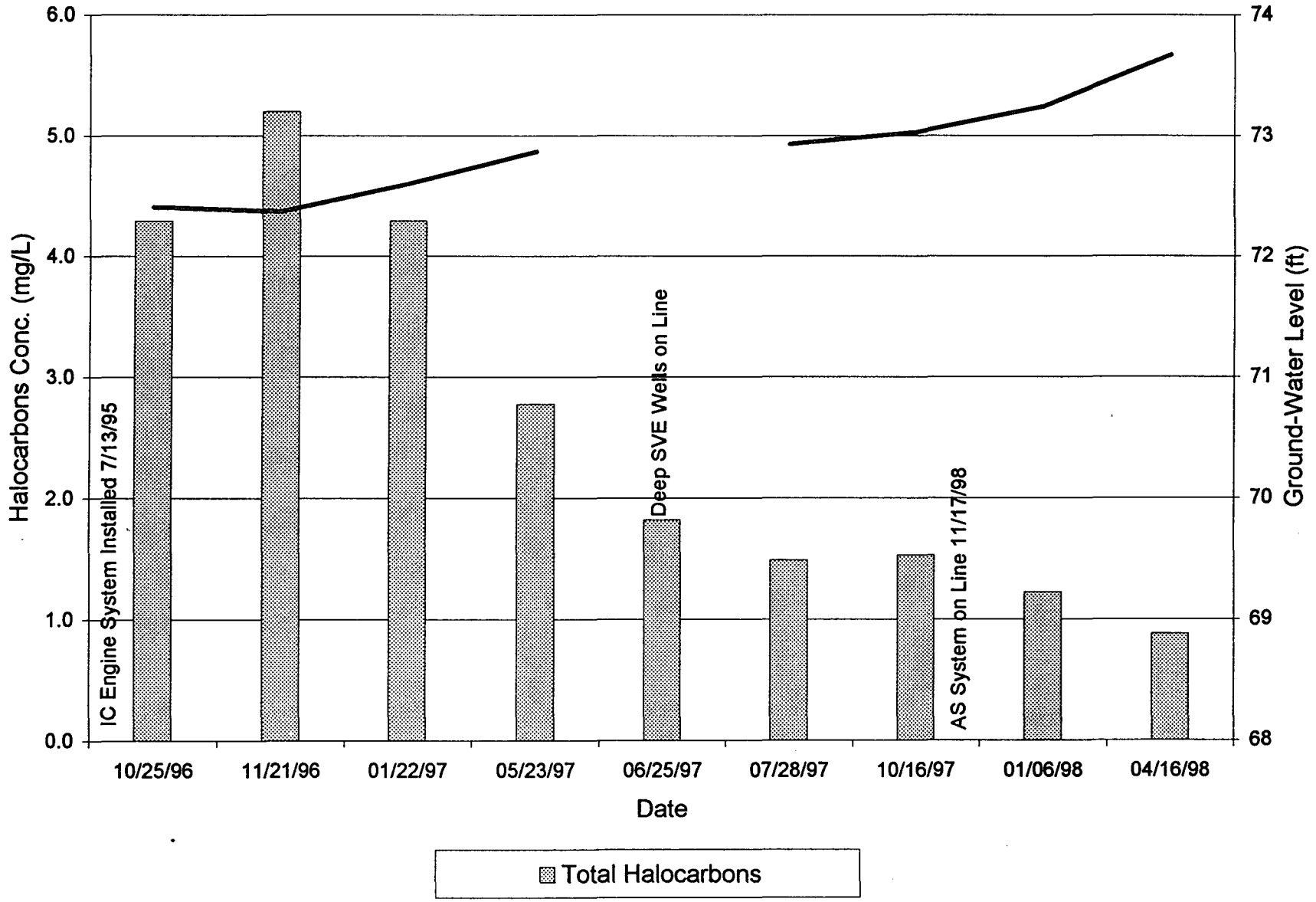
PILOT TEST
AIR-SPARGING
SYSTEM DIAGRAM

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

Western Water Consultants, Inc. WWC Engineering

Engineering Environmental Mining Water Resources

# Figure 4. Monitoring Well MW-4
# Total Halocarbons & Ground-Water Level



# *TABLES*

Table 1. Air quality data for the former UST area, Dowell facility, Hobbs, New Mexico

| Sample I.D. | Date Sampled | Sample Location | Benzene (mg/m3) | Toluene (mg/m3) | Ethyl-Benzene (mg/m3) | Total Xylene (mg/m3) | 1,1-DCE (mg/m3) | 1,1-DCA (mg/m3) | Chloromethane (mg/m3) | 1,1,1-TCA (mg/m3) | Vinyl Chloride (mg/m3) | TCE (mg/m3) | PCE (mg/m3) | Input BTEX (mg/m3) | Output BTEX (mg/m3) | Input Halocarbons (mg/m3) | Output Halocarbons (mg/m3) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **FORMER UST** | | | | | | | | | | | | | | | | | |
| 007-AREA 3 | 11/02/94 | Pilot | 1.2 | 5.7 | 5.5 | | ND(0.1) | ND(0.1) | | ND(0.1) | | | 0.49 | | | | |
| 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) | 2.68 | 870 | 15.84 | | 1379.58 | |
| 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) | 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 | | 58.3 | |
| 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 | 99.4 | 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 |
| 93007TSINPUT.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 | |
| 93007TSEXHST.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-INPUT-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) | 4.66 | ND(0.2) | 2.59 | ND(0.2) | 1.62 | | 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 | |
| **INDIVIDUAL SVE WELLS** | | | | | | | | | | | | | | | | | |
| 93-007.USTDP3.6/97 | 06/25/97 | 3-5 | ND(10.0) | ND(10.0) | ND(10.0) | ND(20.0) | 79.8 | 25.1 | ND(10.0) | 441 | ND(10.0) | ND(10.0) | 871 | 0 | | 1416.9 | |
| 93-007.USTDP2.6/97 | 06/25/97 | 3-6 | ND(10.0) | ND(10.0) | ND(10.0) | ND(20.0) | 120 | 13.2 | ND(10.0) | 114 | ND(10.0) | ND(10.0) | 368 | 0 | | 615.2 | |
| 93-007.USTDP1.6/97 | 06/25/97 | 3-7 | ND(1.0) | ND(1.0) | ND(1.0) | ND(2.0) | 82.8 | 7.31 | ND(1.0) | 60.2 | ND(1.0) | ND(1.0) | 226 | 0 | | 376.31 | |

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

**Table 2.** Chemicals Detected in the Ground-Water at Monitoting Well MW-4, 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-4 | 10/25/96 | 0.110 | 0.051 | 0.498 | 2.590 | 1.040 | 0.005 | 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 |
| duplicate | 11/21/96 | 0.106 | 0.042 | 0.694 | 3.980 | 1.080 | ND(0.02) | ND(0.02) | ND(0.02) | ND(0.02) | ND(0.04) | ND(0.02) | 0.000 | 5.902 |
| | 01/22/97 | 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 | 0.0166J | 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 | 0.0168J | 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 | 0.0146J | 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 | 0.0114J | 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(0.02) | 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 | 0.0060J | 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 |

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

# *APPENDIX A*

## *Air Quality Laboratory Data Reports*

**ENERGY LABORATORIES, INC.**
SHIPPING: 2393 SALT CREEK HIGHWAY • CASPER, WY 82601
MAILING: P.O. BOX 3258 • CASPER, WY 82602
E-mail: energy@trib.com • FAX: (307) 234 - 1639 • PHONE: (307) 235 - 0515 • TOLL FREE: (888) 235 - 0515

# EPA METHOD 8260

Client: **Western Water Consultants**
Sample ID: 93-007.USTCOMP. 6/97
Laboratory ID: C97-35215
Matrix: Air
Dilution Factor: 1

Former UST Area

Date Sampled: 06/25/97
Date Received: 06/26/97
Date Analyzed: 06/26/97
Date Reported: July 4, 1997

| 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** | **68.2** | 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** | **10.5** | 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)** | **2.03** | 1.0 |
| 594-20-7 | 2,2 - Dichloropropane | ND | 1.0 |
| **71-55-6** | **1,1,1 - Trichloroethane** | **125** | 1.0 |
| **107-06-2** | **1,2 - Dichloroethane** | **1.54** | 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** | **1.11** | 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** | **1.44** | 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** | **335** | 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: 93-007.USTCOMP. 6/97
Laboratory ID: C97-35215

Former UST Area

Date Sampled: 06/25/97
Date Analyzed: 06/26/97
Date Reported: July 4, 1997

| 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 | 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 | 1460733 | 1334266 | 109% | 50 - 200 % |
| Fluorobenzene | 2930688 | 2713933 | 108% | 50 - 200 % |
| 1,4 - Difluorobenzene | 2388702 | 2179375 | 110% | 50 - 200 % |
| Chlorobenzene - d5 | 1707256 | 1568157 | 109% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 816804 | 718198 | 114% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.89 | 98.9% | 86 - 118 % |
| Toluene - d8 | 10.1 | 101% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.93 | 99.3% | 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

Report File:F:\REPORTS\CLIENTS.97\WEST_WAT.ER\ORGANIC.CAS\35215.xls

Analyst: YW
Reviewed: sec

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# EPA METHOD 8260

Client: **Western Water Consultants**
Sample ID: 93-007.USTDP1. 6/97
Laboratory ID: C97-35216
Matrix: Air
Dilution Factor: 1

Deep SVE well 3-7

Date Sampled: 06/25/97
Date Received: 06/26/97
Date Analyzed: 06/26/97
Date Reported: July 4, 1997

| 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** | **82.8** | 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** | **7.31** | 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)** | **1.07** | 1.0 |
| 594-20-7 | 2,2 - Dichloropropane | ND | 1.0 |
| **71-55-6** | **1,1,1 - Trichloroethane** | **60.2** | 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** | **226** | 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** Date Sampled: 06/25/97
Sample ID: 93-007.USTDP1. 6/97 Date Analyzed: 06/26/97
Laboratory ID: C97-35216 Date Reported: July 4, 1997

Deep SVE well 3-7

| 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 | 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*

*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 | 1524534 | 1334266 | 114% | 50 - 200 % |
| Fluorobenzene | 3083096 | 2713933 | 114% | 50 - 200 % |
| 1,4 - Difluorobenzene | 2483535 | 2179375 | 114% | 50 - 200 % |
| Chlorobenzene - d5 | 1782655 | 1568157 | 114% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 856878 | 718198 | 119% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 10.1 | 101% | 86 - 118 % |
| Toluene - d8 | 10.0 | 100% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.1 | 101% | 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

Report File:F:\REPORTS\CLIENTS.97\WEST_WAT.ER\ORGANIC.CAS\97_35213.xls

Analyst: yw
Reviewed: sec

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# EPA METHOD 8260

Client: **Western Water Consultants**
Sample ID: 93-007.USTDP2. 6/97
Laboratory ID: C97-35217
Matrix: Air
Dilution Factor: 10

Deep SVE well 3-6

Date Sampled: 06/25/97
Date Received: 06/26/97
Date Analyzed: 06/26/97
Date Reported: July 4, 1997

| 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** | **120** | 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** | **13.2** | 10.0 |
| 78-93-3 | 2 -Butanone (MEK) | ND | 100.0 |
| 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** | **114** | 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** | **368** | 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: 93-007.USTDP2. 6/97
Laboratory ID: C97-35217

Deep SVE well 3-6

Date Sampled: 06/25/97
Date Analyzed: 06/26/97
Date Reported: July 4, 1997

| C.A.S. # | TARGET COMPOUNDS | CONCENTRATION ($mg/m^3$) | LIMIT OF DETECTION ($mg/m^3$) |
|---|---|---|---|
| 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*

| INTERNAL STANDARDS | AREA | ICAL / CCAL AREA | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|---|
| Pentafluorobenzene | 1408035 | 1334266 | 106% | 50 - 200 % |
| Fluorobenzene | 2854854 | 2713933 | 105% | 50 - 200 % |
| 1,4 - Difluorobenzene | 2300607 | 2179375 | 106% | 50 - 200 % |
| Chlorobenzene - d5 | 1647557 | 1568157 | 105% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 783818 | 718198 | 109% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 10.2 | 102% | 86 - 118 % |
| Toluene - d8 | 10.1 | 101% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.1 | 101% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.98 | 99.8% | 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

Report File:F:\REPORTS\CLIENTS.97\WEST_WAT.ER\ORGANIC.CAS\97_35213.xls

Analyst: yw
Reviewed: sec

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# EPA METHOD 8260

Client: **Western Water Consultants**
Sample ID: 93-007.USTDP3. 6/97
Laboratory ID: C97-35218
Matrix: Air
Dilution Factor: 10

Deep SVE well 3-5

Date Sampled: 06/25/97
Date Received: 06/26/97
Date Analyzed: 06/26/97
Date Reported: July 4, 1997

| 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** | **79.8** | 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** | **25.1** | 10.0 |
| 78-93-3 | 2 -Butanone (MEK) | ND | 100.0 |
| 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** | **441** | 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** | **871** | 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: 93-007.USTDP3. 6/97
Laboratory ID: C97-35218

Deep SVE well 3-5

Date Sampled: 06/25/97
Date Analyzed: 06/26/97
Date Reported: July 4, 1997

| C.A.S. # | TARGET COMPOUNDS | CONCENTRATION ($mg/m^3$) | LIMIT OF DETECTION ($mg/m^3$) |
|---|---|---|---|
| 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*

| INTERNAL STANDARDS | AREA | ICAL / CCAL AREA | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|---|
| Pentafluorobenzene | 1381918 | 1334266 | 104% | 50 - 200 % |
| Fluorobenzene | 2788756 | 2713933 | 103% | 50 - 200 % |
| 1,4 - Difluorobenzene | 2259676 | 2179375 | 104% | 50 - 200 % |
| Chlorobenzene - d5 | 1618016 | 1568157 | 103% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 753752 | 718198 | 105% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.98 | 99.8% | 86 - 118 % |
| Toluene - d8 | 9.99 | 99.9% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.1 | 101% | 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

Report File:F:\REPORTS\CLIENTS.97\WEST_WAT.ER\ORGANIC.CAS\97_35213.xls

Analyst: yw
Reviewed: sec

File 93007D

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MAILING: P.O. BOX 3258 • CASPER, WY 82602
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# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | Date Sampled: | 01/06/98 |
| Project: | 93007L-98.1 | Time Sampled: | 10:20 |
| Sample ID: | 93007-UST.1/98 | Date Received: | 01/07/98 |
| Laboratory ID: | C98-10271 | Date Analyzed: | 01/07/98 |
| Matrix: | Air | Date Reported: | January 23, 1998 |
| Dilution Factor: | 5 | | |

| 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** | **3.85** | J | 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** | **8.25** | | 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** | **102** | | 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** | Date Sampled: | 01/06/98 |
| Sample ID: | 93007-UST.1/98 | Date Analyzed: | 01/07/98 |
| Laboratory ID: | C98-10271 | Date Reported: | January 23, 1998 |

| *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 | 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 | 1425835 | 1211606 | 118% | 50 - 200 % |
| Fluorobenzene | 2607640 | 2270939 | 115% | 50 - 200 % |
| 1,4 - Difluorobenzene | 2323771 | 2086613 | 111% | 50 - 200 % |
| Chlorobenzene - d5 | 1733186 | 1539365 | 113% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 744830 | 660320 | 113% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 10.3 | 103% | 86 - 118 % |
| Toluene - d8 | 9.89 | 98.9% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.4 | 104% | 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

Report File:R:\Reports\Clients98\WesternWaterConsultants\98_10271_8260.xls

Analyst: yw
Reviewed: sec

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# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | Date Sampled: | 04/28/98 |
| Project: | PROJ#93007-1 | Time Sampled: | NST |
| Sample ID: | 93007-UST.4/98 | Date Received: | 04/29/98 |
| Laboratory ID: | C98-28036 | Date Analyzed: | 04/29/98 |
| Matrix: | Air | Date Reported: | May 13, 1998 |
| Dilution Factor: | 5 | | |

| *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** | **2.15** | J | 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** | **4.15** | 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** | **121** | | 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** | Date Sampled: | 04/28/98 |
| Sample ID: | 93007-UST.4/98 | Date Analyzed: | 04/29/98 |
| Laboratory ID: | C98-28036 | Date Reported: | May 13, 1998 |

| *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 | 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 | 1379163 | 1526580 | 90.3% | 50 - 200 % |
| Fluorobenzene | 2745648 | 2879689 | 95.3% | 50 - 200 % |
| 1,4 - Difluorobenzene | 2365365 | 2531143 | 93.5% | 50 - 200 % |
| Chlorobenzene - d5 | 1743526 | 1807777 | 96.4% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 719681 | 756975 | 95.1% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 10.7 | 107% | 86 - 118 % |
| Toluene - d8 | 9.94 | 99.4% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.3 | 103% | 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

Report File:R:\Reports\Clients98\Western_Water_Consultants\98_28036_8260.XLS

Analyst: yw
Reviewed: sec

Schlumberger Oilfield Services

Oilfield Services Shared Resources

**John A. Miller**
Remediation Manager

September 12, 1997

Mr. Roger W. Anderson
New Mexico Energy, Minerals & Natural Resources Department
Oil Conservation Division
2040 S. Pacheco
Santa Fe, NM 87505

Re: Modifications Made to Existing Soil Vapor Extraction (SVE) Systems at the Dowell, a division of Schlumberger Technology Corporation Facility in Hobbs, New Mexico.

Dear Mr. Anderson:

The week of June 23-26, 1997 Western Water Consultants, Inc. (WWC) completed modifications to the 3 SVE systems at the Dowell, a division of Schlumberger Technology Corporation in Hobbs, New Mexico. In addition to connecting SVE wells to existing systems, water and air quality samples were collected for laboratory analysis.

## 1.0 SVE SYSTEM MODIFICATIONS

Five deep SVE wells and 2 shallows SVE wells were plumbed into existing header piping (Figure 1). The drilling and completions of the SVE wells were discussed in detail in previous reports entitled "Determination of the Extent of Soil Contamination and Installation of Soil Vapor Extraction Systems at the Dowell Schlumberger Facility Hobbs, New Mexico, September 29, 1995" and "Results of the Second Quarter Ground-water Monitoring, Additional Investigation and Remedial Activities at the Dowell, a division of Schlumberger Technology Corporation, Hobbs, New Mexico, July 3, 1997".

Two deep SVE wells (1-7, 1-8) and 1 shallow SVE well (1-9) were plumbed into the Unit 1 SVE system in the former waste-water collection area (Figure 2). One shallow SVE well (2-8) was plumbed into the Unit 2 acid dock system (Figure 3). Internal combustion Accu-vac units are still being used to remove contaminated from the soil in these areas.

Three deep SVE wells (3-5, 3-6, 3-7) were plumbed into existing header piping of the Unite 3 SVE system in the former UST area (Figure 4). The internal combustion Accu-vac unit was removed and replaced with an electric blower. A more detailed description of the modifications will be presented to the NMOCD in the annual report.

P.O. Box 2727, Houston, Texas 77252-2727
300 Schlumberger Drive, Sugar Land, Texas 77478
(281) 285-8498 (281) 285-8526 (fax)

## 2.0 WATER AND AIR QUALITY MONITORING

Ground-water samples were collected from monitoring wells MW-2, 4, 8, and 9 to provide a baseline by which the effects of the deep SVE wells could be gauged and submitted for laboratory analysis by EPA Method 8260. Water quality results are presented on Table 1 and laboratory data sheets are included as enclosures.

Air quality samples were collected at each SVE unit and submitted for laboratory analysis by EPA Method 8260. Results of the air quality sampling are presented on Table 2 and laboratory data sheets are included as enclosures.

If you have any questions concerning this report, please feel free to contract me at 281-285-8498.

Sincerely,

John A. Miller
Remediation Manager

JAM/lld

Enclosures

cc: R. Deuell, WWC

**Table 1. 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 ALOCARBONS (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) | 0.000 | 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(0.002) | ND(0.001) | 0.000 | 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) | 0.000 | 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 |
| duplicate | 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) | 0.011 | 0.005 | 0.007 | 0.007 | 0.001J | 0.030 | 0.806 |
| 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(0.002) | 0.004 | 0.002 | 0.073 |
| MW-4 | 10/25/96 | 0.110 | 0.051 | 0.498 | 2.590 | 1.040 | 0.005 | 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 |
| duplicate | 11/21/96 | 0.106 | 0.042 | 0.694 | 3.980 | 1.080 | ND(0.02) | ND(0.02) | ND(0.02) | ND(0.02) | ND(0.04) | ND(0.02) | 0.000 | 5.902 |
| | 01/22/97 | 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 | 0.0166J | 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 | 0.0168J | 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 |
| MW-5 | 01/23/97 | 0.180 | 0.002 | 0.020 | 0.012 | 0.036 | 0.0008J | 0.018 | 0.004 | ND(0.001) | 0.0008J | ND(0.001) | 0.022 | 0.250 |
| duplicate | 01/23/97 | 0.190 | 0.002 | 0.018 | 0.009 | 0.034 | 0.0007J | 0.018 | 0.004 | ND(0.001) | 0.001 | 0.004 | 0.023 | 0.253 |
| | 05/23/97 | 0.191 | 0.003 | 0.055 | 0.079 | 0.059 | 0.0017J | 0.029 | ND(0.002) | ND(0.002) | ND(0.004) | ND(0.002) | 0.029 | 0.387 |
| MW-6 | 01/23/97 | 0.041 | 0.001 | 0.004 | 0.003 | 0.004 | ND(0.001) | 0.0008J | ND(0.001) | ND(0.001) | ND(0.002) | 0.0009J | 0.000 | 0.053 |
| | 05/22/97 | 0.085 | 0.002 | 0.034 | 0.023 | 0.017 | 0.00196J | 0.004 | ND(0.002) | ND(0.002) | ND(0.004) | 0.002 | 0.004 | 0.161 |
| MW-7 | 01/23/97 | 0.047 | 0.0009J | 0.009 | 0.014 | ND(0.001) | 0.004 | 0.0006J | ND(0.001) | ND(0.001) | 0.001 | 0.013 | 0.001 | 0.074 |
| | 05/22/97 | 0.087 | 0.00166J | 0.066 | 0.116 | 0.00164J | 0.014 | 0.003 | ND(0.002) | ND(0.002) | ND(0.004) | 0.062 | 0.003 | 0.283 |
| MW-8 | 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 |
| MW-9 | 01/23/97 | 0.011 | ND(0.001) | 0.063 | 0.090 | 0.045 | 0.0004J | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.002) | 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 |
| MW-10 | 05/26/97 | 0.004 | ND(0.002) | 0.007 | 0.026 | ND(0.002) | 0.0012J | 0.004 | ND(0.002) | ND(0.002) | ND(0.004) | ND(0.002) | 0.004 | 0.037 |
| duplicate | 05/26/97 | ND(0.002) | ND(0.002) | 0.008 | 0.028 | ND(0.002) | 0.0013J | 0.007 | ND(0.002) | ND(0.002) | ND(0.004) | ND(0.002) | 0.007 | 0.036 |
| MW-11 | 05/24/97 | 0.0008J | ND(0.001) | 0.0069J | 0.002 | ND(0.001) | ND(0.001) | 0.002 | ND(0.001) | ND(0.001) | 0.0010J | ND(0.001) | 0.002 | 0.002 |
| 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) | 0.0056J | 0.0052J | 0.0027J | ND(0.001) | 0.000 | 0.001 |
| 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) | 0.000 | 0.023 |
| 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 | 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 | 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 | 2.875 | 0.045 |

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.

TABLE 2. SVE System Air Sample Data from the Dowell Schlumberger Facility, Hobbs, New Mexico.

| Sample I.D. | Date Sampled | Sample Location | Benzene (mg/m3) | Toluene (mg/m3) | Ethyl-Benzene (mg/m3) | Total Xylene (mg/m3) | 1,1-DCE (mg/m3) | 1,1-DCA (mg/m3) | Chloromethane (mg/m3) | 1,1,1-TCA (mg/m3) | Vinyl Chloride (mg/m3) | TCE (mg/m3) | PCE (mg/m3) | Total Input BTEX (mg/m3) | Total Output BTEX (mg/m3) | Total Input Halocarbons (mg/m3) | Total Output Halocarbons (mg/m3) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **FORMER LAGOON** | | | | | | | | | | | | | | | | | |
| 007-AREA 1 | 11/02/94 | Pilot | ND(0.1) | 1 | 0.35 | | 29.80 | 0.487 | | 20.7 | | | 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) | 1.23 | 135 | 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 | | 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 | | 489.03 | |
| Unit 1 Output9/95-1 | | 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-WatPDinput | 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-WatPDExh.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 |
| 93007WPINPUT.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 | |
| 93007WPEXHST.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-INP.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 | | 148.4 | |
| 93-007.WP-INP.6/97 | 06/25/97 | Input | 18.7 | 104 | 33.9 | 176.3 | 17 | 22 | ND(5.0) | 156 | ND(5.0) | ND(5.0) | 97.3 | 332.9 | | 249.2 | |
| **ACID PLANT** | | | | | | | | | | | | | | | | | |
| 007-AREA 2 | 11/02/94 | Pilot | 4.5 | 23.2 | 11.4 | | 4.4 | 12.2 | | 88.5 | | | 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 |
| 93007ADINPUT.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 | |
| 93007ADEXHST.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(0.4) | 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-INP-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-INP.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 | |
| 93-007.AD-INP.6/97 | 06/25/97 | Input | ND(1.0) | 4.2 | 1.66 | 11.88 | 1.25 | 0.46J | ND(1.0) | 2.39 | ND(1.0) | ND(1.0) | 6.15 | 17.74 | | 9.79 | |
| **FORMER UST** | | | | | | | | | | | | | | | | | |
| 007-AREA 3 | 11/02/94 | Pilot | 1.2 | 5.7 | 5.5 | | ND(0.1) | ND(0.1) | | ND(0.1) | | | 0.49 | | | | |
| 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) | 2.68 | 870 | 15.84 | | 1379.58 | |
| 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) | 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 | | 58.3 | |
| 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 | 99.4 | 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 |
| 93007TSINPUT.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 | |
| 93007TSEXHST.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-INPUT-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) | 4.66 | ND(0.2) | 2.59 | ND(0.2) | 1.62 | | 4.83 | | 8.87 |

TABLE 2. SVE System Air Sample Data from the Dowell Schlumberger Facility, Hobbs, New Mexico.

| Sample I.D. | Date Sampled | Sample Location | Benzene (mg/m3) | Toluene (mg/m3) | Ethyl-Benzene (mg/m3) | Total Xylene (mg/m3) | 1,1-DCE (mg/m3) | 1,1-DCA (mg/m3) | Chloromethane (mg/m3) | 1,1,1-TCA (mg/m3) | Vinyl Chloride (mg/m3) | TCE (mg/m3) | PCE (mg/m3) | Total Input BTEX (mg/m3) | Total Output BTEX (mg/m3) | Total Input Halocarbons (mg/m3) | Total Output Halocarbons (mg/m3) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | |
| 93-007.USTCOMP.6/97 | 06/25/97 | Input | ND(1.0) | ND(1.0) | ND(1.0) | ND(2.0) | 68.2 | 10.5 | ND(1.0) | 125 | ND(1.0) | 1.11 | 335 | 0 | | 539.81 | |
| **INDIVIDUAL SVE WELLS** | | | | | | | | | | | | | | | | | |
| 93-007.USTDP3.6/97 | 06/05/97 | 3-5 | ND(10.0) | ND(10.0) | ND(10.0) | ND(20.0) | 79.8 | 25.1 | ND(10.0) | 441 | ND(10.0) | ND(10.0) | 871 | | | | |
| 93-007.USTDP2.6/97 | 06/25/97 | 3-6 | ND(10.0) | ND(10.0) | ND(10.0) | ND(20.0) | 120 | 13.2 | ND(10.0) | 114 | ND(10.0) | ND(10.0) | 368 | | | | |
| 93-007.USTDP1.6/97 | 06/25/97 | 3-7 | ND(1.0) | ND(1.0) | ND(1.0) | ND(2.0) | 82.8 | 7.31 | ND(1.0) | 60.2 | ND(1.0) | ND(1.0) | 226 | | | | |

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

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# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | | |
| Sample ID: | 93007-2.6/97 MW-2 | Date Sampled: | 06/25/97 |
| Laboratory ID: | C97-35221 | Date Received: | 06/26/97 |
| Matrix: | Water | Date Analyzed: | 06/26/97 |
| Dilution Factor: | 2 | Date Reported: | July 4, 1997 |

| 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** | **9.12** | 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** | **59.0** | 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** | **180** | 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** | **10.5** | 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** | **6.76** | 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** | **26.8** | 2.0 |
| 630-20-6 | 1,1,1,2 - Tetrachloroethane | ND | 2.0 |
| 108-90-7 | Chlorobenzene | ND | 2.0 |
| **100-41-4** | **Ethylbenzene** | **4.68** | 2.0 |
| **108-38-3** | **m,p - Xylenes (1,3- & 1,4-Dimethylbenzene)** | **4.02** | 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)** | **2.66** | 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** MW-2 | Date Sampled: | 06/25/97 |
| Sample ID: | 93007-2.6/97 | Date Analyzed: | 06/26/97 |
| Laboratory ID: | C97-35221 | Date Reported: | July 4, 1997 |

| *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** | **1.66** | **J** | 2.0 |
| 98-06-6 | tert - Butylbenzene | ND | | 2.0 |
| **95-63-6** | **1,2,4 - Trimethylbenzene** | **1.66** | **J** | 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** | **1.00** | **J** | 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 | 1298467 | 1342656 | 96.7% | 50 - 200 % |
| Fluorobenzene | 2691786 | 2713933 | 99.2% | 50 - 200 % |
| 1,4 - Difluorobenzene | 2113966 | 2179375 | 97.0% | 50 - 200 % |
| Chlorobenzene - d5 | 1558864 | 1568157 | 99.4% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 710362 | 718198 | 98.9% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 10.1 | 101% | 86 - 118 % |
| Toluene - d8 | 10.2 | 102% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.1 | 101% | 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

Report File: F:\REPORTS\CLIENTS.97\WEST_WAT.ER\ORGANIC.CAS\97_35219.xls

Analyst: yw
Reviewed: sec

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# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | | |
| Sample ID: | 93007-4.6/97 MW-4 | Date Sampled: | 06/25/97 |
| Laboratory ID: | C97-35222 | Date Received: | 06/26/97 |
| Matrix: | Water | Date Analyzed: | 06/26/97 |
| Dilution Factor: | 20 | Date Reported: | July 4, 1997 |

| C.A.S. # | TARGET COMPOUNDS | CONCENTRATION (µg/L) | | LIMIT OF DETECTION (µg/L) |
|---|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | ND | | 20.0 |
| 74-87-3 | Chloromethane | ND | | 20.0 |
| 75-01-4 | Vinyl chloride (Chloroethene) | ND | | 20.0 |
| 74-83-9 | Bromomethane | ND | | 20.0 |
| 75-00-3 | Chloroethane | ND | | 20.0 |
| 75-69-4 | Trichlorofluoromethane | ND | | 20.0 |
| **75-35-4** | **1,1 - Dichloroethene** | **175** | | 20.0 |
| 75-09-2 | Methylene chloride (Dichloromethane) | ND | | 20.0 |
| 156-60-5 | trans - 1, 2 - Dichloroethene | ND | | 20.0 |
| **75-34-3** | **1,1 - Dichloroethane** | **46.8** | | 20.0 |
| 78-93-3 | 2 -Butanone (MEK) | ND | | 200 |
| 156-59-2 | cis - 1,2 - Dichloroethene | ND | | 20.0 |
| 74-97-5 | Bromochloromethane | ND | | 20.0 |
| **67-66-3** | **Chloroform (Trichloromethane)** | **18.0** | J | 20.0 |
| 594-20-7 | 2,2 - Dichloropropane | ND | | 20.0 |
| **71-55-6** | **1,1,1 - Trichloroethane** | **349** | | 20.0 |
| **107-06-2** | **1,2 - Dichloroethane** | **16.6** | J | 20.0 |
| 563-58-6 | 1,1 - Dichloropropene | ND | | 20.0 |
| 56-23-5 | Carbon tetrachloride (Tetrachloromethane) | ND | | 20.0 |
| 71-43-2 | Benzene | ND | | 20.0 |
| 74-95-3 | Dibromomethane | ND | | 20.0 |
| 78-87-5 | 1,2 - Dichloropropane | ND | | 20.0 |
| 79-01-6 | Trichloroethene | ND | | 20.0 |
| 75-27-4 | Bromodichloromethane | ND | | 20.0 |
| 10061-01-5 | cis - 1,3 - Dichloropropene | ND | | 20.0 |
| 10061-02-6 | trans - 1,3 - Dichloropropene | ND | | 20.0 |
| 79-00-5 | 1,1,2 - Trichloroethane | ND | | 20.0 |
| 108-88-3 | Toluene | ND | | 20.0 |
| 106-93-4 | 1,2 - Dibromoethane | ND | | 20.0 |
| 142-28-9 | 1,3 - Dichloropropane | ND | | 20.0 |
| 124-48-1 | Dibromochloromethane | ND | | 20.0 |
| **127-18-4** | **Tetrachloroethene** | **1,250** | | 20.0 |
| 630-20-6 | 1,1,1,2 - Tetrachloroethane | ND | | 20.0 |
| 108-90-7 | Chlorobenzene | ND | | 20.0 |
| 100-41-4 | Ethylbenzene | ND | | 20.0 |
| 108-38-3 | m,p - Xylenes (1,3- & 1,4-Dimethylbenzene) | ND | | 40.0 |
| 75-25-2 | Bromoform (Tribromomethane) | ND | | 20.0 |
| 100-42-5 | Styrene (Ethenylbenzene) | ND | | 20.0 |
| 95-47-6 | o - Xylene (1,2-Dimethylbenzene) | ND | | 20.0 |
| 79-34-5 | 1,1,2,2 - Tetrachloroethane | ND | | 20.0 |
| 96-18-4 | 1,2,3 - Trichloropropane | ND | | 20.0 |

*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** MW-4 | Date Sampled: | 06/25/97 |
| Sample ID: | 93007-4.6/97 | Date Analyzed: | 06/26/97 |
| Laboratory ID: | C97-35222 | Date Reported: | July 4, 1997 |

| *C.A.S. #* | TARGET COMPOUNDS | *CONCENTRATION (µg/L)* | *LIMIT OF DETECTION (µg/L)* |
|---|---|---|---|
| 98-82-8 | Isopropylbenzene (1-Methylethylbenzene) | ND | 20.0 |
| 108-86-1 | Bromobenzene | ND | 20.0 |
| 103-65-1 | n - Propylbenzene | ND | 20.0 |
| 95-49-8 | 2 - Chlorotoluene | ND | 20.0 |
| 106-43-4 | 4 - Chlorotoluene | ND | 20.0 |
| 108-67-8 | 1,3,5 - Trimethylbenzene | ND | 20.0 |
| 98-06-6 | tert - Butylbenzene | ND | 20.0 |
| 95-63-6 | 1,2,4 - Trimethylbenzene | ND | 20.0 |
| 135-98-8 | sec - Butylbenzene | ND | 20.0 |
| 541-73-1 | 1,3 - Dichlorobenzene | ND | 20.0 |
| 106-46-7 | 1,4 - Dichlorobenzene | ND | 20.0 |
| 99-87-6 | 4-Isopropyltoluene | ND | 20.0 |
| 95-50-1 | 1,2 - Dichlorobenzene | ND | 20.0 |
| 104-51-8 | n - Butylbenzene | ND | 20.0 |
| 96-12-8 | 1,2 - Dibromo - 3 - chloropropane | ND | 100 |
| 120-82-1 | 1,2,4 - Trichlorobenzene | ND | 20.0 |
| 91-20-3 | Naphthalene | ND | 20.0 |
| 87-68-3 | Hexachlorobutadiene | ND | 20.0 |
| 87-61-6 | 1,2 3 - Trichlorobenzene | ND | 20.0 |

***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 | 1264808 | 1342656 | 94.2% | 50 - 200 % |
| Fluorobenzene | 2662007 | 2713933 | 98.1% | 50 - 200 % |
| 1,4 - Difluorobenzene | 2113484 | 2179375 | 97.0% | 50 - 200 % |
| Chlorobenzene - d5 | 1516335 | 1568157 | 96.7% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 691894 | 718198 | 96.3% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 10.2 | 102% | 86 - 118 % |
| Toluene - d8 | 10.0 | 100% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.2 | 102% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.95 | 99.5% | 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

Report File: F:\REPORTS\CLIENTS.97\WEST_WAT.ER\ORGANIC.CAS\97_35219.xls

Analyst: yw
Reviewed: sec

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# EPA METHOD 8260

Duplicate of MW-4

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | | |
| Sample ID: | 93007-A.6/97 | Date Sampled: | 06/25/97 |
| Laboratory ID: | C97-35223 | Date Received: | 06/26/97 |
| Matrix: | Water | Date Analyzed: | 06/26/97 |
| Dilution Factor: | 20 | Date Reported: | July 4, 1997 |

| C.A.S. # | TARGET COMPOUNDS | CONCENTRATION (µg/L) | | LIMIT OF DETECTION (µg/L) |
|---|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | ND | | 20.0 |
| 74-87-3 | Chloromethane | ND | | 20.0 |
| 75-01-4 | Vinyl chloride (Chloroethene) | ND | | 20.0 |
| 74-83-9 | Bromomethane | ND | | 20.0 |
| 75-00-3 | Chloroethane | ND | | 20.0 |
| 75-69-4 | Trichlorofluoromethane | ND | | 20.0 |
| **75-35-4** | **1,1 - Dichloroethene** | **167** | | 20.0 |
| 75-09-2 | Methylene chloride (Dichloromethane) | ND | | 20.0 |
| 156-60-5 | trans - 1, 2 - Dichloroethene | ND | | 20.0 |
| **75-34-3** | **1,1 - Dichloroethane** | **44.4** | | 20.0 |
| 78-93-3 | 2 -Butanone (MEK) | ND | | 200 |
| 156-59-2 | cis - 1,2 - Dichloroethene | ND | | 20.0 |
| 74-97-5 | Bromochloromethane | ND | | 20.0 |
| **67-66-3** | **Chloroform (Trichloromethane)** | **17.2** | **J** | 20.0 |
| 594-20-7 | 2,2 - Dichloropropane | ND | | 20.0 |
| **71-55-6** | **1,1,1 - Trichloroethane** | **332** | | 20.0 |
| **107-06-2** | **1,2 - Dichloroethane** | **16.8** | **J** | 20.0 |
| 563-58-6 | 1,1 - Dichloropropene | ND | | 20.0 |
| 56-23-5 | Carbon tetrachloride (Tetrachloromethane) | ND | | 20.0 |
| 71-43-2 | Benzene | ND | | 20.0 |
| 74-95-3 | Dibromomethane | ND | | 20.0 |
| 78-87-5 | 1,2 - Dichloropropane | ND | | 20.0 |
| 79-01-6 | Trichloroethene | ND | | 20.0 |
| 75-27-4 | Bromodichloromethane | ND | | 20.0 |
| 10061-01-5 | cis - 1,3 - Dichloropropene | ND | | 20.0 |
| 10061-02-6 | trans - 1,3 - Dichloropropene | ND | | 20.0 |
| 79-00-5 | 1,1,2 - Trichloroethane | ND | | 20.0 |
| 108-88-3 | Toluene | ND | | 20.0 |
| 106-93-4 | 1,2 - Dibromoethane | ND | | 20.0 |
| 142-28-9 | 1,3 - Dichloropropane | ND | | 20.0 |
| 124-48-1 | Dibromochloromethane | ND | | 20.0 |
| **127-18-4** | **Tetrachloroethene** | **1,190** | | 20.0 |
| 630-20-6 | 1,1,1,2 - Tetrachloroethane | ND | | 20.0 |
| 108-90-7 | Chlorobenzene | ND | | 20.0 |
| 100-41-4 | Ethylbenzene | ND | | 20.0 |
| 108-38-3 | m,p - Xylenes (1,3- & 1,4-Dimethylbenzene) | ND | | 40.0 |
| 75-25-2 | Bromoform (Tribromomethane) | ND | | 20.0 |
| 100-42-5 | Styrene (Ethenylbenzene) | ND | | 20.0 |
| 95-47-6 | o - Xylene (1,2-Dimethylbenzene) | ND | | 20.0 |
| 79-34-5 | 1,1,2,2 - Tetrachloroethane | ND | | 20.0 |
| 96-18-4 | 1,2,3 - Trichloropropane | ND | | 20.0 |

*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** Duplicate of MW-4
Sample ID: 93007-A.6/97
Laboratory ID: C97-35223

Date Sampled: 06/25/97
Date Analyzed: 06/26/97
Date Reported: July 4, 1997

| C.A.S. # | TARGET COMPOUNDS | CONCENTRATION (µg/L) | LIMIT OF DETECTION (µg/L) |
|---|---|---|---|
| 98-82-8 | Isopropylbenzene (1-Methylethylbenzene) | ND | 20.0 |
| 108-86-1 | Bromobenzene | ND | 20.0 |
| 103-65-1 | n - Propylbenzene | ND | 20.0 |
| 95-49-8 | 2 - Chlorotoluene | ND | 20.0 |
| 106-43-4 | 4 - Chlorotoluene | ND | 20.0 |
| 108-67-8 | 1,3,5 - Trimethylbenzene | ND | 20.0 |
| 98-06-6 | tert - Butylbenzene | ND | 20.0 |
| 95-63-6 | 1,2,4 - Trimethylbenzene | ND | 20.0 |
| 135-98-8 | sec - Butylbenzene | ND | 20.0 |
| 541-73-1 | 1,3 - Dichlorobenzene | ND | 20.0 |
| 106-46-7 | 1,4 - Dichlorobenzene | ND | 20.0 |
| 99-87-6 | 4-Isopropyltoluene | ND | 20.0 |
| 95-50-1 | 1,2 - Dichlorobenzene | ND | 20.0 |
| 104-51-8 | n - Butylbenzene | ND | 20.0 |
| 96-12-8 | 1,2 - Dibromo - 3 - chloropropane | ND | 100 |
| 120-82-1 | 1,2,4 - Trichlorobenzene | ND | 20.0 |
| 91-20-3 | Naphthalene | ND | 20.0 |
| 87-68-3 | Hexachlorobutadiene | ND | 20.0 |
| 87-61-6 | 1,2 3 - Trichlorobenzene | ND | 20.0 |

***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 | 1285810 | 1342656 | 95.8% | 50 - 200 % |
| Fluorobenzene | 2647150 | 2713933 | 97.5% | 50 - 200 % |
| 1,4 - Difluorobenzene | 2136768 | 2179375 | 98.0% | 50 - 200 % |
| Chlorobenzene - d5 | 1531399 | 1568157 | 97.7% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 697359 | 718198 | 97.1% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 10.1 | 101% | 86 - 118 % |
| Toluene - d8 | 10.1 | 101% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.2 | 102% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.92 | 99.2% | 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

Report File: F:\REPORTS\CLIENTS.97\WEST_WAT.ER\ORGANIC.CAS\97_35219.xls

Analyst: yw
Reviewed: sec

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# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | | |
| Sample ID: | 93007-8.6/97 MW-8 | Date Sampled: | 06/25/97 |
| Laboratory ID: | C97-35220 | Date Received: | 06/26/97 |
| Matrix: | Water | Date Analyzed: | 06/26/97 |
| Dilution Factor: | 20 | Date Reported: | July 4, 1997 |

| C.A.S. # | TARGET COMPOUNDS | CONCENTRATION (µg/L) | | LIMIT OF DETECTION (µg/L) |
|---|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | ND | | 20.0 |
| 74-87-3 | Chloromethane | ND | | 20.0 |
| 75-01-4 | Vinyl chloride (Chloroethene) | ND | | 20.0 |
| 74-83-9 | Bromomethane | ND | | 20.0 |
| 75-00-3 | Chloroethane | ND | | 20.0 |
| 75-69-4 | Trichlorofluoromethane | ND | | 20.0 |
| **75-35-4** | **1,1 - Dichloroethene** | **975** | | 20.0 |
| 75-09-2 | Methylene chloride (Dichloromethane) | ND | | 20.0 |
| 156-60-5 | trans - 1, 2 - Dichloroethene | ND | | 20.0 |
| **75-34-3** | **1,1 - Dichloroethane** | **77.2** | | 20.0 |
| 78-93-3 | 2 -Butanone (MEK) | ND | | 200 |
| 156-59-2 | cis - 1,2 - Dichloroethene | ND | | 20.0 |
| 74-97-5 | Bromochloromethane | ND | | 20.0 |
| **67-66-3** | **Chloroform (Trichloromethane)** | **9.20** | J | 20.0 |
| 594-20-7 | 2,2 - Dichloropropane | ND | | 20.0 |
| **71-55-6** | **1,1,1 - Trichloroethane** | **774** | | 20.0 |
| 107-06-2 | 1,2 - Dichloroethane | ND | | 20.0 |
| 563-58-6 | 1,1 - Dichloropropene | ND | | 20.0 |
| 56-23-5 | Carbon tetrachloride (Tetrachloromethane) | ND | | 20.0 |
| 71-43-2 | Benzene | ND | | 20.0 |
| 74-95-3 | Dibromomethane | ND | | 20.0 |
| 78-87-5 | 1,2 - Dichloropropane | ND | | 20.0 |
| 79-01-6 | Trichloroethene | ND | | 20.0 |
| 75-27-4 | Bromodichloromethane | ND | | 20.0 |
| 10061-01-5 | cis - 1,3 - Dichloropropene | ND | | 20.0 |
| 10061-02-6 | trans - 1,3 - Dichloropropene | ND | | 20.0 |
| 79-00-5 | 1,1,2 - Trichloroethane | ND | | 20.0 |
| 108-88-3 | Toluene | ND | | 20.0 |
| 106-93-4 | 1,2 - Dibromoethane | ND | | 20.0 |
| 142-28-9 | 1,3 - Dichloropropane | ND | | 20.0 |
| 124-48-1 | Dibromochloromethane | ND | | 20.0 |
| **127-18-4** | **Tetrachloroethene** | **3,600** | | 20.0 |
| 630-20-6 | 1,1,1,2 - Tetrachloroethane | ND | | 20.0 |
| 108-90-7 | Chlorobenzene | ND | | 20.0 |
| 100-41-4 | Ethylbenzene | ND | | 20.0 |
| 108-38-3 | m,p - Xylenes (1,3- & 1,4-Dimethylbenzene) | ND | | 40.0 |
| 75-25-2 | Bromoform (Tribromomethane) | ND | | 20.0 |
| 100-42-5 | Styrene (Ethenylbenzene) | ND | | 20.0 |
| 95-47-6 | o - Xylene (1,2-Dimethylbenzene) | ND | | 20.0 |
| 79-34-5 | 1,1,2,2 - Tetrachloroethane | ND | | 20.0 |
| 96-18-4 | 1,2,3 - Trichloropropane | ND | | 20.0 |

*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** MW-8
Sample ID: 93007-8.6/97
Laboratory ID: C97-35220

Date Sampled: 06/25/97
Date Analyzed: 06/26/97
Date Reported: July 4, 1997

| C.A.S. # | TARGET COMPOUNDS | CONCENTRATION (µg/L) | LIMIT OF DETECTION (µg/L) |
|---|---|---|---|
| 98-82-8 | Isopropylbenzene (1-Methylethylbenzene) | ND | 20.0 |
| 108-86-1 | Bromobenzene | ND | 20.0 |
| 103-65-1 | n - Propylbenzene | ND | 20.0 |
| 95-49-8 | 2 - Chlorotoluene | ND | 20.0 |
| 106-43-4 | 4 - Chlorotoluene | ND | 20.0 |
| 108-67-8 | 1,3,5 - Trimethylbenzene | ND | 20.0 |
| 98-06-6 | tert - Butylbenzene | ND | 20.0 |
| 95-63-6 | 1,2,4 - Trimethylbenzene | ND | 20.0 |
| 135-98-8 | sec - Butylbenzene | ND | 20.0 |
| 541-73-1 | 1,3 - Dichlorobenzene | ND | 20.0 |
| 106-46-7 | 1,4 - Dichlorobenzene | ND | 20.0 |
| 99-87-6 | 4-Isopropyltoluene | ND | 20.0 |
| 95-50-1 | 1,2 - Dichlorobenzene | ND | 20.0 |
| 104-51-8 | n - Butylbenzene | ND | 20.0 |
| 96-12-8 | 1,2 - Dibromo - 3 - chloropropane | ND | 100 |
| 120-82-1 | 1,2,4 - Trichlorobenzene | ND | 20.0 |
| 91-20-3 | Naphthalene | ND | 20.0 |
| 87-68-3 | Hexachlorobutadiene | ND | 20.0 |
| 87-61-6 | 1,2 3 - Trichlorobenzene | ND | 20.0 |

***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 | 1282531 | 1342656 | 95.5% | 50 - 200 % |
| Fluorobenzene | 2687670 | 2713933 | 99.0% | 50 - 200 % |
| 1,4 - Difluorobenzene | 2117428 | 2179375 | 97.2% | 50 - 200 % |
| Chlorobenzene - d5 | 1516641 | 1568157 | 96.7% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 692209 | 718198 | 96.4% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.93 | 99.3% | 86 - 118 % |
| Toluene - d8 | 10.2 | 102% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.0 | 100% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.86 | 98.6% | 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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Analyst: yw
Reviewed: sec

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# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | | |
| Sample ID: | 93007-9.6/97 MW-9 | Date Sampled: | 06/25/97 |
| Laboratory ID: | C97-35219 | Date Received: | 06/26/97 |
| Matrix: | Water | Date Analyzed: | 06/26/97 |
| Dilution Factor: | 20 | Date Reported: | July 4, 1997 |

| C.A.S. # | TARGET COMPOUNDS | CONCENTRATION (µg/L) | LIMIT OF DETECTION (µg/L) |
|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | ND | 20.0 |
| 74-87-3 | Chloromethane | ND | 20.0 |
| 75-01-4 | Vinyl chloride (Chloroethene) | ND | 20.0 |
| 74-83-9 | Bromomethane | ND | 20.0 |
| 75-00-3 | Chloroethane | ND | 20.0 |
| 75-69-4 | Trichlorofluoromethane | ND | 20.0 |
| **75-35-4** | **1,1 - Dichloroethene** | **326** | 20.0 |
| 75-09-2 | Methylene chloride (Dichloromethane) | ND | 20.0 |
| 156-60-5 | trans - 1, 2 - Dichloroethene | ND | 20.0 |
| **75-34-3** | **1,1 - Dichloroethane** | **33.2** | 20.0 |
| 78-93-3 | 2 -Butanone (MEK) | ND | 200 |
| 156-59-2 | cis - 1,2 - Dichloroethene | ND | 20.0 |
| 74-97-5 | Bromochloromethane | ND | 20.0 |
| 67-66-3 | Chloroform (Trichloromethane) | ND | 20.0 |
| 594-20-7 | 2,2 - Dichloropropane | ND | 20.0 |
| 71-55-6 | 1,1,1 - Trichloroethane | ND | 20.0 |
| 107-06-2 | 1,2 - Dichloroethane | ND | 20.0 |
| 563-58-6 | 1,1 - Dichloropropene | ND | 20.0 |
| 56-23-5 | Carbon tetrachloride (Tetrachloromethane) | ND | 20.0 |
| 71-43-2 | Benzene | ND | 20.0 |
| 74-95-3 | Dibromomethane | ND | 20.0 |
| 78-87-5 | 1,2 - Dichloropropane | ND | 20.0 |
| 79-01-6 | Trichloroethene | ND | 20.0 |
| 75-27-4 | Bromodichloromethane | ND | 20.0 |
| 10061-01-5 | cis - 1,3 - Dichloropropene | ND | 20.0 |
| 10061-02-6 | trans - 1,3 - Dichloropropene | ND | 20.0 |
| 79-00-5 | 1,1,2 - Trichloroethane | ND | 20.0 |
| 108-88-3 | Toluene | ND | 20.0 |
| 106-93-4 | 1,2 - Dibromoethane | ND | 20.0 |
| 142-28-9 | 1,3 - Dichloropropane | ND | 20.0 |
| 124-48-1 | Dibromochloromethane | ND | 20.0 |
| **127-18-4** | **Tetrachloroethene** | **1,130** | 20.0 |
| 630-20-6 | 1,1,1,2 - Tetrachloroethane | ND | 20.0 |
| 108-90-7 | Chlorobenzene | ND | 20.0 |
| 100-41-4 | Ethylbenzene | ND | 20.0 |
| 108-38-3 | m,p - Xylenes (1,3- & 1,4-Dimethylbenzene) | ND | 40.0 |
| 75-25-2 | Bromoform (Tribromomethane) | ND | 20.0 |
| 100-42-5 | Styrene (Ethenylbenzene) | ND | 20.0 |
| 95-47-6 | o - Xylene (1,2-Dimethylbenzene) | ND | 20.0 |
| 79-34-5 | 1,1,2,2 - Tetrachloroethane | ND | 20.0 |
| 96-18-4 | 1,2,3 - Trichloropropane | ND | 20.0 |

*ND - Analyte not detected at stated limit of detection*

# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | Date Sampled: | 06/25/97 |
| Sample ID: | 93007-9.6/97 MW-9 | Date Analyzed: | 06/26/97 |
| Laboratory ID: | C97-35219 | Date Reported: | July 4, 1997 |

| C.A.S. # | TARGET COMPOUNDS | CONCENTRATION (µg/L) | LIMIT OF DETECTION (µg/L) |
|---|---|---|---|
| 98-82-8 | Isopropylbenzene (1-Methylethylbenzene) | ND | 20.0 |
| 108-86-1 | Bromobenzene | ND | 20.0 |
| 103-65-1 | n - Propylbenzene | ND | 20.0 |
| 95-49-8 | 2 - Chlorotoluene | ND | 20.0 |
| 106-43-4 | 4 - Chlorotoluene | ND | 20.0 |
| 108-67-8 | 1,3,5 - Trimethylbenzene | ND | 20.0 |
| 98-06-6 | tert - Butylbenzene | ND | 20.0 |
| 95-63-6 | 1,2,4 - Trimethylbenzene | ND | 20.0 |
| 135-98-8 | sec - Butylbenzene | ND | 20.0 |
| 541-73-1 | 1,3 - Dichlorobenzene | ND | 20.0 |
| 106-46-7 | 1,4 - Dichlorobenzene | ND | 20.0 |
| 99-87-6 | 4-Isopropyltoluene | ND | 20.0 |
| 95-50-1 | 1,2 - Dichlorobenzene | ND | 20.0 |
| 104-51-8 | n - Butylbenzene | ND | 20.0 |
| 96-12-8 | 1,2 - Dibromo - 3 - chloropropane | ND | 100 |
| 120-82-1 | 1,2,4 - Trichlorobenzene | ND | 20.0 |
| 91-20-3 | Naphthalene | ND | 20.0 |
| 87-68-3 | Hexachlorobutadiene | ND | 20.0 |
| 87-61-6 | 1,2 3 - Trichlorobenzene | ND | 20.0 |

***ND - Analyte not detected at stated limit of detection***

*RUNTIME QUALITY ASSURANCE REPORT*

| INTERNAL STANDARDS | AREA | ICAL / CCAL AREA | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|---|
| Pentafluorobenzene | 1279632 | 1342656 | 95.3% | 50 - 200 % |
| Fluorobenzene | 2640684 | 2713933 | 97.3% | 50 - 200 % |
| 1,4 - Difluorobenzene | 2106169 | 2179375 | 96.6% | 50 - 200 % |
| Chlorobenzene - d5 | 1503172 | 1568157 | 95.9% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 687600 | 718198 | 95.7% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.92 | 99.2% | 86 - 118 % |
| Toluene - d8 | 10.1 | 101% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.1 | 101% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 10.0 | 100% | 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**
Sample ID: 93-007.WP-INP. 6/97
Laboratory ID: C97-35214
Matrix: Air
Dilution Factor: 5

Former Waste Water Collection Pond Area

Date Sampled: 06/25/97
Date Received: 06/26/97
Date Analyzed: 06/26/97
Date Reported: July 4, 1997

| 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** | **17.0** | 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** | **22.0** | 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** | **156** | 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** | **18.7** | 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** | **104** | 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** | **97.3** | 5.0 |
| 630-20-6 | 1,1,1,2 - Tetrachloroethane | ND | 5.0 |
| 108-90-7 | Chlorobenzene | ND | 5.0 |
| **100-41-4** | **Ethylbenzene** | **33.9** | 5.0 |
| **108-38-3** | **m,p - Xylenes (1,3- & 1,4-Dimethylbenzene)** | **102** | 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)** | **74.3** | 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 - Meets Mass Spectral identification criteria but result is below established detection limit*

# EPA METHOD 8260

Client: **Western Water Consultants**
Sample ID: 93-007.WP-INP. 6/97
Laboratory ID: C97-35214

Former Waste Water Collection Pond Area

Date Sampled: 06/25/97
Date Analyzed: 06/26/97
Date Reported: July 4, 1997

| C.A.S. # | TARGET COMPOUNDS | CONCENTRATION ($mg/m^3$) | LIMIT OF DETECTION ($mg/m^3$) |
|---|---|---|---|
| **98-82-8** | **Isopropylbenzene (1-Methylethylbenzene)** | **14.8** | 5.0 |
| 108-86-1 | Bromobenzene | ND | 5.0 |
| **103-65-1** | **n - Propylbenzene** | **25.2** | 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** | **117** | 5.0 |
| 98-06-6 | tert - Butylbenzene | ND | 5.0 |
| **95-63-6** | **1,2,4 - Trimethylbenzene** | **64.8** | 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 | 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 - 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 | 1599312 | 1334266 | 120% | 50 - 200 % |
| Fluorobenzene | 3123487 | 2713933 | 115% | 50 - 200 % |
| 1,4 - Difluorobenzene | 2556619 | 2179375 | 117% | 50 - 200 % |
| Chlorobenzene - d5 | 1837138 | 1568157 | 117% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 835726 | 718198 | 116% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.53 | 95.3% | 86 - 118 % |
| Toluene - d8 | 10.2 | 102% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.93 | 99.3% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.84 | 98.4% | 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

Report File:F:\REPORTS\CLIENTS.97\WEST_WAT.ER\ORGANIC.CAS\97_35213.xls

Analyst: yw
Reviewed: sec

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# EPA METHOD 8260

Client: **Western Water Consultants**
Sample ID: 93-007.AD-INP. 6/97 Acid Dock Input
Laboratory ID: C97-35213
Matrix: Air
Dilution Factor: 1

Date Sampled: 06/25/97
Date Received: 06/26/97
Date Analyzed: 06/26/97
Date Reported: July 4, 1997

| 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** | **1.25** | | 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** | **0.46** | J | 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** | **2.39** | | 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** | **4.20** | | 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** | **6.15** | | 1.0 |
| 630-20-6 | 1,1,1,2 - Tetrachloroethane | ND | | 1.0 |
| 108-90-7 | Chlorobenzene | ND | | 1.0 |
| **100-41-4** | **Ethylbenzene** | **1.66** | | 1.0 |
| **108-38-3** | **m,p - Xylenes (1,3- & 1,4-Dimethylbenzene)** | **6.32** | | 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)** | **5.56** | | 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 - Meets Mass Spectral identification criteria but result is below established detection limit*

# EPA METHOD 8260

Client: **Western Water Consultants**
Sample ID: 93-007.AD-INP. 6/97
Laboratory ID: C97-35213

Acid Dock Input

Date Sampled: 06/25/97
Date Analyzed: 06/26/97
Date Reported: July 4, 1997

| C.A.S. # | TARGET COMPOUNDS | CONCENTRATION ($mg/m^3$) | | LIMIT OF DETECTION ($mg/m^3$) |
|---|---|---|---|---|
| **98-82-8** | **Isopropylbenzene (1-Methylethylbenzene)** | **0.99** | **J** | 1.0 |
| 108-86-1 | Bromobenzene | ND | | 1.0 |
| **103-65-1** | **n - Propylbenzene** | **2.08** | | 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** | **12.0** | | 1.0 |
| 98-06-6 | tert - Butylbenzene | ND | | 1.0 |
| **95-63-6** | **1,2,4 - Trimethylbenzene** | **7.67** | | 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 - 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 | 1334849 | 1334266 | 100% | 50 - 200 % |
| Fluorobenzene | 2703700 | 2713933 | 99.6% | 50 - 200 % |
| 1,4 - Difluorobenzene | 2196756 | 2179375 | 101% | 50 - 200 % |
| Chlorobenzene - d5 | 1604355 | 1568157 | 102% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 764736 | 718198 | 106% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 10.4 | 104% | 86 - 118 % |
| Toluene - d8 | 10.1 | 101% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.6 | 106% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.82 | 98.2% | 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

Report File:F:\REPORTS\CLIENTS.97\WEST_WAT.ER\ORGANIC.CAS\97_35213.xls

Analyst: yw
Reviewed: sec

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# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | | |
| Sample ID: | 93-007.USTCOMP. 6/97 | Date Sampled: | 06/25/97 |
| Laboratory ID: | C97-35215 | Date Received: | 06/26/97 |
| Matrix: | Air | Date Analyzed: | 06/26/97 |
| Dilution Factor: | 1 | Date Reported: | July 4, 1997 |

Former UST Area

| 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** | **68.2** | 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** | **10.5** | 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)** | **2.03** | 1.0 |
| 594-20-7 | 2,2 - Dichloropropane | ND | 1.0 |
| **71-55-6** | **1,1,1 - Trichloroethane** | **125** | 1.0 |
| **107-06-2** | **1,2 - Dichloroethane** | **1.54** | 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** | **1.11** | 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** | **1.44** | 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** | **335** | 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: 93-007.USTCOMP. 6/97
Laboratory ID: C97-35215

Former UST Area

Date Sampled: 06/25/97
Date Analyzed: 06/26/97
Date Reported: July 4, 1997

| 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 | 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 | 1460733 | 1334266 | 109% | 50 - 200 % |
| Fluorobenzene | 2930688 | 2713933 | 108% | 50 - 200 % |
| 1,4 - Difluorobenzene | 2388702 | 2179375 | 110% | 50 - 200 % |
| Chlorobenzene - d5 | 1707256 | 1568157 | 109% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 816804 | 718198 | 114% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.89 | 98.9% | 86 - 118 % |
| Toluene - d8 | 10.1 | 101% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.93 | 99.3% | 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

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Analyst: yw
Reviewed: sec

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## EPA METHOD 8260

Client: **Western Water Consultants**
Sample ID: 93-007.USTDP3. 6/97
Laboratory ID: C97-35218
Matrix: Air
Dilution Factor: 10

Deep SVE well 3-5

Date Sampled: 06/25/97
Date Received: 06/26/97
Date Analyzed: 06/26/97
Date Reported: July 4, 1997

| 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** | **79.8** | 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** | **25.1** | 10.0 |
| 78-93-3 | 2 -Butanone (MEK) | ND | 100.0 |
| 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** | **441** | 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** | **871** | 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: 93-007.USTDP3. 6/97
Laboratory ID: C97-35218

Deep SVE well 3-5'

Date Sampled: 06/25/97
Date Analyzed: 06/26/97
Date Reported: July 4, 1997

| C.A.S. # | TARGET COMPOUNDS | CONCENTRATION ($mg/m^3$) | LIMIT OF DETECTION ($mg/m^3$) |
|---|---|---|---|
| 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*

| INTERNAL STANDARDS | AREA | ICAL / CCAL AREA | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|---|
| Pentafluorobenzene | 1381918 | 1334266 | 104% | 50 - 200 % |
| Fluorobenzene | 2788756 | 2713933 | 103% | 50 - 200 % |
| 1,4 - Difluorobenzene | 2259676 | 2179375 | 104% | 50 - 200 % |
| Chlorobenzene - d5 | 1618016 | 1568157 | 103% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 753752 | 718198 | 105% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.98 | 99.8% | 86 - 118 % |
| Toluene - d8 | 9.99 | 99.9% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.1 | 101% | 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**
Sample ID: 93-007.USTDP2. 6/97
Laboratory ID: C97-35217
Matrix: Air
Dilution Factor: 10

Deep SVE well 3-6

Date Sampled: 06/25/97
Date Received: 06/26/97
Date Analyzed: 06/26/97
Date Reported: July 4, 1997

| 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** | **120** | 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** | **13.2** | 10.0 |
| 78-93-3 | 2 -Butanone (MEK) | ND | 100.0 |
| 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** | **114** | 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** | **368** | 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: 93-007.USTDP2. 6/97
Laboratory ID: C97-35217

Deep SVE well 3-6

Date Sampled: 06/25/97
Date Analyzed: 06/26/97
Date Reported: July 4, 1997

| C.A.S. # | TARGET COMPOUNDS | CONCENTRATION ($mg/m^3$) | LIMIT OF DETECTION ($mg/m^3$) |
|---|---|---|---|
| 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*

| INTERNAL STANDARDS | AREA | ICAL / CCAL AREA | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|---|
| Pentafluorobenzene | 1408035 | 1334266 | 106% | 50 - 200 % |
| Fluorobenzene | 2854854 | 2713933 | 105% | 50 - 200 % |
| 1,4 - Difluorobenzene | 2300607 | 2179375 | 106% | 50 - 200 % |
| Chlorobenzene - d5 | 1647557 | 1568157 | 105% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 783818 | 718198 | 109% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 10.2 | 102% | 86 - 118 % |
| Toluene - d8 | 10.1 | 101% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.1 | 101% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.98 | 99.8% | 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

Report File:F:\REPORTS\CLIENTS.97\WEST_WAT.ER\ORGANIC.CAS\97_35213.xls

Analyst: yw
Reviewed: sec

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# EPA METHOD 8260

Client: **Western Water Consultants**
Sample ID: 93-007.USTDP1. 6/97
Laboratory ID: C97-35216
Matrix: Air
Dilution Factor: 1

Deep SVE Well 3-7

Date Sampled: 06/25/97
Date Received: 06/26/97
Date Analyzed: 06/26/97
Date Reported: July 4, 1997

| 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** | **82.8** | 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** | **7.31** | 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)** | **1.07** | 1.0 |
| 594-20-7 | 2,2 - Dichloropropane | ND | 1.0 |
| **71-55-6** | **1,1,1 - Trichloroethane** | **60.2** | 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** | **226** | 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** Date Sampled: 06/25/97
Sample ID: 93-007.USTDP1. 6/97 Date Analyzed: 06/26/97
Laboratory ID: C97-35216 Date Reported: July 4, 1997

Deep SVE well 3-7

| 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 | 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***

***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 | 1524534 | 1334266 | 114% | 50 - 200 % |
| Fluorobenzene | 3083096 | 2713933 | 114% | 50 - 200 % |
| 1,4 - Difluorobenzene | 2483535 | 2179375 | 114% | 50 - 200 % |
| Chlorobenzene - d5 | 1782655 | 1568157 | 114% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 856878 | 718198 | 119% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 10.1 | 101% | 86 - 118 % |
| Toluene - d8 | 10.0 | 100% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.1 | 101% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 10.1 | 101% | 80 - 120 % |

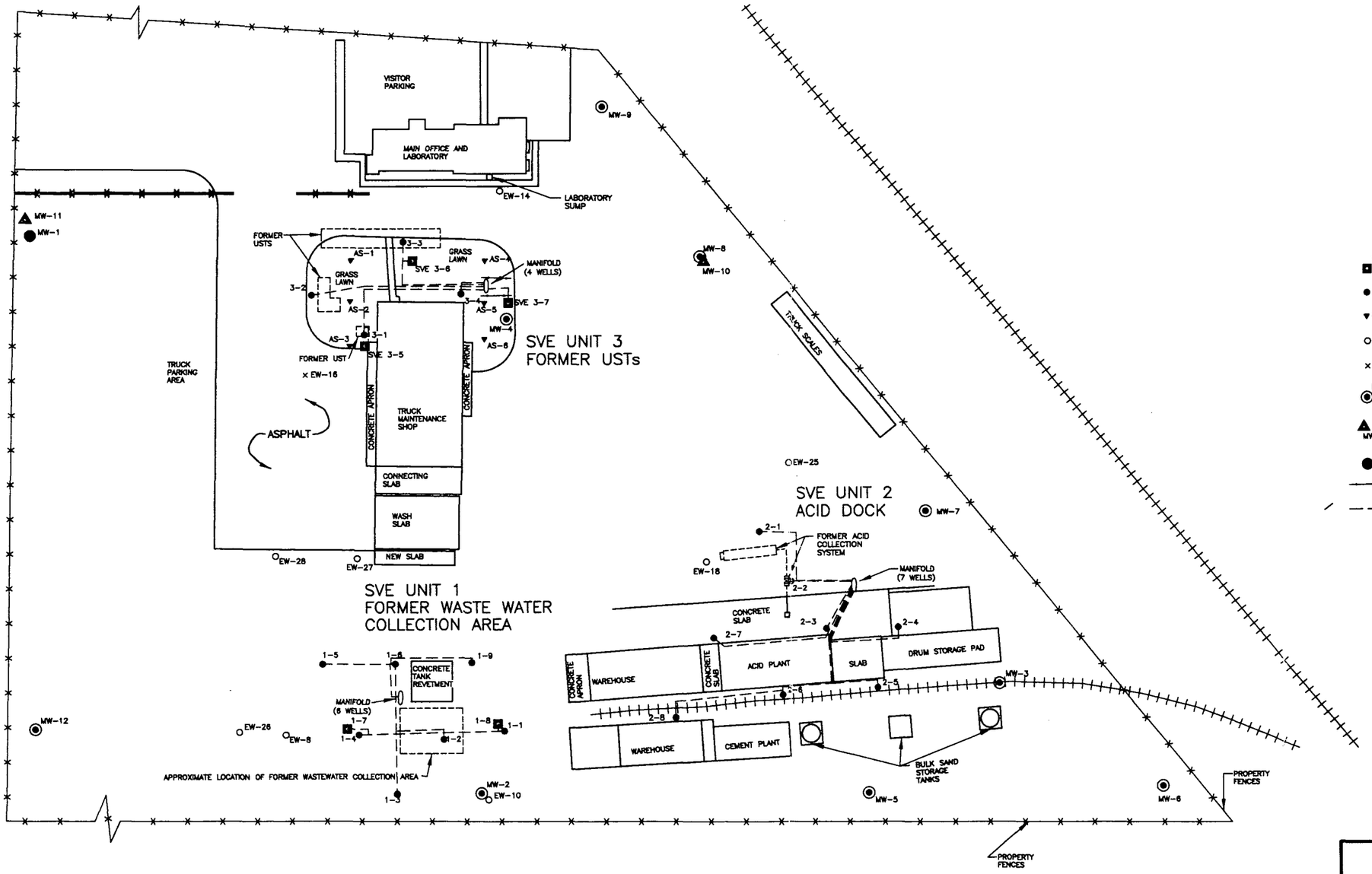
## REFERENCES

**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

Report File:F:\REPORTS\CLIENTS.97\WEST_WAT.ER\ORGANIC.CAS\97_35213.xls

Analyst: yw
Reviewed: sec

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# *FIGURE 1*

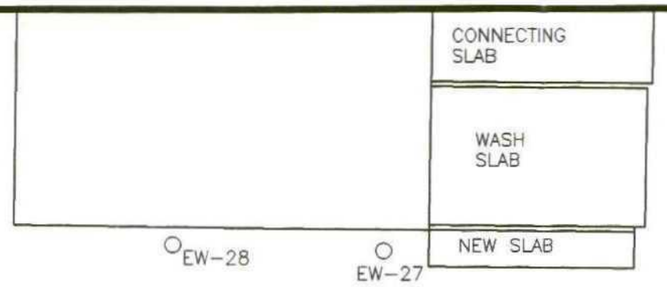
## SITE MAP AND LOCATION OF MONITORING AND REMEDIATION WELLS

DOWELL, A DIVISION OF
SCHLUMBERGER TECHNOLOGY CORPORATION
HOBBS, NM

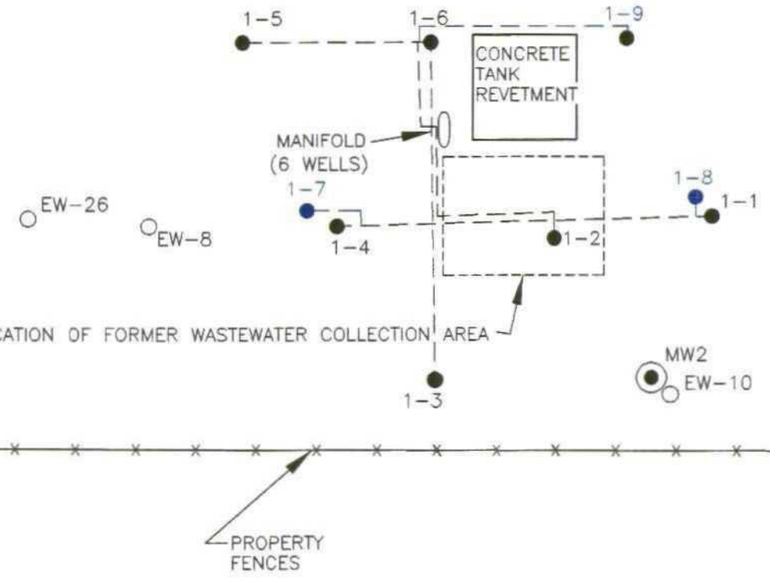
Western Water Consultants, Inc. WWC Engineering

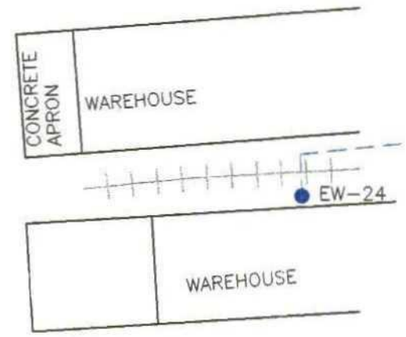
Engineering Environmental Mining Water Resources

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# SVE UNIT 1
# FORMER WASTE WATER COLLECTION AREA







**EXPLANATION**

- COMPLETED AS SVE WELL
- FENCED ENCLOSURE
- 2" PVC PIPING
- MODIFICATIONS SHOWN IN BLUE
- SOIL BORING
- MONITORING WELL

*FIGURE 2*

SITE MAP
UNIT 1 SVE SYSTEM MODIFICATION

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

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

K:\172040\93-007L\UNIT2SVE 07/28/97 08:32

# SVE UNIT 2
# ACID DOCK

EW-25

2-1

FORMER ACID COLLECTION SYSTEM

EW-18

MANIFOLD (7 WELLS)

2-2

CONCRETE SLAB

2-3

2-4

2-7

CONCRETE APRON

WAREHOUSE

CONCRETE SLAB

ACID PLANT

SLAB

DRUM STORAGE PAD

MW3

2-5

2-6

1-8

1-1

2-8

WAREHOUSE

CEMENT PLANT

BULK SAND STORAGE TANKS

PROPERTY FENCES

0 40 FT.

SCALE

**EXPLANATION**

- COMPLETED AS SVE WELL
- FENCED ENCLOSURE
- 2" PVC PIPING
- MODIFICATIONS SHOWN IN BLUE
- SOIL BORING
- MONITORING WELL

*FIGURE 3*

SITE MAP
UNIT 2 SVE SYSTEM MODIFICATION

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

Western Water Consultants, Inc. WWC Engineering

Engineering Environmental Mining Water Resources

K:\172040\93-007L\UNIT3SVE 07/28/97 08:31

1105 WEST BENDER BOULEVARD

VISITOR PARKING

MAIN OFFICE AND LABORATORY

PROPERTY FENCES

LABORATORY SUMP

FORMER USTS

3-3

3-6

MANIFOLD

ELECTRIC BLOWER

3-2

3-4

GRASS LAWN

3-7

GRASS LAWN

3-1

3-5

FORMER UST

× EW-16

TRUCK PARKING AREA

CONCRETE APRON

TRUCK MAINTENANCE SHOP

CONCRETE APRON

ASPHALT

CONNECTING SLAB

WASH SLAB

NEW SLAB

0 40 FT.

SCALE

# SVE UNIT 3 FORMER USTs

**EXPLANATION**

- ● COMPLETED AS SVE WELL
- —— FENCED ENCLOSURE
- — — 2" PVC PIPING
- —— MODIFICATIONS SHOWN IN BLUE
- × TO BE RECONSTRUCTED AS AN ADDITIONAL SVE WELL
- ◉ MONITORING WELL

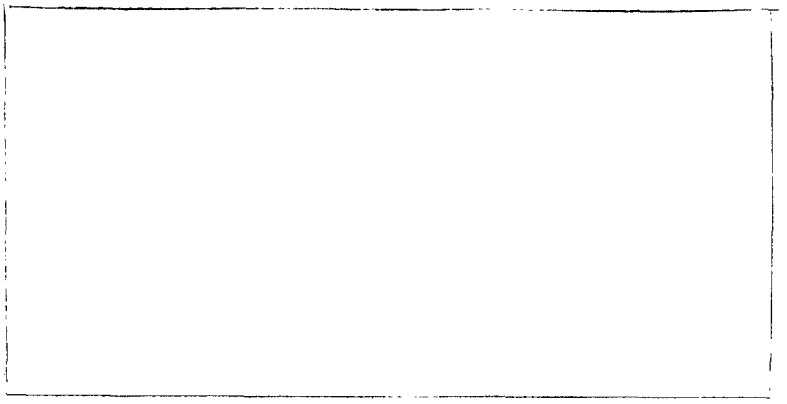
*FIGURE 4*

SITE MAP
UNIT 3 SVE SYSTEM MODIFICATION

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

Western Water Consultants, Inc. WWC Engineering

Engineering Environmental Mining Water Resources



# Western Water Consultants, Inc.

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# QUARTERLY AND ANNUAL REPORT
# DOWELL, A DIVISION OF
# SCHLUMBERGER TECHNOLOGY CORPORATION
# HOBBS, NEW MEXICO

**February 27, 1998**

Prepared For:

Dowell, a division of Schlumberger
Technology Corporation
300 Schlumberger Drive
Sugar Land, Texas 77478

Prepared By:


Western Water Consultants, Inc.
Engineering Environmental Mining Water Resources

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Schlumberger Oilfield Services

Oilfield Services Shared Resources

**John A. Miller**
Remediation Manager

March 6, 1998

Mr. Jack Ford
Environmental Bureau
New Mexico Oil Conservation Division
2040 S. Pacheco
Santa Fe, New Mexico 87505

RE: Quarterly and Annual Report for the Dowell, a division of Schlumberger Technology Corporation Facility in Hobbs, New Mexico

Dear Mr. Ford:

Enclosed are two copies of the quarterly and annual report which presents the results of the fourth quarter ground-water monitoring event and 1997 remedial activities at the Dowell facility in Hobbs, New Mexico.

If you have any questions concerning this report, please call me at (281) 285-8498.

Sincerely,

John A. Miller
Remediation Manager

JAM/lld

cc: WWC

Total Halogen
please include
1st quarter
report dated
3-6-98

P.O. Box 2727, Houston, Texas 77252-2727
300 Schlumberger Drive, Sugar Land, Texas 77478
(281) 285-8498 (281) 285-8526 (fax)

Western Water Consultants, Inc. has conducted its work and presents these findings in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions. No other representation and no warranty or guarantee is made or intended.

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A – Well Completion Logs
B – Laboratory Data Reports
C – Isoconcentration Map and Plots

# 1.0 INTRODUCTION

# 1.0 INTRODUCTION

This report documents remedial activities performed in 1997 at the Dowell, a division of Schlumberger Technology Corporation facility in Hobbs, New Mexico. Field work conducted by Western Water Consultants, Inc. (WWC) during the 4 quarters of 1997 consisted of air and ground-water monitoring, ground-water and remediation well installation, and remediation system modifications and systems operation. Fourth quarter analytical data is included in this report. Analytical data for the first three quarters of 1997 are presented in the reports dated March 31, 1997, July 3, 1997, and September 8, 1997. In addition, a report dated August 5, 1997 was submitted detailing soil vapor extraction (SVE) system modifications.

# 2.0 DRILLING

## 2.0 DRILLING

From May 10 - 27, 1997, 6 additional 2-inch diameter ground-water monitoring wells (MW-10 - MW-15) were installed to investigate the condition of the groundwater (Figure 1). An air rotary drill rig with a 5 1/8-inch diameter bit was used to drill the wells. Total depths of the wells ranged from 85 to 208 feet below ground surface. To eliminate the potential for adverse impacts between wells, drilling equipment was decontaminated prior to beginning each well.

### 2.1 Monitoring Well Installation

Monitoring well MW-11 was drilled as an exploratory boring to investigate the lithology of the middle and lower sections of the Ogallala Aquifer. Drilling was terminated when the Chinle Formation locally referred to as the "red beds" were contacted. The investigation was conducted specifically to determine if a hard siliceous sandstone encountered when drilling wells in other areas of Hobbs was also present beneath the facility. To prevent impacts to the deeper section of the aquifer, MW-11 was drilled up-gradient of any source areas.

An indurated siliceous sandstone was encountered when drilling MW-11 at 131 feet below ground surface (Figure 2). Surface casing was installed through the sandstone layer and grouted in place prior to drilling down to the "red beds". This approach was taken to isolate the deeper aquifer if the sandstone was acting as a aquitard. MW-11 was completed with 10 feet of screen installed in the basal gravel of the Ogallala Aquifer. The total depth of the well was 208 feet at the Ogallala and "red bed" contact.

The same sandstone present in MW-11 at 131' was also found in MW-10 at approximately the same depth. MW-10 was completed with 10 feet of 20 slot screen set on top of the sandstone (Figures 2 and 3). The installation of MW-10 allows ground-water quality to be collected above the sandstone and compared against water quality in MW-11 from the base of the aquifer.

Monitoring wells MW-12 through MW-15 were installed to determine the lateral extent of ground-water contamination (Figure 1). Total depths of the monitoring wells range from 83 to 85 feet below ground surface. The top of casing elevations for all monitoring wells were tied into "the City of Hobbs Control Datum" and the North American Vertical Datum. Lithologic and well completion data are illustrated on well logs in Appendix A.

## 2.2 Lithology

Drill cuttings were logged by a WWC geologist for sediment type, grain size, color, structure, moisture, and hydrocarbon contamination. The upper 130 feet of lithology was consistent with other areas where drilling was performed. Sandstones become more numerous with depth and are weak to moderately indurated. The lithology from 130 to 208 feet consists of a few well indurated sandstones (131' and 158'), clay and sandy clays, and sand and gravel at the base. The "red beds" were a soft red to reddish brown clay. Lithologic logs are presented ad Appendix A.

## 2.3 Field Screening

The presence or absence of hydrocarbon contamination was determined by visual and olfactory inspection of the cuttings and by screening with an Environmental Instruments 580D photoionization detector (PID) during logging. Evidence of hydrocarbon impact was not observed or detected with the PID during the drilling process.

## 2.4 Soil Vapor Extraction and Air Sparge Well Installation

WWC supervised the drilling and installation of 5 deep SVE wells and 6 air sparge wells from May 10 – 27, 1997 (Figure 4.). The deep SVE wells were completed with 2 inch diameter Schedule 40 PVC casing and 25 feet of 20 slot screen. Total depths of the wells were 70 feet below ground surface.

The air sparge wells were completed with 1 inch diameter Schedule 80 PVC casing, 1 foot of 20 slot screen, and a 9/16 silica sand filter pack. Total depths ranged from 83 – 85 feet below ground surface. Well completion diagrams for the SVE and air sparge wells are provided as Appendix A.

## 2.5 Waste Water and Drill Cuttings Disposal

Purge water from well development and fluids produced during drilling were collected and stored in a frac tank on site. Drill cuttings were also collected and stockpiled on site. Samples were collected from the frac tank and stockpiled soil for characterization prior to disposal. The samples were analyzed by the toxicity characteristic leaching procedure (TCLP) for volatile and semi-volatile organics, metals, and RCRA characteristics. Results of the laboratory analysis determined the water and soil were nonhazardous. Authorization was granted by the NMOCD to dispose of the water and cuttings at the Controlled Recovery Incorporated facility near Hobbs. Laboratory data reports for the analyses are presented in Appendix B.

# 3.0 GROUND-WATER MONITORING

## 3.0 GROUND-WATER MONITORING

Ground-water monitoring was performed 4 times in 1997 by WWC personnel. The fourth quarter monitoring event was performed October 15 - 16, 1997. Results of the previous sampling events for 1997 were presented in reports to the NMOCD dated March 31, 1997, July 3, 1997, and September 8, 1997.

### 3.1 Static Water Level

Static water levels were measured 3-4 times in 1997 from all new and existing monitoring wells with an oil/water interface probe. 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.

A map of the potentiometric surface generated from the 4th quarter water level elevations is depicted on Figure 5. The ground-water flow direction is to the northeast with a hydraulic gradient of 0.005 which is consistent with earlier determinations of ground-water flow.

### 3.2 Ground-water Sampling

Ground-water samples were collected from all new and existing wells during quarterly monitoring events in 1997. Three well volumes of ground-water were purged from each well using a submersible pump. Purge water was placed into two galvanized steel stock tanks on site and allowed to evaporate. The submersible pump was decontaminated with a Simple Green solution and clean water rinse between wells.

Samples were collected using disposable polyethylene bailers after the well was purged. Ground-water samples were analyzed for volatile organic compounds by EPA Method 8260. During the fourth quarter monitoring event duplicate samples were collected from MW-4 and MW-15. The analytical results for the fourth quarter monitoring event are provided in Table 2 along with historical data for comparison. Laboratory analytical reports are presented in Appendix B.

# 4.0 REMEDIATION SYSTEM MODIFICATIONS

## 4.0 REMEDIATION SYSTEM MODIFICATIONS

The week of June 23 – 26, 1997, WWC connected 5 deep and 2 shallow SVE wells into the existing systems. Three deep SVE wells were plumbed into the existing system in the former UST area and 2 deep SVE wells were plumbed into the existing system in the former waste water collection area. In addition, 2 shallow SVE wells (1-8 and 1-9) were plumbed into the former waste water collection area system and the acid dock system. These shallow SVE wells were installed in 1995 and were plumbed in now to expand the coverage of the present systems.

All piping connecting the SVE wells is 2-inch Schedule 40 PVC. SVE wells in the former waste water pond and acid dock area remain connected to internal combustion AcuVac units. The AcuVac unit in the former UST area was replaced with an electric blower. The layout of the piping in each of the 3 SVE areas are presented on Figures 6, 7, and 8. The piping in each of the areas was buried and routed to avoid obstacles or avoid cutting concrete or asphalt.

The air sparge wells (AS-1 to AS-6) were connected to a new 10 horsepower blower at the former UST SVE system during the week of October 13 – 17, 1997. The layout of the piping is presented on Figure 6. Piping connecting the air sparge wells is 2-inch Schedule 40 PVC. All of the piping was buried to prevent damage from traffic.

### 4.1 SVE Systems Operations

Air samples were collected from the 3 SVE systems 4 to 5 times during the 1997 year. Time lines are provided (Figures 9, 10, and 11) which document when samples were collected, system shut downs for routine maintenance, or when systems were shut down for repairs since startup periods. Air quality results are provided in Table 3. Laboratory data reports are presented as part of Appendix B.

# 5.0 RESULTS AND DISCUSSION

## 5.0 RESULTS AND DISCUSSION

As shown on Table 2, concentrations of volatile aromatic and chlorinated hydrocarbons in most monitoring wells were within the range of historic concentration variations. Over the past 2 sampling events of 1997 halocarbon and BTEX concentrations in MW-2 have declined slightly. Total halocarbons concentrations have also steadily declined in MW-4 since November of 1996. Low contaminant levels continue to be detected in MW-13 but are absent in both MW-14 and MW-15. The difference between contaminant concentrations in MW-8 and MW-10 indicates the possibility of a separate free phase product layer occurring with depth as unlikely.

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

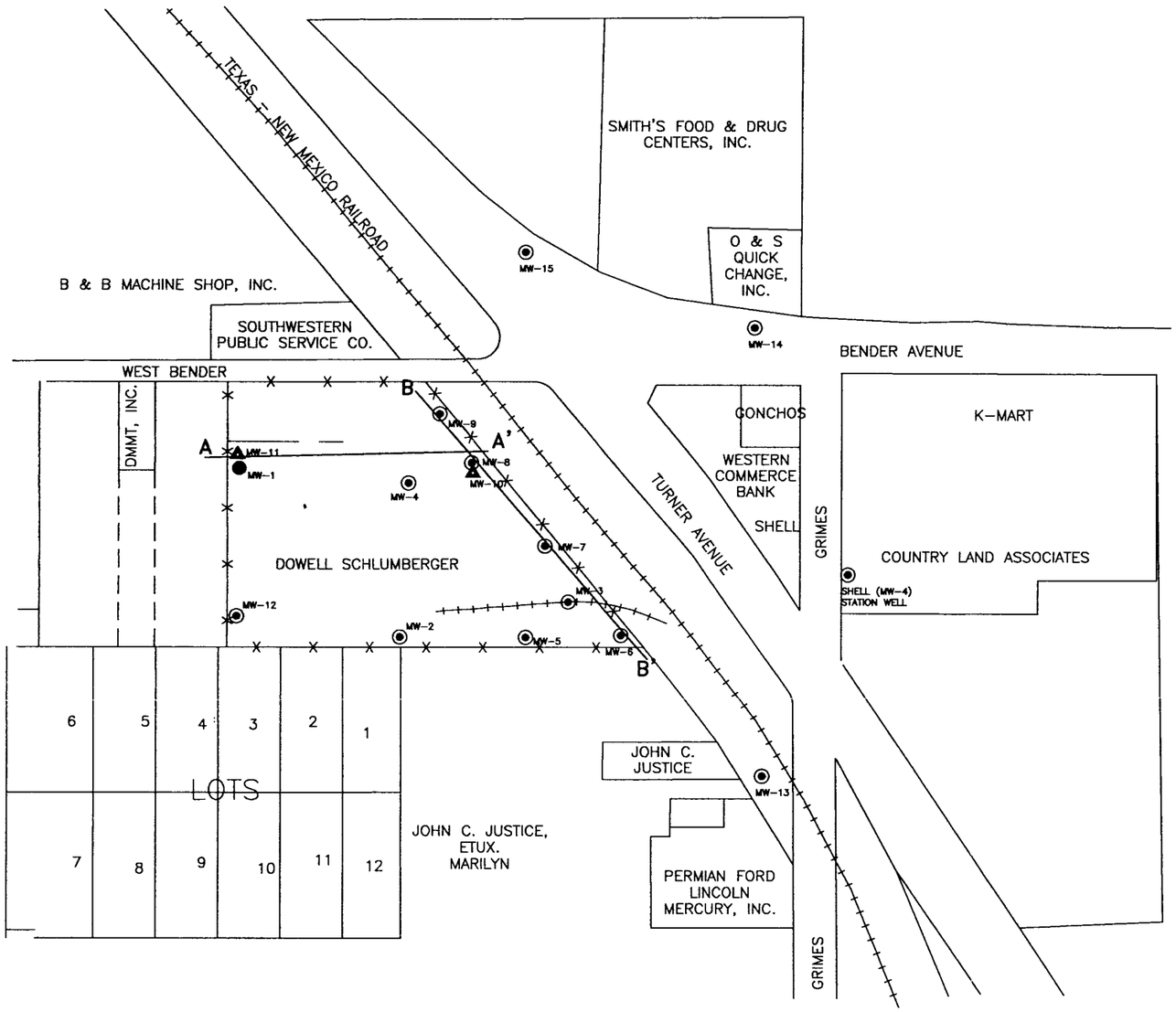
# 6.0 RECOMMENDATIONS

## 6.0 RECOMMENDATIONS

Hydrocarbons remain absent in the ground-water at monitoring wells MW-14 and MW-15 and halocarbon concentrations are declining in the UST area. Because of this, Dowell is recommending that the ground-water continue to be monitored quarterly but the number of wells sampled be reduced. Dowell is proposing that sampling be performed on MW-3, MW-5, MW-10, MW-11, and MW-12 only during the fourth quarter of each year. Ground-water samples would be collected from all other monitoring wells quarterly and analyzed by EPA Method 8260. Static water levels would be collected from all monitoring on a quarterly basis.

# FIGURES

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## EXPLANATION

- MW-4 ◉ SHALLOW MONITORING WELL LOCATION AND IDENTIFICATION
- MW-1 ● ABANDONED MONITORING WELL
- MW-11 ▲ DEEP MONITORING WELL LOCATIONS
- A ____ A' CROSS-SECTION LOCATION

0 300 ft.

SCALE

*FIGURE 1*

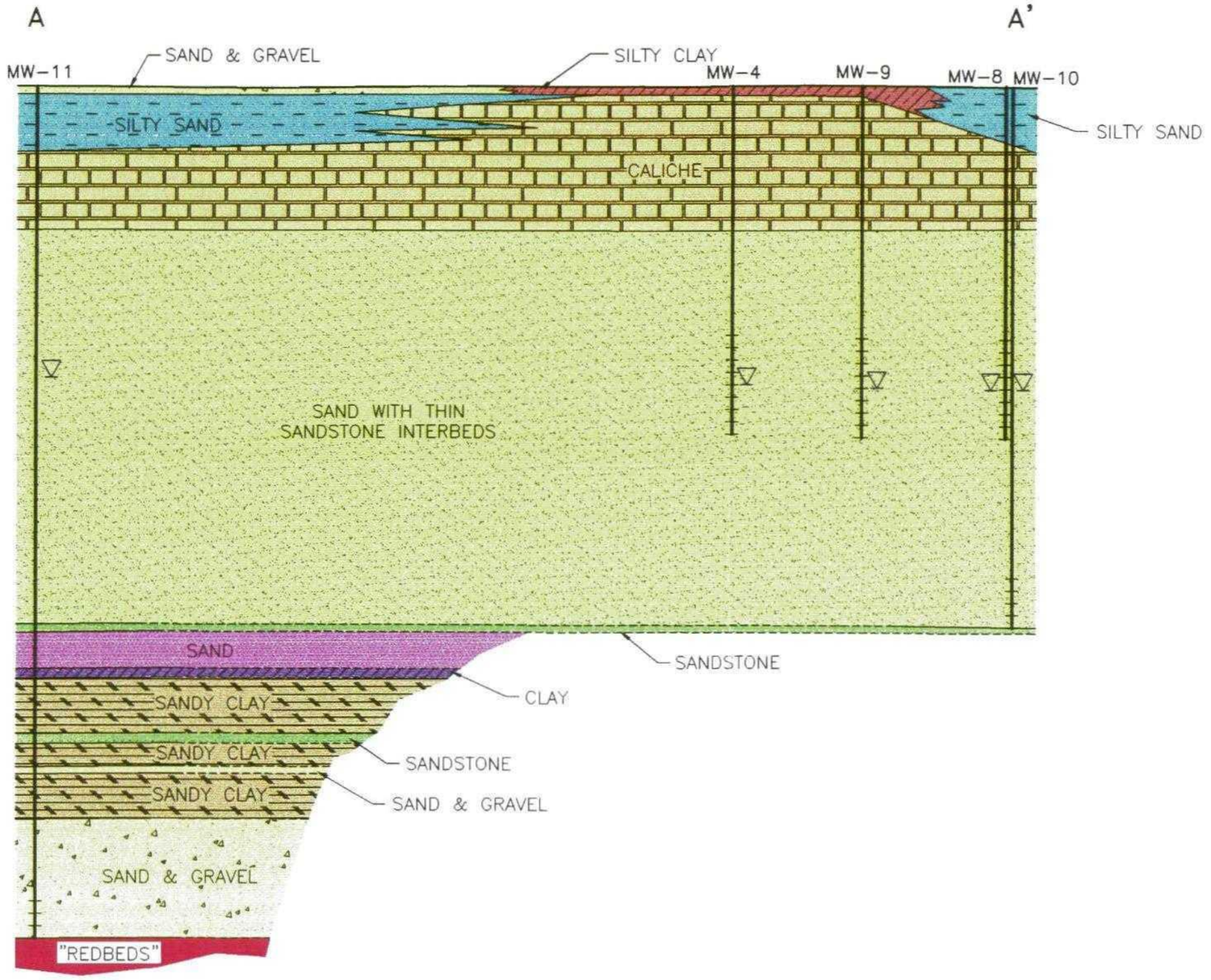
MONITORING WELL LOCATIONS

DOWELL, A DIVISION OF
SCHLUMBERGER TECHNOLOGY CORPORATION
HOBBS, NM

Western Water Consultants, Inc. WWC Engineering

Engineering Environmental Mining Water Resources

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## EXPLANATION

- MW-7 — MONITORING WELL LOCATION AND IDENTIFICATION
- SCREENED INTERVAL
- STATIC WATER LEVEL (10/15/97)
- GEOLOGIC CONTACT (DASHED WHERE INFERRED)
- SAND & GRAVEL
- SILTY CLAY
- SILTY SAND
- CALICHE
- SAND WITH THIN SANDSTONE INTERBEDS
- SANDSTONE
- SAND
- CLAY
- SANDY CLAY

30 FT.
0 60 FT.
SCALE

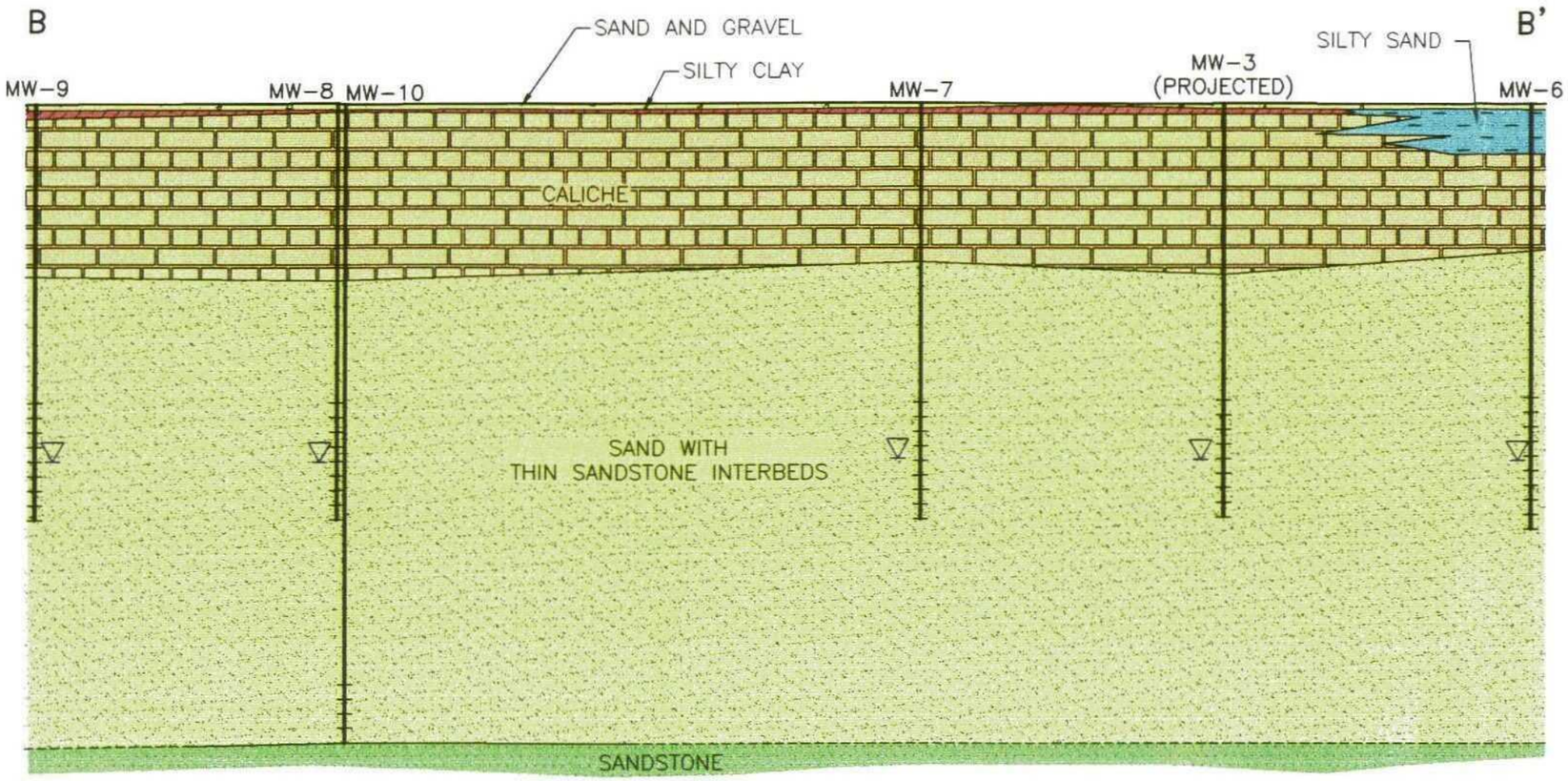
*FIGURE 2*

CROSS-SECTION A-A'

DOWELL, A DIVISION OF
SCHLUMBERGER TECHNOLOGY CORPORATION
HOBBS, NM

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

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## EXPLANATION

- SAND & GRAVEL
- SILTY CLAY
- SILTY SAND
- CALICHE
- SAND WITH THIN SANDSTONE INTERBEDS
- SANDSTONE

- MW-7 — MONITORING WELL LOCATION AND IDENTIFICATION
- SCREENED INTERVAL
- STATIC WATER LEVEL (10/15/97)
- GEOLOGIC CONTACT (DASHED WHERE INFERRED)

30 FT.
0 60 FT.
SCALE

*FIGURE 3*

CROSS-SECTION B-B'

DOWELL, A DIVISION OF
SCHLUMBERGER TECHNOLOGY CORPORATION
HOBBS, NM

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

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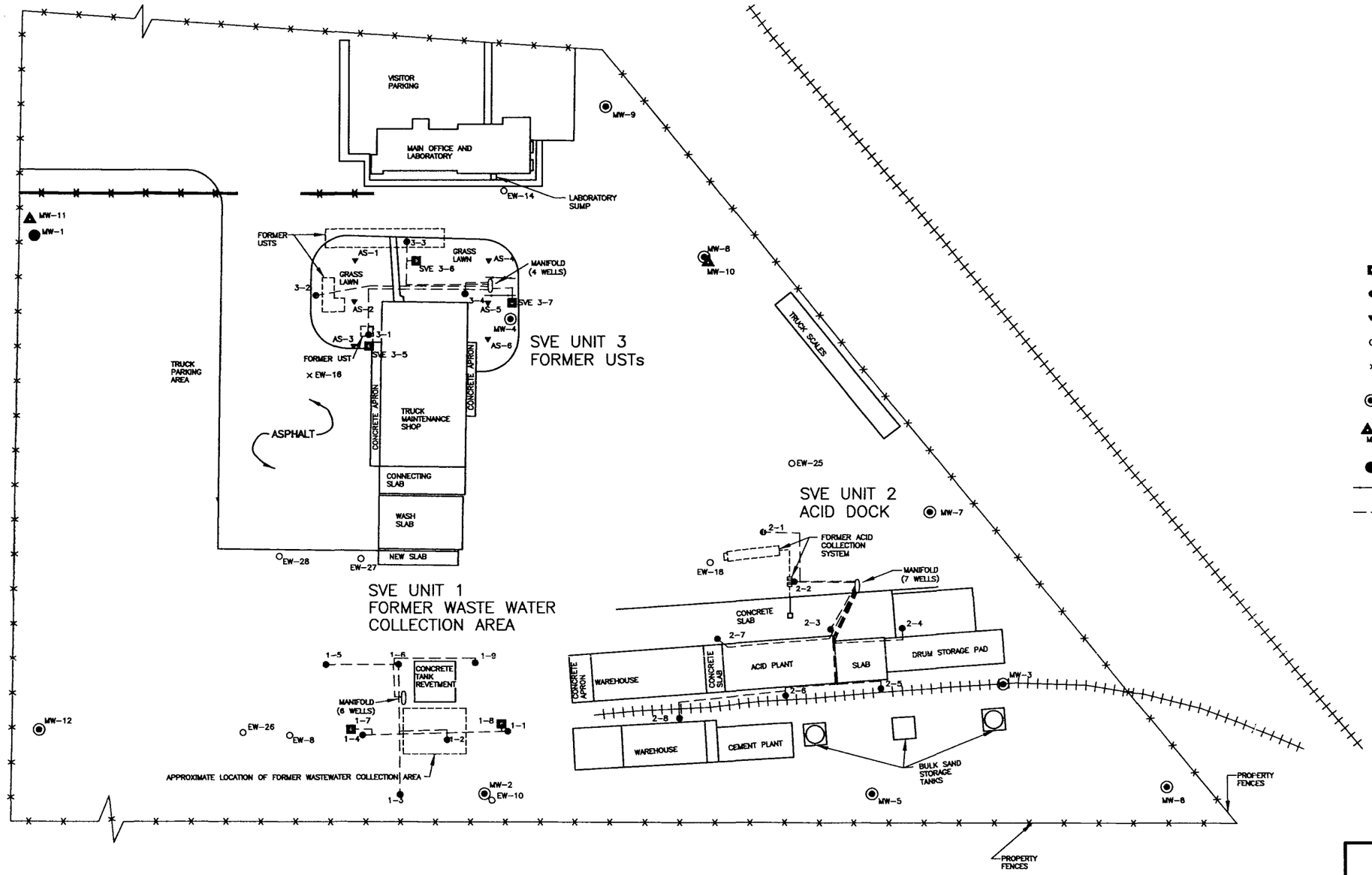



*FIGURE 4*

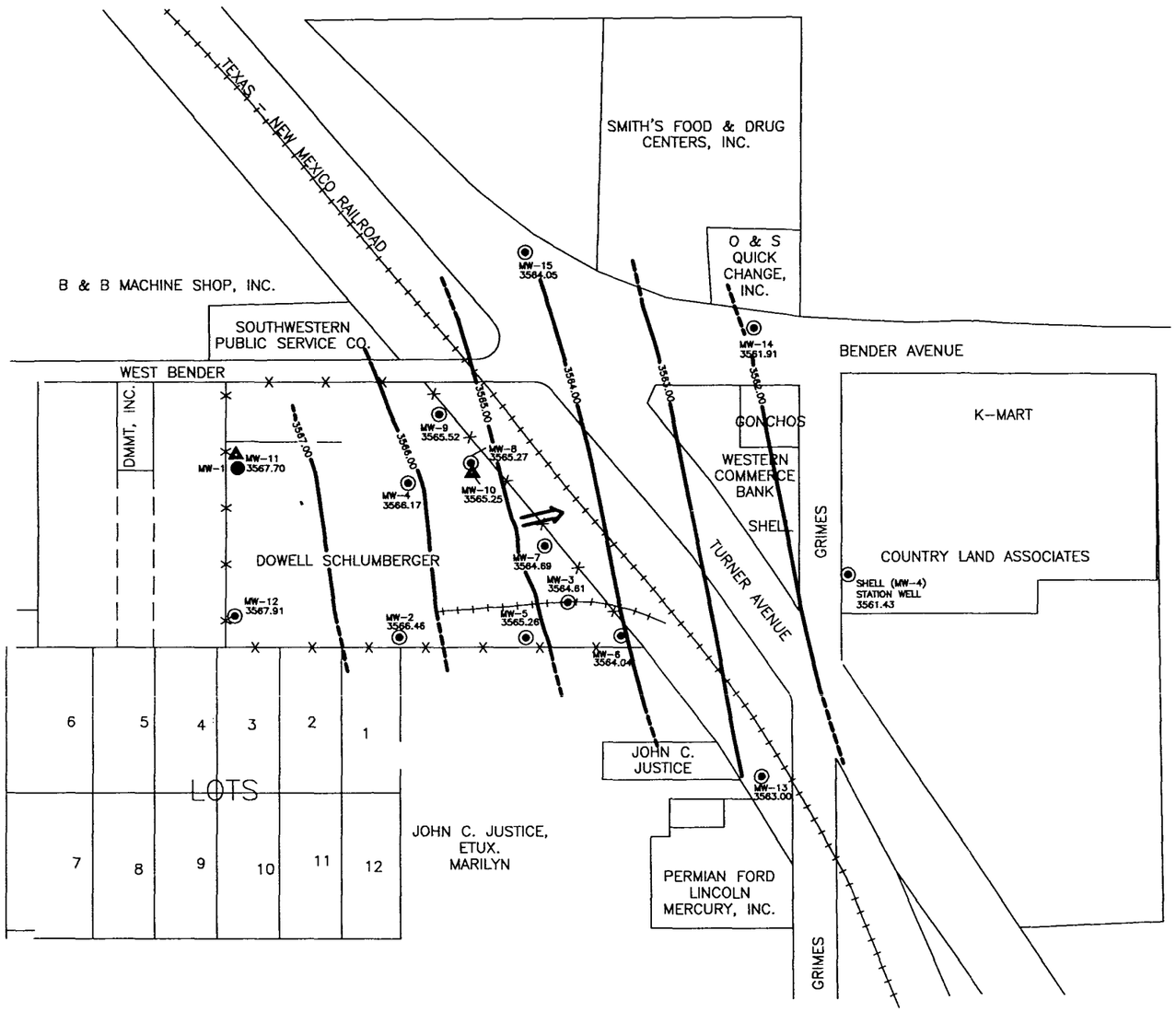
SITE MAP AND
LOCATION OF MONITORING AND
REMEDIATION WELLS

DOWELL, A DIVISION OF
SCHLUMBERGER TECHNOLOGY CORPORATION
HOBBS, NM

Western Water Consultants, Inc. WWC Engineering

Engineering Environmental Mining Water Resources

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## EXPLANATION

- MW-14 3562.33 — SHALLOW MONITORING WELL LOCATION, IDENTIFICATION, AND POTENTIOMETRIC SURFACE ELEVATION
- MW-1 — ABANDONED MONITORING WELL
- MW-11 3567.85 — DEEP MONITORING WELL LOCATION IDENTIFICATION AND POTENTIOMETRIC SURFACE ELEVATION
- 3563.50 — POTENTIOMETRIC SURFACE CONTOURS AND ELEVATION (DASHED WHERE INFERRED)
- GROUND-WATER FLOW DIRECTION

0 300 ft.

SCALE

*FIGURE 5*

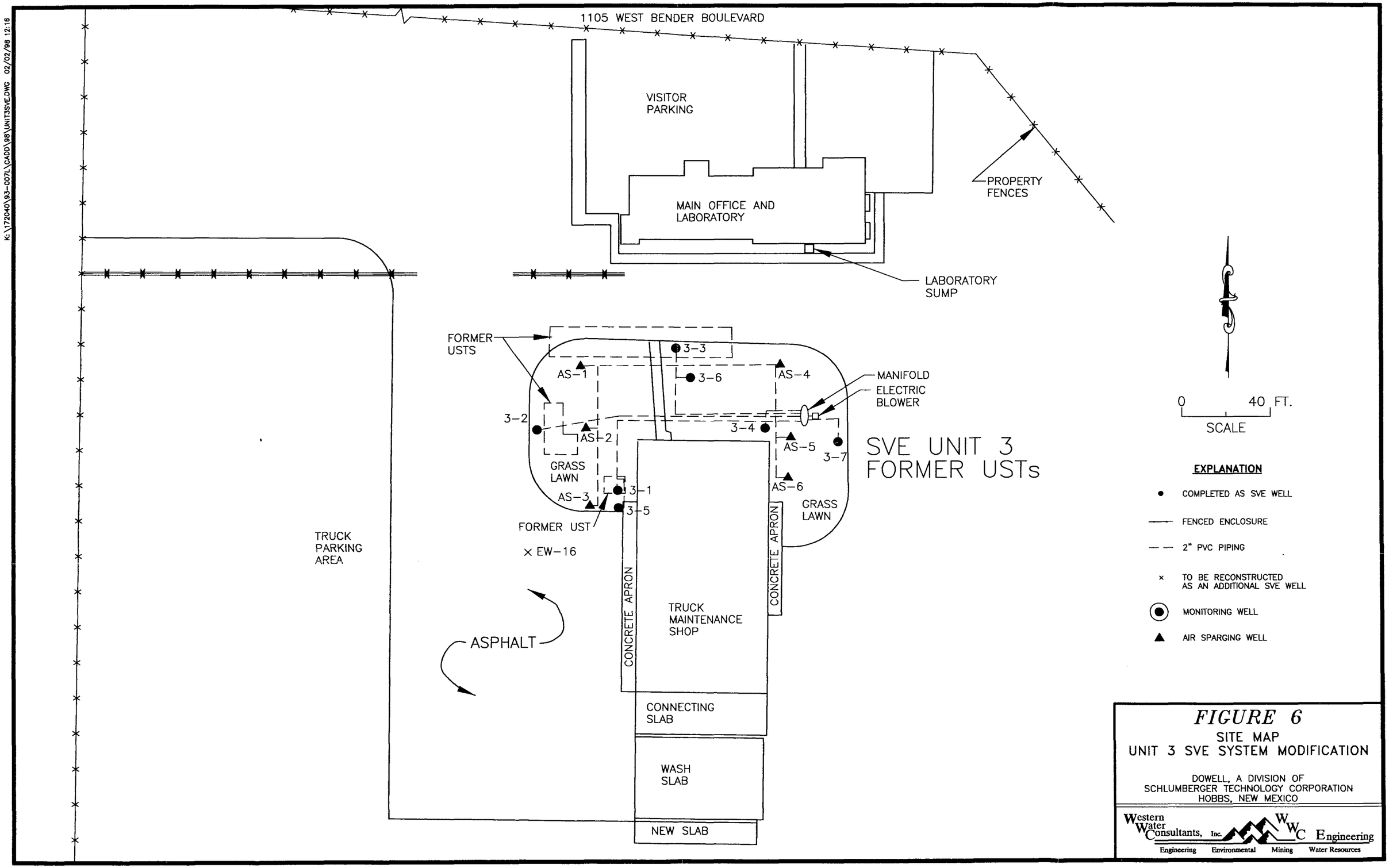
POTENTIOMETRIC SURFACE MAP (10/15/97)

DOWELL, A DIVISION OF SCHLUMBERGER TECHNOLOGY CORPORATION HOBBS, NM

Western Water Consultants, Inc. WWC Engineering

Engineering Environmental Mining Water Resources

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# SVE UNIT 3 FORMER USTs

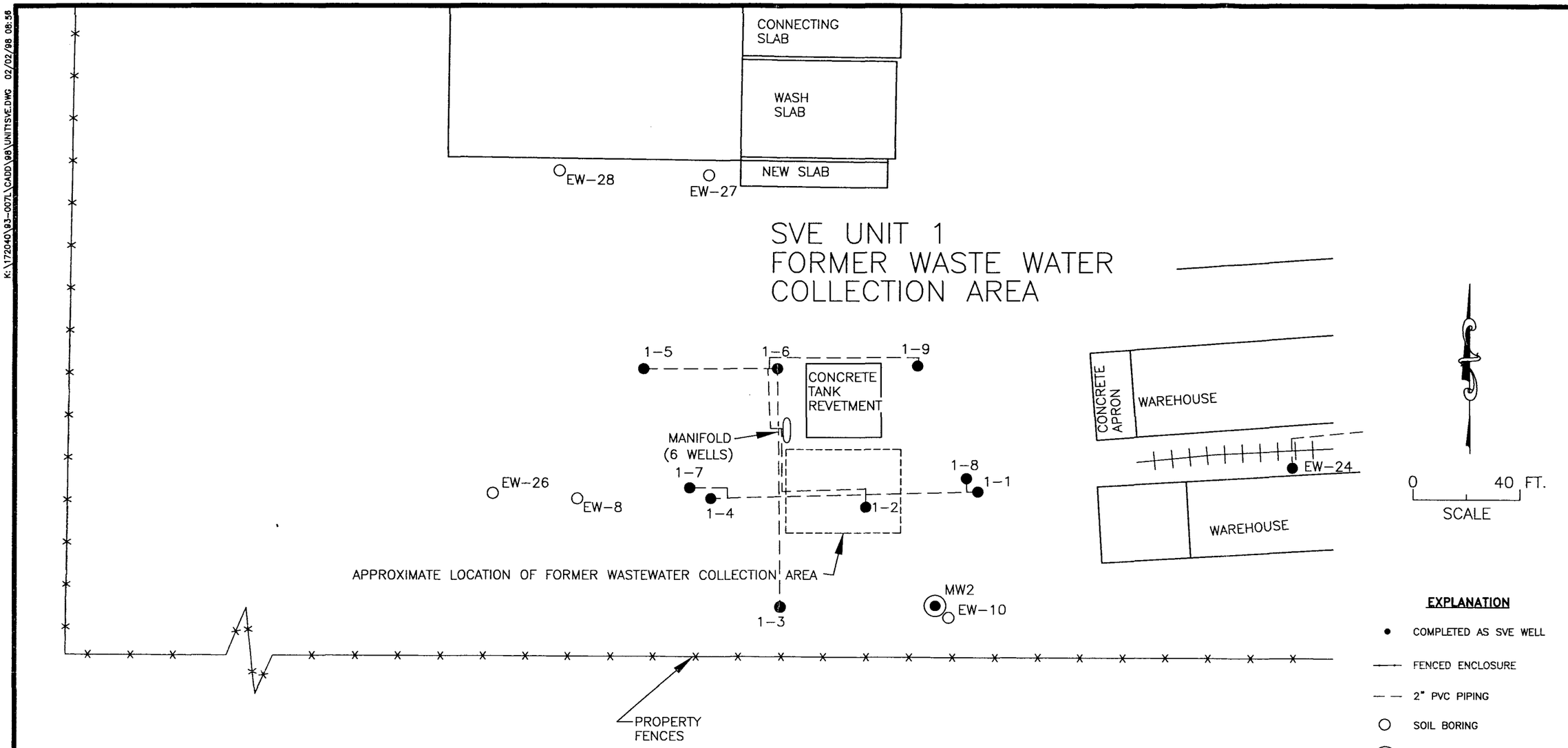
*FIGURE 6*

SITE MAP
UNIT 3 SVE SYSTEM MODIFICATION

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

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

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# SVE UNIT 1
# FORMER WASTE WATER COLLECTION AREA

**EXPLANATION**

- COMPLETED AS SVE WELL
- FENCED ENCLOSURE
- 2" PVC PIPING
- SOIL BORING
- MONITORING WELL

*FIGURE 7*

SITE MAP
UNIT 1 SVE SYSTEM MODIFICATION

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

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

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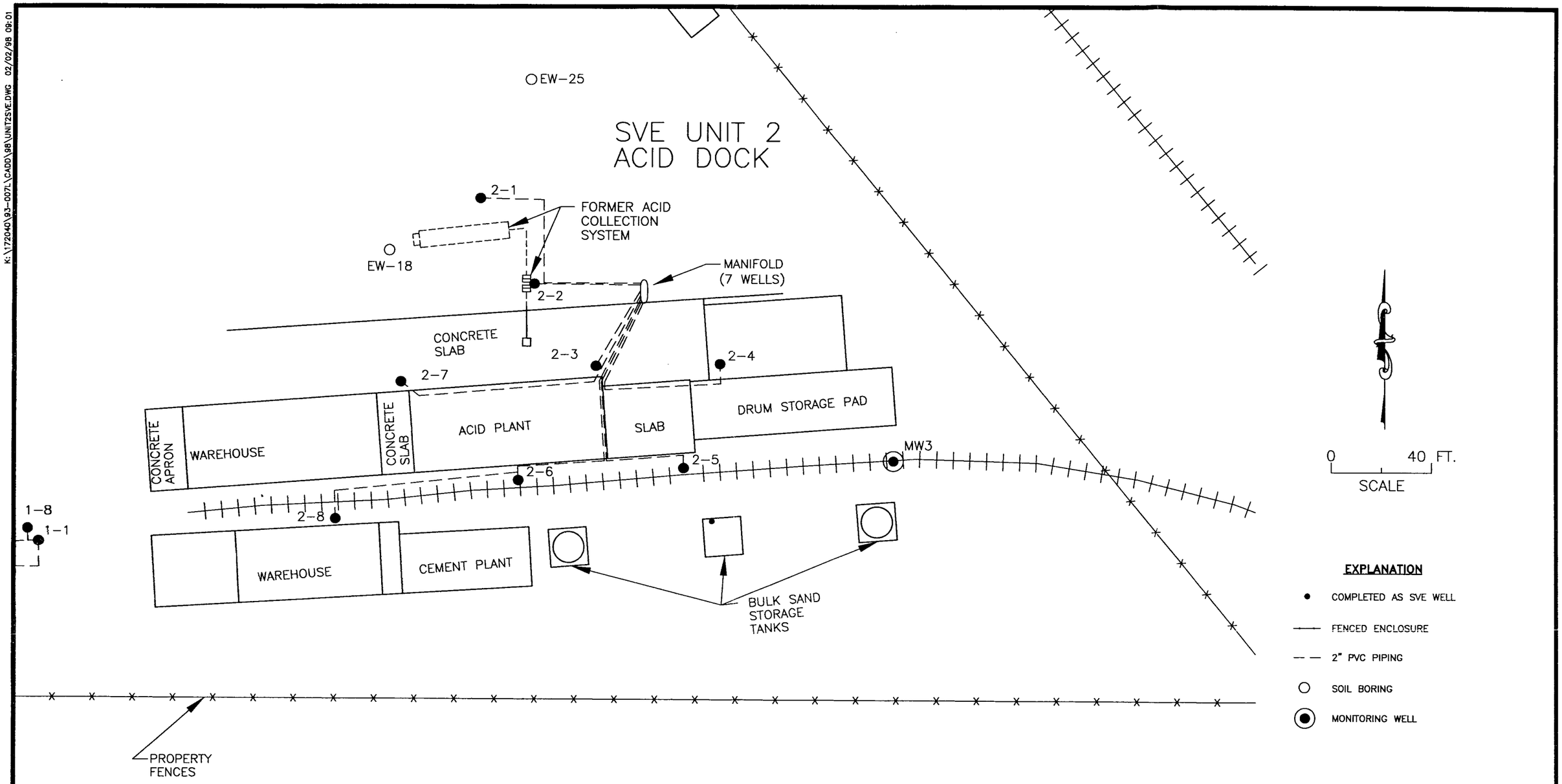



*FIGURE 8*

SITE MAP
UNIT 2 SVE SYSTEM MODIFICATION

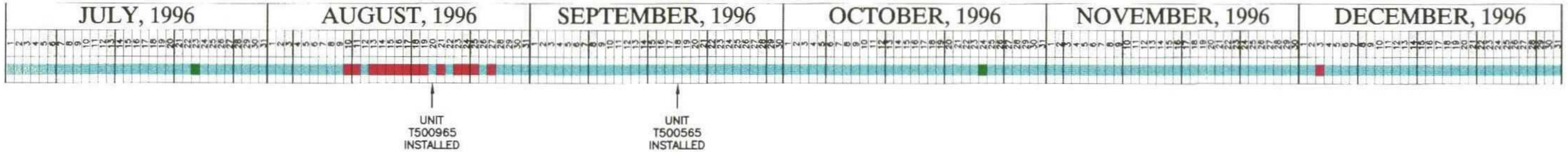
DOWELL, A DIVISION OF
SCHLUMBERGER TECHNOLOGY CORPORATION
HOBBS, NEW MEXICO

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

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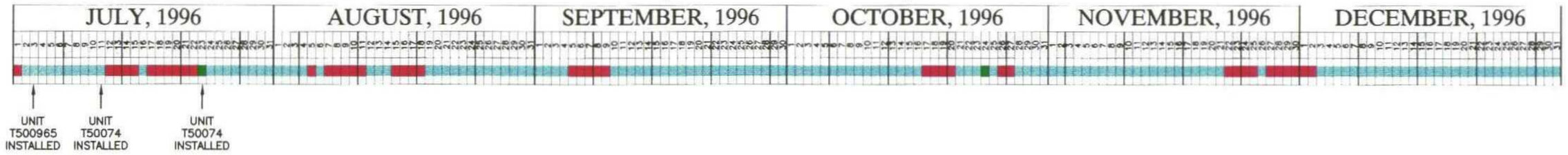
## FORMER LAGOON, UNIT 1

(OPERATION PERCENTAGE 92%)



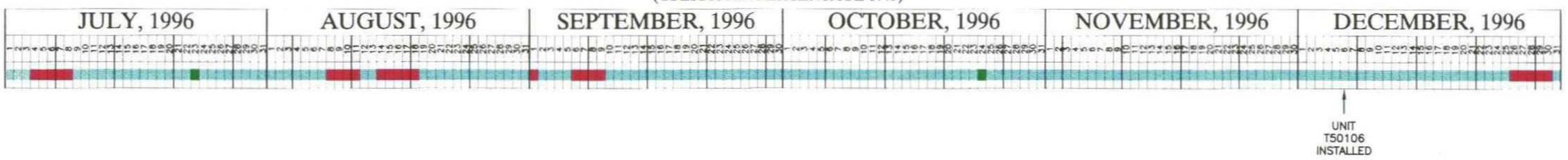

## ACID PLANT, UNIT 2

(OPERATION PERCENTAGE 77%)




## FORMER UST, UNIT 3

(OPERATION PERCENTAGE 87%)




### EXPLANATION

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

*FIGURE 9*

SVE OPERATION TIMELINE
07/01/96 THRU 12/31/96

DOWELL, A DIVISION OF
SCHLUMBERGER TECHNOLOGY CORPORATION

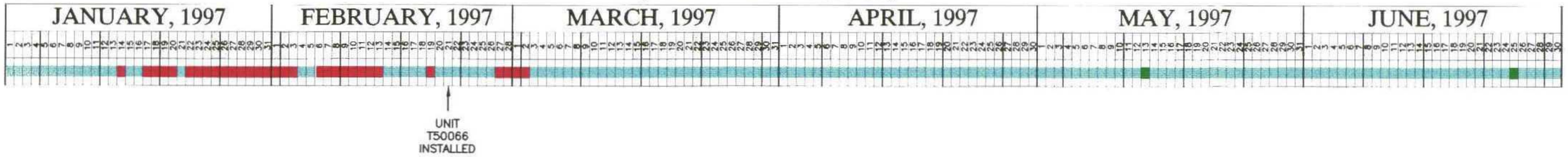
Western Water Consultants, Inc. WWC Engineering

Engineering Environmental Mining Water Resources

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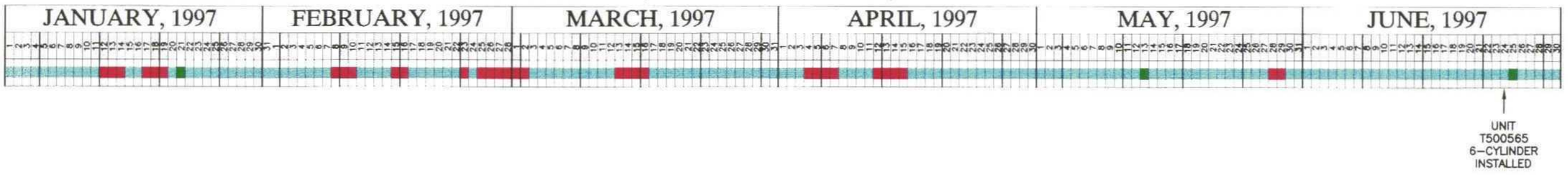
# FORMER WASTE WATER LAGOON, UNIT 1

(OPERATION PERCENTAGE 83%)



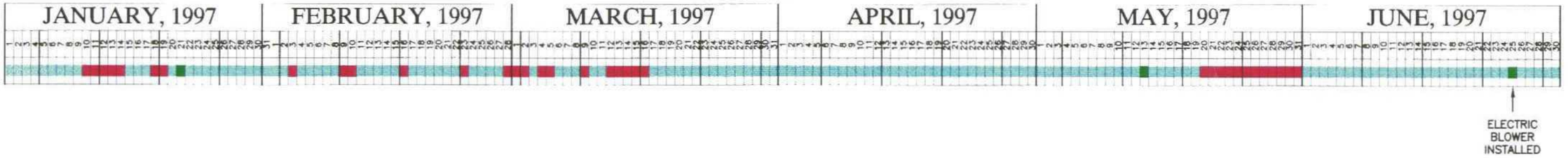

# ACID DOCK, UNIT 2

(OPERATION PERCENTAGE 82%)




# FORMER USTs, UNIT 3

(OPERATION PERCENTAGE 81%)




## EXPLANATION

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

*FIGURE 10*

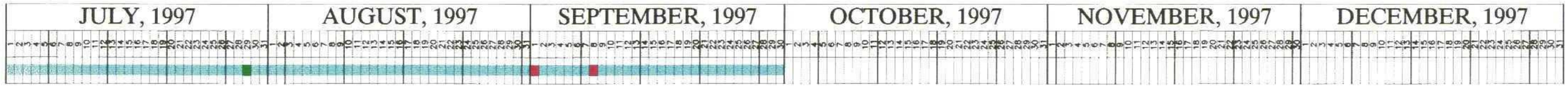
SVE OPERATION TIMELINE
01/01/97 THRU 06/30/97

DOWELL, A DIVISION OF
SCHLUMBERGER TECHNOLOGY CORPORATION

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

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## FORMER LAGOON, UNIT 1




## ACID PLANT, UNIT 2




## FORMER UST, UNIT 3




### EXPLANATION

UNIT IS RUNNING EXCEPT FOR BRIEF SHUTDOWNS FOR ROUTINE MAINTENANCE

UNIT IS NOT OPERATING

AIR SAMPLES COLLECTED

*FIGURE 11*

SVE OPERATION TIMELINE
07/01/97 THRU 12/31/97

DOWELL, A DIVISION OF
SCHLUMBERGER TECHNOLOGY CORPORATION

Western Water Consultants, Inc. WWC Engineering

Engineering Environmental Mining Water Resources

# 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 |
| Abandoned | | 05/22/97 | | | | | |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |

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

10/97

| 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) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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) |
| | 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(0.002) | ND(0.001) |
| | 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) |
| 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 |
| duplicate | 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 |
| | 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 |
| | 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) |
| | 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 |
| | 08/25/97 | 0.590 | ND(0.002) | 0.009 | 0.027 | 0.180 | ND(0.002) | 0.011 | 0.005 | 0.007 | 0.007 | 0.001J |
| | 07/28/97 | 0.031 | ND(0.002) | 0.004 | 0.011 | 0.097 | ND(0.002) | 0.004 | 0.00118J | 0.00096J | 0.00114J | ND(0.002) |
| | 10/16/97 | 0.012 | ND(0.002) | 0.00190J | 0.012 | 0.023 | ND(0.002) | 0.002 | 0.00130J | 0.00064J | 0.00102J | ND(0.002) |
| 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 |
| | 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 |
| | 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) |
| | 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(0.002) | 0.004 |
| | 07/28/97 | 0.033 | 0.00176J | 0.012 | 0.012 | 0.008 | ND(0.002) | 0.003 | ND(0.002) | ND(0.002) | ND(0.004) | 0.005 |
| | 10/16/97 | 0.022 | ND(0.002) | 0.008 | 0.022 | 0.011 | ND(0.002) | 0.00102J | ND(0.002) | ND(0.002) | ND(0.004) | 0.002 |
| MW-4 | 10/25/96 | 0.110 | 0.051 | 0.498 | 2.590 | 1.040 | 0.005 | ND(0.002) | ND(0.002) | ND(0.002) | ND(0.004) | ND(0.002) |
| | 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) |
| duplicate | 11/21/96 | 0.106 | 0.042 | 0.694 | 3.980 | 1.080 | ND(0.02) | ND(0.02) | ND(0.02) | ND(0.02) | ND(0.04) | ND(0.02) |
| | 01/22/97 | 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) |
| | 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) |
| | 08/25/97 | 0.047 | 0.0166J | 0.175 | 1.250 | 0.349 | ND(0.02) | ND(0.02) | ND(0.02) | ND(0.02) | ND(0.04) | ND(0.02) |
| | 08/25/97 | 0.044 | 0.0168J | 0.167 | 1.190 | 0.332 | ND(0.02) | ND(0.02) | ND(0.02) | ND(0.02) | ND(0.04) | ND(0.02) |
| | 07/28/97 | 0.037 | 0.0146J | 0.124 | 1.060 | 0.267 | ND(0.02) | ND(0.02) | ND(0.02) | ND(0.02) | ND(0.04) | ND(0.02) |
| | 10/16/97 | 0.031 | 0.0114J | 0.103 | 1.170 | 0.225 | ND(0.02) | ND(0.02) | ND(0.02) | ND(0.02) | ND(0.02) | ND(0.02) |
| MW-5 | 01/23/97 | 0.180 | 0.002 | 0.020 | 0.012 | 0.036 | 0.0008J | 0.018 | 0.004 | ND(0.001) | 0.0008J | ND(0.001) |
| duplicate | 01/23/97 | 0.190 | 0.002 | 0.018 | 0.009 | 0.034 | 0.0007J | 0.018 | 0.004 | ND(0.001) | 0.001 | 0.004 |
| | 05/23/97 | 0.191 | 0.003 | 0.055 | 0.079 | 0.059 | 0.0017J | 0.029 | ND(0.002) | ND(0.002) | ND(0.004) | ND(0.002) |
| | 07/28/97 | 0.241 | 0.004 | 0.072 | 0.058 | 0.051 | 0.002 | 0.051 | 0.023 | ND(0.002) | 0.007 | 0.009 |
| duplicate | 07/28/97 | 0.258 | 0.0043J | 0.069 | 0.052 | 0.050 | ND(0.005) | 0.052 | 0.023 | ND(0.005) | 0.00665J | 0.011 |
| | 10/16/97 | 0.214 | 0.0038J | 0.066 | 0.070 | 0.039 | ND(0.01) | 0.059 | 0.027 | ND(0.01) | 0.008 | 0.011 |
| MW-6 | 01/23/97 | 0.041 | 0.001 | 0.004 | 0.003 | 0.004 | ND(0.001) | 0.0008J | ND(0.001) | ND(0.001) | ND(0.002) | 0.0009J |
| | 05/22/97 | 0.085 | 0.002 | 0.034 | 0.023 | 0.017 | 0.00196J | 0.004 | ND(0.002) | ND(0.002) | ND(0.004) | 0.002 |
| | 07/28/97 | 0.081 | 0.00192J | 0.027 | 0.021 | 0.008 | 0.00194J | 0.003 | ND(0.002) | ND(0.002) | ND(0.004) | 0.004 |
| | 10/16/97 | 0.082 | 0.00170J | 0.025 | 0.019 | 0.006 | 0.00196J | 0.003 | ND(0.002) | ND(0.002) | ND(0.002) | 0.003 |
| MW-7 | 01/23/97 | 0.047 | 0.0009J | 0.009 | 0.014 | ND(0.001) | 0.004 | 0.0006J | ND(0.001) | ND(0.001) | 0.001 | 0.013 |
| | 05/22/97 | 0.087 | 0.00166J | 0.066 | 0.116 | 0.00164J | 0.014 | 0.003 | ND(0.002) | ND(0.002) | ND(0.004) | 0.062 |
| | 07/28/97 | 0.073 | 0.00162J | 0.061 | 0.110 | ND(0.002) | 0.021 | 0.004 | ND(0.002) | ND(0.002) | ND(0.004) | 0.055 |
| | 10/16/97 | 0.065 | ND(0.005) | 0.050 | 0.091 | ND(0.005) | 0.018 | 0.0030J | ND(0.005) | ND(0.005) | ND(0.01) | 0.058 |
| MW-8 | 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) |
| | 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) |
| | 08/25/97 | 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) |
| | 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) |
| | 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) |
| MW-9 | 01/23/97 | 0.011 | ND(0.001) | 0.063 | 0.090 | 0.045 | 0.0004J | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.002) | ND(0.001) |
| | 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) |
| | 08/25/97 | 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) |
| | 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) |
| | 10/16/97 | 0.0186J | 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) |
| duplicate | 10/16/97 | 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) |

**Table 2.** **Chemicals Detected in Ground-Water Samples, Dowell Facility, Hobbs, New Mexico** 10/97

| 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) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-10 | 05/26/97 | 0.004 | ND(0.002) | 0.007 | 0.026 | ND(0.002) | 0.0012J | 0.004 | ND(0.002) | ND(0.002) | ND(0.004) | ND(0.002) |
| duplicate | 05/26/97 | ND(0.002) | ND(0.002) | 0.008 | 0.028 | ND(0.002) | 0.0013J | 0.007 | ND(0.002) | ND(0.002) | ND(0.004) | ND(0.002) |
| | 07/28/97 | 0.003 | ND(0.002) | 0.009 | 0.014 | 0.00198J | ND(0.002) | 0.0015J | ND(0.002) | ND(0.002) | ND(0.004) | ND(0.002) |
| | 10/16/97 | ND(0.002) | ND(0.002) | 0.00198J OK | 0.008 | ND(0.002) | ND(0.002) | 0.00106J | ND(0.002) | ND(0.002) | ND(0.004) | ND(0.002) |
| MW-11 | 05/24/97 | 0.0008J | ND(0.001) | 0.0069J | 0.002 | ND(0.001) | ND(0.001) | 0.002 | ND(0.001) | ND(0.001) | 0.0010J | ND(0.001) |
| | 07/28/97 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | 0.003 | 0.00095J | ND(0.001) | 0.006 | ND(0.001) |
| | 10/16/97 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | 0.002 | 0.00049J | ND(0.001) | 0.00302J | ND(0.001) |
| 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) | 0.0056J | 0.0052J | 0.0027J | ND(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) |
| | 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) |
| 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) |
| | 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) |
| | 10/16/97 | ND(0.001) | 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) |
| | 10/16/97 | ND(0.002) | ND(0.002) | 0.011 | 0.013 | 0.00106J | ND(0.002) | ND(0.002) | ND(0.002) | ND(0.002) | ND(0.004) | ND(0.002) |
| 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) |
| | 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) |
| 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) |
| | 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) |
| 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) |
| | 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) |
| | 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) |
| *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 |
| | 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 |
| | 10/16/97 | 0.0180J | 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 |

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.

| Sample I.D. | Date Sampled | Sample Location | Benzene (mg/m3) | Toluene (mg/m3) | Ethyl-Benzene (mg/m3) | Total Xylene (mg/m3) | 1,1-DCE (mg/m3) | 1,1-DCA (mg/m3) | Chloromethane (mg/m3) | 1,1,1-TCA (mg/m3) | Vinyl Chloride (mg/m3) | TCE (mg/m3) | PCE (mg/m3) | Total Input BTEX (mg/m3) | Total Output BTEX (mg/m3) | Total Input Halocarbons (mg/m3) | Total Output Halocarbons (mg/m3) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **FORMER LAGOON** | | | | | | | | | | | | | | | | | |
| 007-AREA 1 | 11/02/94 | Pilot | ND(0.1) | 1 | 0.35 | | 29.80 | 0.487 | | 20.7 | | | 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) | 1.23 | 135 | 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 | | 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 | | 489.03 | |
| Unit 1 Output9/95-1 | | 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-WatPDinput | 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-WatPDExh.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 |
| 93007WPINPUT.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 | |
| 93007WPEXHST.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-INP.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 | | 148.4 | |
| 93-007.WP-INP.6/97 | 06/25/97 | Input | 18.7 | 104 | 33.9 | 176.3 | 17 | 22 | ND(5.0) | 156 | ND(5.0) | ND(5.0) | 97.3 | 332.9 | | 249.2 | |
| 93007-WP.7/97 | 07/29/97 | Input | 5.90J | 33 | 5.50J | 24.3 | 6.10J | 6.90J | ND(10.0) | 76.1 | ND(10.0) | ND(10.0) | 25.5 | 57.3 | | 24.3 | |
| 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 | |
| **ACID PLANT** | | | | | | | | | | | | | | | | | |
| 007-AREA 2 | 11/02/94 | Pilot | 4.5 | 23.2 | 11.4 | | 4.4 | 12.2 | | 88.5 | | | 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 |
| 93007ADINPUT.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 | |
| 93007ADEXHST.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(0.4) | 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-INP-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-INP.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 | |
| 93-007.AD-INP.6/97 | 06/25/97 | Input | ND(1.0) | 4.2 | 1.66 | 11.88 | 1.25 | 0.46J | ND(1.0) | 2.39 | ND(1.0) | ND(1.0) | 6.15 | 17.74 | | 9.79 | |
| 93007-AD.7/97 | 07/29/97 | Input | ND(1.0) | 3.46 | 0.71J | 4.5 | ND(1.0) | ND(1.0) | ND(1.0) | 1.45 | ND(1.0) | ND(1.0) | 2.88 | 7.96 | | 4.33 | |
| 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 | |

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

| Sample I.D. | Date Sampled | Sample Location | Benzene (mg/m3) | Toluene (mg/m3) | Ethyl-Benzene (mg/m3) | Total Xylene (mg/m3) | 1,1-DCE (mg/m3) | 1,1-DCA (mg/m3) | Chloromethane (mg/m3) | 1,1,1-TCA (mg/m3) | Vinyl Chloride (mg/m3) | TCE (mg/m3) | PCE (mg/m3) | Total Input BTEX (mg/m3) | Total Output BTEX (mg/m3) | Total Input Halocarbons (mg/m3) | Total Output Halocarbons (mg/m3) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **FORMER UST** | | | | | | | | | | | | | | | | | |
| 007-AREA 3 | 11/02/94 | Pilot | 1.2 | 5.7 | 5.5 | | ND(0.1) | ND(0.1) | | ND(0.1) | | | 0.49 | | | | |
| 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) | 2.68 | 870 | 15.84 | | 1379.58 | |
| 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) | 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 | | 58.3 | |
| 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 | 99.4 | 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 |
| 93007TSINPUT.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 | |
| 93007TSEXHST.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-INPUT-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) | 4.66 | ND(0.2) | 2.59 | ND(0.2) | 1.62 | | 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 | |
| 93-007.USTCOMP.6/97 | 06/25/97 | Input | ND(1.0) | ND(1.0) | ND(1.0) | ND(2.0) | 68.2 | 10.5 | ND(1.0) | 125 | ND(1.0) | 1.11 | 335 | 0 | | 539.81 | |
| 93007-UST.7/97 | 07/29/97 | Input | ND(10.0) | ND(10.0) | ND(10.0) | ND(20.0) | 10.4 | ND(10.0) | ND(10.0) | 30 | ND(10.0) | ND(10.0) | 148 | 0 | | 188.4 | |
| 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 | |
| **INDIVIDUAL SVE WELLS** | | | | | | | | | | | | | | | | | |
| 93-007.USTDP3.6/97 | 06/05/97 | 3-5 | ND(10.0) | ND(10.0) | ND(10.0) | ND(20.0) | 79.8 | 25.1 | ND(10.0) | 441 | ND(10.0) | ND(10.0) | 871 | | | | |
| 93-007.USTDP2.6/97 | 06/25/97 | 3-6 | ND(10.0) | ND(10.0) | ND(10.0) | ND(20.0) | 120 | 13.2 | ND(10.0) | 114 | ND(10.0) | ND(10.0) | 368 | | | | |
| 93-007.USTDP1.6/97 | 06/25/97 | 3-7 | ND(1.0) | ND(1.0) | ND(1.0) | ND(2.0) | 82.8 | 7.31 | ND(1.0) | 60.2 | ND(1.0) | ND(1.0) | 226 | | | | |

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

# APPENDIX A

# WELL COMPLETION LOGS

# MONITORING WELL 93007 MW-5

LOCATION Dowell Facility, Hobbs, New Mexico
In the road between sand silos and south property fence
1105 West Bender Boulevard
LOG Western Water Consultants Inc (Kevin Mattson)
DRILLER Eades Drilling (Allen Eades)
DRILLERS LICENSE No NA
INSTALLATION DATE January 20, 1997

WELL OWNER Dowell Schlumberger (JN 93007 2)
DRILLING METHOD Air Rotary, 6 1/8 in OD
CASING 2 in Dia Flush Joint Sch 40 PVC
SCREEN Factory Slotted Casing, 0 020 in
FILTER PACK 8/16 Mesh Silica Sand
TOP OF CASING ELEVATION 98 79 feet
(Reference Datum Arbitrary = 100 00 feet)

## DESCRIPTIONS

Depth (ft)

0 - ASPHALT
SILTY CLAY dark brn, 1st clasts and gravel, damp-moist

5 - SAND mod orange pink (5YR 8/4), fine -med grained, poorly sorted sand, 0 ppm PID, dry, no staining or odor

10 - CALICHE very pale pink (10YR 8/2), 1st chips and clasts, dry, no odor or staining, 0 ppm PID

15

20

25 - CALICHE mod orange pink, 1st frags and chips, dry, no odor or staining

30

35 - SAND mod orange pink-lt brown (5YR 5/6), vf-f grained, well sorted, predominately qtz with minor mafics, easy drilling with intervals of harder drilling, calcareous cement, dry-slightly damp, no staining or odor, Oppm PID

40

45

50

55 - SAND mod orange-mod orange pink-lt brn, well-mod sorted, increasing sst with depth, moist-wet at 72', no odor or staining, 0 ppm PID

60

65

70

75

80

85

## LITHOLOGY

CORE

Laboratory

93007-5 72-74

## WELL CONSTRUCTION DIAGRAM

Depth (ft) / Elevation

Locking Cap

Grout Seal

2" PVC Casing

Bentonite Seal

2" PVC Screen

SWL -72 90 Ft TOC 1/22/97

Filter Pack

TD 85 0 Ft

Bottom Cap

Western Water Consultants, Inc.

# MONITORING WELL 93007 MW-6

LOCATION Dowell Facility, Hobbs, New Mexico
In southwest corner of the property
1105 West Bender Boulevard
LOG Western Water Consultants Inc (Kevin Mattson)
DRILLER Eades Drilling (Allen Eades)
DRILLERS LICENSE No NA
INSTALLATION DATE January 20, 1997

WELL OWNER Dowell Schlumberger (JN 93007 2)
DRILLING METHOD Air Rotary, 6 1/8 in OD
CASING 2 in Dia Flush Joint Sch 40 PVC
SCREEN Factory Slotted Casing, 0 020 in
FILTER PACK 8/16 Mesh Silica Sand
TOP OF CASING ELEVATION 98 61 Feet
(Reference Datum Arbitrary = 100 00 Feet)

## DESCRIPTIONS

Depth (ft)

0 — ASPHALT
SILTY SAND mod orange pink-lt brn, poorly sorted, fine-med grained, lst clasts, no odor or staining, slightly damp-dry

5 — SILTY SAND orange, fine-med grained, poorly sorted, lst frags, no odor or staining, 0 ppm PID

10 — CALICHE mod orange pink (5YR 8/4), fine -med grained, lst frags, 0 ppm PID, dry, no staining or odor

15 — CALICHE very pale pink (10YR 8/2), lst chips and clasts, dry, no odor or staining, 0 ppm PID

30 — SAND mod orange pink-lt brown (5YR 5/6), vf-f grained, well sorted, predominately qtz with minor mafics, easy drilling with intervals of harder drilling, calcareous cement, very moist at 73', no staining or odor, 0ppm PID

35
40
45
50
55
60
65
70
75
80
85

## LITHOLOGY

CORE

Laboratory

93007-6 72-74

## WELL CONSTRUCTION DIAGRAM

Depth (ft) / Elevation

Locking Cap
Grout Seal
2" PVC Casing
Bentonite Seal
2" PVC Screen
SWL -72 88 Ft TOC 1/22/97
Filter Pack
TD 85 0 ft
Bottom Cap

Western Water Consultants, Inc.

# MONITORING WELL 93007 MW-7

LOCATION Dowell Facility, Hobbs, New Mexico
Near the south end of the truck scales
1105 West Bender Boulevard
LOG Western Water Consultants Inc (Kevin Mattson)
DRILLER Eades Drilling (Allen Eades)
DRILLERS LICENSE No NA
INSTALLATION DATE January 21, 1997

WELL OWNER Dowell Schlumberger (JN 93007 2)
DRILLING METHOD Air Rotary, 6 1/8 in OD
CASING 2 in Dia Flush Joint Sch 40 PVC
SCREEN Factory Slotted Casing, 0 020 in
FILTER PACK 8/16 Mesh Silica Sand
TOP OF CASING ELEVATION 99 71 feet
(Reference Datum Arbitrary = 100 00 feet)

DESCRIPTIONS

Depth(ft)

0 SAND AND GRAVEL
SILTY CLAY dark brn, slightly damp
CALICHE lt brn, 5YR 6/4, vf-f grained, lst frags, dry, no staining or odor

5 CALICHE mod orange pink, very fine-fine grained, lst clasts-5/8", dry, no odor or staining

10

15 CALICHE very pale orange, very fine-fine grained, lst clasts, hard at 24-24 5 and 26 5-27', dry, no staining or odor

20

25 CALICHE mod orange pink, minor lst clasts, dry, no odor or staining

30

35 SAND mod orange pink-lt brown (5YR 5/6), vf-f grained, well-mod sorted, predominately qtz with minor mafics, easy drilling with intervals of harder drilling, calcareous cement, gravelly layers at 47 and 50', moist @ 73', no staining or odor

40

45

50

55

60

65

70

75

80

85

LITHOLOGY

CORE

Laboratory

93007-7 72-74

WELL CONSTRUCTION DIAGRAM

Depth(ft) / Elevation

Locking Cap
Grout Seal
2" PVC Casing
Bentonite Seal
2" PVC Screen
SWL -73 31 Ft TOC 1/22/97
Filter Pack
TD 85 0 Ft
Bottom Cap

Western Water Consultants, Inc.

# MONITORING WELL 93007 MW-8

LOCATION Dowell Facility, Hobbs, New Mexico
Near the north end of the truck scales
1105 West Bender Boulevard
LOG Western Water Consultants Inc (Kevin Mattson)
DRILLER Eades Drilling (Allen Eades)
DRILLERS LICENSE No NA
INSTALLATION DATE January 21, 1997

WELL OWNER Dowell Schlumberger (JN 93007 2)
DRILLING METHOD Air Rotary, 6 1/8 in OD
CASING 2 in Dia Flush Joint Sch 40 PVC
SCREEN Factory Slotted Casing, 0 020 in
FILTER PACK 8/16 Mesh Silica Sand
TOP OF CASING ELEVATION 99 80 Feet
(Reference Datum Arbitrary = 100 00 Feet)

DESCRIPTIONS

Depth(ft)

0 SAND AND GRAVEL
SILTY CLAY dark brn, slightly damp
CALICHE mod orange pink, vF-F grained, lst clasts and frags, dry, no staining or odor

15 CALICHE very pale orange, abundant lst chips, minor clasts, dry, no staining or odor

20 CALICHE mod orange pink, very powdery, hard at @ 23', dry, no odor or staining

25 CALICHE lt brn 5YR 6/4 - mod orange pink, powdery, minor clasts and lst chips, no odor or staining

35 SAND lt brown (5YR 6/4), vF-F grained, mod sorted, minor lst clasts, thin gravel lense at @ 50', no staining or odor

70 SAND lt brn, sand grades into weakly indurated sst from 73-74', well-mod sorted, vF-F grained, damp, no odor or staining

85

LITHOLOGY

CORE Laboratory

93007-8 72-74

WELL CONSTRUCTION DIAGRAM

Depth(ft) Elevation

Locking Cap
Grout Seal
2" PVC Casing
Bentonite Seal
2" PVC Screen
SWL -72 78 Ft TOC 1/22/97
Filter Pack
TD 85 0 Ft
Bottom Cap

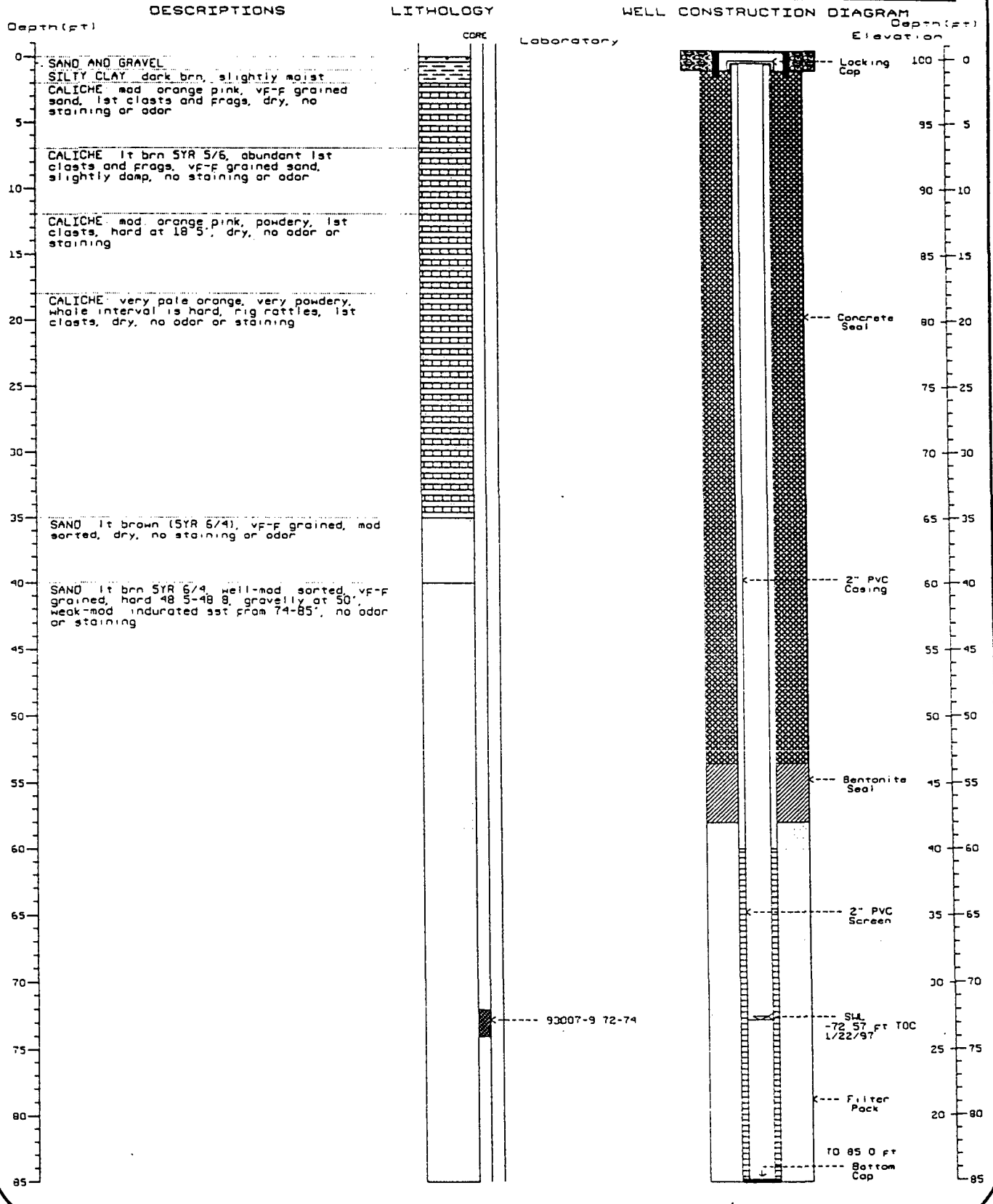
100 0
95 5
90 10
85 15
80 20
75 25
70 30
65 35
60 40
55 45
50 50
45 55
40 60
35 65
30 70
25 75
20 80
85

Western Water Consultants, Inc.

# MONITORING WELL 93007 MW-9

LOCATION Dowell Facility, Hobbs, New Mexico
Northeast corner of the property
1105 West Bender Boulevard
LOG Western Water Consultants Inc (Kevin Mattson)
DRILLER Eades Drilling (Allen Eades)
DRILLERS LICENSE No NA
INSTALLATION DATE January 21, 1997

WELL OWNER Dowell Schlumberger (JN 93007 2)
DRILLING METHOD Air Rotary, 6 1/8 in OD
CASING 2 in Dia Flush Joint Sch 40 PVC
SCREEN Factory Slotted Casing, 0 020 in
FILTER PACK 8/16 Mesh Silica Sand
TOP OF CASING ELEVATION 99 85 Feet
(Reference Datum Arbitrary = 100 00 Feet)




Western Water Consultants, Inc.

# MONITORING WELL 93007 MW-10

LOCATION: Dowell Facility, Hobbs, New Mexico
Next to MW-8
1105 West Bender Boulevard
LOG: Western Water Consultants Inc. (Kevin Matteson)
DRILLER: Eades Drilling (Allen Eades)
DRILLERS LICENSE No.: NA
INSTALLATION DATE: May 24, 1997

WELL OWNER: Dowell Schlumberger (JN 93007 2)
DRILLING METHOD: Air Rotary, 6 1/8 in. OD
CASING: 2 in. Dia. Flush Joint Sch. 40 PVC
SCREEN: Factory Slotted Casing; 0.020 in.
FILTER PACK: 12/20 Mesh Silica Sand
TOP OF CASING ELEVATION: 3638.86 Feet
(Reference Datum: Mean Sea Level = 0.00 Feet)

## DESCRIPTIONS

Depth (FT)

0 — SAND AND GRAVEL: lt brn, gravel to 1" dia., dry, no odor or staining

3 — SILTY SAND: mod orange pink, poorly sorted, subangular-subrounded, grains, no odor or staining, easy drilling, lot clasts

10 — CALICHE: very pale orange (10YR 8/2), lot clasts, minor chips, easy drilling 13'-15', soft intervals of light brown fine grained sand, from 26-34', minor lst chips, dry, no odor or staining

35 — SAND: mod orange pink, VF-F grained, mod sorted, subangular-subrounded, lot clasts, no odor or staining

40 — SAND: lt brown (5YR 6/4) fine grained, poor-mod sorting, subangular-subrounded, lot clasts & chips, no odor or staining, minor lst gravel to 3/4"

50 — SAND: same as above - lt brown (5YR 5/6), minor fine grained sst frags, predom qtz with morrie, minor lst gravel clasts, no odor or staining

70 — SAND: as above with increase in sst chips, damp

80 — SAND: as above, fine grained, poor-mod sorted, subangular-subrounded, weak-mod, indurated, minor gravel to 1/4", minor cream colored clay, no sheen on water, hard/soft layers (sst hard, sand soft), easy drilling

120 — SAND: as above, thin hard layer at @ 127', hard sst at @ 131'

130

## LITHOLOGY

CORE

## Laboratory

No Soil Sample Collected

## WELL CONSTRUCTION DIAGRAM

Depth (FT) / Elevation

0 / 3640 — Locking Cap
5 / 3635
10 / 3630
15 / 3625
20 / 3620
25 / 3615 — Grout Seal
30 / 3610
35 / 3605
40 / 3600
45 / 3595
50 / 3590
55 / 3585 — 2" PVC Casing
60 / 3580
65 / 3575
70 / 3570
75 / 3565 — SWL -73.33 Ft TOC 5/27/97
80 / 3560
85 / 3555
90 / 3550
95 / 3545
100 / 3540 — Bentonite Seal
105 / 3535
110 / 3530
115 / 3525
120 / 3520 — Filter Pack
125 / 3515 — 2" PVC Screen
130 / 3510 — TD 131.0 Ft. Bottom Cap

Western Water Consultants, Inc.

# MONITORING WELL 93007 MW-11

LOCATION: Dowell Facility, Hobbs, New Mexico
Next to MW-1
1105 West Bender Boulevard
LOG: Western Water Consultants Inc. (Kevin Mattson)
DRILLER: Eades Drilling (Allen Eades)
DRILLERS LICENSE No.: NA
INSTALLATION DATE: May 14, 1997

WELL OWNER: Dowell Schlumberger (JN 93007 2)
DRILLING METHOD: Air Rotary, 6 1/8 in. OD
CASING: 2 in. Dia. Flush Joint Sch. 40 PVC
SCREEN: Factory Slotted Casing, 0.020 in.
FILTER PACK: 12/20 Mesh Silica Sand
TOP OF CASING ELEVATION: 3638.55 feet
(Reference Datum: Mean Sea Level = 0.00 feet)

DESCRIPTIONS | LITHOLOGY | WELL CONSTRUCTION DIAGRAM

Depth (Ft)

0 – SAND AND GRAVEL: minor dark brn silty clay

5 – SILTY SAND: pale orange, with gravel and lst clasts, poorly sorted, dry, 0 ppm PID harder @ 13', increase in lst clasts

10

15 – CALICHE: light brown, lst clasts and frags, very hard at 22', softer at 24.5', no staining, 0 ppm PID

20

25 – CALICHE: light brown, intervals of soft sandy layers and hard caliche from 25'-35', lst clasts, dry, no HC staining, 0 ppm PID

30

35 – SAND: light brown, fine grained, mod sorted, subangular-subrounded, dry, no HC staining, 0 ppm PID

40

45 – SAND: orange, fine grained, lst gravel clasts to 3/4", mod sorted, dry, 0 ppm PID

50 – SAND: light brown, minor lst clasts, fine grained as above, no HC staining, dry, 0 ppm PID

SAND: orange, fine grained, minor lst clasts, minor weak - mod indurated sst frags, subangular-subrounded, very slightly damp, no HC staining, 0 ppm PID

55

60

65

70 – SAND: lt brn, fine grained, minor vuggy lst clasts and chips, weak-mod. indurated fine grained sst frags, no sheen on water

75

80

85

90

CORE

Laboratory

No Soil Samples Collected

Locking Cap

Grout Seal

2" PVC Casing

SH
~70.70 Ft TOC
5/26/97

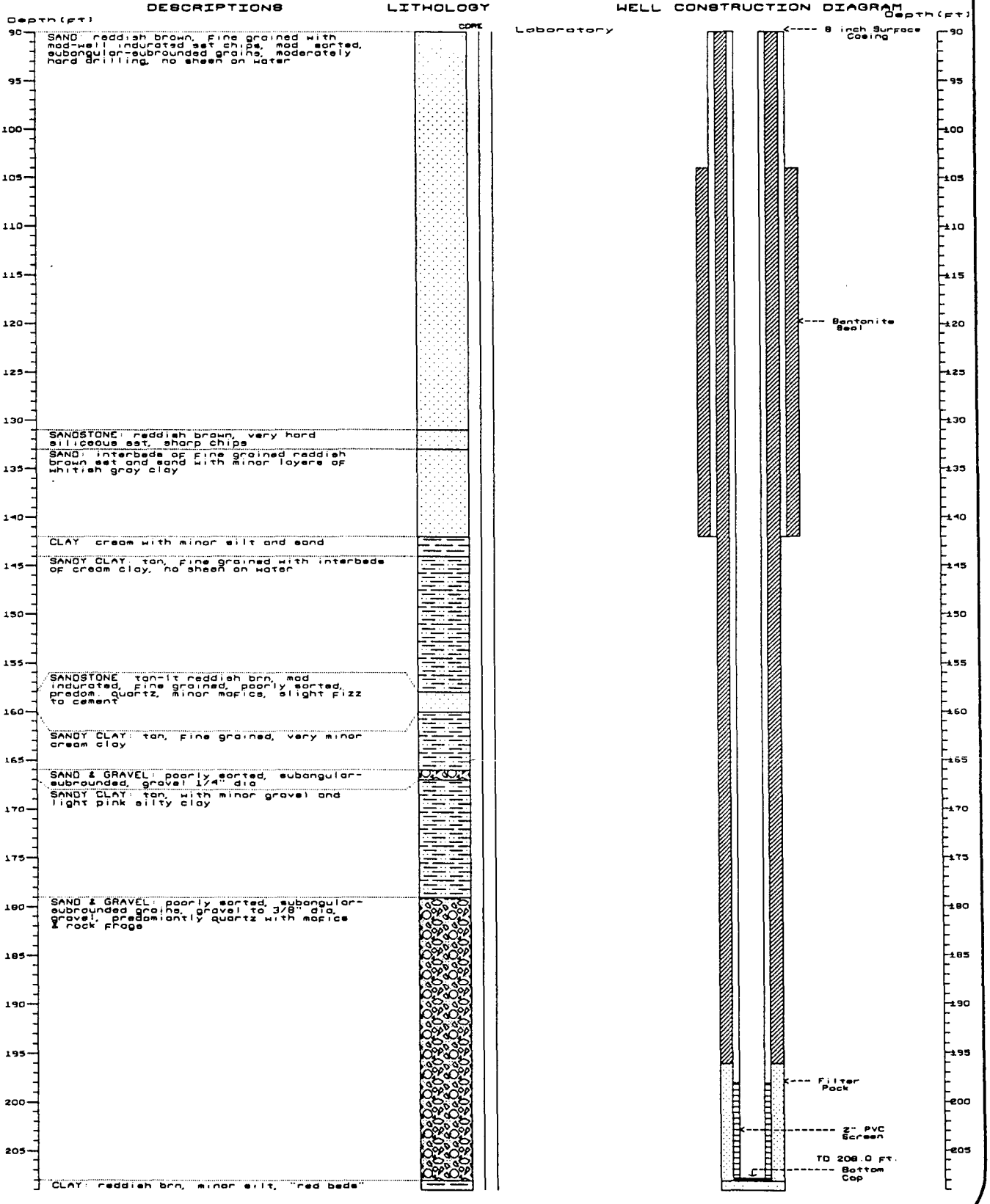
8 inch Surface

Western Water Consultants, Inc.

# MONITORING WELL 93007 MW-11 Continued

LOCATION: Dowell Facility, Hobbs, New Mexico
Next to MW-1
1105 West Bender Boulevard
LOG: Western Water Consultants Inc. (Kevin Matteson)
DRILLER: Eades Drilling (Allen Eades)
DRILLERS LICENSE No.: NA
INSTALLATION DATE: May 14, 1997

WELL OWNER: Dowell Schlumberger (JN 93007 2)
DRILLING METHOD: Air Rotary, 6 1/8 in. OD
CASING: 2 in. Dia. Flush Joint Sch. 40 PVC
SCREEN: Factory Slotted Casing; 0.020 in.
FILTER PACK: 12/20 Mesh Silica Sand
TOP OF CASING ELEVATION: 3638.55 Feet
(Reference Datum: Mean Sea Level = 0.00 Feet)

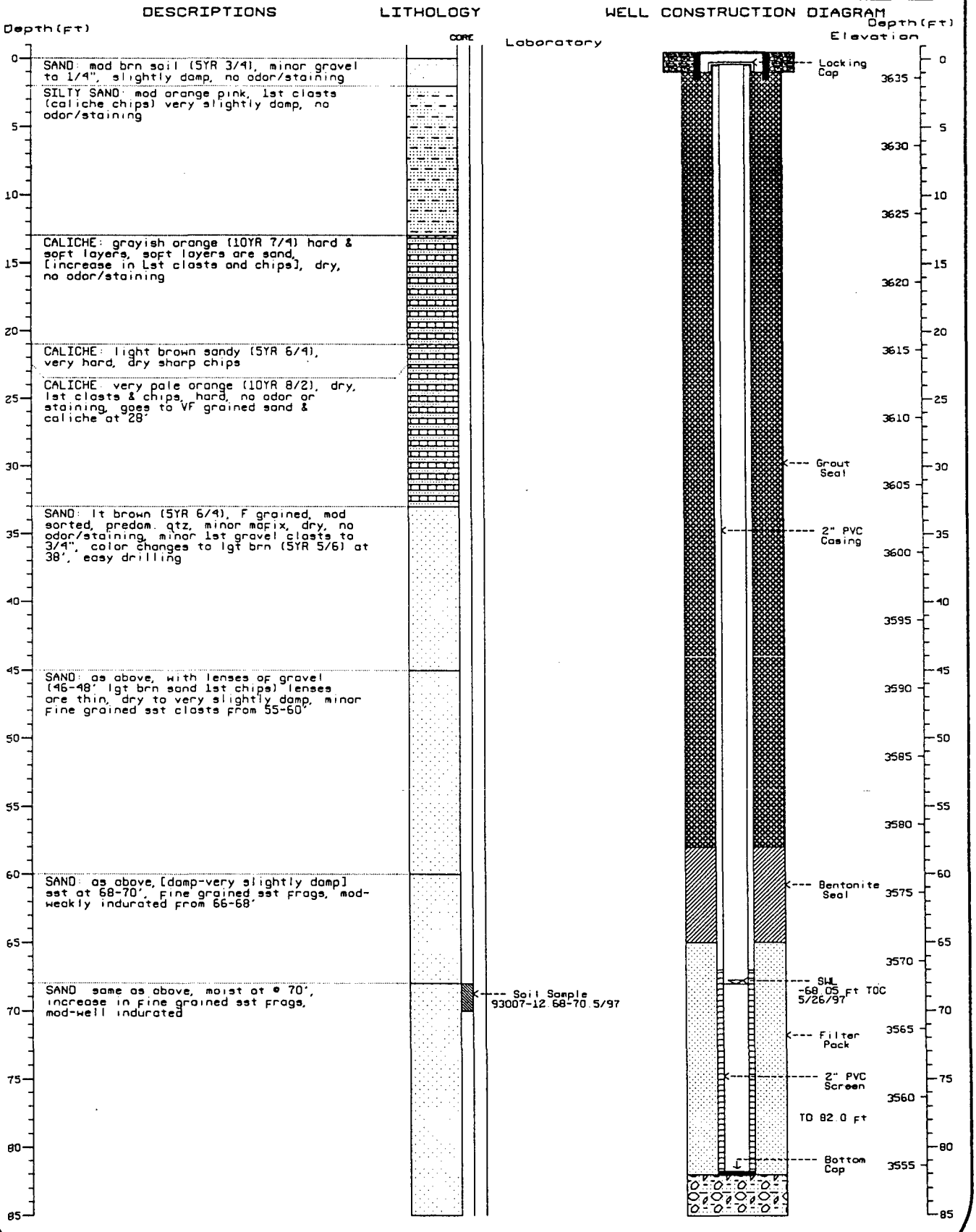



Western Water Consultants, Inc.

# MONITORING WELL 93007 MW-12

LOCATION: Dowell Facility, Hobbs, New Mexico
SW corner of yard
1105 West Bender Boulevard
LOG: Western Water Consultants Inc. (Kevin Mattson)
DRILLER: Eades Drilling (Allen Eades)
DRILLERS LICENSE No.: NA
INSTALLATION DATE: May 23, 1997

WELL OWNER: Dowell Schlumberger (JN 93007.2)
DRILLING METHOD: Air Rotary, 6 1/8 in. OD
CASING: 2 in. Dia. Flush Joint Sch. 40 PVC
SCREEN: Factory Slotted Casing, 0.020 in
FILTER PACK: 12/20 Mesh Silica Sand
TOP OF CASING ELEVATION: 3636.15 feet
(Reference Datum: Mean Sea Level + 0.00 feet)




Western Water Consultants, Inc.

# MONITORING WELL 93007 MW-13

LOCATION: Dowell Facility, Hobbs, New Mexico
T18S, R38E, Sec 21, SE1/4

LOG: Western Water Consultants Inc. (Kevin Mattson)
DRILLER: Eades Drilling (Allen Eades)
DRILLERS LICENSE No : NA
INSTALLATION DATE: May 14, 1997

WELL OWNER: Dowell Schlumberger (JN 93007.2)
DRILLING METHOD: Air Rotary, 6 1/8 in OD
CASING: 2 in Dia Flush Joint Sch 40 PVC
SCREEN: Factory Slotted Casing; 0.020 in
FILTER PACK: 12/20 Mesh Silica Sand
TOP OF CASING ELEVATION: 3635.39 feet
(Reference Datum: Mean Sea Level = 0.00 feet)

## DESCRIPTIONS

Depth (ft)

0 — SILTY CLAY: dark brn soil, 0 ppm PID

5 — SILTY SAND: lt brn, very pale orange, lst clasts, poorly sorted, very slightly damp, no hydrocarbon staining, 0 ppm PID

SAND: pale orange, poorly sorted, hematite stained, no hydrocarbon staining, 0 ppm PID

10

15 — CALICHE: light brown, lst clasts, dry, powdery, no hydrocarbon staining and soft intervals, dry, no staining, 0 ppm PID

20

25 — CALICHE: light pinkish white, lst clasts dry

30 — CALICHE: lt brown, lst clasts, hard at 32', dry, 0 ppm PID

35 — SAND: light brown, VF-F grained, lst clasts, minor sst clasts, mod sorted, subangular-subrounded grains, dry, 0 ppm PID

40

45 — SAND: pale orange, fine grained, mod sorted, subangular-subrounded grains, dry no hydrocarbon staining, 0 ppm PID

SAND: lt brn as above, no hydrocarbon staining, dry, 0 ppm PID

50 — SAND: pale orange, lst gravel to 1" diameter, dry

55 — SAND: orange, fine grained, mod sorted, subangular-subrounded, minor weakly indundated sst frags, very slightly damp, 0 ppm PID, very slight fizz w/HCl on the grains

60 — SAND: orange as above, very slightly damp, slightly more damp towards 70', 0 ppm PID, no hydrocarbon staining

65

70 — SAND: pale orange, as above but increase in fine grained, mod sorted, sst frags, moist, mod. indunated, 0 ppm PID, no hydrocarbon staining

75

80

85

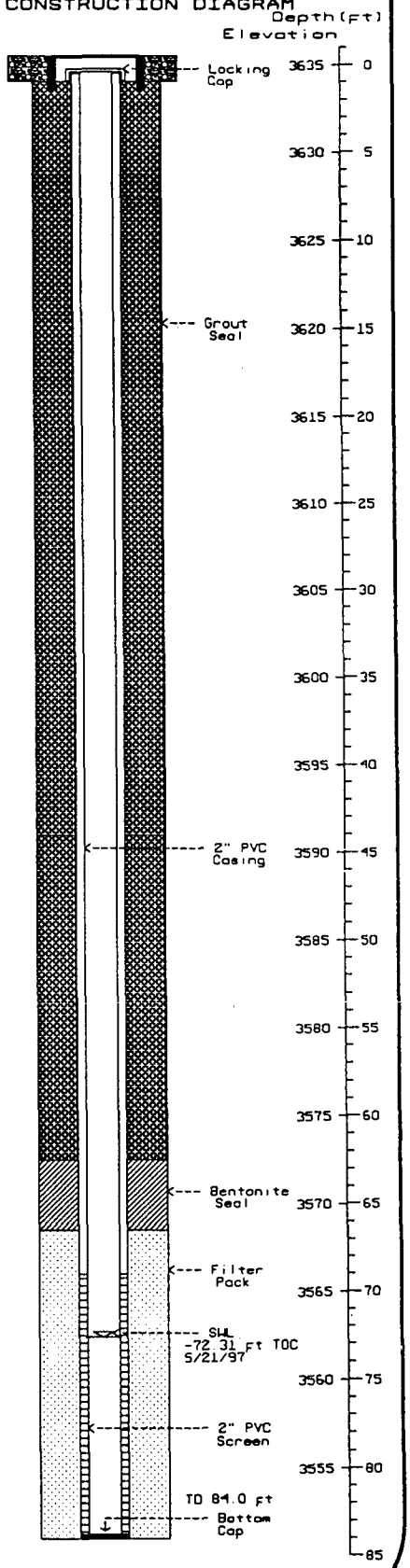
## LITHOLOGY

CORE

## Laboratory

No Soil Sample Collected

## WELL CONSTRUCTION DIAGRAM




Western Water Consultants, Inc.

# MONITORING WELL 93007 MW-14

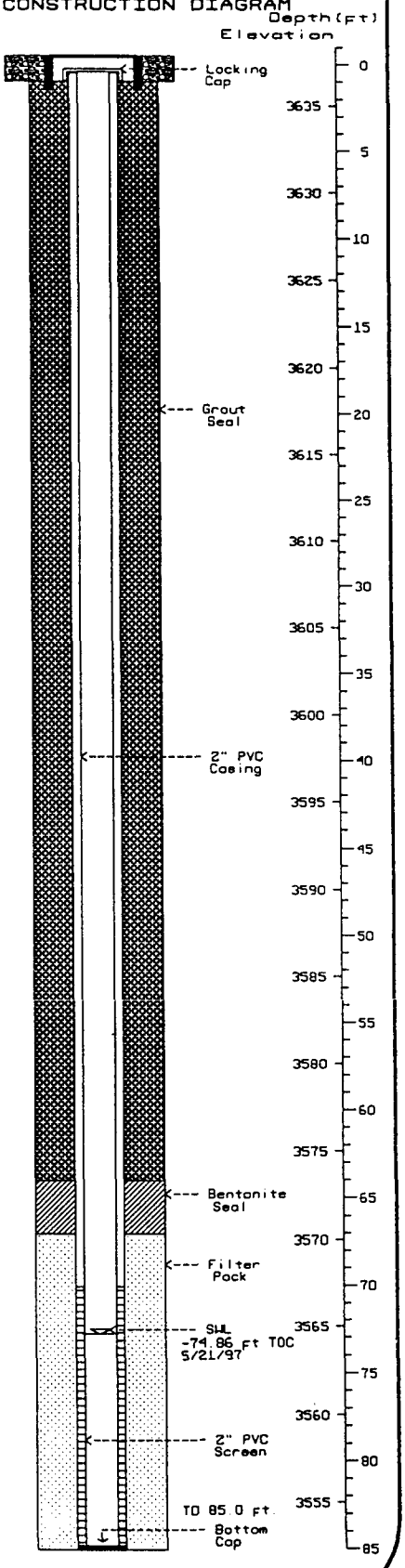
LOCATION: Dowell Facility, Hobbs, New Mexico
T18S, R38E, Sec 21, SE

LOG: Western Water Consultants Inc. (Kevin Mattson)
DRILLER: Eades Drilling (Allen Eades)
DRILLERS LICENSE No.: NA
INSTALLATION DATE: May 14, 1997

WELL OWNER: Dowell Schlumberger (JN 93007 2)
DRILLING METHOD: Air Rotary, 6 1/8 in. OD
CASING: 2 in. Dia. Flush Joint Sch. 40 PVC
SCREEN: Factory Slotted Casing; 0.020 in.
FILTER PACK: 12/20 Mesh Silica Sand
TOP OF CASING ELEVATION: 3637.19 feet
(Reference Datum: Mean Sea Level = 0.00 feet)

| Depth (ft) | DESCRIPTIONS | LITHOLOGY | Laboratory |
|---|---|---|---|
| 0–5 | SAND AND GRAVEL | CORE | No Soil Sample Collected |
| 5–10 | SILTY SAND: mod. orange pink, fine grained, dry, 0 ppm PID | | |
| 10–15 | CALICHE: lt brn, hard drilling, lst clasts and chips, dry, no staining or odor | | |
| 15–20 | CALICHE: very pale orange, abundant lst clasts and chips, fine grained sand, hard and soft intervals, dry, no staining, 0 ppm PID | | |
| 20–25 | CALICHE: mod. orange pink, powdery, lst clasts, dry, no odor or staining | | |
| 25–40 | SAND: lt brown (5YR 6/4), vf-f grained, mod. sorted, subangular-subrounded grains, dry, no staining, 0 ppm PID | | |
| 40–45 | SAND: pale orange, well-mod. sorted, fine grained, hard at 45', interbeds of lst gravel, very slightly damp, 0 ppm PID, no HC staining | | |
| 45–60 | SAND: lt brn, as above, minor lst clasts, chips, and fine grained weakly indurated sst clasts, 0 ppm PID | | |
| 60–85 | SAND: lt brn, fine grained, mod sorted, minor sst frags to 71', increasing sst from 71' down, damp at 71', moist by 75', no staining, 0 ppm PID | | |

WELL CONSTRUCTION DIAGRAM




Western Water Consultants, Inc.

# MONITORING WELL 93007 MW-15

LOCATION Dowell Facility, Hobbs, New Mexico
T18S, R38E, Sec 21, SE

LOG Western Water Consultants Inc (Kevin Mattson)
DRILLER Eades Drilling (Allen Eades)
DRILLERS LICENSE No NA
INSTALLATION DATE May 13, 1997

WELL OWNER Dowell Schlumberger (JN 93007 2)
DRILLING METHOD Air Rotary, 6 1/8 in OD
CASING 2 in Dia Flush Joint Sch 40 PVC
SCREEN Factory Slotted Casing, 0 020 in
FILTER PACK 12/20 Mesh Silica Sand
TOP OF CASING ELEVATION 3636 57 feet
(Reference Datum Mean Sea Level = 0 00 feet)

DESCRIPTIONS | LITHOLOGY | WELL CONSTRUCTION DIAGRAM

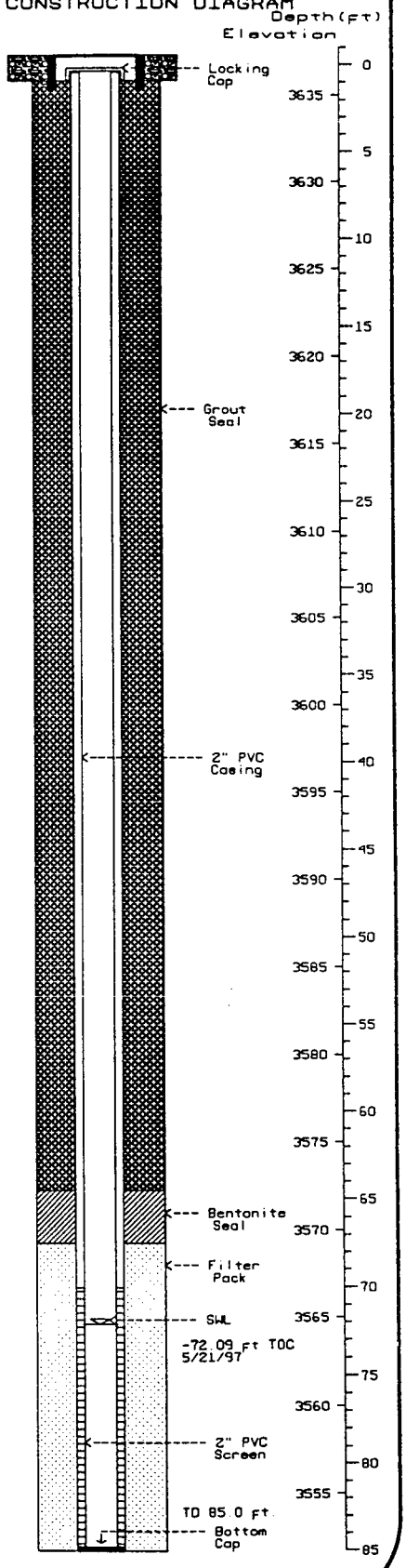
Depth (ft)

| Depth (ft) | Description |
|---|---|
| 0 | SILTY CLAY dark brn soil |
| | SILTY SAND lt brn, fine grained, lst clasts, mod sorted, dry, no odor or staining |
| 5 | SILTY SAND pale orange, mod -poorly sorted, fine grained, lst clasts |
| 10 | CALICHE as above, pale pinkish orange, lots of clasts & minor frags, quiet to 19', no odor or staining, harder at 19' |
| 15 | |
| 20 | CALICHE pale orange -lt brn at 19.5', fine grained, interbeds of hard caliche and soft fine grained sand |
| 25 | CALICHE as above but pinkish white caliche |
| | CALICHE pale orange, as above |
| 30 | |
| 35 | SAND lt brn, thin interbeds of hard lst, fine grained sand, mod sorted, subangular-subrounded, no odor/staining |
| 40 | SAND as above but orange |
| | SAND as with the lt brn sand above, small clasts of weakly indurated sst |
| 45 | |
| 50 | SAND pale orange, fine grained, mod sorted, subangular-subrounded grains, minor mod-well indurated sst clasts, no odor or staining, slighlty damp, sand interval is unconsolidated and with thin interbeds of lst clast gravels and sst |
| 55 | |
| 60 | SAND lt brn, as above, harder at 71', increase in sst |
| 65 | |
| 70 | |
| 75 | SAND lt brn-pale orange, weak-mod indurated sst clasts, fine grained, mod sorted, no odor or staining, hard at |
| 80 | |
| 85 | |

CORE

Laboratory

No Soil Sample Collected



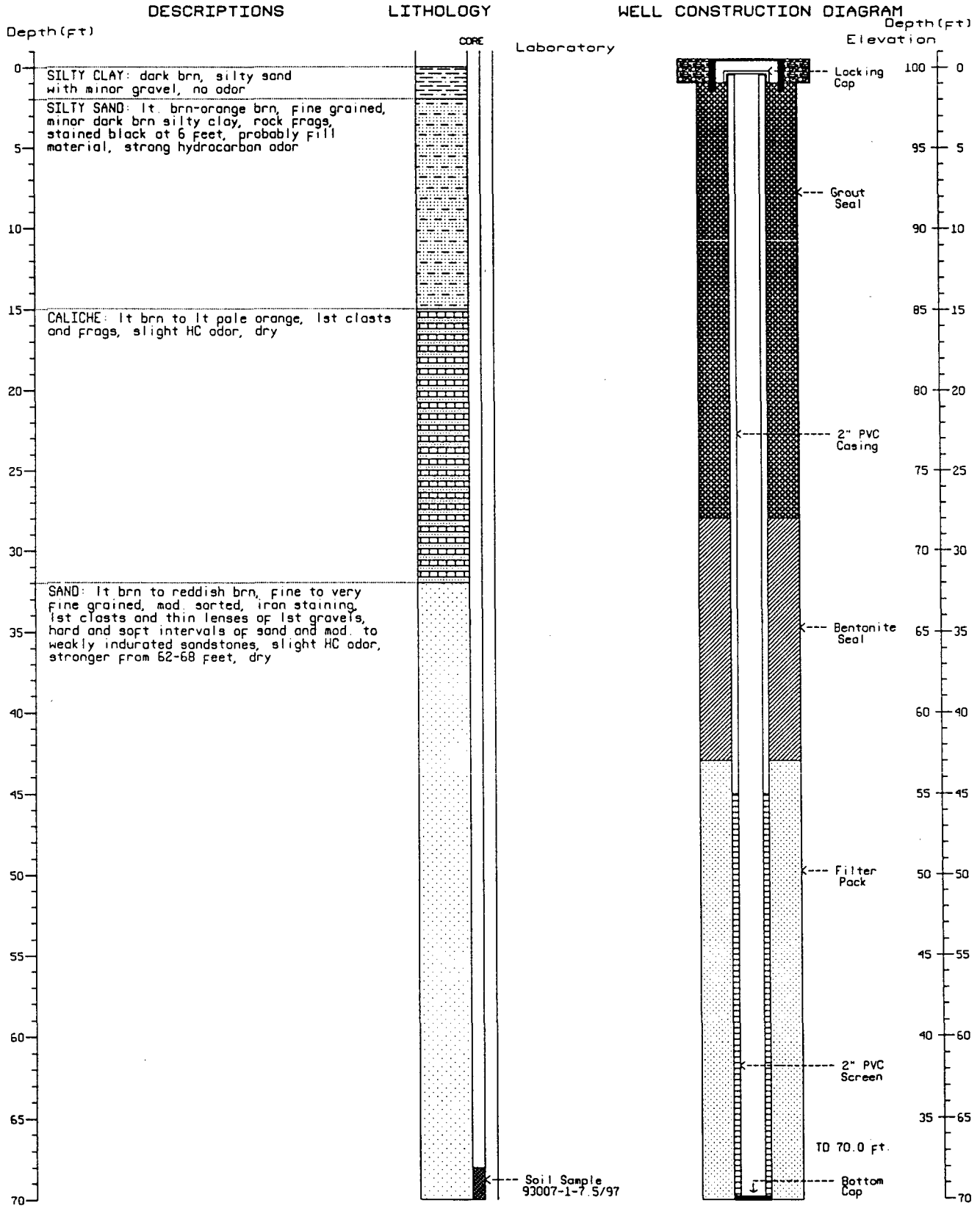

Western Water Consultants, Inc.

# SOIL VAPOR EXTRACTION WELL 1-7

LOCATION: Dowell Schlumberger facility, Hobbs, NM
1105 West Bender Boulevard

LOG: Western Water Consultants Inc. (Kevin Mattson)
DRILLER: Eades Drilling (Alan Eades)
DRILLERS LICENSE No.: NA
INSTALLATION DATE: May 12, 1997

WELL OWNER: Dowell Schlumberger (JN 93007)
DRILLING METHOD: Ingersoll Rand, 6 1/8 in. OD
CASING: 2 in. Dia. Flush Joint Sch. 40 PVC
SCREEN: Factory Slotted Casing; 0.020 in.
FILTER PACK: 12/20 Mesh Silica Sand



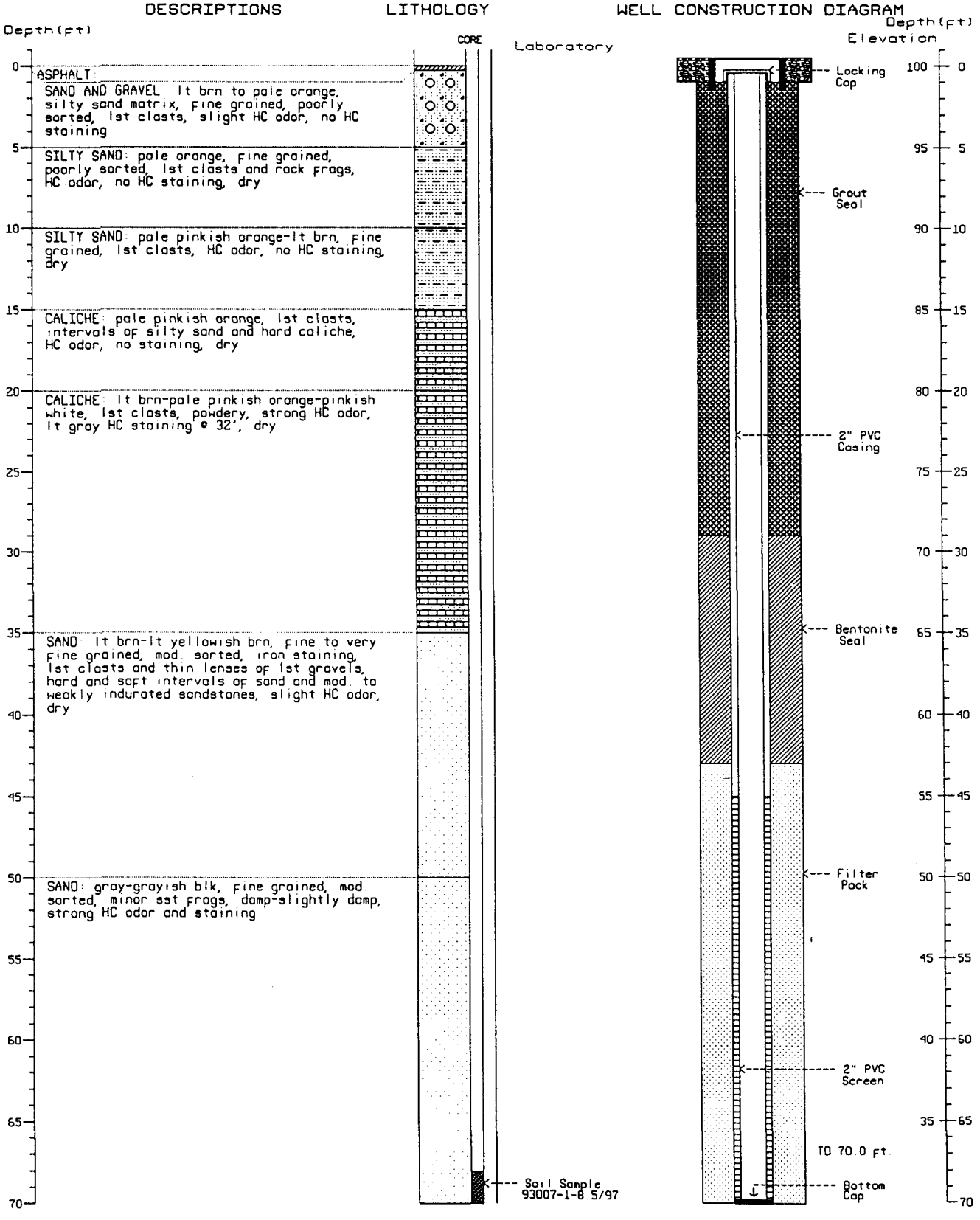

Western Water Consultants, Inc.

# SOIL VAPOR EXTRACTION WELL 1-8

LOCATION: Dowell Schlumberger facility, Hobbs, NM
1105 West Bender Boulevard

LOG: Western Water Consultants Inc (Kevin Mattson)
DRILLER: Eades Drilling (Alan Eades)
DRILLERS LICENSE No.: NA
INSTALLATION DATE: May 12, 1997

WELL OWNER: Dowell Schlumberger (JN 93007)
DRILLING METHOD: Ingersoll Rand, 6 1/8 in. OD
CASING: 2 in. Dia Flush Joint Sch 40 PVC
SCREEN: Factory Slotted Casing; 0.020 in.
FILTER PACK: 12/20 Mesh Silica Sand



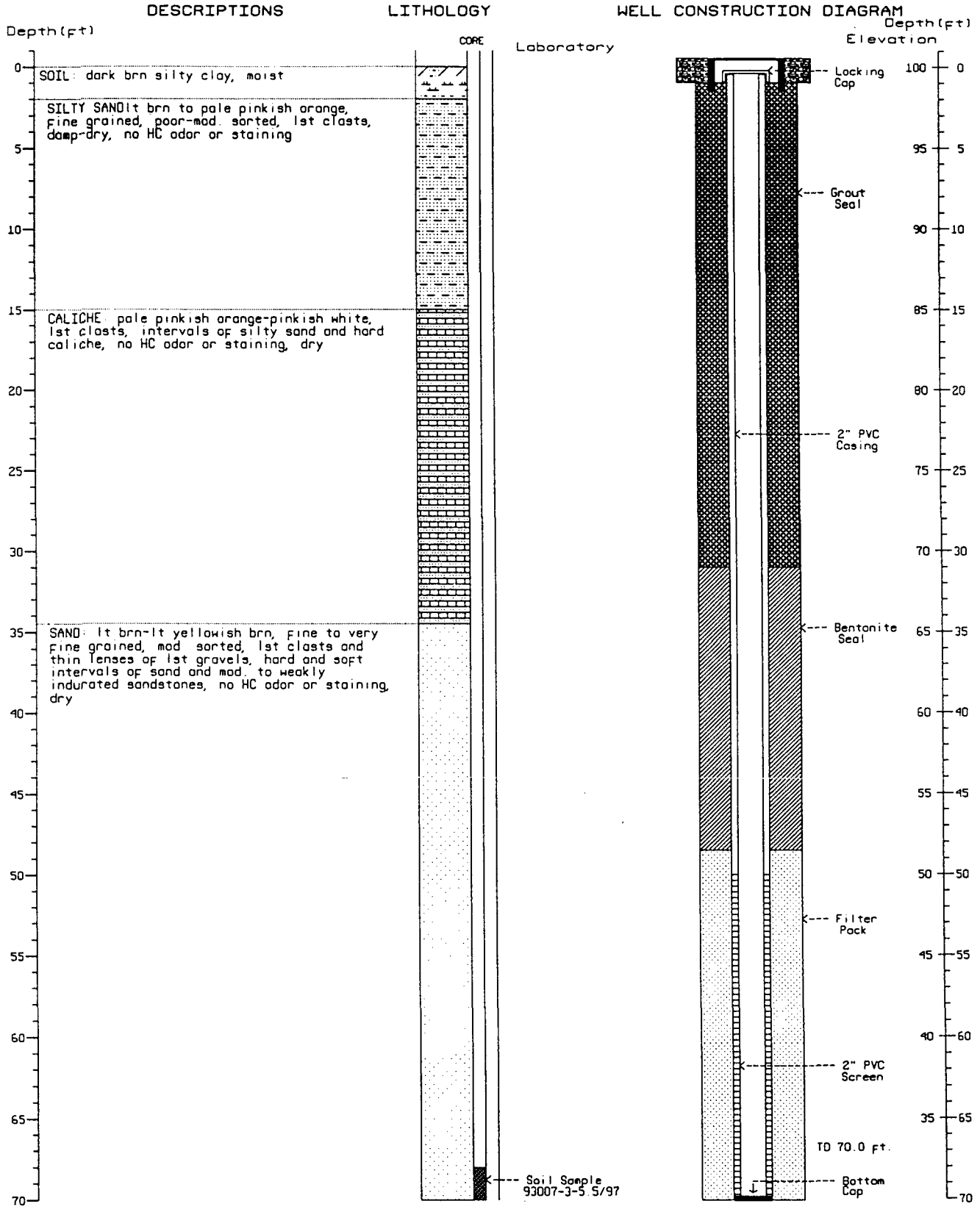

Western Water Consultants, Inc.

# SOIL VAPOR EXTRACTION WELL 3-5

LOCATION: Dowell Schlumberger facility, Hobbs, NM
1105 West Bender Boulevard

LOG: Western Water Consultants Inc. (Kevin Mattson)
DRILLER: Eades Drilling (Alan Eades)
DRILLERS LICENSE No.: NA
INSTALLATION DATE: May 12, 1997

WELL OWNER: Dowell Schlumberger (JN 93007)
DRILLING METHOD: Ingersoll Rand, 6 1/8 in. OD
CASING: 2 in. Dia. Flush Joint Sch. 40 PVC
SCREEN: Factory Slotted Casing; 0.020 in.
FILTER PACK: 12/20 Mesh Silica Sand



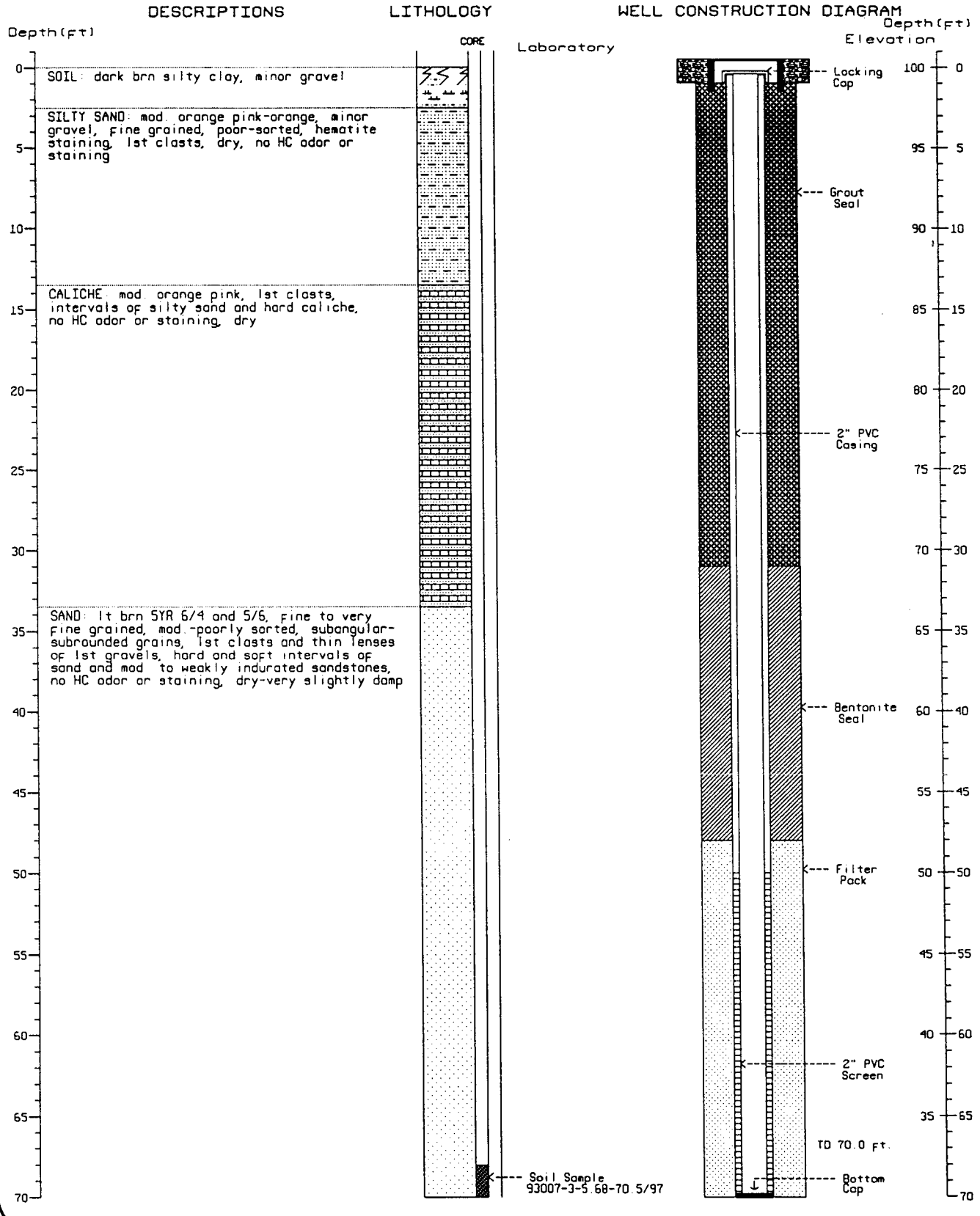

Western Water Consultants, Inc.

# SOIL VAPOR EXTRACTION WELL 3-6

LOCATION: Dowell Schlumberger facility, Hobbs, NM
1105 West Bender Boulevard

LOG: Western Water Consultants Inc (Kevin Mattson)
DRILLER: Eades Drilling (Alan Eades)
DRILLERS LICENSE No.: NA
INSTALLATION DATE: May 25, 1997

WELL OWNER: Dowell Schlumberger (JN 93007)
DRILLING METHOD: Ingersoll Rand, 6 1/8 in. OD
CASING: 2 in. Dia. Flush Joint Sch. 40 PVC
SCREEN: Factory Slotted Casing; 0.020 in.
FILTER PACK: 12/20 Mesh Silica Sand



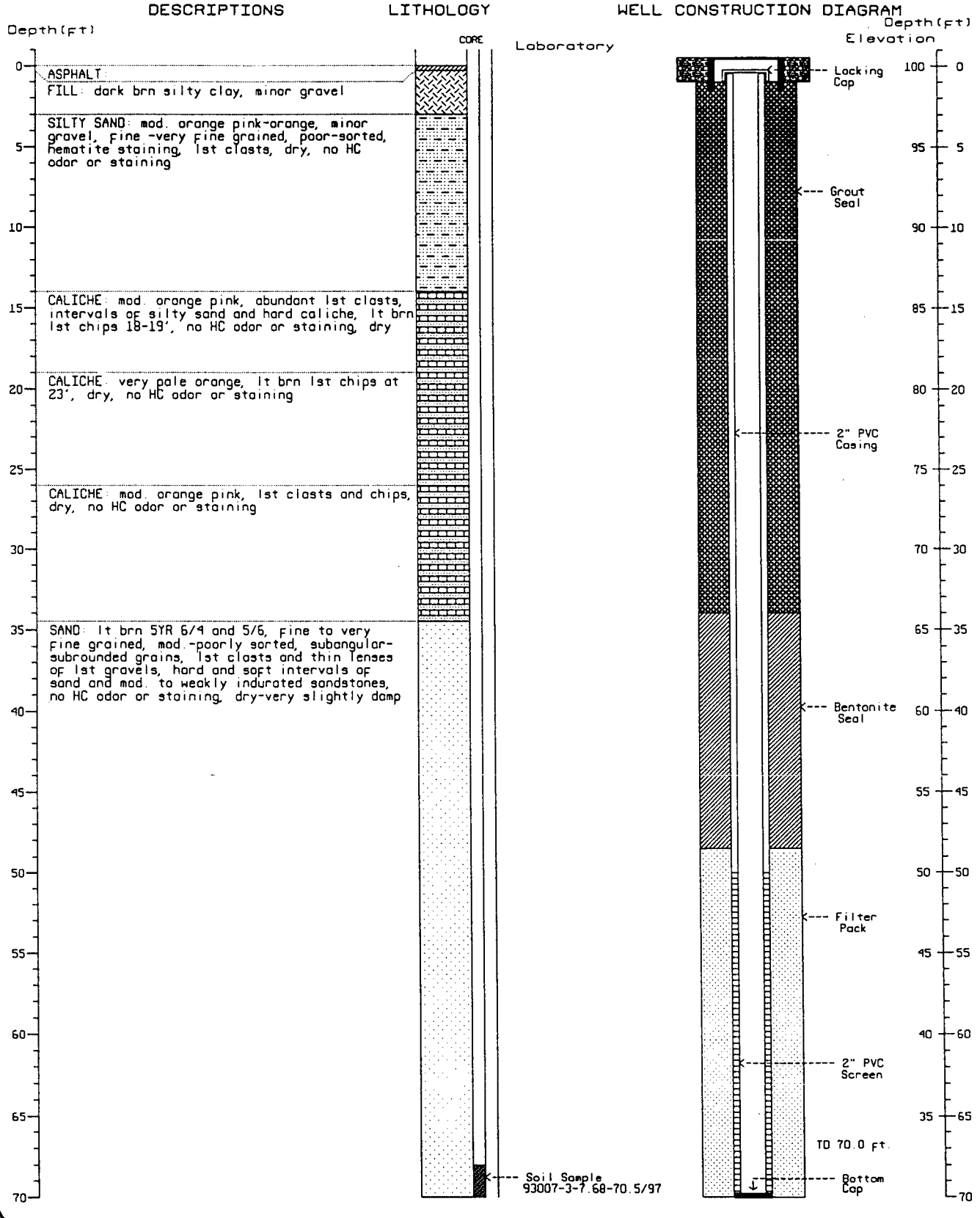

Western Water Consultants, Inc.

# SOIL VAPOR EXTRACTION WELL 3-7

LOCATION: Dowell Schlumberger facility, Hobbs, NM
1105 West Bender Boulevard

LOG: Western Water Consultants Inc. (Kevin Mattson)
DRILLER: Eades Drilling (Alan Eades)
DRILLERS LICENSE No NA
INSTALLATION DATE May 29, 1997

WELL OWNER: Dowell Schlumberger (JN 93007)
DRILLING METHOD: Ingersoll Rand, 6 1/8 in. OD
CASING 2 in. Dia. Flush Joint Sch. 40 PVC
SCREEN Factory Slotted Casing; 0.020 in
FILTER PACK 12/20 Mesh Silica Sand




Western Water Consultants, Inc.

# AIR SPARGING WELL 93007 AS-1

LOCATION: Dowell Facility, Hobbs, New Mexico
Former UST area
1105 West Bender Boulevard
LOG: Western Water Consultants Inc. (Kevin Mattson)
DRILLER: Eades Drilling (Allen Eades)
DRILLERS LICENSE No.: NA
INSTALLATION DATE: May 25, 1997

WELL OWNER: Dowell Schlumberger (JN 93007.2)
DRILLING METHOD: Air Rotary, 6 1/8 in. OD
CASING: 1 in. Dia. Flush Joint Sch. 40 PVC
SCREEN: Factory Slotted Casing; 0.020 in
FILTER PACK: 8/16 Mesh Silica Sand

DESCRIPTIONS

Depth(ft)

0 — SILTY CLAY: drk brn with gravel, damp.

5 — SILTY SAND: mod. orange pink, VF-F grained, minor gravel, poorly sorted, 1st clasts, dry, no odor/staining throughout.

10 — SILTY SAND: mod. orange pink, hematite staining, fine-VF grained, poorly sorted, 1st clasts & minor rock frags, dry, hematite staining not as prominent as in other areas (probably disturbed from USTs)

15 — CALICHE: mod orange pink, silty sand fine grained, 1st clasts and chips, hard from 16-25', hard/soft intervals 25-34'.

20

25

30

35 — SAND: lt brn (5YR 6/4 to 5/6), hard and soft intervals of sand with thin lenses of sandy 1st gravels and sst, sand is VF-F grained, mod-poorly sorted, subangular-subrounded, dry.

40

45

50

55

60 — SAND: lt brn (5YR 5/6), as above, getting minor rounded fine grained sst chips, weak-mod indurated from 62-72', damp to slightly damp 62-72', moist-wet at 72' with increase in sst chips, easy drilling to 72', slightly harder 72' down.

65

70

75

80

85

LITHOLOGY

CORE

Laboratory

No Soil Sample Collected

WELL CONSTRUCTION DIAGRAM

Depth(ft) | Elevation

100 / 0 — Locking Cap

95 / 5 — Grout Seal

90 / 10

85 / 15

80 / 20

75 / 25

70 / 30

65 / 35

60 / 40 — 1" PVC Casing

55 / 45

50 / 50

45 / 55

40 / 60

35 / 65

30 / 70

25 / 75 — Bentonite Seal

20 / 80 — TD 85.0 ft.
Filter Pack

15 / 85 — 1" PVC Screen
Bottom Cap

Western Water Consultants, Inc.

# AIR SPARGING WELL 93007 AS-2

LOCATION: Dowell Facility, Hobbs, New Mexico
Former UST area
1105 West Bender Boulevard
LOG: Western Water Consultants Inc. (Kevin Mattson)
DRILLER: Eades Drilling (Allen Eades)
DRILLERS LICENSE No.: NA
INSTALLATION DATE: May 26, 1997

WELL OWNER: Dowell Schlumberger (JN 93007.2)
DRILLING METHOD: Air Rotary, 6 1/8 in. OD
CASING: 1 in. Dia. Flush Joint Sch. 40 PVC
SCREEN: Factory Slotted Casing; 0.020 in.
FILTER PACK: 8/16 Mesh Silica Sand

## DESCRIPTIONS

Depth (ft)

0 — SILTY CLAY: dark brown.

5 — SILTY SAND: mod. orange pink, fine grained, poorly sorted, lst clasts, dry, no odor/staining throughout.

10 — SILTY SAND: mod. orange pink - orange, hematite stained, fine grained, poorly sorted, lst clasts & minor gravel, dry.

15 — CALICHE: mod orange pink, lst clasts, chips, fine grained silty sand, dry.

20

25

30

35 — SAND: lt brn (5YR 5/6 to 6/4), F-VF grained, mod-poorly sorted, subangular-subrounded, lst clasts & chips, thin lenses of sandy Lst or sst, easy drilling to 70', minor thin gravels and sst's but nothing hard, dry very slightly damp to 70'.

40

45

50

55

60

65

70 — SAND: as above, fine grained weak-mod. indurated sst chips, moist-wet at 71-72'

75

80

85

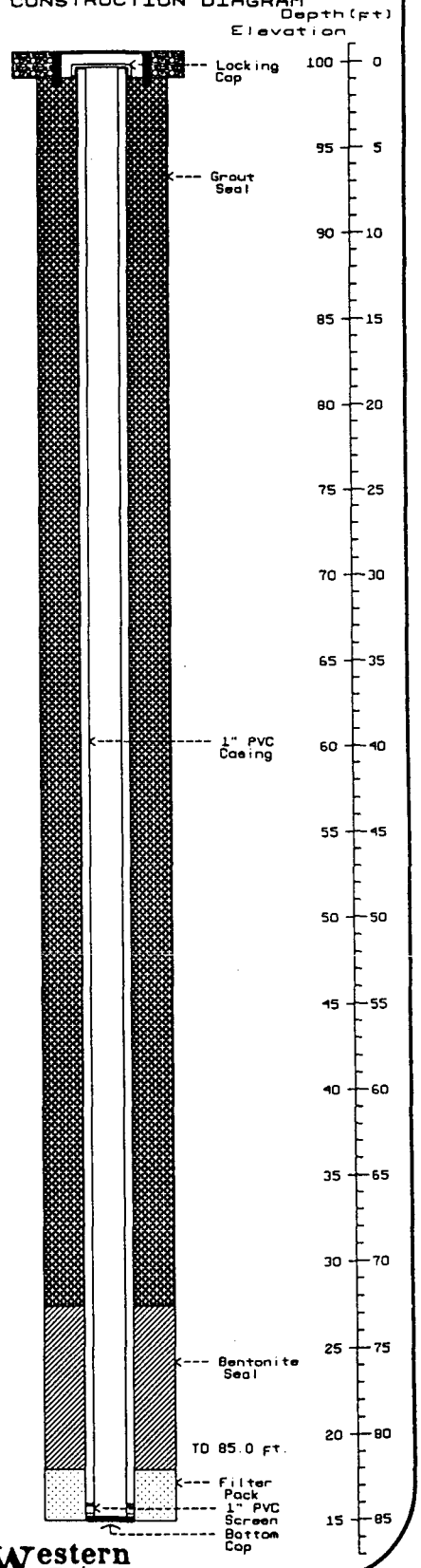
## LITHOLOGY

CORE

Laboratory

No Soil Sample Collected

## WELL CONSTRUCTION DIAGRAM

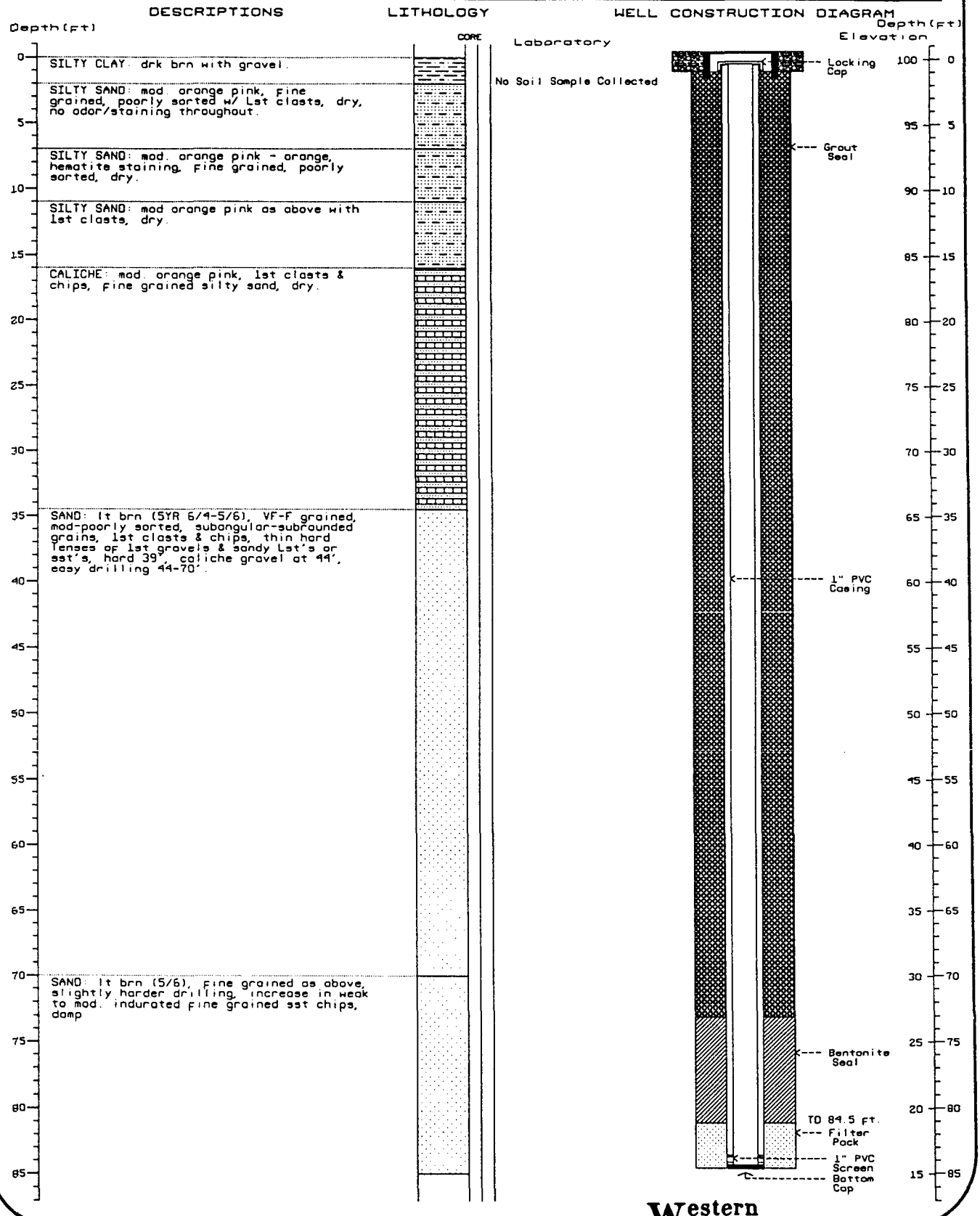



Western Water Consultants, Inc.

# AIR SPARGING WELL 93007 AS-3

LOCATION: Dowell Facility, Hobbs, New Mexico
Former UST area
1105 West Bender Boulevard
LOG: Western Water Consultants Inc. (Kevin Mattson)
DRILLER: Eades Drilling (Allen Eades)
DRILLERS LICENSE No.: NA
INSTALLATION DATE: May 26, 1997

WELL OWNER: Dowell Schlumberger (JN 93007.2)
DRILLING METHOD: Air Rotary, 6 1/8 in. OD
CASING: 1 in. Dia. Flush Joint Sch. 40 PVC
SCREEN: Factory Slotted Casing; 0.020 in.
FILTER PACK: 8/16 Mesh Silica Sand




Western Water Consultants, Inc.

# AIR SPARGING WELL 93007 AS-4

LOCATION: Dowell Facility, Hobbs, New Mexico
Former UST area
1105 West Bender Boulevard
LOG: Western Water Consultants Inc. (Kevin Mattson)
DRILLER: Eades Drilling (Allen Eades)
DRILLERS LICENSE No.: NA
INSTALLATION DATE: May 25, 1997

WELL OWNER: Dowell Schlumberger (JN 93007.2)
DRILLING METHOD: Air Rotary, 6 1/8 in. OD
CASING: 1 in. Dia. Flush Joint Sch. 40 PVC
SCREEN: Factory Slotted Casing; 0.020 in.
FILTER PACK: 8/16 Mesh Silica Sand

## DESCRIPTIONS

Depth (ft)

0 – SILTY CLAY: dark brown, minor gravel.

5 – SILTY SAND: mod. orange pink, fine grained, poorly sorted, dry, no odor/staining throughout

10 – SILTY SAND: mod. orange pink - orange, hematite staining, fine grained, very slightly damp.

15 – CALICHE: lst clasts and silty sand, fine grained, minor lst chips (lt brn), dry, lt brn sand between 26-28'

20

25

30

35 – SAND: lt brn (5YR 6/4), fine VF grained, mod-poorly sorted, subangular-subrounded, hard/soft intervals of sand & sandy lst or sst, dry.

40 – SAND: as above but 5YR 6/5, minor lst gravel to 1/2", dry, lt brn fine grained sst from 44.5-45', minor gravel lenses 45-55', easy drilling 55-62'

45

50

55

60

65 – SAND: as above, minor fine drained weak-mod indurated sst chips to approx 70', increase in chips 70' down, damp at 68-70', getting wet at about 72'

70

75

80

85

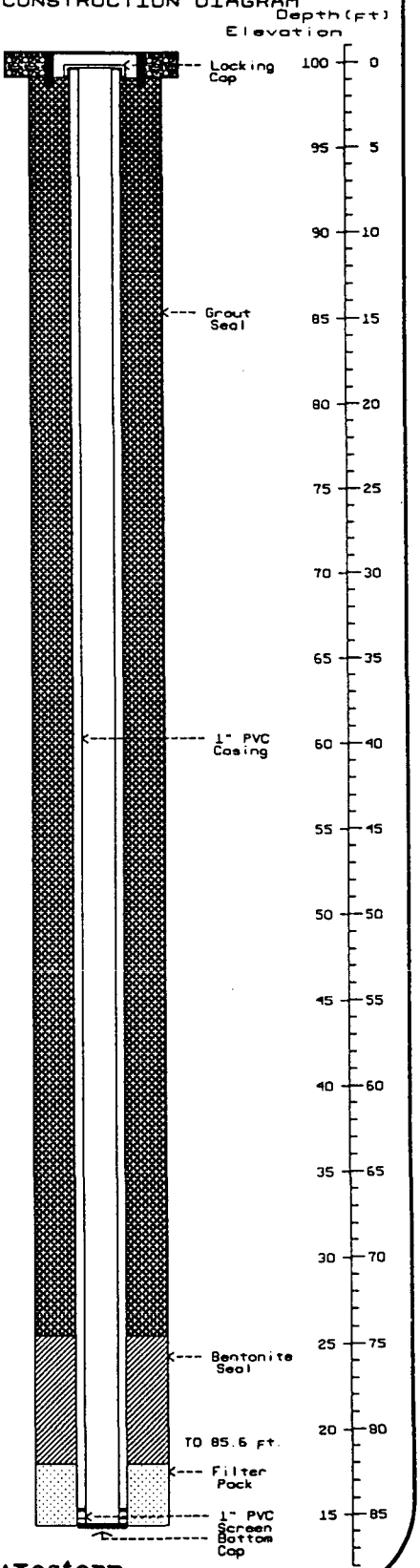
## LITHOLOGY

CORE

Laboratory

No Soil Sample Collected

## WELL CONSTRUCTION DIAGRAM

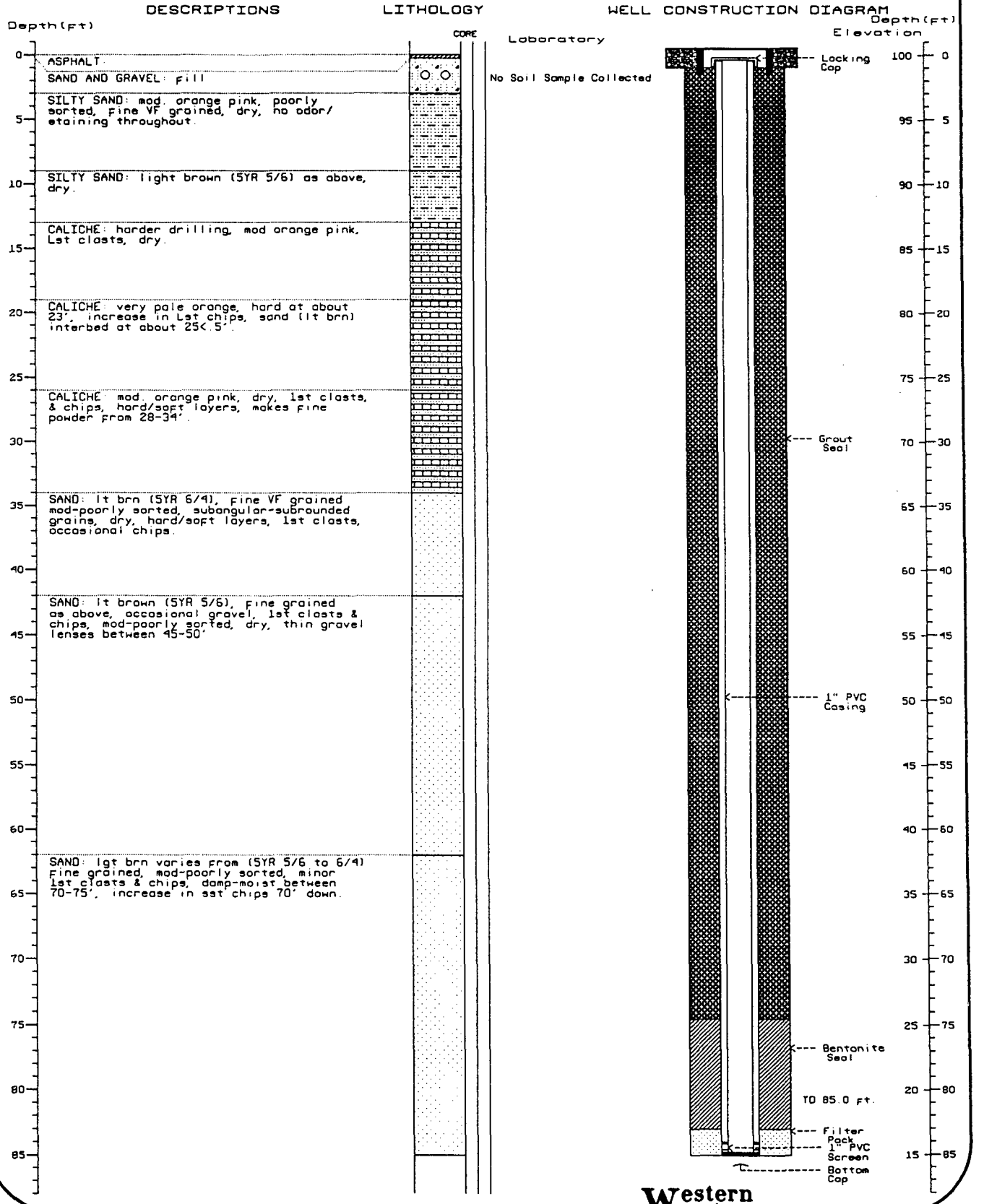



Western Water Consultants, Inc.

# AIR SPARGING WELL 93007 AS-5

LOCATION: Dowell Facility, Hobbs, New Mexico
Former UST area
1105 West Bender Boulevard
LOG: Western Water Consultants Inc. (Kevin Mattson)
DRILLER: Eades Drilling (Allen Eades)
DRILLERS LICENSE No.: NA
INSTALLATION DATE: May 24, 1997

WELL OWNER: Dowell Schlumberger (JN 93007.2)
DRILLING METHOD: Air Rotary, 6 1/8 in. OD
CASING: 1 in. Dia. Flush Joint Sch. 40 PVC
SCREEN: Factory Slotted Casing; 0.020 in.
FILTER PACK: 8/16 Mesh Silica Sand




Western Water Consultants, Inc.

# AIR SPARGING WELL 93007 AS-6

LOCATION: Dowell Facility, Hobbs, New Mexico
Former UST area
1105 West Bender Boulevard
LOG: Western Water Consultants Inc. (Kevin Mattson)
DRILLER: Eades Drilling (Allen Eades)
DRILLERS LICENSE No : NA
INSTALLATION DATE: May 24, 1997

WELL OWNER: Dowell Schlumberger (JN 93007.2)
DRILLING METHOD: Air Rotary, 6 1/8 in. OD
CASING: 1 in. Dia. Flush Joint Sch. 40 PVC
SCREEN: Factory Slotted Casing; 0.020 in.
FILTER PACK: 8/16 Mesh Silica Sand

DESCRIPTIONS | LITHOLOGY | WELL CONSTRUCTION DIAGRAM

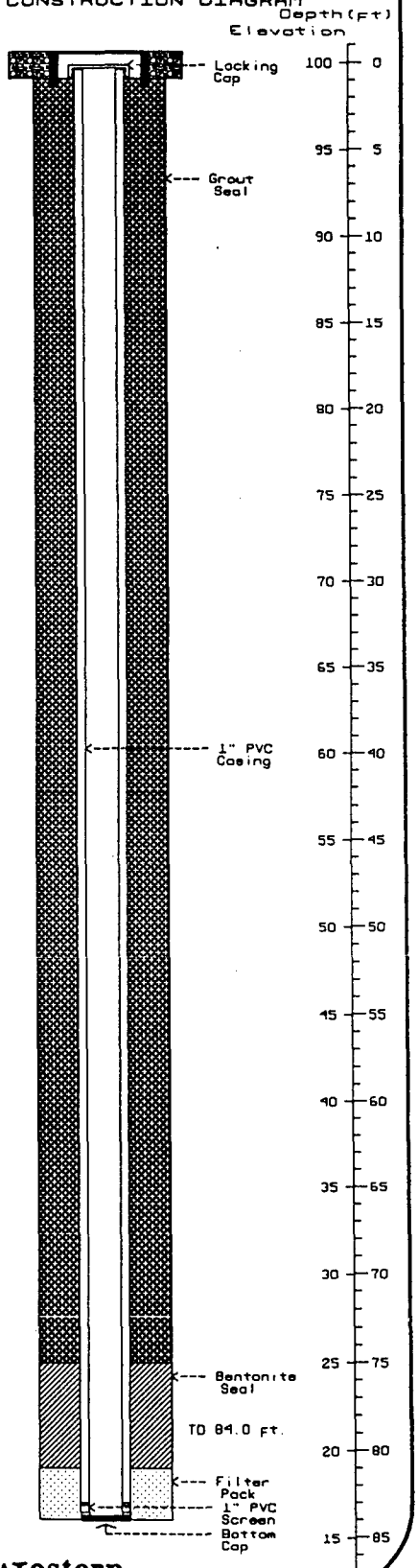
Depth(ft)

| Depth(ft) | Description |
|---|---|
| 0 | ASPHALT. |
| | SAND AND GRAVEL: fill with dark brown silty clay. |
| 5 | SILTY SAND: mod. orange pink, fine grained, poorly sorted, 1st clasts, minor gravel rock frags, dry, no odor/ staining throughout, gets hard at 12.5'. |
| 10 | |
| | CALICHE: mod orange pink, silty sand w/ 1st clasts, fine grained, dry lots of lt brn Lst chips from 15-19'. |
| 15 | |
| 20 | CALICHE: mod orange pink, silty sand w/ 1st clasts & chips, hard 22'-24'. |
| 25 | CALICHE: mod pale orange as above, lt brn sand & caliche 26-28', fine grained, hard/ soft intervals. |
| 30 | |
| 35 | SAND: lt brn (5YR 6/4) very fine-fine grained, mod-poorly sorted, subangular-subrounded grains, interbeds of caliche, 1st clasts & chips. |
| 40 | SAND: lt brn (5YR 5/6) as above, thin lt brn sandy 1st & sst interbeds, dry-very slightly damp, hard and soft interbeds between 40-55'. |
| 45 | |
| 50 | |
| 55 | SAND: lt brn as above, easy drilling, minor sst chips, fine grained, weakly indurated, dry. |
| 60 | |
| 65 | |
| 70 | SAND: lgt brn as above, damp at about 70', moist-wet at about 73', increase in fine grained, weak-mod indurated sst chips from 71' down. |
| 75 | |
| 80 | |
| 85 | |

CORE

Laboratory

No Soil Sample Collected




Western Water Consultants, Inc.

# APPENDIX B

# LABORATORY DATA REPORTS

**ENERGY LABORATORIES, INC.**
SHIPPING: 2393 SALT CREEK HIGHWAY • CASPER, WY 82601
MAILING: P.O. BOX 3258 • CASPER, WY 82602
E-mail: energy@trib.com • FAX: (307) 234-1639 • PHONE: (307) 235-0515 • TOLL FREE: (888) 235-0515
Billings • Casper • Gillette • Rapid City

# EPA METHOD 8260

Client: **Western Water Consultants**
Sample ID: 93007-2.10/97 MW-2
Laboratory ID: C97-63853
Matrix: Water
Dilution Factor: 2

Date Sampled: 10/16/97
Date Received: 10/21/97
Date Analyzed: 10/27/97
Date Reported: November 6, 1997

| 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** | **1.90** | J | 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** | **12.2** | | 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** | **22.8** | | 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** | **2.24** | | 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** | **0.64** | J | 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** | **11.5** | | 2.0 |
| 630-20-6 | 1,1,1,2 - Tetrachloroethane | ND | | 2.0 |
| 108-90-7 | Chlorobenzene | ND | | 2.0 |
| 100-41-4 | **Ethylbenzene** | **1.30** | J | 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)** | **1.02** | J | 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** Date Sampled: 10/16/97
Sample ID: 93007-2.10/97 MW-2 Date Analyzed: 10/27/97
Laboratory ID: C97-63853 Date Reported: November 6, 1997

| 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 | 1006701 | 827952 | 122% | 50 - 200 % |
| Fluorobenzene | 1575249 | 1469329 | 107% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1652223 | 1439497 | 115% | 50 - 200 % |
| Chlorobenzene - d5 | 1248987 | 1170721 | 107% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 623076 | 553925 | 112% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.34 | 93.4% | 86 - 118 % |
| Toluene - d8 | 10.4 | 104% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.76 | 97.6% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.99 | 99.9% | 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

Report File: R:\Reports\CLIENTS.97\Western_Water_Consultants\ORGANIC.CAS\97_63853.xls

Analyst: yw
Reviewed: sec

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## EPA METHOD 8260

Client: **Western Water Consultants**
Sample ID: 93007-3.10/97 MW-3
Laboratory ID: C97-63854
Matrix: Water
Dilution Factor: 2

Date Sampled: 10/16/97
Date Received: 10/21/97
Date Analyzed: 10/27/97
Date Reported: November 6, 1997

| 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** | **0.96** | J | 2.0 |
| 75-69-4 | Trichlorofluoromethane | ND | | 2.0 |
| 75-35-4 | **1,1 - Dichloroethene** | **8.24** | | 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** | **21.9** | | 2.0 |
| 78-93-3 | 2 -Butanone (MEK) | ND | | 20.0 |
| 156-59-2 | **cis - 1,2 - Dichloroethene** | **2.84** | | 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** | **10.7** | | 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** | **1.02** | 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** | **21.6** | | 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** | Date Sampled: | 10/16/97 |
| Sample ID: | 93007-3.10/97 MW-3 | Date Analyzed: | 10/27/97 |
| Laboratory ID: | C97-63854 | Date Reported: | November 6, 1997 |

| 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** | **2.10** | 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 | 1061931 | 827952 | 128% | 50 - 200 % |
| Fluorobenzene | 1632135 | 1469329 | 111% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1716799 | 1439497 | 119% | 50 - 200 % |
| Chlorobenzene - d5 | 1281914 | 1170721 | 109% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 651714 | 553925 | 118% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.20 | 92.0% | 86 - 118 % |
| Toluene - d8 | 10.5 | 105% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.76 | 97.6% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.99 | 99.9% | 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** | | |
| Sample ID: | 93007-4.10/97 MW-4 | Date Sampled: | 10/16/97 |
| Laboratory ID: | C97-63855 | Date Received: | 10/21/97 |
| Matrix: | Water | Date Analyzed: | 10/27/97 |
| Dilution Factor: | 20 | Date Reported: | November 6, 1997 |

| C.A.S. # | TARGET COMPOUNDS | CONCENTRATION (µg/L) | | LIMIT OF DETECTION (µg/L) | |
|---|---|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | ND | | 20.0 | |
| 74-87-3 | Chloromethane | ND | | 20.0 | |
| 75-01-4 | Vinyl chloride (Chloroethene) | ND | | 20.0 | |
| 74-83-9 | Bromomethane | ND | | 20.0 | |
| 75-00-3 | Chloroethane | ND | | 20.0 | |
| 75-69-4 | Trichlorofluoromethane | ND | | 20.0 | |
| **75-35-4** | **1,1 - Dichloroethene** | **103** | | 20.0 | |
| 75-09-2 | Methylene chloride (Dichloromethane) | ND | | 20.0 | |
| 156-60-5 | trans - 1, 2 - Dichloroethene | ND | | 20.0 | |
| **75-34-3** | **1,1 - Dichloroethane** .0306 mg/l | **30.6** | | 20.0 | Standard 25 µg/l |
| 78-93-3 | 2 -Butanone (MEK) | ND | | 200 | |
| 156-59-2 | cis - 1,2 - Dichloroethene | ND | | 20.0 | |
| 74-97-5 | Bromochloromethane | ND | | 20.0 | |
| **67-66-3** | **Chloroform (Trichloromethane)** | **14.2** | **J** | 20.0 | |
| 594-20-7 | 2,2 - Dichloropropane | ND | | 20.0 | |
| **71-55-6** | **1,1,1 - Trichloroethane** .225 mg/l | **225** | | 20.0 | Standard 60 µg/l |
| **107-06-2** | **1,2 - Dichloroethane** .0114 mg/l | **11.4** | **J** | 20.0 | Standard 10 µg/l |
| 563-58-6 | 1,1 - Dichloropropene | ND | | 20.0 | |
| 56-23-5 | Carbon tetrachloride (Tetrachloromethane) | ND | | 20.0 | |
| 71-43-2 | Benzene | ND | | 20.0 | |
| 74-95-3 | Dibromomethane | ND | | 20.0 | |
| 78-87-5 | 1,2 - Dichloropropane | ND | | 20.0 | |
| 79-01-6 | Trichloroethene | ND | | 20.0 | |
| 75-27-4 | Bromodichloromethane | ND | | 20.0 | |
| 10061-01-5 | cis - 1,3 - Dichloropropene | ND | | 20.0 | |
| 10061-02-6 | trans - 1,3 - Dichloropropene | ND | | 20.0 | |
| 79-00-5 | 1,1,2 - Trichloroethane | ND | | 20.0 | |
| 108-88-3 | Toluene | ND | | 20.0 | |
| 106-93-4 | 1,2 - Dibromoethane | ND | | 20.0 | |
| 142-28-9 | 1,3 - Dichloropropane | ND | | 20.0 | |
| 124-48-1 | Dibromochloromethane | ND | | 20.0 | |
| **127-18-4** | **Tetrachloroethene** | **1,170** | | 20.0 | |
| 630-20-6 | 1,1,1,2 - Tetrachloroethane | ND | | 20.0 | |
| 108-90-7 | Chlorobenzene | ND | | 20.0 | |
| 100-41-4 | Ethylbenzene | ND | | 20.0 | |
| 108-38-3 | m,p - Xylenes (1,3- & 1,4-Dimethylbenzene) | ND | | 40.0 | |
| 75-25-2 | Bromoform (Tribromomethane) | ND | | 20.0 | |
| 100-42-5 | Styrene (Ethenylbenzene) | ND | | 20.0 | |
| 95-47-6 | o - Xylene (1,2-Dimethylbenzene) | ND | | 20.0 | |
| 79-34-5 | 1,1,2,2 - Tetrachloroethane | ND | | 20.0 | |
| 96-18-4 | 1,2,3 - Trichloropropane | ND | | 20.0 | |

***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** Date Sampled: 10/16/97
Sample ID: 93007-4.10/97 MW-4 Date Analyzed: 10/27/97
Laboratory ID: C97-63855 Date Reported: November 6, 1997

| C.A.S. # | TARGET COMPOUNDS | CONCENTRATION (µg/L) | LIMIT OF DETECTION (µg/L) |
|---|---|---|---|
| 98-82-8 | Isopropylbenzene (1-Methylethylbenzene) | ND | 20.0 |
| 108-86-1 | Bromobenzene | ND | 20.0 |
| 103-65-1 | n - Propylbenzene | ND | 20.0 |
| 95-49-8 | 2 - Chlorotoluene | ND | 20.0 |
| 106-43-4 | 4 - Chlorotoluene | ND | 20.0 |
| 108-67-8 | 1,3,5 - Trimethylbenzene | ND | 20.0 |
| 98-06-6 | tert - Butylbenzene | ND | 20.0 |
| 95-63-6 | 1,2,4 - Trimethylbenzene | ND | 20.0 |
| 135-98-8 | sec - Butylbenzene | ND | 20.0 |
| 541-73-1 | 1,3 - Dichlorobenzene | ND | 20.0 |
| 106-46-7 | 1,4 - Dichlorobenzene | ND | 20.0 |
| 99-87-6 | 4-Isopropyltoluene | ND | 20.0 |
| 95-50-1 | 1,2 - Dichlorobenzene | ND | 20.0 |
| 104-51-8 | n - Butylbenzene | ND | 20.0 |
| 96-12-8 | 1,2 - Dibromo - 3 - chloropropane | ND | 100 |
| 120-82-1 | 1,2,4 - Trichlorobenzene | ND | 20.0 |
| 91-20-3 | Naphthalene | ND | 20.0 |
| 87-68-3 | Hexachlorobutadiene | ND | 20.0 |
| 87-61-6 | 1,2 3 - Trichlorobenzene | ND | 20.0 |

***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 | 1076540 | 827952 | 130% | 50 - 200 % |
| Fluorobenzene | 1657924 | 1469329 | 113% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1722760 | 1439497 | 120% | 50 - 200 % |
| Chlorobenzene - d5 | 1294874 | 1170721 | 111% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 633801 | 553925 | 114% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.04 | 90.4% | 86 - 118 % |
| Toluene - d8 | 10.2 | 102% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.60 | 96.0% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.85 | 98.5% | 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**
Sample ID: 93007-5.10/97 MW-5
Laboratory ID: C97-63856
Matrix: Water
Dilution Factor: 10

Date Sampled: 10/16/97
Date Received: 10/21/97
Date Analyzed: 10/27/97
Date Reported: November 6, 1997

| 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** | **66.0** | | 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** | **214** | | 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** | **38.9** | | 10.0 |
| 107-06-2 | **1,2 - Dichloroethane** | **3.80** | J | 10.0 |
| 563-58-6 | 1,1 - Dichloropropene | ND | | 10.0 |
| 56-23-5 | Carbon tetrachloride (Tetrachloromethane) | ND | | 10.0 |
| 71-43-2 | **Benzene** | **58.3** | | 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** | **69.9** | | 10.0 |
| 630-20-6 | 1,1,1,2 - Tetrachloroethane | ND | | 10.0 |
| 108-90-7 | Chlorobenzene | ND | | 10.0 |
| 100-41-4 | **Ethylbenzene** | **26.8** | | 10.0 |
| 108-38-3 | **m,p - Xylenes (1,3- & 1,4-Dimethylbenzene)** | **7.90** | | 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: 93007-5.10/97
Laboratory ID: C97-63856

MW-5

Date Sampled: 10/16/97
Date Analyzed: 10/27/97
Date Reported: November 6, 1997

| 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** | **5.20** | J | 10.0 |
| 98-06-6 | tert - Butylbenzene | ND | | 10.0 |
| 95-63-6 | **1,2,4 - Trimethylbenzene** | **11.1** | | 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** | **10.5** | | 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 AREA | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|---|
| Pentafluorobenzene | 1054890 | 827952 | 127% | 50 - 200 % |
| Fluorobenzene | 1642822 | 1469329 | 112% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1700429 | 1439497 | 118% | 50 - 200 % |
| Chlorobenzene - d5 | 1270074 | 1170721 | 108% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 625172 | 553925 | 113% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.07 | 90.7% | 86 - 118 % |
| Toluene - d8 | 10.3 | 103% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.71 | 97.1% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 10.0 | 100% | 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

Report File: R:\Reports\CLIENTS.97\Western_Water_Consultants\ORGANIC.CAS\97_63853.xls

Analyst: yw
Reviewed: sec

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## EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | | |
| Sample ID: | 93007-6.10/97 | Date Sampled: | 10/16/97 |
| Laboratory ID: | C97-63857 | Date Received: | 10/21/97 |
| Matrix: | Water | Date Analyzed: | 10/27/97 |
| Dilution Factor: | 2 | Date Reported: | November 6, 1997 |

| 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** | **25.4** | | 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** | **82.1** | | 2.0 |
| 78-93-3 | 2 -Butanone (MEK) | ND | | 20.0 |
| 156-59-2 | **cis - 1,2 - Dichloroethene** | **3.16** | | 2.0 |
| 74-97-5 | Bromochloromethane | ND | | 2.0 |
| 67-66-3 | **Chloroform (Trichloromethane)** | **2.38** | | 2.0 |
| 594-20-7 | 2,2 - Dichloropropane | ND | | 2.0 |
| 71-55-6 | **1,1,1 - Trichloroethane** | **5.68** | | 2.0 |
| 107-06-2 | **1,2 - Dichloroethane** | **1.70** | J | 2.0 |
| 563-58-6 | 1,1 - Dichloropropene | ND | | 2.0 |
| 56-23-5 | Carbon tetrachloride (Tetrachloromethane) | ND | | 2.0 |
| 71-43-2 | **Benzene** | **2.92** | | 2.0 |
| 74-95-3 | Dibromomethane | ND | | 2.0 |
| 78-87-5 | 1,2 - Dichloropropane | ND | | 2.0 |
| 79-01-6 | **Trichloroethene** | **1.96** | J | 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** | **18.5** | | 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: 93007-6.10/97
Laboratory ID: C97-63857

Date Sampled: 10/16/97
Date Analyzed: 10/27/97
Date Reported: November 6, 1997

| 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** | **2.88** | 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 | 1053307 | 827952 | 127% | 50 - 200 % |
| Fluorobenzene | 1644729 | 1469329 | 112% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1716441 | 1439497 | 119% | 50 - 200 % |
| Chlorobenzene - d5 | 1285838 | 1170721 | 110% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 659843 | 553925 | 119% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.25 | 92.5% | 86 - 118 % |
| Toluene - d8 | 10.3 | 103% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.97 | 99.7% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.97 | 99.7% | 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**
Sample ID: 93007-7.10/97
Laboratory ID: C97-63858
Matrix: Water
Dilution Factor: 5

MW-7

Date Sampled: 10/16/97
Date Received: 10/21/97
Date Analyzed: 10/27/97
Date Reported: November 6, 1997

| 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** | **49.9** | | 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** | **64.8** | | 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** | **3.00** | J | 5.0 |
| 74-95-3 | Dibromomethane | ND | | 5.0 |
| 78-87-5 | 1,2 - Dichloropropane | ND | | 5.0 |
| 79-01-6 | **Trichloroethene** | **17.9** | | 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** | **2.30** | | 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** | **90.9** | | 5.0 |
| 630-20-6 | 1,1,1,2 - Tetrachloroethane | ND | | 5.0 |
| 108-90-7 | **Chlorobenzene** | **2.25** | | 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 - Meets Mass Spectral identification criteria but result is below established detection limit***

# EPA METHOD 8260

Client: **Western Water Consultants**
Sample ID: 93007-7.10/97
Laboratory ID: C97-63858

MW-7

Date Sampled: 10/16/97
Date Analyzed: 10/27/97
Date Reported: November 6, 1997

| 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** | **57.3** | 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 - 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 | 1024755 | 827952 | 124% | 50 - 200 % |
| Fluorobenzene | 1603713 | 1469329 | 109% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1648914 | 1439497 | 115% | 50 - 200 % |
| Chlorobenzene - d5 | 1226648 | 1170721 | 105% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 605199 | 553925 | 109% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.00 | 90.0% | 86 - 118 % |
| Toluene - d8 | 10.3 | 103% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.71 | 97.1% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.85 | 98.5% | 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**
Sample ID: 93007-8.10/97
Laboratory ID: C97-63859
Matrix: Water
Dilution Factor: 200

MW-8

Date Sampled: 10/16/97
Date Received: 10/21/97
Date Analyzed: 10/27/97
Date Reported: November 6, 1997

| 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** | **858** | 200 |
| 75-09-2 | Methylene chloride (Dichloromethane) | ND | 200 |
| 156-60-5 | trans - 1, 2 - Dichloroethene | ND | 200 |
| 75-34-3 | 1,1 - Dichloroethane | ND | 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** | **596** | 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** | **4,570** | 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***

# EPA METHOD 8260

Client: **Western Water Consultants**
Sample ID: 93007-8.10/97
Laboratory ID: C97-63859

mw-8

Date Sampled: 10/16/97
Date Analyzed: 10/27/97
Date Reported: November 6, 1997

| 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***

*RUNTIME QUALITY ASSURANCE REPORT*

| INTERNAL STANDARDS | AREA | ICAL / CCAL AREA | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|---|
| Pentafluorobenzene | 1014983 | 827952 | 123% | 50 - 200 % |
| Fluorobenzene | 1592338 | 1469329 | 108% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1643809 | 1439497 | 114% | 50 - 200 % |
| Chlorobenzene - d5 | 1205231 | 1170721 | 103% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 583757 | 553925 | 105% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.06 | 90.6% | 86 - 118 % |
| Toluene - d8 | 10.2 | 102% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.68 | 96.8% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.82 | 98.2% | 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**
Sample ID: 93007-9.10/97 MW-9
Laboratory ID: C97-63860
Matrix: Water
Dilution Factor: 20

Date Sampled: 10/16/97
Date Received: 10/21/97
Date Analyzed: 10/27/97
Date Reported: November 6, 1997

| C.A.S. # | TARGET COMPOUNDS | CONCENTRATION (µg/L) | | LIMIT OF DETECTION (µg/L) |
|---|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | ND | | 20.0 |
| 74-87-3 | Chloromethane | ND | | 20.0 |
| 75-01-4 | Vinyl chloride (Chloroethene) | ND | | 20.0 |
| 74-83-9 | Bromomethane | ND | | 20.0 |
| 75-00-3 | Chloroethane | ND | | 20.0 |
| 75-69-4 | Trichlorofluoromethane | ND | | 20.0 |
| 75-35-4 | **1,1 - Dichloroethene** | **278** | | 20.0 |
| 75-09-2 | Methylene chloride (Dichloromethane) | ND | | 20.0 |
| 156-60-5 | trans - 1, 2 - Dichloroethene | ND | | 20.0 |
| 75-34-3 | **1,1 - Dichloroethane** | **18.6** | J | 20.0 |
| 78-93-3 | 2 -Butanone (MEK) | ND | | 200 |
| 156-59-2 | cis - 1,2 - Dichloroethene | ND | | 20.0 |
| 74-97-5 | Bromochloromethane | ND | | 20.0 |
| 67-66-3 | Chloroform (Trichloromethane) | ND | | 20.0 |
| 594-20-7 | 2,2 - Dichloropropane | ND | | 20.0 |
| 71-55-6 | **1,1,1 - Trichloroethane** | **104** | | 20.0 |
| 107-06-2 | 1,2 - Dichloroethane | ND | | 20.0 |
| 563-58-6 | 1,1 - Dichloropropene | ND | | 20.0 |
| 56-23-5 | Carbon tetrachloride (Tetrachloromethane) | ND | | 20.0 |
| 71-43-2 | Benzene | ND | | 20.0 |
| 74-95-3 | Dibromomethane | ND | | 20.0 |
| 78-87-5 | 1,2 - Dichloropropane | ND | | 20.0 |
| 79-01-6 | Trichloroethene | ND | | 20.0 |
| 75-27-4 | Bromodichloromethane | ND | | 20.0 |
| 10061-01-5 | cis - 1,3 - Dichloropropene | ND | | 20.0 |
| 10061-02-6 | trans - 1,3 - Dichloropropene | ND | | 20.0 |
| 79-00-5 | 1,1,2 - Trichloroethane | ND | | 20.0 |
| 108-88-3 | Toluene | ND | | 20.0 |
| 106-93-4 | 1,2 - Dibromoethane | ND | | 20.0 |
| 142-28-9 | 1,3 - Dichloropropane | ND | | 20.0 |
| 124-48-1 | Dibromochloromethane | ND | | 20.0 |
| 127-18-4 | **Tetrachloroethene** | **1,160** | | 20.0 |
| 630-20-6 | 1,1,1,2 - Tetrachloroethane | ND | | 20.0 |
| 108-90-7 | Chlorobenzene | ND | | 20.0 |
| 100-41-4 | Ethylbenzene | ND | | 20.0 |
| 108-38-3 | m,p - Xylenes (1,3- & 1,4-Dimethylbenzene) | ND | | 40.0 |
| 75-25-2 | Bromoform (Tribromomethane) | ND | | 20.0 |
| 100-42-5 | Styrene (Ethenylbenzene) | ND | | 20.0 |
| 95-47-6 | o - Xylene (1,2-Dimethylbenzene) | ND | | 20.0 |
| 79-34-5 | 1,1,2,2 - Tetrachloroethane | ND | | 20.0 |
| 96-18-4 | 1,2,3 - Trichloropropane | ND | | 20.0 |

***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** Date Sampled: 10/16/97
Sample ID: 93007-9.10/97 Date Analyzed: 10/27/97
Laboratory ID: C97-63860 MW-9 Date Reported: November 6, 1997

| C.A.S. # | TARGET COMPOUNDS | CONCENTRATION (µg/L) | LIMIT OF DETECTION (µg/L) |
|---|---|---|---|
| 98-82-8 | Isopropylbenzene (1-Methylethylbenzene) | ND | 20.0 |
| 108-86-1 | Bromobenzene | ND | 20.0 |
| 103-65-1 | n - Propylbenzene | ND | 20.0 |
| 95-49-8 | 2 - Chlorotoluene | ND | 20.0 |
| 106-43-4 | 4 - Chlorotoluene | ND | 20.0 |
| 108-67-8 | 1,3,5 - Trimethylbenzene | ND | 20.0 |
| 98-06-6 | tert - Butylbenzene | ND | 20.0 |
| 95-63-6 | 1,2,4 - Trimethylbenzene | ND | 20.0 |
| 135-98-8 | sec - Butylbenzene | ND | 20.0 |
| 541-73-1 | 1,3 - Dichlorobenzene | ND | 20.0 |
| 106-46-7 | 1,4 - Dichlorobenzene | ND | 20.0 |
| 99-87-6 | 4-Isopropyltoluene | ND | 20.0 |
| 95-50-1 | 1,2 - Dichlorobenzene | ND | 20.0 |
| 104-51-8 | n - Butylbenzene | ND | 20.0 |
| 96-12-8 | 1,2 - Dibromo - 3 - chloropropane | ND | 100 |
| 120-82-1 | 1,2,4 - Trichlorobenzene | ND | 20.0 |
| 91-20-3 | Naphthalene | ND | 20.0 |
| 87-68-3 | Hexachlorobutadiene | ND | 20.0 |
| 87-61-6 | 1,2 3 - Trichlorobenzene | ND | 20.0 |

***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 | 1097144 | 827952 | 133% | 50 - 200 % |
| Fluorobenzene | 1693039 | 1469329 | 115% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1745351 | 1439497 | 121% | 50 - 200 % |
| Chlorobenzene - d5 | 1310510 | 1170721 | 112% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 640756 | 553925 | 116% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 8.83 | 88.3% | 86 - 118 % |
| Toluene - d8 | 10.3 | 103% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.49 | 94.9% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.78 | 97.8% | 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**
Sample ID: 93007-10.10/97
Laboratory ID: C97-63861
Matrix: Water
Dilution Factor: 2

MW-10

Date Sampled: 10/16/97
Date Received: 10/21/97
Date Analyzed: 10/27/97
Date Reported: November 6, 1997

| 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** | **1.98** | **J** | 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** | **1.06** | **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** | **7.96** | | 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** Date Sampled: 10/16/97
Sample ID: 93007-10.10/97 MW-10 Date Analyzed: 10/27/97
Laboratory ID: C97-63861 Date Reported: November 6, 1997

| 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 | 1007977 | 827952 | 122% | 50 - 200 % |
| Fluorobenzene | 1587533 | 1469329 | 108% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1639939 | 1439497 | 114% | 50 - 200 % |
| Chlorobenzene - d5 | 1220287 | 1170721 | 104% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 618441 | 553925 | 112% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.04 | 90.4% | 86 - 118 % |
| Toluene - d8 | 10.2 | 102% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.99 | 99.9% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.84 | 98.4% | 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**
Sample ID: 93007-11.10/97
Laboratory ID: C97-63862
Matrix: Water
Dilution Factor: 1

MW-11

Date Sampled: 10/16/97
Date Received: 10/21/97
Date Analyzed: 10/27/97
Date Reported: November 6, 1997

| 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** | **2.36** | | 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** | **0.49** | J | 1.0 |
| 108-38-3 | **m,p - Xylenes (1,3- & 1,4-Dimethylbenzene)** | **2.17** | | 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)** | **0.85** | J | 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 - Meets Mass Spectral identification criteria but result is below established detection limit*

# EPA METHOD 8260

Client: **Western Water Consultants**
Sample ID: 93007-11.10/97
Laboratory ID: C97-63862

MW-11

Date Sampled: 10/16/97
Date Analyzed: 10/27/97
Date Reported: November 6, 1997

| C.A.S. # | TARGET COMPOUNDS | CONCENTRATION (µg/L) | | LIMIT OF DETECTION (µg/L) |
|---|---|---|---|---|
| 98-82-8 | **Isopropylbenzene (1-Methylethylbenzene)** | **5.18** | | 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** | **2.46** | | 1.0 |
| 98-06-6 | **tert - Butylbenzene** | **0.79** | J | 1.0 |
| 95-63-6 | **1,2,4 - Trimethylbenzene** | **5.87** | | 1.0 |
| 135-98-8 | **sec - Butylbenzene** | **0.63** | J | 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** | **0.77** | J | 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 - 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 | 882612 | 827952 | 107% | 50 - 200 % |
| Fluorobenzene | 1445737 | 1469329 | 98.4% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1507494 | 1439497 | 105% | 50 - 200 % |
| Chlorobenzene - d5 | 1124263 | 1170721 | 96.0% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 576242 | 553925 | 104% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.73 | 97.3% | 86 - 118 % |
| Toluene - d8 | 10.3 | 103% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.93 | 99.3% | 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

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## EPA METHOD 8260

Client: **Western Water Consultants**
Sample ID: 93007-12.10/97 MW-12
Laboratory ID: C97-63863
Matrix: Water
Dilution Factor: 1

Date Sampled: 10/16/97
Date Received: 10/21/97
Date Analyzed: 10/27/97
Date Reported: November 6, 1997

| 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** Date Sampled: 10/16/97
Sample ID: 93007-12.10/97 mw-12 Date Analyzed: 10/27/97
Laboratory ID: C97-63863 Date Reported: November 6, 1997

| 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 | 879818 | 827952 | 106% | 50 - 200 % |
| Fluorobenzene | 1438281 | 1469329 | 97.9% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1483307 | 1439497 | 103% | 50 - 200 % |
| Chlorobenzene - d5 | 1120115 | 1170721 | 95.7% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 555773 | 553925 | 100% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.69 | 96.9% | 86 - 118 % |
| Toluene - d8 | 10.3 | 103% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.75 | 97.5% | 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

Report File: R:\Reports\CLIENTS.97\Western_Water_Consultants\ORGANIC.CAS\97_63853.xls

Analyst: yw
Reviewed: sec

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## EPA METHOD 8260

Client: **Western Water Consultants**
Sample ID: 93007-13.10/97
Laboratory ID: C97-63864
Matrix: Water
Dilution Factor: 1

mw-13

Date Sampled: 10/16/97
Date Received: 10/21/97
Date Analyzed: 10/27/97
Date Reported: November 6, 1997

| 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** | **15.1** | 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** | **1.37** | 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** | **13.3** | 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: 93007-13.10/97
Laboratory ID: C97-63864

MW-13

Date Sampled: 10/16/97
Date Analyzed: 10/27/97
Date Reported: November 6, 1997

| 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 | 874930 | 827952 | 106% | 50 - 200 % |
| Fluorobenzene | 1424016 | 1469329 | 96.9% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1460798 | 1439497 | 101% | 50 - 200 % |
| Chlorobenzene - d5 | 1101516 | 1170721 | 94.1% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 553970 | 553925 | 100% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 10.0 | 100% | 86 - 118 % |
| Toluene - d8 | 10.2 | 102% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.32 | 93.2% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 10.0 | 100% | 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
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## EPA METHOD 8260

Client: **Western Water Consultants**
Sample ID: 93007-14.10/97
Laboratory ID: C97-63865
Matrix: Water
Dilution Factor: 1

MW-4

Date Sampled: 10/16/97
Date Received: 10/21/97
Date Analyzed: 10/27/97
Date Reported: November 6, 1997

| 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** Date Sampled: 10/16/97
Sample ID: 93007-14.10/97 MW-14 Date Analyzed: 10/27/97
Laboratory ID: C97-63865 Date Reported: November 6, 1997

| 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 | 787193 | 827952 | 95.1% | 50 - 200 % |
| Fluorobenzene | 1328649 | 1469329 | 90.4% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1357765 | 1439497 | 94.3% | 50 - 200 % |
| Chlorobenzene - d5 | 1015869 | 1170721 | 86.8% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 504167 | 553925 | 91.0% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 10.1 | 101% | 86 - 118 % |
| Toluene - d8 | 10.2 | 102% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.84 | 98.4% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 10.0 | 100% | 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**
Sample ID: 93007-15.10/97 MW-15
Laboratory ID: C97-63866
Matrix: Water
Dilution Factor: 1

Date Sampled: 10/16/97
Date Received: 10/21/97
Date Analyzed: 10/27/97
Date Reported: November 6, 1997

| 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: 93007-15.10/97 MW-15
Laboratory ID: C97-63866

Date Sampled: 10/16/97
Date Analyzed: 10/27/97
Date Reported: November 6, 1997

| 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 | 882398 | 827952 | 107% | 50 - 200 % |
| Fluorobenzene | 1516918 | 1469329 | 103% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1526135 | 1439497 | 106% | 50 - 200 % |
| Chlorobenzene - d5 | 1145534 | 1170721 | 97.8% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 577203 | 553925 | 104% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 10.2 | 102% | 86 - 118 % |
| Toluene - d8 | 10.3 | 103% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.99 | 99.9% | 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

Report File: R:\Reports\CLIENTS.97\Western_Water_Consultants\ORGANIC.CAS\97_63853.xls

Analyst: yw
Reviewed: sec

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## EPA METHOD 8260

Client: **Western Water Consultants**
Sample ID: 93007-S04.10/97 Shell station well
Laboratory ID: C97-63867
Matrix: Water
Dilution Factor: 20

Date Sampled: 10/16/97
Date Received: 10/21/97
Date Analyzed: 10/27/97
Date Reported: November 6, 1997

| C.A.S. # | TARGET COMPOUNDS | CONCENTRATION (µg/L) | | LIMIT OF DETECTION (µg/L) |
|---|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | ND | | 20.0 |
| 74-87-3 | Chloromethane | ND | | 20.0 |
| 75-01-4 | Vinyl chloride (Chloroethene) | ND | | 20.0 |
| 74-83-9 | Bromomethane | ND | | 20.0 |
| 75-00-3 | Chloroethane | ND | | 20.0 |
| 75-69-4 | Trichlorofluoromethane | ND | | 20.0 |
| **75-35-4** | **1,1 - Dichloroethene** | **21.8** | | 20.0 |
| 75-09-2 | Methylene chloride (Dichloromethane) | ND | | 20.0 |
| 156-60-5 | trans - 1, 2 - Dichloroethene | ND | | 20.0 |
| **75-34-3** | **1,1 - Dichloroethane** | **18.0** | J | 20.0 |
| 78-93-3 | 2 -Butanone (MEK) | ND | | 200 |
| 156-59-2 | cis - 1,2 - Dichloroethene | ND | | 20.0 |
| 74-97-5 | Bromochloromethane | ND | | 20.0 |
| 67-66-3 | Chloroform (Trichloromethane) | ND | | 20.0 |
| 594-20-7 | 2,2 - Dichloropropane | ND | | 20.0 |
| 71-55-6 | 1,1,1 - Trichloroethane | ND | | 20.0 |
| 107-06-2 | 1,2 - Dichloroethane | ND | | 20.0 |
| 563-58-6 | 1,1 - Dichloropropene | ND | | 20.0 |
| 56-23-5 | Carbon tetrachloride (Tetrachloromethane) | ND | | 20.0 |
| 71-43-2 | Benzene | ND | | 20.0 |
| 74-95-3 | Dibromomethane | ND | | 20.0 |
| 78-87-5 | 1,2 - Dichloropropane | ND | | 20.0 |
| 79-01-6 | Trichloroethene | ND | | 20.0 |
| 75-27-4 | Bromodichloromethane | ND | | 20.0 |
| 10061-01-5 | cis - 1,3 - Dichloropropene | ND | | 20.0 |
| 10061-02-6 | trans - 1,3 - Dichloropropene | ND | | 20.0 |
| 79-00-5 | 1,1,2 - Trichloroethane | ND | | 20.0 |
| **108-88-3** | **Toluene** | **39.4** | | 20.0 |
| 106-93-4 | 1,2 - Dibromoethane | ND | | 20.0 |
| 142-28-9 | 1,3 - Dichloropropane | ND | | 20.0 |
| 124-48-1 | Dibromochloromethane | ND | | 20.0 |
| 127-18-4 | Tetrachloroethene | ND | | 20.0 |
| 630-20-6 | 1,1,1,2 - Tetrachloroethane | ND | | 20.0 |
| 108-90-7 | Chlorobenzene | ND | | 20.0 |
| **100-41-4** | **Ethylbenzene** | **322** | | 20.0 |
| **108-38-3** | **m,p - Xylenes (1,3- & 1,4-Dimethylbenzene)** | **364** | | 40.0 |
| 75-25-2 | Bromoform (Tribromomethane) | ND | | 20.0 |
| 100-42-5 | Styrene (Ethenylbenzene) | ND | | 20.0 |
| **95-47-6** | **o - Xylene (1,2-Dimethylbenzene)** | **349** | | 20.0 |
| 79-34-5 | 1,1,2,2 - Tetrachloroethane | ND | | 20.0 |
| 96-18-4 | 1,2,3 - Trichloropropane | ND | | 20.0 |

*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

Shell Station Well

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | Date Sampled: | 10/16/97 |
| Sample ID: | 93007-S04.10/97 | Date Analyzed: | 10/27/97 |
| Laboratory ID: | C97-63867 | Date Reported: | November 6, 1997 |

| C.A.S. # | TARGET COMPOUNDS | CONCENTRATION (µg/L) | LIMIT OF DETECTION (µg/L) |
|---|---|---|---|
| 98-82-8 | Isopropylbenzene (1-Methylethylbenzene) | ND | 20.0 |
| 108-86-1 | Bromobenzene | ND | 20.0 |
| 103-65-1 | **n - Propylbenzene** | **35.0** | 20.0 |
| 95-49-8 | 2 - Chlorotoluene | ND | 20.0 |
| 106-43-4 | 4 - Chlorotoluene | ND | 20.0 |
| 108-67-8 | **1,3,5 - Trimethylbenzene** | **66.8** | 20.0 |
| 98-06-6 | **tert - Butylbenzene** | **49.8** | 20.0 |
| 95-63-6 | **1,2,4 - Trimethylbenzene** | **385** | 20.0 |
| 135-98-8 | sec - Butylbenzene | ND | 20.0 |
| 541-73-1 | 1,3 - Dichlorobenzene | ND | 20.0 |
| 106-46-7 | 1,4 - Dichlorobenzene | ND | 20.0 |
| 99-87-6 | 4-Isopropyltoluene | ND | 20.0 |
| 95-50-1 | 1,2 - Dichlorobenzene | ND | 20.0 |
| 104-51-8 | n - Butylbenzene | ND | 20.0 |
| 96-12-8 | 1,2 - Dibromo - 3 - chloropropane | ND | 100 |
| 120-82-1 | 1,2,4 - Trichlorobenzene | ND | 20.0 |
| 91-20-3 | **Naphthalene** | **102** | 20.0 |
| 87-68-3 | Hexachlorobutadiene | ND | 20.0 |
| 87-61-6 | 1,2 3 - Trichlorobenzene | ND | 20.0 |

***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 | 934567 | 827952 | 113% | 50 - 200 % |
| Fluorobenzene | 1606380 | 1469329 | 109% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1604668 | 1439497 | 111% | 50 - 200 % |
| Chlorobenzene - d5 | 1234428 | 1170721 | 105% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 643953 | 553925 | 116% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 10.1 | 101% | 86 - 118 % |
| Toluene - d8 | 10.3 | 103% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.3 | 103% | 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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Reviewed: sec

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# EPA METHOD 8260

Client: **Western Water Consultants**
Sample ID: 93007-A.10/97
Laboratory ID: C97-63868
Matrix: Water
Dilution Factor: 20

Duplicate of MW-9

Date Sampled: 10/16/97
Date Received: 10/21/97
Date Analyzed: 10/27/97
Date Reported: November 6, 1997

| C.A.S. # | TARGET COMPOUNDS | CONCENTRATION (µg/L) | | LIMIT OF DETECTION (µg/L) |
|---|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | ND | | 20.0 |
| 74-87-3 | Chloromethane | ND | | 20.0 |
| 75-01-4 | Vinyl chloride (Chloroethene) | ND | | 20.0 |
| 74-83-9 | Bromomethane | ND | | 20.0 |
| 75-00-3 | Chloroethane | ND | | 20.0 |
| 75-69-4 | Trichlorofluoromethane | ND | | 20.0 |
| **75-35-4** | **1,1 - Dichloroethene** | **321** | | 20.0 |
| 75-09-2 | Methylene chloride (Dichloromethane) | ND | | 20.0 |
| 156-60-5 | trans - 1, 2 - Dichloroethene | ND | | 20.0 |
| **75-34-3** | **1,1 - Dichloroethane** | **23.2** | | 20.0 |
| 78-93-3 | 2 -Butanone (MEK) | ND | | 200 |
| 156-59-2 | cis - 1,2 - Dichloroethene | ND | | 20.0 |
| 74-97-5 | Bromochloromethane | ND | | 20.0 |
| **67-66-3** | **Chloroform (Trichloromethane)** | **10.0** | **J** | 20.0 |
| 594-20-7 | 2,2 - Dichloropropane | ND | | 20.0 |
| **71-55-6** | **1,1,1 - Trichloroethane** | **141** | | 20.0 |
| 107-06-2 | 1,2 - Dichloroethane | ND | | 20.0 |
| 563-58-6 | 1,1 - Dichloropropene | ND | | 20.0 |
| 56-23-5 | Carbon tetrachloride (Tetrachloromethane) | ND | | 20.0 |
| 71-43-2 | Benzene | ND | | 20.0 |
| 74-95-3 | Dibromomethane | ND | | 20.0 |
| 78-87-5 | 1,2 - Dichloropropane | ND | | 20.0 |
| 79-01-6 | Trichloroethene | ND | | 20.0 |
| 75-27-4 | Bromodichloromethane | ND | | 20.0 |
| 10061-01-5 | cis - 1,3 - Dichloropropene | ND | | 20.0 |
| 10061-02-6 | trans - 1,3 - Dichloropropene | ND | | 20.0 |
| 79-00-5 | 1,1,2 - Trichloroethane | ND | | 20.0 |
| 108-88-3 | Toluene | ND | | 20.0 |
| 106-93-4 | 1,2 - Dibromoethane | ND | | 20.0 |
| 142-28-9 | 1,3 - Dichloropropane | ND | | 20.0 |
| 124-48-1 | Dibromochloromethane | ND | | 20.0 |
| **127-18-4** | **Tetrachloroethene** | **1,160** | | 20.0 |
| 630-20-6 | 1,1,1,2 - Tetrachloroethane | ND | | 20.0 |
| 108-90-7 | Chlorobenzene | ND | | 20.0 |
| 100-41-4 | Ethylbenzene | ND | | 20.0 |
| 108-38-3 | m,p - Xylenes (1,3- & 1,4-Dimethylbenzene) | ND | | 40.0 |
| 75-25-2 | Bromoform (Tribromomethane) | ND | | 20.0 |
| 100-42-5 | Styrene (Ethenylbenzene) | ND | | 20.0 |
| 95-47-6 | o - Xylene (1,2-Dimethylbenzene) | ND | | 20.0 |
| 79-34-5 | 1,1,2,2 - Tetrachloroethane | ND | | 20.0 |
| 96-18-4 | 1,2,3 - Trichloropropane | ND | | 20.0 |

***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.10/97
Laboratory ID: C97-63868

Duplicate of MW-9

Date Sampled: 10/16/97
Date Analyzed: 10/27/97
Date Reported: November 6, 1997

| C.A.S. # | TARGET COMPOUNDS | CONCENTRATION (µg/L) | LIMIT OF DETECTION (µg/L) |
|---|---|---|---|
| 98-82-8 | Isopropylbenzene (1-Methylethylbenzene) | ND | 20.0 |
| 108-86-1 | Bromobenzene | ND | 20.0 |
| 103-65-1 | n - Propylbenzene | ND | 20.0 |
| 95-49-8 | 2 - Chlorotoluene | ND | 20.0 |
| 106-43-4 | 4 - Chlorotoluene | ND | 20.0 |
| 108-67-8 | 1,3,5 - Trimethylbenzene | ND | 20.0 |
| 98-06-6 | tert - Butylbenzene | ND | 20.0 |
| 95-63-6 | 1,2,4 - Trimethylbenzene | ND | 20.0 |
| 135-98-8 | sec - Butylbenzene | ND | 20.0 |
| 541-73-1 | 1,3 - Dichlorobenzene | ND | 20.0 |
| 106-46-7 | 1,4 - Dichlorobenzene | ND | 20.0 |
| 99-87-6 | 4-Isopropyltoluene | ND | 20.0 |
| 95-50-1 | 1,2 - Dichlorobenzene | ND | 20.0 |
| 104-51-8 | n - Butylbenzene | ND | 20.0 |
| 96-12-8 | 1,2 - Dibromo - 3 - chloropropane | ND | 100 |
| 120-82-1 | 1,2,4 - Trichlorobenzene | ND | 20.0 |
| 91-20-3 | Naphthalene | ND | 20.0 |
| 87-68-3 | Hexachlorobutadiene | ND | 20.0 |
| 87-61-6 | 1,2 3 - Trichlorobenzene | ND | 20.0 |

***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 | 903397 | 827952 | 109% | 50 - 200 % |
| Fluorobenzene | 1590396 | 1469329 | 108% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1554609 | 1439497 | 108% | 50 - 200 % |
| Chlorobenzene - d5 | 1197224 | 1170721 | 102% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 596718 | 553925 | 108% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 10.2 | 102% | 86 - 118 % |
| Toluene - d8 | 10.3 | 103% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.1 | 101% | 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

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Analyst: yw
Reviewed: sec

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# EPA METHOD 8260

Client: **Western Water Consultants**
Sample ID: 93007-B.10/97
Laboratory ID: C97-63869
Matrix: Water
Dilution Factor: 2

Duplicate of MW-13

Date Sampled: 10/16/97
Date Received: 10/21/97
Date Analyzed: 10/27/97
Date Reported: November 6, 1997

| 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** | **11.4** | | 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 | 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** | **1.06** | J | 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** | **13.0** | | 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***
***J - Meets Mass Spectral identification criteria but result is below established detection limit***

# EPA METHOD 8260

Client: **Western Water Consultants** Date Sampled: 10/16/97
Sample ID: 93007-B.10/97 Date Analyzed: 10/27/97
Laboratory ID: C97-63869 Date Reported: November 6, 1997

Duplicate of 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***

***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 | 1056667 | 827952 | 128% | 50 - 200 % |
| Fluorobenzene | 1635440 | 1469329 | 111% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1692064 | 1439497 | 118% | 50 - 200 % |
| Chlorobenzene - d5 | 1255976 | 1170721 | 107% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 615066 | 553925 | 111% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 8.88 | 88.8% | 86 - 118 % |
| Toluene - d8 | 10.2 | 102% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.52 | 95.2% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.83 | 98.3% | 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

Report File: R:\Reports\CLIENTS.97\Western_Water_Consultants\ORGANIC.CAS\97_63853.xls

Analyst: yw
Reviewed: sec

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# EPA METHOD 8260

Client: **Western Water Consultants**
Sample ID: TRIP BLANK
Laboratory ID: C97-63869A
Matrix: Water
Dilution Factor: 1

Date Sampled: 10/16/97
Date Received: 10/21/97
Date Analyzed: 10/27/97
Date Reported: November 6, 1997

| 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: TRIP BLANK
Laboratory ID: C97-63869A

Date Sampled: 10/16/97
Date Analyzed: 10/27/97
Date Reported: November 6, 1997

| 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 | 986888 | 827952 | 119% | 50 - 200 % |
| Fluorobenzene | 1545717 | 1469329 | 105% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1609617 | 1439497 | 112% | 50 - 200 % |
| Chlorobenzene - d5 | 1185434 | 1170721 | 101% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 577656 | 553925 | 104% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.30 | 93.0% | 86 - 118 % |
| Toluene - d8 | 10.2 | 102% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.71 | 97.1% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.86 | 98.6% | 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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Reviewed: sec

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File 93007D

# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | | |
| Sample ID: | 93007-AD.10/97 | Date Sampled: | 10/14/97 |
| Laboratory ID: | C97-58595 | Date Received: | 10/15/97 |
| Matrix: | Air | Date Analyzed: | 10/15/97 |
| Dilution Factor: | 1 | Date Reported: | October 23, 1997 |

| *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 |
| 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** | **1.31** | 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** | **1.74** | 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 - Meets Mass Spectral identification criteria but result is below established detection limit***

# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | Date Sampled: | 10/14/97 |
| Sample ID: | 93007-AD.10/97 | Date Analyzed: | 10/15/97 |
| Laboratory ID: | C97-58595 | Date Reported: | October 23, 1997 |

| 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** | **0.84** | J | 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 - 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 | 1321130 | 1280898 | 103% | 50 - 200 % |
| Fluorobenzene | 2390227 | 2335628 | 102% | 50 - 200 % |
| 1,4 - Difluorobenzene | 2185554 | 2159573 | 101% | 50 - 200 % |
| Chlorobenzene - d5 | 1599418 | 1543939 | 104% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 698628 | 683898 | 102% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.72 | 97.2% | 86 - 118 % |
| Toluene - d8 | 10.2 | 102% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.3 | 103% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.88 | 98.8% | 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** | | |
| Sample ID: | 93007-WP.10/97 | Date Sampled: | 10/14/97 |
| Laboratory ID: | C97-58596 | Date Received: | 10/15/97 |
| Matrix: | Air | Date Analyzed: | 10/15/97 |
| Dilution Factor: | 5 | Date Reported: | October 23, 1997 |

| 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** | **5.40** | 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** | **9.05** | 5.0 |
| 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** | **125** | 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** | **10.6** | 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** | **90.2** | 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** | **81.0** | 5.0 |
| 630-20-6 | 1,1,1,2 - Tetrachloroethane | ND | 5.0 |
| 108-90-7 | Chlorobenzene | ND | 5.0 |
| 100-41-4 | **Ethylbenzene** | **26.4** | 5.0 |
| 108-38-3 | **m,p - Xylenes (1,3- & 1,4-Dimethylbenzene)** | **86.6** | 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)** | **63.8** | 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** | Date Sampled: | 10/14/97 |
| Sample ID: | 93007-WP.10/97 | Date Analyzed: | 10/15/97 |
| Laboratory ID: | C97-58596 | Date Reported: | October 23, 1997 |

| *C.A.S. #* | **TARGET COMPOUNDS** | *CONCENTRATION ($mg/m^3$)* | *LIMIT OF DETECTION ($mg/m^3$)* |
|---|---|---|---|
| 98-82-8 | **Isopropylbenzene (1-Methylethylbenzene)** | **10.8** | 5.0 |
| 108-86-1 | Bromobenzene | ND | 5.0 |
| 103-65-1 | **n - Propylbenzene** | **17.9** | 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** | **109** | 5.0 |
| 98-06-6 | tert - Butylbenzene | ND | 5.0 |
| 95-63-6 | **1,2,4 - Trimethylbenzene** | **51.6** | 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 | 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***

*RUNTIME QUALITY ASSURANCE REPORT*

| INTERNAL STANDARDS | AREA | ICAL / CCAL AREA | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|---|
| Pentafluorobenzene | 1351504 | 1280898 | 106% | 50 - 200 % |
| Fluorobenzene | 2431170 | 2335628 | 104% | 50 - 200 % |
| 1,4 - Difluorobenzene | 2225103 | 2159573 | 103% | 50 - 200 % |
| Chlorobenzene - d5 | 1616655 | 1543939 | 105% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 726254 | 683898 | 106% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.39 | 93.9% | 86 - 118 % |
| Toluene - d8 | 10.8 | 108% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.4 | 104% | 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

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Analyst: yw
Reviewed: sec

File 93007.D

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# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | | |
| Sample ID: | 93007-UST.7/97 | Date Sampled: | 07/29/97 |
| Laboratory ID: | C97-41722 | Date Received: | 07/30/97 |
| Matrix: | Air | Date Analyzed: | 07/30/97 |
| Dilution Factor: | 10 | Date Reported: | August 12, 1997 |

| *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** | **10.4** | 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 |
| 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** | **30.0** | 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** | **148** | 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** | Date Sampled: | 07/29/97 |
| Sample ID: | 93007-UST.7/97 | Date Analyzed: | 07/30/97 |
| Laboratory ID: | C97-41722 | Date Reported: | August 12, 1997 |

| *C.A.S. #* | **TARGET COMPOUNDS** | *CONCENTRATION ($mg/m^3$)* | *LIMIT OF DETECTION ($mg/m^3$)* |
|---|---|---|---|
| 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*

| INTERNAL STANDARDS | AREA | ICAL / CCAL AREA | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|---|
| Pentafluorobenzene | 945544 | 940049 | 101% | 50 - 200 % |
| Fluorobenzene | 1838298 | 1717058 | 107% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1650419 | 1650598 | 100% | 50 - 200 % |
| Chlorobenzene - d5 | 1257479 | 1211735 | 104% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 535085 | 504616 | 106% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.65 | 96.5% | 86 - 118 % |
| Toluene - d8 | 10.6 | 106% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.0 | 100% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.99 | 99.9% | 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

Report File: F:\REPORTS\CLIENTS.97\WEST_WAT.ER\ORGANIC.CAS\97_ 41722.xls

Analyst: wen
Reviewed: sec

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# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | | |
| Sample ID: | 93007-AD.7/97 | Date Sampled: | 07/29/97 |
| Laboratory ID: | C97-41723 | Date Received: | 07/30/97 |
| Matrix: | Air | Date Analyzed: | 07/30/97 |
| Dilution Factor: | 1 | Date Reported: | August 12, 1997 |

| 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 |
| 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** | **1.45** | | 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** | **3.46** | | 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** | **2.88** | | 1.0 |
| 630-20-6 | 1,1,1,2 - Tetrachloroethane | ND | | 1.0 |
| 108-90-7 | Chlorobenzene | ND | | 1.0 |
| 100-41-4 | **Ethylbenzene** | **0.71** | J | 1.0 |
| 108-38-3 | **m,p - Xylenes (1,3- & 1,4-Dimethylbenzene)** | **2.38** | | 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)** | **2.12** | | 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 - Meets Mass Spectral identification criteria but result is below established detection limit*

# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | Date Sampled: | 07/29/97 |
| Sample ID: | 93007-AD.7/97 | Date Analyzed: | 07/30/97 |
| Laboratory ID: | C97-41723 | Date Reported: | August 12, 1997 |

| 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** | **4.52** | 1.0 |
| 98-06-6 | tert - Butylbenzene | ND | 1.0 |
| **95-63-6** | **1,2,4 - Trimethylbenzene** | **2.26** | 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 - 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 | 867982 | 940049 | 92.3% | 50 - 200 % |
| Fluorobenzene | 1724537 | 1717058 | 100% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1577028 | 1650598 | 95.5% | 50 - 200 % |
| Chlorobenzene - d5 | 1220180 | 1211735 | 101% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 545779 | 504616 | 108% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 10.4 | 104% | 86 - 118 % |
| Toluene - d8 | 10.6 | 106% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.6 | 106% | 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

Report File: F:\REPORTS\CLIENTS.97\WEST_WAT.ER\ORGANIC.CAS\97_ 41722.xls

Analyst: wen
Reviewed: sec

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# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | | |
| Sample ID: | 93007-WP.7/97 | Date Sampled: | 07/29/97 |
| Laboratory ID: | C97-41724 | Date Received: | 07/30/97 |
| Matrix: | Air | Date Analyzed: | 07/30/97 |
| Dilution Factor: | 10 | Date Reported: | August 12, 1997 |

| 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** | **6.10** | J | 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** | **6.90** | J | 10.0 |
| 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** | **76.1** | | 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** | **5.90** | 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** | **33.0** | | 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** | **25.5** | | 10.0 |
| 630-20-6 | 1,1,1,2 - Tetrachloroethane | ND | | 10.0 |
| 108-90-7 | Chlorobenzene | ND | | 10.0 |
| **100-41-4** | **Ethylbenzene** | **5.50** | J | 10.0 |
| **108-38-3** | **m,p - Xylenes (1,3- & 1,4-Dimethylbenzene)** | **15.1** | J | 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)** | **9.20** | J | 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** | Date Sampled: | 07/29/97 |
| Sample ID: | 93007-WP.7/97 | Date Analyzed: | 07/30/97 |
| Laboratory ID: | C97-41724 | Date Reported: | August 12, 1997 |

| *C.A.S. #* | TARGET COMPOUNDS | *CONCENTRATION ($mg/m^3$)* | *LIMIT OF DETECTION ($mg/m^3$)* |
|---|---|---|---|
| 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** | **10.3** | 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*

*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 | 955286 | 940049 | 102% | 50 - 200 % |
| Fluorobenzene | 1846366 | 1717058 | 108% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1679699 | 1650598 | 102% | 50 - 200 % |
| Chlorobenzene - d5 | 1289788 | 1211735 | 106% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 549623 | 504616 | 109% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.75 | 97.5% | 86 - 118 % |
| Toluene - d8 | 10.7 | 107% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.1 | 101% | 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

Report File: F:\REPORTS\CLIENTS.97\WEST_WAT.ER\ORGANIC.CAS\97_ 41722 xls

Analyst: wen
Reviewed: sec

File 93007-D

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# EPA METHOD 8260

Client: **Western Water Consultants**
Sample ID: 93-007.AD-INP. 6/97
Laboratory ID: C97-35213
Matrix: Air
Dilution Factor: 1

Acid Dock Input

Date Sampled: 06/25/97
Date Received: 06/26/97
Date Analyzed: 06/26/97
Date Reported: July 4, 1997

| 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** | **1.25** | | 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** | **0.46** | J | 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** | **2.39** | | 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** | **4.20** | | 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** | **6.15** | | 1.0 |
| 630-20-6 | 1,1,1,2 - Tetrachloroethane | ND | | 1.0 |
| 108-90-7 | Chlorobenzene | ND | | 1.0 |
| **100-41-4** | **Ethylbenzene** | **1.66** | | 1.0 |
| **108-38-3** | **m,p - Xylenes (1,3- & 1,4-Dimethylbenzene)** | **6.32** | | 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)** | **5.56** | | 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 - Meets Mass Spectral identification criteria but result is below established detection limit*

# EPA METHOD 8260

Client: **Western Water Consultants**
Sample ID: 93-007.AD-INP. 6/97
Laboratory ID: C97-35213

Acid Dock Input

Date Sampled: 06/25/97
Date Analyzed: 06/26/97
Date Reported: July 4, 1997

| C.A.S. # | TARGET COMPOUNDS | CONCENTRATION ($mg/m^3$) | | LIMIT OF DETECTION ($mg/m^3$) |
|---|---|---|---|---|
| **98-82-8** | **Isopropylbenzene (1-Methylethylbenzene)** | **0.99** | J | 1.0 |
| 108-86-1 | Bromobenzene | ND | | 1.0 |
| **103-65-1** | **n - Propylbenzene** | **2.08** | | 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** | **12.0** | | 1.0 |
| 98-06-6 | tert - Butylbenzene | ND | | 1.0 |
| **95-63-6** | **1,2,4 - Trimethylbenzene** | **7.67** | | 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 - 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 | 1334849 | 1334266 | 100% | 50 - 200 % |
| Fluorobenzene | 2703700 | 2713933 | 99.6% | 50 - 200 % |
| 1,4 - Difluorobenzene | 2196756 | 2179375 | 101% | 50 - 200 % |
| Chlorobenzene - d5 | 1604355 | 1568157 | 102% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 764736 | 718198 | 106% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 10.4 | 104% | 86 - 118 % |
| Toluene - d8 | 10.1 | 101% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.6 | 106% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.82 | 98.2% | 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

Report File:F:\REPORTS\CLIENTS.97\WEST_WAT.ER\ORGANIC.CAS\97_35213.xls

Analyst: yw
Reviewed: sec

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# EPA METHOD 8260

Client: **Western Water Consultants**
Sample ID: 93-007.WP-INP. 6/97
Laboratory ID: C97-35214
Matrix: Air
Dilution Factor: 5

Former Waste Water Collection Pond Area

Date Sampled: 06/25/97
Date Received: 06/26/97
Date Analyzed: 06/26/97
Date Reported: July 4, 1997

| 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** | **17.0** | 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** | **22.0** | 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** | **156** | 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** | **18.7** | 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** | **104** | 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** | **97.3** | 5.0 |
| 630-20-6 | 1,1,1,2 - Tetrachloroethane | ND | 5.0 |
| 108-90-7 | Chlorobenzene | ND | 5.0 |
| **100-41-4** | **Ethylbenzene** | **33.9** | 5.0 |
| **108-38-3** | **m,p - Xylenes (1,3- & 1,4-Dimethylbenzene)** | **102** | 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)** | **74.3** | 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 - Meets Mass Spectral identification criteria but result is below established detection limit*

# EPA METHOD 8260

Client: **Western Water Consultants** Date Sampled: 06/25/97
Sample ID: 93-007.WP-INP. 6/97 Date Analyzed: 06/26/97
Laboratory ID: C97-35214 Date Reported: July 4, 1997

Former Waste Water Collection Pond Area

| C.A.S. # | TARGET COMPOUNDS | CONCENTRATION ($mg/m^3$) | LIMIT OF DETECTION ($mg/m^3$) |
|---|---|---|---|
| **98-82-8** | **Isopropylbenzene (1-Methylethylbenzene)** | **14.8** | 5.0 |
| 108-86-1 | Bromobenzene | ND | 5.0 |
| **103-65-1** | **n - Propylbenzene** | **25.2** | 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** | **117** | 5.0 |
| 98-06-6 | tert - Butylbenzene | ND | 5.0 |
| **95-63-6** | **1,2,4 - Trimethylbenzene** | **64.8** | 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 | 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 - 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 | 1599312 | 1334266 | 120% | 50 - 200 % |
| Fluorobenzene | 3123487 | 2713933 | 115% | 50 - 200 % |
| 1,4 - Difluorobenzene | 2556619 | 2179375 | 117% | 50 - 200 % |
| Chlorobenzene - d5 | 1837138 | 1568157 | 117% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 835726 | 718198 | 116% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.53 | 95.3% | 86 - 118 % |
| Toluene - d8 | 10.2 | 102% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.93 | 99.3% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.84 | 98.4% | 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**
Sample ID: 93-007.USTCOMP. 6/97
Laboratory ID: C97-35215
Matrix: Air
Dilution Factor: 1

Former UST Area

Date Sampled: 06/25/97
Date Received: 06/26/97
Date Analyzed: 06/26/97
Date Reported: July 4, 1997

| 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** | **68.2** | 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** | **10.5** | 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)** | **2.03** | 1.0 |
| 594-20-7 | 2,2 - Dichloropropane | ND | 1.0 |
| **71-55-6** | **1,1,1 - Trichloroethane** | **125** | 1.0 |
| **107-06-2** | **1,2 - Dichloroethane** | **1.54** | 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** | **1.11** | 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** | **1.44** | 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** | **335** | 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** Former UST Area
Sample ID: 93-007.USTCOMP. 6/97
Laboratory ID: C97-35215

Date Sampled: 06/25/97
Date Analyzed: 06/26/97
Date Reported: July 4, 1997

| 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 | 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 | 1460733 | 1334266 | 109% | 50 - 200 % |
| Fluorobenzene | 2930688 | 2713933 | 108% | 50 - 200 % |
| 1,4 - Difluorobenzene | 2388702 | 2179375 | 110% | 50 - 200 % |
| Chlorobenzene - d5 | 1707256 | 1568157 | 109% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 816804 | 718198 | 114% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.89 | 98.9% | 86 - 118 % |
| Toluene - d8 | 10.1 | 101% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.93 | 99.3% | 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

Report File:F:\REPORTS\CLIENTS.97\WEST_WAT.ER\ORGANIC.CAS\35215.xls

Analyst: yw
Reviewed: sec

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# EPA METHOD 8260

Client: **Western Water Consultants**
Sample ID: 93-007.USTDP1. 6/97
Laboratory ID: C97-35216
Matrix: Air
Dilution Factor: 1

Deep SVE well 3-7

Date Sampled: 06/25/97
Date Received: 06/26/97
Date Analyzed: 06/26/97
Date Reported: July 4, 1997

| 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** | **82.8** | 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** | **7.31** | 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)** | **1.07** | 1.0 |
| 594-20-7 | 2,2 - Dichloropropane | ND | 1.0 |
| **71-55-6** | **1,1,1 - Trichloroethane** | **60.2** | 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** | **226** | 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** Date Sampled: 06/25/97
Sample ID: 93-007.USTDP1. 6/97 Date Analyzed: 06/26/97
Laboratory ID: C97-35216 Date Reported: July 4, 1997

Deep SVE well 3-7

| 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 | 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*

*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 | 1524534 | 1334266 | 114% | 50 - 200 % |
| Fluorobenzene | 3083096 | 2713933 | 114% | 50 - 200 % |
| 1,4 - Difluorobenzene | 2483535 | 2179375 | 114% | 50 - 200 % |
| Chlorobenzene - d5 | 1782655 | 1568157 | 114% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 856878 | 718198 | 119% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 10.1 | 101% | 86 - 118 % |
| Toluene - d8 | 10.0 | 100% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.1 | 101% | 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

Report File:F:\REPORTS\CLIENTS.97\WEST_WAT.ER\ORGANIC.CAS\97_35213.xls

Analyst: yw
Reviewed: sec

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# EPA METHOD 8260

Client: **Western Water Consultants**
Sample ID: 93-007.USTDP2. 6/97
Laboratory ID: C97-35217
Matrix: Air
Dilution Factor: 10

Deep SVE well 3-6

Date Sampled: 06/25/97
Date Received: 06/26/97
Date Analyzed: 06/26/97
Date Reported: July 4, 1997

| 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** | **120** | 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** | **13.2** | 10.0 |
| 78-93-3 | 2 -Butanone (MEK) | ND | 100.0 |
| 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** | **114** | 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** | **368** | 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: 93-007.USTDP2. 6/97
Laboratory ID: C97-35217

Deep SVE well 3-6

Date Sampled: 06/25/97
Date Analyzed: 06/26/97
Date Reported: July 4, 1997

| C.A.S. # | TARGET COMPOUNDS | CONCENTRATION ($mg/m^3$) | LIMIT OF DETECTION ($mg/m^3$) |
|---|---|---|---|
| 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*

| INTERNAL STANDARDS | AREA | ICAL / CCAL AREA | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|---|
| Pentafluorobenzene | 1408035 | 1334266 | 106% | 50 - 200 % |
| Fluorobenzene | 2854854 | 2713933 | 105% | 50 - 200 % |
| 1,4 - Difluorobenzene | 2300607 | 2179375 | 106% | 50 - 200 % |
| Chlorobenzene - d5 | 1647557 | 1568157 | 105% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 783818 | 718198 | 109% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 10.2 | 102% | 86 - 118 % |
| Toluene - d8 | 10.1 | 101% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.1 | 101% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.98 | 99.8% | 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**
Sample ID: 93-007.USTDP3. 6/97
Laboratory ID: C97-35218
Matrix: Air
Dilution Factor: 10

Deep SVE Well 3-5

Date Sampled: 06/25/97
Date Received: 06/26/97
Date Analyzed: 06/26/97
Date Reported: July 4, 1997

| 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** | **79.8** | 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** | **25.1** | 10.0 |
| 78-93-3 | 2 -Butanone (MEK) | ND | 100.0 |
| 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** | **441** | 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** | **871** | 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: 93-007.USTDP3. 6/97
Laboratory ID: C97-35218

Deep SVE well 3-S1

Date Sampled: 06/25/97
Date Analyzed: 06/26/97
Date Reported: July 4, 1997

| C.A.S. # | TARGET COMPOUNDS | CONCENTRATION ($mg/m^3$) | LIMIT OF DETECTION ($mg/m^3$) |
|---|---|---|---|
| 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*

| INTERNAL STANDARDS | AREA | ICAL / CCAL AREA | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|---|
| Pentafluorobenzene | 1381918 | 1334266 | 104% | 50 - 200 % |
| Fluorobenzene | 2788756 | 2713933 | 103% | 50 - 200 % |
| 1,4 - Difluorobenzene | 2259676 | 2179375 | 104% | 50 - 200 % |
| Chlorobenzene - d5 | 1618016 | 1568157 | 103% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 753752 | 718198 | 105% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.98 | 99.8% | 86 - 118 % |
| Toluene - d8 | 9.99 | 99.9% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.1 | 101% | 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

Report File:F:\REPORTS\CLIENTS.97\WEST_WAT.ER\ORGANIC.CAS\97_35213.xls

Analyst: yw
Reviewed: sec

File 93007-D

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# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | Date Sampled: | 05/12/97 |
| Sample ID: | 93007-1-7.5/97 SVE Well 1-7 | Date Received: | 05/20/97 |
| Laboratory ID: | C97-27703 | Date Extracted: | 05/21/97 |
| Matrix: | Soil | Date Analyzed: | 05/21/97 |
| Dilution Factor: | 200 | Date Reported: | May 23,1997 |

| C.A.S. # | TARGET COMPOUNDS | CONCENTRATION (mg/kg) | | LIMIT OF DETECTION (mg/kg) |
|---|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | ND | | 0.20 |
| 74-87-3 | Chloromethane | ND | | 0.20 |
| 75-01-4 | Vinyl chloride | ND | | 0.20 |
| 74-83-9 | Bromomethane | ND | | 0.20 |
| 75-00-3 | Chloroethane | ND | | 0.20 |
| 75-69-4 | Trichlorofluoromethane | ND | | 0.20 |
| 75-35-4 | 1,1 - Dichloroethene | ND | | 0.20 |
| 75-09-2 | Methylene chloride | ND | | 0.20 |
| 156-60-5 | trans - 1, 2 - Dichloroethene | ND | | 0.20 |
| 75-34-3 | 1,1 - Dichloroethane | ND | | 0.20 |
| 156-59-2 | cis - 1,2 - Dichloroethene | ND | | 0.20 |
| 74-97-5 | Bromochloromethane | ND | | 0.20 |
| 67-66-3 | Chloroform | ND | | 0.20 |
| 594-20-7 | 2,2 - Dichloropropane | ND | | 0.20 |
| 71-55-6 | 1,1,1 - Trichloroethane | ND | | 0.20 |
| 107-06-2 | 1,2 - Dichloroethane | ND | | 0.20 |
| 563-58-6 | 1,1 - Dichloropropene | ND | | 0.20 |
| 56-23-5 | Carbon tetrachloride | ND | | 0.20 |
| **71-43-2** | **Benzene** | **0.11** | J | 0.20 |
| 74-95-3 | Dibromomethane | ND | | 0.20 |
| 78-87-5 | 1,2 - Dichloropropane | ND | | 0.20 |
| 79-01-6 | Trichloroethene | ND | | 0.20 |
| 75-27-4 | Bromodichloromethane | ND | | 0.20 |
| 10061-01-5 | cis - 1,3 - Dichloropropene | ND | | 0.20 |
| 10061-02-6 | trans - 1.3 - Dichloropropene | ND | | 0.20 |
| 79-00-5 | 1,1,2 - Trichloroethane | ND | | 0.20 |
| **108-88-3** | **Toluene** | **1.55** | | 0.20 |
| 106-93-4 | 1,2 - Dibromoethane (EDB) | ND | | 0.20 |
| 142-28-9 | 1,3 - Dichloropropane | ND | | 0.20 |
| 124-48-1 | Dibromochloromethane | ND | | 0.20 |
| 127-18-4 | Tetrachloroethene | ND | | 0.20 |
| 630-20-6 | 1,1,1,2 - Tetrachloroethane | ND | | 0.20 |
| 108-90-7 | Chlorobenzene | ND | | 0.20 |
| **100-41-4** | **Ethylbenzene** | **2.17** | | 0.20 |
| **108-38-3** | **m,p - Xylenes** | **2.57** | | 0.40 |
| 75-25-2 | Bromoform | ND | | 0.20 |
| 100-42-5 | Styrene | ND | | 0.20 |
| **95-47-6** | **o - Xylene** | **1.21** | | 0.20 |
| 79-34-5 | 1,1,2,2 - Tetrachloroethane | ND | | 0.20 |
| 96-18-4 | 1,2,3 - Trichloropropane | ND | | 0.20 |

***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** SVE Well 1-7
Sample ID: 93007-1-7.5/97
Laboratory ID: C97-27703

Date Sampled: 05/12/97
Date Analyzed: 05/21/97
Date Reported: May 23,1997

| C.A.S. # | TARGET COMPOUNDS | CONCENTRATION (mg/kg) | LIMIT OF DETECTION (mg/kg) |
|---|---|---|---|
| **98-82-8** | **Isopropylbenzene** | **0.50** | 0.20 |
| 108-86-1 | Bromobenzene | ND | 0.20 |
| **103-65-1** | **n - Propylbenzene** | **1.01** | 0.20 |
| 95-49-8 | 2 - Chlorotoluene | ND | 0.20 |
| 106-43-4 | 4 - Chlorotoluene | ND | 0.20 |
| **108-67-8** | **1,3,5 - Trimethylbenzene** | **3.37** | 0.20 |
| 98-06-6 | tert - Butylbenzene | ND | 0.20 |
| **95-63-6** | **1,2,4 - Trimethylbenzene** | **3.25** | 0.20 |
| **135-98-8** | **sec - Butylbenzene** | **0.58** | 0.20 |
| 541-73-1 | 1,3 - Dichlorobenzene | ND | 0.20 |
| 106-46-7 | 1,4 - Dichlorobenzene | ND | 0.20 |
| **99-87-6** | **4-Isopropyltoluene** | **0.65** | 0.20 |
| 95-50-1 | 1,2 - Dichlorobenzene | ND | 0.20 |
| **104-51-8** | **n - Butylbenzene** | **1.41** | 0.20 |
| 96-12-8 | 1,2 - Dibromo - 3 - chloropropane (DBCP) | ND | 1.00 |
| 120-82-1 | 1,2,4 - Trichlorobenzene | ND | 0.20 |
| **91-20-3** | **Naphthalene** | **1.00** | 0.20 |
| 87-68-3 | Hexachlorobutadiene | ND | 0.20 |
| 87-61-6 | 1,2 3 - Trichlorobenzene | ND | 0.20 |

***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 | 2349889 | 2125582 | 111% | 50 - 200 % |
| Fluorobenzene | 3530732 | 3225498 | 109% | 50 - 200 % |
| 1,4 - Difluorobenzene | 3041531 | 2749094 | 111% | 50 - 200 % |
| Chlorobenzene - d5 | 2176536 | 1972814 | 110% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 1021590 | 941949 | 108% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.71 | 97.1% | 86 - 118 % |
| Toluene - d8 | 10.2 | 102% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.61 | 96.1% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.27 | 92.7% | 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** | Date Sampled: | 05/12/97 |
| Sample ID: | 93007-1-8.5/97 | Date Received: | 05/20/97 |
| Laboratory ID: | C97-27704 | Date Extracted: | 05/21/97 |
| Matrix: | Soil | Date Analyzed: | 05/21/97 |
| Dilution Factor: | 200 | Date Reported: | May 23,1997 |

SVE well 1-8

| C.A.S. # | TARGET COMPOUNDS | CONCENTRATION (mg/kg) | LIMIT OF DETECTION (mg/kg) |
|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | ND | 0.20 |
| 74-87-3 | Chloromethane | ND | 0.20 |
| 75-01-4 | Vinyl chloride (Chloroethene) | ND | 0.20 |
| 74-83-9 | Bromomethane | ND | 0.20 |
| 75-00-3 | Chloroethane | ND | 0.20 |
| 75-69-4 | Trichlorofluoromethane | ND | 0.20 |
| 75-35-4 | 1,1 - Dichloroethene | ND | 0.20 |
| 75-09-2 | Methylene chloride (Dichloromethane) | ND | 0.20 |
| 156-60-5 | trans - 1, 2 - Dichloroethene | ND | 0.20 |
| 75-34-3 | 1,1 - Dichloroethane | ND | 0.20 |
| 156-59-2 | cis - 1,2 - Dichloroethene | ND | 0.20 |
| 74-97-5 | Bromochloromethane | ND | 0.20 |
| 67-66-3 | Chloroform (Trichloromethane) | ND | 0.20 |
| 594-20-7 | 2,2 - Dichloropropane | ND | 0.20 |
| 71-55-6 | 1,1,1 - Trichloroethane | ND | 0.20 |
| 107-06-2 | 1,2 - Dichloroethane | ND | 0.20 |
| 563-58-6 | 1,1 - Dichloropropene | ND | 0.20 |
| 56-23-5 | Carbon tetrachloride (Tetrachloromethane) | ND | 0.20 |
| 71-43-2 | Benzene | ND | 0.20 |
| 74-95-3 | Dibromomethane | ND | 0.20 |
| 78-87-5 | 1,2 - Dichloropropane | ND | 0.20 |
| 79-01-6 | Trichloroethene | ND | 0.20 |
| 75-27-4 | Bromodichloromethane | ND | 0.20 |
| 10061-01-5 | cis - 1,3 - Dichloropropene | ND | 0.20 |
| 10061-02-6 | trans - 1,3 - Dichloropropene | ND | 0.20 |
| 79-00-5 | 1,1,2 - Trichloroethane | ND | 0.20 |
| 108-88-3 | Toluene | ND | 0.20 |
| 106-93-4 | 1,2 - Dibromoethane | ND | 0.20 |
| 142-28-9 | 1,3 - Dichloropropane | ND | 0.20 |
| 124-48-1 | Dibromochloromethane | ND | 0.20 |
| 127-18-4 | Tetrachloroethene | ND | 0.20 |
| 630-20-6 | 1,1,1,2 - Tetrachloroethane | ND | 0.20 |
| 108-90-7 | Chlorobenzene | ND | 0.20 |
| 100-41-4 | Ethylbenzene | ND | 0.20 |
| 108-38-3 | m,p - Xylenes (1,3- & 1,4-Dimethylbenzene) | ND | 0.40 |
| 75-25-2 | Bromoform (Tribromomethane) | ND | 0.20 |
| 100-42-5 | Styrene (Ethenylbenzene) | ND | 0.20 |
| 95-47-6 | o - Xylene (1,2-Dimethylbenzene) | ND | 0.20 |
| 79-34-5 | 1,1,2,2 - Tetrachloroethane | ND | 0.20 |
| 96-18-4 | 1,2,3 - Trichloropropane | ND | 0.20 |

***ND - Analyte not detected at stated limit of detection***

# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | Date Sampled: | 05/12/97 |
| Sample ID: | 93007-1-8.5/97 | Date Analyzed: | 05/21/97 |
| Laboratory ID: | C97-27704 | Date Reported: | May 23,1997 |

SVE Well 1-8

| C.A.S. # | TARGET COMPOUNDS | CONCENTRATION (mg/kg) | LIMIT OF DETECTION (mg/kg) |
|---|---|---|---|
| 98-82-8 | Isopropylbenzene (1-Methylethylbenzene) | ND | 0.20 |
| 108-86-1 | Bromobenzene | ND | 0.20 |
| 103-65-1 | n - Propylbenzene | ND | 0.20 |
| 95-49-8 | 2 - Chlorotoluene | ND | 0.20 |
| 106-43-4 | 4 - Chlorotoluene | ND | 0.20 |
| 108-67-8 | 1,3,5 - Trimethylbenzene | ND | 0.20 |
| 98-06-6 | tert - Butylbenzene | ND | 0.20 |
| 95-63-6 | 1,2,4 - Trimethylbenzene | ND | 0.20 |
| 135-98-8 | sec - Butylbenzene | ND | 0.20 |
| 541-73-1 | 1,3 - Dichlorobenzene | ND | 0.20 |
| 106-46-7 | 1,4 - Dichlorobenzene | ND | 0.20 |
| 99-87-6 | 4-Isopropyltoluene (1-Methyl-4-(1-methyl)-benzene) | ND | 0.20 |
| 95-50-1 | 1,2 - Dichlorobenzene | ND | 0.20 |
| 104-51-8 | n - Butylbenzene | ND | 0.20 |
| 96-12-8 | 1,2 - Dibromo - 3 - chloropropane | ND | 1.00 |
| 120-82-1 | 1,2,4 - Trichlorobenzene | ND | 0.20 |
| 91-20-3 | Naphthalene | ND | 0.20 |
| 87-68-3 | Hexachlorobutadiene | ND | 0.20 |
| 87-61-6 | 1,2 3 - Trichlorobenzene | ND | 0.20 |

***ND - Analyte not detected at stated limit of detection***

*RUNTIME QUALITY ASSURANCE REPORT*

| INTERNAL STANDARDS | AREA | ICAL / CCAL AREA | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|---|
| Pentafluorobenzene | 2236367 | 2125582 | 105% | 50 - 200 % |
| Fluorobenzene | 3346460 | 3225498 | 104% | 50 - 200 % |
| 1,4 - Difluorobenzene | 2915255 | 2749094 | 106% | 50 - 200 % |
| Chlorobenzene - d5 | 1988195 | 1972814 | 101% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 948699 | 941949 | 101% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.58 | 95.8% | 86 - 118 % |
| Toluene - d8 | 9.61 | 96.1% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.93 | 99.3% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.87 | 98.7% | 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

Report File: F:\REPORTS\CLIENTS.97\WEST_WAT.ER\ORGANIC.CAS\97_27703.xls

Analyst: yw
Reviewed: sec

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# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | Date Sampled: | 05/12/97 |
| Sample ID: | 93007-3-5.5/97 | Date Received: | 05/20/97 |
| Laboratory ID: | C97-27705 | Date Extracted: | 05/21/97 |
| Matrix: | Soil | Date Analyzed: | 05/21/97 |
| Dilution Factor: | 200 | Date Reported: | May 23,1997 |

SVE well 3-5

| C.A.S. # | TARGET COMPOUNDS | CONCENTRATION (mg/kg) | LIMIT OF DETECTION (mg/kg) |
|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | ND | 0.20 |
| 74-87-3 | Chloromethane | ND | 0.20 |
| 75-01-4 | Vinyl chloride (Chloroethene) | ND | 0.20 |
| 74-83-9 | Bromomethane | ND | 0.20 |
| 75-00-3 | Chloroethane | ND | 0.20 |
| 75-69-4 | Trichlorofluoromethane | ND | 0.20 |
| 75-35-4 | 1,1 - Dichloroethene | ND | 0.20 |
| 75-09-2 | Methylene chloride (Dichloromethane) | ND | 0.20 |
| 156-60-5 | trans - 1, 2 - Dichloroethene | ND | 0.20 |
| 75-34-3 | 1,1 - Dichloroethane | ND | 0.20 |
| 156-59-2 | cis - 1,2 - Dichloroethene | ND | 0.20 |
| 74-97-5 | Bromochloromethane | ND | 0.20 |
| 67-66-3 | Chloroform (Trichloromethane) | ND | 0.20 |
| 594-20-7 | 2,2 - Dichloropropane | ND | 0.20 |
| 71-55-6 | 1,1,1 - Trichloroethane | ND | 0.20 |
| 107-06-2 | 1,2 - Dichloroethane | ND | 0.20 |
| 563-58-6 | 1,1 - Dichloropropene | ND | 0.20 |
| 56-23-5 | Carbon tetrachloride (Tetrachloromethane) | ND | 0.20 |
| 71-43-2 | Benzene | ND | 0.20 |
| 74-95-3 | Dibromomethane | ND | 0.20 |
| 78-87-5 | 1,2 - Dichloropropane | ND | 0.20 |
| 79-01-6 | Trichloroethene | ND | 0.20 |
| 75-27-4 | Bromodichloromethane | ND | 0.20 |
| 10061-01-5 | cis - 1,3 - Dichloropropene | ND | 0.20 |
| 10061-02-6 | trans - 1,3 - Dichloropropene | ND | 0.20 |
| 79-00-5 | 1,1,2 - Trichloroethane | ND | 0.20 |
| 108-88-3 | Toluene | ND | 0.20 |
| 106-93-4 | 1,2 - Dibromoethane | ND | 0.20 |
| 142-28-9 | 1,3 - Dichloropropane | ND | 0.20 |
| 124-48-1 | Dibromochloromethane | ND | 0.20 |
| 127-18-4 | Tetrachloroethene | ND | 0.20 |
| 630-20-6 | 1,1,1,2 - Tetrachloroethane | ND | 0.20 |
| 108-90-7 | Chlorobenzene | ND | 0.20 |
| 100-41-4 | Ethylbenzene | ND | 0.20 |
| 108-38-3 | m,p - Xylenes (1,3- & 1,4-Dimethylbenzene) | ND | 0.40 |
| 75-25-2 | Bromoform (Tribromomethane) | ND | 0.20 |
| 100-42-5 | Styrene (Ethenylbenzene) | ND | 0.20 |
| 95-47-6 | o - Xylene (1,2-Dimethylbenzene) | ND | 0.20 |
| 79-34-5 | 1,1,2,2 - Tetrachloroethane | ND | 0.20 |
| 96-18-4 | 1,2,3 - Trichloropropane | ND | 0.20 |

***ND - Analyte not detected at stated limit of detection***

# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | Date Sampled: | 05/12/97 |
| Sample ID: | 93007-3-5.5/97 | Date Analyzed: | 05/21/97 |
| Laboratory ID: | C97-27705 | Date Reported: | May 23,1997 |

SVE well 3-5

| *C.A.S. #* | TARGET COMPOUNDS | *CONCENTRATION (mg/kg)* | *LIMIT OF DETECTION (mg/kg)* |
|---|---|---|---|
| 98-82-8 | Isopropylbenzene (1-Methylethylbenzene) | ND | 0.20 |
| 108-86-1 | Bromobenzene | ND | 0.20 |
| 103-65-1 | n - Propylbenzene | ND | 0.20 |
| 95-49-8 | 2 - Chlorotoluene | ND | 0.20 |
| 106-43-4 | 4 - Chlorotoluene | ND | 0.20 |
| 108-67-8 | 1,3,5 - Trimethylbenzene | ND | 0.20 |
| 98-06-6 | tert - Butylbenzene | ND | 0.20 |
| 95-63-6 | 1,2,4 - Trimethylbenzene | ND | 0.20 |
| 135-98-8 | sec - Butylbenzene | ND | 0.20 |
| 541-73-1 | 1,3 - Dichlorobenzene | ND | 0.20 |
| 106-46-7 | 1,4 - Dichlorobenzene | ND | 0.20 |
| 99-87-6 | 4-Isopropyltoluene (1-Methyl-4-(1-methyl)-benzene) | ND | 0.20 |
| 95-50-1 | 1,2 - Dichlorobenzene | ND | 0.20 |
| 104-51-8 | n - Butylbenzene | ND | 0.20 |
| 96-12-8 | 1,2 - Dibromo - 3 - chloropropane | ND | 1.00 |
| 120-82-1 | 1,2,4 - Trichlorobenzene | ND | 0.20 |
| 91-20-3 | Naphthalene | ND | 0.20 |
| 87-68-3 | Hexachlorobutadiene | ND | 0.20 |
| 87-61-6 | 1,2 3 - Trichlorobenzene | ND | 0.20 |

***ND - Analyte not detected at stated limit of detection***

*RUNTIME QUALITY ASSURANCE REPORT*

| INTERNAL STANDARDS | AREA | ICAL / CCAL AREA | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|---|
| Pentafluorobenzene | 2272586 | 2125582 | 107% | 50 - 200 % |
| Fluorobenzene | 3513760 | 3225498 | 109% | 50 - 200 % |
| 1,4 - Difluorobenzene | 2986901 | 2749094 | 109% | 50 - 200 % |
| Chlorobenzene - d5 | 2108640 | 1972814 | 107% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 998433 | 941949 | 106% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.89 | 98.9% | 86 - 118 % |
| Toluene - d8 | 9.89 | 98.9% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.0 | 100% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 10.0 | 100% | 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

Report File: F:\REPORTS\CLIENTS.97\WEST_WAT.ER\ORGANIC.CAS\97_27703.xls

Analyst: yw
Reviewed: sec

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## EPA METHOD 8260

File 93c07.D

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | | |
| Sample ID: | 93-007.UST-INP. 5/97 | Date Sampled: | 05/13/97 |
| Laboratory ID: | C97-27399 | Date Received: | 05/14/97 |
| Matrix: | Air | Date Analyzed: | 05/14/97 |
| Dilution Factor: | 25 | Date Reported: | May 25, 1997 |

| C.A.S. # | TARGET COMPOUNDS | CONCENTRATION ($mg/m^3$) | | LIMIT OF DETECTION ($mg/m^3$) |
|---|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | ND | | 25.0 |
| 74-87-3 | Chloromethane | ND | | 25.0 |
| 75-01-4 | Vinyl chloride (Chloroethene) | ND | | 25.0 |
| 74-83-9 | Bromomethane | ND | | 25.0 |
| 75-00-3 | Chloroethane | ND | | 25.0 |
| 75-69-4 | Trichlorofluoromethane | ND | | 25.0 |
| **75-35-4** | **1,1 - Dichloroethene** | **21.3** | J | 25.0 |
| 75-09-2 | Methylene chloride (Dichloromethane) | ND | | 25.0 |
| 156-60-5 | trans - 1, 2 - Dichloroethene | ND | | 25.0 |
| 75-34-3 | 1,1 - Dichloroethane | ND | | 25.0 |
| 156-59-2 | cis - 1,2 - Dichloroethene | ND | | 25.0 |
| 74-97-5 | Bromochloromethane | ND | | 25.0 |
| 67-66-3 | Chloroform (Trichloromethane) | ND | | 25.0 |
| 594-20-7 | 2,2 - Dichloropropane | ND | | 25.0 |
| **71-55-6** | **1,1,1 - Trichloroethane** | **41.8** | | 25.0 |
| 107-06-2 | 1,2 - Dichloroethane | ND | | 25.0 |
| 563-58-6 | 1,1 - Dichloropropene | ND | | 25.0 |
| 56-23-5 | Carbon tetrachloride (Tetrachloromethane) | ND | | 25.0 |
| 71-43-2 | Benzene | ND | | 25.0 |
| 74-95-3 | Dibromomethane | ND | | 25.0 |
| 78-87-5 | 1,2 - Dichloropropane | ND | | 25.0 |
| 79-01-6 | Trichloroethene | ND | | 25.0 |
| 75-27-4 | Bromodichloromethane | ND | | 25.0 |
| 10061-01-5 | cis - 1,3 - Dichloropropene | ND | | 25.0 |
| 10061-02-6 | trans - 1,3 - Dichloropropene | ND | | 25.0 |
| 79-00-5 | 1,1,2 - Trichloroethane | ND | | 25.0 |
| 108-88-3 | Toluene | ND | | 25.0 |
| 106-93-4 | 1,2 - Dibromoethane | ND | | 25.0 |
| 142-28-9 | 1,3 - Dichloropropane | ND | | 25.0 |
| 124-48-1 | Dibromochloromethane | ND | | 25.0 |
| **127-18-4** | **Tetrachloroethene** | **155** | | 25.0 |
| 630-20-6 | 1,1,1,2 - Tetrachloroethane | ND | | 25.0 |
| 108-90-7 | Chlorobenzene | ND | | 25.0 |
| 100-41-4 | Ethylbenzene | ND | | 25.0 |
| 108-38-3 | m,p - Xylenes (1,3- & 1,4-Dimethylbenzene) | ND | | 50.0 |
| 75-25-2 | Bromoform (Tribromomethane) | ND | | 25.0 |
| 100-42-5 | Styrene (Ethenylbenzene) | ND | | 25.0 |
| 95-47-6 | o - Xylene (1,2-Dimethylbenzene) | ND | | 25.0 |
| 79-34-5 | 1,1,2,2 - Tetrachloroethane | ND | | 25.0 |
| 96-18-4 | 1,2,3 - Trichloropropane | ND | | 25.0 |

***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** | Date Sampled: | 05/13/97 |
| Sample ID: | 93-007.UST-INP. 5/97 | Date Analyzed: | 05/14/97 |
| Laboratory ID: | C97-27399 | Date Reported: | May 25, 1997 |

| *C.A.S. #* | TARGET COMPOUNDS | *CONCENTRATION ($mg/m^3$)* | *LIMIT OF DETECTION ($mg/m^3$)* |
|---|---|---|---|
| 98-82-8 | Isopropylbenzene (1-Methylethylbenzene) | ND | 25.0 |
| 108-86-1 | Bromobenzene | ND | 25.0 |
| 103-65-1 | n - Propylbenzene | ND | 25.0 |
| 95-49-8 | 2 - Chlorotoluene | ND | 25.0 |
| 106-43-4 | 4 - Chlorotoluene | ND | 25.0 |
| 108-67-8 | 1,3,5 - Trimethylbenzene | ND | 25.0 |
| 98-06-6 | tert - Butylbenzene | ND | 25.0 |
| 95-63-6 | 1,2,4 - Trimethylbenzene | ND | 25.0 |
| 135-98-8 | sec - Butylbenzene | ND | 25.0 |
| 541-73-1 | 1,3 - Dichlorobenzene | ND | 25.0 |
| 106-46-7 | 1,4 - Dichlorobenzene | ND | 25.0 |
| 99-87-6 | 4-Isopropyltoluene | ND | 25.0 |
| 95-50-1 | 1,2 - Dichlorobenzene | ND | 25.0 |
| 104-51-8 | n - Butylbenzene | ND | 25.0 |
| 96-12-8 | 1,2 - Dibromo - 3 - chloropropane | ND | 125.0 |
| 120-82-1 | 1,2,4 - Trichlorobenzene | ND | 25.0 |
| 91-20-3 | Naphthalene | ND | 25.0 |
| 87-68-3 | Hexachlorobutadiene | ND | 25.0 |
| 87-61-6 | 1,2 3 - Trichlorobenzene | ND | 25.0 |

***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 | 1325549 | 1388793 | 95.4% | 50 - 200 % |
| Fluorobenzene | 3460826 | 3679984 | 94.0% | 50 - 200 % |
| 1,4 - Difluorobenzene | 2489787 | 2589504 | 96.1% | 50 - 200 % |
| Chlorobenzene - d5 | 1833183 | 1910498 | 96.0% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 696012 | 669702 | 104% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 11.5 | 115% | 86 - 118 % |
| Toluene - d8 | 10.2 | 102% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.3 | 103% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.86 | 98.6% | 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

Report File:F:\REPORTS\CLIENTS.97\WEST_WAT.ER\ORGANIC.CAS\27399.xls

Analyst: yw
Reviewed: sec

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# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | | |
| Sample ID: | 93-007.AD-INP. 5/97 | Date Sampled: | 05/13/97 |
| Laboratory ID: | C97-27400 | Date Received: | 05/14/97 |
| Matrix: | Air | Date Analyzed: | 05/14/97 |
| Dilution Factor: | 1 | Date Reported: | May 25, 1997 |

| 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** | **2.19** | | 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 |
| 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** | **2.09** | | 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** | **4.06** | | 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** | **10.3** | | 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)** | **1.86** | J | 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)** | **2.02** | | 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 - Meets Mass Spectral identification criteria but result is below established detection limit***

# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | Date Sampled: | 05/13/97 |
| Sample ID: | 93-007.AD-INP. 5/97 | Date Analyzed: | 05/14/97 |
| Laboratory ID: | C97-27400 | Date Reported: | May 25, 1997 |

| *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** | **3.75** | 1.0 |
| 98-06-6 | tert - Butylbenzene | ND | 1.0 |
| **95-63-6** | **1,2,4 - Trimethylbenzene** | **2.42** | 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 - 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 | 1386815 | 1388793 | 99.9% | 50 - 200 % |
| Fluorobenzene | 3540147 | 3679984 | 96.2% | 50 - 200 % |
| 1,4 - Difluorobenzene | 2515943 | 2589504 | 97.2% | 50 - 200 % |
| Chlorobenzene - d5 | 1884394 | 1910498 | 98.6% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 686263 | 669702 | 102% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 11.2 | 112% | 86 - 118 % |
| Toluene - d8 | 10.3 | 103% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.4 | 104% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.94 | 99.4% | 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

Report File:F:\REPORTS\CLIENTS.97\WEST_WAT.ER\ORGANIC.CAS\27399.xls

Analyst: yw
Reviewed: sec

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# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | | |
| Sample ID: | 93-007.WP-INP. 5/97 | Date Sampled: | 05/13/97 |
| Laboratory ID: | C97-27401 | Date Received: | 05/14/97 |
| Matrix: | Air | Date Analyzed: | 05/14/97 |
| Dilution Factor: | 5 | Date Reported: | May 25, 1997 |

| 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** | **9.10** | 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** | **10.2** | 5.0 |
| 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** | **74.1** | 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** | **5.70** | 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** | **95.5** | 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** | **66.3** | 5.0 |
| 630-20-6 | 1,1,1,2 - Tetrachloroethane | ND | 5.0 |
| 108-90-7 | Chlorobenzene | ND | 5.0 |
| **100-41-4** | **Ethylbenzene** | **19.7** | 5.0 |
| **108-38-3** | **m,p - Xylenes (1,3- & 1,4-Dimethylbenzene)** | **63.5** | 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)** | **45.9** | 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 - Meets Mass Spectral identification criteria but result is below established detection limit***

# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | Date Sampled: | 05/13/97 |
| Sample ID: | 93-007.WP-INP. 5/97 | Date Analyzed: | 05/14/97 |
| Laboratory ID: | C97-27401 | Date Reported: | May 25, 1997 |

| *C.A.S. #* | TARGET COMPOUNDS | *CONCENTRATION ($mg/m^3$)* | *LIMIT OF DETECTION ($mg/m^3$)* |
|---|---|---|---|
| **98-82-8** | **Isopropylbenzene (1-Methylethylbenzene)** | **8.90** | 5.0 |
| 108-86-1 | Bromobenzene | ND | 5.0 |
| **103-65-1** | **n - Propylbenzene** | **13.0** | 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** | **54.8** | 5.0 |
| 98-06-6 | tert - Butylbenzene | ND | 5.0 |
| **95-63-6** | **1,2,4 - Trimethylbenzene** | **23.9** | 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 | 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 - 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 | 1319006 | 1388793 | 95.0% | 50 - 200 % |
| Fluorobenzene | 3316920 | 3679984 | 90.1% | 50 - 200 % |
| 1,4 - Difluorobenzene | 2439384 | 2589504 | 94.2% | 50 - 200 % |
| Chlorobenzene - d5 | 1815393 | 1910498 | 95.0% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 663235 | 669702 | 99.0% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 11.3 | 113% | 86 - 118 % |
| Toluene - d8 | 10.1 | 101% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.1 | 101% | 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

File 93007-D

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## EPA METHOD 8260

Acid Dock Unit Input

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | | |
| Sample ID: | 93007-AD-INP-1/97 | Date Sampled: | 01/21/97 |
| Laboratory ID: | C97-11256 | Date Received: | 01/22/97 |
| Matrix: | Air | Date Analyzed: | 01/22/97 |
| Dilution Factor: | 1 | Date Reported: | February 02, 1997 |

| 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 |
| 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** | **1.34** | | 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** | **5.67** | | 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** | **8.86** | | 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)** | **1.18** | **J** | 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)** | **1.20** | | 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 - Meets Mass Spectral identification criteria but result is below established detection limit***

Acid Dock Unit Input

# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | Date Sampled: | 01/21/97 |
| Sample ID: | 93007-AD-INP-1/97 | Date Analyzed: | 01/22/97 |
| Laboratory ID: | C97-11256 | Date Reported: | February 2, 1997 |

| *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** | **1.39** | 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 - 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 | 716097 | 759181 | 94.3% | 50 - 200 % |
| Fluorobenzene | 1882885 | 1926580 | 97.7% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1578526 | 1659859 | 95.1% | 50 - 200 % |
| Chlorobenzene - d5 | 1158137 | 1189173 | 97.4% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 393498 | 408290 | 96.4% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 11.4 | 114% | 86 - 118 % |
| Toluene - d8 | 10.2 | 102% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.0 | 100% | 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

Analyst: yw

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## EPA METHOD 8260

Acid Dust Unit Exhaust

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | | |
| Sample ID: | 93007-AD-EXH-1/97 | Date Sampled: | 01/21/97 |
| Laboratory ID: | C97-11257 | Date Received: | 01/22/97 |
| Matrix: | Air | Date Analyzed: | 01/22/97 |
| Dilution Factor: | 1 | Date Reported: | February 02, 1997 |

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

Acid Dock Unit Exhaust

# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | Date Sampled: | 01/21/97 |
| Sample ID: | 93007-AD-EXH-1/97 | Date Analyzed: | 01/22/97 |
| Laboratory ID: | C97-11257 | Date Reported: | February 2, 1997 |

| *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 | 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***

***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 | 738760 | 759181 | 97.3% | 50 - 200 % |
| Fluorobenzene | 1883532 | 1926580 | 97.8% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1622387 | 1659859 | 97.7% | 50 - 200 % |
| Chlorobenzene - d5 | 1166944 | 1189173 | 98.1% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 380641 | 408290 | 93.2% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 11.1 | 111% | 86 - 118 % |
| Toluene - d8 | 10.0 | 100% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.2 | 102% | 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

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Report File: F:\REPORTS\CLIENTS.97\WEST_WAT.ER\ORGANIC.CAS\

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**ENERGY LABORATORIES, INC.**
SHIPPING: 2393 SALT CREEK HIGHWAY • CASPER, WY 82601
MAILING: P.O. BOX 3258 • CASPER, WY 82602
E-mail: energy@trib.com • FAX: (307) 234 - 1639 • PHONE: (307) 235 - 0515 • TOLL FREE: (888) 235 - 0515

## EPA METHOD 8260

UST Unit Input

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | | |
| Sample ID: | 93007-UST-INP-1/97 | Date Sampled: | 01/21/97 |
| Laboratory ID: | C97-11258 | Date Received: | 01/22/97 |
| Matrix: | Air | Date Analyzed: | 01/22/97 |
| Dilution Factor: | 1 | Date Reported: | February 02, 1997 |

| *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** | **30.0** | | 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** | **2.80** | | 1.0 |
| 156-59-2 | cis - 1,2 - Dichloroethene | ND | | 1.0 |
| 74-97-5 | Bromochloromethane | ND | | 1.0 |
| **67-66-3** | **Chloroform (Trichloromethane)** | **0.47** | J | 1.0 |
| 594-20-7 | 2,2 - Dichloropropane | ND | | 1.0 |
| **71-55-6** | **1,1,1 - Trichloroethane** | **63.3** | | 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** | **0.58** | J | 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** | **205** | | 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 - Meets Mass Spectral identification criteria but result is below established detection limit***

UST Unit Input

# EPA METHOD 8260

Client: **Western Water Consultants**
Sample ID: 93007-UST-INP-1/97
Laboratory ID: C97-11258

Date Sampled: 01/21/97
Date Analyzed: 01/22/97
Date Reported: February 2, 1997

| 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 | 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***

***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 | 721258 | 759181 | 95.0% | 50 - 200 % |
| Fluorobenzene | 1901604 | 1926580 | 98.7% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1612338 | 1659859 | 97.1% | 50 - 200 % |
| Chlorobenzene - d5 | 1187554 | 1189173 | 99.9% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 384275 | 408290 | 94.1% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 11.3 | 113% | 86 - 118 % |
| Toluene - d8 | 10.1 | 101% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.1 | 101% | 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

Analyst: yw
Reviewed: sec

Report File: F:\REPORTS\CLIENTS.97\WEST_WAT.ER\ORGANIC.CAS\

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## EPA METHOD 8260

UST Unit Exhaust

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | | |
| Sample ID: | 93007-UST-EXH-1/97 | Date Sampled: | 01/21/97 |
| Laboratory ID: | C97-11259 | Date Received: | 01/22/97 |
| Matrix: | Air | Date Analyzed: | 01/22/97 |
| Dilution Factor: | 1 | Date Reported: | February 02, 1997 |

| *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** | **2.50** | 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 |
| 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** | **6.19** | 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 - Meets Mass Spectral identification criteria but result is below established detection limit***

UST Unit Exhaust

## EPA METHOD 8260

Client: **Western Water Consultants**
Sample ID: 93007-UST-EXH-1/97
Laboratory ID: C97-11259

Date Sampled: 01/21/97
Date Analyzed: 01/22/97
Date Reported: February 2, 1997

| 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 | 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***

***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 | 775242 | 759181 | 102% | 50 - 200 % |
| Fluorobenzene | 1962104 | 1926580 | 102% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1689434 | 1659859 | 102% | 50 - 200 % |
| Chlorobenzene - d5 | 1221432 | 1189173 | 103% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 400959 | 408290 | 98.2% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 11.3 | 113% | 86 - 118 % |
| Toluene - d8 | 10.0 | 100% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.3 | 103% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 10.0 | 100% | 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

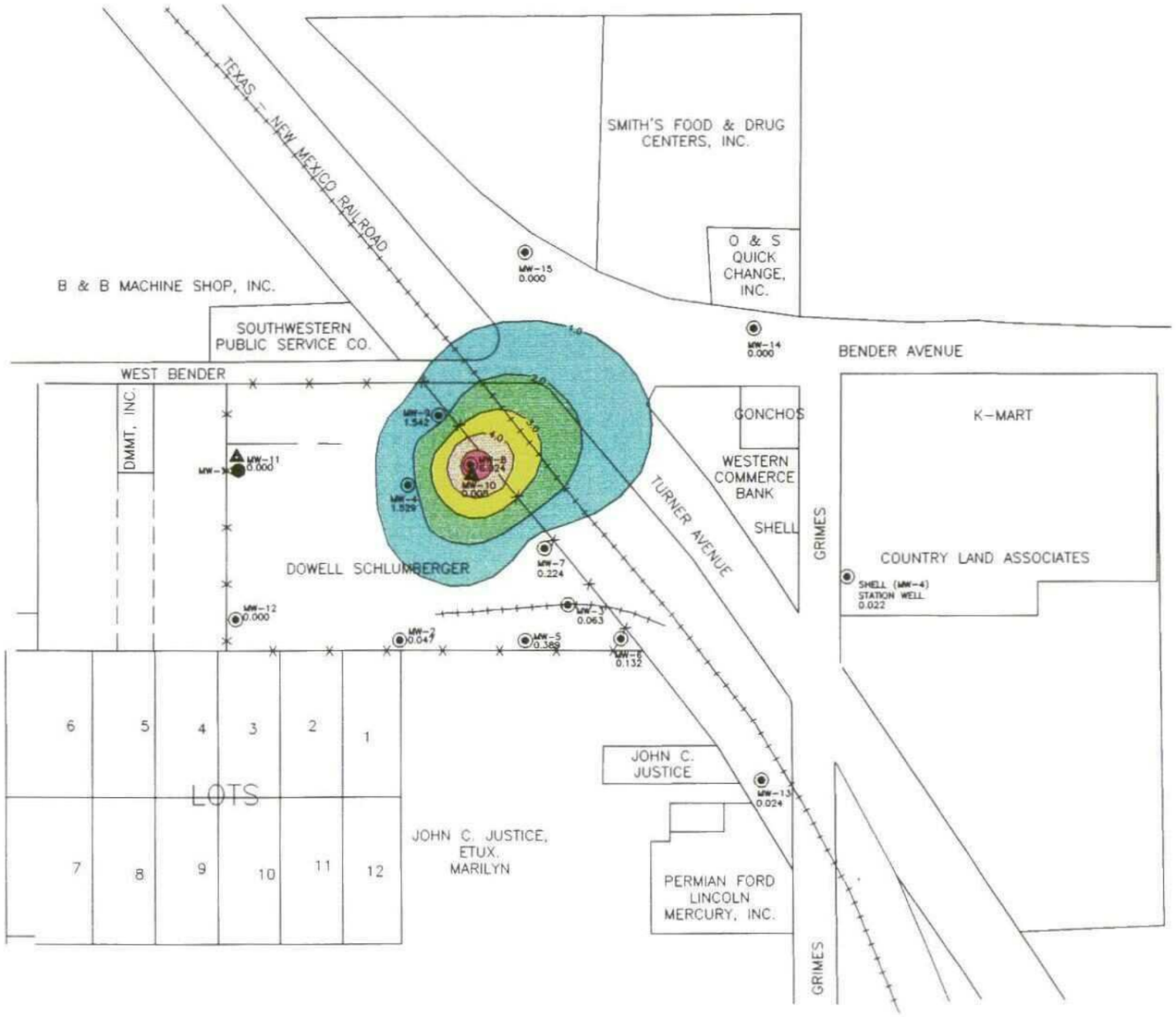
Report File: F:\REPORTS\CLIENTS.97\WEST_WAT.ER\ORGANIC.CAS\

Analyst: yw
Reviewed: sec

# APPENDIX C

# ISOCONCENTRATION MAP AND PLOTS

K:\172040\93-007L\CADD\98\HAL01097.DWG 02/02/98 09:02




## EXPLANATION

MW-8 6.483 — 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)

- 5.00
- 4.00
- 3.00
- 2.00
- 1.00

0 300 ft.

SCALE

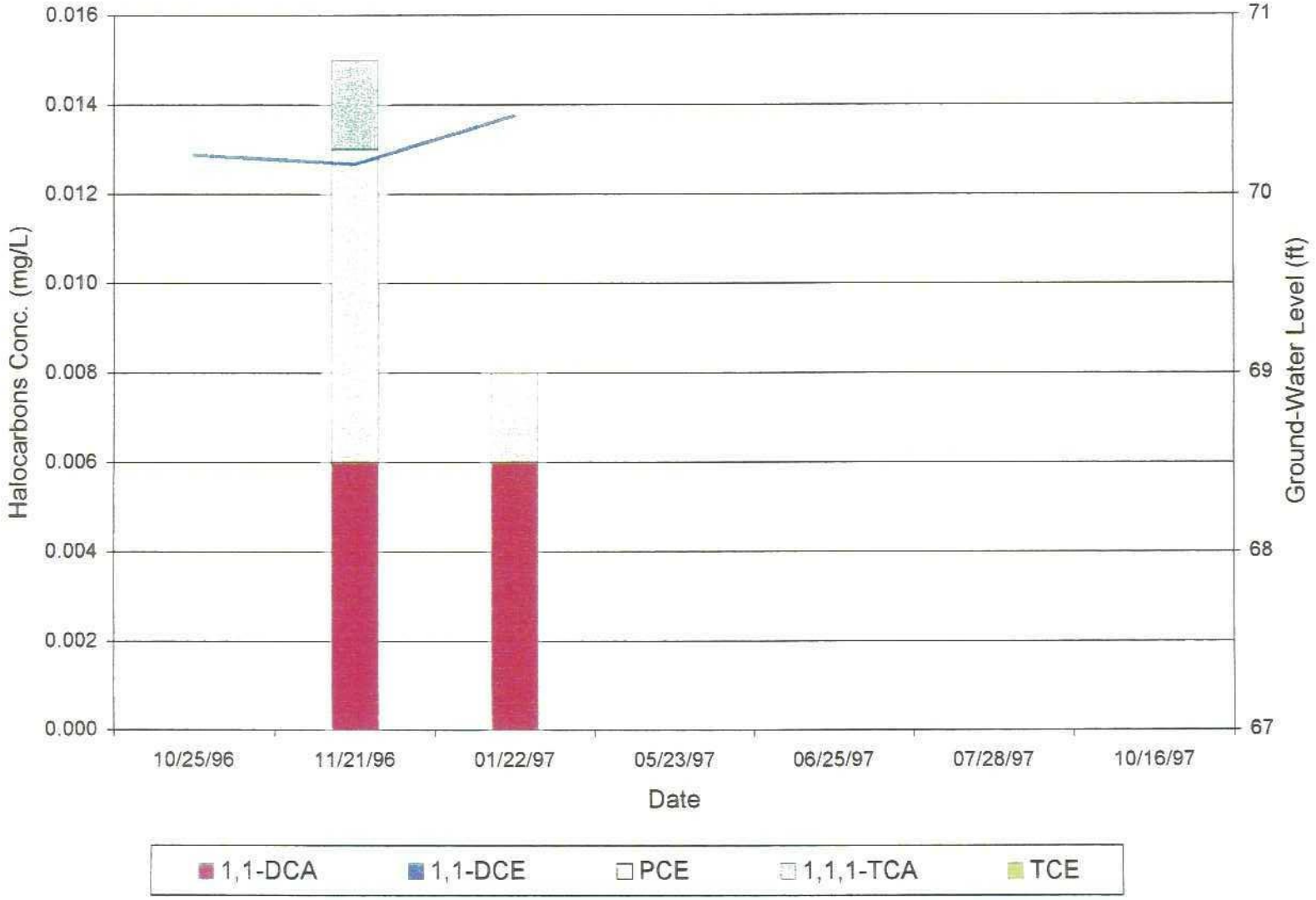
# TOTAL HALOCARBONS CONCENTRATION MAP (10-16-97)

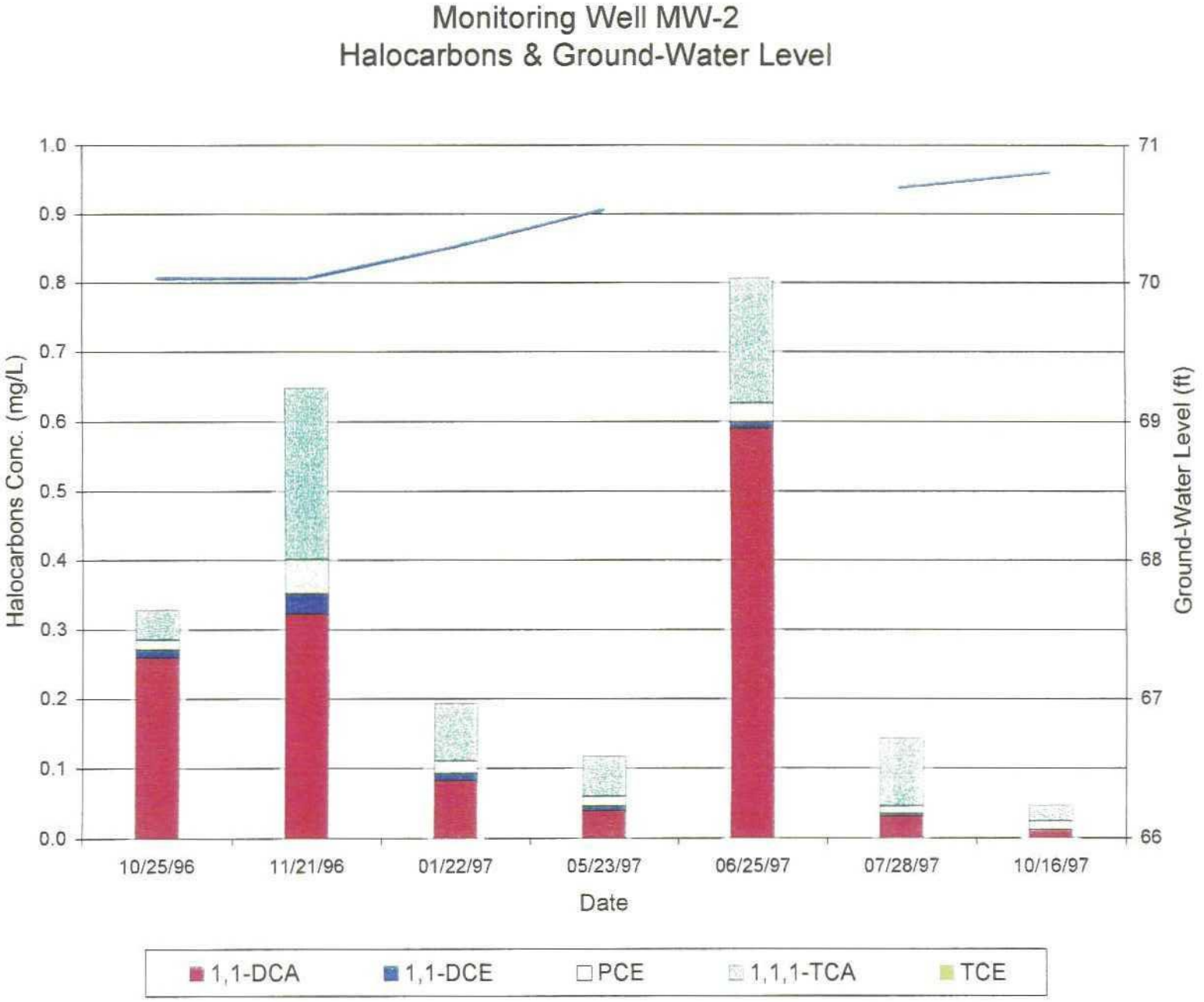
DOWELL, A DIVISION OF SCHLUMBERGER TECHNOLOGY CORPORATION HOBBS, NM

Western Water Consultants, Inc. WWC Engineering

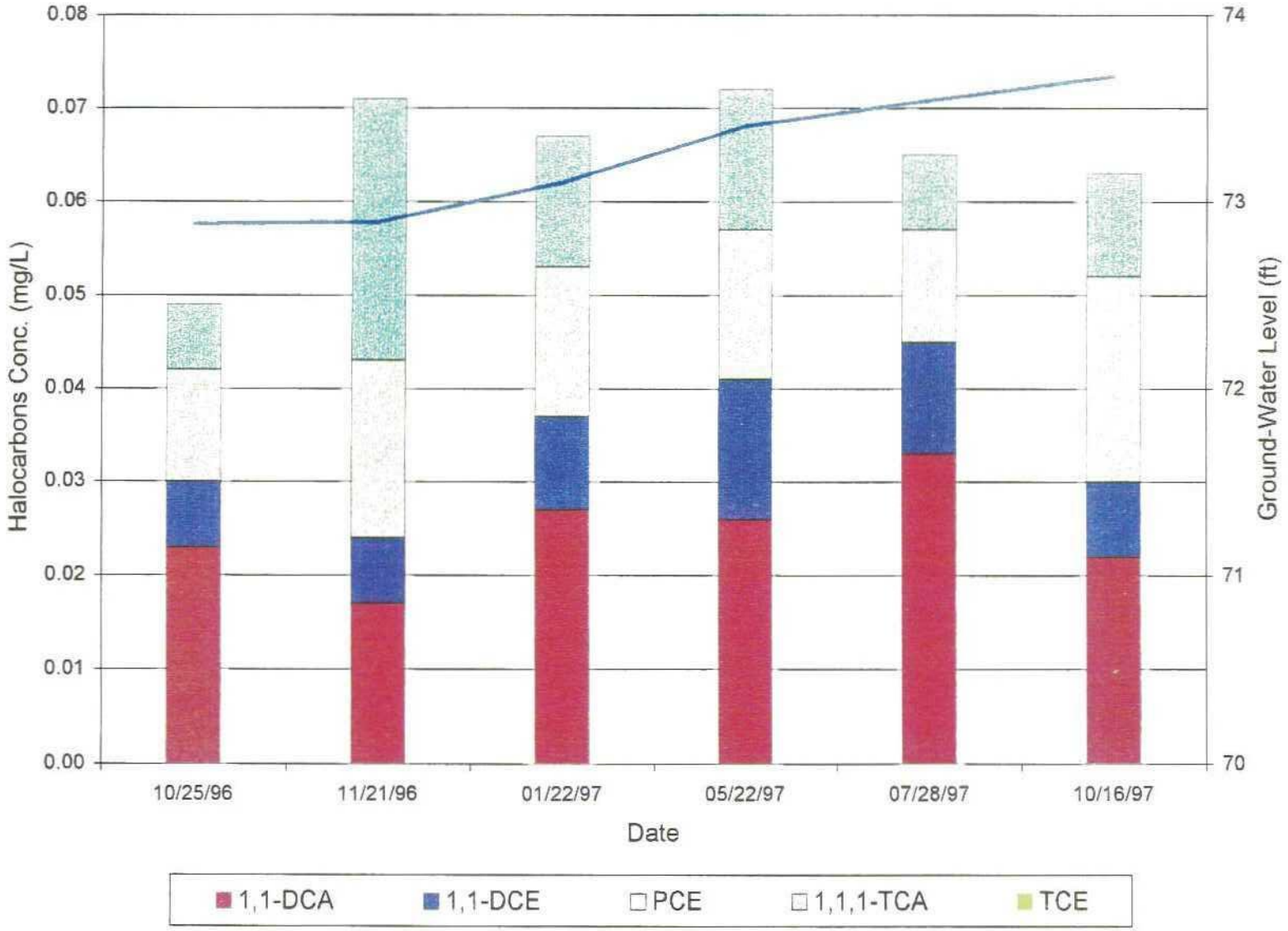
Engineering Environmental Mining Water Resources

# Monitoring Well MW-1
## Halocarbons & Ground-Water Level
(Abondoned 5/22/97)

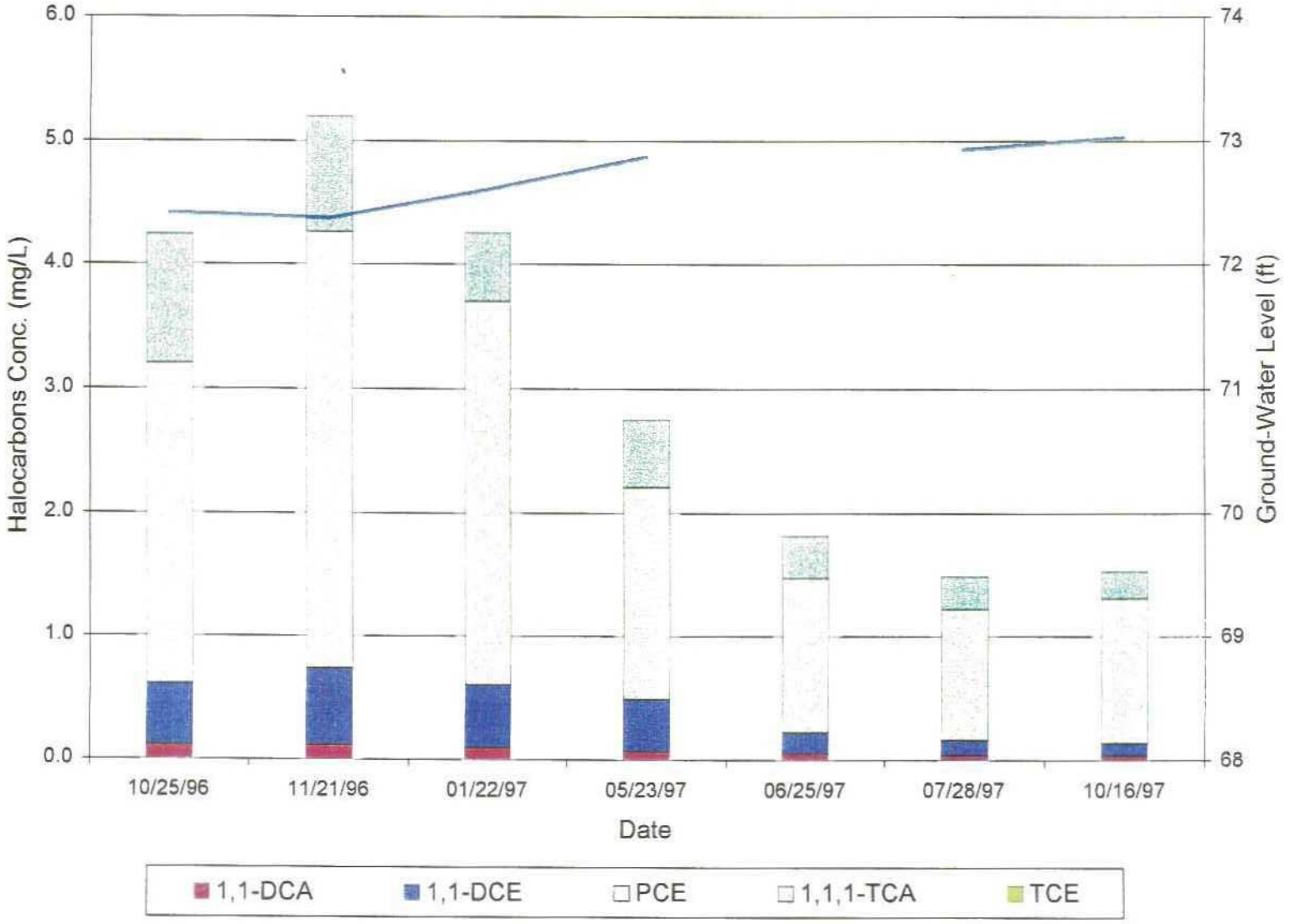



Monitoring Well MW-2
Halocarbons & Ground-Water Level
Halocarbons Conc. (mg/L)
Ground-Water Level (ft)
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
71
70
69
68
67
66
10/25/96
11/21/96
01/22/97
05/23/97
06/25/97
07/28/97
10/16/97
Date
1,1-DCA
1,1-DCE
PCE
1,1,1-TCA
TCE

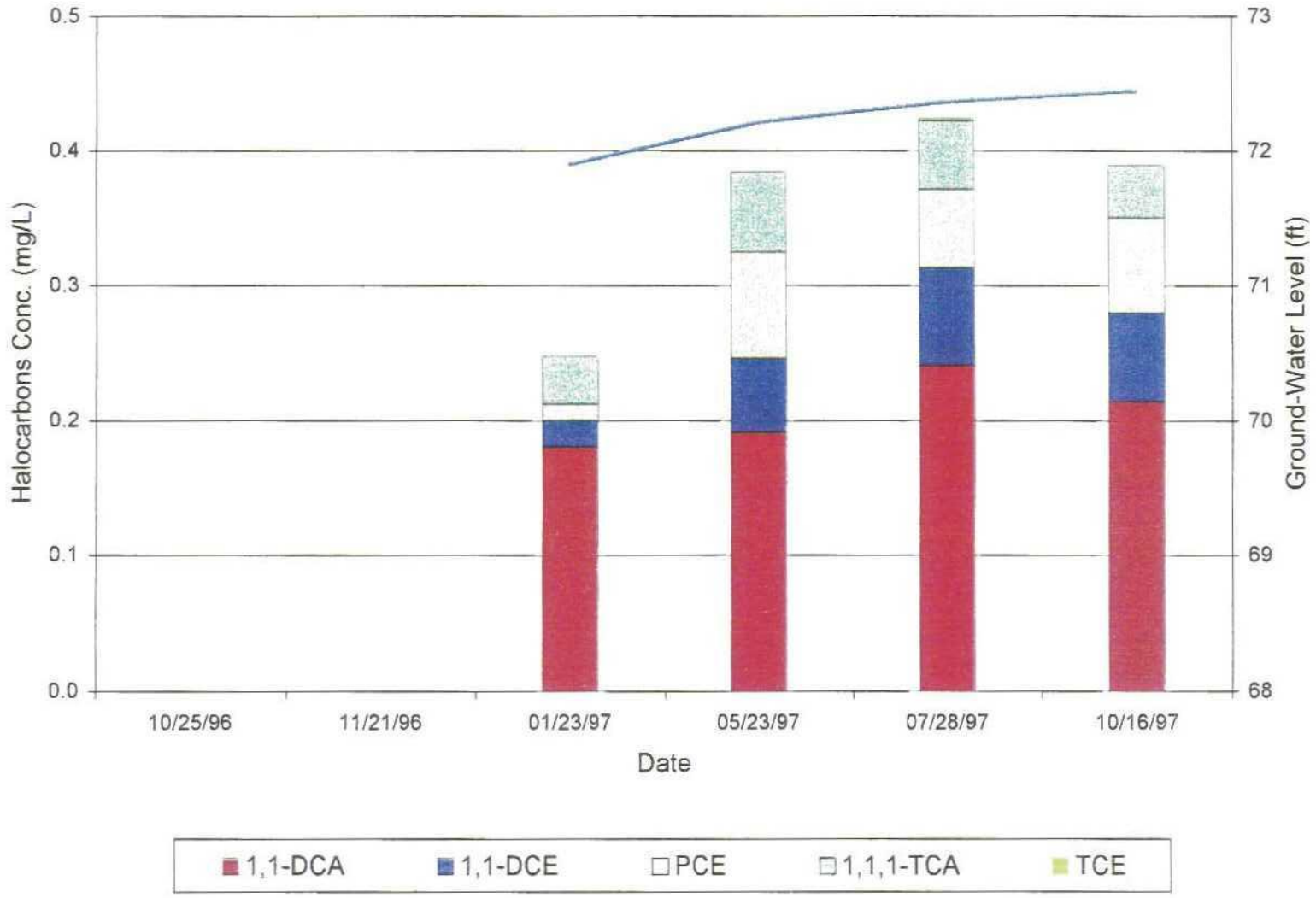
# Monitoring Well MW-3
## Halocarbons & Ground-Water Level



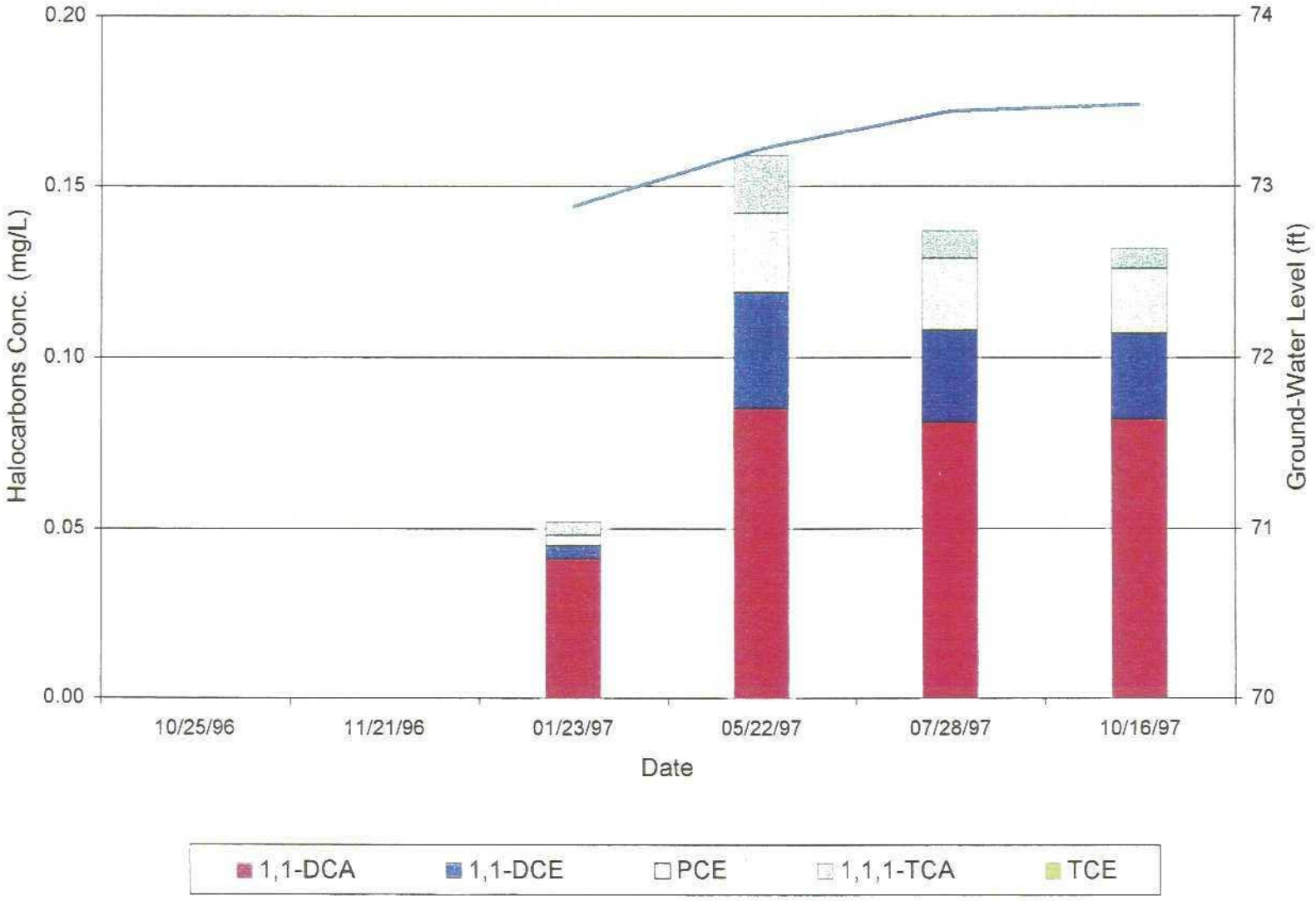
# Monitoring Well MW-4
## Halocarbons & Ground-Water Level

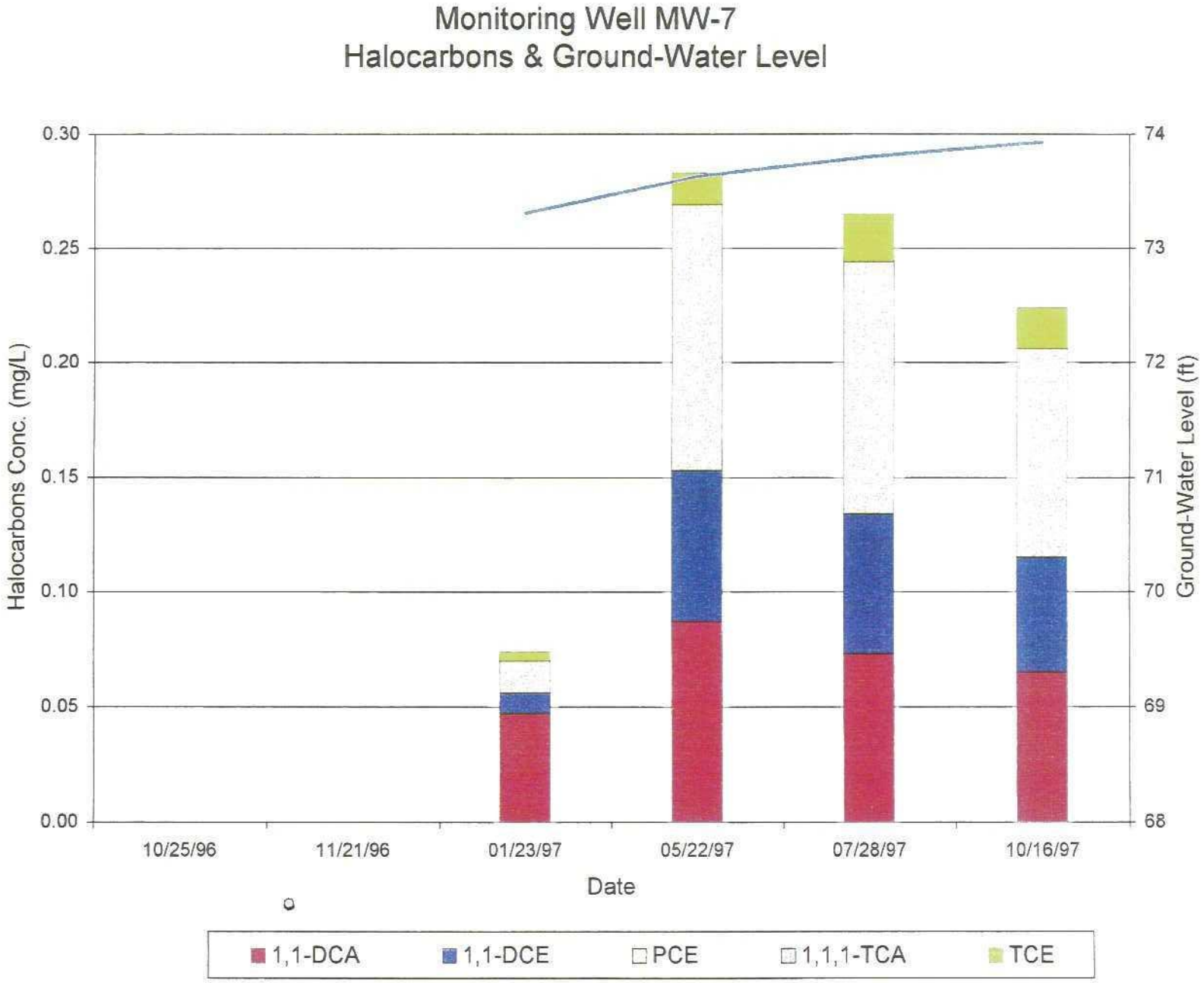


# Monitoring Well MW-5
## Halocarbons & Ground-Water Level

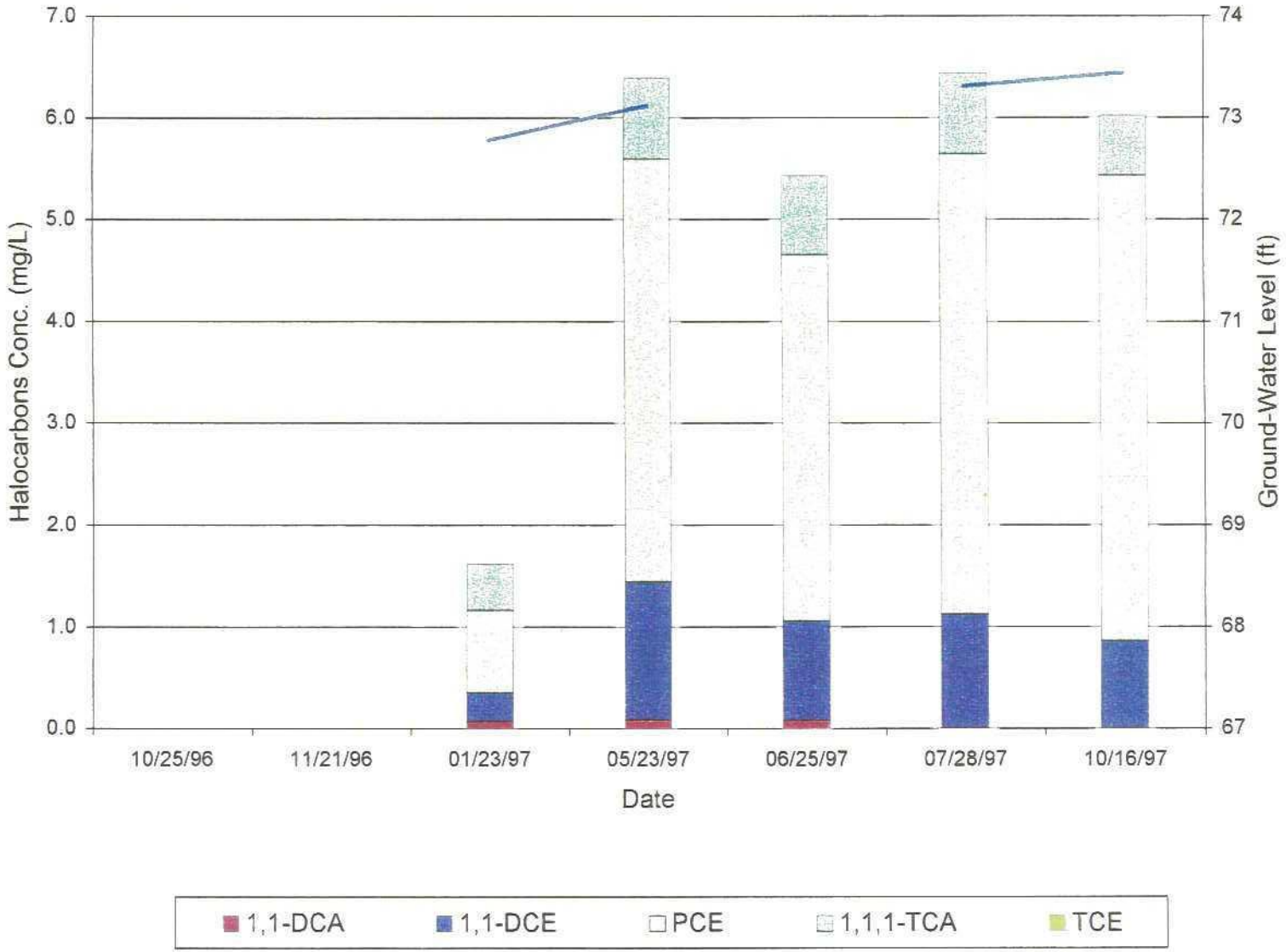


# Monitoring Well MW-6
## Halocarbons & Ground-Water Level

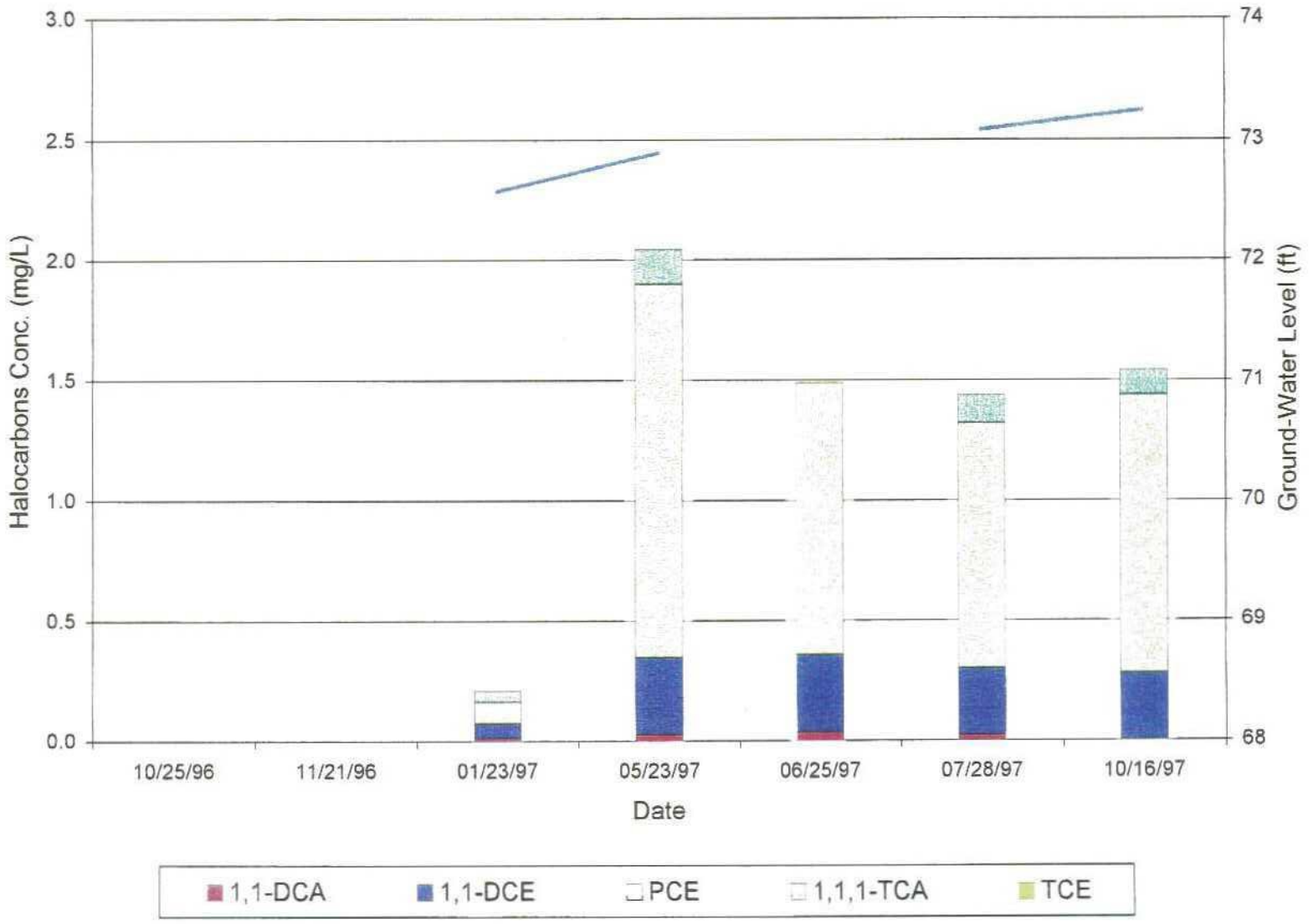



Monitoring Well MW-7
Halocarbons & Ground-Water Level
Halocarbons Conc. (mg/L)
Ground-Water Level (ft)
0.30
0.25
0.20
0.15
0.10
0.05
0.00
74
73
72
71
70
69
68
10/25/96
11/21/96
01/23/97
05/22/97
07/28/97
10/16/97
Date
1,1-DCA
1,1-DCE
PCE
1,1,1-TCA
TCE

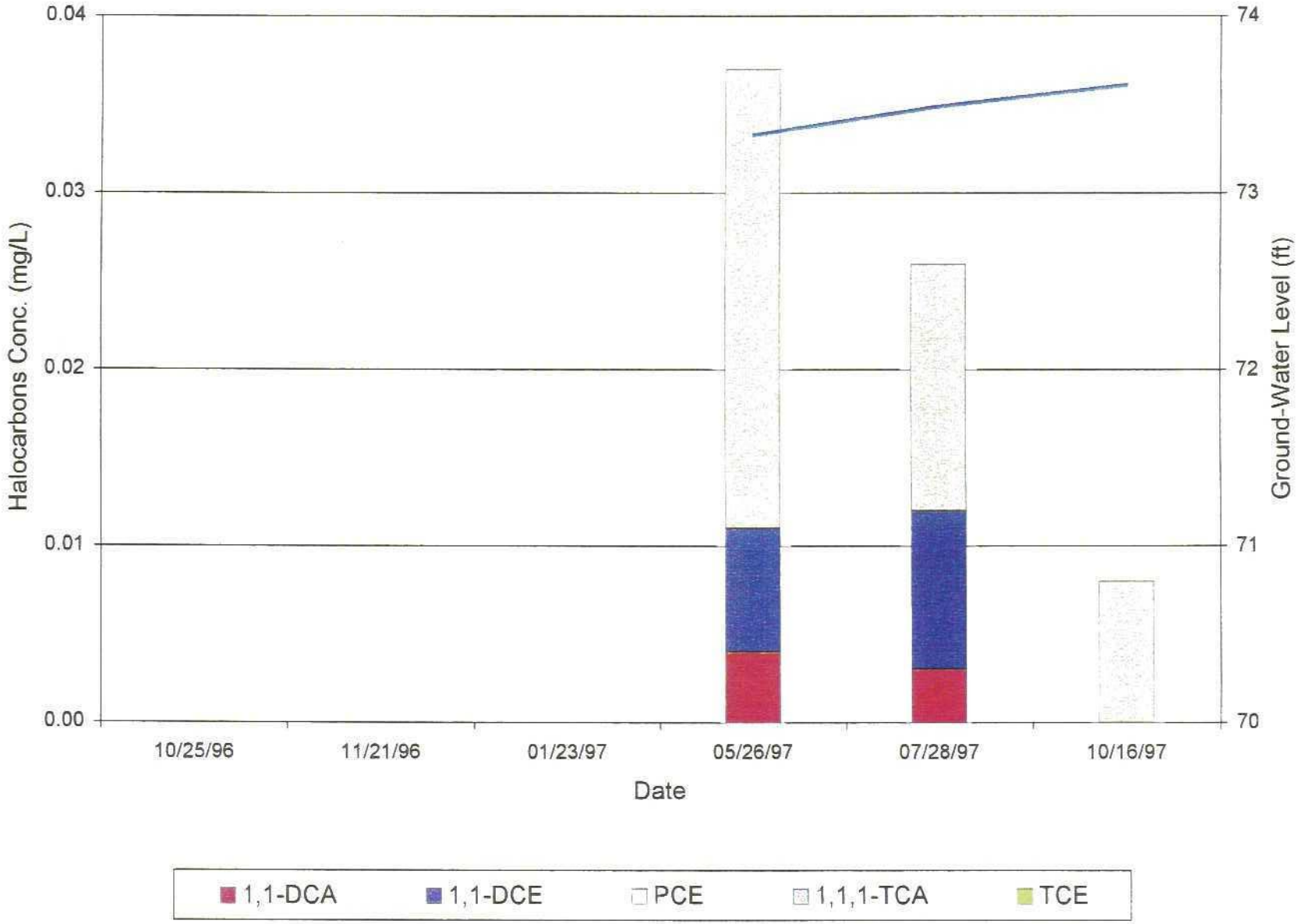
# Monitoring Well MW-8
## Halocarbons & Ground-Water Level



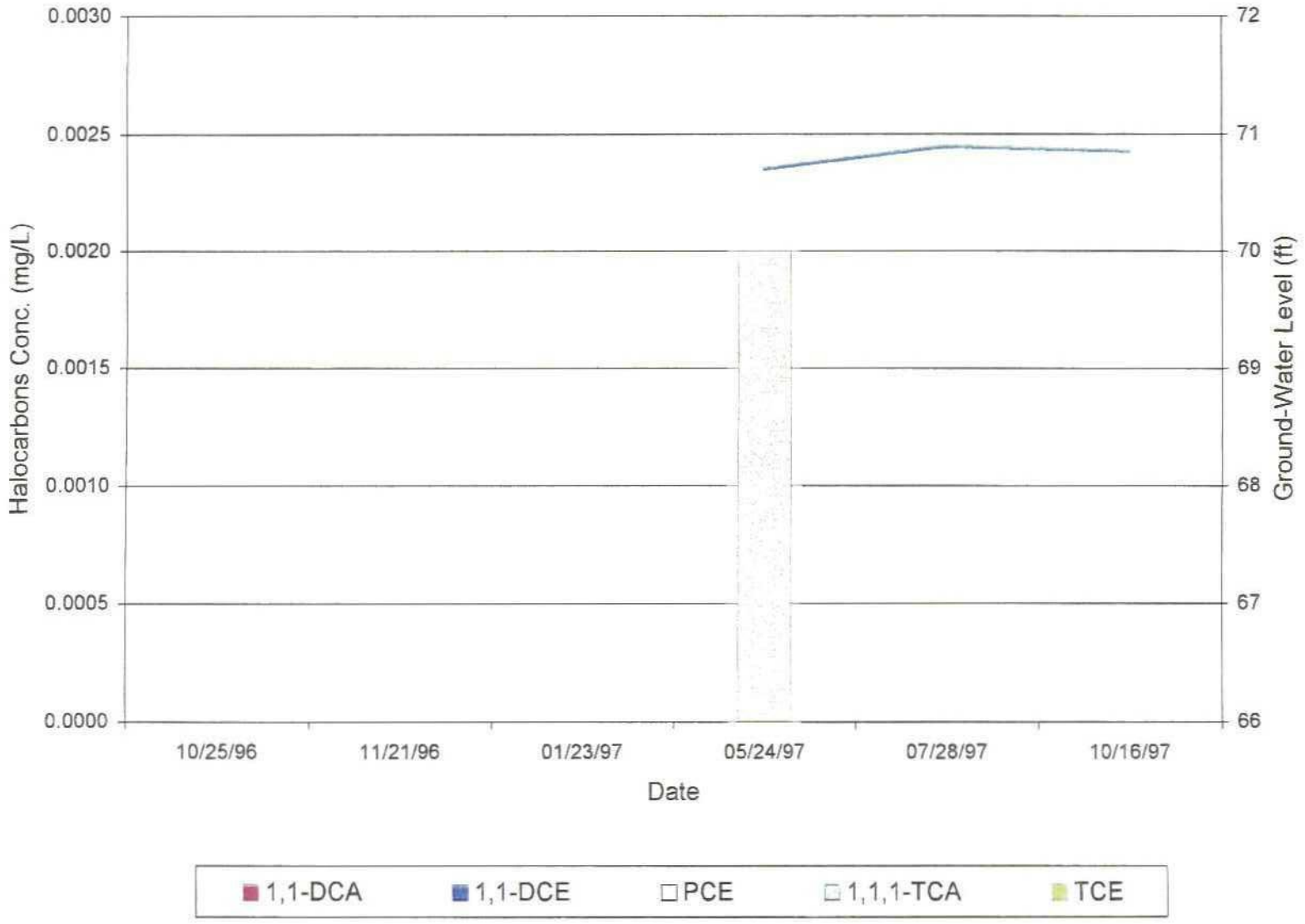
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## Halocarbons & Ground-Water Level

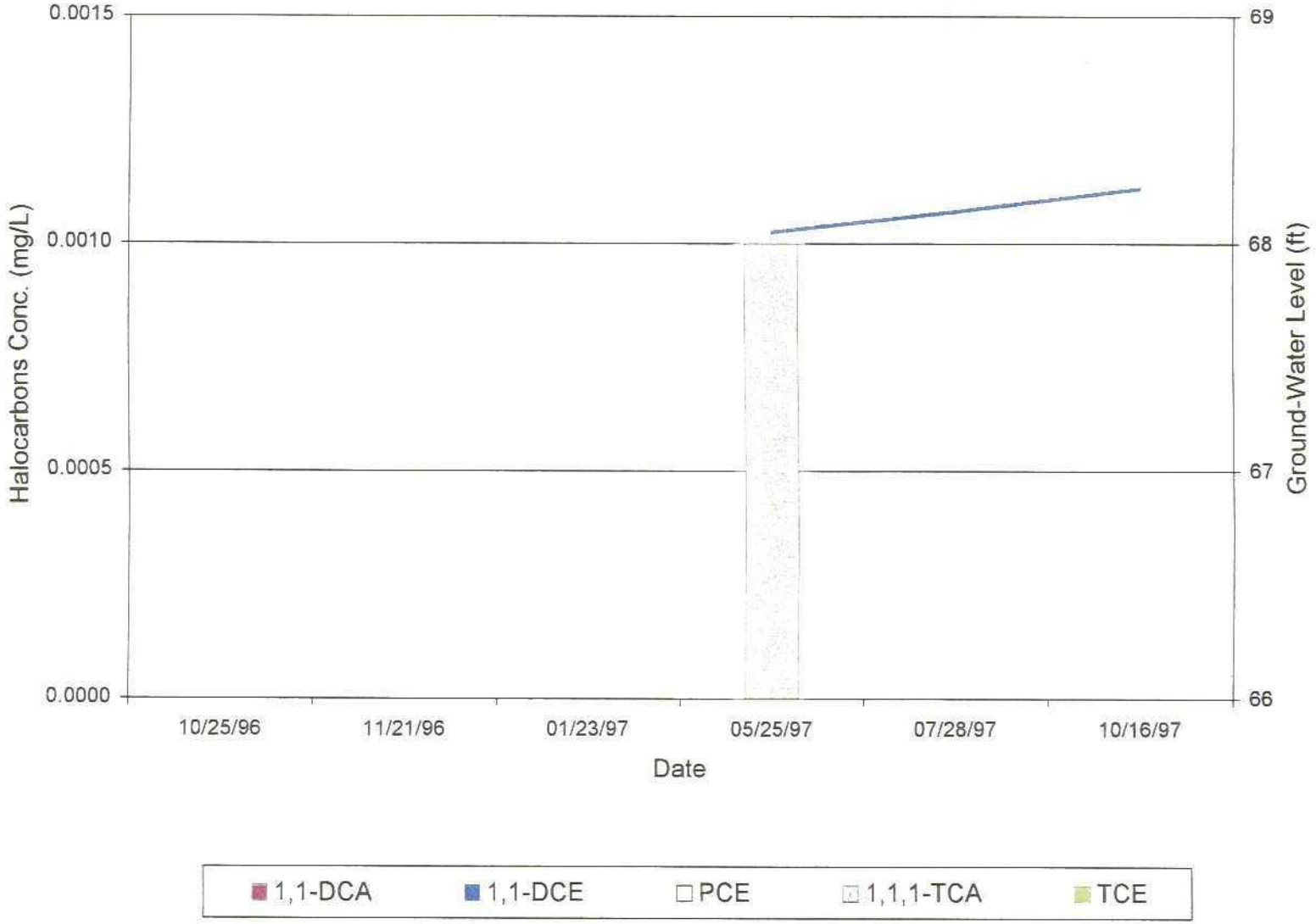


# Monitoring Well MW-10
## Halocarbons & Ground-Water Level

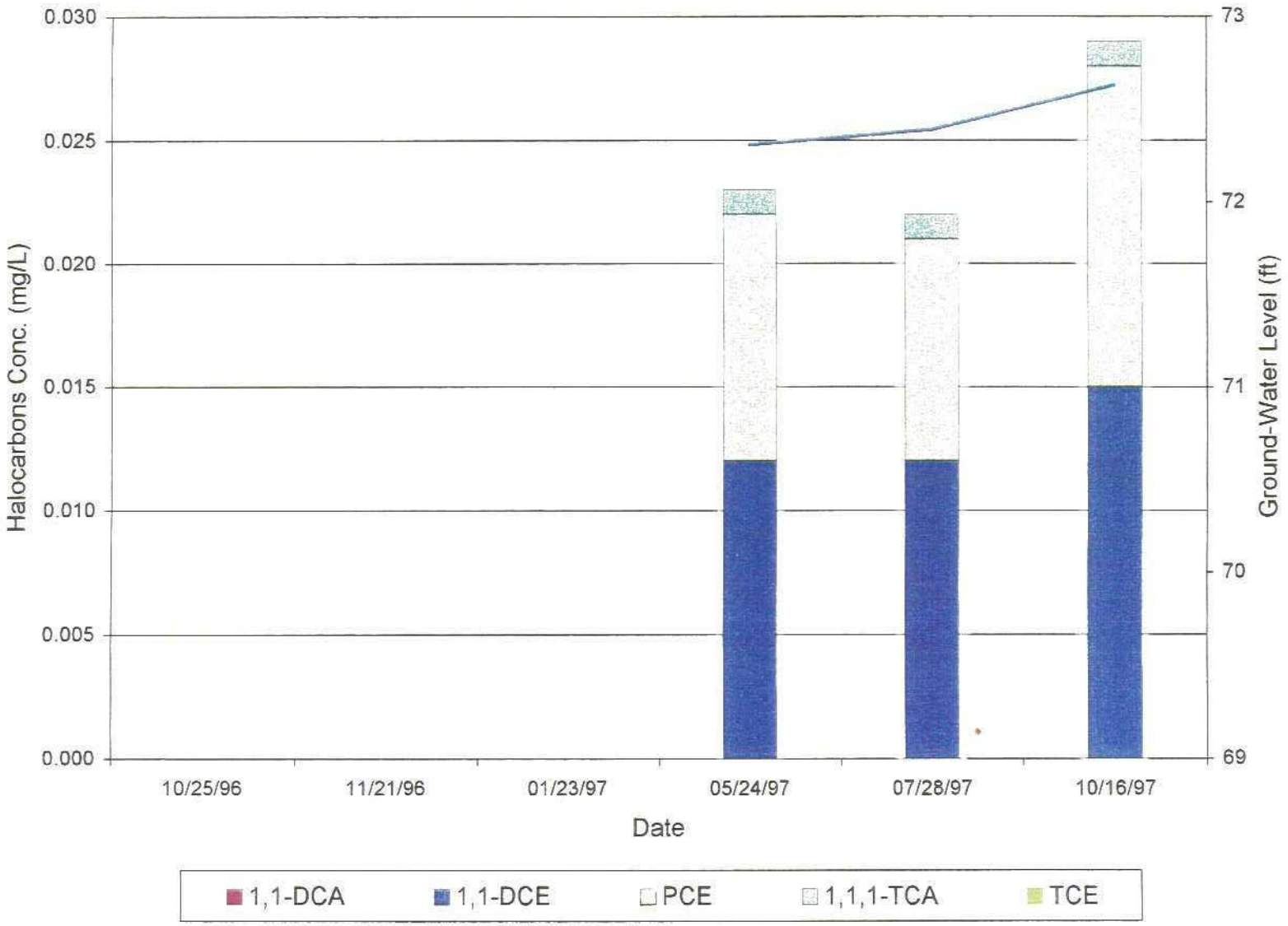


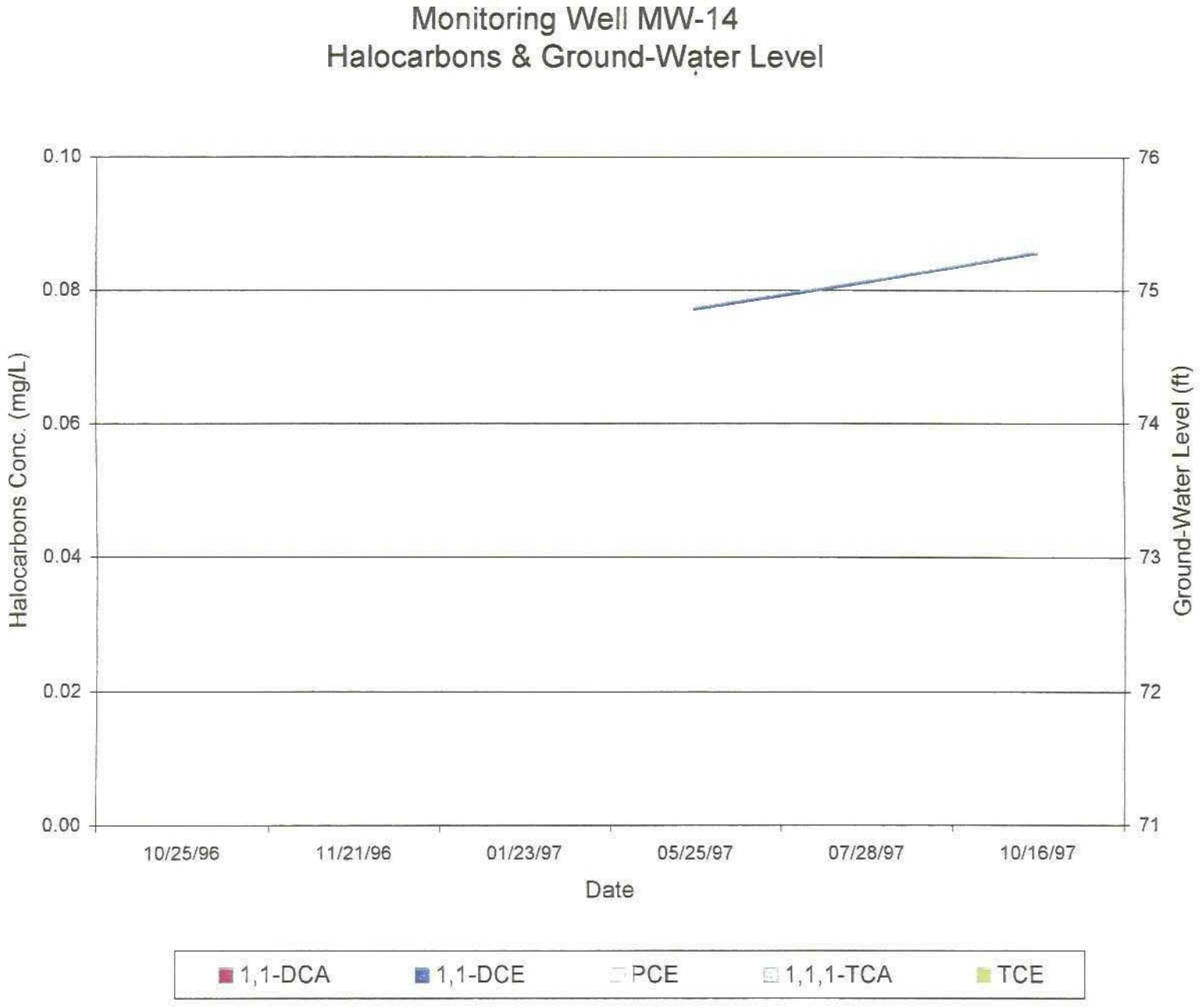
# Monitoring Well MW-11
## Halocarbons & Ground-Water Level




Monitoring Well MW-12
Halocarbons & Ground-Water Level
Halocarbons Conc. (mg/L)
0.0015
0.0010
0.0005
0.0000
Ground-Water Level (ft)
69
68
67
66
10/25/96
11/21/96
01/23/97
05/25/97
07/28/97
10/16/97
Date
1,1-DCA
1,1-DCE
PCE
1,1,1-TCA
TCE

# Monitoring Well MW-13
## Halocarbons & Ground-Water Level

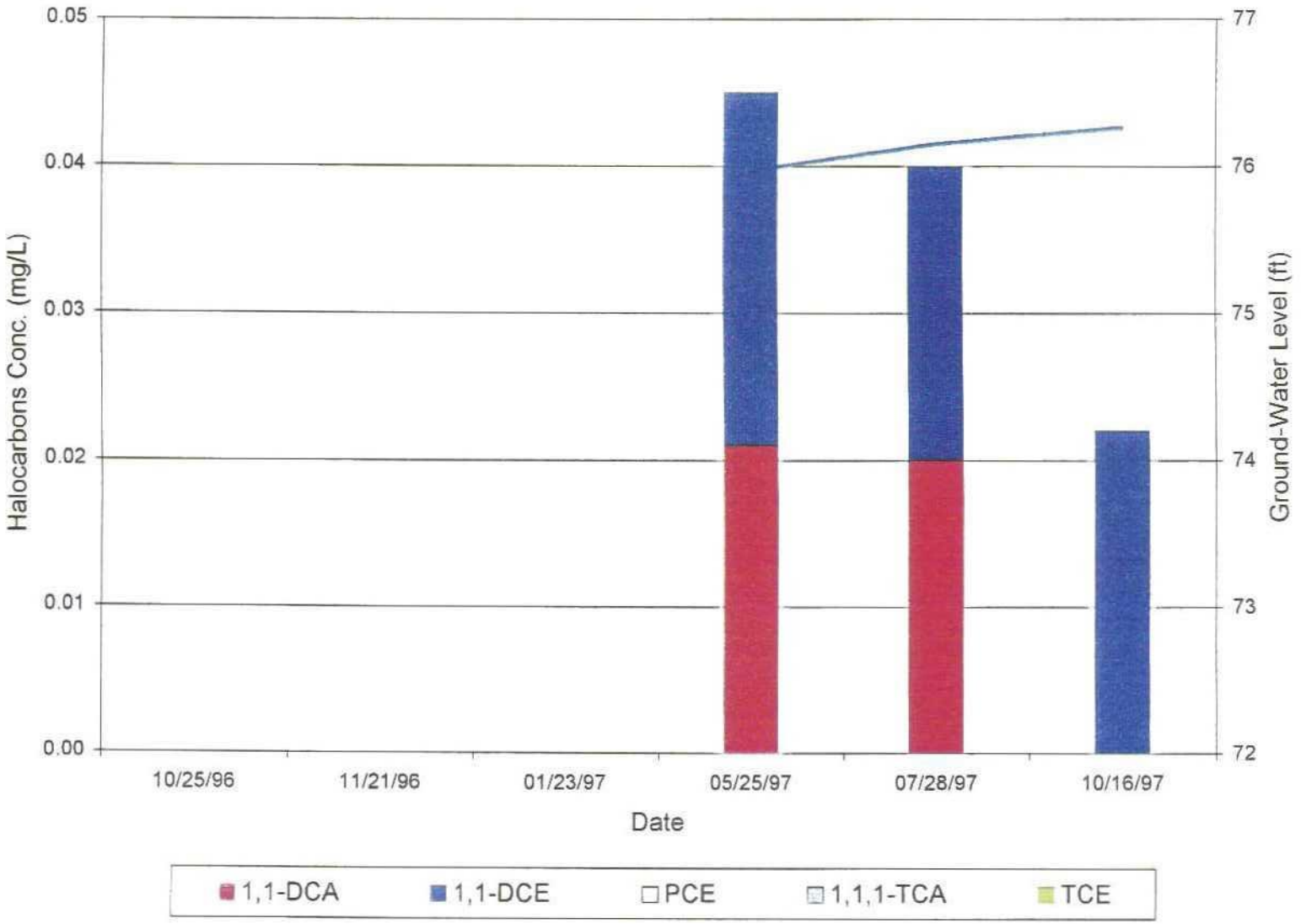


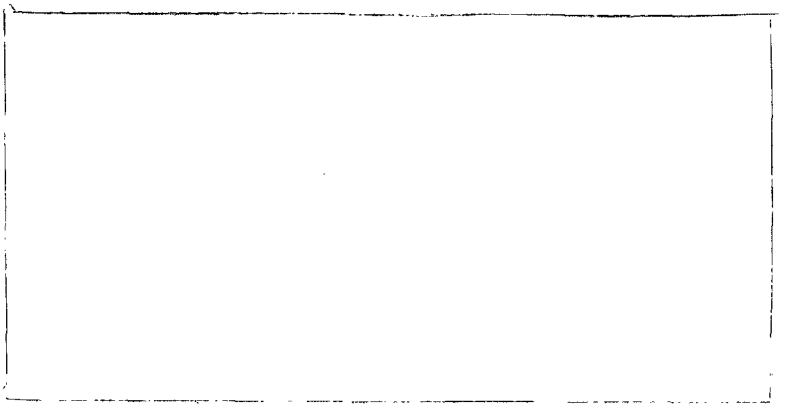

Monitoring Well MW-14
Halocarbons & Ground-Water Level
Halocarbons Conc. (mg/L)
0.10
0.08
0.06
0.04
0.02
0.00
Ground-Water Level (ft)
76
75
74
73
72
71
10/25/96
11/21/96
01/23/97
05/25/97
07/28/97
10/16/97
Date
1,1-DCA
1,1-DCE
PCE
1,1,1-TCA
TCE

# Monitoring Well MW-15
## Halocarbons & Ground-Water Level



# Shell Station Monitoring Well MW-4
## Halocarbons & Ground-Water Level






Western Water Consultants, Inc.

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# AIR-SPARGING PILOT TEST REPORT FOR DOWELL, A DIVISION OF SCHLUMBERGER TECHNOLOGY CORPORATION FACILITY IN HOBBS, NEW MEXICO

**June 24, 1998**

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# *1.0 INSTALLATION*

# 1.0 INTRODUCTION

This report documents the installation and results to date of an air-sparging (AS) pilot test performed at the Dowell, a division of Schlumberger Technology Corporation facility in Hobbs, New Mexico (Figure 1). Six air-sparging wells and three deep soil vapor extraction (SVE) wells were installed by Western Water Consultants, Inc. (WWC) in the former UST Area. Details of the AS and deep SVE well installation were presented in a report to the New Mexico Oil and Conservation Division (NMOCD) entitled "Report for the Second Quarter-water Monitoring Event and Additional Site Investigation at the Dowell, a division of Schlumberger Technology Corporation Facility in Hobbs, New Mexico" dated July 3, 1997.The three deep SVE wells were incorporated into the existing SVE system the week of June 23-26, 1997. Details were provided in a report to the NMOCD entitled "Report Presenting Modifications Made to the Existing Soil Vapor Extraction (SVE) Systems at the Dowell, a division of Schlumberger Technology Corporation Facility in Hobbs, New Mexico".

The AS distribution piping and the blower equipment, consisting of a positive displacement blower assembly and an air cooler unit, were installed during the week of October 13-16, 1997 by WWC in the former underground storage tank (UST) area (Figure 2). Modifications were made to the AS system and repairs were made to the SVE system the following month. The pilot test was initiated during the week of November 17 –21, 1997. The New Mexico Environmental Department of Air Pollution Control Bureau granted these modifications to the existing SVE system in a letter dated May 22, 1997.

# *2.0 AIR-SPARGING REMEDIATION SYSTEM INSTALLATION*

## 2.0 AIR-SPARGING REMEDIATION SYSTEM INSTALLATION

### 2.1 Air-sparging Wells

The six air-sparging wells, AS-1 through AS-6, were drilled and installed May 24-25, 1997 at the locations shown on Figures 1 and 2. The wells were drilled with a 6.125-inch OD bit by an air rotary rig to a depth of approximately 85 feet. The depth to the static water level in the six wells is approximately 72.5 to 73 feet. One-inch, flush-joint, schedule 40, PVC casing was installed with one-foot of factory slotted 0.020-inch screen at the bottom of the casing. An 8/16 mesh silica sand filter pack approximately four-foot deep was installed at the bottom of each well. Bentonite seals approximately eight-foot long were placed on top of the filter packs.

### 2.2 Air-sparging System Design Parameters

The existing SVE system is housed in a prefabricated building surrounded by a chain link fence and is large enough to accommodate a blower assembly for an air supply system (Figure 2). The electrical panel excess capacity at this building was capable of supplying a maximum standard electric motor of 10 horsepower. This value was used as the limiting drive horsepower.

The EPA in their "Guide for Corrective Action" 1994 suggests the air-sparging flow rate should be somewhere between 20 and 80 percent of the SVE flow rate and the flow rate per individual air-sparging well should be 3 to 25 SCFM. (Chapter VII, Page 18) The SVE flow rate in this system is approximately 195 SCFM taken from the blower performance curve. The 20 and 80 percent values of 195 SCFM are 39 and 156 SCFM respectively. Dividing by the 6 air-sparging wells gives 6.5 and 26 SCFM per well for the range of suggested values.

The air-sparging pressure is a function of the pressure head needed to displace the water column in the air-sparging well, pressure head needed to overcome the capillary fringe at the water table surface, the friction loss in the distribution piping and the friction loss in the formation. The loss in the formation is the least known factor, depending on the pore size and spacing of the formation, and is one of the parameters to be more precisely determined from the air-sparging pilot test. However, as the cross sectional area of the formation increases at least linearly with the distance from the well, and the basic formation is sand, this factor was assumed to decrease rapidly away from the well casing. The screened portion of the well has at least twice as much open area as the cross sectional area of 1-inch well casing, and the filter pack,

being well graded sand has an even greater open area next to the casing. The interface area between the filter pack and the formation is greater than 900 square inches, so with an assumed porosity of 18% for the formation (Comprehensive Site Assessment, Hobbs City Wells UST Site, Daniel B. Stephens & Associates, 1994), an open area of more than 150 square inches is expected. From these values the friction loss into the formation was assumed to be relatively low. At a flow rate of 25 SCFM per well the four factors were estimated to be:

| | | |
|---|---|---|
| Water column in well | 13 ft | 5.6 psig |
| Capillary fringe pressure | 4 ft | 1.6 psig |
| Distribution piping friction loss | 3 ft | 1.4 psig (worst case) |
| Friction loss in formation | 3 ft | 1.5 psig |
| Totals | 26 ft | 10.1 psig |

The estimated pressure for the proposed pilot air-sparging system mandated the use of a positive displacement compressor. Cost and efficiency considerations further limited the choices to sliding vane compressors or rotary lobe blowers. Neither of these choices was ideal for this application. A single sliding vane compressor cannot supply the high end of the specified volume range, and a rotary lobe blower will be operating near the maximum allowable pressure and cannot supply the low end of the specified volume range. The sliding vane compressor also had an unacceptably long delivery time. A Roots rotary positive blower was selected, but the assembly was designed for only 102 SCFM at 11 psig to allow for some pressure variability and to remain within the allowable 10 horsepower size. A prepackaged unit with inlet and outlet silencers, an inlet filter, a discharge pressure gauge and a pressure relief valve set to 10 psig was ordered.

The discharge temperature rise from the blower assembly at 102 SCFM and 11-psig differential pressure is 209 degrees Fahrenheit. Under most operating conditions this discharge temperature will be too high for either PVC or CPVC piping. A cooler with sufficient capacity to drop the discharge temperature by approximately 150 degrees Fahrenheit was added.

A diagram of the installed AS system is shown in Figure 3.

## 2.3 System Installation

The manifold piping, blower assembly and cooler unit were installed and started up by Western Water Consultants, Inc. personnel during the week of October 13 – 17, 1997.

### 2.3.1 Manifold Piping

The air-supply piping loop for the air-sparging wells, shown in Figure 2 in plan view, was buried to a depth of 8 to 18 inches to protect the line from damage. The routing, a daisy-chain with AS-3 and AS-6 as the ends of the chain, was selected to avoid an office trailer on the site near SVE well 3-6 and to minimize the necessity of cutting asphalt paving. Except for a short section of 3-inch schedule 40 PVC line between the main air-supply line and AS-4, the air-supply piping loop is 2-inch schedule 40 PVC. The main air supply line is 3-inch schedule 40 PVC up to the 2½-inch flexible hose connection to the air cooler unit.

The air supply loop was sloped so that condensation from the air supply system will drain to the wells. The individual wells are connected to the loop through full-bore access, right angle, and valves. The valves were installed so that airflow to the individual wells could be regulated yet instrumentation can still be introduced into the well bores.

### 2.3.2 Air Supply Unit Installation

The prepackaged Roots rotary positive blower assembly was installed in the prefabricated SVE building. Inspection of the blower revealed incorrect belt pulley sizing. A replacement sheave was procured and installed to achieve the specified speed ratio. The cooler unit was placed outside the building, but within the chain link fence. An electrical box with motor starters for the blower assembly and the cooler fan was mounted next to the existing electrical distribution panel. The electrical controls for the system included a cycle timer so the air-sparging compressor could be surged if so desired, and an interlock with the SVE blower so that the air-sparging system will not operate unless the SVE blower is running. A flexible hose was installed between the blower assembly and the cooler unit.

## 2.4 System Startup

When the system was started, the discharge pressure increased until the relief valve opened. The system was immediately shut down and a bypass ball valve was installed to bleed off discharge air during startup. The system was again started with the bypass valve open. The bypass valve was then slowly closed until the relief valve was just ready to open. The system was allowed to operate and the bypass valve was periodically adjusted. After 4 hours of operation, the bypass valve could not be fully closed without the relief valve opening. The relief valve was adjusted to about 11.5 psig, but the bypass valve could still not be fully closed. The relief valve was briefly held closed manually and the discharge pressure stabilized at 14 psig.

The SVE system was experiencing frequent shutdowns by the overload circuit of the magnetic starter. Voltage and current measurements for the unit indicated high voltage and current draw on one leg. The SVE blower was removed and sent to the supplier for testing. The air-sparging system was not operated while the SVE blower was being tested.

The SVE blower was reinstalled and modifications were made to the air-sparging blower during the week of November 17 – 21, 1997. A check valve was added to the discharge piping of the blower assembly to prevent back flow from the air-sparging wells. Discharge piping and a muffler were added to the bypass valve to allow continuous operation of the bypass. The SVE system and the air-sparging system were restarted, and the bypass valve was adjusted to maintain about 11-psig pressure at the discharge of the air-sparging blower. The system has been operated to date in this manner.

# *3.0 AIR QUALITY MONITORING*

## 3.0 AIR QUALITY MONITORING

Two composite samples have been collected from the UST SVE system since the air sparge system was brought on line. Samples were collected from a port in the exhaust stack using tedlar bags and submitted for laboratory analysis by EPA Method 8260 for volatile organics. In addition, an air sample was collected from each of the 3 deep SVE wells after they were connected to the existing SVE system. Results of the air quality sampling are presented along with historical air quality data as Table 1. Laboratory data sheets are presented as Appendix A.

# *4.0 DATA EVALUATION AND CONCLUSIONS*

## 4.0 DATA EVALUATION AND CONCLUSIONS

Two air samples were collected (January 6, 1998 and April 28, 1998) since the SVE extraction system was changed from an IC engine system to the present electric motor driven blower and the AS pilot system was placed in operation. As shown on Table 1, BTEX was absent in both samples and total halocarbon concentrations ranged from 110-120 $mg/m^3$. The concentrations and analytes detected are consistent with the historical SVE data which has shown a gradual overall decline in concentrations. With air quality results from these two samples supporting the decline in concentrations, a firm conclusion about the effectiveness of the AS system cannot be made.

The current removal rate for the SVE system at an average concentration of 115 $mg/m^3$ is about 38 grams per hour. About 170 pounds of halocarbons were removed by the SVE system prior to the AS system startup. An additional 300 pounds have been removed since the AS system was started on November 17, 1997.

The steady decline of halocarbons in the ground water at MW-4 (Table 2) indicates the SVE system has been effective (Figure 4). Large concentrations of hydrocarbons were removed by the three deep SVE wells when they were first installed in June 1997 (Table 1). Improvements in the groundwater quality at MW-4 may also be attributable to the increased removal from these wells. A longer time frame will be necessary to more fully evaluate the AS system's effect on the rate of contaminant removal from the ground-water.

Dowell is recommending the AS pilot test be continued to better establish contaminant concentration trends in both the ground water and discharge air from the SVE system.

# *FIGURES*

K:\172040\93-007L\CADD\98\NWB\AS98.DWG 06/10/98 16:13

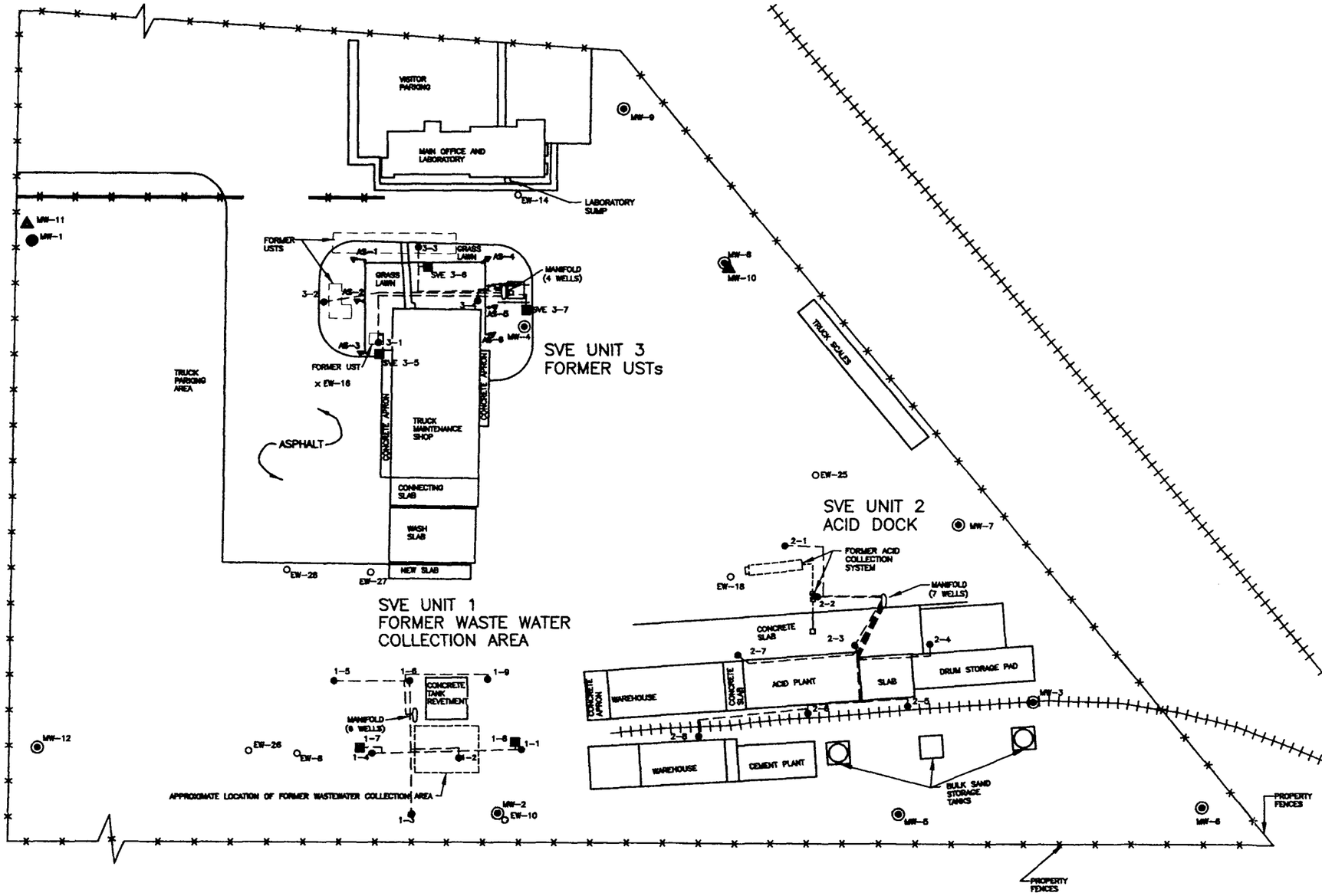



*FIGURE 1*

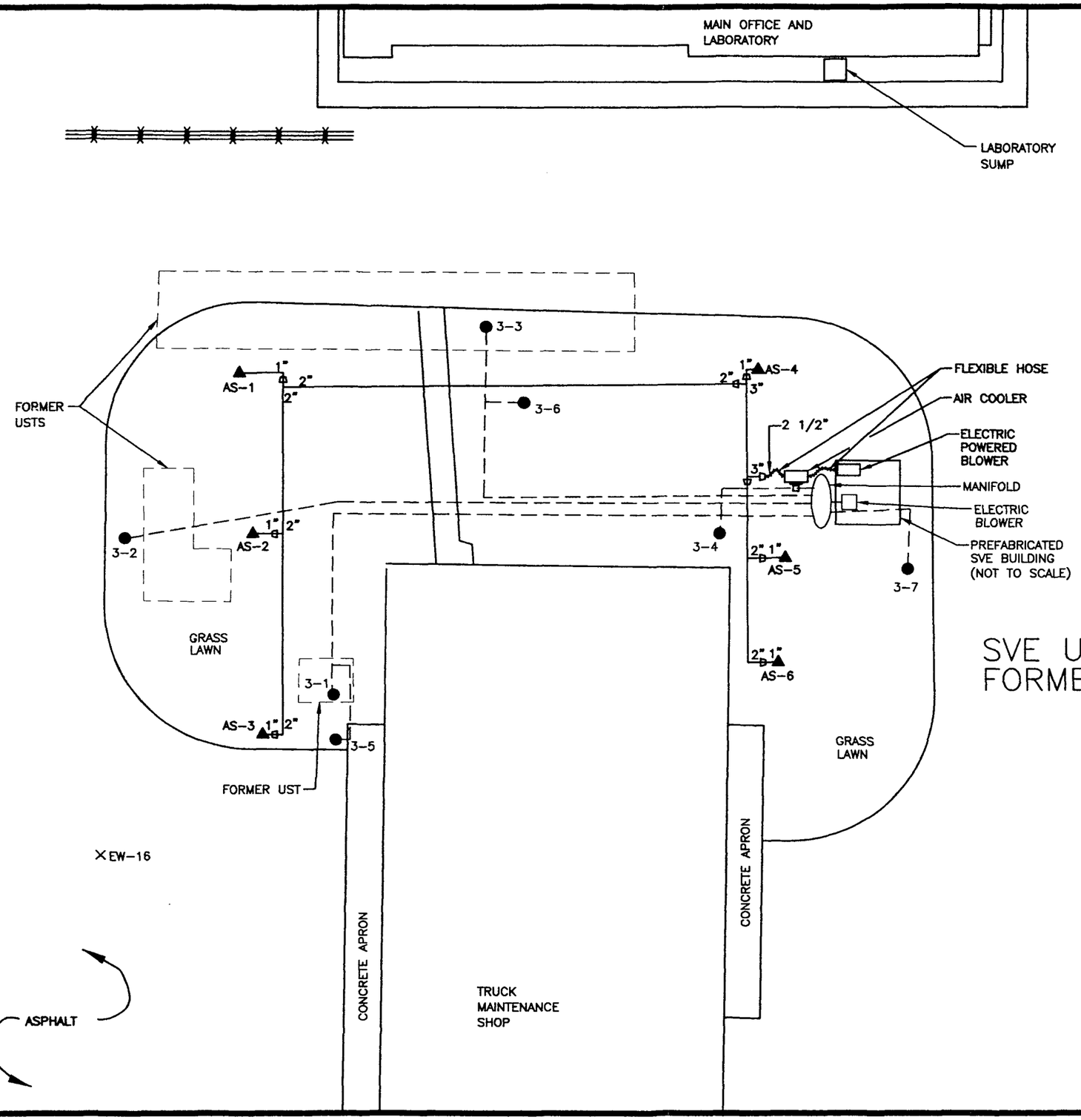
SITE MAP AND
LOCATION OF MONITORING AND
REMEDIATION WELLS

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

Western Water Consultants, Inc. WWC Engineering

Engineering Environmental Mining Water Resources

K:\172040\93-007L\CADD\98\3SVE.DWG 06/10/98 15:09




0 20 FT.
SCALE

# SVE UNIT 3 FORMER USTs

**EXPLANATION**

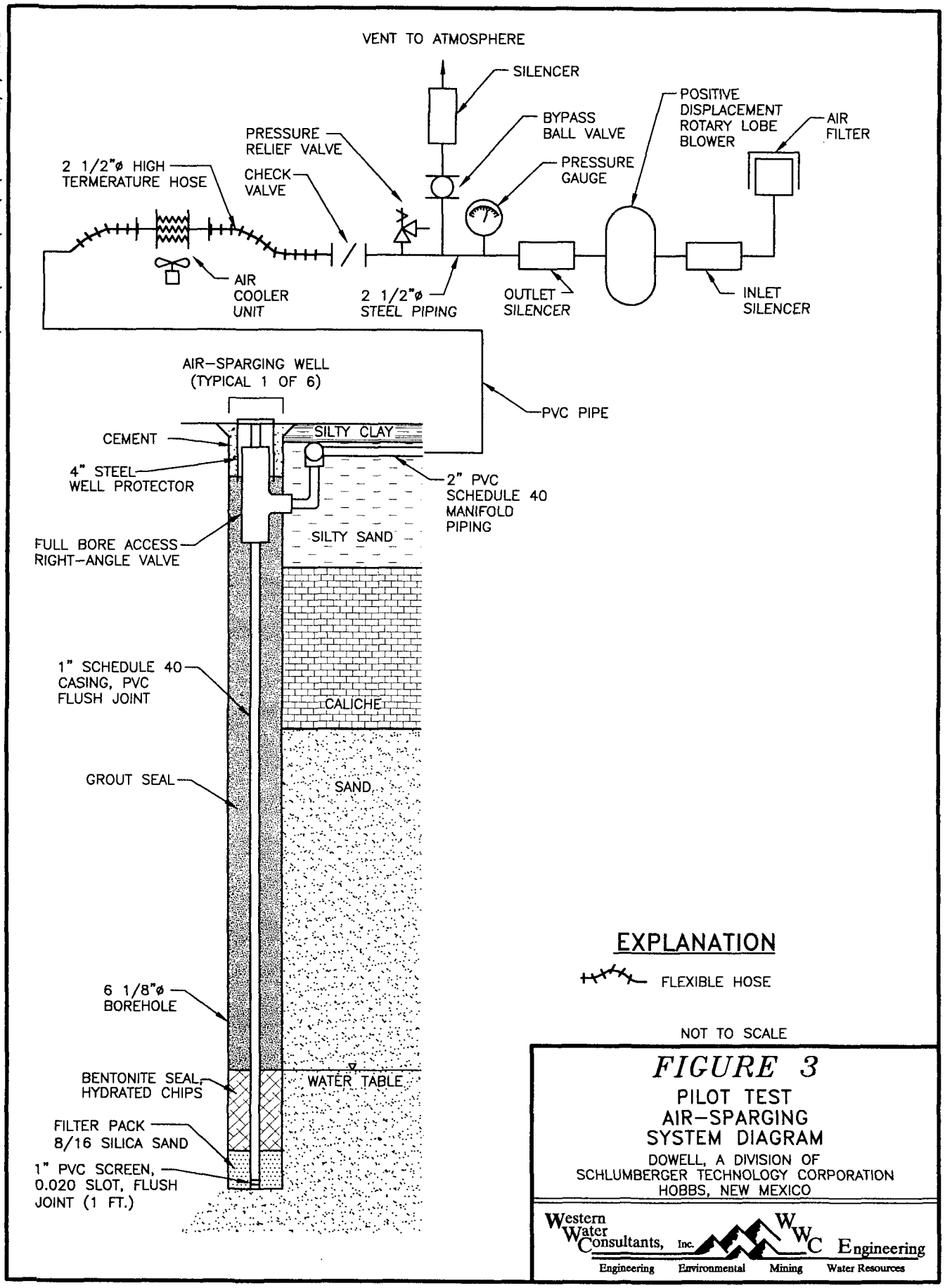
- ● COMPLETED AS SVE WELL
- 2" PVC AIR SPARGING PIPING
- — — 2" PVC SVE PIPING
- × TO BE RECONSTRUCTED AS AN ADDITIONAL SVE WELL
- ▲ AIR SPARGING WELL
- 1" 2" PIPE REDUCER

## *FIGURE 2*

SITE MAP
UNIT 3 AIR SPARGING SYSTEM
PIPING PLAN
DOWELL, A DIVISION OF
SCHLUMBERGER TECHNOLOGY CORPORATION
HOBBS, NEW MEXICO

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

K:\172040\93-007L\CADD\98\FIG-2.DWG 06/12/98 09:26




NOT TO SCALE

*FIGURE 3*

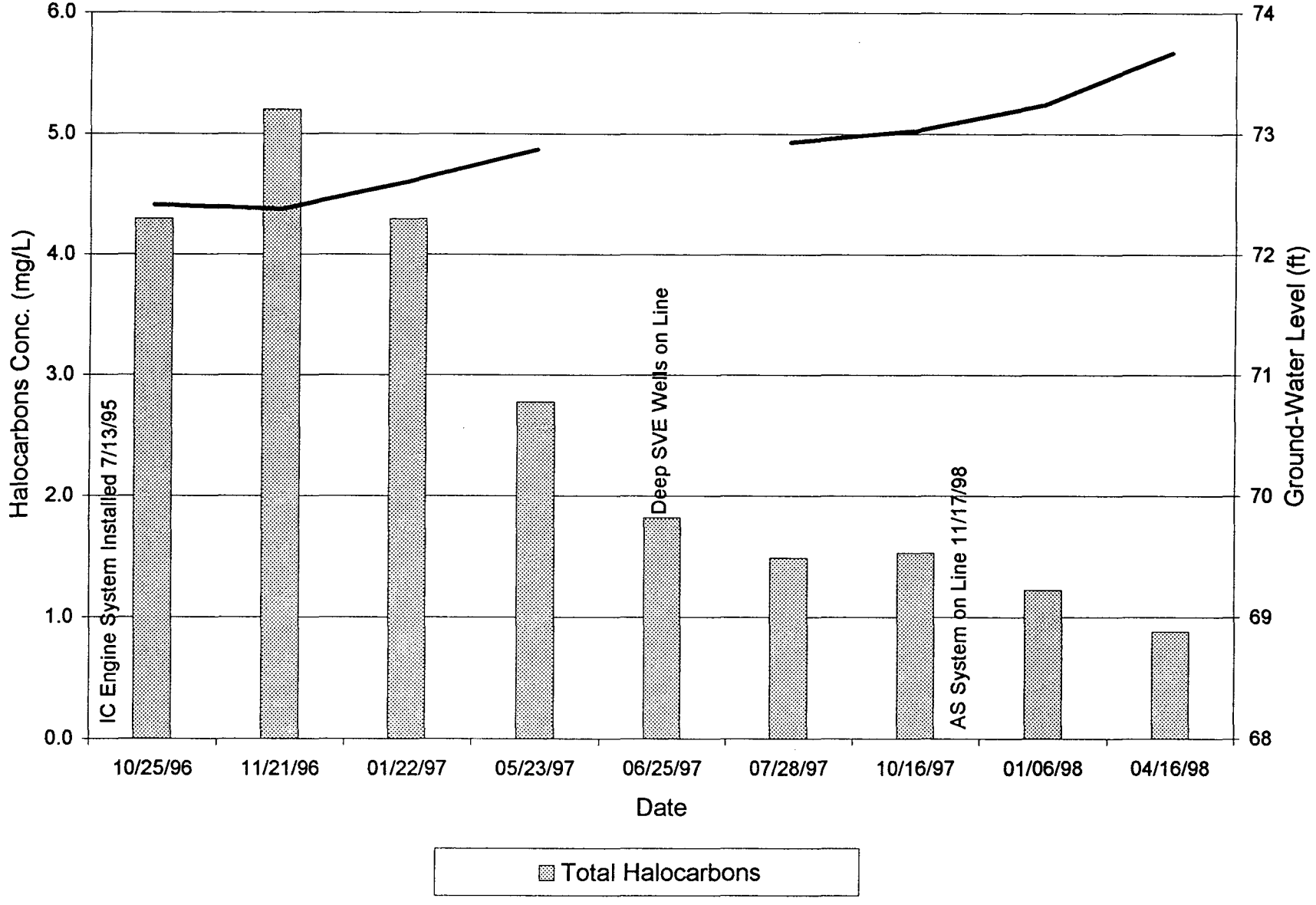
PILOT TEST
AIR-SPARGING
SYSTEM DIAGRAM

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

Western Water Consultants, Inc. WWC Engineering

Engineering Environmental Mining Water Resources

# Figure 4. Monitoring Well MW-4
# Total Halocarbons & Ground-Water Level



# *TABLES*

Table 1. Air quality data for the former UST area, Dowell facility, Hobbs, New Mexico

| Sample I.D. | Date Sampled | Sample Location | Benzene (mg/m3) | Toluene (mg/m3) | Ethyl-Benzene (mg/m3) | Total Xylene (mg/m3) | 1,1-DCE (mg/m3) | 1,1-DCA (mg/m3) | Chloromethane (mg/m3) | 1,1,1-TCA (mg/m3) | Vinyl Chloride (mg/m3) | TCE (mg/m3) | PCE (mg/m3) | Input BTEX (mg/m3) | Output BTEX (mg/m3) | Input Halocarbons (mg/m3) | Output Halocarbons (mg/m3) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **FORMER UST** | | | | | | | | | | | | | | | | | |
| 007-AREA 3 | 11/02/94 | Pilot | 1.2 | 5.7 | 5.5 | | ND(0.1) | ND(0.1) | | ND(0.1) | | | 0.49 | | | | |
| 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) | 2.68 | 870 | 15.84 | | 1379.58 | |
| 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) | 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 | | 58.3 | |
| 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 | 99.4 | 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 |
| 93007TSINPUT.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 | |
| 93007TSEXHST.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-INPUT-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) | 4.66 | ND(0.2) | 2.59 | ND(0.2) | 1.62 | | 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 | |
| **INDIVIDUAL SVE WELLS** | | | | | | | | | | | | | | | | | |
| 93-007.USTDP3.6/97 | 06/25/97 | 3-5 | ND(10.0) | ND(10.0) | ND(10.0) | ND(20.0) | 79.8 | 25.1 | ND(10.0) | 441 | ND(10.0) | ND(10.0) | 871 | 0 | | 1416.9 | |
| 93-007.USTDP2.6/97 | 06/25/97 | 3-6 | ND(10.0) | ND(10.0) | ND(10.0) | ND(20.0) | 120 | 13.2 | ND(10.0) | 114 | ND(10.0) | ND(10.0) | 368 | 0 | | 615.2 | |
| 93-007.USTDP1.6/97 | 06/25/97 | 3-7 | ND(1.0) | ND(1.0) | ND(1.0) | ND(2.0) | 82.8 | 7.31 | ND(1.0) | 60.2 | ND(1.0) | ND(1.0) | 226 | 0 | | 376.31 | |

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

**Table 2.** Chemicals Detected in the Ground-Water at Monitoting Well MW-4, 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-4 | 10/25/96 | 0.110 | 0.051 | 0.498 | 2.590 | 1.040 | 0.005 | 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 |
| duplicate | 11/21/96 | 0.106 | 0.042 | 0.694 | 3.980 | 1.080 | ND(0.02) | ND(0.02) | ND(0.02) | ND(0.02) | ND(0.04) | ND(0.02) | 0.000 | 5.902 |
| | 01/22/97 | 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 | 0.0166J | 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 | 0.0168J | 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 | 0.0146J | 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 | 0.0114J | 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(0.02) | 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 | 0.0060J | 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 |

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

# *APPENDIX A*

## *Air Quality Laboratory Data Reports*

**ENERGY LABORATORIES, INC.**
SHIPPING: 2393 SALT CREEK HIGHWAY • CASPER, WY 82601
MAILING: P.O. BOX 3258 • CASPER, WY 82602
E-mail: energy@trib.com • FAX: (307) 234 - 1639 • PHONE: (307) 235 - 0515 • TOLL FREE: (888) 235 - 0515

# EPA METHOD 8260

Client: **Western Water Consultants**
Sample ID: 93-007.USTCOMP. 6/97
Laboratory ID: C97-35215
Matrix: Air
Dilution Factor: 1

Former UST Area

Date Sampled: 06/25/97
Date Received: 06/26/97
Date Analyzed: 06/26/97
Date Reported: July 4, 1997

| 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** | **68.2** | 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** | **10.5** | 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)** | **2.03** | 1.0 |
| 594-20-7 | 2,2 - Dichloropropane | ND | 1.0 |
| **71-55-6** | **1,1,1 - Trichloroethane** | **125** | 1.0 |
| **107-06-2** | **1,2 - Dichloroethane** | **1.54** | 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** | **1.11** | 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** | **1.44** | 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** | **335** | 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: 93-007.USTCOMP. 6/97
Laboratory ID: C97-35215

Former UST Area

Date Sampled: 06/25/97
Date Analyzed: 06/26/97
Date Reported: July 4, 1997

| 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 | 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 | 1460733 | 1334266 | 109% | 50 - 200 % |
| Fluorobenzene | 2930688 | 2713933 | 108% | 50 - 200 % |
| 1,4 - Difluorobenzene | 2388702 | 2179375 | 110% | 50 - 200 % |
| Chlorobenzene - d5 | 1707256 | 1568157 | 109% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 816804 | 718198 | 114% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.89 | 98.9% | 86 - 118 % |
| Toluene - d8 | 10.1 | 101% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.93 | 99.3% | 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

Report File:F:\REPORTS\CLIENTS.97\WEST_WAT.ER\ORGANIC.CAS\35215.xls

Analyst: yw
Reviewed: sec

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# EPA METHOD 8260

Client: **Western Water Consultants**
Sample ID: 93-007.USTDP1. 6/97
Laboratory ID: C97-35216
Matrix: Air
Dilution Factor: 1

Deep SVE well 3-7

Date Sampled: 06/25/97
Date Received: 06/26/97
Date Analyzed: 06/26/97
Date Reported: July 4, 1997

| 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** | **82.8** | 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** | **7.31** | 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)** | **1.07** | 1.0 |
| 594-20-7 | 2,2 - Dichloropropane | ND | 1.0 |
| **71-55-6** | **1,1,1 - Trichloroethane** | **60.2** | 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** | **226** | 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: 93-007.USTDP1. 6/97
Laboratory ID: C97-35216

Deep SVE well 3-7

Date Sampled: 06/25/97
Date Analyzed: 06/26/97
Date Reported: July 4, 1997

| 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 | 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*

*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 | 1524534 | 1334266 | 114% | 50 - 200 % |
| Fluorobenzene | 3083096 | 2713933 | 114% | 50 - 200 % |
| 1,4 - Difluorobenzene | 2483535 | 2179375 | 114% | 50 - 200 % |
| Chlorobenzene - d5 | 1782655 | 1568157 | 114% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 856878 | 718198 | 119% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 10.1 | 101% | 86 - 118 % |
| Toluene - d8 | 10.0 | 100% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.1 | 101% | 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

Report File:F:\REPORTS\CLIENTS.97\WEST_WAT.ER\ORGANIC.CAS\97_35213.xls

Analyst: yw
Reviewed: sec

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# EPA METHOD 8260

Client: **Western Water Consultants**
Sample ID: 93-007.USTDP2. 6/97
Laboratory ID: C97-35217
Matrix: Air
Dilution Factor: 10

Deep SVE well 3-6

Date Sampled: 06/25/97
Date Received: 06/26/97
Date Analyzed: 06/26/97
Date Reported: July 4, 1997

| 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** | **120** | 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** | **13.2** | 10.0 |
| 78-93-3 | 2 -Butanone (MEK) | ND | 100.0 |
| 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** | **114** | 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** | **368** | 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: 93-007.USTDP2. 6/97
Laboratory ID: C97-35217

Deep SVE well 3-6

Date Sampled: 06/25/97
Date Analyzed: 06/26/97
Date Reported: July 4, 1997

| C.A.S. # | TARGET COMPOUNDS | CONCENTRATION ($mg/m^3$) | LIMIT OF DETECTION ($mg/m^3$) |
|---|---|---|---|
| 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*

| INTERNAL STANDARDS | AREA | ICAL / CCAL AREA | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|---|
| Pentafluorobenzene | 1408035 | 1334266 | 106% | 50 - 200 % |
| Fluorobenzene | 2854854 | 2713933 | 105% | 50 - 200 % |
| 1,4 - Difluorobenzene | 2300607 | 2179375 | 106% | 50 - 200 % |
| Chlorobenzene - d5 | 1647557 | 1568157 | 105% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 783818 | 718198 | 109% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 10.2 | 102% | 86 - 118 % |
| Toluene - d8 | 10.1 | 101% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.1 | 101% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.98 | 99.8% | 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

Report File:F:\REPORTS\CLIENTS.97\WEST_WAT.ER\ORGANIC.CAS\97_35213.xls

Analyst: yw
Reviewed: sec

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## EPA METHOD 8260

Client: **Western Water Consultants**
Sample ID: 93-007.USTDP3. 6/97
Laboratory ID: C97-35218
Matrix: Air
Dilution Factor: 10

Deep SVE Well 3-S

Date Sampled: 06/25/97
Date Received: 06/26/97
Date Analyzed: 06/26/97
Date Reported: July 4, 1997

| 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** | **79.8** | 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** | **25.1** | 10.0 |
| 78-93-3 | 2 -Butanone (MEK) | ND | 100.0 |
| 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** | **441** | 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** | **871** | 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: 93-007.USTDP3. 6/97
Laboratory ID: C97-35218

Deep SVE well 3-5'

Date Sampled: 06/25/97
Date Analyzed: 06/26/97
Date Reported: July 4, 1997

| C.A.S. # | TARGET COMPOUNDS | CONCENTRATION ($mg/m^3$) | LIMIT OF DETECTION ($mg/m^3$) |
|---|---|---|---|
| 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*

| INTERNAL STANDARDS | AREA | ICAL / CCAL AREA | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|---|
| Pentafluorobenzene | 1381918 | 1334266 | 104% | 50 - 200 % |
| Fluorobenzene | 2788756 | 2713933 | 103% | 50 - 200 % |
| 1,4 - Difluorobenzene | 2259676 | 2179375 | 104% | 50 - 200 % |
| Chlorobenzene - d5 | 1618016 | 1568157 | 103% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 753752 | 718198 | 105% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.98 | 99.8% | 86 - 118 % |
| Toluene - d8 | 9.99 | 99.9% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.1 | 101% | 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

Report File:F:\REPORTS\CLIENTS.97\WEST_WAT.ER\ORGANIC.CAS\97_35213.xls

Analyst: yw
Reviewed: sec

File 93007D

**ENERGY LABORATORIES, INC.**
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E-mail: energy@trib.com • FAX: (307) 234-1639 • PHONE: (307) 235-0515 • TOLL FREE: (888) 235-0515
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# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | Date Sampled: | 01/06/98 |
| Project: | 93007L-98.1 | Time Sampled: | 10:20 |
| Sample ID: | 93007-UST.1/98 | Date Received: | 01/07/98 |
| Laboratory ID: | C98-10271 | Date Analyzed: | 01/07/98 |
| Matrix: | Air | Date Reported: | January 23, 1998 |
| Dilution Factor: | 5 | | |

| 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** | **3.85** | J | 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** | **8.25** | | 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** | **102** | | 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** | Date Sampled: | 01/06/98 |
| Sample ID: | 93007-UST.1/98 | Date Analyzed: | 01/07/98 |
| Laboratory ID: | C98-10271 | Date Reported: | January 23, 1998 |

| *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 | 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 | 1425835 | 1211606 | 118% | 50 - 200 % |
| Fluorobenzene | 2607640 | 2270939 | 115% | 50 - 200 % |
| 1,4 - Difluorobenzene | 2323771 | 2086613 | 111% | 50 - 200 % |
| Chlorobenzene - d5 | 1733186 | 1539365 | 113% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 744830 | 660320 | 113% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 10.3 | 103% | 86 - 118 % |
| Toluene - d8 | 9.89 | 98.9% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.4 | 104% | 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

Report File:R:\Reports\Clients98\WesternWaterConsultants\98_10271_8260.xls

Analyst: yw
Reviewed: sec

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# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | Date Sampled: | 04/28/98 |
| Project: | PROJ#93007-1 | Time Sampled: | NST |
| Sample ID: | 93007-UST.4/98 | Date Received: | 04/29/98 |
| Laboratory ID: | C98-28036 | Date Analyzed: | 04/29/98 |
| Matrix: | Air | Date Reported: | May 13, 1998 |
| Dilution Factor: | 5 | | |

| 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** | **2.15** | **J** | 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** | **4.15** | **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** | **121** | | 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** | Date Sampled: | 04/28/98 |
| Sample ID: | 93007-UST.4/98 | Date Analyzed: | 04/29/98 |
| Laboratory ID: | C98-28036 | Date Reported: | May 13, 1998 |

| *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 | 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 | 1379163 | 1526580 | 90.3% | 50 - 200 % |
| Fluorobenzene | 2745648 | 2879689 | 95.3% | 50 - 200 % |
| 1,4 - Difluorobenzene | 2365365 | 2531143 | 93.5% | 50 - 200 % |
| Chlorobenzene - d5 | 1743526 | 1807777 | 96.4% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 719681 | 756975 | 95.1% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 10.7 | 107% | 86 - 118 % |
| Toluene - d8 | 9.94 | 99.4% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.3 | 103% | 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

Report File:R:\Reports\Clients98\Western_Water_Consultants\98_28036_8260.XLS

Analyst: yw
Reviewed: sec

## Olson, William

**From:** Price, Wayne
**Sent:** Friday, May 01, 1998 3:42 PM
**To:** Bill Olson
**Cc:** Chris Williams
**Subject:** Dowell-Hobbs GW-073 Groundwater Contamination:

Dear Bill:

NMOCD I has received the annual groundwater report.

I have the following recommendation:

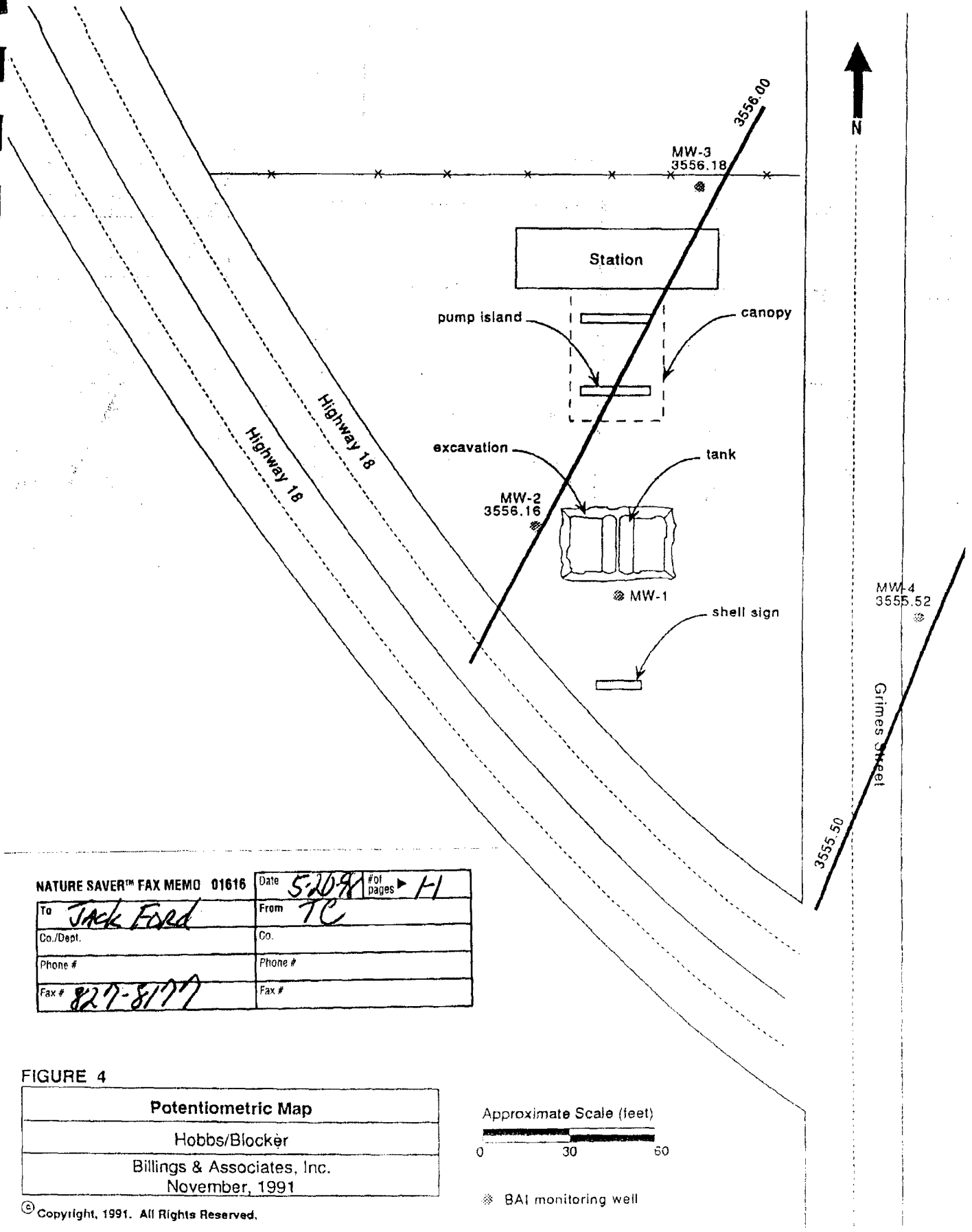
1. The residence located at the SW corner of Dowell's property should have their water well sampled. I recommend that Dowell do this under our inspection.

2. After reviewing the Iso-concentration maps and data it appears that Dowell has not included the Old Shell Mw-4 in the plume area. I recommend that we have them place nested wells further down-gradient.

Why - upgradient & never has shown any contam. above reporting limits in MW-1 + MW-12

Possible nested well located in SE corner K-Mart lot

? location in NW corner of K-Mart Building location?




| NATURE SAVER™ FAX MEMO 01616 | Date 5-20-98 | #of pages ▶ 1+1 |
|---|---|---|
| To Jack Ford | From TC | |
| Co./Dept. | Co. | |
| Phone # | Phone # | |
| Fax # 827-8177 | Fax # | |

FIGURE 4

| Potentiometric Map |
|---|
| Hobbs/Blocker |
| Billings & Associates, Inc.<br>November, 1991 |

Approximate Scale (feet)

0 30 60

BAI monitoring well

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Schlumberger Oilfield Services

Oilfield Services Shared Resources

**John A. Miller**
Remediation Manager

June 5, 1998

RECEIVED
JUN 11 1998
OIL CONSERVATION DIVISION

Mr. Jack Ford
Environmental Bureau
New Mexico Oil Conservation Division
2040 S. Pacheco
Santa Fe, New Mexico 87505

**Re: Quarterly Ground-water Monitoring Results for the Dowell, a division of Schlumberger Technology Corporation, Facility in Hobbs, New Mexico.**

Dear Mr. Ford:

Enclosed are the results of the second quarter ground-water monitoring event for 1998 at the Dowell, a division of Schlumberger Technology, Corporation facility in Hobbs, New Mexico. Included in this document are site, potentiometric surface, and isoconcentration maps (Figures 1, 2, 3, and 4), static water and water quality tables (Tables 1 and 2), and laboratory data reports. Following our discussion, of May 27, 1998, I have reaffirmed with Western Water Consultants that MW-10, our deep downgradient well, shows that impacts are limited to the shallower zone. We are also preparing an Operational Report which summarizes the pilot test of the Air Sparging and Soil Vapor Extraction System. This report will be submitted towards the end of June.

The third quarter monitoring event is tentatively scheduled for July, 1998. If you have any questions concerning these results, please feel free to contact me at (281) 285-8498.

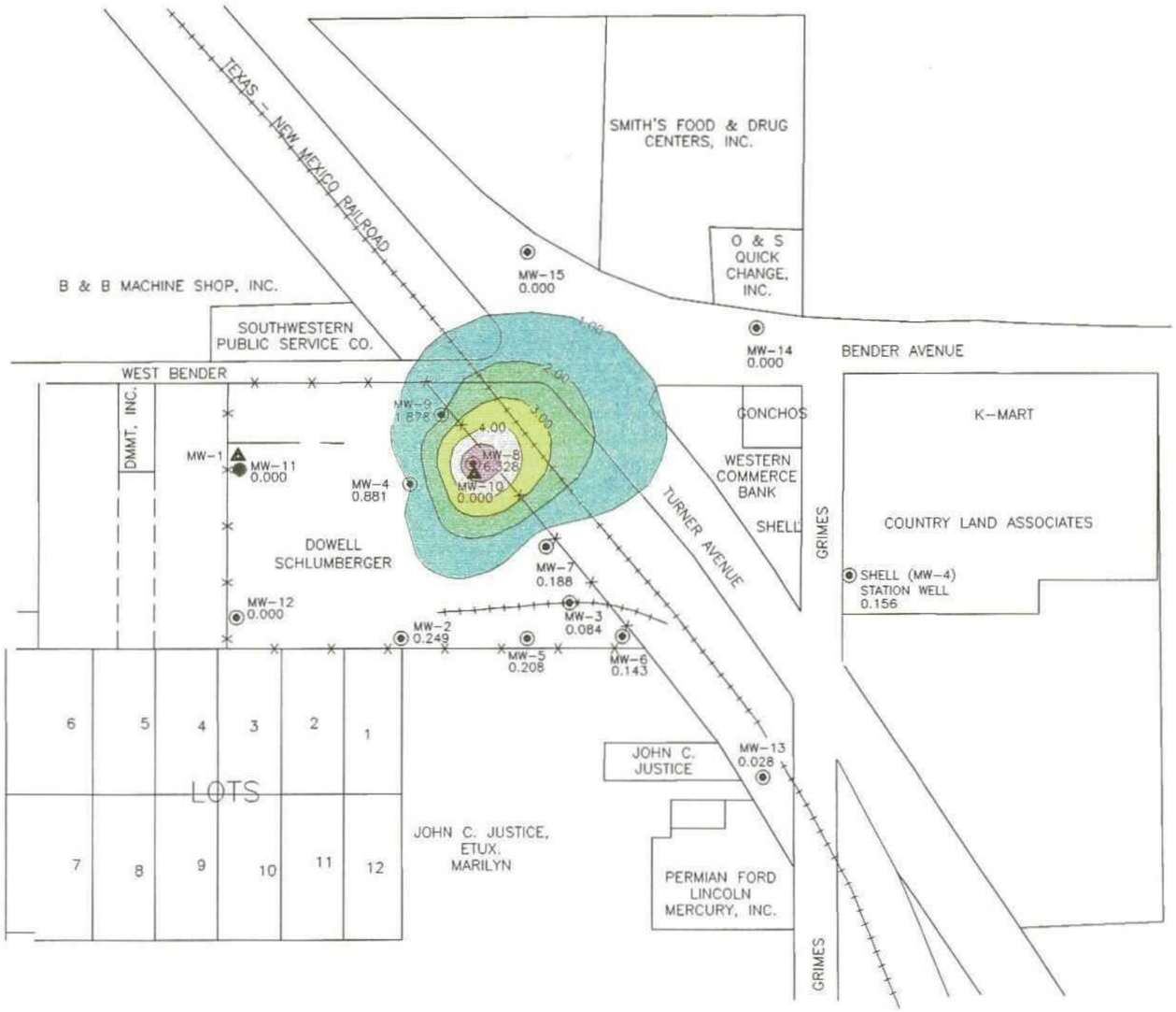
Sincerely,

John A. Miller
Remediation Manager

cc: Western Water Consultants
Wayne Price
New Mexico Oil Conservation Division

P.O. Box 2727, Houston, Texas 77252-2727
300 Schlumberger Drive, Sugar Land, Texas 77478
(281) 285-8498 (281) 285-8526 (fax)

K:\172040\93-007L\CADD\98\HALO0498.DWG 05/27/98 08:27




## EXPLANATION

- MW-8 6.483 ◉ — 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)

- 5.00
- 4.00
- 3.00
- 2.00
- 1.00

0 300 ft.

SCALE

# *FIGURE 4*

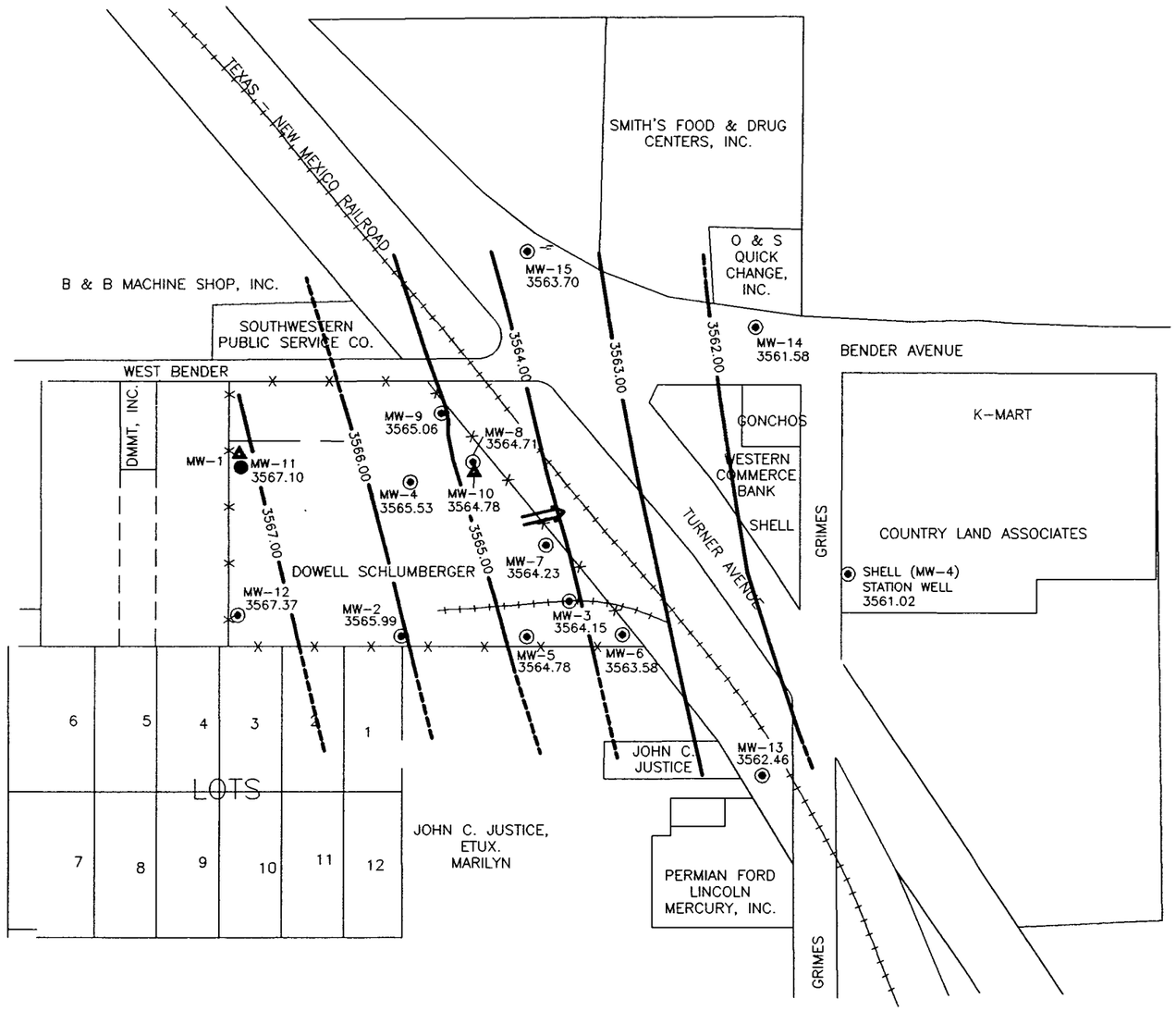
TOTAL HALOCARBONS CONCENTRATION MAP (04/16/98)

DOWELL, A DIVISION OF SCHLUMBERGER TECHNOLOGY CORPORATION HOBBS, NM

Western Water Consultants, Inc. WWC Engineering

Engineering Environmental Mining Water Resources

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## EXPLANATION

MW-14 3562.33 ⊙ SHALLOW MONITORING WELL LOCATION, IDENTIFICATION, AND POTENTIOMETRIC SURFACE ELEVATION

MW-1 ● ABANDONED MONITORING WELL

MW-11 ▲ 3567.85 DEEP MONITORING WELL LOCATION IDENTIFICATION AND POTENTIOMETRIC SURFACE ELEVATION

3563.50 POTENTIOMETRIC SURFACE CONTOURS AND ELEVATION (DASHED WHERE INFERRED)

GROUND-WATER FLOW DIRECTION

0 300 ft.
SCALE

# *FIGURE 3*

## POTENTIOMETRIC SURFACE MAP (04/16/98)

DOWELL, A DIVISION OF SCHLUMBERGER TECHNOLOGY CORPORATION HOBBS, NM

Western Water Consultants, Inc. WWC Engineering

Engineering Environmental Mining Water Resources

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 |
| Abandoned | | 05/22/97 | | | | | |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| | | 01/05/98 | | 74.17 | 3564.45 | -0.24 | 10.83 |
| | | 04/16/98 | | 74.39 | 3564.23 | -0.22 | 10.61 |
| 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 |

**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-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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| | | 01/05/98 | | 75.44 | 3561.75 | -0.16 | 9.56 |
| | | 04/16/98 | | 75.61 | 3561.58 | -0.17 | 9.39 |
| 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 |
| 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 |

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

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**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) | 0.000 | 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(0.002) | ND(0.001) | 0.000 | 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) | 0.000 | 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 |
| duplicate | 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) | 0.011 | 0.005 | 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 | 0.00118J | 0.00096J | 0.00114J | ND(0.002) | 0.004 | 0.143 |
| | 10/16/97 | 0.012 | ND(0.002) | 0.00190J | 0.012 | 0.023 | ND(0.002) | 0.002 | 0.00130J | 0.00064J | 0.00102J | 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 | 0.00154J | 0.00052J | 0.00114J | 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 |
| duplicate | 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 |
| 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(0.002) | 0.004 | 0.002 | 0.073 |
| | 07/28/97 | 0.033 | 0.00176J | 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) | 0.00102J | 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 | 0.003 | 0.003 | ND(0.002) | ND(0.002) | ND(0.004) | ND(0.002) | 0.003 | 0.084 |
| MW-4 | 10/25/96 | 0.110 | 0.051 | 0.498 | 2.590 | 1.040 | 0.005 | 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 |
| duplicate | 11/21/96 | 0.106 | 0.042 | 0.694 | 3.980 | 1.080 | ND(0.02) | ND(0.02) | ND(0.02) | ND(0.02) | ND(0.04) | ND(0.02) | 0.000 | 5.902 |
| | 01/22/97 | 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 | 0.0166J | 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 | 0.0168J | 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 | 0.0146J | 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 | 0.0114J | 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(0.02) | 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 | 0.0060J | 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 |
| MW-5 | 01/23/97 | 0.180 | 0.002 | 0.020 | 0.012 | 0.036 | 0.0008J | 0.018 | 0.004 | ND(0.001) | 0.0008J | ND(0.001) | 0.022 | 0.250 |
| duplicate | 01/23/97 | 0.190 | 0.002 | 0.018 | 0.009 | 0.034 | 0.0007J | 0.018 | 0.004 | ND(0.001) | 0.001 | 0.004 | 0.023 | 0.253 |
| | 05/23/97 | 0.191 | 0.003 | 0.055 | 0.079 | 0.059 | 0.0017J | 0.029 | ND(0.002) | ND(0.002) | ND(0.004) | ND(0.002) | 0.029 | 0.387 |
| | 07/28/97 | 0.241 | 0.004 | 0.072 | 0.058 | 0.051 | 0.002 | 0.051 | 0.023 | ND(0.002) | 0.007 | 0.009 | 0.081 | 0.428 |
| duplicate | 07/28/97 | 0.258 | 0.0043J | 0.069 | 0.052 | 0.050 | ND(0.005) | 0.052 | 0.023 | ND(0.005) | 0.00665J | 0.011 | 0.075 | 0.429 |
| | 10/16/97 | 0.214 | 0.0038J | 0.066 | 0.070 | 0.039 | ND(0.01) | 0.059 | 0.027 | ND(0.01) | 0.008 | 0.011 | 0.094 | 0.389 |
| | 01/06/98 | 0.215 | 0.0037J | 0.060 | 0.055 | 0.029 | ND(0.01) | 0.048 | 0.016 | ND(0.01) | 0.00620J | 0.00450J | 0.064 | 0.359 |
| | 04/16/98 | 0.136 | 0.002J | 0.033 | 0.031 | 0.008 | ND(0.005) | 0.034 | 0.011 | ND(0.005) | ND(0.01) | 0.009 | 0.045 | 0.208 |
| MW-6 | 01/23/97 | 0.041 | 0.001 | 0.004 | 0.003 | 0.004 | ND(0.001) | 0.0008J | ND(0.001) | ND(0.001) | ND(0.002) | 0.0009J | 0.000 | 0.053 |
| | 05/22/97 | 0.085 | 0.002 | 0.034 | 0.023 | 0.017 | 0.00196J | 0.004 | ND(0.002) | ND(0.002) | ND(0.004) | 0.002 | 0.004 | 0.161 |
| | 07/28/97 | 0.081 | 0.00192J | 0.027 | 0.021 | 0.008 | 0.00194J | 0.003 | ND(0.002) | ND(0.002) | ND(0.004) | 0.004 | 0.003 | 0.137 |
| | 10/16/97 | 0.082 | 0.00170J | 0.025 | 0.019 | 0.006 | 0.00196J | 0.003 | ND(0.002) | ND(0.002) | ND(0.004) | 0.003 | 0.003 | 0.132 |
| | 01/06/98 | 0.113 | 0.00276J | 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 |
| MW-7 | 01/23/97 | 0.047 | 0.0009J | 0.009 | 0.014 | ND(0.001) | 0.004 | 0.0006J | ND(0.001) | ND(0.001) | 0.001 | 0.013 | 0.001 | 0.074 |
| | 05/22/97 | 0.087 | 0.00166J | 0.066 | 0.116 | 0.00164J | 0.014 | 0.003 | ND(0.002) | ND(0.002) | ND(0.004) | 0.062 | 0.003 | 0.283 |
| | 07/28/97 | 0.073 | 0.00162J | 0.061 | 0.110 | ND(0.002) | 0.021 | 0.004 | ND(0.002) | ND(0.002) | ND(0.004) | 0.055 | 0.004 | 0.265 |
| | 10/16/97 | 0.065 | ND(0.005) | 0.050 | 0.091 | ND(0.005) | 0.018 | 0.0030J | ND(0.005) | ND(0.005) | ND(0.01) | 0.058 | 0.000 | 0.224 |
| | 01/06/98 | 0.076 | ND(0.005) | 0.054 | 0.111 | ND(0.005) | 0.018 | 0.00335J | ND(0.005) | ND(0.005) | ND(0.01) | 0.048 | 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) | 0.040 | 0.000 | 0.188 |

**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-8 | 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 |
| | 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 |
| MW-9 | 01/23/97 | 0.011 | ND(0.001) | 0.063 | 0.090 | 0.045 | 0.0004J | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.002) | 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 |
| | 10/16/97 | 0.0186J | 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 |
| duplicate | 10/16/97 | 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 |
| MW-10 | 05/26/97 | 0.004 | ND(0.002) | 0.007 | 0.026 | ND(0.002) | 0.0012J | 0.004 | ND(0.002) | ND(0.002) | ND(0.004) | ND(0.002) | 0.004 | 0.037 |
| duplicate | 05/26/97 | ND(0.002) | ND(0.002) | 0.008 | 0.028 | ND(0.002) | 0.0013J | 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 | 0.00198J | ND(0.002) | 0.0015J | 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) | 0.00198J | 0.008 | ND(0.002) | ND(0.002) | 0.00106J | 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) | 0.00194J | 0.008 | ND(0.002) | ND(0.002) | 0.00114J | ND(0.002) | ND(0.002) | ND(0.004) | ND(0.002) | 0.000 | 0.008 |
| | 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 |
| MW-11 | 05/24/97 | 0.0008J | ND(0.001) | 0.0069J | 0.002 | ND(0.001) | ND(0.001) | 0.002 | ND(0.001) | ND(0.001) | 0.0010J | 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 | 0.00095J | 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 | 0.00049J | ND(0.001) | 0.00302J | 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) | 0.00160J | ND(0.002) | ND(0.002) | 0.00262J | 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 |
| 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) | 0.0056J | 0.0052J | 0.0027J | 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(0.004) | 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(0.002) | ND(0.001) | 0.000 | 0.000 |
| 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) | 0.000 | 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) | 0.000 | 0.022 |
| | 10/16/97 | ND(0.001) | 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) | 0.000 | 0.029 |
| | 10/16/97 | ND(0.002) | ND(0.002) | 0.011 | 0.013 | 0.00106J | ND(0.002) | ND(0.002) | ND(0.002) | ND(0.002) | ND(0.004) | ND(0.002) | 0.000 | 0.024 |
| | 01/06/98 | ND(0.002) | ND(0.002) | 0.017 | 0.011 | 0.00164J | ND(0.002) | ND(0.002) | ND(0.002) | ND(0.002) | ND(0.004) | ND(0.002) | 0.000 | 0.028 |
| | 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) | 0.000 | 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(0.002) | ND(0.001) | 0.000 | 0.029 |
| 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 | 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 | 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 | 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 | 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(0.004) | 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(0.002) | ND(0.001) | 0.000 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 2.875 | 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 | 1.454 | 0.040 |
| | 10/16/97 | 0.0180J | 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 | 1.074 | 0.022 |
| | 01/06/98 | 0.051 | ND(0.002) | <0.075 | 0.004 | 0.014 | ND(0.002) | 0.002 | 0.042 | 0.00126J | 0.019 | 0.024 | 0.063 | 0.144 |

**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) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *SO4 Cont. | 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 | 0.008 | 0.156 |

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

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# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | Western Water Consultants | Date Sampled: | 04/16/98 |
| Project: | 93007L.6 | Time Sampled: | 14:20 |
| Sample ID: | 93007-2.4/98 MW-2 | Date Received: | 04/21/98 |
| Laboratory ID: | C98-27538 | Date Analyzed: | 04/22/98 |
| Matrix: | Water | Date Reported: | May 10, 1998 |
| Dilution Factor: | 2 | | |

| 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** | **8.34** | | 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** | **52.5** | | 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** | **130** | | 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** | **9.62** | | 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** | **1.60** | J | 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** | **58.4** | | 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)** | **1.28** | J | 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 | Date Sampled: | 04/16/98 |
| Sample ID: | 93007-2.4/98 MW-2 | Date Analyzed: | 04/22/98 |
| Laboratory ID: | C98-27538 | Date Reported: | May 10, 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 | 1758607 | 1866255 | 94.2% | 50 - 200 % |
| Fluorobenzene | 3340942 | 3528763 | 94.7% | 50 - 200 % |
| 1,4 - Difluorobenzene | 2830918 | 3085111 | 91.8% | 50 - 200 % |
| Chlorobenzene - d5 | 2110812 | 2287258 | 92.3% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 898356 | 955312 | 94.0% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.45 | 94.5% | 86 - 118 % |
| Toluene - d8 | 10.3 | 103% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.1 | 101% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.99 | 99.9% | 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

Report File: R:\Reports\Clients98\Western_Water_Consultants\98_27538_8260.XLS

Analyst: yw
Reviewed: sec

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# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | Western Water Consultants | Date Sampled: | 04/16/98 |
| Project: | 93007L.6 | Time Sampled: | 17:10 |
| Sample ID: | 93007-A.4/98 | Date Received: | 04/21/98 |
| Laboratory ID: | C98-27553 | Date Analyzed: | 04/22/98 |
| Matrix: | Water | Date Reported: | May 10, 1998 |
| Dilution Factor: | 10 | | |

Duplicate of MW-2

| 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** | **7.80** | 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** | **58.1** | 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** | **142** | 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** | **9.50** | 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** | **64.4** | 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 | Date Sampled: | 04/16/98 |
| Sample ID: | 93007-A.4/98 | Date Analyzed: | 04/22/98 |
| Laboratory ID: | C98-27553 | Date Reported: | May 10, 1998 |

Duplicate of MW-2

| 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*

| INTERNAL STANDARDS | AREA | ICAL / CCAL AREA | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|---|
| Pentafluorobenzene | 1443793 | 1866255 | 77.4% | 50 - 200 % |
| Fluorobenzene | 2713027 | 3528763 | 76.9% | 50 - 200 % |
| 1,4 - Difluorobenzene | 2362401 | 3085111 | 76.6% | 50 - 200 % |
| Chlorobenzene - d5 | 1672784 | 2287258 | 73.1% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 663354 | 955312 | 69.4% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.58 | 95.8% | 86 - 118 % |
| Toluene - d8 | 9.89 | 98.9% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.88 | 98.8% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.92 | 99.2% | 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

Report File: R:\Reports\Clients98\Western_Water_Consultants\98_27538_8260.XLS

Analyst: yw
Reviewed: sec

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# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | Western Water Consultants | Date Sampled: | 04/16/98 |
| Project: | 93007L.6 | Time Sampled: | 14:35 |
| Sample ID: | 93007-3.4/98 MW-3 | Date Received: | 04/21/98 |
| Laboratory ID: | C98-27539 | Date Analyzed: | 04/22/98 |
| Matrix: | Water | Date Reported: | May 10, 1998 |
| Dilution Factor: | 2 | | |

| 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** | **14.0** | | 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** | **30.1** | | 2.0 |
| 78-93-3 | 2 -Butanone (MEK) | ND | | 20.0 |
| **156-59-2** | **cis - 1,2 - Dichloroethene** | **1.90** | J | 2.0 |
| 74-97-5 | Bromochloromethane | ND | | 2.0 |
| **67-66-3** | **Chloroform (Trichloromethane)** | **1.78** | J | 2.0 |
| 594-20-7 | 2,2 - Dichloropropane | ND | | 2.0 |
| **71-55-6** | **1,1,1 - Trichloroethane** | **12.3** | | 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** | **2.56** | | 2.0 |
| 74-95-3 | Dibromomethane | ND | | 2.0 |
| 78-87-5 | 1,2 - Dichloropropane | ND | | 2.0 |
| **79-01-6** | **Trichloroethene** | **2.92** | | 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** | **24.5** | | 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 | Date Sampled: | 04/16/98 |
| Sample ID: | 93007-3.4/98 MW-3 | Date Analyzed: | 04/22/98 |
| Laboratory ID: | C98-27539 | Date Reported: | May 10, 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 | 1908287 | 1866255 | 102% | 50 - 200 % |
| Fluorobenzene | 3569496 | 3528763 | 101% | 50 - 200 % |
| 1,4 - Difluorobenzene | 3038775 | 3085111 | 98.5% | 50 - 200 % |
| Chlorobenzene - d5 | 2282312 | 2287258 | 99.8% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 944707 | 955312 | 98.9% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.41 | 94.1% | 86 - 118 % |
| Toluene - d8 | 10.3 | 103% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.0 | 100% | 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

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# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | Western Water Consultants | Date Sampled: | 04/16/98 |
| Project: | 93007L.6 | Time Sampled: | 15:00 |
| Sample ID: | 93007-4.4/98 MW-4 | Date Received: | 04/21/98 |
| Laboratory ID: | C98-27540 | Date Analyzed: | 04/22/98 |
| Matrix: | Water | Date Reported: | May 10, 1998 |
| Dilution Factor: | 50 | | |

| 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** | **116** | | 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** | **18.5** | 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** | **114** | | 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** | **651** | | 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 | | 100.0 |
| 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 | Date Sampled: | 04/16/98 |
| Sample ID: | 93007-4.4/98 MW-4 | Date Analyzed: | 04/22/98 |
| Laboratory ID: | C98-27540 | Date Reported: | May 10, 1998 |

| 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 | 1867442 | 1866255 | 100% | 50 - 200 % |
| Fluorobenzene | 3540291 | 3528763 | 100% | 50 - 200 % |
| 1,4 - Difluorobenzene | 3041088 | 3085111 | 98.6% | 50 - 200 % |
| Chlorobenzene - d5 | 2175086 | 2287258 | 95.1% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 906887 | 955312 | 94.9% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.54 | 95.4% | 86 - 118 % |
| Toluene - d8 | 9.93 | 99.3% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.1 | 101% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.90 | 99.0% | 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 | Date Sampled: | 04/16/98 |
| Project: | 93007L.6 | Time Sampled: | 14:25 |
| Sample ID: | 93007-5.4/98 MW-5 | Date Received: | 04/21/98 |
| Laboratory ID: | C98-27541 | Date Analyzed: | 04/22/98 |
| Matrix: | Water | Date Reported: | May 10, 1998 |
| Dilution Factor: | 5 | | |

| 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** | **33.1** | | 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** | **136** | | 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** | **7.95** | | 5.0 |
| **107-06-2** | **1,2 - Dichloroethane** | **2.30** | J | 5.0 |
| 563-58-6 | 1,1 - Dichloropropene | ND | | 5.0 |
| 56-23-5 | Carbon tetrachloride (Tetrachloromethane) | ND | | 5.0 |
| **71-43-2** | **Benzene** | **33.9** | | 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** | **30.8** | | 5.0 |
| 630-20-6 | 1,1,1,2 - Tetrachloroethane | ND | | 5.0 |
| 108-90-7 | Chlorobenzene | ND | | 5.0 |
| **100-41-4** | **Ethylbenzene** | **10.8** | | 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 - Meets Mass Spectral identification criteria but result is below established detection limit***

# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | Western Water Consultants | Date Sampled: | 04/16/98 |
| Sample ID: | 93007-5.4/98 MW-5 | Date Analyzed: | 04/22/98 |
| Laboratory ID: | C98-27541 | Date Reported: | May 10, 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** | **6.75** | 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** | **8.55** | 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 - 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 | 1506187 | 1866255 | 80.7% | 50 - 200 % |
| Fluorobenzene | 2864219 | 3528763 | 81.2% | 50 - 200 % |
| 1,4 - Difluorobenzene | 2513874 | 3085111 | 81.5% | 50 - 200 % |
| Chlorobenzene - d5 | 1859014 | 2287258 | 81.3% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 762826 | 955312 | 79.9% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.96 | 99.6% | 86 - 118 % |
| Toluene - d8 | 10.2 | 102% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.0 | 100% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 10.0 | 100% | 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

Report File: R:\Reports\Clients98\Western_Water_Consultants\98_27538_8260.XLS

Analyst: yw
Reviewed: sec

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# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | Western Water Consultants | Date Sampled: | 04/16/98 |
| Project: | 93007L.6 | Time Sampled: | 14:30 |
| Sample ID: | 93007-6.4/98 MW-16 | Date Received: | 04/21/98 |
| Laboratory ID: | C98-27542 | Date Analyzed: | 04/22/98 |
| Matrix: | Water | Date Reported: | May 10, 1998 |
| Dilution Factor: | 2 | | |

| C.A.S. # | TARGET COMPOUNDS | CONCENTRATION (µg/L) | | LIMIT OF DETECTION (µg/L) |
|---|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | ND | | 2.0 |
| **74-87-3** | **Chloromethane** | **1.14** | J | 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** | **27.2** | | 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** | **88.1** | | 2.0 |
| 78-93-3 | 2 -Butanone (MEK) | ND | | 20.0 |
| **156-59-2** | **cis - 1,2 - Dichloroethene** | **5.88** | | 2.0 |
| 74-97-5 | Bromochloromethane | ND | | 2.0 |
| **67-66-3** | **Chloroform (Trichloromethane)** | **3.64** | | 2.0 |
| 594-20-7 | 2,2 - Dichloropropane | ND | | 2.0 |
| **71-55-6** | **1,1,1 - Trichloroethane** | **8.22** | | 2.0 |
| **107-06-2** | **1,2 - Dichloroethane** | **2.86** | | 2.0 |
| 563-58-6 | 1,1 - Dichloropropene | ND | | 2.0 |
| 56-23-5 | Carbon tetrachloride (Tetrachloromethane) | ND | | 2.0 |
| **71-43-2** | **Benzene** | **2.22** | | 2.0 |
| 74-95-3 | Dibromomethane | ND | | 2.0 |
| 78-87-5 | 1,2 - Dichloropropane | ND | | 2.0 |
| **79-01-6** | **Trichloroethene** | **1.68** | J | 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** | **17.4** | | 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 | Date Sampled: | 04/16/98 |
| Sample ID: | 93007-6.4/98 | Date Analyzed: | 04/22/98 |
| Laboratory ID: | C98-27542 | Date Reported: | May 10, 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** | **3.00** | 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 | 1501016 | 1866255 | 80.4% | 50 - 200 % |
| Fluorobenzene | 2850944 | 3528763 | 80.8% | 50 - 200 % |
| 1,4 - Difluorobenzene | 2519898 | 3085111 | 81.7% | 50 - 200 % |
| Chlorobenzene - d5 | 1882043 | 2287258 | 82.3% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 783597 | 955312 | 82.0% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 10.2 | 102% | 86 - 118 % |
| Toluene - d8 | 10.2 | 102% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.1 | 101% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 10.0 | 100% | 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 | Date Sampled: | 04/16/98 |
| Project: | 93007L.6 | Time Sampled: | 14:40 |
| Sample ID: | 93007-7.4/98 MW-7 | Date Received: | 04/21/98 |
| Laboratory ID: | C98-27543 | Date Analyzed: | 04/22/98 |
| Matrix: | Water | Date Reported: | May 10, 1998 |
| Dilution Factor: | 5 | | |

| 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** | **35.4** | | 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** | **55.0** | | 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** | **2.70** | J | 5.0 |
| 74-95-3 | Dibromomethane | ND | | 5.0 |
| 78-87-5 | 1,2 - Dichloropropane | ND | | 5.0 |
| **79-01-6** | **Trichloroethene** | **20.0** | | 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** | **78.2** | | 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 - Meets Mass Spectral identification criteria but result is below established detection limit***

# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | Western Water Consultants | Date Sampled: | 04/16/98 |
| Sample ID: | 93007-7.4/98 MW-7 | Date Analyzed: | 04/22/98 |
| Laboratory ID: | C98-27543 | Date Reported: | May 10, 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** | **40.0** | 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 - 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 | 1884416 | 1866255 | 101% | 50 - 200 % |
| Fluorobenzene | 3502482 | 3528763 | 99.3% | 50 - 200 % |
| 1,4 - Difluorobenzene | 3043221 | 3085111 | 98.6% | 50 - 200 % |
| Chlorobenzene - d5 | 2106043 | 2287258 | 92.1% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 861001 | 955312 | 90.1% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.33 | 93.3% | 86 - 118 % |
| Toluene - d8 | 9.77 | 97.7% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.94 | 99.4% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.77 | 97.7% | 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 | Date Sampled: | 04/16/98 |
| Project: | 93007L.6 | Time Sampled: | 14:45 |
| Sample ID: | 93007-8.4/98 MW-8 | Date Received: | 04/21/98 |
| Laboratory ID: | C98-27544 | Date Analyzed: | 04/22/98 |
| Matrix: | Water | Date Reported: | May 10, 1998 |
| Dilution Factor: | 200 | | |

| 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** | **1,050** | 200 |
| 75-09-2 | Methylene chloride (Dichloromethane) | ND | 200 |
| 156-60-5 | trans - 1, 2 - Dichloroethene | ND | 200 |
| 75-34-3 | 1,1 - Dichloroethane | ND | 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** | **658** | 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** | **4,620** | 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***

# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | Date Sampled: | 04/16/98 |
| Sample ID: | 93007-8.4/98 MW-8 | Date Analyzed: | 04/22/98 |
| Laboratory ID: | C98-27544 | Date Reported: | May 10, 1998 |

| *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** | **142** | J | 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 | 1916179 | 1866255 | 103% | 50 - 200 % |
| Fluorobenzene | 3544015 | 3528763 | 100% | 50 - 200 % |
| 1,4 - Difluorobenzene | 3073040 | 3085111 | 99.6% | 50 - 200 % |
| Chlorobenzene - d5 | 2130572 | 2287258 | 93.1% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 868466 | 955312 | 90.9% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.28 | 92.8% | 86 - 118 % |
| Toluene - d8 | 9.79 | 97.9% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.92 | 99.2% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.81 | 98.1% | 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

Report File: R:\Reports\Clients98\Western_Water_Consultants\98_27538_8260.XLS

Analyst: yw
Reviewed. sec

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# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | Western Water Consultants | Date Sampled: | 04/16/98 |
| Project: | 93007L.6 | Time Sampled: | 14:55 |
| Sample ID: | 93007-9.4/98 mw-9 | Date Received: | 04/21/98 |
| Laboratory ID: | C98-27545 | Date Analyzed: | 04/22/98 |
| Matrix: | Water | Date Reported: | May 10, 1998 |
| Dilution Factor: | 50 | | |

| 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** | **444** | | 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** | **29.0** | 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** | **144** | | 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** | **1,290** | | 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 | Date Sampled: | 04/16/98 |
| Sample ID: | 93007-9.4/98 MW-9 | Date Analyzed: | 04/22/98 |
| Laboratory ID: | C98-27545 | Date Reported: | May 10, 1998 |

| 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 | 1647724 | 1866255 | 99.0% | 50 - 200 % |
| Fluorobenzene | 3383177 | 3528763 | 95.9% | 50 - 200 % |
| 1,4 - Difluorobenzene | 2951984 | 3085111 | 95.7% | 50 - 200 % |
| Chlorobenzene - d5 | 2041657 | 2287258 | 89.3% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 828509 | 955312 | 86.7% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.26 | 92.6% | 86 - 118 % |
| Toluene - d8 | 9.79 | 97.9% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.82 | 98.2% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.82 | 98.2% | 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 | Date Sampled: | 04/16/98 |
| Project: | 93007L.6 | Time Sampled: | 14:50 |
| Sample ID: | 93007-10.4/98 MW-10 | Date Received: | 04/21/98 |
| Laboratory ID: | C98-27546 | Date Analyzed: | 04/22/98 |
| Matrix: | Water | Date Reported: | May 10, 1998 |
| Dilution Factor: | 2 | | |

| 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** | **1.70** | 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 | 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 | Date Sampled: | 04/16/98 |
| Sample ID: | 93007-10.4/98 MW-10 | Date Analyzed: | 04/22/98 |
| Laboratory ID: | C98-27546 | Date Reported: | May 10, 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 | 1919704 | 1866255 | 103% | 50 - 200 % |
| Fluorobenzene | 3525310 | 3528763 | 99.9% | 50 - 200 % |
| 1,4 - Difluorobenzene | 3074553 | 3085111 | 99.7% | 50 - 200 % |
| Chlorobenzene - d5 | 2119370 | 2287258 | 92.7% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 862245 | 955312 | 90.3% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.23 | 92.3% | 86 - 118 % |
| Toluene - d8 | 9.78 | 97.8% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.96 | 99.6% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.88 | 98.8% | 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 | Date Sampled: | 04/16/98 |
| Project: | 93007L.6 | Time Sampled: | 14:10 |
| Sample ID: | 93007-11.4/98 | Date Received: | 04/21/98 |
| Laboratory ID: | C98-27547 | Date Analyzed: | 04/22/98 |
| Matrix: | Water | Date Reported: | May 10, 1998 |
| Dilution Factor: | 1 | | |

MW-11

| 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** | **1.75** | 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)** | **2.42** | 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 | Date Sampled: | 04/16/98 |
| Sample ID: | 93007-11.4/98 MW-11 | Date Analyzed: | 04/22/98 |
| Laboratory ID: | C98-27547 | Date Reported: | May 10, 1998 |

| C.A.S. # | TARGET COMPOUNDS | CONCENTRATION (µg/L) | LIMIT OF DETECTION (µg/L) |
|---|---|---|---|
| **98-82-8** | **Isopropylbenzene (1-Methylethylbenzene)** | **4.33** | 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** | **2.14** | 1.0 |
| 98-06-6 | tert - Butylbenzene | ND | 1.0 |
| **95-63-6** | **1,2,4 - Trimethylbenzene** | **8.34** | 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** | **1.16** | 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 | 1694489 | 1866255 | 90.8% | 50 - 200 % |
| Fluorobenzene | 3135075 | 3528763 | 88.8% | 50 - 200 % |
| 1,4 - Difluorobenzene | 2800301 | 3085111 | 90.8% | 50 - 200 % |
| Chlorobenzene - d5 | 1950884 | 2287258 | 85.3% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 784812 | 955312 | 82.2% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.57 | 95.7% | 86 - 118 % |
| Toluene - d8 | 9.68 | 96.8% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.58 | 95.8% | 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

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Analyst: yw
Reviewed: sec

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# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | Western Water Consultants | Date Sampled: | 04/16/98 |
| Project: | 93007L.6 | Time Sampled: | 14:15 |
| Sample ID: | 93007-12.4/98 MW-12 | Date Received: | 04/21/98 |
| Laboratory ID: | C98-27548 | Date Analyzed: | 04/22/98 |
| Matrix: | Water | Date Reported: | May 10, 1998 |
| Dilution Factor: | 1 | | |

| 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 | Date Sampled: | 04/16/98 |
| Sample ID: | 93007-12.4/98 mw-12 | Date Analyzed: | 04/22/98 |
| Laboratory ID: | C98-27548 | Date Reported: | May 10, 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 | 1599580 | 1866255 | 85.7% | 50 - 200 % |
| Fluorobenzene | 3263498 | 3528763 | 92.5% | 50 - 200 % |
| 1,4 - Difluorobenzene | 2849211 | 3085111 | 92.4% | 50 - 200 % |
| Chlorobenzene - d5 | 2006416 | 2287258 | 87.7% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 764627 | 955312 | 80.0% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 10.5 | 105% | 86 - 118 % |
| Toluene - d8 | 9.81 | 98.1% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.57 | 95.7% | 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 | Date Sampled: | 04/16/98 |
| Project: | 93007L.6 | Time Sampled: | 13:20 |
| Sample ID: | 93007-13.4/98 MW-13 | Date Received: | 04/21/98 |
| Laboratory ID: | C98-27549 | Date Analyzed: | 04/22/98 |
| Matrix: | Water | Date Reported: | May 10, 1998 |
| Dilution Factor: | 2 | | |

| 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** | **17.2** | | 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** | **1.58** | J | 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** | **11.1** | | 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 | Date Sampled: | 04/16/98 |
| Sample ID: | 93007-13.4/98 mw-13 | Date Analyzed: | 04/22/98 |
| Laboratory ID: | C98-27549 | Date Reported: | May 10, 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 | 1776423 | 1866255 | 95.2% | 50 - 200 % |
| Fluorobenzene | 3285784 | 3528763 | 93.1% | 50 - 200 % |
| 1,4 - Difluorobenzene | 2873834 | 3085111 | 93.2% | 50 - 200 % |
| Chlorobenzene - d5 | 2005017 | 2287258 | 87.7% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 804115 | 955312 | 84.2% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.38 | 93.8% | 86 - 118 % |
| Toluene - d8 | 9.85 | 98.5% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.84 | 98.4% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.93 | 99.3% | 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 | Date Sampled: | 04/16/98 |
| Project: | 93007L.6 | Time Sampled: | 17:00 |
| Sample ID: | 93007-B.4/98 | Date Received: | 04/21/98 |
| Laboratory ID: | C98-27554 | Date Analyzed: | 04/22/98 |
| Matrix: | Water | Date Reported: | May 10, 1998 |
| Dilution Factor: | 1 | | |

Duplicate of MW-13

| 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** | **16.3** | 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** | **2.47** | 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** | **9.70** | 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-B.4/98
Laboratory ID: C98-27554

Duplicate of MW-13

Date Sampled: 04/16/98
Date Analyzed: 04/22/98
Date Reported: May 10, 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 | 1518570 | 1866255 | 81.4% | 50 - 200 % |
| Fluorobenzene | 2921969 | 3528763 | 82.8% | 50 - 200 % |
| 1,4 - Difluorobenzene | 2507072 | 3085111 | 81.3% | 50 - 200 % |
| Chlorobenzene - d5 | 1795208 | 2287258 | 78.5% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 722116 | 955312 | 75.6% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.74 | 97.4% | 86 - 118 % |
| Toluene - d8 | 9.95 | 99.5% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.0 | 100% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.90 | 99.0% | 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 | Date Sampled: | 04/16/98 |
| Project: | 93007L.6 | Time Sampled: | 13:50 |
| Sample ID: | 93007-14.4/98 MW-14 | Date Received: | 04/21/98 |
| Laboratory ID: | C98-27550 | Date Analyzed: | 04/22/98 |
| Matrix: | Water | Date Reported: | May 10, 1998 |
| Dilution Factor: | 1 | | |

| 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 | Date Sampled: | 04/16/98 |
| Sample ID: | 93007-14.4/98 mw-14 | Date Analyzed: | 04/22/98 |
| Laboratory ID: | C98-27550 | Date Reported: | May 10, 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 | 1546660 | 1866255 | 82.9% | 50 - 200 % |
| Fluorobenzene | 2993795 | 3528763 | 84.8% | 50 - 200 % |
| 1,4 - Difluorobenzene | 2616180 | 3085111 | 84.8% | 50 - 200 % |
| Chlorobenzene - d5 | 1826555 | 2287258 | 79.9% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 722236 | 955312 | 75.6% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.87 | 98.7% | 86 - 118 % |
| Toluene - d8 | 9.84 | 98.4% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.73 | 97.3% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.93 | 99.3% | 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

Report File: R:\Reports\Clients98\Western_Water_Consultants\98_27538_8260.XLS

Analyst: yw
Reviewed: sec

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# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | Western Water Consultants | Date Sampled: | 04/16/98 |
| Project: | 93007L.6 | Time Sampled: | 14:00 |
| Sample ID: | 93007-15.4/98 mw-15 | Date Received: | 04/21/98 |
| Laboratory ID: | C98-27551 | Date Analyzed: | 04/22/98 |
| Matrix: | Water | Date Reported: | May 10, 1998 |
| Dilution Factor: | 1 | | |

| 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 | Date Sampled: | 04/16/98 |
| Sample ID: | 93007-15.4/98 mw-15 | Date Analyzed: | 04/22/98 |
| Laboratory ID: | C98-27551 | Date Reported: | May 10, 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 | 1587215 | 1866255 | 85.0% | 50 - 200 % |
| Fluorobenzene | 3040734 | 3528763 | 86.2% | 50 - 200 % |
| 1,4 - Difluorobenzene | 2683809 | 3085111 | 87.0% | 50 - 200 % |
| Chlorobenzene - d5 | 1885866 | 2287258 | 82.5% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 740807 | 955312 | 77.5% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.80 | 98.0% | 86 - 118 % |
| Toluene - d8 | 9.79 | 97.9% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.66 | 96.6% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.93 | 99.3% | 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 | Date Sampled: | 04/16/98 |
| Project: | 93007L.6 | Time Sampled: | 13:30 |
| Sample ID: | 93007-SO.4/98 | Date Received: | 04/21/98 |
| Laboratory ID: | C98-27552 | Date Analyzed: | 04/22/98 |
| Matrix: | Water | Date Reported: | May 10, 1998 |
| Dilution Factor: | 5 | Date Revised: | May 15, 1998 |

Shell Station ~ Monitoring Well Mw-4

| 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** | **86.9** | | 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** | **49.2** | | 5.0 |
| 78-93-3 | 2 -Butanone (MEK) | ND | | 50.0 |
| **156-59-2** | **cis - 1,2 - Dichloroethene** | **3.65** | J | 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** | **15.4** | | 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** | **1.90** | J | 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** | **5.30** | | 5.0 |
| 630-20-6 | 1,1,1,2 - Tetrachloroethane | ND | | 5.0 |
| 108-90-7 | Chlorobenzene | ND | | 5.0 |
| **100-41-4** | **Ethylbenzene** | **8.35** | | 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 - Meets Mass Spectral identification criteria but result is below established detection limit***

# EPA METHOD 8260

Client: Western Water Consultants
Sample ID: 93007-SO.4/98
Laboratory ID: C98-27552

Shell Station - Monitoring well MW-4

Date Sampled: 04/16/98
Date Analyzed: 04/22/98
Date Reported: May 10, 1998
Date Revised: May 15, 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** | **29.3** | 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** | **24.0** | 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 - 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 | 1644558 | 1866255 | 88.1% | 50 - 200 % |
| Fluorobenzene | 3026687 | 3528763 | 85.8% | 50 - 200 % |
| 1,4 - Difluorobenzene | 2703857 | 3085111 | 87.6% | 50 - 200 % |
| Chlorobenzene - d5 | 1922419 | 2287258 | 84.0% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 763139 | 955312 | 79.9% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.54 | 95.4% | 86 - 118 % |
| Toluene - d8 | 9.81 | 98.1% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.70 | 97.0% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.85 | 98.5% | 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 | Date Sampled: | 03/30/98 |
| Project: | 93007L.6 | Time Sampled: | NST |
| Sample ID: | Trip Blank | Date Received: | 04/21/98 |
| Laboratory ID: | C98-27555 | Date Analyzed: | 04/22/98 |
| Matrix: | Water | Date Reported: | May 10, 1998 |
| Dilution Factor: | 1 | | |

| 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 | Date Sampled: | 03/30/98 |
| Sample ID: | Trip Blank | Date Analyzed: | 04/22/98 |
| Laboratory ID: | C98-27555 | Date Reported: | May 10, 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 | 1718334 | 1866255 | 92.1% | 50 - 200 % |
| Fluorobenzene | 3225797 | 3528763 | 91.4% | 50 - 200 % |
| 1,4 - Difluorobenzene | 2824629 | 3085111 | 91.6% | 50 - 200 % |
| Chlorobenzene - d5 | 1939694 | 2287258 | 84.8% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 766565 | 955312 | 80.2% | 50 - 200 % |

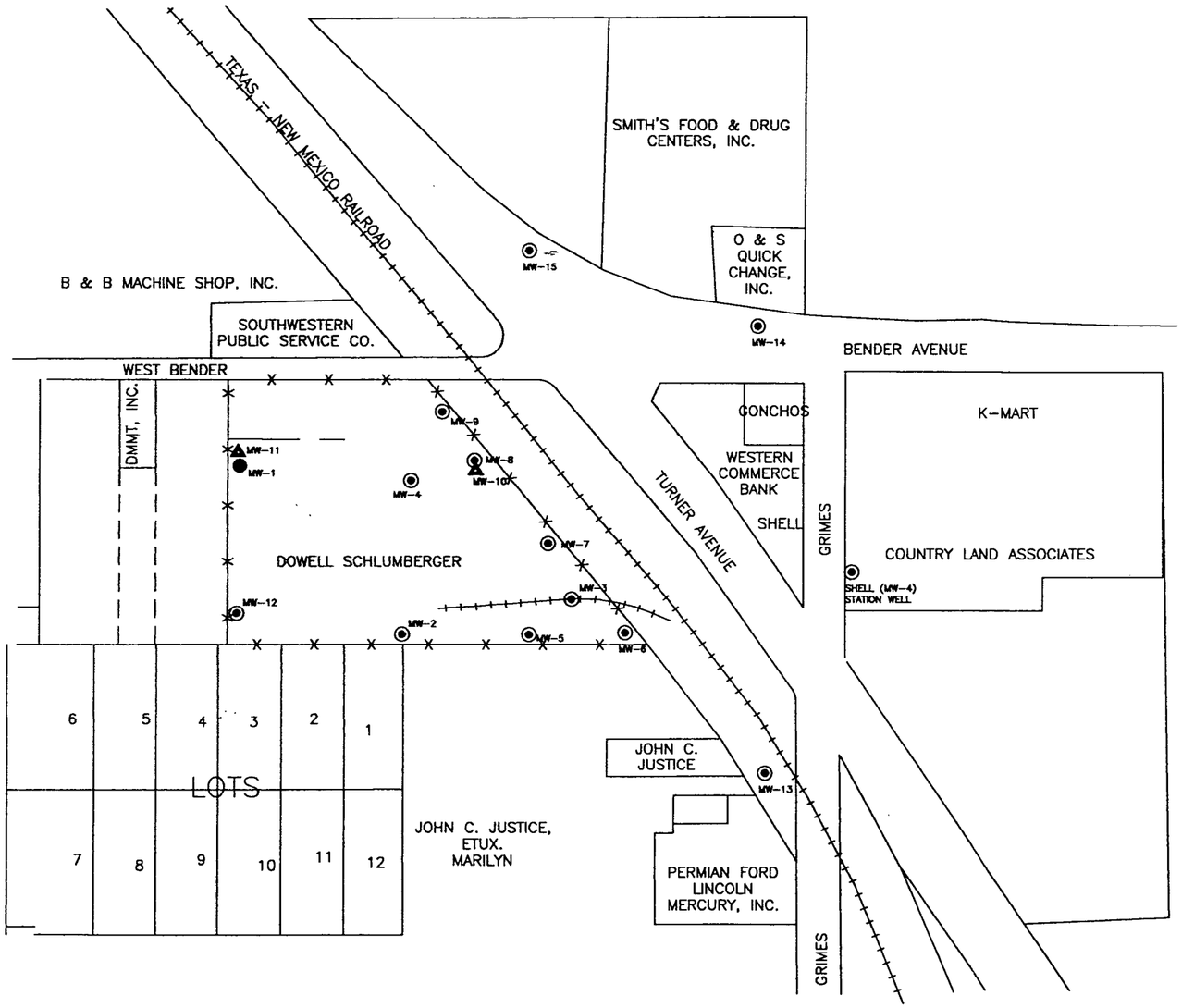
| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.65 | 96.5% | 86 - 118 % |
| Toluene - d8 | 9.60 | 96.0% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.83 | 98.3% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.88 | 98.8% | 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

Report File: R:\Reports\Clients98\Western_Water_Consultants\98_27538_8260.XLS

Analyst: yw
Reviewed: sec




## EXPLANATION

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

0 300 ft.

SCALE

# *FIGURE 1*

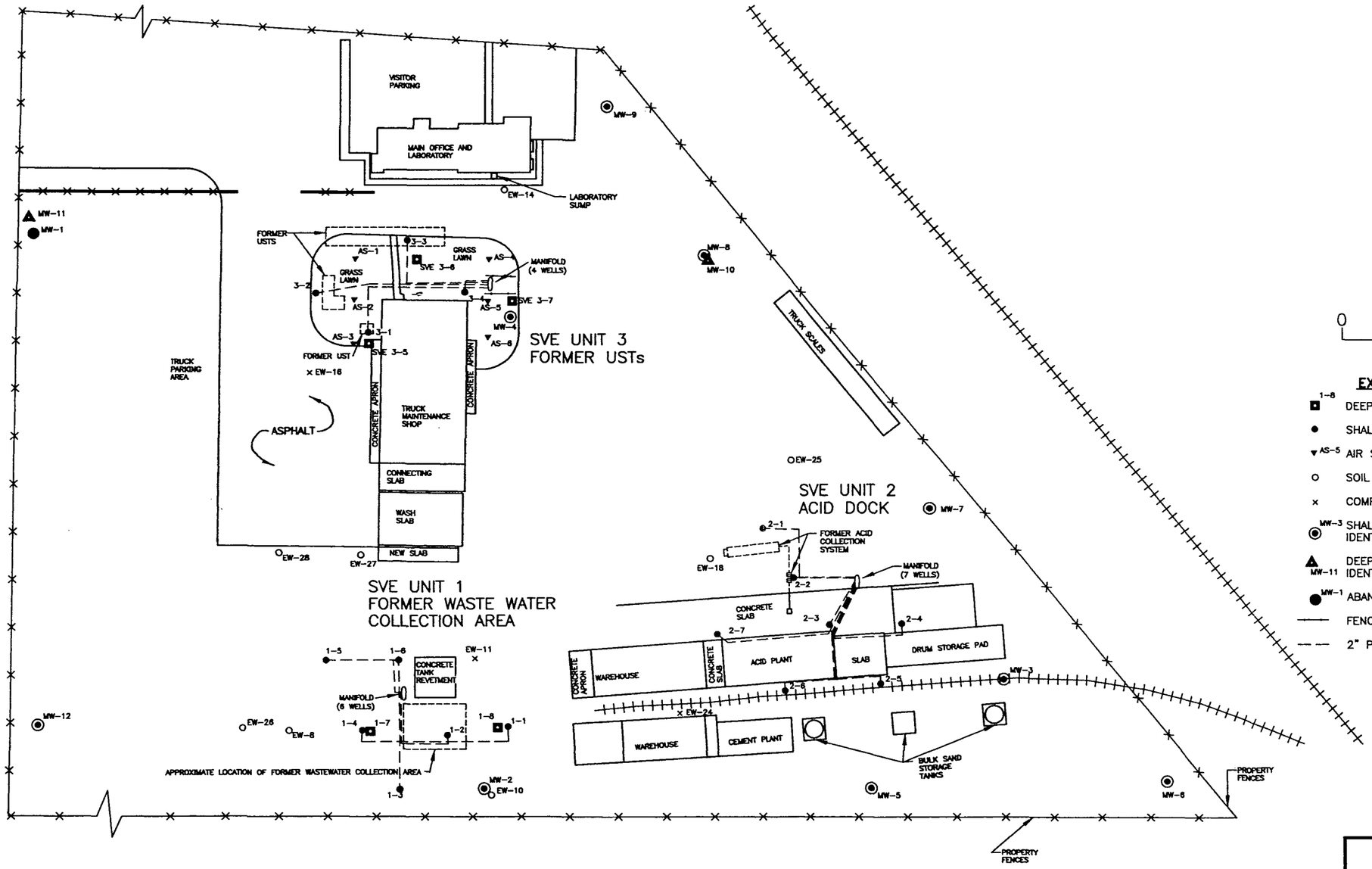
## MONITORING WELL LOCATIONS

DOWELL, A DIVISION OF
SCHLUMBERGER TECHNOLOGY CORPORATION
HOBBS, NM

Western Water Consultants, Inc. WWC Engineering

Engineering Environmental Mining Water Resources

K:\172040\93-007L\NEWBASE 07/02/97 10:32




# *FIGURE 2*

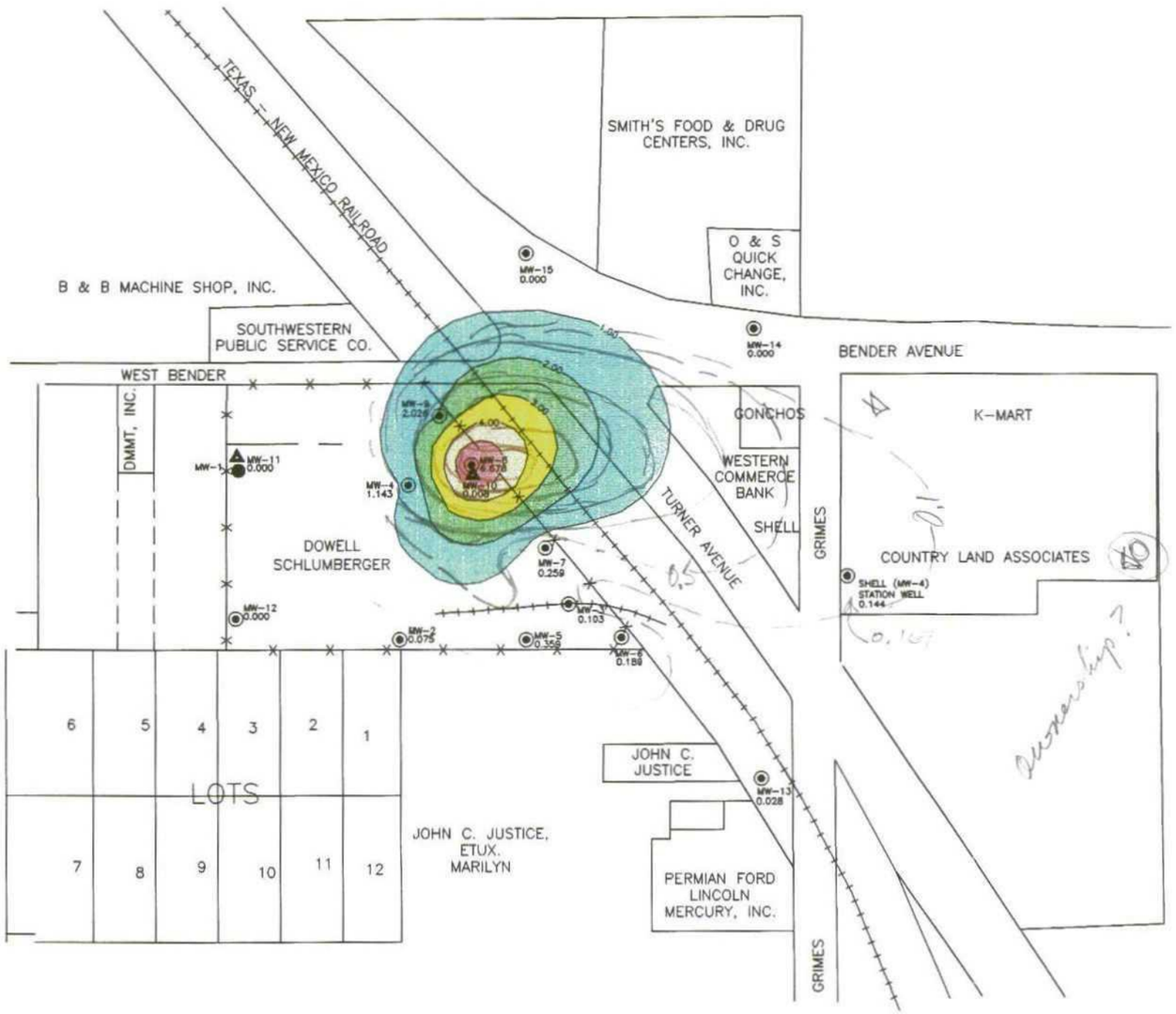
## SITE MAP AND LOCATION OF MONITORING AND REMEDIATION WELLS

DOWELL, A DIVISION OF
SCHLUMBERGER TECHNOLOGY CORPORATION
HOBBS, NM

Western Water Consultants, Inc. WWC Engineering

Engineering Environmental Mining Water Resources

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## EXPLANATION

MW-8 6.463 ◉ 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)

— 5.00
— 4.00
— 3.00
— 2.00
— 1.00

3-17-98
What remediation strategy to use on capturing halogen plume at property line?

0 300 ft.
SCALE

*FIGURE 4*

TOTAL HALOCARBONS CONCENTRATION MAP (01/06/98)

DOWELL, A DIVISION OF SCHLUMBERGER TECHNOLOGY CORPORATION HOBBS, NM

Western Water Consultants, Inc. WWC Engineering

Engineering Environmental Mining Water Resources

Schlumberger Oilfield Services

Oilfield Services Shared Resources

**John A. Miller**
Remediation Manager

March 6, 1998

Mr. Jack Ford
Environmental Bureau
New Mexico Oil Conservation Division
2040 S. Pacheco
Santa Fe, New Mexico 87505

Re: Quarterly Ground-water Monitoring Results for the Dowell, a division of Schlumberger Technology Corporation Facility in Hobbs, New Mexico.

Dear Mr. Ford:

Enclosed are the results of the first quarter ground-water monitoring event for 1998 at the Dowell, a division of Schlumberger Technology Corporation facility in Hobbs, New Mexico. Included in this document are site, potentiometric surface, and isoconcentration maps (Figures 1, 2, 3, and 4), static water and water quality tables (Tables 1 and 2), and laboratory data reports.

The second quarter monitoring event is tentatively scheduled for April, 1998. If you have any questions concerning these results, please feel free to contact me at (281) 285-8498.

Sincerely,

John A. Miller
Remediation Manager

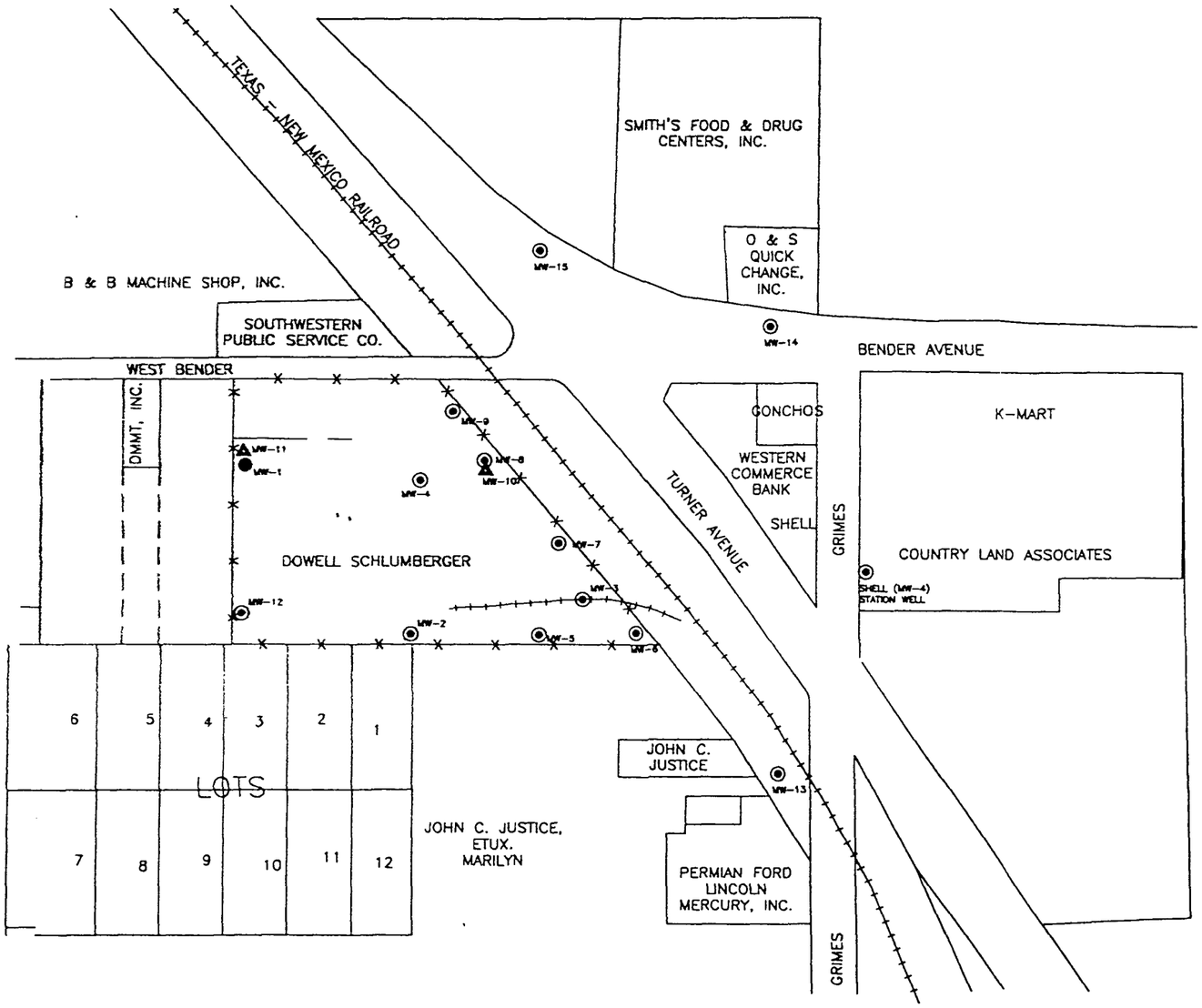
JAM/lld

cc: WWC

3-17-98

System to prevent plume moving off site ??

P.O. Box 2727, Houston, Texas 77252-2727
300 Schlumberger Drive, Sugar Land, Texas 77478
(281) 285-8498 (281) 285-8526 (fax)




## EXPLANATION

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

0 300 ft.

SCALE

# *FIGURE 1*

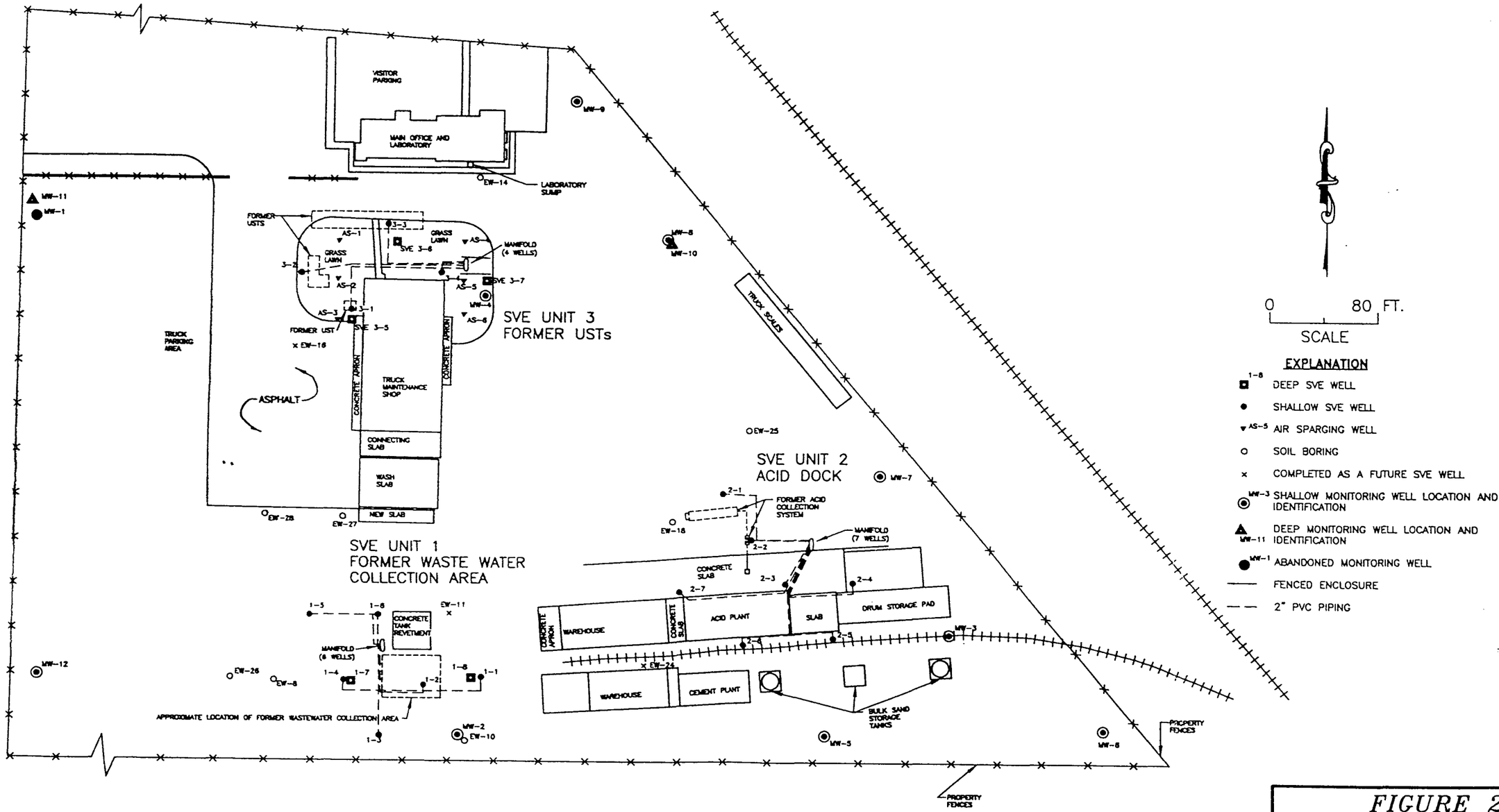
MONITORING WELL LOCATIONS

DOWELL, A DIVISION OF
SCHLUMBERGER TECHNOLOGY CORPORATION
HOBBS, NM

Western Water Consultants, Inc. WWC Engineering

Engineering Environmental Mining Water Resources

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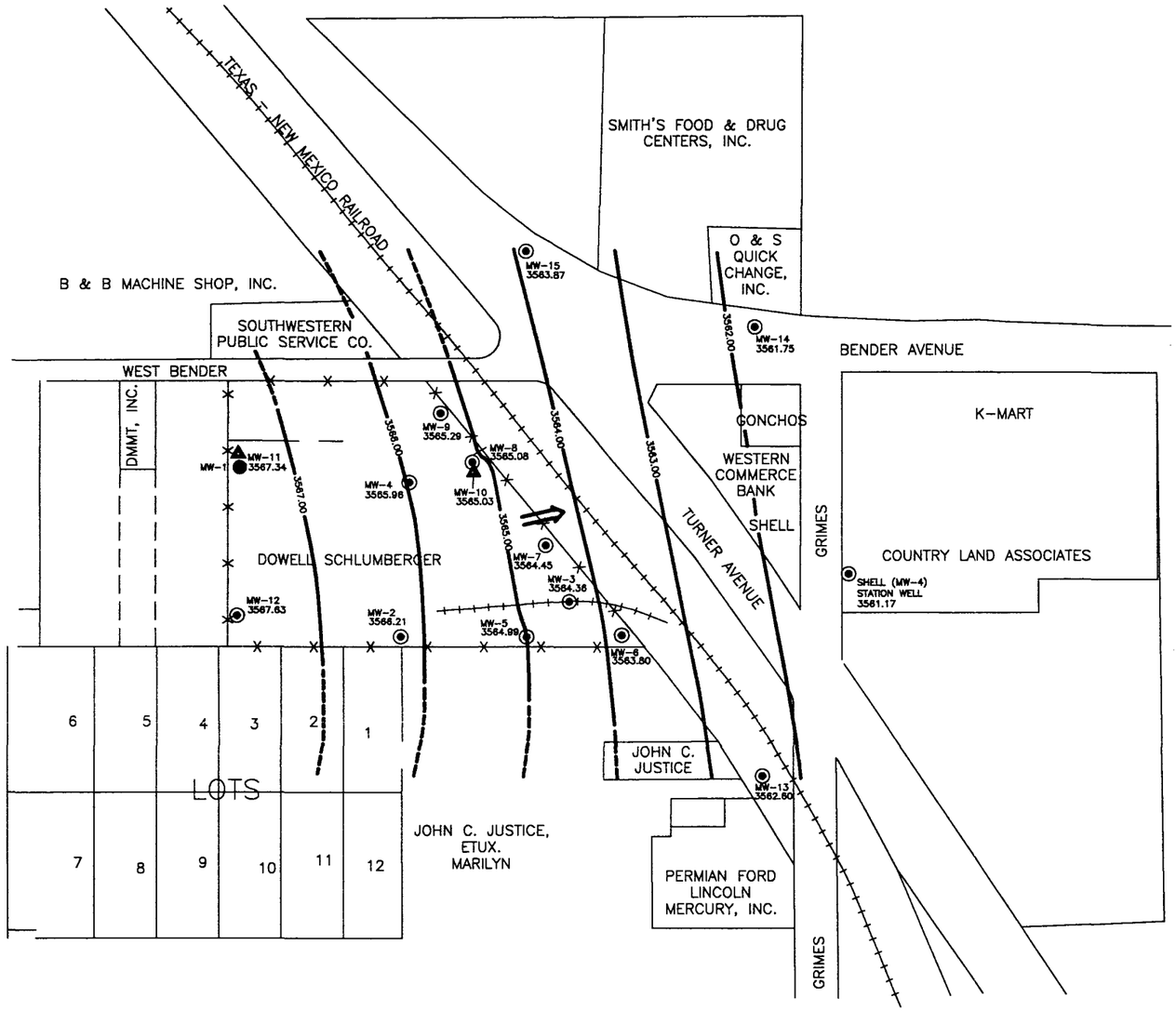

# *FIGURE 2*

## SITE MAP AND LOCATION OF MONITORING AND REMEDIATION WELLS

DOWELL, A DIVISION OF
SCHLUMBERGER TECHNOLOGY CORPORATION
HOBBS, NM

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

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## EXPLANATION

- MW-14 3562.33 — SHALLOW MONITORING WELL LOCATION, IDENTIFICATION, AND POTENTIOMETRIC SURFACE ELEVATION
- MW-1 — ABANDONED MONITORING WELL
- MW-11 3567.85 — DEEP MONITORING WELL LOCATION IDENTIFICATION AND POTENTIOMETRIC SURFACE ELEVATION
- 3563.50 — POTENTIOMETRIC SURFACE CONTOURS AND ELEVATION (DASHED WHERE INFERRED)
- GROUND-WATER FLOW DIRECTION

0 300 ft.
SCALE

# *FIGURE 3*

POTENTIOMETRIC SURFACE MAP
(01/05/98)

DOWELL, A DIVISION OF
SCHLUMBERGER TECHNOLOGY CORPORATION
HOBBS, NM

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

**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 |
| Abandoned | | 05/22/97 | | | | | |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| | | 01/05/98 | | 74.17 | 3564.45 | -0.24 | 10.83 |
| 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 |
| 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 |

**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-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 |
| 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 |
| 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 |
| 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 |
| 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 |
| | | 01/05/98 | | 75.44 | 3561.75 | -0.16 | 9.56 |
| 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 |
| 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 |

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

1/98

**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) | 0.000 | 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(0.002) | ND(0.001) | 0.000 | 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) | 0.000 | 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 |
| duplicate | 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) | 0.011 | 0.005 | 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 | 0.00118J | 0.00096J | 0.00114J | ND(0.002) | 0.004 | 0.143 |
| | 10/16/97 | 0.012 | ND(0.002) | 0.00190J | 0.012 | 0.023 | ND(0.002) | 0.002 | 0.00130J | 0.00064J | 0.00102J | 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 | 0.00154J | 0.00052J | 0.00114J | ND(0.002) | 0.004 | 0.075 |
| 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(0.002) | 0.004 | 0.002 | 0.073 |
| | 07/28/97 | 0.033 | 0.00176J | 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) | 0.00102J | 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 ok | 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 |
| MW-4 | 10/25/96 | 0.110 | 0.051 | 0.498 | 2.590 | 1.040 | 0.005 | 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 |
| duplicate | 11/21/96 | 0.106 | 0.042 | 0.694 | 3.980 | 1.080 | ND(0.02) | ND(0.02) | ND(0.02) | ND(0.02) | ND(0.04) | ND(0.02) | 0.000 | 5.902 |
| | 01/22/97 | 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 | 0.0166J | 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 | 0.0168J | 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 | 0.0146J | 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 | 0.0114J | 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(0.02) | 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 | 0.0060J | 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 |
| MW-5 | 01/23/97 | 0.180 | 0.002 | 0.020 | 0.012 | 0.036 | 0.0008J | 0.018 | 0.004 | ND(0.001) | 0.0008J | ND(0.001) | 0.022 | 0.250 |
| duplicate | 01/23/97 | 0.190 | 0.002 | 0.018 | 0.009 | 0.034 | 0.0007J | 0.018 | 0.004 | ND(0.001) | 0.001 | 0.004 | 0.023 | 0.253 |
| | 05/23/97 | 0.191 | 0.003 | 0.055 | 0.079 | 0.059 | 0.0017J | 0.029 | ND(0.002) | ND(0.002) | ND(0.004) | ND(0.002) | 0.029 | 0.387 |
| | 07/28/97 | 0.241 | 0.004 | 0.072 | 0.058 | 0.051 | 0.002 | 0.051 | 0.023 | ND(0.002) | 0.007 | 0.009 | 0.081 | 0.428 |
| duplicate | 07/28/97 | 0.258 | 0.0043J | 0.069 | 0.052 | 0.050 | ND(0.005) | 0.052 | 0.023 | ND(0.005) | 0.00665J | 0.011 | 0.075 | 0.429 |
| | 10/16/97 | 0.214 | 0.0038J | 0.066 | 0.070 | 0.039 | ND(0.01) | 0.059 | 0.027 | ND(0.01) | 0.008 | 0.011 | 0.094 | 0.389 |
| | 01/06/98 | 0.215 | 0.0037J | 0.060 | 0.055 | 0.029 | ND(0.01) | 0.048 | 0.016 | ND(0.01) | 0.00620J | 0.00450J | 0.064 | 0.359 |
| MW-6 | 01/23/97 | 0.041 | 0.001 | 0.004 | 0.003 | 0.004 | ND(0.001) | 0.0008J | ND(0.001) | ND(0.001) | ND(0.002) | 0.0009J | 0.000 | 0.053 |
| | 05/22/97 | 0.085 | 0.002 | 0.034 | 0.023 | 0.017 | 0.00196J | 0.004 | ND(0.002) | ND(0.002) | ND(0.004) | 0.002 | 0.004 | 0.161 |
| | 07/28/97 | 0.081 | 0.00192J | 0.027 | 0.021 | 0.008 | 0.00194J | 0.003 | ND(0.002) | ND(0.002) | ND(0.004) | 0.004 | 0.003 | 0.137 |
| | 10/16/97 | 0.082 | 0.00170J | 0.025 | 0.019 | 0.006 | 0.00196J | 0.003 | ND(0.002) | ND(0.002) | ND(0.004) | 0.003 | 0.003 | 0.132 |
| | 01/06/98 | 0.113 | 0.00276J | 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 |
| MW-7 | 01/23/97 | 0.047 | 0.0009J | 0.009 | 0.014 | ND(0.001) | 0.004 | 0.0006J | ND(0.001) | ND(0.001) | 0.001 | 0.013 | 0.001 | 0.074 |
| | 05/22/97 | 0.087 | 0.00166J | 0.066 | 0.116 | 0.00164J | 0.014 | 0.003 | ND(0.002) | ND(0.002) | ND(0.004) | 0.062 | 0.003 | 0.283 |
| | 07/28/97 | 0.073 | 0.00162J | 0.061 | 0.110 | ND(0.002) | 0.021 | 0.004 | ND(0.002) | ND(0.002) | ND(0.004) | 0.055 | 0.004 | 0.265 |
| | 10/16/97 | 0.065 | ND(0.005) | 0.050 | 0.091 | ND(0.005) | 0.018 | 0.0030J | ND(0.005) | ND(0.005) | ND(0.01) | 0.058 | 0.000 | 0.224 |
| | 01/06/98 | 0.076 | ND(0.005) | 0.054 | 0.111 | ND(0.005) | 0.018 | 0.00335J | ND(0.005) | ND(0.005) | ND(0.01) | 0.048 | 0.000 | 0.259 |
| MW-8 | 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 |

**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-9 | 01/23/97 | 0.011 | ND(0.001) | 0.063 | 0.090 | 0.045 | 0.0004J | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.002) | 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 |
| | 08/25/97 | 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 |
| | 10/16/97 | 0.0186J | 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 |
| duplicate | 10/16/97 | 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 | <0.033UJ> | 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 |
| MW-10 | 05/26/97 | 0.004 | ND(0.002) | 0.007 | 0.026 | ND(0.002) | 0.0012J | 0.004 | ND(0.002) | ND(0.002) | ND(0.004) | ND(0.002) | 0.004 | 0.037 |
| duplicate | 05/26/97 | ND(0.002) | ND(0.002) | 0.008 | 0.028 | ND(0.002) | 0.0013J | 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 | 0.00198J | ND(0.002) | 0.0015J | 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) | 0.00198J | 0.008 | ND(0.002) | ND(0.002) | 0.00106J | 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) | 0.00194J | 0.008 | ND(0.002) | ND(0.002) | 0.00114J | ND(0.002) | ND(0.002) | ND(0.004) | ND(0.002) | 0.000 | 0.008 |
| MW-11 | 05/24/97 | 0.0008J | ND(0.001) | 0.0069J | 0.002 | ND(0.001) | ND(0.001) | 0.002 | ND(0.001) | ND(0.001) | 0.0010J | 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 | 0.00095J | 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 | 0.00049J | ND(0.001) | 0.00302J | 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) | 0.00160J | ND(0.002) | ND(0.002) | 0.00262J | 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) | 0.0056J | 0.0052J | 0.0027J | 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(0.004) | ND(0.002) | 0.000 | 0.000 |
| 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) | 0.000 | 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) | 0.000 | 0.022 |
| | 10/16/97 | ND(0.001) | 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) | 0.000 | 0.029 |
| | 10/16/97 | ND(0.002) | ND(0.002) | 0.011 | 0.013 | 0.00106J | ND(0.002) | ND(0.002) | ND(0.002) | ND(0.002) | ND(0.004) | ND(0.002) | 0.000 | 0.024 |
| | 01/06/98 | ND(0.002) | ND(0.002) | 0.017 | 0.011 | 0.00164J | ND(0.002) | ND(0.002) | ND(0.002) | ND(0.002) | ND(0.004) | ND(0.002) | 0.000 | 0.028 |
| 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 | 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 | 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 | 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 | 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(0.004) | ND(0.002) | 0.000 | 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 | 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 | 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 | 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 | 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 | 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 | 2.875 | 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 | 1.454 | 0.040 |
| | 10/16/97 | 0.0180J | 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 | 1.074 | 0.022 |
| | 01/06/98 | <0.051> | ND(0.002) | <0.075> | 0.004 | 0.014 | ND(0.002) | 0.002 | 0.042 | 0.00126J | 0.019 | 0.024 | 0.063 | 0.144 |

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

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# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | Date Sampled: | 01/06/98 |
| Project: | 93007L.98.2 | Time Sampled: | 07:50 |
| Sample ID: | 93007-2.1/98 MW-2 | Date Received: | 01/08/98 |
| Laboratory ID: | C98-10329 | Date Analyzed: | 01/08/98 |
| Matrix: | Water | Date Reported: | January 24, 1998 |
| Dilution Factor: | 2 | | |

| 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** | **2.08** | | 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** | **23.0** | | 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** | **43.0** | | 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** | **3.88** | | 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** | **0.52** | J | 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** | **7.44** | | 2.0 |
| 630-20-6 | 1,1,1,2 - Tetrachloroethane | ND | | 2.0 |
| 108-90-7 | Chlorobenzene | ND | | 2.0 |
| **100-41-4** | **Ethylbenzene** | **1.54** | J | 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)** | **1.14** | J | 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: 93007-2.1/98 MW-2
Laboratory ID: C98-10329

Date Sampled: 01/06/98
Date Analyzed: 01/08/98
Date Reported: January 24, 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 | 1067115 | 1184454 | 90.1% | 50 - 200 % |
| Fluorobenzene | 2074391 | 2278484 | 91.0% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1902803 | 2050341 | 92.8% | 50 - 200 % |
| Chlorobenzene - d5 | 1417240 | 1545833 | 91.7% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 590680 | 666765 | 88.6% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 11.2 | 112% | 86 - 118 % |
| Toluene - d8 | 9.81 | 98.1% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.2 | 102% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 10.0 | 100% | 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** | Date Sampled: | 01/06/98 |
| Project: | 93007L.98.2 | Time Sampled: | 08:20 |
| Sample ID: | 93007-3.1/98 MW-3 | Date Received: | 01/08/98 |
| Laboratory ID: | C98-10330 | Date Analyzed: | 01/08/98 |
| Matrix: | Water | Date Reported: | January 24, 1998 |
| Dilution Factor: | 2 | | |

| 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** | **23.3** | | 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** | **22.9** | | 2.0 |
| 78-93-3 | 2 -Butanone (MEK) | ND | | 20.0 |
| **156-59-2** | **cis - 1,2 - Dichloroethene** | **1.62** | J | 2.0 |
| 74-97-5 | Bromochloromethane | ND | | 2.0 |
| **67-66-3** | **Chloroform (Trichloromethane)** | **4.12** | | 2.0 |
| 594-20-7 | 2,2 - Dichloropropane | ND | | 2.0 |
| **71-55-6** | **1,1,1 - Trichloroethane** | **30.7** | | 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** | **26.2** | | 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** Date Sampled: 01/06/98
Sample ID: 93007-3.1/98 MW-3 Date Analyzed: 01/08/98
Laboratory ID: C98-10330 Date Reported: January 24, 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 | 1061515 | 1184454 | 89.6% | 50 - 200 % |
| Fluorobenzene | 2085931 | 2278484 | 91.5% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1896198 | 2050341 | 92.5% | 50 - 200 % |
| Chlorobenzene - d5 | 1410752 | 1545833 | 91.3% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 590678 | 666765 | 88.6% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 11.3 | 113% | 86 - 118 % |
| Toluene - d8 | 9.79 | 97.9% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.3 | 103% | 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

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## EPA METHOD 8260

1.259 mg/l Total

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | Date Sampled: | 01/06/98 |
| Project: | 93007L.98.2 | Time Sampled: | 09:10 |
| Sample ID: | 93007-4.1/98 MW-4 | Date Received: | 01/08/98 |
| Laboratory ID: | C98-10331 | Date Analyzed: | 01/08/98 |
| Matrix: | Water | Date Reported: | January 24, 1998 |
| Dilution Factor: | 20 | | |

| C.A.S. # | TARGET COMPOUNDS | CONCENTRATION (µg/L) | | LIMIT OF DETECTION (µg/L) | |
|---|---|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | ND | | 20.0 | Standard |
| 74-87-3 | Chloromethane | ND | | 20.0 | |
| 75-01-4 | Vinyl chloride (Chloroethene) | ND | | 20.0 | |
| 74-83-9 | Bromomethane | ND | | 20.0 | |
| 75-00-3 | Chloroethane | ND | | 20.0 | |
| 75-69-4 | Trichlorofluoromethane | ND | | 20.0 | |
| **75-35-4** | **1,1 - Dichloroethene** | **87.0** | | 20.0 | |
| 75-09-2 | Methylene chloride (Dichloromethane) | ND | | 20.0 | |
| 156-60-5 | trans - 1, 2 - Dichloroethene | ND | | 20.0 | |
| **75-34-3** | **1,1 - Dichloroethane** | **21.2** | | 20.0 | .0212 25 µg/l |
| 78-93-3 | 2 -Butanone (MEK) | ND | | 200 | |
| 156-59-2 | cis - 1,2 - Dichloroethene | ND | | 20.0 | |
| 74-97-5 | Bromochloromethane | ND | | 20.0 | |
| **67-66-3** | **Chloroform (Trichloromethane)** | **9.20** | J | 20.0 | |
| 594-20-7 | 2,2 - Dichloropropane | ND | | 20.0 | |
| **71-55-6** | **1,1,1 - Trichloroethane** | **148** | | 20.0 | .148 60 µg/l |
| 107-06-2 | 1,2 - Dichloroethane | ND | | 20.0 | |
| 563-58-6 | 1,1 - Dichloropropene | ND | | 20.0 | |
| 56-23-5 | Carbon tetrachloride (Tetrachloromethane) | ND | | 20.0 | |
| 71-43-2 | Benzene | ND | | 20.0 | |
| 74-95-3 | Dibromomethane | ND | | 20.0 | |
| 78-87-5 | 1,2 - Dichloropropane | ND | | 20.0 | |
| 79-01-6 | Trichloroethene | ND | | 20.0 | |
| 75-27-4 | Bromodichloromethane | ND | | 20.0 | |
| 10061-01-5 | cis - 1,3 - Dichloropropene | ND | | 20.0 | |
| 10061-02-6 | trans - 1,3 - Dichloropropene | ND | | 20.0 | |
| 79-00-5 | 1,1,2 - Trichloroethane | ND | | 20.0 | |
| 108-88-3 | Toluene | ND | | 20.0 | |
| 106-93-4 | 1,2 - Dibromoethane | ND | | 20.0 | |
| 142-28-9 | 1,3 - Dichloropropane | ND | | 20.0 | |
| 124-48-1 | Dibromochloromethane | ND | | 20.0 | |
| **127-18-4** | **Tetrachloroethene** | **970** | | 20.0 | |
| 630-20-6 | 1,1,1,2 - Tetrachloroethane | ND | | 20.0 | |
| 108-90-7 | Chlorobenzene | ND | | 20.0 | |
| 100-41-4 | Ethylbenzene | ND | | 20.0 | |
| 108-38-3 | m,p - Xylenes (1,3- & 1,4-Dimethylbenzene) | ND | | 40.0 | |
| 75-25-2 | Bromoform (Tribromomethane) | ND | | 20.0 | |
| 100-42-5 | Styrene (Ethenylbenzene) | ND | | 20.0 | |
| 95-47-6 | o - Xylene (1,2-Dimethylbenzene) | ND | | 20.0 | |
| 79-34-5 | 1,1,2,2 - Tetrachloroethane | ND | | 20.0 | |
| 96-18-4 | 1,2,3 - Trichloropropane | ND | | 20.0 | |

***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: 93007L.98.2
Laboratory ID: C98-10331

MW-4

Date Sampled: 01/06/98
Date Analyzed: 01/08/98
Date Reported: January 24, 1998

| C.A.S. # | TARGET COMPOUNDS | CONCENTRATION (µg/L) | LIMIT OF DETECTION (µg/L) |
|---|---|---|---|
| 98-82-8 | Isopropylbenzene (1-Methylethylbenzene) | ND | 20.0 |
| 108-86-1 | Bromobenzene | ND | 20.0 |
| 103-65-1 | n - Propylbenzene | ND | 20.0 |
| 95-49-8 | 2 - Chlorotoluene | ND | 20.0 |
| 106-43-4 | 4 - Chlorotoluene | ND | 20.0 |
| 108-67-8 | 1,3,5 - Trimethylbenzene | ND | 20.0 |
| 98-06-6 | tert - Butylbenzene | ND | 20.0 |
| 95-63-6 | 1,2,4 - Trimethylbenzene | ND | 20.0 |
| 135-98-8 | sec - Butylbenzene | ND | 20.0 |
| 541-73-1 | 1,3 - Dichlorobenzene | ND | 20.0 |
| 106-46-7 | 1,4 - Dichlorobenzene | ND | 20.0 |
| 99-87-6 | 4-Isopropyltoluene | ND | 20.0 |
| 95-50-1 | 1,2 - Dichlorobenzene | ND | 20.0 |
| 104-51-8 | n - Butylbenzene | ND | 20.0 |
| 96-12-8 | 1,2 - Dibromo - 3 - chloropropane | ND | 100 |
| 120-82-1 | 1,2,4 - Trichlorobenzene | ND | 20.0 |
| **91-20-3** | **Naphthalene** | **23.8** | 20.0 |
| 87-68-3 | Hexachlorobutadiene | ND | 20.0 |
| 87-61-6 | 1,2 3 - Trichlorobenzene | ND | 20.0 |

***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 | 1212996 | 1184454 | 102% | 50 - 200 % |
| Fluorobenzene | 2258800 | 2278484 | 99.1% | 50 - 200 % |
| 1,4 - Difluorobenzene | 2050263 | 2050341 | 100.0% | 50 - 200 % |
| Chlorobenzene - d5 | 1522785 | 1545833 | 98.5% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 645631 | 666765 | 96.8% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 10.7 | 107% | 86 - 118 % |
| Toluene - d8 | 9.82 | 98.2% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.4 | 104% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.97 | 99.7% | 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

1,172 mg/L total

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | Date Sampled: | 01/06/98 |
| Project: | 93007L.98.2 | Time Sampled: | 10:00 |
| Sample ID: | 93007-A.1/98 | Date Received: | 01/08/98 |
| Laboratory ID: | C98-10344 | Date Analyzed: | 01/08/98 |
| Matrix: | Water | Date Reported: | January 24, 1998 |
| Dilution Factor: | 10 | | |

Duplicate of MW-4

| 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** | **76.5** | | 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** | **20.9** | | 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)** | **9.60** | J | 10.0 |
| 594-20-7 | 2,2 - Dichloropropane | ND | | 10.0 |
| **71-55-6** | **1,1,1 - Trichloroethane** .138 mg/L | 138 | | 10.0 |
| **107-06-2** | **1,2 - Dichloroethane** .006 mg/L | **6.00** | J | 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** | **907** | | 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***

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

## EPA METHOD 8260

Client: **Western Water Consultants**
Sample ID: 93007L.98.2
Laboratory ID: C98-10344

Duplicate of MW-4

Date Sampled: 01/06/98
Date Analyzed: 01/08/98
Date Reported: January 24, 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 | 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 |
| 120-82-1 | 1,2,4 - Trichlorobenzene | ND | 10.0 |
| 91-20-3 | Naphthalene | **18.9** | 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 AREA | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|---|
| Pentafluorobenzene | 1042185 | 1184454 | 88.0% | 50 - 200 % |
| Fluorobenzene | 1987412 | 2278484 | 87.2% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1814837 | 2050341 | 88.5% | 50 - 200 % |
| Chlorobenzene - d5 | 1360538 | 1545833 | 88.0% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 570256 | 666765 | 85.5% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 11.1 | 111% | 86 - 118 % |
| Toluene - d8 | 9.91 | 99.1% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.4 | 104% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 10.0 | 100% | 80 - 120 % |

**REFERENCES**

**Method 8260:** Volatile Organics by Gas Chromatography/Mass Spectrometry (GC/MS): Capillary Technique
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## EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | Date Sampled: | 01/06/98 |
| Project: | 93007L.98.2 | Time Sampled: | 08:00 |
| Sample ID: | 93007-5.1/98 MW-5 | Date Received: | 01/08/98 |
| Laboratory ID: | C98-10332 | Date Analyzed: | 01/08/98 |
| Matrix: | Water | Date Reported: | January 24, 1998 |
| Dilution Factor: | 10 | | |

| 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** | **59.7** | | 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** | **215** | | 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** | **29.4** | | 10.0 |
| **107-06-2** | **1,2 - Dichloroethane** | **3.70** | J | 10.0 |
| 563-58-6 | 1,1 - Dichloropropene | ND | | 10.0 |
| 56-23-5 | Carbon tetrachloride (Tetrachloromethane) | ND | | 10.0 |
| **71-43-2** | **Benzene** | **47.8** | | 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** | **54.8** | | 10.0 |
| 630-20-6 | 1,1,1,2 - Tetrachloroethane | ND | | 10.0 |
| 108-90-7 | Chlorobenzene | ND | | 10.0 |
| **100-41-4** | **Ethylbenzene** | **15.8** | | 10.0 |
| **108-38-3** | **m,p - Xylenes (1,3- & 1,4-Dimethylbenzene)** | **6.20** | J | 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** MW-5
Sample ID: 93007L.98.2
Laboratory ID: C98-10332

Date Sampled: 01/06/98
Date Analyzed: 01/08/98
Date Reported: January 24, 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** | **7.30** | **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** | **4.50** | **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 AREA | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|---|
| Pentafluorobenzene | 1095879 | 1184454 | 92.5% | 50 - 200 % |
| Fluorobenzene | 2113949 | 2278484 | 92.8% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1953304 | 2050341 | 95.3% | 50 - 200 % |
| Chlorobenzene - d5 | 1464471 | 1545833 | 94.7% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 623550 | 666765 | 93.5% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 11.2 | 112% | 86 - 118 % |
| Toluene - d8 | 9.80 | 98.0% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.4 | 104% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 10.0 | 100% | 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

Report File: R:\Reports\Clients98\WesternWaterConsultants\98_10329_8260.xls

Analyst: yw
Reviewed: sec

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## EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | Date Sampled: | 01/06/98 |
| Project: | 93007L.98.2 | Time Sampled: | 08:10 |
| Sample ID: | 93007-6.1/98 MW-6 | Date Received: | 01/08/98 |
| Laboratory ID: | C98-10333 | Date Analyzed: | 01/08/98 |
| Matrix: | Water | Date Reported: | January 24, 1998 |
| Dilution Factor: | 2 | | |

| 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** | **37.8** | 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** | **113** | 2.0 |
| 78-93-3 | 2 -Butanone (MEK) | ND | 20.0 |
| **156-59-2** | **cis - 1,2 - Dichloroethene** | **5.84** | 2.0 |
| 74-97-5 | Bromochloromethane | ND | 2.0 |
| **67-66-3** | **Chloroform (Trichloromethane)** | **3.98** | 2.0 |
| 594-20-7 | 2,2 - Dichloropropane | ND | 2.0 |
| **71-55-6** | **1,1,1 - Trichloroethane** | **12.1** | 2.0 |
| **107-06-2** | **1,2 - Dichloroethane** | **2.76** | 2.0 |
| 563-58-6 | 1,1 - Dichloropropene | ND | 2.0 |
| 56-23-5 | Carbon tetrachloride (Tetrachloromethane) | ND | 2.0 |
| **71-43-2** | **Benzene** | **3.02** | 2.0 |
| 74-95-3 | Dibromomethane | ND | 2.0 |
| 78-87-5 | 1,2 - Dichloropropane | ND | 2.0 |
| **79-01-6** | **Trichloroethene** | **2.42** | 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** | **24.4** | 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** | Date Sampled: | 01/06/98 |
| Sample ID: | 93007L.98.2 MW-6 | Date Analyzed: | 01/08/98 |
| Laboratory ID: | C98-10333 | Date Reported: | January 24, 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** | **2.98** | 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 | 1051863 | 1184454 | 88.8% | 50 - 200 % |
| Fluorobenzene | 2055497 | 2278484 | 90.2% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1879546 | 2050341 | 91.7% | 50 - 200 % |
| Chlorobenzene - d5 | 1408415 | 1545833 | 91.1% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 595519 | 666765 | 89.3% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 11.4 | 114% | 86 - 118 % |
| Toluene - d8 | 9.81 | 98.1% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.5 | 105% | 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** | Date Sampled: | 01/06/98 |
| Project: | 93007L.98.2 | Time Sampled: | 08:30 |
| Sample ID: | 93007-7.1/98 MW-7 | Date Received: | 01/08/98 |
| Laboratory ID: | C98-10334 | Date Analyzed: | 01/08/98 |
| Matrix: | Water | Date Reported: | January 24, 1998 |
| Dilution Factor: | 5 | | |

| 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** | **53.6** | | 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** | **76.2** | | 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** | **3.35** | J | 5.0 |
| 74-95-3 | Dibromomethane | ND | | 5.0 |
| 78-87-5 | 1,2 - Dichloropropane | ND | | 5.0 |
| **79-01-6** | **Trichloroethene** | **18.0** | | 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** | **2.35** | J | 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** | **111** | | 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 - Meets Mass Spectral identification criteria but result is below established detection limit*

# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | Date Sampled: | 01/06/98 |
| Sample ID: | 93007L.98.2 MW-7 | Date Analyzed: | 01/08/98 |
| Laboratory ID: | C98-10334 | Date Reported: | January 24, 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** | **48.4** | 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 - 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 | 1043435 | 1184454 | 88.1% | 50 - 200 % |
| Fluorobenzene | 2011749 | 2278484 | 88.3% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1821659 | 2050341 | 88.8% | 50 - 200 % |
| Chlorobenzene - d5 | 1376757 | 1545833 | 89.1% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 582461 | 666765 | 87.4% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 11.1 | 111% | 86 - 118 % |
| Toluene - d8 | 9.88 | 98.8% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.5 | 105% | 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** | Date Sampled: | 01/06/98 |
| Project: | 93007L.98.2 | Time Sampled: | 08:40 |
| Sample ID: | 93007-8.1/98 MW-8 | Date Received: | 01/08/98 |
| Laboratory ID: | C98-10335 | Date Analyzed: | 01/08/98 |
| Matrix: | Water | Date Reported: | January 24, 1998 |
| Dilution Factor: | 200 | | |

| 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** | **1,230** | 200 |
| 75-09-2 | Methylene chloride (Dichloromethane) | ND | 200 |
| 156-60-5 | trans - 1, 2 - Dichloroethene | ND | 200 |
| 75-34-3 | 1,1 - Dichloroethane | ND | 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** | **798** | 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** | **4,650** | 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*

# EPA METHOD 8260

Client: **Western Water Consultants**
Sample ID: 93007L.98.2
Laboratory ID: C98-10335

MW-8

Date Sampled: 01/06/98
Date Analyzed: 01/08/98
Date Reported: January 24, 1998

| 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** | **166** | J | 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***

*RUNTIME QUALITY ASSURANCE REPORT*

| INTERNAL STANDARDS | AREA | ICAL / CCAL AREA | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|---|
| Pentafluorobenzene | 1077765 | 1184454 | 91.0% | 50 - 200 % |
| Fluorobenzene | 2057425 | 2278484 | 90.3% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1877214 | 2050341 | 91.6% | 50 - 200 % |
| Chlorobenzene - d5 | 1403076 | 1545833 | 90.8% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 592934 | 666765 | 88.9% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 11.1 | 111% | 86 - 118 % |
| Toluene - d8 | 9.84 | 98.4% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.5 | 105% | 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

Report File: R:\Reports\Clients98\WesternWaterConsultants\98_10329_8260.xls

Analyst: yw
Reviewed: sec

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## EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | Date Sampled: | 01/06/98 |
| Project: | 93007L.98.2 | Time Sampled: | 09:00 |
| Sample ID: | 93007-9.1/98 | Date Received: | 01/08/98 |
| Laboratory ID: | C98-10336 | Date Analyzed: | 01/08/98 |
| Matrix: | Water | Date Reported: | January 24, 1998 |
| Dilution Factor: | 100 | | |

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** | **502** | | 100 |
| 75-09-2 | Methylene chloride (Dichloromethane) | ND | | 100 |
| 156-60-5 | trans - 1, 2 - Dichloroethene | ND | | 100 |
| **75-34-3** | **1,1 - Dichloroethane** | **33.0** | 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** | **174** | | 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** | **1,350** | | 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** | Date Sampled: | 01/06/98 |
| Sample ID: | 93007L.98.2 MW-9 | Date Analyzed: | 01/08/98 |
| Laboratory ID: | C98-10336 | Date Reported: | January 24, 1998 |

| 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 | 1046731 | 1184454 | 88.4% | 50 - 200 % |
| Fluorobenzene | 2008031 | 2278484 | 88.1% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1835075 | 2050341 | 89.5% | 50 - 200 % |
| Chlorobenzene - d5 | 1350292 | 1545833 | 87.4% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 568622 | 666765 | 85.3% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 11.2 | 112% | 86 - 118 % |
| Toluene - d8 | 9.85 | 98.5% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.6 | 106% | 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

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Analyst: yw
Reviewed: sec

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# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | Date Sampled: | 01/06/98 |
| Project: | 93007L.98.2 | Time Sampled: | 08:50 |
| Sample ID: | 93007-10.1/98 MW-10 | Date Received: | 01/08/98 |
| Laboratory ID: | C98-10337 | Date Analyzed: | 01/08/98 |
| Matrix: | Water | Date Reported: | January 24, 1998 |
| Dilution Factor: | 2 | | |

| 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** | **1.94** | **J** | 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** | **1.14** | **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** | **7.62** | | 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** MW-10
Sample ID: 93007L.98.2
Laboratory ID: C98-10337

Date Sampled: 01/06/98
Date Analyzed: 01/08/98
Date Reported: January 24, 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 | 1033533 | 1184454 | 87.3% | 50 - 200 % |
| Fluorobenzene | 1992722 | 2278484 | 87.5% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1810072 | 2050341 | 88.3% | 50 - 200 % |
| Chlorobenzene - d5 | 1361587 | 1545833 | 88.1% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 558848 | 666765 | 83.8% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 11.2 | 112% | 86 - 118 % |
| Toluene - d8 | 9.94 | 99.4% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.3 | 103% | 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

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Analyst: yw
Reviewed: sec

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# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | Date Sampled: | 01/06/98 |
| Project: | 93007L.98.2 | Time Sampled: | 07:30 |
| Sample ID: | 93007-11.1/98 MW-11 | Date Received: | 01/08/98 |
| Laboratory ID: | C98-10338 | Date Analyzed: | 01/08/98 |
| Matrix: | Water | Date Reported: | January 24, 1998 |
| Dilution Factor: | 2 | | |

| *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** | **1.60** | 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)** | **2.62** | J | 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** | Date Sampled: | 01/06/98 |
| Sample ID: | 93007L.98.2 | Date Analyzed: | 01/08/98 |
| Laboratory ID: | C98-10338 | Date Reported: | January 24, 1998 |

MW-11

| C.A.S. # | TARGET COMPOUNDS | CONCENTRATION (µg/L) | | LIMIT OF DETECTION (µg/L) |
|---|---|---|---|---|
| **98-82-8** | **Isopropylbenzene (1-Methylethylbenzene)** | **3.48** | | 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** | **3.22** | | 2.0 |
| 98-06-6 | tert - Butylbenzene | ND | | 2.0 |
| **95-63-6** | **1,2,4 - Trimethylbenzene** | **8.04** | | 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** | **0.98** | J | 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 | 1001151 | 1184454 | 84.5% | 50 - 200 % |
| Fluorobenzene | 1886130 | 2278484 | 82.8% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1742921 | 2050341 | 85.0% | 50 - 200 % |
| Chlorobenzene - d5 | 1308906 | 1545833 | 84.7% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 564609 | 666765 | 84.7% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 10.9 | 109% | 86 - 118 % |
| Toluene - d8 | 9.96 | 99.6% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.5 | 105% | 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

Report File: R:\Reports\Clients98\WesternWaterConsultants\98_10329_8260.xls

Analyst: yw
Reviewed: sec

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## EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | Date Sampled: | 01/06/98 |
| Project: | 93007L.98.2 | Time Sampled: | 07:40 |
| Sample ID: | 93007-12.1/98 MW-12 | Date Received: | 01/08/98 |
| Laboratory ID: | C98-10339 | Date Analyzed: | 01/08/98 |
| Matrix: | Water | Date Reported: | January 24, 1998 |
| Dilution Factor: | 2 | | |

| 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: 93007L.98.2
Laboratory ID: C98-10339

MW-12

Date Sampled: 01/06/98
Date Analyzed: 01/08/98
Date Reported: January 24, 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 | 1132529 | 1184454 | 95.6% | 50 - 200 % |
| Fluorobenzene | 2143394 | 2278484 | 94.1% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1935017 | 2050341 | 94.4% | 50 - 200 % |
| Chlorobenzene - d5 | 1463265 | 1545833 | 94.7% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 605448 | 666765 | 90.8% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 10.9 | 109% | 86 - 118 % |
| Toluene - d8 | 9.85 | 98.5% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.3 | 103% | 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** | Date Sampled: | 01/06/98 |
| Project: | 93007L.98.2 | Time Sampled: | 09:20 |
| Sample ID: | 93007-13.1/98 MW-13 | Date Received: | 01/08/98 |
| Laboratory ID: | C98-10340 | Date Analyzed: | 01/08/98 |
| Matrix: | Water | Date Reported: | January 24, 1998 |
| Dilution Factor: | 2 | | |

| *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** | **17.2** | | 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** | **1.64** | J | 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** | **11.0** | | 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** | Date Sampled: | 01/06/98 |
| Sample ID: | 93007L.98.2 | Date Analyzed: | 01/08/98 |
| Laboratory ID: | C98-10340 | Date Reported: | January 24, 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 | 874930 | 1184454 | 73.9% | 50 - 200 % |
| Fluorobenzene | 1424016 | 2278484 | 62.5% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1460798 | 2050341 | 71.2% | 50 - 200 % |
| Chlorobenzene - d5 | 1101516 | 1545833 | 71.3% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 553970 | 666765 | 83.1% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 11.1 | 111% | 86 - 118 % |
| Toluene - d8 | 9.88 | 98.8% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.4 | 104% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 10.0 | 100% | 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** | Date Sampled: | 01/06/98 |
| Project: | 93007L.98.2 | Time Sampled: | 09:30 |
| Sample ID: | 93007-14.1/98 | Date Received: | 01/08/98 |
| Laboratory ID: | C98-10341 | Date Analyzed: | 01/08/98 |
| Matrix: | Water | Date Reported: | January 24, 1998 |
| Dilution Factor: | 2 | | |

MW-14

| 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: 93007L.98.2
Laboratory ID: C98-10341

MW-14

Date Sampled: 01/06/98
Date Analyzed: 01/08/98
Date Reported: January 24, 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 | 1053025 | 1184454 | 88.9% | 50 - 200 % |
| Fluorobenzene | 2032285 | 2278484 | 89.2% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1847563 | 2050341 | 90.1% | 50 - 200 % |
| Chlorobenzene - d5 | 1383278 | 1545833 | 89.5% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 577478 | 666765 | 86.6% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 11.1 | 111% | 86 - 118 % |
| Toluene - d8 | 9.89 | 98.9% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.3 | 103% | 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

Report File: R:\Reports\Clients98\WesternWaterConsultants\98_10329_8260.xls

Analyst: yw
Reviewed: sec

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# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | Date Sampled: | 01/06/98 |
| Project: | 93007L.98.2 | Time Sampled: | 09:40 |
| Sample ID: | 93007-15.1/98 MW-15 | Date Received: | 01/08/98 |
| Laboratory ID: | C98-10342 | Date Analyzed: | 01/08/98 |
| Matrix: | Water | Date Reported: | January 24, 1998 |
| Dilution Factor: | 1 | | |

| *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** | Date Sampled: | 01/06/98 |
| Sample ID: | 93007L.98.2 | Date Analyzed: | 01/08/98 |
| Laboratory ID: | C98-10342 | Date Reported: | January 24, 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 | 999577 | 1184454 | 84.4% | 50 - 200 % |
| Fluorobenzene | 2011800 | 2278484 | 88.3% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1818732 | 2050341 | 88.7% | 50 - 200 % |
| Chlorobenzene - d5 | 1353562 | 1545833 | 87.6% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 550654 | 666765 | 82.6% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 11.5 | 115% | 86 - 118 % |
| Toluene - d8 | 9.91 | 99.1% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.3 | 103% | 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

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## EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | Date Sampled: | 01/06/98 |
| Project: | 93007L.98.2 | Time Sampled: | 10:10 |
| Sample ID: | 93007-B.1/98 | Date Received: | 01/08/98 |
| Laboratory ID: | C98-10345 | Date Analyzed: | 01/08/98 |
| Matrix: | Water | Date Reported: | January 24, 1998 |
| Dilution Factor: | 1 | | |

Duplicate of 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: 93007L.98.2
Laboratory ID: C98-10345

Duplicate of MW-15

Date Sampled: 01/06/98
Date Analyzed: 01/08/98
Date Reported: January 24, 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 | 991298 | 1184454 | 83.7% | 50 - 200 % |
| Fluorobenzene | 1938831 | 2278484 | 85.1% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1760100 | 2050341 | 85.8% | 50 - 200 % |
| Chlorobenzene - d5 | 1319308 | 1545833 | 85.3% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 548959 | 666765 | 82.3% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 11.3 | 113% | 86 - 118 % |
| Toluene - d8 | 9.99 | 99.9% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.4 | 104% | 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

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Analyst: yw
Reviewed: sec

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# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | Date Sampled: | 01/06/98 |
| Project: | 93007L.98.2 | Time Sampled: | 09:50 |
| Sample ID: | 93007-SO4.1/98 | Date Received: | 01/08/98 |
| Laboratory ID: | C98-10343 | Date Analyzed: | 01/08/98 |
| Matrix: | Water | Date Reported: | January 24, 1998 |
| Dilution Factor: | 2 | | |

Shell Station Well (MW-4)

| 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** | **74.6** | | 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** | **50.6** | | 2.0 |
| 78-93-3 | 2 -Butanone (MEK) | ND | | 20 |
| **156-59-2** | **cis - 1,2 - Dichloroethene** | **2.98** | | 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** | **13.7** | | 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** | **2.16** | | 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** | **1.26** | J | 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** | **4.14** | | 2.0 |
| 630-20-6 | 1,1,1,2 - Tetrachloroethane | ND | | 2.0 |
| 108-90-7 | Chlorobenzene | ND | | 2.0 |
| **100-41-4** | **Ethylbenzene** | **41.5** | | 2.0 |
| **108-38-3** | **m,p - Xylenes (1,3- & 1,4-Dimethylbenzene)** | **9.34** | | 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)** | **10.1** | | 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** (Shell Station Well (mw-4))
Sample ID: 93007L.98.2
Laboratory ID: C98-10343

Date Sampled: 01/06/98
Date Analyzed: 01/08/98
Date Reported: January 24, 1998

| C.A.S. # | TARGET COMPOUNDS | CONCENTRATION (µg/L) | LIMIT OF DETECTION (µg/L) |
|---|---|---|---|
| 98-82-8 | **Isopropylbenzene (1-Methylethylbenzene)** | **2.34** | 2.0 |
| 108-86-1 | Bromobenzene | ND | 2.0 |
| 103-65-1 | **n - Propylbenzene** | **7.34** | 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** | **4.58** | 2.0 |
| 98-06-6 | tert - Butylbenzene | ND | 2.0 |
| 95-63-6 | **1,2,4 - Trimethylbenzene** | **70.8** | 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 |
| 120-82-1 | 1,2,4 - Trichlorobenzene | ND | 2.0 |
| 91-20-3 | **Naphthalene** | **24.0** | 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 | 1068444 | 1184454 | 90.2% | 50 - 200 % |
| Fluorobenzene | 2075073 | 2278484 | 91.1% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1910433 | 2050341 | 93.2% | 50 - 200 % |
| Chlorobenzene - d5 | 1479244 | 1545833 | 95.7% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 634412 | 666765 | 95.1% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 11.1 | 111% | 86 - 118 % |
| Toluene - d8 | 10.0 | 100% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.6 | 106% | 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

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Reviewed: sec

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# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | Date Sampled: | 99-BLK-99 |
| Project: | 93007L.98.2 | Time Sampled: | : |
| Sample ID: | TRIP BLANK | Date Received: | 01/08/98 |
| Laboratory ID: | C98-10346 | Date Analyzed: | 01/08/98 |
| Matrix: | Water | Date Reported: | January 24, 1998 |
| Dilution Factor: | 1 | | |

| *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** | Date Sampled: | 99-BLK-99 |
| Sample ID: | 93007L.98.2 | Date Analyzed: | 01/08/98 |
| Laboratory ID: | C98-10346 | Date Reported: | January 24, 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 | 1030650 | 1184454 | 87.0% | 50 - 200 % |
| Fluorobenzene | 2000369 | 2278484 | 87.8% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1838196 | 2050341 | 89.7% | 50 - 200 % |
| Chlorobenzene - d5 | 1365340 | 1545833 | 88.3% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 564799 | 666765 | 84.7% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 11.3 | 113% | 86 - 118 % |
| Toluene - d8 | 9.82 | 98.2% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.4 | 104% | 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

Report File: R:\Reports\Clients98\WesternWaterConsultants\98_10329_8260.xls

Analyst: yw
Reviewed: sec

Schlumberger Oilfield Services

Oilfield Services Shared Resources

**John A. Miller**
Remediation Manager

September 12, 1997

Mr. Roger W. Anderson
New Mexico Energy, Minerals & Natural Resources Department
Oil Conservation Division
2040 S. Pacheco
Santa Fe, NM 87505

**Re: Third Quarter Ground-water Monitoring Report for the Dowell, a division of Schlumberger Technology Corporation Facility, Hobbs, New Mexico.**

Dear Mr. Anderson:

Enclosed are the results for the third quarter ground-water monitoring for 1997 at the Dowell facility in Hobbs, New Mexico. Included with this document are site monitoring and remediation well locations, a potientiometric surface map, and a total halocarbon concentration figure. Also included are static water level, and water quality tables and laboratory data sheets.

The fourth quarter monitoring event is scheduled for October, 1997. If you have any questions, please call me at 281-285-8498.

Sincerely,

John A. Miller
Remediation Manager

JAM/lld

enclosure

cc: R. Deuell, WWC

Mr. Wayne Price
New Mexico Oil Conservation division
Hobbs District Office
P.O. Box 1980
Hobbs, NM 88240

P.O. Box 2727, Houston, Texas 77252-2727
300 Schlumberger Drive, Sugar Land, Texas 77478
(281) 285-8498 (281) 285-8526 (fax)

**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 |
| Abandoned | | 05/22/97 | | | | | |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |

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) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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) |
| | 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(0.002) | ND(0.001) |
| | 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) |
| 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 |
| duplicate | 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 |
| | 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 |
| | 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) |
| | 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 |
| | 06/25/97 | 0.590 | ND(0.002) | 0.009 | 0.027 | 0.180 | ND(0.002) | 0.011 | 0.005 | 0.007 | 0.007 | 0.001J |
| | 07/28/97 | 0.031 | ND(0.002) | 0.004 | 0.011 | 0.097 | ND(0.002) | 0.004 | 0.00118J | 0.00096J | 0.00114J | ND(0.002) |
| 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 |
| | 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 |
| | 01/22/97 | 0.027 | ND(0.002) | 0.010 | 0.018 | 0.014 | ND(0.002) | ND(0.002) | ND(0.002) | ND(0.002) | ND(0.004) | ND(0.002) |
| | 05/22/97 | 0.026 | 0.001 | 0.015 | 0.018 | 0.015 | ND(0.001) | 0.002 | ND(0.001) | ND(0.001) | ND(0.002) | 0.004 |
| | 07/28/97 | 0.033 | 0.00176J | 0.012 | 0.012 | 0.008 | ND(0.002) | 0.003 | ND(0.002) | ND(0.002) | ND(0.004) | 0.005 |
| MW-4 | 10/25/96 | 0.110 | 0.051 | 0.498 | 2.590 | 1.040 | 0.005 | ND(0.002) | ND(0.002) | ND(0.002) | ND(0.004) | ND(0.002) |
| | 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) |
| duplicate | 11/21/96 | 0.106 | 0.042 | 0.894 | 3.980 | 1.080 | ND(0.02) | ND(0.02) | ND(0.02) | ND(0.02) | ND(0.04) | ND(0.02) |
| | 01/22/97 | 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) |
| | 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) |
| | 06/25/97 | 0.047 | 0.0166J | 0.175 | 1.250 | 0.348 | ND(0.02) | ND(0.02) | ND(0.02) | ND(0.02) | ND(0.04) | ND(0.02) |
| | 06/25/97 | 0.044 | 0.0168J | 0.167 | 1.190 | 0.332 | ND(0.02) | ND(0.02) | ND(0.02) | ND(0.02) | ND(0.04) | ND(0.02) |
| | 07/28/97 | 0.037 | 0.0146J | 0.124 | 1.060 | 0.267 | ND(0.02) | ND(0.02) | ND(0.02) | ND(0.02) | ND(0.04) | ND(0.02) |
| MW-5 | 01/23/97 | 0.180 | 0.002 | 0.020 | 0.012 | 0.036 | 0.0008J | 0.018 | 0.004 | ND(0.001) | 0.0008J | ND(0.001) |
| duplicate | 01/23/97 | 0.190 | 0.002 | 0.018 | 0.009 | 0.034 | 0.0007J | 0.018 | 0.004 | ND(0.001) | 0.001 | 0.004 |
| | 05/23/97 | 0.191 | 0.003 | 0.055 | 0.079 | 0.059 | 0.0017J | 0.029 | ND(0.002) | ND(0.002) | ND(0.004) | ND(0.002) |
| | 07/28/97 | 0.241 | 0.004 | 0.072 | 0.058 | 0.051 | 0.002 | 0.051 | 0.023 | ND(0.002) | 0.007 | 0.009 |
| duplicate | 07/28/97 | 0.258 | 0.0043J | 0.089 | 0.052 | 0.050 | ND(0.005) | 0.052 | 0.023 | ND(0.005) | 0.00685J | 0.011 |
| MW-6 | 01/23/97 | 0.041 | 0.001 | 0.004 | 0.003 | 0.004 | ND(0.001) | 0.0008J | ND(0.001) | ND(0.001) | ND(0.002) | 0.0009J |
| | 05/22/97 | 0.085 | 0.002 | 0.034 | 0.023 | 0.017 | 0.00196J | 0.004 | ND(0.002) | ND(0.002) | ND(0.004) | 0.002 |
| | 07/28/97 | 0.081 | 0.00192J | 0.027 | 0.021 | 0.008 | 0.00194J | 0.003 | ND(0.002) | ND(0.002) | ND(0.004) | 0.004 |
| MW-7 | 01/23/97 | 0.047 | 0.0009J | 0.009 | 0.014 | ND(0.001) | 0.004 | 0.0006J | ND(0.001) | ND(0.001) | 0.001 | 0.013 |
| | 05/22/97 | 0.087 | 0.00168J | 0.066 | 0.116 | 0.00164J | 0.014 | 0.003 | ND(0.002) | ND(0.002) | ND(0.004) | 0.062 |
| | 07/28/97 | 0.073 | 0.00162J | 0.061 | 0.110 | ND(0.002) | 0.021 | 0.004 | ND(0.002) | ND(0.002) | ND(0.004) | 0.055 |
| MW-8 | 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) |
| | 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) |
| | 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) |
| | 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) |
| MW-9 | 01/23/97 | 0.011 | ND(0.001) | 0.063 | 0.090 | 0.045 | 0.0004J | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.002) | ND(0.001) |
| | 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) |
| | 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) |
| | 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) |
| MW-10 | 05/26/97 | 0.004 | ND(0.002) | 0.007 | 0.026 | ND(0.002) | 0.0012J | 0.004 | ND(0.002) | ND(0.002) | ND(0.004) | ND(0.002) |
| duplicate | 05/26/97 | ND(0.002) | ND(0.002) | 0.008 | 0.028 | ND(0.002) | 0.0013J | 0.007 | ND(0.002) | ND(0.002) | ND(0.004) | ND(0.002) |
| | 07/28/97 | 0.003 | ND(0.002) | 0.009 | 0.014 | 0.00198J | ND(0.002) | 0.0015J | ND(0.002) | ND(0.002) | ND(0.004) | ND(0.002) |
| MW-11 | 05/24/97 | 0.0008J | ND(0.001) | 0.0069J | 0.002 | ND(0.001) | ND(0.001) | 0.002 | ND(0.001) | ND(0.001) | 0.0010J | ND(0.001) |
| | 07/28/97 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | 0.003 | 0.00095J | ND(0.001) | 0.006 | ND(0.001) |
| 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) | 0.0056J | 0.0052J | 0.0027J | ND(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) |

**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) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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) |
| | 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) |
| 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) |
| | 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) |
| 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) |
| 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) |
| | 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) |
| *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 |
| | 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 |

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

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# EPA METHOD 8260

Client: **Western Water Consultants**
Sample ID: 93007-2.7/97 MW-2
Laboratory ID: C97-41727
Matrix: Water
Dilution Factor: 2

Date Sampled: 07/28/97
Date Received: 07/31/97
Date Analyzed: 07/31/97
Date Reported: August 12, 1997

| 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** | **4.22** | | 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** | **31.4** | | 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** | **96.5** | | 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** | **4.28** | | 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** | **0.96** | **J** | 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** | **10.7** | | 2.0 |
| 630-20-6 | 1,1,1,2 - Tetrachloroethane | ND | | 2.0 |
| 108-90-7 | Chlorobenzene | ND | | 2.0 |
| **100-41-4** | **Ethylbenzene** | **1.18** | **J** | 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)** | **1.14** | **J** | 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: 93007-2.7/97
Laboratory ID: C97-41727

Date Sampled: 07/28/97
Date Analyzed: 07/31/97
Date Reported: August 12, 1997

| 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 | 902611 | 938305 | 96.2% | 50 - 200 % |
| Fluorobenzene | 1778816 | 1760078 | 101% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1617792 | 1652410 | 97.9% | 50 - 200 % |
| Chlorobenzene - d5 | 1231016 | 1232139 | 99.9% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 515275 | 524323 | 98.3% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.99 | 99.9% | 86 - 118 % |
| Toluene - d8 | 10.4 | 104% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.90 | 99.0% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.99 | 99.9% | 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** | | |
| Sample ID: | 93007-3.7/97 | Date Sampled: | 07/28/97 |
| Laboratory ID: | C97-41728 | Date Received: | 07/31/97 |
| Matrix: | Water | Date Analyzed: | 07/31/97 |
| Dilution Factor: | 2 | Date Reported: | August 12, 1997 |

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** | **2.06** | | 2.0 |
| 75-69-4 | Trichlorofluoromethane | ND | | 2.0 |
| **75-35-4** | **1,1 - Dichloroethene** | **11.8** | | 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** | **32.6** | | 2.0 |
| 78-93-3 | 2 -Butanone (MEK) | ND | | 20.0 |
| **156-59-2** | **cis - 1,2 - Dichloroethene** | **4.20** | | 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** | **8.14** | | 2.0 |
| **107-06-2** | **1,2 - Dichloroethane** | **1.76** | J | 2.0 |
| 563-58-6 | 1,1 - Dichloropropene | ND | | 2.0 |
| 56-23-5 | Carbon tetrachloride (Tetrachloromethane) | ND | | 2.0 |
| **71-43-2** | **Benzene** | **2.78** | | 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** | **12.2** | | 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** MW-3 Date Sampled: 07/28/97
Sample ID: 93007-3.7/97 Date Analyzed: 07/31/97
Laboratory ID: C97-41728 Date Reported: August 12, 1997

| 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** | **4.68** | 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 | 915781 | 938305 | 97.6% | 50 - 200 % |
| Fluorobenzene | 1767405 | 1760078 | 100% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1638640 | 1652410 | 99.2% | 50 - 200 % |
| Chlorobenzene - d5 | 1212856 | 1232139 | 98.4% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 512797 | 524323 | 97.8% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.73 | 97.3% | 86 - 118 % |
| Toluene - d8 | 10.2 | 102% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.93 | 99.3% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.92 | 99.2% | 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**
Sample ID: 93007-4.7/97 mw-4
Laboratory ID: C97-41729
Matrix: Water
Dilution Factor: 20

Date Sampled: 07/28/97
Date Received: 07/31/97
Date Analyzed: 07/31/97
Date Reported: August 12, 1997

| C.A.S. # | TARGET COMPOUNDS | CONCENTRATION (µg/L) | | LIMIT OF DETECTION (µg/L) |
|---|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | ND | | 20.0 |
| 74-87-3 | Chloromethane | ND | | 20.0 |
| 75-01-4 | Vinyl chloride (Chloroethene) | ND | | 20.0 |
| 74-83-9 | Bromomethane | ND | | 20.0 |
| 75-00-3 | Chloroethane | ND | | 20.0 |
| 75-69-4 | Trichlorofluoromethane | ND | | 20.0 |
| **75-35-4** | **1,1 - Dichloroethene** | **124** | | 20.0 |
| 75-09-2 | Methylene chloride (Dichloromethane) | ND | | 20.0 |
| 156-60-5 | trans - 1, 2 - Dichloroethene | ND | | 20.0 |
| **75-34-3** | **1,1 - Dichloroethane** | **36.8** | | 20.0 |
| 78-93-3 | 2 -Butanone (MEK) | ND | | 200 |
| 156-59-2 | cis - 1,2 - Dichloroethene | ND | | 20.0 |
| 74-97-5 | Bromochloromethane | ND | | 20.0 |
| **67-66-3** | **Chloroform (Trichloromethane)** | **15.4** | J | 20.0 |
| 594-20-7 | 2,2 - Dichloropropane | ND | | 20.0 |
| **71-55-6** | **1,1,1 - Trichloroethane** | **267** | | 20.0 |
| **107-06-2** | **1,2 - Dichloroethane** | **14.6** | J | 20.0 |
| 563-58-6 | 1,1 - Dichloropropene | ND | | 20.0 |
| 56-23-5 | Carbon tetrachloride (Tetrachloromethane) | ND | | 20.0 |
| 71-43-2 | Benzene | ND | | 20.0 |
| 74-95-3 | Dibromomethane | ND | | 20.0 |
| 78-87-5 | 1,2 - Dichloropropane | ND | | 20.0 |
| 79-01-6 | Trichloroethene | ND | | 20.0 |
| 75-27-4 | Bromodichloromethane | ND | | 20.0 |
| 10061-01-5 | cis - 1,3 - Dichloropropene | ND | | 20.0 |
| 10061-02-6 | trans - 1,3 - Dichloropropene | ND | | 20.0 |
| 79-00-5 | 1,1,2 - Trichloroethane | ND | | 20.0 |
| 108-88-3 | Toluene | ND | | 20.0 |
| 106-93-4 | 1,2 - Dibromoethane | ND | | 20.0 |
| 142-28-9 | 1,3 - Dichloropropane | ND | | 20.0 |
| 124-48-1 | Dibromochloromethane | ND | | 20.0 |
| **127-18-4** | **Tetrachloroethene** | **1,060** | | 20.0 |
| 630-20-6 | 1,1,1,2 - Tetrachloroethane | ND | | 20.0 |
| 108-90-7 | Chlorobenzene | ND | | 20.0 |
| 100-41-4 | Ethylbenzene | ND | | 20.0 |
| 108-38-3 | m,p - Xylenes (1,3- & 1,4-Dimethylbenzene) | ND | | 40.0 |
| 75-25-2 | Bromoform (Tribromomethane) | ND | | 20.0 |
| 100-42-5 | Styrene (Ethenylbenzene) | ND | | 20.0 |
| 95-47-6 | o - Xylene (1,2-Dimethylbenzene) | ND | | 20.0 |
| 79-34-5 | 1,1,2,2 - Tetrachloroethane | ND | | 20.0 |
| 96-18-4 | 1,2,3 - Trichloropropane | ND | | 20.0 |

*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** | Date Sampled: | 07/28/97 |
| Sample ID: | 93007-4.7/97 MW-4 | Date Analyzed: | 07/31/97 |
| Laboratory ID: | C97-41729 | Date Reported: | August 12, 1997 |

| *C.A.S. #* | TARGET COMPOUNDS | *CONCENTRATION (µg/L)* | *LIMIT OF DETECTION (µg/L)* |
|---|---|---|---|
| 98-82-8 | Isopropylbenzene (1-Methylethylbenzene) | ND | 20.0 |
| 108-86-1 | Bromobenzene | ND | 20.0 |
| 103-65-1 | n - Propylbenzene | ND | 20.0 |
| 95-49-8 | 2 - Chlorotoluene | ND | 20.0 |
| 106-43-4 | 4 - Chlorotoluene | ND | 20.0 |
| 108-67-8 | 1,3,5 - Trimethylbenzene | ND | 20.0 |
| 98-06-6 | tert - Butylbenzene | ND | 20.0 |
| 95-63-6 | 1,2,4 - Trimethylbenzene | ND | 20.0 |
| 135-98-8 | sec - Butylbenzene | ND | 20.0 |
| 541-73-1 | 1,3 - Dichlorobenzene | ND | 20.0 |
| 106-46-7 | 1,4 - Dichlorobenzene | ND | 20.0 |
| 99-87-6 | 4-Isopropyltoluene | ND | 20.0 |
| 95-50-1 | 1,2 - Dichlorobenzene | ND | 20.0 |
| 104-51-8 | n - Butylbenzene | ND | 20.0 |
| 96-12-8 | 1,2 - Dibromo - 3 - chloropropane | ND | 100 |
| 120-82-1 | 1,2,4 - Trichlorobenzene | ND | 20.0 |
| 91-20-3 | Naphthalene | ND | 20.0 |
| 87-68-3 | Hexachlorobutadiene | ND | 20.0 |
| 87-61-6 | 1,2 3 - Trichlorobenzene | ND | 20.0 |

***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 | 791473 | 938305 | 84.4% | 50 - 200 % |
| Fluorobenzene | 1585005 | 1760078 | 90.1% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1441407 | 1652410 | 87.2% | 50 - 200 % |
| Chlorobenzene - d5 | 1117093 | 1232139 | 90.7% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 461441 | 524323 | 88.0% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 10.1 | 101% | 86 - 118 % |
| Toluene - d8 | 10.5 | 105% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.1 | 101% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.99 | 99.9% | 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** | | |
| Sample ID: | 93007-5.7/97 | Date Sampled: | 07/28/97 |
| Laboratory ID: | C97-41730 | Date Received: | 07/31/97 |
| Matrix: | Water | Date Analyzed: | 07/31/97 |
| Dilution Factor: | 2 | Date Reported: | August 12, 1997 |

| 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** | **72.3** | 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** | **241** | 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)** | **2.60** | 2.0 |
| 594-20-7 | 2,2 - Dichloropropane | ND | 2.0 |
| **71-55-6** | **1,1,1 - Trichloroethane** | **51.2** | 2.0 |
| **107-06-2** | **1,2 - Dichloroethane** | **3.96** | 2.0 |
| 563-58-6 | 1,1 - Dichloropropene | ND | 2.0 |
| 56-23-5 | Carbon tetrachloride (Tetrachloromethane) | ND | 2.0 |
| **71-43-2** | **Benzene** | **51.4** | 2.0 |
| 74-95-3 | Dibromomethane | ND | 2.0 |
| 78-87-5 | 1,2 - Dichloropropane | ND | 2.0 |
| **79-01-6** | **Trichloroethene** | **2.24** | 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** | **57.6** | 2.0 |
| 630-20-6 | 1,1,1,2 - Tetrachloroethane | ND | 2.0 |
| 108-90-7 | Chlorobenzene | ND | 2.0 |
| **100-41-4** | **Ethylbenzene** | **23.0** | 2.0 |
| **108-38-3** | **m,p - Xylenes (1,3- & 1,4-Dimethylbenzene)** | **6.94** | 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** | Date Sampled: | 07/28/97 |
| Sample ID: | 93007-5.7/97 | Date Analyzed: | 07/31/97 |
| Laboratory ID: | C97-41730 | Date Reported: | August 12, 1997 |

MW-5

| C.A.S. # | TARGET COMPOUNDS | CONCENTRATION (µg/L) | | LIMIT OF DETECTION (µg/L) |
|---|---|---|---|---|
| 98-82-8 | **Isopropylbenzene (1-Methylethylbenzene)** | **1.58** | **J** | 2.0 |
| 108-86-1 | Bromobenzene | ND | | 2.0 |
| 103-65-1 | **n - Propylbenzene** | **1.96** | **J** | 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** | **4.68** | | 2.0 |
| 98-06-6 | tert - Butylbenzene | ND | | 2.0 |
| 95-63-6 | **1,2,4 - Trimethylbenzene** | **8.12** | | 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** | **9.44** | | 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 | 912654 | 938305 | 97.3% | 50 - 200 % |
| Fluorobenzene | 1718580 | 1760078 | 97.6% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1643930 | 1652410 | 99.5% | 50 - 200 % |
| Chlorobenzene - d5 | 1185791 | 1232139 | 96.2% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 496539 | 524323 | 94.7% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.65 | 96.5% | 86 - 118 % |
| Toluene - d8 | 10.2 | 102% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.72 | 97.2% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.97 | 99.7% | 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

Report File: F:\REPORTS\CLIENTS 97\WEST_WATER\ORGANIC CAS\97_41727.xls

Analyst: yw
Reviewed: sec

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# EPA METHOD 8260

Client: **Western Water Consultants**
Sample ID: 93007-A.7/97
Laboratory ID: C97-41742
Matrix: Water
Dilution Factor: 5

Duplicate of MW-5

Date Sampled: 07/28/97
Date Received: 07/31/97
Date Analyzed: 07/31/97
Date Reported: August 12, 1997

| 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** | **69.0** | | 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** | **258** | | 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)** | **2.50** | **J** | 5.0 |
| 594-20-7 | 2,2 - Dichloropropane | ND | | 5.0 |
| **71-55-6** | **1,1,1 - Trichloroethane** | **50.1** | | 5.0 |
| **107-06-2** | **1,2 - Dichloroethane** | **4.30** | **J** | 5.0 |
| 563-58-6 | 1,1 - Dichloropropene | ND | | 5.0 |
| 56-23-5 | Carbon tetrachloride (Tetrachloromethane) | ND | | 5.0 |
| **71-43-2** | **Benzene** | **52.2** | | 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** | **51.9** | | 5.0 |
| 630-20-6 | 1,1,1,2 - Tetrachloroethane | ND | | 5.0 |
| 108-90-7 | Chlorobenzene | ND | | 5.0 |
| **100-41-4** | **Ethylbenzene** | **22.5** | | 5.0 |
| **108-38-3** | **m,p - Xylenes (1,3- & 1,4-Dimethylbenzene)** | **6.65** | **J** | 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 - Meets Mass Spectral identification criteria but result is below established detection limit*

## EPA METHOD 8260

Client: **Western Water Consultants** Duplicate of MW-5
Sample ID: 93007-A.7/97
Laboratory ID: C97-41742

Date Sampled: 07/28/97
Date Analyzed: 07/31/97
Date Reported: August 12, 1997

| 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** | **4.35** | **J** | 5.0 |
| 98-06-6 | tert - Butylbenzene | ND | | 5.0 |
| **95-63-6** | **1,2,4 - Trimethylbenzene** | **7.75** | | 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** | **10.8** | | 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 - 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 | 1285810 | 938305 | 137.0% | 50 - 200 % |
| Fluorobenzene | 2647150 | 1760078 | 150.4% | 50 - 200 % |
| 1,4 - Difluorobenzene | 2136768 | 1652410 | 129.3% | 50 - 200 % |
| Chlorobenzene - d5 | 1531399 | 1232139 | 124.3% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 697359 | 524323 | 133.0% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 10.1 | 101% | 86 - 118 % |
| Toluene - d8 | 10.1 | 101% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.2 | 102% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.92 | 99.2% | 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

Report File: F:\REPORTS\CLIENTS 97\WEST_WATER\ORGANIC CAS\97_41727.xls

Analyst: yw
Reviewed: sec

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## EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | | |
| Sample ID: | 93007-6.7/97 | Date Sampled: | 07/28/97 |
| Laboratory ID: | C97-41731 | Date Received: | 07/31/97 |
| Matrix: | Water | Date Analyzed: | 07/31/97 |
| Dilution Factor: | 2 | Date Reported: | August 12, 1997 |

| 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** | **27.3** | | 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** | **81.3** | | 2.0 |
| 78-93-3 | 2 -Butanone (MEK) | ND | | 20.0 |
| **156-59-2** | **cis - 1,2 - Dichloroethene** | **2.12** | | 2.0 |
| 74-97-5 | Bromochloromethane | ND | | 2.0 |
| **67-66-3** | **Chloroform (Trichloromethane)** | **2.82** | | 2.0 |
| 594-20-7 | 2,2 - Dichloropropane | ND | | 2.0 |
| **71-55-6** | **1,1,1 - Trichloroethane** | **7.54** | | 2.0 |
| **107-06-2** | **1,2 - Dichloroethane** | **1.92** | **J** | 2.0 |
| 563-58-6 | 1,1 - Dichloropropene | ND | | 2.0 |
| 56-23-5 | Carbon tetrachloride (Tetrachloromethane) | ND | | 2.0 |
| **71-43-2** | **Benzene** | **3.48** | | 2.0 |
| 74-95-3 | Dibromomethane | ND | | 2.0 |
| 78-87-5 | 1,2 - Dichloropropane | ND | | 2.0 |
| **79-01-6** | **Trichloroethene** | **1.94** | **J** | 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** | **21.1** | | 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** | Date Sampled: | 07/28/97 |
| Sample ID: | 93007-6.7/97 | Date Analyzed: | 07/31/97 |
| Laboratory ID: | C97-41731 | Date Reported: | August 12, 1997 |

| 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** | **3.82** | 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 | 863954 | 938305 | 92.1% | 50 - 200 % |
| Fluorobenzene | 1570983 | 1760078 | 89.3% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1549926 | 1652410 | 93.8% | 50 - 200 % |
| Chlorobenzene - d5 | 1089229 | 1232139 | 88.4% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 440853 | 524323 | 84.1% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.29 | 92.9% | 86 - 118 % |
| Toluene - d8 | 10.0 | 100% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.48 | 94.8% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.90 | 99.0% | 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** | | |
| Sample ID: | 93007-7.7/97 MW-7 | Date Sampled: | 07/28/97 |
| Laboratory ID: | C97-41732 | Date Received: | 07/31/97 |
| Matrix: | Water | Date Analyzed: | 07/31/97 |
| Dilution Factor: | 2 | Date Reported: | August 12, 1997 |

| 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** | **60.7** | | 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** | **73.0** | | 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 | ND | | 2.0 |
| **107-06-2** | **1,2 - Dichloroethane** | **1.62** | J | 2.0 |
| 563-58-6 | 1,1 - Dichloropropene | ND | | 2.0 |
| 56-23-5 | Carbon tetrachloride (Tetrachloromethane) | ND | | 2.0 |
| **71-43-2** | **Benzene** | **3.68** | | 2.0 |
| 74-95-3 | Dibromomethane | ND | | 2.0 |
| 78-87-5 | 1,2 - Dichloropropane | ND | | 2.0 |
| **79-01-6** | **Trichloroethene** | **20.7** | | 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** | **2.58** | | 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** | **110** | | 2.0 |
| 630-20-6 | 1,1,1,2 - Tetrachloroethane | ND | | 2.0 |
| **108-90-7** | **Chlorobenzene** | **3.20** | | 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** | Date Sampled: | 07/28/97 |
| Sample ID: | 93007-7.7/97 | Date Analyzed: | 07/31/97 |
| Laboratory ID: | C97-41732 | Date Reported: | August 12, 1997 |

| 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** | **55.3** | 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 | 837351 | 938305 | 89.2% | 50 - 200 % |
| Fluorobenzene | 1551146 | 1760078 | 88.1% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1499424 | 1652410 | 90.7% | 50 - 200 % |
| Chlorobenzene - d5 | 1058432 | 1232139 | 85.9% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 429024 | 524323 | 81.8% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.42 | 94.2% | 86 - 118 % |
| Toluene - d8 | 10.0 | 100% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.59 | 95.9% | 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

Report File: F:\REPORTS\CLIENTS 97\WEST_WAT ER\ORGANIC CAS\97_41727.xls

Analyst: yw
Reviewed: sec

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# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | | |
| Sample ID: | 93007-8.7/97 MW-8 | Date Sampled: | 07/28/97 |
| Laboratory ID: | C97-41733 | Date Received: | 07/31/97 |
| Matrix: | Water | Date Analyzed: | 07/31/97 |
| Dilution Factor: | 100 | Date Reported: | August 12, 1997 |

| 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** | **1,120** | 100 |
| 75-09-2 | Methylene chloride (Dichloromethane) | ND | 100 |
| 156-60-5 | trans - 1, 2 - Dichloroethene | ND | 100 |
| 75-34-3 | 1,1 - Dichloroethane | ND | 100 |
| 78-93-3 | 2 -Butanone (MEK) | ND | 1000 |
| 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** | **798** | 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** | **4,520** | 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***

## EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | Date Sampled: | 07/28/97 |
| Sample ID: | 93007-8.7/97 | Date Analyzed: | 07/31/97 |
| Laboratory ID: | C97-41733 | Date Reported: | August 12, 1997 |

| C.A.S. # | TARGET COMPOUNDS | CONCENTRATION (µg/L) | LIMIT OF DETECTION (µg/L) |
|---|---|---|---|
| 98-82-8 | Isopropylbenzene (1-Methylethylbenzene) | ND | 100.0 |
| 108-86-1 | Bromobenzene | ND | 100.0 |
| 103-65-1 | n - Propylbenzene | ND | 100.0 |
| 95-49-8 | 2 - Chlorotoluene | ND | 100.0 |
| 106-43-4 | 4 - Chlorotoluene | ND | 100.0 |
| 108-67-8 | 1,3,5 - Trimethylbenzene | ND | 100.0 |
| 98-06-6 | tert - Butylbenzene | ND | 100.0 |
| 95-63-6 | 1,2,4 - Trimethylbenzene | ND | 100.0 |
| 135-98-8 | sec - Butylbenzene | ND | 100.0 |
| 541-73-1 | 1,3 - Dichlorobenzene | ND | 100.0 |
| 106-46-7 | 1,4 - Dichlorobenzene | ND | 100.0 |
| 99-87-6 | 4-Isopropyltoluene | ND | 100.0 |
| 95-50-1 | 1,2 - Dichlorobenzene | ND | 100.0 |
| 104-51-8 | n - Butylbenzene | ND | 100.0 |
| 96-12-8 | 1,2 - Dibromo - 3 - chloropropane | ND | 500.0 |
| 120-82-1 | 1,2,4 - Trichlorobenzene | ND | 100.0 |
| 91-20-3 | Naphthalene | ND | 100.0 |
| 87-68-3 | Hexachlorobutadiene | ND | 100.0 |
| 87-61-6 | 1,2 3 - Trichlorobenzene | ND | 100.0 |

*ND - Analyte not detected at stated limit of detection*

*RUNTIME QUALITY ASSURANCE REPORT*

| INTERNAL STANDARDS | AREA | ICAL / CCAL AREA | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|---|
| Pentafluorobenzene | 899437 | 938305 | 95.9% | 50 - 200 % |
| Fluorobenzene | 1621536 | 1760078 | 92.1% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1584997 | 1652410 | 95.9% | 50 - 200 % |
| Chlorobenzene - d5 | 1131745 | 1232139 | 91.9% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 459799 | 524323 | 87.7% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.10 | 91.0% | 86 - 118 % |
| Toluene - d8 | 10.1 | 101% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.47 | 94.7% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.72 | 97.2% | 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** | | |
| Sample ID: | 93007-9.7/97 | Date Sampled: | 07/28/97 |
| Laboratory ID: | C97-41734 | Date Received: | 07/31/97 |
| Matrix: | Water | Date Analyzed: | 07/31/97 |
| Dilution Factor: | 20 | Date Reported: | August 12, 1997 |

MW-9

| C.A.S. # | TARGET COMPOUNDS | CONCENTRATION (µg/L) | LIMIT OF DETECTION (µg/L) |
|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | ND | 20.0 |
| 74-87-3 | Chloromethane | ND | 20.0 |
| 75-01-4 | Vinyl chloride (Chloroethene) | ND | 20.0 |
| 74-83-9 | Bromomethane | ND | 20.0 |
| 75-00-3 | Chloroethane | ND | 20.0 |
| 75-69-4 | Trichlorofluoromethane | ND | 20.0 |
| **75-35-4** | **1,1 - Dichloroethene** | **278** | 20.0 |
| 75-09-2 | Methylene chloride (Dichloromethane) | ND | 20.0 |
| 156-60-5 | trans - 1, 2 - Dichloroethene | ND | 20.0 |
| **75-34-3** | **1,1 - Dichloroethane** | **20.6** | 20.0 |
| 78-93-3 | 2 -Butanone (MEK) | ND | 200 |
| 156-59-2 | cis - 1,2 - Dichloroethene | ND | 20.0 |
| 74-97-5 | Bromochloromethane | ND | 20.0 |
| 67-66-3 | Chloroform (Trichloromethane) | ND | 20.0 |
| 594-20-7 | 2,2 - Dichloropropane | ND | 20.0 |
| **71-55-6** | **1,1,1 - Trichloroethane** | **121** | 20.0 |
| 107-06-2 | 1,2 - Dichloroethane | ND | 20.0 |
| 563-58-6 | 1,1 - Dichloropropene | ND | 20.0 |
| 56-23-5 | Carbon tetrachloride (Tetrachloromethane) | ND | 20.0 |
| 71-43-2 | Benzene | ND | 20.0 |
| 74-95-3 | Dibromomethane | ND | 20.0 |
| 78-87-5 | 1,2 - Dichloropropane | ND | 20.0 |
| 79-01-6 | Trichloroethene | ND | 20.0 |
| 75-27-4 | Bromodichloromethane | ND | 20.0 |
| 10061-01-5 | cis - 1,3 - Dichloropropene | ND | 20.0 |
| 10061-02-6 | trans - 1,3 - Dichloropropene | ND | 20.0 |
| 79-00-5 | 1,1,2 - Trichloroethane | ND | 20.0 |
| 108-88-3 | Toluene | ND | 20.0 |
| 106-93-4 | 1,2 - Dibromoethane | ND | 20.0 |
| 142-28-9 | 1,3 - Dichloropropane | ND | 20.0 |
| 124-48-1 | Dibromochloromethane | ND | 20.0 |
| **127-18-4** | **Tetrachloroethene** | **1,020** | 20.0 |
| 630-20-6 | 1,1,1,2 - Tetrachloroethane | ND | 20.0 |
| 108-90-7 | Chlorobenzene | ND | 20.0 |
| 100-41-4 | Ethylbenzene | ND | 20.0 |
| 108-38-3 | m,p - Xylenes (1,3- & 1,4-Dimethylbenzene) | ND | 40.0 |
| 75-25-2 | Bromoform (Tribromomethane) | ND | 20.0 |
| 100-42-5 | Styrene (Ethenylbenzene) | ND | 20.0 |
| 95-47-6 | o - Xylene (1,2-Dimethylbenzene) | ND | 20.0 |
| 79-34-5 | 1,1,2,2 - Tetrachloroethane | ND | 20.0 |
| 96-18-4 | 1,2,3 - Trichloropropane | ND | 20.0 |

***ND - Analyte not detected at stated limit of detection***

# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | Date Sampled: | 07/28/97 |
| Sample ID: | 93007-9.7/97 | Date Analyzed: | 07/31/97 |
| Laboratory ID: | C97-41734 | Date Reported: | August 12, 1997 |

MW-9

| *C.A.S. #* | **TARGET COMPOUNDS** | *CONCENTRATION (µg/L)* | *LIMIT OF DETECTION (µg/L)* |
|---|---|---|---|
| 98-82-8 | Isopropylbenzene (1-Methylethylbenzene) | ND | 20.0 |
| 108-86-1 | Bromobenzene | ND | 20.0 |
| 103-65-1 | n - Propylbenzene | ND | 20.0 |
| 95-49-8 | 2 - Chlorotoluene | ND | 20.0 |
| 106-43-4 | 4 - Chlorotoluene | ND | 20.0 |
| 108-67-8 | 1,3,5 - Trimethylbenzene | ND | 20.0 |
| 98-06-6 | tert - Butylbenzene | ND | 20.0 |
| 95-63-6 | 1,2,4 - Trimethylbenzene | ND | 20.0 |
| 135-98-8 | sec - Butylbenzene | ND | 20.0 |
| 541-73-1 | 1,3 - Dichlorobenzene | ND | 20.0 |
| 106-46-7 | 1,4 - Dichlorobenzene | ND | 20.0 |
| 99-87-6 | 4-Isopropyltoluene | ND | 20.0 |
| 95-50-1 | 1,2 - Dichlorobenzene | ND | 20.0 |
| 104-51-8 | n - Butylbenzene | ND | 20.0 |
| 96-12-8 | 1,2 - Dibromo - 3 - chloropropane | ND | 100 |
| 120-82-1 | 1,2,4 - Trichlorobenzene | ND | 20.0 |
| 91-20-3 | Naphthalene | ND | 20.0 |
| 87-68-3 | Hexachlorobutadiene | ND | 20.0 |
| 87-61-6 | 1,2 3 - Trichlorobenzene | ND | 20.0 |

***ND - Analyte not detected at stated limit of detection***

*RUNTIME QUALITY ASSURANCE REPORT*

| INTERNAL STANDARDS | AREA | ICAL / CCAL AREA | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|---|
| Pentafluorobenzene | 856171 | 938305 | 91.2% | 50 - 200 % |
| Fluorobenzene | 1568777 | 1760078 | 89.1% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1523811 | 1652410 | 92.2% | 50 - 200 % |
| Chlorobenzene - d5 | 1089509 | 1232139 | 88.4% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 428402 | 524323 | 81.7% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.05 | 90.5% | 86 - 118 % |
| Toluene - d8 | 10.2 | 102% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.43 | 94.3% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.79 | 97.9% | 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** | | |
| Sample ID: | 93007-10.7/97 | Date Sampled: | 07/28/97 |
| Laboratory ID: | C97-41735 | Date Received: | 07/31/97 |
| Matrix: | Water | Date Analyzed: | 07/31/97 |
| Dilution Factor: | 2 | Date Reported: | August 12, 1997 |

| 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** | **8.80** | | 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** | **2.88** | | 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** | **1.98** | **J** | 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** | **1.50** | **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** | **14.4** | | 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** | Date Sampled: | 07/28/97 |
| Sample ID: | 93007-10.7/97 | Date Analyzed: | 07/31/97 |
| Laboratory ID: | C97-41735 | Date Reported: | August 12, 1997 |

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 | 916149 | 938305 | 97.6% | 50 - 200 % |
| Fluorobenzene | 1648480 | 1760078 | 93.7% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1619564 | 1652410 | 98.0% | 50 - 200 % |
| Chlorobenzene - d5 | 1158573 | 1232139 | 94.0% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 460901 | 524323 | 87.9% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.04 | 90.4% | 86 - 118 % |
| Toluene - d8 | 10.1 | 101% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.46 | 94.6% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.92 | 99.2% | 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

Report File: F:\REPORTS\CLIENTS 97\WEST_WATER\ORGANIC CAS\97_41727.xls

Analyst: yw
Reviewed: sec

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## EPA METHOD 8260

Client: **Western Water Consultants**
Sample ID: 93007-11.7/97
Laboratory ID: C97-41736
Matrix: Water
Dilution Factor: 1

MW-11

Date Sampled: 07/28/97
Date Received: 07/31/97
Date Analyzed: 07/31/97
Date Reported: August 12, 1997

| 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** | **3.48** | | 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** | **0.95** | **J** | 1.0 |
| **108-38-3** | **m,p - Xylenes (1,3- & 1,4-Dimethylbenzene)** | **4.14** | | 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)** | **1.44** | | 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 - Meets Mass Spectral identification criteria but result is below established detection limit***

# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | Date Sampled: | 07/28/97 |
| Sample ID: | 93007-11.7/97 | Date Analyzed: | 07/31/97 |
| Laboratory ID: | C97-41736 | Date Reported: | August 12, 1997 |

MW-11

| 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** | **6.02** | 1.0 |
| **98-06-6** | **tert - Butylbenzene** | **1.99** | 1.0 |
| **95-63-6** | **1,2,4 - Trimethylbenzene** | **15.1** | 1.0 |
| **135-98-8** | **sec - Butylbenzene** | **1.85** | 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** | **2.11** | 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 - 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 | 749296 | 938305 | 79.9% | 50 - 200 % |
| Fluorobenzene | 1455307 | 1760078 | 82.7% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1399173 | 1652410 | 84.7% | 50 - 200 % |
| Chlorobenzene - d5 | 1013565 | 1232139 | 82.3% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 423381 | 524323 | 80.7% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.36 | 93.6% | 86 - 118 % |
| Toluene - d8 | 10.4 | 104% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.80 | 98.0% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.89 | 98.9% | 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** | | |
| Sample ID: | 93007-12.7/97 MW-12 | Date Sampled: | 07/28/97 |
| Laboratory ID: | C97-41737 | Date Received: | 07/31/97 |
| Matrix: | Water | Date Analyzed: | 07/31/97 |
| Dilution Factor: | 1 | Date Reported: | August 12, 1997 |

| 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** | Date Sampled: | 07/28/97 |
| Sample ID: | 93007-12.7/97 | Date Analyzed: | 07/31/97 |
| Laboratory ID: | C97-41737 | Date Reported: | August 12, 1997 |

MW-12

| 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 | 833602 | 938305 | 88.8% | 50 - 200 % |
| Fluorobenzene | 1651440 | 1760078 | 93.8% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1555533 | 1652410 | 94.1% | 50 - 200 % |
| Chlorobenzene - d5 | 1120893 | 1232139 | 91.0% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 427413 | 524323 | 81.5% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.43 | 94.3% | 86 - 118 % |
| Toluene - d8 | 10.3 | 103% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.24 | 92.4% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.92 | 99.2% | 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** | | |
| Sample ID: | 93007-13.7/97 | Date Sampled: | 07/28/97 |
| Laboratory ID: | C97-41738 | Date Received: | 07/31/97 |
| Matrix: | Water | Date Analyzed: | 07/31/97 |
| Dilution Factor: | 1 | Date Reported: | August 12, 1997 |

MW-13

| 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** | **11.8** | 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** | **1.17** | 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** | **8.78** | 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** | Date Sampled: | 07/28/97 |
| Sample ID: | 93007-13.7/97 | Date Analyzed: | 07/31/97 |
| Laboratory ID: | C97-41738 | Date Reported: | August 12, 1997 |

MW-13

| 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 | 782031 | 938305 | 83.3% | 50 - 200 % |
| Fluorobenzene | 1570049 | 1760078 | 89.2% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1513191 | 1652410 | 91.6% | 50 - 200 % |
| Chlorobenzene - d5 | 1081461 | 1232139 | 87.8% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 411347 | 524323 | 78.5% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 10.0 | 100% | 86 - 118 % |
| Toluene - d8 | 10.2 | 102% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.32 | 93.2% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 10.0 | 100% | 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** | | |
| Sample ID: | 93007-14.7/97 | Date Sampled: | 07/28/97 |
| Laboratory ID: | C97-41739 | Date Received: | 07/31/97 |
| Matrix: | Water | Date Analyzed: | 07/31/97 |
| Dilution Factor: | 1 | Date Reported: | August 12, 1997 |

MW-14

| 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** | Date Sampled: | 07/28/97 |
| Sample ID: | 93007-14.7/97 MW-14 | Date Analyzed: | 07/31/97 |
| Laboratory ID: | C97-41739 | Date Reported: | August 12, 1997 |

| *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 | 718682 | 938305 | 76.6% | 50 - 200 % |
| Fluorobenzene | 1400701 | 1760078 | 79.6% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1354158 | 1652410 | 82.0% | 50 - 200 % |
| Chlorobenzene - d5 | 974479 | 1232139 | 79.1% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 376393 | 524323 | 71.8% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.69 | 96.9% | 86 - 118 % |
| Toluene - d8 | 10.2 | 102% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.25 | 92.5% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 10.0 | 100% | 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**
Sample ID: 93007-B.7/97
Laboratory ID: C97-41743
Matrix: Water
Dilution Factor: 1

Duplicate of MW-14

Date Sampled: 07/28/97
Date Received: 07/31/97
Date Analyzed: 07/31/97
Date Reported: August 12, 1997

| 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-B.7/97
Laboratory ID: C97-41743

Duplicate of MW-14

Date Sampled: 07/28/97
Date Analyzed: 07/31/97
Date Reported: August 12, 1997

| 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 | 809149 | 938305 | 86.2% | 50 - 200 % |
| Fluorobenzene | 1614802 | 1760078 | 91.7% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1471857 | 1652410 | 89.1% | 50 - 200 % |
| Chlorobenzene - d5 | 1136637 | 1232139 | 92.2% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 472006 | 524323 | 90.0% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.99 | 99.9% | 86 - 118 % |
| Toluene - d8 | 10.5 | 105% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.2 | 102% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.98 | 99.8% | 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** | | |
| Sample ID: | 93007-15.7/97 | Date Sampled: | 07/28/97 |
| Laboratory ID: | C97-41740 | Date Received: | 07/31/97 |
| Matrix: | Water | Date Analyzed: | 07/31/97 |
| Dilution Factor: | 1 | Date Reported: | August 12, 1997 |

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** | Date Sampled: | 07/28/97 |
| Sample ID: | 93007-15.7/97 MW-15 | Date Analyzed: | 07/31/97 |
| Laboratory ID: | C97-41740 | Date Reported: | August 12, 1997 |

| 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 | 798202 | 938305 | 85.1% | 50 - 200 % |
| Fluorobenzene | 1544806 | 1760078 | 87.8% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1505775 | 1652410 | 91.1% | 50 - 200 % |
| Chlorobenzene - d5 | 1067678 | 1232139 | 86.7% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 407774 | 524323 | 77.8% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.83 | 98.3% | 86 - 118 % |
| Toluene - d8 | 10.2 | 102% | 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

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Analyst: yw
Reviewed: sec

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## EPA METHOD 8260

Client: Western Water Consultants
Sample ID: 93007-S04.7/97
Laboratory ID: C97-41741
Matrix: Water
Dilution Factor: 20

Shell station well (MW-4)

Date Sampled: 07/28/97
Date Received: 07/31/97
Date Analyzed: 07/31/97
Date Reported: August 12, 1997

| C.A.S. # | TARGET COMPOUNDS | CONCENTRATION (µg/L) | LIMIT OF DETECTION (µg/L) |
|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | ND | 20.0 |
| 74-87-3 | Chloromethane | ND | 20.0 |
| 75-01-4 | Vinyl chloride (Chloroethene) | ND | 20.0 |
| 74-83-9 | Bromomethane | ND | 20.0 |
| 75-00-3 | Chloroethane | ND | 20.0 |
| 75-69-4 | Trichlorofluoromethane | ND | 20.0 |
| **75-35-4** | **1,1 - Dichloroethene** | **20.4** | 20.0 |
| 75-09-2 | Methylene chloride (Dichloromethane) | ND | 20.0 |
| 156-60-5 | trans - 1, 2 - Dichloroethene | ND | 20.0 |
| **75-34-3** | **1,1 - Dichloroethane** | **20.2** | 20.0 |
| 78-93-3 | 2 -Butanone (MEK) | ND | 200 |
| 156-59-2 | cis - 1,2 - Dichloroethene | ND | 20.0 |
| 74-97-5 | Bromochloromethane | ND | 20.0 |
| 67-66-3 | Chloroform (Trichloromethane) | ND | 20.0 |
| 594-20-7 | 2,2 - Dichloropropane | ND | 20.0 |
| 71-55-6 | 1,1,1 - Trichloroethane | ND | 20.0 |
| 107-06-2 | 1,2 - Dichloroethane | ND | 20.0 |
| 563-58-6 | 1,1 - Dichloropropene | ND | 20.0 |
| 56-23-5 | Carbon tetrachloride (Tetrachloromethane) | ND | 20.0 |
| 71-43-2 | Benzene | ND | 20.0 |
| 74-95-3 | Dibromomethane | ND | 20.0 |
| 78-87-5 | 1,2 - Dichloropropane | ND | 20.0 |
| 79-01-6 | Trichloroethene | ND | 20.0 |
| 75-27-4 | Bromodichloromethane | ND | 20.0 |
| 10061-01-5 | cis - 1,3 - Dichloropropene | ND | 20.0 |
| 10061-02-6 | trans - 1,3 - Dichloropropene | ND | 20.0 |
| 79-00-5 | 1,1,2 - Trichloroethane | ND | 20.0 |
| **108-88-3** | **Toluene** | **138** | 20.0 |
| 106-93-4 | 1,2 - Dibromoethane | ND | 20.0 |
| 142-28-9 | 1,3 - Dichloropropane | ND | 20.0 |
| 124-48-1 | Dibromochloromethane | ND | 20.0 |
| 127-18-4 | Tetrachloroethene | ND | 20.0 |
| 630-20-6 | 1,1,1,2 - Tetrachloroethane | ND | 20.0 |
| 108-90-7 | Chlorobenzene | ND | 20.0 |
| **100-41-4** | **Ethylbenzene** | **411** | 20.0 |
| **108-38-3** | **m,p - Xylenes (1,3- & 1,4-Dimethylbenzene)** | **354** | 40.0 |
| 75-25-2 | Bromoform (Tribromomethane) | ND | 20.0 |
| 100-42-5 | Styrene (Ethenylbenzene) | ND | 20.0 |
| **95-47-6** | **o - Xylene (1,2-Dimethylbenzene)** | **551** | 20.0 |
| 79-34-5 | 1,1,2,2 - Tetrachloroethane | ND | 20.0 |
| 96-18-4 | 1,2,3 - Trichloropropane | ND | 20.0 |

*ND - Analyte not detected at stated limit of detection*

# EPA METHOD 8260

Client: **Western Water Consultants** Shell Station Well (MW-4)
Sample ID: 93007-S04.7/97
Laboratory ID: C97-41741

Date Sampled: 07/28/97
Date Analyzed: 07/31/97
Date Reported: August 12, 1997

| C.A.S. # | TARGET COMPOUNDS | CONCENTRATION (µg/L) | LIMIT OF DETECTION (µg/L) |
|---|---|---|---|
| 98-82-8 | Isopropylbenzene (1-Methylethylbenzene) | ND | 20.0 |
| 108-86-1 | Bromobenzene | ND | 20.0 |
| 103-65-1 | **n - Propylbenzene** | **46.8** | 20.0 |
| 95-49-8 | 2 - Chlorotoluene | ND | 20.0 |
| 106-43-4 | 4 - Chlorotoluene | ND | 20.0 |
| 108-67-8 | **1,3,5 - Trimethylbenzene** | **105** | 20.0 |
| 98-06-6 | **tert - Butylbenzene** | **59.8** | 20.0 |
| 95-63-6 | **1,2,4 - Trimethylbenzene** | **463** | 20.0 |
| 135-98-8 | sec - Butylbenzene | ND | 20.0 |
| 541-73-1 | 1,3 - Dichlorobenzene | ND | 20.0 |
| 106-46-7 | 1,4 - Dichlorobenzene | ND | 20.0 |
| 99-87-6 | 4-Isopropyltoluene | ND | 20.0 |
| 95-50-1 | 1,2 - Dichlorobenzene | ND | 20.0 |
| 104-51-8 | n - Butylbenzene | ND | 20.0 |
| 96-12-8 | 1,2 - Dibromo - 3 - chloropropane | ND | 100 |
| 120-82-1 | 1,2,4 - Trichlorobenzene | ND | 20.0 |
| 91-20-3 | **Naphthalene** | **125** | 20.0 |
| 87-68-3 | Hexachlorobutadiene | ND | 20.0 |
| 87-61-6 | 1,2 3 - Trichlorobenzene | ND | 20.0 |

***ND - Analyte not detected at stated limit of detection***

*RUNTIME QUALITY ASSURANCE REPORT*

| INTERNAL STANDARDS | AREA | ICAL / CCAL AREA | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|---|
| Pentafluorobenzene | 801515 | 938305 | 85.4% | 50 - 200 % |
| Fluorobenzene | 1595357 | 1760078 | 90.6% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1468164 | 1652410 | 88.8% | 50 - 200 % |
| Chlorobenzene - d5 | 1151329 | 1232139 | 93.4% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 491642 | 524323 | 93.8% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.96 | 99.6% | 86 - 118 % |
| Toluene - d8 | 10.5 | 105% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.2 | 102% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.90 | 99.0% | 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

Report File F:\REPORTS\CLIENTS 97\WEST_WAT ER\ORGANIC CAS\97_41727 xls

Analyst: ww
Reviewed: sec

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# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | | |
| Sample ID: | FIELD BLANK | Date Sampled: | 07/28/97 |
| Laboratory ID: | C97-41744 | Date Received: | 07/31/97 |
| Matrix: | Water | Date Analyzed: | 07/31/97 |
| Dilution Factor: | 1 | Date Reported: | August 12, 1997 |

| *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** | Date Sampled: | 07/28/97 |
| Sample ID: | FIELD BLANK | Date Analyzed: | 07/31/97 |
| Laboratory ID: | C97-41744 | Date Reported: | August 12, 1997 |

| *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 | 909871 | 938305 | 97.0% | 50 - 200 % |
| Fluorobenzene | 1678688 | 1760078 | 95.4% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1641452 | 1652410 | 99.3% | 50 - 200 % |
| Chlorobenzene - d5 | 1171848 | 1232139 | 95.1% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 465506 | 524323 | 88.8% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.22 | 92.2% | 86 - 118 % |
| Toluene - d8 | 10.2 | 102% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.43 | 94.3% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.85 | 98.5% | 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

Report File F:\REPORTS\CLIENTS 97\WEST_WATER\ORGANIC CAS\97_41727.xls

Analyst: yw
Reviewed: sec

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# EPA METHOD 8260

## QC RESULTS - MATRIX SPIKE (MS), MATRIX SPIKE DUPLICATE (MSD)

| | | | |
|---|---|---|---|
| **Client:** | **Western Water Consultants** | Date Sampled: | 07/28/97 |
| Sample Set: | C97-41727 through C97-41735 | Date Received: | 07/31/97 |
| Laboratory ID: | C97-41735 S | Date Analyzed: | 07/31/97 |
| Matrix: | Water | Date Reported: | August 12, 1997 |

***INTERNAL STANDARDS***

| | ICAL / CCAL AREA | SPIKED SAMPLE AREA | % | SPIKE DUPLICATE AREA | % | ACCEPTANCE RANGE |
|---|---|---|---|---|---|---|
| Pentafluorobenzene | 938305 | 863707 | 92.0% | 856700 | 91.3% | 50 - 200 % |
| Fluorobenzene | 1760078 | 1598845 | 90.8% | 1583811 | 90.0% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1652410 | 1562090 | 94.5% | 1546967 | 93.6% | 50 - 200 % |
| Chlorobenzene - d5 | 1232139 | 1129092 | 91.6% | 1118049 | 90.7% | 50 - 200 % |
| 1,4 - Dichlorobenzene-d4 | 524323 | 447334 | 85.3% | 446243 | 85.1% | 50 - 200 % |

***SYSTEM MONITORING COMPOUNDS***

| | SPIKED SAMPLE CONCENTRATION | PERCENT RECOVERY | SPIKE DUPLICATE CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|---|---|
| Dibromofluoromethane | 9.26 | 92.6% | 9.14 | 91.4% | 86 - 118 % |
| Toluene - d8 | 10.2 | 102% | 10.2 | 102% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.31 | 93.1% | 9.31 | 93.1% | 86 - 115 % |
| 1,2 - Dichlorobenzene-d4 | 9.66 | 96.6% | 9.61 | 96.1% | 80 - 120 % |

## *SPIKED SAMPLE RESULTS*

| | SPIKED SAMPLE CONCENTRATION | ORIG. CONC. (µg/L) * | SPIKE AMOUNT (µg/L) | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|---|---|
| Vinyl chloride | 8.02 | ND | 10.0 | 80.2% | 80 - 120 % |
| 1,1 - Dichloroethene | 8.13 | 0.088 | 10.0 | 80.4% | 80 - 120 % |
| 2 - Butanone (MEK) | 8.81 | ND | 10.0 | 88.1% | 80 - 120 % |
| Chloroform | 8.29 | ND | 10.0 | 82.9% | 80 - 120 % |
| 1,2 - Dichloroethane | 8.88 | ND | 10.0 | 88.8% | 80 - 120 % |
| Carbon tetrachloride | 9.16 | ND | 10.0 | 91.6% | 80 - 120 % |
| Benzene | 8.02 | 0.015 | 10.0 | 80.0% | 80 - 120 % |
| Trichloroethene | 8.57 | ND | 10.0 | 85.7% | 80 - 120 % |
| Tetrachloroethene | 9.32 | 0.144 | 10.0 | 91.8% | 80 - 120 % |
| Chlorobenzene | 8.81 | ND | 10.0 | 88.1% | 80 - 120 % |
| 1,4 - Dichlorobenzene | 8.77 | ND | 10.0 | 87.7% | 80 - 120 % |

## *SPIKE DUPLICATE SAMPLE RESULTS*

*** Concentration does not include dilution correction**

| | SPIKE DUP CONCENTRATION | ORIG. CONC. (µg/L) * | SPIKE (µg/L) | PERCENT RECOVERY | RPD | RPD LIMITS |
|---|---|---|---|---|---|---|
| Vinyl chloride | 8.12 | ND | 10.0 | 81.2% | 1.2% | 10 % |
| 1,1 - Dichloroethene | 8.13 | 0.088 | 10.0 | 80.4% | 0.0% | 10 % |
| 2 - Butanone (MEK) | 8.43 | ND | 10.0 | 84.3% | 4.3% | 10 % |
| Chloroform | 8.92 | ND | 10.0 | 89.2% | 7.6% | 10 % |
| 1,2 - Dichloroethane | 8.58 | ND | 10.0 | 85.8% | 3.4% | 10 % |
| Carbon tetrachloride | 9.95 | ND | 10.0 | 99.5% | 8.6% | 10 % |
| Benzene | 8.45 | 0.015 | 10.0 | 84.4% | 5.4% | 10 % |
| Trichloroethene | 9.30 | ND | 10.0 | 93.0% | 8.5% | 10 % |
| Tetrachloroethene | 10.2 | 0.144 | 10.0 | 100% | 9.4% | 10 % |
| Chlorobenzene | 9.40 | ND | 10.0 | 94.0% | 6.7% | 10 % |
| 1,4 - Dichlorobenzene | 9.31 | ND | 10.0 | 93.1% | 6.2% | 10 % |

***MATRIX SPIKE:*** 0 of 22 Matrix Spike results are outside of established QC Limits
***MATRIX SPIKE DUPLICATE:*** 0 of 11 Matrix Spike Duplicate results are outside of established QC Limits

Report File: F:\REPORTS\CLIENTS.97\WEST_WAT.ER\ORGANIC.CAS\97_41727.xls

Analyst: yw
Reviewed: sec

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# EPA METHOD 8260

## QC RESULTS - MATRIX SPIKE (MS), MATRIX SPIKE DUPLICATE (MSD)

| | | | |
|---|---|---|---|
| **Client:** | **Western Water Consultants** | Date Sampled: | 07/28/97 |
| Sample Set: | C97-41736 through C97-41744 | Date Received: | 07/31/97 |
| Laboratory ID: | C97-41739 S | Date Analyzed: | 07/31/97 |
| Matrix: | Water | Date Reported: | August 12, 1997 |

***INTERNAL STANDARDS***

| | ICAL / CCAL AREA | SPIKED SAMPLE AREA | % | SPIKE DUPLICATE AREA | % | ACCEPTANCE RANGE |
|---|---|---|---|---|---|---|
| Pentafluorobenzene | 938305 | 870080 | 92.7% | 870080 | 92.7% | 50 - 200 % |
| Fluorobenzene | 1760078 | 1705453 | 96.9% | 1705453 | 96.9% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1652410 | 1584281 | 95.9% | 1584281 | 95.9% | 50 - 200 % |
| Chlorobenzene - d5 | 1232139 | 1179786 | 95.8% | 1179786 | 95.8% | 50 - 200 % |
| 1,4 - Dichlorobenzene-d4 | 524323 | 487921 | 93.1% | 487921 | 93.1% | 50 - 200 % |

***SYSTEM MONITORING COMPOUNDS***

| | SPIKED SAMPLE CONCENTRATION | PERCENT RECOVERY | SPIKE DUPLICATE CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|---|---|
| Dibromofluoromethane | 9.88 | 98.8% | 9.86 | 98.6% | 86 - 118 % |
| Toluene - d8 | 10.0 | 100% | 10.1 | 101% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.82 | 98.2% | 9.77 | 97.7% | 86 - 115 % |
| 1,2 - Dichlorobenzene-d4 | 9.73 | 97.3% | 9.68 | 96.8% | 80 - 120 % |

***SPIKED SAMPLE RESULTS***

| | SPIKED SAMPLE CONCENTRATION | ORIG. CONC. (µg/L) * | SPIKE AMOUNT (µg/L) | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|---|---|
| Vinyl chloride | 8.33 | ND | 10.0 | 83.3% | 80 - 120 % |
| 1,1 - Dichloroethene | 8.78 | ND | 10.0 | 87.8% | 80 - 120 % |
| 2 - Butanone (MEK) | 8.41 | ND | 10.0 | 84.1% | 80 - 120 % |
| Chloroform | 8.81 | ND | 10.0 | 88.1% | 80 - 120 % |
| 1,2 - Dichloroethane | 8.90 | ND | 10.0 | 89.0% | 80 - 120 % |
| Carbon tetrachloride | 9.06 | ND | 10.0 | 90.6% | 80 - 120 % |
| Benzene | 8.47 | ND | 10.0 | 84.7% | 80 - 120 % |
| Trichloroethene | 8.81 | ND | 10.0 | 88.1% | 80 - 120 % |
| Tetrachloroethene | 8.67 | ND | 10.0 | 86.7% | 80 - 120 % |
| Chlorobenzene | 9.23 | ND | 10.0 | 92.3% | 80 - 120 % |
| 1,4 - Dichlorobenzene | 9.11 | ND | 10.0 | 91.1% | 80 - 120 % |

***SPIKE DUPLICATE SAMPLE RESULTS***

*** Concentration does not include dilution correction**

| | SPIKE DUP CONCENTRATION | ORIG. CONC. (µg/L) * | SPIKE (µg/L) | PERCENT RECOVERY | RPD | RPD LIMITS |
|---|---|---|---|---|---|---|
| Vinyl chloride | 8.58 | ND | 10.0 | 85.8% | 3.0% | 10 % |
| 1,1 - Dichloroethene | 8.45 | ND | 10.0 | 84.5% | 3.8% | 10 % |
| 2 - Butanone (MEK) | 8.78 | ND | 10.0 | 87.8% | 4.4% | 10 % |
| Chloroform | 9.32 | ND | 10.0 | 93.2% | 5.8% | 10 % |
| 1,2 - Dichloroethane | 9.39 | ND | 10.0 | 93.9% | 5.5% | 10 % |
| Carbon tetrachloride | 9.68 | ND | 10.0 | 96.8% | 6.8% | 10 % |
| Benzene | 8.97 | ND | 10.0 | 89.7% | 5.9% | 10 % |
| Trichloroethene | 9.39 | ND | 10.0 | 93.9% | 6.6% | 10 % |
| Tetrachloroethene | 9.28 | ND | 10.0 | 92.8% | 7.0% | 10 % |
| Chlorobenzene | 9.92 | ND | 10.0 | 99.2% | 7.5% | 10 % |
| 1,4 - Dichlorobenzene | 10.0 | ND | 10.0 | 100% | 10.0% | 10 % |

***MATRIX SPIKE:*** 0 of 22 Matrix Spike results are outside of established QC Limits
***MATRIX SPIKE DUPLICATE:*** 0 of 11 Matrix Spike Duplicate results are outside of established QC Limits

Report Approved By:

Report File: F:\REPORTS\CLIENTS.97\WEST_WAT.ER\ORGANIC.CAS\97_41727.xls

Analyst: yw
Reviewed: sec

4/1041
W1009

Western Water Consultants, Inc.

CHAIN OF CUSTODY RECORD
AND SAMPLING SHIPPING PAPERS

PROJECT NO. PROJECT NAME: 93007.2

SAMPLERS: (signature) Kevin Mathson

| SAMPLE I.D. | DATE | TIME | COMP. | GRAB | SAMPLE TYPE | NO. OF CONTAINERS | CONTAINER TYPE: 40 ml VOA | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 93007-2.7/97 | 7/28/97 | 1800 | | X | $H_2O$ | 3 | 3 | | | | | | Analyze all samples by EPA Method 8260. |
| 93007-3.7/97 | " | 1850 | | X | " | 3 | 3 | | | | | | |
| 93007-4.7/97 | 7/29/97 | 0720 | | X | " | 3 | 3 | | | | | | Samples kept on ice and shipped with ice via UPS overnight to Energy Labs (Casper). |
| 93007-5.7/97 | 7/28/97 | 1815 | | X | " | 3 | 3 | | | | | | |
| 93007-6.7/97 | " | 1840 | | X | " | 3 | 3 | | | | | | |
| 93007-7.7/97 | 7/29/97 | 0640 | | X | " | 3 | 3 | | | | | | |
| 93007-8.7/97 | " | 0700 | | X | " | 3 | 3 | | | | | | |
| 93007-9.7/97 | " | 0710 | | X | " | 3 | 3 | | | | | | |
| 93007-10.7/97 | " | 0650 | | X | " | 3 | 3 | | | | | | |
| 93007-11.7/97 | 7/28/97 | 1740 | | X | " | 3 | 3 | | | | | | |
| 93007-12.7/97 | " | 1750 | | X | " | 3 | 3 | | | | | | |

| Relinquished by: (signature) | Date / Time | Received by: (signature) | Relinquished by: (signature) | Date / Time | Received by: (signature) |
|---|---|---|---|---|---|
| Kevin Mathson | 7/29/97 1100 | | | | |
| Relinquished by: (signature) | Date / Time | Received by: (signature) | Relinquished by: (signature) | Date / Time | Received for Laboratory by: (signature) |
| | | | | 7-30-97 10:53 | Mark Patterson |

DISTRIBUTION: White – ORIG. RETURN TO WWC

REMARKS: If there are any questions contact Kevin Mathson at (307) 742-0031.

(KB)

Western Water Consultants, Inc.

# CHAIN OF CUSTODY RECORD AND SAMPLING SHIPPING PAPERS

PROJECT NO. PROJECT NAME: 93007.2

SAMPLERS: (signature) Kevin Mattson

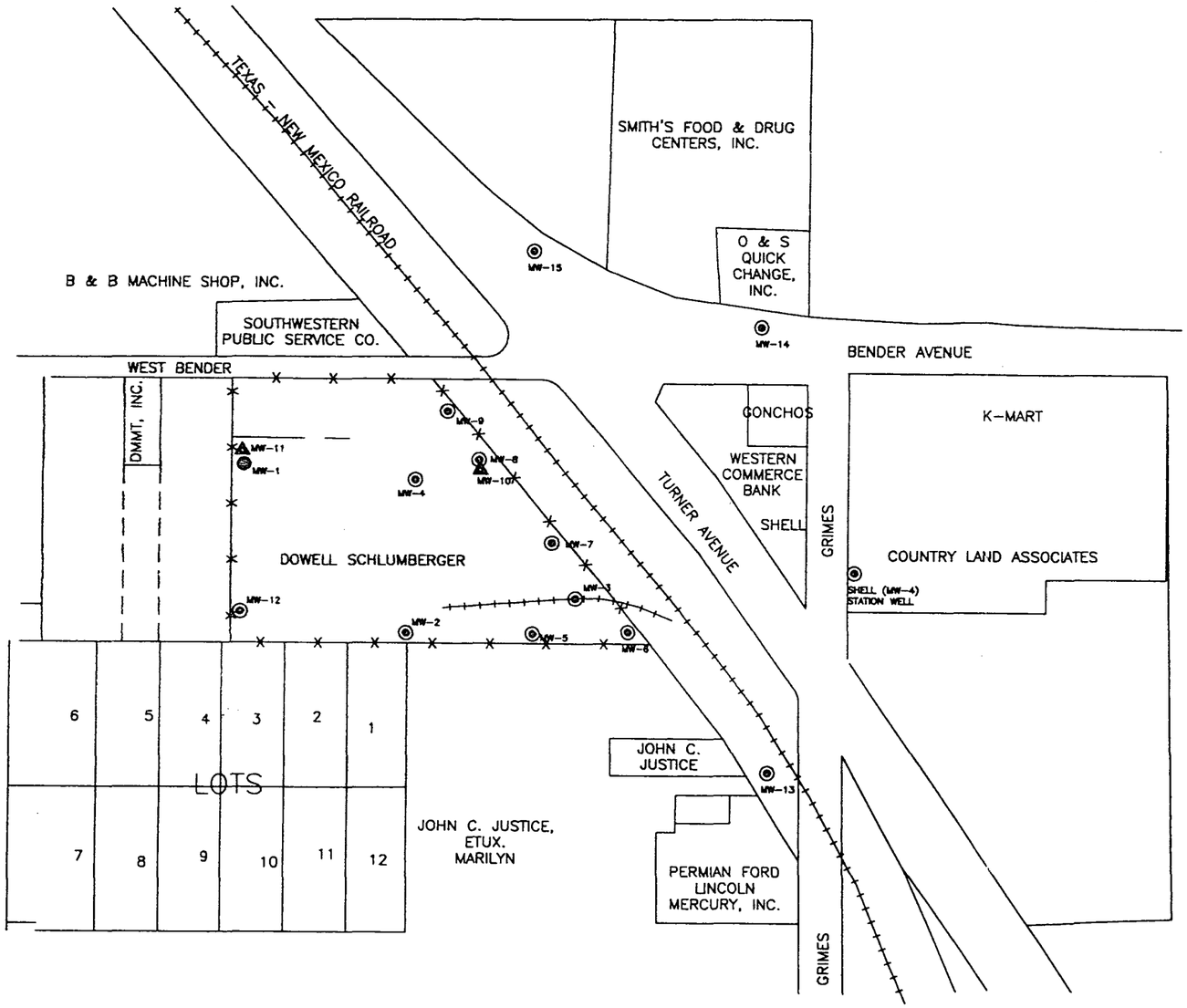
| SAMPLE I.D. | DATE | TIME | COMP. | GRAB | SAMPLE TYPE | NO. OF CONTAINERS | CONTAINER TYPE: 40 ml VOA | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 93007-13.7/97 | 7/28/97 | 1730 | | X | $H_2O$ | 3 | 3 | | | | | | Analyze all samples by |
| 93007-14.7/97 | " | 1700 | | X | " | 3 | 3 | | | | | | EPA Method 8260. |
| 93007-15.7/97 | " | 1645 | | X | " | 3 | 3 | | | | | | |
| 93007-304.7/97 | " | 1715 | | X | " | 3 | 3 | | | | | | Samples kept on ice and |
| 93007-A.7/97 | " | 1830 | | X | " | 3 | 3 | | | | | | shipped w/ ice via UPS |
| 93007-B.7/97 | " | 1600 | | X | " | 3 | 3 | | | | | | Overnight to Energy Labs |
| Field Blank | " | 1510 | | X | " | 2 | 2 | | | | | | (Casper). |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

| Relinquished by: (signature) | Date / Time | Received by: (signature) | Relinquished by: (signature) | Date / Time | Received by: (signature) |
|---|---|---|---|---|---|
| Kevin Mattson | 7/29/97 1100 | | | | |
| Relinquished by: (signature) | Date / Time | Received by: (signature) | Relinquished by: (signature) | Date / Time | Received for Laboratory by: (signature) |
| | | | | 7.30.97 10:53 | Chuck Mattson |

DISTRIBUTION: White – ORIG. RETURN TO WWC

REMARKS: If there are any questions contact Kevin Mattson at (307) 742-0031.

K:\1720040\93-007\WEBBASE2 07/09/07 10:43




## EXPLANATION

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

0 300 ft.

SCALE

# *FIGURE 1*

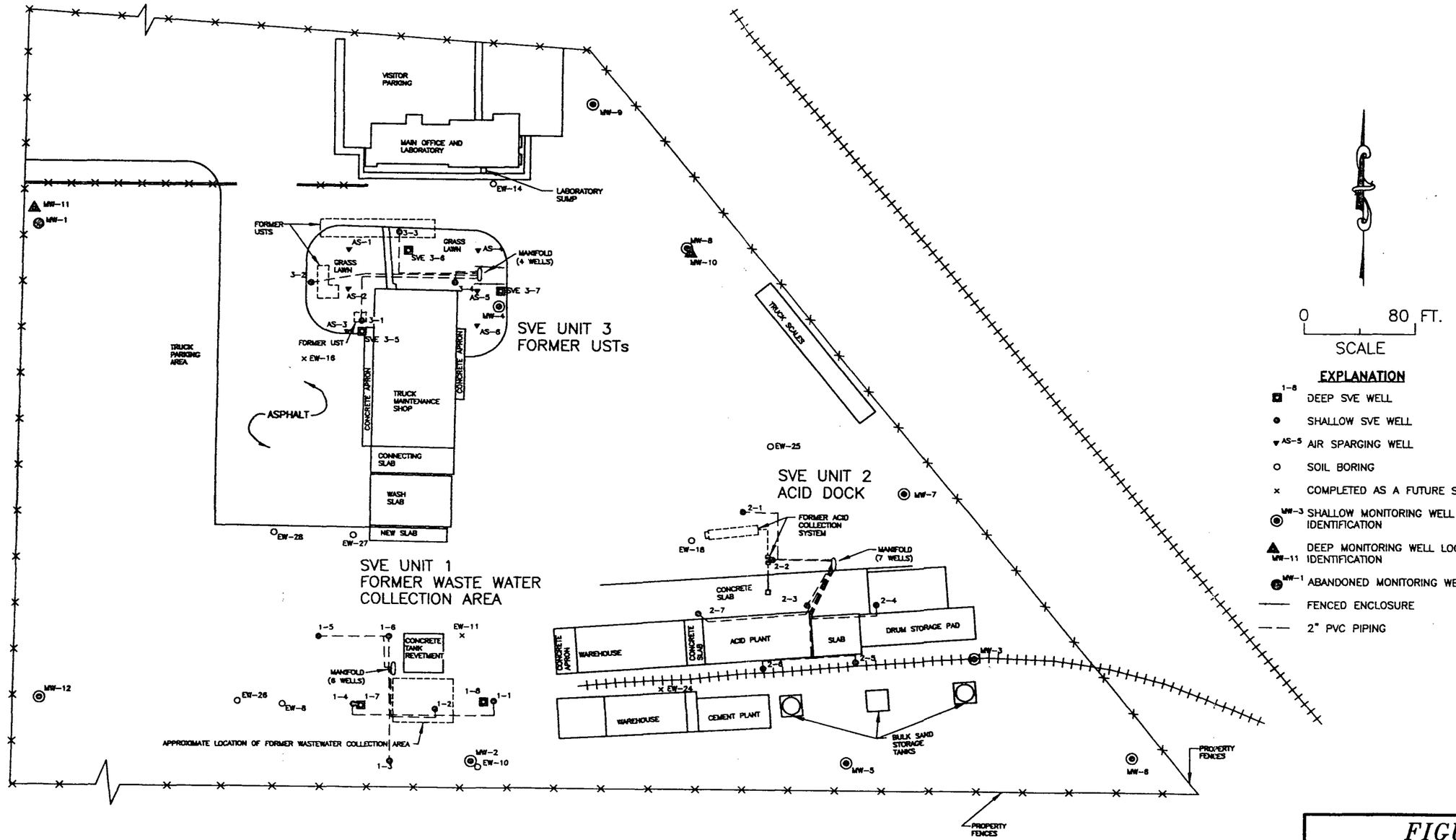
MONITORING WELL LOCATIONS

DOWELL, A DIVISION OF
SCHLUMBERGER TECHNOLOGY CORPORATION
HOBBS, NM

Western Water Consultants, Inc. WWC Engineering

Engineering Environmental Mining Water Resources

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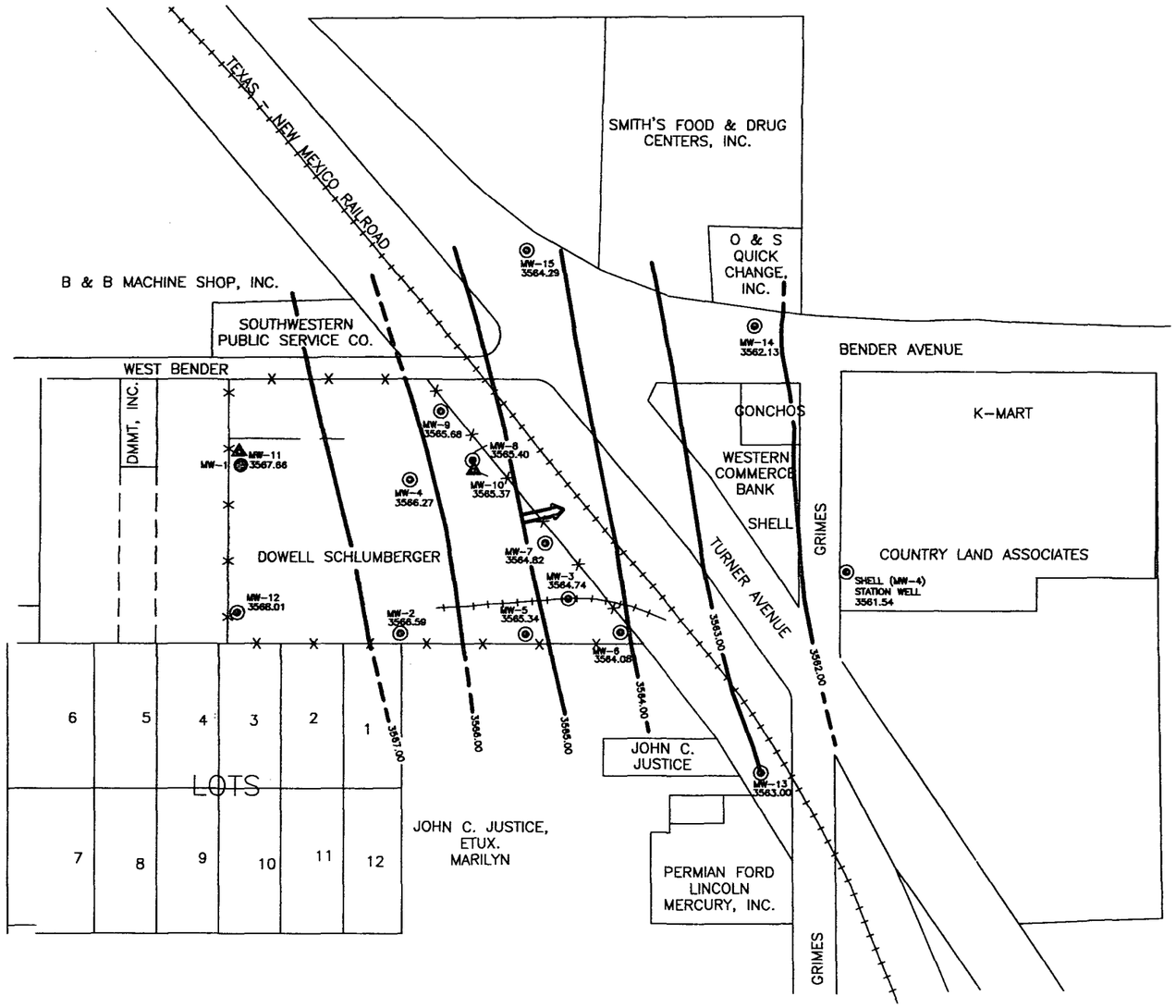

# *FIGURE 2*

## SITE MAP AND LOCATION OF MONITORING AND REMEDIATION WELLS

DOWELL, A DIVISION OF
SCHLUMBERGER TECHNOLOGY CORPORATION
HOBBS, NM

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

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## EXPLANATION

- MW-14 3562.33 — SHALLOW MONITORING WELL LOCATION, IDENTIFICATION, AND POTENTIOMETRIC SURFACE ELEVATION
- MW-1 — ABANDONED MONITORING WELL
- MW-11 3567.85 — DEEP MONITORING WELL LOCATION IDENTIFICATION AND POTENTIOMETRIC SURFACE ELEVATION
- 3563.50 — POTENTIOMETRIC SURFACE CONTOURS AND ELEVATION (DASHED WHERE INFERRED)
- GROUND-WATER FLOW DIRECTION

0 300 ft.

SCALE

# *FIGURE 3*

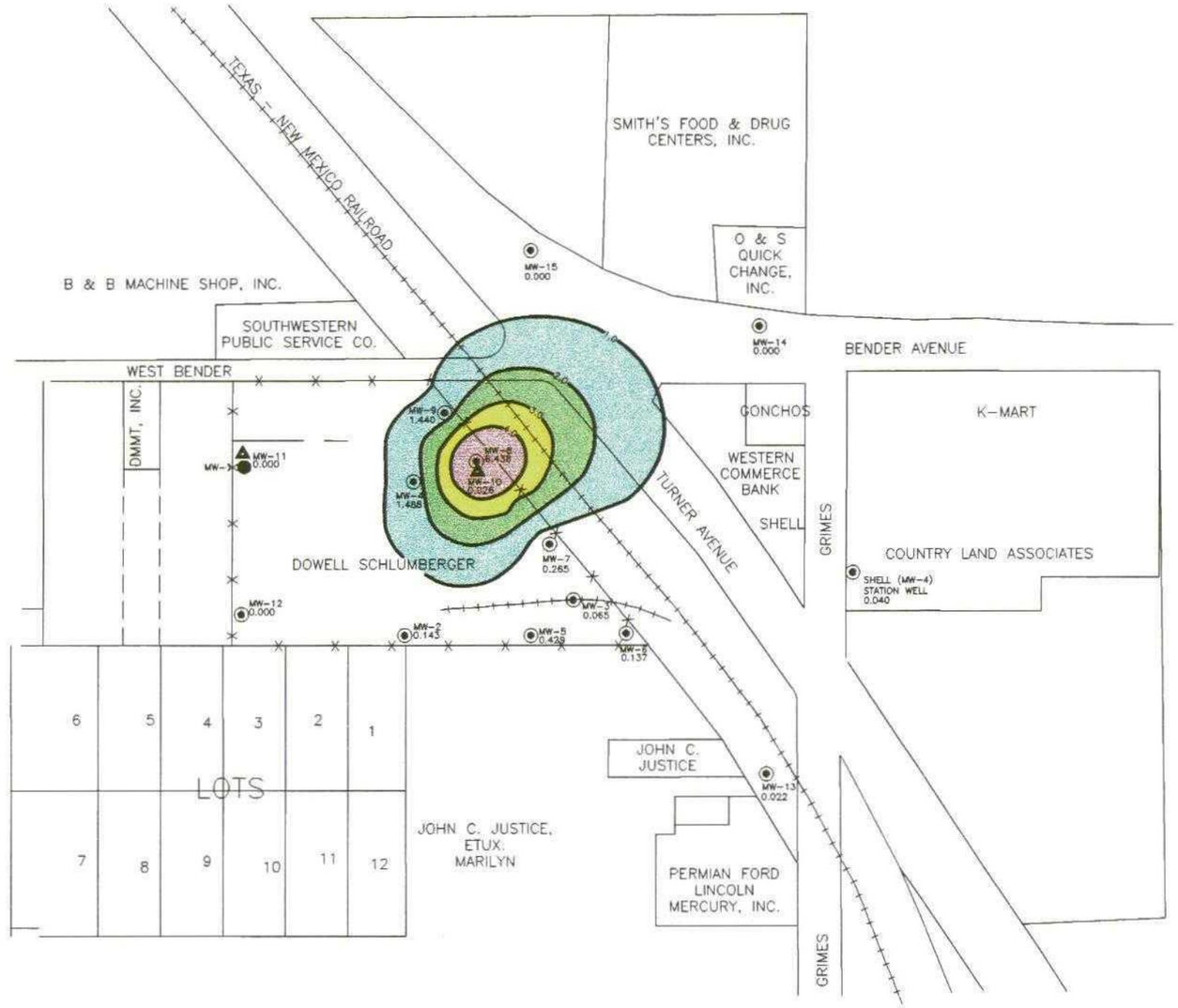
POTENTIOMETRIC SURFACE MAP
(7-28-97)

DOWELL, A DIVISION OF
SCHLUMBERGER TECHNOLOGY CORPORATION
HOBBS, NM

Western Water Consultants, Inc. WWC Engineering

Engineering Environmental Mining Water Resources

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## EXPLANATION

- MW-8 6.483 — 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)

- 4.00
- 3.00
- 2.00
- 1.00

0 300 ft.

SCALE

# *FIGURE 4*

TOTAL HALOCARBONS CONCENTRATION MAP (7-29-97)

DOWELL, A DIVISION OF SCHLUMBERGER TECHNOLOGY CORPORATION HOBBS, NM

Western Water Consultants, Inc. WWC Engineering

Engineering Environmental Mining Water Resources

Schlumberger Oilfield Services

Oilfield Services Shared Resources

**John A. Miller**
Remediation Manager

September 17, 1997

Mr. Roger W. Anderson
New Mexico Energy, Minerals & Natural Resources Department
Oil Conservation Division
2040 S. Pacheco
Santa Fe, NM 87505

**Re: Third Quarter Ground-water Monitoring Report for the Dowell, a division of Schlumberger Technology Corporation Facility, Artesia, New Mexico.**

Dear Mr. Anderson:

Enclosed are the results for the third quarter ground-water and air quality monitoring for 1997 at the Dowell facility in Artesia, New Mexico. Included with this document are a site and potientiometric surface map (Figure 1), static water level, air and water quality tables (Tables 1, 2, and 3), and laboratory data sheets.

The fourth quarter monitoring event is scheduled for October, 1997. If you have any comments or questions, please call me at 281-285-8498.

Sincerely,

John A. Miller
Remediation Manager

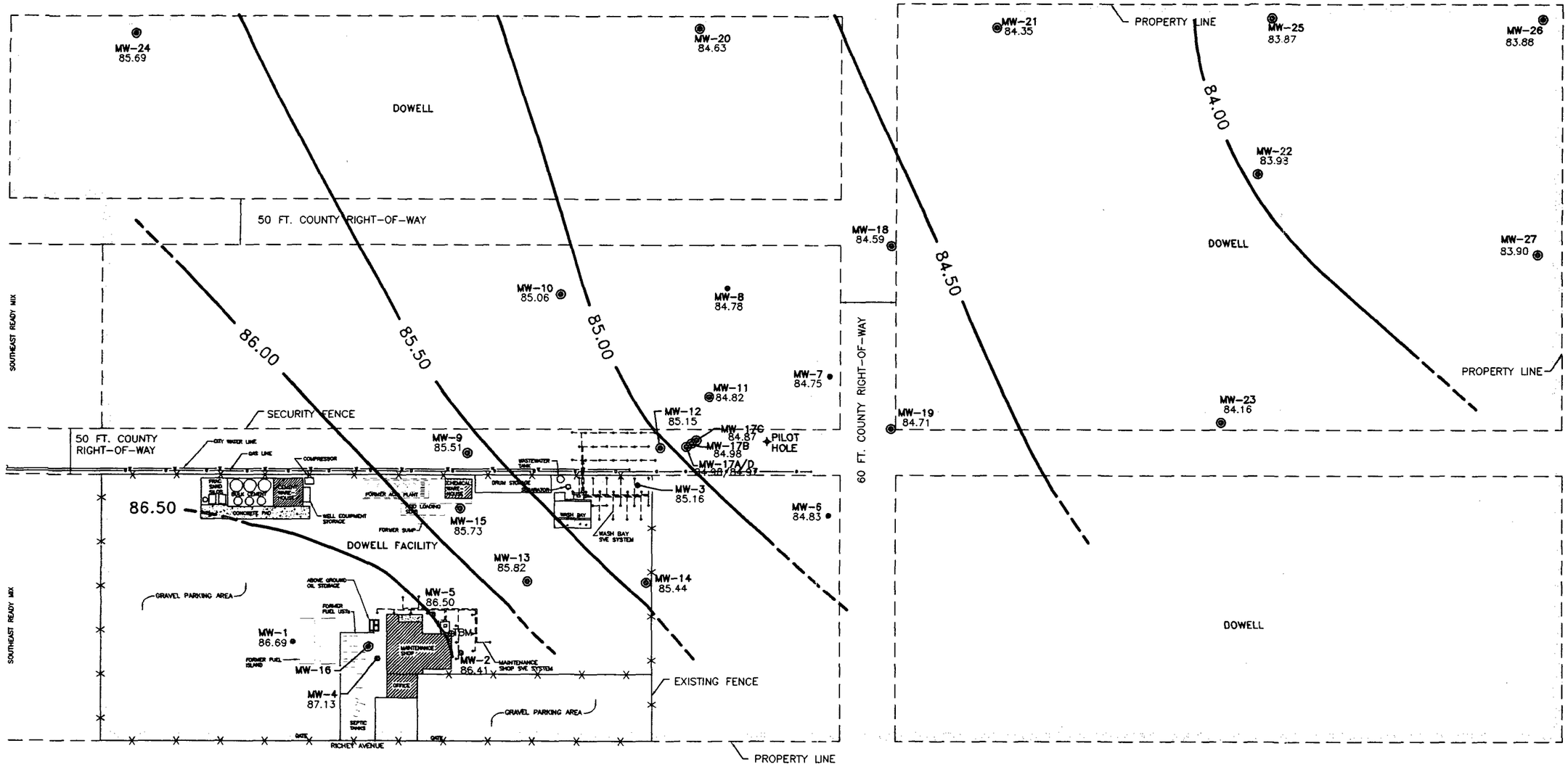
JAM/lld

Enclosures

cc: WWC, Laramie

P.O. Box 2727, Houston, Texas 77252-2727
300 Schlumberger Drive, Sugar Land, Texas 77478
(281) 285-8498 (281) 285-8526 (fax)

K:\17040\30-128\97\PS-787.DWG 09/05/97 11:29




## EXPLANATION

- MW-12 / 85.15 — WWC MONITORING WELL LOCATION AND IDENTIFICATION; GROUND-WATER ELEVATION
- MW-6 / 83.88 — REED AND ASSOCIATES MONITORING WELL LOCATION AND IDENTIFICATION; GROUND-WATER ELEVATION
- TBM — TEMPORARY BENCH MARK
- 85.0 — POTENTIOMETRIC SURFACE CONTOUR
- AIR PIPING
- SVE EXTRACTION WELL

0 120 FT.

SCALE

BASE MAP MODIFIED FROM REED & ASSOCIATES

# *FIGURE 1*

SITE MAP WITH
POTENTIOMETRIC SURFACE
(7/29/97)

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

Western Water Consultants, Inc. WWC Engineering

Engineering Environmental Mining Water Resources

## TABLE 1. GROUND-WATER MEASUREMENTS AND ELEVATIONS, DOWELL, ARTESIA, NEW MEXICO.

| WELL NUMBER | DATE MEASURED | TOTAL WELL DEPTH (Ft) | MEASURING POINT | MEASURING POINT ELEVATION* (ft) | DEPTH TO GROUND WATER (ft) | STATIC WATER ELEVATION (Ft) | DIFFERENCE FROM PRIOR MEASUREMENT |
|---|---|---|---|---|---|---|---|
| MW-1 | 01/23/91 | 30.00 | Protective Casing | 100.56 | 17.41 | 83.15 | |
| | 09/13/91 | | | | 16.04 | 84.52 | 1.37 |
| | 11/22/91 | | | | 14.50 | 86.06 | 1.54 |
| | 03/16/93 | | | | 13.72 | 86.84 | 0.78 |
| | 01/09/94 | | | | 14.62 | 85.94 | -0.90 |
| | 04/19/94 | | | | 14.48 | 86.08 | 0.14 |
| | 07/20/94 | | | | 14.38 | 86.18 | 0.10 |
| | 10/24/94 | | | | 14.73 | 85.83 | -0.35 |
| | 01/24/95 | | | | 14.20 | 86.36 | 0.53 |
| | 04/02/95 | | | | 14.37 | 86.19 | -0.17 |
| | 07/31/95 | | | | 14.76 | 85.80 | -0.39 |
| | 10/16/95 | | | | 14.64 | 85.92 | 0.12 |
| | 01/10/96 | | | | 14.59 | 85.97 | 0.05 |
| | 04/09/96 | | | | 14.77 | 85.79 | -0.18 |
| | 07/20/96 | | | | 15.84 | 84.72 | -1.07 |
| | 10/21/96 | | | | 14.07 | 86.49 | 1.77 |
| | 01/21/97 | | | | 13.24 | 87.32 | 0.83 |
| | 04/08/97 | | | | 12.97 | 87.59 | 0.27 |
| | 07/29/97 | | | | 13.87 | 86.69 | -0.90 |
| MW-2 | 01/23/91 | 30.00 | Protective Casing | 99.56 | 16.95 | 82.61 | |
| | 09/13/91 | | | | 15.01 | 84.55 | 1.94 |
| | 11/22/91 | | | | 13.76 | 85.80 | 1.25 |
| | 03/16/93 | | | | 13.16 | 86.40 | 0.60 |
| | 01/09/94 | | | | 13.91 | 85.65 | -0.75 |
| | 04/19/94 | | | | 13.80 | 85.76 | 0.11 |
| | 07/20/94 | | | | 13.65 | 85.91 | 0.15 |
| | 10/24/94 | | | | 13.88 | 85.68 | -0.23 |
| | 01/24/95 | | | | 13.41 | 86.15 | 0.47 |
| | 04/02/95 | | | | 13.67 | 85.89 | -0.26 |
| | 07/31/95 | | | | 13.81 | 85.75 | -0.14 |
| | 10/16/95 | | | | 13.78 | 85.78 | 0.03 |
| | 01/10/96 | | | | 13.80 | 85.76 | -0.02 |
| | 04/09/96 | | | | 13.98 | 85.58 | -0.18 |
| | 07/20/96 | | | | 14.92 | 84.64 | -0.94 |
| | 10/21/96 | | | | 13.15 | 86.41 | 1.77 |
| | 01/21/97 | | | | 12.41 | 87.15 | 0.74 |
| | 04/08/97 | | | | 12.21 | 87.35 | 0.20 |
| | 07/29/97 | | | | 13.15 | 86.41 | -0.94 |
| MW-3 | 01/23/91 | 30.00 | Protective Casing | 98.33 | 17.28 | 81.05 | |
| | 09/13/91 | | | | 14.66 | 83.67 | 2.62 |
| | 11/22/91 | | | | 13.63 | 84.70 | 1.03 |
| | 03/16/93 | | | | 12.89 | 85.44 | 0.74 |
| | 01/09/94 | | | | 13.66 | 84.67 | -0.77 |
| | 04/19/94 | | | | NM | NM | NM |
| | 07/20/94 | | | | 13.18 | 85.15 | na |
| | 10/24/94 | | | | 13.27 | 85.06 | -0.09 |
| | 01/24/95 | | | | 13.23 | 85.10 | 0.04 |
| | 04/02/95 | | | | 13.60 | 84.73 | -0.37 |
| | 07/31/95 | | | | 13.34 | 84.99 | 0.26 |
| | 10/16/95 | | | | 13.38 | 84.95 | -0.04 |
| | 01/10/96 | | | | 13.85 | 84.48 | -0.47 |
| | 04/09/96 | | | | 13.91 | 84.42 | -0.06 |
| | 07/20/96 | | | | 14.55 | 83.78 | -0.64 |
| | 10/21/96 | | | | 12.90 | 85.43 | 1.65 |
| | 01/21/97 | | | | 12.42 | 85.91 | 0.48 |
| | 04/08/97 | | | | 12.43 | 85.90 | -0.01 |
| | 07/29/97 | | | | 13.18 | 85.15 | -0.75 |
| MW-4 | 01/23/91 | 50.00 | Protective Casing | 103.18 | 20.17 | 83.01 | |
| | 09/13/91 | | | | 18.54 | 84.64 | 1.63 |
| | 11/22/91 | | | | 17.15 | 86.03 | 1.39 |
| | 03/16/93 | | | | 16.49 | 86.69 | 0.66 |
| | 01/09/94 | | | | 17.28 | 85.90 | -0.79 |
| | 04/19/94 | | | | 17.15 | 86.03 | 0.13 |
| | 07/20/94 | | | | 16.99 | 86.19 | 0.16 |
| | 10/24/94 | | | | 17.25 | 85.93 | -0.26 |
| | 01/24/95 | | | | 16.78 | 86.40 | 0.47 |
| | 04/02/95 | | | | 16.98 | 86.20 | -0.20 |
| | 07/31/95 | | | | 17.26 | 85.92 | -0.28 |
| | 10/16/95 | | | | 17.01 | 86.17 | 0.25 |
| | 01/10/96 | | | | 16.95 | 86.23 | 0.06 |
| | 04/09/96 | | | | 17.15 | 86.03 | -0.20 |
| | 07/20/96 | | | | 18.08 | 85.10 | -0.93 |
| | 10/21/96 | | | | 16.28 | 86.90 | 1.80 |
| | 01/21/97 | | | | 15.37 | 87.81 | 0.91 |
| | 04/08/97 | | | | 15.14 | 88.04 | 0.23 |
| | 07/29/97 | | | | 16.05 | 87.13 | -0.91 |

## TABLE 1. GROUND-WATER MEASUREMENTS AND ELEVATIONS, DOWELL, ARTESIA, NEW MEXICO.

| WELL NUMBER | DATE MEASURED | TOTAL WELL DEPTH (Ft) | MEASURING POINT | MEASURING POINT ELEVATION* (ft) | DEPTH TO GROUND WATER (ft) | STATIC WATER ELEVATION (Ft) | DIFFERENCE FROM PRIOR MEASUREMENT |
|---|---|---|---|---|---|---|---|
| MW-5 | 01/23/91 | 30.00 | Protective Casing | 99.87 | 17.20 | 82.67 | |
| | 09/13/91 | | | | 15.52 | 84.35 | 1.68 |
| | 11/22/91 | | | | 14.19 | 85.68 | 1.33 |
| | 03/16/93 | | | | 13.47 | 86.40 | 0.72 |
| | 01/09/94 | | | | 14.31 | 85.56 | -0.84 |
| | 04/19/94 | | | | 14.17 | 85.70 | 0.14 |
| | 07/20/94 | | | | 13.97 | 85.90 | 0.20 |
| | 10/24/94 | | | | 14.21 | 85.66 | -0.24 |
| | 01/24/95 | | | | 13.78 | 86.09 | 0.43 |
| | 04/02/95 | | | | 14.05 | 85.82 | -0.27 |
| | 07/31/95 | | | | 14.17 | 85.70 | -0.12 |
| | 10/16/95 | | | | 14.07 | 85.80 | 0.10 |
| | 01/10/96 | | | | 14.11 | 85.76 | -0.04 |
| | 04/09/96 | | | | 14.31 | 85.56 | -0.20 |
| | 07/20/96 | | | | 15.20 | 84.67 | -0.89 |
| | 10/21/96 | | | | 13.44 | 86.43 | 1.76 |
| | 01/21/97 | | | | 12.69 | 87.18 | 0.75 |
| | 04/08/97 | | | | 12.52 | 87.35 | 0.17 |
| | 07/29/97 | | | | 13.37 | 86.50 | -0.85 |
| MW-6 | 01/23/91 | 35.00 | Protective Casing | 100.84 | 19.59 | 81.25 | |
| | 09/13/91 | | | | 17.43 | 83.41 | 2.16 |
| | 11/21/91 | | | | 16.30 | 84.54 | 1.13 |
| | 03/16/93 | | | | 15.57 | 85.27 | 0.73 |
| | 01/09/94 | | | | 16.42 | 84.42 | -0.85 |
| | 04/19/94 | | | | 16.29 | 84.55 | 0.13 |
| | 07/19/94 | | | | 15.79 | 85.05 | 0.50 |
| | 10/24/94 | | | | 15.83 | 85.01 | -0.04 |
| | 01/24/95 | | | | 15.94 | 84.90 | -0.11 |
| | 04/02/95 | | | | 16.38 | 84.46 | -0.44 |
| | 07/31/95 | | | | 15.88 | 84.96 | 0.50 |
| | 10/16/95 | | | | 16.01 | 84.83 | -0.13 |
| | 01/10/96 | | | | 16.52 | 84.32 | -0.51 |
| | 04/09/96 | | | | 16.70 | 84.14 | -0.18 |
| | 07/21/96 | | | | 17.26 | 83.58 | -0.56 |
| | 10/21/96 | | | | 15.62 | 85.22 | 1.64 |
| | 01/21/97 | | | | 15.21 | 85.63 | 0.41 |
| | 04/08/97 | | | | 15.30 | 85.54 | -0.09 |
| | 07/29/97 | | | | 16.01 | 84.83 | -0.71 |
| MW-7 | 01/23/91 | 35.00 | Protective Casing | 100.23 | 19.01 | 81.22 | |
| | 09/13/91 | | | | 17.43 | 82.80 | 1.58 |
| | 11/21/91 | | | | 16.00 | 84.23 | 1.43 |
| | 03/16/93 | | | | 14.91 | 85.32 | 1.09 |
| | 01/09/94 | | | | 15.99 | 84.24 | -1.08 |
| | 04/19/94 | | | | 15.83 | 84.40 | 0.16 |
| | 07/19/94 | | | | 15.24 | 84.99 | 0.59 |
| | 10/24/94 | | | | 15.32 | 84.91 | -0.08 |
| | 01/24/95 | | | | 15.54 | 84.69 | -0.22 |
| | 04/02/95 | | | | 16.00 | 84.23 | -0.46 |
| | 07/31/95 | | | | 15.57 | 84.66 | 0.43 |
| | 10/16/95 | | | | 15.61 | 84.62 | -0.04 |
| | 01/10/96 | | | | 16.13 | 84.10 | -0.52 |
| | 04/09/96 | | | | 16.30 | 83.93 | -0.17 |
| | 07/21/96 | | | | 16.81 | 83.42 | -0.51 |
| | 10/21/96 | | | | 15.15 | 85.08 | 1.66 |
| | 01/21/97 | | | | 14.81 | 85.42 | 0.34 |
| | 04/08/97 | | | | 14.91 | 85.32 | -0.10 |
| | 07/29/97 | | | | 15.48 | 84.75 | -0.57 |
| MW-8 | 01/23/91 | 35.00 | Protective Casing | 101.47 | 20.16 | 81.31 | |
| | 09/13/91 | | | | 18.80 | 82.67 | 1.36 |
| | 11/21/91 | | | | 17.29 | 84.18 | 1.51 |
| | 03/16/93 | | | | 16.03 | 85.44 | 1.26 |
| | 01/09/94 | | | | 17.23 | 84.24 | -1.20 |
| | 04/19/94 | | | | 17.05 | 84.42 | 0.18 |
| | 07/19/94 | | | | 16.50 | 84.97 | 0.55 |
| | 10/24/94 | | | | 16.56 | 84.91 | -0.06 |
| | 01/24/95 | | | | 16.79 | 84.68 | -0.23 |
| | 04/02/95 | | | | 17.24 | 84.23 | -0.45 |
| | 07/31/95 | | | | 16.94 | 84.53 | 0.30 |
| | 10/16/95 | | | | 16.88 | 84.59 | 0.06 |
| | 01/10/96 | | | | 17.38 | 84.09 | -0.50 |
| | 04/09/96 | | | | 17.54 | 83.93 | -0.16 |
| | 07/21/96 | | | | 18.10 | 83.37 | -0.56 |
| | 10/21/96 | | | | 16.40 | 85.07 | 1.70 |
| | 11/22/96 | | | | 16.42 | 85.05 | -0.02 |
| | 01/21/97 | | | | 16.05 | 85.42 | 0.37 |

## TABLE 1. GROUND-WATER MEASUREMENTS AND ELEVATIONS, DOWELL, ARTESIA, NEW MEXICO.

| WELL NUMBER | DATE MEASURED | TOTAL WELL DEPTH (Ft) | MEASURING POINT | MEASURING POINT ELEVATION* (ft) | DEPTH TO GROUND WATER (ft) | STATIC WATER ELEVATION (Ft) | DIFFERENCE FROM PRIOR MEASUREMENT |
|---|---|---|---|---|---|---|---|
| MW-8 Cont. | 04/08/97 | | | | 16.11 | 85.36 | -0.06 |
| | 07/29/97 | | | | 16.69 | 84.78 | -0.58 |
| MW-9 | 01/26/91 | 30.00 | Protective Casing | 102.18 | 20.08 | 82.10 | |
| | 09/13/91 | | | | 18.93 | 83.25 | 1.15 |
| | 11/21/91 | | | | 17.35 | 84.83 | 1.58 |
| | 03/16/93 | | | | 16.19 | 85.99 | 1.16 |
| | 01/09/94 | | | | 17.31 | 84.87 | -1.12 |
| | 04/19/94 | | | | 17.33 | 84.85 | -0.02 |
| | 07/19/94 | | | | 16.85 | 85.33 | 0.48 |
| | 10/24/94 | | | | 17.05 | 85.13 | -0.20 |
| | 01/24/95 | | | | 16.92 | 85.26 | 0.13 |
| | 04/02/95 | | | | 17.23 | 84.95 | -0.31 |
| | 07/31/95 | | | | 17.30 | 84.88 | -0.07 |
| | 10/16/95 | | | | 17.16 | 85.02 | 0.14 |
| | 01/10/96 | | | | 17.39 | 84.79 | -0.23 |
| | 04/09/96 | | | | 17.58 | 84.60 | -0.19 |
| | 07/21/96 | | | | 18.38 | 83.80 | -0.80 |
| | 10/21/96 | | | | 16.65 | 85.53 | 1.73 |
| | 01/21/97 | | | | 16.12 | 86.06 | 0.53 |
| | 04/08/97 | | | | 16.04 | 86.14 | 0.08 |
| | 07/29/97 | | | | 16.67 | 85.51 | -0.63 |
| MW-10 | 01/26/91 | 30.00 | Protective Casing | 101.34 | 19.68 | 81.66 | |
| | 09/13/91 | | | | 18.56 | 82.78 | 1.12 |
| | 11/21/91 | | | | 16.96 | 84.38 | 1.60 |
| | 03/16/93 | | | | 15.64 | 85.70 | 1.32 |
| | 01/09/94 | | | | 16.89 | 84.45 | -1.25 |
| | 04/19/94 | | | | 16.73 | 84.61 | 0.16 |
| | 07/19/94 | | | | 16.29 | 85.05 | 0.44 |
| | 10/24/94 | | | | 16.39 | 84.95 | -0.10 |
| | 01/24/95 | | | | 16.48 | 84.86 | -0.09 |
| | 04/02/95 | | | | 16.88 | 84.46 | -0.40 |
| | 07/31/95 | | | | 16.82 | 84.52 | 0.06 |
| | 10/16/95 | | | | 16.65 | 84.69 | 0.17 |
| | 01/10/96 | | | | 17.01 | 84.33 | -0.36 |
| | 04/09/96 | | | | 17.20 | 84.14 | -0.19 |
| | 07/21/96 | | | | 17.85 | 83.49 | -0.65 |
| | 10/21/96 | | | | 16.13 | 85.21 | 1.72 |
| | 01/21/97 | | | | 15.73 | 85.61 | 0.40 |
| | 04/08/97 | | | | 15.70 | 85.64 | 0.03 |
| | 07/29/97 | | | | 16.28 | 85.06 | -0.58 |
| MW-11 | 01/26/91 | 30.00 | Protective Casing | 100.60 | 19.27 | 81.33 | |
| | 09/13/91 | | | | 17.81 | 82.79 | 1.46 |
| | 11/21/91 | | | | 16.35 | 84.25 | 1.46 |
| | 03/16/93 | | | | 15.20 | 85.40 | 1.15 |
| | 01/09/94 | | | | 16.31 | 84.29 | -1.11 |
| | 04/19/94 | | | | 16.17 | 84.43 | 0.14 |
| | 07/19/94 | | | | 15.63 | 84.97 | 0.54 |
| | 10/24/94 | | | | 15.72 | 84.88 | -0.09 |
| | 01/24/95 | | | | 15.89 | 84.71 | -0.17 |
| | 04/02/95 | | | | 16.33 | 84.27 | -0.44 |
| | 07/31/95 | | | | 16.03 | 84.57 | 0.30 |
| | 10/16/95 | | | | 16.00 | 84.60 | 0.03 |
| | 01/10/96 | | | | 16.45 | 84.15 | -0.45 |
| | 04/09/96 | | | | 16.62 | 83.98 | -0.17 |
| | 07/21/96 | | | | 17.21 | 83.39 | -0.59 |
| | 10/21/96 | | | | 15.52 | 85.08 | 1.69 |
| | 01/21/97 | | | | 15.15 | 85.45 | 0.37 |
| | 04/08/97 | | | | 15.19 | 85.41 | -0.04 |
| | 07/29/97 | | | | 15.78 | 84.82 | -0.59 |
| MW-12 | 01/26/91 | 34.00 | Protective Casing | 100.69 | 19.24 | 81.45 | |
| | 09/13/91 | | | | 17.59 | 83.10 | 1.65 |
| | 11/21/91 | | | | 16.21 | 84.48 | 1.38 |
| | 03/16/93 | | | | 15.22 | 85.47 | 0.99 |
| | 01/09/94 | | | | 16.25 | 84.44 | -1.03 |
| | 04/19/94 | | | | 16.13 | 84.56 | 0.12 |
| | 07/19/94 | | | | 15.63 | 85.06 | 0.50 |
| | 10/24/94 | | | | 15.73 | 84.96 | -0.10 |
| | 01/24/95 | | | | 15.80 | 84.89 | -0.07 |
| | 04/02/95 | | | | 16.23 | 84.46 | -0.43 |
| | 07/31/95 | | | | 15.96 | 84.73 | 0.27 |
| | 10/16/95 | | | | 15.93 | 84.76 | 0.03 |
| | 01/10/96 | | | | 16.35 | 84.34 | -0.42 |
| | 04/09/96 | | | | 16.52 | 84.17 | -0.17 |
| | 07/21/96 | | | | 17.15 | 83.54 | -0.63 |
| | 10/21/96 | | | | 15.48 | 85.21 | 1.67 |

## TABLE 1. GROUND-WATER MEASUREMENTS AND ELEVATIONS, DOWELL, ARTESIA, NEW MEXICO.

| WELL NUMBER | DATE MEASURED | TOTAL WELL DEPTH (Ft) | MEASURING POINT | MEASURING POINT ELEVATION* (ft) | DEPTH TO GROUND WATER (ft) | STATIC WATER ELEVATION (Ft) | DIFFERENCE FROM PRIOR MEASUREMENT |
|---|---|---|---|---|---|---|---|
| MW-12 Cont. | 01/21/97 | | | | 15.04 | 85.65 | 0.44 |
| | 04/08/97 | | | | 15.10 | 85.59 | -0.06 |
| | 07/29/97 | | | | 15.73 | 84.96 | -0.63 |
| MW-13 | 09/13/91 | 45.00 | Protective Casing | 99.25 | 15.10 | 84.15 | |
| | 11/21/91 | | | | 13.95 | 85.30 | 1.15 |
| | 03/16/93 | | | | 13.22 | 86.03 | 0.73 |
| | 01/09/94 | | | | 14.03 | 85.22 | -0.81 |
| | 04/19/94 | | | | 13.90 | 85.35 | 0.13 |
| | 07/20/94 | | | | 13.70 | 85.55 | 0.20 |
| | 10/24/94 | | | | 13.86 | 85.39 | -0.16 |
| | 01/24/95 | | | | 13.56 | 85.69 | 0.30 |
| | 04/02/95 | | | | 13.87 | 85.38 | -0.31 |
| | 07/31/95 | | | | 13.84 | 85.41 | 0.03 |
| | 10/16/95 | | | | 13.83 | 85.42 | 0.01 |
| | 01/10/96 | | | | 14.02 | 85.23 | -0.19 |
| | 04/09/96 | | | | 14.20 | 85.05 | -0.18 |
| | 07/20/96 | | | | 15.04 | 84.21 | -0.84 |
| | 10/21/96 | | | | 13.31 | 85.94 | 1.73 |
| | 01/21/97 | | | | 12.70 | 86.55 | 0.61 |
| | 04/08/97 | | | | 12.48 | 86.77 | 0.22 |
| | 07/29/97 | | | | 13.43 | 85.82 | -0.95 |
| MW-14 | 09/13/91 | 35.00 | Protective Casing | 98.74 | 14.60 | 84.14 | |
| | 11/21/91 | | | | 13.61 | 85.13 | 0.99 |
| | 03/16/93 | | | | 13.00 | 85.74 | 0.61 |
| | 01/09/94 | | | | 13.71 | 85.03 | -0.71 |
| | 04/19/94 | | | | 13.63 | 85.11 | 0.08 |
| | 07/20/94 | | | | 13.39 | 85.35 | 0.24 |
| | 10/24/94 | | | | 13.48 | 85.26 | -0.09 |
| | 01/25/95 | | | | 13.26 | 85.48 | 0.22 |
| | 04/02/95 | | | | 13.61 | 85.13 | -0.35 |
| | 07/31/95 | | | | 13.44 | 85.30 | 0.17 |
| | 10/16/95 | | | | 13.52 | 85.22 | -0.08 |
| | 01/10/96 | | | | 13.76 | 84.98 | -0.24 |
| | 04/09/96 | | | | 13.96 | 84.78 | -0.20 |
| | 07/20/96 | | | | 14.74 | 84.00 | -0.78 |
| | 10/21/96 | | | | 13.03 | 85.71 | 1.71 |
| | 01/21/97 | | | | 12.47 | 86.27 | 0.56 |
| | 04/08/97 | | | | 12.44 | 86.30 | 0.03 |
| | 07/29/97 | | | | 13.30 | 85.44 | -0.86 |
| MW-15 | 09/13/91 | 34.00 | Protective Casing | 100.05 | 16.30 | 83.75 | |
| | 11/21/91 | | | | 15.01 | 85.04 | 1.29 |
| | 03/16/93 | | | | 13.95 | 86.10 | 1.06 |
| | 01/09/94 | | | | 14.91 | 85.14 | -0.96 |
| | 04/19/94 | | | | 14.80 | 85.25 | 0.11 |
| | 07/20/94 | | | | 14.56 | 85.49 | 0.24 |
| | 10/24/94 | | | | 14.73 | 85.32 | -0.17 |
| ** | 01/24/95 | | | | 16.00 | 84.05 | -1.27 |
| | 04/02/95 | | | | 14.80 | 85.25 | 1.20 |
| | 07/31/95 | | | | 14.82 | 85.23 | -0.02 |
| | 10/16/95 | | | | 14.74 | 85.31 | 0.08 |
| | 01/10/96 | | | | 14.95 | 85.10 | -0.21 |
| | 04/09/96 | | | | 15.11 | 84.94 | -0.16 |
| | 07/20/96 | | | | 15.96 | 84.09 | -0.85 |
| | 10/21/96 | | | | 14.22 | 85.83 | 1.74 |
| | 01/21/97 | | | | 13.64 | 86.41 | 0.58 |
| | 04/08/97 | | | | 13.53 | 86.52 | 0.11 |
| | 07/29/97 | | | | 14.32 | 85.73 | -0.79 |
| MW-17D | 04/02/95 | 19.00 | Protective Casing | 101.29 | 16.80 | 84.49 | |
| | 07/31/95 | | | | 16.48 | 84.81 | 0.32 |
| | 10/16/95 | | | | 16.51 | 84.78 | -0.03 |
| | 01/10/96 | | | | 16.90 | 84.39 | -0.39 |
| | 04/09/96 | | | | 17.10 | 84.19 | -0.20 |
| | 07/21/96 | | | | 17.70 | 83.59 | -0.60 |
| | 10/21/96 | | | | 16.02 | 85.27 | 1.68 |
| | 01/21/97 | | | | 15.60 | 85.69 | 0.42 |
| | 04/08/97 | | | | 15.64 | 85.65 | -0.04 |
| | 07/29/97 | | | | 16.32 | 84.97 | -0.68 |
| MW-17A | 04/02/95 | 26.00 | Protective Casing | 100.57 | 16.05 | 84.52 | |
| | 07/31/95 | | | | 15.75 | 84.82 | 0.30 |
| | 10/16/95 | | | | 15.77 | 84.80 | -0.02 |
| | 01/10/96 | | | | 16.18 | 84.39 | -0.41 |
| | 04/09/96 | | | | 16.37 | 84.20 | -0.19 |
| | 07/21/96 | | | | 16.98 | 83.59 | -0.61 |
| | 10/21/96 | | | | 15.30 | 85.27 | 1.68 |

## TABLE 1. GROUND-WATER MEASUREMENTS AND ELEVATIONS, DOWELL, ARTESIA, NEW MEXICO.

| WELL NUMBER | DATE MEASURED | TOTAL WELL DEPTH (Ft) | MEASURING POINT | MEASURING POINT ELEVATION* (ft) | DEPTH TO GROUND WATER (ft) | STATIC WATER ELEVATION (Ft) | DIFFERENCE FROM PRIOR MEASUREMENT |
|---|---|---|---|---|---|---|---|
| MW-17A Cont. | 01/21/97 | | | | 14.88 | 85.69 | 0.42 |
| | 04/08/97 | | | | 14.92 | 85.65 | -0.04 |
| | 07/29/97 | | | | 15.59 | 84.98 | -0.67 |
| MW-17B | 04/02/95 | 34.00 | Protective Casing | 101.28 | 16.79 | 84.49 | |
| | 07/31/95 | | | | 16.50 | 84.78 | 0.29 |
| | 10/16/95 | | | | 16.51 | 84.77 | -0.01 |
| | 01/10/96 | | | | 16.92 | 84.36 | -0.41 |
| | 04/09/96 | | | | 17.10 | 84.18 | -0.18 |
| | 07/21/96 | | | | 17.71 | 83.57 | -0.61 |
| | 10/21/96 | | | | 16.02 | 85.26 | 1.69 |
| | 01/21/97 | | | | 15.64 | 85.64 | 0.38 |
| | 04/08/97 | | | | 15.67 | 85.61 | -0.03 |
| | 07/29/97 | | | | 16.30 | 84.98 | -0.63 |
| MW-17C | 04/02/95 | 61.00 | Protective Casing | 101.33 | 16.93 | 84.40 | |
| | 07/31/95 | | | | 16.66 | 84.67 | 0.27 |
| | 10/16/95 | | | | 16.64 | 84.69 | 0.02 |
| | 01/10/96 | | | | 17.08 | 84.25 | -0.44 |
| | 04/09/96 | | | | 17.25 | 84.08 | -0.17 |
| | 07/21/96 | | | | 17.85 | 83.48 | -0.60 |
| | 10/21/96 | | | | 16.17 | 85.16 | 1.68 |
| | 01/21/97 | | | | 15.75 | 85.58 | 0.42 |
| | 04/08/97 | | | | 15.80 | 85.53 | -0.05 |
| | 07/29/97 | | | | 16.46 | 84.87 | -0.66 |
| MW-18 | 04/02/95 | 28.00 | Protective Casing | 98.72 | 14.77 | 83.95 | |
| | 07/31/95 | | | | 14.21 | 84.51 | 0.56 |
| | 10/16/95 | | | | 14.25 | 84.47 | -0.04 |
| | 01/10/96 | | | | 14.90 | 83.82 | -0.65 |
| | 04/09/96 | | | | 15.05 | 83.67 | -0.15 |
| | 07/21/96 | | | | 15.44 | 83.28 | -0.39 |
| | 10/21/96 | | | | 13.78 | 84.94 | 1.66 |
| | 11/22/96 | | | | 13.84 | 84.88 | -0.06 |
| | 01/21/97 | | | | 13.54 | 85.18 | 0.30 |
| | 04/08/97 | | | | 13.66 | 85.06 | -0.12 |
| | 07/29/97 | | | | 14.13 | 84.59 | -0.47 |
| MW-19 | 04/02/95 | 28.00 | Protective Casing | 99.08 | 14.86 | 84.22 | |
| | 07/31/95 | | | | 14.29 | 84.79 | 0.57 |
| | 10/16/95 | | | | 14.39 | 84.69 | -0.10 |
| | 01/10/96 | | | | 14.98 | 84.10 | -0.59 |
| | 04/09/96 | | | | 15.14 | 83.94 | -0.16 |
| | 07/21/96 | | | | 15.62 | 83.46 | -0.48 |
| | 10/21/96 | | | | 14.00 | 85.08 | 1.62 |
| | 11/22/96 | | | | 14.03 | 85.05 | -0.03 |
| | 01/21/97 | | | | 13.69 | 85.39 | 0.34 |
| | 04/08/97 | | | | 13.76 | 85.32 | -0.07 |
| | 07/29/97 | | | | 14.37 | 84.71 | -0.61 |
| MW-20 | 11/22/96 | 28.00 | Protective Casing | 101.09 | 16.28 | 84.81 | |
| | 01/21/97 | | | | 16.08 | 85.01 | 0.20 |
| | 04/08/97 | | | | 16.04 | 85.05 | 0.04 |
| | 07/29/97 | | | | 16.46 | 84.63 | -0.42 |
| MW-21 | 11/22/96 | 25.00 | Protective Casing | 98.88 | 14.36 | 84.52 | |
| | 01/21/97 | | | | 14.26 | 84.62 | 0.10 |
| | 04/08/97 | | | 98.89 | 14.41 | 84.48 | -0.14 |
| | 07/29/97 | | | | 14.54 | 84.35 | -0.13 |
| MW-22 | 11/22/96 | 24.50 | Protective Casing | 97.16 | 12.88 | 84.28 | |
| | 01/21/97 | | | | 12.94 | 84.22 | -0.06 |
| | 04/08/97 | | | 97.14 | 13.42 | 83.72 | -0.50 |
| | 07/29/97 | | | | 13.16 | 83.98 | 0.26 |
| MW-23 | 11/22/96 | 25.00 | Protective Casing | 97.33 | 12.72 | 84.61 | |
| | 01/21/97 | | | | 12.59 | 84.74 | 0.13 |
| | 04/08/97 | | | 97.30 | 13.07 | 84.23 | -0.51 |
| | 07/29/97 | | | | 13.14 | 84.16 | -0.07 |
| MW-24 | 11/22/96 | 27.00 | Protective Casing | 103.42 | 17.91 | 85.51 | |
| | 01/21/97 | | | | 17.56 | 85.86 | 0.35 |
| | 04/08/97 | | | 103.41 | 17.40 | 86.01 | 0.15 |
| | 07/29/97 | | | | 17.72 | 85.69 | -0.32 |
| MW-25 | 04/08/97 | 25.00 | Protective Casing | 97.64 | 14.23 | 83.41 | - |
| | 07/29/97 | | | | 13.77 | 83.87 | 0.46 |
| MW-26 | 04/08/97 | 25.00 | Protective Casing | 96.11 | 13.06 | 83.05 | - |

## TABLE 1. GROUND-WATER MEASUREMENTS AND ELEVATIONS, DOWELL, ARTESIA, NEW MEXICO.

| WELL NUMBER | DATE MEASURED | TOTAL WELL DEPTH (Ft) | MEASURING POINT | MEASURING POINT ELEVATION* (ft) | DEPTH TO GROUND WATER (ft) | STATIC WATER ELEVATION (Ft) | DIFFERENCE FROM PRIOR MEASUREMENT |
|---|---|---|---|---|---|---|---|
| MW-26 Cont. | 07/29/97 | | | | 12.23 | 83.88 | 0.83 |
| MW-27 | 04/08/97 | 25.00 | Protective Casing | 96.17 | 13.06 | 83.11 | - |
| | 07/29/97 | | | | 12.21 | 83.96 | 0.85 |

NOTES:

NM = not measured

* = measured from a temporary benchmark of arbitrary elevation = 100.00 feet. Benchmark is located on the concrete right up against the east shop wall, at the northeast corner of the shop.

** = water level measurement may be in error

## TABLE 2. SUMMARY OF LABORATORY ANALYTICAL RESULTS - GROUND-WATER SAMPLES, DOWELL, ARTESIA, NEW MEXICO

| WELL NUMBER | SAMPLE DATE | BENZENE (mg/L) | ETHYL-BENZENE (mg/L) | TOLUENE (mg/L) | XYLENES (mg/L) | 1,1-DCA (mg/L) | 1,2-DCA (mg/L) | 1,1-DCE (mg/L) | 1,1,1-TCA (mg/L) | 1,1,2-TCA (mg/L) | TCE (mg/L) | PCE (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1 | 01/26/91 | 0.033 | ND(0.005) | 0.029 | 0.130 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| | 09/15/91 | ND(0.001) | ND(0.001) | 0.002 | 0.009 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| | 11/22/91 | 0.026 | ND(0.001) | 0.007 | 0.014 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| | 03/16/93 | 0.016 | ND(0.001) | ND(0.001) | ND(0.005) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| | 01/10/94 | 0.006 | ND(0.001) | ND(0.001) | ND(0.005) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| | 04/19/94 | 0.035 | 0.001J | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| | 07/20/94 | 0.008 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| | 10/25/94 | 0.027 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| | 01/25/95 | 0.025 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| | 04/03/95 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| | 08/01/95 | 0.082 | 0.008 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| • | 10/18/95 | 0.064 | 0.0037J | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| • | 01/10/96 | 0.076 | 0.007 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| | 04/13/96 | 0.048 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| | 07/21/96 | 0.040 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| | 10/22/96 | 0.027 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| | 01/24/97 | 0.002 | 0.0005J | ND(0.001) | ND(0.002) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| | 04/09/97 | 0.006 | 0.002 | ND(0.001) | ND(0.002) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| | 07/30/97 | 0.018 | 0.004 | ND(0.002) | ND(0.004) | ND(0.002) | ND(0.002) | ND(0.002) | ND(0.002) | ND(0.002) | ND(0.002) | ND(0.002) |
| MW-2 | 01/26/91 | 0.210 | 0.590 | 0.071 | 1.700 | 0.048 | ND(0.01) | ND(0.01) | ND(0.01) | ND(0.01) | ND(0.01) | 0.110 |
| dup. | 01/26/91 | 0.190 | 0.450 | 0.062 | 1.300 | 0.043 | ND(0.01) | ND(0.01) | 0.011 | ND(0.01) | ND(0.01) | 0.078 |
| | 09/15/91 | 0.120 | 0.050 | 0.006 | 0.690 | 0.100 | ND(0.005) | 0.005 | 0.023 | ND(0.005) | ND(0.005) | 0.150 |
| • | 11/22/91 | 0.033 | 0.001 | 0.001 | 0.088 | 0.110 | ND(0.001) | 0.007 | 0.016 | ND(0.001) | ND(0.001) | 0.064 |
| | 03/16/93 | 0.019 | ND(0.001) | ND(0.001) | ND(0.005) | 0.060 | ND(0.001) | 0.002 | 0.003 | ND(0.001) | ND(0.001) | 0.028 |
| | 01/10/94 | 0.024 | ND(0.001) | 0.001 | ND(0.005) | 0.039 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | 0.001 | 0.079 |
| | 04/19/94 | 0.045 | 0.004J | ND(0.005) | ND(0.005) | 0.028 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.001J | 0.048 |
| dup. | 04/19/94 | 0.043 | 0.005J | ND(0.005) | ND(0.005) | 0.030 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.001J | 0.052 |
| | 07/20/94 | 0.022 | ND(0.005) | ND(0.005) | ND(0.005) | 0.026 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.021 |
| | 10/25/94 | 0.045 | 0.008 | ND(0.005) | ND(0.005) | 0.030 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.001J | 0.037 |
| | 01/25/95 | 0.057 | 0.022 | ND(0.005) | ND(0.005) | 0.024 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.079 |
| | 04/03/95 | 0.050 | ND(0.005) | ND(0.005) | ND(0.005) | 0.026 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.035 |
| | 08/01/95 | 0.032 | 0.021 | ND(0.005) | ND(0.005) | 0.027 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.033 |
| • | 10/18/95 | 0.078 | 0.040 | ND(0.005) | ND(0.005) | 0.015 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.0023J | 0.088 |
| dup. • | 10/18/95 | 0.081 | 0.045 | ND(0.005) | ND(0.005) | 0.017 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.0026J | 0.097 |
| • | 01/11/96 | 0.220 | 0.200 | ND(0.005) | ND(0.005) | 0.010 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.260 |
| • | 04/13/96 | 0.095 | 0.130 | ND(0.005) | 0.110 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.140 |
| # | 07/21/96 | 0.092 | 0.079 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.061 |
| | 10/22/96 | 0.014 | 0.012 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.018 |
| | 01/24/97 | 0.012 | 0.018 | ND(0.001) | ND(0.002) | 0.002 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | 0.003 | 0.024 |
| | 04/09/97 | 0.015 | 0.029 | ND(0.002) | ND(0.004) | 0.003 | ND(0.002) | ND(0.002) | ND(0.002) | ND(0.002) | 0.007 | 0.034 |
| | 07/30/97 | 0.010 | 0.045 | ND(0.002) | ND(0.004) | 0.00188J | ND(0.002) | ND(0.002) | ND(0.002) | ND(0.002) | 0.009 | 0.050 |
| MW-3 | 01/26/91 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| | 09/15/91 | 0.200 | 1.200 | 1.200 | 14.000 | ND(0.2) | ND(0.2) | ND(0.2) | 0.330 | ND(0.2) | ND(0.2) | ND(0.2) |
| | 11/22/91 | 0.110 | 0.680 | 0.530 | 6.800 | 0.094 | 0.004 | 0.190 | 0.110 | 0.002* | 0.150 | 0.057 |
| | 03/16/93 | ND(0.001) | 1.000 | 0.650 | 8.600 | ND(0.001) | ND(0.001) | ND(0.001) | 0.260 | ND(0.001) | ND(0.001) | ND(0.001) |
| dup. | 03/16/93 | 0.130 | 0.780 | 0.540 | 9.000 | ND(0.001) | ND(0.001) | 0.044 | 0.260 | ND(0.001) | 0.037 | 0.330 |
| | 07/01/93 | 0.140 | 1.000 | 0.520 | 9.100 | 0.140 | ND(0.05) | ND(0.05) | 0.160 | ND(0.05) | ND(0.05) | ND(0.05) |
| | 01/10/94 | 0.140 | 1.000 | 0.700 | 11.000 | 0.190 | ND(0.1) | ND(0.1) | 0.210 | ND(0.1) | ND(0.1) | ND(0.1) |
| | 04/19/94 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |

**TABLE 2. SUMMARY OF LABORATORY ANALYTICAL RESULTS - GROUND-WATER SAMPLES, DOWELL, ARTESIA, NEW MEXICO**

| WELL NUMBER | SAMPLE DATE | BENZENE (mg/L) | ETHYL-BENZENE (mg/L) | TOLUENE (mg/L) | XYLENES (mg/L) | 1,1-DCA (mg/L) | 1,2-DCA (mg/L) | 1,1-DCE (mg/L) | 1,1,1-TCA (mg/L) | 1,1,2-TCA (mg/L) | TCE (mg/L) | PCE (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-3 Cont. * | 07/20/94 | 0.092 | 0.460 | 0.160 | 3.000 | 0.077 | 0.002J | 0.036 | 0.069 | ND(0.005) | 0.064 | 0.011 |
| | 10/25/94 | 0.130 | 0.960 | 0.250 | 4.200 | 0.200 | ND(0.05) | 0.064 | ND(0.05) | ND(0.05) | 0.130 | 0.21J |
| dup. | 10/25/94 | 0.110 | 0.830 | 0.300 | 4.700 | 0.180 | ND(0.05) | 0.051 | ND(0.05) | ND(0.05) | 0.100 | 0.024J |
| | 01/25/95 | ND(1) | 0.81J | ND(1) | 7.100 | ND(1) | ND(1) | ND(1) | ND(1) | ND(1) | ND(1) | ND(1) |
| | 04/03/95 | 0.047 | 0.450 | ND(0.025) | 1.300 | 0.100 | ND(0.025) | 0.110 | ND(0.025) | ND(0.025) | 0.150 | ND(0.025) |
| dup. | 04/03/95 | 0.047 | 0.450 | ND(0.025) | 1.200 | 0.100 | ND(0.025) | 0.120 | ND(0.025) | ND(0.025) | 0.150 | ND(0.025) |
| | 08/01/95 | 0.088 | 0.950 | 0.190 | 6.500 | 0.230 | ND(0.05) | 0.089 | ND(0.05) | ND(0.05) | 0.081 | ND(0.05) |
| * | 10/18/95 | 0.100 | 1.100 | 0.240 | 8.200 | 0.280 | ND(0.05) | 0.066 | 0.049J | ND(0.05) | 0.089 | 0.042J |
| * | 01/11/96 | 0.054 | 0.620 | 0.081 | 4.990 | 0.150 | ND(0.05) | 0.076 | ND(0.05) | ND(0.05) | 0.100 | ND(0.05) |
| * | 04/13/96 | 0.039 | 0.480 | ND(0.005) | 3.900 | 0.051 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| # | 07/22/96 | 0.060 | 0.190 | 0.056 | 0.890 | 0.130 | ND(0.005) | 0.009 | 0.009 | ND(0.005) | 0.054 | 0.014 |
| | 10/22/96 | ND(0.1) | 0.580 | ND(0.1) | 3.500 | 0.150 | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |
| | 01/24/97 | 0.048 | 0.269 | 0.012 | 0.886 | 0.077 | 0.004 | 0.043 | ND(0.010) | ND(0.010) | 0.070 | 0.007J |
| | 04/09/97 | 0.034 | 0.137 | ND(0.010) | 0.146 | 0.065 | ND(0.010) | 0.064 | ND(0.010) | ND(0.010) | 0.107 | 0.013 |
| | 07/30/97 | 0.019 | 0.177 | ND(0.010) | 0.644 | 0.057 | ND(0.010) | 0.043 | ND(0.010) | ND(0.010) | 0.103 | 0.035 |
| MW-4 | 01/26/91 | 0.098 | 0.011 | ND(0.001) | 0.025 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| | 09/15/91 | 0.260 | ND(0.002) | ND(0.002) | 0.015 | 0.006 | ND(0.002) | ND(0.002) | ND(0.002) | ND(0.002) | ND(0.002) | ND(0.002) |
| | 11/22/91 | 0.180 | 0.100 | 0.001 | 0.037 | ND(0.001) | ND(0.001) | 0.019 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| | 03/16/93 | 0.072 | 0.051 | ND(0.001) | ND(0.005) | 0.001 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| | 01/10/94 | 0.064 | 0.074 | ND(0.001) | ND(0.005) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| | 04/19/94 | 0.074 | 0.085 | ND(0.005) | 0.003J | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| | 07/20/94 | 0.100 | 0.053 | ND(0.005) | 0.005 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| | 10/25/94 | 0.140 | 0.260 | ND(0.005) | 0.004J | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.005 |
| | 01/25/95 | 0.150 | 0.400 | ND(0.025) | ND(0.025) | ND(0.025) | ND(0.025) | ND(0.025) | ND(0.025) | ND(0.025) | ND(0.025) | ND(0.025) |
| | 04/03/95 | 0.100 | 0.190 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| | 08/01/95 | 0.069 | 0.570 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.005 | ND(0.005) |
| * | 10/18/95 | ND(0.005) | 0.110 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| * | 01/11/96 | ND(0.005) | 0.036 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| * | 04/13/96 | ND(0.005) | 0.008 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| dup. * | 04/13/96 | ND(0.005) | 0.007 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| # | 07/21/96 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| | 10/22/96 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| | 01/24/97 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.002) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| | 04/09/97 | ND(0.002) | ND(0.002) | ND(0.002) | ND(0.004) | ND(0.002) | ND(0.002) | ND(0.002) | ND(0.002) | ND(0.002) | ND(0.002) | ND(0.002) |
| | 07/30/97 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.002) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| MW-5 | 01/26/91 | 0.014 | ND(0.001) | ND(0.001) | ND(0.005) | 0.004 | ND(0.001) | 0.002 | 0.001 | ND(0.001) | ND(0.001) | 0.010 |
| | 09/15/91 | ND(0.001) | 0.001 | ND(0.001) | ND(0.005) | 0.005 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | 0.018 |
| | 11/22/91 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.005) | 0.005 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | 0.018 |
| | 03/16/93 | 0.078 | 0.007 | ND(0.001) | ND(0.005) | 0.013 | ND(0.001) | 0.003 | ND(0.001) | ND(0.001) | 0.001 | 0.026 |
| | 01/10/94 | 0.025 | ND(0.001) | ND(0.001) | ND(0.005) | 0.008 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | 0.026 |
| | 04/19/94 | 0.070 | 0.011 | ND(0.005) | ND(0.005) | 0.008 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.002J | 0.015 |
| | 07/20/94 | 0.220 | 0.041 | ND(0.005) | ND(0.005) | 0.011 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.004J | 0.025 |
| dup. | 07/20/94 | 0.320 | 0.076 | ND(0.005) | 0.001J | 0.026 | ND(0.005) | 0.002J | ND(0.005) | ND(0.005) | 0.006 | 0.039 |
| | 10/25/94 | 0.240 | 0.059 | ND(0.005) | ND(0.005) | 0.020 | ND(0.005) | 0.002J | ND(0.005) | ND(0.005) | 0.008J | 0.043 |
| | 01/25/95 | 0.460 | 0.130 | ND(0.005) | ND(0.005) | 0.023 | ND(0.005) | 0.002J | ND(0.005) | ND(0.005) | 0.018 | 0.093 |
| | 04/03/95 | 0.390 | 0.087 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.015 | 0.062 |
| | 08/01/95 | 0.170 | 0.082 | ND(0.005) | ND(0.005) | 0.013 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.018 | 0.049 |
| | 10/18/95 | 0.200 | 0.093 | ND(0.005) | ND(0.005) | 0.011 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.021 | 0.054 |
| | 01/11/96 | 0.078 | 0.012 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.008 | 0.025 |

**TABLE 2. SUMMARY OF LABORATORY ANALYTICAL RESULTS - GROUND-WATER SAMPLES, DOWELL, ARTESIA, NEW MEXICO**

| WELL NUMBER | SAMPLE DATE | BENZENE (mg/L) | ETHYL-BENZENE (mg/L) | TOLUENE (mg/L) | XYLENES (mg/L) | 1,1-DCA (mg/L) | 1,2-DCA (mg/L) | 1,1-DCE (mg/L) | 1,1,1-TCA (mg/L) | 1,1,2-TCA (mg/L) | TCE (mg/L) | PCE (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-5 Cont. * | 04/13/96 | 0.068 | 0.037 | ND(0.005) | 0.027 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.025 |
| | 07/21/96 | 0.092 | 0.057 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.025 |
| | 10/22/96 | 0.066 | 0.023 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.020 |
| | 01/24/97 | 0.031 | 0.025 | ND(0.001) | ND(0.002) | 0.002 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | 0.003 | 0.019 |
| | 04/09/97 | 0.040 | 0.040 | ND(0.002) | ND(0.004) | 0.003 | ND(0.002) | ND(0.002) | ND(0.002) | ND(0.002) | 0.004 | 0.028 |
| | 07/30/97 | 0.018 | 0.044 | ND(0.002) | ND(0.004) | 0.00168J | ND(0.002) | ND(0.002) | ND(0.002) | ND(0.002) | 0.003 | 0.029 |
| MW-6 | 01/26/91 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.005) | 0.007 | ND(0.001) | 0.170 | 0.007 | ND(0.001) | ND(0.001) | 0.083 |
| | 09/15/91 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.005) | 0.006 | ND(0.001) | 0.084 | ND(0.001) | ND(0.001) | ND(0.001) | 0.043 |
| | 11/22/91 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.005) | 0.005 | ND(0.001) | 0.064 | ND(0.001) | ND(0.001) | ND(0.001) | 0.035 |
| | 03/16/93 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.005) | 0.007 | ND(0.001) | 0.098 | 0.001 | ND(0.001) | ND(0.001) | 0.056 |
| | 01/10/94 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.005) | 0.017 | ND(0.001) | 0.140 | 0.002 | ND(0.001) | ND(0.001) | 0.120 |
| | 04/19/94 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.013 | ND(0.005) | 0.070 | 0.002J | ND(0.005) | ND(0.005) | 0.072 |
| | 07/20/94 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.009 | ND(0.005) | 0.098 | 0.001J | ND(0.005) | ND(0.005) | 0.065 |
| dup. | 07/20/94 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.013 | ND(0.005) | 0.110 | 0.001J | ND(0.005) | ND(0.005) | 0.073 |
| | 10/25/94 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.012 | ND(0.005) | 0.079 | ND(0.005) | ND(0.005) | ND(0.005) | 0.059 |
| | 01/25/95 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.012 | ND(0.005) | 0.065 | ND(0.005) | ND(0.005) | ND(0.005) | 0.057 |
| | 04/03/95 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.015 | ND(0.005) | 0.074 | ND(0.005) | ND(0.005) | ND(0.005) | 0.048 |
| | 08/01/95 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.013 | ND(0.005) | 0.060 | ND(0.005) | ND(0.005) | ND(0.005) | 0.030 |
| | 10/18/95 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.013 | ND(0.005) | 0.051 | ND(0.005) | ND(0.005) | ND(0.005) | 0.029 |
| | 01/11/96 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.011 | ND(0.005) | 0.042 | ND(0.005) | ND(0.005) | ND(0.005) | 0.022 |
| | 04/13/96 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.012 | ND(0.005) | 0.047 | ND(0.005) | ND(0.005) | ND(0.005) | 0.021 |
| | 07/22/96 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.011 | ND(0.005) | 0.037 | ND(0.005) | ND(0.005) | ND(0.005) | 0.016 |
| | 10/22/96 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.013 | ND(0.005) | 0.041 | ND(0.005) | ND(0.005) | ND(0.005) | 0.016 |
| | 01/24/97 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.002) | 0.010 | ND(0.001) | 0.025 | ND(0.001) | ND(0.001) | ND(0.001) | 0.008 |
| | 04/09/97 | ND(0.002) | ND(0.002) | ND(0.002) | ND(0.004) | 0.010 | ND(0.002) | 0.025 | ND(0.002) | ND(0.002) | ND(0.002) | 0.009 |
| | 07/30/97 | ND(0.002) | ND(0.002) | ND(0.002) | ND(0.004) | 0.006 | ND(0.002) | 0.016 | ND(0.002) | ND(0.002) | ND(0.002) | 0.008 |
| MW-7 | 01/26/91 | 0.006 | ND(0.001) | ND(0.001) | ND(0.005) | 0.021 | ND(0.001) | 0.260 | 0.010 | ND(0.001) | 0.068 | 0.200 |
| | 09/15/91 | 0.009 | ND(0.001) | ND(0.001) | ND(0.005) | 0.038 | ND(0.001) | 0.320 | 0.005 | ND(0.001) | 0.069 | 0.270 |
| dup. | 09/15/91 | 0.009 | ND(0.001) | ND(0.001) | ND(0.005) | 0.034 | ND(0.001) | 0.310 | 0.006 | ND(0.001) | 0.069 | 0.280 |
| | 11/22/91 | 0.009 | ND(0.005) | ND(0.005) | ND(0.025) | 0.035 | ND(0.005) | 0.360 | ND(0.005) | ND(0.001) | 0.053 | 0.310 |
| | 03/16/93 | 0.007 | ND(0.001) | ND(0.001) | ND(0.005) | 0.027 | ND(0.001) | 0.280 | 0.002 | ND(0.001) | 0.050 | 0.160 |
| | 01/10/94 | 0.005 | ND(0.001) | ND(0.001) | ND(0.005) | 0.023 | ND(0.001) | 0.210 | 0.004 | ND(0.001) | 0.046 | 0.160 |
| | 04/19/94 | 0.007J | ND(0.005) | ND(0.005) | ND(0.005) | 0.021 | ND(0.005) | 0.120 | 0.003J | ND(0.005) | 0.038 | 0.120 |
| | 07/20/94 | 0.006 | ND(0.005) | ND(0.005) | ND(0.005) | 0.018 | ND(0.005) | 0.220 | 0.003J | ND(0.005) | 0.040 | 0.160 |
| | 10/25/94 | 0.007 | ND(0.005) | ND(0.005) | ND(0.005) | 0.033 | ND(0.005) | 0.230 | ND(0.005) | ND(0.005) | 0.050 | 0.240 |
| dup. | 10/25/94 | 0.006J | ND(0.025) | ND(0.025) | ND(0.025) | 0.026 | ND(0.025) | 0.200 | ND(0.025) | ND(0.025) | 0.045 | 0.230 |
| | 01/25/95 | 0.005 | ND(0.005) | ND(0.005) | ND(0.005) | 0.027 | ND(0.005) | 0.210 | 0.002J | ND(0.005) | 0.041 | 0.330 |
| | 04/03/95 | 0.006 | ND(0.005) | ND(0.005) | ND(0.005) | 0.029 | ND(0.005) | 0.290 | ND(0.005) | ND(0.005) | 0.038 | 0.260 |
| | 08/01/95 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.038 | ND(0.005) | 0.300 | ND(0.005) | ND(0.005) | 0.051 | 0.250 |
| | 10/18/95 | 0.005 | ND(0.005) | ND(0.005) | ND(0.005) | 0.024 | ND(0.005) | 0.300 | 0.0022J | ND(0.005) | 0.045 | 0.300 |
| | 01/11/96 | 0.006 | ND(0.005) | ND(0.005) | ND(0.005) | 0.027 | ND(0.005) | 0.260 | ND(0.005) | ND(0.005) | 0.035 | 0.250 |
| | 04/13/96 | 0.006 | ND(0.005) | ND(0.005) | ND(0.005) | 0.027 | ND(0.005) | 0.370 | ND(0.005) | ND(0.005) | 0.030 | 0.260 |
| | 07/22/96 | 0.006 | ND(0.005) | ND(0.005) | ND(0.005) | 0.029 | ND(0.005) | 0.280 | ND(0.005) | ND(0.005) | 0.026 | 0.220 |
| | 10/22/96 | ND(0.010) | ND(0.010) | ND(0.010) | ND(0.010) | 0.028 | ND(0.010) | 0.350 | ND(0.010) | ND(0.010) | 0.023 | 0.260 |
| | 01/24/97 | 0.005 | ND(0.001) | ND(0.001) | ND(0.002) | 0.021 | 0.0006J | 0.244 | 0.002 | ND(0.001) | 0.019 | 0.203 |
| | 04/09/97 | 0.005 | ND(0.002) | ND(0.002) | ND(0.004) | 0.022 | ND(0.002) | 0.186 | ND(0.002) | ND(0.002) | 0.017 | 0.148 |
| | 07/30/97 | 0.0045J | ND(0.010) | ND(0.010) | ND(0.020) | 0.023 | ND(0.010) | 0.236 | ND(0.010) | ND(0.010) | 0.019 | 0.255 |
| MW-8 | 01/26/91 | ND(0.001) | ND(0.001) | ND(0.001) | 0.005 | ND(0.001) | ND(0.001) | 0.015 | 0.004 | ND(0.001) | 0.001 | 0.003 |

**TABLE 2. SUMMARY OF LABORATORY ANALYTICAL RESULTS - GROUND-WATER SAMPLES, DOWELL, ARTESIA, NEW MEXICO**

| WELL NUMBER | SAMPLE DATE | BENZENE (mg/L) | ETHYL-BENZENE (mg/L) | TOLUENE (mg/L) | XYLENES (mg/L) | 1,1-DCA (mg/L) | 1,2-DCA (mg/L) | 1,1-DCE (mg/L) | 1,1,1-TCA (mg/L) | 1,1,2-TCA (mg/L) | TCE (mg/L) | PCE (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-8 Cont. | 09/15/91 | 0.007 | ND(0.001) | ND(0.001) | ND(0.005) | 0.017 | ND(0.001) | 0.101 | 0.007 | ND(0.001) | 0.039 | 0.050 |
| | 11/22/91 | 0.004 | ND(0.001) | ND(0.001) | ND(0.005) | 0.020 | ND(0.001) | 0.087 | 0.003 | ND(0.001) | 0.045 | 0.063 |
| | 03/16/93 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.005) | 0.004 | ND(0.001) | 0.054 | 0.005 | ND(0.001) | 0.006 | 0.009 |
| | 01/10/94 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.005) | 0.004 | ND(0.001) | 0.054 | 0.004 | ND(0.001) | 0.006 | 0.006 |
| dup. | 01/10/94 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.005) | 0.005 | ND(0.001) | 0.073 | 0.004 | ND(0.001) | 0.008 | 0.010 |
| | 04/19/94 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.004J | ND(0.005) | 0.039 | 0.004J | ND(0.005) | 0.004J | 0.007 |
| | 07/20/94 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.004J | ND(0.005) | 0.069 | 0.005 | ND(0.005) | 0.006 | 0.011 |
| | 10/25/94 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.008 | ND(0.005) | 0.082 | ND(0.005) | ND(0.005) | 0.010 | 0.019 |
| | 01/25/95 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.007 | ND(0.005) | 0.076 | 0.006 | ND(0.005) | 0.011 | 0.022 |
| | 04/03/95 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.006 | ND(0.005) | 0.074 | ND(0.005) | ND(0.005) | 0.008 | 0.017 |
| | 08/01/95 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.015 | ND(0.005) | 0.110 | ND(0.005) | ND(0.005) | 0.023 | 0.053 |
| | 10/18/95 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.009 | ND(0.005) | 0.081 | 0.0024J | ND(0.005) | 0.015 | 0.044 |
| | 01/11/96 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.069 | ND(0.005) | ND(0.005) | 0.006 | 0.019 |
| | 04/13/96 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.007 | ND(0.005) | 0.099 | ND(0.005) | ND(0.005) | 0.011 | 0.036 |
| | 07/22/96 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.006 | ND(0.005) | 0.087 | ND(0.005) | ND(0.005) | 0.010 | 0.035 |
| | 10/22/96 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.022 | ND(0.005) | 0.150 | ND(0.005) | ND(0.005) | 0.035 | 0.089 |
| dup. | 10/22/96 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.020 | ND(0.005) | 0.140 | ND(0.005) | ND(0.005) | 0.030 | 0.072 |
| | 01/24/97 | 0.0008J | ND(0.001) | ND(0.001) | ND(0.002) | 0.019 | 0.0006J | 0.081 | 0.002 | ND(0.001) | 0.017 | 0.018 |
| dup. | 01/24/97 | 0.0007J | ND(0.001) | ND(0.001) | ND(0.002) | 0.017 | 0.0005J | 0.088 | 0.002 | ND(0.001) | 0.014 | 0.017 |
| | 04/09/97 | 0.00094J | ND(0.002) | ND(0.002) | ND(0.004) | 0.015 | ND(0.002) | 0.097 | ND(0.002) | ND(0.002) | 0.019 | 0.028 |
| | 07/30/97 | 0.00084J | ND(0.002) | ND(0.002) | ND(0.004) | 0.012 | ND(0.002) | 0.105 | ND(0.002) | ND(0.002) | 0.015 | 0.048 |
| dup. | 07/30/97 | ND(0.002) | ND(0.002) | ND(0.002) | ND(0.004) | 0.011 | ND(0.002) | 0.106 | 0.0018J | ND(0.002) | 0.015 | 0.055 |
| MW-9 | 01/26/91 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.005) | 0.022 | ND(0.001) | 0.002 | ND(0.001) | ND(0.001) | ND(0.001) | 0.001 |
| | 09/15/91 | 0.002 | 0.032 | ND(0.001) | ND(0.005) | 0.035 | ND(0.001) | 0.002 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| | 11/22/91 | 0.004 | 0.170 | ND(0.001) | ND(0.005) | 0.029 | ND(0.001) | 0.002 | ND(0.001) | ND(0.001) | ND(0.001) | 0.001 |
| | 03/16/93 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.005) | 0.012 | ND(0.001) | 0.001 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| | 01/10/94 | ND(0.001) | ND(0.001) | 0.002 | ND(0.005) | 0.012 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| | 04/19/94 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.010 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| | 07/20/94 | ND(0.005) | ND(0.005) | ND(0.005) | 0.001J | 0.017 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| | 10/25/94 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.014 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| | 01/25/95 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.014 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| | 04/03/95 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.015 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| | 08/01/95 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.022 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| * | 10/18/95 | ND(0.005) | 0.016 | ND(0.005) | ND(0.005) | 0.017 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| * | 01/10/96 | ND(0.005) | 0.032 | ND(0.005) | ND(0.005) | 0.020 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| | 04/13/96 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.020 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| # | 07/22/96 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.021 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| | 10/22/96 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.024 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| | 01/24/97 | 0.0007J | 0.0004J | ND(0.001) | ND(0.002) | 0.019 | 0.0004J | 0.002 | ND(0.001) | ND(0.001) | 0.002 | 0.0009J |
| | 04/09/97 | 0.00051J | ND(0.001) | ND(0.001) | ND(0.002) | 0.022 | ND(0.001) | 0.002 | ND(0.001) | ND(0.001) | 0.002 | 0.00096J |
| | 07/30/97 | ND(0.002) | ND(0.002) | ND(0.002) | ND(0.004) | 0.020 | ND(0.002) | 0.00122J | ND(0.002) | ND(0.002) | 0.00122J | ND(0.002) |
| MW-10 | 01/26/91 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.005) | ND(0.001) | ND(0.001) | 0.004 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| | 09/15/91 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.005) | ND(0.001) | ND(0.001) | 0.012 | 0.002 | ND(0.001) | ND(0.001) | ND(0.001) |
| | 11/22/91 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.005) | ND(0.001) | ND(0.001) | 0.029 | 0.005 | ND(0.001) | ND(0.001) | ND(0.001) |
| | 03/16/93 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.005) | ND(0.001) | ND(0.001) | 0.025 | 0.001 | ND(0.001) | ND(0.001) | ND(0.001) |
| | 01/10/94 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.005) | ND(0.001) | ND(0.001) | 0.021 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| | 04/19/94 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.022 | 0.001J | ND(0.005) | ND(0.005) | ND(0.005) |
| | 07/20/94 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.052 | 0.004J | ND(0.005) | ND(0.005) | ND(0.005) |
| | 10/25/94 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.051 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |

**TABLE 2. SUMMARY OF LABORATORY ANALYTICAL RESULTS - GROUND-WATER SAMPLES, DOWELL, ARTESIA, NEW MEXICO**

| WELL NUMBER | SAMPLE DATE | BENZENE (mg/L) | ETHYL-BENZENE (mg/L) | TOLUENE (mg/L) | XYLENES (mg/L) | 1,1-DCA (mg/L) | 1,2-DCA (mg/L) | 1,1-DCE (mg/L) | 1,1,1-TCA (mg/L) | 1,1,2-TCA (mg/L) | TCE (mg/L) | PCE (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-10 Cont. | 01/25/95 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.042 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| dup. | 01/25/95 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.057 | 0.005 | ND(0.005) | ND(0.005) | ND(0.005) |
| | 04/03/95 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.070 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| | 08/01/95 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.130 | 0.007 | ND(0.005) | ND(0.005) | ND(0.005) |
| | 10/18/95 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.130 | 0.006 | ND(0.005) | ND(0.005) | ND(0.005) |
| | 01/10/96 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.063 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| | 04/13/96 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.170 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| | 07/22/96 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.170 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| | 10/22/96 | ND(0.010) | ND(0.010) | ND(0.010) | ND(0.010) | ND(0.010) | ND(0.010) | 0.250 | ND(0.010) | ND(0.010) | ND(0.010) | ND(0.010) |
| | 01/24/97 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.002) | 0.0009J | ND(0.001) | 0.181 | 0.005 | ND(0.001) | ND(0.001) | ND(0.001) |
| | 04/09/97 | ND(0.002) | ND(0.002) | ND(0.002) | ND(0.004) | 0.00094J | ND(0.002) | 0.158 | 0.004 | ND(0.002) | ND(0.002) | ND(0.002) |
| | 07/30/97 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.010) | ND(0.005) | ND(0.005) | 0.156 | 0.0036J | ND(0.005) | ND(0.005) | ND(0.005) |
| MW-11 | 01/26/91 | 0.010 | ND(0.005) | ND(0.005) | ND(0.025) | 0.045 | ND(0.005) | 0.310 | ND(0.005) | ND(0.005) | 0.140 | 0.360 |
| | 09/15/91 | 0.056 | ND(0.001) | ND(0.001) | ND(0.005) | 0.068 | ND(0.001) | 0.470 | 0.017 | ND(0.001) | 0.120 | 0.330 |
| * | 11/22/91 | 0.048 | ND(0.001) | ND(0.001) | ND(0.005) | 0.052 | ND(0.001) | 0.390 | 0.018 | ND(0.001) | 0.110 | 0.320 |
| * | 03/16/93 | 0.005 | ND(0.001) | ND(0.001) | ND(0.005) | 0.040 | ND(0.001) | 0.220 | 0.004 | ND(0.001) | 0.074 | 0.160 |
| | 01/10/94 | 0.005 | ND(0.001) | ND(0.001) | ND(0.005) | 0.042 | ND(0.001) | 0.250 | ND(0.001) | ND(0.001) | 0.083 | 0.320 |
| | 04/19/94 | 0.009 | ND(0.005) | 0.002J | ND(0.005) | 0.042 | ND(0.005) | 0.170 | 0.006 | ND(0.005) | 0.079 | 0.170 |
| | 07/20/94 | ND(0.025) | ND(0.025) | ND(0.025) | ND(0.025) | 0.057 | ND(0.025) | 0.460 | 0.01J | ND(0.025) | 0.120 | 0.360 |
| | 10/25/94 | 0.009 | ND(0.005) | ND(0.005) | ND(0.005) | 0.067 | 0.001J | 0.220 | ND(0.005) | ND(0.005) | 0.110 | 0.300 |
| | 01/25/95 | 0.012 | ND(0.005) | ND(0.005) | ND(0.005) | 0.072 | ND(0.005) | 0.240 | 0.014 | ND(0.005) | 0.120 | 0.360 |
| | 04/03/95 | 0.009 | ND(0.005) | ND(0.005) | ND(0.005) | 0.062 | ND(0.005) | 0.410 | 0.013 | ND(0.005) | 0.100 | 0.430 |
| | 08/01/95 | 0.007 | ND(0.005) | ND(0.005) | ND(0.005) | 0.050 | ND(0.005) | 0.360 | 0.014 | ND(0.005) | 0.083 | 0.330 |
| dup. | 08/01/95 | 0.007 | ND(0.005) | ND(0.005) | ND(0.005) | 0.051 | ND(0.005) | 0.310 | 0.015 | ND(0.005) | 0.071 | 0.340 |
| * | 10/18/95 | 0.0048J | ND(0.005) | ND(0.005) | ND(0.005) | 0.043 | ND(0.005) | 0.270 | 0.010 | ND(0.005) | 0.057 | 0.330 |
| * | 01/11/96 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.033 | ND(0.005) | 0.230 | 0.011 | ND(0.005) | 0.043 | 0.310 |
| | 04/13/96 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.240 | ND(0.005) | ND(0.005) | 0.020 | 0.230 |
| | 07/22/96 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.035 | ND(0.005) | 0.200 | 0.008 | ND(0.005) | 0.036 | 0.260 |
| | 10/22/96 | ND(0.010) | ND(0.010) | ND(0.010) | ND(0.010) | 0.034 | ND(0.010) | 0.230 | ND(0.010) | ND(0.010) | 0.029 | 0.260 |
| | 01/24/97 | 0.002 | ND(0.001) | ND(0.001) | ND(0.002) | 0.029 | 0.0007J | 0.157 | 0.008 | ND(0.001) | 0.026 | 0.212 |
| | 04/09/97 | 0.002 | ND(0.002) | ND(0.002) | ND(0.004) | 0.033 | ND(0.002) | 0.128 | 0.008 | ND(0.002) | 0.027 | 0.180 |
| | 07/30/97 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.010) | 0.032 | ND(0.005) | 0.102 | 0.006 | ND(0.005) | 0.032 | 0.170 |
| MW-12 | 01/26/91 | 0.260 | 0.950 | 0.230 | 4.500 | 0.140 | ND(0.025) | ND(0.025) | 0.057 | ND(0.025) | 0.073 | 0.042 |
| | 09/15/91 | 0.150 | 0.620 | 0.630 | 2.200 | 0.120 | ND(0.001) | 0.300 | 0.110 | ND(0.001) | 0.200 | 0.061 |
| * | 11/22/91 | 0.110 | 0.430 | 0.034 | 0.810 | 0.110 | 0.002 | 0.240 | 0.100 | ND(0.001) | 0.260 | 0.051 |
| * | 03/16/93 | 0.160 | 0.800 | 0.014 | 1.000 | 0.120 | ND(0.001) | 0.039 | 0.055 | ND(0.001) | 0.036 | 0.018 |
| | 01/10/94 | 0.160 | 0.870 | 0.026 | 0.990 | 0.150 | ND(0.01) | 0.075 | 0.053 | ND(0.01) | 0.070 | 0.024 |
| | 04/19/94 | 0.110 | 0.110 | 0.049 | 0.250 | 0.110 | 0.002J | 0.064 | 0.065 | ND(0.005) | 0.073 | 0.033 |
| * | 07/20/94 | 0.160 | 0.720 | 0.071 | 0.610 | 0.150 | ND(0.025) | 0.073 | 0.075 | ND(0.025) | 0.086 | 0.022J |
| | 10/25/94 | 0.096 | 0.660 | ND(0.025) | 0.100 | 0.160 | ND(0.025) | 0.085 | ND(0.025) | ND(0.025) | 0.120 | 0.015J |
| * | 01/25/95 | 0.160 | 0.680 | 0.089 | 0.860 | 0.190 | ND(0.005) | 0.120 | 0.095 | ND(0.005) | 0.076 | 0.069 |
| dup. | 01/25/95 | 0.140 | 0.850 | 0.075 | 0.860 | 0.150 | ND(0.005) | 0.090 | 0.075 | ND(0.005) | 0.062 | 0.053 |
| | 04/03/95 | 0.150 | 0.790 | 0.200 | 1.100 | 0.160 | ND(0.005) | 0.110 | 0.096 | ND(0.005) | 0.043 | 0.056 |
| | 08/01/95 | 0.130 | 0.700 | 0.280 | 1.400 | 0.170 | ND(0.025) | 0.150 | 0.079 | ND(0.025) | 0.098 | 0.059 |
| * | 10/18/95 | 0.140 | 0.990 | 0.360 | 2.030 | 0.170 | ND(0.005) | 0.100 | 0.100 | ND(0.005) | 0.058 | 0.050 |
| | 01/11/96 | 0.100 | 0.680 | 0.180 | 1.840 | 0.140 | ND(0.005) | 0.097 | 0.059 | ND(0.005) | 0.060 | 0.048 |
| * | 04/13/96 | 0.098 | 0.620 | 0.180 | 0.690 | 0.150 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.023 |
| # | 07/22/96 | 0.130 | 0.920 | 0.310 | 1.790 | 0.160 | ND(0.005) | 0.087 | 0.170 | ND(0.005) | 0.045 | 0.046 |
| | 10/22/96 | ND(0.1) | 0.830 | 0.190 | 1.800 | 0.190 | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) | ND(0.1) |

**TABLE 2. SUMMARY OF LABORATORY ANALYTICAL RESULTS - GROUND-WATER SAMPLES, DOWELL, ARTESIA, NEW MEXICO**

| WELL NUMBER | SAMPLE DATE | BENZENE (mg/L) | ETHYL-BENZENE (mg/L) | TOLUENE (mg/L) | XYLENES (mg/L) | 1,1-DCA (mg/L) | 1,2-DCA (mg/L) | 1,1-DCE (mg/L) | 1,1,1-TCA (mg/L) | 1,1,2-TCA (mg/L) | TCE (mg/L) | PCE (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-12 Cont. | 01/24/97 | 0.093 | 0.822 | 0.133 | 1.738 | 0.162 | ND(0.010) | 0.046 | 0.060 | ND(0.010) | 0.037 | 0.039 |
| | 04/09/97 | 0.086 | 0.920 | 0.138 | 1.869 | 0.159 | ND(0.020) | 0.040 | 0.051 | ND(0.020) | 0.046 | 0.039 |
| dup. | 04/09/97 | 0.079 | 0.855 | 0.129 | 1.837 | 0.159 | ND(0.010) | 0.040 | 0.054 | ND(0.010) | 0.047 | 0.039 |
| | 07/30/97 | 0.090 | 0.969 | 0.127 | 2.294 | 0.136 | ND(0.020) | 0.035 | 0.062 | ND(0.020) | 0.036 | 0.043 |
| MW-13 | 09/15/91 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.005) | 0.030 | 0.002 | 0.038 | 0.005 | ND(0.001) | 0.004 | 0.240 |
| | 11/22/91 | 0.430 | ND(0.001) | ND(0.001) | ND(0.005) | 0.016 | 0.001 | 0.025 | 0.002 | ND(0.001) | 0.002 | 0.110 |
| | 03/16/93 | 0.033 | ND(0.001) | ND(0.001) | ND(0.005) | 0.013 | ND(0.001) | 0.014 | ND(0.001) | ND(0.001) | 0.002 | 0.062 |
| dup. | 03/16/93 | 0.034 | ND(0.001) | ND(0.001) | ND(0.005) | 0.013 | 0.001 | 0.015 | ND(0.001) | ND(0.001) | 0.002 | 0.066 |
| | 01/10/94 | 0.022 | ND(0.001) | ND(0.001) | ND(0.005) | 0.016 | ND(0.001) | 0.007 | ND(0.001) | ND(0.001) | 0.003 | 0.055 |
| | 04/19/94 | 0.013 | ND(0.005) | ND(0.005) | ND(0.005) | 0.011 | 0.001J | 0.003J | ND(0.005) | ND(0.005) | 0.003J | 0.032 |
| | 07/20/94 | 0.016 | ND(0.005) | ND(0.005) | ND(0.005) | 0.016 | 0.001J | 0.005J | ND(0.005) | ND(0.005) | 0.004J | 0.034 |
| | 10/25/94 | 0.011 | ND(0.005) | ND(0.005) | ND(0.005) | 0.013 | ND(0.005) | 0.004J | ND(0.005) | ND(0.005) | 0.004J | 0.040 |
| | 01/22/95 | 0.008 | ND(0.005) | ND(0.005) | ND(0.005) | 0.015 | ND(0.005) | 0.002J | ND(0.005) | ND(0.005) | 0.005 | 0.029 |
| | 04/03/95 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.013 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.022 |
| | 08/01/95 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.017 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.007 | 0.025 |
| | 10/18/95 | 0.0031J | ND(0.005) | ND(0.005) | ND(0.005) | 0.015 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.008 | 0.020 |
| | 01/11/96 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.011 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.005 | 0.015 |
| | 04/13/96 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.011 |
| | 07/21/96 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.009 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.007 | 0.013 |
| | 10/22/96 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.007 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.006 | 0.010 |
| | 01/24/97 | 0.001 | ND(0.001) | ND(0.001) | ND(0.002) | 0.005 | 0.0004J | 0.0004J | ND(0.001) | ND(0.001) | 0.003 | 0.003 |
| | 04/09/97 | 0.001 | ND(0.001) | ND(0.001) | ND(0.002) | 0.004 | ND(0.001) | 0.00044J | ND(0.001) | ND(0.001) | 0.005 | 0.005 |
| dup. | 04/09/97 | 0.002 | ND(0.001) | ND(0.001) | ND(0.002) | 0.005 | ND(0.001) | 0.0005J | ND(0.001) | ND(0.001) | 0.006 | 0.005 |
| | 07/30/97 | 0.001 | ND(0.001) | ND(0.001) | ND(0.002) | 0.004 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | 0.007 | 0.009 |
| MW-14 | 09/15/91 | 0.022 | ND(0.001) | ND(0.001) | ND(0.005) | 0.130 | 0.002 | 0.300 | 0.014 | 0.001 | 0.002 | 0.460 |
| | 11/22/91 | 0.002 | ND(0.001) | ND(0.001) | ND(0.005) | 0.140 | 0.002 | 0.310 | 0.009 | ND(0.001) | 0.002 | 0.400 |
| dup. | 11/22/91 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.005) | 0.110 | 0.002 | 0.320 | 0.010 | ND(0.001) | ND(0.001) | 0.440 |
| | 03/16/93 | 0.020 | ND(0.001) | ND(0.001) | ND(0.005) | 0.080 | 0.001 | 0.180 | 0.004 | ND(0.001) | 0.002 | 0.210 |
| | 01/10/94 | 0.011 | ND(0.001) | ND(0.001) | ND(0.005) | 0.057 | ND(0.001) | 0.100 | ND(0.001) | ND(0.001) | 0.002 | 0.300 |
| | 04/19/94 | 0.005 | ND(0.005) | ND(0.005) | ND(0.005) | 0.058 | ND(0.005) | 0.056 | 0.001J | ND(0.005) | ND(0.005) | 0.160 |
| | 07/20/94 | 0.01J | ND(0.025) | ND(0.025) | ND(0.025) | 0.072 | ND(0.025) | 0.110 | ND(0.025) | ND(0.025) | ND(0.025) | 0.210 |
| | 10/25/94 | 0.010 | ND(0.005) | ND(0.005) | ND(0.005) | 0.079 | 0.001J | 0.094 | ND(0.005) | ND(0.005) | ND(0.005) | 0.230 |
| | 01/25/95 | 0.004J | ND(0.005) | ND(0.005) | ND(0.005) | 0.083 | ND(0.005) | 0.070 | ND(0.005) | ND(0.005) | ND(0.005) | 0.022 |
| | 04/03/95 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.063 | ND(0.005) | 0.058 | ND(0.005) | ND(0.005) | ND(0.005) | 0.130 |
| | 08/01/95 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.074 | ND(0.005) | 0.072 | ND(0.005) | ND(0.005) | ND(0.005) | 0.098 |
| | 10/18/95 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.062 | ND(0.005) | 0.044 | ND(0.005) | ND(0.005) | ND(0.005) | 0.087 |
| | 01/11/96 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.051 | ND(0.005) | 0.038 | ND(0.005) | ND(0.005) | ND(0.005) | 0.061 |
| dup. | 01/11/96 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.053 | ND(0.005) | 0.040 | ND(0.005) | ND(0.005) | ND(0.005) | 0.064 |
| | 04/13/96 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.051 | ND(0.005) | 0.045 | ND(0.005) | ND(0.005) | ND(0.005) | 0.057 |
| | 07/21/96 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.048 | ND(0.005) | 0.037 | ND(0.005) | ND(0.005) | ND(0.005) | 0.055 |
| dup. | 07/21/96 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.052 | ND(0.005) | 0.043 | ND(0.005) | ND(0.005) | ND(0.005) | 0.064 |
| | 10/22/96 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.056 | ND(0.005) | 0.049 | ND(0.005) | ND(0.005) | ND(0.005) | 0.062 |
| | 01/24/97 | 0.0008J | ND(0.001) | ND(0.001) | ND(0.002) | 0.040 | 0.0005J | 0.023 | ND(0.001) | ND(0.001) | ND(0.001) | 0.014 |
| dup. | 01/24/97 | 0.0008J | ND(0.001) | ND(0.001) | ND(0.002) | 0.045 | 0.0005J | 0.027 | ND(0.001) | ND(0.001) | ND(0.001) | 0.010 |
| | 04/09/97 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.010) | 0.039 | ND(0.005) | 0.023 | ND(0.005) | ND(0.005) | ND(0.005) | 0.024 |
| | 07/30/97 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.010) | 0.036 | ND(0.005) | 0.021 | ND(0.005) | ND(0.005) | ND(0.005) | 0.043 |
| MW-15 | 09/15/91 | 0.002 | 0.010 | ND(0.001) | 0.006 | 0.026 | 0.001 | 0.005 | ND(0.001) | ND(0.001) | ND(0.001) | 0.004 |
| | 11/22/91 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.005) | 0.033 | 0.001 | 0.009 | ND(0.001) | ND(0.001) | 0.003 | 0.008 |

**TABLE 2. SUMMARY OF LABORATORY ANALYTICAL RESULTS - GROUND-WATER SAMPLES, DOWELL, ARTESIA, NEW MEXICO**

| WELL NUMBER | SAMPLE DATE | BENZENE (mg/L) | ETHYL-BENZENE (mg/L) | TOLUENE (mg/L) | XYLENES (mg/L) | 1,1-DCA (mg/L) | 1,2-DCA (mg/L) | 1,1-DCE (mg/L) | 1,1,1-TCA (mg/L) | 1,1,2-TCA (mg/L) | TCE (mg/L) | PCE (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-15 Cont. | 03/16/93 | 0.001 | 0.002 | ND(0.001) | ND(0.005) | 0.082 | 0.001 | 0.013 | ND(0.001) | ND(0.001) | 0.006 | 0.009 |
| | 01/10/94 | ND(0.001) | 0.008 | ND(0.001) | ND(0.005) | 0.048 | ND(0.001) | 0.009 | ND(0.001) | ND(0.001) | 0.004 | 0.013 |
| dup. | 01/10/94 | 0.001 | 0.009 | 0.002 | ND(0.005) | 0.054 | ND(0.001) | 0.010 | ND(0.001) | ND(0.001) | 0.004 | 0.015 |
| | 04/19/94 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.027 | ND(0.005) | 0.005J | ND(0.005) | ND(0.005) | 0.003J | 0.008 |
| | 07/20/94 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.049 | 0.001J | 0.006 | ND(0.005) | ND(0.005) | 0.004J | 0.005 |
| | 10/25/94 | 0.001J | ND(0.005) | ND(0.005) | ND(0.005) | 0.029 | ND(0.005) | 0.006 | ND(0.005) | ND(0.005) | 0.004J | 0.006 |
| | 01/25/95 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.027 | ND(0.005) | 0.006 | ND(0.005) | ND(0.005) | 0.005 | 0.008 |
| | 04/03/95 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.020 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| | 08/01/95 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.022 | ND(0.005) | 0.006 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| | 10/18/95 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.015 | ND(0.005) | 0.0031J | ND(0.005) | ND(0.005) | 0.004J | 0.0018J |
| | 01/10/96 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.013 | ND(0.005) | 0.0025J | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| | 04/13/96 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.009 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| | 07/21/96 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.011 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| | 10/22/96 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.010 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| dup. | 10/22/96 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.010 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) |
| | 01/24/97 | 0.0004J | ND(0.001) | ND(0.001) | ND(0.002) | 0.012 | 0.0008J | 0.001 | ND(0.001) | ND(0.001) | 0.0003J | 0.0003J |
| | 04/09/97 | 0.00063J | ND(0.001) | ND(0.001) | ND(0.002) | 0.012 | 0.00059J | 0.002 | ND(0.001) | ND(0.001) | 0.00073J | ND(0.001) |
| | 07/30/97 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.002) | 0.005 | ND(0.001) | 0.00068J | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| MW-17D | 04/03/95 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.062 | ND(0.005) | 0.018 | 0.012 | ND(0.005) | 0.019 | 0.014 |
| | 08/01/95 | 0.013 | ND(0.005) | ND(0.005) | ND(0.005) | 0.095 | ND(0.005) | 0.058 | 0.020 | ND(0.005) | 0.052 | 0.028 |
| * | 10/18/95 | 0.007 | ND(0.005) | ND(0.005) | ND(0.005) | 0.067 | ND(0.005) | 0.044 | 0.015 | ND(0.005) | 0.047 | 0.054 |
| * | 01/11/96 | 0.006 | ND(0.005) | ND(0.005) | ND(0.005) | 0.066 | ND(0.005) | 0.036 | 0.012 | ND(0.005) | 0.046 | 0.043 |
| dup. * | 01/11/96 | 0.006 | ND(0.005) | ND(0.005) | ND(0.005) | 0.050 | ND(0.005) | 0.032 | 0.009 | ND(0.005) | 0.036 | 0.039 |
| # | 04/13/96 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.064 | ND(0.005) | 0.046 | 0.009 | ND(0.005) | 0.049 | 0.032 |
| | 07/22/96 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.077 | ND(0.005) | 0.053 | 0.009 | ND(0.005) | 0.060 | 0.037 |
| | 10/22/96 | 0.007 | ND(0.005) | ND(0.005) | ND(0.005) | 0.066 | ND(0.005) | 0.041 | ND(0.005) | ND(0.0050 | 0.059 | 0.033 |
| | 01/24/97 | 0.004 | ND(0.001) | ND(0.001) | ND(0.002) | 0.052 | 0.0005J | 0.023 | 0.004 | ND(0.001) | 0.039 | 0.022 |
| | 04/09/97 | 0.003 | ND(0.001) | ND(0.001) | ND(0.002) | 0.030 | ND(0.001) | 0.020 | 0.003 | ND(0.001) | 0.026 | 0.022 |
| | 07/30/97 | 0.003 | ND(0.002) | ND(0.002) | ND(0.004) | 0.029 | ND(0.002) | 0.013 | 0.00154J | ND(0.002) | 0.028 | 0.018 |
| MW-17A | 04/03/95 | 0.009 | ND(0.005) | ND(0.005) | ND(0.005) | 0.079 | ND(0.005) | 0.061 | 0.029 | ND(0.005) | 0.025 | 0.066 |
| | 08/01/95 | 0.010 | ND(0.005) | ND(0.005) | ND(0.005) | 0.085 | ND(0.005) | 0.075 | 0.025 | ND(0.005) | 0.037 | 0.064 |
| * | 10/18/95 | 0.009 | ND(0.005) | ND(0.005) | ND(0.005) | 0.073 | ND(0.005) | 0.059 | 0.019 | ND(0.005) | 0.041 | 0.090 |
| dup. * | 10/18/95 | 0.010 | ND(0.005) | ND(0.005) | ND(0.005) | 0.078 | ND(0.005) | 0.059 | 0.019 | ND(0.005) | 0.042 | 0.086 |
| * | 01/11/96 | 0.009 | ND(0.005) | ND(0.005) | ND(0.005) | 0.077 | ND(0.005) | 0.068 | 0.019 | ND(0.005) | 0.042 | 0.076 |
| * | 04/13/96 | 0.006 | ND(0.005) | ND(0.005) | ND(0.005) | 0.075 | ND(0.005) | 0.069 | ND(0.005) | ND(0.005) | 0.043 | 0.065 |
| # | 07/22/96 | 0.008 | ND(0.005) | ND(0.005) | ND(0.005) | 0.076 | ND(0.005) | 0.069 | 0.012 | ND(0.005) | 0.051 | 0.077 |
| | 10/22/96 | 0.006 | ND(0.005) | ND(0.005) | ND(0.005) | 0.069 | ND(0.005) | 0.058 | ND(0.005) | ND(0.005) | 0.050 | 0.054 |
| | 01/24/97 | 0.006 | ND(0.001) | ND(0.001) | 0.0007J | 0.058 | ND(0.001) | 0.044 | 0.007 | ND(0.001) | 0.045 | 0.049 |
| | 04/09/97 | 0.007 | ND(0.001) | ND(0.001) | ND(0.002) | 0.065 | 0.00092J | 0.051 | 0.008 | ND(0.001) | 0.051 | 0.051 |
| | 07/30/97 | 0.00435J | ND(0.005) | ND(0.005) | ND(0.010) | 0.051 | ND(0.005) | 0.045 | 0.0038J | ND(0.005) | 0.045 | 0.062 |
| MW-17B | 04/03/95 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.036 | ND(0.005) | 0.180 | 0.019 | ND(0.005) | ND(0.005) | 0.180 |
| | 08/01/95 | 0.006 | ND(0.005) | ND(0.005) | ND(0.005) | 0.040 | ND(0.005) | 0.190 | 0.020 | ND(0.005) | 0.026 | 0.180 |
| dup. | 08/01/95 | 0.008 | ND(0.005) | ND(0.005) | ND(0.005) | 0.049 | ND(0.005) | 0.250 | 0.023 | ND(0.005) | 0.030 | 0.320 |
| * | 10/18/95 | 0.006 | ND(0.005) | ND(0.005) | ND(0.005) | 0.046 | ND(0.005) | 0.210 | 0.024 | ND(0.005) | 0.034 | 0.370 |
| | 01/11/96 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.034 | ND(0.005) | 0.170 | 0.014 | ND(0.005) | 0.022 | 0.190 |
| | 04/13/96 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.030 | ND(0.005) | 0.160 | ND(0.005) | ND(0.005) | 0.013 | 0.270 |
| | 07/22/96 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.030 | ND(0.005) | 0.150 | ND(0.005) | ND(0.005) | 0.016 | 0.250 |
| dup. | 07/22/96 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.030 | ND(0.005) | 0.150 | 0.015 | ND(0.005) | 0.016 | 0.280 |

**TABLE 2. SUMMARY OF LABORATORY ANALYTICAL RESULTS - GROUND-WATER SAMPLES, DOWELL, ARTESIA, NEW MEXICO**

| WELL NUMBER | SAMPLE DATE | BENZENE (mg/L) | ETHYL-BENZENE (mg/L) | TOLUENE (mg/L) | XYLENES (mg/L) | 1,1-DCA (mg/L) | 1,2-DCA (mg/L) | 1,1-DCE (mg/L) | 1,1,1-TCA (mg/L) | 1,1,2-TCA (mg/L) | TCE (mg/L) | PCE (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-17B Cont. | 10/22/96 | ND(0.01) | ND(0.01) | ND(0.01) | ND(0.01) | 0.038 | ND(0.01) | 0.190 | ND(0.01) | ND(0.01) | 0.030 | 0.250 |
| | 01/24/97 | 0.002 | ND(0.001) | ND(0.001) | ND(0.002) | 0.038 | 0.001 | 0.110 | 0.008 | ND(0.001) | 0.019 | 0.070 |
| | 04/09/97 | 0.004 | ND(0.002) | ND(0.002) | ND(0.004) | 0.035 | 0.00098J | 0.115 | 0.005 | ND(0.002) | 0.021 | 0.132 |
| | 07/30/97 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.010) | 0.026 | ND(0.005) | 0.080 | 0.0035J | ND(0.005) | 0.017 | 0.141 |
| MW-17C * | 04/03/95 | 0.032 | 0.060 | 0.005 | 0.054 | 0.058 | ND(0.005) | 0.099 | ND(0.005) | ND(0.005) | 0.091 | 0.013 |
| 2nd * | 04/03/95 | 0.034 | 0.057 | ND(0.005) | 0.045 | 0.063 | ND(0.005) | 0.110 | ND(0.005) | ND(0.005) | 0.095 | 0.017 |
| * | 08/01/95 | 0.022 | 0.047 | ND(0.005) | ND(0.005) | 0.073 | ND(0.005) | 0.140 | ND(0.005) | ND(0.005) | 0.120 | 0.012 |
| * | 10/18/95 | 0.019 | 0.026 | ND(0.005) | ND(0.005) | 0.063 | 0.0031J | 0.120 | ND(0.005) | ND(0.005) | 0.140 | 0.024 |
| * | 01/11/96 | 0.020 | 0.035 | ND(0.005) | ND(0.005) | 0.058 | ND(0.005) | 0.120 | ND(0.005) | ND(0.005) | 0.120 | 0.015 |
| * | 04/13/96 | 0.011 | 0.009 | ND(0.005) | ND(0.005) | 0.057 | ND(0.005) | 0.130 | ND(0.005) | ND(0.005) | 0.100 | 0.013 |
| # | 07/22/96 | 0.016 | ND(0.005) | ND(0.005) | ND(0.005) | 0.058 | ND(0.005) | 0.130 | ND(0.005) | ND(0.005) | 0.120 | 0.014 |
| | 10/22/96 | 0.015 | ND(0.005) | ND(0.005) | ND(0.005) | 0.045 | ND(0.005) | 0.120 | ND(0.005) | ND(0.005) | 0.100 | 0.012 |
| | 01/24/97 | 0.009 | ND(0.001) | ND(0.001) | ND(0.002) | 0.051 | 0.003 | 0.099 | ND(0.001) | ND(0.001) | 0.078 | 0.005 |
| | 04/09/97 | 0.011 | ND(0.002) | ND(0.002) | ND(0.004) | 0.049 | 0.002 | 0.105 | ND(0.002) | ND(0.002) | 0.100 | 0.008 |
| | 07/30/97 | 0.010 | ND(0.005) | ND(0.005) | ND(0.010) | 0.043 | 0.00225J | 0.093 | ND(0.005) | ND(0.005) | 0.097 | 0.010 |
| MW-18 | 04/03/95 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.017 | ND(0.005) | 0.093 | ND(0.005) | ND(0.005) | 0.034 | 0.071 |
| | 08/01/95 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.024 | ND(0.005) | 0.170 | ND(0.005) | ND(0.005) | 0.039 | 0.087 |
| | 10/18/95 | 0.0033J | ND(0.005) | ND(0.005) | ND(0.005) | 0.018 | ND(0.005) | 0.150 | ND(0.005) | ND(0.005) | 0.042 | 0.130 |
| | 01/11/96 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.017 | ND(0.005) | 0.130 | ND(0.005) | ND(0.005) | 0.037 | 0.097 |
| | 04/13/96 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.016 | ND(0.005) | 0.170 | ND(0.005) | ND(0.005) | 0.034 | 0.120 |
| dup. | 04/13/96 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.018 | ND(0.005) | 0.200 | ND(0.005) | ND(0.005) | 0.043 | 0.110 |
| | 07/22/96 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.170 | ND(0.005) | ND(0.005) | 0.043 | 0.120 |
| | 10/22/96 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.020 | ND(0.005) | 0.190 | ND(0.005) | ND(0.005) | 0.042 | 0.120 |
| | 01/24/97 | 0.003 | ND(0.001) | ND(0.001) | ND(0.002) | 0.024 | 0.0006J | 0.180 | 0.002 | ND(0.001) | 0.047 | 0.097 |
| | 04/09/97 | 0.003 | ND(0.001) | ND(0.001) | ND(0.002) | 0.022 | 0.00069J | 0.155 | 0.002 | ND(0.001) | 0.044 | 0.116 |
| | 07/30/97 | 0.002 | ND(0.002) | ND(0.002) | ND(0.004) | 0.020 | ND(0.002) | 0.140 | 0.0011J | ND(0.002) | 0.044 | 0.121 |
| MW-19 | 04/03/95 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.011 | ND(0.005) | 0.150 | ND(0.005) | ND(0.005) | ND(0.005) | 0.110 |
| | 08/01/95 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.014 | ND(0.005) | 0.170 | ND(0.005) | ND(0.005) | ND(0.005) | 0.140 |
| | 10/18/95 | 0.0024J | ND(0.005) | ND(0.005) | ND(0.005) | 0.010 | ND(0.005) | 0.170 | ND(0.005) | ND(0.005) | 0.0038J | 0.150 |
| | 01/11/96 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.010 | ND(0.005) | 0.110 | ND(0.005) | ND(0.005) | ND(0.005) | 0.100 |
| | 04/13/96 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.150 | ND(0.005) | ND(0.005) | ND(0.005) | 0.100 |
| | 07/22/96 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.009 | ND(0.005) | 0.150 | ND(0.005) | ND(0.005) | ND(0.005) | 0.110 |
| | 10/22/96 | ND(0.005) | ND(0.005) | ND(0.005) | ND(0.005) | 0.008 | ND(0.005) | 0.130 | ND(0.005) | ND(0.005) | ND(0.005) | 0.094 |
| | 01/24/97 | 0.001 | ND(0.001) | ND(0.001) | ND(0.002) | 0.009 | ND(0.001) | 0.122 | 0.0006J | ND(0.001) | 0.003 | 0.093 |
| | 04/09/97 | 0.002 | ND(0.001) | ND(0.001) | ND(0.002) | 0.010 | ND(0.001) | 0.116 | 0.00069J | ND(0.001) | 0.004 | 0.087 |
| | 07/30/97 | 0.002 | ND(0.002) | ND(0.002) | ND(0.004) | 0.009 | ND(0.002) | 0.116 | ND(0.002) | ND(0.002) | 0.005 | 0.096 |
| MW-20 | 11/20/96 | 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) |
| | 01/24/97 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.002) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| | 04/09/97 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.002) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| | 07/30/97 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.002) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| MW-21 | 11/20/96 | 0.002 | ND(0.001) | ND(0.001) | ND(0.001) | 0.002 | ND(0.001) | 0.012 | ND(0.001) | ND(0.001) | 0.003 | 0.006 |
| | 01/24/97 | 0.002 | ND(0.001) | ND(0.001) | ND(0.002) | 0.003 | ND(0.001) | 0.019 | ND(0.001) | ND(0.001) | 0.004 | 0.006 |
| | 03/04/97 | 0.002 | ND(0.001) | ND(0.001) | ND(0.002) | 0.004 | ND(0.001) | 0.025 | ND(0.001) | ND(0.001) | 0.007 | 0.011 |
| | 04/09/97 | 0.00148J | ND(0.002) | ND(0.002) | ND(0.004) | 0.003 | ND(0.002) | 0.021 | ND(0.002) | ND(0.002) | 0.005 | 0.008 |
| | 07/30/97 | ND(0.002) | ND(0.002) | ND(0.002) | ND(0.004) | 0.0014J | ND(0.002) | 0.011 | ND(0.002) | ND(0.002) | 0.003 | 0.007 |

## TABLE 2. SUMMARY OF LABORATORY ANALYTICAL RESULTS - GROUND-WATER SAMPLES, DOWELL, ARTESIA, NEW MEXICO

| WELL NUMBER | SAMPLE DATE | BENZENE (mg/L) | ETHYL-BENZENE (mg/L) | TOLUENE (mg/L) | XYLENES (mg/L) | 1,1-DCA (mg/L) | 1,2-DCA (mg/L) | 1,1-DCE (mg/L) | 1,1,1-TCA (mg/L) | 1,1,2-TCA (mg/L) | TCE (mg/L) | PCE (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-22 | 11/20/96 | 0.014 | ND(0.001) | ND(0.001) | ND(0.001) | 0.010 | ND(0.001) | 0.063 | ND(0.001) | ND(0.001) | 0.012 | 0.053 |
| | 01/24/97 | 0.010 | ND(0.001) | ND(0.001) | ND(0.002) | 0.009 | ND(0.001) | 0.065 | ND(0.001) | ND(0.001) | 0.013 | 0.050 |
| dup. | 01/24/97 | 0.011 | ND(0.001) | ND(0.001) | ND(0.002) | 0.011 | ND(0.001) | 0.099 | ND(0.001) | ND(0.001) | 0.013 | 0.065 |
| | 04/09/97 | 0.013 | ND(0.001) | ND(0.001) | ND(0.002) | 0.014 | 0.00072J | 0.084 | ND(0.001) | ND(0.001) | 0.021 | 0.080 |
| | 07/30/97 | 0.014 | ND(0.002) | ND(0.002) | ND(0.004) | 0.012 | ND(0.002) | 0.092 | ND(0.002) | ND(0.002) | 0.024 | 0.104 |
| MW-23 | 11/20/96 | ND(0.001) | ND(0.001) | 0.0008J | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| | 01/24/97 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.002) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| | 03/04/97 | 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) |
| | 04/09/97 | ND(0.002) | ND(0.002) | ND(0.002) | ND(0.004) | ND(0.002) | ND(0.002) | ND(0.002) | ND(0.002) | ND(0.002) | ND(0.002) | ND(0.002) |
| | 07/30/97 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.002) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| MW-24 | 11/20/96 | 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) |
| | 01/24/97 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.002) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| | 04/09/97 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.002) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| | 07/30/97 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.002) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| MW-25 | 03/04/97 | 0.021 | ND(0.001) | ND(0.001) | ND(0.001) | 0.014 | 0.001 | 0.035 | ND(0.001) | ND(0.001) | ND(0.001) | 0.030 |
| | 04/09/97 | 0.015 | ND(0.001) | ND(0.001) | ND(0.002) | 0.015 | 0.00085J | 0.035 | ND(0.001) | ND(0.001) | 0.006 | 0.020 |
| duplicate | 04/09/97 | 0.014 | ND(0.001) | ND(0.001) | ND(0.002) | 0.015 | 0.00078J | 0.034 | ND(0.001) | ND(0.001) | 0.005 | 0.019 |
| | 07/30/97 | 0.023 | ND(0.002) | ND(0.002) | ND(0.004) | 0.011 | 0.00118J | 0.031 | ND(0.002) | ND(0.002) | 0.005 | 0.035 |
| MW-26 | 03/04/97 | 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) |
| duplicate | 03/04/97 | 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) |
| | 04/09/97 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.002) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| | 07/30/97 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.002) | 0.001 | ND(0.001) | 0.004 | ND(0.001) | ND(0.001) | ND(0.001) | 0.002 |
| MW-27 | 03/04/97 | 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) |
| | 04/09/97 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.002) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| | 07/30/97 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.002) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |

Analytical method used prior to 10/95 = EPA Method 8240
Analytical method used during and after 10/95 = EPA Method 8260

NOTES:
mg/L = milligrams per liter (equivalent to parts per million)
dup. = duplicate sample
ND(0.001) = chemical not detected at concentration above detection limit shown in parentheses
J = chemical detected at concentration above instrument detection limit but below method detection limit
* = other chemicals also detected (see previous laboratory reports)
# = other chemicals also detected (see laboratory analytical reports - Appendix A)

CHEMICAL ABBREVIATIONS:
1,1-DCA = 1,1-dichloroethane
1,2-DCA = 1,2-dichloroethane
1,1-DCE = 1,1-dichloroethene
1,1,1-TCA = 1,1,1-trichloroethane
1,1,2-TCA = 1,1,2-trichloroethane
TCE = trichloroethene
PCE = tetrachloroethene

**TABLE 3. SUMMARY OF LABORATORY ANALYTICAL - SVE SOIL VAPOR SAMPLES, MAINTENANCE SHOP AND WASH BAY SVE SYSTEMS, DOWELL, ARTESIA, NEW MEXICO**

| SVE ZONE | SAMPLE DATE | BENZENE (mg/m3) | ETHYL-BENZENE (mg/m3) | TOLUENE (mg/m3) | XYLENES (mg/m3) | 1,1-DCA (mg/m3) | 1,2-DCA (mg/m3) | 1,1-DCE (mg/m3) | 1,1,1-TCA (mg/m3) | 1,1,2-TCA (mg/m3) | TCE (mg/m3) | PCE (mg/m3) | 2-UTANONE (mg/m3) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MS-1 | 02/10/94 | ND(1) | ND(1) | ND(1) | ND(1) | ND(2) | ND(2) | ND(2) | ND(2) | ND(2) | ND(2) | ND(2) | 7.00 |
| | 02/16/94 | ND(1) | ND(1) | ND(1) | ND(1) | ND(2) | ND(2) | ND(2) | ND(2) | ND(2) | ND(2) | ND(1) | ND(2) |
| | 02/23/94 | ND(0.5) | ND(0.5) | 0.51 | ND(0.5) | ND(1) | ND(1) | ND(1) | ND(1) | ND(1) | ND(1) | ND(0.5) | 1.40 |
| | 03/04/94 | ND(0.5) | ND(0.5) | ND(0.5) | ND(0.5) | ND(1) | ND(1) | ND(1) | ND(1) | ND(1) | ND(1) | ND(0.5) | ND(1) |
| | 03/11/94 | ND(0.5) | ND(0.5) | ND(0.5) | ND(0.5) | ND(1) | ND(1) | ND(1) | ND(1) | ND(1) | ND(1) | ND(0.5) | 3.00 |
| | 03/18/94 | ND(0.5) | ND(0.5) | ND(0.5) | ND(0.5) | ND(1) | ND(1) | ND(1) | 5.60 | ND(1) | ND(1) | ND(0.5) | ND(1) |
| | 03/28/94 | ND(0.5) | ND(0.5) | ND(0.5) | ND(0.5) | ND(1) | ND(1) | ND(1) | 1.10 | ND(1) | ND(1) | ND(0.5) | ND(1) |
| | 04/20/94 | ND(0.5) | ND(0.5) | ND(0.5) | ND(0.5) | ND(1) | ND(1) | ND(1) | 21.30 | ND(1) | ND(1) | ND(0.5) | 1.90 |
| | 05/06/94 | ND(0.5) | ND(0.5) | ND(0.5) | ND(0.5) | ND(0.5) | ND(0.5) | ND(1) | 6.20 | ND(0.5) | ND(0.5) | ND(0.5) | ND(10) |
| | 05/18/94 | ND(0.5) | ND(0.5) | ND(0.5) | ND(0.5) | ND(0.5) | ND(0.5) | ND(1) | 4.00 | ND(0.5) | ND(0.5) | ND(0.5) | ND(10) |
| | 06/01/94 | ND(1) | ND(1) | ND(1) | ND(1) | ND(1) | ND(1) | ND(1) | 4.00 | ND(1) | ND(1) | ND(1) | ND(1) |
| * | 12/05/94 | ND(0.001) | ND(0.001) | ND(0.001) | NA | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | 0.20 | NA |
| | 10/18/95 | ND(0.2) | 2.02 | ND(0.2) | 8.07 | ND(0.2) | ND(0.2) | ND(0.2) | 4.98 | ND(0.2) | ND(0.2) | ND(0.2) | ND(0.2) |
| | 07/24/96 | ND(0.3) | ND(0.3) | ND(0.3) | ND(0.6) | ND(0.3) | ND(0.3) | ND(0.3) | 1.70 | ND(0.3) | ND(0.3) | 0.40 | NA |
| | 10/22/96 | ND(0.2) | ND(0.2) | ND(0.2) | ND(0.2) | ND(0.2) | ND(0.2) | ND(0.2) | 1.61 | ND(0.2) | ND(0.2) | 0.41 | ND(0.2) |
| | 01/21/97 | ND(1.0) | ND(1.0) | ND(1.0) | ND(2.0) | ND(1.0) | ND(1.0) | ND(1.0) | 1.07 | ND(1.0) | ND(1.0) | ND(1.0) | NA |
| MS-2 | 02/03/94 | 0.70 | 0.2J | ND(0.5) | ND(0.5) | 1.60 | ND(0.5) | ND(0.5) | 2.20 | ND(0.5) | 0.68 | 140.00 | ND(2) |
| | 02/10/94 | ND(1) | ND(1) | ND(1) | ND(2) | ND(2) | ND(2) | ND(2) | ND(2) | ND(2) | ND(2) | 27.25 | ND(2) |
| | 02/16/94 | ND(1) | ND(1) | ND(1) | ND(2) | ND(2) | ND(2) | ND(2) | ND(2) | ND(2) | ND(2) | 14.50 | ND(2) |
| | 02/23/94 | ND(0.5) | ND(0.5) | ND(0.5) | ND(0.5) | ND(1) | ND(1) | ND(1) | ND(1) | ND(1) | ND(1) | 50.20 | 1.80 |
| | 03/04/94 | ND(0.5) | ND(0.5) | ND(0.5) | ND(0.5) | ND(1) | ND(1) | ND(1) | ND(1) | ND(1) | ND(1) | 8.50 | ND(1) |
| | 03/11/94 | ND(0.5) | ND(0.5) | ND(0.5) | ND(0.5) | ND(1) | ND(1) | ND(1) | ND(1) | ND(1) | ND(1) | 17.60 | ND(1) |
| | 03/18/94 | ND(0.5) | ND(0.5) | ND(0.5) | ND(0.5) | ND(1) | ND(1) | ND(1) | ND(1) | ND(1) | ND(1) | 15.90 | ND(1) |
| | 03/28/94 | ND(0.5) | ND(0.5) | ND(0.5) | ND(0.5) | ND(1) | ND(1) | ND(1) | 1.20 | ND(1) | ND(1) | 6.90 | ND(1) |
| | 04/08/94 | ND(0.5) | ND(0.5) | ND(0.5) | ND(0.5) | ND(1) | ND(1) | ND(1) | 1.20 | ND(1) | ND(1) | ND(0.5) | ND(1) |
| | 04/20/94 | ND(0.5) | ND(0.5) | ND(0.5) | ND(0.5) | ND(1) | ND(1) | ND(1) | 2.50 | ND(1) | ND(1) | 12.10 | 2.50 |
| | 05/06/94 | ND(0.5) | ND(0.5) | ND(0.5) | ND(0.5) | ND(0.5) | ND(0.5) | ND(1) | 1.60 | ND(0.5) | ND(0.5) | 6.80 | ND(10) |
| | 05/18/94 | ND(0.5) | ND(0.5) | ND(0.5) | ND(0.5) | ND(0.5) | ND(0.5) | ND(1) | 4.00 | ND(0.5) | ND(0.5) | 6.90 | ND(10) |
| | 06/01/94 | ND(1) | ND(1) | ND(1) | ND(1) | ND(1) | ND(1) | ND(1) | 4.00 | ND(1) | ND(1) | 12.00 | ND(1) |
| * | 09/07/94 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | 0.31 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| | 01/25/95 | ND(0.04) | ND(0.04) | ND(0.04) | 0.12 | ND(0.04) | ND(0.04) | ND(0.04) | 0.93 | ND(0.04) | ND(0.04) | 0.07 | ND(0.04) |
| | 05/09/95 | ND(0.2) | ND(0.2) | ND(0.2) | 0.40 | ND(0.2) | ND(0.2) | ND(0.2) | ND(0.2) | ND(0.2) | ND(0.2) | 1.68 | ND(0.2) |
| | 10/18/95 | ND(0.2) | 2.14 | ND(0.2) | 8.62 | ND(0.2) | ND(0.2) | ND(0.2) | 1.03 | ND(0.2) | ND(0.2) | ND(0.2) | ND(0.2) |
| | 07/24/96 | ND(0.3) | ND(0.3) | ND(0.3) | ND(0.6) | ND(0.3) | ND(0.3) | ND(0.3) | ND(0.3) | ND(0.3) | ND(0.3) | 0.80 | NA |
| | 10/22/96 | ND(0.2) | ND(0.2) | ND(0.2) | ND(0.2) | ND(0.2) | ND(0.2) | ND(0.2) | 0.24 | ND(0.2) | ND(0.2) | 0.66 | ND(0.2) |
| | 01/21/97 | 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) | NA |
| MS-COMP | 04/09/97 | ND(1.0) | ND(1.0) | ND(1.0) | ND(2.0) | ND(1.0) | ND(1.0) | ND(1.0) | 0.46J | ND(1.0) | ND(1.0) | ND(1.0) | NA |
| | 07/29/97 | 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) | 0.60J | NA |
| WB-1 | 02/10/94 | ND(1) | 3.57 | 2.98 | 12.60 | ND(2) | ND(2) | ND(2) | 4.07 | ND(2) | ND(2) | ND(1) | ND(2) |
| | 02/16/94 | ND(1) | 1.20 | 1.10 | 10.40 | ND(2) | ND(2) | ND(2) | 3.70 | ND(2) | ND(2) | 14.50 | 9.10 |
| | 02/23/94 | ND(0.5) | 2.20 | 2.40 | 18.30 | ND(1) | ND(1) | ND(1) | 6.10 | ND(1) | ND(1) | ND(0.5) | ND(1) |
| | 03/04/94 | ND(0.5) | 2.60 | 2.50 | 21.20 | ND(1) | ND(1) | ND(1) | 6.60 | ND(1) | ND(1) | ND(0.5) | ND(1) |
| | 03/11/94 | ND(0.5) | 2.60 | 2.90 | 16.10 | ND(1) | ND(1) | ND(1) | 9.30 | ND(1) | ND(1) | 17.60 | 4.10 |
| | 03/18/94 | ND(0.5) | 14.60 | 1.80 | ND(0.5) | ND(1) | ND(1) | ND(1) | 3.50 | ND(1) | ND(1) | ND(0.5) | 21.30 |
| | 03/28/94 | ND(0.5) | 0.90 | 1.20 | 8.00 | ND(1) | ND(1) | ND(1) | 3.40 | ND(1) | ND(1) | ND(0.5) | ND(1) |
| | 04/08/94 | ND(0.5) | ND(0.5) | ND(0.5) | 4.60 | ND(1) | ND(1) | ND(1) | ND(1) | ND(1) | ND(1) | ND(0.5) | ND(1) |
| | 04/20/94 | ND(0.5) | ND(0.5) | ND(0.5) | 5.90 | ND(1) | ND(1) | ND(1) | 2.80 | ND(1) | ND(1) | ND(0.5) | 1.20 |
| | 05/06/94 | ND(0.5) | 1.10 | 1.70 | 5.80 | ND(0.5) | ND(0.5) | ND(1) | 3.90 | ND(0.5) | ND(0.5) | ND(0.5) | ND(10) |

**TABLE 3. SUMMARY OF LABORATORY ANALYTICAL - SVE SOIL VAPOR SAMPLES, MAINTENANCE SHOP AND WASH BAY SVE SYSTEMS, DOWELL, ARTESIA, NEW MEXICO**

| SVE ZONE | SAMPLE DATE | BENZENE (mg/m3) | ETHYL-BENZENE (mg/m3) | TOLUENE (mg/m3) | XYLENES (mg/m3) | 1,1-DCA (mg/m3) | 1,2-DCA (mg/m3) | 1,1-DCE (mg/m3) | 1,1,1-TCA (mg/m3) | 1,1,2-TCA (mg/m3) | TCE (mg/m3) | PCE (mg/m3) | 2-UTANONE (mg/m3) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WB-1 Cont. | 05/18/94 | ND(0.5) | 0.80 | ND(0.5) | 8.40 | ND(0.5) | ND(0.5) | ND(1) | 1.80 | ND(0.5) | ND(0.5) | ND(0.5) | ND(10) |
| | 06/01/94 | ND(1) | 3.00 | ND(1) | 6.00 | ND(1) | ND(1) | ND(1) | 4.00 | ND(1) | ND(1) | 2.00 | ND(1) |
| | 07/06/94 | ND(1) | 5.00 | 1.00 | 11.00 | ND(1) | ND(1) | ND(1) | ND(1) | ND(1) | ND(1) | ND(1) | ND(1) |
| * | 08/10/94 | NA | NA | NA | NA | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| * | 09/07/94 | ND(0.001) | 0.24 | 0.09 | 0.61 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| * | 12/05/94 | ND(0.001) | 0.19 | 0.14 | NA | ND(0.001) | ND(0.001) | ND(0.001) | 0.27 | ND(0.001) | ND(0.001) | 0.04 | NA |
| | 01/25/95 | ND(0.04) | 0.16 | 0.12 | 1.19 | ND(0.04) | ND(0.04) | ND(0.04) | ND(0.04) | ND(0.04) | ND(0.04) | ND(0.04) | ND(0.04) |
| | 05/09/95 | ND(0.2) | 0.78 | 0.80 | 8.24 | ND(0.2) | ND(0.2) | ND(0.2) | ND(0.2) | ND(0.2) | ND(0.2) | 0.28 | ND(0.2) |
| WB-2 | 02/10/94 | 1.67 | 5.03 | 10.13 | 14.90 | ND(2) | ND(2) | ND(2) | 8.34 | ND(2) | ND(2) | ND(2) | 14.71 |
| | 02/16/94 | ND(1) | 3.00 | 4.80 | 29.90 | ND(2) | ND(2) | ND(2) | 6.50 | ND(2) | ND(2) | 14.50 | 6.70 |
| | 02/23/94 | 1.40 | 9.30 | 16.40 | 53.20 | ND(1) | ND(1) | ND(1) | 12.60 | ND(1) | ND(1) | ND(0.5) | ND(1) |
| | 03/04/94 | ND(0.5) | 5.30 | 9.50 | 39.70 | ND(1) | ND(1) | ND(1) | 12.10 | ND(1) | ND(1) | ND(0.5) | ND(1) |
| | 03/11/94 | ND(0.5) | 5.40 | 10.90 | 23.20 | ND(1) | ND(1) | ND(1) | 12.10 | ND(1) | ND(1) | ND(0.5) | 26.70 |
| | 03/18/94 | 0.70 | 4.80 | 9.60 | 28.10 | ND(1) | ND(1) | ND(1) | ND(1) | ND(1) | ND(1) | ND(0.5) | 18.70 |
| | 03/28/94 | ND(0.5) | 1.90 | 3.50 | 12.80 | ND(1) | ND(1) | ND(1) | 5.00 | ND(1) | ND(1) | ND(0.5) | ND(1) |
| | 04/08/94 | ND(0.5) | 1.10 | 1.50 | 8.40 | ND(1) | ND(1) | ND(1) | 2.00 | ND(1) | ND(1) | ND(0.5) | ND(1) |
| | 04/20/94 | ND(0.5) | 4.10 | 5.80 | 27.50 | ND(1) | ND(1) | ND(1) | 6.80 | ND(1) | ND(1) | ND(0.5) | 1.60 |
| | 05/06/94 | ND(0.5) | 3.70 | 4.50 | 30.00 | ND(0.5) | ND(0.5) | ND(1) | 3.00 | ND(0.5) | ND(0.5) | ND(0.5) | ND(10) |
| | 05/18/94 | ND(0.5) | 5.30 | 6.00 | 44.20 | ND(0.5) | ND(0.5) | ND(1) | 2.80 | ND(0.5) | ND(0.5) | ND(0.5) | ND(10) |
| | 06/01/94 | ND(1) | 7.00 | ND(1) | 15.00 | ND(1) | ND(1) | ND(1) | ND(1) | ND(1) | ND(1) | ND(1) | ND(1) |
| | 07/06/94 | ND(1) | 5.00 | 8.00 | 42.00 | ND(1) | ND(1) | ND(1) | ND(1) | ND(1) | ND(1) | ND(1) | ND(1) |
| * | 08/10/94 | NA | NA | NA | NA | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| * | 09/07/94 | ND(0.001) | 0.45 | 0.41 | 4.12 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | 1.28 |
| * | 12/05/94 | 0.24 | 1.40 | 1.66 | NA | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | 0.23 | NA |
| | 01/25/95 | ND(0.04) | 0.69 | 0.91 | 10.67 | ND(0.04) | ND(0.04) | ND(0.04) | ND(0.04) | ND(0.04) | ND(0.04) | ND(0.04) | ND(0.04) |
| | 05/09/95 | ND(0.2) | 0.91 | 5.44 | 14.67 | ND(0.2) | ND(0.2) | ND(0.2) | ND(0.2) | ND(0.2) | ND(0.2) | ND(0.2) | ND(0.2) |
| WB-3 | 02/03/94 | 5.50 | 22.00 | 78.00 | 153.00 | 1.20 | ND(0.5) | 2.80 | 26.00 | ND(0.5) | ND(0.5) | 5.20 | ND(2) |
| | 02/10/94 | ND(1) | 15.60 | 64.60 | 46.90 | ND(2) | ND(2) | ND(2) | 11.40 | ND(2) | ND(2) | ND(2) | 31.33 |
| | 02/16/94 | ND(1) | ND(1) | 25.70 | 44.50 | ND(2) | ND(2) | ND(2) | 11.00 | ND(2) | ND(2) | ND(1) | ND(2) |
| | 02/23/94 | 3.50 | 17.50 | 73.20 | 99.10 | ND(1) | ND(1) | ND(1) | 19.30 | ND(1) | ND(1) | 1.60 | 1.40 |
| | 03/04/94 | 2.10 | 10.60 | 44.90 | 60.90 | ND(1) | ND(1) | ND(1) | 14.70 | ND(1) | ND(1) | ND(0.5) | ND(1) |
| | 03/11/94 | ND(0.5) | 13.30 | ND(0.5) | 14.30 | ND(1) | ND(1) | ND(1) | 17.90 | ND(1) | ND(1) | ND(0.5) | 3.80 |
| | 03/18/94 | ND(0.5) | 10.10 | 38.30 | 57.20 | ND(1) | ND(1) | ND(1) | 11.00 | ND(1) | ND(1) | ND(0.5) | 46.40 |
| | 03/28/94 | 1.20 | 5.70 | 21.40 | 30.80 | ND(1) | ND(1) | ND(1) | 8.10 | ND(1) | ND(1) | ND(0.5) | ND(1) |
| | 04/08/94 | ND(0.5) | 1.50 | 2.40 | 9.40 | ND(1) | ND(1) | ND(1) | ND(1) | ND(1) | ND(1) | ND(0.5) | ND(1) |
| | 04/20/94 | ND(0.5) | 10.60 | 27.60 | 31.80 | ND(1) | ND(1) | ND(1) | 11.10 | ND(1) | ND(1) | ND(0.5) | 13.30 |
| | 05/06/94 | ND(0.5) | 6.80 | 17.50 | 38.90 | ND(0.5) | ND(0.5) | ND(1) | 6.00 | ND(0.5) | ND(0.5) | ND(0.5) | ND(10) |
| | 05/18/94 | ND(0.5) | 6.20 | 8.10 | 43.90 | ND(0.5) | ND(0.5) | ND(1) | 1.90 | ND(0.5) | ND(0.5) | ND(0.5) | ND(10) |
| | 06/01/94 | ND(1) | 4.00 | 7.00 | 34.00 | ND(1) | ND(1) | ND(1) | 4.00 | ND(1) | ND(1) | ND(1) | ND(1) |
| | 07/06/94 | ND(1) | 11.00 | 22.00 | 73.00 | ND(1) | ND(1) | ND(1) | 3.00 | ND(1) | ND(1) | ND(1) | ND(1) |
| * | 08/10/94 | NA | NA | NA | NA | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| * | 09/07/94 | ND(0.001) | 1.35 | 2.90 | 10.32 | ND(0.001) | ND(0.001) | ND(0.001) | 0.16 | ND(0.001) | ND(0.001) | ND(0.001) | ND(0.001) |
| * | 12/05/94 | 0.54 | 2.62 | 5.86 | NA | 0.06 | ND(0.001) | 0.03 | ND(0.001) | ND(0.001) | ND(0.001) | 0.72 | NA |
| | 01/25/95 | 0.08 | 2.75 | 1.49 | 23.23 | ND(0.04) | ND(0.04) | ND(0.04) | 0.41 | ND(0.04) | ND(0.04) | 0.37 | ND(0.04) |
| | 05/09/95 | ND(0.2) | 2.30 | 5.00 | 25.72 | ND(0.2) | ND(0.2) | ND(0.2) | ND(0.2) | ND(0.2) | ND(0.2) | 0.40 | ND(0.2) |
| WB-N1 | 05/09/95 | 1.27 | 5.43 | 19.70 | 80.19 | ND(0.2) | ND(0.2) | ND(0.2) | ND(0.2) | ND(0.2) | ND(0.2) | 1.88 | ND(0.2) |

**TABLE 3. SUMMARY OF LABORATORY ANALYTICAL - SVE SOIL VAPOR SAMPLES, MAINTENANCE SHOP AND WASH BAY SVE SYSTEMS, DOWELL, ARTESIA, NEW MEXICO**

| SVE ZONE | SAMPLE DATE | BENZENE (mg/m3) | ETHYL-BENZENE (mg/m3) | TOLUENE (mg/m3) | XYLENES (mg/m3) | 1,1-DCA (mg/m3) | 1,2-DCA (mg/m3) | 1,1-DCE (mg/m3) | 1,1,1-TCA (mg/m3) | 1,1,2-TCA (mg/m3) | TCE (mg/m3) | PCE (mg/m3) | 2-UTANONE (mg/m3) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WB-N2 | 05/09/95 | 2.13 | 5.57 | 22.50 | 51.92 | ND(0.2) | ND(0.2) | ND(0.2) | ND(0.2) | ND(0.2) | ND(0.2) | 1.17 | ND(0.2) |
| WB-N3 | 05/09/95 | 0.58 | 2.38 | 8.08 | 18.57 | ND(0.2) | ND(0.2) | 0.23 | ND(0.2) | ND(0.2) | ND(0.2) | 0.60 | ND(0.2) |
| WB-COMP | 10/20/95 | 1.03 | 9.38 | 18.30 | 90.90 | ND(0.2) | ND(0.2) | 0.26 | 4.41 | ND(0.2) | ND(0.2) | 2.38 | ND(0.2) |
| | 07/24/96 | ND(0.3) | 0.40 | 1.00 | 5.20 | ND(0.3) | ND(0.3) | ND(0.3) | ND(0.3) | ND(0.3) | ND(0.3) | ND(0.3) | NA |
| | 10/22/96 | ND(0.2) | 0.68 | 0.70 | 12.93 | ND(0.2) | ND(0.2) | ND(0.2) | ND(0.2) | ND(0.2) | ND(0.2) | 0.23 | ND(0.2) |
| | 01/21/97 | ND(1.0) | ND(1.0) | ND(1.0) | 5.41 | ND(1.0) | ND(1.0) | ND(1.0) | ND(1.0) | ND(1.0) | ND(1.0) | ND(1.0) | NA |
| | 04/09/97 | ND(1.0) | ND(1.0) | ND(1.0) | 3.75 | ND(1.0) | ND(1.0) | ND(1.0) | ND(1.0) | ND(1.0) | ND(1.0) | ND(1.0) | NA |
| | 07/29/97 | ND(1.0) | ND(1.0) | ND(1.0) | 10.07 | ND(1.0) | ND(1.0) | ND(1.0) | ND(1.0) | ND(1.0) | ND(1.0) | ND(1.0) | NA |

Prior to January 1995, the laboratory analytical method used was EPA Method 8240.
During and after January 1995, the laboratory analytical method used was EPA Method 8260.
See laboratory reports for concentrations of additional analytes.
In April 1995, the wash bay SVE system was expanded. Each of the three zones now consists of an old south (S) and a new north (N) zone.

NOTES:
mg/m3 = milligrams per cubic meter
* = units reported as "ppm" or "mg/L". Detection limit may be incorrect.
J = chemical present above instrument detection limit but below method detection limit
NA = not analyzed
MS = Maintenance Shop SVE system
WB = Wash Bay SVE system
WB-N1 = north subzone of Wash Bay Zone 1
WB-N2 = north subzone of Wash Bay Zone 2
WB-N3 = north subzone of Wash Bay Zone 3
WB-COMP = composite sample from Wash Bay zones 1, 2, and 3
MS-COMP = composite sample from Maintenance Shop zones 1 and 2

CHEMICAL ABBREVIATIONS:
1,1-DCA = 1,1-dichloroethane
1,2-DCA = 1,2-dichloroethane
1,1-DCE = 1,1-dichloroethene
1,1,1-TCA = 1,1,1-trichloroethane
1,1,2-TCA = 1,1,2-trichloroethane
TCE = trichloroethene
PCE = tetrachloroethene

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# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | | |
| Sample ID: | 90125-1.7/97 | Date Sampled: | 07/30/97 |
| Laboratory ID: | C97-42001 | Date Received: | 08/01/97 |
| Matrix: | Water | Date Analyzed: | 08/04/97 |
| Dilution Factor: | 2 | Date Reported: | August 19, 1997 |

| 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** | **17.7** | 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** | **4.24** | 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** | Date Sampled: | 07/30/97 |
| Sample ID: | 90125-1.7/97 | Date Analyzed: | 08/04/97 |
| Laboratory ID: | C97-42001 | Date Reported: | August 19, 1997 |

| 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 | 1004450 | 1040689 | 96.5% | 50 - 200 % |
| Fluorobenzene | 1730084 | 1904896 | 90.8% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1722983 | 1795782 | 95.9% | 50 - 200 % |
| Chlorobenzene - d5 | 1255380 | 1334623 | 94.1% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 515524 | 580465 | 88.8% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 8.77 | 87.7% | 86 - 118 % |
| Toluene - d8 | 10.1 | 101% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.39 | 93.9% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.81 | 98.1% | 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

Report File: F:\REPORTS\CLIENTS.97\WEST_WAT.ER\ORGANIC.CAS\97_42001.xls

Analyst: yw
Reviewed: sec

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# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | | |
| Sample ID: | 90125-2.7/97 | Date Sampled: | 07/30/97 |
| Laboratory ID: | C97-42002 | Date Received: | 08/01/97 |
| Matrix: | Water | Date Analyzed: | 08/04/97 |
| Dilution Factor: | 2 | Date Reported: | August 19, 1997 |

MW-2

| 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** | **1.88** | **J** | 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** | **10.1** | | 2.0 |
| 74-95-3 | Dibromomethane | ND | | 2.0 |
| 78-87-5 | 1,2 - Dichloropropane | ND | | 2.0 |
| **79-01-6** | **Trichloroethene** | **9.06** | | 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** | **49.7** | | 2.0 |
| 630-20-6 | 1,1,1,2 - Tetrachloroethane | ND | | 2.0 |
| 108-90-7 | Chlorobenzene | ND | | 2.0 |
| **100-41-4** | **Ethylbenzene** | **44.8** | | 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 - This flag indicates an estimated value for an analyte at less than the stated limit of detection***

# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | Date Sampled: | 07/30/97 |
| Sample ID: | 90125-2.7/97 | Date Analyzed: | 08/04/97 |
| Laboratory ID: | C97-42002 | Date Reported: | August 19, 1997 |

| C.A.S. # | TARGET COMPOUNDS | CONCENTRATION (µg/L) | LIMIT OF DETECTION (µg/L) |
|---|---|---|---|
| **98-82-8** | **Isopropylbenzene (1-Methylethylbenzene)** | **5.90** | 2.0 |
| 108-86-1 | Bromobenzene | ND | 2.0 |
| **103-65-1** | **n - Propylbenzene** | **9.16** | 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** | **9.46** | 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 - This flag indicates an estimated value for an analyte at less than the stated limit of detection***

***RUNTIME QUALITY ASSURANCE REPORT***

| INTERNAL STANDARDS | AREA | ICAL / CCAL AREA | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|---|
| Pentafluorobenzene | 1102276 | 1040689 | 106% | 50 - 200 % |
| Fluorobenzene | 2098578 | 1904896 | 110% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1911419 | 1795782 | 106% | 50 - 200 % |
| Chlorobenzene - d5 | 1455471 | 1334623 | 109% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 636278 | 580465 | 110% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.30 | 93.0% | 86 - 118 % |
| Toluene - d8 | 10.4 | 104% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.1 | 101% | 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

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Reviewed: sec

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## EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | | |
| Sample ID: | 90125-3.7/97 | Date Sampled: | 07/30/97 |
| Laboratory ID: | C97-42003 | Date Received: | 08/01/97 |
| Matrix: | Water | Date Analyzed: | 08/04/97 |
| Dilution Factor: | 10 | Date Reported: | August 19, 1997 |

MW-3

| 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** | **43.3** | 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** | **56.9** | 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** | **18.6** | 10.0 |
| 74-95-3 | Dibromomethane | ND | 10.0 |
| 78-87-5 | 1,2 - Dichloropropane | ND | 10.0 |
| **79-01-6** | **Trichloroethene** | **103** | 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** | **34.5** | 10.0 |
| 630-20-6 | 1,1,1,2 - Tetrachloroethane | ND | 10.0 |
| 108-90-7 | Chlorobenzene | ND | 10.0 |
| **100-41-4** | **Ethylbenzene** | **177** | 10.0 |
| **108-38-3** | **m,p - Xylenes (1,3- & 1,4-Dimethylbenzene)** | **299** | 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)** | **345** | 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** | Date Sampled: | 07/30/97 |
| Sample ID: | 90125-3.7/97 | Date Analyzed: | 08/04/97 |
| Laboratory ID: | C97-42003 | Date Reported: | August 19, 1997 |

| C.A.S. # | TARGET COMPOUNDS | CONCENTRATION (µg/L) | LIMIT OF DETECTION (µg/L) |
|---|---|---|---|
| **98-82-8** | **Isopropylbenzene (1-Methylethylbenzene)** | **200** | 10.0 |
| 108-86-1 | Bromobenzene | ND | 10.0 |
| **103-65-1** | **n - Propylbenzene** | **230** | 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** | **932** | 10.0 |
| **98-06-6** | **tert - Butylbenzene** | **143** | 10.0 |
| **95-63-6** | **1,2,4 - Trimethylbenzene** | **1,090** | 10.0 |
| **135-98-8** | **sec - Butylbenzene** | **53.6** | 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** | **65.8** | 10.0 |
| 95-50-1 | 1,2 - Dichlorobenzene | ND | 10.0 |
| **104-51-8** | **n - Butylbenzene** | **82.3** | 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** | **165** | 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***

| INTERNAL STANDARDS | AREA | ICAL / CCAL AREA | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|---|
| Pentafluorobenzene | 1105595 | 1040689 | 106% | 50 - 200 % |
| Fluorobenzene | 2107108 | 1904896 | 111% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1928405 | 1795782 | 107% | 50 - 200 % |
| Chlorobenzene - d5 | 1451696 | 1334623 | 109% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 620060 | 580465 | 107% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.40 | 94.0% | 86 - 118 % |
| Toluene - d8 | 10.3 | 103% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.0 | 100% | 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

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Reviewed: sec

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# EPA METHOD 8260

Client: **Western Water Consultants**
Sample ID: 90125-4.7/97 MW-4
Laboratory ID: C97-42004
Matrix: Water
Dilution Factor: 1

Date Sampled: 07/30/97
Date Received: 08/01/97
Date Analyzed: 08/04/97
Date Reported: August 19, 1997

| 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: 90125-4.7/97
Laboratory ID: C97-42004

Mw-4

Date Sampled: 07/30/97
Date Analyzed: 08/04/97
Date Reported: August 19, 1997

| 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 | 943592 | 1040689 | 90.7% | 50 - 200 % |
| Fluorobenzene | 1948761 | 1904896 | 102% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1760553 | 1795782 | 98.0% | 50 - 200 % |
| Chlorobenzene - d5 | 1340473 | 1334623 | 100% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 573651 | 580465 | 98.8% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 10.2 | 102% | 86 - 118 % |
| Toluene - d8 | 10.4 | 104% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.3 | 103% | 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** | | |
| Sample ID: | 90125-5.7/97 | Date Sampled: | 07/30/97 |
| Laboratory ID: | C97-42005 | Date Received: | 08/01/97 |
| Matrix: | Water | Date Analyzed: | 08/04/97 |
| Dilution Factor: | 2 | Date Reported: | August 19, 1997 |

MW-5

| 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** | **1.68** | **J** | 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** | **18.2** | | 2.0 |
| 74-95-3 | Dibromomethane | ND | | 2.0 |
| 78-87-5 | 1,2 - Dichloropropane | ND | | 2.0 |
| **79-01-6** | **Trichloroethene** | **3.40** | | 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** | **28.9** | | 2.0 |
| 630-20-6 | 1,1,1,2 - Tetrachloroethane | ND | | 2.0 |
| 108-90-7 | Chlorobenzene | ND | | 2.0 |
| **100-41-4** | **Ethylbenzene** | **43.7** | | 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 - This flag indicates an estimated value for an analyte at less than the stated limit of detection***

## EPA METHOD 8260

Client: **Western Water Consultants** MW-5
Sample ID: 90125-5.7/97
Laboratory ID: C97-42005

Date Sampled: 07/30/97
Date Analyzed: 08/04/97
Date Reported: August 19, 1997

| C.A.S. # | TARGET COMPOUNDS | CONCENTRATION (µg/L) | LIMIT OF DETECTION (µg/L) |
|---|---|---|---|
| **98-82-8** | **Isopropylbenzene (1-Methylethylbenzene)** | **6.72** | 2.0 |
| 108-86-1 | Bromobenzene | ND | 2.0 |
| **103-65-1** | **n - Propylbenzene** | **12.8** | 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** | **5.50** | 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 - This flag indicates an estimated value for an analyte at less than the stated limit of detection***

*RUNTIME QUALITY ASSURANCE REPORT*

| INTERNAL STANDARDS | AREA | ICAL / CCAL AREA | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|---|
| Pentafluorobenzene | 1145375 | 1040689 | 110% | 50 - 200 % |
| Fluorobenzene | 2144288 | 1904896 | 113% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1989411 | 1795782 | 111% | 50 - 200 % |
| Chlorobenzene - d5 | 1468473 | 1334623 | 110% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 633111 | 580465 | 109% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.19 | 91.9% | 86 - 118 % |
| Toluene - d8 | 10.0 | 100% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.93 | 99.3% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 10.0 | 100% | 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

Report File: F:\REPORTS\CLIENTS.97\WEST_WAT.ER\ORGANIC.CAS\97_42001.xls

Analyst: yw
Reviewed: sec

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# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | | |
| Sample ID: | 90125-6.7/97 | Date Sampled: | 07/30/97 |
| Laboratory ID: | C97-42006 | Date Received: | 08/01/97 |
| Matrix: | Water | Date Analyzed: | 08/04/97 |
| Dilution Factor: | 2 | Date Reported: | August 19, 1997 |

MW-6

| 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** | **16.4** | 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** | **6.06** | 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** | **8.34** | 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** | Date Sampled: | 07/30/97 |
| Sample ID: | 90125-6.7/97 | Date Analyzed: | 08/04/97 |
| Laboratory ID: | C97-42006 | Date Reported: | August 19, 1997 |

MW-6

| *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 | 1202703 | 1040689 | 116% | 50 - 200 % |
| Fluorobenzene | 2200654 | 1904896 | 116% | 50 - 200 % |
| 1,4 - Difluorobenzene | 2073893 | 1795782 | 115% | 50 - 200 % |
| Chlorobenzene - d5 | 1499232 | 1334623 | 112% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 646354 | 580465 | 111% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.12 | 91.2% | 86 - 118 % |
| Toluene - d8 | 10.1 | 101% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.77 | 97.7% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.95 | 99.5% | 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

Report File: F:\REPORTS\CLIENTS.97\WEST_WAT.ER\ORGANIC.CAS\97_42001.xls

Analyst: yw
Reviewed: sec

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## EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | | |
| Sample ID: | 90125-7.7/97 | Date Sampled: | 07/30/97 |
| Laboratory ID: | C97-42007 | Date Received: | 08/01/97 |
| Matrix: | Water | Date Analyzed: | 08/04/97 |
| Dilution Factor: | 10 | Date Reported: | August 19, 1997 |

MW-7

| 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** | **236** | | 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** | **22.7** | | 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** | **4.50** | J | 10.0 |
| 74-95-3 | Dibromomethane | ND | | 10.0 |
| 78-87-5 | 1,2 - Dichloropropane | ND | | 10.0 |
| **79-01-6** | **Trichloroethene** | **19.2** | | 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** | **255** | | 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***

***J - This flag indicates an estimated value for an analyte at less than the stated limit of detection***

## EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | Date Sampled: | 07/30/97 |
| Sample ID: | 90125-7.7/97 | Date Analyzed: | 08/04/97 |
| Laboratory ID: | C97-42007 | Date Reported: | August 19, 1997 |

MW-7

| 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***

***J - This flag indicates an estimated value for an analyte at less than the stated limit of detection***

***RUNTIME QUALITY ASSURANCE REPORT***

| INTERNAL STANDARDS | AREA | ICAL / CCAL AREA | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|---|
| Pentafluorobenzene | 1170023 | 1040689 | 112% | 50 - 200 % |
| Fluorobenzene | 2117218 | 1904896 | 111% | 50 - 200 % |
| 1,4 - Difluorobenzene | 2007818 | 1795782 | 112% | 50 - 200 % |
| Chlorobenzene - d5 | 1433770 | 1334623 | 107% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 612987 | 580465 | 106% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 8.93 | 89.3% | 86 - 118 % |
| Toluene - d8 | 9.99 | 99.9% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.66 | 96.6% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.94 | 99.4% | 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

Report File: F:\REPORTS\CLIENTS.97\WEST_WAT.ER\ORGANIC.CAS\97_42001.xls

Analyst: yw
Reviewed: sec

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# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | | |
| Sample ID: | 90125-8.7/97 | Date Sampled: | 07/30/97 |
| Laboratory ID: | C97-42008 | Date Received: | 08/01/97 |
| Matrix: | Water | Date Analyzed: | 08/04/97 |
| Dilution Factor: | 2 | Date Reported: | August 19, 1997 |

MW-8

| 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** | **105** | | 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** | **11.5** | | 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** | **0.84** | J | 2.0 |
| 74-95-3 | Dibromomethane | ND | | 2.0 |
| 78-87-5 | 1,2 - Dichloropropane | ND | | 2.0 |
| **79-01-6** | **Trichloroethene** | **15.1** | | 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** | **48.4** | | 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 - This flag indicates an estimated value for an analyte at less than the stated limit of detection***

# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | Date Sampled: | 07/30/97 |
| Sample ID: | 90125-8.7/97 | Date Analyzed: | 08/04/97 |
| Laboratory ID: | C97-42008 | Date Reported: | August 19, 1997 |

| 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 - This flag indicates an estimated value for an analyte at less than the stated limit of detection***

*RUNTIME QUALITY ASSURANCE REPORT*

| INTERNAL STANDARDS | AREA | ICAL / CCAL AREA | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|---|
| Pentafluorobenzene | 1147433 | 1040689 | 110% | 50 - 200 % |
| Fluorobenzene | 2052213 | 1904896 | 108% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1977300 | 1795782 | 110% | 50 - 200 % |
| Chlorobenzene - d5 | 1421352 | 1334623 | 106% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 602090 | 580465 | 104% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.01 | 90.1% | 86 - 118 % |
| Toluene - d8 | 10.0 | 100% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.52 | 95.2% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 10.0 | 100% | 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

Report File: F:\REPORTS\CLIENTS.97\WEST_WAT.ER\ORGANIC.CAS\97_42001.xls

Analyst: yw
Reviewed: sec

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## EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | | |
| Sample ID: | 90125-B.7/97 | Date Sampled: | 07/30/97 |
| Laboratory ID: | C97-42030 | Date Received: | 08/01/97 |
| Matrix: | Water | Date Analyzed: | 08/04/97 |
| Dilution Factor: | 2 | Date Reported: | August 19, 1997 |

Duplicate of MW-8

| 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** | **106** | | 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** | **11.2** | | 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** | **1.80** | J | 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** | **15.4** | | 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** | **54.8** | | 2.0 |
| 630-20-6 | 1,1,1,2 - Tetrachloroethane | ND | | 2.0 |
| 108-90-7 | Chlorobenzene | ND | | 2.0 |
| 100-41-4 | Ethylbenzene | 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 - This flag indicates an estimated value for an analyte at less than the stated limit of detection***

# EPA METHOD 8260

Client: **Western Water Consultants**
Sample ID: 90125-B.7/97
Laboratory ID: C97-42030

Duplicate of MW-5

Date Sampled: 07/30/97
Date Analyzed: 08/04/97
Date Reported: August 19, 1997

| 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 - This flag indicates an estimated value for an analyte at less than the stated limit of detection***

***RUNTIME QUALITY ASSURANCE REPORT***

| INTERNAL STANDARDS | AREA | ICAL / CCAL AREA | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|---|
| Pentafluorobenzene | 946032 | 1040689 | 90.9% | 50 - 200 % |
| Fluorobenzene | 1687706 | 1904896 | 88.6% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1652302 | 1795782 | 92.0% | 50 - 200 % |
| Chlorobenzene - d5 | 1211733 | 1334623 | 90.8% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 485984 | 580465 | 83.7% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 8.83 | 88.3% | 86 - 118 % |
| Toluene - d8 | 10.2 | 102% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.32 | 93.2% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.84 | 98.4% | 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

Report File: F:\REPORTS\CLIENTS.97\WEST_WAT.ER\ORGANIC.CAS\97_42001.xls

Analyst: yw
Reviewed: sec

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# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | | |
| Sample ID: | 90125-9.7/97 MW-9 | Date Sampled: | 07/30/97 |
| Laboratory ID: | C97-42009 | Date Received: | 08/01/97 |
| Matrix: | Water | Date Analyzed: | 08/04/97 |
| Dilution Factor: | 2 | Date Reported: | August 19, 1997 |

| 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** | **1.22** | **J** | 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** | **19.7** | | 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** | **1.22** | **J** | 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 - This flag indicates an estimated value for an analyte at less than the stated limit of detection***

# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | Date Sampled: | 07/30/97 |
| Sample ID: | 90125-9.7/97 | Date Analyzed: | 08/04/97 |
| Laboratory ID: | C97-42009 | Date Reported: | August 19, 1997 |

| 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** | **4.16** | 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 - This flag indicates an estimated value for an analyte at less than the stated limit of detection***

*RUNTIME QUALITY ASSURANCE REPORT*

| INTERNAL STANDARDS | AREA | ICAL / CCAL AREA | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|---|
| Pentafluorobenzene | 1145374 | 1040689 | 110% | 50 - 200 % |
| Fluorobenzene | 2060158 | 1904896 | 108% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1953948 | 1795782 | 109% | 50 - 200 % |
| Chlorobenzene - d5 | 1407220 | 1334623 | 105% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 604623 | 580465 | 104% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.19 | 91.9% | 86 - 118 % |
| Toluene - d8 | 9.94 | 99.4% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.72 | 97.2% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.89 | 98.9% | 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**
Sample ID: 90125-10.7/97 MW-10
Laboratory ID: C97-42010
Matrix: Water
Dilution Factor: 5

Date Sampled: 07/30/97
Date Received: 08/01/97
Date Analyzed: 08/04/97
Date Reported: August 19, 1997

| 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** | **156** | | 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** | **3.60** | 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 | ND | | 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 - This flag indicates an estimated value for an analyte at less than the stated limit of detection***

# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | Date Sampled: | 07/30/97 |
| Sample ID: | 90125-10.7/97 | Date Analyzed: | 08/04/97 |
| Laboratory ID: | C97-42010 | Date Reported: | August 19, 1997 |

| 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 | 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 - This flag indicates an estimated value for an analyte at less than the stated limit of detection***

*RUNTIME QUALITY ASSURANCE REPORT*

| INTERNAL STANDARDS | AREA | ICAL / CCAL AREA | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|---|
| Pentafluorobenzene | 1127728 | 1040689 | 108% | 50 - 200 % |
| Fluorobenzene | 1990942 | 1904896 | 105% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1917324 | 1795782 | 107% | 50 - 200 % |
| Chlorobenzene - d5 | 1358177 | 1334623 | 102% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 555503 | 580465 | 95.7% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.38 | 93.8% | 86 - 118 % |
| Toluene - d8 | 10.1 | 101% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.31 | 93.1% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.69 | 96.9% | 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

Report File: F:\REPORTS\CLIENTS.97\WEST_WAT.ER\ORGANIC.CAS\97_42001.xls

Analyst: yw
Reviewed: sec

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# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | | |
| Sample ID: | 90125-11.7/97 MW-11 | Date Sampled: | 07/30/97 |
| Laboratory ID: | C97-42011 | Date Received: | 08/01/97 |
| Matrix: | Water | Date Analyzed: | 08/04/97 |
| Dilution Factor: | 5 | Date Reported: | August 19, 1997 |

| 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** | **102** | 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** | **31.6** | 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** | **6.10** | 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** | **31.5** | 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** | **170** | 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** | Date Sampled: | 07/30/97 |
| Sample ID: | 90125-11.7/97 MW-11 | Date Analyzed: | 08/04/97 |
| Laboratory ID: | C97-42011 | Date Reported: | August 19, 1997 |

| *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 | 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***

***RUNTIME QUALITY ASSURANCE REPORT***

| INTERNAL STANDARDS | AREA | ICAL / CCAL AREA | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|---|
| Pentafluorobenzene | 1097455 | 1040689 | 105% | 50 - 200 % |
| Fluorobenzene | 1928488 | 1904896 | 101% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1862779 | 1795782 | 104% | 50 - 200 % |
| Chlorobenzene - d5 | 1321282 | 1334623 | 99.0% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 541167 | 580465 | 93.2% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.33 | 93.3% | 86 - 118 % |
| Toluene - d8 | 10.1 | 101% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.30 | 93.0% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.67 | 96.7% | 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** | | |
| Sample ID: | 90125-12.7/97 | Date Sampled: | 07/30/97 |
| Laboratory ID: | C97-42012 | Date Received: | 08/01/97 |
| Matrix: | Water | Date Analyzed: | 08/04/97 |
| Dilution Factor: | 20 | Date Reported: | August 19, 1997 |

| C.A.S. # | TARGET COMPOUNDS | CONCENTRATION (µg/L) | LIMIT OF DETECTION (µg/L) |
|---|---|---|---|
| 75-71-8 | Dichlorodifluoromethane | ND | 20.0 |
| 74-87-3 | Chloromethane | ND | 20.0 |
| 75-01-4 | Vinyl chloride (Chloroethene) | ND | 20.0 |
| 74-83-9 | Bromomethane | ND | 20.0 |
| 75-00-3 | Chloroethane | ND | 20.0 |
| 75-69-4 | Trichlorofluoromethane | ND | 20.0 |
| **75-35-4** | **1,1 - Dichloroethene** | **35.4** | 20.0 |
| 75-09-2 | Methylene chloride (Dichloromethane) | ND | 20.0 |
| 156-60-5 | trans - 1, 2 - Dichloroethene | ND | 20.0 |
| **75-34-3** | **1,1 - Dichloroethane** | **136** | 20.0 |
| 78-93-3 | 2 -Butanone (MEK) | ND | 200 |
| 156-59-2 | cis - 1,2 - Dichloroethene | ND | 20.0 |
| 74-97-5 | Bromochloromethane | ND | 20.0 |
| 67-66-3 | Chloroform (Trichloromethane) | ND | 20.0 |
| 594-20-7 | 2,2 - Dichloropropane | ND | 20.0 |
| **71-55-6** | **1,1,1 - Trichloroethane** | **62.4** | 20.0 |
| 107-06-2 | 1,2 - Dichloroethane | ND | 20.0 |
| 563-58-6 | 1,1 - Dichloropropene | ND | 20.0 |
| 56-23-5 | Carbon tetrachloride (Tetrachloromethane) | ND | 20.0 |
| **71-43-2** | **Benzene** | **89.6** | 20.0 |
| 74-95-3 | Dibromomethane | ND | 20.0 |
| 78-87-5 | 1,2 - Dichloropropane | ND | 20.0 |
| **79-01-6** | **Trichloroethene** | **35.8** | 20.0 |
| 75-27-4 | Bromodichloromethane | ND | 20.0 |
| 10061-01-5 | cis - 1,3 - Dichloropropene | ND | 20.0 |
| 10061-02-6 | trans - 1,3 - Dichloropropene | ND | 20.0 |
| 79-00-5 | 1,1,2 - Trichloroethane | ND | 20.0 |
| **108-88-3** | **Toluene** | **127** | 20.0 |
| 106-93-4 | 1,2 - Dibromoethane | ND | 20.0 |
| 142-28-9 | 1,3 - Dichloropropane | ND | 20.0 |
| 124-48-1 | Dibromochloromethane | ND | 20.0 |
| **127-18-4** | **Tetrachloroethene** | **42.8** | 20.0 |
| 630-20-6 | 1,1,1,2 - Tetrachloroethane | ND | 20.0 |
| 108-90-7 | Chlorobenzene | ND | 20.0 |
| **100-41-4** | **Ethylbenzene** | **969** | 20.0 |
| **108-38-3** | **m,p - Xylenes (1,3- & 1,4-Dimethylbenzene)** | **654** | 40.0 |
| 75-25-2 | Bromoform (Tribromomethane) | ND | 20.0 |
| 100-42-5 | Styrene (Ethenylbenzene) | ND | 20.0 |
| **95-47-6** | **o - Xylene (1,2-Dimethylbenzene)** | **1,640** | 20.0 |
| 79-34-5 | 1,1,2,2 - Tetrachloroethane | ND | 20.0 |
| 96-18-4 | 1,2,3 - Trichloropropane | ND | 20.0 |

***ND - Analyte not detected at stated limit of detection***

***J - This flag indicates an estimated value for an analyte at less than the stated limit of detection***

# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | Date Sampled: | 07/30/97 |
| Sample ID: | 90125-12.7/97 | Date Analyzed: | 08/04/97 |
| Laboratory ID: | C97-42012 | Date Reported: | August 19, 1997 |

MW-12

| C.A.S. # | TARGET COMPOUNDS | CONCENTRATION (µg/L) | | LIMIT OF DETECTION (µg/L) |
|---|---|---|---|---|
| **98-82-8** | **Isopropylbenzene (1-Methylethylbenzene)** | **588** | | 20.0 |
| 108-86-1 | Bromobenzene | ND | | 20.0 |
| **103-65-1** | **n - Propylbenzene** | **1,020** | | 20.0 |
| 95-49-8 | 2 - Chlorotoluene | ND | | 20.0 |
| 106-43-4 | 4 - Chlorotoluene | ND | | 20.0 |
| 108-67-8 | 1,3,5 - Trimethylbenzene | ND | | 20.0 |
| **98-06-6** | **tert - Butylbenzene** | **319** | | 20.0 |
| **95-63-6** | **1,2,4 - Trimethylbenzene** | **2,360** | | 20.0 |
| **135-98-8** | **sec - Butylbenzene** | **28.8** | | 20.0 |
| 541-73-1 | 1,3 - Dichlorobenzene | ND | | 20.0 |
| 106-46-7 | 1,4 - Dichlorobenzene | ND | | 20.0 |
| **99-87-6** | **4-Isopropyltoluene** | **19.8** | J | 20.0 |
| 95-50-1 | 1,2 - Dichlorobenzene | ND | | 20.0 |
| **104-51-8** | **n - Butylbenzene** | **27.2** | | 20.0 |
| 96-12-8 | 1,2 - Dibromo - 3 - chloropropane | ND | | 100 |
| 120-82-1 | 1,2,4 - Trichlorobenzene | ND | | 20.0 |
| **91-20-3** | **Naphthalene** | **282** | | 20.0 |
| 87-68-3 | Hexachlorobutadiene | ND | | 20.0 |
| 87-61-6 | 1,2 3 - Trichlorobenzene | ND | | 20.0 |

***ND - Analyte not detected at stated limit of detection***

***J - This flag indicates an estimated value for an analyte at less than the stated limit of detection***

***RUNTIME QUALITY ASSURANCE REPORT***

| INTERNAL STANDARDS | AREA | ICAL / CCAL AREA | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|---|
| Pentafluorobenzene | 1053183 | 1040689 | 101% | 50 - 200 % |
| Fluorobenzene | 1866161 | 1904896 | 98.0% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1790145 | 1795782 | 99.7% | 50 - 200 % |
| Chlorobenzene - d5 | 1292195 | 1334623 | 96.8% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 545165 | 580465 | 93.9% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.32 | 93.2% | 86 - 118 % |
| Toluene - d8 | 10.3 | 103% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.37 | 93.7% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.77 | 97.7% | 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**
Sample ID: 90125-13 7/97 MW-13
Laboratory ID: C97-42013
Matrix: Water
Dilution Factor: 1

Date Sampled: 07/30/97
Date Received: 08/01/97
Date Analyzed: 08/04/97
Date Reported: August 19, 1997

| 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** | **3.65** | 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** | **1.00** | 1.0 |
| 74-95-3 | Dibromomethane | ND | 1.0 |
| 78-87-5 | 1,2 - Dichloropropane | ND | 1.0 |
| **79-01-6** | **Trichloroethene** | **6.75** | 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** | **8.77** | 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 - This flag indicates an estimated value for an analyte at less than the stated limit of detection***

# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | Date Sampled: | 07/30/97 |
| Sample ID: | 90125-13.7/97 | Date Analyzed: | 08/04/97 |
| Laboratory ID: | C97-42013 | Date Reported: | August 19, 1997 |

MW-13

| C.A.S. # | TARGET COMPOUNDS | CONCENTRATION (µg/L) | | LIMIT OF DETECTION (µg/L) |
|---|---|---|---|---|
| **98-82-8** | **Isopropylbenzene (1-Methylethylbenzene)** | **0.94** | **J** | 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** | **3.45** | | 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 - This flag indicates an estimated value for an analyte at less than the stated limit of detection***

***RUNTIME QUALITY ASSURANCE REPORT***

| INTERNAL STANDARDS | AREA | ICAL / CCAL AREA | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|---|
| Pentafluorobenzene | 1064952 | 1040689 | 102% | 50 - 200 % |
| Fluorobenzene | 1890441 | 1904896 | 99.2% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1851062 | 1795782 | 103% | 50 - 200 % |
| Chlorobenzene - d5 | 1338389 | 1334623 | 100% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 551115 | 580465 | 94.9% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 8.75 | 87.5% | 86 - 118 % |
| Toluene - d8 | 10.3 | 103% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.43 | 94.3% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.92 | 99.2% | 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

Report File: F:\REPORTS\CLIENTS.97\WEST_WAT.ER\ORGANIC.CAS\97_42001.xls

Analyst: yw
Reviewed: sec

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# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | | |
| Sample ID: | 90125-14.7/97 MW-14 | Date Sampled: | 07/30/97 |
| Laboratory ID: | C97-42014 | Date Received: | 08/01/97 |
| Matrix: | Water | Date Analyzed: | 08/04/97 |
| Dilution Factor: | 5 | Date Reported: | August 19, 1997 |

| 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** | **21.2** | 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** | **35.8** | 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 | 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** | **43.0** | 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** | Date Sampled: | 07/30/97 |
| Sample ID: | 90125-14.7/97 MW-14 | Date Analyzed: | 08/04/97 |
| Laboratory ID: | C97-42014 | Date Reported: | August 19, 1997 |

| *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 | 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***

***RUNTIME QUALITY ASSURANCE REPORT***

| INTERNAL STANDARDS | AREA | ICAL / CCAL AREA | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|---|
| Pentafluorobenzene | 1049531 | 1040689 | 101% | 50 - 200 % |
| Fluorobenzene | 1874843 | 1904896 | 98.4% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1794843 | 1795782 | 99.9% | 50 - 200 % |
| Chlorobenzene - d5 | 1284336 | 1334623 | 96.2% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 518548 | 580465 | 89.3% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.43 | 94.3% | 86 - 118 % |
| Toluene - d8 | 10.2 | 102% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.22 | 92.2% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.71 | 97.1% | 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

MW-13

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | | |
| Sample ID: | 90125-15.7/97 | Date Sampled: | 07/30/97 |
| Laboratory ID: | C97-42015 | Date Received: | 08/01/97 |
| Matrix: | Water | Date Analyzed: | 08/04/97 |
| Dilution Factor: | 1 | Date Reported: | August 19, 1997 |

| *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** | **0.68** | J | 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** | **4.88** | | 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***

***J - This flag indicates an estimated value for an analyte at less than the stated limit of detection***

## EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | Date Sampled: | 07/30/97 |
| Sample ID: | 90125-15.7/97 MW-15 | Date Analyzed: | 08/04/97 |
| Laboratory ID: | C97-42015 | Date Reported: | August 19, 1997 |

| 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***

***J - This flag indicates an estimated value for an analyte at less than the stated limit of detection***

*RUNTIME QUALITY ASSURANCE REPORT*

| INTERNAL STANDARDS | AREA | ICAL / CCAL AREA | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|---|
| Pentafluorobenzene | 1112527 | 1040689 | 107% | 50 - 200 % |
| Fluorobenzene | 1978624 | 1904896 | 104% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1911509 | 1795782 | 106% | 50 - 200 % |
| Chlorobenzene - d5 | 1364903 | 1334623 | 102% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 560567 | 580465 | 96.6% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.45 | 94.5% | 86 - 118 % |
| Toluene - d8 | 10.1 | 101% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.27 | 92.7% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.83 | 98.3% | 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

Mw-17D

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | | |
| Sample ID: | 90125-17D.7/97 | Date Sampled: | 07/30/97 |
| Laboratory ID: | C97-42019 | Date Received: | 08/01/97 |
| Matrix: | Water | Date Analyzed: | 08/04/97 |
| Dilution Factor: | 2 | Date Reported: | August 19, 1997 |

| 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** | **12.8** | | 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** | **28.6** | | 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** | **1.54** | J | 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** | **2.90** | | 2.0 |
| 74-95-3 | Dibromomethane | ND | | 2.0 |
| 78-87-5 | 1,2 - Dichloropropane | ND | | 2.0 |
| **79-01-6** | **Trichloroethene** | **28.2** | | 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** | **18.0** | | 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***

***J - This flag indicates an estimated value for an analyte at less than the stated limit of detection***

## EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | Date Sampled: | 07/30/97 |
| Sample ID: | 90125-17D.7/97 | Date Analyzed: | 08/04/97 |
| Laboratory ID: | C97-42019 | Date Reported: | August 19, 1997 |

MW-17D

| C.A.S. # | TARGET COMPOUNDS | CONCENTRATION (µg/L) | | LIMIT OF DETECTION (µg/L) |
|---|---|---|---|---|
| **98-82-8** | **Isopropylbenzene (1-Methylethylbenzene)** | **29.3** | | 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** | **5.40** | | 2.0 |
| **135-98-8** | **sec - Butylbenzene** | **8.66** | | 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** | **1.32** | J | 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** | **1.06** | J | 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 - This flag indicates an estimated value for an analyte at less than the stated limit of detection***

*RUNTIME QUALITY ASSURANCE REPORT*

| INTERNAL STANDARDS | AREA | ICAL / CCAL AREA | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|---|
| Pentafluorobenzene | 1069906 | 1040689 | 103% | 50 - 200 % |
| Fluorobenzene | 1874020 | 1904896 | 98.4% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1849745 | 1795782 | 103% | 50 - 200 % |
| Chlorobenzene - d5 | 1316507 | 1334623 | 98.6% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 543075 | 580465 | 93.6% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.63 | 96.3% | 86 - 118 % |
| Toluene - d8 | 10.2 | 102% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.33 | 93.3% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.91 | 99.1% | 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

MW-17A

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | | |
| Sample ID: | 90125-17A.7/97 | Date Sampled: | 07/30/97 |
| Laboratory ID: | C97-42016 | Date Received: | 08/01/97 |
| Matrix: | Water | Date Analyzed: | 08/04/97 |
| Dilution Factor: | 5 | Date Reported: | August 19, 1997 |

| 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** | **45.3** | | 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** | **51.1** | | 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** | **3.80** | 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** | **4.35** | J | 5.0 |
| 74-95-3 | Dibromomethane | ND | | 5.0 |
| 78-87-5 | 1,2 - Dichloropropane | ND | | 5.0 |
| **79-01-6** | **Trichloroethene** | **45.2** | | 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** | **61.5** | | 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 - This flag indicates an estimated value for an analyte at less than the stated limit of detection***

# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | Date Sampled: | 07/30/97 |
| Sample ID: | 90125-17A.7/97 | Date Analyzed: | 08/04/97 |
| Laboratory ID: | C97-42016 | Date Reported: | August 19, 1997 |

MW-17A

| C.A.S. # | TARGET COMPOUNDS | CONCENTRATION (µg/L) | LIMIT OF DETECTION (µg/L) |
|---|---|---|---|
| **98-82-8** | **Isopropylbenzene (1-Methylethylbenzene)** | **7.30** | 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** | **8.80** | 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 | 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 - This flag indicates an estimated value for an analyte at less than the stated limit of detection***

***RUNTIME QUALITY ASSURANCE REPORT***

| INTERNAL STANDARDS | AREA | ICAL / CCAL AREA | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|---|
| Pentafluorobenzene | 1098378 | 1040689 | 106% | 50 - 200 % |
| Fluorobenzene | 1907376 | 1904896 | 100% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1870092 | 1795782 | 104% | 50 - 200 % |
| Chlorobenzene - d5 | 1337461 | 1334623 | 100% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 554625 | 580465 | 95.5% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.62 | 96.2% | 86 - 118 % |
| Toluene - d8 | 10.1 | 101% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.29 | 92.9% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.89 | 98.9% | 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

Report File: F:\REPORTS\CLIENTS.97\WEST_WAT.ER\ORGANIC.CAS\97_42001.xls

Analyst: yw
Reviewed: sec

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## EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | | |
| Sample ID: | 90125-17B.7/97 | Date Sampled: | 07/30/97 |
| Laboratory ID: | C97-42017 | Date Received: | 08/01/97 |
| Matrix: | Water | Date Analyzed: | 08/04/97 |
| Dilution Factor: | 5 | Date Reported: | August 19, 1997 |

MW-17B

| 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** | **80.0** | | 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** | **25.7** | | 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** | **3.50** | 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** | **17.0** | | 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** | **141** | | 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 - This flag indicates an estimated value for an analyte at less than the stated limit of detection***

# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | Date Sampled: | 07/30/97 |
| Sample ID: | 90125-17B.7/97 | Date Analyzed: | 08/04/97 |
| Laboratory ID: | C97-42017 | Date Reported: | August 19, 1997 |

MW-17B

| 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 | 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 - This flag indicates an estimated value for an analyte at less than the stated limit of detection***

***RUNTIME QUALITY ASSURANCE REPORT***

| INTERNAL STANDARDS | AREA | ICAL / CCAL AREA | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|---|
| Pentafluorobenzene | 1087401 | 1040689 | 104% | 50 - 200 % |
| Fluorobenzene | 1904942 | 1904896 | 100% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1857441 | 1795782 | 103% | 50 - 200 % |
| Chlorobenzene - d5 | 1339380 | 1334623 | 100% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 555261 | 580465 | 95.7% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.81 | 98.1% | 86 - 118 % |
| Toluene - d8 | 10.1 | 101% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.41 | 94.1% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.81 | 98.1% | 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

Report File: F:\REPORTS\CLIENTS.97\WEST_WAT.ER\ORGANIC.CAS\97_42001.xls

Analyst: yw
Reviewed: sec

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## EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | | |
| Sample ID: | 90125-17C.7/97 | Date Sampled: | 07/30/97 |
| Laboratory ID: | C97-42018 | Date Received: | 08/01/97 |
| Matrix: | Water | Date Analyzed: | 08/04/97 |
| Dilution Factor: | 5 | Date Reported: | August 19, 1997 |

MW-17C

| 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)** | **3.95** | **J** | 5.0 |
| 74-83-9 | Bromomethane | ND | | 5.0 |
| **75-00-3** | **Chloroethane** | **2.40** | **J** | 5.0 |
| 75-69-4 | Trichlorofluoromethane | ND | | 5.0 |
| **75-35-4** | **1,1 - Dichloroethene** | **92.8** | | 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** | **42.8** | | 5.0 |
| 78-93-3 | 2 -Butanone (MEK) | ND | | 50.0 |
| **156-59-2** | **cis - 1,2 - Dichloroethene** | **5.05** | | 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** | **2.25** | **J** | 5.0 |
| 563-58-6 | 1,1 - Dichloropropene | ND | | 5.0 |
| 56-23-5 | Carbon tetrachloride (Tetrachloromethane) | ND | | 5.0 |
| **71-43-2** | **Benzene** | **10.1** | | 5.0 |
| 74-95-3 | Dibromomethane | ND | | 5.0 |
| 78-87-5 | 1,2 - Dichloropropane | ND | | 5.0 |
| **79-01-6** | **Trichloroethene** | **96.5** | | 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** | **10.1** | | 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 - This flag indicates an estimated value for an analyte at less than the stated limit of detection***

# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | Date Sampled: | 07/30/97 |
| Sample ID: | 90125-17C.7/97 | Date Analyzed: | 08/04/97 |
| Laboratory ID: | C97-42018 | Date Reported: | August 19, 1997 |

MW-17C

| C.A.S. # | TARGET COMPOUNDS | CONCENTRATION (µg/L) | | LIMIT OF DETECTION (µg/L) |
|---|---|---|---|---|
| **98-82-8** | **Isopropylbenzene (1-Methylethylbenzene)** | **5.25** | | 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** | **4.05** | | 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** | **1.10** | J | 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 - This flag indicates an estimated value for an analyte at less than the stated limit of detection***

***RUNTIME QUALITY ASSURANCE REPORT***

| INTERNAL STANDARDS | AREA | ICAL / CCAL AREA | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|---|
| Pentafluorobenzene | 1065844 | 1040689 | 102% | 50 - 200 % |
| Fluorobenzene | 1892313 | 1904896 | 99.3% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1856506 | 1795782 | 103% | 50 - 200 % |
| Chlorobenzene - d5 | 1325501 | 1334623 | 99.3% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 553544 | 580465 | 95.4% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 10.0 | 100% | 86 - 118 % |
| Toluene - d8 | 10.0 | 100% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.35 | 93.5% | 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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Analyst: yw
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## EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | | |
| Sample ID: | 90125-18.7/97 | Date Sampled: | 07/30/97 |
| Laboratory ID: | C97-42020 | Date Received: | 08/01/97 |
| Matrix: | Water | Date Analyzed: | 08/04/97 |
| Dilution Factor: | 2 | Date Reported: | August 19, 1997 |

MW-18

| 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** | **140** | | 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** | **20.3** | | 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** | **1.10** | **J** | 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** | **2.12** | | 2.0 |
| 74-95-3 | Dibromomethane | ND | | 2.0 |
| 78-87-5 | 1,2 - Dichloropropane | ND | | 2.0 |
| **79-01-6** | **Trichloroethene** | **44.0** | | 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** | **121** | | 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 - This flag indicates an estimated value for an analyte at less than the stated limit of detection***

# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | Date Sampled: | 07/30/97 |
| Sample ID: | 90125-18.7/97 | Date Analyzed: | 08/04/97 |
| Laboratory ID: | C97-42020 | Date Reported: | August 19, 1997 |

MW-18

| 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 - This flag indicates an estimated value for an analyte at less than the stated limit of detection***

***RUNTIME QUALITY ASSURANCE REPORT***

| INTERNAL STANDARDS | AREA | ICAL / CCAL AREA | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|---|
| Pentafluorobenzene | 1096201 | 1040689 | 105% | 50 - 200 % |
| Fluorobenzene | 1970220 | 1904896 | 103% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1886558 | 1795782 | 105% | 50 - 200 % |
| Chlorobenzene - d5 | 1340063 | 1334623 | 100% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 544116 | 580465 | 93.7% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.40 | 94.0% | 86 - 118 % |
| Toluene - d8 | 10.2 | 102% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.13 | 91.3% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.70 | 97.0% | 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

Report File: F:\REPORTS\CLIENTS.97\WEST_WAT.ER\ORGANIC.CAS\97_42001.xls

Analyst: yw
Reviewed: sec

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## EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | | |
| Sample ID: | 90125-19.7/97 | Date Sampled: | 07/30/97 |
| Laboratory ID: | C97-42021 | Date Received: | 08/01/97 |
| Matrix: | Water | Date Analyzed: | 08/04/97 |
| Dilution Factor: | 2 | Date Reported: | August 19, 1997 |

MW-19

| *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** | **116** | 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** | **8.54** | 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** | **2.18** | 2.0 |
| 74-95-3 | Dibromomethane | ND | 2.0 |
| 78-87-5 | 1,2 - Dichloropropane | ND | 2.0 |
| **79-01-6** | **Trichloroethene** | **5.14** | 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** | **95.7** | 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** | Date Sampled: | 07/30/97 |
| Sample ID: | 90125-19.7/97 | Date Analyzed: | 08/04/97 |
| Laboratory ID: | C97-42021 | Date Reported: | August 19, 1997 |

MW-19

| 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 | 981286 | 1040689 | 94.3% | 50 - 200 % |
| Fluorobenzene | 1710265 | 1904896 | 89.8% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1702045 | 1795782 | 94.8% | 50 - 200 % |
| Chlorobenzene - d5 | 1231739 | 1334623 | 92.3% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 506394 | 580465 | 87.2% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.06 | 90.6% | 86 - 118 % |
| Toluene - d8 | 10.1 | 101% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.42 | 94.2% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.83 | 98.3% | 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

Report File: F:\REPORTS\CLIENTS.97\WEST_WAT.ER\ORGANIC.CAS\97_42001.xls

Analyst: yw
Reviewed: sec

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# EPA METHOD 8260

MW-20

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | | |
| Sample ID: | 90125-20.7/97 | Date Sampled: | 07/30/97 |
| Laboratory ID: | C97-42022 | Date Received: | 08/01/97 |
| Matrix: | Water | Date Analyzed: | 08/04/97 |
| Dilution Factor: | 1 | Date Reported: | August 19, 1997 |

| *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** | Date Sampled: | 07/30/97 |
| Sample ID: | 90125-20.7/97 | Date Analyzed: | 08/04/97 |
| Laboratory ID: | C97-42022 | Date Reported: | August 19, 1997 |

MW-20

| 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 | 723478 | 1040689 | 69.5% | 50 - 200 % |
| Fluorobenzene | 1610116 | 1904896 | 84.5% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1507536 | 1795782 | 83.9% | 50 - 200 % |
| Chlorobenzene - d5 | 1097405 | 1334623 | 82.2% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 424073 | 580465 | 73.1% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 11.8 | 118% | 86 - 118 % |
| Toluene - d8 | 10.0 | 100% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.39 | 93.9% | 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** | | |
| Sample ID: | 90125-21.7/97 | Date Sampled: | 07/30/97 |
| Laboratory ID: | C97-42023 | Date Received: | 08/01/97 |
| Matrix: | Water | Date Analyzed: | 08/04/97 |
| Dilution Factor: | 2 | Date Reported: | August 19, 1997 |

MW-21

| 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** | **10.5** | | 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** | **1.40** | J | 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** | **2.54** | | 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** | **6.58** | | 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 - This flag indicates an estimated value for an analyte at less than the stated limit of detection***

# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | Date Sampled: | 07/30/97 |
| Sample ID: | 90125-21.7/97 | Date Analyzed: | 08/04/97 |
| Laboratory ID: | C97-42023 | Date Reported: | August 19, 1997 |

| 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 - This flag indicates an estimated value for an analyte at less than the stated limit of detection***

*RUNTIME QUALITY ASSURANCE REPORT*

| INTERNAL STANDARDS | AREA | ICAL / CCAL AREA | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|---|
| Pentafluorobenzene | 979087 | 1040689 | 94.1% | 50 - 200 % |
| Fluorobenzene | 1718512 | 1904896 | 90.2% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1705175 | 1795782 | 95.0% | 50 - 200 % |
| Chlorobenzene - d5 | 1238176 | 1334623 | 92.8% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 520161 | 580465 | 89.6% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.34 | 93.4% | 86 - 118 % |
| Toluene - d8 | 9.88 | 98.8% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.51 | 95.1% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.80 | 98.0% | 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

Report File: F:\REPORTS\CLIENTS.97\WEST_WAT.ER\ORGANIC.CAS\97_42001.xls

Analyst: yw
Reviewed: sec

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# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | | |
| Sample ID: | 90125-22.7/97 | Date Sampled: | 07/30/97 |
| Laboratory ID: | C97-42024 | Date Received: | 08/01/97 |
| Matrix: | Water | Date Analyzed: | 08/04/97 |
| Dilution Factor: | 2 | Date Reported: | August 19, 1997 |

MW-22

| 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** | **91.9** | 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** | **12.4** | 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** | **14.1** | 2.0 |
| 74-95-3 | Dibromomethane | ND | 2.0 |
| 78-87-5 | 1,2 - Dichloropropane | ND | 2.0 |
| **79-01-6** | **Trichloroethene** | **24.4** | 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** | **104** | 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** | Date Sampled: | 07/30/97 |
| Sample ID: | 90125-22.7/97 | Date Analyzed: | 08/04/97 |
| Laboratory ID: | C97-42024 | Date Reported: | August 19, 1997 |

MW-22

| 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 | 971428 | 1040689 | 93.3% | 50 - 200 % |
| Fluorobenzene | 1704073 | 1904896 | 89.5% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1692057 | 1795782 | 94.2% | 50 - 200 % |
| Chlorobenzene - d5 | 1227342 | 1334623 | 92.0% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 507105 | 580465 | 87.4% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.27 | 92.7% | 86 - 118 % |
| Toluene - d8 | 10.1 | 101% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.47 | 94.7% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.97 | 99.7% | 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**
Sample ID: 90125-23.7/97 MW-23
Laboratory ID: C97-42025
Matrix: Water
Dilution Factor: 1

Date Sampled: 07/30/97
Date Received: 08/01/97
Date Analyzed: 08/04/97
Date Reported: August 19, 1997

| 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** | Date Sampled: | 07/30/97 |
| Sample ID: | 90125-23.7/97 | Date Analyzed: | 08/04/97 |
| Laboratory ID: | C97-42025 | Date Reported: | August 19, 1997 |

MW-23

| *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 | 816825 | 1040689 | 78.5% | 50 - 200 % |
| Fluorobenzene | 1751689 | 1904896 | 92.0% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1640694 | 1795782 | 91.4% | 50 - 200 % |
| Chlorobenzene - d5 | 1211252 | 1334623 | 90.8% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 475694 | 580465 | 82.0% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 11.5 | 115% | 86 - 118 % |
| Toluene - d8 | 10.2 | 102% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.52 | 95.2% | 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** | | |
| Sample ID: | 90125-24.7/97 | Date Sampled: | 07/30/97 |
| Laboratory ID: | C97-42026 | Date Received: | 08/01/97 |
| Matrix: | Water | Date Analyzed: | 08/04/97 |
| Dilution Factor: | 1 | Date Reported: | August 19, 1997 |

MW-24

| 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** | Date Sampled: | 07/30/97 |
| Sample ID: | 90125-24.7/97 | Date Analyzed: | 08/04/97 |
| Laboratory ID: | C97-42026 | Date Reported: | August 19, 1997 |

MW-24

| *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 | 785967 | 1040689 | 75.5% | 50 - 200 % |
| Fluorobenzene | 1653796 | 1904896 | 86.8% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1583494 | 1795782 | 88.2% | 50 - 200 % |
| Chlorobenzene - d5 | 1148110 | 1334623 | 86.0% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 458404 | 580465 | 79.0% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 11.1 | 111% | 86 - 118 % |
| Toluene - d8 | 9.93 | 99.3% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.59 | 95.9% | 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

MW-25

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | | |
| Sample ID: | 90125-25.7/97 | Date Sampled: | 07/30/97 |
| Laboratory ID: | C97-42027 | Date Received: | 08/01/97 |
| Matrix: | Water | Date Analyzed: | 08/04/97 |
| Dilution Factor: | 2 | Date Reported: | August 19, 1997 |

| 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** | **30.7** | | 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** | **11.2** | | 2.0 |
| 78-93-3 | 2 -Butanone (MEK) | ND | | 20 |
| 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** | **1.18** | J | 2.0 |
| 563-58-6 | 1,1 - Dichloropropene | ND | | 2.0 |
| 56-23-5 | Carbon tetrachloride (Tetrachloromethane) | ND | | 2.0 |
| **71-43-2** | **Benzene** | **23.1** | | 2.0 |
| 74-95-3 | Dibromomethane | ND | | 2.0 |
| 78-87-5 | 1,2 - Dichloropropane | ND | | 2.0 |
| **79-01-6** | **Trichloroethene** | **4.62** | | 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** | **34.8** | | 2.0 |
| 630-20-6 | 1,1,1,2 - Tetrachloroethane | ND | | 2.0 |
| 108-90-7 | Chlorobenzene | ND | | 2.0 |
| 100-41-4 | Ethylbenzene | 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 - This flag indicates an estimated value for an analyte at less than the stated limit of detection***

# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | Date Sampled: | 07/30/97 |
| Sample ID: | 90125-25.7/97 | Date Analyzed: | 08/04/97 |
| Laboratory ID: | C97-42027 | Date Reported: | August 19, 1997 |

| 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 - This flag indicates an estimated value for an analyte at less than the stated limit of detection***

*RUNTIME QUALITY ASSURANCE REPORT*

| INTERNAL STANDARDS | AREA | ICAL / CCAL AREA | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|---|
| Pentafluorobenzene | 964779 | 1040689 | 92.7% | 50 - 200 % |
| Fluorobenzene | 1715882 | 1904896 | 90.1% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1673760 | 1795782 | 93.2% | 50 - 200 % |
| Chlorobenzene - d5 | 1216084 | 1334623 | 91.1% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 506157 | 580465 | 87.2% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.33 | 93.3% | 86 - 118 % |
| Toluene - d8 | 10.0 | 100% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.44 | 94.4% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.83 | 98.3% | 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

Report File: F:\REPORTS\CLIENTS.97\WEST_WAT.ER\ORGANIC.CAS\97_42001.xls

Analyst: yw
Reviewed: sec

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# EPA METHOD 8260

Client: **Western Water Consultants**
Sample ID: 90125-26.7/97 MW-26
Laboratory ID: C97-42028
Matrix: Water
Dilution Factor: 1

Date Sampled: 07/30/97
Date Received: 08/01/97
Date Analyzed: 08/04/97
Date Reported: August 19, 1997

| 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** | **3.65** | 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** | **1.18** | 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** | **2.00** | 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** | Date Sampled: | 07/30/97 |
| Sample ID: | 90125-26.7/97 | Date Analyzed: | 08/04/97 |
| Laboratory ID: | C97-42028 | Date Reported: | August 19, 1997 |

MW-26

| 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 | 798278 | 1040689 | 76.7% | 50 - 200 % |
| Fluorobenzene | 1698612 | 1904896 | 89.2% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1608893 | 1795782 | 89.6% | 50 - 200 % |
| Chlorobenzene - d5 | 1172869 | 1334623 | 87.9% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 466034 | 580465 | 80.3% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 11.2 | 112% | 86 - 118 % |
| Toluene - d8 | 10.0 | 100% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.52 | 95.2% | 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

Report File: F:\REPORTS\CLIENTS.97\WEST_WAT.ER\ORGANIC.CAS\97_42001.xls

Analyst: yw
Reviewed: sec

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# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | | |
| Sample ID: | 90125-27.7/97 MW-27 | Date Sampled: | 07/30/97 |
| Laboratory ID: | C97-42029 | Date Received: | 08/01/97 |
| Matrix: | Water | Date Analyzed: | 08/04/97 |
| Dilution Factor: | 1 | Date Reported: | August 19, 1997 |

| *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** MW-27
Sample ID: 90125-27.7/97
Laboratory ID: C97-42029

Date Sampled: 07/30/97
Date Analyzed: 08/04/97
Date Reported: August 19, 1997

| 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 | 836307 | 1040689 | 80.4% | 50 - 200 % |
| Fluorobenzene | 1559623 | 1904896 | 81.9% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1494470 | 1795782 | 83.2% | 50 - 200 % |
| Chlorobenzene - d5 | 1091534 | 1334623 | 81.8% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 454634 | 580465 | 78.3% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.85 | 98.5% | 86 - 118 % |
| Toluene - d8 | 10.0 | 100% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.75 | 97.5% | 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

Report File: F:\REPORTS\CLIENTS.97\WEST_WAT.ER\ORGANIC.CAS\97_42001.xls

Analyst: yw
Reviewed: sec

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# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | | |
| Sample ID: | Method Blank | Date Sampled: | N/A |
| Laboratory ID: | MB0804D | Date Received: | N/A |
| Matrix: | Water | Date Analyzed: | 08/04/97 |
| Dilution Factor: | 1 | Date Reported: | August 19, 1997 |

| 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** | Date Sampled: | N/A |
| Sample ID: | Method Blank | Date Analyzed: | 08/04/97 |
| Laboratory ID: | MB0804D | Date Reported: | August 19, 1997 |

| *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 | 1107795 | 1040689 | 106% | 50 - 200 % |
| Fluorobenzene | 1986535 | 1904896 | 104% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1937850 | 1795782 | 108% | 50 - 200 % |
| Chlorobenzene - d5 | 1371333 | 1334623 | 103% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 559540 | 580465 | 96.4% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.09 | 90.9% | 86 - 118 % |
| Toluene - d8 | 10.0 | 100% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.40 | 94.0% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.98 | 99.8% | 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

Report File: F:\REPORTS\CLIENTS.97\WEST_WAT.ER\ORGANIC.CAS\97_42001.xls

Analyst: yw
Reviewed: sec

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# EPA METHOD 8260

## QC RESULTS - MATRIX SPIKE (MS), MATRIX SPIKE DUPLICATE (MSD)

| | | | |
|---|---|---|---|
| **Client:** | **Western Water Consultants** | Date Sampled: | 07/30/97 |
| Sample Set: | C97-42001 through C97-42010 | Date Received: | 08/01/97 |
| Laboratory ID: | C97-42004 S | Date Analyzed: | 08/04/97 |
| Matrix: | Water | Date Reported: | August 19, 1997 |

***INTERNAL STANDARDS***

| | ICAL / CCAL AREA | SPIKED SAMPLE AREA | % | SPIKE DUPLICATE AREA | % | ACCEPTANCE RANGE |
|---|---|---|---|---|---|---|
| Pentafluorobenzene | 1040689 | 1093368 | 105% | 1091091 | 105% | 50 - 200 % |
| Fluorobenzene | 1904896 | 1911867 | 100% | 1898527 | 99.7% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1795782 | 1881256 | 105% | 1871162 | 104% | 50 - 200 % |
| Chlorobenzene - d5 | 1334623 | 1354634 | 101% | 1352636 | 101% | 50 - 200 % |
| 1,4 - Dichlorobenzene-d4 | 580465 | 569548 | 98.12% | 560838 | 96.6% | 50 - 200 % |

***SYSTEM MONITORING COMPOUNDS***

| | SPIKED SAMPLE CONCENTRATION | PERCENT RECOVERY | SPIKE DUPLICATE CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|---|---|
| Dibromofluoromethane | 9.72 | 97.2% | 9.63 | 96.3% | 86 - 118 % |
| Toluene - d8 | 10.1 | 101% | 10.1 | 101% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.80 | 98.0% | 9.77 | 97.7% | 86 - 115 % |
| 1,2 - Dichlorobenzene-d4 | 9.77 | 97.7% | 9.77 | 97.7% | 80 - 120 % |

***SPIKED SAMPLE RESULTS***

| | SPIKED SAMPLE CONCENTRATION | ORIG. CONC. (µg/L) * | SPIKE AMOUNT (µg/L) | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|---|---|
| Vinyl chloride | 8.61 | ND | 10.0 | 86.1% | 80 - 120 % |
| 1,1 - Dichloroethene | 9.19 | ND | 10.0 | 91.9% | 80 - 120 % |
| 2 - Butanone (MEK) | 8.08 | ND | 10.0 | 80.8% | 80 - 120 % |
| Chloroform | 9.05 | ND | 10.0 | 90.5% | 80 - 120 % |
| 1,2 - Dichloroethane | 9.05 | ND | 10.0 | 90.5% | 80 - 120 % |
| Carbon tetrachloride | 8.81 | ND | 10.0 | 88.1% | 80 - 120 % |
| Benzene | 9.05 | ND | 10.0 | 90.5% | 80 - 120 % |
| Trichloroethene | 8.74 | ND | 10.0 | 87.4% | 80 - 120 % |
| Tetrachloroethene | 8.99 | ND | 10.0 | 89.9% | 80 - 120 % |
| Chlorobenzene | 8.95 | ND | 10.0 | 89.5% | 80 - 120 % |
| 1,4 - Dichlorobenzene | 9.44 | ND | 10.0 | 94.4% | 80 - 120 % |

***SPIKE DUPLICATE SAMPLE RESULTS*** 9.28 *** Concentration does not include dilution correction**

| | SPIKE DUP CONCENTRATION | ORIG. CONC. (µg/L) * | SPIKE (µg/L) | PERCENT RECOVERY | RPD | RPD LIMITS |
|---|---|---|---|---|---|---|
| Vinyl chloride | 8.50 | ND | 10.0 | 85.0% | 1.3% | 10 % |
| 1,1 - Dichloroethene | 8.96 | ND | 10.0 | 89.6% | 2.5% | 10 % |
| 2 - Butanone (MEK) | 8.64 | ND | 10.0 | 86.4% | 6.9% | 10 % |
| Chloroform | 9.09 | ND | 10.0 | 90.9% | 0.4% | 10 % |
| 1,2 - Dichloroethane | 8.86 | ND | 10.0 | 88.6% | 2.1% | 10 % |
| Carbon tetrachloride | 9.26 | ND | 10.0 | 92.6% | 5.1% | 10 % |
| Benzene | 8.71 | ND | 10.0 | 87.1% | 3.8% | 10 % |
| Trichloroethene | 9.02 | ND | 10.0 | 90.2% | 3.2% | 10 % |
| Tetrachloroethene | 8.98 | ND | 10.0 | 89.8% | 0.1% | 10 % |
| Chlorobenzene | 9.48 | ND | 10.0 | 94.8% | 5.9% | 10 % |
| 1,4 - Dichlorobenzene | 9.36 | ND | 10.0 | 93.6% | 0.8% | 10 % |

***MATRIX SPIKE:*** 0 of 22 Matrix Spike results are outside of established QC Limits
***MATRIX SPIKE DUPLICATE:*** 0 of 11 Matrix Spike Duplicate results are outside of established QC Limits

Report File: F:\REPORTS\CLIENTS.97\WEST_WAT.ER\ORGANIC.CAS\97_42001.xls

Analyst: yw
Reviewed: sec

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# EPA METHOD 8260

## QC RESULTS - MATRIX SPIKE (MS), MATRIX SPIKE DUPLICATE (MSD)

| | | | |
|---|---|---|---|
| **Client:** | **Western Water Consultants** | Date Sampled: | 07/30/97 |
| Sample Set: | C97-42011 through C97-42020 | Date Received: | 08/01/97 |
| Laboratory ID: | C97-42022 S | Date Analyzed: | 08/04/97 |
| Matrix: | Water | Date Reported: | August 19, 1997 |

***INTERNAL STANDARDS***

| | ICAL / CCAL AREA | SPIKED SAMPLE AREA | % | SPIKE DUPLICATE AREA | % | ACCEPTANCE RANGE |
|---|---|---|---|---|---|---|
| Pentafluorobenzene | 1040689 | 899641 | 86.4% | 904732 | 86.9% | 50 - 200 % |
| Fluorobenzene | 1904896 | 1612428 | 84.6% | 1632088 | 85.7% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1795782 | 1577911 | 87.9% | 1588632 | 88.5% | 50 - 200 % |
| Chlorobenzene - d5 | 1334623 | 1152730 | 86.4% | 1163023 | 87.1% | 50 - 200 % |
| 1,4 - Dichlorobenzene-d4 | 580465 | 480321 | 82.7% | 488283 | 84.1% | 50 - 200 % |

***SYSTEM MONITORING COMPOUNDS***

| | SPIKED SAMPLE CONCENTRATION | PERCENT RECOVERY | SPIKE DUPLICATE CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|---|---|
| Dibromofluoromethane | 9.45 | 94.5% | 9.55 | 95.5% | 86 - 118 % |
| Toluene - d8 | 9.95 | 99.5% | 9.96 | 99.6% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.57 | 95.7% | 9.57 | 95.7% | 86 - 115 % |
| 1,2 - Dichlorobenzene-d4 | 9.67 | 96.7% | 9.66 | 96.6% | 80 - 120 % |

***SPIKED SAMPLE RESULTS***

| | SPIKED SAMPLE CONCENTRATION | ORIG. CONC. (µg/L) * | SPIKE AMOUNT (µg/L) | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|---|---|
| Vinyl chloride | 9.50 | ND | 10.0 | 95.0% | 80 - 120 % |
| 1,1 - Dichloroethene | 9.00 | ND | 10.0 | 90.0% | 80 - 120 % |
| 2 - Butanone (MEK) | 9.80 | ND | 10.0 | 98.0% | 80 - 120 % |
| Chloroform | 9.21 | ND | 10.0 | 92.1% | 80 - 120 % |
| 1,2 - Dichloroethane | 9.66 | ND | 10.0 | 96.6% | 80 - 120 % |
| Carbon tetrachloride | 11.1 | ND | 10.0 | 111% | 80 - 120 % |
| Benzene | 9.29 | ND | 10.0 | 92.9% | 80 - 120 % |
| Trichloroethene | 9.87 | ND | 10.0 | 98.7% | 80 - 120 % |
| Tetrachloroethene | 10.6 | ND | 10.0 | 106% | 80 - 120 % |
| Chlorobenzene | 10.3 | ND | 10.0 | 103% | 80 - 120 % |
| 1,4 - Dichlorobenzene | 10.3 | ND | 10.0 | 103% | 80 - 120 % |

***SPIKE DUPLICATE SAMPLE RESULTS***

*** Concentration does not include dilution correction**

| | SPIKE DUP CONCENTRATION | ORIG. CONC. (µg/L) * | SPIKE (µg/L) | PERCENT RECOVERY | RPD | RPD LIMITS |
|---|---|---|---|---|---|---|
| Vinyl chloride | 9.65 | ND | 10.0 | 96.5% | 1.6% | 10 % |
| 1,1 - Dichloroethene | 8.92 | ND | 10.0 | 89.2% | 0.9% | 10 % |
| 2 - Butanone (MEK) | 9.68 | ND | 10.0 | 96.8% | 1.2% | 10 % |
| Chloroform | 9.05 | ND | 10.0 | 90.5% | 1.7% | 10 % |
| 1,2 - Dichloroethane | 9.69 | ND | 10.0 | 96.9% | 0.3% | 10 % |
| Carbon tetrachloride | 10.8 | ND | 10.0 | 108% | 2.6% | 10 % |
| Benzene | 9.18 | ND | 10.0 | 91.8% | 1.2% | 10 % |
| Trichloroethene | 9.70 | ND | 10.0 | 97.0% | 1.7% | 10 % |
| Tetrachloroethene | 10.4 | ND | 10.0 | 104% | 1.9% | 10 % |
| Chlorobenzene | 10.2 | ND | 10.0 | 102% | 0.8% | 10 % |
| 1,4 - Dichlorobenzene | 10.1 | ND | 10.0 | 101% | 2.0% | 10 % |

***MATRIX SPIKE:*** 0 of 22 Matrix Spike results are outside of established QC Limits
***MATRIX SPIKE DUPLICATE:*** 0 of 11 Matrix Spike Duplicate results are outside of established QC Limits

Report File: F:\REPORTS\CLIENTS.97\WEST_WAT.ER\ORGANIC.CAS\97_42001.xls

Analyst: yw
Reviewed: sec

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# EPA METHOD 8260

## QC RESULTS - MATRIX SPIKE (MS), MATRIX SPIKE DUPLICATE (MSD)

| | | | |
|---|---|---|---|
| **Client:** | **Western Water Consultants** | Date Sampled: | 07/30/97 |
| Sample Set: | C97-42021 through C97-42030 | Date Received: | 08/01/97 |
| Laboratory ID: | C97-42025 S | Date Analyzed: | 08/04/97 |
| Matrix: | Water | Date Reported: | August 19, 1997 |

***INTERNAL STANDARDS***

| | ICAL / CCAL AREA | SPIKED SAMPLE AREA | % | SPIKE DUPLICATE AREA | % | ACCEPTANCE RANGE |
|---|---|---|---|---|---|---|
| Pentafluorobenzene | 1040689 | 887808 | 85.3% | 877827 | 84.4% | 50 - 200 % |
| Fluorobenzene | 1904896 | 1610917 | 84.6% | 1621718 | 85.1% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1795782 | 1566016 | 87.2% | 1568280 | 87.3% | 50 - 200 % |
| Chlorobenzene - d5 | 1334623 | 1148726 | 86.1% | 1165236 | 87.3% | 50 - 200 % |
| 1,4 - Dichlorobenzene-d4 | 580465 | 480508 | 82.8% | 488313 | 84.1% | 50 - 200 % |

***SYSTEM MONITORING COMPOUNDS***

| | SPIKED SAMPLE CONCENTRATION | PERCENT RECOVERY | SPIKE DUPLICATE CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|---|---|
| Dibromofluoromethane | 9.57 | 95.7% | 9.74 | 97.4% | 86 - 118 % |
| Toluene - d8 | 9.93 | 99.3% | 9.98 | 99.8% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.61 | 96.1% | 9.68 | 96.8% | 86 - 115 % |
| 1,2 - Dichlorobenzene-d4 | 9.74 | 97.4% | 9.83 | 98.3% | 80 - 120 % |

***SPIKED SAMPLE RESULTS***

| | SPIKED SAMPLE CONCENTRATION | ORIG. CONC. (µg/L) * | SPIKE AMOUNT (µg/L) | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|---|---|
| Vinyl chloride | 9.90 | ND | 10.0 | 99.0% | 80 - 120 % |
| 1,1 - Dichloroethene | 8.94 | ND | 10.0 | 89.4% | 80 - 120 % |
| 2 - Butanone (MEK) | 10.0 | ND | 10.0 | 100% | 80 - 120 % |
| Chloroform | 9.17 | ND | 10.0 | 91.7% | 80 - 120 % |
| 1,2 - Dichloroethane | 9.80 | ND | 10.0 | 98.0% | 80 - 120 % |
| Carbon tetrachloride | 10.9 | ND | 10.0 | 109% | 80 - 120 % |
| Benzene | 9.23 | ND | 10.0 | 92.3% | 80 - 120 % |
| Trichloroethene | 9.81 | ND | 10.0 | 98.1% | 80 - 120 % |
| Tetrachloroethene | 10.4 | ND | 10.0 | 104% | 80 - 120 % |
| Chlorobenzene | 10.4 | ND | 10.0 | 104% | 80 - 120 % |
| 1,4 - Dichlorobenzene | 10.3 | ND | 10.0 | 103% | 80 - 120 % |

***SPIKE DUPLICATE SAMPLE RESULTS***

*** Concentration does not include dilution correction**

| | SPIKE DUP CONCENTRATION | ORIG. CONC. (µg/L) * | SPIKE (µg/L) | PERCENT RECOVERY | RPD | RPD LIMITS |
|---|---|---|---|---|---|---|
| Vinyl chloride | 10.2 | ND | 10.0 | 102% | 2.6% | 10 % |
| 1,1 - Dichloroethene | 9.09 | ND | 10.0 | 90.9% | 1.7% | 10 % |
| 2 - Butanone (MEK) | 9.87 | ND | 10.0 | 98.7% | 1.5% | 10 % |
| Chloroform | 9.23 | ND | 10.0 | 92.3% | 0.7% | 10 % |
| 1,2 - Dichloroethane | 9.85 | ND | 10.0 | 98.5% | 0.5% | 10 % |
| Carbon tetrachloride | 10.8 | ND | 10.0 | 108% | 0.7% | 10 % |
| Benzene | 9.18 | ND | 10.0 | 91.8% | 0.5% | 10 % |
| Trichloroethene | 9.71 | ND | 10.0 | 97.1% | 1.0% | 10 % |
| Tetrachloroethene | 10.3 | ND | 10.0 | 103% | 1.1% | 10 % |
| Chlorobenzene | 10.2 | ND | 10.0 | 102% | 2.4% | 10 % |
| 1,4 - Dichlorobenzene | 10.1 | ND | 10.0 | 101% | 1.8% | 10 % |

***MATRIX SPIKE:*** 0 of 22 Matrix Spike results are outside of established QC Limits
***MATRIX SPIKE DUPLICATE:*** 0 of 11 Matrix Spike Duplicate results are outside of established QC Limits

Report Approved By: _____

Report File: F:\REPORTS\CLIENTS.97\WEST_WAT.ER\ORGANIC.CAS\97_42001.xls

Analyst: yw
Reviewed: sec

Western Water Consultants, Inc.

# CHAIN OF CUSTODY RECORD AND SAMPLING SHIPPING PAPERS

PROJECT NO. PROJECT NAME: 90-125L.5

SAMPLERS: (signature) Kevin Mattson

| SAMPLE I.D. | DATE | TIME | COMP. | GRAB | SAMPLE TYPE | NO. OF CONTAINERS | CONTAINER TYPE: 40ml Voa's | CONTAINER TYPE: 1 liter Amber | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| 90125-1.7/97 | 7/30/97 | 0620 | | X | $H_2O$ | 3 | 3 | - | Analyze all Voa samples by EPA Method 8260. Analyze the 2 one liter glass samples for total dissolved solids. |
| 90125-2.7/97 | " | 0630 | | X | " | 3 | 3 | - | |
| 90125-3.7/97 | " | 0640 | | X | " | 3 | 3 | - | |
| 90125-4.7/97 | " | 0650 | | X | " | 3 | 3 | - | |
| 90125-5.7/97 | " | 0700 | | X | " | 3 | 3 | - | |
| 90125-6.7/97 | " | 0710 | | X | " | 3 | 3 | - | Samples kept on ice and shipped w/ ice via UPS overnight to Energy Labs (Casper) |
| 90125-7.7/97 | " | 0720 | | X | " | 3 | 3 | - | |
| 90125-8.7/97 | " | 0730 | | X | " | 3 | 3 | - | |
| 90125-9.7/97 | " | 0740 | | X | " | 3 | 3 | - | |
| 90125-10.7/97 | " | 0750 | | X | " | 3 | 3 | - | |
| 90125-11.7/97 | " | 0800 | | X | " | 3 | 3 | - | |

| Relinquished by: (signature) | Date / Time | Received by: (signature) | Relinquished by: (signature) | Date / Time | Received by: (signature) |
|---|---|---|---|---|---|
| Kevin Mattson | 7/31/97 1010 | | | | |
| Relinquished by: (signature) | Date / Time | Received by: (signature) | Relinquished by: (signature) | Date / Time | Received for Laboratory by: (signature) |
| | | | Brian K Partridge | 8/1/97 1700 | Teresa Bee |

DISTRIBUTION: White – ORIG. RETURN TO WWC

REMARKS: If there are any questions contact Kevin Mattson at (307) 742-0031.

File 90125-D

WESTERN WATER CONSULTANTS, INC
AUG 04 1997
LARAMIE

Western Water Consultants, Inc.

# CHAIN OF CUSTODY RECORD AND SAMPLING SHIPPING PAPERS

PROJECT NO. PROJECT NAME: 90-125L.5

SAMPLERS: (signature) Kevin Mattson

| SAMPLE I.D. | DATE | TIME | COMP. | GRAB | SAMPLE TYPE | NO. OF CONTAINERS | CONTAINER TYPE: 40 ml VOA | CONTAINER TYPE: 1 liter amber | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| 90125-12.7/97 | 7/30/97 | 0810 | | X | $H_2O$ | 3 | 3 | - | Analyze all VOA samples by EPA Method 8260, Analyze the 2 one liter glass samples for total dissolved solids. |
| 90125-13.7/97 | " | 0820 | | X | " | 3 | 3 | - | |
| 90125-14.7/97 | " | 0830 | | X | " | 3 | 3 | - | |
| 90125-15.7/97 | " | 0840 | | X | " | 3 | 3 | - | |
| 90125-17A.7/97 | " | 0850 | | X | " | 3 | 3 | - | |
| 90125-17B.7/97 | " | 0900 | | X | " | 3 | 3 | - | |
| 90125-17C.7/97 | " | 0910 | | X | " | 3 | 3 | - | Samples kept on ice and shipped w/ice via UPS overnight to Energy Labs (Casper) |
| 90125-17D.7/97 | " | 0920 | | X | " | 3 | 3 | - | |
| 90125-18.7/97 | " | 0930 | | X | " | 3 | 3 | - | |
| 90125-19.7/97 | " | 0940 | | X | " | 3 | 3 | - | |
| 90125-20.7/97 | " | 0950 | | X | " | 3 | 3 | - | |

| Relinquished by: (signature) | Date / Time | Received by: (signature) | Relinquished by: (signature) | Date / Time | Received by: (signature) |
|---|---|---|---|---|---|
| Kevin Mattson | 7/31/97 1010 | | | | |
| Relinquished by: (signature) | Date / Time | Received by: (signature) | Relinquished by: (signature) | Date / Time | Received for Laboratory by: (signature) |
| | | | | 8/1/97 1700 | Teresa Bar |

DISTRIBUTION: White – ORIG. RETURN TO WWC

REMARKS: If there are any questions contact Kevin Mattson at (307) 742-6031.

Western Water Consultants, Inc.

CHAIN OF CUSTODY RECORD
AND SAMPLING SHIPPING PAPERS

PROJECT NO. PROJECT NAME: 90-125L.5

SAMPLERS: (signature) Kevin Mattson

| SAMPLE I.D. | DATE | TIME | COMP. | GRAB | SAMPLE TYPE | NO. OF CONTAINERS | CONTAINER TYPE: 40 ml Voa | CONTAINER TYPE: 1 liter amber | CONTAINER TYPE | CONTAINER TYPE | CONTAINER TYPE | CONTAINER TYPE | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 90125-21.7/97 | 7/30/97 | 1000 | | X | $H_2O$ | 3 | 3 | - | | | | | Analyze all Voa samples by EPA Method 8260. Analyze the 2 one liter glass samples for total dissolved solids. |
| 90125-22.7/97 | " | 1010 | | X | " | 3 | 3 | - | | | | | |
| 90125-23.7/97 | " | 1020 | | X | " | 3 | 3 | - | | | | | |
| 90125-24.7/97 | " | 1030 | | X | " | 4 | 3 | 1 | | | | | |
| 90125-25.7/97 | " | 1040 | | X | " | 3 | 3 | - | | | | | |
| 90125-26.7/97 | " | 1050 | | X | " | 4 | 3 | 1 | | | | | |
| 90125-27.7/97 | " | 1100 | | X | " | 3 | 3 | - | | | | | Samples kept on ice and shipped w/ice via UPS overnight to Energy Labs (Casper) |
| 90125-B.7/97 | " | 1120 | | X | " | 3 | 3 | - | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

| Relinquished by: (signature) | Date / Time | Received by: (signature) | Relinquished by: (signature) | Date / Time | Received by: (signature) |
|---|---|---|---|---|---|
| Kevin Mattson | 7/30/97 1010 | | | | |
| Relinquished by: (signature) | Date / Time | Received by: (signature) | Relinquished by: (signature) | Date / Time | Received for Laboratory by: (signature) |
| | | | Brian K Bartlett | 8/1/97 1700 | Teresa Bee |

DISTRIBUTION: White – ORIG. RETURN TO WWC

REMARKS: If there are any questions contact Kevin Mattson at (307) 742-0031.

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# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | | |
| Sample ID: | 90125-MS.7/97 | Date Sampled: | 07/29/97 |
| Laboratory ID: | C97-41725 | Date Received: | 07/30/97 |
| Matrix: | Air | Date Analyzed: | 07/30/97 |
| Dilution Factor: | 1 | Date Reported: | August 12, 1997 |

Maintenance Shop

| 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 |
| 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** | **0.60** | **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 - Meets Mass Spectral identification criteria but result is below established detection limit***

Maintenance shop

# EPA METHOD 8260

| | | | |
|---|---|---|---|
| Client: | **Western Water Consultants** | Date Sampled: | 07/29/97 |
| Sample ID: | 90125-MS.7/97 | Date Analyzed: | 07/30/97 |
| Laboratory ID: | C97-41725 | Date Reported: | August 12, 1997 |

| *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 | 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***

***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 | 885130 | 940049 | 94.2% | 50 - 200 % |
| Fluorobenzene | 1757487 | 1717058 | 102% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1606316 | 1650598 | 97.3% | 50 - 200 % |
| Chlorobenzene - d5 | 1228852 | 1211735 | 101% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 518200 | 504616 | 103% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 10.2 | 102% | 86 - 118 % |
| Toluene - d8 | 10.4 | 104% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.88 | 98.8% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 10.0 | 100% | 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

Report File: F:\REPORTS\CLIENTS.97\WEST_WAT.ER\ORGANIC.CAS\97_ 41725.xls

Analyst: yw
Reviewed: sec

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# EPA METHOD 8260

Client: **Western Water Consultants**
Sample ID: 90125-WB.7/97 Truck Wash Bay
Laboratory ID: C97-41726
Matrix: Air
Dilution Factor: 1

Date Sampled: 07/29/97
Date Received: 07/30/97
Date Analyzed: 07/30/97
Date Reported: August 12, 1997

| 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 |
| 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)** | **3.46** | 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)** | **6.61** | 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** Truck Wash Bay
Sample ID: 90125-WB.7/97
Laboratory ID: C97-41726

Date Sampled: 07/29/97
Date Analyzed: 07/30/97
Date Reported: August 12, 1997

| C.A.S. # | TARGET COMPOUNDS | CONCENTRATION ($mg/m^3$) | LIMIT OF DETECTION ($mg/m^3$) |
|---|---|---|---|
| **98-82-8** | **Isopropylbenzene (1-Methylethylbenzene)** | **1.04** | 1.0 |
| 108-86-1 | Bromobenzene | ND | 1.0 |
| **103-65-1** | **n - Propylbenzene** | **1.52** | 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** | **16.7** | 1.0 |
| 98-06-6 | tert - Butylbenzene | ND | 1.0 |
| **95-63-6** | **1,2,4 - Trimethylbenzene** | **10.0** | 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 | 860942 | 940049 | 91.6% | 50 - 200 % |
| Fluorobenzene | 1693493 | 1717058 | 98.6% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1558017 | 1650598 | 94.4% | 50 - 200 % |
| Chlorobenzene - d5 | 1189124 | 1211735 | 98.1% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 514312 | 504616 | 102% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 10.2 | 102% | 86 - 118 % |
| Toluene - d8 | 10.3 | 103% | 88 - 110 % |
| 4 - Bromofluorobenzene | 10.1 | 101% | 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** | | |
| Sample ID: | Method Blank | Date Sampled: | N/A |
| Laboratory ID: | MB0730D | Date Received: | N/A |
| Matrix: | Nitrogen | Date Analyzed: | 07/30/97 |
| Dilution Factor: | 1 | Date Reported: | August 12, 1997 |

| 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 |
| 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** | Date Sampled: | N/A |
| Sample ID: | Method Blank | Date Analyzed: | 07/30/97 |
| Laboratory ID: | MB0730D | Date Reported: | August 12, 1997 |

| 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 | 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 (1-Methyl-4-(1-methyl)-benzene) | 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 | 954552 | 940049 | 102% | 50 - 200 % |
| Fluorobenzene | 1790916 | 1717058 | 104% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1720128 | 1650598 | 104% | 50 - 200 % |
| Chlorobenzene - d5 | 1219708 | 1211735 | 101% | 50 - 200 % |
| 1,4 - Dichlorobenzene - d4 | 487534 | 504616 | 96.6% | 50 - 200 % |

| SYSTEM MONITORING COMPOUNDS | CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|
| Dibromofluoromethane | 9.43 | 94.3% | 86 - 118 % |
| Toluene - d8 | 9.70 | 97.0% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.44 | 94.4% | 86 - 115 % |
| 1,2 - Dichlorobenzene - d4 | 9.89 | 98.9% | 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

## QC RESULTS - MATRIX SPIKE (MS) AND MATRIX SPIKE DUPLICATE (MSD)

| | | | |
|---|---|---|---|
| Client: | Western Water Consultants | Date Sampled: | 07/29/97 |
| Sample Set: | C97-41725 through C97-41726 | Date Received: | 07/30/97 |
| Laboratory ID: | C97-41725 S | Date Analyzed: | 07/30/97 |
| Matrix: | Air / Water | Date Reported: | August 12, 1997 |

***INTERNAL STANDARDS***

| | ICAL / CCAL AREA | SPIKED SAMPLE AREA | % | SPIKE DUPLICATE AREA | % | ACCEPTANCE RANGE |
|---|---|---|---|---|---|---|
| Pentafluorobenzene | 940049 | 902122 | 96.0% | 881925 | 93.8% | 50 - 200 % |
| Fluorobenzene | 1717058 | 1797585 | 105% | 1731666 | 101% | 50 - 200 % |
| 1,4 - Difluorobenzene | 1650598 | 1650910 | 100% | 1614379 | 97.8% | 50 - 200 % |
| Chlorobenzene - d5 | 1211735 | 1255491 | 104% | 1204177 | 99.4% | 50 - 200 % |
| 1,4 - Dichlorobenzene-d4 | 504616 | 525793 | 104% | 500325 | 99.1% | 50 - 200 % |

***SYSTEM MONITORING COMPOUNDS***

| | SPIKED SAMPLE CONCENTRATION | PERCENT RECOVERY | SPIKE DUPLICATE CONCENTRATION | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|---|---|
| Dibromofluoromethane | 9.97 | 99.7% | 9.93 | 99.3% | 86 - 118 % |
| Toluene - d8 | 10.3 | 103% | 10.1 | 101% | 88 - 110 % |
| 4 - Bromofluorobenzene | 9.76 | 97.6% | 9.74 | 97.4% | 86 - 115 % |
| 1,2 - Dichlorobenzene-d4 | 9.77 | 97.7% | 9.77 | 97.7% | 80 - 120 % |

***SPIKED SAMPLE RESULTS***

| | SPIKED SAMPLE CONCENTRATION | ORIG. CONC. ($mg/m^3$) | SPIKE AMOUNT ($mg/m^3$) | PERCENT RECOVERY | ACCEPTANCE RANGE |
|---|---|---|---|---|---|
| Vinyl chloride | 8.40 | ND | 10.0 | 84.0% | 80 - 120 % |
| Chloroform | 8.92 | ND | 10.0 | 89.2% | 80 - 120 % |
| 1,2 - Dichloroethane | 8.90 | ND | 10.0 | 89.0% | 80 - 120 % |
| Carbon tetrachloride | 9.09 | ND | 10.0 | 90.9% | 80 - 120 % |
| Benzene | 8.67 | ND | 10.0 | 86.7% | 80 - 120 % |
| Trichloroethene | 9.08 | ND | 10.0 | 90.8% | 80 - 120 % |
| Tetrachloroethene | 8.96 | 0.06 | 10.0 | 89.0% | 80 - 120 % |
| Chlorobenzene | 9.40 | ND | 10.0 | 94.0% | 80 - 120 % |
| 1,4 - Dichlorobenzene | 9.41 | ND | 10.0 | 94.1% | 80 - 120 % |

***SPIKE DUPLICATE SAMPLE RESULTS***

| | SPIKE DUP CONCENTRATION | ORIG. CONC. ($mg/m^3$) | SPIKE ($mg/m^3$) | PERCENT RECOVERY | RPD | RPD LIMITS |
|---|---|---|---|---|---|---|
| Vinyl chloride | 8.48 | ND | 10.0 | 84.8% | 1.0% | 10 % |
| Chloroform | 9.15 | ND | 10.0 | 91.5% | 2.6% | 10 % |
| 1,2 - Dichloroethane | 9.18 | ND | 10.0 | 91.8% | 3.1% | 10 % |
| Carbon tetrachloride | 9.52 | ND | 10.0 | 95.2% | 4.7% | 10 % |
| Benzene | 8.86 | ND | 10.0 | 88.6% | 2.2% | 10 % |
| Trichloroethene | 9.33 | ND | 10.0 | 93.3% | 2.8% | 10 % |
| Tetrachloroethene | 9.27 | 0.06 | 10.0 | 92.1% | 3.5% | 10 % |
| Chlorobenzene | 9.81 | ND | 10.0 | 98.1% | 4.4% | 10 % |
| 1,4 - Dichlorobenzene | 10.0 | ND | 10.0 | 100% | 6.7% | 10 % |

***MATRIX SPIKE:*** 0 of 18 Matrix Spike results are outside of established QC Limits
***MATRIX SPIKE DUPLICATE:*** 0 of 9 Matrix Spike Duplicate results are outside of established QC Limits

Report Approved by: _____

Analyst: yw
Reviewed: sec

Report File: F:\REPORTS\CLIENTS.97\WEST_WAT.ER\ORGANIC.CAS\97_ 41725.xls

Western Water Consultants, Inc.

# CHAIN OF CUSTODY RECORD AND SAMPLING SHIPPING PAPERS

PROJECT NO. PROJECT NAME: 90-125L.1

SAMPLERS: (signature) Kevin Mattson

| SAMPLE I.D. | DATE | TIME | COMP. | GRAB | SAMPLE TYPE | NO. OF CONTAINERS | CONTAINER TYPE: 1 liter Teflon | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 90125-MS.7/97 | 7/29/97 | 0945 | | X | aa | 1 | | Analyze all samples by |
| 90125-WB.7/97 | " | 1000 | | X | " | 1 | | EPA Method 8260. |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | Samples shipped w/s aa |
| | | | | | | | | via UPS Overnight to |
| | | | | | | | | Energy Labs (Casper) |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

| Relinquished by: (signature) | Date / Time | Received by: (signature) | Relinquished by: (signature) | Date / Time | Received by: (signature) |
|---|---|---|---|---|---|
| Kevin Mattson | 7/29/97 1115 | | | | |
| Relinquished by: (signature) | Date / Time | Received by: (signature) | Relinquished by: (signature) | Date / Time | Received for Laboratory by: (signature) |
| | | | | 7-30-97 10:36 | Chuck Peterson |

DISTRIBUTION: White – ORIG. RETURN TO WWC

REMARKS: If there are any questions contact Kevin Mattson at (307) 742-0091.