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ANNUAL OPERATIONS REPORT – 2004 DUNN FIELD GROUNDWATER INTERIM REMEDIAL ACTION – YEAR SIX

Defense Depot Memphis, Tennessee

Defense Logistics Agency

MACTEC

MACTEC Engineering and Consulting, Inc.
Project No. 6301-03-0015

Air Force Center for Environmental Excellence
Contract No. F41624-03-D-8606
Task Order No. 0029

Revision 1.0

June 2005

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June 24, 2005

MEMORANDUM FOR: TURPIN BALLARD (USEPA-Region 4) and
JAMES MORRISON (TDEC)

SUBJECT: Annual Operations Report – 2004
Dunn Field Groundwater Interim Remedial Action –Year Six, Revision 1
Defense Depot Memphis, Tennessee

The 2004 Annual Operations Report, Revision 1 for the Dunn Field Groundwater Interim Remedial Action is hereby submitted. The report has been revised to reflect the comments received from USEPA and changes to the monitoring program as approved by the BRAC Cleanup Team.

For more information, please contact Thomas C. Holmes, Project Manager for MACTEC at (770) 421-3373.

MICHAEL A. DOBBS
Environmental Program Manager

Attachment via CD:
Annual Operations Report - 2004, Revision 1

Distribution:

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LIST OF ACRONYMS AND ABBREVIATIONS

AFCEE	Air Force Center for Environmental Excellence
Allied	Allied Electrical Contractors, Inc.
bgs	below ground surface
BRAC	Base Realignment and Closure
CT	Carbon tetrachloride
CF	Chloroform
cDCE	cis-1,2-Dichloroethene
DCE	1,1-Dichloroethene
DDMT	Defense Depot Memphis, Tennessee
DLA	Defense Logistics Agency
DoD	Department of Defense
DQE	Data quality evaluation
gpm	Gallons per minute
IRA	Interim Remedial Action
MACTEC	MACTEC Engineering and Consulting, Inc.
MCL	Maximum contaminant level
MI	Main Installation
ml	milliliter
MLGW	Memphis Light Gas and Water
msl	mean seal level
MS/MSD	Matrix Spike/Matrix Spike Duplicate
O&M	Operation and maintenance
PCA	1,1,2,2-Tetrachloroethane
PCE	Tetrachloroethene
PDB	Passive diffusion bag samplers
QC	Quality control
RA SAP	Remedial Action Sampling and Analysis Plan
ROD	Record of Decision
STL	Severn Trent Laboratories
SVOCs	Semi-volatile organic compounds
TCA	1,1,2-Trichloethane

LIST OF ACRONYMS AND ABBREVIATIONS
(Continued)

TCE	Trichloroethene
tDCE	trans-1,2-Dichloroethene
USEPA	United States Environmental Protection Agency
VOCs	Volatile organic compounds

1.0 INTRODUCTION

MACTEC Engineering and Consulting, Inc. (MACTEC) has prepared this Annual Operations Report for the Groundwater Interim Remedial Action (IRA) under Contract F41624-03-D-8606, Task Order 29 to the Air Force Center for Environmental Excellence (AFCEE). This report summarizes the operations and maintenance activities for the groundwater recovery system and the results of system monitoring for 2004, Year Six of the Groundwater IRA on Dunn Field at the Defense Depot Memphis, Tennessee (DDMT).

1.1 SITE DESCRIPTION AND BACKGROUND

DDMT, which originated as a military facility in the early 1940s, received, warehoused, and distributed supplies common to all U.S. military services and some civil agencies located primarily in the southeastern United States, Puerto Rico, and Panama. Stocked items included food, clothing, petroleum products, construction materials, and industrial, medical, and general supplies. In 1995, DDMT was placed on the list of the Department of Defense (DoD) facilities to be closed under Base Realignment and Closure (BRAC). Storage and distribution of material continued until the facility closed in September 1997.

DDMT is located in southeastern Memphis, Shelby County, Tennessee approximately 5 miles east of the Mississippi River and just northeast of Interstate 240. The property consists of approximately 642 acres and includes the Main Installation (MI) and Dunn Field. The MI contains approximately 578 acres with open storage areas, warehouses, military family housing, and outdoor recreational areas. Dunn Field contains approximately 64 acres and includes former mineral storage and waste disposal areas. Dunn Field is located across Dunn Avenue from the north-northwest portion of the MI. Figure 1-1 shows locations of the monitoring and recovery wells at Dunn Field.

In 1992, DDMT was added to the National Priorities List. The lead agency for environmental restoration activities at DDMT is the Defense Logistics Agency (DLA). The regulatory oversight agencies are the United States Environmental Protection Agency Region 4 (USEPA) and the Tennessee Department of Environmental Conservation. DDMT's USEPA Identification Number is TN4210020570.

1.2 GEOLOGY AND HYDROGEOLOGY

The geologic units of interest at Dunn Field are (from youngest to oldest) loess, including surface soil; fluvial deposits; Jackson Formation/Upper Claiborne Group; and Memphis Sand.

The Quaternary-aged loess consists of wind-blown deposits, brown to reddish-brown, and low-plasticity clayey silt to silty clay. The loess deposits are about 20 to 30 feet thick and are continuous throughout the Dunn Field area.

The Quaternary- and possibly Pliocene-aged fluvial (terrace) deposits are composed of two general layers. The upper layer is a silty, sandy clay that transitions to a clayey sand and ranges from about 10 feet to 36 feet thick. The lower layer is composed of interlayered sand, sandy gravel, and gravelly sand, and has an average thickness of approximately 40 feet.

The late Eocene-aged Jackson Formation/Upper Claiborne Group consists of clays, silts, and sands. The upper clay unit appears to be continuous except in the southwestern area of Dunn Field. Offsite, to the west and northwest of Dunn Field, there are possible gaps in the clay. Where present, these gaps create connections to the underlying intermediate aquifer from the fluvial deposits.

The Early to Middle Eocene-aged Memphis Sand is composed primarily of thick-bedded, white to brown or gray, very fine-grained to gravelly, partly argillaceous and micaceous sand. Lignitic clay beds constitute a small percentage of the total thickness. The Memphis Sand ranges from 500 to 890 feet in thickness and is at a depth of approximately 120 to 300 feet below ground surface (bgs). The only monitoring well completed in the Memphis Sand at DDMT is MW-67. The top of the Memphis Sand was identified at a depth of 255 feet bgs (elevation of 21 feet above mean sea level [msl]).

Three aquifers of interest underlying Dunn Field correspond to the geologic units described previously.

The uppermost aquifer is an unconfined fluvial aquifer consisting of saturated sands and gravelly sands in the lower portion of the fluvial deposits. Recharge is primarily from the infiltration of rainfall. Discharge is generally directed toward underlying units in hydraulic communication with the fluvial deposits or laterally into adjacent stream channels. The saturated thickness of the fluvial aquifer ranges from 3 feet at MW-91 to 50 feet at MW-168 and is controlled by the configuration of the uppermost clay in the Jackson

Formation/Upper Claiborne Group. Water level elevations range from approximately 183 feet msl at MW-40 to 247 feet msl at MW-128.

The intermediate aquifer is locally developed in deposits of the Jackson Formation/Upper Claiborne Group, which contain laterally extensive, thick deposits of clay. Water level elevations in the intermediate aquifer, away from areas of recharge from the fluvial aquifer, are approximately 160 feet msl with a general westward flow.

The Memphis aquifer contains groundwater under strong artesian (confined) conditions regionally. The City of Memphis obtains the majority of its drinking water from this unit; the Allen Well Field is located approximately 2 miles west of Dunn Field. The Memphis aquifer is confined by overlying clays and silts in the Cook Mountain Formation (part of the Jackson/Upper Claiborne Group). This aquifer receives most of its recharge from an outcrop area several miles east of Memphis. Some recharge is derived from overlying or hydraulically communicating units. The top of the Memphis aquifer potentiometric surface at MW-67 is approximately 160 feet msl.

1.3 GROUNDWATER CONTAMINATION

Nine volatile organic compounds (VOCs) have been persistently detected in the fluvial aquifer during past sampling events: carbon tetrachloride (CT); chloroform (CF); 1,1-dichloroethene (DCE); cis-1,2-dichloroethene (cDCE); trans-1,2-dichloroethene (tDCE); 1,1,2-trichloroethane (TCA); trichloroethene (TCE); tetrachloroethene (PCE) and 1,1,1,2-tetrachloroethane (PCA). Three primary VOC plumes appear to underlie Dunn Field: a northern plume, a west-northwest (central) plume, and west-southwest (southern) plume. There appears to be mixing and intermingling of the plumes due to the active groundwater extraction system and natural groundwater flow.

The primary constituents in the northern plume are PCE, TCE, and DCE. There is an apparent offsite source(s) of these compounds northeast of Dunn Field; however, the disposal sites in the northwest corner of Dunn Field are also apparent source areas. The central plume contains high concentrations of PCA and TCE and also contains PCE, cDCE, TCA, CT, and CF. The southern plume is principally composed of PCA, CT, TCA, and CF, although TCE, PCE, and cDCE are also present. The central and southern plumes appear to result from disposal sites on Dunn Field.

1.4 SYSTEM DESCRIPTION

The IRA Record of Decision (ROD) for groundwater at Dunn Field was signed in April 1996 with the objectives of hydraulic containment to: (1) prevent further contaminant plume migration; and (2) reduce contaminant mass in groundwater. The final design for Phase 1 of this groundwater extraction system was completed in August 1997 and included the installation of seven groundwater extraction wells (RW-3 through RW-9), one pre-cast concrete building, an underground conveyance system, and flow measurement and control systems. The system was constructed from January 1998 through October 1998 and began operation in November 1998.

The Phase II design was completed in January 2000 and included four additional extraction wells and associated electrical, mechanical, and instrumentation/controls components. The Phase II system update was due to the detection of additional groundwater contamination in the southern portion of Dunn Field. Installation of new recovery wells (RW-1, RW-1A, RW-1B and RW-2) south of recovery well RW-03 and construction of other components was completed by March 2001. The expanded system was in full operation in June 2001.

The Five Year Review for Dunn Field (CH2M HILL, 2003) concluded that over 300 pounds of VOCs had been removed by the IRA from 1998 to 2002. However, the extraction system did not adequately control groundwater flow and plume migration in the fluvial aquifer. Potentiometric surface maps indicated that groundwater was captured in the immediate vicinity of each recovery well, but the capture zones were not connected between wells, and portions of the groundwater plume were able to pass through the recovery system. An increase in CVOC concentrations was observed in monitoring wells west of Dunn Field.

The IRA was found to be protective in the short term, because there is no current or planned use of the fluvial aquifer as a drinking water supply and local ordinances restrict installation of private wells. The Five Year Review stated that monitoring data from the IRA and the remedial investigation (CH2M HILL, 2002) suggested that aquifer restoration could be accomplished effectively by other technologies rather than expanding the groundwater extraction system. Fully protective remedies for all media were selected in the Dunn Field ROD (CH2M HILL, 2004a).

1.5 SCOPE OF WORK

MACTEC assumed the operation and maintenance (O&M) activities for the Groundwater IRA system on 1 January 2004. The goals for O&M are to:

- Maintain system operations through regular field inspections, maintenance, and repairs
- Monitor system effectiveness through the measurement of water levels and the collection and analysis of system effluent samples and groundwater samples from monitoring wells and recovery wells

The following sections briefly describe the field activities performed to support these objectives. During the performance of the O&M activities, MACTEC reviewed the *Operations and Maintenance Manual for Instrumentation and Controls* (OHM Remediation Services, 1999) and the *Construction Report* (Jacobs Engineering Group, 2001) for Phase II.

The scope for the Groundwater IRA included the following activities:

- Semi-monthly system inspections with repair or replacement of components, as required.
- Annual system calibration.
- Monthly discharge reports to document O&M activities, system status, and performance.
- Water levels measured semi-monthly in recovery wells and quarterly in monitoring wells. Water level data from pressure transducers in recovery wells and selected monitoring wells downloaded quarterly.
- Semi-annual groundwater samples collected from monitoring wells using passive diffusion bag samplers (PDB) and from recovery well samples using wellhead sampling ports. Samples analyzed for VOCs.
- Quarterly effluent samples analyzed for VOCs with semi-annual effluent samples analyzed for semi-volatile organic compounds (SVOCs) and metals in accordance with the wastewater discharge agreement (Appendix A).

2.0 SYSTEM OPERATIONS ACTIVITIES

System O&M requirements were evaluated during semi-monthly visits. Observations and other system data were presented in monthly discharge reports, which are included in Appendix B.

2.1 SYSTEM PERFORMANCE

The system performed well in 2004 with an average operational run time for all recovery wells of 93 percent. Three recovery wells, RW-2, RW-4 and RW-8, had extended downtimes, with operational run time below 90 percent. RW-4 was not operational when MACTEC assumed O&M activities in January 2004. The entire system was shut down twice during the year. The system was shut down from 22 to 25 June to determine groundwater flow without the influence of recovery well extraction. From 2 to 5 August, the system was shut down again for road construction and replacement of the discharge piping to the sanitary sewer at the intersection of Hayes and Persons Roads near the northeast corner of Dunn Field.

Recovery Well ID	Operational Run Times (Percent)												
	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Average
RW-1	100	100	100	100	65	89	100	84	100	100	100	97	95
RW-1A	100	100	100	100	100	89	100	84	100	100	100	95	97
RW-1B	100	100	100	100	100	89	100	84	100	100	100	42	93
RW-2	100	100	100	100	100	89	100	84	100	100	20	0	83
RW-3	100	100	100	100	100	89	100	90	100	100	100	100	98
RW-4	6	38	52	100	100	89	100	60	100	100	100	97	78
RW-5	100	100	58	100	100	89	100	90	100	100	100	100	95
RW-6	100	100	100	100	100	89	100	79	100	100	100	100	97
RW-7	100	100	100	100	100	89	22	90	100	100	100	100	92
RW-8	100	97	71	65	65	64	100	90	100	100	100	100	88
RW-9	100	100	100	100	100	89	100	90	100	100	100	100	98

Approximately 31,356,000 gallons of groundwater was discharged to the sanitary sewer from 1 January 2004 through 31 December 2004. Flow rates collected during the semi-monthly visits were used to calculate the groundwater recovery rates. When flow meters were not operational during the visits, historical flow rates were used to calculate the groundwater volume extracted. The average monthly pumping rate for each well is shown below.

Recovery Well ID	Average Monthly Pumping Rate (Gallons Per Minute) and Total Volume (Gallons)													
	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Avg. 2004	Total Volume
RW-1	0.1	1.0	1.0	1.0	0.6	0.9	1.0	1.0	1.7	1.3	1.4	1.9	1.1	565,776
RW-1A	3.6	3.6	3.7	4.3	4.2	3.8	3.7	3.5	6.4	5.3	3.6	2.8	4.0	2,126,305
RW-1B	1.5	1.4	1.5	1.6	1.6	1.4	1.6	1.5	2.2	2.0	1.8	0.7	1.6	827,237
RW-2	2.2	2.1	2.1	2.0	2.1	1.8	1.8	3.3	1.7	1.8	0.3	0.0	1.8	939,456
RW-3	2.0	0.1	0.1	0.1	0.1	0.2	1.9	2.3	5.2	5.1	5.1	5.1	2.3	1,198,863
RW-4	0.5	0.4	1.2	3.0	3.2	3.1	2.8	1.5	2.5	2.5	2.5	2.3	2.1	1,103,272
RW-5	3.3	3.2	1.9	3.2	3.2	2.8	3.3	4.9	11.8	11.8	2.5	3.2	4.6	2,425,248
RW-6	8.8	7.9	8.3	8.1	9.8	9.3	12.5	9.3	12.1	11.7	11.8	11.9	10.1	5,334,631
RW-7	9.2	9.2	9.3	9.4	9.3	8.2	1.9	4.8	4.3	4.3	4.3	4.2	6.5	3,441,312
RW-8	13.9	13.4	10.2	7.3	6.1	8.9	14.0	12.9	14.4	14.3	14.2	14.3	12.0	6,308,221
RW-9	14.5	14.4	14.5	9.5	14.8	13.1	14.7	12.4	13.8	14.6	14.4	10.6	13.4	7,085,808

2.2 RECOVERY WELL MAINTENANCE

Aboveground piping at several wells (RW-1, RW-1A, RW-1B, RW-2, and RW-4) was cracked during a period of below-freezing temperature in December; the piping was replaced before year end. Leakage from the cracked pipes was minor and was contained within the recovery well pump houses. Wells RW-3, RW-6, and RW-9 were 100 percent operational except for the system downtimes previously mentioned. Other maintenance activities at individual recovery wells are described below.

- RW-1 was 95 percent operational. The flow meter was observed to require repair in April and was replaced in May. Repairs to cracked piping were made in December.
- RW-1A was 97 percent operational. Repairs to cracked piping were made in December.
- RW-1B was 93 percent operational for the year. The pump was down after 14 December due to electrical problems; repairs will be made in 2005. Repairs to cracked piping were made in December.
- RW-2 was 83 percent operational for the year. A faulty motor protection switch was observed in early November and was replaced in December. The pump remains out

of operation and additional repairs will be required in 2005. Repairs to cracked piping were made in December.

- RW-3 was 98 percent operational for the year. Repairs were made to the flow meter in January and April. The flow meter was replaced in June.
- RW-4 was 78 percent operational. The microcontroller was sent for repair in January and was replaced in March. The pump and motor were also replaced in March. Damaged drop pipe fittings were repaired in August.
- RW-5 was 95 percent operational. The flow meter was observed to require repair in April and was replaced in June.
- RW-6 was 97 percent operational. Damaged drop pipe fittings were repaired in August.
- RW-7 was 92 percent operational. The pump failed and was replaced in July.
- RW-8 was 88 percent operational. The pump and motor were replaced in March. Overloaded switch breakers were replaced in May.
- RW-9 was 98 percent operational. The flow meter was re-calibrated in June and was repaired in July.

2.3 SYSTEM CALIBRATION

System instrumentation and controls were evaluated in June 2004 by Allied Electrical Contractors, Inc. (Allied) under subcontract to MACTEC. The evaluation consisted of measuring the voltage and amperage at each well head and comparing with the manufacturers' recommended values. The measurements were reported to be acceptable except for the RW-1 flow meter and the RW-1B flow control valve actuator.

After the evaluation by Allied, a senior MACTEC technician performed an additional evaluation to further optimize the instrumentation and control system. The second evaluation was targeted to address the items identified during the initial calibration, along with the following concerns:

- Connection capabilities to the data logger were inconsistent
- Excessive cycling was noted in RW-1 along with apparent transducer drift
- RW-5 Microcontroller display was not operational

A review of the data logger and connections indicates that the modem may require replacement. Connections with the system can be made; however, they are inconsistent and multiple attempts are required for each connection. Additionally, the quality of the primary phone line appears to be limiting the connections.

The RW-1 pump system appears to have been struck by lightning. The microcontroller required reprogramming and the transducer will require replacement. The flow control valve was removed and damaged parts were replaced.

The RW-5 microcontroller was evaluated, re-programmed and is now functional. The RW-4, RW-5 and RW-7 microcontrollers were also re-programmed. The following items were noted as requiring further maintenance and/or repair:

- Transducer Replacement: RW-1, RW-1A, RW-1B and RW-2
- Flow Control Valve Repair: RW-1A, RW-1B, RW-2 and RW-3

The control valves were noted to require cleaning and repair due to iron buildup. Circuit boards will require replacement in some cases.

These repairs will improve the operation of the system and will not require the system or an individual recovery well to be taken offline for an extended period. Recommendations for system O&M repairs are summarized in Section 5.0.

3.0 SYSTEM MONITORING ACTIVITIES

The system monitoring activities consist of quarterly water level measurements, analysis of groundwater samples from recovery wells and monitoring wells, and analysis of effluent samples from the recovery system discharge. The activities are performed in accordance with past practice for the Groundwater IRA and with the Health and Safety Plan (MACTEC 2004a) and the Remedial Action Sampling and Analysis Plan (RA SAP) (MACTEC, 2004b). The activities are summarized below.

3.1 WATER LEVEL MEASUREMENTS

Water level measurements were collected to evaluate the capture zone of the recovery system and groundwater flow direction. Water levels were measured with a Solinst Model 101 water level meter with an electronic sensor and tape graduated in 0.01-foot increments. Water level measurements were collected on 6-7 January 2004, 6-7 April 2004, 21-22 June 2004 and 14-15 October 2004. Water levels were measured in approximately 80 monitoring wells, a piezometer, and the recovery wells. The wells included in the water level measurements are listed on Table 3-1.

In addition to the manual measurements, pressure transducers that record water levels on a 30-minute cycle are downloaded quarterly for the recovery wells and six monitoring wells (MW-04, MW-13, MW-45, MW-55, MW-84, and MW-95). The MW-95 transducer was removed on 7 April 2004 for the sampling event and replaced on 4 August 2004. Pressure transducer packs were replaced at each recovery well during an O&M site visit on 23 September 2004.

3.2 GROUNDWATER SAMPLING

3.2.1 Monitoring Wells

Groundwater samples are collected from monitoring wells to evaluate system effectiveness in restricting contaminant migration. Samples were collected from 36 wells in April and from 34 wells in October using PDB samplers. MW-56 and MW-58 were sampled in April but not in October. The saturated screened interval [0.7 feet in MW-56 and 0 feet (dry) in MW-58] was not sufficient for PDB sampling. Sampling procedures were in general accordance with the *User's Guide for Polyethylene-Based Passive Diffusion Bag Samplers to Obtain Volatile Organic Compound Concentrations in Wells, Water Resources*

Investigation Report 01-406 (U.S. Geological Survey, 2001) and the RA SAP. The wells included in the sampling program are listed on Table 3-1.

Multiple samples were collected at individual wells with saturated screened intervals greater than 5 feet to evaluate variation in concentrations over the screened aquifer thickness. A total of 86 PDB samples was collected in June and 76 PDB samples was collected in October. The samples were collected by filling the PDBs with deionized water and placing each PDB at the pre-selected depth interval within the well's saturated screen interval. One PDB was installed for approximately each 5 feet of saturated screen interval. PDB sample intervals for each monitoring well are shown on Table 3-2.

The PDBs were placed in the wells on 6-7 April and retrieved on 28-29 April for the first semi-annual sampling event, with placement on 4-5 October and retrieval on 20-22 October for the second semi-annual sampling event. Upon removal from the monitoring well, a sample of water from the PDB was transferred to 40-milliliter (ml) vials preserved with hydrochloric acid. The groundwater samples were sent to Severn Trent Laboratories (STL) for VOC analysis by USEPA method SW8260B.

3.2.2 Recovery Wells

Groundwater samples are collected from recovery wells for comparison to monitoring well sample results and for evaluation of system effectiveness in reducing contaminant mass. Samples were collected from all the recovery wells except RW-8 on 4 May for the first semi-annual sampling event; a sample was collected from RW-8 on 12 May following electrical repairs to the recovery well pump. Samples from all recovery wells were collected on 22 October for the second semi-annual event (Table 3-1).

Samples were collected from the sample port on the recovery well heads. The valve was slowly opened and the extracted groundwater was allowed to slowly fill 40-ml vials preserved with hydrochloric acid. The sample vials were sent to STL for VOC analysis by USEPA method SW8260B.

3.3 EFFLUENT SAMPLING

Effluent samples are collected to comply with the discharge permit requirements and to estimate contaminant mass reduction. The effluent samples are collected from the groundwater extraction system at a location approximately 200 feet upstream from the final discharge point. The discharge point is a manhole on Person Avenue at the north property line of DDMT. The valve on the sample port is slowly opened and the system discharge is allowed to slowly fill the required sample containers.

Effluent samples were collected on 24 May and 30 November 2004 and sent to STL for VOC analysis by USEPA method SW8260, SVOCs by USEPA method SW8270C, and metals by USEPA method SW6010B. Additional effluent samples to support system evaluation were collected on 21 February and 27 August 2004 and sent to STL for VOC analysis by USEPA method SW8260B.

3.4 QUALITY ASSURANCE/QUALITY CONTROL SAMPLES

Field and laboratory quality control (QC) samples were collected during each sampling event. Although groundwater was the only matrix analyzed, samples were collected from three sources: monitoring wells, recovery wells, and effluent discharge.

QC samples consisted of field blanks and duplicates. Trip blanks were included in coolers delivered from the laboratory. One duplicate was collected for approximately every 10 samples and 1 matrix spike and matrix spike duplicate (MS/MSD) was collected for every 20 samples. Laboratory QA/QC included surrogate spikes, method blanks, laboratory control samples, and MS/MSD analysis. The sampling and analytical methods are described in the RA SAP (MACTEC, 2004b).

Documentation was completed in the field to ensure that the samples collected, labels, chain-of-custody, and request for analysis were in agreement. Custody seals were placed on each cooler before shipment by common carrier. Samples were typically shipped the day collected for overnight delivery to the laboratory. It should be noted that trip blanks were inadvertently left from the cooler shipments in October 2004. However, a review of the remaining field and laboratory QC samples did not indicate a negative impact on the data quality. Corrective action has been taken to prevent similar oversights in future sample shipments.

4.0 SUMMARY OF MONITORING RESULTS

The results of the water level measurements and analysis of groundwater and effluent samples for system monitoring are discussed below.

4.1 WATER LEVEL MEASUREMENTS

Water level measurements for 6-7 January, 6-7 April, 21-22 June, and 14-15 October are shown with resulting groundwater elevations on Table 4-1. Groundwater elevations in the fluvial aquifer are highest northeast of Dunn Field (245 feet msl at MW-128) and decrease to the west-southwest (210 feet msl at MW-127). The groundwater elevations in the intermediate aquifer ranged from approximately 178 feet msl in MW-38 south of Dunn Field to 160 feet msl in MW-37 west of Dunn Field. Groundwater elevations in MW-67, which is screened in the Memphis Sand, were approximately 155 to 160 feet msl. The variation in water levels in the fluvial aquifer monitoring wells is primarily due to the elevation of the underlying clay of the Jackson Formation/Upper Claiborne Group. The variation in water levels between wells screened in the intermediate aquifer is likely due to higher water levels near areas of recharge from the overlying fluvial aquifer.

The groundwater elevations at monitoring wells screened in the fluvial aquifer were consistent over the four quarterly events with most wells having a variation of less than 1 foot. Wells screened in the intermediate aquifers showed variations of 1 to 5 feet, while MW-67 in the Memphis Sand had a variation of about 6 feet.

Groundwater elevation maps for the four quarterly events are included as Figures 4-1 to 4-4. Groundwater flow is to the west in the area of the Groundwater IRA system. The maps show a trough in groundwater elevations approximately 1,000 feet west of Dunn Field, with flow apparently diverging to the north and south.

4.2 ANALYTICAL RESULTS

The complete analytical results for groundwater samples from monitoring wells, recovery wells, and effluent samples collected during the second half of 2004 are presented in Appendix C. The DQE narratives are presented in Appendix D. The analytical results for samples collected during the first half of 2004 were presented in the *Semi-Annual Summary Report, Year Six First Half* (MACTEC, 2004c).

Positive results summaries for the groundwater samples from the second semi-annual event, including analytical results for all constituents detected above the reporting limit in one or more samples, are shown on Table 4-2 for monitoring wells (PDBs), and Table 4-3 for recovery wells. Analytical results for the effluent samples, with the applicable permit limits, are shown on Table 4-4.

4.3 GROUNDWATER

The following discussion of groundwater analytical results is based on concentrations detected above the reporting limit for the nine VOCs detected on a persistent basis at Dunn Field: CT, CF, DCE, tDCE, cDCE, PCA, PCE, TCA, and TCE. The analytical results are compared to the Maximum Contaminant Level (MCL) and groundwater target concentrations from Table 2-21G of the Dunn Field ROD (CH2M HILL, 2004), as listed on Tables 4-2 and 4-3. The October 2004 analytical results for these nine VOCs are presented on Figures 4-5, 4-6, and 4-7. The historical results for these nine VOCs in all the wells in the current sampling program are included in Appendix E.

4.3.1 Monitoring Wells

Analytical results for groundwater samples collected from the monitoring wells are summarized below:

- <u>CT</u> was detected in monitoring wells MW-32, MW-57, and MW-71 at concentrations ranging from 2.3 micrograms per liter (µg/L) at MW-32 to 19 µg/L at MW-57. The detected concentrations exceeded the MCL of 5 µg/L in wells MW-57 and MW-71.
- <u>CF</u> was detected in monitoring wells MW-32, MW-34, MW-57 and MW-71 at concentrations ranging from 3.8 µg/L at MW-34 to 28 µg/L at MW-71. The detected concentrations did not exceed the MCL for trihalomethanes of 80 µg/L.
- <u>DCE</u> was detected in monitoring wells MW-7, MW-8, MW-29, MW-31, MW-51, MW-79, MW-128, MW-129, and MW-130 at concentrations ranging from 1.1 µg/L at MW-8 and MW-128 to 35 µg/L at MW-130. The detected concentrations in wells MW-7, MW-29, MW-31, MW-51, MW-79, MW-128, MW-129, and MW-130 exceeded the MCL of 7 µg/L.
- <u>tDCE</u> was detected in monitoring wells MW-79 at a concentration of 3.0 µg/L. The concentration did not exceed the MCL of 100 µg/L.
- <u>cDCE</u> was detected in monitoring wells MW-32 (1.7 µg/L) and MW-54 (70 µg/L). The reported concentration at MW-54 meets the MCL of 70 µg/L.
- <u>PCA</u> was detected in monitoring wells MW-32, MW-54, MW-68, MW-70, MW-71, MW-76, and MW-77 at concentrations ranging from 3.6 µg/L at MW-32 to 5800 µg/L at MW-70. The detected concentrations exceeded the target concentration of 2.2 µg/L in all of these wells.

- PCE was detected in monitoring wells MW-7, MW-8, MW-29, MW-51, MW-57, MW-69, MW-79, MW-129, and MW-130 at concentrations ranging from 1.2 µg/L at MW-51 to 63 µg/L at MW-130. The detected concentrations exceeded the MCL of 5 µg/L in wells MW-7, MW-29, MW-129, and MW-130.

- TCA was not detected in any of the monitoring wells.

- TCE was detected in monitoring wells MW-7, MW-8, MW-29, MW-31, MW-32, MW-51, MW-54, MW-57, MW-68, MW-69, MW-70, MW-71, MW-76, MW-77, MW-78, MW-79, MW-128, MW-129, and MW-130 at concentrations ranging from 1.3 µg/L at MW-8 to 2700 µg/L at MW-54. The detected concentrations of TCE exceeded the MCL of 5 µg/L in wells MW-7, MW-29, MW-32, MW-51, MW-54, MW-57, MW-68, MW-70, MW-71, MW-76, MW-77, MW-79, MW-128, MW-129 and MW-130.

4.3.2 Recovery Wells

Analytical results for groundwater samples collected from the recovery wells are summarized below:

- CT was detected in recovery wells RW-1, RW-1A, RW-1B, RW-2, RW-3, and RW-4 at concentrations ranging from 1.5 µg/L in RW-4 to 29 µg/L in RW-1. The detected concentrations exceeded the MCL of 5 µg/L in wells RW-1, RW-1A, RW-1B, RW-2, and RW-3.

- CF was detected in recovery wells RW-1, RW-1A, RW-1B, RW-2, RW-3, RW-5, RW-6, RW-7, RW-8, and RW-9 at concentrations ranging from 1.8 µg/L in RW-3, RW-5, and RW-6 to 680 µg/L in RW-1A. The detected concentrations exceeded the MCL of 80 µg/L in wells RW-1 and RW-1A.

- DCE was detected in recovery wells RW-8 (12 µg/L) and RW-9 (24 µg/L). The concentrations exceeded the MCL of 7 µg/L in both wells.

- tDCE was detected in recovery wells RW-1, RW-1B, RW-2, RW-3, RW-5, RW-6, RW-7, RW-8, and RW-9 at concentrations ranging from 1.2 µg/L in RW-1B and RW-3 to 28 µg/L in RW-8. The detected concentrations did not exceed the MCL of 100 µg/L.

- cDCE was detected in all of the recovery wells except RW-5 at concentrations ranging from 3.9 µg/L in RW-1 to 130 µg/L in RW-8. The detected concentrations exceeded the MCL of 70 µg/L in recovery wells RW-2 and RW-8.

- PCA was detected in recovery wells RW-1A, RW-2, RW-4, RW-7, RW-8, and RW-9 at concentrations ranging from 6.3 µg/L in RW-9 to 840 µg/L in RW-4. The detected concentrations exceeded the target concentration of 2.2 µg/L in all these wells.

- PCE was detected in all of the recovery wells except RW-4 at concentrations ranging from 1.2 µg/L in RW-3 to 32 µg/L in RW-9. The detected concentrations exceeded the MCL of 5 µg/L in recovery wells RW-1, RW-1A, RW-8, and RW-9.

- TCA was not detected in any of the recovery wells.

- TCE was detected in all of the recovery wells at concentrations ranging from 22 µg/L in RW-5 to 860 µg/L in RW-4. The concentrations exceeded the MCL of 5 µg/L in all of the recovery wells.

4.4 EFFLUENT SAMPLES

Effluent discharge samples were collected in February, May, August, and November 2004. The analytical results are presented on Table 4-4 with the permit discharge limits. The methylene chloride concentration in the November effluent sample of 12.0 µg/L exceeded the monthly average limit of 10 µg/L but was below the daily maximum of 20 µg/L. The result was also qualified for method blank contamination and thus was not considered an exceedance. Previous results were below the monthly limit. All other results were below the permit limits.

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 SYSTEM OPERATIONS

The system operated as intended during most of 2004. Brief system shutdowns occurred in June and August. Two wells were out of operation at the end of the year: RW-2 failed in early November and remained out of operation in December; and RW-1B failed in mid-December. Initial repairs were not successful and the pumps will be replaced in 2005.

The system extraction/effluent discharge rate ranged from 49.4 gallons per minute (gpm) in April to 76.1 gpm in September. The total discharge was approximately 31.4 million gallons (an increase over 30.5 million gallons discharged in 2003). This annual discharge quantity was calculated using the estimated discharges from individual wells, as shown in Section 2.1. The annual discharge based on the discharges shown on the monthly reports (Appendix A) is approximately 31 million gallons. The difference is due to rounding errors in the flow rates for individual wells.

Figure 5-1 shows the TCE and total VOC concentrations measured at the effluent metering station since 1998. In 2004, the concentrations increased after an initial steep decline in the January 2004 sample results. Approximately 31.8 pounds of TCE and 86.6 pounds of total VOCs were removed from the fluvial aquifer in 2004, as calculated using the estimates in the monthly reports. This compares with 38.4 pounds of TCE and 102.2 pounds of total VOCs calculated as removed in 2003 (Jacobs Federal Programs, 2004). The concentrations increased after an initial steep decline in the January 2004 sample. The effluent discharge limits were not exceeded during the reporting period.

The following system repairs are recommended for the 2005 operating year:

- Replace the pressure transducers in wells RW-1B, RW-2, and RW-5
- Repair and/or re-build the control valves to facilitate maximum pumping rates
- Evaluate replacement of the existing data logger to include remote operating capabilities to minimize site visit requirements

5.2 SYSTEM MONITORING

The analytical results are summarized for the monitoring wells in Table 5-1, which shows the nine persistent VOCs detected above the reporting limit for PDBs in each well. Of the 34 wells sampled in October, 19 wells contained one or more of the nine VOCs above reporting limits and 16 wells had concentrations above the MCL or target concentration.

Table 5-1 also shows the variation in concentrations between PDBs in each of the wells. The variability with depth appears to be insignificant except in wells MW-68 and MW-128. The analytical results for PDB interval 1 in MW-68 are questionable since that sample (70.6 to 72.6 feet below top of casing) was reported to contain PCA at 81 μg/L and acetone at 2000 μg/L; the acetone result was rejected. Previous groundwater samples from MW-68 have only contained PCA sporadically and at concentrations below 10 μg/L (Appendix E); the other two MW-68 PDB samples did not have PCA detected above the reporting limit of 1 μg/L.

Time trend plots are included in Appendix F for the Groundwater IRA system monitoring wells with contaminants detected above MCLs or target concentrations. The majority of wells currently have a stable or decreasing trend in concentrations. Many of the monitoring wells have had peaks in concentration, which then decreased over time. MW-54 has had a highly increasing trend since 2003. MW-70 has had large variation in concentrations over time with a generally increasing trend.

The 2004 monitoring program for the Groundwater IRA system included PDB samples from 36 wells, with up to 4 sample intervals per well. During 2004, approximately 30 monitoring wells were installed downgradient of Dunn Field. The new wells improved the understanding of groundwater elevation and flow direction, as well as the extent of contamination. Results from the new wells led to an early implementation of remedial action, consisting of injection of zero-valent iron into the fluvial aquifer immediately downgradient of MW-54. The remedial design of the selected remedies for Dunn Field is currently underway and the Groundwater IRA system will be mothballed upon implementation of the remedial action.

Based on activities at Dunn Field in 2004, the status of remedial design, and the evaluation of the Groundwater IRA system, MACTEC recommends the following modifications to the monitoring locations:

- Omit monitoring wells north of the IRA and that do not provide necessary monitoring data (MW-08, MW-09, MW-29, MW-30, MW-51, MW-78, MW-95, MW-128 and MW-129).
    - Well MW-128 will be retained for the May sampling event because results from only three sample events are available in the database. Four sample events are preferable for development of the Dunn Field long-term monitoring plan.
    - Two monitoring wells in this area (MW-07 and MW-130) with generally higher reported concentrations will be retained in the sampling program. MW-07 is close to recovery well RW-09 and will provide influent concentrations. MW-130 is upgradient of Dunn Field and continued analytical results will be useful for correlation with a planned TDEC investigation for source identification.
- Omit monitoring wells south of the IRA and that do not provide necessary monitoring data (MW-34, MW-36, MW-56 and MW-58). MW-34 and MW-36 are screened in the intermediate aquifer and do not monitor the IRA; MW-34 is included in the MI LTM. MW-56 and MW-58 have limited saturated thickness.
- Omit wells not downgradient of the IRA (MW-42, MW-80 and MW-126). These wells are on the western side of the groundwater trough located west of Dunn Field and the recent groundwater contours indicate flow at these wells is toward Dunn Field.
- Omit wells far from Dunn Field where closer monitoring wells will provide more useful information (MW-127).
- Add recently installed wells (MW-144 to MW-171). These wells will be sampled until analytical results are available from four sample events over roughly one year. Several of the wells will meet this criterion following the next round of samples and, following review of the analytical results, a reduction in the wells to be sampled will be considered in a mid-year report to be submitted this summer.
- Limit multiple PDB samplers to those wells that a) had observable variation in COC concentrations with depth (MW-31, MW-68, MW-69, MW-70 and MW-128) or b) were recently installed. The need for further use of multiple PDBs will be reviewed in the mid-year report, based on the planned remedy addressing the full saturated thickness in the treatment areas.
- Use a maximum of two PDBs in selected wells based on the observation that, where present, variation in concentrations was observed at the top and bottom of the screened interval.

- Where two PDB samplers are used, place the PDBs in the top and bottom 5 feet of the saturated screened interval. Place single PDBs in the middle of the saturated screened interval. Note PDBs will be 18 inches in length.

These recommendations would require collecting samples from 15 monitoring wells with a single PDB, 36 monitoring wells with multiple PDBs and 11 recovery wells with grab samples. A total of 98 groundwater samples would be collected, not including QC samples. Water levels will be measured in 118 wells.

In addition, MACTEC recommends that new PDBs be installed in the monitoring wells following retrieval and sampling of the hanging PDB. This will eliminate a trip required solely to place the PBD samplers.

6.0 REFERENCES

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TABLES

TABLE 3-1

WELL ACTIVITY SUMMARY
ANNUAL OPERATIONS REPORT - 2004
DUNN FIELD GROUNDWATER IRA - YEAR SIX
Defense Depot Memphis, Tennessee

Well	Aquifer Screened	Water Level Measurement	Groundwater Samples	
			April	October
MW-02	Fluvial	X		
MW-03	Fluvial	X		
MW-04**	Fluvial	X		
MW-05	Fluvial	X		
MW-06	Fluvial	X		
MW-07	Fluvial	X	X	X
MW-08	Fluvial	X	X	X
MW-09	Fluvial	X	X	X
MW-10	Fluvial	X		
MW-11	Fluvial	X		
MW-12	Fluvial	X		
MW-13**	Fluvial	X		
MW-14	Fluvial	X		
MW-15	Fluvial	X		
MW-18	Intermediate	X		
MW-19	Fluvial	X		
MW-27	Fluvial	X		
MW-28	Fluvial	X		
MW-29	Fluvial	X	X	X
MW-30	Fluvial	X	X	X
MW-31	Fluvial	X	X	X
MW-32	Fluvial	X	X	X
MW-33	Fluvial	X	X	X
MW-34	Intermediate	X	X	X
MW-35	Fluvial	X		
MW-36	Intermediate	X	X	X
MW-37	Intermediate	X	X	X
MW-38	Intermediate	X		
MW-40	Intermediate	X	X	X
MW-42	Fluvial	X	X	X
MW-43	Intermediate	X	X	X
MW-44	Fluvial	X	X	X
MW-45**	Fluvial	X		
MW-46	Fluvial	X		
MW-51	Fluvial	X	X	X
MW-53	Fluvial	X		
MW-54	Fluvial	X	X	X
MW-55**	Fluvial	X		
MW-56	Fluvial	X	X	
MW-57	Fluvial	X	X	X
MW-58	Fluvial	X	X	
MW-59	Fluvial	X		
MW-60	Fluvial	X		
MW-61	Fluvial	X		
MW-62	Fluvial	X		
MW-65	Fluvial	X		
MW-67	Memphis	X	X	X
MW-68	Fluvial	X	X	X
MW-69	Fluvial	X	X	X
MW-70	Fluvial	X	X	X
MW-71	Fluvial	X	X	X

TABLE 3-1

WELL ACTIVITY SUMMARY
ANNUAL OPERATIONS REPORT - 2004
DUNN FIELD GROUNDWATER IRA - YEAR SIX
Defense Depot Memphis, Tennessee

Wel	Aifer Sened	WterLevl Meamment	GoutkrSmpks	
			Apil	Otobr
MW-73	Fluvial	X		
MW-74	Fluvial	X		
MW-75	Fluvial	X		
MW-76	Fluvial	X	X	X
MW-77	Fluvial	X	X	X
MW-78	Fluvial	X	X	X
MW-79	Fluvial	X	X	X
MW-80	Fluvial	X	X	X
MW-84**	Fluvial	X		
MW-87	Fluvial	X		
MW-89	Intermediate	X		
MW-90	Intermediate	X		
MW-91	Fluvial	X		
MW-95**	Fluvial	X	X	X
MW-126	Fluvial	X	X	X
MW-127	Fluvial	X	X	X
MW-128	Fluvial	X	X	X
MW-129	Fluvial	X	X	X
MW-130	Fluvial	X	X	X
MW-131	Fluvial	X		
MW-132	Fluvial	X		
MW-133	Fluvial	X		
MW-134	Fluvial	X		
MW-135	Fluvial	X		
MW-144	Fluvial	X		
MW-145	Fluvial	X		
MW-147	Fluvial	X		
MW-148	Fluvial	X		
MW-149	Fluvial	X		
MW-150	Fluvial	X		
PZ-02	Fluvial	X		
RW-01	Fluvial	X	X	X
RW-01A	Fluvial	X	X	X
RW-01B	Fluvial	X	X	X
RW-02	Fluvial	X	X	X
RW-03	Fluvial	X	X	X
RW-04	Fluvial	X	X	X
RW-05	Fluvial	X	X	X
RW-06	Fluvial	X	X	X
RW-07	Fluvial	X	X	X
RW-08	Fluvial	X	X	X
RW-09	Fluvial	X	X	X

Notes:
** Indicates a pressure transducer is installed in the monitoring well.

TABLE 3-2

PDB SAMPLE INTERVALS
ANNUAL OPERATIONS REPORT - 2004
DUNN FIELD GROUNDWATER IRA - YEAR SIX
Defense Depot Memphis, Tennessee

Monitoring Well	Date Collected	Measured Well Depth (ft bgs)	Depth to Water (feet from toc)	Sample Depth Interval - 1 (feet btoc)	Sample Depth Interval - 2 (feet btoc)	Sample Depth Interval - 3 (feet btoc)	Sample Depth Interval - 4 (feet btoc)
MW-07	4/28/2004	73.5	66.0	66.9-68.9	70.5-72 5	NI	NI
	10/20/2004	73.5	66.0	69.6-71.6	NI	NI	NI
MW-08	4/28/2004	67 4	61.3	65-67	NI	NI	NI
	10/20/2004	67.4	61.4	64.2-66.2	NI	NI	NI
MW-09	4/28/2004	79.5	75.5	76.5-78.5	NI	NI	NI
	10/20/2004	79.5	75.5	78-79	NI	NI	NI
MW-29	4/28/2004	53.6	37.4	40.7-42.7	45.7-47.7	50.7-52.7	NI
	10/20/2004	53.6	37.8	41.6-43.6	46.1-48.1	50.6-52.6	NI
MW-30	4/29/2004	60.0	46.0	46.5-48.5	51.5-53.5	56.5-58.5	NI
	10/20/2004	60.0	45.9	49-51	53-55	57-59	NI
MW-31	4/29/2004	81.0	69.6	72.2-74.2	77.5-79.5	NI	NI
	10/20/2004	81.0	69.5	72.5-74.5	77.5-79.5	NI	NI
MW-32	4/29/2004	67.8	63.4	64.5-66.5	NI	NI	NI
	10/20/2004	67.8	62.3	65.9-66.9	NI	NI	NI
MW-33	4/29/2004	63.2	55.8	56-58	59.5-61.5	NI	NI
	10/20/2004	63.2	55.7	59.3-61 3	NI	NI	NI
MW-34	4/28/2004	155.8	133.7	138-140	142-144	147-149	152-154
	10/20/2004	155.8	133.1	142.3-144.3	147.3-149.3	152.3-154.3	NI
MW-36	4/28/2004	206.2	148.9	192.9-194.9	197.9-199.9	202.9-204.9	NI
	10/21/2004	206.2	NM	192.7-194.7	197.7-199.7	202.7-204.7	NI
MW-37	4/29/2004	184.0	123.8	170.5-172.5	175.5-177.5	180.5-182.5	NI
	10/21/2004	184.0	128.7	170.5-172.5	175.5-177.5	180.5-182.5	NI
MW-40	4/29/2004	95.4	79.4	87.9-89.9	91.9-93.9	NI	NI
	10/21/2004	95 4	80.6	86.9-88.9	91.9-93.9	NI	NI
MW-42	4/29/2004	58.3	53.7	54.4-56.4	NI	NI	NI
	10/21/2004	58.3	52.8	55.8-57.8	NI	NI	NI
MW-43	4/29/2004	171.5	122.4	163-165	168-170	NI	NI
	10/21/2004	171.5	126.9	163-165	168-170	NI	NI

TABLE 3-2

PDB SAMPLE INTERVALS
ANNUAL OPERATIONS REPORT - 2004
DUNN FIELD GROUNDWATER IRA - YEAR SIX
Defense Depot Memphis, Tennessee

Monitoring Well	Date Collected	Measured Well Depth (ft bgs)	Depth to Water (feet from toc)	Sample Depth Interval - 1 (feet btoc)	Sample Depth Interval - 2 (feet btoc)	Sample Depth Interval - 3 (feet btoc)	Sample Depth Interval - 4 (feet btoc)
MW-44	4/29/2004	72.8	53.9	64-66	69-71	NI	NI
	10/21/2004	72.8	53.8	64-66	69-71	NI	NI
MW-51	4/29/2004	66.6	39.3	58-60	63-65	NI	NI
	10/21/2004	66.6	39.8	58-60	63-65	NI	NI
MW-54	4/29/2004	94.4	79.5	85.6-87.6	90.6-92.6	NI	NI
	10/21/2004	94.4	79.3	85.6-87.6	90.6-92.6	NI	NI
MW-56	4/28/2004	69.4	67.1	67.2-69.2	NI	NI	NI
MW-57	4/29/2004	70.4	63.4	64.5-65.5	67-69	NI	NI
	10/21/2004	70.4	63.5	66.8-68.8	NI	NI	NI
MW-58	4/28/2004	67.7	63.2	64.5-66.5	NI	NI	NI
MW-67	4/29/2004	275.0	116.8	261-263	266-268	271-273	NI
	10/21/2004	275.0	122.4	261-263	266-268	271-273	NI
MW-68	4/29/2004	81.6	68.0	69-71	73-75	78-80	NI
	10/21/2004	81.6	67.9	70.6-72.6	74.6-76.6	78.6-80.6	NI
MW-69	4/29/2004	94.9	83.0	86-88	91-93	NI	NI
	10/21/2004	94.9	83.0	86 4-88.4	91.4-93.4	NI	NI
MW-70	4/29/2004	94.4	80.7	85.8-87.8	90.8-92.8	NI	NI
	10/21/2004	94.4	80.8	85.8-87.8	90.8-92.8	NI	NI
MW-71	4/29/2004	77.9	70.2	71-73	74.4-76.4	NI	NI
	10/21/2004	77.9	70.0	73.9-75.9	NI	NI	NI
MW-76	4/29/2004	94 8	83 6	86-88	91-93	NI	NI
	10/21/2004	94.8	83.4	86.3-88.3	91.3-93.3	NI	NI
MW-77	4/29/2004	89.1	81.7	82-84	85.6-87.6	NI	NI
	10/21/2004	89.1	81.7	85.3-87.3	NI	NI	NI
MW-78	4/29/2004	65.3	47.5	47-49	52-54	57-59	62-64
	10/21/2004	65.3	47.5	51.8-53.8	56.8-58.8	61.8-63.8	NI
MW-79	4/29/2004	102.6	70.4	84-86	89-91	94-96	99-101
	10/22/2004	102.6	70.2	84-86	89-91	94-96	99-101
MW-80	4/29/2004	73.5	58.9	59.9-61.9	64.9-66.9	69.9-71.9	NI
	10/22/2004	73.5	58.7	62-64	66-68	70-72	NI

TABLE 3-2

PDB SAMPLE INTERVALS
ANNUAL OPERATIONS REPORT - 2004
DUNN FIELD GROUNDWATER IRA - YEAR SIX
Defense Depot Memphis, Tennessee

Monitoring Well	Date Collected	Measured Well Depth (ft bgs)	Depth to Water (feet from toc)	Sample Depth Interval - 1 (feet btoc)	Sample Depth Interval - 2 (feet btoc)	Sample Depth Interval - 3 (feet btoc)	Sample Depth Interval - 4 (feet btoc)
MW-95	4/29/2004	60.7	25.6	42-44	47-49	52-54	57-59
	10/22/2004	60.7	27.4	42-44	47-49	52-54	57-59
MW-126	4/29/2004	25.7	15.3	17.2-19.2	22.2-24.2	NI	NI
	10/22/2004	25.7	20.1	23.2-25.2	NI	NI	NI
MW-127	4/29/2004	69.9	58.1	61.2-63.2	66.2-68.2	NI	NI
	10/22/2004	69.9	57.8	61.2-63.2	66.2-68.2	NI	NI
MW-128	4/29/2004	74.6	37.5	56-58	61-63	66-68	71-73
	10/22/2004	74.6	39.3	56-58	61-63	66-68	71-73
MW-129	4/29/2004	80.0	54.3	66.3-68.3	71.3-73.3	76.3-78.3	NI
	10/22/2004	80.0	58.5	66.3-68.3	71.3-73.3	76.3-78.3	NI
MW-130	4/29/2004	79.7	53.5	60.5-62.5	65.5-67.5	70.5-72.5	75.5-77.5
	10/22/2004	79.7	53.8	60.5-62.5	65.5-67.5	70.5-72.5	75.5-77.5

Notes:
NI Not installed
bgs Below ground surface
btoc Below top of casing

TABLE 4-1

WATER LEVEL MEASUREMENTS
ANNUAL OPERATIONS REPORT - 2004
DUNN FIELD GROUNDWATER IRA - YEAR SIX
Defense Depot Memphis, Tennessee

			January 6-7, 2004		April 6-7, 2004		June 21-22, 2004		October 14-15, 2004	
Well ID	Screened Interval	Top of Casing Elevation (ft. msl)	Depth to Water (ft. btoc)	Water Level Elevation (ft. msl)	Depth to Water (ft. btoc)	Water Level Elevation (ft. msl)	Depth to Water (ft. btoc)	Water Level Elevation (ft. msl)	Depth to Water (ft. btoc)	Water Level Elevation (ft. msl)
MW-02	Fluvial	292.04	NM	-	NM	-	67.90	224.14	30.81	261.23
MW-03	Fluvial	292.35	68.55	223.80	68.31	224.04	68.16	224.19	68.28	224.07
MW-04	Fluvial	301.61	74.84	226.77	74.66	226.95	74.50	227.11	74.61	227.00
MW-05	Fluvial	304.64	Dry		Dry		Dry		Dry	
MW-06	Fluvial	289.11	64.32	224.79	63.97	225.14	63.77	225.34	63.92	225.19
MW-07	Fluvial	295.10	66.26	228.84	66.00	229.10	65.60	229.50	65.99	229.11
MW-08	Fluvial	292.59	61.69	230.90	61.31	231.28	60.81	231.78	61.36	231.23
MW-09	Fluvial	304.32	75.60	228.72	75.52	228.80	75.15	229.17	75.45	228.87
MW-10	Fluvial	288.79	63.39	225.40	63.22	225.57	69.23	219.56	63.28	225.51
MW-11	Fluvial	299.47	75.27	224.20	75.08	224.39	75.03	224.44	75.00	224.47
MW-12	Fluvial	301.30	76.68	224.62	76.51	224.79	76.45	224.85	76.57	224.73
MW-13	Fluvial	300.01	73.13	226.88	72.96	227.05	72.84	227.17	72.98	227.03
MW-14	Fluvial	302.22	74.60	227.62	73.99	228.23	73.96	228.26	73.93	228.29
MW-15	Fluvial	295.12	70.08	225.04	69.62	225.50	69.51	225.61	69.57	225.55
MW-18	Intermediate	308.04	132.27	175.77	130.54	177.50	132.28	175.76	131.78	176.26
MW-19	Fluvial	290.57	87.17	203.40	86.65	203.92	88.05	202.52	NM	-
MW-27	Fluvial	303.98	88.32	215.66	88.41	215.57	Dry	Dry	88.41	215.57
MW-28	Fluvial	294.79	58.49	236.30	57.92	236.87	57.40	237.39	58.01	236.78
MW-29	Fluvial	273.22	38 12	235 10	37.42	235.80	36.79	236.43	37.84	235.38
MW-30	Fluvial	275.14	46.34	228.80	45.95	229.19	45.37	229.77	45.92	229.22
MW-31	Fluvial	290.37	69.71	220.66	69.60	220.77	69.30	221.07	69.50	220 87
MW-32	Fluvial	285.38	63 41	221.97	63.37	222.01	63.21	222.17	62.30	223.08
MW-33	Fluvial	280.71	56.10	224.61	55.81	224.90	54.82	225.89	55.73	224.98
MW-34	Intermediate	299.97	135.52	164.45	133.65	166.32	134.84	165.13	133.10	166.87
MW-35	Fluvial	300.46	75.81	224.65	75.63	224.83	75.59	224.87	75.67	224.79
MW-36	Intermediate	310.24	148.12	162.12	148.87	161.37	151.52	158.72	NM	-
MW-37	Intermediate	284.91	123.49	161.42	123.77	161.14	126.62	158.29	128.73	156.18
MW-38	Intermediate	307.45	131.64	175.81	129.49	177.96	131.48	175.97	131.12	176.33
MW-40	Intermediate	262.23	NM	-	79.42	182.81	79.41	182.82	80.56	181.67
MW-42	Fluvial	274.83	54.32	220.51	53.67	221.16	53.00	221.83	52.84	221.99

TABLE 4-1

WATER LEVEL MEASUREMENTS
ANNUAL OPERATIONS REPORT - 2004
DUNN FIELD GROUNDWATER IRA - YEAR SIX
Defense Depot Memphis, Tennessee

Well ID	Screened Interval	Top of Casing Elevation (ft. msl)	January 6-7, 2004 Depth to Water (ft. btoc)	January 6-7, 2004 Water Level Elevation (ft. msl)	April 6-7, 2004 Depth to Water (ft. btoc)	April 6-7, 2004 Water Level Elevation (ft. msl)	June 21-22, 2004 Depth to Water (ft. btoc)	June 21-22, 2004 Water Level Elevation (ft. msl)	October 14-15, 2004 Depth to Water (ft. btoc)	October 14-15, 2004 Water Level Elevation (ft. msl)
MW-43	Intermediate	284.99	123.37	161.62	122.44	162.55	124.49	160.50	126.89	158.10
MW-44	Fluvial	269.07	NM	-	53.90	215.17	53.52	215.55	53.77	215.30
MW-45	Fluvial	293.22	54.47	238.75	57.75	235.47	53.51	239.71	54.10	239.12
MW-46	Fluvial	287.56	53.12	234.44	52.73	234.83	52.25	235.31	NM	-
MW-49	Fluvial	310.49	78.39	232.10	78.08	232.41	77.79	232.70	NM	-
MW-51	Fluvial	275.23	39.99	235.24	39.28	235.95	38.73	236.50	39.78	235.45
MW-53	Fluvial	306.38	73.17	233.21	72.53	233.85	72.60	233.78	72.69	233.69
MW-54	Fluvial	295.35	79.76	215.59	79.54	215.81	79.22	216.13	79.33	216.02
MW-55	Fluvial	292.08	70.60	221.48	70.80	221.28	71.77	220.31	70.71	221.37
MW-56	Fluvial	293.60	67.72	225.88	67.11	226.49	66.71	226.89	66.92	226.68
MW-57	Fluvial	290.77	64.03	226.74	63.35	227.42	63.20	227.57	63.50	227.27
MW-58	Fluvial	290.51	63.69	226.82	63.18	227.33	62.88	227.63	63 01	227.50
MW-59	Fluvial	300.13	74.39	225.74	74.09	226.04	73.97	226.16	74.10	226.03
MW-60	Fluvial	296.86	70.71	226.15	70.47	226.39	70.30	226.56	70.44	226.42
MW-61	Fluvial	294.04	67.14	226.90	66.91	227.13	66.69	227.35	66.91	227.13
MW-62	Fluvial	293.65	NM	-	NM	-	93.93	199.72	NM	-
MW-65	Fluvial	263.22	6.01	257.21	NM	-	5.55	257.67	NM	-
MW-67	Memphis	278.21	N M	-	116.84	161.37	119.86	158.35	122.42	155.79
MW-68	Fluvial	291.69	68.11	223.58	68.00	223.69	67 84	223.85	67.90	223.79
MW-69	Fluvial	307.02	83.24	223.78	83.02	224.00	82.99	224.03	83.02	224.00
MW-70	Fluvial	304.99	80.60	224.39	80.70	224.29	80.52	224.47	80.82	224.17
MW-71	Fluvial	294.40	70.30	224.10	70.19	224.21	70.10	224.30	69.98	224.42
MW-73	Fluvial	300.65	75.25	225.40	75.12	225.53	75.00	225.65	75.19	225.46
MW-74	Fluvial	303.68	79.09	224.59	78.95	224.73	78.83	224.85	79.14	224.54
MW-75	Fluvial	303.61	79.22	224.39	79.10	224.51	79.01	224.60	79.05	224.56
MW-76	Fluvial	302.71	83.73	218.98	83.58	219.13	83.30	219.41	83.40	219.31
MW-77	Fluvial	304.42	81.74	222.68	81.72	222.70	81.56	222.86	81.73	222.69
MW-78	Fluvial	275.00	47.72	227.28	47.51	227.49	47.09	227.91	47.47	227.53
MW-79	Fluvial	285.03	70.56	214.47	70.36	214.67	69.99	215.04	70.20	214.83
MW-80	Fluvial	273.81	59.21	214.60	58.85	214.96	58.42	215.39	58.73	215.08

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TABLE 4-1

WATER LEVEL MEASUREMENTS
ANNUAL OPERATIONS REPORT - 2004
DUNN FIELD GROUNDWATER IRA - YEAR SIX
Defense Depot Memphis, Tennessee

Well ID	Screened Interval	Top of Casing Elevation (ft. msl)	January 6-7, 2004 Depth to Water (ft. btoc)	January 6-7, 2004 Water Level Elevation (ft. msl)	April 6-7, 2004 Depth to Water (ft. btoc)	April 6-7, 2004 Water Level Elevation (ft. msl)	June 21-22, 2004 Depth to Water (ft. btoc)	June 21-22, 2004 Water Level Elevation (ft. msl)	October 14-15, 2004 Depth to Water (ft. btoc)	October 14-15, 2004 Water Level Elevation (ft. msl)
MW-84	Fluvial	311.15	81.80	229.35	81.64	229.51	81.51	229.64	81.49	229.66
MW-87	Fluvial	294.93	70.45	224.48	70.12	224.81	69.90	225.03	70.21	224.72
MW-89	Intermediate	303.98	115.51	188.47	113.99	189.99	115.83	188.15	114.39	189.59
MW-90	Intermediate	304.19	115.79	188.40	114.21	189.98	116.07	188.12	114.63	189.56
MW-91	Fluvial	291.99	67.68	224.31	67.33	224.66	67.20	224.79	67.29	224.70
MW-95	Fluvial	259.43	27.78	231.65	25.60	233.83	25.10	234.33	27.44	231.99
MW-126	Fluvial	252.22	17.38	234.84	15.26	236.96	16.22	236.00	20.05	232.17
MW-127	Fluvial	268.71	58.42	210.29	58.07	210.64	58.14	210.57	57.80	210.91
MW-128	Fluvial	284.14	39.80	244.34	37.49	246.65	37.34	246.80	39.26	244.88
MW-129	Fluvial	293.01	55.11	237.90	54.25	238.76	53.49	239.52	58.45	234.56
MW-130	Fluvial	293.20	54.26	238.94	53.49	239.71	52.74	240.46	53.78	239.42
MW-131	Fluvial	300.64	NM	-	NM	-	74.55	226.09	NM	-
MW-132	Fluvial	300.73	NM	-	NM	-	75.14	225.59	NM	-
MW-133	Fluvial	300.89	NM	-	NM	-	75.30	225.59	NM	-
MW-134	Fluvial	300.81	NM	-	NM	-	75.43	225.38	NM	-
MW-135	Fluvial	300.53	NM	-	NM	-	75.10	225.43	NM	-
MW-144	Fluvial	291.60	NA	-	NA	-	73.16	218.44	73.28	218.32
MW-145	Fluvial	284.72	NA	-	NA	-	68.90	215.82	69.11	215.61
MW-147	Fluvial	289.72	NA	-	NA	-	70.10	219.62	70.16	219.56
MW-148	Fluvial	294.71	NA	-	NA	-	77.28	217.43	77.35	217.36
MW-149	Fluvial	287.18	NA	-	NA	-	71.29	215.89	71.53	215.65
MW-150	Fluvial	296.81	NA	-	NA	-	80.47	216.34	80.51	216.30
PZ-02	Fluvial	284.39	39.63	244.76	36.70	247.69	37.07	247.32	40.21	244 18
RW-01	Fluvial	295.71	75.91	219.80	69.00	226.71	70.61	225.10	NM	-
RW-01A	Fluvial	295.42	73.65	221.77	73.36	222.06	73.65	221.77	73.71	221.71
RW-01B	Fluvial	289.17	68.15	221.02	68.18	220.99	68.87	220.30	67.82	221.35
RW-02	Fluvial	289.92	69.71	220.21	71.25	218.67	69.32	220.60	66.10	223.82
RW-03	Fluvial	299.34	75.84	223.50	74.82	224.52	74.79	224.55	74.93	224.41
RW-04	Fluvial	305.11	80.34	224.77	81.40	223.71	82.45	222.66	83.09	222.02
RW-05	Fluvial	307.13	87.70	219.43	86.75	220.38	89.30	217.83	86.30	220.83

TABLE 4-1

WATER LEVEL MEASUREMENTS
ANNUAL OPERATIONS REPORT - 2004
DUNN FIELD GROUNDWATER IRA - YEAR SIX
Defense Depot Memphis, Tennessee

			January 6-7, 2004		April 6-7, 2004		June 21-22, 2004		October 14-15, 2004	
Well ID	Screened Interval	Top of Casing Elevation (ft. msl)	Depth to Water (ft. btoc)	Water Level Elevation (ft. msl)	Depth to Water (ft. btoc)	Water Level Elevation (ft. msl)	Depth to Water (ft. btoc)	Water Level Elevation (ft. msl)	Depth to Water (ft. btoc)	Water Level Elevation (ft. msl)
RW-06	Fluvial	304.56	83.63	220.93	83.66	220.90	83.25	221.31	83.68	220.88
RW-07	Fluvial	297.44	75.70	221.74	75.50	221.94	75.48	221.96	74.08	223.36
RW-08	Fluvial	292.99	74.38	218.61	74.35	218.64	70.95	222.04	70.91	222.08
RW-09	Fluvial	290.67	66.48	224.19	70.91	219.76	66.35	224.32	66.39	224.28

Notes:
NM Not Measured
NA Not Applicable, well installed following water level measurements.

TABLE 4-2

POSITIVE RESULTS SUMMARY - MCNITORING WELLS , OCTOBER 2004
ANNUAL OPERATIONS REPORT - 2004
DUNN FIELD GROUNDWATER IRA - YEAR SIX
Defense Depot Memphis, Tennessee

Site ID				MW-007	MW-008	MW-009	MW-029	MW-029	MW-029	MW-029	MW-030
Sample ID				MW07 69.56-71.56	MW08 64.2-66.2	MW09 78-79	MW29 41.6-43.6	DUP01	MW29 46.1-48.1	MW29 50.6-52.6	MW30 49-51
Date and Time Collected		MCL	TC	10/20/2004 13:50	10/20/2004 14:10	10/20/2004 14:25	10/20/2004 14:40	10/20/2004	10/20/2004 14:45	10/20/2004 14:50	10/20/2004 15:30
Depth				69.5-71.56	64.2 66.2	78-79	41.6 43.6	41.6 43.6	46.1 48.1	50.6 52.6	49-51
Volatile Organic Compounds	Units										
1,1,1-Trichloroethane	µg/L	200	NA	0.72 J	<1 U	<1 U	**2.8**	**1.9 J**	**2.3**	**2.9**	<1 U
1,1,2,2-Tetrachloroethane	µg/L	NA	2.2	<1.4 U	<1 U	<1 U	<1 U	<1 U	<1.7 U	<1 U	<1 U
1,1-Dichloroethane	µg/L	NA	NA	0.87 J	<1 U	<1 U	**1.1**	**1**	0.94 J	**1.1**	<1 U
1,1-Dichloroethene	µg/L	7	340	17	**1.1**	<1 U	**22**	**18**	**18**	**22**	<1 U
Acetone	µg/L	NA	NA	3.6 B	1.4 B	3.4 B	1.4 B	0.92 J	3 B	2.6 B	<5 J
Carbon tetrachloride	µg/L	5	3	<1.4 U	<1 U	<1 U	<1 U	<1 J	<1.7 U	<1 U	<1 U
Chloroform	µg/L	80	12	0.44 J	<1 U	<1 U	<1 U	<1 U	<1.7 U	<1 U	<1 U
cis-1,2-Dichloroethene	µg/L	70	35	<1.4 U	<1 U	0.76 J	0.41 J	0.4 J	<1.7 U	0.36 J	<1 U
Methylene chloride	µg/L	NA	NA	<1.4 U	<1 U	<1 U	<1 U	<1 U	<1.7 U	<1 U	<1 U
Tetrachloroethene	µg/L	5	2.5	**18**	**1.4**	<1 U	**23**	**19**	**20**	**21**	<1 U
trans-1,2-Dichloroethene	µg/L	100	50	<1.4 U	<1 U	<1 U	<1 U	<1 U	<1.7 U	<1 U	<1 U
Trichloroethene	µg/L	5	5	**14**	**1.3**	0.59 J	**29**	**29**	**24**	**30**	<1 U

Notes:

MCL Maximum Contaminant Level
TC Target Concentration from Dunn Field ROD, Table 2-21G
J Estimated quantitation result below the Reporting Limit
B Estimated quantitation: possibly biased high or false positive based upon blank data or professional judgment
U Not detected
R Rejected datum: do not use
NA Not Applicable
Bold Positive Results

TABLE 4-2

POSITIVE RESULTS SUMMARY - MONITORING WELLS , OCTOBER 2004
ANNUAL OPERATIONS REPORT - 2004
DUNN FIELD GROUNDWATER IRA - YEAR SIX
Defense Depot Memphis, Tennessee

Site ID Sample ID Date and Time Collected Depth		MCL	TC	MW-030 MW30 53-55 10/20/2004 15:35 53-55	MW-030 MW30 57-59 10/20/2004 15:40 57-59	MW-031 MW31 72.5-74.5 10/20/2004 16:00 72.5-74.5	MW-031 MW31 77.5-79.5 10/20/2004 16:05 77.5-79.5	MW-032 MW32 65.9-66.9 10/20/2004 16:10 65.9 66.9	MW-033 MW33 59.33-61,33 10/20/2004 16:25 59.33-61.33	MW-033 DUP02 10/20/2004 16:25 59.53-61.53	MW-034 MW34 142.3-144.3 10/20/2004 16:50 142.3-144.3
Volatile Organic Compounds	Units										
1,1,1-Trichloroethane	µg/L	200	NA	<1 U	<1 U	<1 U	<1 J	<1 J	<1 J	<1 J	<1 J
1,1,2,2-Tetrachloroethane	µg/L	NA	2.2	<1 U	<1 U	<1 U	<1 U	**3.6**	<1 U	<1 U	<1 U
1,1-Dichloroethane	µg/L	NA	NA	<1 U	<1 U	<1 U	0.26 J	<1 U	<1 U	<1 U	<1 U
1,1-Dichloroethene	µg/L	7	340	<1 U	<1 U	**12**	**17**	<1 U	<1 U	<1 U	<1 U
Acetone	µg/L	NA	NA	1.6 B	<5 J	2.4 B	2.6 B	1.6 B	3.1 B	3.1 J	2.4 B
Carbon tetrachloride	µg/L	5	3	<1 U	<1 U	<1 U	<1 J	2.3 J	<1 J	<1 J	0.62 J
Chloroform	µg/L	80	12	<1 U	<1 U	<1 U	<1 U	**17**	<1 U	<1 U	**3.8**
cis-1,2-Dichloroethene	µg/L	70	35	<1 U	<1 U	0.35 J	0.58 J	**1.7**	<1 U	<1 U	<1 U
Methylene chloride	µg/L	NA	NA	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Tetrachloroethene	µg/L	5	2.5	<1 U	<1 U	0.31 J	0.42 J	<1 U	<1 U	<1 U	<1 U
trans-1,2-Dichloroethene	µg/L	100	50	<1 U	<1 U	<1 U	0.31 J	0.23 J	<1 U	<1 U	<1 U
Trichloroethene	µg/L	5	5	<1 U	<1 U	**2.7**	**4.7**	**7.3**	<1 U	<1 U	0.98 J

Notes:

MCL Maximum Contaminant Level
TC Target Concentration from Dunn Field ROD, Table 2-21G
J Estimated quantitation result below the Reporting Limit
B Estimated quantitation: possibly biased high or false positive based upon blank data or professional judgment
U Not detected
R Rejected datum: do not use
NA Not Applicable
Bold Positive Results

TABLE 4-2

POSITIVE RESULTS SUMMARY - MONITORING WELLS , OCTOBER 2004
ANNUAL OPERATIONS REPORT - 2004
DUNN FIELD GROUNDWATER IRA - YEAR SIX
Defense Depot Memphis, Tennessee

Site ID				MW-034	MW-034	MW-036	MW-036	MW-036	MW-037	MW-037	MW-037
Sample ID				MW34 147.3-149.3	MW34 152.3-154.3	MW36 192.7-194.7	MW36 197.7-199.7	MW36 202.7-204.7	MW37 170.5-172.5	MW37 175.5-177.5	MW37 180.5-182.5
Date and Time Collected		MCL	TC	10/20/2004 16:55	10/20/2004 17:00	10/21/2004 9:35	10/21/2004 9:40	10/21/2004 9:45	10/21/2004 10:05	10/21/2004 10:10	10/21/2004 10:15
Depth				147.3-149.3	152.3-154.3	192.7-194.7	197.7-199.7	202.7-204.7	170.5-172.5	175.5-177.5	180.5-182.5
Volatile Organic Compounds	Units										
1,1,1-Trichloroethane	µg/L	200	NA	<1 J	<1 J	<1 J	<1 J	<1 J	<1 J	<1 J	<1 J
1,1,2,2-Tetrachloroethane	µg/L	NA	2.2	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,1-Dichloroethane	µg/L	NA	NA	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,1-Dichloroethene	µg/L	7	340	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Acetone	µg/L	NA	NA	2.8 B	1.6 B	<5 J	<5 J	0.77 B	1.2 B	1.3 B	1.9 B
Carbon tetrachloride	µg/L	5	3	0.64 J	0.35 J	<1 J	<1 J	<1 J	<1 J	<1 J	<1 J
Chloroform	µg/L	80	12	**2.4**	**1.7**	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
cis-1,2-Dichloroethene	µg/L	70	35	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Methylene chloride	µg/L	NA	NA	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Tetrachloroethene	µg/L	5	2.5	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
trans-1,2-Dichloroethene	µg/L	100	50	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Trichloroethene	µg/L	5	5	0.83 J	0.54 J	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U

Notes:

MCL Maximum Contaminant Level
TC Target Concentration from Dunn Field ROD, Table 2-21G
J Estimated quantitation result below the Reporting Limit
B Estimated quantitation: possibly biased high or false positive based upon blank data or professional judgment
U Not detected
R Rejected datum: do not use
NA Not Applicable
Bold Positive Results

TABLE 4-2

POSITIVE RESULTS SUMMARY - MONITORING WELLS , OCTOBER 2004
ANNUAL OPERATIONS REPORT - 2004
DUNN FIELD GROUNDWATER IRA - YEAR SIX
Defense Depot Memphis, Tennessee

Site ID Sample ID Date and Time Collected Depth		MCL	TC	MW-040 MW40 86.9-88.9 10/21/2004 10:35 86.9-88.9	MW-040 MW40 91.9-93.9 10/21/2004 10:40 91.9-93.9	MW-042 MW42 55.8-57.8 10/21/2004 10:50 55.8-57.8	MW-043 MW43 163-165 10/21/2004 12:05 163-165	MW-043 MW43 168-170 10/21/2004 12:10 168-170	MW-043 DUP03 10/21/2004 12:10 168-170	MW-044 MW44 64-66 10/21/2004 12:20 64-66	MW-044 MW44 69-71 10/21/2004 12:25 69-71
Volatile Organic Compounds	Units										
1,1,1-Trichloroethane	µg/L	200	NA	<1 J	<1 J	<1 J	<1 J	<1 J	<1 J	<1 J	<1 J
1,1,2,2-Tetrachloroethane	µg/L	NA	2.2	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,1-Dichloroethane	µg/L	NA	NA	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,1-Dichloroethene	µg/L	7	340	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Acetone	µg/L	NA	NA	4.1 B	3.1 B	7.9 R	1.2 R	2.6 R	2.2 J	2.2 R	<5 R
Carbon tetrachloride	µg/L	5	3	<1 J	<1 J	<1 J	<1 J	<1 J	<1 J	0.71 J	0.54 J
Chloroform	µg/L	80	12	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	0.64 J	0.42 J
cis-1,2-Dichloroethene	µg/L	70	35	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	0.27 J	<1 U
Methylene chloride	µg/L	NA	NA	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Tetrachloroethene	µg/L	5	2.5	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
trans-1,2-Dichloroethene	µg/L	100	50	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Trichloroethene	µg/L	5	5	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	0.55 J	0.41 J

Notes:

MCL Maximum Contaminant Level
TC Target Concentration from Dunn Field ROD, Table 2-21G
J Estimated quantitation result below the Reporting Limit
B Estimated quantitation: possibly biased high or false positive based upon blank data or professional judgment
U Not detected
R Rejected datum: do not use
NA Not Applicable
Bold Positive Results

TABLE 4-2

POSITIVE RESULTS SUMMARY - MONITORING WELLS , OCTOBER 2004
ANNUAL OPERATIONS REPORT - 2004
DUNN FIELD GROUNDWATER IRA - YEAR SIX
Defense Depot Memphis, Tennessee

Site ID				MW-051	MW-051	MW-054	MW-054	MW-057	MW-067	MW-067	MW-067
Sample ID				MW51 58-60	MW51 63-65	MW54 85.6-87.6	MW54 90.6-92.6	MW57 66.8-68.8	MW67 261-263	DUP04	MW67 266-268
Date and Time Collected		MCL	TC	10/21/2004 13:15	10/21/2004 13:20	10/21/2004 13:35	10/21/2004 13:40	10/21/2004 13:55	10/21/2004 14:10	10/21/2004 14:10	10/21/2004 14:15
Depth				58-60	63-65	85.6-87.6	90.6-92.6	66.8-68.8	261-263	261-263	266-268
Volatile Organic Compounds	Units										
1,1,1-Trichloroethane	µg/L	200	NA	<1 J	0.23 J	<140 U	<140 U	<1 U	<1 U	<1 J	<1 U
1,1,2,2-Tetrachloroethane	µg/L	NA	2.2	<1 U	<1 U	**4300**	**4700**	<1 U	<1 U	<1 U	<1 U
1,1-Dichloroethane	µg/L	NA	NA	<1 U	<1 U	<140 U	<140 U	<1 U	<1 U	<1 U	<1 U
1,1-Dichloroethene	µg/L	7	340	**14**	**16**	<140 U	<140 U	<1 U	<1 U	<1 U	<1 U
Acetone	µg/L	NA	NA	1.3 R	4.1 B	<710 U	110 J	2.4 B	2.1 B	1.2 J	2.2 B
Carbon tetrachloride	µg/L	5	3	<1 J	<1 U	<140 U	<140 U	**19**	<1 U	<1 J	<1 U
Chloroform	µg/L	80	12	<1 U	<1 U	<140 U	<140 U	**6.1**	<1 U	<1 U	<1 U
cis-1,2-Dichloroethene	µg/L	70	35	<1 U	<1 U	70 J	61 J	0.27 J	<1 U	<1 U	<1 U
Methylene chloride	µg/L	NA	NA	<1 U	<1 U	54 J	74 J	<1 U	<1 U	0.41 B	<1 U
Tetrachloroethene	µg/L	5	2.5	**1.2**	0.3 J	<140 U	<140 U	**2.7**	<1 U	<1 U	<1 U
trans-1,2-Dichloroethene	µg/L	100	50	<1 U	<1 U	<140 U	<140 U	0.58 J	<1 U	<1 U	<1 U
Trichloroethene	µg/L	5	5	**5.1**	**3.8**	**2500**	**2700**	**29**	<1 U	<1 U	<1 U

Notes:

MCL Maximum Contaminant Level
TC Target Concentration from Dunn Field ROD, Table 2-21G
J Estimated quantitation result below the Reporting Limit
B Estimated quantitation: possibly biased high or false positive based upon blank data or professional judgment
U Not detected
R Rejected datum: do not use
NA Not Applicable
Bold Positive Results

TABLE 4-2

POSITIVE RESULTS SUMMARY - MONITORING WELLS , OCTOBER 2004
ANNUAL OPERATIONS REPORT - 2004
DUNN FIELD GROUNDWATER IRA - YEAR SIX
Defense Depot Memphis, Tennessee

Site ID				MW-067	MW-068	MW-068	MW-068	MW-069	MW-069	MW-069	MW-070
Sample ID				MW67 271-273	MW68 70.6-72.6	MW68 74.6-76.6	MW68 78.6-80.6	MW69 86.4-88.4	MW69 91.4-93.4	DUP05	MW70 85.8-87.8
Date and Time Collected		MCL	TC	10/21/2004 14:20	10/21/2004 14:40	10/21/2004 14:45	10/21/2004 14:50	10/21/2004 15:10	10/21/2004 15:15	10/21/2004 15:15	10/22/2004 15:25
Depth				271-273	70.6-72.6	74.6-76.6	78.6-80.6	86.4-88.4	91.4-92.8	91.4-93.4	85.8-87.8
Volatile Organic Compounds	Units										
1,1,1-Trichloroethane	µg/L	200	NA	<1 U	<33 J	<1 U	<1 J	<1 J	<1 J	<1 J	<140 U
1,1,2,2-Tetrachloroethane	µg/L	NA	2.2	<1 U	**81**	<1 U	<1 U	<1 U	<1 U	<1 U	**5800**
1,1-Dichloroethane	µg/L	NA	NA	<1 U	<33 U	<1 U	<1 U	<1 U	<1 U	<1 U	<140 U
1,1-Dichloroethene	µg/L	7	340	<1 U	<33 U	<1 U	<1 U	<1 U	<1 U	<1 U	<140 U
Acetone	µg/L	NA	NA	1.6 B	**2000 R**	2.8 B	0.91 B	0.93 B	<5 J	<5 J	250 J
Carbon tetrachloride	µg/L	5	3	<1 U	<33 J	<1 U	<1 J	<1 J	<1 J	<1 J	<140 U
Chloroform	µg/L	80	12	<1 U	<33 U	<1 U	<1 U	0.17 J	<1 U	<1 U	<140 U
cis-1,2-Dichloroethene	µg/L	70	35	<1 U	<33 U	<1 U	<1 U	<1 U	<1 U	<1 U	41 J
Methylene chloride	µg/L	NA	NA	<1 U	<33 U	<1 U	<1 U	<1 U	<1 U	<1 U	56 J
Tetrachloroethene	µg/L	5	2.5	<1 U	<33 U	<1 U	<1 U	**1.5**	<1 U	<1 U	<140 U
trans-1,2-Dichloroethene	µg/L	100	50	<1 U	<33 U	<1 U	<1 U	<1 U	<1 R	<1 U	<140 U
Trichloroethene	µg/L	5	5	<1 U	20 J	<1 U	<1 U	**3.7**	<1 U	<1 U	**2100**

Notes:

MCL Maximum Contaminant Level
TC Target Concentration from Dunn Field ROD, Table 2-21G
J Estimated quantitation result below the Reporting Limit
B Estimated quantitation: possibly biased high or false positive based upon blank data or professional judgment
U Not detected
R Rejected datum: do not use
NA Not Applicable
Bold Positive Results

TABLE 4-2

POSITIVE RESULTS SUMMARY - MONITORING WELLS , OCTOBER 2004
ANNUAL OPERATIONS REPORT - 2004
DUNN FIELD GROUNDWATER IRA - YEAR SIX
Defense Depot Memphis, Tennessee

Site ID				MW-070	MW-071	MW-076	MW-076	MW-077	MW-077	MW-078	MW-078
Sample ID				MW70 90.8-92.8	MW71 73.86-75.86	MW76 86.3-88.3	MW76 91.3-93.3	MW77 85.27-87.27	DUP06	MW78 51.8-53.8	MW78 56.8-58.8
Date and Time Collected		MCL	TC	10/21/2004 15:30	10/21/2004 15:40	10/21/2004 15:50	10/21/2004 15:55	10/21/2004 16:05	10/21/2004 16:05	10/21/2004 16:20	10/21/2004 16:25
Depth				90.8-92.8	73.86-75.86	86.3-88.3	91.3-93.3	85.27-87.27	85.27-87.27	51.8-53.8	56.8-58.8
Volatile Organic Compounds	Units										
1,1,1-Trichloroethane	µg/L	200	NA	<170 J	<1 J	<1 J	<1 J	<250 J	<140 J	<1 J	<1 J
1,1,2,2-Tetrachloroethane	µg/L	NA	2.2	**4200**	**6**	**4.3**	**12**	**4700**	**4600**	<1 U	0.74 J
1,1-Dichloroethane	µg/L	NA	NA	<170 U	<1 U	<1 U	<1 U	<250 U	<140 U	<1 U	<1 U
1,1-Dichloroethene	µg/L	7	340	<170 U	<1 U	<1 U	<1 U	<250 U	<140 U	<1 U	<1 U
Acetone	µg/L	NA	NA	<830 R	1.5 B	1.6 R	0.96 R	<1200 R	<710 R	<5 R	<5 J
Carbon tetrachloride	µg/L	5	3	<170 J	5.6 J	<1 J	<1 J	<250 J	<140 J	<1 J	<1 J
Chloroform	µg/L	80	12	<170 U	**28**	0.16 J	0.18 J	<250 U	<140 U	<1 U	<1 U
cis-1,2-Dichloroethene	µg/L	70	35	<170 U	0.7 J	0.24 J	0.69 J	64 J	63 J	<1 U	<1 U
Methylene chloride	µg/L	NA	NA	140 J	0.38 B	0.73 B	<1 U	220 J	<140 U	<1 U	<1 U
Tetrachloroethene	µg/L	5	2.5	<170 U	0.4 J	0.27 J	<1 U	<250 U	<140 U	<1 U	<1 U
trans-1,2-Dichloroethene	µg/L	100	50	<170 U	<1 U	<1 U	0.24 J	<250 U	<140 U	<1 U	<1 U
Trichloroethene	µg/L	5	5	**1100**	**12**	**3.9**	**8.9**	**1700**	**1700**	<1 U	0.59 J

Notes:

MCL Maximum Contaminant Level
TC Target Concentration from Dunn Field ROD, Table 2-21G
J Estimated quantitation result below the Reporting Limit
B Estimated quantitation: possibly biased high or false positive based upon blank data or professional judgment
U Not detected
R Rejected datum: do not use
NA Not Applicable
Bold Positive Results

TABLE 4-2

POSITIVE RESULTS SUMMARY - MONITORING WELLS , OCTOBER 2004
ANNUAL OPERATIONS REPORT - 2004
DUNN FIELD GROUNDWATER IRA - YEAR SIX
Defense Depot Memphis, Tennessee

Site ID				MW-078	MW-079	MW-079	MW-079	MW-079	MW-080	MW-080	MW-080
Sample ID				MW78 61.8-63.8	MW79 84-86	MW79 89-91	MW79 94-96	MW79 99-101	MW80 62-64	MW80 66-68	MW80 70-72
Date and Time Collected		MCL	TC	10/21/2004 16:30	10/22/2004 8:55	10/22/2004 9:05	10/22/2004 9:10	10/22/2004 9:15	10/22/2004 9:30	10/22/2004 9:35	10/22/2004 9:40
Depth				61.8-63.8	84-86	89-91	94-96	99-101	62-64	66-68	70-72
Volatile Organic Compounds	Units										
1,1,1-Trichloroethane	µg/L	200	NA	<1 J	0.41 J	0.48 J	0.28 J	<1 U	<1 U	<1 U	<1 U
1,1,2,2-Tetrachloroethane	µg/L	NA	2.2	0.35 J	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,1-Dichloroethane	µg/L	NA	NA	<1 U	0.29 J	0.32 J	<1 U	<1 U	<1 U	<1 U	<1 U
1,1-Dichloroethene	µg/L	7	340	<1 U	**6.3**	**6.3**	**6.8**	**7.8**	<1 U	<1 U	<1 U
Acetone	µg/L	NA	NA	1 B	2.1 B	2.2 B	2.3 B	1.9 B	0.79 B	1.3 B	0.91 B
Carbon tetrachloride	µg/L	5	3	<1 J	0.37 J	0.42 J	0.29 J	0.2 J	<1 U	<1 U	<1 U
Chloroform	µg/L	80	12	<1 U	0.26 J	0.29 J	<1 U	<1 U	<1 U	<1 U	<1 U
cis-1,2-Dichloroethene	µg/L	70	35	<1 U	**2.6**	**3**	**1.7**	0.92 J	<1 U	<1 U	<1 U
Methylene chloride	µg/L	NA	NA	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Tetrachloroethene	µg/L	5	2.5	<1 U	**1.4**	**1.2**	**1.5**	**1.8**	<1 U	<1 U	<1 U
trans-1,2-Dichloroethene	µg/L	100	50	<1 U	**2.8**	**3**	**1.9**	**1.4**	<1 U	<1 U	<1 U
Trichloroethene	µg/L	5	5	0.35 J	**19**	**21**	**14**	**9.5**	<1 U	<1 U	<1 U

Notes:

MCL Maximum Contaminant Level
TC Target Concentration from Dunn Field ROD, Table 2-21G
J Estimated quantitation result below the Reporting Limit
B Estimated quantitation: possibly biased high or false positive based upon blank data or professional judgment
U Not detected
R Rejected datum: do not use
NA Not Applicable
Bold Positive Results

TABLE 4-2

POSITIVE RESULTS SUMMARY - MONITORING WELLS , OCTOBER 2004
ANNUAL OPERATIONS REPORT - 2004
DUNN FIELD GROUNDWATER IRA - YEAR SIX
Defense Depot Memphis, Tennessee

Site ID				MW-080	MW-095	MW-095	MW-095	MW-095	MW-126	MW-127	MW-127
Sample ID				DUP07	MW95 42-44	MW95 47-49	MW95 52-54	MW95 57-59	MW126 23.2-25.2	MW127 61.2-63.2	MW127 66.2-68.2
Date and Time Collected		MCL	TC	10/22/2004 9:40	10/22/2004 10:15	10/22/2004 10:20	10/22/2004 10:25	10/22/2004 10:30	10/22/2004 10:45	10/22/2004 10:55	10/22/2004 11:00
Depth				70-72	42-44	47-79	52-54	57-59	23.2-25.2	61.2-63.2	66.2-68.2
Volatile Organic Compounds	Units										
1,1,1-Trichloroethane	µg/L	200	NA	<1 J	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 J
1,1,2,2-Tetrachloroethane	µg/L	NA	2.2	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,1-Dichloroethane	µg/L	NA	NA	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,1-Dichloroethene	µg/L	7	340	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Acetone	µg/L	NA	NA	<5 J	3.1 B	2 B	5.7 B	5.1 B	0.97 B	1.6 B	0.74 B
Carbon tetrachloride	µg/L	5	3	<1 J	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 J
Chloroform	µg/L	80	12	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	0.18 J
cis-1,2-Dichloroethene	µg/L	70	35	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Methylene chloride	µg/L	NA	NA	0.5 B	<1 U	0.98 J	<1 U	<1 U	<1 U	<1 U	<1 U
Tetrachloroethene	µg/L	5	2.5	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
trans-1,2-Dichloroethene	µg/L	100	50	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Trichloroethene	µg/L	5	5	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U

Notes:

MCL Maximum Contaminant Level
TC Target Concentration from Dunn Field ROD, Table 2-21G
J Estimated quantitation result below the Reporting Limit
B Estimated quantitation: possibly biased high or false positive based upon blank data or professional judgment
U Not detected
R Rejected datum: do not use
NA Not Applicable
Bold Positive Results

TABLE 4-2

POSITIVE RESULTS SUMMARY - MONITORING WELLS , OCTOBER 2004
ANNUAL OPERATIONS REPORT - 2004
DUNN FIELD GROUNDWATER IRA - YEAR SIX
Defense Depot Memphis, Tennessee

Site ID				MW-128	MW-128	MW-128	MW-128	MW-128	MW-129	MW-129	MW-129
Sample ID				MW128 56-58	MW128 61-63	DUP08	MW128 66-68	MW128 71-73	MW129 66.3-68.3	MW129 71.3-73.3	MW129 76.3-78.3
Date and Time Collected		MCL	TC	10/22/2004 11:05	10/22/2004 11:10	10/22/2004 11:10	10/22/2004 11:15	10/22/2004 11:20	10/22/2004 11:30	10/22/2004 11:35	10/22/2004 11:40
Depth				56-58	61-63	61-63	66-68	71-73	66.3-68.3	71.3-73.3	76.3-78.3
Volatile Organic Compounds	Units										
1,1,1-Trichloroethane	µg/L	200	NA	<5 U	<1 J	<1 J	<1 J	<1 J	**2.2**	2.3 J	**2.5**
1,1,2,2-Tetrachloroethane	µg/L	NA	2.2	<5 U	<1 U	<1 U	<1 U	<1 U	<1.7 U	<2.5 U	<2 U
1,1-Dichloroethane	µg/L	NA	NA	<5 U	<1 U	<1 U	<1 U	<1 U	**2.9**	**3.1**	**3.1**
1,1-Dichloroethene	µg/L	7	340	**54**	**1.5**	**1.6**	**1.1**	**1.3**	**30**	**31**	**32**
Acetone	µg/L	NA	NA	20 B	4.5 B	3.7 B	2.5 B	3 B	14 B	17 B	15 B
Carbon tetrachloride	µg/L	5	3	<5 U	<1 J	<1 J	<1 J	<1 J	<1.7 U	<2.5 U	<2 U
Chloroform	µg/L	80	12	<5 U	<1 U	<1 U	<1 U	<1 U	<1.7 U	<2.5 U	<2 U
cis-1,2-Dichloroethene	µg/L	70	35	<5 U	<1 U	<1 U	<1 U	<1 U	<1.7 U	<2.5 U	<2 U
Methylene chloride	µg/L	NA	NA	<5 U	<1 U	0.52 B	<1 U	<1 U	<1.7 U	<2.5 U	0.62 B
Tetrachloroethene	µg/L	5	2.5	<5 U	<1 U	<1 U	<1 U	<1 U	**3.9**	**9.2**	**20**
trans-1,2-Dichloroethene	µg/L	100	50	<5 U	<1 U	<1 U	<1 U	<1 U	<1.7 U	<2.5 U	<2 U
Trichloroethene	µg/L	5	5	**16**	0.7 J	0.7 J	0.5 J	0.42 J	**11**	**13**	**14**

Notes:

MCL Maximum Contaminant Level
TC Target Concentration from Dunn Field ROD, Table 2-21G
J Estimated quantitation result below the Reporting Limit
B Estimated quantitation: possibly biased high or false positive based upon blank data or professional judgment
U Not detected
R Rejected datum: do not use
NA Not Applicable
Bold Positive Results

TABLE 4-2

POSITIVE RESULTS SUMMARY - MONITORING WELLS , OCTOBER 2004
ANNUAL OPERATIONS REPORT - 2004
DUNN FIELD GROUNDWATER IRA - YEAR SIX
Defense Depot Memphis, Tennessee

Site ID				MW-130	MW-130	MW-130	MW-130
Sample ID				MW130 60.5-62.5	MW130 65.5-67.5	MW130 70.5-72.5	MW130 75.5-77.5
Date and Time Collected		MCL	TC	10/22/2004 11:55	10/22/2004 12:00	10/22/2004 12:05	10/22/2004 12:10
Depth				60.5-62.5	65.5-67.5	70.5-72.5	75.5-77.5
Volatile Organic Compounds	Units						
1,1,1-Trichloroethane	µg/L	200	NA	**3.8**	**3.9**	**4**	**4.1**
1,1,2,2-Tetrachloroethane	µg/L	NA	2.2	<2 U	<3.3 U	<2.5 U	<2 U
1,1-Dichloroethane	µg/L	NA	NA	1.8 J	1.7 J	1.9 J	1.9 J
1,1-Dichloroethene	µg/L	7	340	**33**	**31**	**33**	**35**
Acetone	µg/L	NA	NA	30 B	28 B	14 B	20 B
Carbon tetrachloride	µg/L	5	3	<2 U	<3.3 U	<2.5 U	<2 U
Chloroform	µg/L	80	12	<2 U	<3.3 U	<2.5 U	<2 U
cis-1,2-Dichloroethene	µg/L	70	35	<2 U	<3.3 U	<2.5 U	0.63 J
Methylene chloride	µg/L	NA	NA	<2 U	<3.3 U	<2.5 U	<2 U
Tetrachloroethene	µg/L	5	2.5	**50**	**59**	**62**	**63**
trans-1,2-Dichloroethene	µg/L	100	50	<2 U	<3.3 U	<2.5 U	<2 U
Trichloroethene	µg/L	5	5	**47**	**46**	**48**	**50**

Notes:

MCL Maximum Contaminant Level
TC Target Concentration from Dunn Field ROD, Table 2-21G
J Estimated quantitation result below the Reporting Limit
B Estimated quantitation: possibly biased high or false positive based upon blank data or professional judgment
U Not detected
R Rejected datum: do not use
NA Not Applicable
Bold Positive Results

TABLE 4-3

POSITIVE RESULTS SUMMARY - RECOVERY WELLS, OCTOBER 2004
ANNUAL OPERATIONS REPORT - 2004
DUNN FIELD GROUNDWATER IRA - YEAR SIX
Defense Depot Memphis, Tennessee

Site ID				RW01	RW01A	RW01B	RW02	RW03	RW04	RW05	RW06
Sample ID				RW	RWA	RWB	RW	RW	RW	RW	RW
Date and Time Collected		MCL	TC	10/22/2004 14:30	10/22/2004 14:40	10/22/2004 14:45	10/22/2004 14:50	10/22/2004 14:55	10/22/2004 15:00	10/22/2004 15:05	10/22/2004 15:10
Volatile Organic Compounds	Units										
1,1,1-Trichloroethane	g/L	200	NA	8 J	33 J	3 J	4 J	3 J	42 J	1 J	1.7 J
1,1,2,2-Tetrachloroethane	g/L	NA	2.2	8 U	**160**	1.7 J	**83**	3 U	**840**	1 U	1.7 U
1,1-Dichloroethane	g/L	NA	NA	8 U	33 U	3 U	4 U	3 U	42 U	1 U	1.7 U
1,1-Dichloroethene	g/L	7	340	8 U	33 U	3 U	4 U	3 U	42 U	1 U	1.7 U
Acetone	g/L	NA	NA	8.2 B	40 B	1.9 B	4.1 B	1.5 B	45 J	5 J	8.4 J
Carbon tetrachloride	g/L	5	3	29 J	18 J	14 J	7.2 J	5.2 J	42 J	1.5 J	1.7 J
Chloroform	g/L	80	12	**170**	**680**	**36**	**9.4**	1.8 J	42 U	**1.8**	**1.8**
cis-1,2-Dichloroethene	g/L	70	35	3.9 J	9.8 J	**12**	**72**	**8.9**	25 J	0.38 J	**11**
Methylene chloride	g/L	NA	NA	7 B	**33**	1.2 J	3 B	1.2 B	39 J	0.36 B	0.97 B
Tetrachloroethene	g/L	5	2.5	**8.6**	11 J	**3.2**	1.6 J	1.2 J	42 U	**2.1**	**24**
trans-1,2-Dichloroethene	g/L	100	50	2.1 J	33 U	1.2 J	3.7 J	1.2 J	42 U	0.23 J	**3.5**
Trichloroethene	g/L	5	5	**130**	**230**	**43**	**65**	**54**	**860**	**22**	**35**

Notes:
MCL Maximum Contaminant Level
TC Target Concentration from Dunn Field RD, Table 2-21G
J Estimated quantitation result below the Reporting Limit
B Estimated quantitation: possibly biased high or false positive based upon blank data or professional judgment
U Not detected
R Rejected datum: do not use
NA Not Applicable
Bold Positive Results

TABLE 4-3

POSITIVE RESULTS SUMMARY - RECOVERY WELLS, OCTOBER 2004
ANNUAL OPERATIONS REPORT - 2004
DUNN FIELD GROUNDWATER IRA - YEAR SIX
Defense Depot Memphis, Tennessee

	Site ID Sample ID Date and Time Collected	MCL	TC	RW07 RW 10/22/2004 15:15	RW08 RW 10/22/2004 15:25	RW09 RW 10/22/2004 15:30
Volatile Organic Compounds	Units					
1,1,1-Trichloroethane	g/L	200	NA	4 J	1 J	0.61 J
1,1,2,2-Tetrachloroethane	g/L	NA	2.2	**100**	**270**	**6.3**
1,1-Dichloroethane	g/L	NA	NA	4 U	1 U	0.95 J
1,1-Dichloroethene	g/L	7	340	4 U	**12**	**24**
Acetone	g/L	NA	NA	4.3 B	13 B	10 J
Carbon tetrachloride	g/L	5	3	4 J	1 J	0.43 J
Chloroform	g/L	80	12	3.2 J	**16**	**12**
cis-1,2-Dichloroethene	g/L	70	35	**51**	**130**	**5.4**
Methylene chloride	g/L	NA	NA	3.2 B	9.8 B	1.2 B
Tetrachloroethene	g/L	5	2.5	**4.4**	8.8 J	**32**
trans-1,2-Dichloroethene	g/L	100	50	**9.2**	**28**	1.6 J
Trichloroethene	g/L	5	5	**95**	**240**	**40**

Notes:
MCL Maximum Contaminant Level
TC Target Concentration from Dunn Field RD, Table 2-21G
J Estimated quantitation result below the Reporting Limit
B Estimated quantitation: possibly biased high or false positive based upon blank data or professional judgment
U Not detected
R Rejected datum: do not use
NA Not Applicable
Bold Positive Results

TABLE 4-4

EFFLUENT SAMPLE RESULTS
ANNUAL OPERATIONS REPORT - 2004
DUNN FIELD GROUNDWATER IRA - YEAR SIX
Defense Depot Memphis, Tennessee

Sample Site ID / Date and Time Collected	Industrial Permit Discharge Limits Monthly Average Maximum Level	Instantaneous Daily Maximum	EFF-02-21-04 2/21/2004 15:20	EFF-05-24-04 5/24/2004 13:56	EFF-08-27-04 8/27/2004 13:00	EFF-11-30-04 11/30/2004 12:15
Volit OgicCompond - SW8260B b						
1,1,1-Trichloroethane	10	20	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	500	1000	43	54	110	150
1,1,2-Trichloroethane	50	100	ND	ND	ND	ND
1,1-Dichloroethene	50	100	6.5	8.1	7.4 J	5.9 J
Acetone	NA	NA	3 3 R	5.9 B	6 3 B	ND
Carbon tetrachloride	20	40	4.1	7.1	5.1 J	2.2 J
Chloroform	100	400	42	61	63	9.3
cis-1,2-Dichloroethene	80	100	14	20	37	31
Methylene chloride	10	20	2.6 B	3 2 B	ND	12 B
Tetrachloroethene	60	120	14	16	12	12
Toluene	20	40	ND	ND	1.5 J	ND
trans-1,2-Dichloroethene	50	100	2 5	3.9 J	7 5 J	6.2 J
Trichloroethene	400	800	59	120	150	120
Meth - SW6010B b						
Aluminum	1000	2000	-	ND	-	70 B
Arsenic	40	100	-	3.3 B	-	ND
Barium	NA	NA	-	104	-	120 J
Beryllium	NA	NA	-	ND	-	0 72 B
Cadmium	10	20	-	0 3 B	-	ND
Calcium	NA	NA	-	21800	-	22100
Chromium	200	400	-	6.8	-	5.8 J
Cobalt	NA	NA	-	ND	-	1 6 B
Copper	200	400	-	ND	-	ND
Iron	10,000	20,000	-	118 B	-	270
Lead	150	300	-	ND	-	ND
Magnesium	NA	NA	-	10800 J	-	11600
Manganese	NA	NA	-	78.2	-	120
Mercury	1	2	-	1 1	-	ND
Nickel	100	300	-	ND	-	ND
Potassium	NA	NA	-	900 B	-	910 J
Selenium	NA	NA	-	4.5 J	-	6.2 B
Sodium	NA	NA	-	23300	-	24200
Thallium	NA	NA	-	5.3 B	-	6.4 B
Zinc	300	1000	-	36.5	-	43

TABLE 4-4

EFFLUENT SAMPLE RESULTS
ANNUAL OPERATIONS REPORT - 2004
DUNN FIELD GROUNDWATER IRA - YEAR SIX
Defense Depot Memphis, Tennessee

Sample Site ID Date and Time Collected	Industrial Permit Discharge Limits Monthly Average Maximum Level	 Instantaneous Daily Maximum	EFF-02-21-04 2/21/2004 15:20	EFF-05-24-04 5/24/2004 13:56	EFF-08-27-04 8/27/2004 13:00	EFF-11-30-04 11/30/2004 12.15
Semi-vlit OoicCompond - SW8270B b						
Bis (2-ethylhexyl) Phthalate	10	20		2.3 J		ND
Di-n-butyl Phthalate	30	60		ND		ND
Naphthalene	10	20		ND		ND
Phenol	10	20		ND		ND

Notes:
J Estimated quantitation: result below the Reporting Limit.
B Estimated quantitation: possibly biased high or false positive based upon blank data or professional judgment.
R Data Rejected based on quality control data
ND Not Detected above the Reporting Limit
NA Discharge limit not established in agreement

TABLE 5-1

ANALYTICAL SUMMARY BY SAMPLE INTERVAL
ANNUAL OPERATIONS REPORT - 2004
DUNN FIELD GROUNDWATER IRA - YEAR SIX
Defense Depot Memphis, Tennessee

		PDB Sample Interval			
Well	**Contaminant**	**1**	**2**	**3**	**4**
MW07	DCE	**17**			
	PCE	**18**			
	TCE	**14**			
MW08	DCE	1.1			
	PCE	1.4			
	TCE	1.3			
MW09	None	ND			
MW29	DCE	**22**	**18**	**22**	
	PCE	**23**	**20**	**21**	
	TCE	**29**	**24**	**30**	
MW30	None	ND	ND	ND	
MW31	DCE	**12**	**17**		
	TCE	2.7	4.7		
MW32	PCA	**3.6**			
	CT	2.3			
	CF	17			
	cDCE	1.7			
	TCE	**7.3**			
MW33	None	ND			
MW34	CF	3.8	2.4	1.7	
MW36	None	ND	ND	ND	
MW37	None	ND	ND	ND	
MW40	None	ND	ND		
MW42	None	ND			
MW43	None	ND	ND		
MW44	None	ND	ND		
MW51	DCE	**14**	**16**		
	PCE	1.2	0.30 J		
	TCE	**5.1**	3.8		
MW54	PCA	**4300**	**4700**		
	cDCE	**70 J**	61 J		
	TCE	**2500**	**2700**		
MW57	CT	**19**			
	CF	6.1			
	PCE	2.7			
	TCE	**29**			
MW67	None	ND	ND	ND	

TABLE 5-1

ANALYTICAL SUMMARY BY SAMPLE INTERVAL
ANNUAL OPERATIONS REPORT - 2004
DUNN FIELD GROUNDWATER IRA - YEAR SIX
Defense Depot Memphis, Tennessee

		PDB Sample Interval			
Well	**Contaminant**	**1**	**2**	**3**	**4**
MW68	PCA	**81**	<1	<1	
	TCE	**20 J**	<1	<1	
MW69	PCE	1.5	<1		
	TCE	3.7	<1		
MW70	PCA	**4200**	**5800**		
	TCE	**1100**	**2100**		
MW71	PCA	**6**			
	CT	**5.6**			
	CF	28			
	TCE	**12**			
MW76	PCA	**4.3**	**12**		
	TCE	3.9	**8.9**		
MW77	PCA	**4700**			
	cDCE	64 J			
	TCE	**1700**			
MW78	None	ND	ND	ND	
MW79	DCE	6.3	6.3	6.8	**7.8**
	cDCE	2.6	3	1.7	0.92 J
	PCE	1.4	1.2	1.5	1.8
	tDCE	2.8	3	1.9	1.4
	TCE	**19**	**21**	**14**	**9.5**
MW80	None	ND	ND	ND	
MW95	None	ND	ND	ND	ND
MW126	None	ND			
MW127	None	ND	ND		
MW128	DCE	**54**	1.5	1.1	1.3
	TCE	**16**	0.70 J	0.50 J	0.42
MW129	DCE	**30**	**31**	**32**	
	PCE	3.9	**9.2**	**20**	
	TCE	**11**	**13**	**14**	
MW130	DCE	**33**	**31**	**33**	**35**
	PCE	**50**	**59**	**62**	**63**
	TCE	**47**	**46**	**48**	**50**

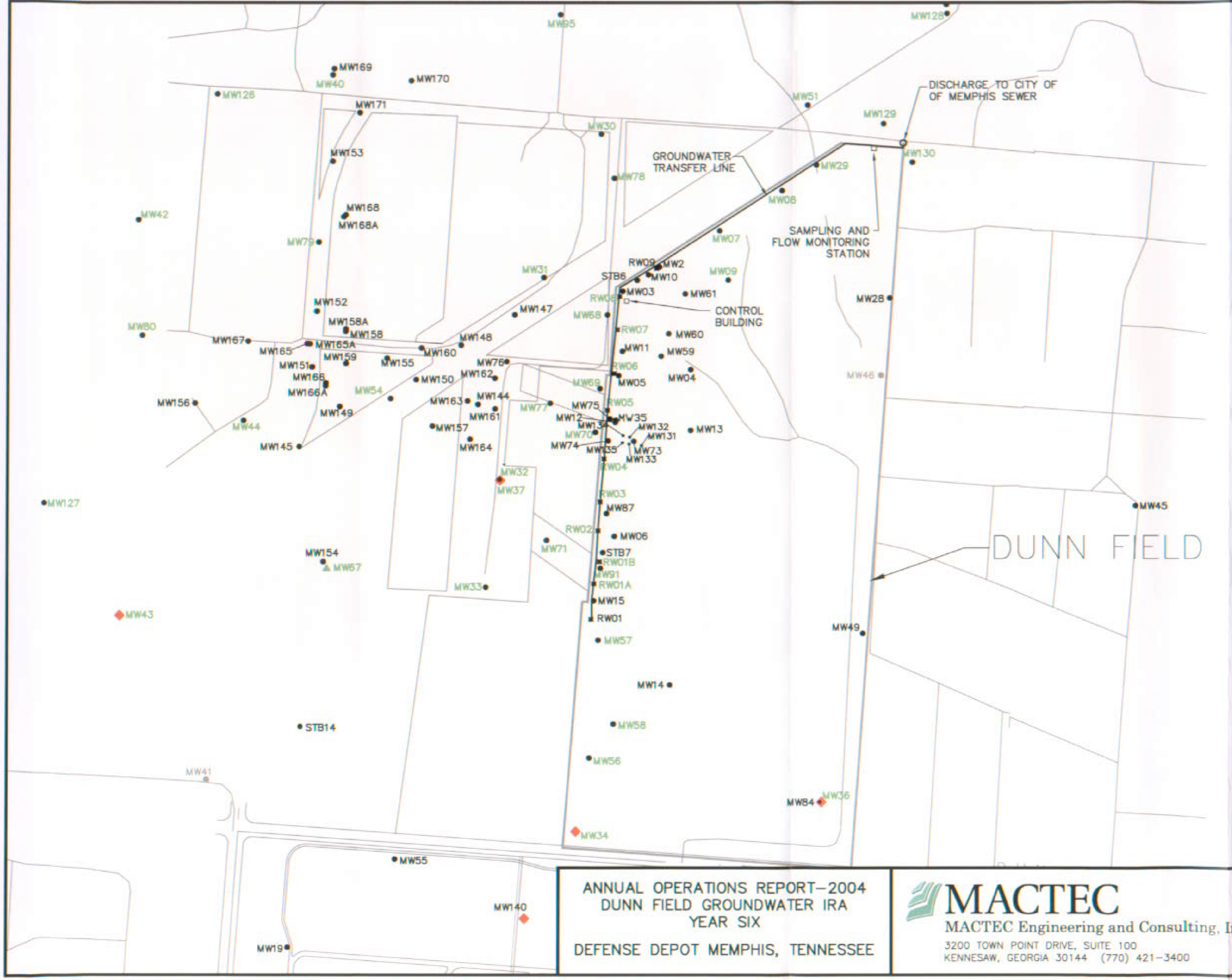
Notes:

Passive Diffusion Bag Sample Interval, refer to Table 3.2 for depth

ND No COCs detected above reporting limits

Bold Concentrations above MCL or Target Concentration

FIGURES



LEGEND

- ▪RW03 RECOVERY WELL SCREENED IN THE FLUVIAL AQUIFER
- •MW73 MONITORING WELL SCREENED IN THE FLUVIAL AQUIFER
- •STB7 SOIL TEST BORING
- ◆MW37 MONITORING WELL SCREENED IN THE INTERMEDIATE AQUIFER
- ▲MW67 MONITORING WELL SCREENED IN THE MEMPHIS AQUIFER
- •MW41 ABANDONED WELL

NOTE: WELLS INCLUDED IN SEMI-ANNUAL SAMPLING ARE SHOWN IN GREEN.

SCALE IN FEET

0 400 800

ANNUAL OPERATIONS REPORT–2004
DUNN FIELD GROUNDWATER IRA
YEAR SIX

DEFENSE DEPOT MEMPHIS, TENNESSEE

MACTEC
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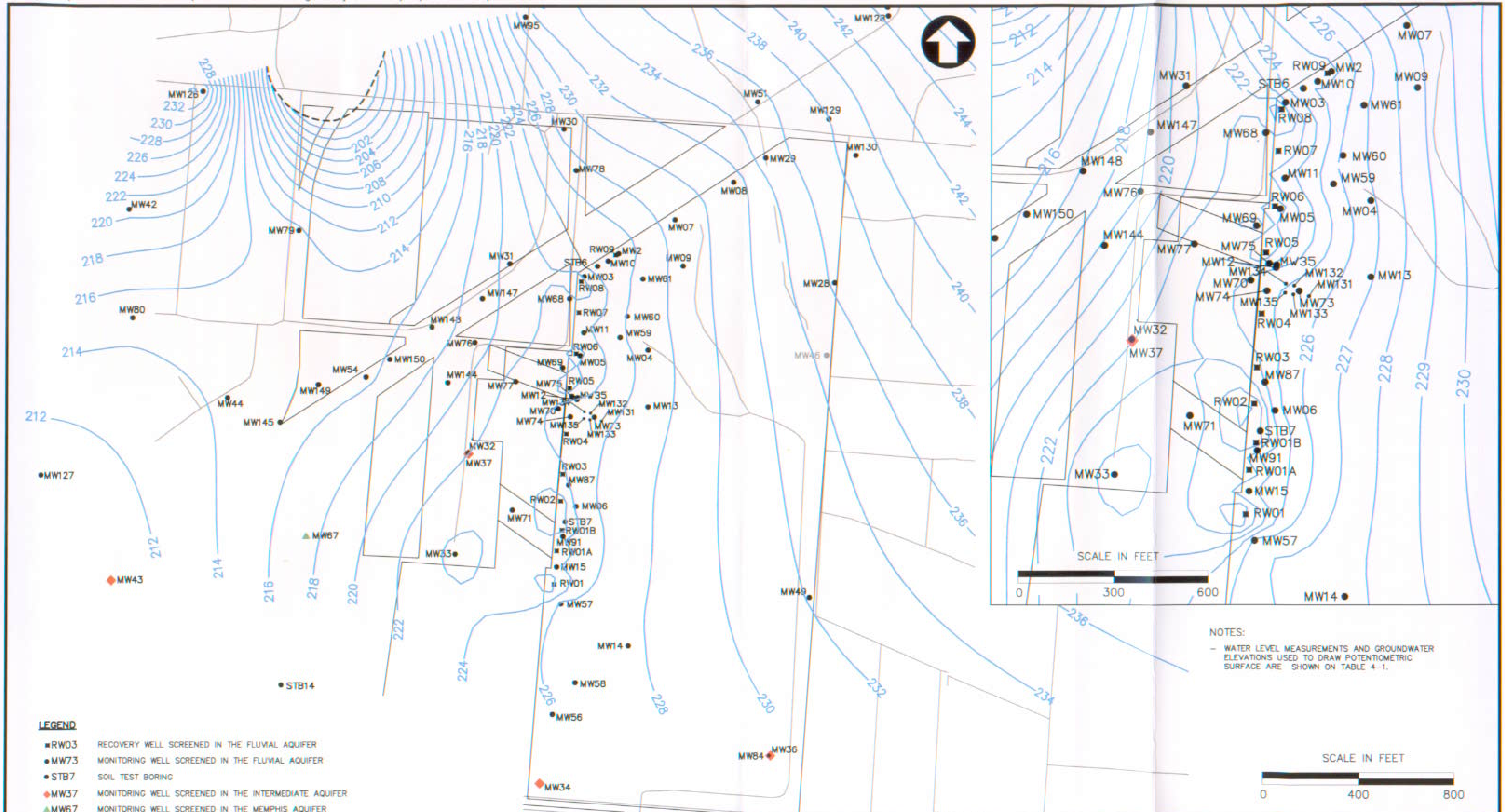
KENNESAW, GEORGIA 30144 (770) 421-3400

MONITORING AND RECOVERY WELL
LOCATION MAP

JOB NO. 6301-03-0015

FIGURE 1-1

J:\DDMT\DDMT-FEB-O&M-2004\POT-MAP-2JAN04.dwg - Layout1 04/06/2005 4:53pm ralexand



LEGEND

- ■RW03 RECOVERY WELL SCREENED IN THE FLUVIAL AQUIFER
- ●MW73 MONITORING WELL SCREENED IN THE FLUVIAL AQUIFER
- ●STB7 SOIL TEST BORING
- ◆MW37 MONITORING WELL SCREENED IN THE INTERMEDIATE AQUIFER
- ▲MW67 MONITORING WELL SCREENED IN THE MEMPHIS AQUIFER
- ●MW41 ABANDONED WELL
- —210— POTENTIOMETRIC SURFACE OF FLUVIAL AQUIFER (FEET MSL): JANUARY 2004
- TRANSITION ZONE

NOTES:

- WATER LEVEL MEASUREMENTS AND GROUNDWATER ELEVATIONS USED TO DRAW POTENTIOMETRIC SURFACE ARE SHOWN ON TABLE 4-1.

SCALE IN FEET

0 400 800

ANNUAL OPERATIONS REPORT-2004
DUNN FIELD GROUNDWATER IRA
YEAR SIX

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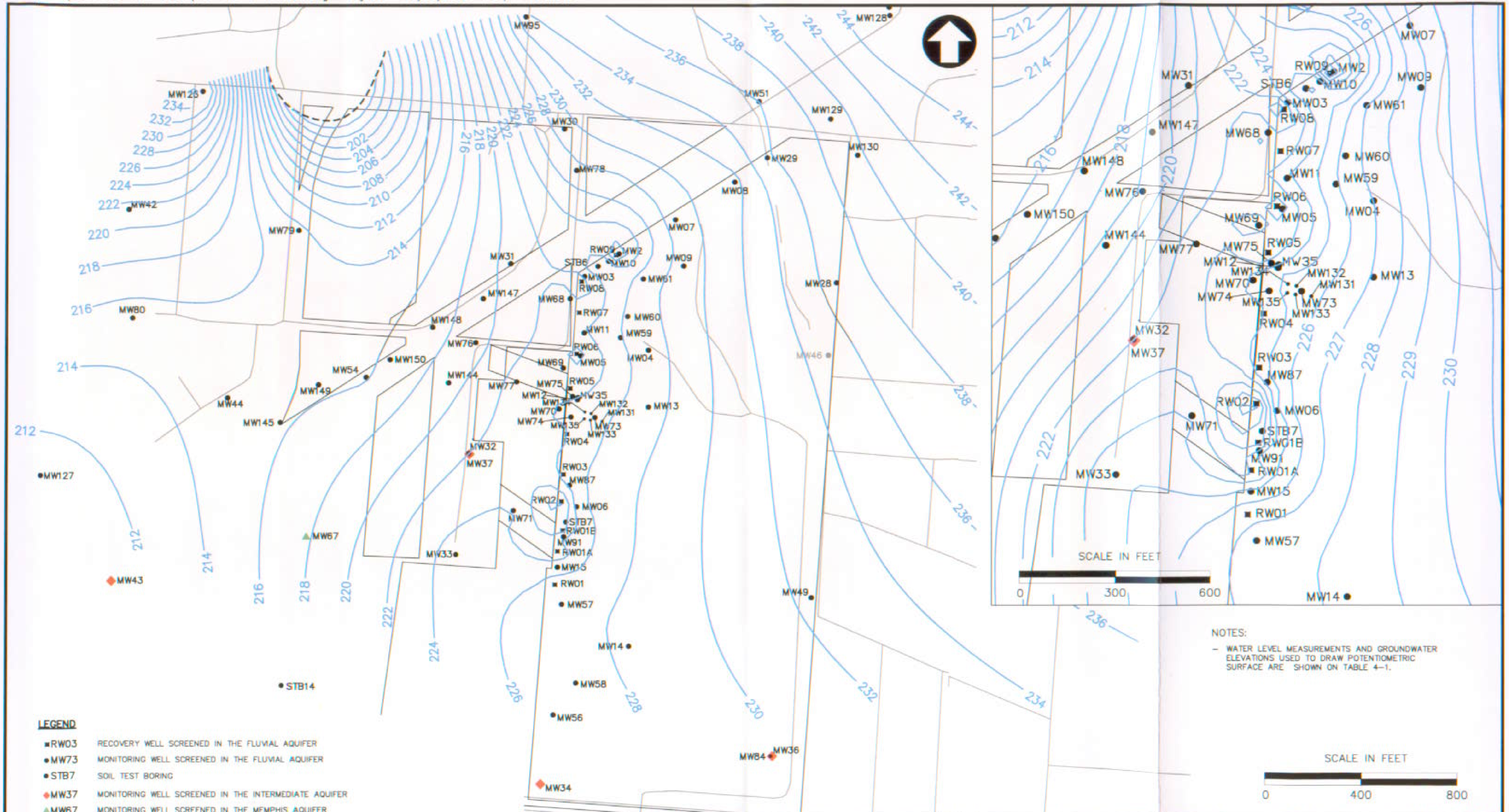
GROUNDWATER ELEVATION MAP
JANUARY 2004

JOB NO. 6301-03-0015

FIGURE 4-1



ANNUAL OPERATIONS REPORT–2004
DUNN FIELD GROUNDWATER IRA
YEAR SIX

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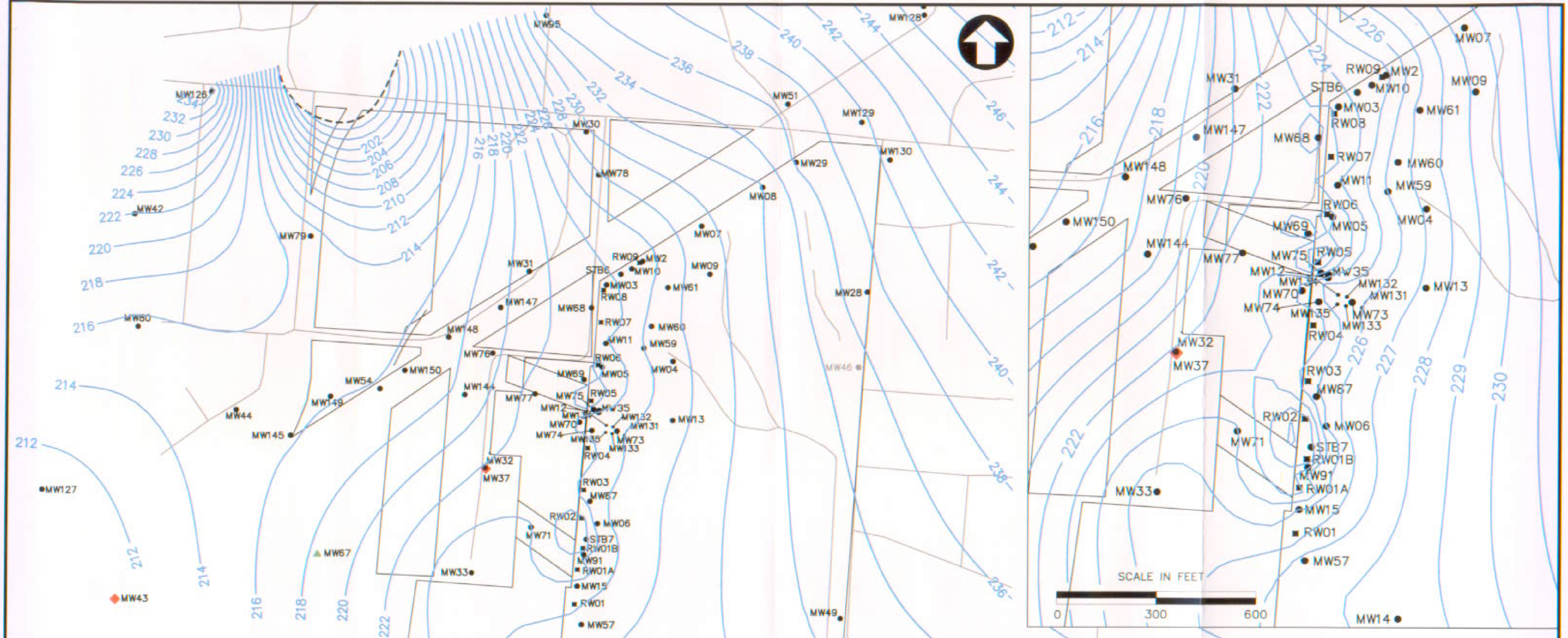
GROUNDWATER ELEVATION MAP
APRIL 2004

JOB NO. 6301-03-0015

FIGURE 4-2



NOTES:

- WATER LEVEL MEASUREMENTS AND GROUNDWATER ELEVATIONS USED TO DRAW POTENTIOMETRIC SURFACE ARE SHOWN ON TABLE 4-1.

SCALE IN FEET

0 400 800

LEGEND

- ■RW03 RECOVERY WELL SCREENED IN THE FLUVIAL AQUIFER
- ●MW73 MONITORING WELL SCREENED IN THE FLUVIAL AQUIFER
- ●STB7 SOIL TEST BORING
- ◆MW37 MONITORING WELL SCREENED IN THE INTERMEDIATE AQUIFER
- ▲MW67 MONITORING WELL SCREENED IN THE MEMPHIS AQUIFER
- ●MW41 ABANDONED WELL
- —210— POTENTIOMETRIC SURFACE OF FLUVIAL AQUIFER (FEET MSL): JUNE 2004
- TRANSITION ZONE

ANNUAL OPERATIONS REPORT-2004
DUNN FIELD GROUNDWATER IRA
YEAR SIX

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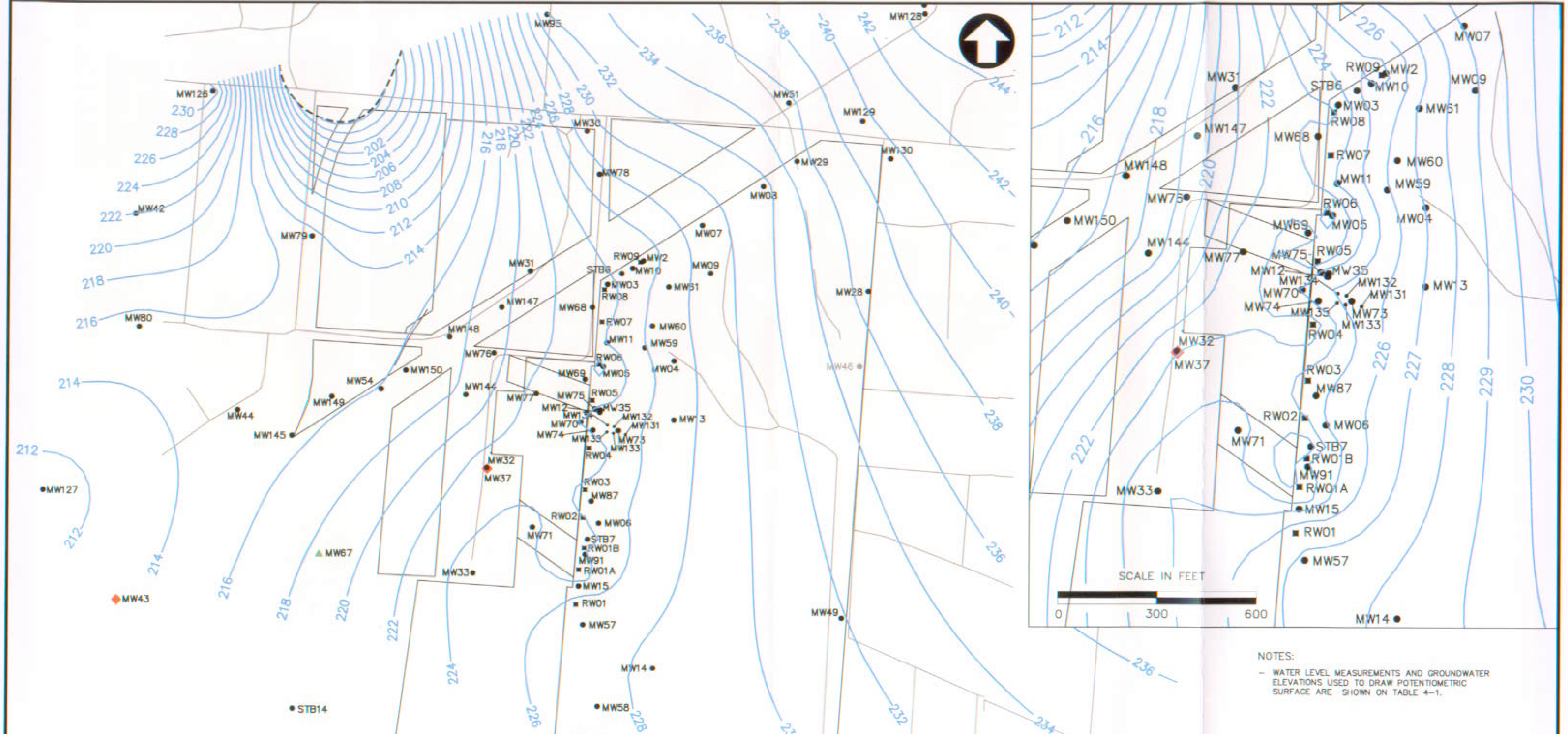
GROUNDWATER ELEVATION MAP
JUNE 2004

JOB NO. 6301-03-0015

FIGURE 4-3



LEGEND

- ▪RW03 RECOVERY WELL SCREENED IN THE FLUVIAL AQUIFER
- •MW73 MONITORING WELL SCREENED IN THE FLUVIAL AQUIFER
- •STB7 SOIL TEST BORING
- ◆MW37 MONITORING WELL SCREENED IN THE INTERMEDIATE AQUIFER
- ▲MW67 MONITORING WELL SCREENED IN THE MEMPHIS AQUIFER
- •MW41 ABANDONED WELL
- —210— POTENTIOMETRIC SURFACE OF FLUVIAL AQUIFER (FEET MSL): OCTOBER 2004
- TRANSITION ZONE

ANNUAL OPERATIONS REPORT–2004
DUNN FIELD GROUNDWATER IRA
YEAR SIX

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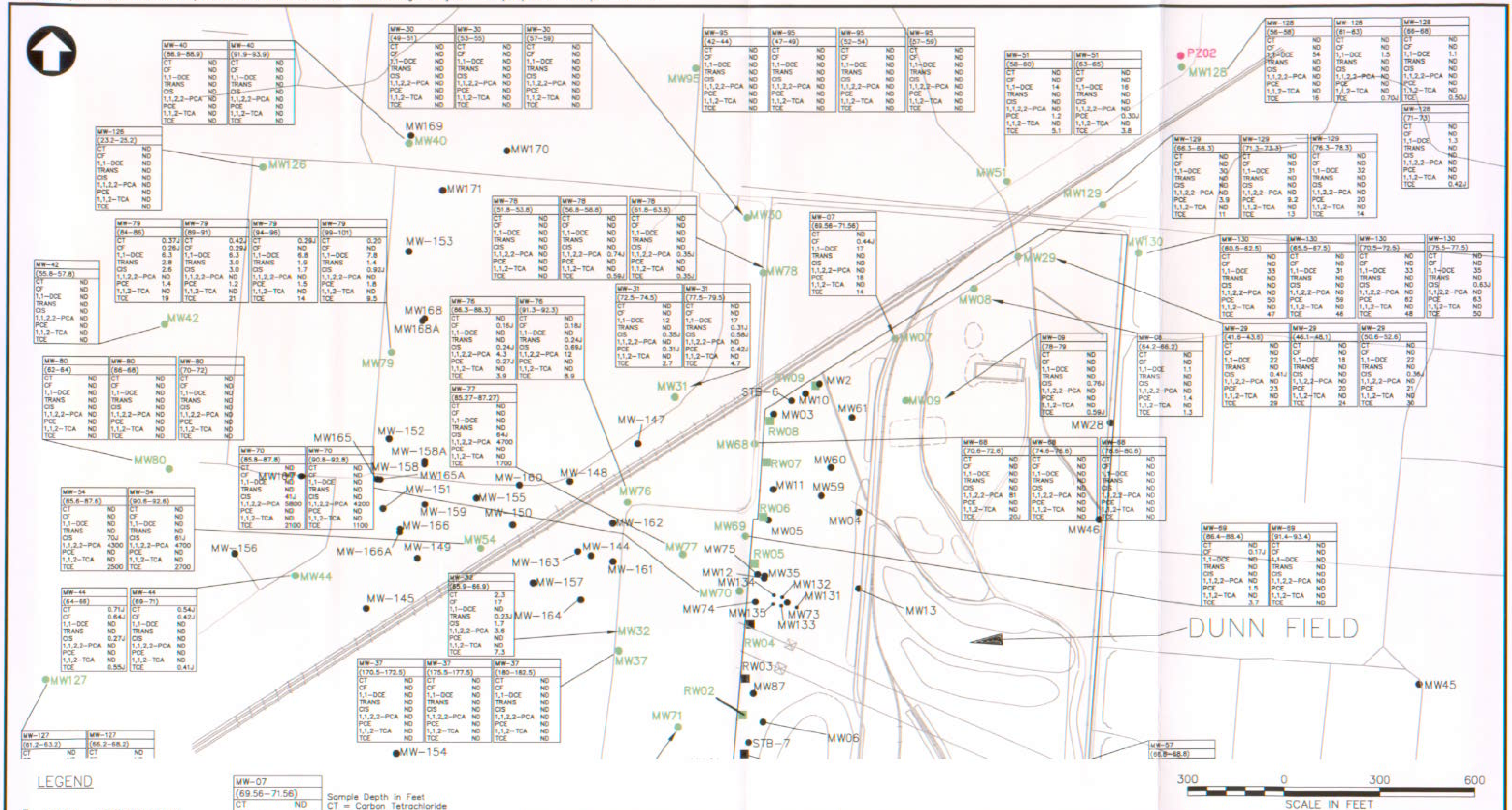
GROUNDWATER ELEVATION MAP
OCTOBER 2004

JOB NO. 6301–03–0015

FIGURE 4–4

J:\DDMT\DDMT-FEB-O&M-2004\6301030015-DUNN _OCT04-VOLATILE.dwg - Layout1 04/06/2005 4:39pm ralexand



LEGEND

- ■ RW03 RECOVERY WELL
- ● MW53 MONITORING WELL

MW-07	
(69.56-71.56)	
CT	ND
CF	0.44J
1,1-DCE	17
TRANS	ND
CIS	ND
1,1,2,2-PCA	ND
PCE	18
1,1,2-TCA	ND
TCE	14

Sample Depth in Feet
CT = Carbon Tetrachloride
CF = Chloroform
1,1-DCE = 1,1-Dichlorothene
TRANS = Trans 1,2-Dichloroethene
CIS = Cis 1,2-Dichloroethene
1,1,2,2-PCA = 1,1,2,2-Tetrachloroethane
PCE = Tetrachloroethene
1,1,2-TCA = 1,1,2-Trichloroethane
TCE = Trichloroethylene

NOTE: WELLS SAMPLED ARE SHOWN IN GREEN.

ANNUAL OPERATIONS REPORT–2004
DUNN FIELD GROUNDWATER IRA
YEAR SIX

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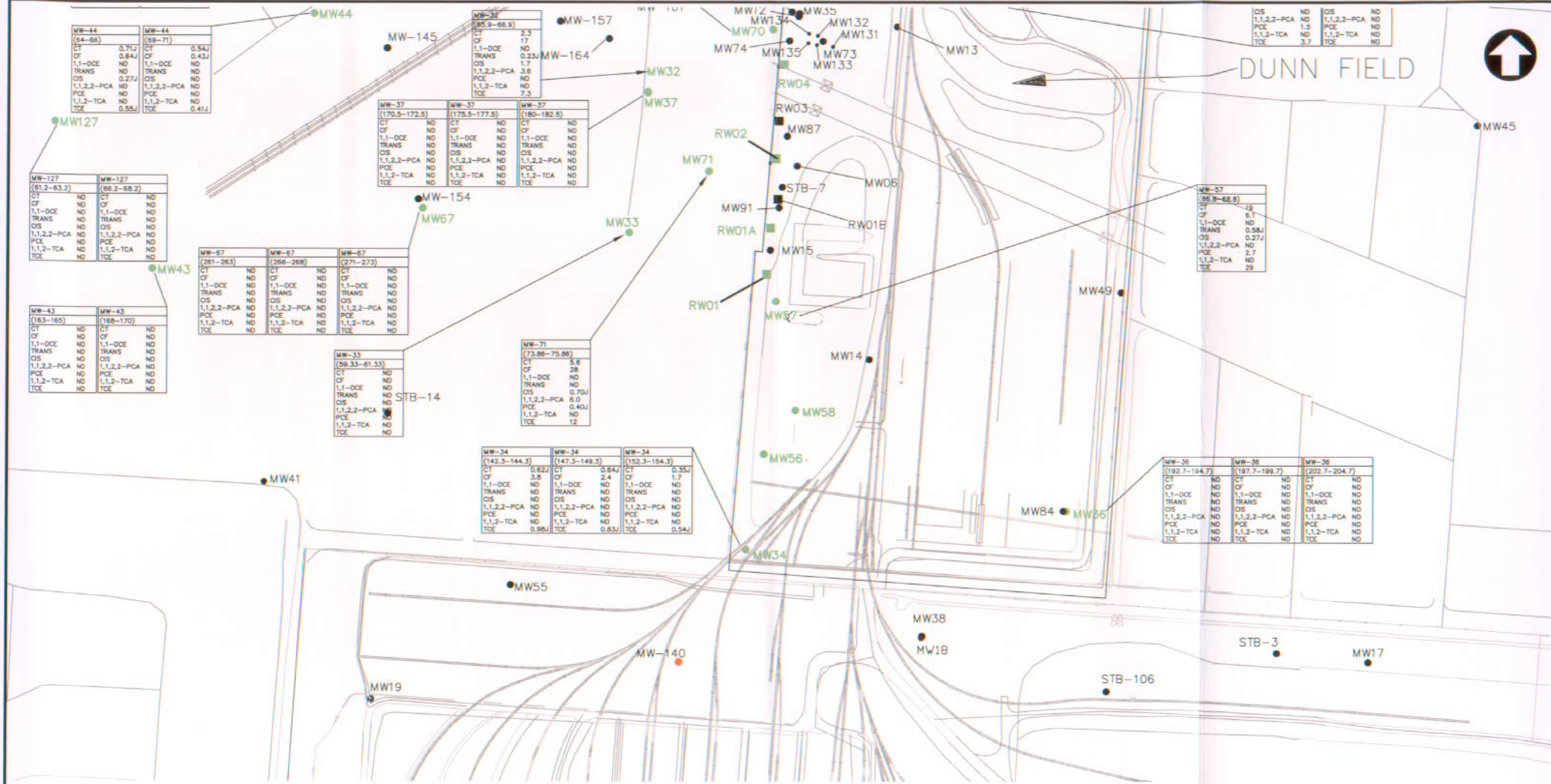
VOC CONCENTRATIONS
NORTH MONITORING WELLS
OCTOBER 2004

JOB NO. 6301-03-0015

FIGURE 4-5

J:\DDMT\DDMT-FEB-O&M-2004\6301030015-DUNN _OCT04-VOLATILE-SOUTH.dwg - Layout1 04/06/2005 4:46pm ralexand



LEGEND

■ RW03 RECOVERY WELL

• MW53 MONITORING WELL

MW-33	
(59.33–61.33)	
CT	ND
CF	ND
1,1-DCE	ND
TRANS	ND
CIS	ND
1,1,2,2-PCA	ND
PCE	ND
1,1,2-TCA	ND
TCE	ND

Sample Depth in Feet
CT = Carbon Tetrachloride
CF = Chloroform
1,1-DCE = 1,1-Dichlorothene
TRANS = Trans 1,2-Dichloroethene
CIS = Cis 1,2-Dichloroethene
1,1,2,2-PCA = 1,1,2,2-Tetrachloroethane
PCE = Tetrachloroethene
1,1,2-TCA = 1,1,2-Trichloroethane
TCE = Trichloroethylene

NOTE: WELLS SAMPLED ARE SHOWN IN GREEN.

ANNUAL OPERATIONS REPORT–2004
DUNN FIELD GROUNDWATER IRA
YEAR SIX

DEFENSE DEPOT MEMPHIS, TENNESSEE

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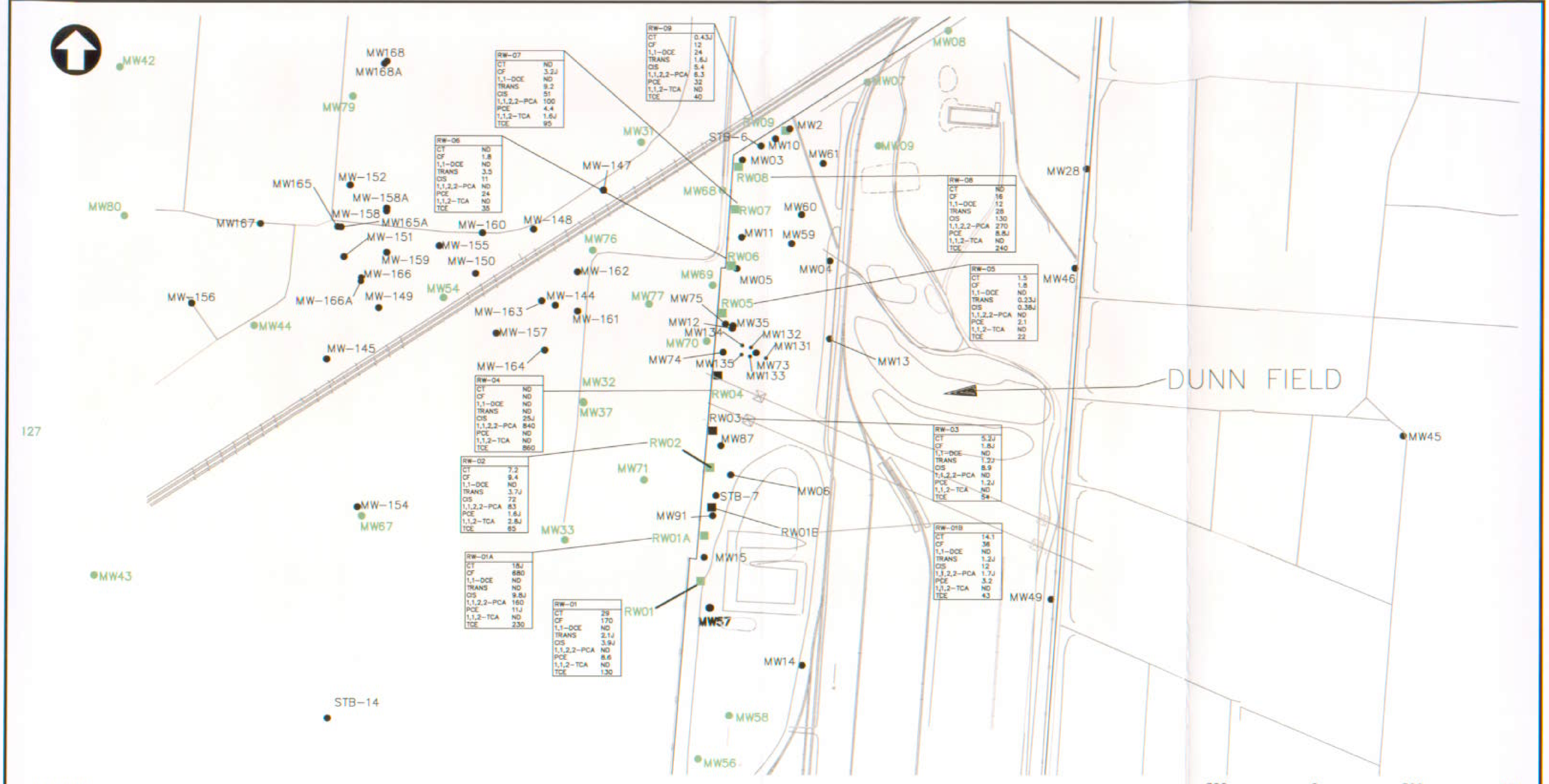
VOC CONCENTRATIONS
SOUTH MONITORING WELLS
OCTOBER 2004

JOB NO. 6301-03-0015

FIGURE 4-6

J:\DDMT\DDMT-FEB-O&M-2004\6301030015-DUNN _OCT04-VOLATILE-RECOVER-LOC.dwg - Layout2 04/06/2005 4:44pm ralexand



LEGEND

■ RW03 RECOVERY WELL

• MW53 MONITORING WELL

RW-01	
CT	ND
CF	170
1,1-DCE	ND
TRANS	ND
CIS	3.9J
1,1,2,2-PCA	ND
PCE	8.6
1,1,2-TCA	ND
TCE	130

CT = Carbon Tetrachloride
CF = Chloroform
1,1-DCE = 1,1-Dichloroethene
TRANS = Trans 1,2-Dichloroethene
CIS = Cis 1,2-Dichloroethene
1,1,2,2-PCA = 1,1,2,2-Tetrachloroethane
PCE = Tetrachloroethene
1,1,2-TCA = 1,1,2-Trichloroethane
TCE = Trichloroethylene

NOTE: WELLS SAMPLED ARE SHOWN IN GREEN.

ANNUAL OPERATIONS REPORT-2004
DUNN FIELD GROUNDWATER IRA
YEAR SIX

DEFENSE DEPOT MEMPHIS, TENNESSEE

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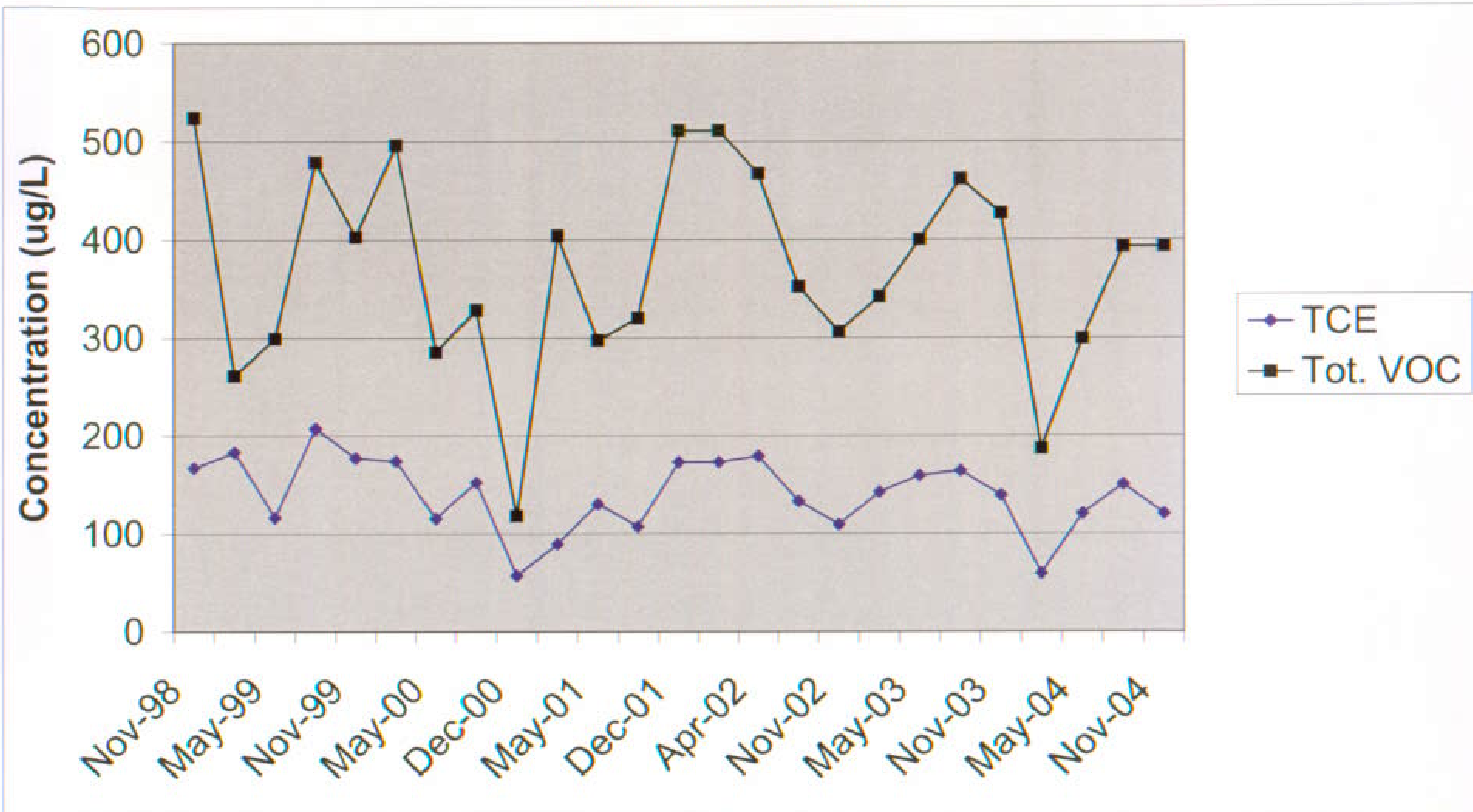
VOC CONCENTRATIONS
RECOVERY WELLS
OCTOBER 2004

JOB NO. 6301-03-0015

FIGURE 4-7

FIGURE 5-1

TCE AND TOTAL VOC CONCENTRATIONS IN EFFLUENT
ANNUAL OPERATIONS REPORT - 2004
DUNN FIELD GROUNDWATER IRA - YEAR SIX
Defense Depot Memphis, Tennessee



833 64

APPENDIX A

INDUSTRIAL WASTEWATER DISCHARGE AGREEMENT
PERMIT NUMBER S-NN3.097

City of Memphis
TENNESSEE

DR. WILLIE W HERENTON - Mayor
RICK MASSON - Chief Administrative Officer
DIVISION OF PUBLIC WORKS
JERRY R. COLLINS JR. - Director
Maynard C. Stiles Wastewater Treatment Plant

Wednesday, May 07, 2003

Mr. John DeBack
BRAC Environmental coordinator
DDSP-D (Memphis)
2163 Airways Boulevard Building 144
Memphis, Tennessee 38114

RE: Renewal Industrial Wastewater Discharge Agreement Permit No. S-NN3-097
DDSP-D (Memphis) @ 2163 Airways Blvd., Memphis, Tennessee

Dear Mr. DeBack:

Please find enclosed singed and approved copy the revised/renewed DDSP-D (Memphis) 's Industrial Wastewater Discharge Agreement for your record keeping.

If you should have any questions, please feel free to contact me at (901) 353-2392.

Sincerely,

Akil AL-Chokhachi
Environmental Engineer

833 67

ORIGINAL
S-NN3-097
DDSP-D MEMPHIS

City of Memphis

Division of Public Works

Industrial Wastewater Discharge Agreement

made by and between the
City of Memphis
and
D D S P- D (Memphis)
on
May 01, 2003

Approved by: ______________________
Jerry Collins, Director
Public Works

City Of Memphis
Industrial Wastewater Discharge Agreement

S-NN3-097
DDSP-D MEMPHIS

»»» Intent and Purpose «««

The City of Memphis in enacting the revised Sewer Use Ordinance deemed it necessary to identify certain significant contributors to the municipal sewer system and regulate the significant contributors on the discharge quantity and characteristics which would be permitted to be discharged into the municipal wastewater system. The basis for the values shown in the following sections are primarily to comply with the State of Tennessee and the Environmental Protection Agency regulations and to preserve the integrity of the publicly owned treatment works.

The agreement serves as a firm understanding between the user and the City for a specified period of time not to exceed five (5) years. The parameters which have been identified in this document reflect the best estimate of the user as to the characteristics of his discharge and will remain in effect until modified by amendments to the discharge agreement. The allowable levels for each parameter are determined by limitations imposed by the Sewer Use Ordinance and for compounds, not specifically limited by the Sewer Use Ordinance or EPA Categorical limitations, the best professional judgement of the City staff engineers and chemists. Primary in the determination is the protection of the integrity of the publicly owned treatment works. Accordingly, tables of guidance for criteria influent levels for specific incompatible wastes have been developed and are part of the Sewer Use Ordinance.

Willful failure of an industrial user to report significant changes in operations which affect wastewater constituents and characteristics can result in the revoking of his discharge agreement. If a public sewer becomes obstructed or damaged because of any substances improperly discharged into it, D D S P- D (Memphis) if responsible for such discharge shall be billed and shall pay for all the expenses incurred by the City in cleaning out, repairing, or rebuilding the sewer.

According to Section 33-173 of the Sewer Use Ordinance, violations of the Discharge Agreement and the Sewer Use Ordinance requirements may result in civil penalties up to ten thousand dollars ($10,000) for each day during which the acts or omission continues or occurs.

Each industrial user discharging compounds regulated by the pretreatment program or other programs identified by the Environmental Protection Agency (EPA) must also pretreat to the point as required by the EPA. In addition to this, the State of Tennessee has identified certain allowable levels for incompatibles entering a publicly owned treatment works. The pretreatment values set by the City are listed in Table 1 and Table 2, Section 33-104 of the Sewer Use Ordinance.

Wastewater discharge agreements are issued to a specific user for a specific operation. A wastewater discharge agreement shall not be reassigned or transferred or sold to a new owner, new user different premises, or a new or changed operation which will significantly affect wastewater characteristics, Section 33-85 of the Sewer Use Ordinance.

The industrial user shall comply with the record-keeping requirements outlined in the general pretreatment Standards in part 403.12 (o) of the Federal Regulations and Section 33-83(f) of the Sewer Use ordinance.

City Of Memphis
Industrial Wastewater Discharge Agreement

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»»» Intent and Purpose «««

According to Section 33-110 of the Sewer Use Ordinance, the Industrial User shall notify the Control Authority immediately in the event of spill, bypass, upset and slug or accidental discharges, including any discharges that would violate a prohibition under Section 33-103, with procedures for the follow-up written notification within five days. The Control Authority will evaluate the Industrial User every two years or as needed for slug discharge control plan, if not required then, the Industrial User shall submit a signed statement stating that there is no potential nor any need for developing such a plan. However, if required then the Control Authority will attach a copy of the plan to this Agreement.

Whereas, Chapter 33 of the Code of Ordinances of the City of Memphis requires that "dischargers to the municipal wastewater treatment facilities designated by the approving authority as requiring agreements shall not discharge to the system without said agreement"; and

Whereas, D D S P- D (Memphis) located at 2163 Airways Blvd, Bldg 144 desires to discharge to the Memphis sewer system; and

Whereas, D D S P- D (Memphis) agrees to comply with all requirements specified in Chapter 33 of the Code of Ordinances and any revision thereof.

Now therefore, D D S P- D (Memphis) is granted the right to discharge the wastewater of such characteristics and volume as described in this wastewater discharge permit into the City of Memphis sewer system from May 01, 2003 to April 30, 2008.

Signed by:

Rodney Thomas

City of Memphis

Authorized Industrial User Representative:

JOHN P. DE BACK

DOD BRAC ENVIRONMENTAL COORDINATOR

John P. DeBack

D D S P- D (Memphis)

City Of Memphis Industrial Wastewater Discharge Agreement

S	N	N	3	097
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Start Date	Expiration Date
May 01, 2003	April 30, 2008

A.1 Corporate Name: D D S P- D (Memphis)
Corporate Address: 2163 Airways Blvd, Bldg 144
Memphis TN 38114

A.2 Company Name: D D S P- D (Memphis)
Mailing Address: 2163 Airways Blvd, Bldg 144
Memphis TN 38114

A.3 Facility Name: D D S P- D (Memphis)
Facility Address: 2163 Airways Blvd, Bldg 144
Memphis TN 38114

A.4 Contact Official: John De Back
Title: B R A C Environmental Coordinator
Phone: (901) 544-0622

A.5 Signing Official: John De Back
Title: B R A C Environmental Coordinator
Signee Address: 2163 Airways Blvd, Bldg 144
Memphis TN 38114

A.6 I certify that the information contained in this industrial wastewater discharge agreement consisting of twenty two pages (and any appendices) is familiar to me and to the best of my knowledge and belief, such information is true, complete and correct.

John De Back May 01, 2003

Authorized Industrial User Representative: Signature/Date

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SECTION B - FACILITY OPERATIONAL CHARACTERISTICS

B.1 Description of manufacturing or service activities

The operation to be permitted is a ground water recovery system located in an open area, Dunn Field, adjacent to the northern perimeter of the DDMT main installation. The DDMT facility is currently being closed with the intent of transferring much of the facility to private ownership. Manufacturing of goods does not occur in the Dunn Field portion of the facility.

*Note: The ground water (GW) recovery and discharge system will operate on a continual basis once the system is completely operational. The federal government will operate and maintain the system.

B.2 Standard Industrial Classification(s)

a. 9711 b. c. d. e. f.

B.3 Weekly days of operation are 7 days/Week (GW)

B.4 The hours of operation and the number of employees per shift.

	Times		Number of Employees		
Shift	Start	Stop	Weekday	Saturday	Sunday
Day	8:00 am	5:00 pm	1		
Evening					
Night					

B.5 Is production operation subject to seasonal variation? No

If so, complete the following:

a. Seasonal maximum wastewater discharged into the municipal sewer system is ______ gallons/day, during the months of ______

b. Seasonal minimum wastewater discharged into the municipal sewer system is ______ gallons/day, during the months of ______

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B.6 Description of other operational schedule characteristics / scheduled shutdown

No operational variations are currently planned. The pumping rate may be altered based on the hydraulic capacity of the city sewer collection system, if required.

This discharge agreement application is for the following groundwater recovery system:

* One 40 - gpm wells
* One 50 - gpm wells
* Five 60 - gpm wells

This seven well groundwater recovery system will result in a total estimated discharge flow of 390 gpm (0.562 mgd) .

Requests for permits for additional wells beyond the seven identified may be submitted in the future, if required. The ground water design currently requires up to seventeen total wells to be installed in up to two phases.

B.7 Description of operational variables and frequency of occurrances which may result in unusual discharges

Fluctuations in the discharge of the system may occur due to changes in ground water conditions. The discharges described in Section B.6 are expected to be maximum discharges.

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B.8 Raw Materials

Type	Quantity	Units
N / A		

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B.9 Catalysts, Intermediates

Type	Quantity	Units
N / A		

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B.10 Principal Products

Type	Quantity	Units
No Manufacturing Activities		

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B.11 Byproducts and Waste Products

Type	Quantity	Units
None		

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B 12 Components of Non-contact Cooling Water

Type	Quantity	Units
N / A		

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B.13 The person (or position) on the plant site who shall be contacted for emergency situations during plant operating hours.

Name	John De Back
Title	B R A C Environmental Coordinator
Phone	(901)-544-0622

B.14 The person(s) who shall be contacted at any time during emergency situations.

Name	Phone
John De Back - B R A C Environ. Coordinator	(901)-544-0622

B.15 Description of spill prevention controls and counter measure plans / accidental and slug discharges

A spill of any material or contaminated stormwater run-off as a result of an excavation of hazardous materials or any wastewater other than recovered groundwater shall not be discharged into the sanitary sewer without a written approval from the City of Memphis.

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SECTION C - WATER USAGE CHARACTERISTICS

C.1 MLG&W Account number(s)

124708000

C.4 f. & C.5 a. - Recovered ground water only

C.2 MLG&W Billing address (if different from A.3)

C.3 Annual water usage by source:

From	Million Gallons Per Year
a. Public water supply	
b. Private well	
c. Surface stream	

C.4 Daily average water consumption:

In	Gallons Per Day
a. Process (industrial)	
b. Non-contact cooling	
c. Boiler Feed	
d. Product	
e. Domestic/Sanitary	
f. Other	561,600

C.5 Daily average water discharge:

To	Gallons Per Day
a. Wastewater sewer	561,600
b. Storm drain	
c. Waste hauler	
d. Evaporative loss	
e. Product	

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SECTION D - WASTEWATER CHARACTERISTICS

PAGE 1 OF 2 Ground Water with a flow of 561,600 gallons / day

D.1 Analysis of wastewater discharged into the municipal sewer system

Parameter	Daily Average (Monthly Average) Maximum Level mg/l	Daily Average (Monthly Average) Maximum Level lbs/day	Instantaneous (One Day) Maximum Level mg/l	Instantaneous (One Day) Maximum Level lbs/day
Biochemical Oxygen Demand (BOD_5)	250.000	1,170.936	400.000	1,873.498
Total Suspended Solids	300.000	1,405.123	500.000	2,341.872
Total Solids				
Oil & Grease (Hydrocarbons)				
Oil & Grease (Total)	10 000	46.837	10.000	46.837
Ammonia Nitrogen (NH_3 - N)				
Total Kjeldahl Nitrogen (TKN)				

	Pounds
Alkalinity (Pounds of 100% sulfuric acid per day. See Attachment)	
Acidity (Pounds of 100% sodium hydroxide per day. See Attachment)	

	Minimum	Maximum
Maximum Temperature (Degrees Fahrenheit)		
pH Range (Standard Units) (See Attachment)	5.5	10 0

D.2 Description of wastewater sampling location. Method of sample collection see attachment.

Sampling point is at the final discharge prior to the City Sanitary Sewer.

No Priority Pollutants or other substances listed in Appendix A are being discharged into the sanitary sewer.

Note: Blank = parameters not quantified.

City Of Memphis
Industrial Wastewater Discharge Agreement

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SECTION D - WASTEWATER CHARACTERISTICS

PAGE 2 OF 2 Ground Water with a flow of 561,600 gallons / day

D.1 Analysis of wastewater discharged into the municipal sewer system

Parameter	Daily Average (Monthly Average) Maximum Level mg/l	Daily Average (Monthly Average) Maximum Level lbs/day	Instantaneous (One Day) Maximum Level mg/l	Instantaneous (One Day) Maximum Level lbs/day
Biochemical Oxygen Demand (BOD_5)				
Total Suspended Solids				
Total Solids				
Oil & Grease (Hydrocarbons)				
Oil & Grease (Total)				
Ammonia Nitrogen (NH_3 - N)				
Total Kjeldahl Nitrogen (TKN)				

	Pounds
Alkalinity (Pounds of 100% sulfuric acid per day. See Attachment)	
Acidity (Pounds of 100% sodium hydroxide per day. See Attachment)	

	Minimum	Maximum
Maximum Temperature (Degrees Fahrenheit)		
pH Range (Standard Units) (See Attachment)		

D.2 Description of wastewater sampling location. Method of sample collection see attachment.

This page is inserted due to additional space required for priority pollutants (Page 13-2).

City Of Memphis
Industrial Wastewater Discharge Agreement

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D.3 Priority Pollutants and other substances that may be present in the wastewater discharge

(See Appendix A for complete listing.)

PAGE 1 OF 2 Ground Water with a flow of 561,600 gallons / day

Parameter	PPN	Class	Daily Average (Monthly Average) Maximum Level mg/l	lbs/day	Instantaneous (One Day) Maximum Level mg/l	lbs/day
1,1,1-trichloroethane	11	Volat	0.010	0.047	0.020	0.094
1,1,2,2-tetrachloroethane	15	Volat	0.500	2.342	1.000	4.684
1,1,2-trichloroethane	14	Volat	0.050	0.234	0.100	0.468
1,1-dichloroethene		Volta	0.050	0.234	0.100	0.468
Aluminum		Metal	1.000	4.684	2.000	9.367
Arsenic	115	Metal	0.040	0.187	0.100	0.468
Bis (2-ethylhexyl) Phthalate	66	Semiv	0.010	0.047	0.020	0.094
Cadmium (total)	118	Metal	0.010	0.047	0.020	0.094
Carbon Tetrachloride (tetrachlor-)	6	Volat	0.020	0.094	0.040	0.187
Chloroform (trichloromethane)	23	Volat	0.100	0.468	0.200	0.937
Chromium (total)	119	Metal	0.200	0.937	0.400	1.873
Cis-1,2-dichloroethene		Volat	0.080	0.375	0.100	0.468
Copper (total)	120	Metal	0.200	0.937	0.400	1.873
Di-n-butyl Phthalate	68	Semiv	0.030	0.141	0.060	0.281
Iron		Metal	10.000	46.837	20.000	93.675
Lead (total)	122	Metal	0.150	0.703	0.300	1.405
Mercury	123	Metal	0.001	0.005	0.002	0.009
Methylene Chloride (dichlorometh-)	44	Volat	0.010	0.047	0.020	0.094
Naphthalene	55	Semiv	0.010	0.047	0.020	0.094
Nickel (total)	124	Metal	0.100	0.468	0.300	1.405
Phenol	65	Semiv	0.010	0.047	0.020	0.094
Tetrachloroethylene (perc- & Tet-)	85	Semiv	0.060	0.281	0.120	0.562
Toluene	86	Volat	0.020	0.094	0.040	0.187
Trans-1,2-dichloroethene		Volat	0.050	0.234	0.100	0.468
Trichloroethylene (trichloroethe-)	87	Volat	0.400	1.873	0.800	3.747

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D.3 Priority Pollutants and other substances that may be present in the wastewater discharge

(See Appendix A for complete listing.)

PAGE 2 OF 2 Ground Water with a flow of 561,600 gallons / day

Parameter	PPN	Class	Daily Average (Monthly Average) Maximum Level mg/l	lbs/day	Instantaneous (One Day) Maximum Level mg/l	lbs/day
Zinc (total)	128	Metal	0.300	1.405	1.000	4.684

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D.4 The person or laboratory responsible for wastewater sampling and analysis

The name of the laboratory will be provided once a contract is in place, the groundwater recovery system (described in B . 6) is installed, and sampling begins.

D.5 Type and description of wastewater metering and sampling facilities

A continuous direct reading meter, flow totalizer, and sampling tap will be provided just prior to the discharge pipe leaving DDMT property.

D.6 Any batch wastewater discharges? No

If yes, describe type, volume, strength and time of discharges

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D.7 Is wastewater treated prior to discharge into the municipal sewer system? No

If yes, complete the following:

a. Description of unit processes used and wastewater quality before and after treatment

b. Description of production characteristics and any persistent or normal operational problems which may affect treatment system operations

c. Description of quality testing or process control methodology which shall ensure acceptable treatment levels

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SECTION E - SEWER FLOW PLAN, SITE PLAN AND PROCESS SCHEMATICS

E.1 The area of plant site in acres 64.11

E.2 Sewer flow plan or list of outlets, size and flow

PART 1 OF 3

The proposed layout of the groundwater recovery wells and piping system are shown on the figure provided in Attachment 2. Groundwater from the recovery wells will be combined into a common pipeline, conveyed and discharged (i.e., single discharge) into the sewer manhole located at Rozelle Street on the South side of Cane Creek (as shown on the Attachment 2 figure).

Initially, the groundwater discharge rates will be approximately 830 gpm. Each well will be brought on line by discharging flow from an 8-hour period into a holding tank. The groundwater in the holding tank will be analyzed to confirm concentrations are below the proposed discharge limits, prior to discharge to the sewer system.

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Industrial Wastewater Discharge Agreement

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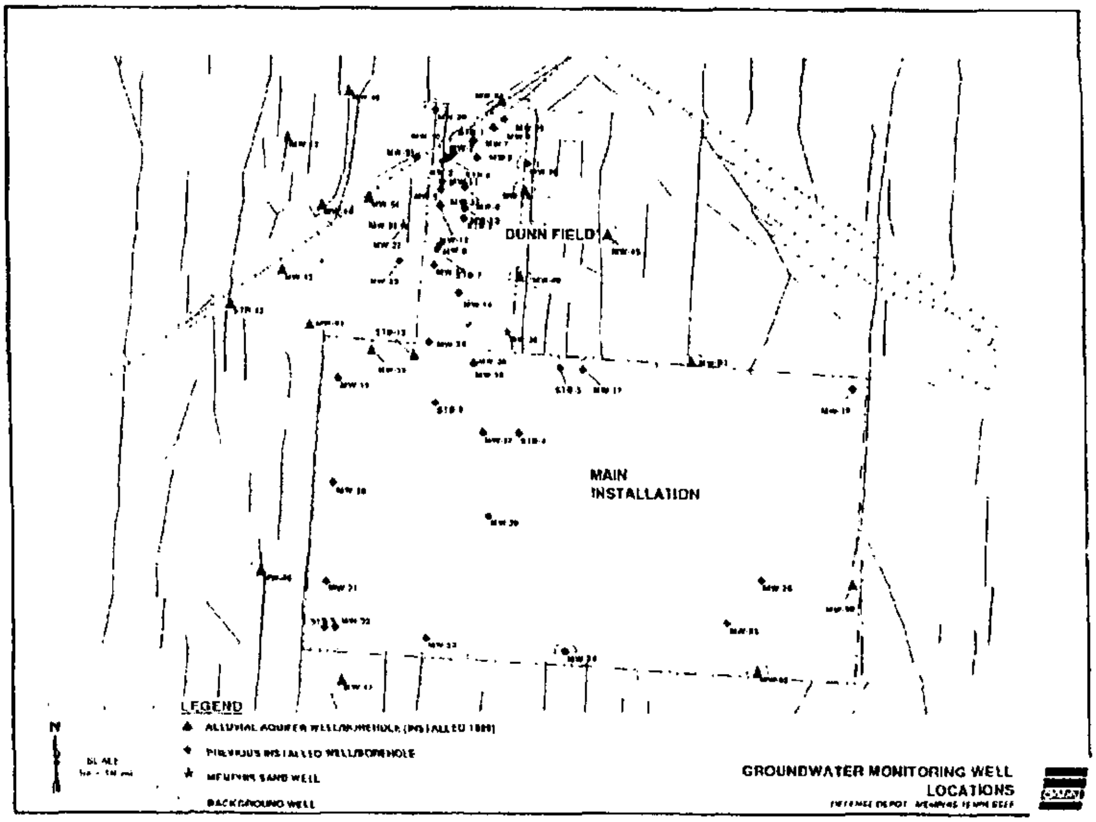
SECTION E - SEWER FLOW PLAN, SITE PLAN AND PROCESS SCHEMATICS

E.1 The area of plant site in acres 64.11

E.2 Sewer flow plan or list of outlets, size and flow

PART 2 OF 3



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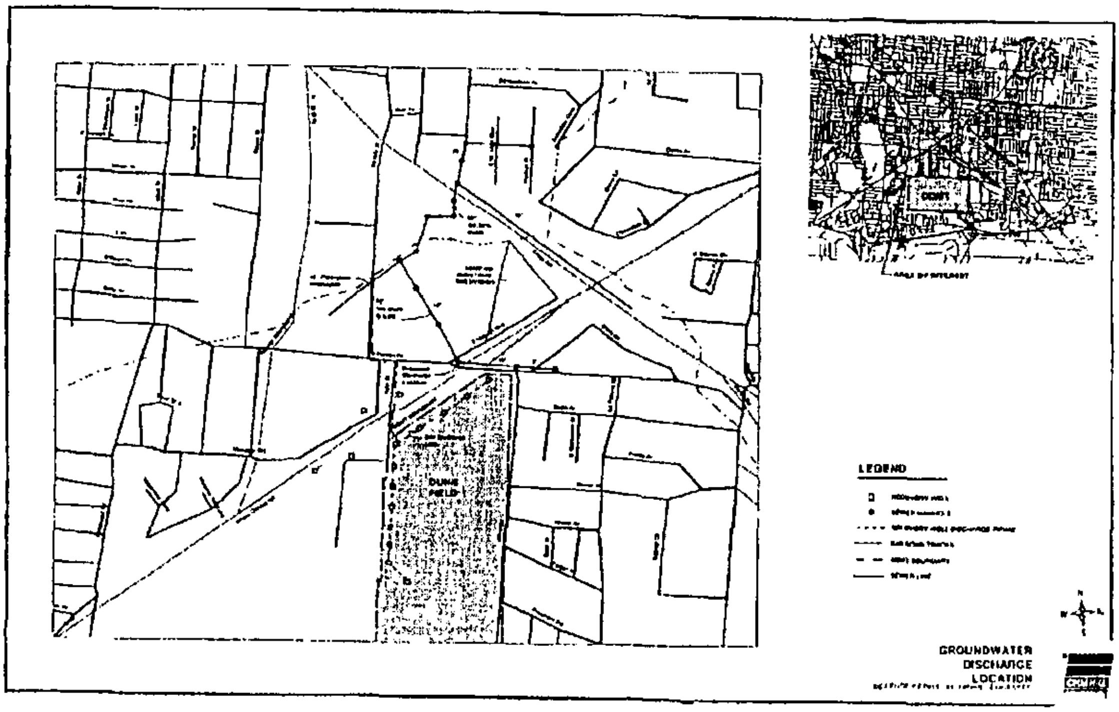
SECTION E - SEWER FLOW PLAN, SITE PLAN AND PROCESS SCHEMATICS

E.1 The area of plant site in acres 64.11

E.2 Sewer flow plan or list of outlets, size and flow

PART 3 OF 3



City Of Memphis Industrial Wastewater Discharge Agreement

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E.3 Plan indicating major structures and locations of hazardous materials and certain sewer appurtenances

PART 1 OF 1

See attached plan.

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E.4 Flow diagram of materials or processes

PART 1 OF 1

N/A

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E.5 Diagram and description of areas with quantified acreage where storm waters (run-off) are discharged into the municipal sewer system

Storm water total acreage 0.00

PART 1 OF 1

No storm water is being discharged into the sanitary sewer.

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SECTION F - SELF-MONITORING SCHEDULE PART 1 OF 1

F.1 The self monitoring requirements to be performed and/or reported to the City of Memphis

All monitoring records should be kept on file for a minimum of 3 years.

According to Section 33-83 of the Sewer Use Ordinance, if sampling performed by an Industrial User indicates a violation, the User shall notify the Control Authority within 24 hours of becoming aware of the violation. The User shall repeat the sampling and analysis and submit the results of the repeated analysis to the City within 30 days after becoming aware of the violation or sooner if so directed by the City Authorized representatives.

If any pollutant is monitored more frequently than required, using EPA approved methods, the results of this monitoring shall be included in the report.

A. SELF-MONITORING REQUIREMENT:

1) Continuous flow monitoring of the final discharge (Groundwater).

2) One (1) grab sample shall be collected semi-annually in May and November with analyses for:

pH
VOCs (SW846 Method 8240)
SVOCs (SW846 Method 8270)
TAL Metals (EPA 200 Series)

B. REPORTING REQUIREMENT:

1. Monthly reports include the total volume dishcarged be sent by the 10th of each month.

2. Semi-annual Reports detailing all analyses of samples collected shall be submitted in June & December.

The above reports shall be submitted to:

Mr. Akil AL-Chokhachi
City of Memphis
2303 North Second Street
Memphis, Tennessee 38127-7500

The Monthly volumes discharged shall be sent to :

Sewer Fee Billing Department
Room 622, City Hall
125 Mid-America Mall
Memphis, TN 38103

A spill of any material or contaminated stormwater run-off as a result of an excavation of hazardous materials or any wastewater other than recovered groundwater shall not be discharged into the sanitary sewer without a written approval from the City ofMemphis.

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SECTION G - COMPLIANCE SCHEDULE PART 1 OF 1

G.1 The compliance schedule as required to meet categorical pretreatment standards and other requirements required by the City of Memphis pretreatment program.

None required

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SECTION H - HAZARDOUS MATERIALS PART 1 OF 1

H.1 All hazardous, toxic, noxious or malodorous materials used, produced or formed as by-product or waste.

NOT APPLICABLE FOR DDMT INSTALLATION

DUNN FIELD:

Historically, Dunn Field was used as a burial area on DDMT. The individual burial sites within Dunn Field have the following suspected buried contaminants:

- thiodiglycol
- arsenic
- chloroform
- ammonia hydroxide
- acetic acid
- ammonia salts
- metals
- orthotoluidine dihydrochloride
- VOCs
- SVOCs
- methyl bromide
- nitric acid PAHS
- trichloroacetic acid
- sulphuric acid
- hydrochloric acid
- lead
- pesticides

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Industrial Wastewater Discharge Agreement

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SECTION I - ATTACHMENTS

PART 1 OF 1

I 1 Summary of Attachments

Appendix A, B, C, & D
Sewer Use Ordinance Table 1 & 2

Sara 312 Tier Two Emergency and Hazardous Chemical Inventory

APPENDIX B

2004 MONTHLY DISCHARGE REPORTS

January 2004 Monthly Discharge Report
Groundwater Recovery System
Dunn Field, Memphis Depot, Tennessee
MACTEC Project No. 6301-03-0015

Groundwater Recovery System Operation - January 2004 - Revised

Duration of System Operation: 1-Jan-04 31-Jan-04

Data Collection Activities:

A baseline water level collection event was performed on January 7, 2004 Additional water levels were collected on January 22, 2004 Upgraded software for the data logger has been installed and contact with the data logger has been re-established Data downloaded in January 2004 is unusable

System Operational Notes:

Site visits were performed on a weekly basis either for general system observations or to make repairs. With the exception of the repair items noted below, the system was observed to be operating normally.

Recovery Well Operational Notes:

General Summary:

Recovery well RW-4 and the flow meters at wells RW-3 and RW-9 were not operating properly as of January 1, 2004 The remainder of the system was observed to be operational for the duration of the month

Alarm Summary:

A low-flow alarm condition was noted on RW-1 This was the only alarm noted

Maintenance Summary:

Repaired and replaced the Foxboro micro-controller for RW- 4 The well was successfully re-started on January 29, 2004 Flow meters at RW-3 and RW-9 were repaired on January 29 2004 Additionally, light bulbs and/or colored lenses were replaced in the control cabinets of the recovery wells

Upcoming Maintenance for February:

Re-calibrate the data logger Data downloaded in January 2003 is unusable

Replace run lights on select cabinets at the recovery wells

Total January 2004 Effluent Discharge Volume: 2639563 **Gallons** January 1 through January 31

January 2004 Average Discharge Flow Rate 59 6 GPM
January 2004 Maximum Discharge Flow Rate 65 2 GPM
January 2004 Minimum Discharge Flow Rate 58 8 GPM
Note - Flow rates for the wells with non-functional flow meters (RW-3 and RW-9) were based on historical average values

Explanations for deviations from 100% recovery well operation run times are provided in the above "Recovery Well Operational Notes" section The tracking of each recovery well's operation was conducted manually as a check to the telemetry operation. Recordings were compiled to estimate each well's performance using recorded flow rates, totalized discharged volume and low level cycling to yield the following recovery well operational run time percentages

Well I.D.	%Run Time	Average Flow Rate (GPM)	Total Flow (GPM)
RW-1	100	0 1	4464
RW-1A	100	3 6	160704
RW-1B	100	1 5	66960
RW-2	100	2 2	98208
RW-3	100	2 0	89280
RW-4	6	0 5	1339
RW-5	100	3 3	147312
RW-6	100	8 8	392832
RW-7	100	9 2	410688
RW-8	100	13 9	620496
RW-9	100	14 5	647280

System Effluent Samples Collected

System Effluent Sample was collected by Jacobs in November 2003 The next scheduled sample will be in late February 2003 A summary of the previously collected effluent samples prepared by Jacobs is attached

Contaminant Mass Removal:

Mass removal is calculated based on daily flow rates and the most recent analytical data. Cumulative amounts reflect contaminant removal since initial system startup.

January: 3.02 lbs TCE; 9.31 lbs Total VOCs

Cumulative: 205.53 lbs TCE; 519.18 lbs Total VOCs

Total System Effluent through 31 January 04 169,449,689 **Gallons**

Prepared by WWP
Checked by JMD

February 2004 Monthly Discharge Report
Groundwater Recovery System
Dunn Field, Memphis Depot, Tennessee
MACTEC Project No. 6301-03-0015

Groundwater Recovery System Operation - February 2004

Duration of System Operation: 1-Feb-04 – 29-Feb-04

Data Collection Activities:

Data was downloaded from the data logger on a weekly basis The data was downloaded from the transducers in the monitoring wells on 2-12-2004

System Operational Notes:

Site visits were performed on a weekly basis either for general system observations or to make repairs With the exception of the repair items noted below, the system was observed to be operating normally

Recovery Well Operational Notes

General Summary:
Recovery Well # 4 shut down on 12 February 2004 - the microcontroller was found to be non-functional and an electrical short was found between the control panel and pump Recovery Well #8 was temporarily off-line on 2-21-2004 The well re-started automatically and was noted as operational on 2-26-2004 during the next site visit

Alarm Summary:
A low-flow alarm condition was noted on RW-1 Recovery Well #4 was noted to both low flow and low-low level alarms on 2-21-2004 This was the only alarm noted.

Maintenance Summary:
Attempted to re-start Recovery Well #4 on 2-26-2004 Microcontroller observed to be non-functional Pump pulled on March 1, 2004, new pump/motor ordered. The microcontroller was sent to the manufacturer for re-evaluation and repair or replacement

Upcoming Maintenance for March:
Re-calibrate the data logger Data remains unusable.
Replace pump and electrical wiring in Recovery Well #4 Pending evaluation from Foxboro, the microcontroller will also be repaired or replaced Tentatively scheduled for the week of 15 March 2004

Total February 2004 Effluent Discharge Volume: 2,368,368 **Gallons** February 1 through February 29

February 2004 Average Discharge Flow Rate 56 7 GPM
February 2004 Maximum Discharge Flow Rate 58 GPM
February 2004 Minimum Discharge Flow Rate 42 5 GPM

Explanations for deviations from 100% recovery well operation run times are provided in the above "Recovery Well Operational Notes" section The tracking of each recovery well's operation was conducted manually as a check to the telemetry operation Recordings were compiled to estimate each well's performance using recorded flow rates, totalized discharged volume and low level cycling to yield the following recovery well operational run time percentages

Well I.D.	%Run Time	Average Flow Rate (GPM)	Total Flow (Gallons)
RW-1	100	1 0	41760
RW-1A	100	3 6	149041
RW-1B	100	1 4	58464
RW-2	100	2 1	87696
RW-3	100	0 1	4176
RW-4	38	0 4	15827
RW-5	100	3 2	133632
RW-6	100	7 9	331783
RW-7	100	9 2	384192
RW-8	97	13 4	560461
RW-9	100	14 4	601344

System Effluent Samples Collected:
A system effluent sample was collected on February 21, 2004 A summary of the previously collected effluent samples prepared by Jacobs is attached with the updated data is attached The preliminary data has been included in the attached table, there we no exceedances

Contaminant Mass Removal:
Mass removal is calculated based on daily flow rates and the most recent analytical data Cumulative amounts reflect contaminant removal since initial system startup

February: 2.27 lbs TCE; 7.03 lbs Total VOCs

Cumulative: 207.80lbs TCE; 526.22 lbs Total VOCs

Total System Effluent through 29 February 2004 172,628,044 **Gallons**

Prepared by WWP 3-09-2004
Checked by JMD 3-10-2004

March 2004 Monthly Discharge Report
Groundwater Recovery System
Dunn Field, Memphis Depot, Tennessee
MACTEC Project No. 6301-03-0015

Groundwater Recovery System Operation - March 2004

Duration of System Operation: 1-Mar-04 – 31-Mar-04

Data Collection Activities:

Field operational data was recorded during site visits as noted below

System Operational Notes:

Site visits were performed on March 1-3, 16 and 25, 2004, either for general system observations or to make repairs With the exception of the repair items noted below, the system was observed to be operating normally

Recovery Well Operational Notes

General Summary:

Recovery Well # 4 pump, motor and microcontroller were replaced on March 16, 2004 The pump was removed and noted to require repair on March 2, 2004 The microcontroller was re-sent to the manufacturer for repair on March 2, 2004 Recovery Well #8 was cycling on and off and shut down on March 16, 2004 The pump and motor for RW-8 were replaced on March 25, 2004 RW-5 was noted to have been shut down March 2 through 16, 2004, due to a microcontroller issue

Alarm Summary:

A low-flow alarm condition was noted on RW-1 and RW-9 during the 16 and 25 site visits RW-8 was noted to have a low-flow alarm on the March 16th Site Visit

Maintenance Summary:

The pump from Recovery Well # 4 was pulled on March 2, 2004, new pump/motor ordered The microcontroller was re-sent to the manufacturer for repair The new equipment was installed on March 16, 2004 The pump and motor were pulled from Recovery Well # 8 on March 17, 2004 and determined to be non-operational, a new pump/motor were installed on March 25, 2004

Upcoming Activities for April:

Collect semi-annual groundwater samples

Total March 2004 Effluent Discharge Volume: 2,398,032 **Gallons** March 1 through March 31, 2004

March 2004 Average Discharge Flow Rate	53 7 GPM
March 2004 Maximum Discharge Flow Rate	62 3 GPM
March 2004 Minimum Discharge Flow Rate	46 2 GPM

Explanations for deviations from 100% recovery well operation run times are provided in the above "Recovery Well Operational Notes" section The tracking of each recovery well's operation was conducted manually as a check to the telemetry operation Recordings were compiled to estimate each well's performance using recorded flow rates, totalized discharged volume and low level cycling to yield the following recovery well operational run time percentages

Well I.D.	%Run Time	Average Flow Rate (GPM)	Total Flow (Gallons)
RW-1	100	1 0	44,640
RW-1A	100	3 7	165,168
RW-1B	100	1 5	66,960
RW-2	100	2 1	93,744
RW-3	100	0 1	4,464
RW-4	51 6	1 2	53,568
RW-5	58 1	1 9	84,816
RW-6	100	8 3	370,512
RW-7	100	9 3	415,152
RW-8	71	10 2	455,328
RW-9	100	14 5	647,280

System Effluent Samples Collected:

The most recent system effluent sample was collected on February 21, 2004 A summary of the previously collected effluent samples prepared by Jacobs is attached with the updated data The preliminary data has been included in the attached table, there we no exceedances

Contaminant Mass Removal:

Mass removal is calculated based on daily flow rates and the most recent analytical data Cumulative amounts reflect contaminant removal since initial system startup

March: 1.19 lbs TCE; 3.75 lbs Total VOCs

Cumulative: 208.98 lbs TCE; 529.97 lbs Total VOCs

Total System Effluent through 31 March 2004 175,026,076 **Gallons**

Prepared by WWP 4-09-2004
Checked by JMD 4-09-2004

April 2004 Monthly Discharge Report
Groundwater Recovery System
Dunn Field, Memphis Depot, Tennessee
MACTEC Project No. 6301-03-0015

Groundwater Recovery System Operation - April 2004

Duration of System Operation: 1-Apr-04 – 30-Apr-04

Data Collection Activities:

Field operational data was recorded during site visits as noted below Static water levels were collected on April 6-7, 2004. Passive diffusive bags samples were placed in the wells on April 7, 2004 and retrieved on April 29 and 30, 2004 The semi-annual samples were collected from the recovery wells on May 4, 2004

System Operational Notes:

Recovery Well # 8 was noted to require electrical diagnostics due to excessive cycling and the thermal overload circuit breaker requiring to be reset. In addition, flow meters for wells RW-1, RW-3, and RW-5 were noted as requiring repair. These recovery wells were observed to be functioning and the historical average flow rates were used to determine the monthly flow rates.

Recovery Well Operational Notes

General Summary:

Recovery Well #8 was cycling on and off and shut down on April 16, 2004 It was restarted on April 28, 2004 and again on April 30, 2004 The cycling was traced to an electrical short that was causing the thermal overload circuit to trip The circuit was then required to be manually reset.

Alarm Summary:

A low-flow alarm condition was noted on RW-1 and RW-4 during the April 7th site visit and again on RW-1 on the April 30th site visit.

Maintenance Summary:

Re-started RW-8 after the thermal overload circuit breaker tripped on multiple occasions

Upcoming Activities for May:

Evaluate flow meters for repair or replacement and collect quarterly effluent sample

Total April 2004 Effluent Discharge Volume: 2,134,512 **Gallons** April 1 through April 31, 2004

April 2004 Average Discharge Flow Rate	49.4 GPM
April 2004 Maximum Discharge Flow Rate	63 5 GPM
April 2004 Minimum Discharge Flow Rate	40 3 GPM

Explanations for deviations from 100% recovery well operation run times are provided in the above "Recovery Well Operational Notes" section. The tracking of each recovery well's operation was conducted manually as a check to the telemetry operation Recordings were compiled to estimate each well's performance using recorded flow rates, totalized discharged volume and low level cycling to yield the following recovery well operational run time percentages:

Well I.D.	%Run Time	Average Flow Rate (GPM)	Total Flow (Gallons) - Based on Average Flow Rate During
RW-1	100	1 0	44,640
RW-1A	100	4 3	191,952
RW-1B	100	1.6	71,424
RW-2	100	2 0	89,280
RW-3	100	0 1	4,464
RW-4	100	3 0	133,920
RW-5	100	3 2	142,848
RW-6	100	8 1	361,584
RW-7	100	9 4	419,616
RW-8	65	7 3	325,872
RW-9	100	9 5	424,080

System Effluent Samples Collected:

The most recent system effluent sample was collected on February 21, 2004 A summary of the previously collected effluent samples prepared by Jacobs is attached with the updated data The preliminary data has been included in the attached table, there we no exceedances.

Contaminant Mass Removal:

Mass removal is calculated based on daily flow rates and the most recent analytical data. Cumulative amounts reflect contaminant removal since initial system startup

March: 1.0 lbs TCE; 3.20 lbs Total VOCs

Cumulative: 201.03 lbs TCE; 533.31 lbs Total VOCs

Total System Effluent through 30 April 2004 177,160,588 **Gallons**

Prepared by: GFB 5-07-2004
Checked by: JMD 5-10-2004

April 2004 Monthly Discharge Report
Groundwater Recovery System
Dunn Field, Memphis Depot, Tennessee
MACTEC Project No. 6301-03-0015

Groundwater Recovery System Operation - May 2004

Duration of System Operation: 1-May-04 31-May-04

Data Collection Activities:
The semi-annual sampling event of the recovery wells was performed on May 4, 2004 The semi-annual sample from RW- 8 was collected on May 6, 2004 following electrical repairs The semi-annual system effluent sample was collected on May 24, 2004 It should be noted that RW-8 was not operational on May 24, 2004 A routine site visit was performed on May 20, 2004

System Operational Notes:
RW-8 was noted to require electrical diagnostics due to excessive cycling and an apparent short-circuit that was causing the thermal overload breaker to trip In addition, flow meters for wells RW-1, RW-3, and RW-5 were noted as requiring replacement These recovery wells remain operational and were observed to be functioning during the site visits and the historical average flow rates were used to determine the monthly flow rates Bulbs for the run light need replacing in RW-6 and RW-9

Recovery Well Operational Notes

General Summary:

RW- 8 experienced down-time during May 2004 due to electrical short-circuiting RW-1 was experienced down time due to the thermal overload breaker being tripped The remaining wells operated the remainder of the month

Alarm Summary:
The following low-flow alarm conditions were noted RW-1, RW-4 and RW-8 on May 20th RW-1 and RW-8 on the May 24th

Maintenance Summary:
Recovery Well # 8 was diagnosed with an electrical short between the thermal overload switch breaker and the pump motor The wiring harness on the pump was determined to have a short and was replaced on May 6, 2004 Recovery Well # 8 went down on May 18, 2004 due to a faulty thermal overload switch The part was ordered and is scheduled for replacement June 3 2004

Upcoming Activities for June
Replace the thermal overload switch in RW #8 Replace flow meters in Wells RW-1 RW-3 and RW-5, light bulbs for run lights for RW-6 and RW-9 and record monthly recovery well data A planned system shut-down will occur on or about June 21 2004 to allow for an evaluation of the potentiometric surface under non-pumping conditions A system calibration will also be performed in conjunction with the system shut-down

Total May 2004 Effluent Discharge Volume: 2,367,650 **Gallons** May 1 through May 31, 2004

May 2004 Average Discharge Flow Rate	55 GPM
May 2004 Maximum Discharge Flow Rate	62.5 GPM
May 2004 Minimum Discharge Flow Rate	49 2 GPM

In addition to the 2,365,200 gallons of extracted groundwater, a total of 2,450 gallons of well development water from the Main Installation was discharged to the sanitary sewer system during the month of May

Explanations for deviations from 100% recovery well operation run times are provided in the above "Recovery Well Operational Notes" section The tracking of each recovery well's operation was conducted manually as a check to the telemetry operation Recordings were compiled to estimate each well's performance using recorded flow rates, totalized discharged volume and low level cycling to yield the following recovery well operational run time percentages

Well I.D.	%Run Time	Average Flow Rate (GPM)	Total Flow (Gallons) - Based on Average Flow Rate During Operational Period
RW-1	65	0 6	26,784
RW-1A	100	4 2	187,488
RW-1B	100	1 6	71,424
RW-2	100	2 1	93,744
RW-3	100	0 1	4,464
RW-4	100	3 2	142,848
RW-5	100	3 2	142,848
RW-6	100	9 8	437,472
RW-7	100	9 3	415,152
RW-8	65	6.1	272,304
RW-9	100	14 8	660,672

System Effluent Samples Collected: The most recent system effluent sample was collected on May 24, 2004 A summary of the previously collected effluent samples prepared by Jacobs is attached with the updated data The preliminary data has been included in the attached table, there were no exceedances

Contaminant Mass Removal: Mass removal is calculated based on daily flow rates and the most recent analytical data Cumulative amounts reflect contaminant removal since initial system startup

May: 1.49 lbs TCE; 4.37 lbs Total VOCs

Cumulative: 211.5 lbs TCE; 537.7 lbs Total VOCs

Total System Effluent through 31 May 2004 179,617,086 **Gallons**

Prepared by GFB 6-07-2004
Checked by JMD 6-10-2004

JUNE 2004 Monthly Discharge Report
Groundwater Recovery System
Dunn Field, Memphis Depot, Tennessee
MACTEC Project No. 6301-03-0015

Groundwater Recovery System Operation - June 2004

Duration of System Operation: 1-Jun-04 – 30-Jun-04

Data Collection Activities.

Field operational data was recorded during the site visits as noted below. The system was shut down from June 22 to June 25 to evaluate the effect of the groundwater recovery system on the potentiometric surface. Static water levels were collected on June 21-22 to serve as baseline measuremetns prior to the system shutdown (June 22.) The final set of water level measurements were collected after stabilization (approximately 72 hours) of the water levels in the recovery wells. The system was re-started on June 25

System Operational Notes:

RW-8 was not operational on June 7, 2004, a damaged wire at the motor lead was identified and repaired on June 8. In addition, flow meters for wells RW-1, RW-3, and RW-5 were replaced on June 23 & 24. These recovery wells remained operational and were observed to be functioning during the site visits prior to replacement of the flow meters. The historical average flow rates were used to determine the monthly flow rates. A new current relay was installed in RW-8 on June 29. See comments above regarding the system shut-down.

Recovery Well Operational Notes

General Summary:

RW-8 experienced down time during June 2004 due to electrical short circuiting and was repaired on June 8. RW-1, 3 & 5 flow meters were replaced June 23-24 and all flow meters were calibrated June 28-29.

Alarm Summary:

The following low-flow alarm conditions were noted RW-1, on June 11th and 22nd.

Maintenance Summary:

Recovery Well # 8 was diagnosed with an electrical short between the thermal overload switch breaker and the pump motor. The wiring harness on the pump was determined to have a short and was replaced on June 8, 2004. Recovery Well # 8 thermal overload switch was replaced June 1st and the current relay was replaced June 29th. Recovery wells # 1, 3 & 5 flow meters were replaced June 23-24 and all of the system flow meters calibrated June 28 29. Prior to and during the system shut-down, the pressure transducers and flow meters were calibrated as part of the annual system calibration. The pressure transducer in RW#1 calibrated within manufactures specifications but the readings collected during the system shut-down exhibited variability.

Upcoming Activities for July

Replace the current relay in RW #1, evaluate the pressure transducer in RW#1, perform a system shut-down on/or about July 19 to allow for relocation of the effluent line due to the Hays Road construction.

Total June 2004 Effluent Discharge Volume: 2,323,161 **Gallons** June 1 through June 30, 2004

June 2004 Average Discharge Flow Rate	53.54
June 2004 Maximum Discharge Flow Rate	68.4 GPM
June 2004 Minimum Discharge Flow Rate	0.0 GPM

In addition to the 2,312,991 gallons of extracted groundwater, a total of 10,170 gallons of well development water from the Main Installation was discharged to the sanitary sewer system during the month of June.

Explanations for deviations from 100% recovery well operation run times are provided in the above "Recovery Well Operational Notes" section. The tracking of each recovery well's operation was conducted manually as a check to the telemetry operation. Recordings were compiled to estimate each well's performance using recorded flow rates, totalized discharged volume and low level cycling to yield the following recovery well operational run time percentages.

Well I.D.	%Run Time	Average Flow Rate (GPM)	Total Flow (Gallons) - Based on Average Flow Rate During Operational Period
RW-1	89	0.9	38,016
RW-1A	89	3.8	162,720
RW-1B	89	1.4	60,912
RW-2	89	1.8	79,056
RW-3	89	0.2	9,279
RW-4	89	3.1	135,360
RW-5	89	2.8	122,400
RW-6	89	9.3	401,184
RW-7	89	8.2	353,520
RW-8	64	8.9	384,192
RW-9	89	13.1	566,352

System Effluent Samples Collected.

The most recent system effluent sample was collected on May 24, 2004. A summary of the previously collected effluent samples prepared by Jacobs is attached with the updated data. The preliminary data has been included in the attached table; there were no exceedances.

Contaminant Mass Removal.

Mass removal is calculated based on daily flow rates and the most recent analytical data. Cumulative amounts reflect contaminant removal since initial system startup.

June: 2.35 lbs TCE, 5.86 lbs Total VOCs

Cumulative: 213.9 lbs TCE; 543.6 lbs Total VOCs

Total System Effluent through 30 June 2004 181,940,247 **Gallons**

Prepared by GFB 7-07-2004
Checked by WWP 7-09-2004

JULY 2004 Monthly Discharge Report
Groundwater Recovery System
Dunn Field, Memphis Depot, Tennessee
MACTEC Project No. 6301-03-0015

Groundwater Recovery System Operation - July 2004

Duration of System Operation: 1-Jul-04 – 31-Jul-04

Data Collection Activities.
Site visits were performed on July 12, 20-21, and 28, 2004, for general system observation on July 12 and to make repairs on July 20-21 and July 28. With the exception of the repair items noted below, the system was observed to be operating normally

System Operational Notes.

RW-7 was not operational on July 12, 2004, the pump was damaged and was removed on July 20. A new pump was ordered on the July 21 and replaced on July 28

Recovery Well Operational Notes

General Summary:

RW-7 experienced down-time during July 2004 due to a pump failure. The well was not in operation during the site visit on July 12, 2004. For the purposes of flow calculations, the data logger files were reviewed and the well was noted as going down on July 4, 2004

Alarm Summary:
The following low-flow alarm conditions were noted: RW-4, on July 12th

Maintenance Summary:
Recovery Well # 7 was diagnosed with a damaged pump. The pump was reordered on July 21 and was replaced on July 28, 2004

Upcoming Activities for August

Perform a system shut-down the week of August 2 to allow for relocation of the effluent line due to the Hays Road construction. Collect a quarterly discharge effluent sample for VOCs only

Evaluate the telephone connection for the data logger. Following conversations with the data logger vendor, an evaluation of the quality of the phone connection is required as routine connections are not possible due to the quality of the phone connections at the site

Total June 2004 Effluent Discharge Volume: 2,546,352 Gallons July 1 through July 31, 2004

July 2004 Average Discharge Flow Rate (GPM)	59 24
July 2004 Maximum Discharge Flow Rate (GPM)	68 2
July 2004 Minimum Discharge Flow Rate (GPM)	65 4

Explanations for deviations from 100% recovery well operation run times are provided in the above "Recovery Well Operational Notes" section. The tracking of each recovery well's operation was conducted manually as a check to the telemetry operation. Recordings were compiled to estimate each well's performance using recorded flow rates, totalized discharged volume and low level cycling to yield the following recovery well operational run time percentages

Well I.D.	%Run Time	Average Flow Rate (GPM)	Total Flow (Gallons) - Based on Average Flow Rate During Operational Period
RW-1	100	1 0	44,640
RW-1A	100	3 7	164,736
RW-1B	100	1 6	71,424
RW-2	100	1 8	80,352
RW-3	100	1 9	86,400
RW-4	100	2.8	125,568
RW-5	100	3.3	148,896
RW-6	100	12 5	557,568
RW-7	22	1.9	84,096
RW-8	100	14 0	623,376
RW-9	100	14 7	657,504

System Effluent Samples Collected.
The most recent system effluent sample was collected on May 24, 2004. The next sample is due to be collected in August, 2004

Contaminant Mass Removal.
Mass removal is calculated based on daily flow rates and the most recent analytical data. Cumulative amounts reflect contaminant removal since initial system startup

July: 2 64 lbs TCE; 6.60 lbs Total VOCs

Cumulative: 216.5 lbs TCE, 550.15 lbs Total VOCs

Total System Effluent through 31 July 2004 **184,584,807** **Gallons**

Prepared by GLB 8-09-2004
Checked by JMD 8-10-2004

August 2004 Monthly Discharge Report
Groundwater Recovery System
Dunn Field, Memphis Depot, Tennessee
MACTEC Project No. 6301-03-0015

Groundwater Recovery System Operation -August 2004

Duration of System Operation: 1-Aug-04 31-Aug-04

Data Collection Activities:
Site visits were performed on August 2 - 5, 2004, August 17-18, August 20 - 25, and August 27, 2004 The August 2 - 5 visit included a system shut-down to allow for relocation of the effluent line due to the Hays Road construction The August 17-18 visit was performed to repair the pump in RW-4 The August 20 - 25 site visit to perform a detailed system evaluation to further define the operating parameters of the electronic components. The system equipment inspection included, pressure transducers, flow control valves, flow meters, flow indicators, level indicators and the micro controlers. The system was observed to be operating normally upon completion of the above mentioned tasks. A site visit was performed to collect the quarterly system effluent sample on August 27, 2004.

System Operational Notes:

RW-4 was not operational on August 13, 2004, the pump drop pipe was noted to be damaged and was repaired on August 17-18. RW-6 was not operational on August 23, 2004, the pump drop pipe was noted to be damaged and repaired on August 23-24. Recovery wells RW-1, RW-1A, RW-1B, RW-2 and RW-4 were shutdown for maintenance between August 22 - 24, 2004 Specific details of the repairs are provided below

Recovery Well Operational Notes

General Summary:

RW-4 experienced down-time from the 10th to the 18th of August 2004 due to corrosion of the pump drop pipe fitting. RW-6 experienced down-time from the 21st to the 24th of August 2004 due to corrosion of the pump drop pipe fitting. Additional activities associated with the system inspection included manually adjusted flow rates on flow controllers for RW-1 - RW-7 and reprogramming the micro controlers for RW-4, RW-5 and RW-7

Alarm Summary:
Alow-flow alarm condition was noted at RW-4 on August 2, 2004

Maintenance Summary:
Recovery Wells # 4 and # 6 were diagnosed with damaged pump drop pipes The drop pipes were repaired on August 18 and August 24, 2004, respectively

Upcoming Activities for September

General system observation visits and replacement of the dessicant packs in the pressure transducers.

Total August 2004 Effluent Discharge Volume. 2,469,038 Gallons August 1 through August 31, 2004

August 2004 Average Discharge Flow Rate (GPM)	57 37	
August 2004 Maximum Discharge Flow Rate (GPM)	77 5	
August 2004 Mmimum Discharge Flow Rate (GPM)	0	

Explanations for deviations from 100% recovery well operation run times are provided in the above "Recovery Well Operational Notes" section. The tracking of each recovery well's operation was conducted manually as a check to the telemetry operation. Recordings were compiled to estimate each well's performance using recorded flow rates, totalized discharged volume and low level cycling to yield the following recovery well operational run time percentages

Well I.D.	%Run Time	Average Flow Rate (GPM)	Total Flow (Gallons) - Based on Average Flow Rate During Operational Period
RW-1	84	1 0	46,368
RW-1A	84	3.5	154,800
RW-1B	84	1 5	65.621
RW-2	84	3.3	149 328
RW-3	90	2 3	101,808
RW-4	60	1.5	67,882
RW-5	90	4 9	219,744
RW-6	79	9 3	415,584
RW-7	90	4 8	212,544
RW-8	90	12 9	575,136
RW-9	90	12.4	552,096

System Effluent Samples Collected:
The most recent system effluent sample was collected on August 27, 2004
The next sample is due to be collected in November, 2004

Contaminant Mass Removal:
Mass removal is calculated based on daily flow rates and the most recent analytical data Cumulative amounts reflect contaminant removal since initial system startup.

August: 2.79 lbs TCE; 7.06 lbs Total VOCs

Cumulative. 219 2 lbs TCE; 557.00 lbs Total VOCs

Total System Effluent through 31 August 2004 187,145,717 **Gallons**

Prepared by: GFB 9-07-2004
Checked by JMD 9-10-2004

September 2004 Monthly Discharge Report
Groundwater Recovery System
Dunn Field, Memphis Depot, Tennessee
MACTEC Project No. 6301-03-0015

Groundwater Recovery System Operation -September 2004

Duration of System Operation: 1-Sep-04 30-Sep-04

Data Collection Activities:
Site visits were performed on September 9, 2004 and September 23, 2004 General system observations were performed on September 9 while both general system observations and minor maintenance activities were performed on September 23 With the exception of the repair items noted below, the system was observed to be operating normally

System Operational Notes:

No down time was observed for the recovery wells during September.

Recovery Well Operational Notes

General Summary:

Maintenance activities associated with the system inspection included replacement of the pressure transducer desiccant packs for each recovery well

Alarm Summary:
A low-flow alarm condition was noted at RW-1A on September 9 and 23, 2004

Maintenance Summary:
The pressure transducer desiccant packs were replaced at each recovery well during the September

Upcoming Activities for October

Perform the bi-monthly system observation visits and collect the groundwater samples using passive diffusion bag samplers

Total September 2004 Effluent Discharge Volume: 3,177,360 **Gallons** September 1 through September 30, 2004

September 2004 Average Discharge Flow Rate (GPM)	76 1
September 2004 Maximum Discharge Flow Rate (GPM)	76.4
September 2004 Minimum Discharge Flow Rate (GPM)	75 1

Explanations for deviations from 100% recovery well operation run times are provided in the above "Recovery Well Operational Notes" section The tracking of each recovery well's operation was conducted manually as a check to the telemetry operation Recordings were compiled to estimate each well's performance using recorded flow rates, totalized discharged volume and low level cycling to yield the following recovery well operational run time percentages

Well I.D.	%Run Time	Average Flow Rate (GPM)	Total Flow (Gallons) - Based on Average Flow Rate During Operational Period
RW-1	100	1 7	73,440
RW-1A	100	6.4	276,480
RW-1B	100	2.2	95,040
RW-2	100	1 7	73,440
RW-3	100	5.2	224 640
RW-4	100	2.5	108 000
RW-5	100	11 8	509,760
RW-6	100	12 1	521,568
RW-7	100	4.3	185,760
RW-8	100	14 4	621,504
RW-9	100	13 8	595 872

System Effluent Samples Collected:
The most recent system effluent sample was collected on August 27 2004
The next sample is due to be collected in November, 2004

Contaminant Mass Removal:
Mass removal is calculated based on daily flow rates and the most recent analytical data Cumulative amounts reflect contaminant removal since initial system startup

September: 4.11 lbs TCE; 10.79 lbs Total VOCs

Cumulative: 223.3 lbs TCE, 567.77 lbs Total VOCs

Total System Effluent through 31 August 2004 190,431,221 **Gallons**

Prepared by GFB 10-11-2004
Checked by JMD 10-11-2004

October 2004 Monthly Discharge Report
Groundwater Recovery System
Dunn Field, Memphis Depot, Tennessee
MACTEC Project No. 6301-03-0015

Groundwater Recovery System Operation -October 2004

Duration of System Operation. 1-Oct-04 – 31-Oct-04

Data Collection Activities:
Site visits were performed on October 4, 5, 20 and 21, 2004. General system observations were performed on October 4th and the 20th. Passive diffusive bag were placed in the monitoring wells for the semi-annual sampling event on October 4 and 5 and were retrieved on October 20 and 21, 2004 With the exception of the repair items noted below, the system was observed to be operating normally

System Operational Notes:

No down time was observed for the recovery wells during October 2004.

Recovery Well Operational Notes

General Summary:

The recovery wells were observed to be operating normally during the site visits.

Alarm Summary:
A low-flow alarm condition was noted at RW-1A on October 4 and 20, 2004

Maintenance Summary:
Maintenance activities during this reporting period included the observation visits

Upcoming Activities

Perform the bi-monthly system observation visits and collect the November quarterly effluent sample. Relocate transducers from select monitoring wells for monitoring of groundwater elevations in the vicinity of the zero valent iron injection area

Total October 2004 Effluent Discharge Volume. 3,344,232 Gallons October 1, 2004 through October 31, 2004

October 2004 Average Discharge Flow Rate (GPM) 74.8
October 2004 Maximum Discharge Flow Rate (GPM) 76.4
October 2004 Minimum Discharge Flow Rate (GPM) 71.6

In addition to the volume removed by the extraction wells, 3000 gallons of purge water was discharged to the POTW in October 2004

Explanations for deviations from 100% recovery well operation run times are provided in the above "Recovery Well Operational Notes" section. The tracking of each recovery well's operation was conducted manually as a check to the telemetry operation. Recordings were compiled to estimate each well's performance using recorded flow rates, totalized discharged volume and low level cycling to yield the following recovery well operational run time percentages

Well I.D.	%Run Time	Average Flow Rate (GPM)	Total Flow (Gallons) - Based on Average Flow Rate During Operational Period
RW-1	100	1.3	58,464
RW-1A	100	5.3	236,736
RW-1B	100	2.0	91,008
RW-2	100	1.8	81,648
RW-3	100	5.1	229,248
RW-4	100	2.5	111,600
RW-5	100	11.8	526,752
RW-6	100	11.7	520,704
RW-7	100	4.3	193,392
RW-8	100	14.3	638,352
RW-9	100	14.6	653,328

System Effluent Samples Collected: The most recent system effluent sample was collected on August 27, 2004 The next sample is due to be collected in November, 2004

Contaminant Mass Removal: Mass removal is calculated based on daily flow rates and the most recent analytical data. Cumulative amounts reflect contaminant removal since initial system startup.

October: 4.18 lbs TCE; 10.97 lbs Total VOCs
Cumulative: 227.5 lbs TCE; 578.7 lbs Total VOCs

Total System Effluent through 31 October 2004 190,434,221 Gallons

Prepared by: JMD 11-10-2004
Checked by EAT 11-10-2004

November 2004 Monthly Discharge Report
Groundwater Recovery System
Dunn Field, Memphis Depot, Tennessee
MACTEC Project No. 6301-03-0015

Groundwater Recovery System Operation -November 2004

Duration of System Operation: 1-Nov-04 – 30-Nov-04

Data Collection Activities:
Site visits were performed on November 7 and 30, 2004. General system observations were performed on November 7th and the 30th. With the exception of the repair items noted below, the system was observed to be operating normally. The quarterly effluent sample was collected on November 30, 2004 and was analyzed for VOCs, SVOCs, and metals.

System Operational Notes:

Recovery Well RW-2 was observed to be inactive from November 7, 2004 to the present. Recovery well RW-5 exhibited more cycling than observed during the previous months of operation.

Recovery Well Operational Notes

General Summary:

Recovery Well RW-2 was observed to be inactive during each site visit in November 2004 The motor protection switch in RW-2 requires replacement and has been ordered

Alarm Summary:
A low-flow alarm condition was noted at RW-1A on November 7 and 30, 2004 and at RW-2 on November 7, 2004

Maintenance Summary:
Maintenance activities during this reporting period included the observation visits and the diagnosis of the motor protection switch being faulty in RW-2.

Upcoming Activities

Perform the bi-monthly system observation visits and replace the motor protection switch for Recovery Well RW-2

Total November 2004 Effluent Discharge Volume: **2,726,776** **Gallons** November 1, 2004 through November 30, 2004

November 2004 Average Discharge Flow Rate (GPM)	63.0	
November 2004 Maximum Discharge Flow Rate (GPM)	76.4	
November 2004 Minimum Discharge Flow Rate (GPM)	59 7	

In addition to the volume removed by the extraction wells, 4,600 gallons of purge water was discharged to the POTW in November 2004.
Explanations for deviations from 100% recovery well operation run times are provided in the above "Recovery Well Operational Notes" section. The tracking of each recovery well's operation was conducted manually as a check to the telemetry operation. Recordings were compiled to estimate each well's performance using recorded flow rates, totalized discharged volume and low level cycling to yield the following recovery well operational run time percentages.

Well I.D.	%Run Time	Average Flow Rate (GPM)	Total Flow (Gallons) - Based on Average Flow Rate During Operational Period
RW-1	100	1.4	60,480
RW-1A	100	3 6	155,520
RW-1B	100	1 8	77 760
RW-2	20	0.3	12,960
RW-3	100	5.1	220,320
RW-4	100	2.5	108,000
RW-5	100	2.5	108,000
RW-6	100	11 8	509,760
RW-7	100	4 3	185,760
RW-8	100	14 2	613,440
RW-9	100	14.4	622,080

System Effluent Samples Collected: The most recent system effluent sample was collected on November 30, 2004

Contaminant Mass Removal: Mass removal is calculated based on daily flow rates and the most recent analytical data Cumulative amounts reflect contaminant removal since initial system startup

November: 3.53 lbs TCE; 9.27 lbs Total VOCs

Cumulative: 230.9 lbs TCE, 587.7 lbs Total VOCs

Total System Effluent through 30 November 2004 **196,499,229** **Gallons**

Prepared by EAT 12-10-2004
Checked by JMD 12-10-2004

December 2004 Monthly Discharge Report
Groundwater Recovery System
Dunn Field, Memphis Depot, Tennessee
MACTEC Project No. 6301-03-0015

Groundwater Recovery System Operation - December 2004

Duration of System Operation: 1-Dec-04 – 31-Dec-04

Data Collection Activities:
Site visits were performed on December 14 and December 27 through 29, 2004 General system observations were performed on December 14th and the 29th With the exception of the repair items noted below, the system was observed to be operating normally The quarterly effluent sample was collected on November 30, 2004 and was analyzed for VOCs, SVOCs, and metals

System Operational Notes:
Recovery Well RW-2 was observed to be inactive from the November 2004 O&M to the present recovery Recovery well RW-1B was noted not to be in operation from December 14 to the present During the site visit on December 27, 2004, frozen and damaged pipes were noted at recovery wells RW-1, RW-1A and RW-4

Recovery Well Operational Notes

General Summary:
Recovery Well RW-2 was observed to be inactive from the November O&M through the present The motor protection switch in RW-2 was replacement on December 27, 2004 however due to frozen and cracked pipes the recovery has remained off-line until present The issues with RW-1B will be identified during January 2005

Alarm Summary:
A low-flow alarm condition was noted at RW-1A on December 14 and 29, 2004 Low-flow alarm conditions were also reported for RW-3 and RW-4 on December 14, 2004

Maintenance Summary.
Maintenance activities during this reporting period included the observation visits and the replacement of the motor protection switch and piping repairs at RW-2 Due to frozen pipes additional maintenance included repair of piping at wells RW-1, RW-1A and RW-4

Upcoming Activities
Perform the bi monthly system observation visits Upcoming maintenance includes replacement of sampling ports at RW-1, RW-1B and RW-2, replacement/repair of heaters from RW-1A, RW-3, RW-6, RW-7, RW-8 RW-9 replace light bulbs on control panels at RW-1A, RW-2, RW-3, RW-5, RW-6, RW-7, RW-8 and RW-9, replace pressure guage on RW-2 and replace/or repair flow meter at RW-4 Diagnose down time observed at RW-1B

Total December 2004 Effluent Discharge Volume. 2,551,968 **Gallons** December 1, 2004 through December 31, 2004

December 2004 Average Discharge Flow Rate (GPM)	57 2
December 2004 Maximum Discharge Flow Rate (GPM)	60 1
December 2004 Minimum Discharge Flow Rate (GPM)	50 4

No additional purge water was discharged to the POTW in December 2004

Explanations for deviations from 100% recovery well operation run times are provided in the above "Recovery Well Operational Notes" section The tracking of each recovery well's operation was conducted manually as a check to the telemetry operation Recordings were compiled to estimate each well's performance using recorded flow rates, totalized discharged volume and low level cycling to yield the following recovery well operational run time percentages

Well I.D.	%Run Time	Average Flow Rate (GPM)	Total Flow (Gallons) - Based on Average Flow Rate During Operational Period
RW-1	97	1 9	82,080
RW-1A	95	2 8	120,960
RW-1B	42	0 7	30,240
RW-2	0	0 0	0
RW-3	100	5 1	220,320
RW-4	97	2 3	99,360
RW-5	100	3 2	138,240
RW-6	100	11 9	514,080
RW-7	100	4 2	181,440
RW-8	100	14 3	617,760
RW-9	100	10 6	457,920

System Effluent Samples Collected.
The most recent system effluent sample was collected on November 30, 2004 The effluent sample reported a concentration of methylene chloride at 12 ppb, however this detection was determined to contain a "B" qualification from the laboratory The laboratory defines a "B" qualification as a method blank contamination, where the associated method blank contains the target analyte at a reportable level The concentration was compared to the Instantaneous (one day) maximum level for methylene chloride of 20 ppb. outlined in the City of Memphis Wastewater Discharge Permit This concentration of methylene chloride does not exceed the limit defined in the City of Memphis Wastwater Discharge Permit

Mass removal is calculated based on daily flow rates and the most recent analytical data Cumulative amounts reflect contaminant removal since initial system startup

Contaminant Mass Removal:
December: 3.19 lbs TCE; 8.38 lbs Total VOCs
Cumulative: 234.09 lbs TCE; 596.08 lbs Total VOCs

Total System Effluent through 31 December 2004 199,054,197 **Gallons**

Prepared by EAT 01-11-2005
Checked by JMD 01-11-2005

APPENDIX C

RESULTS OF LABORATORY ANALYSIS

APPENDIX C – 1

MONITORING WELLS

TABLE C-1

ANALYTICAL RESULTS - MONITORING WELLS, OCTOBER 2004
ANNUAL OPERATIONS REPORT - 2004
DUNN FIELD GROUNDWATER IRA - YEAR SIX
Defense Deport Memphis, Tennessee

	Sample Site ID	MW-007	MW-008	MW-009	MW-029	MW-029	MW-029	MW-030
	Sample ID	MW07 69.56-71.56	MW08 64.2-66.2	MW09 78-79	MW29 41.6-43.6	MW29 46.1-48.1	MW29 50.6-52.6	MW30 49-51
	Date Collected	10/20/2004 13 50	10/20/2004 14:10	10/20/2004 14:25	10/20/2004 14:40	10/20/2004 14:45	10/20/2004 14:50	10/20/2004 15:30
	Depth	69.5-71.56	64.2 66.2	78-79	41.6 43.6	46.1 48.1	50.6 52.6	49-51
LABNAME	RESUNIT							
1,1,1-Trichloroethane	µg/L	0.72 J	<1 U	<1 U	2 8	2.3	2.9	<1 U
1,1,2,2-Tetrachloroethane	µg/L	<1.4 U	<1 U	<1 U	<1 U	<1.7 U	<1 U	<1 U
1,1,2-Tnchloroethane	µg/L	<1.4 U	<1 U	<1 U	<1 U	<1.7 U	<1 U	<1 U
1,1-Dıchloroethane	µg/L	0.87 J	<1 U	<1 U	1 1	0.94 J	1.1	<1 U
1,1-Dichloroethene	µg/L	17	1.1	<1 U	22	18	22	<1 U
1,2-Dichloroethane	µg/L	<1 4 U	<1 U	<1 U	<1 U	<1.7 U	<1 U	<1 U
1,2-Dichloropropane	µg/L	<1 4 U	<1 U	<1 U	<1 U	<1.7 U	<1 U	<1 U
2-Butanone (MEK)	µg/L	<7 2 U	<5 U	<5 U	<5 U	<8.4 U	<5 U	<5 U
2-Hexanone	µg/L	<7.2 U	<5 U	<5 U	<5 U	<8.4 U	<5 U	<5 U
4-Methyl-2-pentanone (MIBK)	µg/L	<7.2 U	<5 U	<5 U	<5 U	<8.4 U	<5 U	<5 U
Acetone	µg/L	3.6 B	1 4 B	3 4 B	1 4 B	3 B	2.6 B	<5 J
Benzene	µg/L	<1.4 U	<1 U	<1 U	<1 U	<1.7 U	<1 U	<1 U
Bromodıchloromethane	µg/L	<1 4 U	<1 U	<1 U	<1 U	<1.7 U	<1 U	<1 U
Bromoform	µg/L	<1 4 U	<1 U	<1 U	<1 U	<1.7 U	<1 U	<1 U
Bromomethane	µg/L	<1.4 U	<1 U	<1 U	<1 U	<1.7 U	<1 U	<1 U
Carbon disulfide	µg/L	<1.4 J	<1 J	<1 J	<1 J	<1.7 J	<1 J	<1 J
Carbon tetrachloride	µg/L	<1.4 U	<1 U	<1 U	<1 U	<1.7 U	<1 U	<1 U
Chlorobenzene	µg/L	<1.4 U	<1 U	<1 U	<1 U	<1.7 U	<1 U	<1 U
Chlorodıbromomethane	µg/L							
Chloroethane	µg/L	<1.4 U	<1 U	<1 U	<1 U	<1.7 U	<1 U	<1 U
Chloroform	µg/L	0.44 J	<1 U	<1 U	<1 U	<1.7 U	<1 U	<1 U
Chloromethane	µg/L	<1.4 U	<1 U	<1 U	<1 U	<1.7 U	<1 U	<1 U
cis-1,2-Dichloroethene	µg/L	<1.4 U	<1 U	0.76 J	0.41 J	<1.7 U	0.36 J	<1 U
cis-1,3-Dichloropropene	µg/L	<1.4 U	<1 U	<1 U	<1 U	<1.7 U	<1 U	<1 U
Dıbromochloromethane	µg/L	<1.4 U	<1 U	<1 U	<1 U	<1.7 U	<1 U	<1 U
Ethylbenzene	µg/L	<1.4 U	<1 U	<1 U	<1 U	<1.7 U	<1 U	<1 U
Methyl tert-butyl ether (MTBE)	µg/L	<7 2 U	<5 U	<5 U	<5 U	<8.4 U	<5 U	<5 U
Methylene chloride	µg/L	<1.4 U	<1 U	<1 U	<1 U	<1.7 U	<1 U	<1 U
m-Xylene & p-Xylene	µg/L	<2 9 U	<2 U	<2 U	<2 U	<3.3 U	<2 U	<2 U
o-Xylene	µg/L	<1.4 U	<1 U	<1 U	<1 U	<1.7 U	<1 U	<1 U
Styrene	µg/L	<1.4 U	<1 U	<1 U	<1 U	<1 7 U	<1 U	<1 U
Tetrachloroethene	µg/L	18	1.4	<1 U	23	20	21	<1 U
Toluene	µg/L	<1.4 U	<1 U	0.22 J	<1 U	<1.7 U	<1 U	<1 U
trans-1,2-Dichloroethene	µg/L	<1.4 U	<1 U	<1 U	<1 U	<1.7 U	<1 U	<1 U
trans-1,3-Dichloropropene	µg/L	<1.4 U	<1 U	<1 U	<1 U	<1.7 U	<1 U	<1 U
Tnchloroethene	µg/L	14	1.3	0.59 J	29	24	30	<1 U
Vınyl acetate	µg/L	<2.9 U	<2 U	<2 U	<2 U	<3.3 U	<2 U	<2 U
Vinyl chloride	µg/L	<1.4 U	<1 U	<1 U	<1 U	<1.7 U	<1 U	<1 U

TABLE C-1

ANALYTICAL RESULTS - MONITORING WELLS, OCTOBER 2004
ANNUAL OPERATIONS REPORT - 2004
DUNN FIELD GROUNDWATER IRA - YEAR SIX
Defense Deport Memphis, Tennessee

	Sample Site ID	MW-030	MW-030	MW-031	MW-031	MW-032	MW-033	MW-034
	Sample ID	MW30 53-55	MW30 57-59	MW31 72.5-74.5	MW31 77.5-79.5	MW32 65 9-66.9	MW33 59.33-61.33	MW34 142.3-144.3
	Date Collected	10/20/2004 15 35	10/20/2004 15.40	10/20/2004 16:00	10/20/2004 16:05	10/20/2004 16:10	10/20/2004 16:25	10/20/2004 16:50
	Depth	53-55	57-59	72 5-74 5	77 5-79.5	65.9 66.9	59.33-61.33	142.3-144.3
LABNAME	RESUNIT							
1,1,1-Trichloroethane	µg/L	<1 U	<1 U	<1 U	<1 J	<1 J	<1 J	<1 J
1,1,2,2-Tetrachloroethane	µg/L	<1 U	<1 U	<1 U	<1 U	3.6	<1 U	<1 U
1,1,2-Trichloroethane	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,1-Dichloroethane	µg/L	<1 U	<1 U	<1 U	0.26 J	<1 U	<1 U	<1 U
1,1-Dichloroethene	µg/L	<1 U	<1 U	12	17	<1 U	<1 U	<1 U
1,2-Dichloroethane	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,2-Dichloropropane	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
2-Butanone (MEK)	µg/L	<5 U	<5 U	<5 U	<5 J	<5 J	<5 J	<5 J
2-Hexanone	µg/L	<5 U	<5 U	<5 U	<5 R	<5 R	<5 R	<5 R
4-Methyl-2-pentanone (MIBK)	µg/L	<5 U	<5 U	<5 U	<5 J	<5 J	<5 J	<5 J
Acetone	µg/L	1.6 B	<5 J	2.4 B	2.6 B	1.6 B	3.1 B	2.4 B
Benzene	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Bromodichloromethane	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Bromoform	µg/L	<1 U	<1 U	<1 U	<1 J	<1 J	<1 J	<1 J
Bromomethane	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Carbon disulfide	µg/L	<1 J	<1 J	<1 J	<1 U	<1 U	<1 U	<1 U
Carbon tetrachloride	µg/L	<1 U	<1 U	<1 U	<1 J	2.3 J	<1 J	0.62 J
Chlorobenzene	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Chlorodibromomethane	µg/L							
Chloroethane	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Chloroform	µg/L	<1 U	<1 U	<1 U	<1 U	17	<1 U	3.8
Chloromethane	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
cis-1,2-Dichloroethene	µg/L	<1 U	<1 U	0.35 J	0.58 J	1.7	<1 U	<1 U
cis-1,3-Dichloropropene	µg/L	<1 U	<1 U	<1 U	<1 J	<1 J	<1 J	<1 J
Dibromochloromethane	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Ethylbenzene	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Methyl tert-butyl ether (MTBE)	µg/L	<5 U	<5 U	<5 U	<5 J	<5 J	<5 J	<5 J
Methylene chloride	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
m-Xylene & p-Xylene	µg/L	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U
o-Xylene	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Styrene	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Tetrachloroethene	µg/L	<1 U	<1 U	0.31 J	0.42 J	<1 U	<1 U	<1 U
Toluene	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
trans-1,2-Dichloroethene	µg/L	<1 U	<1 U	<1 U	0 31 J	0.23 J	<1 U	<1 U
trans-1,3-Dichloropropene	µg/L	<1 U	<1 U	<1 U	<1 R	<1 R	<1 R	<1 R
Trichloroethene	µg/L	<1 U	<1 U	2.7	4.7	7.3	<1 U	0 98 J
Vinyl acetate	µg/L	<2 U	<2 U	<2 U	<2 R	<2 R	<2 R	<2 R
Vinyl chloride	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U

TABLE C-1

ANALYTICAL RESULTS - MONITORING WELLS, OCTOBER 2004
ANNUAL OPERATIONS REPORT - 2004
DUNN FIELD GROUNDWATER IRA - YEAR SIX
Defense Deport Memphis, Tennessee

	Sample Site ID	MW-034	MW-034	MW-036	MW-036	MW-036	MW-037
	Sample ID	MW34 147.3-149.3	MW34 152.3-154.3	MW36 192.7-194.7	MW36 197.7-199.7	MW36 202 7-204.7	MW37 170.5-172.5
	Date Collected	10/20/2004 16:55	10/20/2004 17·00	10/21/2004 9:35	10/21/2004 9.40	10/21/2004 9:45	10/21/2004 10:05
	Depth	147.3-149.3	152.3-154.3	192 7-194.7	197.7-199.7	202.7-204.7	170.5-172.5
LABNAME	RESUNIT						
1,1,1-Trichloroethane	μg/L	<1 J	<1 J	<1 J	<1 J	<1 J	<1 J
1,1,2,2-Tetrachloroethane	μg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,1,2-Trichloroethane	μg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,1-Dichloroethane	μg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,1-Dichloroethene	μg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,2-Dichloroethane	μg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,2-Dichloropropane	μg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
2-Butanone (MEK)	μg/L	<5 J	<5 J	<5 J	<5 J	<5 J	<5 J
2-Hexanone	μg/L	<5 R	<5 R	<5 R	<5 R	<5 R	<5 R
4-Methyl-2-pentanone (MIBK)	μg/L	<5 J	<5 J	<5 J	<5 J	<5 J	<5 J
Acetone	μg/L	2.8 B	1 6 B	<5 J	<5 J	0 77 B	1.2 B
Benzene	μg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Bromodichloromethane	μg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Bromoform	μg/L	<1 J	<1 J	<1 J	<1 J	<1 J	<1 J
Bromomethane	μg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Carbon disulfide	μg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Carbon tetrachloride	μg/L	0.64 J	0.35 J	<1 J	<1 J	<1 J	<1 J
Chlorobenzene	μg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Chlorodibromomethane	μg/L						
Chloroethane	μg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Chloroform	μg/L	2 4	1.7	<1 U	<1 U	<1 U	<1 U
Chloromethane	μg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
cis-1,2-Dichloroethene	μg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
cis-1,3-Dichloropropene	μg/L	<1 J	<1 J	<1 J	<1 J	<1 J	<1 J
Dibromochloromethane	μg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Ethylbenzene	μg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Methyl tert-butyl ether (MTBE)	μg/L	<5 J	<5 J	<5 J	<5 J	<5 J	<5 J
Methylene chloride	μg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
m-Xylene & p-Xylene	μg/L	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U
o-Xylene	μg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Styrene	μg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Tetrachloroethene	μg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Toluene	μg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
trans-1,2-Dichloroethene	μg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
trans-1,3-Dichloropropene	μg/L	<1 R	<1 R	<1 R	<1 R	<1 R	<1 R
Trichloroethene	μg/L	0 83 J	0.54 J	<1 U	<1 U	<1 U	<1 U
Vinyl acetate	μg/L	<2 R	<2 R	<2 R	<2 R	<2 R	<2 R
Vinyl chloride	μg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U

TABLE C-1

ANALYTICAL RESULTS - MONITORING WELLS, OCTOBER 2004
ANNUAL OPERATIONS REPORT - 2004
DUNN FIELD GROUNDWATER IRA - YEAR SIX
Defense Deport Memphis, Tennessee

	Sample Site ID	MW-037	MW-037	MW-040	MW-040	MW-042	MW-043	MW-043
	Sample ID	MW37 175.5-177 5	MW37 180.5-182.5	MW40 86.9-88.9	MW40 91.9-93.9	MW42 55.8-57.8	MW43 163-165	MW43 168-170
	Date Collected	10/21/2004 10:10	10/21/2004 10:15	10/21/2004 10.35	10/21/2004 10:40	10/21/2004 10:50	10/21/2004 12.05	10/21/2004 12:10
	Depth	175.5-177.5	180.5-182.5	86.9-88.9	91.9-93.9	55.8-57 8	163-165	168-170
LABNAME	RESUNIT							
1,1,1-Trichloroethane	µg/L	<1 J	<1 J	<1 J	<1 J	<1 J	<1 J	<1 J
1,1,2,2-Tetrachloroethane	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,1,2-Trichloroethane	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,1-Dichloroethane	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,1-Dichloroethene	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,2-Dichloroethane	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,2-Dichloropropane	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
2-Butanone (MEK)	µg/L	<5 J	<5 J	<5 J	<5 J	<5 R	<5 R	<5 R
2-Hexanone	µg/L	<5 R	<5 R	<5 R	<5 R	<5 R	<5 R	<5 R
4-Methyl-2-pentanone (MIBK)	µg/L	<5 J	<5 J	<5 J	<5 J	<5 J	<5 J	<5 J
Acetone	µg/L	1.3 B	1.9 B	4 1 B	3.1 B	7.9 R	1.2 R	2 6 R
Benzene	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Bromodichloromethane	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Bromoform	µg/L	<1 J	<1 J	<1 J	<1 J	<1 J	<1 J	<1 J
Bromomethane	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Carbon disulfide	µg/L	<1 U	0.94 J	<1 U	<1 U	<1 U	<1 U	<1 U
Carbon tetrachloride	µg/L	<1 J	<1 J	<1 J	<1 J	<1 J	<1 J	<1 J
Chlorobenzene	µg/L	<1 U	<1 U	0.44 J	0 72 J	<1 U	<1 U	<1 U
Chlorodibromomethane	µg/L							
Chloroethane	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Chloroform	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Chloromethane	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
cis-1,2-Dichloroethene	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
cis-1,3-Dichloropropene	µg/L	<1 J	<1 J	<1 J	<1 J	<1 J	<1 J	<1 J
Dibromochloromethane	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Ethylbenzene	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Methyl tert-butyl ether (MTBE)	µg/L	<5 J	<5 J	<5 J	<5 J	<5 J	<5 J	<5 J
Methylene chloride	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
m-Xylene & p-Xylene	µg/L	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U
o-Xylene	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Styrene	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Tetrachloroethene	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Toluene	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
trans-1,2-Dichloroethene	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
trans-1,3-Dichloropropene	µg/L	<1 R	<1 R	<1 R	<1 R	<1 R	<1 R	<1 R
Trichloroethene	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Vinyl acetate	µg/L	<2 R	<2 R	<2 R	<2 R	<2 R	<2 R	<2 R
Vinyl chloride	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U

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Defense Deport Memphis, Tennessee

	Sample Site ID	MW-044	MW-044	MW-051	MW-051	MW-054	MW-054	MW-057
	Sample ID	MW44 64-66	MW44 69-71	MW51 58-60	MW51 63-65	MW54 85.6-87.6	MW54 90.6-92.6	MW57 66 8-68.8
	Date Collected	10/21/2004 12.20	10/21/2004 12:25	10/21/2004 13:15	10/21/2004 13:20	10/21/2004 13:35	10/21/2004 13:40	10/21/2004 13 55
	Depth	64-66	69-71	58-60	63-65	85.6-87.6	90.6-92.6	66.8-68.8
LABNAME	RESUNIT							
1,1,1-Trichloroethane	µg/L	<1 J	<1 J	<1 J	0.23 J	<140 U	<140 U	<1 U
1,1,2,2-Tetrachloroethane	µg/L	<1 U	<1 U	<1 U	<1 U	4300	4700	<1 U
1,1,2-Trichloroethane	µg/L	<1 U	<1 U	<1 U	<1 U	<140 U	<140 U	<1 U
1,1-Dichloroethane	µg/L	<1 U	<1 U	<1 U	<1 U	<140 U	<140 U	<1 U
1,1-Dichloroethene	µg/L	<1 U	<1 U	14	16	<140 U	<140 U	<1 U
1,2-Dichloroethane	µg/L	<1 U	<1 U	<1 U	<1 U	<140 U	<140 U	<1 U
1,2-Dichloropropane	µg/L	<1 U	<1 U	<1 U	<1 U	<140 U	<140 U	<1 U
2-Butanone (MEK)	µg/L	<5 R	<5 R	<5 R	<5 J	<710 J	<710 J	<5 J
2-Hexanone	µg/L	<5 R	<5 R	<5 R	<5 U	<710 U	<710 U	<5 U
4-Methyl-2-pentanone (MIBK)	µg/L	<5 J	<5 J	<5 J	<5 U	<710 U	<710 U	<5 U
Acetone	µg/L	2.2 R	<5 R	1.3 R	4.1 B	<710 U	110 J	2.4 B
Benzene	µg/L	<1 U	<1 U	<1 U	<1 U	<140 U	<140 U	<1 U
Bromodichloromethane	µg/L	<1 U	<1 U	<1 U	<1 U	<140 U	<140 U	<1 U
Bromoform	µg/L	<1 J	<1 J	<1 J	<1 U	<140 U	<140 U	<1 U
Bromomethane	µg/L	<1 U	<1 U	<1 U	<1 U	<140 U	<140 U	<1 U
Carbon disulfide	µg/L	<1 U	<1 U	<1 U	<1 U	<140 U	<140 U	0.37 J
Carbon tetrachloride	µg/L	0.71 J	0.54 J	<1 J	<1 U	<140 U	<140 U	19
Chlorobenzene	µg/L	<1 U	<1 U	<1 U	<1 U	<140 U	<140 U	<1 U
Chlorodibromomethane	µg/L							
Chloroethane	µg/L	<1 U	<1 U	<1 U	<1 U	<140 U	<140 U	<1 U
Chloroform	µg/L	0.64 J	0 42 J	<1 U	<1 U	<140 U	<140 U	6 1
Chloromethane	µg/L	<1 U	<1 U	<1 U	<1 U	<140 U	<140 U	<1 U
cis-1,2-Dichloroethene	µg/L	0.27 J	<1 U	<1 U	<1 U	70 J	61 J	0 27 J
cis-1,3-Dichloropropene	µg/L	<1 J	<1 J	<1 J	<1 U	<140 U	<140 U	<1 U
Dibromochloromethane	µg/L	<1 U	<1 U	<1 U	<1 U	<140 U	<140 U	<1 U
Ethylbenzene	µg/L	<1 U	<1 U	<1 U	<1 U	<140 U	<140 U	<1 U
Methyl tert-butyl ether (MTBE)	µg/L	<5 J	<5 J	<5 J	<5 U	<710 U	<710 U	<5 U
Methylene chloride	µg/L	<1 U	<1 U	<1 U	<1 U	54 J	74 J	<1 U
m-Xylene & p-Xylene	µg/L	<2 U	<2 U	<2 U	<2 U	<290 U	<290 U	<2 U
o-Xylene	µg/L	<1 U	<1 U	<1 U	<1 U	<140 U	<140 U	<1 U
Styrene	µg/L	<1 U	<1 U	<1 U	<1 U	<140 U	<140 U	<1 U
Tetrachloroethene	µg/L	<1 U	<1 U	1 2	0 3 J	<140 U	<140 U	2.7
Toluene	µg/L	<1 U	<1 U	<1 U	<1 U	<140 U	<140 U	<1 U
trans-1,2-Dichloroethene	µg/L	<1 U	<1 U	<1 U	<1 U	<140 U	<140 U	0.58 J
trans-1,3-Dichloropropene	µg/L	<1 R	<1 R	<1 R	<1 U	<140 U	<140 U	<1 U
Trichloroethene	µg/L	0.55 J	0.41 J	5.1	3.8	2500	2700	29
Vinyl acetate	µg/L	<2 R	<2 R	<2 R	<2 U	<290 U	<290 U	<2 U
Vinyl chloride	µg/L	<1 U	<1 U	<1 U	<1 U	<140 U	<140 U	<1 U

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ANALYTICAL RESULTS - MONITORING WELLS, OCTOBER 2004
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Defense Deport Memphis, Tennessee

	Sample Site ID	MW-067	MW-067	MW-067	MW-068	MW-068	MW-068	MW-069
	Sample ID	MW67 261-263	MW67 266-268	MW67 271-273	MW68 70.6-72.6	MW68 74.6-76.6	MW68 78.6-80.6	MW69 86.4-88 4
	Date Collected	10/21/2004 14:10	10/21/2004 14:15	10/21/2004 14:20	10/21/2004 14:40	10/21/2004 14 45	10/21/2004 14:50	10/21/2004 15.10
	Depth	261-263	266-268	271-273	70 6-72.6	74.6-76.6	78.6-80.6	86.4-88.4
LABNAME	RESUNIT							
1,1,1-Trichloroethane	µg/L	<1 U	<1 U	<1 U	<33 J	<1 U	<1 J	<1 J
1,1,2,2-Tetrachloroethane	µg/L	<1 U	<1 U	<1 U	81	<1 U	<1 U	<1 U
1,1,2-Trichloroethane	µg/L	<1 U	<1 U	<1 U	<33 U	<1 U	<1 U	<1 U
1,1-Dichloroethane	µg/L	<1 U	<1 U	<1 U	<33 U	<1 U	<1 U	<1 U
1,1-Dichloroethene	µg/L	<1 U	<1 U	<1 U	<33 U	<1 U	<1 U	<1 U
1,2-Dichloroethane	µg/L	0.28 J	<1 U	<1 U	<33 U	<1 U	<1 U	<1 U
1,2-Dichloropropane	µg/L	<1 U	<1 U	<1 U	<33 U	<1 U	<1 U	<1 U
2-Butanone (MEK)	µg/L	<5 J	<5 J	<5 J	<170 R	<5 J	<5 R	<5 R
2-Hexanone	µg/L	<5 U	<5 U	<5 U	<170 R	<5 U	<5 R	<5 R
4-Methyl-2-pentanone (MIBK)	µg/L	<5 U	<5 U	<5 U	<170 J	<5 U	<5 J	<5 J
Acetone	µg/L	2.1 B	2.2 B	1.6 B	2000 R	2.8 B	0 91 B	0.93 B
Benzene	µg/L	<1 U	<1 U	<1 U	<33 U	<1 U	<1 U	<1 U
Bromodichloromethane	µg/L	<1 U	<1 U	<1 U	<33 U	<1 U	<1 U	<1 U
Bromoform	µg/L	<1 U	<1 U	<1 U	<33 J	<1 U	<1 J	<1 J
Bromomethane	µg/L	<1 U	<1 U	<1 U	<33 U	<1 U	<1 U	<1 U
Carbon disulfide	µg/L	<1 U	<1 U	<1 U	9 9 J	<1 U	0.28 J	<1 U
Carbon tetrachloride	µg/L	<1 U	<1 U	<1 U	<33 J	<1 U	<1 J	<1 J
Chlorobenzene	µg/L	<1 U	<1 U	<1 U	<33 U	<1 U	<1 U	<1 U
Chlorodibromomethane	µg/L							
Chloroethane	µg/L	<1 U	<1 U	<1 U	<33 U	<1 U	<1 U	<1 U
Chloroform	µg/L	<1 U	<1 U	<1 U	<33 U	<1 U	<1 U	0.17 J
Chloromethane	µg/L	<1 U	<1 U	<1 U	<33 U	<1 U	<1 U	<1 U
cis-1,2-Dichloroethene	µg/L	<1 U	<1 U	<1 U	<33 U	<1 U	<1 U	<1 U
cis-1,3-Dichloropropene	µg/L	<1 U	<1 U	<1 U	<33 J	<1 U	<1 J	<1 J
Dibromochloromethane	µg/L	<1 U	<1 U	<1 U	<33 U	<1 U	<1 U	<1 U
Ethylbenzene	µg/L	<1 U	<1 U	<1 U	<33 U	<1 U	<1 U	<1 U
Methyl tert-butyl ether (MTBE)	µg/L	<5 U	<5 U	<5 U	<170 J	<5 U	<5 J	<5 J
Methylene chloride	µg/L	<1 U	<1 U	<1 U	<33 U	<1 U	<1 U	<1 U
m-Xylene & p-Xylene	µg/L	<2 U	<2 U	<2 U	<67 U	<2 U	<2 U	<2 U
o-Xylene	µg/L	<1 U	<1 U	<1 U	<33 U	<1 U	<1 U	<1 U
Styrene	µg/L	<1 U	<1 U	<1 U	<33 U	<1 U	<1 U	<1 U
Tetrachloroethene	µg/L	<1 U	<1 U	<1 U	<33 U	<1 U	<1 U	1.5
Toluene	µg/L	<1 U	<1 U	<1 U	<33 U	<1 U	<1 U	<1 U
trans-1,2-Dichloroethene	µg/L	<1 U	<1 U	<1 U	<33 U	<1 U	<1 U	<1 U
trans-1,3-Dichloropropene	µg/L	<1 U	<1 U	<1 U	<33 R	<1 U	<1 R	<1 R
Trichloroethene	µg/L	<1 U	<1 U	<1 U	20 J	<1 U	<1 U	3.7
Vinyl acetate	µg/L	<2 U	<2 U	<2 U	<67 R	<2 U	<2 R	<2 R
Vinyl chloride	µg/L	<1 U	<1 U	<1 U	<33 U	<1 U	<1 U	<1 U

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Defense Deport Memphis, Tennessee

	Sample Site ID	MW-069	MW-070	MW-070	MW-071	MW-076	MW-076	MW-077
	Sample ID	MW69 91 4-93 4	MW70 85.8-87.8	MW70 90.8-92.8	MW71 73.86-75.86	MW76 86.3-88 3	MW76 91.3-93.3	MW77 85.27-87.27
	Date Collected	10/21/2004 15:15	10/22/2004 15:25	10/21/2004 15:30	10/21/2004 15:40	10/21/2004 15:50	10/21/2004 15:55	10/21/2004 16.05
	Depth	91.4-92.8	85.8-87.8	90 8-92.8	73.86-75.86	86.3-88.3	91 3-93 3	85.27-87.27
LABNAME	RESUNIT							
1,1,1-Trichloroethane	µg/L	<1 J	<140 U	<170 J	<1 J	<1 J	<1 J	<250 J
1,1,2,2-Tetrachloroethane	µg/L	<1 U	5800	4200	6	4.3	12	4700
1,1,2-Trichloroethane	µg/L	<1 U	<140 U	<170 U	<1 U	<1 U	<1 U	<250 U
1,1-Dichloroethane	µg/L	<1 U	<140 U	<170 U	<1 U	<1 U	<1 U	<250 U
1,1-Dichloroethene	µg/L	<1 U	<140 U	<170 U	<1 U	<1 U	<1 U	<250 U
1,2-Dichloroethane	µg/L	<1 U	<140 U	<170 U	<1 U	<1 U	<1 U	<250 U
1,2-Dichloropropane	µg/L	<1 U	<140 U	<170 U	<1 U	<1 U	<1 U	<250 U
2-Butanone (MEK)	µg/L	<5 R	<710 J	<830 J	<5 R	<5 J	<5 J	<1200 J
2-Hexanone	µg/L	<5 R	<710 U	<830 R	<5 R	<5 R	<5 R	<1200 R
4-Methyl-2-pentanone (MIBK)	µg/L	<5 J	<710 U	<830 J	<5 J	<5 J	<5 J	<1200 J
Acetone	µg/L	<5 J	250 J	<830 R	1.5 B	1.6 R	0.96 R	<1200 R
Benzene	µg/L	<1 U	<140 U	<170 U	<1 U	<1 U	<1 U	<250 U
Bromodichloromethane	µg/L	<1 U	<140 U	<170 U	<1 U	<1 U	<1 U	<250 U
Bromoform	µg/L	<1 J	<140 U	<170 U	<1 J	<1 U	<1 U	<250 U
Bromomethane	µg/L	<1 U	<140 U	<170 U	<1 U	<1 U	<1 U	<250 U
Carbon disulfide	µg/L	<1 U	<140 U	<170 U	<1 U	<1 U	<1 U	<250 U
Carbon tetrachloride	µg/L	<1 J	<140 U	<170 J	5.6 J	<1 J	<1 J	<250 J
Chlorobenzene	µg/L	<1 U	<140 U	<170 U	<1 U	<1 U	<1 U	<250 U
Chlorodibromomethane	µg/L							
Chloroethane	µg/L	<1 U	<140 U	<170 U	<1 U	<1 U	<1 U	<250 U
Chloroform	µg/L	<1 U	<140 U	<170 U	28	0.16 J	0.18 J	<250 U
Chloromethane	µg/L	<1 U	<140 U	<170 U	<1 U	<1 U	<1 U	<250 U
cis-1,2-Dichloroethene	µg/L	<1 U	41 J	<170 U	0.7 J	0.24 J	0 69 J	64 J
cis-1,3-Dichloropropene	µg/L	<1 J	<140 U	<170 J	<1 J	<1 J	<1 J	<250 J
Dibromochloromethane	µg/L	<1 U	<140 U	<170 U	<1 U	<1 U	<1 U	<250 U
Ethylbenzene	µg/L	<1 U	<140 U	<170 U	<1 U	<1 U	<1 U	<250 U
Methyl tert-butyl ether (MTBE)	µg/L	<5 J	<710 U	<830 U	<5 J	<5 U	<5 U	<1200 U
Methylene chloride	µg/L	<1 U	56 J	140 J	0.38 B	0.73 B	<1 U	220 J
m-Xylene & p-Xylene	µg/L	<2 U	<290 U	<330 U	<2 U	<2 U	<2 U	<500 U
o-Xylene	µg/L	<1 U	<140 U	<170 U	<1 U	<1 U	<1 U	<250 U
Styrene	µg/L	<1 U	<140 U	<170 U	<1 U	<1 U	<1 U	<250 U
Tetrachloroethene	µg/L	<1 U	<140 U	<170 U	0.4 J	0.27 J	<1 U	<250 U
Toluene	µg/L	<1 U	<140 U	<170 U	<1 U	<1 U	<1 U	<250 U
trans-1,2-Dichloroethene	µg/L	<1 R	<140 U	<170 U	<1 U	<1 U	0.24 J	<250 U
trans-1,3-Dichloropropene	µg/L	<1 R	<140 U	<170 R	<1 R	<1 R	<1 R	<250 R
Trichloroethene	µg/L	<1 U	2100	1100	12	3.9	8.9	1700
Vinyl acetate	µg/L	<2 R	<290 U	<330 R	<2 R	<2 R	<2 R	<500 R
Vinyl chloride	µg/L	<1 U	<140 U	<170 U	<1 U	<1 U	<1 U	<250 U

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	Sample Site ID	MW-078	MW-078	MW-078	MW-079	MW-079	MW-079	MW-079
	Sample ID	MW78 51.8-53.8	MW78 56.8-58.8	MW78 61.8-63.8	MW79 84-86	MW79 89-91	MW79 94-96	MW79 99-101
	Date Collected	10/21/2004 16:20	10/21/2004 16:25	10/21/2004 16:30	10/22/2004 8.55	10/22/2004 9:05	10/22/2004 9:10	10/22/2004 9:15
	Depth	51.8-53 8	56 8-58.8	61.8-63.8	84-86	89-91	94-96	99-101
LABNAME	RESUNIT							
1,1,1-Trichloroethane	µg/L	<1 J	<1 J	<1 J	0.41 J	0.48 J	0 28 J	<1 U
1,1,2,2-Tetrachloroethane	µg/L	<1 U	0.74 J	0.35 J	<1 U	<1 U	<1 U	<1 U
1,1,2-Trichloroethane	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,1-Dichloroethane	µg/L	<1 U	<1 U	<1 U	0.29 J	0.32 J	<1 U	<1 U
1,1-Dichloroethene	µg/L	<1 U	<1 U	<1 U	6.3	6.3	6 8	7.8
1,2-Dichloroethane	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,2-Dichloropropane	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
2-Butanone (MEK)	µg/L	<5 J	<5 J	<5 J	<5 J	<5 J	<5 J	<5 J
2-Hexanone	µg/L	<5 R	<5 J	<5 J	<5 U	<5 U	<5 U	<5 U
4-Methyl-2-pentanone (MIBK)	µg/L	<5 J	<5 J	<5 J	<5 U	<5 U	<5 U	<5 U
Acetone	µg/L	<5 R	<5 J	1 B	2.1 B	2.2 B	2.3 B	1 9 B
Benzene	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Bromodichloromethane	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Bromoform	µg/L	<1 U	<1 J	<1 J	<1 J	<1 U	<1 U	<1 U
Bromomethane	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Carbon disulfide	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Carbon tetrachloride	µg/L	<1 J	<1 J	<1 J	0 37 J	0 42 J	0 29 J	0.2 J
Chlorobenzene	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Chlorodibromomethane	µg/L							
Chloroethane	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Chloroform	µg/L	<1 U	<1 U	<1 U	0.26 J	0.29 J	<1 U	<1 U
Chloromethane	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
cis-1,2-Dichloroethene	µg/L	<1 U	<1 U	<1 U	2.6	3	1.7	0.92 J
cis-1,3-Dichloropropene	µg/L	<1 J	<1 J	<1 J	<1 U	<1 U	<1 U	<1 U
Dibromochloromethane	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Ethylbenzene	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Methyl tert-butyl ether (MTBE)	µg/L	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
Methylene chloride	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
m-Xylene & p-Xylene	µg/L	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U
o-Xylene	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Styrene	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Tetrachloroethene	µg/L	<1 U	<1 U	<1 U	1.4	1.2	1.5	1.8
Toluene	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
trans-1,2-Dichloroethene	µg/L	<1 U	<1 U	<1 U	2.8	3	1.9	1.4
trans-1,3-Dichloropropene	µg/L	<1 R	<1 R	<1 R	<1 U	<1 U	<1 U	<1 U
Trichloroethene	µg/L	<1 U	0.59 J	0 35 J	19	21	14	9.5
Vinyl acetate	µg/L	<2 R	<2 R	<2 R	<2 U	<2 U	<2 U	<2 U
Vinyl chloride	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U

TABLE C-1

ANALYTICAL RESULTS - MONITORING WELLS, OCTOBER 2004
ANNUAL OPERATIONS REPORT - 2004
DUNN FIELD GROUNDWATER IRA - YEAR SIX
Defense Deport Memphis, Tennessee

	Sample Site ID	MW-080	MW-080	MW-080	MW-095	MW-095	MW-095
	Sample ID	MW80 62-64	MW80 66-68	MW80 70-72	MW95 42-44	MW95 47-49	MW95 52-54
	Date Collected	10/22/2004 9:30	10/22/2004 9:35	10/22/2004 9:40	10/22/2004 10:15	10/22/2004 10:20	10/22/2004 10:25
	Depth	62-64	66-68	70-72	42-44	47-79	52-54
LABNAME	RESUNIT						
1,1,1-Trichloroethane	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,1,2,2-Tetrachloroethane	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,1,2-Trichloroethane	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,1-Dichloroethane	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,1-Dichloroethene	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,2-Dichloroethane	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,2-Dichloropropane	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
2-Butanone (MEK)	µg/L	<5 J	<5 J	<5 J	<5 J	<5 J	<5 J
2-Hexanone	µg/L	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
4-Methyl-2-pentanone (MIBK)	µg/L	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
Acetone	µg/L	0 79 B	1 3 B	0.91 B	3 1 B	2 B	5.7 B
Benzene	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Bromodichloromethane	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Bromoform	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Bromomethane	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Carbon disulfide	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Carbon tetrachloride	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Chlorobenzene	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Chlorodibromomethane	µg/L						
Chloroethane	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Chloroform	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Chloromethane	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
cis-1,2-Dichloroethene	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
cis-1,3-Dichloropropene	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Dibromochloromethane	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Ethylbenzene	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Methyl tert-butyl ether (MTBE)	µg/L	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
Methylene chloride	µg/L	<1 U	<1 U	<1 U	<1 U	0.98 J	<1 U
m-Xylene & p-Xylene	µg/L	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U
o-Xylene	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Styrene	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Tetrachloroethene	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Toluene	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
trans-1,2-Dichloroethene	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
trans-1,3-Dichloropropene	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Trichloroethene	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Vinyl acetate	µg/L	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U
Vinyl chloride	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U

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APPENDIX C – 2

RECOVERY WELLS

TABLE C-2

ANALYTICAL RESULTS - RECOVERY WELLS, OCTOBER 2004
ANNUAL OPERATIONS REPORT - 2004
DUNN FIELD GROUNDWATER IRA - YEAR SIX
Defense Deport Memphis, Tennessee

	Sample Site ID	RW-001	RW-001A	RW-001B	RW-002	RW-003	RW-004
	Sample ID	RW1	RW1A	RW1B	RW2	RW3	RW4
	Date Collected	10/22/2004 14:30	10/22/2004 14:40	10/22/04 2:45 PM	10/22/2004 2:50:00 PM	10/22/04 2:55 PM	10/22/2004 15:00
	Depth	N/A	N/A	N/A	N/A	N/A	N/A
LABNAME	RESUNIT						
1,1,1-Trichloroethane	µg/L	<8 J	<33 J	<2 J	<4 J	<2 J	<42 J
1,1,2,2-Tetrachloroethane	µg/L	<8 U	160	1.7 J	83	<2 U	840
1,1,2-Trichloroethane	µg/L	<8 U	<33 U	<2 U	2.8 J	<2 U	<42 U
1,1-Dichloroethane	µg/L	<8 U	<33 U	<2 U	<4 U	<2 U	<42 U
1,1-Dichloroethene	µg/L	<8 U	<33 U	<2 U	<4 U	<2 U	<42 U
1,2-Dichloroethane	µg/L	<8 U	<33 U	<2 U	<4 U	<2 U	<42 U
1,2-Dichloropropane	µg/L	<8 U	<33 U	<2 U	<4 U	<2 U	<42 U
2-Butanone (MEK)	µg/L	<40 J	<170 J	<10 J	<20 J	<10 J	<210 J
2-Hexanone	µg/L	<40 R	<170 R	<10 R	<20 R	<10 R	<210 R
4-Methyl-2-pentanone (MIBK)	µg/L	<40 J	<170 J	<10 J	<20 J	<10 J	<210 J
Acetone	µg/L	8.2 B	40 B	1.9 B	4.1 B	1.5 B	45 J
Benzene	µg/L	<8	<33 U	<2 U	<4 U	<2 U	<42 U
Bromodichloromethane	µg/L	<8 U	<33 U	<2 U	<4 U	<2 U	<42 U
Bromoform	µg/L	<8 U	<33 U	<2 U	<4 U	<2 U	<42 U
Bromomethane	µg/L	<8 U	<33 U	<2 U	<4 U	<2 U	<42 U
Carbon disulfide	µg/L	<8 U	<33 U	<2 U	<4 U	<2 U	<42 U
Carbon tetrachloride	µg/L	29 J	18 J	14 J	7.2 J	5.2 J	<42 J
Chlorobenzene	µg/L	<8 U	<33 U	<2 U	<4 U	<2 U	<42 U
Chloroethane	µg/L	<8 U	<33 U	<2 U	<4 U	<2 U	<42 U
Chloroform	µg/L	170	680	36	9.4	1.8 J	<42 U
Chloromethane	µg/L	<8 U	<33 U	<2 U	<4 U	<2 U	<42 U
cis-1,2-Dichloroethene	µg/L	3.9 J	9.8 J	12	72	8.9	25 J
cis-1,3-Dichloropropene	µg/L	<8 J	<33 J	<2 J	<4 J	<2 J	<42 J
Dibromochloromethane	µg/L	<8 U	<33 U	<2 U	<4 U	<2 U	<42 U
Ethylbenzene	µg/L	<8 U	<33 U	<2 U	<4 U	<2 U	<42 U
Methyl tert-butyl ether (MTBE)	µg/L	<40 U	<170 U	<10 U	<20 U	<10 U	<210 U
Methylene chloride	µg/L	7 B	33	1.2 J	3 B	1.2 B	39 J
m-Xylene & p-Xylene	µg/L	<16 U	<67 U	<4 U	<8 U	<4 U	<83 U
o-Xylene	µg/L	<8 U	<33 U	<2 U	<4 U	<2 U	<42 U
Styrene	µg/L	<8 U	<33 U	<2 U	<4 U	<2 U	<42 U
Tetrachloroethene	µg/L	8.6	11 J	3.2	1.6 J	1.2 J	<42 U
Toluene	µg/L	<8 U	<33 U	<2 U	<4 U	<2 U	<42 U
trans-1,2-Dichloroethene	µg/L	2.1 J	<33 U	1.2 J	3.7 J	1.2 J	<42 U
trans-1,3-Dichloropropene	µg/L	<8 R	<33 R	<2 R	<4 R	<2 R	<42 R
Trichloroethene	µg/L	130	230	43	65	54	860
Vinyl acetate	µg/L	<16 R	<67 R	<4 R	<8 R	<4 R	<83 R
Vinyl chloride	µg/L	<8 U	<33 U	<2 U	<4 U	<2 U	<42 U

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TABLE C-2

ANALYTICAL RESULTS - RECOVERY WELLS, OCTOBER 2004
ANNUAL OPERATIONS REPORT - 2004
DUNN FIELD GROUNDWATER IRA - YEAR SIX
Defense Deport Memphis, Tennessee

	Sample Site ID	RW-005	RW-006	RW-007	RW-008	RW-009
	Sample ID	RW5	RW6	RW7	RW8	RW9
	Date Collected	10/22/2004 15:05	10/22/2004 3:10:00 PM	10/22/2004 3:15:00 PM	10/22/2004 15:25	10/22/2004 15:30
	Depth	N/A	N/A	N/A	N/A	N/A
LABNAME	RESUNIT					
1,1,1-Trichloroethane	µg/L	<1 J	<1.7 J	<4 J	<11 J	0.61 J
1,1,2,2-Tetrachloroethane	µg/L	<1 U	<1.7 U	100	270	6.3
1,1,2-Trichloroethane	µg/L	<1 U	<1.7 U	1.6 J	4 J	<2 U
1,1-Dichloroethane	µg/L	<1 U	<1.7 U	<4 U	<11 U	0.95 J
1,1-Dichloroethene	µg/L	<1 U	<1.7 U	<4 U	12	24
1,2-Dichloroethane	µg/L	<1 U	<1.7 U	<4 U	<11 U	<2 U
1,2-Dichloropropane	µg/L	<1 U	<1.7 U	<4 U	<11 U	<2 U
2-Butanone (MEK)	µg/L	<5 J	<8.4 J	<20 J	<56 J	<10 J
2-Hexanone	µg/L	<5 R	<8.4 R	<20 R	<56 R	<10 R
4-Methyl-2-pentanone (MIBK)	µg/L	<5 J	<8.4 J	<20 J	<56 J	<10 J
Acetone	µg/L	<5 J	<8.4 J	4.3 B	13 B	<10 J
Benzene	µg/L	<1 U	<1.7 U	<4 U	<11 U	<2 U
Bromodichloromethane	µg/L	<1 U	<1.7 U	<4 U	<11 U	<2 U
Bromoform	µg/L	<1 U	<1.7 U	<4 U	<11 U	<2 U
Bromomethane	µg/L	<1 U	<1.7 U	<4 U	<11 U	<2 U
Carbon disulfide	µg/L	<1 U	<1.7 U	<4 U	<11 U	<2 U
Carbon tetrachloride	µg/L	1.5 J	<1.7 J	<4 J	<11 J	0.43 J
Chlorobenzene	µg/L	<1 U	<1.7 U	<4 U	<11 U	<2 U
Chloroethane	µg/L	<1 U	<1.7 U	<4 U	<11 U	<2 U
Chloroform	µg/L	1.8	1.8	3.2 J	16	12
Chloromethane	µg/L	<1 U	<1.7 U	<4 U	<11 U	<2 U
cis-1,2-Dichloroethene	µg/L	0.38 J	11	51	130	5.4
cis-1,3-Dichloropropene	µg/L	<1 J	<1.7 J	<4 J	<11 J	<2 J
Dibromochloromethane	µg/L	<1 U	<1.7 U	<4 U	<11 U	<2 U
Ethylbenzene	µg/L	<1 U	<1.7 U	<4 U	<11 U	<2 U
Methyl tert-butyl ether (MTBE)	µg/L	<5 U	<8.4 U	<20 U	<56 U	<10 U
Methylene chloride	µg/L	0.36 B	0.97 B	3 2 B	9.8 B	1.2 B
m-Xylene & p-Xylene	µg/L	<2 U	<3.3 U	<8 U	<22 U	<4 U
o-Xylene	µg/L	<1 U	<1.7 U	<4 U	<11 U	<2 U
Styrene	µg/L	<1 U	<1.7 U	<4 U	<11 U	<2 U
Tetrachloroethene	µg/L	2.1	24	4.4	8.8 J	32
Toluene	µg/L	<1 U	<1.7 U	<4 U	<11 U	<2 U
trans-1,2-Dichloroethene	µg/L	0.23 J	3.5	9.2	28	1.6 J
trans-1,3-Dichloropropene	µg/L	<1 R	<1.7 R	<4 R	<11 R	<2 R
Trichloroethene	µg/L	22	35	95	240	40
Vinyl acetate	µg/L	<2 R	<3.3 R	<8 R	<22 R	<4 R
Vinyl chloride	µg/L	<1 U	<1.7 U	<4 U	<11 U	<2 U

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APPENDIX C – 3

EFFLUENT SAMPLES

TABLE C-3

ANALYTICAL RESULTS - EFFLUENT SAMPLES
ANNUAL OPERATIONS REPORT - 2004
DUNN FIELD GROUNDWATER IRA - YEAR SIX
Defense Depot Memphis, Tennessee

		Sample Site ID	EFF-02-21-04	EFF-05-24-04	EFF-08-27-04	EFF-11-30-04
		Sample ID	EFF-02-21-04 (EFFLUENT)	EFF-05-24-04 EFFLUENT	EFF-8-27-04(EFFLUENT)	EFFLUENT
		Date Collected	2/21/2004 15:20	5/24/2004 13:56	8/27/2004 13:00	11/30/2004 12:15:00 PM
		Depth	N/A	N/A	N/A	N/A
METHOD	LABNAME	RESUNIT				
SW6010B	Aluminum	mg/L		<0.2 J		0.07 B
SW6010B	Antimony	mg/L		<0.1 U		<0.06 J
SW6010B	Arsenic	mg/L		0.0033 B		<0.01 U
SW6010B	Barium	mg/L		0.104		0.12 J
SW6010B	Beryllium	mg/L		<0.001 U		0.00072 B
SW6010B	Cadmium	mg/L		0.0003 B		<0.005 U
SW6010B	Calcium	mg/L		21.8		22.1
SW6010B	Chromium	mg/L		0.0068		0.0058 J
SW6010B	Cobalt	mg/L		<0.007 U		0.0016 B
SW6010B	Copper	mg/L		<0.005 U		<0.025 U
SW6010B	Iron	mg/L		0.118 B		0.27
SW6010B	Lead	mg/L		<0.003 U		<0.003 U
SW6010B	Magnesium	mg/L		10.8 J		11.6
SW6010B	Manganese	mg/L		0.0782 J		0.12
SW6010B	Nickel	mg/L		<0.007 U		<0.04 U
SW6010B	Potassium	mg/L		0.9 B		0.91 J
SW6010B	Selenium	mg/L		0.0045 J		0.0062 B
SW6010B	Silver	mg/L		<0.003 J		<0.01 U
SW6010B	Sodium	mg/L		23.3		24.2
SW6010B	Thallium	mg/L		0.0053 B		0.0064 B
SW6010B	Vanadium	mg/L		<0.005 U		<0.05 U
SW6010B	Zinc	mg/L		0.0365		0.043
SW7470A	Mercury	mg/L		0.0011		<0.0002 U
SW8260B	1,1,1-Trichloroethane	µg/L	<2.5 U	<4 U	<7.7 U	<9.1 U
SW8260B	1,1,2,2-Tetrachloroethane	µg/L	43	54	110	150
SW8260B	1,1,2-Trichloroethane	µg/L	<2.5 U	<4 U	<7.7 U	<9.1 U
SW8260B	1,1-Dichloroethane	µg/L	<2.5 U	<4 U	<7.7 U	<9.1 U
SW8260B	1,1-Dichloroethene	µg/L	6.5	8.1	7.4 J	5.9 J
SW8260B	1,2-Dichloroethane	µg/L	<2.5 U	<4 U	<7.7 U	<9.1 U
SW8260B	1,2-Dichloropropane	µg/L	<2.5 U	<4 U	<7.7 U	<9.1 U
SW8260B	2-Butanone	µg/L				<45 J
SW8260B	2-Butanone (MEK)	µg/L	<12 J	<20 J	<38 J	
SW8260B	2-Hexanone	µg/L	<12 U	<20 U	<38 U	<45 J
SW8260B	4-Methyl-2-pentanone	µg/L				<45 U

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TABLE C-3

ANALYTICAL RESULTS - EFFLUENT SAMPLES
ANNUAL OPERATIONS REPORT - 2004
DUNN FIELD GROUNDWATER IRA - YEAR SIX
Defense Depot Memphis, Tennessee

		Sample Site ID	EFF-02-21-04	EFF-05-24-04	EFF-08-27-04	EFF-11-30-04
		Sample ID	EFF-02-21-04 (EFFLUENT)	EFF-05-24-04 EFFLUENT	EFF-8-27-04(EFFLUENT)	EFFLUENT
		Date Collected	2/21/2004 15:20	5/24/2004 13:56	8/27/2004 13:00	11/30/2004 12:15:00 PM
		Depth	N/A	N/A	N/A	N/A
METHOD	LABNAME	RESUNIT				
SW8260B	4-Methyl-2-pentanone (MIBK)	µg/L	<12 U	<20 U	<38 U	
SW8260B	Acetone	µg/L	3.3 R	5.9 B	6.3 B	<45 J
SW8260B	Benzene	µg/L	<2.5 U	<4 U	<7.7 U	<9.1 U
SW8260B	Bromodichloromethane	µg/L	<2.5 U	<4 U	<7.7 U	<9.1 U
SW8260B	Bromoform	µg/L	<2.5 U	<4 U	<7.7 U	<9.1 U
SW8260B	Bromomethane	µg/L	<2.5 U	<4 U	<7.7 U	<9.1 J
SW8260B	Carbon disulfide	µg/L	<2.5 U	<4 U	<7.7 J	<9.1 U
SW8260B	Carbon tetrachloride	µg/L	4.1	7.1	5.1 J	2.2 J
SW8260B	Chlorobenzene	µg/L	<2.5 U	<4 U	<7.7 U	<9.1 U
SW8260B	Chlorodibromomethane	µg/L	<2.5 U			
SW8260B	Chloroethane	µg/L	<2.5 U	<4 U	<7.7 J	<9.1 R
SW8260B	Chloroform	µg/L	42	61	63	9.3
SW8260B	Chloromethane	µg/L	<2.5 U	<4 U	<7.7 J	<9.1 U
SW8260B	cis-1,2-Dichloroethene	µg/L	14	20	37	31
SW8260B	cis-1,3-Dichloropropene	µg/L	<2.5 U	<4 U	<7.7 U	<9.1 U
SW8260B	Dibromochloromethane	µg/L		<4 U	<7.7 U	<9.1 U
SW8260B	Ethylbenzene	µg/L	<2.5 U	<4 U	<7.7 U	<9.1 U
SW8260B	Methyl tert-butyl ether	µg/L				<45 U
SW8260B	Methyl tert-butyl ether (MTBE)	µg/L			<38 U	
SW8260B	Methylene chloride	µg/L	2.6 B	3.2 B	<7.7 U	12 B
SW8260B	m-Xylene & p-Xylene	µg/L	<5 U	<8 U	<15 U	<18 U
SW8260B	o-Xylene	µg/L	<2.5 U	<4 U	<7.7 U	<9.1 U
SW8260B	Styrene	µg/L	<2.5 U	<4 U	<7.7 U	<9.1 U
SW8260B	Tetrachloroethene	µg/L	14	16	12	12
SW8260B	Toluene	µg/L	<2.5 U	<4 U	1.5 J	<9.1 U
SW8260B	trans-1,2-Dichloroethene	µg/L	2.5	3.9 J	7.5 J	6.2 J
SW8260B	trans-1,3-Dichloropropene	µg/L	<2.5 U	<4 U	<7.7 U	<9.1 U
SW8260B	Trichloroethene	µg/L	59	120	150	120
SW8260B	Vinyl acetate	µg/L	<5 U	<8 U	<15 J	<18 U
SW8260B	Vinyl chloride	µg/L	<2 5 U	<4 U	<7.7 U	<9.1 U
SW8270C	1,2,4-Trichlorobenzene	µg/L				<10 U
SW8270C	1,2-Dichlorobenzene	µg/L				<10 U
SW8270C	1,3-Dichlorobenzene	µg/L				<10 U
SW8270C	1,4-Dichlorobenzene	µg/L				<10 U

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TABLE C-3

ANALYTICAL RESULTS - EFFLUENT SAMPLES
ANNUAL OPERATIONS REPORT - 2004
DUNN FIELD GROUNDWATER IRA - YEAR SIX
Defense Depot Memphis, Tennessee

		Sample Site ID	EFF-02-21-04	EFF-05-24-04	EFF-08-27-04	EFF-11-30-04
		Sample ID	EFF-02-21-04 (EFFLUENT)	EFF-05-24-04 EFFLUENT	EFF-8-27-04(EFFLUENT)	EFFLUENT
		Date Collected	2/21/2004 15:20	5/24/2004 13:56	8/27/2004 13:00	11/30/2004 12:15:00 PM
		Depth	N/A	N/A	N/A	N/A
METHOD	LABNAME	RESUNIT				
SW8270C	2,2'-Oxybis(1-Chloropropane)	µg/L				<10 U
SW8270C	2,4,5-Trichlorophenol	µg/L		<5 U		<10 U
SW8270C	2,4,6-Trichlorophenol	µg/L		<5 U		<10 U
SW8270C	2,4-Dichlorophenol	µg/L		<5 U		<10 U
SW8270C	2,4-Dimethylphenol	µg/L		<5 U		<10 U
SW8270C	2,4-Dinitrophenol	µg/L		<25 J		<50 U
SW8270C	2,4-Dinitrotoluene	µg/L		<5 U		<10 U
SW8270C	2,6-Dinitrotoluene	µg/L		<5 U		<10 U
SW8270C	2-Chloronaphthalene	µg/L		<5 U		<10 U
SW8270C	2-Chlorophenol	µg/L		<5 U		<10 U
SW8270C	2-Methylnaphthalene	µg/L		<2 U		<10 U
SW8270C	2-Methylphenol	µg/L		<5 U		<10 U
SW8270C	2-Nitroaniline	µg/L		<25 U		<50 U
SW8270C	2-Nitrophenol	µg/L		<5 U		<10 U
SW8270C	3,3'-Dichlorobenzidine	µg/L		<10 U		<50 U
SW8270C	3-Nitroaniline	µg/L		<25 U		<50 U
SW8270C	4,6-Dinitro-2-methylphenol	µg/L		<10 J		<50 U
SW8270C	4-Bromophenyl phenyl ether	µg/L		<5 U		<10 U
SW8270C	4-Chloro-3-methylphenol	µg/L		<5 U		<10 U
SW8270C	4-Chloroaniline	µg/L		<5 U		<10 U
SW8270C	4-Chlorophenyl phenyl ether	µg/L		<5 U		<10 U
SW8270C	4-Methylphenol	µg/L		<5 U		<10 U
SW8270C	4-Nitroaniline	µg/L		<25 U		<50 U
SW8270C	4-Nitrophenol	µg/L		<25 J		<50 U
SW8270C	Acenaphthene	µg/L		<5 U		<10 U
SW8270C	Acenaphthylene	µg/L		<5 U		<10 U
SW8270C	Anthracene	µg/L		<5 U		<10 U
SW8270C	Benzo(a)anthracene	µg/L		<5 U		<10 U
SW8270C	Benzo(a)pyrene	µg/L		<5 U		<10 U
SW8270C	Benzo(b)fluoranthene	µg/L		<5 U		<10 U
SW8270C	Benzo(ghi)perylene	µg/L		<5 U		<10 U
SW8270C	Benzo(k)fluoranthene	µg/L		<5 U		<10 U
SW8270C	Benzoic acid	µg/L		<25 J		
SW8270C	Benzyl alcohol	µg/L		<5 U		

TABLE C-3

ANALYTICAL RESULTS - EFFLUENT SAMPLES
ANNUAL OPERATIONS REPORT - 2004
DUNN FIELD GROUNDWATER IRA - YEAR SIX
Defense Depot Memphis, Tennessee

		Sample Site ID	EFF-02-21-04	EFF-05-24-04	EFF-08-27-04	EFF-11-30-04
		Sample ID	EFF-02-21-04 (EFFLUENT)	EFF-05-24-04 EFFLUENT	EFF-8-27-04(EFFLUENT)	EFFLUENT
		Date Collected	2/21/2004 15:20	5/24/2004 13:56	8/27/2004 13:00	11/30/2004 12:15:00 PM
		Depth	N/A	N/A	N/A	N/A
METHOD	LABNAME	RESUNIT				
SW8270C	bis(2-Chloroethoxy)methane	µg/L		<5 U		<10 U
SW8270C	bis(2-Chloroethyl) ether	µg/L		<5 U		<10 U
SW8270C	bis(2-Chloroisopropyl) ether	µg/L		<5 U		
SW8270C	bis(2-Ethylhexyl) phthalate	µg/L		2.3 J		<10 U
SW8270C	Butyl benzyl phthalate	µg/L		<5 U		<10 U
SW8270C	Carbazole	µg/L				<10 U
SW8270C	Chrysene	µg/L		<5 U		<10 U
SW8270C	Dibenz(a,h)anthracene	µg/L		<5 U		<10 U
SW8270C	Dibenzofuran	µg/L		<5 U		<10 U
SW8270C	Diethyl phthalate	µg/L		<5 U		<10 U
SW8270C	Dimethyl phthalate	µg/L		<5 U		<10 U
SW8270C	Di-n-butyl phthalate	µg/L		<5 U		<10 U
SW8270C	Di-n-octyl phthalate	µg/L		<5 U		<10 U
SW8270C	Fluoranthene	µg/L		<5 U		<10 U
SW8270C	Fluorene	µg/L		<5 U		<10 U
SW8270C	Hexachlorobenzene	µg/L		<5 U		<10 U
SW8270C	Hexachlorobutadiene	µg/L		<5 U		<10 U
SW8270C	Hexachlorocyclopentadiene	µg/L		<10 U		<50 R
SW8270C	Hexachloroethane	µg/L		<5 U		<10 U
SW8270C	Indeno(1,2,3-cd)pyrene	µg/L		<5 U		<10 U
SW8270C	Isophorone	µg/L		<5 U		<10 U
SW8270C	Naphthalene	µg/L		<5 U		<10 U
SW8270C	Nitrobenzene	µg/L		<5 U		<10 U
SW8270C	N-Nitrosodi-n-propylamine	µg/L		<5 U		<10 U
SW8270C	N-Nitrosodiphenylamine	µg/L		<5 U		<10 U
SW8270C	Pentachlorophenol	µg/L		<25 U		<10 U
SW8270C	Phenanthrene	µg/L		<5 U		<10 U
SW8270C	Phenol	µg/L		<5 U		<10 U
SW8270C	Pyrene	µg/L		<5 U		<10 U

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APPENDIX C – 4

QUALITY CONTROL SAMPLES

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TABLE C-4

ANALYTICAL RESULTS - QC SAMPLES
ANNUAL OPERATIONS REPORT - 2004
DUNN FIELD GROUNDWATER IRA - YEAR SIX
Defense Depot Memphis, Tennessee

	Sample Site ID	MW-029	MW-033	MW-043	MW-067	MW-069	MW-077	MW-080	MW-128
	Sample ID	DUP01	DUP02	DUP03	DUP04	DUP05	DUP06	DUP07	DUP08
	Date Collected	10/20/2004	10/20/2004 16.25	10/21/2004 12:10	10/21/2004 14:10	10/21/2004 15.15	10/21/2004 16·05	10/22/2004 9:40	10/22/2004 11:10
	Depth	41.6-43 6	59 53-61 53	168-170	261-263	91.4-93.4	85.27-87.27	70-72	61-63
LABNAME	RESUNIT								
1,1,1-Trichloroethane	µg/L	**1.9 J**	<1 J	<1 J	<1 J	<1 J	<140 J	<1 J	<1 J
1,1,2,2-Tetrachloroethane	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	**4600**	<1 U	<1 U
1,1,2-Trichloroethane	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<140 U	<1 U	<1 U
1,1-Dichloroethane	µg/L	**1**	<1 U	<1 U	<1 U	<1 U	<140 U	<1 U	<1 U
1,1-Dichloroethene	µg/L	**18**	<1 U	<1 U	<1 U	<1 U	<140 U	<1 U	**1.6**
1,2-Dichloroethane	µg/L	<1 U	<1 U	<1 U	0.26 J	<1 U	<140 U	<1 U	<1 U
1,2-Dichloropropane	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<140 U	<1 U	<1 U
2-Butanone (MEK)	µg/L	<5 J	<5 J	<5 J	<5 J	<5 J	<710 J	<5 J	<5 J
2-Hexanone	µg/L	<5 R	<5 R	<5 R	<5 R	<5 R	<710 R	<5 R	<5 R
4-Methyl-2-pentanone (MIBK)	µg/L	<5 J	<5 J	<5 J	<5 J	<5 J	<710 J	<5 J	<5 J
Acetone	µg/L	0.92 J	3.1 J	2.2 J	1.2 J	<5 J	<710 R	<5 J	3.7 B
Benzene	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<140 U	<1 U	<1 U
Bromodichloromethane	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<140 U	<1 U	<1 U
Bromoform	µg/L	<1 J	<1 J	<1 J	<1 J	<1 J	<140 U	<1 U	<1 U
Bromomethane	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<140 U	<1 U	<1 U
Carbon disulfide	µg/L	<1 U	<1 U	0 79 J	<1 U	<1 U	<140 U	<1 U	<1 U
Carbon tetrachloride	µg/L	<1 J	<1 J	<1 J	<1 J	<1 J	<140 J	<1 J	<1 J
Chlorobenzene	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<140 U	<1 U	<1 U
Chloroethane	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<140 U	<1 U	<1 U
Chloroform	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<140 U	<1 U	<1 U
Chloromethane	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<140 U	<1 U	<1 U
cis-1,2-Dichloroethene	µg/L	0.4 J	<1 U	<1 U	<1 U	<1 U	63 J	<1 U	<1 U
cis-1,3-Dichloropropene	µg/L	<1 J	<1 J	<1 J	<1 J	<1 J	<140 J	<1 J	<1 J
Dibromochloromethane	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<140 U	<1 U	<1 U
Ethylbenzene	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<140 U	<1 U	<1 U
Methyl tert-butyl ether (MTBE)	µg/L	<5 J	<5 J	<5 J	<5 J	<5 J	<710 U	<5 U	<5 U
Methylene chloride	µg/L	<1 U	<1 U	<1 U	0.41 B	<1 U	<140 U	0.5 B	0.52 B
m-Xylene & p-Xylene	µg/L	<2 U	<2 U	<2 U	<2 U	<2 U	<290 U	<2 U	<2 U
o-Xylene	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<140 U	<1 U	<1 U
Styrene	µg/L	<1 U	<1 U	<1 U	<1	<1 U	<140 U	<1 U	<1 U
Tetrachloroethene	µg/L	**19**	<1 U	<1 U	<1 U	<1 U	<140 U	<1 U	<1 U
Toluene	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<140 U	<1 U	<1 U
trans-1,2-Dichloroethene	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<140 U	<1 U	<1 U
trans-1,3-Dichloropropene	µg/L	<1 R	<1 R	<1 R	<1 R	<1 R	<140 R	<1 R	<1 R
Trichloroethene	µg/L	**29**	<1 U	<1 U	<1 U	<1 U	**1700**	<1 U	0.7 J
Vinyl acetate	µg/L	<2 R	<2 R	<2 R	<2 R	<2 R	<290 R	<2 R	<2 R
Vinyl chloride	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<140 U	<1 U	<1 U

TABLE C-4

ANALYTICAL RESULTS - QC SAMPLES
ANNUAL OPERATIONS REPORT - 2004
DUNN FIELD GROUNDWATER IRA - YEAR SIX
Defense Depot Memphis, Tennessee

	Sample Site ID	RW-008	FIELD BLANK 01	FIELD BLANK 02	FIELD BLANK 03	FIELD BLANK 04	FIELD BLANK 05
	Sample ID	DUP	FIELD BLANK 01	FIELD BLANK 02	FIELD BLANK 03	FIELD BLANK 04	FIELD BLANK 05
	Date Collected	10/22/2004	10/20/2004 3:50:00 PM	10/21/2004 9:50:00 AM	10/21/2004 1:22:00 PM	10/21/2004 2:55:00 PM	10/21/2004 4:35:00 PM
	Depth	N/A	N/A	N/A	N/A	N/A	N/A
LABNAME	RESUNIT						
1,1,1-Trichloroethane	µg/L	<12 J	<1 U	<1 J	<1 U	<1 J	<1 J
1,1,2,2-Tetrachloroethane	µg/L	**280**	<1 U	<1 U	<1 U	<1 U	<1 U
1,1,2-Trichloroethane	µg/L	<12 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,1-Dichloroethane	µg/L	<12 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,1-Dichloroethene	µg/L	11 J	<1 U	<1 U	<1 U	<1 U	<1 U
1,2-Dichloroethane	µg/L	<12 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,2-Dichloropropane	µg/L	<12 U	<1 U	<1 U	<1 U	<1 U	<1 U
2-Butanone (MEK)	µg/L	<62 J	0.74 J	0.85 J	0.89 J	0.55 R	0.49 J
2-Hexanone	µg/L	<62 R	<5 U	<5 R	<5 U	<5 R	<5 J
4-Methyl-2-pentanone (MIBK)	µg/L	<62 J	<5 U	<5 J	<5 U	<5 J	<5 J
Acetone	µg/L	13 B	**11**	**7 J**	**10 J**	**5.1 B**	4.4 J
Benzene	µg/L	<12 U	<1 U	<1 U	<1 U	<1 U	<1 U
Bromodichloromethane	µg/L	<12 U	<1 U	<1 U	<1 U	<1 U	<1 U
Bromoform	µg/L	<12 U	<1 U	<1 J	<1 U	<1 J	<1 J
Bromomethane	µg/L	<12 U	<1 U	<1 U	<1 U	<1 U	<1 U
Carbon disulfide	µg/L	<12 U	<1 J	<1 J	<1 U	<1 U	<1 U
Carbon tetrachloride	µg/L	<12 J	<1 U	<1 J	<1 U	<1 J	<1 J
Chlorobenzene	µg/L	<12 U	<1 U	<1 U	<1 U	<1 U	<1 U
Chloroethane	µg/L	<12 U	<1 U	<1 U	<1 U	<1 U	<1 U
Chloroform	µg/L	**17**	<1 U	<1 U	<1 U	<1 U	<1 U
Chloromethane	µg/L	<12 U	<1 U	<1 U	<1 U	<1 U	<1 U
cis-1,2-Dichloroethene	µg/L	**140**	<1 U	<1 U	<1 U	<1 U	<1 U
cis-1,3-Dichloropropene	µg/L	<12 J	<1 U	<1 J	<1 U	<1 J	<1 J
Dibromochloromethane	µg/L	<12 U	<1 U	<1 U	<1 U	<1 U	<1 U
Ethylbenzene	µg/L	<12 U	<1 U	<1 U	<1 U	<1 U	<1 U
Methyl tert-butyl ether (MTBE)	µg/L	<62 U	<5 U	<5 J	<5 U	<5 J	<5 U
Methylene chloride	µg/L	11 B	<1 U	1 B	<1 U	<1 U	<1 U
m-Xylene & p-Xylene	µg/L	<25 U	<2 U	<2 U	<2 U	<2 U	<2 U
o-Xylene	µg/L	<12 U	<1 U	<1 U	0.49 J	<1 U	<1 U
Styrene	µg/L	<12 U	<1 U	<1 U	<1 U	<1 U	<1 U
Tetrachloroethene	µg/L	9.8 J	<1 U	<1 U	<1 U	<1 U	<1 U
Toluene	µg/L	<12 U	<1 U	<1 U	<1 U	<1 U	<1 U
trans-1,2-Dichloroethene	µg/L	**27**	<1 U	<1 U	<1 U	<1 U	<1 U
trans-1,3-Dichloropropene	µg/L	<12 R	<1 U	<1 R	<1 U	<1 R	<1 R
Trichloroethene	µg/L	**240**	<1 U	<1 U	<1 U	<1 U	<1 U
Vinyl acetate	µg/L	<25 R	<2 U	<2 R	<2 U	<2 R	<2 R
Vinyl chloride	µg/L	<12 U	<1 U	<1 U	<1 U	<1 U	<1 U

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TABLE C-4

ANALYTICAL RESULTS - QC SAMPLES
ANNUAL OPERATIONS REPORT - 2004
DUNN FIELD GROUNDWATER IRA - YEAR SIX
Defense Depot Memphis, Tennessee

	Sample Site ID	FIELD BLANK 06	FIELD BLANK 07	TB-10-22-04	TRIP BLANK (COOLER. K200)	TRIP BLANK (COOLER. K849)
	Sample ID	FIELD BLANK 06	FIELD BLANK 07	TRIP BLANK	TRIP BLANK (COOLER. K200)	TRIP BLANK (COOLER. K849)
	Date Collected	10/22/2004 10:35:00 AM	10/22/2004 11:45:00 AM	10/22/2004	10/22/2004	10/22/2004
	Depth	N/A	N/A	N/A	N/A	N/A
LABNAME	RESUNIT					
1,1,1-Trichloroethane	µg/L	<1 U	<1 U	<1 J	<1 J	<1 U
1,1,2,2-Tetrachloroethane	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U
1,1,2-Trichloroethane	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U
1,1-Dichloroethane	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U
1,1-Dichloroethene	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U
1,2-Dichloroethane	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U
1,2-Dichloropropane	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U
2-Butanone (MEK)	µg/L	0.92 B	0.91 B	<5 J	0.88 J	0.43 J
2-Hexanone	µg/L	<5 U	<5 U	<5 R	<5 R	<5 U
4-Methyl-2-pentanone (MIBK)	µg/L	<5 U	<5 U	<5 J	<5 J	<5 U
Acetone	µg/L	**11**	**11 B**	11 B	3 B	2.2 B
Benzene	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U
Bromodichloromethane	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U
Bromoform	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U
Bromomethane	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U
Carbon disulfide	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U
Carbon tetrachloride	µg/L	<1 U	<1 U	<1 J	<1 J	<1 U
Chlorobenzene	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U
Chloroethane	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U
Chloroform	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U
Chloromethane	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U
cis-1,2-Dichloroethene	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U
cis-1,3-Dichloropropene	µg/L	<1 U	<1 U	<1 J	<1 J	<1 U
Dibromochloromethane	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U
Ethylbenzene	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U
Methyl tert-butyl ether (MTBE)	µg/L	<5 U	<5 U	<5 U	<5 U	<5 U
Methylene chloride	µg/L	<1 U	<1 U	<1 U	**4.9 B**	<1 U
m-Xylene & p-Xylene	µg/L	<2 U	<2 U	<2 U	<2 U	<2 U
o-Xylene	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U
Styrene	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U
Tetrachloroethene	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U
Toluene	µg/L	<1 U	<1 U	<1 U	<1 U	0.19 J
trans-1,2-Dichloroethene	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U
trans-1,3-Dichloropropene	µg/L	<1 U	<1 U	<1 R	<1 R	<1 U
Trichloroethene	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U
Vinyl acetate	µg/L	<2 U	<2 U	<2 R	<2 R	<2 U
Vinyl chloride	µg/L	<1 U	<1 U	<1 U	<1 U	<1 U

APPENDIX D

DATA QUALITY EVALUATION

APPENDIX D

1.0 DATA QUALITY EVALUATION

The Operations and Maintenance (O&M) semi-annual groundwater sampling at Dunn Field was conducted during October 2004. The samples were collected in general accordance with the *User's Guide For Polyethylene-Based Passive Diffusion Bag Samplers To Obtain Volatile Organic Compound Concentrations In Wells*, Water Resources Investigation Report 01-4060, U.S. Geological Survey, 2001. The field and laboratory procedures were consistent with the *Remedial Action Sampling and Analysis Plan, Rev. 0* (RA SAP) (MACTEC, 2004). The following sections discuss the field activities, analytical methods, data quality evaluation process, and any problems with the quality assurance (QA)/quality control (QC) associated with the laboratory data.

1.1 FIELD ACTIVITIES AND FIELD QUALITY CONTROL

A total of 84 groundwater samples were collected from 34 wells in October 2004 using passive diffusion bag samplers (PDB). The sample locations are presented in the report.

The field QC program for the collection of samples for the Dunn Field O&M included specific procedures for the collection of groundwater samples as described in the PDB User's Guide (USGS, 2001) and the RA SAP (MACTEC, 2004). Sample bottles met USEPA requirements for environmentally clean containers. Sample labels were pre-printed to facilitate sample tracking from the field through the laboratory to the final report.

Field QC samples were collected to evaluate sampling technique and decontamination procedures. These samples included field duplicates, trip blanks, and field equipment blanks. Documentation of the sampling was performed in the field to ensure that the sample collected, labeling, chain-of-custody, and request for analysis were in agreement. Custody seals were placed on each cooler before shipment by common carrier. It should be noted that trip blanks were inadvertently left from the cooler shipments in October 2004. However, a review of the remaining field QC samples and the laboratory QC samples did not indicate a negative impact to the data quality.

1.2 ANALYTICAL METHODS

The groundwater samples were analyzed for VOCs by method 8260B.

1.3 LABORATORY QUALITY CONTROL

The laboratory QC program, including sample handling, laboratory control, and reporting, is documented in the RA SAP (MACTEC, 2004). Sample handling includes documentation of sample receipt, placement in storage, lab personnel using the sample, and disposal. The laboratory control consists of instrument calibration and maintenance, laboratory control samples (LCS), method blanks and matrix spikes. Reporting of the laboratory control data was planned prior to the collection of the data, allowing the laboratory to place the appropriate information into the data package so that the data quality evaluation (DQE) could be performed in a timely manner.

1.4 DATA QUALITY EVALUATION

The quality of the laboratory data was evaluated following the DQE standard operating procedures (SOPs) presented in the RA SAP (MACTEC, 2004). The objective of the DQE was to provide a review of the chemical data packages submitted by the laboratory and to qualify that data relative to the data quality objectives stated in the RA SAP (MACTEC, 2004). The DQE consisted of review of laboratory QC data and field QC parameters, and flagging of the data as usable, usable with qualification, or unusable.

The data quality relative to laboratory analyses was evaluated using the criteria stated in the RA SAP (MACTEC, 2004) for each analytical method performed. The following information was reviewed:

- Sample Integrity
- Sample Completeness
- Sample Holding Times
- Laboratory Methods for Extraction and Analysis
- Method Accuracy and Precision (Matrix Spike/Matrix Spike Duplicate)
- Laboratory Performance Criteria (Blanks, LCS Recoveries)
- Instrument Calibrations

Field QC parameters were evaluated through field duplicates, field blanks, field documentation, and shipping criteria.

The DQE was summarized by use of flags that indicate to the reviewer that the data being considered has been qualified using the established criteria. Sample delivery group (SDG) narratives detailing the evaluation of the laboratory data are included in this attachment. The SDGs and associated groundwater samples are listed on Table D-1.

The following sections discuss only those deficiencies encountered during the evaluation that resulted in unusable data.

1.4.1 Data Quality Evaluation Summary – Groundwater

Total analytical completeness for the O&M gr oundwater sampling was 95%, which meets the completeness DQO stated in the DDMT SAP (MACTEC, 2004). VOC compounds that did not meet the completeness DQO due to rejected data points include: acetone (82%), 2-butanone (88%), 2-hexanone (58%), trans-1,3-dichloropropene (42%), and vinyl acetate (42%). These compounds are not considered compounds of concern for the Dunn Field O&M system . The remaining groundwater data was usable with the qualifications discussed in the attached DQE narratives.

TABLE D-1

SDG Summary Table
Annual Operations Report - 2004
Dunn Field Groundwater IRA - Year Six
Defense Depot Memphis, Tennessee

No.	SDG	Groundwater Samples			Quality Control Samples
	October 2004 Semi-Annual Event				
1	A4J250140	RW-1	RW-3	RW-7	Trip Blank
		RW-1A	RW-4	RW-8	DUP
		RW-1B	RW-5	RW-9	
		RW-2	RW-6		
2	4J250156	MW-07 (69.56-71.56)	MW-32 (65.9-66.9)	MW-37 (180.5-182.5)	Field Blank 01
		MW-08 (64.2.-66.2)	MW-33 (59.33-61.33)	MW-40 (86.9-88.9)	Field Blank 02
		MW-09 (78-79)	MW-34 (142.3-144.3)	MW-40 (91 9-93.9)	
		MW-29 (41.6-43.6)	MW-142	MW-42 (55.8-57.8)	
		MW-29 (46.1-48 1)	MW-34 (147 3-149.3)	MW-43 (163-165)	
		MW-29 (50.6-52.6)	MW-34 (152.3-154.3)	MW-43 (168-170)	
		MW-30 (49-51)	MW-36 (192.7-194.7)	MW-44 (64-66)	
		MW-30 (53-55)	MW-36 (197.7-199.7)	MW-44 (69-71)	
		MW-30 (57-59)	MW-36 (202.7-204.7)	MW-51 (58-60)	
		MW-31 (72.5-74 5)	MW-37 (170.5-172.5)		
		MW-31 (77.5-79 5)	MW-37 (175.5-177.5)		
3	A4J250172	MW-51 (63-65)	MW-69 (86.4-88 4)	MW-78 (61.8-63.8)	Field Blank 03
		MW-54 (85.6-87.6)	MW-69 (91.4-93.4)	MW-79 (84-86)	Field Blank 04
		MW-54 (90.6-92.6)	MW-70 (90 8-92.8)	MW-79 (89-91)	Field Blank 05
		MW-57 (66.8-68.8)	MW-70 (85.8-87 8)	MW-79 (94-96)	
		MW-67 (261-263)	MW-71 (73.86-75.86)	MW-79 (99-101)	
		MW-67 (266-268)	MW-76 (86.3-88.3)	MW-80 (62-64)	
		MW-67 (271-273)	MW-76 (91.3-93 3)	MW-80 (66-68)	
		MW-68 (70.6-72.6)	MW-77 (85.27-87.27)	MW-80 (70-72)	
		MW-68 (74.6-76.6)	MW-78 (51.8-53.8)	MW-95 (42-44)	
		MW-68 (78.6-80.6)	MW-78 (56.8-58.8)		
4	A4J250189	MW-95 (47-49)	MW-128 (56-58)	MW-129 (76.3-78.3)	Trip Blank (K849)
		MW-95 (52 -54)	MW-128 (61-63)	MW-130 (60.5-62 5)	Trip Blank (K200)
		MW-95 (57-59)	MW-128 (66-68)	MW-130 (65.5-67.5)	Field Blank 06
		MW-126 (23 2-25.2)	MW-128 (71-73)	MW-130 (70.5-72.5)	Field Blank 07
		MW-127 (61 2-63.2)	MW-129 (66 3-68.3)	MW-130 (75.5-77.5)	Dup 01
		MW-127 (66.2-68.2)	MW-129 (71 3-73 3)		Dup 02
					Dup 03
					Dup 04
					Dup 05
					Dup 06
					Dup 07
					Dup 08
	Effluent Sampling Events				
1	A4B250249	EFF-02-21-04			Trip Blank
2	A4E260222	EFF-05-24-04			Trip Blank
3	A4H280149	EFF-08-27-04			Trip Blank
4	A4L140274	EFFLUENT (11/30/04)			Trip Blank

Data Evaluation Narrative
MACTEC Project: DDMT O & M
MACTEC Project Number: 6301-03-0015
Matrix: Groundwater

SDG: A4J250140

Deliverables

The data packages as submitted to MACTEC Engineering and Consulting, Inc. (MACTEC) are complete as stipulated in the Generic Quality Assurance Project Plan as submitted by CH2M Hill for United States Environmental Protection Agency (USEPA) Method 8260B.

Sample Integrity

Samples within this SDG were submitted to Severn Trent Laboratories, Inc. (STL) in North Canton, Ohio for volatile organic compounds (VOCs). Based on the information provided on the cooler receipt forms, the field samples arrived at the laboratory intact and within the temperature guidance criteria. Completed chain-of-custody documents and cooler receipt forms are included in the data package.

Sample Identification

This SDG contains the following water and quality control (QC) samples:

RW-1	RW-1B	RW-3	RW-5	RW-7	RW-9	DUP	Trip Blank
RW-1A	RW-2	RW-4	RW-6	RW-8			

These samples were collected on October 22, 2004. DUP is a field duplicate for the parent sample RW-8.

VOC Analyses (8260B)

The samples in this SDG were submitted for VOC analysis.

Holding Times

The extraction and analytical logs indicate that applicable holding times were met for samples submitted for the analysis of VOCs by USEPA Method 8260B.

Practical Quantitation Limits

The practical quantitation limits (PQLs) were met for samples submitted for the analysis of VOCs by USEPA Method 8260B, with the exception of the following dilutions required to place the results within the calibration range:

RW-1 – 8x RW-1A – 33.33x RW-1B, RW-3, RW-9 – 2x RW-2, RW-7 – 4x
RW-4 – 41.67x RW-6 – 1.67x RW-8 – 11.11x DUP – 12.5x

In addition, the following results reported below the PQL but above the method detection limit (MDL):

RW-1	Acetone, cis-1,2-Dichloroethene, trans-1,2-Dichloroethene, Methylene chloride
RW-1A	Acetone, Carbon tetrachloride, cis-1,2-Dichloroethene, Tetrachloroethene
RW-1B	Acetone, trans-1,2-Dichloroethene, Methylene chloride, 1,1,2,2-Tetrachloroethane
RW-2	Acetone, trans-1,2-Dichloroethene, Methylene chloride, Tetrachloroethene, 1,1,2-Trichloroethane
RW-3	Acetone, Chloroform, trans-1,2-Dichloroethene, Methylene chloride, Tetrachloroethene
RW-4	Acetone, cis-1,2-Dichloroethene, Methylene chloride
RW-5	cis-1,2-Dichloroethene, trans-1,2-Dichloroethene, Methylene chloride
RW-6	Methylene chloride
RW-7	Acetone, Chloroform, Methylene chloride, 1,1,2-Trichloroethane
RW-8	Acetone, Methylene chloride, Tetrachloroethene, 1,1,2-Trichloroethane
RW-9	Carbon tetrachloride, 1,1-Dichloroethane, trans-1,2-Dichloroethene, Methylene chloride, 1,1,1-Trichloroethane
DUP	Acetone, 1,1-Dichloroethene, Methylene chloride, Tetrachloroethene
Trip Blank	Acetone

Action: The associated results were qualified as estimated and flagged "J", unless overridden due to other QC criteria exceedances.

Calibration

The initial and continuing calibration data indicate that applicable calibration criteria were met for the samples submitted for VOC analysis, with the following exceptions:

CCV(11/04/04, 20:30)	%D	Limit	Associated Samples
Acetone	-34.7	±20%; <40%	RW-1, RW-1A, RW-1B, RW-2, RW-3, RW-4, RW-5, RW-6, RW-7, RW-8, RW-9, DUP, Trip Blank
2-Butanone	-28.8	±20%; <40%	
Carbon tetrachloride	-24.8	±20%; <40%	
cis-1,3-Dichloropropene	-30.1	±20%; <40%	
trans-1,3-Dichloropropene	-50.6	±20%; <40%	
4-Methyl-2-pentanone	-29.1	±20%; <40%	
Vinyl acetate	-62.2	±20%; <40%	

CCV(11/04/04, 20:30)	%D	Limit
2-Hexanone	-41.8	±20%; <40%
1,1,1-Trichloroethane	-21.1	±20%; <40%

Action: The results associated with CCV percent differences greater than 40% were rejected as unusable and flagged "R". The remaining associated results were qualified as estimated and flagged "J".

Blank Summary

The analytical results of the laboratory method blanks indicate that no VOCs were detected in the method blank, with the exception of acetone and methylene chloride.

Action: The acetone and methylene chloride results for samples RW-1, RW-1B, RW-2, RW-3, RW-7, RW-8, and DUP, as well as the methylene chloride results for RW-5, RW-6 and RW-9 and the acetone results for the trip blank were flagged "B" due to method blank contamination since the sample concentration was less than ten times the blank value.

Internal Standards

The area counts and retention times for internal standards (IS) chlorobenzene-d_5 (IS1), fluorobenzene (IS2), and 1,4-dichlorobenzene-d_4 (IS3) were within QC advisory limits.

Surrogates

The recoveries for the four method-specified surrogates toluene-d_8, 4-bromofluorobenzene, dibromofluoromethane, and 1,2-dichloroethane-d_4 were within QC advisory limits.

Laboratory Control Sample

The laboratory control sample (LCS) spike recoveries were within applicable QC advisory limits and/or sporadic marginal failure (SMF) criteria, with the following exceptions:

GWALP	Exceedance	Action	Associated Samples
Acetone	Out low	Flag associated results "J"	RW-1, RW-1A, RW-1B, RW-2, RW-3,
2-Butanone	Out low	Flag associated results "J"	RW-4, RW-5, RW-6, RW-7, RW-8,
2-Hexanone	Out low	Flag associated results "J"	RW-9, DUP, Trip Blank
cis-1,3-Dichloropropene	Out low	No flag – within SMF	
trans-1,3-Dichloropropene	Out low	No flag – within SMF	
Carbon tetrachloride	Out low	Flag associated results "J"	
4-Methyl-2-pentanone	Out low	Flag associated results "J"	
1,1,1-Trichloroethane	Out low	No flag – within SMF	

Matrix Spike/Matrix Spike Duplicate

The matrix spike (MS)/matrix spike duplicate (MSD) recoveries and RPDs for spiked sample RW-1A were within the applicable QC advisory limits, with the following exceptions:

RW-1A: low MS/MSD recoveries for acetone, 2-butanone (within SMF criteria), cis-1,3-dichloropropene (within SMF criteria), trans-1,3-dichloropropene, and 2-hexanone.

Action: The results associated with low recoveries were qualified as estimated and flagged "J" unless overridden by other QC criteria failures.

Sampling Accuracy

There were no equipment blanks associated with this site. The analytical results of the trip blank indicate that no VOCs were detected, with the exception of acetone.

Action: No action was required, since the acetone result was already evaluated and qualified "B" due to method blank contamination.

Field Duplicate Samples

The duplicate precision for samples RW-8/DUP was within QC limits and assessed as good.

<u>Overall Site Evaluation and Professional Judgment Flagging Changes</u>

The data within this SDG were compared to site data and edits to the DQE flags were not required based on professional judgment.

Prepared by: BAK 12/06/2004
Checked by: JAV 01/04/2005

Data Evaluation Narrative
MACTEC Project: DDMT O & M
MACTEC Project Number: 6301-03-0015
Matrix: Groundwater

SDG: 4J25156

Deliverables

The data packages as submitted to MACTEC Engineering and Consulting, Inc. (MACTEC) are complete as stipulated in the Generic Quality Assurance Project Plan as submitted by CH2M Hill for United States Environmental Protection Agency (USEPA) Method 8260B.

Sample Integrity

Samples within this SDG were submitted to Severn Trent Laboratories, Inc. (STL) in North Canton, Ohio for volatile organic compounds (VOCs). Based on the information provided on the cooler receipt forms, the field samples arrived at the laboratory intact and within the temperature guidance criteria. Completed chain-of-custody documents and cooler receipt forms are included in the data package.

Sample Identification

This SDG contains the following water and QC samples:

MW-07 (69.56-71.56)	MW-30 (53-55)	MW-34 (147.3-149.3)	MW-37 (175.5-177.5)	MW-43 (168-170)
MW-08 (64.2.-66.2)	MW-30 (57-59)	MW-34 (152.3-154.3)	MW-37 (180.5-182.5)	MW-44 (64-66)
MW-09 (78-79)	MW-31 (72.5-74.5)	MW-36 (192.7-194.7)	MW-40 (86.9-88.9)	MW-44 (69-71)
MW-29 (41.6-43.6)	MW-31 (77.5-79.5)	MW-36 (197.7-199.7)	MW-40 (91.9-93.9)	MW-51 (58-60)
MW-29 (46.1-48.1)	MW-32 (65.9-66.9)	MW-36 (202.7-204.7)	MW-42 (55.8-57.8)	Field Blank 01
MW-29 (50.6-52.6)	MW-33 (59.33-61.33)	MW-37 (170.5-172.5)	MW-43 (163-165)	Field Blank 02
MW-30 (49-51)	MW-34 (142.3-144.3)			

These samples were collected on October 20-21, 2004.

VOC Analyses (8260B)

The samples in this SDG were submitted for VOC analysis.

Holding Times

The extraction and analytical logs indicate that applicable holding times were met for samples submitted for the analysis of VOCs by USEPA Method 8260B.

Practical Quantitation Limits

The practical quantitation limits (PQLs) were met for samples submitted for the analysis of VOCs by USEPA Method 8260B, with the exception a 1.43x dilution for sample MW-07 (69.56-71.56) and a 1.67x dilution for sample MW-29 (46.1-48.1) required to place the results within the calibration range. In addition, the following results reported below the PQL but above the method detection limit (MDL):

MW-07 (69.56-71.56) – Acetone, Chloroform, 1,1-Dichloroethane, 1,1,1-Trichloroethane
MW-08 (64.2-66.2), MW-30 (53-55), MW-33 (59.33-61.33), MW-36 (202.7-204.7), MW-37 (170.5-172.5), MW-37 (175.5-177.5), MW-43 (163-165), MW-43 (168-170), MW-51 (58-60) - Acetone
MW-09 (78-79) – Acetone, cis-1,3-Dichloroethene, Toluene, Trichloroethene
MW-29 (41.6-43.6), MW-29 (50.6-52.6) – Acetone, cis-1,2-Dichloroethene
MW-29 (46.1-48.1) – Acetone, 1,1-Dichloroethane
MW-31 (72.5-74.5) – Acetone, cis-1,2-Dichloroethene, Tetrachloroethene
MW-31 (77.5-79.5) – Acetone, 1,1-Dichloroethane, cis-1,2-Dichloroethene, trans-1,2-Dichloroethene, Tetrachloroethene
MW-32 (65.9-66.9) – Acetone, trans-1,2-Dichloroethene
MW-34 (142.3-144.3), MW-34 (147.3-149.3), MW-34 (152.3-154.3) – Acetone, Carbon tetrachloride, Trichloroethene
MW-37 (180.5-182.5) – Acetone, Carbon disulfide
MW-40 (86.9-88.9), MW-40 (91.9-93.9) – Acetone Chlorobenzene
MW-44 (64-66) – Acetone, Carbon tetrachloride, Chloroform, cis-1,2-Dichloroethene, Trichloroethene
MW-44 (69-71) – Carbon tetrachloride, Chloroform, Trichloroethene
Field Blank 01, Field Blank 02 – 2-Butanone

Action: The associated results were qualified as estimated and flagged "J", unless overridden due to other QC criteria failures.

Calibration

The initial and continuing calibration data indicate that applicable calibration criteria were met for the samples submitted for VOC analysis, with the following exceptions:

CCV (11/02/04, 10:29)	%D	Limit	Associated Samples
Carbon disulfide	26.4	±20%; <40%	MW-07 (69.56-71.56), MW-08 (64.2-66.2), MW-09 (78-79), MW-29 (41.6-43.6), MW-29 (46.1-48.1), MW-29 (50.6-52.6), MW-30 (49-51), MW-30 (53-55), MW-30 (57-59), MW-31 (72.5-74.5), Field Blank 01

CCV (11/02/04, 21:26)	%D	Limit
Acetone	-38.8	±20%; <40%
Bromoform	-27.2	±20%; <40%
Carbon tetrachloride	-30.6	±20%; <40%
2-Butanone	-34.1	±20%; <40%
cis-1,3-Dichloropropene	-37.1	±20%; <40%
trans-1,3-Dichloropropene	-57.2	±20%; <40%
2-Hexanone	-44.1	±20%; <40%
4-Methyl-2-pentanone	-26.9	±20%; <40%
Methyl tert-butyl ether	-32.6	±20%; <40%
Vinyl acetate	-62.3	±20%; <40%

Associated Samples

MW-31 (77.5-79.5), MW-32 (65.9-66.9), MW-33 (59.33-61.33), MW-34 (142.3-144.3), MW-34 (147.3-149.3), MW-34 (152.3-154.33), MW-36 (192.7-194.7), MW-36 (197.7-199.7), MW-36 (202.7-204.7), MW-37 (170.5-172.5), MW-37 (175.5-177.5), MW-37 (180.5-182.5), MW-40 (86.9-88.9), MW-40 (91.9-93.9), Field Blank 02

CCV (11/02/04, 21:26)	%D	Limit
1,1,1-Trichloroethane	-29.8	±20%; <40%

CCV(11/03/04, 10:20)	%D	Limit
Acetone	-47.9	±20%; <40%
Bromoform	-27.2	±20%; <40%
2-Butanone	-43.3	±20%; <40%
Carbon tetrachloride	-34.5	±20%; <40%
cis-1,3-Dichloropropene	-37.1	±20%; <40%
2-Hexanone	-51.2	±20%; <40%
Methyl tert-butyl ether	-29.0	±20%; <40%
Vinyl acetate	-66.7	±20%; <40%

Associated Samples

MW-42 (55.8-57.8), MW-43 (163-165), MW-43 (168-170), MW-44 (64-66), MW-44 (69-71), MW-51 (58-60)

CCV(11/03/04, 10:20)	%D	Limit
trans-1,3-Dichloropropene	-57.7	±20%; <40%
4-Methyl-2-pentanone	-34.9	±20%; <40%
1,1,1-Trichloroethane	-31.3	±20%; <40%

Action: The results associated with CCV percent differences greater than 40% were rejected as unusable and flagged "R". The remaining associated results were qualified as estimated and flagged "J".

Blank Summary

The analytical results of the laboratory method blanks indicate that acetone, benzene, and/or methylene chloride were detected in several method blanks.

Action: The associated results were flagged "B" if the sample concentration was less than or equal to ten times the blank value (five times for benzene). If the concentration was greater than ten times (five times) the blank value, no qualification was necessary. Therefore, the methylene chloride result for sample Field Blank 02 and the acetone results for samples MW-42 (55.8-57.8), MW-43 (163-165), MW-43 (168-170), MW-44 (64-66), and MW-51 (58-60) were flagged "B".

Internal Standards

The area counts and retention times for internal standards (IS) chlorobenzene-d_5 (IS1), fluorobenzene (IS2), and 1,4-dichlorobenzene-d_4 (IS3) were within QC advisory limits.

Surrogates

The recoveries for the four method-specified surrogates toluene-d_8, 4-bromofluorobenzene, dibromofluoromethane, and 1,2-dichloroethane-d_4 were within QC advisory limits and/or sporadic marginal failure (SMF) criteria.

Laboratory Control Sample

The laboratory control sample (LCS) spike recoveries were within applicable QC advisory limits, with the following exceptions:

GV498	Exceedance	Action	Associated Samples
Bromomethane	Out low	No flag – within SMF	MW-07 (69.56-71.56), MW-08 (64.2-66.2),
Carbon disulfide	Out high	No flag – within SMF	MW-09 (78-79), MW-29 (41.6-43.6),
2-Hexanone	Out low	No flag – within SMF	MW-29 (46.1-48.1), MW-29 (50.6-52.6),
			MW-30(49-51), MW-30 (53-55), MW-30 (57-59),
			MW-31 (72.5-74.5), Field Blank 01

GV4P0	Exceedance	Action	Associated Samples
Acetone	Out low	Flag associated results "J"	MW-31 (77.5-79.5), MW-32 (65.9-66.9),
Bromoform	Out low	Flag associated results "J"	MW-33 (59.33-61.33), MW-34(142.3-144.3),
2-Butanone	Out low	Flag associated results "J"	MW-34 (147.3-149.3), MW-34 (152.3-154.3),
Carbon tetrachloride	Out low	No flag – within SMF	MW-36 (192.7-194.7), MW-36 (197.7-199.7),
cis-1,3-Dichloropropene	Out low	Flag associated results "J"	MW-36 (202.7-204.7), MW-37 (170.5-172.5),
trans-1,3-Dichloropropene	Out low	Flag associated results "J"	MW-37 (175.5-177.5), MW-37 (180.5-182.5),
2-Hexanone	Out low	Flag associated results "J"	MW-40 (86.9-88.9), MW-40 (91.9-93.9),
4-Methyl-2-pentanone	Out low	Flag associated results "J"	Field Blank 02
Methyl tert-butyl ether	Out low	No flag – within SMF	
1,1,1-Trichloroethane	Out low	No flag – within SMF	

GV7WW	Exceedance	Action	Associated Samples
Bromoform	Out low	Flag associated results "J"	MW-42 (55.8-57.8), MW-43 (163-165),
2-Butanone	Out low	Flag associated results "J"	MW-43 (168-170), MW-44 (64-66),
Carbon tetrachloride	Out low	Flag associated results "J"	MW-44 (69-71), MW-51 (58-60),
Chloromethane	Out low	No flag – within SMF	
cis-1,3-Dichloropropene	Out low	Flag associated results "J"	
trans-1,3-Dichloropropene	Out low	Flag associated results "J"	
2-Hexanone	Out low	Flag associated results "J"	
4-Methyl-2-pentanone	Out low	Flag associated results "J"	
Methyl tert-butyl ether	Out low	No flag – within SMF	
1,1,1-Trichloroethane	Out low	No flag – within SMF	

Matrix Spike/Matrix Spike Duplicate

The matrix spike (MS)/matrix spike duplicate (MSD) recoveries and RPDs for samples collected during this event were within the applicable QC advisory limits, with the following exceptions:

MW-30 (53'-55') : high MS/MSD recovery for carbon disulfide (within SMF criteria)

MW-37 (180.5'-182.5'): low MS/MSD recoveries for acetone, bromoform, 2-butanone, cis-1,3-dichloropropene, trans-1,3-dichloropropene (within SMF criteria), 2-hexanone, methyl tert-butyl ether (within SMF criteria)

Action: The associated results for the spiked samples were qualified as estimated and flagged "J" unless overridden by other QC criteria failures. No qualification was necessary for results within SMF criteria.

Sampling Accuracy

The field blanks associated with this site (Field Blank 01 and Field Blank 02) detected acetone, 2-butanone, and/or methylene chloride. Trip blanks were inadvertently left out of the shipping cooler and did not accompany the samples during shipment to the laboratory.

Action: The associated results were flagged "B" if the sample concentration was less than or equal to ten times the blank value. If the concentration was greater than ten times the blank value, no qualification was necessary. Therefore, the acetone results for samples MW-07 (69.56-71.56), MW-08 (64.2-66.2), MW-09 (78-79), MW-29 (41.6-43.6), MW-29 (46.1-48.1), MW-29 (50.6-52.6), MW-30 (53-55), MW-31 (72.5-74.5), MW-31 (77.5-79.5), MW-32 (65.9-66.9), MW-33 (59.33-61.33), MW-34 (142.3-144.3), MW-34 (147.3-149.3), MW-34 (152.3.-154.3), MW-36 (202.7-204.7), MW-37 (170.5-172.5), MW-37 (175.5-177.5), MW-37 (180.5-182.5), MW-40 (86.9-88.9), MW-40 (91.9-93.9), MW-42 (55.8-57.8), MW-42 (55.8-57.8), MW-43 (163-165), MW-43 (168-170), MW-44 (64-66), and MW-51 (58-60) were flagged "B".

Field Duplicate Samples

Duplicate samples were not collected within this SDG.

Overall Site Evaluation and Professional Judgment Flagging Changes

The data within this SDG were compared to site data and edits to the DQE flags were not required based on professional judgment.

Prepared by: BAK 12/07/2004
Checked by: JAV 01/03/2005

Data Evaluation Narrative
MACTEC Project: DDMT O & M
MACTEC Project Number: 6301-03-0015
Matrix: Groundwater

SDG: A4J25017Z

Deliverables

The data packages as submitted to MACTEC Engineering and Consulting, Inc. (MACTEC) are complete as stipulated in the Generic Quality Assurance Project Plan as submitted by CH2M Hill for United States Environmental Protection Agency (USEPA) Method 8260B.

Sample Integrity

Samples within this SDG were submitted to Severn Trent Laboratories, Inc. (STL) in North Canton, Ohio for volatile organic compounds (VOCs). Based on the information provided on the cooler receipt forms, the field samples arrived at the laboratory intact and within the temperature guidance criteria. Completed chain-of-custody documents and cooler receipt forms are included in the data package.

Sample Identification

This SDG contains the following water and QC samples:

MW-51 (63-65)	MW-68 (70.6-72.6)	MW-71 (73.86-75.86)	MW-78 (61.8-63.8)	MW-80 (66-68)
MW-54 (85.6-87.6)	MW-68 (74.6-76.6)	MW-76 (86.3-88.3)	MW-79 (84-86)	MW-80 (70-72)
MW-54 (90.6-92.6)	MW-68 (78.6-80.6)	MW-76 (91.3-93.3)	MW-79 (89-91)	MW-95 (42-44)
MW-57 (66.8-68.8)	MW-69 (86.4-88.4)	MW-77 (85.27-87.27)	MW-79 (94-96)	Field Blank 03
MW-67 (261-263)	MW-69 (91.4-93.4)	MW-78 (51.8-53.8)	MW-79 (99-101)	Field Blank 04
MW-67 (266-268)	MW-70 (90.8-92.8)	MW-78 (56.8-58.8)	MW-80 (62-64)	Field Blank 05
MW-67 (271-273)	MW-70 (85.8-87.8)			

These samples were collected on October 21-22, 2004.

VOC Analyses (8260B)

The samples in this SDG were submitted for VOC analysis.

Holding Times

The extraction and analytical logs indicate that applicable holding times were met for samples submitted for the analysis of VOCs by USEPA Method 8260B.

Practical Quantitation Limits

The practical quantitation limits (PQLs) were met for samples submitted for the analysis of VOCs by USEPA Method 8260B, with the exception of the following dilutions required to place the results within the calibration range:

MW-54 (85.6-87.6), MW-54 (90.6-92.6) – 142.86x
MW-68 (70.6-72.6) – 33.33x
MW-70 (90.8-92.8) – 166.67x
MW-77 (85.27-87.27) – 250x
MW-70 (85.8-87.8) – 142.86x

In addition, the following results reported below the PQL but above the method detection limit (MDL):

MW-07 (66.9-68.9) – Carbon tetrachloride, 1,2-Dichloroethane, 1,1,1-Trichloroethane
MW-51 (63-65) – Acetone, Tetrachloroethene, 1,1,1-Trichloroethane
MW-54 (85.6-87.6), MW-77 (85.27-87.27) – cis-1,2-Dichloroethene, Methylene chloride
MW-54 (90.6-92.6), MW-70 (85.8-87.8) – Acetone, cis-1,2-Dichloroethene, Methylene chloride
MW-57 (66.8-68.8) – Acetone, Carbon disulfide, cis-1,2-Dichloroethane, trans-1,2-Dichloroethene
MW-67 (261-263) – Acetone, 1,2-Dichloroethane
MW-67 (266-268), MW-67 (271-273), MW-68 (74.6-76.6), MW-80 (62-64), MW-80 (66-68), MW-80 (70-72), MW-95 (42-44) – Acetone
MW-68 (70.6-72.6) – Carbon disulfide, Trichloroethene
MW-68 (78.6-80.6) – Acetone, Carbon disulfide
MW-69 (86.4-88.4) – Acetone, Chloroform
MW-70 (90.8-92.8) – Methylene chloride
MW-71 (73.86-75.86) – Acetone, cis-1,2-Dichloroethene, Methylene chloride, Tetrachloroethene
MW-76 (86.3-88.3) – Acetone, Chloroform, cis-1,2-Dichloroethene, Methylene chloride, Tetrachloroethene
MW-76 (91.3-93.3) – Acetone, Chloroform, cis-1,2-Dichloroethene, trans-1,2-Dichloroethene
MW-78 (56.8-58.8) – 1,1,2,2-Tetrachloroethane, Trichloroethene
MW-78 (61.8-63.8) – Acetone, 1,1,2,2-Tetrachloroethane, Trichloroethene
MW-79 (84-86), MW-79 (89-91) – Acetone, Carbon tetrachloride, Chloroform, 1,1-Dichloroethane, 1,1,1-Trichloroethane
MW-79 (94-96) – Acetone, Carbon tetrachloride, 1,1,1-Trichloroethane
MW-79 (99-101) – Acetone, Carbon tetrachloride, cis-1,2-Dichloroethene
Field Blank 03 – 2-Butanone, o-Xylene
Field Blank 04 – 2-Butanone
Field Blank 05 – Acetone, 2-Butanone

Action: The associated results were qualified as estimated and flagged "J", unless overridden due to other QC criteria exceedances.

Calibration

The initial and continuing calibration data indicate that applicable calibration criteria were met for the samples submitted for VOC analysis, with the following exceptions:

CCV (11/03/04, 09:34)	%D	Limit	Associated Samples
Acetone	86.5	±20%; <40%	MW-68 (70.6-72.6)
2-Butanone	70.8	±20%; <40%	
Carbon disulfide	26.8	±20%; <40%	

CCV(11/03/04, 10:20)	%D	Limit
Acetone	-47.9	+20%; <40%
Bromoform	-27.2	±20%; <40%
2-Butanone	-43.3	±20%; <40%
Carbon tetrachloride	-34.5	±20%; <40%
cis-1,3-Dichloropropene	-37.1	±20%; <40%
2-Hexanone	-51.2	±20%; <40%
Methyl tert-butyl ether	-31.4	±20%; <40%
Vinyl acetate	-66.7	±20%; <40%

Associated Samples: MW-68 (70.6-72.6), MW-68 (78.6-80.6), MW-69 (86.4-88.4), MW-69 (91.4-93.4), MW-71 (73.86-75.86), Field Blank 04

CCV(11/03/04, 10:20)	%D	Limit
trans-1,3-Dichloropropene	-57.7	±20%; <40%
4-Methyl-2-pentanone	-34.9	±20%; <40%
1,1,1-Trichloroethane	-31.3	±20%; <40%

CCV(11/03/04, 22:56)	%D	Limit
Acetone	-30.0	±20%; <40%
2-Butanone	-23.8	±20%; <40%
Carbon tetrachloride	-25.3	±20%; <40%
cis-1,3-Dichloropropene	-31.9	±20%; <40%
2-Hexanone	-35.3	±20%; <40%
1,1,1-Trichloroethane	-24.1	±20%; <40%

Associated Samples: MW-78 (56.8-58.8), MW-78 (61.8-63.8), Field Blank 05

CCV(11/03/04, 10:20)	%D	Limit
trans-1,3-Dichloropropene	-50.3	±20%; <40%
4-Methyl-2-pentanone	-26.2	±20%; <40%
Vinyl acetate	-54.8	±20%; <40%

CCV(11/04/04, 09:41)	%D	Limit
Acetone	-42.1	±20%; <40%
2-Butanone	-36.5	±20%; <40%
Carbon tetrachloride	-26.8	±20%; <40%
cis-1,3-Dichloropropene	-30.9	±20%; <40%
trans-1,3-Dichloropropene	-49.2	±20%; <40%
4-Methyl-2-pentanone	-32.3	±20%; <40%
Vinyl acetate	-58.7	±20%; <40%

Associated Samples: MW-70 (90.8-92.8), MW-76 (86.3-88.3), MW-76 (91.3-93.3), MW-77 (85.27-87.27), MW-78 (51.8-53.8)

CCV(11/04/04, 09:41)	%D	Limit
2-Hexanone	-42.6	±20%; <40%
1,1,1-Trichloroethane	-28.7	±20%; <40%

CCV (11/04/04, 10:46)	%D	Limit
2-Butanone	21.6	±20%; <40%

Associated Samples: MW-51 (63-65), MW-54 (85.6-87.6), MW-54 (90.6-92.6), MW-57 (66.8-68.8), MW-67 (261-263), MW-67 (266-268), MW-67 (271-273), MW-68 (74.6-76.6), MW-79 (84-86), MW-79 (89-91), MW-79 (94-96), MW-79 (99-101), MW-80 (62-64), MW-80 (66-68), MW-80 (70-72), MW-95 (42-44), MW-70 85.8-87.8), Field Blank 03

Action: The results associated with CCV percent differences greater than 40% were rejected as unusable and flagged "R". The remaining associated results were qualified as estimated and flagged "J".

Blank Summary

The analytical results of the laboratory method blanks indicate that acetone, benzene, 2-hexanone, and/or methylene chloride were detected in several method blanks.

Action: The associated results were flagged "B" if the sample concentration was less than or equal to ten times the blank value (five times for benzene). If the concentration was greater than ten times (five times) the blank value, no qualification was necessary. Therefore, the acetone results for samples MW-68 (78.6-80.6), MW-69 (86.4-88.4), MW-71 (73.86-75.86), and Field Blank 04, and the methylene chloride results for samples MW-71 (73.86-75.86) and MW-76 (86.3-88.3) were flagged "B".

Internal Standards

The area counts and retention times for internal standards (IS) chlorobenzene-d_5 (IS1), fluorobenzene (IS2), and 1,4-dichlorobenzene-d_4 (IS3) were within QC advisory limits.

Surrogates

The recoveries for the four method-specified surrogates toluene-d_8, 4-bromofluorobenzene, dibromofluoromethane, and 1,2-dichloroethane-d_4 were within QC advisory limits and/or sporadic marginal failure (SMF) criteria.

Laboratory Control Sample

The laboratory control sample (LCS) spike recoveries were within applicable QC advisory limits, with the following exceptions:

GV7W5	Exceedance	Action	Associated Samples
Acetone	Out low	Flag associated results "J"	MW-78 (56.8-58.8), MW-78 (61.8-63.8),
Bromoform	Out low	Flag associated results "J"	Field Blank 05
2-Butanone	Out low	Flag associated results "J"	
Carbon tetrachloride	Out low	No flag – within SMF	
Chloromethane	Out low	No flag – within SMF	
cis-1,3-Dichloropropene	Out low	Flag associated results "J"	
trans-1,3-Dichloropropene	Out low	Flag associated results "J"	
2-Hexanone	Out low	Flag associated results "J"	
4-Methyl-2-pentanone	Out low	Flag associated results "J"	
1,1,1-Trichloroethane	Out low	No flag – within SMF	

GV7WW	Exceedance	Action	Associated Samples
Bromoform	Out low	Flag associated results "J"	MW-68 (78.6-80.6), MW-69 (86.4-88.4),
2-Butanone	Out low	Flag associated results "J"	MW-69 (91.4-93.4), MW-71 (73.86-75.86),
Carbon tetrachloride	Out low	Flag associated results "J"	Field Blank 04
Chloromethane	Out low	No flag – within SMF	
cis-1,3-Dichloropropene	Out low	Flag associated results "J"	
trans-1,3-Dichloropropene	Out low	Flag associated results "J"	
2-Hexanone	Out low	Flag associated results "J"	
4-Methyl-2-pentanone	Out low	Flag associated results "J"	
Methyl tert-butyl ether	Out low	No flag – within SMF	
1,1,1-Trichloroethane	Out low	No flag – within SMF	

GV9KC	Exceedance	Action	Associated Samples
Acetone	Out high	Flag positives "J"	MW-68 (70.6-72.6)
Bromomethane	Out low	No flag – within SMF	
2-Butanone	Out high	No flag – within SMF	

GWAEF	Exceedance	Action	Associated Samples
Acetone	Out high	Flag positives "J"	MW-51 (63-65), MW-54 (85.6-87.6), MW-54 (90.6-92.6), MW-57 (66.8-68.8), MW-67 (261-263), MW-67 (266-268), MW-67 (271-273), MW-68 (74.6-76.6), MW-70 (85.8-87.8), MW-79 (84-86), MW-79 (89-91), MW-79 (94-96), MW-79 (99-101), MW-80 (62-64), MW-80 (66-68), MW-80 (70-72), MW-95 (42-44), Field Blank 03
2-Butanone	Out high	Flag positives "J"	

GWALH	Exceedance	Action	Associated Samples
Acetone	Out low	Flag associated results "J"	MW-70 (90.8-92.8), MW-76 (86.3-88.3), MW-76 (91.3-93.3), MW-77 (85.27-87.27), MW-78 (51.8-53.8)
2-Butanone	Out low	Flag associated results "J"	
Carbon tetrachloride	Out low	No flag – within SMF	
Chloromethane	Out low	No flag – within SMF	
cis-1,3-Dichloropropene	Out low	Flag associated results "J"	
trans-1,3-Dichloropropene	Out low	Flag associated results "J"	
2-Hexanone	Out low	Flag associated results "J"	
4-Methyl-2-pentanone	Out low	Flag associated results "J"	
1,1,1-Trichloroethane	Out low	No flag – within SMF	

Matrix Spike/Matrix Spike Duplicate

The matrix spike (MS)/matrix spike duplicate (MSD) recoveries and RPDs for samples collected during this event were within the applicable QC advisory limits, with the following exceptions:

MW-68 (70.6'-72.6'): low MS/MSD recoveries for acetone (result greater than four times spiking amount); high recoveries for carbon disulfide (within SMF criteria)

MW-79 (84'-86'): high MS/MSD recoveries for carbon disulfide (within SMF criteria)

Action: No qualification was necessary, since associated exceedances were within SMF criteria or for results greater than four times the associated spike amount.

Sampling Accuracy

The equipment blanks associated with this site (Field Blank 03, Field Blank 04, and Field Blank 05) detected acetone, 2-butanone, and/or o-xylene. Trip blanks were inadvertently left out of the shipping cooler and did not accompany the samples during shipment to the laboratory.

Action: The associated results were flagged "B" if the sample concentration was less than or equal to ten times (five times for o-xylene) the blank value. If the concentration was greater than ten times (five times) the blank value, no qualification was necessary. Therefore, the acetone results for samples MW-51 (63-65), MW-57 (66.8-68.8), MW-67 (261-263), MW-67 (266-268), MW-67 (271-273), MW-68 (74.6-76.6), MW-78 (61.8-63.8), MW-79 (84-86), MW-79 (89-91), MW-79 (94-96), MW-79 (99-101), MW-80 (62-64), MW-80 (66-68), MW-80 (70-72), MW-95 (42-44) were flagged "B".

Field Duplicate Samples

Duplicate samples were not collected within this SDG.

Overall Site Evaluation and Professional Judgment Flagging Changes

The data within this SDG were compared to site data and edits to the DQE flags were not required based on professional judgment.

Prepared by: BAK 12/07/2004
Checked by: JAV 01/05/2005

Data Evaluation Narrative
MACTEC Project: DDMT O & M
MACTEC Project Number: 6301-03-0015
Matrix: Groundwater

SDG: A4J250189

Deliverables

The data packages as submitted to MACTEC Engineering and Consulting, Inc. (MACTEC) are complete as stipulated in the Generic Quality Assurance Project Plan as submitted by CH2M Hill for United States Environmental Protection Agency (USEPA) Method 8260B.

Sample Integrity

Samples within this SDG were submitted to Severn Trent Laboratories, Inc. (STL) in North Canton, Ohio for volatile organic compounds (VOCs). Based on the information provided on the cooler receipt forms, the field samples arrived at the laboratory intact and within the temperature guidance criteria. Completed chain-of-custody documents and cooler receipt forms are included in the data package.

Sample Identification

This SDG contains the following water and QC samples:

MW-95 (47-49)	MW-128 (56-58)	MW-129 (76.3-78.3)	Dup 02	Dup 08
MW-95 (52.-54)	MW-128 (61-63)	MW-130 (60.5-62.5)	Dup 03	Field Blank 06
MW-95 (57-59)	MW-128 (66-68)	MW-130 (65.5-67.5)	Dup 04	Field Blank 07
MW-126 (23.2-25.2)	MW-128 (71-73)	MW-130 (70.5-72.5)	Dup 05	Trip Blank (K849)
MW-127 (61.2-63.2)	MW-129 (66.3-68.3)	MW-130 (75.5-77.5)	Dup 06	Trip Blank (K200)
MW-127 (66.2-68.2)	MW-129 (71.3-73.3)	Dup 01	Dup 07	

These samples were collected on October 20-22, 2004. The following field duplicates were performed:

MW-29 (41.6-43.6) (SDG #4J25156)/Dup 01
MW-33 (59.53-61.53) (SDG #4J25156)/Dup 02
MW-43 (168-170) (SDG #4J25156)/Dup 03
MW-67 (261-263) (SDG #A4J250172)/Dup 04
MW-69 (91.4-93.4) (SDG #A4J250172)/Dup 05
MW-77 (85.27-87.27) (SDG #A4J250172)/Dup 06
MW-80 (70-72) (SDG #A4J250172)/Dup 07
MW-128 (61-63)/Dup 08

VOC Analyses (8260B)

The samples in this SDG were submitted for VOC analysis.

Holding Times

The extraction and analytical logs indicate that applicable holding times were met for samples submitted for the analysis of VOCs by USEPA Method 8260B.

Practical Quantitation Limits

The practical quantitation limits (PQLs) were met for samples submitted for the analysis of VOCs by USEPA Method 8260B, with the exception of the following dilutions required to place the results within the calibration range:

MW-128 (56-58) – 5x
MW-129 (71.3-73.3), MW-130 (70.5-72.5) – 2.5x
MW-129 (76.3-78.3), MW-130 (60.5-62.5), MW-130 (75.5-77.5) – 2x
MW-129 (66.3-68.3) – 1.67x
MW-130 (65.5-67.5) – 3.33x
Dup 06 – 142.86x

In addition, the following results reported below the PQL but above the method detection limit (MDL):

MW-95 (47-49) – Acetone, Methylene chloride
MW-126 (23.2-25.2), MW-127 (61.2-63.2), MW-128 (56-58), Dup 02 – Acetone
MW-127 (66.2-68.2) – Acetone, Chloroform
MW-128 (61-63), MW-128 (66-68), MW-128 (71-73) – Acetone, Trichloroethene
MW-129 (66.3-68.3), Field Blank 06, Field Blank 07 – 2-Butanone
MW-129 (71.3-73.3) – 2-Butanone, 1,1,1-Trichloroethane
MW-129 (76.3-78.3) – 2-Butanone, Methylene chloride
MW-130 (60.5-62.5), MW-130 (65.5-67.5), MW-130 (70.5-72.5) – 1,1-Dichloroethane
MW-130 (75.5-77.5) – 2-Butanone, 1,1-Dichloroethane, 1,2-Dichloroethane, cis-1,2-Dichloroethene
Dup 01 – Acetone, cis-1,2-Dichloroethene
Dup 03 – Acetone, Carbon disulfide
Dup 04 – Acetone, 1,2-Dichloroethane, Methylene chloride
Dup 06 – cis-1,2-Dichloroethene
Dup 07 – Methylene chloride
Dup 08 – Acetone, Methylene chloride, Trichloroethene
Trip Blank (K200) – Acetone, 2-Butanone
Trip Blank (K849) – Acetone, 2-Butanone, Toluene

Action: The associated results were qualified as estimated and flagged "J", unless overridden due to other QC criteria exceedances.

Calibration

The initial and continuing calibration data indicate that applicable calibration criteria were met for the samples submitted for VOC analysis, with the following exceptions:

CCV(11/02/04, 21:26)	%D	Limit	Associated Samples
Acetone	-38.8	±20%; <40%	Dup 01, Dup 02, Dup 03, Dup 04, Dup 05
Bromoform	-27.2	±20%; <40%	
2-Butanone	-34.1	±20%; <40%	
Carbon tetrachloride	-30.6	±20%; <40%	
trans-1,3-Dichloropropene	-57.2	±20%; <40%	
4-Methyl-2-pentanone	-26.9	±20%; <40%	
1,1,1-Trichloroethane	-29.8	±20%; <40%	
cis-1,3-Dichloropropene	-37.1	±20%; <40%	
2-Hexanone	-44.4	±20%; <40%	
Methyl tert-butyl ether	-32.6	±20%; <40%	
Vinyl acetate	-62.3	±20%; <40%	

CCV (11/03/04, 22:09)	%D	Limit	Associated Samples
2-Butanone	20.7	±20%; <40%	MW-95 (47-49), MW-95 (52-54), MW-95 (57-59), MW-126 (23.2-25.2), MW-127 (61.2-63.2), Field Blank 06

CCV(11/04/04, 09:41)	%D	Limit	Associated Samples
Acetone	-42.1	±20%; <40%	Dup 06
2-Butanone	-36.5	±20%; <40%	
Carbon tetrachloride	-26.8	±20%; <40%	
cis-1,3-Dichloropropene	-30.9	±20%; <40%	
2-Hexanone	-42.6	±20%; <40%	
1,1,1-Trichloroethane	-28.7	±20%; <40%	

CCV(11/02/04, 21:26)	%D	Limit
trans-1,3-Dichloropropene	-49.2	±20%; <40%
4-Methyl-2-pentanone	-32.2	±20%; <40%
Vinyl acetate	-58.7	±20%; <40%

CCV(11/04/04, 20:30)	%D	Limit	Associated Samples
Acetone	-34.7	±20%; <40%	MW-127 (66.2-68.2), MW-128 (61-63), MW-128 (66-68), MW-128 (71-73), Dup 07, Dup 08, Trip Blank (K200)
2-Butanone	-28.8	±20%; <40%	
Carbon tetrachloride	-24.8	±20%; <40%	
cis-1,3-Dichloropropene	-30.1	±20%; <40%	
trans-1,3-Dichloropropene	-50.6	±20%; <40%	
4-Methyl-2-pentanone	-29.1	±20%; <40%	
Vinyl acetate	-62.2	±20%; <40%	

CCV(11/02/04, 21:26)	%D	Limit
2-Hexanone	-41.8	±20%; <40%
1,1,1-Trichloroethane	-21.1	±20%; <40%

CCV (11/04/04, 21:35)	%D	Limit	Associated Samples
2-Butanone	26.0	±20%; <40%	MW-128 (56-58), MW-129 (66.3-68.3), MW-129 (71.3-73.3), MW-129 (76.3-78.3), MW-130 (60.5-62.5), MW-130 (65.5-67.5), MW-130 (70.5-72.5), MW-130 (75.5-77.5), Field Blank 07, Trip Blank (K849)

Action: The results associated with CCV percent differences greater than 40% were rejected as unusable and flagged "R". The remaining associated results were qualified as estimated and flagged "J".

Blank Summary

The analytical results of the laboratory method blanks indicate that acetone and/or methylene chloride were detected in several method blanks.

Action: The associated results were flagged "B" if the sample concentration was less than or equal to ten times the blank value. If the concentration was greater than ten times the blank value no qualification was necessary. Therefore, the acetone results for samples MW-127 (66.2-68.2), MW-128 (61-63), MW-128 (66-68), MW-128 (71-73), MW-129 (66.3-68.3), MW-129 (76.3-78.3), MW-130 (70.5-72.5), Dup8, Field Blank 07, Trip Blank (K200), and Trip Blank (K849), and the methylene chloride results for samples MW-129 (76.3-78.3), Dup 04, Dup 07, Dup 08, and Trip Blank (K200) were flagged "B".

Internal Standards

The area counts and retention times for internal standards (IS) chlorobenzene-d_5 (IS1), fluorobenzene (IS2), and 1,4-dichlorobenzene-d_4 (IS3) were within QC advisory limits.

Surrogates

The recoveries for the four method-specified surrogates toluene-d_8, 4-bromofluorobenzene, dibromofluoromethane, and 1,2-dichloroethane-d_4 were within QC advisory limits and/or sporadic marginal failure (SMF) criteria.

Laboratory Control Sample

The laboratory control sample (LCS) spike recoveries were within applicable QC advisory limits and/or sporadic marginal failure (SMF) criteria, with the following exceptions:

GV9LD	Exceedance	Action	Associated Samples
Bromomethane	Out low	No flag – within SMF	MW-95 (47-49), MW-95(52-54),
trans-1,3-Dichloropropene	Out low	No flag – within SMF	MW-95 (57-59), MW-126 (23.2-25.2),
2-Hexanone	Out low	No flag – within SMF	MW-127 (61.2-63.2), Field Blank 06

GWALG	Exceedance	Action	Associated Samples
Acetone	Out high	No flag – within SMF	MW-128 (56-58), MW-129 (66.3-68.3),
Bromomethane	Out low	No flag – within SMF	MW-129 (71.3-73.3), MW-129 (76.3-78.3),
2-Hexanone	Out low	No flag – within SMF	MW-130 (60.5-62.5), MW-130 (65.5-67.5),
			MW-130 (70.5-72.5), MW-130 (75.5-77.5),
			Field Blank 07, Trip Blank (K849)

GV4P0	Exceedance	Action	Associated Samples
Acetone	Out low	Flag associated results "J"	Dup 01, Dup 02, Dup 03, Dup 04, Dup 05
Bromoform	Out low	Flag associated results "J"	
2-Butanone	Out low	Flag associated results "J"	
Carbon tetrachloride	Out low	No flag – within SMF	
cis-1,3-Dichloropropene	Out low	Flag associated results "J"	
trans-1,3-Dichloropropene	Out low	Flag associated results "J"	
2-Hexanone	Out low	Flag associated results "J"	
4-Methyl-2-pentanone	Out low	Flag associated results "J"	
Methyl tert-butyl ether	Out low	No flag – within SMF	
1,1,1-Trichloroethane	Out low	No flag – within SMF	

GWALH	Exceedance	Action	Associated Samples
Acetone	Out low	No flag – within SMF	Dup 06
2-Butanone	Out low	No flag – within SMF	
Carbon tetrachloride	Out low	No flag – within SMF	
Chloromethane	Out low	No flag – within SMF	
cis-1,3-Dichloropropene	Out low	No flag – within SMF	
trans-1,3-Dichloropropene	Out low	No flag – within SMF	
2-Hexanone	Out low	No flag – within SMF	
4-Methyl-2-pentanone	Out low	No flag – within SMF	
1,1,1-Trichloroethane	Out low	No flag – within SMF	

GWALP	Exceedance	Action	Associated Samples
Acetone	Out low	Flag associated results "J"	MW-127 (66.2-68.2), MW-128 (61-63),
2-Butanone	Out low	Flag associated results "J"	MW-128 (66-68), MW-128 (71-73), Dup 07
Carbon tetrachloride	Out low	No flag – within SMF	Dup 08, Trip Blank (K200)
cis-1,3-Dichloropropene	Out low	No flag – within SMF	
trans-1,3-Dichloropropene	Out low	Flag associated results "J"	
2-Hexanone	Out low	Flag associated results "J"	
4-Methyl-2-pentanone	Out low	Flag associated results "J"	
1,1,1-Trichloroethane	Out low	No flag – within SMF	

Matrix Spike/Matrix Spike Duplicate

The matrix spike (MS)/matrix spike duplicate (MSD) recoveries and RPDs for sample MW-128 (56'-58') were within the applicable QC advisory limits.

Sampling Accuracy

The equipment blanks associated with this site (Field Blank 06 and Field Blank 07) detected acetone and/or 2-butanone. Trip blanks associated with this site detected acetone, 2-butanone, methylene chloride, and/or toluene.

Action: No action was required for results previously reviewed and qualified "B" due to method blank contamination. The acetone results for samples MW-95 (47-49), MW-95 (52-54), MW-95 (57-59), MW-126 (23.2-25.2), MW-127 (61.2-63.2), MW-127 (66.2-68.2), MW-128 (56-58), MW-128 (61-63), MW-128 (66-68), MW-128 (71-73), MW-129 (66.3-68.3), MW-129 (71.3-73.3), MW-129 (76.3-78.3), MW-130 (60.5-62.5), MW-130 (65.5-67.5), Mw-130 (70.5-72.5), MW-130 (75.5-77.5), and the 2-butanone results for samples MW-129 (66.3-68.3), MW-129 (71.3-73.3), MW-129 (76.3-78.3), MW-130 (75.5-77.5), Field Blank 06, and Field Blank 07 were flagged "B" and qualified as estimated since the results were less than ten times the blank value.

Field Duplicate Samples

The duplicate precision for samples MW-29 (41.6-43.6)/Dup 01, MW-33 (59.53-61.53)/Dup 02, MW-43 (168-170)/Dup 03, MW-67 (261-263)/Dup 04, MW-69 (91.4-93.4)/Dup 05, MW-77 (85.27-87.27)/Dup 06, MW-80 (70-72)/Dup 07, and MW-128 (61-63)/Dup 08 was within QC limits and assessed as good, with the exception of acetone for MW-29 (41.6-43.6)/Dup 01 and MW-67 (261-263)/Dup 04.

Action: The associated acetone results were qualified as estimated and flagged "J" unless overridden due to other QC criteria failures.

<u>Overall Site Evaluation and Professional Judgment Flagging Changes</u>

The data within this SDG were compared to site data and edits to the DQE flags were not required based on professional judgment.

Prepared by: BAK 12/08/2004
Checked by: JAV 01/06/2005

Data Evaluation Narrative
MACTEC Project: DDMT O & M
MACTEC Project Number: 6301-03-0015
Matrix: Effluent Water

SDG: A4B250249

Deliverables

The data packages as submitted to MACTEC Engineering and Consulting, Inc. (MACTEC) are complete as stipulated in the Generic Quality Assurance Project Plan as submitted by CH2M Hill for United States Environmental Protection Agency (USEPA) Method 8260B.

Sample Integrity

Samples within this SDG were submitted to Severn Trent Laboratories, Inc. (STL) in North Canton, Ohio for volatile organic compounds (VOCs). Based on the information provided on the cooler receipt forms, the field samples arrived at the laboratory intact and within the temperature guidance criteria. Completed chain-of-custody documents and cooler receipt forms are included in the data package.

Sample Identification

This SDG contains the following water and quality control (QC) samples:

EFF-02-21-04	Trip Blank

These samples were collected on February 21, 2004.

VOC Analyses (8260B)

The samples in this SDG were submitted for VOC analysis.

Holding Times

The extraction and analytical logs indicate that applicable holding times were met for samples submitted for the analysis of VOCs by USEPA Method 8260B.

Practical Quantitation Limits

The practical quantitation limits (PQLs) were met for samples submitted for the analysis of VOCs by USEPA Method 8260B, with the exception of acetone for both EFF-02-21-04 and the trip blank, and 2-butanone for the trip blank, which were reported below the PQL but above the method detection limit (MDL).

Action: The associated results were qualified as estimated and flagged "J", unless overridden due to other QC criteria exceedances.

Calibration

The initial and continuing calibration data indicate that applicable calibration criteria were met for the samples submitted for VOC analysis, with the following exceptions:

ICV	%R	Limit	Associated Samples
Acetone	62.42	80-120%	EFF-02-21-04
2-Butanone	70.72	80-120%	Trip Blank

CCV	%D	Limit	Associated Samples
Acetone	45.4	±20%; <40%	EFF-02-21-04
2-Butanone	21.6	±20%; <40%	Trip Blank

Action: The acetone results for the associated samples were rejected as unusable and flagged "R" due to the CCV percent difference greater than 40%. The associated 2-butanone results were qualified as estimated and flagged "J".

Blank Summary

The analytical results of the laboratory method blanks indicate that acetone and methylene chloride were detected in the method blanks.

Action: If the sample concentration was less than ten times the blank contamination, the results were flagged "B" to indicate an estimated quantity due to method blank contamination. If the concentration was greater than ten times the blank, no qualification was necessary. Therefore, the methylene chloride results for both samples were qualified as estimated and flagged "B". No qualification was necessary for acetone, since the associated results were previously rejected.

Internal Standards

The area counts and retention times for internal standards (IS) chlorobenzene-d_5 (IS1), fluorobenzene (IS2), and 1,4-dichlorobenzene-d_4 (IS3) were within QC advisory limits.

Surrogates

The recoveries for the four method-specified surrogates toluene-d_8, 4-bromofluorobenzene, dibromofluoromethane, and 1,2-dichloroethane-d_4 are within QC advisory limits.

Laboratory Control Sample

The laboratory control sample (LCS) spike recoveries were within applicable QC advisory limits, with the exception of low recoveries for acetone and 2-butanone.

Action: No qualification was necessary, since the recoveries were within sporadic marginal failure limits.

Matrix Spike/Matrix Spike Duplicate

Matrix spike (MS)/matrix spike duplicate (MSD) spikes were not performed on a project sample for this SDG.

Sampling Accuracy

There were no equipment blanks associated with this site. The analytical results of the trip blank indicate that VOCs were detected for acetone, 2-butanone, and methylene chloride.

Action: The methylene chloride result for sample EFF-02-21-04 was qualified as estimated and flagged "B".

Field Duplicate Samples

There were no field duplicate samples collected for this SDG.

Overall Site Evaluation and Professional Judgment Flagging Changes

The data within this SDG were compared to site data and edits to the DQE flags were not required based on professional judgment.

Prepared by: BAK 06/17/2004
Checked by: JAV 07/06/2004

Data Evaluation Narrative
MACTEC Project: DDMT O & M
MACTEC Project Number: 6301-03-0015
Matrix: Effluent Water

SDG: A4E260222

Deliverables

The data packages as submitted to MACTEC Engineering and Consulting, Inc. (MACTEC) are complete as stipulated in the Generic Quality Assurance Project Plan as submitted by CH2M Hill for United States Environmental Protection Agency (USEPA) Methods 8260B, 8270C, and 6010B/740A.

Sample Integrity

Samples within this SDG were submitted to Severn Trent Laboratories, Inc. (STL) in North Canton, Ohio for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and selected metals by inductively coupled plasma [ICP].

Based on the information provided on the cooler receipt forms, the field samples arrived at the laboratory intact and within the temperature guidance criteria. The trip blanks were received with bubbles that were greater than 6mm wide; therefore, the trip blank results were qualified as estimated and flagged "J" unless overridden by other quality control (QC) criteria failures. The blanks were analyzed as requested. Completed chain-of-custody documents and cooler receipt forms are included in the data package.

Sample Identification

This SDG contains the following water and QC samples:

EFF-05-24-04	Trip Blank

These samples were collected on May 24, 2004.

VOC Analyses (8260B)

The samples in this SDG were submitted for VOC analysis.

Holding Times

The extraction and analytical logs indicate that applicable holding times were met for samples submitted for the analysis of VOCs by USEPA Method 8260B.

Practical Quantitation Limits

The practical quantitation limits (PQLs) were met for samples submitted for the analysis of VOCs by USEPA Method 8260B, with the exception of a 4x dilution required for sample EFF-05-24-04 to place the results within the calibration range. In addition, the acetone result for the Trip Blank and the acetone, trans-1,2-dichloroethene, and methylene chloride results for sample EFF-05-24-04 were reported below the PQL but above the method detection limit (MDL).

Action: The associated results were qualified as estimated and flagged "J", unless overridden due to other QC criteria exceedances.

Calibration

The initial and continuing calibration data indicate that applicable calibration criteria were met for the samples submitted for VOC analysis, with the exception of second source ICV recoveries outside control limits for acetone and 2-butanone.

Action: The associated results for samples EFF-05-24-04 and Trip Blank were qualified as estimated and flagged "J" unless overridden by other QC criteria failures.

Blank Summary

The analytical results of the laboratory method blanks indicate that acetone and methylene chloride were detected in the method blanks.

Action: If the sample concentration was less than ten times the blank contamination, the results were flagged "B" to indicate an estimated quantity due to method blank contamination. If the concentration was greater than ten times the blank, no qualification was necessary. Therefore, the acetone and methylene chloride results for EFF-05-24-04 and the acetone result for Trip Blank were flagged "B".

Internal Standards

The area counts and retention times for internal standards (IS) chlorobenzene-d_5 (IS1), fluorobenzene (IS2), and 1,4-dichlorobenzene-d_4 (IS3) were within QC advisory limits.

Surrogates

The recoveries for the four method-specified surrogates toluene-d_8, 4-bromofluorobenzene, dibromofluoromethane, and 1,2-dichloroethane-d_4 are within QC advisory limits.

Laboratory Control Sample

The laboratory control sample (LCS) spike recoveries were within applicable QC advisory limits.

Matrix Spike/Matrix Spike Duplicate

A matrix spike (MS)/matrix spike duplicate (MSD) was not performed on a project sample for this SDG.

Sampling Accuracy

There were no equipment blanks associated with this site. The analytical results of the trip blank indicate that acetone was detected.

Action: If the sample concentration was less than ten times the blank contamination, the results were flagged "B" to indicate an estimated quantity due to method blank contamination. If the concentration was greater than ten times the blank, no qualification was necessary. Therefore, the acetone result for EFF-05-24-04 was flagged "B".

Field Duplicate Samples

No field duplicate samples were collected for this method in this SDG.

<u>Semi-Volatile Analyses (8270C)</u>

The sample EFF-05-24-04 was submitted for SVOC analysis.

Holding Times

The extraction and analytical logs indicate that applicable holding times were met for samples submitted for the analysis of SVOCs by USEPA Method 8270C.

Reporting Limits

The RLs were met for samples submitted for the analysis of SVOCs by USEPA Method 8270C, with the exception of bis(2-ethylhexyl)phthalate, which was reported under the RL, but above the MDL.

Action: The associate results were flagged "J" to indicate an estimated quantity.

Instrument Performance

The instrument performed within required specifications, as the decafluorotriphenylphosphine (DFTPP) tuning criteria were met for the instrument performance checks.

Calibration

The initial and continuing calibration data indicate that applicable calibration criteria were met for the samples submitted for SVOC analysis, with the exception of second source ICV recoveries outside control limits for benzoic acid, 4,6-dinitro-2-methylphenol, 2,4-dinitrophenol, and 4-nitrophenol.

Action: The associated results for sample EFF-05-24-04 were qualified as estimated and flagged "J".

Blank Summary

The analytical results of the laboratory method blanks indicate that no SVOCs were detected.

Internal Standards

The area counts and retention times for IS 1,4-dichlorobenzene-d_4 (IS1), naphthalene-d_8 (IS2), acenaphthene-d_{10} (IS3), phenanthrene-d_{10} (IS4), chrysene-d_{12} (IS5), and perylene-d_{12} (IS6) were within QC advisory limits.

Surrogates

The recoveries for the six method-specified surrogates 2,4,5-tribromophenol (S1), 2-fluorobiphenyl (S2), 2-fluorophenol (S3), nitrobenzene-d_5 (S4), phenol-d_5 (S5), and terphenyl-d_{14} (S6) are within QC advisory limits.

Laboratory Control Sample

The LCS spike recoveries were within applicable QC advisory limits.

Matrix Spike/Matrix Spike Duplicate

A MS/MSD was not performed on a project sample for this SDG.

Sampling Accuracy

There were no equipment blanks associated with this site.

Field Duplicate Samples

No field duplicate samples were collected for this method in this SDG.

Metals Analysis (6010B/7470A)

The sample EFF-05-24-04 was submitted for metals analysis.

Holding Times

The extraction and analytical logs indicate that applicable holding times were met for samples submitted for ICP metals analysis.

Practical Quantitation Limits

The PQLs were met for samples submitted for ICP metals analysis, with the exception of arsenic, cadmium, potassium, and thallium for sample EFF-05-24-04, which were reported below the PQL, but above the MDL.

Action: The associated results were flagged "J" to indicate that the results are an estimation, unless overridden by other QC criteria failures.

Calibration

The initial and continuing calibration data for this SDG indicates that applicable calibration criteria were met for samples submitted for metals analyses.

Blank Summary

The analytical results of the laboratory blanks indicate that several metals were detected in at least one blank.

Action: If the sample concentration was less than ten times the blank contamination, the results were flagged "B" to indicate an estimated quantity due to blank contamination. If the concentration was greater than ten times the blank, no qualification was necessary. Therefore, the arsenic, cadmium, iron, potassium, and thallium results for EFF-05-24-04 was flagged "B".

Dilution Test/Recovery Test

A serial dilution was performed on sample EFF-05-24-04, and the results were within QC criteria.

Laboratory Control Sample

The LCS spike recoveries are within the applicable QC advisory limits.

Matrix Spike/Matrix Spike Duplicate

The MS/MSD recoveries and RPDs for spiked sample EFF-05-24-04 were within the applicable QC advisory limits.

Sampling Accuracy

There were no equipment blanks associated with this site.

Field Duplicate Samples

No field duplicate samples were collected for this method in this SDG.

Overall Site Evaluation and Professional Judgment Flagging Changes

The data within this SDG were compared to site data and edits to the DQE flags were not required based on professional judgment.

Prepared by: BAK 06/28/2004
Checked by: JAV 07/08/2004

Data Evaluation Narrative
MACTEC Project: DDMT O & M
MACTEC Project Number: 6301-03-0015
Matrix: Effluent Water

SDG: A4H280149

Deliverables

The data packages as submitted to MACTEC Engineering and Consulting, Inc. (MACTEC) are complete as stipulated in the Generic Quality Assurance Project Plan as submitted by CH2M Hill for United States Environmental Protection Agency (USEPA) Method 8260B.

Sample Integrity

Samples within this SDG were submitted to Severn Trent Laboratories, Inc. (STL) in North Canton, Ohio for volatile organic compounds (VOCs). Based on the information provided on the cooler receipt forms, the field samples arrived at the laboratory intact and within the temperature guidance criteria. Completed chain-of-custody documents and cooler receipt forms are included in the data package.

Sample Identification

This SDG contains the following water and quality control (QC) samples:

EFF-08-27-04	Trip Blank

These samples were collected on August 27, 2004.

VOC Analyses (8260B)

The samples in this SDG were submitted for VOC analysis.

Holding Times

The extraction and analytical logs indicate that applicable holding times were met for samples submitted for the analysis of VOCs by USEPA Method 8260B.

Practical Quantitation Limits

The practical quantitation limits (PQLs) were met for samples submitted for the analysis of VOCs by USEPA Method 8260B, with the exception of a 7.69x dilution for sample EFF-8-27-04 which was required in order to place the results within the calibration range. The following samples were reported below the PQL but above the method detection limit (MDL):

EFF 8-27-04 – acetone, carbon tetrachloride, trans-1,2-dichloroethene, 1,1-dichloroethene, toluene
Trip Blank – acetone, 2-butanone

Action: The associated results were qualified as estimated and flagged "J", unless overridden due to other QC criteria exceedances.

Calibration

The initial and continuing calibration data indicate that applicable calibration criteria were met for the samples submitted for VOC analysis, with the following exceptions:

ICV	%R	Limit	Associated Samples
Acetone	61.68	80-120%	EFF-08-27-04
2-Butanone	73.14	80-120%	Trip Blank

CCV	%D	Limit	Associated Samples
Acetone	29.5	±20%; <40%	EFF-08-27-04
Carbon disulfide	27.8	±20%; <40%	Trip Blank
Chloroethane	20.6	±20%; <40%	
Chloromethane	22.8	±20%; <40%	

Action: The associated results were qualified as estimated and flagged "J".

Blank Summary

The analytical results of the laboratory method blank indicate that no VOCs were detected.

Internal Standards

The area counts and retention times for internal standards (IS) chlorobenzene-d_5 (IS1), fluorobenzene (IS2), and 1,4-dichlorobenzene-d_4 (IS3) were within QC advisory limits.

Surrogates

The recoveries for the four method-specified surrogates toluene-d_8, 4-bromofluorobenzene, dibromofluoromethane, and 1,2-dichloroethane-d_4 are within QC advisory limits.

Laboratory Control Sample

The laboratory control sample (LCS) spike recoveries were within applicable QC advisory limits, with the exception of low recoveries for acetone, bromomethane, carbon disulfide, chloroethane, chloromethane, vinyl chloride and 2-butanone.

Action: No qualification was necessary, since the recoveries were within sporadic marginal failure limits.

Matrix Spike/Matrix Spike Duplicate

Matrix spike (MS)/matrix spike duplicate (MSD) spikes were performed on sample EFF-8-27-04 for this SDG. The recoveries and RPDs were within the acceptable QC control limits, with the exception of the following low recoveries:

MS/MSD	Analyte	Exceedance	Action	Associated samples
Lab (GPFG9)	Acetone	Out Low	Flag positives and NDs "J"	EFF-8-27-04, Trip Blank
	Chloromethane	Out low	Flag positives and NDs "J"	

Sampling Accuracy

There were no equipment blanks associated with this site. The analytical results of the trip blank indicate that VOCs were detected for acetone, 2-butanone, and methylene chloride.

Action: The acetone result for sample EFF-08-27-04 was qualified as estimated and flagged "B".

Field Duplicate Samples

There were no field duplicate samples collected for this SDG.

Overall Site Evaluation and Professional Judgment Flagging Changes

The data within this SDG were compared to site data and edits to the DQE flags were not required based on professional judgment.

Prepared by: BAK 09/27/2004
Checked by:

Data Evaluation Narrative
MACTEC Project: DDMT LTM
MACTEC Project Number: 6301-03-0015
Matrix: Effluent Water

SDG: A4L140274

Deliverables

The data packages as submitted to MACTEC Engineering and Consulting, Inc. (MACTEC) are complete as stipulated in the Sampling and Analysis Plan as submitted by MACTEC for United States Environmental Protection Agency (USEPA) Methods 8260B, 8270C, and 6010B/7470A.

Sample Integrity

Samples within this SDG were submitted to Severn Trent Laboratories, Inc. (STL) in North Canton, Ohio for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and selected metals by inductively coupled plasma (ICP) and cold vapor atomic absorption (CVAA).

Based on the information provided on the cooler receipt forms, the field samples arrived at the laboratory intact and within the temperature guidance criteria. Completed chain-of-custody documents and cooler receipt forms are included in the data package.

Sample Identification

This SDG contains the water and QC samples EFFLUENT and TRIP BLANK. These samples were collected on November 30, 2004.

VOCs (8260B)

The samples in this SDG were submitted for VOC analysis.

Holding Times

The extraction and analytical logs indicate that applicable holding times were met for samples submitted for the analysis of VOCs by USEPA Method 8260B.

Practical Quantitation Limits

The practical quantitation limits (PQLs) were met for samples submitted for the analysis of VOCs by USEPA Method 8260B, with the exception of a 9.09x dilution required for sample EFFLUENT to place the results within the calibration range. In addition, the 2-butanone result for the TRIP BLANK and the carbon tetrachloride, 1,1-dichloroethene, and trans-1,2-dichloroethene results for sample EFFLUENT were reported below the PQL but above the method detection limit (MDL).

Action: The associated results were qualified as estimated and flagged "J", unless overridden due to other QC criteria exceedances.

Calibration

The initial and continuing calibration data indicate that applicable calibration criteria were met for the samples submitted for VOC analysis, with the following exceptions:

ICV (11/24/04)	%R	Limit	Associated Samples
Acetone	65.43	±20%	EFFLUENT, TRIP BLANK
2-Butanone	67.36	±20%	
2-Hexaone	71.54	±20%	

CCV (12/09/04, 10:13)	%D	Limit	Associated Samples
Acetone	25.8	±20%; <40%	EFFLUENT, TRIP BLANK
Bromomethane	20.6	±20%; <40%	
Chloroethane	43.7	±20%; <40%	

Action: The results associated with CCV percent differences greater than 40% were rejected as unusable and flagged "R". The remaining associated results were qualified as estimated and flagged "J".

Blank Summary

The analytical results of the laboratory method blanks indicate that methylene chloride was detected in the method blanks.

Action: The methylene chloride result for EFFLUENT was flagged "B" due to method blank contamination.

Internal Standards

The area counts and retention times for internal standards (IS) chlorobenzene-d_5 (IS1), fluorobenzene (IS2), and 1,4-dichlorobenzene-d_4 (IS3) were within QC advisory limits.

Surrogates

The recoveries for the four method-specified surrogates toluene-d_8, 4-bromofluorobenzene, dibromofluoromethane, and 1,2-dichloroethane-d_4 are within QC advisory limits.

Laboratory Control Sample

The laboratory control sample (LCS) spike recoveries were within applicable QC advisory limits and or sporadic marginal failure (SMF) criteria, with the exception of low recoveries for acetone, bromomethane (within SMF), 2-butanone (within SMF), chloroethane, and 2-hexanone.

Action: The associated results not within SMF criteria were flagged "J" and qualified as estimated due to poor LCS recoveries, unless overridden due to other QC criteria failures.

Matrix Spike/Matrix Spike Duplicate

The matrix spike/matrix spike duplicate (MS/MSD) for this SDG was performed on a non-project samples and was therefore not evaluated.

Sampling Accuracy

There were no equipment blanks associated with this site. The analytical results of TRIP BLANK indicate that 2-butanone was detected.

Action: No action was required, since the associated 2-butanone result was non-detect.

Field Duplicate Samples

No field duplicate samples were collected for this method in this SDG.

SVOCs (8270C)

The sample EFFLUENT was submitted for SVOC analysis.

Holding Times

The extraction and analytical logs indicate that applicable holding times were met for samples submitted for the analysis of SVOCs by USEPA Method 8270C.

Reporting Limits

The RLs were met for samples submitted for the analysis of SVOCs by USEPA Method 8270C.

Instrument Performance

The instrument performed within required specifications, as the decafluorotriphenylphosphine (DFTPP) tuning criteria were met for the instrument performance checks.

Calibration

The initial and continuing calibration data indicate that applicable calibration criteria were met for the samples submitted for SVOC analysis.

Blank Summary

The analytical results of the laboratory method blanks indicate that no SVOCs were detected.

Internal Standards

The area counts and retention times for IS 1,4-dichlorobenzene-d_4 (IS1), naphthalene-d_8 (IS2), acenaphthene-d_{10} (IS3), phenanthrene-d_{10} (IS4), chrysene-d_{12} (IS5), and perylene-d_{12} (IS6) were within QC advisory limits.

Surrogates

The recoveries for the six method-specified surrogates 2,4,5-tribromophenol (S1), 2-fluorobiphenyl (S2), 2-fluorophenol (S3), nitrobenzene-d_5 (S4), phenol-d_5 (S5), and terphenyl-d_{14} (S6) are within QC advisory limits.

Laboratory Control Sample

The LCS spike recoveries were within applicable QC advisory limits and/or SMF criteria, with the exception of zero recoveries for hexachlorocyclopentadiene.

Action: The associated result was rejected as unusable and flagged "R".

Matrix Spike/Matrix Spike Duplicate

A MS/MSD was not performed on a project sample for this SDG.

Sampling Accuracy

There were no equipment blanks associated with this SDG.

Field Duplicate Samples

No field duplicate samples were collected for this method in this SDG.

Metals (6010B/7470A)

The sample EFFLUENT was submitted for metals analysis.

Holding Times

The extraction and analytical logs indicate that applicable holding times were met for samples submitted for ICP/CVAA metals analysis.

Practical Quantitation Limits

The PQLs were met for samples submitted for ICP/CVAA metals analysis, with the exception of aluminum, barium, beryllium, chromium, cobalt, potassium, and thallium for sample EFFLUENT, which were reported below the PQL, but above the MDL.

Action: The associated results were flagged "J" to indicate that the results are an estimation, unless overridden by other QC criteria failures.

Calibration

The initial and continuing calibration data for this SDG indicates that applicable calibration criteria were met for samples submitted for metals analyses, with the exception of high recoveries for antimony and selenium in the low level check standard.

Action: The antimony result for EFFLUENT was flagged "J" and qualified as estimated.

Blank Summary

The analytical results of the laboratory blanks indicate that several metals were detected in at least one blank.

Action: If the sample concentration was less than five times the blank contamination, the results were flagged "B" to indicate an estimated quantity due to blank contamination. Therefore, the aluminum, beryllium, cobalt, selenium, and thallium results for sample EFFLUENT was flagged "B".

Dilution Test/Recovery Test

A serial dilution was performed on sample EFFLUENT, and the results were within QC criteria.

Laboratory Control Sample

The LCS spike recoveries are within the applicable QC advisory limits.

Matrix Spike/Matrix Spike Duplicate

The MS/MSD recoveries and relative percent differences (RPDs) for spiked sample EFFLUENT were within the applicable QC advisory limits.

Sampling Accuracy

There were no equipment blanks associated with this SDG.

Field Duplicate Samples

No field duplicate samples were collected for this method in this SDG.

Overall Site Evaluation and Professional Judgment Flagging Changes

The data within this SDG were compared to site data and edits to the DQE flags were not required based on professional judgment.

Prepared by: BAK 01/17/2005
Checked by: JAV 01/31/2005

APPENDIX E

HISTORICAL DATA TABLES

MW-007
Historical Analytical Results
Annual Operations Report - 2004
Dunn Field Groundwater IRA- Year Six
Defense Depot Memphis, Tennessee

		Site ID	MW-07	MW-07	MW-07	MW-07	MW-07	MW-07	MW-007
		Sample Name	MW072	MW073	MW074	MW075	MW-07-1	MW-07-2	MW07 (66_9-68_9)
		Date Sampled	6/21/1997	9/27/1997	4/2/1998	10/14/1998	10/28/2003	10/28/2003	4/28/2004
		Time Sampled	10:30:00 AM	10:30:00 AM	7:32:00 AM	4:20:00 PM	9:10:00 AM	9:15:00 AM	4:10:00 PM
		Depth							66.9-68.9
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	< 10	2 J	2 J	< 10	< 1	**1.69**	0.94 J
8260	1,1,2,2-Tetrachloroethane	µg/L	< 10	< 10	< 10	< 10	< 1	< 1	<1 U
8260	1,1,2-Trichloroethane	µg/L	< 10	< 10	< 10	< 10	< 1	< 1	<1 U
8260	1,1-Dichloroethene	µg/L	**26**	**50**	**47**	**25**	**18.7**	**40.9**	**22**
8260	Carbon tetrachloride	µg/L	< 10	< 10	< 10	< 10	**1.23**	< 1	0.29 J
8260	Chloroform	µg/L	8 J	9 J	2 J	7 J	**139**	< 1	**8**
8260	cis-1,2-Dichloroethene	µg/L					< 1	< 1	<1 U
8260	Tetrachloroethene	µg/L	**32**	**82**	**78**	**47**	**15**	**42.6**	**28**
8260	Trans 1,2-Dichloroethene	µg/L							
8260	Trichloroethene	µg/L	**16**	**32**	**31**	**21**	**21.2**	**27.6**	**18**
8260	Vinyl chloride	µg/L	< 10	< 10	< 10	< 10	< 1	< 1	<1 U

MW-007
Historical Analytical Results
Annual Operations Report - 2004
Dunn Field Groundwater IRA- Year Six
Defense Depot Memphis, Tennessee

		Site ID	MW-007	MW-007
		Sample Name	MW07 (70_5-72_5)	MW07 69.56-71.56
		Date Sampled	4/28/2004	10/20/2004
		Time Sampled	4:15:00 PM	1:50:00 PM
		Depth	70.5-72.5	69.5-71.56
METHOD	LABNAME	RESUNIT		
8260	1,1,1-Trichloroethane	µg/L	**1.5**	0.72 J
8260	1,1,2,2-Tetrachloroethane	µg/L	<1.2 U	<1.4 U
8260	1,1,2-Trichloroethane	µg/L	<1.2 U	<1.4 U
8260	1,1-Dichloroethene	µg/L	**32**	**17**
8260	Carbon tetrachloride	µg/L	<1.2 U	<1.4 U
8260	Chloroform	µg/L	<1.2 U	0.44 J
8260	cis-1,2-Dichloroethene	µg/L	<1.2 U	<1.4 U
8260	Tetrachloroethene	µg/L	**50**	**18**
8260	Trans 1,2-Dichloroethene	µg/L		<1.4 U
8260	Trichloroethene	µg/L	**32**	**14**
8260	Vinyl chloride	µg/L	<1.2 U	<1.4 U

MW-008
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		Site ID	MW-008	MW-008
		Sample Name	MW08 (65-67)	MW08 64.2-66.2
		Date Sampled	4/28/2004	10/20/2004
		Time Sampled	3:45:00 PM	2:10:00 PM
		Depth	65-67	64.2 66.2
METHOD	LABNAME	RESUNIT		
8260	1,1,1-Trichloroethane	µg/L	<1 U	<1 U
8260	1,1,2,2-Tetrachloroethane	µg/L	<1 U	<1 U
8260	1,1,2-Trichloroethane	µg/L	<1 U	<1 U
8260	1,1-Dichloroethene	µg/L	**1.3**	**1.1**
8260	Carbon tetrachloride	µg/L	<1 U	<1 U
8260	Chloroform	µg/L	<1 U	<1 U
8260	cis-1,2-Dichloroethene	µg/L	<1 U	<1 U
8260	Tetrachloroethene	µg/L	0.37 J	**1.4**
8260	Trans 1,2-Dichloroethene	µg/L		<1 U
8260	Trichloroethene	µg/L	0.85 J	**1.3**
8260	Vinyl chloride	µg/L	<1 U	<1 U

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MW-009
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		Site ID	MW-09	MW-09	MW-09	MW-09	MW-09	MW-009	MW-009
		Sample Name	MW092	MW093	MW094	MW095	MW-09-1	ΛW09 (76_5-78_:	MW09 78-79
		Date Sampled	6/20/1997	9/26/1997	3/26/1998	10/14/1998	10/28/2003	4/28/2004	10/20/2004
		Time Sampled	10:30:00 AM	10:50:00 AM	1:45:00 PM	3:02:00 PM	9:25:00 AM	3:55:00 PM	2:25:00 PM
		Depth					76.6-78.6	76.5-78.5	78-79
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	< 10	< 10	< 10	< 10	< 1	<1 U	<1 U
8260	1,1,2,2-Tetrachloroethane	µg/L	< 10	< 10	< 10	< 10	< 1	<1 U	<1 U
8260	1,1,2-Trichloroethane	µg/L	< 10	< 10	< 10	< 10	< 1	<1 U	<1 U
8260	1,1-Dichloroethene	µg/L	2 J	1 J	1 J	< 10	< 1	<1 U	<1 U
8260	Carbon tetrachloride	µg/L	8 J	1 J	3 J	5 J	**8.34**	0.28 J	<1 U
8260	Chloroform	µg/L	5 J	< 10	2 J	4 J	**27.2**	**2.2**	<1 U
8260	cis-1,2-Dichloroethene	µg/L					< 1	<1 U	0.76 J
8260	Tetrachloroethene	µg/L	7 J	4 J	3 J	6 J	**1.89**	<1 U	<1 U
8260	Trans 1,2-Dichloroethene	µg/L							<1 U
8260	Trichloroethene	µg/L	6 J	2 J	2 J	4 J	**3.32**	0.25 J	0.59 J
8260	Vinyl chloride	µg/L	< 10	< 10	< 10	< 10	< 1	<1 U	<1 U

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		Site ID	MW-29	MW-29	MW-29	MW-29	MW-29	MW-29	MW-29
		Sample Name	MW292	MW293	MW294	MW295	4W-29-1_03072	4W-29-1_03072	4W-29-2_03072
		Date Sampled	6/20/1997	9/26/1997	3/28/1998	10/14/1998	7/28/2003	7/28/2003	7/28/2003
		Time Sampled	5:10:00 PM	2:00:00 PM	3:00:00 PM	11:05:00 AM	1:30:00 PM	1:30:00 PM	1:35:00 PM
		Depth							
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	8 J	7 J	5 J	5 J	**2.28**	**2.28**	**2.21**
8260	1,1,2,2-Tetrachloroethane	µg/L	<10	<10	<10	<10	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<10	<10	<10	<10	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	**32**	**29**	**28**	**21**	**19.5**	**19.5**	**20.5**
8260	Carbon tetrachloride	µg/L	<10	<10	<10	<10	<1	<1	<1
8260	Chloroform	µg/L	<10	<10	<10	<10	<1	<1	<1
8260	cis-1,2-Dichloroethene	µg/L					<1	<1	<1
8260	Tetrachloroethene	µg/L	**38**	**29**	**37**	**29**	**20.9**	**20.9**	**21.7**
8260	Trans 1,2-Dichloroethene	µg/L							
8260	Trichloroethene	µg/L	**18**	**18**	**17**	**17**	**22.5**	**22.5**	**23.8**
8260	Vinyl chloride	µg/L	<10	<10	<10	<10	<1	<1	<1

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		Site ID	MW-29	MW-29	MW-29	MW-29	MW-029	MW-029	MW-029
		Sample Name	⁄IW-29-3_03072	MW-29-1_03102	MW-29-2_03102	MW-29-3_03102	IW29 (40_7-42_	IW29 (45_7-47_	IW29 (50_7-52_
		Date Sampled	7/28/2003	10/28/2003	10/28/2003	10/28/2003	4/28/2004	4/28/2004	4/28/2004
		Time Sampled	1:40:00 PM	9:40:00 AM	9:50:00 AM	9:55:00 AM	3:10:00 PM	3:15:00 PM	3:20:00 PM
		Depth					40.7-42.7	45.7-47.7	50.7-52.7
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	**2.06**	**3.36**	**3.58**	**3.61**	**2.7**	**2.6**	**2.8**
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	**20.7**	**33.2**	**34.8**	**32.8**	**24**	**24**	**24**
8260	Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Chloroform	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	0.4 J	0.35 J	0.33 J
8260	Tetrachloroethene	µg/L	**21**	**25**	**27.1**	**26**	**27**	**28**	**29**
8260	Trans 1,2-Dichloroethene	µg/L							
8260	Trichloroethene	µg/L	**20.8**	**27.9**	**29.6**	**28.5**	**29**	**29**	**31**
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1	<1

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		Site ID	MW-029	MW-029	MW-029	MW-029	MW-029
		Sample Name	MWDUP-1	MW29 41.6-43.6	MW29 46.1-48.1	MW29 50.6-52.6	DUP01
		Date Sampled	4/29/2004	10/20/2004	10/20/2004	10/20/2004	10/20/2004
		Time Sampled	12:00:00 PM	2:40:00 PM	2:45:00 PM	2:50:00 PM	
		Depth	40.7-42.7	41.6 43.6	46.1 48.1	50.6 52.6	41.6 43.6
METHOD	LABNAME	RESUNIT					
8260	1,1,1-Trichloroethane	µg/L	**2.6**	**2.8**	**2.3**	**2.9**	**1.9 J**
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1.7	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1.7	<1	<1
8260	1,1-Dichloroethene	µg/L	**22**	**22**	**18**	**22**	**18**
8260	Carbon tetrachloride	µg/L	<1	<1	<1.7	<1	<1 J
8260	Chloroform	µg/L	<1	<1	<1.7	<1	<1
8260	cis-1,2-Dichloroethene	µg/L	0.39 J	0.41 J	<1.7	0.36 J	0.4 J
8260	Tetrachloroethene	µg/L	**28**	**23**	**20**	**21**	**19**
8260	Trans 1,2-Dichloroethene	µg/L		<1	<1.7	<1	<1
8260	Trichloroethene	µg/L	**29**	**29**	**24**	**30**	**29**
8260	Vinyl chloride	µg/L	<1	<1	<1.7	<1	<1

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		Site ID	MW-30	MW-30	MW-30	MW-30	MW-30	MW-30
		Sample Name	MW302	MW303	MW304	MW305	MW-30-Y1Q1	MW-30-Y1Q2
		Date Sampled	6/17/1997	9/24/1997	3/24/1998	10/16/1998	2/2/1999	5/24/1999
		Time Sampled	3:15:00 PM	2:15:00 PM	12:37:00 PM	11:23:00 AM	11:45:00 AM	6:00:00 PM
		Depth						
METHOD	LABNAME	RESUNIT						
8260	1,1,1-Trichloroethane	µg/L	<10	<10	<10	<10	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<10	<10	<10	<10	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<10	<10	<10	<10	<1	<1
8260	1,1-Dichloroethene	µg/L	<10	<10	<10	<10	<1	<1
8260	Carbon tetrachloride	µg/L	<10	<10	<10	<10	<1	<1
8260	Chloroform	µg/L	<10	<10	<10	<10	<1	<1
8260	cis-1,2-Dichloroethene	µg/L					<1	<1
8260	Tetrachloroethene	µg/L	<10	<10	<10	<10	<1	<1
8260	Trans 1,2-Dichloroethene	µg/L						
8260	Trichloroethene	µg/L	<10	<10	<10	<10	<1	<1
8260	Vinyl chloride	µg/L	<10	<10	<10	<10	<1	<1

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		Site ID	MW-30	MW-30	MW-30	MW-030	MW-30	MW-30	MW-030
		Sample Name	MW-30-Y1Q3	MW-30-Y1Q4	MW-30-Y2Q1	MW-30-Y2Q2	MW-30-Y2Q3	MW-30-Y2Q4	MW-30-Y3S1
		Date Sampled	8/26/1999	11/2/1999	2/15/2000	5/16/2000	8/22/2000	11/7/2000	2/13/2001
		Time Sampled	12:45:00 PM	2:05:00 PM	9:15:00 AM	11:40:00 AM	2:00:00 PM	3:15:00 PM	11:30:00 AM
		Depth							
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Chloroform	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	cis-1,2-Dichloroethene	µg/L	<1	<1	<1		<1	<1	<1
8260	Tetrachloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Trans 1,2-Dichloroethene	µg/L				<1			<1
8260	Trichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1	<1

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		Site ID	MW-30	MW-30	MW-30	MW-30	MW-30	MW-30
		Sample Name	MW-30-Y3S2-A	MW-30-Y3S2-B	MW-30-1_020410	MW-30-2_020410	MW-30-1_021002	MW-30-2_021002
		Date Sampled	10/3/2001	10/3/2001	4/10/2002	4/10/2002	10/2/2002	10/2/2002
		Time Sampled			10:15:00 AM	10:18:00 AM	8:20:00 AM	8:22:00 AM
		Depth	49.2-51.2	56.2-58.2	50.8-52.8	55.8-57.8	50.8-52.8	55.8-57.8
METHOD	LABNAME	RESUNIT						
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
8260	Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
8260	Chloroform	µg/L	<1	<1	<1	<1	<1	<1
8260	cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
8260	Tetrachloroethene	µg/L	<1	<1	<1	<1	<1	<1
8260	Trans 1,2-Dichloroethene	µg/L						
8260	Trichloroethene	µg/L	<1	<1	<1	<1	<1	<1
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

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		Site ID	MW-30	MW-30	MW-030	MW-030	MW-030	MW-030
		Sample Name	MW-30-1	MW-30-1_031028	MW30 (46_5-48_5)	MW30 (51_5-53_5)	MW30 (56_5-58_5)	MW30 49-51
		Date Sampled	4/8/2003	10/28/2003	4/29/2004	4/29/2004	4/29/2004	10/20/2004
		Time Sampled		2:10:00 PM	10:10:00 AM	10:15:00 AM	10:20:00 AM	3:30:00 PM
		Depth	55.8-57.9		46.-48.5	51.5-53.5	56.5-58.5	49-51
METHOD	LABNAME	RESUNIT						
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
8260	Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
8260	Chloroform	µg/L	<1	<1	<1	<1	<1	<1
8260	cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
8260	Tetrachloroethene	µg/L	<1	<1	<1	<1	<1	<1
8260	Trans 1,2-Dichloroethene	µg/L	<1					<1
8260	Trichloroethene	µg/L	<1	<1	<1	<1	<1	<1
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

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		Site ID	MW-030	MW-030
		Sample Name	MW30 53-55	MW30 57-59
		Date Sampled	10/20/2004	10/20/2004
		Time Sampled	3:35:00 PM	3:40:00 PM
		Depth	53-55	57-59
METHOD	LABNAME	RESUNIT		
8260	1,1,1-Trichloroethane	µg/L	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1
8260	1,1-Dichloroethene	µg/L	<1	<1
8260	Carbon tetrachloride	µg/L	<1	<1
8260	Chloroform	µg/L	<1	<1
8260	cis-1,2-Dichloroethene	µg/L	<1	<1
8260	Tetrachloroethene	µg/L	<1	<1
8260	Trans 1,2-Dichloroethene	µg/L	<1	<1
8260	Trichloroethene	µg/L	<1	<1
8260	Vinyl chloride	µg/L	<1	<1

MW-031
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		Site ID	MW-31	MW-31	MW-31	MW-31	MW-31	MW-31	MW-31
		Sample Name	MW312	MW313ADD	MW314	MW315	MW-31-Y1Q1	MW-31-Y1Q2	MW-31-Y1Q3
		Date Sampled	6/20/1997	9/24/1997	3/24/1998	10/15/1998	2/3/1999	5/25/1999	8/27/1999
		Time Sampled	3:30:00 PM	8:00:00 AM	4:08:00 PM	4:20:00 PM	1:25:00 PM	1:15:00 PM	9:15:00 AM
		Depth							
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	2 J	2 J	25 U	25 U	1.26	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<10	10 J	**97**	**33**	3.22	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<10	20 U	4 J	25 U	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	**29**	**47**	**26**	14 J	7.86	33.3	7.9
8260	Carbon tetrachloride	µg/L	1 J	8 J	3 J	25 U	1.51	<1	0.59 J
8260	Chloroform	µg/L	10	**49**	21 J	16 J	7.22	<1	1.66
8260	cis-1,2-Dichloroethene	µg/L					58.9	4.78	4.34
8260	Tetrachloroethene	µg/L	**67**	**110**	**66**	**42**	4.25	7.55	1.31
8260	Trans 1,2-Dichloroethene	µg/L							
8260	Trichloroethene	µg/L	**78**	**220**	**400**	**380**	140	23.9	33.7
8260	Vinyl chloride	µg/L	<10	20 U	25 U	25 U	<1	<1	<1

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		Site ID	MW-31	MW-31	MW-31	MW-31	MW-31	MW-31	MW-31
		Sample Name	MW-31-Y1Q4	MW-31-Y2Q1	MW31NA	MW2BNA	MW-31	MW-31-Y2Q3	MW-31-Y2Q4
		Date Sampled	11/3/1999	2/15/2000	3/23/2000	3/23/2000	5/17/2000	8/23/2000	11/7/2000
		Time Sampled	10:35:00 AM	4:45:00 PM	2:45:00 PM	5:00:00 PM	5:12:00 PM	4:30:00 PM	2:45:00 PM
		Depth							
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	<1	<1	0.2 J	0 2 J	<1	0.42 J	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	5.98	9.89	**8**	**9**	**22.3**	<1	31.5
8260	Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	0.4 J	<1
8260	Chloroform	µg/L	0.92 J	1.19	0.5 J	0.4 J	1.29	<1	<1
8260	cis-1,2-Dichloroethene	µg/L	5.09	6 89	0.6 J	0.4 J	15.5	12.3	4.24
8260	Tetrachloroethene	µg/L	0.9 J	0.64 J	1 J	1	1.16	2.08	0.92 J
8260	Trans 1,2-Dichloroethene	µg/L							
8260	Trichloroethene	µg/L	18	25.6	**4**	**4**	**49.5**	68.1	18.5
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1	<1

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MW-031
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		Site ID	MW-31	MW-31	MW-31	MW-31	MW-31	MW-31
		Sample Name	MW-31_010214	MW-31-Y3S2-A	MW-31-Y3S2-B	MW-31-1_020410	MW-31-2_020410	MW-31-1_021002
		Date Sampled	2/14/2001	10/3/2001	10/3/2001	4/10/2002	4/10/2002	10/2/2002
		Time Sampled	9:15:00 AM			10:20:00 AM	10:22:00 AM	8:30:00 AM
		Depth		72.2-74.2	77.5-79.5	72.2-74.2	77.2-79.2	72.2-74.2
METHOD	LABNAME	RESUNIT						
8260	1,1,1-Trichloroethane	µg/L	<1	<1	0.7 J	<1	0.5 J	0.62 J
8260	1,1,2,2-Tetrachloroethane	µg/L	**14.8**	<1	<1	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	**1.2**	<1	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	**7.98**	**20.6**	**31.2**	**20.6**	**39.5**	**39.3**
8260	Carbon tetrachloride	µg/L	**2.76**	**1.25**	<1	<1	<1	0.88 J
8260	Chloroform	µg/L	**25.1**	**1.61**	<1	<1	<1	**1.08**
8260	cis-1,2-Dichloroethene	µg/L	**148**	**44.2**	**5.53**	**6.78**	**2.66**	**17**
8260	Tetrachloroethene	µg/L	**5.02**	**2.1**	**4.19**	1	**1.24**	**1.32**
8260	Trans 1,2-Dichloroethene	µg/L						
8260	Trichloroethene	µg/L	**241**	**227**	**38.1**	**33.1**	**21.5**	**87.5**
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

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		Site ID	MW-31	MW-31	MW-31	MW-31	MW-31	MW-31
		Sample Name	MW-31-2_021002	MW-31-1	MW-31-2	MW-31-1_031028	MW-31-2_031028	MW-31-200
		Date Sampled	10/2/2002	4/8/2003	4/8/2003	10/28/2003	10/28/2003	10/28/2003
		Time Sampled	8:31:00 AM			2:15:00 PM	2:20:00 PM	2:20:00 PM
		Depth	77.5-79.5	72.2-74.2	77.5 79.5			
METHOD	LABNAME	RESUNIT						
8260	1,1,1-Trichloroethane	µg/L	0.63 J	<1	<1	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	**55.4**	**13.7**	**5.37**	**8.38**	**7.61**	**8.21**
8260	Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
8260	Chloroform	µg/L	<1	<1	<1	<1	<1	<1
8260	cis-1,2-Dichloroethene	µg/L	**1.24**	**2.06**	<1	<1	<1	<1
8260	Tetrachloroethene	µg/L	**1.1**	0.92	0.83	<1	<1	**1.08**
8260	Trans 1,2-Dichloroethene	µg/L						
8260	Trichloroethene	µg/L	**15.8**	**13.5**	**1.24**	**1.46**	**2.32**	**1.97**
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

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		Site ID	MW-031	MW-031	MW-031	MW-031
		Sample Name	MW31 (72_2-74_2)	MW31 (77_5-79_5)	MW31 72.5-74.5	MW31 77.5-79.5
		Date Sampled	4/29/2004	4/29/2004	10/20/2004	10/20/2004
		Time Sampled	3:10.00 PM	3:15:00 PM	4:00:00 PM	4:05:00 PM
		Depth	72.2-74 2	77.5-79.5	72.5-74.5	77.5-79.5
METHOD	LABNAME	RESUNIT				
8260	1,1,1-Trichloroethane	µg/L	0.74 J	0.54 J	<1	<1 J
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	**40**	**33**	**12**	**17**
8260	Carbon tetrachloride	µg/L	0.24 J	0.18 J	<1	<1 J
8260	Chloroform	µg/L	0.32 J	0.32 J	<1	<1
8260	cis-1,2-Dichloroethene	µg/L	0.46 J	0.56 J	0.35 J	0.58 J
8260	Tetrachloroethene	µg/L	**2.2**	0.85 J	0.31 J	0.42 J
8260	Trans 1,2-Dichloroethene	µg/L			<1	0.31 J
8260	Trichloroethene	µg/L	**16**	**12**	**2.7**	**4.7**
8260	Vinyl chloride	µg/L	<1	<1	<1	<1

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		Site ID	MW-32	MW-32	MW-32	MW-32	MW-32	MW-32	MW-32
		Sample Name	MW322	MW323	MW324	MW-32-Y1Q1	MW-32-Y1Q2	MW-32-Y1Q3	MW-32-Y1Q4
		Date Sampled	6/21/1997	9/29/1997	3/27/1998	2/3/1999	5/25/1999	8/26/1999	11/3/1999
		Time Sampled	12:10:00 PM	2:45:00 PM	10:35:00 AM	11:50:00 AM	12:00:00 PM	5:30:00 PM	11:55:00 AM
		Depth							
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	<10	<10	<10	<1	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	**91**	**110**	**140**	**5.67**	**4.42**	0.92 J	<1
8260	1,1,2-Trichloroethane	µg/L	5 J	5 J	6 J	**1.54**	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	<10	<10	<10	<1	<1	<1	<1
8260	Carbon tetrachloride	µg/L	**25**	**16**	**20**	**25.2**	**14.2**	**17.3**	**25.2**
8260	Chloroform	µg/L	8 J	6 J	7 J	**7.89**	**32.2**	**76.9**	**73**
8260	cis-1,2-Dichloroethene	µg/L				**30.5**	**16.7**	**4.64**	**4.59**
8260	Tetrachloroethene	µg/L	2 J	1 J	1 J	**1.16**	**1.28**	**2.22**	**2.63**
8260	Trans 1,2-Dichloroethene	µg/L							
8260	Trichloroethene	µg/L	**93**	**76**	**100**	**31.9**	**28.1**	**34.6**	**36.8**
8260	Vinyl chloride	µg/L	<10	<10	<10	<1	<1	<1	<1

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		Site ID	MW-32	MW-32	MW-32	MW-32	MW-32	MW-32
		Sample Name	MW-32-Y2Q1	MW-32	MW-32-Y2Q3	MW-32-Y2Q4	MW-32_010220	MW-32-Y3S2
		Date Sampled	2/15/2000	5/16/2000	8/24/2000	11/9/2000	2/20/2001	10/3/2001
		Time Sampled	12:15:00 PM	5:30:00 PM	11:30:00 AM	11:50:00 AM	10:30:00 AM	
		Depth						64.5-66.5
METHOD	LABNAME	RESUNIT						
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	**2.12**	**21.5**	**68.2**	**216**
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	0.61 J	<1	<1
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
8260	Carbon tetrachloride	µg/L	**25.5**	**37**	**47.2**	**61.3**	**19.7**	**42.7**
8260	Chloroform	µg/L	**77.2**	**117**	**171**	**372 J**	**434**	**828**
8260	cis-1,2-Dichloroethene	µg/L	**5.07**	**6.61**	**5.66**	**8.55**	**9.44**	**12.6 J**
8260	Tetrachloroethene	µg/L	**2.34**	**3.94**	**5.9**	**6.39 J**	**3.74**	<1
8260	Trans 1,2-Dichloroethene	µg/L						
8260	Trichloroethene	µg/L	**41.8**	**58.2**	**89.2**	**94.8**	**71.9**	**238**
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

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		Site ID	MW-32	MW-32	MW-32	MW-32	MW-032
		Sample Name	MW-32-1_02041(	MW-32-1_021001	MW-32-1	MW-32-1_031028	MW32 (64_5-66_5)
		Date Sampled	4/10/2002	10/1/2002	4/8/2003	10/28/2003	4/29/2004
		Time Sampled	11:30:00 AM	10:00:00 AM		1:20:00 PM	11:45:00 AM
		Depth					64.5-66.5
METHOD	LABNAME	RESUNIT					
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1 U
8260	1,1,2,2-Tetrachloroethane	µg/L	**24**	**14**	**11**	**7.82**	**8.1**
8260	1,1,2-Trichloroethane	µg/L	0.59 J	<1	0.52	<1	<1 U
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1 U
8260	Carbon tetrachloride	µg/L	**12.1**	**12.3**	**1.18**	<1	**8.2**
8260	Chloroform	µg/L	**102**	**91.5**	**50.2**	**50.9**	**37**
8260	cis-1,2-Dichloroethene	µg/L	**4.21**	**3.49**	**9.16**	**7.97**	**2**
8260	Tetrachloroethene	µg/L	0.82 J	**1.41**	<1	<1	0.37 J
8260	Trans 1,2-Dichloroethene	µg/L					
8260	Trichloroethene	µg/L	**37.9**	**34.8**	**13.5**	**13.4**	**14**
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1 U

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		Site ID	MW-032	MW-032	MW-032
		Sample Name	MWDUP-2	MW-32	MW32 65.9-66.9
		Date Sampled	4/29/2004	8/13/2004	10/20/2004
		Time Sampled	12:00:00 PM	4:05:00 PM	4:10:00 PM
		Depth	64.5- 66.5		65.9 66.9
METHOD	LABNAME	RESUNIT			
8260	1,1,1-Trichloroethane	µg/L	<1 U	<2.5 U	<1 J
8260	1,1,2,2-Tetrachloroethane	µg/L	**7**	**21**	**3.6**
8260	1,1,2-Trichloroethane	µg/L	<1 U	<2.5 U	<1 U
8260	1,1-Dichloroethene	µg/L	<1 U	<2.5 U	<1 U
8260	Carbon tetrachloride	µg/L	**6.1**	**7.6**	**2.3 J**
8260	Chloroform	µg/L	**31**	**68**	**17**
8260	cis-1,2-Dichloroethene	µg/L	**2.2**	**2.8**	**1.7**
8260	Tetrachloroethene	µg/L	0.35 J	0.97 J	<1 U
8260	Trans 1,2-Dichloroethene	µg/L			0.23 J
8260	Trichloroethene	µg/L	**13**	**24**	**7.3**
8260	Vinyl chloride	µg/L	<1 U	<2.5 U	<1 U

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		Site ID	MW-33	MW-33	MW-33	MW-33	MW-33	MW-33	MW-33
		Sample Name	MW332	MW333	MW334	MW335	MW-33-Y1Q1	MW-33-Y1Q2	MW-33-Y1Q3
		Date Sampled	6/18/1997	9/25/1997	3/25/1998	10/16/1998	2/2/1999	5/25/1999	8/26/1999
		Time Sampled	2:10:00 PM	10:50:00 AM	12:05:00 PM	3:06:00 PM	5:30:00 PM	11:25:00 AM	5:05:00 PM
		Depth							
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	<10	<10	<10	<10	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<10	<10	<10	<10	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<10	<10	<10	<10	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	<10	<10	<10	<10	<1	<1	<1
8260	Carbon tetrachloride	µg/L	<10	<10	<10	<10	<1	<1	<1
8260	Chloroform	µg/L	<10	<10	<10	<10	<1	<1	<1
8260	cis-1,2-Dichloroethene	µg/L					<1	<1	<1
8260	Tetrachloroethene	µg/L	<10	<10	<10	<10	<1	<1	<1
8260	Trichloroethene	µg/L	<10	<10	<10	<10	<1	<1	<1
8260	Vinyl chloride	µg/L	<10	<10	<10	<10	<1	<1	<1

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		Site ID	MW-33	MW-33	MW-33	MW-33	MW-33	MW-033	MW-33
		Sample Name	MW-33-Y1Q4	MW-33-Y2Q1	MW-33	MW-33-Y2Q3	MW-33-Y2Q4	MW-33-Y3S1	MW-33-Y3S2
		Date Sampled	11/2/1999	2/15/2000	5/16/2000	8/22/2000	11/8/2000	2/15/2001	10/3/2001
		Time Sampled	4:45:00 PM	11:25:00 AM	5:00:00 PM	3:30:00 PM	1:50:00 PM		
		Depth							58-60
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Chloroform	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1		<1
8260	Tetrachloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
								<1	
8260	Trichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1	<1

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		Site ID	MW-33	MW-33	MW-33	MW-33	MW-033	MW-033
		Sample Name	MW-33-1_020410	MW-33-1_021002	MW-33-1	MW-33-1_031028	MW33 (56-58)	MW33 (59_5-61_5)
		Date Sampled	4/10/2002	10/2/2002	4/8/2003	10/28/2003	4/29/2004	4/29/2004
		Time Sampled	11:47:00 AM	9:05:00 AM		2:00:00 PM	11:20:00 AM	11:25:00 AM
		Depth					56-58	59.5-61.5
METHOD	LABNAME	RESUNIT						
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1 U	<1 U
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1 U	<1 U
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1 U	<1 U
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1 U	<1 U
8260	Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1 U	<1 U
8260	Chloroform	µg/L	<1	<1	<1	<1	<1 U	<1 U
8260	cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1 U	<1 U
8260	Tetrachloroethene	µg/L	<1	<1	<1	<1	<1 U	<1 U
8260	Trichloroethene	µg/L	<1	<1	<1	<1	<1 U	<1 U
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1 U	<1 U

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		Site ID	MW-033	MW-033
		Sample Name	MW33 59.33-61.33	DUP02
		Date Sampled	10/20/2004	10/20/2004
		Time Sampled	4:25:00 PM	4:25:00 PM
		Depth	59.33-61.33	59.53-61.53
METHOD	LABNAME	RESUNIT		
8260	1,1,1-Trichloroethane	µg/L	<1 J	<1 J
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1
8260	1,1-Dichloroethene	µg/L	<1	<1
8260	Carbon tetrachloride	µg/L	<1 J	<1 J
8260	Chloroform	µg/L	<1	<1
8260	cis-1,2-Dichloroethene	µg/L	<1	<1
8260	Tetrachloroethene	µg/L	<1	<1
			<1	<1
8260	Trichloroethene	µg/L	<1	<1
8260	Vinyl chloride	µg/L	<1	<1

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MW-034
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		Site ID	MW-34	MW-34	MW-34	MW-34	MW-34	MW-34	MW-34
		Sample Name	MW342	MW342DUP	MW343	MW344	MW344D	MW-34-Y1Q1	MW-34-Y1Q2
		Date Sampled	6/19/1997	6/19/1997	9/26/1997	3/27/1998	3/27/1998	2/4/1999	5/25/1999
		Time Sampled	3:30:00 PM	3:32:00 PM	4:42:00 PM	10:09:00 AM	10:09:00 AM	1:45:00 PM	2:55:00 PM
		Depth							
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	<10	<10	<10	<10	<10	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<10	<10	<10	2 J	<10	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<10	<10	<10	<10	<10	<1	<1
8260	1,1-Dichloroethene	µg/L	<10	<10	<10	<10	<10	<1	<1
8260	Carbon tetrachloride	µg/L	<10	<10	<10	<10	<10	**1.01**	**1.23**
8260	Chloroform	µg/L	2 J	2 J	1 J	<10	<10	**4.34**	<1
8260	cis-1,2-Dichloroethene	µg/L						**1.03**	<1
8260	Tetrachloroethene	µg/L	<10	<10	<10	<10	<10	<1	<1
8260	Trans 1,2-Dichloroethene	µg/L							
8260	Trichloroethene	µg/L	<10	<10	<10	<10	<10	**4.39**	<1
8260	Vinyl chloride	µg/L	<10	<10	<10	<10	<10	<1	<1

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		Site ID	MW-34	MW-34	MW-34	MW-34	MW-34	MW-34	MW-34
		Sample Name	MW-34-Y1Q3	MW-34-Y1Q4	MW-34-Y2Q1	MW-34	MW-34-Y2Q3	MW-34-Y2Q4	MW-34_010220
		Date Sampled	8/27/1999	11/3/1999	2/16/2000	5/18/2000	8/24/2000	11/7/2000	2/20/2001
		Time Sampled	10:05:00 AM	9:00:00 AM	12:35:00 PM	3:50:00 PM	10:00:00 AM	3:30:00 PM	9:00:00 AM
		Depth							
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1	<1	**2.91**
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Carbon tetrachloride	µg/L	0.51 J	<1	**1.04**	**1.03**	0.86 J	<1	0.82 J
8260	Chloroform	µg/L	0.66 J	<1	**1.98**	**3.49**	<1	<1	**4.24**
8260	cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Tetrachloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Trans 1,2-Dichloroethene	µg/L				<1			
8260	Trichloroethene	µg/L	0.64 J	<1	0.85 J	**2.15**	**2.55**	**1.43**	**1.62**
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1	<1

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		Site ID	MW-34	MW-34	MW-34	MW-34	MW-34	MW-34
		Sample Name	MW-34-Y3S2-A	MW-34-Y3S2-B	MW-34-Y3S2-C	MW34-147-152BL	MW-34-1_020410	W-34-2_0204
		Date Sampled	10/3/2001	10/3/2001	10/3/2001	3/18/2002	4/10/2002	4/10/2002
		Time Sampled				1:45:00 PM	9:40:00 AM	9:43:00 AM
		Depth	146-148	149.5-151.5	155.5-157.5	147-152	145-147	150-152
METHOD	LABNAME	RESUNIT						
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
8260	Carbon tetrachloride	µg/L	<1	<1	0.96 J	0.7 J	<1	<1
8260	Chloroform	µg/L	**1.46**	<1	<1	**3**	**10.5**	**7.78**
8260	cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
8260	Tetrachloroethene	µg/L	<1	<1	<1	<1	<1	<1
8260	Trans 1,2-Dichloroethene	µg/L						
8260	Trichloroethene	µg/L	<1	**1.48**	**2**	0.93 J	**1.16**	0.97 J
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

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		Site ID	MW-34	MW-34	MW-34	MW-34	MW-34	MW-34
		Sample Name	MW-34-3_020410	MW-34-1_021001	MW-34-2_021001	MW-34-3_021001	MW-34-1	MW-34-2
		Date Sampled	4/10/2002	10/1/2002	10/1/2002	10/1/2002	4/8/2003	4/8/2003
		Time Sampled	9:45:00 AM	8:45:00 AM	8:46:00 AM	8:47:00 AM		
		Depth	155-157		149.5-151 5		145-147	150-152
METHOD	LABNAME	RESUNIT						
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
8260	Carbon tetrachloride	µg/L	<1	<1	<1	<1	**1.08**	<1
8260	Chloroform	µg/L	<1	**2.56**	**1.26**	<1	**13.9**	**7.66**
8260	cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
8260	Tetrachloroethene	µg/L	<1	<1	<1	<1	<1	<1
8260	Trans 1,2-Dichloroethene	µg/L						
8260	Trichloroethene	µg/L	0.9 J	<1	<1	<1	**1.75**	**120**
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

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		Site ID	MW-34	MW-34	MW-34	MW-34	MW-34
		Sample Name	MW-34-3	MW34-EBT-TS13	MW-34-1_031028	MW-34-2_031028	MW-34-3_031028
		Date Sampled	4/8/2003	7/24/2003	10/28/2003	10/28/2003	10/28/2003
		Time Sampled		10:00:00 AM	8:55:00 AM	9:00:00	9:05:00
		Depth	155-157				
METHOD	LABNAME	RESUNIT					
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1
8260	Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1
8260	Chloroform	µg/L	**4.45**	<1	**3**	<1	<1
8260	cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1
8260	Tetrachloroethene	µg/L	<1	<1	<1	<1	<1
8260	Trans 1,2-Dichloroethene	µg/L					
8260	Trichloroethene	µg/L	0.74	0.476 J	<1	<1	<1
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1

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		Site ID	MW-034	MW-034	MW-034	MW-034	MW-034
		Sample Name	MW34 (138-140)	MW34 (142-144)	MW34 (147-149)	MW34 (152-154)	MW34 142.3-144.3
		Date Sampled	4/28/2004	4/28/2004	4/28/2004	4/28/2004	10/20/2004
		Time Sampled	4:20:00 PM	4:25.00 PM	4:30:00 PM	4:35:00 PM	4:50:00 PM
		Depth	138-140	142-144	147-149	152-154	142.3-144.3
METHOD	LABNAME	RESUNIT					
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1 J
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1
8260	Carbon tetrachloride	µg/L	<1	<1	0.19 J	<1	0.62 J
8260	Chloroform	µg/L	1.1 J	1.2 J	**1.2**	**1.2**	**3.8**
8260	cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1
8260	Tetrachloroethene	µg/L	<1	<1	<1	<1	<1
8260	Trans 1,2-Dichloroethene	µg/L					<1
8260	Trichloroethene	µg/L	<1	<1	0.39 J	0.29 J	0.98 J
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1

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		Site ID	MW-034	MW-034
		Sample Name	MW34 147.3-149.3	MW34 152.3-154.3
		Date Sampled	10/20/2004	10/20/2004
		Time Sampled	4:55:00 PM	5:00:00 PM
		Depth	147.3-149.3	152.3-154.3
METHOD	LABNAME	RESUNIT		
8260	1,1,1-Trichloroethane	µg/L	<1 J	<1 J
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1
8260	1,1-Dichloroethene	µg/L	<1	<1
8260	Carbon tetrachloride	µg/L	0.64 J	0.35 J
8260	Chloroform	µg/L	**2.4**	**1.7**
8260	cis-1,2-Dichloroethene	µg/L	<1	<1
8260	Tetrachloroethene	µg/L	<1	<1
8260	Trans 1,2-Dichloroethene	µg/L	<1	<1
8260	Trichloroethene	µg/L	0.83 J	0.54 J
8260	Vinyl chloride	µg/L	<1	<1

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		Site ID	MW-36	MW-36	MW-36	MW-36	MW-36	MW-36	MW-36
		Sample Name	MW362	MW363	MW364	MW365	IW-36-197-202B	MW-36-1_03042	MW-36-2_03042
		Date Sampled	6/19/1997	9/24/1997	3/24/1998	10/13/1998	3/18/2002	4/23/2003	4/23/2003
		Time Sampled	12:00:00 PM	10:15:00 AM	3:50:00 PM	3:30:00 PM	2:00:00 PM	2:35:00 PM	2:40:00 PM
		Depth					197-202		
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	<10	<10	<10	<10	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<10	<10	<10	<10	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<10	<10	<10	<10	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	<10	<10	<10	<10	<1	<1	<1
8260	Carbon tetrachloride	µg/L	<10	<10	<10	<10	<1	<1	<1
8260	Chloroform	µg/L	<10	<10	<10	<10	<1	<1	0.97
8260	cis-1,2-Dichloroethene	µg/L					<1	<1	<1
8260	Tetrachloroethene	µg/L	<10	<10	<10	<10	<1	<1	<1
8260	Trans 1,2-Dichloroethene	µg/L							
8260	Trichloroethene	µg/L	<10	<10	<10	<10	<1	<1	<1
8260	Vinyl chloride	µg/L	<10	<10	<10	<10	<1	<1	<1

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		Site ID	MW-36	MW-36	MW-36	MW-36	MW-36	MW-36	MW-036
		Sample Name	4W-36-3_03042?	MW-36-1	MW-36-2	MW-36-3	MW-36-1	MW-36 MW-36-?	W36 (192_9-194_
		Date Sampled	4/23/2003	10/28/2003	10/28/2003	10/28/2003	10/28/2003	10/28/2003	4/28/2004
		Time Sampled	2:45:00 PM	10:00:00 AM	10:05:00 AM	10:10:00 AM	10:00:00 AM	10:05:00 AM	2:40:00 PM
		Depth							192.9-194.9
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Chloroform	µg/L	0.92	<1	<1	<1	<1	<1	<1
8260	cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Tetrachloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Trans 1,2-Dichloroethene	µg/L							
8260	Trichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1	<1

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		Site ID	MW-036	MW-036	MW-036	MW-036	MW-036
		Sample Name	1W36 (197_9-199_9	1W36 (202_9-204_9	MW36 192.7-194.7	MW36 197.7-199.7	MW36 202.7-204.7
		Date Sampled	4/28/2004	4/28/2004	10/21/2004	10/21/2004	10/21/2004
		Time Sampled	2:45:00 PM	2:50:00 PM	9:35:00 AM	9:40:00 AM	9:45:00 AM
		Depth	197.9-199.9	202.9-204.9	192.7-194.7	197.7-199.7	202.7-204.7
METHOD	LABNAME	RESUNIT					
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1 J	<1 J	<1 J
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1
8260	Carbon tetrachloride	µg/L	<1	<1	<1 J	<1 J	<1 J
8260	Chloroform	µg/L	<1	<1	<1	<1	<1
8260	cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1
8260	Tetrachloroethene	µg/L	<1	<1	<1	<1	<1
8260	Trans 1,2-Dichloroethene	µg/L			<1	<1	<1
8260	Trichloroethene	µg/L	<1	<1	<1	<1	<1
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1

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		Site ID	MW-37	MW-37	MW-37	MW-37	MW-037	MW-037	MW-037
		Sample Name	MW373	MW372	MW374	MW-37	MW-37-Y3S1	MW-37-Y3S2	MW-37-Y3S2
		Date Sampled	9/29/1996	6/18/1997	3/27/1998	2/20/2001	2/20/2001	10/3/2001	10/3/2001
		Time Sampled	11:12:00 AM		11:53:00 AM	10:10:00 AM			
		Depth						172.5 174.5	177.5 179.5
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	<10	<10	<10	<1	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<10	<10	<10	<1	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<10	<10	<10	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	<10	<10	<10	<1	<1	<1	<1
8260	Carbon tetrachloride	µg/L	<10	<10	<10	<1	<1	<1	<1
8260	Chloroform	µg/L	<10	<10	<10	<1	<1	<1	<1
8260	cis-1,2-Dichloroethene	µg/L				<1			
8260	Tetrachloroethene	µg/L	<10	<10	<10	<1	<1	<1	<1
8260	Trans 1,2-Dichloroethene	µg/L					<1	<1	<1
8260	Trichloroethene	µg/L	<10	<10	<10	<1	<1	<1	<1
8260	Vinyl chloride	µg/L	<10	<10	<10	<1	<1	<1	<1

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		Site ID	MW-037	MW-37	MW-37	MW-37	MW-37	MW-37	MW-37
		Sample Name	MW-37-Y3S2	MW-37-1_02041	MW-37-2_02041	MW-37-3_02041	MW-37-1_02100	MW-37-2_02100	MW-37-3_02100
		Date Sampled	10/3/2001	4/10/2002	4/10/2002	4/10/2002	10/1/2002	10/1/2002	10/1/2002
		Time Sampled		11.35.00 AM	11:37:00 AM	11:40:00 AM	10:05:00 AM	10:06:00 AM	10:07:00 AM
		Depth	182.5 184.5	172.3 174 3	177.3 179.3	182.3 184.3	172.5 174.5	177.5 179.5	182.5 184.5
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Chloroform	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	cis-1,2-Dichloroethene	µg/L		<1	<1	<1	<1	<1	<1
8260	Tetrachloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Trans 1,2-Dichloroethene	µg/L	<1						
8260	Trichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1	<1

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		Site ID	MW-37	MW-37	MW-37	MW-37	MW-37	MW-37
		Sample Name	MW-37-1	MW-37-2	MW-37-3	MW-37-200_03040:	MW-37-1_031028	1W-37-2_03102
		Date Sampled	4/8/2003	4/8/2003	4/8/2003	4/8/2003	10/28/2003	10/28/2003
		Time Sampled				11:27:00 AM	1:25:00 PM	1:28:00 PM
		Depth	172.5 174.5	177 5 179.5	182.5 184.5			
METHOD	LABNAME	RESUNIT						
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
8260	Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
8260	Chloroform	µg/L	<1	<1	<1	<1	<1	<1
8260	cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
8260	Tetrachloroethene	µg/L	<1	<1	<1	<1	<1	<1
8260	Trans 1,2-Dichloroethene	µg/L						
8260	Trichloroethene	µg/L	0.83	<1	<1	0.69	<1	<1
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

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		Site ID	MW-37	MW-037	MW-037	MW-037
		Sample Name	MW-37-3_031028	MW37 (170_5-172_5)	MW37 (175_5-177_5)	MW37 (180-182_5)
		Date Sampled	10/28/2003	4/29/2004	4/29/2004	4/29/2004
		Time Sampled	1:30:00 PM	11:50:00 AM	11:55:00 AM	12:00:00 PM
		Depth		170.5-172.5	175.5-177.5	180-182.5
METHOD	LABNAME	RESUNIT				
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<1
8260	Carbon tetrachloride	µg/L	<1	<1	<1	<1
8260	Chloroform	µg/L	<1	<1	<1	<1
8260	cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1
8260	Tetrachloroethene	µg/L	<1	<1	<1	<1
8260	Trans 1,2-Dichloroethene	µg/L				
8260	Trichloroethene	µg/L	<1	<1	<1	<1
8260	Vinyl chloride	µg/L	<1	<1	<1	<1

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		Site ID	MW-037	MW-037	MW-037
		Sample Name	MW37 170.5-172.5	MW37 175.5-177.5	MW37 180.5-182.5
		Date Sampled	10/21/2004	10/21/2004	10/21/2004
		Time Sampled	10:05:00 AM	10:10:00 AM	10:15:00 AM
		Depth	170.5-172.5	175.5-177.5	180.5-182.5
METHOD	LABNAME	RESUNIT			
8260	1,1,1-Trichloroethane	µg/L	<1 J	<1 J	<1 J
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	<1	<1	<1
8260	Carbon tetrachloride	µg/L	<1 J	<1 J	<1 J
8260	Chloroform	µg/L	<1	<1	<1
8260	cis-1,2-Dichloroethene	µg/L	<1	<1	<1
8260	Tetrachloroethene	µg/L	<1	<1	<1
8260	Trans 1,2-Dichloroethene	µg/L	<1	<1	<1
8260	Trichloroethene	µg/L	<1	<1	<1
8260	Vinyl chloride	µg/L	<1	<1	<1

MW-040
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		Site ID	MW-40	MW-40	MW-40	MW-40	MW-40	MW-40	MW-40
		Sample Name	MW402	MW403	MW404	MW405	MW-40-Y1Q1	MW-40-Y1Q2	MW-40-Y1Q3
		Date Sampled	6/19/1997	9/26/1997	3/28/1998	10/19/1998	2/2/1999	5/24/1999	8/26/1999
		Time Sampled	4:10:00 PM	1:05:00 PM	11:29:00 AM	11:33:00 AM	9:45:00 AM	5:20:00 PM	11:30:00 AM
		Depth							
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	<10	<10	<10	1 J	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<10	<10	<10	<10	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<10	<10	<10	<10	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	<10	<10	2 J	<10	**1.35**	**1.07**	<1
8260	Carbon tetrachloride	µg/L	<10	<10	<10	<10	<1	<1	<1
8260	Chloroform	µg/L	<10	<10	<10	<10	<1	<1	<1
8260	cis-1,2-Dichloroethene	µg/L					<1	<1	<1
8260	Tetrachloroethene	µg/L	<10	<10	<10	<10	<1	<1	<1
8260	Trans 1,2-Dichloroethene	µg/L							
8260	Trichloroethene	µg/L	<10	<10	<10	<10	**1.55**	<1	<1
8260	Vinyl chloride	µg/L	<10	<10	<10	<10	<1	<1	<1

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METHOD	LABNAME	Site ID / Sample Name / Date Sampled / Time Sampled / Depth / RESUNIT	MW-40 / MW-40-Y1Q4 / 11/2/1999 / 12:00:00 PM	MW-40 / MW-40-Y2Q1 / 2/15/2000 / 8:30:00 AM	MW-40 / MW40NA / 3/22/2000 / 3:22:00 PM	MW-40 / MW-40 / 5/16/2000 / 10:15:00 AM	MW-040 / MW-40-Y2Q2 / 5/17/2000	MW-40 / MW-40-Y2Q3 / 8/23/2000 / 2:15:00 PM	MW-40 / MW-40-Y2Q4 / 11/8/2000 / 10:50:00 AM
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Chloroform	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	cis-1,2-Dichloroethene	µg/L	<1	<1	0.2 J	<1		<1	<1
8260	Tetrachloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Trans 1,2-Dichloroethene	µg/L					<1		
8260	Trichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1	<1

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MW-040
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		Site ID	MW-40	MW-040	MW-40	MW-40	MW-040	MW-40
		Sample Name	MW-40_010214	MW-40-Y3S1	MW-40-Y3S2	MW-40-1_020410	MW-40-Y4S1	IW-40-1_0210
		Date Sampled	2/14/2001	2/14/2001	10/3/2001	4/10/2002	4/10/2002	10/1/2002
		Time Sampled	10:00:00 AM			1:10:00 PM		1:30:00 PM
		Depth			91.5-93.5		91.6-93.6	
METHOD	LABNAME	RESUNIT						
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
8260	Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
8260	Chloroform	µg/L	<1	<1	<1	<1	<1	<1
8260	cis-1,2-Dichloroethene	µg/L	<1		<1	<1		<1
8260	Tetrachloroethene	µg/L	<1	<1	<1	<1	<1	<1
8260	Trans 1,2-Dichloroethene	µg/L		<1			<1	
8260	Trichloroethene	µg/L	<1	<1	<1	<1	<1	<1
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

MW-040
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		Site ID	MW-040	MW-40	MW-040	MW-40	MW-040
		Sample Name	MW-40-Y4S2	MW-40-1	MW-40-Y5S1	MW-40-1_031028	MW40 (87_9-89_9)
		Date Sampled	10/1/2002	4/8/2003	4/8/2003	10/28/2003	4/29/2004
		Time Sampled				3:30:00 PM	2:30:00 PM
		Depth	91.5-93.5		91.5-93.5		87.9-89.9
METHOD	LABNAME	RESUNIT					
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1
8260	Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1
8260	Chloroform	µg/L	<1	<1	<1	<1	0.38 J
8260	cis-1,2-Dichloroethene	µg/L		<1		<1	<1
8260	Tetrachloroethene	µg/L	<1	<1	<1	<1	<1
8260	Trans 1,2-Dichloroethene	µg/L	<1		<1		
8260	Trichloroethene	µg/L	<1	<1	<1	<1	<1
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1

MW-040
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		Site ID	MW-040	MW-040	MW-040
		Sample Name	MW40 (91_9-93_9)	MW40 86.9-88.9	MW40 91.9-93.9
		Date Sampled	4/29/2004	10/21/2004	10/21/2004
		Time Sampled	2:35:00 PM	10:35:00 AM	10:35:00 AM
		Depth	91.9-93.9	86.9-88.9	91.9-93.9
METHOD	LABNAME	RESUNIT			
8260	1,1,1-Trichloroethane	µg/L	<1	<1 J	<1 J
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	<1	<1	<1
8260	Carbon tetrachloride	µg/L	<1	<1 J	<1 J
8260	Chloroform	µg/L	<1	<1	<1
8260	cis-1,2-Dichloroethene	µg/L	<1	<1	<1
8260	Tetrachloroethene	µg/L	<1	<1	<1
8260	Trans 1,2-Dichloroethene	µg/L		<1	<1
8260	Trichloroethene	µg/L	<1	<1	<1
8260	Vinyl chloride	µg/L	<1	<1	<1

MW-042
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		Site ID	MW-42	MW-42	MW-42	MW-42	MW-42	MW-42	MW-042
		Sample Name	MW422	MW423	MW424	MW425	MW42-59FEET	MW-42	MW-42-Y3S1
		Date Sampled	6/21/1997	9/27/1997	3/27/1998	10/17/1998	2/15/2001	2/19/2001	2/19/2001
		Time Sampled	2:05:00 PM	10:35:00 AM	3:05:00 PM	10:40:00 AM	10:25:00 AM	12:45:00 PM	
		Depth					42-59		
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	10 U	10 U	10 U	10 U	1 U	1 ND	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	10 U	10 U	10 U	10 U	1 U	1 ND	**9**
8260	1,1,2-Trichloroethane	µg/L	10 U	10 U	10 U	10 U	1 U	1 ND	<1
8260	1,1-Dichloroethene	µg/L	10 U	10 U	10 U	10 U	1 U	1 ND	<1
8260	Carbon tetrachloride	µg/L	10 U	10 U	10 U	10 U	1 U	1 ND	<1
8260	Chloroform	µg/L	10 U	10 U	10 U	10 U	1 U	1 ND	<1
8260	cis-1,2-Dichloroethene	µg/L					1 U	1 ND	
8260	Tetrachloroethene	µg/L	10 U	10 U	10 U	10 U	1 U	1 ND	<1
8260	Trans 1,2-Dichloroethene	µg/L							<1
8260	Trichloroethene	µg/L	10 U	10 U	10 U	10 U	1 U	1 ND	1
8260	Vinyl chloride	µg/L	10 U	10 U	10 U	10 U	1 U	1 ND	<1

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		Site ID	MW-42	MW-42	MW-042	MW-42	MW-42	MW-42
		Sample Name	MW-42-Y3S2	MW-42-1_020410	MW-42-Y4S1	MW-42-1_021001	MW-42-1	MW-42-1_031028
		Date Sampled	10/3/2001	4/10/2002	4/10/2002	10/1/2002	4/8/2003	10/28/2003
		Time Sampled		1:42:00 PM		11:25:00 AM		3:25:00 PM
		Depth	57.5-58.5		57-58	57-58	57-58	57-58
METHOD	LABNAME	RESUNIT						
8260	1,1,1-Trichloroethane	µg/L	1 U	1 ND	<1	1 ND	1 ND	1 ND
8260	1,1,2,2-Tetrachloroethane	µg/L	1 U	1 ND	<1	1 ND	1 ND	1 ND
8260	1,1,2-Trichloroethane	µg/L	1 U	1 ND	<1	1 ND	1 ND	1 ND
8260	1,1-Dichloroethene	µg/L	1 U	1 ND	<1	1 ND	1 ND	1 ND
8260	Carbon tetrachloride	µg/L	1 U	1 ND	<1	1 ND	1 ND	1 ND
8260	Chloroform	µg/L	1 U	1 ND	<1	1 ND	1 ND	1 ND
8260	cis-1,2-Dichloroethene	µg/L	1 U	1 ND		1 ND	1 ND	1 ND
8260	Tetrachloroethene	µg/L	1 U	1 ND	<1	1 ND	1 ND	1 ND
8260	Trans 1,2-Dichloroethene	µg/L			<1			
8260	Trichloroethene	µg/L	1 U	1 ND	<1	1 ND	1 ND	1 ND
8260	Vinyl chloride	µg/L	1 U	1 ND	<1	1 ND	1 ND	1 ND

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		Site ID	MW-042	MW-042
		Sample Name	MW42 (54_4-56_4)	MW42 55.8-57.8
		Date Sampled	4/29/2004	10/21/2004
		Time Sampled	4:35:00 PM	10:50:00 AM
		Depth	54.4-56.4	55.8-57.8
METHOD	LABNAME	RESUNIT		
8260	1,1,1-Trichloroethane	µg/L	<1 U	<1 J
8260	1,1,2,2-Tetrachloroethane	µg/L	<1 U	<1 U
8260	1,1,2-Trichloroethane	µg/L	<1 U	<1 U
8260	1,1-Dichloroethene	µg/L	<1 U	<1 U
8260	Carbon tetrachloride	µg/L	<1 U	<1 J
8260	Chloroform	µg/L	<1 U	<1 U
8260	cis-1,2-Dichloroethene	µg/L	<1 U	<1 U
8260	Tetrachloroethene	µg/L	<1 U	<1 U
8260	Trans 1,2-Dichloroethene	µg/L		<1 U
8260	Trichloroethene	µg/L	<1 U	<1 U
8260	Vinyl chloride	µg/L	<1 U	<1 U

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MW-043
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		Site ID	MW-43	MW-43	MW-43	MW-43	MW-43	MW-43	MW-43
		Sample Name	MW431_45	MW435	MW435B	MW435U	MW-43	MW-43-Y3S2-A	MW-43-Y3S2-B
		Date Sampled	10/21/1998	10/23/1998	10/24/1998	11/8/1998	2/19/2001	10/3/2001	10/3/2001
		Time Sampled	8:30:00 AM	5:40:00 PM	5:00:00 PM	12:30:00 PM	2:00:00 PM		
		Depth	NA	NA	NA	NA		163.5-165.5	168.5-170.5
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	<10	1 J	**14**	2 J	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<10	<10	<10	<10	**9.59**	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<10	<10	<10	<10	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	<10	<10	<10	<10	<1	<1	<1
8260	Carbon tetrachloride	µg/L	<10	<10	<10	<10	<1	<1	<1
8260	Chloroform	µg/L	2 J	<10	<10	<10	<1	<1	<1
8260	cis-1,2-Dichloroethene	µg/L					<1	<1	<1
8260	Tetrachloroethene	µg/L	<10	<10	<10	<10	<1	<1	<1
8260	Trans 1,2-Dichloroethene	µg/L							
8260	Trichloroethene	µg/L	<10	<10	<10	<10	**1.02**	<1	<1
8260	Vinyl chloride	µg/L	<10	<10	<10	<10	<1	<1	<1

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		Site ID	MW-43	MW-43	MW-43	MW-43	MW-43	MW-43	MW-43
		Sample Name	MW-43-1_02041	MW-43-2_02041	MW-43-1_02100	MW-43-2_02100	MW-43-1	MW-43-2	MW-43-1_03102
		Date Sampled	4/10/2002	4/10/2002	10/1/2002	10/1/2002	4/8/2003	4/8/2003	10/28/2003
		Time Sampled	1:45:00 PM	1:47:00 PM	12:45:00 PM	12:46:00 PM			3:45:00 PM
		Depth	163.5-165.6	168.6-170.6	163.5-165.5	168.5-170.5	163.5-165.5	168.5-170.5	NA
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Chloroform	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Tetrachloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Trans 1,2-Dichloroethene	µg/L							
8260	Trichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1	<1

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MW-043
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		Site ID	MW-43	MW-043	MW-043	MW-043	MW-043
		Sample Name	MW-43-2_031028	MW43 (163-165)	MW43 (168-170)	MWDUP-3	MW43 163-165
		Date Sampled	10/28/2003	4/29/2004	4/29/2004	4/29/2004	10/21/2004
		Time Sampled	3:50:00 PM	9:50:00 AM	9:55:00 AM	12:00:00 PM	
		Depth	NA	163-165	168-170	168-170	163-165
METHOD	LABNAME	RESUNIT					
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1 J
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1
8260	Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1 J
8260	Chloroform	µg/L	<1	<1	<1	<1	<1
8260	cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1
8260	Tetrachloroethene	µg/L	<1	<1	<1	<1	<1
8260	Trans 1,2-Dichloroethene	µg/L					<1
8260	Trichloroethene	µg/L	<1	<1	<1	<1	<1
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1

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		Site ID	MW-043	MW-043
		Sample Name	MW43 168-170	DUP03
		Date Sampled	10/21/2004	10/21/2004
		Time Sampled		
		Depth	168-170	168-170
METHOD	LABNAME	RESUNIT		
8260	1,1,1-Trichloroethane	µg/L	<1 J	<1 J
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1
8260	1,1-Dichloroethene	µg/L	<1	<1
8260	Carbon tetrachloride	µg/L	<1 J	<1 J
8260	Chloroform	µg/L	<1	<1
8260	cis-1,2-Dichloroethene	µg/L	<1	<1
8260	Tetrachloroethene	µg/L	<1	<1
8260	Trans 1,2-Dichloroethene	µg/L	<1	<1
8260	Trichloroethene	µg/L	<1	<1
8260	Vinyl chloride	µg/L	<1	<1

MW-044
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		Site ID	MW-44	MW-44	MW-44	MW-44	MW-44	MW-44	MW-44
		Sample Name	MW442DUP	MW443	MW443DUP	MW444	MW444D	MW445	MW445FD
		Date Sampled	6/20/1997	9/25/1997	9/25/1997	3/27/1998	3/27/1998	10/17/1998	10/17/1998
		Time Sampled	11:20:00 AM	11:40:00 AM	11:40:00 AM	4:25:00 PM	4:25:00 PM	11:54:00 AM	11:54:00 AM
		Depth							
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	<10	<10	<10	<10	<10	<10	<10
8260	1,1,2,2-Tetrachloroethane	µg/L	<10	<10	<10	<10	<10	<10	<10
8260	1,1,2-Trichloroethane	µg/L	<10	<10	<10	<10	<10	<10	<10
8260	1,1-Dichloroethene	µg/L	<10	<10	<10	<10	<10	<10	<10
8260	Carbon tetrachloride	µg/L	6 J	6 J	7 J	4 J	5 J	<10	<10
8260	Chloroform	µg/L	7 J	<10	<10	4 J	5 J	<10	<10
8260	cis-1,2-Dichloroethene	µg/L							
8260	Tetrachloroethene	µg/L	<10	<10	1 J	<10	<10	<10	<10
8260	Trans 1,2-Dichloroethene	µg/L							
8260	Trichloroethene	µg/L	4 J	5 J	6 J	3 J	4 J	<10	<10
8260	Vinyl chloride	µg/L	<10	<10	<10	<10	<10	<10	<10

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		Site ID	MW-44	MW-44	MW-44	MW-44	MW-44	MW-044	MW-44
		Sample Name	MW-44-Y1Q1	MW-44-Y1Q2	MW-44-Y1Q3	MW-44-Y1Q4	MW-44-Y2Q1	MW-44-Y3S1	MW-44
		Date Sampled	2/2/1999	5/25/1999	8/26/1999	11/2/1999	2/15/2000	2/15/2001	5/16/2000
		Time Sampled	4:30:00 PM	10:10:00 AM	3:40:00 PM	3:00:00 PM	10:45:00 AM		3:15:00 PM
		Depth							
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<10	<1	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<10	<1	<1	**12**	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<10	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	<1	<1	<10	<1	<1	<1	<1
8260	Carbon tetrachloride	µg/L	<1	<1	<10	<1	<1	<1	**2.3**
8260	Chloroform	µg/L	<1	<1	<10	<1	<1	<1	**1.88**
8260	cis-1,2-Dichloroethene	µg/L	<1	<1	<10	<1	<1		0.65 J
8260	Tetrachloroethene	µg/L	<1	<1	<10	<1	<1	<1	<1
8260	Trans 1,2-Dichloroethene	µg/L						<1	
8260	Trichloroethene	µg/L	<1	<1	<10	<1	<1	**3**	**1.36**
8260	Vinyl chloride	µg/L	<1	<1	<10	<1	<1	<1	<1

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MW-044
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		Site ID	MW-044	MW-44	MW-44	MW-44	MW-44	MW-44
		Sample Name	MW-44-Y2Q2	MW-44-Y2Q3	MW-44-Y2Q4	MW-44-Y3S2-A	MW-44-Y3S2-B	1W-44-Y3S2-(
		Date Sampled	5/16/2000	8/24/2000	11/8/2000	10/3/2001	10/3/2001	10/3/2001
		Time Sampled		3:30:00 PM	1:15:00 PM			
		Depth				60-62	65-67	70-72
METHOD	LABNAME	RESUNIT						
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	**1.29**	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
8260	Carbon tetrachloride	µg/L	**2**	**5.3**	**2.1**	<1	**6.47**	**2.84**
8260	Chloroform	µg/L	1	**3.62**	**1.23**	**2.05**	**5.04**	**2.78**
8260	cis-1,2-Dichloroethene	µg/L		**1.35**	0.622 J	<1	<1	<1
8260	Tetrachloroethene	µg/L	<1	<1	<1	<1	<1	<1
8260	Trans 1,2-Dichloroethene	µg/L	<1					
8260	Trichloroethene	µg/L	1	**4.92**	0.79 J	<1	**2.77**	**1.26**
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

MW-044
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METHOD	LABNAME	RESUNIT					
		Site ID	MW-44	MW-44	MW-44	MW-44	MW-44
		Sample Name	MW-44-1_020410	MW-44-2_020410	MW-44-3_020410	MW-44-100	MW-44-1_02100
		Date Sampled	4/10/2002	4/10/2002	4/10/2002	10/1/2002	10/1/2002
		Time Sampled	1:35:00 PM	1:37:00 PM	1:40:00 PM	11:30:00 AM	11:30:00AM
		Depth	59.4-61.4	64.4-66.4	69.4 -1.4		60-62
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1
8260	Carbon tetrachloride	µg/L	<1	**4.36**	**2.1**	<1	<1
8260	Chloroform	µg/L	<1	**2.81**	**1.29**	<1	<1
8260	cis-1,2-Dichloroethene	µg/L	<1	**1.1**	<1	<1	<1
8260	Tetrachloroethene	µg/L	<1	<1	<1	<1	<1
8260	Trans 1,2-Dichloroethene	µg/L					
8260	Trichloroethene	µg/L	<1	**2.05**	0.85 J	<1	<1
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1

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		Site ID	MW-44	MW-44	MW-44	MW-044	MW-44	MW-044
		Sample Name	MW-44-2_021001	MW-44-3_021001	MW-44-1	MW-44-Y5S1	MW-44-1_031028	MW44 (64-66)
		Date Sampled	10/1/2002	10/1/2002	4/8/2003	4/8/2003	10/28/2003	4/29/2004
		Time Sampled	11:31:00 AM	11:32:00 AM			3:15:00 PM	4:50:00 PM
		Depth	65-67	70-72		65-67		64-66
METHOD	LABNAME	RESUNIT						
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
8260	Carbon tetrachloride	µg/L	**4.39**	<1	**3.65**	**3**	**1.96**	**1.3**
8260	Chloroform	µg/L	**2.8**	**1.03**	**2.19**	**2**	**1.15**	0.91 J
8260	cis-1,2-Dichloroethene	µg/L	**1.01**	<1	0.84		<1	0.35 J
8260	Tetrachloroethene	µg/L	<1	<1	<1	<1	<1	<1
8260	Trans 1,2-Dichloroethene	µg/L		<1		<1		
8260	Trichloroethene	µg/L	**1.67**	<1	**1.64**	1	0.82 J	0.75 J
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

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		Site ID	MW-044	MW-044	MW-044
		Sample Name	MW44 (69-71)	MW44 64-66	MW44 69-71
		Date Sampled	4/29/2004	10/21/2004	10/21/2004
		Time Sampled	4:55:00 PM	12:20:00 PM	12:25:00 PM
		Depth	69-71	64-66	69-71
METHOD	LABNAME	RESUNIT			
8260	1,1,1-Trichloroethane	µg/L	<1	<1 J	<1 J
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	<1	<1	<1
8260	Carbon tetrachloride	µg/L	0.85 J	0.71 J	0.54 J
8260	Chloroform	µg/L	0.42 J	0.64 J	0.42 J
8260	cis-1,2-Dichloroethene	µg/L	<1	0.27 J	<1
8260	Tetrachloroethene	µg/L	<1	<1	<1
8260	Trans 1,2-Dichloroethene	µg/L		<1	<1
8260	Trichloroethene	µg/L	0.35 J	0.55 J	0.41 J
8260	Vinyl chloride	µg/L	<1	<1	<1

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		Site ID	MW-51	MW-51	MW-51	MW-51	MW-51	MW-51	MW-51
		Sample Name	MW512	MW513	MW514	MW-515	MW-51-Y1Q1	MW-51-Y1Q2	MW-51-Y1Q3
		Date Sampled	6/20/1997	9/27/1997	3/28/1998	10/19/1998	2/2/1999	5/24/1999	8/26/1999
		Time Sampled	9:00:00 AM		11:30:00 AM	2:50:00 PM	3:30:00 PM	6:50:00 PM	1:30:00 PM
		Depth							
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	<10	2 J	2 J	<10	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<10	<10	<10	<10	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<10	<10	<10	<10	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	6 J	**23**	**30**	**10**	23.4	16.9	15.2
8260	Carbon tetrachloride	µg/L	<10	<10	<10	<10	<1	<1	<1
8260	Chloroform	µg/L	<10	<10	<10	<10	<1	<1	<1
8260	cis-1,2-Dichloroethene	µg/L					<1	<1	<1
8260	Tetrachloroethene	µg/L	1 J	4 J	4 J	2 J	1.5	<1	0.54 J
8260	Trans 1,2-Dichloroethene	µg/L							
8260	Trichloroethene	µg/L	5 J	**13**	**15**	7 J	8.44	4.64	3.71
8260	Vinyl chloride	µg/L	<10	<10	<10	<10	<1	<1	<1

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		Site ID	MW-51	MW-51	MW-51	MW-51	MW-51	MW-51	MW-51
		Sample Name	MW-51-Y1Q4	MW-51-Y2Q1	MW-51	MW-51-Y2Q3	MW-51-Y2Q4	MW-51_010219	MW-51-Y3S2-A
		Date Sampled	11/3/1999	2/15/2000	5/16/2000	8/24/2000	11/8/2000	2/19/2001	10/3/2001
		Time Sampled	9:50:00 AM	10:15:00 AM	12:15:00 PM	3:00:00 PM	9:50:00AM	15:30	
		Depth							58.5 - 60.5
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	1.79	<1	0.71 J
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	8.19	1.08	8.23	12.9	57.9	**15.8**	**31.4**
8260	Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Chloroform	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Tetrachloroethene	µg/L	0.83 J	<1	<1	1.49	3.51	**1.86**	**2.13**
8260	Trans 1,2-Dichloroethene	µg/L							
8260	Trichloroethene	µg/L	2.93	0.7 J	4.63	6.33	13.2	**6.09**	**9.88**
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1	<1

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		Site ID	MW-51	MW-51	MW-51	MW-51	MW-51
		Sample Name	MW-51-Y3S2-B	MW-51-1_020410	MW-51-100_020410	MW-51-2_020410	MW-51-100_021001
		Date Sampled	10/3/2001	4/10/2002	4/10/2002	4/10/2002	10/1/2002
		Time Sampled		10:00	10:00:00 AM	10:05:00 AM	8:55:00 AM
		Depth	63.5 - 65.5	58-60	58-60	63-65	58.5-60.5
METHOD	LABNAME	RESUNIT					
8260	1,1,1-Trichloroethane	µg/L	0.74 J	<1	<1	<1	**1.07**
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	**26.9**	**26.4**	**27.2**	**18.2**	**59.5**
8260	Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1
8260	Chloroform	µg/L	<1	<1	<1	<1	<1
8260	cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1
8260	Tetrachloroethene	µg/L	1	<1	<1	<1	0.85 J
8260	Trans 1,2-Dichloroethene	µg/L					
8260	Trichloroethene	µg/L	**10.7**	**1.9**	**2.03**	**1.72**	**6.81**
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1

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		Site ID	MW-51	MW-51	MW-51	MW-51	MW-051	MW-51
		Sample Name	MW-51-1_021001	MW-51-2_021001	MW-51-1	MW-51-100	MW-51-Y5S1	MW-51-1_031028
		Date Sampled	10/1/2002	10/1/2002	4/8/2003	4/8/2003	4/8/2003	10/28/2003
		Time Sampled	8:55:00 AM	8:56.00 AM				11:15:00 AM
		Depth	58.5-60.5	63.5-65.5			63.5-65.5	
METHOD	LABNAME	RESUNIT						
8260	1,1,1-Trichloroethane	µg/L	**1.09**	1	0.7	0.65	<1 J	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	**57**	**53.7**	**33.3**	**32.8**	**33**	**17.6**
8260	Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
8260	Chloroform	µg/L	<1	<1	<1	<1	<1	<1
8260	cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1		<1
8260	Tetrachloroethene	µg/L	0.74 J	<1	0.74	0.76	<1 J	0.92 J
8260	Trans 1,2-Dichloroethene	µg/L					<1	
8260	Trichloroethene	µg/L	**7.11**	**7.04**	**10**	**9.83**	**10**	**5.54**
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

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		Site ID	MW-051	MW-051	MW-051	MW-051
		Sample Name	MW51 (58-60)	MW51 (63-65)	MW51 58-60	MW51 63-65
		Date Sampled	4/29/2004	4/29/2004	10/21/2004	10/21/2004
		Time Sampled	4:00:00 PM	4:05:00 PM	1:15:00 PM	1:20:00 PM
		Depth	58-60	63-65	58-60	63-65
METHOD	LABNAME	RESUNIT				
8260	1,1,1-Trichloroethane	µg/L	0.33 J	0.36 J	<1 J	0.23 J
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	**17**	**21**	**14**	**16**
8260	Carbon tetrachloride	µg/L	<1	<1	<1 J	<1
8260	Chloroform	µg/L	<1	<1	<1	<1
8260	cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1
8260	Tetrachloroethene	µg/L	**1.3**	0.5 J	**1.2**	0.3 J
8260	Trans 1,2-Dichloroethene	µg/L			<1	<1
8260	Trichloroethene	µg/L	**5.3**	**5.5**	**5.1**	**3.8**
8260	Vinyl chloride	µg/L	<1	<1	<1	<1

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		Site ID	MW-54	MW-54	MW-54	MW-54	MW-54	MW-54	MW-54
		Sample Name	MW542	MW543	MW544	MW545	MW-54-Y1Q1	MW-54-Y1Q2	MW-54-Y1Q3
		Date Sampled	6/20/1997	9/25/1997	3/28/1998	10/16/1998	2/3/1999	5/25/1999	8/26/1999
		Time Sampled	11:25:00 AM	4:25:00 PM	3:25:00 PM	10:10:00 AM	12:15:00 PM	12:50:00 PM	6:20:00 PM
		Depth							
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	<10	<10	<10	<10	<1	<1	<10
8260	1,1,2,2-Tetrachloroethane	µg/L	<10	<10	<10	<10	<1	<1	<10
8260	1,1,2-Trichloroethane	µg/L	<10	<10	<10	<10	<1	<1	<10
8260	1,1-Dichloroethene	µg/L	<10	<10	<10	<10	<1	<1	<10
8260	Carbon tetrachloride	µg/L	<10	1 J	2 J	<10	<1	**3.53**	**12.8**
8260	Chloroform	µg/L	<10	<10	1 J	<10	<1	<1	5.04
8260	cis-1,2-Dichloroethene	µg/L					**3.6**	**3.9**	**10.3**
8260	Tetrachloroethene	µg/L	<10	2 J	2 J	<10	<1	<1	<10
8260	Trans 1,2-Dichloroethene	µg/L							
8260	Trichloroethene	µg/L	**58**	**150**	**180**	**79**	**60.6**	**61**	**50**
8260	Vinyl chloride	µg/L	<10	<10	<10	<10	<1	<1	<10

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		Site ID	MW-54	MW-54	MW-54	MW-54	MW-54	MW-54	MW-54
		Sample Name	MW-54-Y1Q4	MW-54-Y2Q1	MW54NA	MW-54_000517	MW-54-Y2Q3	MW-54-Y2Q4	MW-54A--Y2Q4
		Date Sampled	11/3/1999	2/15/2000	3/23/2000	5/17/2000	8/22/2000	11/7/2000	11/7/2000
		Time Sampled	3:45:00 PM	3:50:00 PM	6:25:00 PM	4:00:00 PM	3:45:00 PM	1:15:00 PM	1:15:00 PM
		Depth							
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	**40.1**	**23.6**	**19**	<1	**4.9**	**22.7**	**20.4**
8260	1,1,2-Trichloroethane	µg/L	**1.15**	0.9 J	1	<1	0.56 J	**1.24**	**1**
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Carbon tetrachloride	µg/L	**5.02**	**14.7**	**19**	**4.46**	**7.97**	**12.8**	**8.65**
8260	Chloroform	µg/L	**2.54**	**12.4**	**18**	**5.54**	**13.8**	**19.8**	**14.1**
8260	cis-1,2-Dichloroethene	µg/L	**24.1**	**22.5**	**30**	**7.08**	**14.9**	**34.6**	**23.8**
8260	Tetrachloroethene	µg/L	0.68 J	0.94 J	**5**	<1	0.74 J	0.91 J	0.63 J
8260	Trans 1,2-Dichloroethene	µg/L							
8260	Trichloroethene	µg/L	**30.6**	**43.3**	**50**	**11.6**	**28.1**	**29.2**	**22.6**
8260	Vinyl chloride	µg/L	<1	<1	0.1 J	<1	<1	<1	<1

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		Site ID	MW-054	MW-54	MW-54	MW-54	MW-54	MW-54
		Sample Name	MW-54-Y3S1	MW-54-Y3S2-A	MW-54-Y3S2-B	MW-54-Y3S2-C	MW-54-1_020410	W-54-2_0204
		Date Sampled	2/15/2001	10/3/2001	10/3/2001	10/3/2001	4/10/2002	4/10/2002
		Time Sampled					10:35:00 AM	10:38:00 AM
		Depth		81.8 - 83.8	84-86	91-93	82.1-84.1	85.6-87.6
METHOD	LABNAME	RESUNIT						
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	**37**	**3.93**	**8.67**	**11**	**9.06**	**18.1**
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	**1.19**
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
8260	Carbon tetrachloride	µg/L	**11**	**1.79**	**7.7**	**19.7**	**2.96**	**14.2**
8260	Chloroform	µg/L	**14**	**6.87**	**11.9**	**12**	**5.54**	**8.84**
8260	cis-1,2-Dichloroethene	µg/L		**11.3**	**27.6**	**31.4**	**24.2**	**43.7**
8260	Tetrachloroethene	µg/L	<1 J	<1	<1	**1.89**	<1	**1.62**
8260	Trans 1,2-Dichloroethene	µg/L	1					
8260	Trichloroethene	µg/L	**28**	**20.2**	**105**	**259**	**127**	**618**
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

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		Site ID	MW-54	MW-54	MW-54	MW-54	MW-54	MW-54
		Sample Name	MW-54-3_020410	MW-54-1_021001	MW-54-2_021001	MW-54-3_021001	MW-54-1	MW-54-2
		Date Sampled	4/10/2002	10/1/2002	10/1/2002	10/1/2002	4/8/2003	4/8/2003
		Time Sampled	10:40:00 AM	9:00:00 AM	9:01:00 AM	9:02:00 AM		
		Depth	90.6-92.6	82.1-84.1	85.6-87.6	90.6-92.6	82.1-84.1	85.6-87.6
METHOD	LABNAME	RESUNIT						
8260	1,1,1-Trichloroethane	µg/L	<1	<10	<10	<10	<1	<10
8260	1,1,2,2-Tetrachloroethane	µg/L	**17.5**	**40**	**60.1**	**50.7**	**10.3**	**40.6**
8260	1,1,2-Trichloroethane	µg/L	**1.1**	<10	<10	<10	<1	<10
8260	1,1-Dichloroethene	µg/L	<1	<10	<10	<10	<1	<10
8260	Carbon tetrachloride	µg/L	**14.4**	5.58 J	**14.4**	**14**	0.68	7.32
8260	Chloroform	µg/L	**8.15**	**11.5**	**11.6**	**10.9**	**1.82**	<10
8260	cis-1,2-Dichloroethene	µg/L	**41.7**	**66**	**85.9**	**80.2**	**10.7**	**44.1**
8260	Tetrachloroethene	µg/L	**2.06**	<10	<10	<10	<1	3.43
8260	Trans 1,2-Dichloroethene	µg/L						
8260	Trichloroethene	µg/L	**723**	**333**	**632**	**920**	**72.4**	**632**
8260	Vinyl chloride	µg/L	<1	<10	<10	<10	<1	<10

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		Site ID	MW-54	MW-54	MW-54	MW-54	MW-54
		Sample Name	MW-54-3	MW-54-1_031118	MW-54-2_031118	MW-54-3_031118	MW-54-300
		Date Sampled	4/8/2003	11/18/2003	11/18/2003	11/18/2003	11/18/2003
		Time Sampled		10:30:00 AM	10:35:00 AM	10:40:00 AM	10:40:00 AM
		Depth	90.6-92.6				
METHOD	LABNAME	RESUNIT					
8260	1,1,1-Trichloroethane	µg/L	<10	<1	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	**44.1**	**301**	**1680**	**1760**	**1610**
8260	1,1,2-Trichloroethane	µg/L	<10	**2.05**	**7.86**	**10.4**	**9.8**
8260	1,1-Dichloroethene	µg/L	<10	<1	<1	<1	<1
8260	Carbon tetrachloride	µg/L	7.48	<1	**3.35**	**2.58**	**2.73**
8260	Chloroform	µg/L	<10	<1	**3.18**	**3.68**	**3.82**
8260	cis-1,2-Dichloroethene	µg/L	**44.3**	**26.3**	**75.5**	**85.3**	**87.7**
8260	Tetrachloroethene	µg/L	4.02	<1	**7.37**	**10.1**	**10.4**
8260	Trans 1,2-Dichloroethene	µg/L					
8260	Trichloroethene	µg/L	**629**	**216**	**1530**	**1900**	**1760**
8260	Vinyl chloride	µg/L	<10	<1	<1	<1	<1

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		Site ID	MW-54	MW-54	MW-54	MW-054
		Sample Name	MW54-020404-90_5-92_5	MW54-020404-85-87_5	MW54-040704	MW54 (85_6-87_6)
		Date Sampled	2/4/2004	2/4/2004	4/7/2004	4/29/2004
		Time Sampled	9:10:00 AM	10:30:00AM	11:20:00 AM	3:25:00 PM
		Depth	90.5-92.5	85-87.5		85.6-87.6
METHOD	LABNAME	RESUNIT				
8260	1,1,1-Trichloroethane	µg/L	0.25 U	0.25 U	0.25 U	<50
8260	1,1,2,2-Tetrachloroethane	µg/L	**2150**	**2180**	**1350**	**1300**
8260	1,1,2-Trichloroethane	µg/L	**9.85**	**9.74**	**6.63**	<50
8260	1,1-Dichloroethene	µg/L	0.5 U	0.5 U	0.5 U	<50
8260	Carbon tetrachloride	µg/L	**5**	**5.79**	**3.94**	<50
8260	Chloroform	µg/L	**5.27**	**5.4**	**3.93**	<50
8260	cis-1,2-Dichloroethene	µg/L	**83.2**	**83.4**	**61.2**	49 J
8260	Tetrachloroethene	µg/L	**12.8**	**14.2**	**8.36**	<50
8260	Trans 1,2-Dichloroethene	µg/L				
8260	Trichloroethene	µg/L	**2110**	**2230**	**1530 J**	**1400**
8260	Vinyl chloride	µg/L	0.441 J	0.301 J	0.25 U	<50

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		Site ID	MW-054	MW-054	MW-054
		Sample Name	MW54 (90_6-92_6)	MW54 85.6-87.6	MW54 90.6-92.6
		Date Sampled	4/29/2004	10/21/2004	10/21/2004
		Time Sampled	3:30:00 PM	1:35:00 PM	1:40:00 PM
		Depth	90.6-92.6	85.6-87.6	90.6-92.6
METHOD	LABNAME	RESUNIT			
8260	1,1,1-Trichloroethane	µg/L	<67	<140	<140
8260	1,1,2,2-Tetrachloroethane	µg/L	**2000**	**4300**	**4700**
8260	1,1,2-Trichloroethane	µg/L	<67	<140	<140
8260	1,1-Dichloroethene	µg/L	<67	<140	<140
8260	Carbon tetrachloride	µg/L	<67	<140	<140
8260	Chloroform	µg/L	<67	<140	<140
8260	cis-1,2-Dichloroethene	µg/L	64 J	70 J	61 J
8260	Tetrachloroethene	µg/L	<67	<140	<140
8260	Trans 1,2-Dichloroethene	µg/L		<140	<140
8260	Trichloroethene	µg/L	**2000**	**2500**	**2700**
8260	Vinyl chloride	µg/L	<67	<140	<140

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		Site ID	MW-56	MW-56	MW-56	MW-056	MW-56	MW-56	MW-56
		Sample Name	DJA223	MW-56-Y2Q1	MW-56	MW-56-Y2Q2	MW-56-Y2Q3	MW-56-Y2Q4	MW-56A
		Date Sampled	3/15/1999	2/16/2000	5/17/2000	5/17/2000	8/22/2000	11/7/2000	2/19/2001
		Time Sampled		4:13:00 PM	9:40:00 AM		4:15:00 PM	11:30:00 AM	2:30:00 PM
		Depth							
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	<10	<1	<1	<1	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<10	<1	<1	<1	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<10	<1	<1	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	<10	<1	<1	<1	<1	<1	<1
8260	Carbon tetrachloride	µg/L	<10	0.57 J	<1	<1	<1	<1	0.71 J
8260	Chloroform	µg/L	**22**	**38.2**	**43.4**	**43**	**1.67**	**39.4**	**61.4**
8260	cis-1,2-Dichloroethene	µg/L		<1	<1		<1	<1	<1
8260	Tetrachloroethene	µg/L	<10	<1	<1	<1	0.41 J	<1	<1
8260	Trans 1,2-Dichloroethene	µg/L				<1			
8260	Trichloroethene	µg/L	<10	**1.7**	**1.82**	1	0.74 J	**1.54**	**2.01**
8260	Vinyl chloride	µg/L	<10	<1	<1	<1	<1	<1	<1

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		Site ID	MW-56	MW-56	MW-56	MW-56	MW-56	MW-56
		Sample Name	MW-56_010219	MW-56A	MW-56-Y3S2	MW-56-1_020410	MW-56-1_021001 1	MW-56-1
		Date Sampled	2/19/2001	2/19/2001	10/3/2001	4/10/2002	10/1/2002	4/8/2003
		Time Sampled	2:30:00 PM	2:30:00 PM		9:25:00 AM	8:40:00 AM	
		Depth			68.1- 70.1	69.6-70.6	69.6-70.6	
METHOD	LABNAME	RESUNIT						
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
8260	Carbon tetrachloride	µg/L	0.71 J	0.71 J	<1	<1	<1	<1
8260	Chloroform	µg/L	**59.4**	**61.4**	**27.8**	**31.6**	**49.3**	**41.2**
8260	cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
8260	Tetrachloroethene	µg/L	0.71 J	<1	<1	<1	<1	<1
8260	Trans 1,2-Dichloroethene	µg/L				<1		
8260	Trichloroethene	µg/L	**1.99**	**2.01**	**1.18**	**1.27**	**1.95**	**1.32**
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

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METHOD	LABNAME	RESUNIT		
		Site ID	MW-56	MW-056
		Sample Name	MW-56-1_031028	MW56 (67_2-69_2)
		Date Sampled	10/28/2003	4/28/2004
		Time Sampled	8:50:00 AM	4:55:00 PM
		Depth		67.2-69.2
8260	1,1,1-Trichloroethane	µg/L	<1	<2
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<2
8260	1,1,2-Trichloroethane	µg/L	<1	<2
8260	1,1-Dichloroethene	µg/L	<1	<2
8260	Carbon tetrachloride	µg/L	<1	<2
8260	Chloroform	µg/L	**26**	**22**
8260	cis-1,2-Dichloroethene	µg/L	<1	<2
8260	Tetrachloroethene	µg/L	<1	<2
8260	Trans 1,2-Dichloroethene	µg/L		
8260	Trichloroethene	µg/L	<1	1 J
8260	Vinyl chloride	µg/L	<1	<2

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		Site ID	MW-57	MW-57	MW-57	MW-57	MW-57	MW-057	MW-57
		Sample Name	DJA224	MW-57-Y2Q1	MW-57	MW-57-Y2Q3	MW-57-Y2Q4	MW-57-Y3S1	MW-57-Y3S2-A
		Date Sampled	3/15/1999	2/16/2000	5/17/2000	8/22/2000	11/7/2000	2/15/2001	10/3/2001
		Time Sampled		11:30:00 AM	8:00:00 AM	4:30:00 PM	9:40:00 AM		
		Depth							65 - 67
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	<10	<1	<1	<1	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<10	<1	<1	<1	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<10	<1	<1	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	<10	<1	<1	<1	<1	<1	<1
8260	Carbon tetrachloride	µg/L	**14**	**39.9**	**50.6**	**45.7**	**48.3**	**44**	**37.1**
8260	Chloroform	µg/L	6 J	**13.2**	**10.3**	**11.3**	**8.93**	**11**	**25.9**
8260	cis-1,2-Dichloroethene	µg/L		<1	<1	0.53 J	0.411 J		0.86 J
8260	Tetrachloroethene	µg/L	2 J	**5.38**	**5.1**	**5.86**	**5.07**	**5**	**5.24**
8260	Trans 1,2-Dichloroethene	µg/L						**1**	
8260	Trichloroethene	µg/L	**22**	**50.8**	**46.5**	**49.2**	**30.9**	**28**	**73.4**
8260	Vinyl chloride	µg/L	<10	<1	<1	<1	<1	<1	<1

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		Site ID	MW-57	MW-57	MW-57 M 0 0	MW-57	MW-57	MW-57
		Sample Name	MW-57-Y3S2-B	MW-57-1_020410	MW-57-2_020410	MW-57-1_021001	MW-57-2_021001	MW-57-1
		Date Sampled	10/3/2001	4/10/2002	4/10/2002	10/1/2002	10/1/2002	4/8/2003
		Time Sampled		9:00:00 AM	9:02:00 AM	8:20:00 AM	8:22:00 AM	
		Depth	67.5 - 69.5	64.5-65.5	67-69	64.5-65.5	67-69	64.5-65.5
METHOD	LABNAME	RESUNIT						
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
8260	Carbon tetrachloride	µg/L	**37.5**	**38.5**	**42.8**	**19.6**	**43**	**41.5**
8260	Chloroform	µg/L	**28**	**13.4**	**15.1**	**12.6**	**29.7**	**11.8**
8260	cis-1,2-Dichloroethene	µg/L	0.97 J	0.51 J	0.55 J	0.54 J	**1.13**	0.53
8260	Tetrachloroethene	µg/L	**4.58**	**6.08**	**5.02**	**3.64**	**8.14**	**6.43**
8260	Trans 1,2-Dichloroethene	µg/L						
8260	Trichloroethene	µg/L	**77.4**	**58.8**	**66.4**	**54.1**	**111**	**60.9**
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

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		Site ID	MW-57	MW-57	MW-57	MW-057	MW-057	MW-057
		Sample Name	MW-57-2	MW-57-1_031028	MW-57-2_031028	MW57 (64_5-66_5)	MW57 (67-69)	MWDUP-4
		Date Sampled	4/8/2003	10/28/2003	10/28/2003	4/29/2004	4/29/2004	4/29/2004
		Time Sampled		8:25:00 AM	8:30:00 AM	9:00:00 AM	9:05:00 AM	12:00:00 PM
		Depth	67-69	64.5-65.5	67-69	64.5-66.5	67-69	67-69
METHOD	LABNAME	RESUNIT						
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<3.3	<1.7	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<3.3	<1.7	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<3.3	<1.7	<1
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<3.3	<1.7	<1
8260	Carbon tetrachloride	µg/L	**42.4**	**24.3**	**33.3**	**33**	**25**	**24**
8260	Chloroform	µg/L	**15.6**	**12.2**	**18.2**	**11**	**5.7**	**5.5**
8260	cis-1,2-Dichloroethene	µg/L	0.68	<1	<1	<3.3	<1.7	<1
8260	Tetrachloroethene	µg/L	**7.86**	**5.32**	**5.28**	**5**	**3.5**	**4.1**
8260	Trans 1,2-Dichloroethene	µg/L						
8260	Trichloroethene	µg/L	**73.3**	**57.3**	**71.6**	**48**	**31**	**35**
8260	Vinyl chloride	µg/L	<1	<1	<1	<3.3	<1.7	<1

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		Site ID	MW-057
		Sample Name	1W57 66.8-68.8
		Date Sampled	10/21/2004
		Time Sampled	1:55:00 PM
		Depth	66.8-68.8
METHOD	LABNAME	RESUNIT	
8260	1,1,1-Trichloroethane	µg/L	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<1
8260	1,1,2-Trichloroethane	µg/L	<1
8260	1,1-Dichloroethene	µg/L	<1
8260	Carbon tetrachloride	µg/L	**19**
8260	Chloroform	µg/L	**6.1**
8260	cis-1,2-Dichloroethene	µg/L	0.27 J
8260	Tetrachloroethene	µg/L	**2.7**
8260	Trans 1,2-Dichloroethene	µg/L	0.58 J
8260	Trichloroethene	µg/L	**29**
8260	Vinyl chloride	µg/L	<1

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		Site ID	MW-58	MW-58	MW-58	MW-58	MW-58	MW-58	MW-58
		Sample Name	DJA225	MW-58-Y2Q1	MW-58	MW-58-Y2Q3	MW-58-Y2Q4	MW-58_010219	MW-58-Y3S2
		Date Sampled	3/15/1999	2/16/2000	5/17/2000	8/22/2000	11/7/2000	2/19/2001	10/3/2001
		Time Sampled		16:30	10:00	12:15	11:10	14:15	
		Depth							65 - 67
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	<10	<1	<1	<1	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<10	<1	<1	<1	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<10	<1	<1	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	<10	<1	<1	<1	<1	<1	<1
8260	Carbon tetrachloride	µg/L	<10	<1	<1	0.26 J	<1	0.43 J	<1
8260	Chloroform	µg/L	<10	**3.68**	**5.88**	**2.42**	**1.91**	**2.05**	**1.85**
8260	cis-1,2-Dichloroethene	µg/L		<1	<1	<1	<1	<1	<1
8260	Tetrachloroethene	µg/L	<10	<1	<1	0.41 J	<1	0.4 J	<1
8260	Trans 1,2-Dichloroethene	µg/L							
8260	Trichloroethene	µg/L	<10	**4.36**	**4.22**	**1.44**	**2.72**	**2.47**	**1.78**
8260	Vinyl chloride	µg/L	<10	<1	<1	<1	<1	<1	<1

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		Site ID	MW-58	MW-58	MW-58	MW-58	MW-058
		Sample Name	MW-58-1_020410	MW-58-1_021001	MW-58-1	MW-58-1_031028	MW58 (64_5-66_5)
		Date Sampled	4/10/2002	10/1/2002	4/8/2003	10/28/2003	4/28/2004
		Time Sampled	9:15	8:30		8:40	17:10
		Depth	64.9-66.9	64.9-66.9	64.9-66.9	64.9-66.9	64.5-66.5
METHOD	LABNAME	RESUNIT					
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1 U
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1 U
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1 U
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1 U
8260	Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1 U
8260	Chloroform	µg/L	**2.75**	**3.36**	**1.47**	<1	**1.1**
8260	cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1 U
8260	Tetrachloroethene	µg/L	<1	<1	0.57	<1	<1 U
8260	Trans 1,2-Dichloroethene	µg/L					
8260	Trichloroethene	µg/L	**2.46**	**1.82**	**1.06**	<1	0.41 J
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1 U

MW-065
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		Site ID	MW-065
		Sample Name	MW-65-Y4S1
		Date Sampled	4/10/2002
		Time Sampled	
		Depth	
METHOD	LABNAME	RESUNIT	
8260	1,1,1-Trichloroethane	µg/L	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<1
8260	1,1,2-Trichloroethane	µg/L	<1
8260	1,1-Dichloroethene	µg/L	<1
8260	Carbon tetrachloride	µg/L	<1
8260	Chloroform	µg/L	<1
8260	cis-1,2-Dichloroethene	µg/L	
8260	Tetrachloroethene	µg/L	<1
8260	Trans 1,2-Dichloroethene	µg/L	<1
8260	Trichloroethene	µg/L	<1
8260	Vinyl chloride	µg/L	<1

MW-067
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		Site ID	MW-67	MW-67	MW-67	MW-67	MW-67	MW-67
		Sample Name	MW-67-Y2Q1	MW-67-Y3S2-A	MW-67-Y3S2-B	MW-67-Y3S2-C	MW-67-2_020410	MW-67-1_020410
		Date Sampled	2/16/2000	10/3/2001	10/3/2001	10/3/2001	4/10/2002	4/10/2002
		Time Sampled	2:15:00 PM				1:35:00 PM	1:55:00 PM
		Depth		261.5 - 263.5	266.5 - 268.8	271 - 273	261-263	266-268
METHOD	LABNAME	RESUNIT						
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
8260	Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
8260	Chloroform	µg/L	<1	<1	<1	<1	<1	<1
8260	cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
8260	Tetrachloroethene	µg/L	<1	<1	<1	<1	<1	<1
8260	Trans 1,2-Dichloroethene	µg/L						
8260	Trichloroethene	µg/L	**1.26**	<1	<1	<1	<1	<1
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

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		Site ID	MW-67	MW-67	MW-67	MW-67	MW-67	MW-67
		Sample Name	MW-67-3_020410	MW-67-1_021001	MW-67-2_021001	MW-67-3_021001	MW-67-1	MW-67-2
		Date Sampled	4/10/2002	10/1/2002	10/1/2002	10/1/2002	4/8/2003	4/8/2003
		Time Sampled	2:00:00 PM	1:15:00 PM	1:16:00 PM	1:17:00 PM		
		Depth	271-273	261-263	266-268	271-273	261-263	266-268
METHOD	LABNAME	RESUNIT						
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
8260	Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
8260	Chloroform	µg/L	<1	<1	<1	<1	<1	<1
8260	cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
8260	Tetrachloroethene	µg/L	<1	<1	<1	<1	<1	<1
8260	Trans 1,2-Dichloroethene	µg/L						
8260	Trichloroethene	µg/L	<1	<1	<1	<1	<1	<1
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

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		Site ID	MW-67	MW-67	MW-67	MW-67	MW-067	MW-067
		Sample Name	MW-67-3	MW-67-1_031028	MW-67-2_031028	MW-67-3_031028	MW67 (261-263)	MW67 (266-268)
		Date Sampled	4/8/2003	10/28/2003	10/28/2003	10/28/2003	4/29/2004	4/29/2004
		Time Sampled		16:00	4:05:00 PM	4:10:00 PM	9:20:00 AM	9:30:00 AM
		Depth	271-273	261-263	261-263	261-263	261-263	266-268
METHOD	LABNAME	RESUNIT						
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
8260	Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
8260	Chloroform	µg/L	<1	<1	<1	<1	<1	<1
8260	cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
8260	Tetrachloroethene	µg/L	<1	<1	<1	<1	<1	<1
8260	Trans 1,2-Dichloroethene	µg/L						
8260	Trichloroethene	µg/L	<1	<1	<1	<1	<1	<1
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

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		Site ID	MW-067	MW-067	MW-067	MW-067	MW-067
		Sample Name	MW67 (271-273)	MW67 261-263	DUP04	MW67 266-268	MW67 271-273
		Date Sampled	4/29/2004	10/21/2004	10/21/2004	10/21/2004	10/21/2004
		Time Sampled	9:35:00 AM	2:10:00 PM	2:10:00 PM	2:15:00 PM	2:20:00 PM
		Depth	271-273	261-263	261-263	266-268	271-273
METHOD	LABNAME	RESUNIT					
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1 J	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1
8260	Carbon tetrachloride	µg/L	<1	<1	<1 J	<1	<1
8260	Chloroform	µg/L	<1	<1	<1	<1	<1
8260	cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1
8260	Tetrachloroethene	µg/L	<1	<1	<1	<1	<1
8260	Trans 1,2-Dichloroethene	µg/L		<1	<1	<1	<1
8260	Trichloroethene	µg/L	<1	<1	<1	<1	<1
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1

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		Site ID	MW-68	MW-68	MW-68	MW-68	MW-68	MW-68	MW-68
		Sample Name	4W-68_00051	MW-68-Y2Q3	MW-68-Y2Q4	4W-68_01021	MW-68-Y3S2-A	MW-68-Y3S2-B	MW-68-Y4S2-A
		Date Sampled	5/18/2000	8/23/2000	11/8/2000	2/14/2001	10/3/2001	10/3/2001	10/3/2001
		Time Sampled	8:00:00 AM	3:00:00 PM	2:10:00 PM	2:30:00 PM			
		Depth					74.5 - 76.5	79.5 - 81.5	79.1 - 81.1
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	1 U	1 U	1 U	<1	1 U	1 U	1 U
8260	1,1,2,2-Tetrachloroethane	µg/L	1 U	**6.55**	1 U	<1	1 U	**4.15**	1 U
8260	1,1,2-Trichloroethane	µg/L	1 U	1 U	1 U	<1	1 U	1 U	1 U
8260	1,1-Dichloroethene	µg/L	1 U	1 U	1 U	<1	1 U	1 U	**9.01**
8260	Carbon tetrachloride	µg/L	0.89 J	1 U	1 U	<1	1 U	1 U	1 U
8260	Chloroform	µg/L	**6.44**	1 U	1 U	<1	1 U	**3.5**	**1.43**
8260	cis-1,2-Dichloroethene	µg/L	**13.7**	**31**	**1.9**	**4.38**	1 U	**3.12**	1 U
8260	Tetrachloroethene	µg/L	**2.07**	**8.35**	0.4 J	0.92 J	1 U	**1.6**	**4.3**
8260	Trans 1,2-Dichloroethene	µg/L							
8260	Trichloroethene	µg/L	**44.5**	**48.9**	**3.21**	**9.67**	0.5 J	**6.56**	**3.85**
8260	Vinyl chloride	µg/L	1 U	1 U	1 U	<1	1 U	1 U	1 U

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		Site ID	MW-68	MW-68	MW-68	MW-68	MW-68	MW-68	MW-68
		Sample Name	AW-68-1_02041	AW-68-2_02041	AW-68-2_02100	MW-68-1_021001	MW-68-1	MW-68-2	AW-68-1_031028
		Date Sampled	4/10/2002	4/10/2002	10/1/2002	10/1/2002	4/8/2003	4/8/2003	10/28/2003
		Time Sampled	10:55:00 AM	10:58:00 AM	9:42:00 AM	9:40:00 AM			12:40:00 PM
		Depth	74.1-76.1	79.1-81.1		74.1-76.1	74.1-76.1	79.1-81.1	74.1-76.1
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	**1.01**	<1	<1	<1	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	<1	<1	**9.01**	<1	<1	<1	<1
8260	Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Chloroform	µg/L	<1	<1	**1.43**	**7.88**	<1	<1	<1
8260	cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Tetrachloroethene	µg/L	<1	<1	**4.3**	<1	<1	<1	<1
8260	Trans 1,2-Dichloroethene	µg/L							
8260	Trichloroethene	µg/L	<1	<1	**3.85**	0.94 J	<1	<1	<1
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1	<1

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		Site ID	MW-68	MW-068	MW-068	MW-068	MW-068	MW-068
		Sample Name	MW-68-2_031028	MW68 (69-71)	MW68 (73-75)	MW68 (78-80)	MW68 70.6-72.6	1W68 74.6-76.
		Date Sampled	10/28/2003	4/29/2004	4/29/2004	4/29/2004	10/21/2004	10/21/2004
		Time Sampled	12:42:00 PM	10:50:00 AM	10 55:00 AM	11:00:00 AM	2:40:00 PM	2:45:00 PM
		Depth	79.1-81.1	69-71	73-75	78-80	70.6-72.6	74.6-76.6
METHOD	LABNAME	RESUNIT						
8260	1,1,1-Trichloroethane	µg/L	<1	<2.5	<1	<1	<33 J	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	0.85 J	<1	<1	**81**	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<2.5	<1	<1	<33	<1
8260	1,1-Dichloroethene	µg/L	<1	<2.5	<1	**1.5**	<33	<1
8260	Carbon tetrachloride	µg/L	<1	<2.5	0.21 J	<1	<33 J	<1
8260	Chloroform	µg/L	<1	0.78 J	0.59 J	<1	<33	<1
8260	cis-1,2-Dichloroethene	µg/L	<1	<2.5	<1	<1	<33	<1
8260	Tetrachloroethene	µg/L	<1	<2.5	0.32 J	**2.1**	<33	<1
8260	Trans 1,2-Dichloroethene	µg/L					<33	<1
8260	Trichloroethene	µg/L	<1	1 J	<1	**1.4**	20 J	<1
8260	Vinyl chloride	µg/L	<1	<2.5	<1	<1	<33	<1

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		Site ID	MW-068
		Sample Name	MW68 78.6-80.6
		Date Sampled	10/21/2004
		Time Sampled	2:50:00 PM
		Depth	78.6-80.6
METHOD	LABNAME	RESUNIT	
8260	1,1,1-Trichloroethane	µg/L	<1 J
8260	1,1,2,2-Tetrachloroethane	µg/L	<1
8260	1,1,2-Trichloroethane	µg/L	<1
8260	1,1-Dichloroethene	µg/L	<1
8260	Carbon tetrachloride	µg/L	<1 J
8260	Chloroform	µg/L	<1
8260	cis-1,2-Dichloroethene	µg/L	<1
8260	Tetrachloroethene	µg/L	<1
8260	Trans 1,2-Dichloroethene	µg/L	<1
8260	Trichloroethene	µg/L	<1
8260	Vinyl chloride	µg/L	<1

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MW-069
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		Site ID	MW-69	MW-69	MW-69	MW-69	MW-69	MW-69	MW-069
		Sample Name	MW-69-Y2Q1	MW-69	MW-69-Y2Q3	MW-69-Y2Q4	MW69-88_2FT	MW69-94_2FT	MW-69-Y3S1
		Date Sampled	2/16/2000	5/18/2000	8/24/2000	11/9/2000	1/8/2001	1/8/2001	2/14/2001
		Time Sampled	8:35:00 AM	8:50:00 AM	2:00:00 PM	9:40:00 AM	3:50:00 PM	3:45:00 PM	
		Depth							
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	**4.36**	<1	0.6 J	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Carbon tetrachloride	µg/L	<1	0.73 J	<1	<1	0.3 J	<1	<1
8260	Chloroform	µg/L	<1	**3.56**	<1	**2.12**	1	0.1 J	<1
8260	cis-1,2-Dichloroethene	µg/L	**4.11**	**31.2**	**2.26**	**23.1**	**11**	<1	
8260	Tetrachloroethene	µg/L	**1.76**	**4.87**	0.68 J	**6.39 J**	**4**	<1	<1 J
8260	Trans 1,2-Dichloroethene	µg/L							1
8260	Trichloroethene	µg/L	**99.2**	**642**	**50.4**	**464**	**350**	<1	**42**
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1	<1

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METHOD	LABNAME	Site ID	MW-69	MW-69	MW-69 0	MW-69	MW-69	MW-69	MW-69
		Sample Name	MW-69-Y3S2-A	MW-69-Y3S2-B	4W-69-1_02041(	4W-69-2_02041(	4W-69-2_02100	4W-69-1_02100	W-69-100_0304(
		Date Sampled	10/3/2001	10/3/2001	4/10/2002	4/10/2002	10/2/2002	10/2/2002	10/2/2002
		Time Sampled			11:00:00 AM	11:00:00 AM	8:42:00 AM	8:40:00 AM	11:00:00 AM
		Depth	85.5 - 87.5	91.5 - 93.5	86.4-88.4	91.4-93.4	86.4-88.4	91.4-93.4	
		RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Chloroform	µg/L	<1	<1	**1.52**	<1	<1	<1	<1
8260	cis-1,2-Dichloroethene	µg/L	<1	<1	**7.92**	<1	<1	<1	<1
8260	Tetrachloroethene	µg/L	<1	<1	**1.84**	<1	<1	0.98 J	**2.4**
8260	Trans 1,2-Dichloroethene	µg/L							
8260	Trichloroethene	µg/L	**1.01**	<1	**128**	<1	<1	**8.12**	**2.9**
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1	<1

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		Site ID	MW-69	MW-69	MW-69	MW-69	MW-69	MW-069
		Sample Name	MW-69-1	MW-69-2	MW-69-1_031028	4W-69-100_031028	MW-69-2_031028	MW69 (86-88)
		Date Sampled	4/8/2003	4/8/2003	10/28/2003	10/28/2003	10/28/2003	4/29/2004
		Time Sampled	11:00:00 AM		4:20:00 PM	4:20:00 PM	4:25:00 PM	8:40:00 AM
		Depth	86.4-88.4	91.4-93.4		86.4-88.4	91.4-93.4	86-88
METHOD	LABNAME	RESUNIT						
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
8260	Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
8260	Chloroform	µg/L	<1	<1	<1	<1	<1	<1
8260	cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
8260	Tetrachloroethene	µg/L	**1.94**	<1	<1	<1	<1	0.55 J
8260	Trans 1,2-Dichloroethene	µg/L						
8260	Trichloroethene	µg/L	**2.18**	<1	<1	<1	<1	0.47 J
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

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		Site ID	MW-069	MW-069	MW-069	MW-069	MW-069
		Sample Name	MW69 (91-93)	MWDUP-5	MW69 86.4-88.4	MW69 91.4-93.4	DUP05
		Date Sampled	4/29/2004	4/29/2004	10/21/2004	10/21/2004	10/21/2004
		Time Sampled	8:45:00 AM	12:00:00 PM	3:10:00 PM	3:15:00 PM	3:15:00 PM
		Depth	91-93	91-93	86.4-88.4	91.4-92.8	91.4-93.4
METHOD	LABNAME	RESUNIT					
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1 J	<1 J	<1 J
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1
8260	Carbon tetrachloride	µg/L	<1	<1	<1 J	<1 J	<1 J
8260	Chloroform	µg/L	<1	<1	0.17 J	<1	<1
8260	cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1
8260	Tetrachloroethene	µg/L	<1	<1	**1.5**	<1	<1
8260	Trans 1,2-Dichloroethene	µg/L			<1	<1 R	<1
8260	Trichloroethene	µg/L	<1	<1	**3.7**	<1	<1
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1

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		Site ID	MW-70	MW-70	MW-70	MW-70	MW-70	MW-70	MW-70
		Sample Name	MW-70-Y2Q1	MW70NA	MW-70-Top	/W-70 Bottor	MW-70-Y2Q3	MW-70-Y2Q4	MW70-86_3FT
		Date Sampled	2/15/2000	3/24/2000	5/18/2000	5/18/2000	8/24/2000	11/10/2000	1/8/2001
		Time Sampled	2:50:00 PM	10:55:00 AM	2:00:00 PM	2:15:00 PM	12:15:00 PM	11:10:00 AM	2:45:00 PM
		Depth							
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	**4830**	**310**	**284**	**342**	**930**	**3370**	**390**
8260	1,1,2-Trichloroethane	µg/L	**39.4**	**4**	**2.64**	**3.93**	**15.2**	**16**	**2**
8260	1,1-Dichloroethene	µg/L	0.61 J	<1	<1	<1	<1	<1	<1
8260	Carbon tetrachloride	µg/L	**3.48**	0.4 J	<1	0.64 J	**2.46**	**1.81**	0.4 J
8260	Chloroform	µg/L	**18.2**	**2**	**4.36**	**5.18**	**8.46**	**9.37**	1 J
8260	cis-1,2-Dichloroethene	µg/L	**522**	**46**	**38.8**	**54.8**	**211**	**292**	**21**
8260	Tetrachloroethene	µg/L	**89.7**	**13**	**2.92**	**5.35**	**35.8**	**32.5 J**	**2**
8260	Trans 1,2-Dichloroethene	µg/L							
8260	Trichloroethene	µg/L	**11700**	**1100**	**538**	**720**	**4240**	**4040**	**590**
8260	Vinyl chloride	µg/L	**1.88**	0.2 J	<1	<1	0.62 J	**1.69**	<1

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		Site ID	MW-70	MW-70	MW-70	MW-070	MW-70	MW-70	MW-70
		Sample Name	MW70-89_5FT	MW70-93FT	RW20-80FT	MW-70-Y3S1	MW-70-Y3S2-A	MW-70-Y3S2-B	MW-70-1_02041(
		Date Sampled	1/8/2001	1/8/2001	1/8/2001	2/15/2001	10/3/2001	10/3/2001	4/10/2002
		Time Sampled	2:40:00 PM	2:30:00 PM	2:35:00 PM				12:20:00 PM
		Depth					85 - 87	90 - 92	84.3-86.3
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	**130 J**	**14**	**18**	**482**	**1320**	**766**	**2540**
8260	1,1,2-Trichloroethane	µg/L	1	0.6 J	0.6 J	1	<1	<1	**7.35**
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Carbon tetrachloride	µg/L	0.3 J	<1	<1	<1 J	<1	<1	<1
8260	Chloroform	µg/L	0.5 J	0.1 J	0.1 J	1	<1	<1	**3.99**
8260	cis-1,2-Dichloroethene	µg/L	**9**	**12**	**11**		**92.8 J**	**55.9 J**	**114**
8260	Tetrachloroethene	µg/L	0.8 J	<1	<1	**5**	<1	<1	**13.5**
8260	Trans 1,2-Dichloroethene	µg/L				**7**			
8260	Trichloroethene	µg/L	**140 J**	**18**	**27**	**544**	**2340**	**1170**	**2940**
8260	Vinyl chloride	µg/L	<1	**8**	**8**	<1 J	<1	<1	<1

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		Site ID	MW-70	MW-70	MW-70	MW-70	MW-70	MW-70
		Sample Name	MW-70-2_020410	MW-70-1_021002	MW-70-100 0	MW-70-2_021002	MW-70-1	MW-70-2
		Date Sampled	4/10/2002	10/2/2002	10/2/2002	10/2/2002	4/8/2003	4/8/2003
		Time Sampled	11:25:00 AM	9:45:00 AM	9:45:00 AM	9:46:00 AM		
		Depth	89.3-91.3	84.3-86.3	89.3-91.3		84.3-86.3	89.3-91.3
METHOD	LABNAME	RESUNIT						
8260	1,1,1-Trichloroethane	µg/L	<1	<50	<50	<50	<200	<50
8260	1,1,2,2-Tetrachloroethane	µg/L	**1580**	**12400**	**11500**	**7980**	**3060**	**2120**
8260	1,1,2-Trichloroethane	µg/L	**5.2**	<50	<50	<50	<200	<50
8260	1,1-Dichloroethene	µg/L	0.98 J	<50	<50	<50	<200	<50
8260	Carbon tetrachloride	µg/L	<1	<50	<50	<50	<200	<50
8260	Chloroform	µg/L	**2.65**	<50	<50	<50	<200	<50
8260	cis-1,2-Dichloroethene	µg/L	**69.2**	**72.4**	**67**	42.5 J	<200	31.6
8260	Tetrachloroethene	µg/L	**3.27**	<50	<50	<50	<200	<50
8260	Trans 1,2-Dichloroethene	µg/L						
8260	Trichloroethene	µg/L	**1490**	**1980**	**1870**	**1340**	**1220**	**824**
8260	Vinyl chloride	µg/L	**17**	<50	<50	<50	<200	<50

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		Site ID	MW-70	MW-70	MW-070	MW-070	MW-070	MW-070
		Sample Name	MW-70-1_031028	MW-70-2_031028	MW70 (85_8-87_8)	MW70 (90_8-92_8)	MW70 85.8-87.8	MW70 90.8-92.8
		Date Sampled	10/28/2003	10/28/2003	4/29/2004	4/29/2004	10/22/2004	10/21/2004
		Time Sampled	1:05:00 PM	1:10:00 PM	12:05:00 PM	12:10:00 PM	3:25:00 PM	3:30:00 PM
		Depth	84 3-86.3	89.3-91.3	85.8-87.8	90.8-92 8	85.8-87.8	90.8-92.8
METHOD	LABNAME	RESUNIT						
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<250	<200	<140	<170 J
8260	1,1,2,2-Tetrachloroethane	µg/L	**8270**	**4170**	**8500**	**6900**	**5800**	**4200**
8260	1,1,2-Trichloroethane	µg/L	**6.92**	**4.39**	<250	<200	<140	<170
8260	1,1-Dichloroethene	µg/L	<1	<1	<250	<200	<140	<170
8260	Carbon tetrachloride	µg/L	0.64 J	<1	<250	<200	<140	<170 J
8260	Chloroform	µg/L	**2.5**	<1	<250	<200	<140	<170
8260	cis-1,2-Dichloroethene	µg/L	**112**	**50**	120 J	110 J	41 J	<170
8260	Tetrachloroethene	µg/L	**17.3**	**3.85**	<250	<200	<140	<170
8260	Trans 1,2-Dichloroethene	µg/L					<140	<170
8260	Trichloroethene	µg/L	**2530**	**1410**	**3700**	**2200**	**2100**	**1100**
8260	Vinyl chloride	µg/L	<1	**10.3**	<250	<200	<140	<170

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		Site ID
		Sample Name
		Date Sampled
		Time Sampled
		Depth
METHOD	LABNAME	RESUNIT
8260	1,1,1-Trichloroethane	µg/L
8260	1,1,2,2-Tetrachloroethane	µg/L
8260	1,1,2-Trichloroethane	µg/L
8260	1,1-Dichloroethene	µg/L
8260	Carbon tetrachloride	µg/L
8260	Chloroform	µg/L
8260	cis-1,2-Dichloroethene	µg/L
8260	Tetrachloroethene	µg/L
8260	Trans 1,2-Dichloroethene	µg/L
8260	Trichloroethene	µg/L
8260	Vinyl chloride	µg/L

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		Site ID	MW-071	MW-071	MW-071	MW-071	MW-071	MW-071	MW-071
		Sample Name	MW-71-Y2Q2	MW-71-Y3S1	MW-71-Y4S1	MW-71-Y4S1	MW-71-Y4S2	MW-71-Y4S2	MW-71-Y5S1
		Date Sampled	5/18/2000	2/15/2001	4/10/2002	4/10/2002	10/2/2002	10/2/2002	4/8/2003
		Time Sampled							
		Depth			71.3-72.3	73.8-75.8	71.3-72.3	73.8-75.8	71.3-72.3
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	**181**	**66**	**332**	**68**	**9**	**26**	**30**
8260	1,1,2-Trichloroethane	µg/L	<1	1	**6**	1	<1	<1	<1 J
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Carbon tetrachloride	µg/L	**34**	**24**	**20**	**17**	<1	**11**	**17**
8260	Chloroform	µg/L	**1080**	**624**	**788**	**233**	**8**	**73**	**117**
8260	cis-1,2-Dichloroethene	µg/L							
8260	Tetrachloroethene	µg/L	**4**	**5**	1	1	<1	<1	1
8260	Trans 1,2-Dichloroethene	µg/L	3	1	3	1	<1	<1	<1 J
8260	Trichloroethene	µg/L	**239**	**77**	**184**	**70**	1	**27**	**44**
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1	<1

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		Site ID	MW-071	MW-071	MW-071	MW-071	MW-071	MW-071
		Sample Name	MW-71-Y5S1	MW-71-Y5S2	MW-71-Y5S2	MW71 (71-73)	IW71 (74_4-76_4	IW71 73.86-75.86
		Date Sampled	4/8/2003	10/28/2003	10/28/2003	4/29/2004	4/29/2004	10/21/2004
		Time Sampled				11:35:00 AM	11:40:00 AM	3:40:00 PM
		Depth	73.8-75.8	71.3-72.3	73.8-75.8	71-73	74.4-76.4	73.86-75.86
METHOD	LABNAME	RESUNIT						
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<2 U	<1	<1 J
8260	1,1,2,2-Tetrachloroethane	µg/L	**7**	**27**	<1	**16**	**3.8**	**6**
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<2 U	<1	<1
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<2 U	<1	<1
8260	Carbon tetrachloride	µg/L	**15**	**6**	**15**	**7.8**	**8.2**	**5.6 J**
8260	Chloroform	µg/L	**35**	**88**	**31**	**56**	**17**	**28**
8260	cis-1,2-Dichloroethene	µg/L				0.98 J	0.48 J	0.7 J
8260	Tetrachloroethene	µg/L	<1	<1	<1	0.54 J	0.31 J	0.4 J
8260	Trans 1,2-Dichloroethene	µg/L	<1	<1	<1			<1
8260	Trichloroethene	µg/L	**16**	**17**	**10**	**15**	**6.9**	**12**
8260	Vinyl chloride	µg/L	<1	<1	<1	<2 U	<1	<1

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		Site ID	MW-76	MW-76	MW-76	MW-76	MW-76	MW-76	MW-76
		Sample Name	MW76-91_7F	MW76-88_7F	MW-76	MW-76-Y3S2-	MW-76-Y3S2-B	MW-76-1_02041	MW-76-2_02041
		Date Sampled	1/8/2001	1/8/2001	2/14/2001	10/3/2001	10/3/2001	4/10/2002	4/10/2002
		Time Sampled	3:30:00 PM	3:35:00 PM	3:00:00 PM			11:10:00 AM	11:12:00 AM
		Depth				86.5-88.5	91.5-93.5		
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	**2300**	**2000**	**694**	**106**	**332**	**117**	**15.5**
8260	1,1,2-Trichloroethane	µg/L	**2**	**2**	<1	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Chloroform	µg/L	1	0.9 J	<1	<1	<1	<1	**1.22**
8260	cis-1,2-Dichloroethene	µg/L	**58**	**34**	**17.8**	**4.67 J**	**19.6**	**10.6**	**13.5**
8260	Tetrachloroethene	µg/L	1	**5**	**3.98**	<1	<1	<1	**1.81**
8260	Trans 1,2-Dichloroethene	µg/L							
8260	Trichloroethene	µg/L	**690**	**840**	**276**	**72.2**	**117**	**90.7**	**142**
8260	Vinyl chloride	µg/L	0.3 J	<1	<1	<1	<1	<1	<1

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		Site ID	MW-76	MW-76	MW-76	MW-76	MW-76	MW-76	MW-076
		Sample Name	MW-76-1_02100	MW-76-2_02100	MW-76-1	MW-76-2	MW-76-1_03102	MW-76-2_03102	MW76 (86-88)
		Date Sampled	10/1/2002	10/1/2002	4/8/2003	4/8/2003	10/28/2003	10/28/2003	4/29/2004
		Time Sampled	9:45:00 AM	9:47:00 AM			12:55:00 PM	1:00:00 PM	11:05:00 AM
		Depth							86-88
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1 U
8260	1,1,2,2-Tetrachloroethane	µg/L	**54.7**	**14**	**8.92**	**11.6**	**6.76**	**8.08**	**3.6**
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1 U
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1 U
8260	Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1	<1 U
8260	Chloroform	µg/L	<1	<1	<1	**1.44**	<1	<1	0.21 J
8260	cis-1,2-Dichloroethene	µg/L	**2.94**	**1.9**	**5.98**	**10.3**	**1.74**	**4.16**	<1 U
8260	Tetrachloroethene	µg/L	<1	**1.8**	**12**	**7.43**	**2.29**	**1.87**	**1.4**
8260	Trans 1,2-Dichloroethene	µg/L							
8260	Trichloroethene	µg/L	**37.2**	**20.3**	**55.4**	**78.9**	**17.6**	**33.8**	**4**
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1	<1 U

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		Site ID	MW-076	MW-076	MW-076	MW-076
		Sample Name	MW76 (91-93)	MW-76	MW76 86.3-88.3	MW76 91.3-93.3
		Date Sampled	4/29/2004	8/16/2004	10/21/2004	10/21/2004
		Time Sampled	11:10:00 AM	1:15:00 PM	3:50:00 PM	3:55:00 PM
		Depth	91-93		86.3-88.3	91.3-93.3
METHOD	LABNAME	RESUNIT				
8260	1,1,1-Trichloroethane	µg/L	<1 U	<2 U	<1 J	<1 J
8260	1,1,2,2-Tetrachloroethane	µg/L	**10**	**2.9**	**4.3**	**12**
8260	1,1,2-Trichloroethane	µg/L	<1 U	<2 U	<1	<1
8260	1,1-Dichloroethene	µg/L	<1 U	<2 U	<1	<1
8260	Carbon tetrachloride	µg/L	<1 U	<2 U	<1 J	<1 J
8260	Chloroform	µg/L	0.23 J	0.47 J	0.16 J	0.18 J
8260	cis-1,2-Dichloroethene	µg/L	0.95 J	**6.9**	0.24 J	0.69 J
8260	Tetrachloroethene	µg/L	0.86 J	1.8 J	0.27 J	<1
8260	Trans 1,2-Dichloroethene	µg/L			<1	0.24 J
8260	Trichloroethene	µg/L	**10**	**34**	**3.9**	**8.9**
8260	Vinyl chloride	µg/L	<1 U	<2 U	<1	<1

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		Site ID	MW-77	MW-77	MW-77	MW-77	MW-77	MW-77	MW-77
		Sample Name	MW77-87_5FT	MW77-85FT	MW-77-Y3S2	W-77-1_0204	MW-77-1_02100	MW-77-1	MW-77-1_03111
		Date Sampled	1/8/2001	1/8/2001	10/3/2001	4/10/2002	10/1/2002	4/8/2003	11/18/2003
		Time Sampled	3:10:00 PM	3:15:00 PM		11:15:00 AM	9:50:00 AM		11:00:00 AM
		Depth			85-87				84.9-86.9
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	<1	<10	<1	<1	<50	<50	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	**2900**	**2400**	**1820**	**4330**	**18200**	**30000**	**12800**
8260	1,1,2-Trichloroethane	µg/L	**8**	7 J	<1	**9.46**	<50	<50	**8.53**
8260	1,1-Dichloroethene	µg/L	<1	<10	<1	<1	<50	<50	<1
8260	Carbon tetrachloride	µg/L	0.6 J	<10	<1	<1	<50	<50	0.86 J
8260	Chloroform	µg/L	**4**	4 J	<1	**5.39**	<50	<50	**4.96**
8260	cis-1,2-Dichloroethene	µg/L	**130**	**130**	**76.4 J**	**176**	**237**	**230**	**189**
8260	Tetrachloroethene	µg/L	**6**	**11**	<1	**7.18**	<50	<50	**14.8**
8260	Trans 1,2-Dichloroethene	µg/L							
8260	Trichloroethene	µg/L	**2500**	**2400**	**1620**	**3170**	**5040**	**5320**	**4550**
8260	Vinyl chloride	µg/L	0.4 J	<10	<1	<1	<50	<50	<1

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		Site ID	MW-077	MW-077	MW-077	MW-077	MW-077	MW-077
		Sample Name	MW77 (82-84)	MWDUP-6	1W77 (85_6-87_(	MW-77	1W77 85.27-87.2	DUP06
		Date Sampled	4/29/2004	4/29/2004	4/29/2004	8/15/2004	10/21/2004	10/21/2004
		Time Sampled	12:20:00 PM	12:00:00 PM	12:25:00 PM	1:50:00 PM	4:05:00 PM	4:05:00 PM
		Depth	82-84	85.6-87.6	85.6-87.6		85.27-87.27	85.27-87.27
METHOD	LABNAME	RESUNIT						
8260	1,1,1-Trichloroethane	µg/L	<620 U	<500 U	<500 U	<330 U	<250 J	<140 J
8260	1,1,2,2-Tetrachloroethane	µg/L	**15000**	**15000**	**15000**	**11000**	**4700**	**4600**
8260	1,1,2-Trichloroethane	µg/L	<620 U	<500 U	<500 U	<330 U	<250	<140
8260	1,1-Dichloroethene	µg/L	<620 U	<500 U	<500 U	<330 U	<250	<140
8260	Carbon tetrachloride	µg/L	<620 U	<500 U	<500 U	<330 U	<250 J	<140 J
8260	Chloroform	µg/L	<620 U	<500 U	<500 U	<330 U	<250	<140
8260	cis-1,2-Dichloroethene	µg/L	170 J	130 J	160 J	94 J	64 J	63 J
8260	Tetrachloroethene	µg/L	<620 U	<500 U	<500 U	<330 U	<250	<140
8260	Trans 1,2-Dichloroethene	µg/L					<250	<140
8260	Trichloroethene	µg/L	**5400**	**4600**	**5000**	**3200**	**1700**	**1700**
8260	Vinyl chloride	µg/L	<620 U	<500 U	<500 U	<330 U	<250	<140

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		Site ID	MW-78	MW-78	MW-78	MW-78	MW-78	MW-78	MW-78
		Sample Name	MW-78	1W-78-Y3S2-	1W-78-Y3S2-	IW-78-Y3S2-	MW-78-1_02041	MW-78-2_02041	MW-78-3_02041
		Date Sampled	2/14/2001	10/3/2001	10/3/2001	10/3/2001	4/10/2002	4/10/2002	4/10/2002
		Time Sampled	2:00:00 PM				10:45:00 AM	10:47:00 AM	10:50:00 AM
		Depth		53-55	58-60	63-65			
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Chloroform	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Tetrachloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Trans 1,2-Dichloroethene	µg/L							
8260	Trichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1	<1

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		Site ID	MW-78	MW-78	MW-78	MW-78	MW-78	MW-078	MW-078
		Sample Name	ΛW-78-1_02100	ΛW-78-2_02100	ΛW-78-3_021001	MW-78-1	ΛW-78-1_03102ξ	MW78 (47-49)	MW78 (52-54)
		Date Sampled	10/1/2002	10/1/2002	10/1/2002	4/8/2003	10/28/2003	4/29/2004	4/29/2004
		Time Sampled	9:30:00 AM	9:32:00 AM	9:34:00 AM		12:30:00 PM	10:25.00 AM	10:30:00 AM
		Depth						47-49	52-54
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1 U	<1 U
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1	**5.2**	**4**
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1 U	<1 U
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1 U	<1 U
8260	Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1 U	<1 U
8260	Chloroform	µg/L	<1	<1	<1	<1	<1	<1 U	<1 U
8260	cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1 U	<1 U
8260	Tetrachloroethene	µg/L	<1	<1	<1	<1	<1	<1 U	<1 U
8260	Trans 1,2-Dichloroethene	µg/L							
8260	Trichloroethene	µg/L	<1	<1	<1	<1	<1	0.36 J	0.28 J
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1 U	<1 U

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		Site ID	MW-078	MW-078	MW-078	MW-078	MW-078
		Sample Name	MW78 (57-59)	MW78 (62-64)	MW78 51.8-53.8	MW78 56.8-58.8	MW78 61.8-63.8
		Date Sampled	4/29/2004	4/29/2004	10/21/2004	10/21/2004	10/21/2004
		Time Sampled	10:35:00 AM	10:40:00 AM	4:20:00 PM	4:25:00 PM	4:30:00 PM
		Depth	57-59	62-64	51.8-53.8	56.8-58.8	61.8-63.8
METHOD	LABNAME	RESUNIT					
8260	1,1,1-Trichloroethane	µg/L	<1 U	<1 U	<1 J	<1 J	<1 J
8260	1,1,2,2-Tetrachloroethane	µg/L	**3.1**	<1 U	<1	0.74 J	0.35 J
8260	1,1,2-Trichloroethane	µg/L	<1 U	<1 U	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	<1 U	<1 U	<1	<1	<1
8260	Carbon tetrachloride	µg/L	<1 U	<1 U	<1 J	<1 J	<1 J
8260	Chloroform	µg/L	<1 U	<1 U	<1	<1	<1
8260	cis-1,2-Dichloroethene	µg/L	<1 U	<1 U	<1	<1	<1
8260	Tetrachloroethene	µg/L	<1 U	<1 U	<1	<1	<1
8260	Trans 1,2-Dichloroethene	µg/L			<1	<1	<1
8260	Trichloroethene	µg/L	0.26 J	<1 U	<1	0.59 J	0.35 J
8260	Vinyl chloride	µg/L	<1 U	<1 U	<1	<1	<1

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		Site ID	MW-79	MW-79	MW-79	MW-79	MW-79	MW-79	MW-79
		Sample Name	1W79-100_5F	4W79-96FEE	MW79-91_3F	MW79-86_1F	MW201-64FEET	MW-79	MW-79-Y3S2-A
		Date Sampled	2/15/2001	2/15/2001	2/15/2001	2/15/2001	2/15/2001	2/19/2001	10/3/2001
		Time Sampled	9:30:00 AM	9:35:00 AM	9:40:00 AM	9:45:00 AM	9:50:00 AM	11:45:00 AM	
		Depth							85-87
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	<1	**1.2**	**1.2**	0.8 J	**1.2**	<1	0.35 J
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	**3.8 U**	<1	**3.34**	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	**46**	**48**	**48**	**22**	**47**	**30.1**	**21**
8260	Carbon tetrachloride	µg/L	0.099 J	<1	0.1 J	<1	0.1 J	<1	<1
8260	Chloroform	µg/L	0.8 J	0.76 J	0.76 J	**1.7**	0.75 J	<1	<1
8260	cis-1,2-Dichloroethene	µg/L	0.89 J	0.53 J	0.51 J	**6.1**	0.5 J	**2.52**	0.62 J
8260	Tetrachloroethene	µg/L	**34**	**33**	**31**	**3.2**	**33**	**14**	**6.28**
8260	Trans 1,2-Dichloroethene	µg/L							
8260	Trichloroethene	µg/L	**26**	**20**	**20**	**18**	**20**	**9.6**	**8.8**
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1	<1

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		Site ID	MW-79	MW-79	MW-79	MW-79	MW-79	MW-79	MW-79
		Sample Name	MW-79-Y3S2-B	MW-79-Y3S2-C	MW-79-Y3S2-D	MW-79-1_02041	MW-79-2_02041	MW-79-200	MW-79-3_02041
		Date Sampled	10/3/2001	10/3/2001	10/3/2001	4/10/2002	4/10/2002	4/10/2002	4/10/2002
		Time Sampled				12:50:00 PM	12:52:00 PM	12:52:00 PM	12:55:00 PM
		Depth	90-92	95-97	100-102				
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	0.39 J	0.35 J	0.6 J	<1	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	**22.8**	**21.4**	**37.6**	**17.4**	**16.4**	**16.6**	**18.8**
8260	Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Chloroform	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	cis-1,2-Dichloroethene	µg/L	0.88 J	0.57 J	<1	0.68 J	<1	<1	<1
8260	Tetrachloroethene	µg/L	**6.85**	**6.53**	**16.6**	**3.39**	**3.56**	**3.48**	**6.96**
8260	Trans 1,2-Dichloroethene	µg/L							
8260	Trichloroethene	µg/L	**10.8**	**8.27**	**11.9**	**9**	**6.05**	**6.37**	**6.87**
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1	<1

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		Site ID	MW-79	MW-79	MW-79	MW-79	MW-79	MW-79
		Sample Name	MW-79-4_020410	MW-79-1_021001	MW-79-2_021001	MW-79-3_021001	MW-79-4_021001	MW-79-400
		Date Sampled	4/10/2002	10/1/2002	10/1/2002	10/1/2002	10/1/2002	10/1/2002
		Time Sampled	12:58:00	10:35:00 AM	10:36:00 AM	10:37:00 AM	10:38:00 AM	10:38:00 AM
		Depth						
METHOD	LABNAME	RESUNIT						
8260	1,1,1-Trichloroethane	µg/L	<1	<10	<10	<10	<10	<10
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<10	<10	<10	<10	<10
8260	1,1,2-Trichloroethane	µg/L	<1	<10	<10	<10	<10	<10
8260	1,1-Dichloroethene	µg/L	**18.5**	**19.8**	**22.6**	**23.5**	**23.8**	**23.7**
8260	Carbon tetrachloride	µg/L	<1	<10	<10	<10	<10	<10
8260	Chloroform	µg/L	<1	<10	<10	<10	<10	<10
8260	cis-1,2-Dichloroethene	µg/L	<1	5.34 J	8.67 J	8.07 J	7.02 J	6.7 J
8260	Tetrachloroethene	µg/L	**6.64**	<10	2.89 J	3.26 J	3.18 J	3.31 J
8260	Trans 1,2-Dichloroethene	µg/L						
8260	Trichloroethene	µg/L	**5.79**	**37.8**	**67.6**	**68.4**	**56.6**	**58.8**
8260	Vinyl chloride	µg/L	<1	<10	<10	<10	<10	<10

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		Site ID	MW-79	MW-79	MW-79	MW-79	MW-79	MW-79
		Sample Name	MW-79-1	MW-79-100_030408	MW-79-1	MW-79-2	ᴍW-79-1_03102ᴉ	ᴉW-79-100_0310
		Date Sampled	4/8/2003	4/8/2003	4/8/2003	4/8/2003	10/28/2003	10/28/2003
		Time Sampled	9:40:00 AM	9:40:00 AM	9:40:00 AM		2:30:00 PM	2:30:00 PM
		Depth						
METHOD	LABNAME	RESUNIT						
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	0.44	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	**29.3**	**30.1**	**29.3**	**35.8**	**21.6**	**23.4**
8260	Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
8260	Chloroform	µg/L	<1	<1	<1	<1	<1	<1
8260	cis-1,2-Dichloroethene	µg/L	0.86	0.84	0.86	0.48	**1.41**	**1.46**
8260	Tetrachloroethene	µg/L	**1.83**	**1.94**	**1.83**	**5.64**	**2.1**	**1.81**
8260	Trans 1,2-Dichloroethene	µg/L						
8260	Trichloroethene	µg/L	**15.2**	**14.9**	**15.2**	**12.3**	**11.2**	**11.2**
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

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		Site ID	MW-79	MW-079	MW-079	MW-079	MW-079	MW-079	MW-079
		Sample Name	MW-79-2_03102	MW79 (84-86)	MW79 (89-91)	MW79 (94-96)	MW79 (99-101)	MW-79	MW79 84-86
		Date Sampled	10/28/2003	4/29/2004	4/29/2004	4/29/2004	4/29/2004	8/13/2004	10/22/2004
		Time Sampled	2:35:00 PM	2:45:00 PM	2:50:00 PM	2:55:00 PM	3:00:00 PM	12:55:00 PM	8:55:00 AM
		Depth		84-86	89-91	94-96	99-101		84-86
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	<1	<1 U	<1 U	<1 U	<1 U	0.27 J	0.41 J
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1 U	<1 U	<1 U	<1 U	<1 U	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1 U	<1 U	<1 U	<1 U	<1 U	<1
8260	1,1-Dichloroethene	µg/L	**23.9**	**9.4**	**8.9**	**10**	**12**	**7.6 B**	**6.3**
8260	Carbon tetrachloride	µg/L	<1	<1 U	<1 U	<1 U	<1 U	0.77 J	0.37 J
8260	Chloroform	µg/L	<1	<1 U	<1 U	0.21 J	<1 U	<1 U	0.26 J
8260	cis-1,2-Dichloroethene	µg/L	**2.07**	**1.7**	**1.6**	1	0.56 J	**1.9**	**2.6**
8260	Tetrachloroethene	µg/L	**1.95**	**1.7**	**1.5**	**1.8**	**2.1**	**1.7**	**1.4**
8260	Trans 1,2-Dichloroethene	µg/L							**2.8**
8260	Trichloroethene	µg/L	**12.4**	**12**	**11**	**8.3**	**5.8**	**14**	**19**
8260	Vinyl chloride	µg/L	<1	<1 U	<1 U	<1 U	<1 U	<1 U	<1

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		Site ID	MW-079	MW-079	MW-079
		Sample Name	MW79 89-91	MW79 94-96	MW79 99-101
		Date Sampled	10/22/2004	10/22/2004	10/22/2004
		Time Sampled	9:05:00 AM	9:10:00 AM	9:15:00 AM
		Depth	89-91	94-96	99-101
METHOD	LABNAME	RESUNIT			
8260	1,1,1-Trichloroethane	µg/L	0.48 J	0.28 J	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	**6.3**	**6.8**	**7.8**
8260	Carbon tetrachloride	µg/L	0.42 J	0.29 J	0.2 J
8260	Chloroform	µg/L	0.29 J	<1	<1
8260	cis-1,2-Dichloroethene	µg/L	**3**	**1.7**	0.92 J
8260	Tetrachloroethene	µg/L	**1.2**	**1.5**	**1.8**
8260	Trans 1,2-Dichloroethene	µg/L	**3**	**1.9**	**1.4**
8260	Trichloroethene	µg/L	**21**	**14**	**9.5**
8260	Vinyl chloride	µg/L	<1	<1	<1

MW-080
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		Site ID	MW-80	MW-80	MW-80	MW-80	MW-80	MW-80	MW-80
		Sample Name	MW80-71_5F	MW80-68_5FT	MW80-65_3FT	MW-80	MW-80-Y3S2-A	MW-80-Y3S2-B	MW-80-Y3S2-C
		Date Sampled	2/15/2001	2/15/2001	2/15/2001	2/19/2001	10/3/2001	10/3/2001	10/3/2001
		Time Sampled	10:05:00 AM	10:10:00 AM	10:15:00 AM	12:00:00 PM			
		Depth					61.2-63.2	65.2-67.2	67.2-69.2
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Chloroform	µg/L	<1	<1	<1	<1	<1	**1.07**	<1
8260	cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Tetrachloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Trans 1,2-Dichloroethene	µg/L							
8260	Trichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1	<1

MW-080
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		Site ID	MW-80	MW-80	MW-80	MW-80	MW-80	MW-80	MW-80
		Sample Name	MW-80-1_02041	MW-80-2_02041	MW-80-3_02041	MW-80-1_02100	MW-80-2_02100	MW-80-3_02100	MW-80-1
		Date Sampled	4/10/2002	4/10/2002	4/10/2002	10/1/2002	10/1/2002	10/1/2002	4/8/2003
		Time Sampled	1:25:00 PM	1:29:00 PM	1:30:00 PM	11:05:00 AM	11:06:00 AM	11:07:00 AM	
		Depth							
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Chloroform	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Tetrachloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Trans 1,2-Dichloroethene	µg/L							
8260	Trichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1	<1

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		Site ID	MW-80	MW-080	MW-080	MW-080	MW-080	MW-080
		Sample Name	MW-80-1_031028	MW80 (59_9-61_9)	MW80 (64_9-66_9)	MW80 (69_9-71_9)	MW-80	MW80 62-64
		Date Sampled	10/28/2003	4/29/2004	4/29/2004	4/29/2004	8/17/2004	10/22/2004
		Time Sampled	3:00:00 PM	5:10:00 PM	5:15:00 PM	5:20:00 PM	10:50:00 AM	9:30:00 AM
		Depth		59.9-61.9	64.9-66.9	69.9-71.9		62-64
METHOD	LABNAME	RESUNIT						
8260	1,1,1-Trichloroethane	µg/L	<1	<1 U	<1 J	<1 J	<1 U	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1 U	<1 J	<1 J	<1 U	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1 U	<1 J	<1 J	<1 U	<1
8260	1,1-Dichloroethene	µg/L	<1	<1 U	<1 J	<1 J	<1 U	<1
8260	Carbon tetrachloride	µg/L	<1	<1 U	<1 J	<1 J	<1 U	<1
8260	Chloroform	µg/L	<1	<1 U	<1 J	<1 J	<1 U	<1
8260	cis-1,2-Dichloroethene	µg/L	<1	<1 U	<1 J	<1 J	<1 U	<1
8260	Tetrachloroethene	µg/L	<1	<1 U	<1 J	<1 J	<1 U	<1
8260	Trans 1,2-Dichloroethene	µg/L						<1
8260	Trichloroethene	µg/L	<1	<1 U	<1 J	<1 J	<1 U	<1
8260	Vinyl chloride	µg/L	<1	<1 U	<1 J	<1 J	<1 U	<1

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		Site ID	MW-080	MW-080	MW-080
		Sample Name	MW80 66-68	MW80 70-72	DUP07
		Date Sampled	10/22/2004	10/22/2004	10/22/2004
		Time Sampled	9:35:00 AM	9:40:00 AM	9:40:00 AM
		Depth	66-68	70-72	70-72
METHOD	LABNAME	RESUNIT			
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1 J
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	<1	<1	<1
8260	Carbon tetrachloride	µg/L	<1	<1	<1 J
8260	Chloroform	µg/L	<1	<1	<1
8260	cis-1,2-Dichloroethene	µg/L	<1	<1	<1
8260	Tetrachloroethene	µg/L	<1	<1	<1
8260	Trans 1,2-Dichloroethene	µg/L	<1	<1	<1
8260	Trichloroethene	µg/L	<1	<1	<1
8260	Vinyl chloride	µg/L	<1	<1	<1

MW-095
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		Site ID	MW-95	MW-95	MW-95	MW-95	MW-95	MW-95	MW-95
		Sample Name	MW-95	4W-95-Y3S2-4	4W-95-Y3S2-1	4W-95-Y3S2-(	MW-95-Y3S2-D	MW-95-1_02041(	MW-95-2_02041(
		Date Sampled	2/14/2001	10/3/2001	10/3/2001	10/3/2001	10/3/2001	4/10/2002	4/10/2002
		Time Sampled	1:35:00 PM					1:15:00 PM	1:17:00 PM
		Depth		41.5-43.5	46.5-48.5	51.5-53.5	57.5-59.5	41.3-43.3	46.3-48.3
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Chloroform	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Tetrachloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Trans 1,2-Dichloroethene	µg/L							
8260	Trichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1	<1

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		Site ID	MW-95	MW-95	MW-95	MW-95	MW-95	MW-95	MW-95
		Sample Name	4W-95-3_0204	1(MW-95-4_0204	1(MW-95-1_02100	MW-95-2_02100	MW-95-3_02100	MW-95-4_02100	MW-95-1
		Date Sampled	4/10/2002	4/10/2002	10/1/2002	10/1/2002	10/1/2002	10/1/2002	4/8/2003
		Time Sampled	1:20:00 PM	1:22:00 PM	10:50:00 AM	10:51:00 AM	10:52:00 AM	10:53:00 AM	
		Depth	51.3-53.3	56.3-58.3	41.3-43.3	46.3-48.3	51.3-53.3	56.3-58.3	46.3-48.3
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Chloroform	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Tetrachloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Trans 1,2-Dichloroethene	µg/L							
8260	Trichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1	<1

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		Site ID	MW-95	MW-095	MW-095	MW-095	MW-095	MW-095
		Sample Name	MW-95-1_031028	MW95	MW95 (47-49)	MW95 (52-54)	MW95 (57-59)	MW95 42-44
		Date Sampled	10/28/2003	4/29/2004	4/29/2004	4/29/2004	4/29/2004	10/22/2004
		Time Sampled	2:50:00 PM	4:10:00 PM		4:20:00 PM	4:25:00 PM	10:15:00 AM
		Depth	46.3-48.3	42-44	47-49	52-54	57-59	42-44
METHOD	LABNAME	RESUNIT						
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1 J	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1 J	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1 J	<1
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1 J	<1
8260	Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1 J	<1
8260	Chloroform	µg/L	<1	<1	<1	<1	<1 J	<1
8260	cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1 J	<1
8260	Tetrachloroethene	µg/L	<1	<1	<1	<1	<1 J	<1
8260	Trans 1,2-Dichloroethene	µg/L						<1
8260	Trichloroethene	µg/L	<1	<1	<1	<1	<1 J	<1
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1 J	<1

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METHOD	LABNAME				
		Site ID	MW-095	MW-095	MW-095
		Sample Name	MW95 47-49	MW95 52-54	MW95 57-59
		Date Sampled	10/22/2004	10/22/2004	10/22/2004
		Time Sampled	10:20:00 AM	10:25:00 AM	10:30:00 AM
		Depth	47-79	52-54	57-59
METHOD	LABNAME	RESUNIT			
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	<1	<1	<1
8260	Carbon tetrachloride	µg/L	<1	<1	<1
8260	Chloroform	µg/L	<1	<1	<1
8260	cis-1,2-Dichloroethene	µg/L	<1	<1	<1
8260	Tetrachloroethene	µg/L	<1	<1	<1
8260	Trans 1,2-Dichloroethene	µg/L	<1	<1	<1
8260	Trichloroethene	µg/L	<1	<1	<1
8260	Vinyl chloride	µg/L	<1	<1	<1

MW-126
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		Site ID	MW-126	MW-126	MW-126	MW-126	MW-126	MW-126
		Sample Name	N-126-1_0210	MW-126-1	N-126-1_0310	V126 (17_2-19	W126 (22_2-24_	MW126 23.2-25.2
		Date Sampled	10/1/2002	4/8/2003	10/28/2003	4/29/2004	4/29/2004	10/22/2004
		Time Sampled	11:00:00 AM		2:55:00 PM	2:15:00 PM	2:20:00 PM	10:45:00 AM
		Depth	22-24	22-24	22-24	17.2-19.2	22.2-24.2	23.2-25.2
METHOD	LABNAME	RESUNIT						
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
8260	Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
8260	Chloroform	µg/L	<1	<1	<1	<1	<1	<1
8260	cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
8260	Tetrachloroethene	µg/L	<1	<1	<1	<1	<1	<1
8260	Trans 1,2-Dichloroethene	µg/L						<1
8260	Trichloroethene	µg/L	<1	<1	<1	<1	<1	<1
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

MW-127
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		Site ID	MW-127	MW-127	MW-127	MW-127	MW-127	MW-127	MW-127
		Sample Name	N-127-1_0210	MW-127-2	MW-127-1	N-127-1_0310	W127 (61_2-63_	W127 (66_2-68_	MW127 61.2-63.2
		Date Sampled	10/1/2002	10/1/2002	4/8/2003	10/28/2003	4/29/2004	4/29/2004	10/22/2004
		Time Sampled	11:20:00 AM	11:21:00 AM		3:10:00 PM	5:00:00 PM	5:05:00 PM	10:55:00 AM
		Depth	61-63	66-68	66-68	66-68	61.2-63.2	66.2-68.2	61.2-63.2
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Chloroform	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Tetrachloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Trans 1,2-Dichloroethene	µg/L							<1
8260	Trichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1	<1

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		Site ID	MW-127
		Sample Name	MW127 66.2-68.2
		Date Sampled	10/22/2004
		Time Sampled	11:00:00 AM
		Depth	66.2-68.2
METHOD	LABNAME	RESUNIT	
8260	1,1,1-Trichloroethane	µg/L	<1 J
8260	1,1,2,2-Tetrachloroethane	µg/L	<1
8260	1,1,2-Trichloroethane	µg/L	<1
8260	1,1-Dichloroethene	µg/L	<1
8260	Carbon tetrachloride	µg/L	<1 J
8260	Chloroform	µg/L	0.18 J
8260	cis-1,2-Dichloroethene	µg/L	<1
8260	Tetrachloroethene	µg/L	<1
8260	Trans 1,2-Dichloroethene	µg/L	<1
8260	Trichloroethene	µg/L	<1
8260	Vinyl chloride	µg/L	<1

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		Site ID	MW-128	MW-128	MW-128	MW-128	MW-128	MW-128	MW-128
		Sample Name	ИW-128-Y5S2	MW-128-Y5S	ИW-128-Y5S2	MW-128-Y5S	MW128 (56-58)	MW128 (61-63)	MW128 (66-68)
		Date Sampled	10/28/2003	10/28/2003	10/28/2003	10/28/2003	4/29/2004	4/29/2004	4/29/2004
		Time Sampled					3:35:00 PM	3:40:00 PM	3:45:00 PM
		Depth	56-58	61-63	66-68	71-73	56-58	61-63	66-68
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	4.8 J	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<11	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<11	<1	<1
8260	1,1-Dichloroethene	µg/L	**2**	**3**	**2**	**2**	**310**	**5.1**	**2.3**
8260	Carbon tetrachloride	µg/L	<1	<1	<1	<1	<11	<1	<1
8260	Chloroform	µg/L	<1	<1	<1	<1	<11	<1	<1
8260	cis-1,2-Dichloroethene	µg/L					<11	<1	<1
8260	Tetrachloroethene	µg/L	<1	<1	<1	<1	<11	0.15 J	0.18 J
8260	Trans 1,2-Dichloroethene	µg/L	<1	<1	<1	<1			
8260	Trichloroethene	µg/L	1	1	<1	<1	**38**	**1.3**	1
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<11	<1	<1

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		Site ID	MW-128	MW-128	MW-128	MW-128	MW-128	MW-128	MW-128
		Sample Name	MW128 (71-73)	MWDUP-8	MW128 56-58	MW128 61-63	DUP08	MW128 66-68	MW128 71-73
		Date Sampled	4/29/2004	4/29/2004	10/22/2004	10/22/2004	10/22/2004	10/22/2004	10/22/2004
		Time Sampled	3:50:00 PM	12:00:00 PM	11:05:00 AM	11:10:00 AM	11:10:00 AM	11:15:00 AM	11:20:00 AM
		Depth	71-73	61-63	56-58	61-63	61-63	66-68	71-73
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<5	<1 J	<1 J	<1 J	<1 J
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<5	<1	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<5	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	**2.2**	**3.8**	**54**	**1.5**	**1.6**	**1.1**	**1.3**
8260	Carbon tetrachloride	µg/L	<1	<1	<5	<1 J	<1 J	<1 J	<1 J
8260	Chloroform	µg/L	<1	<1	<5	<1	<1	<1	<1
8260	cis-1,2-Dichloroethene	µg/L	<1	<1	<5	<1	<1	<1	<1
8260	Tetrachloroethene	µg/L	<1	<1	<5	<1	<1	<1	<1
8260	Trans 1,2-Dichloroethene	µg/L			<5	<1	<1	<1	<1
8260	Trichloroethene	µg/L	0.59 J	**1.6**	**16**	0.7 J	0.7 J	0.5 J	0.42 J
8260	Vinyl chloride	µg/L	<1	<1	<5	<1	<1	<1	<1

MW-129
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		Site ID	MW-129	MW-129	MW-129	MW-129	MW-129	MW-129	MW-129
		Sample Name	V-129-1_0307	W-129-2_0307	V-129-3_0307	V-129-1_0310	MW-129-100	1W-129-2_03102	1W-129-3_03102
		Date Sampled	7/28/2003	7/28/2003	7/28/2003	10/28/2003	10/28/2003	10/28/2003	10/28/2003
		Time Sampled	3:00:00 PM	3:05:00 PM	3:10:00 PM	10:35:00 AM	10:35:00 AM	10:40:00 AM	10:45:00 AM
		Depth					66.3-68.3	71.3-73.3	76.3-78.3
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	**1.99**	**1.98**	**2.8**	**3.02**	**3.05**	**3.43**	**3.5**
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	**33.8**	**33.2**	**41**	**42**	**35.4**	**41**	**40.2**
8260	Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Chloroform	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Tetrachloroethene	µg/L	**6.44**	**8.85**	**21.3**	**12.8**	**12.8**	**24.9**	**26.1**
8260	Trans 1,2-Dichloroethene	µg/L							
8260	Trichloroethene	µg/L	**8.75**	**9.71**	**14.5**	**12**	**11.8**	**12.4**	**13.4**
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1	<1

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		Site ID	MW-129	MW-129	MW-129	MW-129	MW-129	MW-129
		Sample Name	W129 (66_3-68_	W129 (71_3-73_	W129 (76_3-78_	MW129 66.3-68.	MW129 71.3-73.	MW129 76.3-78.
		Date Sampled	4/29/2004	4/29/2004	4/29/2004	10/22/2004	10/22/2004	10/22/2004
		Time Sampled	5:50:00 PM	5:55:00 PM	6:00:00 PM	11:30:00 AM	11:35:00 AM	11:40:00 AM
		Depth	66.3-68.3	71.3-73.3	76.3-78.3	66.3-68.3	71.3-73.3	76.3-78.3
METHOD	LABNAME	RESUNIT						
8260	1,1,1-Trichloroethane	µg/L	**1.8**	**2**	**1.9**	**2.2**	2.3 J	**2.5**
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1.7	<2.5	<2
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1.7	<2.5	<2
8260	1,1-Dichloroethene	µg/L	**26**	**27**	**25**	**30**	**31**	**32**
8260	Carbon tetrachloride	µg/L	<1	<1	<1	<1.7	<2.5	<2
8260	Chloroform	µg/L	<1	<1	<1	<1.7	<2.5	<2
8260	cis-1,2-Dichloroethene	µg/L	0.27 J	<1	<1	<1.7	<2.5	<2
8260	Tetrachloroethene	µg/L	**7.1**	**9.6**	**18**	**3.9**	**9.2**	**20**
8260	Trans 1,2-Dichloroethene	µg/L				<1.7	<2.5	<2
8260	Trichloroethene	µg/L	**11**	**11**	**12**	**11**	**13**	**14**
8260	Vinyl chloride	µg/L	<1	<1	<1	<1.7	<2.5	<2

MW-130
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		Site ID	MW-130	MW-130	MW-130	MW-130	MW-130	MW-130	MW-130
		Sample Name	N-130-1_0307	N-130-2_0307	W-130-3_0307	W-130-4_030	MW-130-400	AW-130-1_03102	AW-130-2_03102
		Date Sampled	7/28/2003	7/28/2003	7/28/2003	7/28/2003	7/28/2003	10/28/2003	10/28/2003
		Time Sampled	3:15:00 PM	3:17:00 PM	3:20:00 PM	3:22:00 PM	3:22:00 PM	10:20:00 AM	10:22:00 AM
		Depth						60.5-62.5	65.5-67.5
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	**3.55**	**4.03**	**3.68**	**4.29**	**3.94**	**4.62**	**4.81**
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1-Dichloroethene	µg/L	**36.5**	**40.7**	**38.9**	**41.1**	**41.1**	**42.2**	**40.5**
8260	Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Chloroform	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	cis-1,2-Dichloroethene	µg/L	0.46 J	0.49 J	0.5 J	0.54 J	<1	0.59 J	0.67 J
8260	Tetrachloroethene	µg/L	**62.9**	**69.7**	**63.8**	**71.6**	**74.5**	**74.3**	**79.8**
8260	Trans 1,2-Dichloroethene	µg/L							
8260	Trichloroethene	µg/L	**48.5**	**51.2**	**48.1**	**54**	**53.9**	**61.1**	**64**
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1	<1

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		Site ID	MW-130	MW-130	MW-130	MW-130	MW-130	MW-130	MW-130
		Sample Name	4W-130-3_03102	4W-130-4_03102	W130 (60_5-62_	W130 (65_5-67_	W130 (70_5-72_	W130 (75_5-77_	MW130 60.5-62.5
		Date Sampled	10/28/2003	10/28/2003	4/29/2004	4/29/2004	4/29/2004	4/29/2004	10/22/2004
		Time Sampled	10:25:00 AM	10:30:00 AM	5:30:00 PM	5:35:00 PM	5:40:00 PM	5:45:00 PM	11:55:00 AM
		Depth	70.5-72 5	75.5-77.5	60.5-62.5	65.5-67.5	70.5-72.5	75.5-77.5	60.5-62.5
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	**4.39**	**4.61**	**3.5**	3.7 J	**4.4**	3.9 J	**3.8**
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<3.3	<5	<4	<4	<2
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<3.3	<5	<4	<4	<2
8260	1,1-Dichloroethene	µg/L	**38.4**	**38**	**41**	**52**	**55**	**57**	**33**
8260	Carbon tetrachloride	µg/L	<1	<1	<3.3	<5	<4	<4	<2
8260	Chloroform	µg/L	<1	<1	<3.3	<5	<4	<4	<2
8260	cis-1,2-Dichloroethene	µg/L	<1	0.59 J	<3.3	<5	<4	<4	<2
8260	Tetrachloroethene	µg/L	**80.3**	**76.6**	**88**	**120**	**120**	**120**	**50**
8260	Trans 1,2-Dichloroethene	µg/L							<2
8260	Trichloroethene	µg/L	**60.4**	**62.3**	**58**	**75**	**76**	**74**	**47**
8260	Vinyl chloride	µg/L	<1	<1	<3.3	<5	<4	<4	<2

MW-130
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		Site ID	MW-130	MW-130	MW-130
		Sample Name	MW130 65.5-67.5	MW130 70.5-72.5	MW130 75.5-77.5
		Date Sampled	10/22/2004	10/22/2004	10/22/2004
		Time Sampled	12:00:00 PM	12:05:00 PM	12:10:00 PM
		Depth	65.5-67.5	70.5-72.5	75.5-77.5
METHOD	LABNAME	RESUNIT			
8260	1,1,1-Trichloroethane	µg/L	**3.9**	**4**	**4.1**
8260	1,1,2,2-Tetrachloroethane	µg/L	<3.3	<2.5	<2
8260	1,1,2-Trichloroethane	µg/L	<3.3	<2.5	<2
8260	1,1-Dichloroethene	µg/L	**31**	**33**	**35**
8260	Carbon tetrachloride	µg/L	<3.3	<2.5	<2
8260	Chloroform	µg/L	<3.3	<2.5	<2
8260	cis-1,2-Dichloroethene	µg/L	<3.3	<2.5	0.63 J
8260	Tetrachloroethene	µg/L	**59**	**62**	**63**
8260	Trans 1,2-Dichloroethene	µg/L	<3.3	<2.5	<2
8260	Trichloroethene	µg/L	**46**	**48**	**50**
8260	Vinyl chloride	µg/L	<3.3	<2.5	<2

PZ-002
Historical Analytical Results
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Defense Depot Memphis, Tennessee

		Site ID	PZ-002
		Sample Name	PZ-02-Y4S1
		Date Sampled	4/10/2002
		Time Sampled	
		Depth	
METHOD	LABNAME	RESUNIT	
8260	1,1,1-Trichloroethane	µg/L	1
8260	1,1,2,2-Tetrachloroethane	µg/L	<1
8260	1,1,2-Trichloroethane	µg/L	<1
8260	1,1-Dichloroethene	µg/L	**112**
8260	Carbon tetrachloride	µg/L	<1
8260	Chloroform	µg/L	<1
8260	cis-1,2-Dichloroethene	µg/L	
8260	Tetrachloroethene	µg/L	<1
8260	Trans 1,2-Dichloroethene	µg/L	<1
8260	Trichloroethene	µg/L	**24**
8260	Vinyl chloride	µg/L	<1

RW-001
Historical Analytical Results
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Defense Depot Memphis, Tennessee

		Site ID	RW-001	RW-1	RW-1	RW-001	RW-001
		Sample Name	RW-01-Y2Q2	RW-1_020410	RW-1_031029	RW-1	RW1
		Date Sampled	5/17/2000	4/10/2002	10/29/2003	5/4/2004	10/22/2004
		Time Sampled		7:45:00 AM	5:20:00 PM	4:00:00 PM	2:30:00 PM
		Depth					N/A
METHOD	LABNAME	RESUNIT					
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<3.3	<8 J
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<3.3	<8
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<3.3	<8
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<3.3	<8
8260	Carbon tetrachloride	µg/L	**45**	**24.1**	**49.1**	**15**	**29 J**
8260	Chloroform	µg/L	**22**	**68.2**	**286**	**45**	**170**
8260	cis-1,2-Dichloroethene	µg/L		**1.16**	**4.3**	<3.3	3.9 J
8260	Tetrachloroethene	µg/L	**4**	**4.36**	**9.36**	**7.3**	**8.6**
8260	Trans 1,2-Dichloroethene	µg/L	1				2.1 J
8260	Trichloroethene	µg/L	**45**	**58.2**	**154**	**87**	**130**
8260	Vinyl chloride	µg/L		<1	<1	<3.3	<8

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RW-001A
Historical Analytical Results
Annual Operations Report - 2004
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Defense Depot Memphis, Tennessee

		Site ID	RW-1A	RW-1A	RW-1A	RW-1A	RW-01A	RW-1A	RW-1A
		Sample Name	RW-1A-Y1Q2	RW-1A-Y1Q3	RW-1A-Y1Q4	RW-1A-Y2Q1	RW-01A-Y2Q2	RW-1A	RW-1A-Y2Q3
		Date Sampled	5/24/1999	8/27/1999	11/1/1999	2/15/2000	5/17/2000	5/17/2000	8/23/2000
		Time Sampled	1:05.00 PM	1:10:00 PM	5:15:00 PM	5:50:00 PM		7:30:00 PM	10:15:00 AM
		Depth							
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	**72.6**	<1	**46.5**	**49.8**	**25**	**25.8**	**35.3**
8260	1,1,2-Trichloroethane	µg/L	**1.6**	<1	**2.12**	**1.54**	<1 J	**0.82 J**	**1.08**
8260	1,1-Dichloroethene	µg/L	**12.9**	<1	<1	<1	<1	<1	<1
8260	Carbon tetrachloride	µg/L	**1.29**	<1	**16**	**15.2**	**10**	**10.6**	**9.47**
8260	Chloroform	µg/L	**10**	**3.17**	**6.27**	**397**	**339**	**339**	**292**
8260	cis-1,2-Dichloroethene	µg/L	**104**	**5**	**52.1**	**3.63**		**2.49**	**2.75**
8260	Tetrachloroethene	µg/L	**5.52**	**10**	**1.18**	**3.14**	**2**	**2.31**	**2.2**
8260	Trans 1,2-Dichloroethene	µg/L					<1 J		
8260	Trichloroethene	µg/L	**198**	**33.1**	**64.3**	**119**	**73**	**73**	**73.9**
8260	Vinyl chloride	µg/L	<1	<1	<1	<1		<1	<1

RW-001A
Historical Analytical Results
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Defense Depot Memphis, Tennessee

		Site ID	RW-1A	RW-1A	RW-1A	RW-1A	RW-1A	RW-001A	RW-001A
		Sample Name	RW-1A-Y2Q4	RW-1A_020410	RW-1A_021001	RW-1A_030423	RW-1A_031029	RW-1A	RW1A
		Date Sampled	11/9/2000	4/10/2002	10/1/2002	4/23/2003	10/29/2003	5/4/2004	10/22/2004
		Time Sampled	2:40:00 PM	8:45:00 AM	1:40:00 PM	2:20:00 PM	5:10:00 PM	4:13:00 PM	2:40:00 PM
		Depth							N/A
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<10	<1	<1	<25 U	<33 J
8260	1,1,2,2-Tetrachloroethane	µg/L	**43.9**	**156**	**187**	**167**	**169**	**110**	**160**
8260	1,1,2-Trichloroethane	µg/L	**1.39**	**3.41**	3.32 J	**2.7**	**4.22**	<25 U	<33
8260	1,1-Dichloroethene	µg/L	<1	<1	<10	<1	<1	<25 U	<33
8260	Carbon tetrachloride	µg/L	**15.6**	**44.5**	**65.3**	**14.6**	**33.6**	24 J	18 J
8260	Chloroform	µg/L	**420 J**	**700**	**1120**	**449**	**776**	**580 J**	**680**
8260	cis-1,2-Dichloroethene	µg/L	**3.29**	**12.1**	**17.6**	**6.44**	**11.1**	9 J	9.8 J
8260	Tetrachloroethene	µg/L	**2.62 J**	**13.3**	**12.3**	**4.54**	**11.3**	10 J	11 J
8260	Trans 1,2-Dichloroethene	µg/L							<33
8260	Trichloroethene	µg/L	**66.4**	**289**	**294**	**112**	**285**	**230**	**230**
8260	Vinyl chloride	µg/L	<1	<1	<10	<1	<1	<25 U	<33

RW-001B
Historical Analytical Results
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Defense Depot Memphis, Tennessee

		Site ID	RW-1B	RW-1B	RW-1B	RW-1B	RW-1B	RW-1B	RW-1B
		Sample Name	RW-1B-Y2Q1	RW-1B	RW-1B-Y2Q3	RW-1B-Y2Q4	RW-1B_020410	RW-1B_021001	RW-1B_030417
		Date Sampled	2/16/2000	5/17/2000	8/23/2000	11/9/2000	4/10/2002	10/1/2002	4/17/2003
		Time Sampled	9:40:00 AM	7:00:00 PM	11:15:00 AM	3:15:00 PM	8:50:00 AM	1:42:00 PM	12:10:00 PM
		Depth							
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1	**1.43**	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	0.32 J	<1	<1	0.66 J	<1
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
8260	Carbon tetrachloride	µg/L	**20.6**	**12.3**	**26.1**	**20.1**	**22.5**	**27.9**	**30.9**
8260	Chloroform	µg/L	**20.7**	**15.3**	**49.4**	**37**	**26.4**	**20.8**	**34.1**
8260	cis-1,2-Dichloroethene	µg/L	**3.32**	**2.18**	**5.57**	**3.66**	**10.7**	**12.5**	**8.28**
8260	Tetrachloroethene	µg/L	**2.37**	**1.08**	**2.84**	**1.93 J**	**2.99**	**2.05**	**4.6**
8260	Trans 1,2-Dichloroethene	µg/L							
8260	Trichloroethene	µg/L	**21.9**	**13.6**	**35.7**	**21.1**	**34.8**	**24.1**	**46.4**
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1	<1

RW-001B
Historical Analytical Results
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Defense Depot Memphis, Tennessee

		Site ID	RW-1B	RW-001B	RW-001B
		Sample Name	RW-1B_031029	RW-1B	RW1B
		Date Sampled	10/29/2003	5/4/2004	10/22/2004
		Time Sampled	5:05:00 PM	4:21:00 PM	2:45:00 PM
		Depth			
METHOD	LABNAME	RESUNIT			
8260	1,1,1-Trichloroethane	µg/L	<1	<1.7 U	<2 J
8260	1,1,2,2-Tetrachloroethane	µg/L	**3.75**	1.4 J	1.7 J
8260	1,1,2-Trichloroethane	µg/L	<1	<1.7 U	<2
8260	1,1-Dichloroethene	µg/L	<1	<1.7 U	<2
8260	Carbon tetrachloride	µg/L	**19.5**	**15**	**14 J**
8260	Chloroform	µg/L	**40.8**	**25**	**36**
8260	cis-1,2-Dichloroethene	µg/L	**14.5**	**11**	**12**
8260	Tetrachloroethene	µg/L	**2.93**	**2.8**	**3.2**
8260	Trans 1,2-Dichloroethene	µg/L			1.2 J
8260	Trichloroethene	µg/L	**42.4**	**36**	**43**
8260	Vinyl chloride	µg/L	<1	<1.7 U	<2

RW-002
Historical Analytical Results
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Defense Depot Memphis, Tennessee

		Site ID	RW-2	RW-2	RW-2	RW-2	RW-2	RW-002	RW-002
		Sample Name	RW-2_020410	RW-2_021001	RW-2_030417	RW-2_031029	RW-200	RW-2	RW2
		Date Sampled	4/10/2002	10/1/2002	4/17/2003	10/29/2003	10/29/2003	5/4/2004	10/22/2004
		Time Sampled	7:55:00 AM	1:44:00 PM	12:05:00 PM	5.00:00 PM	5:00:00 PM	4:28:00 PM	2:50:00 PM
		Depth							
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<2.9 U	<4 J
8260	1,1,2,2-Tetrachloroethane	µg/L	**77.1**	**94.7**	**80.6**	**95.9**	**87.1**	**67**	**83**
8260	1,1,2-Trichloroethane	µg/L	**2.74**	**3.34**	**2.91**	**3.02**	**2.95**	1.9 J	2.8 J
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<2.9 U	<4
8260	Carbon tetrachloride	µg/L	**13**	**21.6**	**15.5**	**14**	**14.1**	**6.5**	**7.2 J**
8260	Chloroform	µg/L	**34.4**	**23.1**	**12.4**	**11.4**	**11.3**	**13**	**9.4**
8260	cis-1,2-Dichloroethene	µg/L	**65.9**	**88.1**	**68.7**	**78.6**	**79.5**	**55**	**72**
8260	Tetrachloroethene	µg/L	**1.48**	**1.48**	**1.88**	**1.56**	**1.52**	1.2 J	1.6 J
8260	Trans 1,2-Dichloroethene	µg/L							3.7 J
8260	Trichloroethene	µg/L	**63.9**	**64.6**	**73.4**	**83.4**	**86.5**	**57**	**65**
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<2.9 U	<4

RW-003
Historical Analytical Results
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Defense Depot Memphis, Tennessee

		Site ID	RW-3	RW-3	RW-3	RW-3	RW-3	RW-003	RW-003
		Sample Name	RW-3_020410	RW-3_021001	RW-3_030417	RW-3_031029	W-3-100_03041	RW-3	RW3
		Date Sampled	4/10/2002	10/1/2002	4/17/2003	10/29/2003	4/17/2003	5/4/2004	10/22/2004
		Time Sampled	8:00:00 AM	1:50:00 PM	12:00:00 PM	4:40:00 PM	12:00:00 PM	4:37:00 PM	2:55:00 PM
		Depth							
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<2.9 U	<2 J
8260	1,1,2,2-Tetrachloroethane	µg/L	**4.35**	**3.61**	**31.7**	<1	**37.7**	<2.9 U	<2
8260	1,1,2-Trichloroethane	µg/L	<1	<1	**1.31**	<1	**1.46**	<2.9 U	<2
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<2.9 U	<2
8260	Carbon tetrachloride	µg/L	**9.75**	**15.2**	**19.1**	**10.9**	**22.5**	**4.3**	**5.2 J**
8260	Chloroform	µg/L	**2.43**	**3.97**	**17.5**	**2.08**	**20.7**	1.2 J	1.8 J
8260	cis-1,2-Dichloroethene	µg/L	**15.4**	**16.9**	**36**	**9.04**	**38.6**	**6.9**	**8.9**
8260	Tetrachloroethene	µg/L	**1.3**	0.92 J	**2.82**	**1.1**	**2.81**	1.1 J	1.2 J
8260	Trans 1,2-Dichloroethene	µg/L							1.2 J
8260	Trichloroethene	µg/L	**87.2**	**70.4**	**70.4**	**66.4**	**65.7**	**68**	**54**
8260	Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<2.9 U	<2

RW-004
Historical Analytical Results
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Defense Depot Memphis, Tennessee

		Site ID	RW-4	RW-4	RW-4	RW-004	RW-004
		Sample Name	RW-4_020410	RW-4_021001	RW-4_030417	RW-4	RW4
		Date Sampled	4/10/2002	10/1/2002	4/17/2003	5/4/2004	10/22/2004
		Time Sampled	8:05:00 AM	1:54:00 PM	11:55:00 AM	4:47:00 PM	3:00:00 PM
		Depth					
METHOD	LABNAME	RESUNIT					
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<25 U	<42 J
8260	1,1,2,2-Tetrachloroethane	µg/L	**37.5**	**669**	**55.4**	**250**	**840**
8260	1,1,2-Trichloroethane	µg/L	**3.33**	**5.25**	**2.87**	<25 U	<42
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<25 U	<42
8260	Carbon tetrachloride	µg/L	**1.7**	**1.77**	**1.61**	<25 U	<42 J
8260	Chloroform	µg/L	**2.23**	**3.33**	**2.41**	<25 U	<42
8260	cis-1,2-Dichloroethene	µg/L	**26.8**	**38.8**	**22.8**	**26**	25 J
8260	Tetrachloroethene	µg/L	**6.21**	**5.73**	**5.97**	7.3 J	<42
8260	Trans 1,2-Dichloroethene	µg/L					<42
8260	Trichloroethene	µg/L	**665**	**1050**	**562**	**820**	**860**
8260	Vinyl chloride	µg/L	<1	<1	<1	<25 U	<42

RW-005
Historical Analytical Results
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		Site ID	RW-5	RW-5	RW-5	RW-5	RW-005	RW-005	RW-005
		Sample Name	RW-5_020410	RW-5_021001	RW-5_030417	RW-5_031029	DUP	RW-5	RW5
		Date Sampled	4/10/2002	10/1/2002	4/17/2003	10/29/2003	5/4/2004	5/4/2004	10/22/2004
		Time Sampled	8:15:00 AM	1:56:00 PM	11:50:00 AM	4:30:00 PM	12:00:00 PM	4:59:00 PM	3:05:00 PM
		Depth							
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<8 U	<8 U	<1 J
8260	1,1,2,2-Tetrachloroethane	µg/L	**196**	**47.8**	**5.6**	**14.9**	**12**	**14**	<1
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<8 U	<8 U	<1
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<8 U	<8 U	<1
8260	Carbon tetrachloride	µg/L	<1	<1	<1	<1	<8 U	<8 U	**1.5 J**
8260	Chloroform	µg/L	**1.24**	<1	**1.04**	**1.04**	1.9 J	<8 U	**1.8**
8260	cis-1,2-Dichloroethene	µg/L	**15.8**	**12.8**	**3.95**	**7.08**	7.1 J	6.6 J	0.38 J
8260	Tetrachloroethene	µg/L	**5.89**	**4.36**	**10.2**	**7.47**	7 J	6.4 J	**2.1**
8260	Trans 1,2-Dichloroethene	µg/L	**400**	**142**	**95**	**193**			0.23 J
8260	Trichloroethene	µg/L	<1	<1	<1	<1	**200**	**200**	**22**
8260	Vinyl chloride	µg/L					<8 U	<8 U	<1

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RW-006
Historical Analytical Results
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Defense Depot Memphis, Tennessee

		Site ID	RW-6	RW-6	RW-6	RW-6	RW-006	RW-006
		Sample Name	RW-6_020411	RW-6_021001	RW-6_030417	RW-6_031029	RW-6	RW6
		Date Sampled	4/11/2002	10/1/2002	4/17/2003	10/29/2003	5/4/2004	10/22/2004
		Time Sampled	1:30:00 PM	1:58:00 PM	10:50:00 AM	4:20:00 PM	5:07:00 PM	3:10:00 PM
		Depth						
METHOD	LABNAME	RESUNIT						
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1.2 U	<1.7 J
8260	1,1,2,2-Tetrachloroethane	µg/L	<1	**2**	<1	<1	<1.2 U	<1.7
8260	1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1.2 U	<1.7
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1.2 U	<1.7
8260	Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1.2 U	<1.7 J
8260	Chloroform	µg/L	**1.37**	**3.15**	**3.11**	**2.15**	**1.8**	**1.8**
8260	cis-1,2-Dichloroethene	µg/L	**1.39**	**10**	**15.7**	**11.2**	**11**	**11**
8260	Tetrachloroethene	µg/L	**28.7**	**32.6**	**37.6**	**37.1**	**20**	**24**
8260	Trans 1,2-Dichloroethene	µg/L	**5.42**	**27.2**	**59.4**	**40.7**		**3.5**
8260	Trichloroethene	µg/L	<1	<1	<1	<1	**39**	**35**
8260	Vinyl chloride	µg/L					<1.2 U	<1.7

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RW-007
Historical Analytical Results
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Defense Depot Memphis, Tennessee

		Site ID	RW-7	RW-7	RW-7	RW-7	RW-007	RW-007
		Sample Name	RW-7_020410	RW-7_021001	RW-7_030417	RW-7_031029	RW-7	RW7
		Date Sampled	4/10/2002	10/1/2002	4/17/2003	10/29/2003	5/4/2004	10/22/2004
		Time Sampled	8:20:00 AM	2:00:00 PM	10:45:00 AM	4:15:00 PM	5:19:00 PM	3:15:00 PM
		Depth						
METHOD	LABNAME	RESUNIT						
8260	1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<5 U	<4 J
8260	1,1,2,2-Tetrachloroethane	µg/L	**115**	**156**	**144**	**214**	**160**	**100**
8260	1,1,2-Trichloroethane	µg/L	**1.87**	**1.43**	**2.2**	**2.21**	<5 U	1.6 J
8260	1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<5 U	<4
8260	Carbon tetrachloride	µg/L	<1	0.98 J	<1	<1	<5 U	<4 J
8260	Chloroform	µg/L	**2.64**	**6.66**	**3.48**	**3.87**	3 J	3.2 J
8260	cis-1,2-Dichloroethene	µg/L	**51.2**	**50.4**	**63.8**	**56.8**	**42**	**51**
8260	Tetrachloroethene	µg/L	**4.96**	**4.22**	**5.94**	**5.35**	3.3 J	**4.4**
8260	Trans 1,2-Dichloroethene	µg/L	**74.1**	**55.3**	**108**	**102**		**9.2**
8260	Trichloroethene	µg/L	<1	<1	<1	<1	**79**	**95**
8260	Vinyl chloride	µg/L					<5 U	<4

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RW-008
Historical Analytical Results
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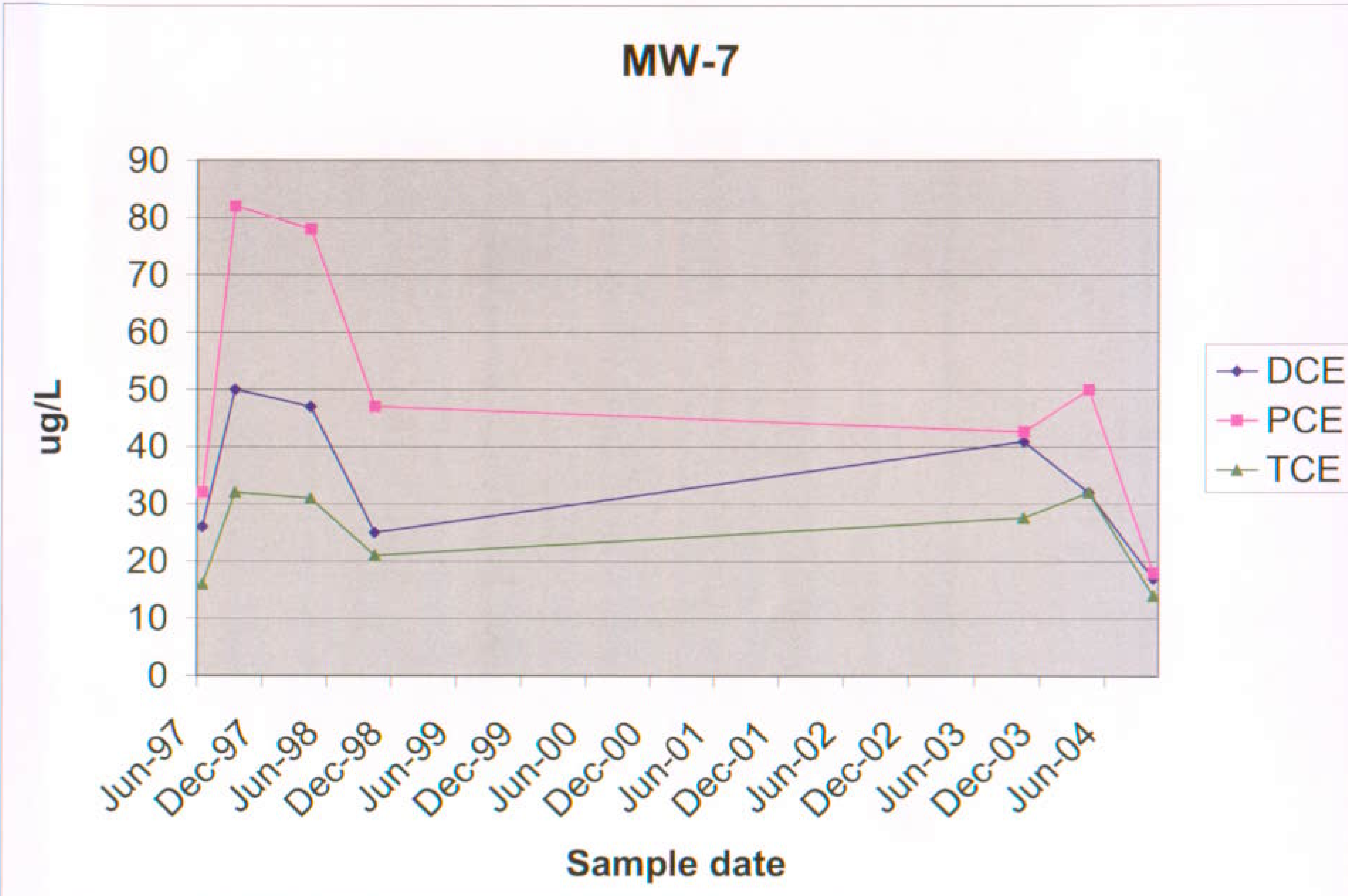
Defense Depot Memphis, Tennessee

		Site ID	RW-008	RW-008	RW-008
		Sample Name	RW-8	RW8	DUP
		Date Sampled	5/12/2004	10/22/2004	10/22/2004
		Time Sampled	11:25:00 AM	3:25:00 PM	3:25:00 PM
		Depth			
METHOD	LABNAME	RESUNIT			
8260	1,1,1-Trichloroethane	µg/L	<13 U	<11 J	<12 J
8260	1,1,2,2-Tetrachloroethane	µg/L	**350**	**270**	**280**
8260	1,1,2-Trichloroethane	µg/L		4 J	<12
8260	1,1-Dichloroethene	µg/L	8.8 J	**12**	11 J
8260	Carbon tetrachloride	µg/L	<13 U	<11 J	<12 J
8260	Chloroform	µg/L	**14**	**16**	**17**
8260	cis-1,2-Dichloroethene	µg/L	**160**	**130**	**140**
8260	Tetrachloroethene	µg/L	11 J	8.8 J	9.8 J
8260	Trans 1,2-Dichloroethene	µg/L		**28**	**27**
8260	Trichloroethene	µg/L	**240**	**240**	**240**
8260	Vinyl chloride	µg/L	<13 U	<11	<12

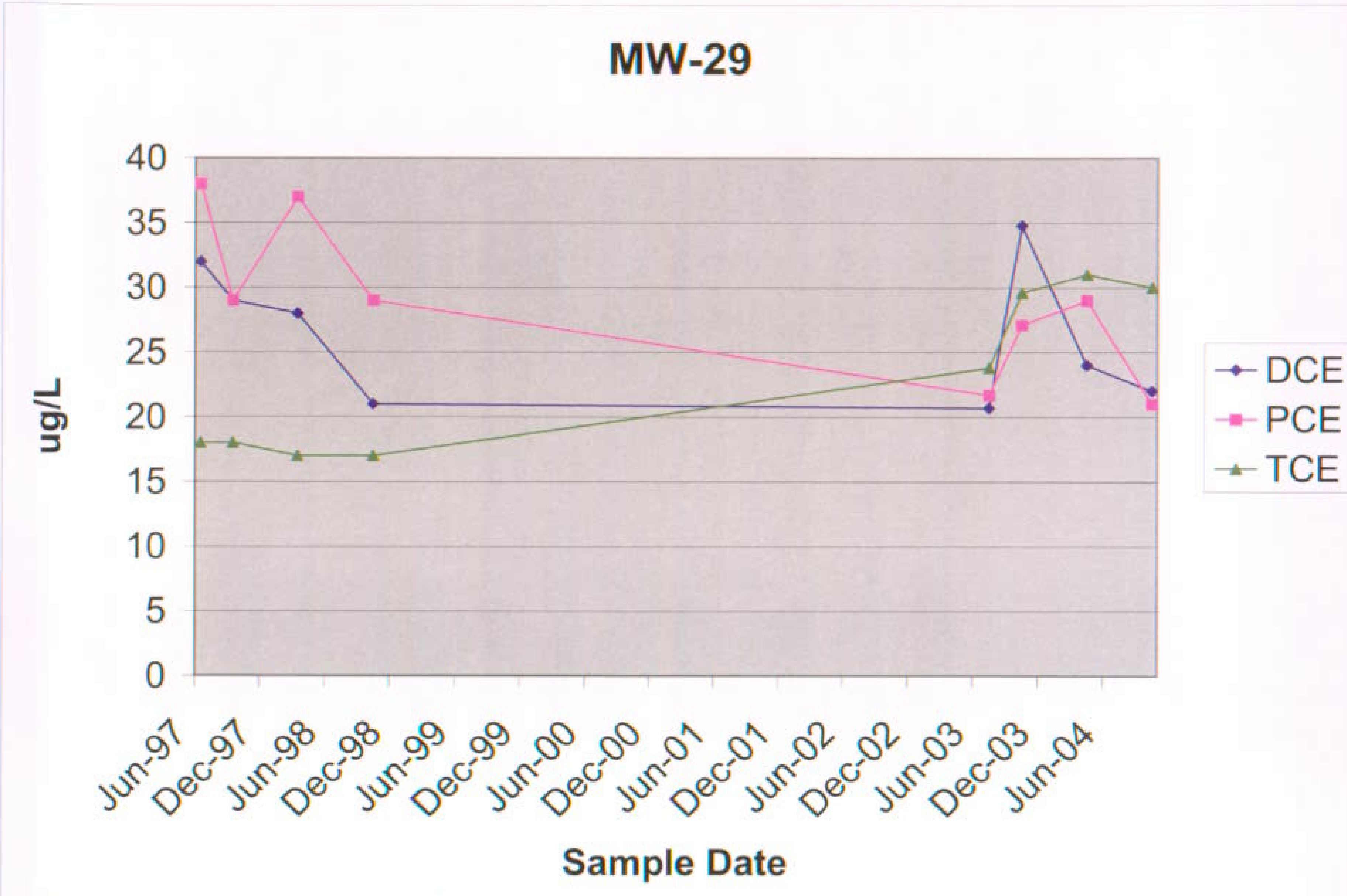
833 316

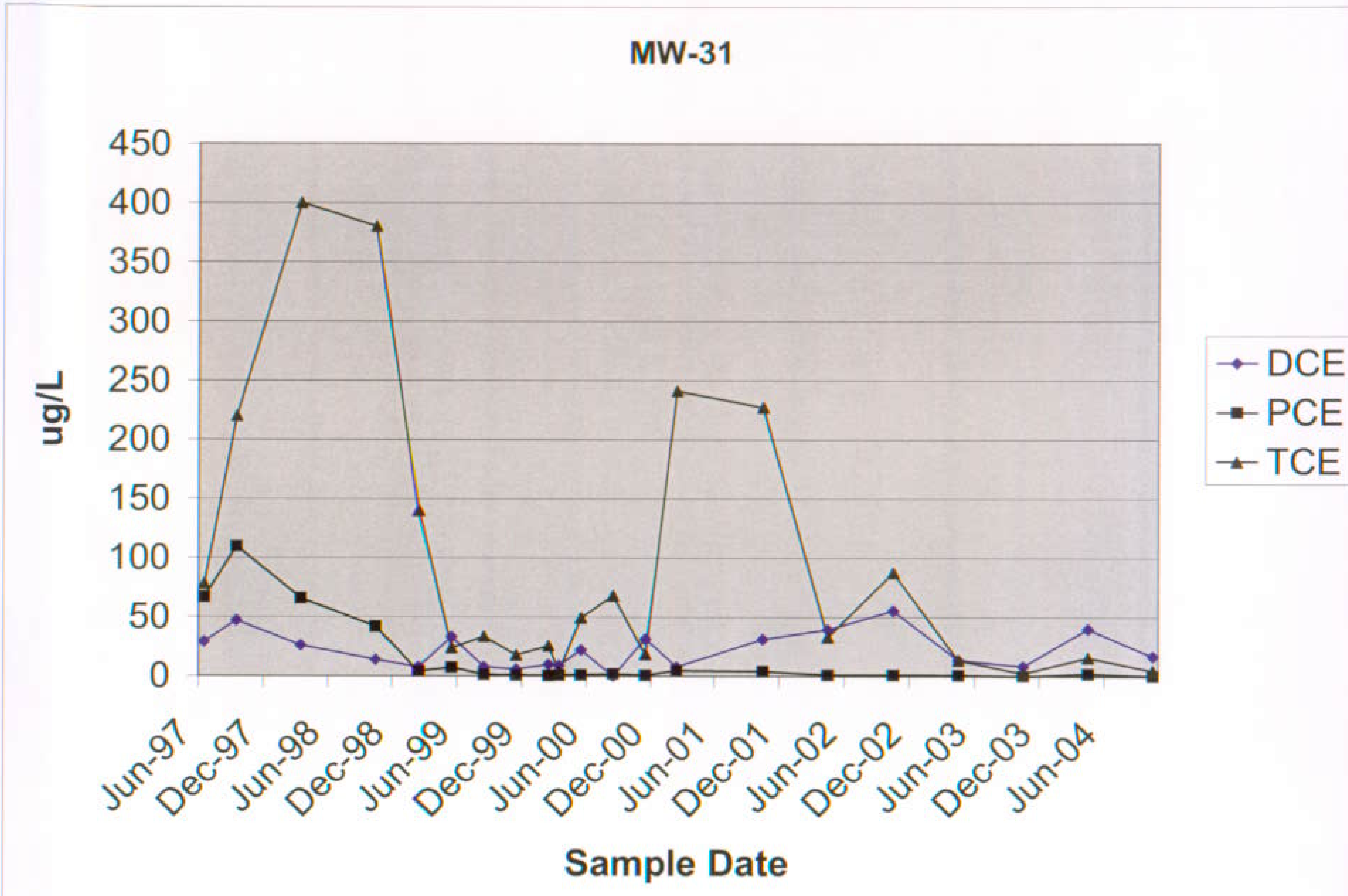
APPENDIX F

TIME TREND PLOTS

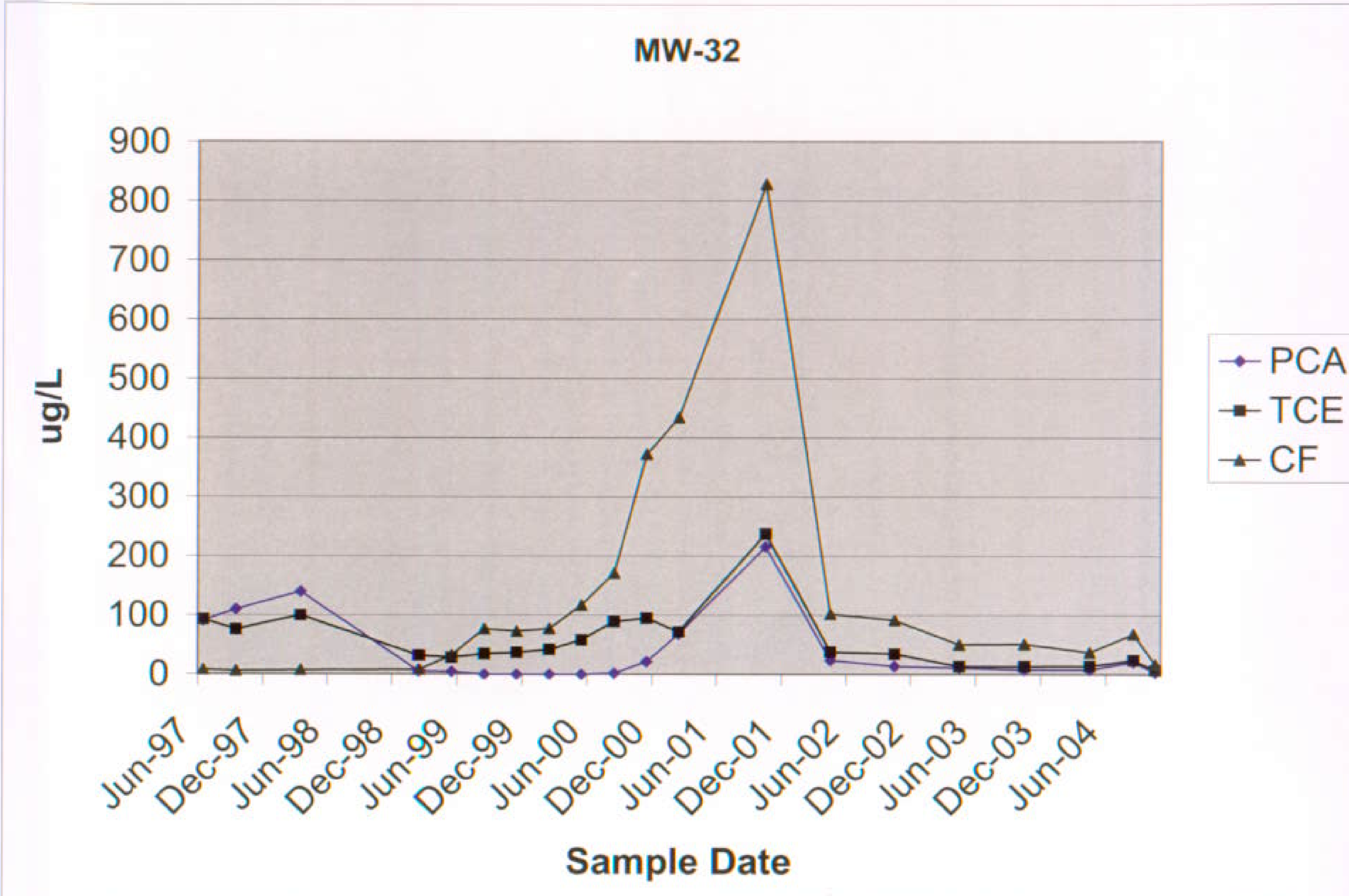

MW-7
90
80
70
60
50
40
30
20
10
0
ug/L
Jun-97
Dec-97
Jun-98
Dec-98
Jun-99
Dec-99
Jun-00
Dec-00
Jun-01
Dec-01
Jun-02
Dec-02
Jun-03
Dec-03
Jun-04
Sample date
DCE
PCE
TCE

833 318

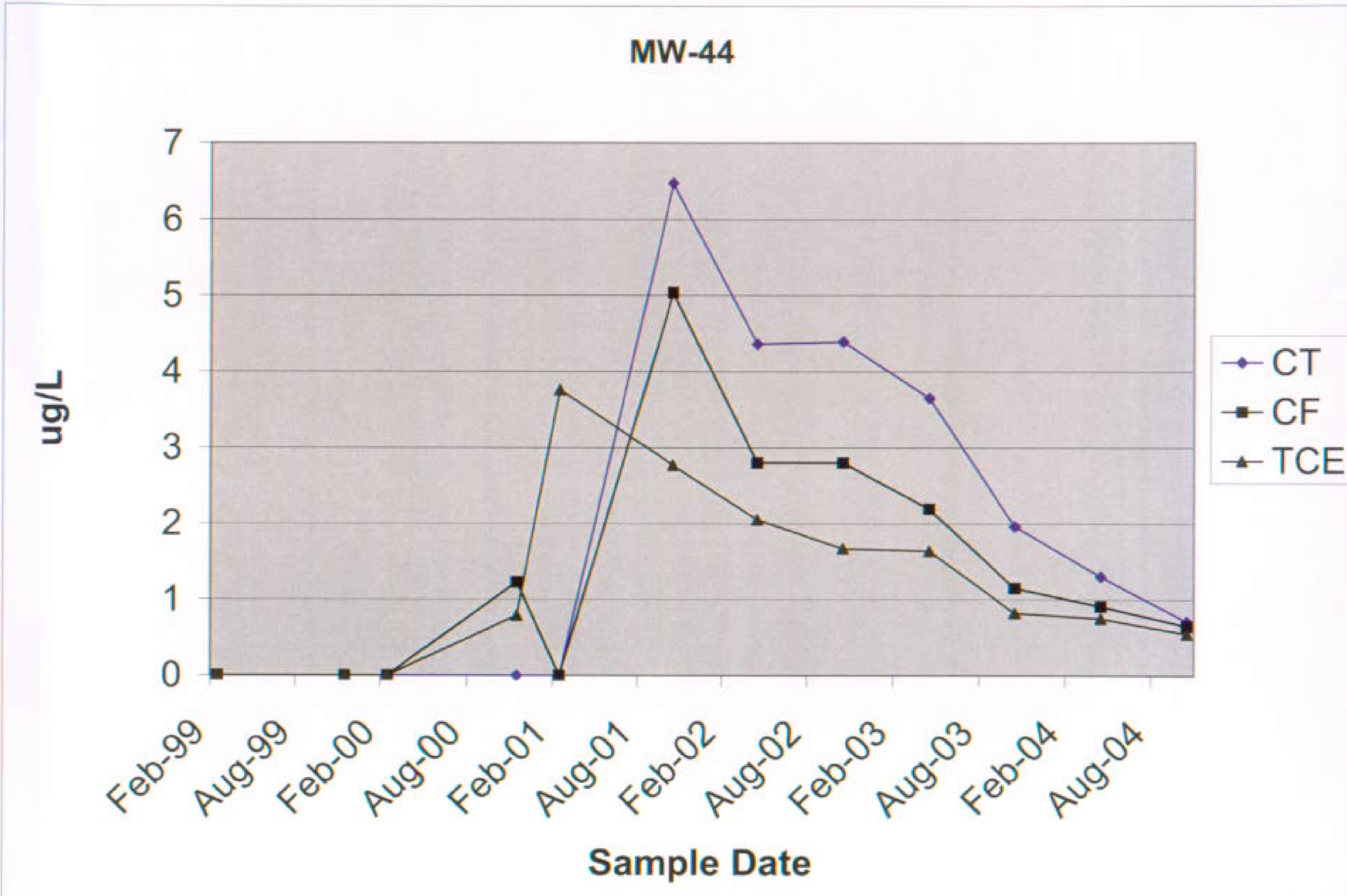

MW-29
40
35
30
25
20
15
10
5
0
ug/L
Jun-97
Dec-97
Jun-98
Dec-98
Jun-99
Dec-99
Jun-00
Dec-00
Jun-01
Dec-01
Jun-02
Dec-02
Jun-03
Dec-03
Jun-04
Sample Date
DCE
PCE
TCE

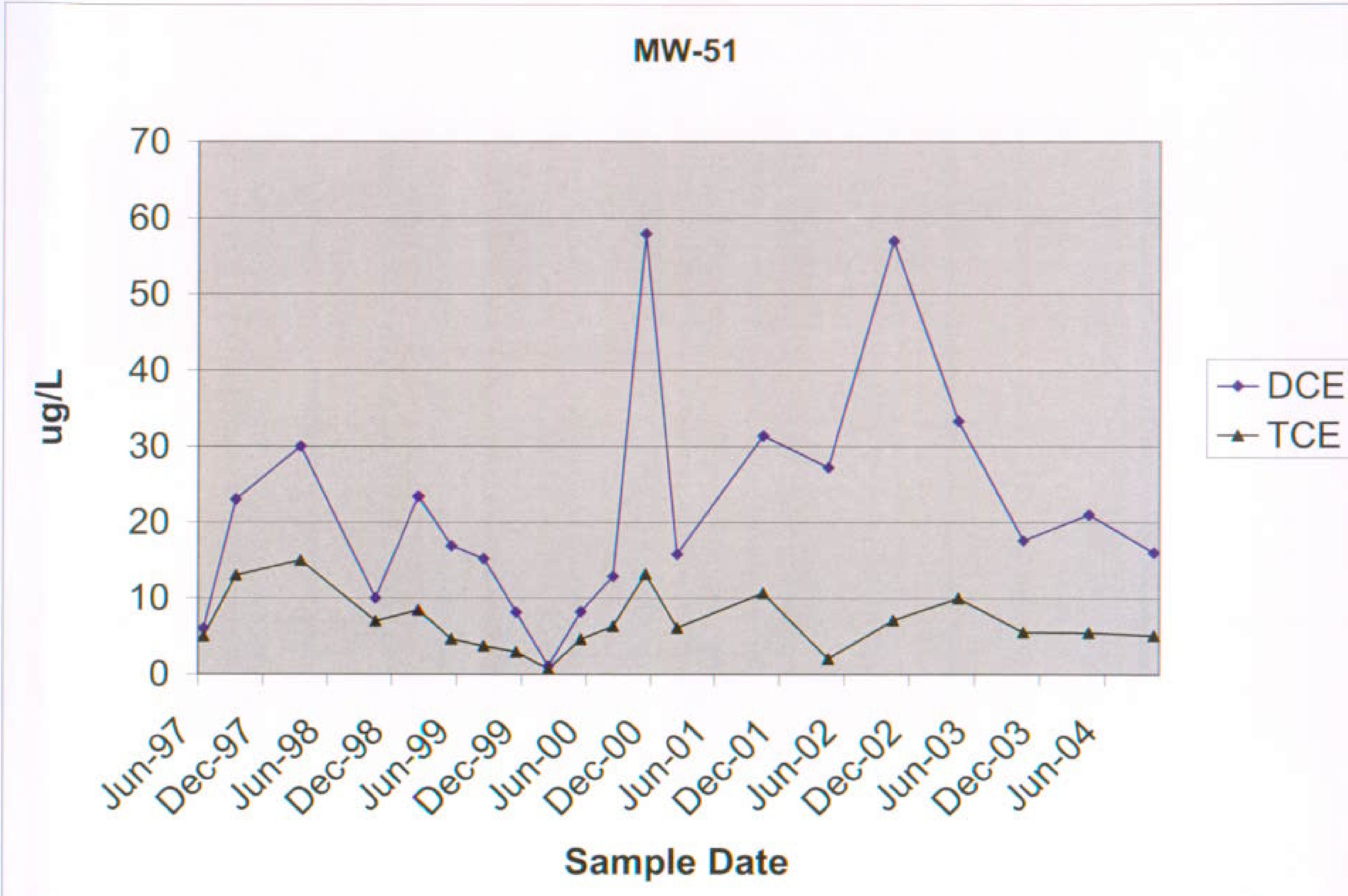

MW-31
450
400
350
300
250
200
150
100
50
0
ug/L
Jun-97
Dec-97
Jun-98
Dec-98
Jun-99
Dec-99
Jun-00
Dec-00
Jun-01
Dec-01
Jun-02
Dec-02
Jun-03
Dec-03
Jun-04
Sample Date
DCE
PCE
TCE

833 320

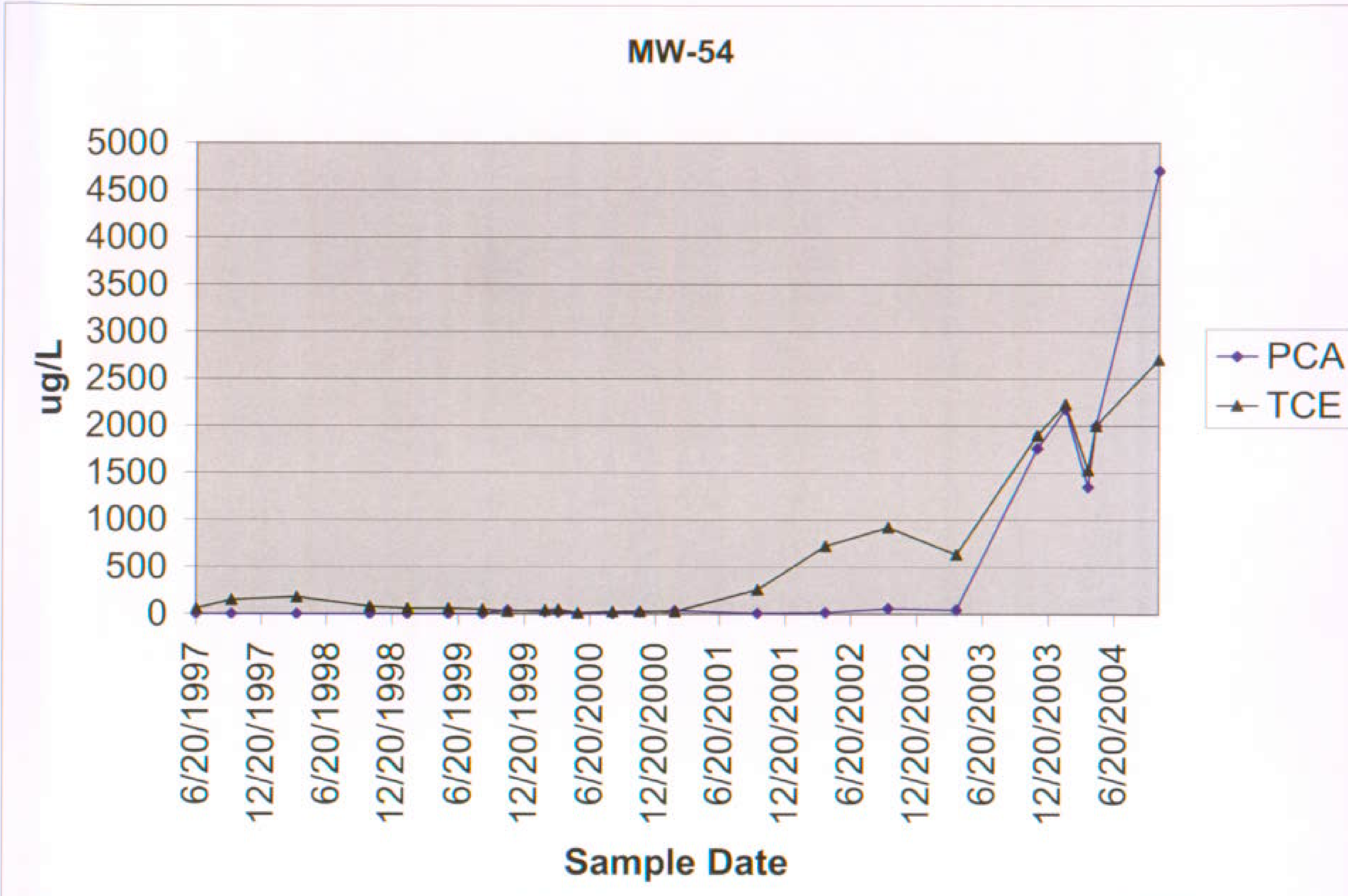

MW-32
900
800
700
600
500
400
300
200
100
0
ug/L
Jun-97
Dec-97
Jun-98
Dec-98
Jun-99
Dec-99
Jun-00
Dec-00
Jun-01
Dec-01
Jun-02
Dec-02
Jun-03
Dec-03
Jun-04
Sample Date
PCA
TCE
CF

833 321

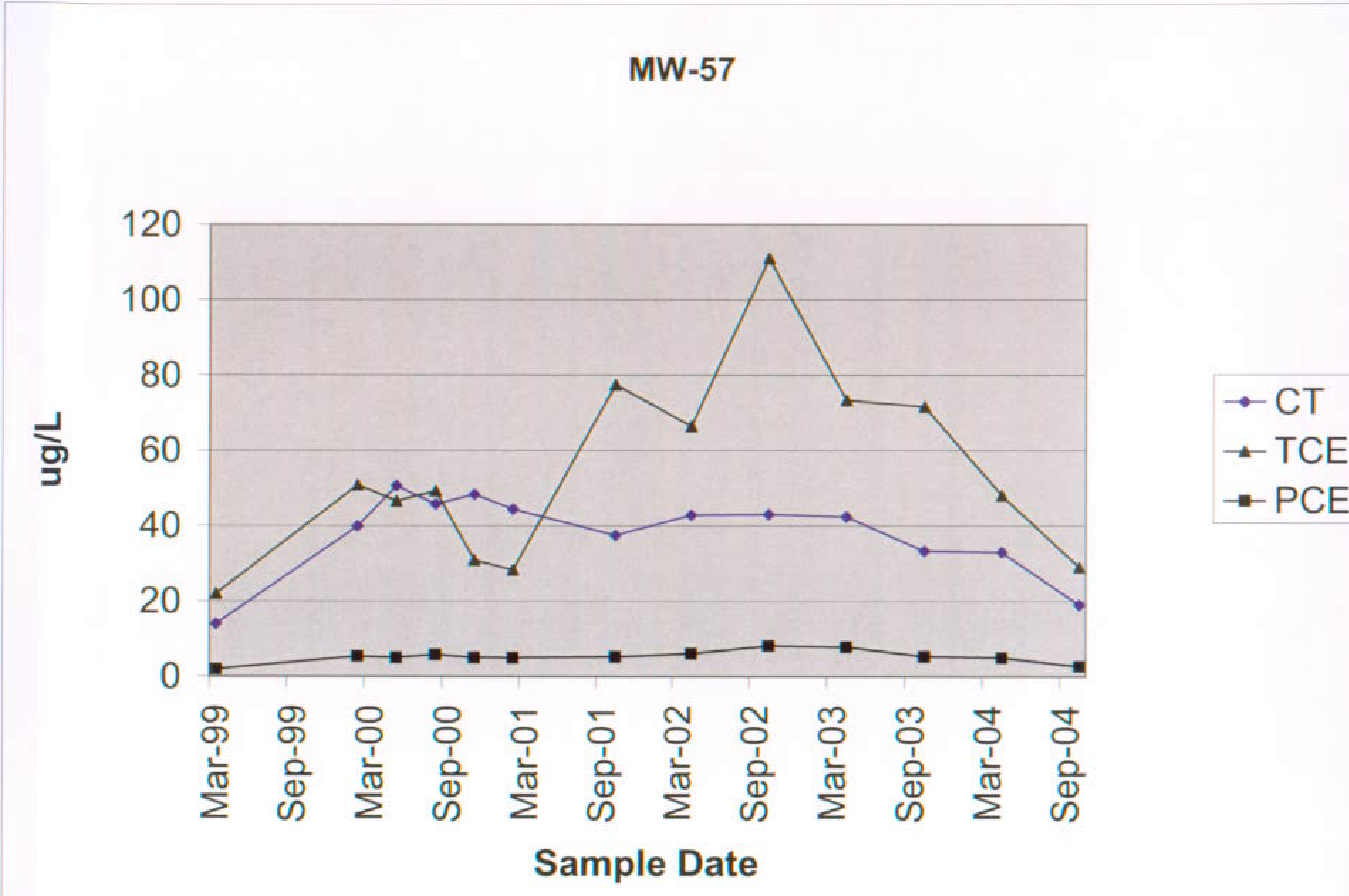

MW-44
ug/L
0
1
2
3
4
5
6
7
Feb-99
Aug-99
Feb-00
Aug-00
Feb-01
Aug-01
Feb-02
Aug-02
Feb-03
Aug-03
Feb-04
Aug-04
Sample Date
CT
CF
TCE

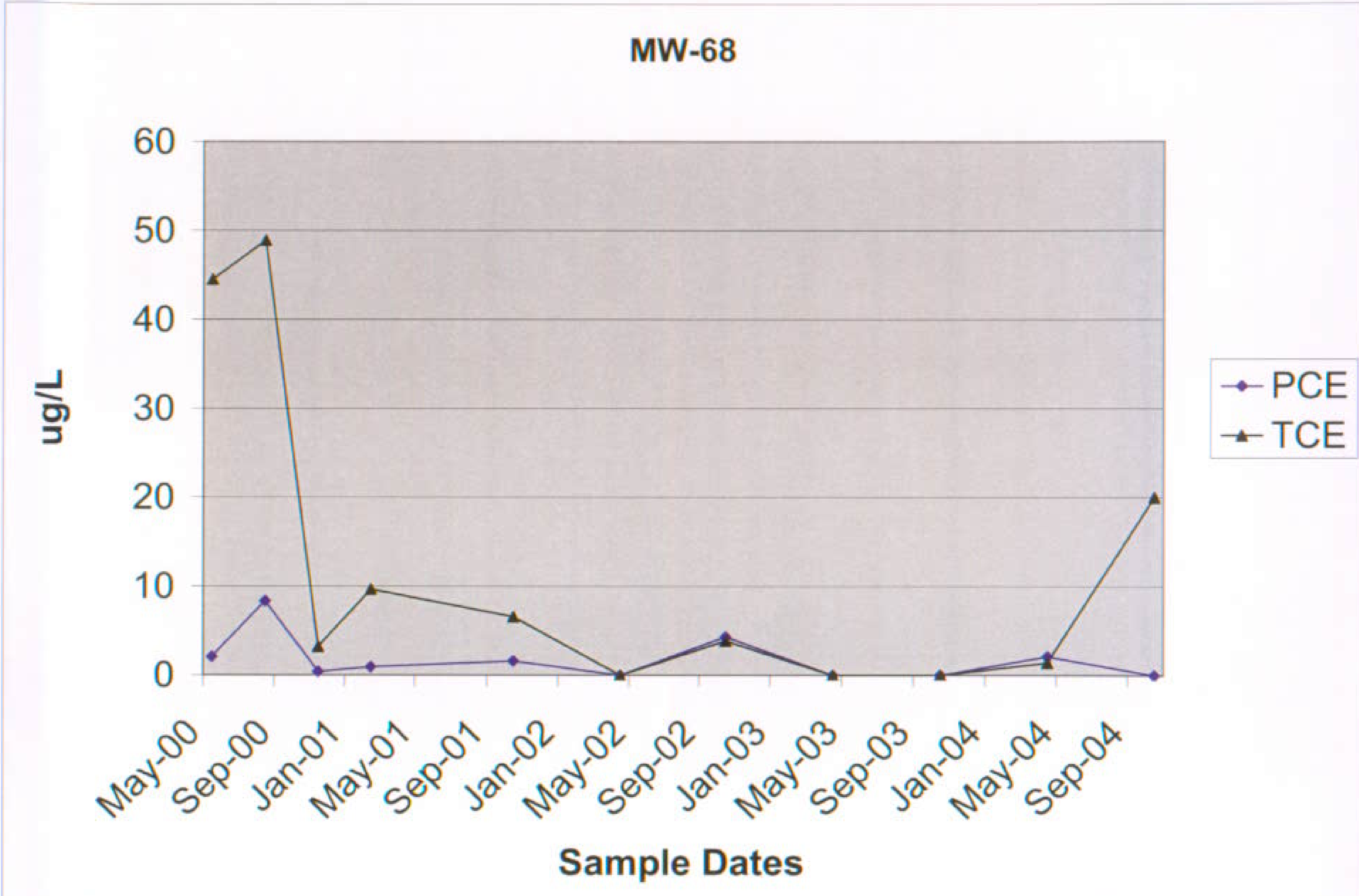

MW-51
70
60
50
40
30
20
10
0
ug/L
Jun-97
Dec-97
Jun-98
Dec-98
Jun-99
Dec-99
Jun-00
Dec-00
Jun-01
Dec-01
Jun-02
Dec-02
Jun-03
Dec-03
Jun-04
Sample Date
DCE
TCE

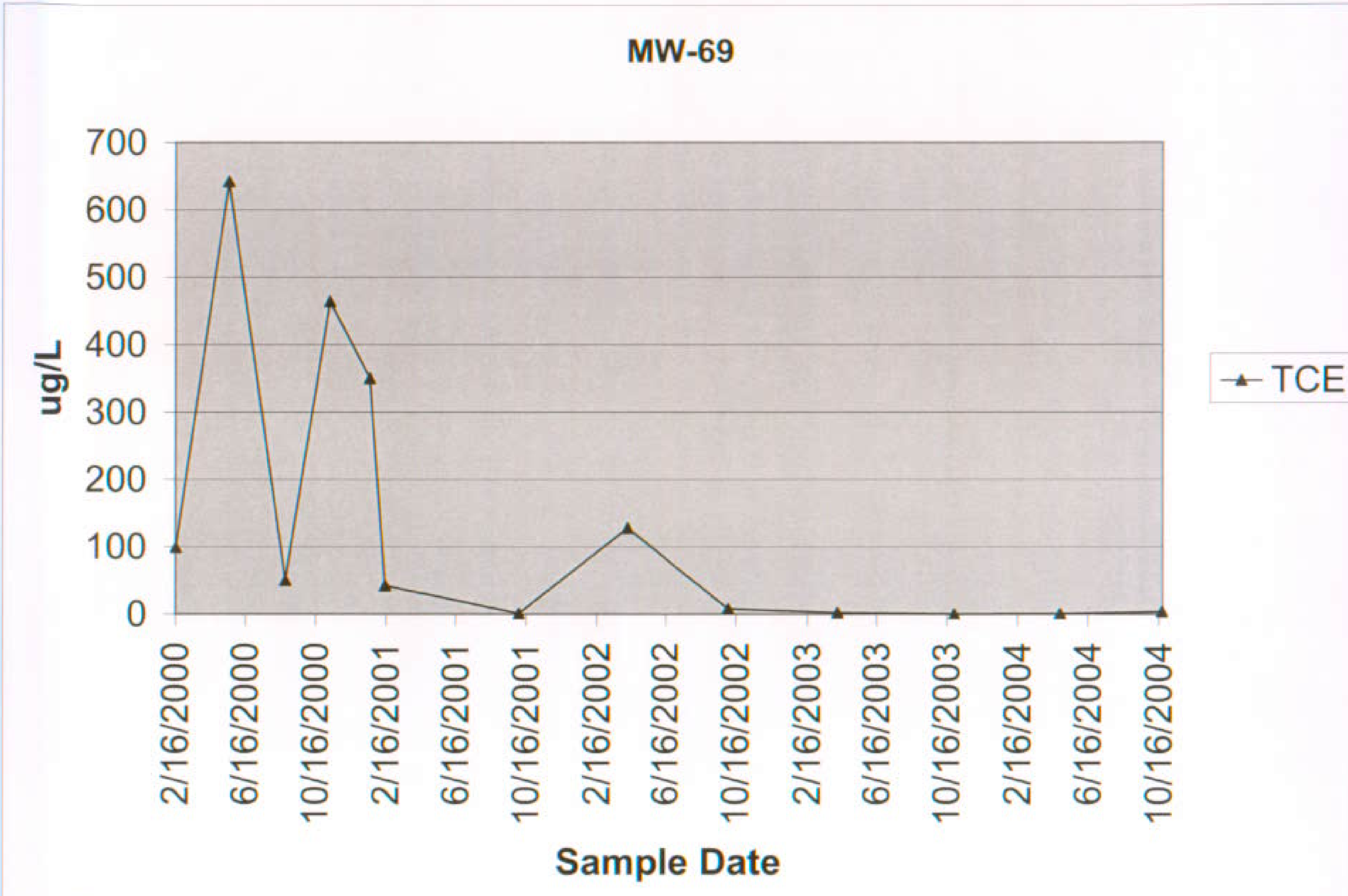
833 323

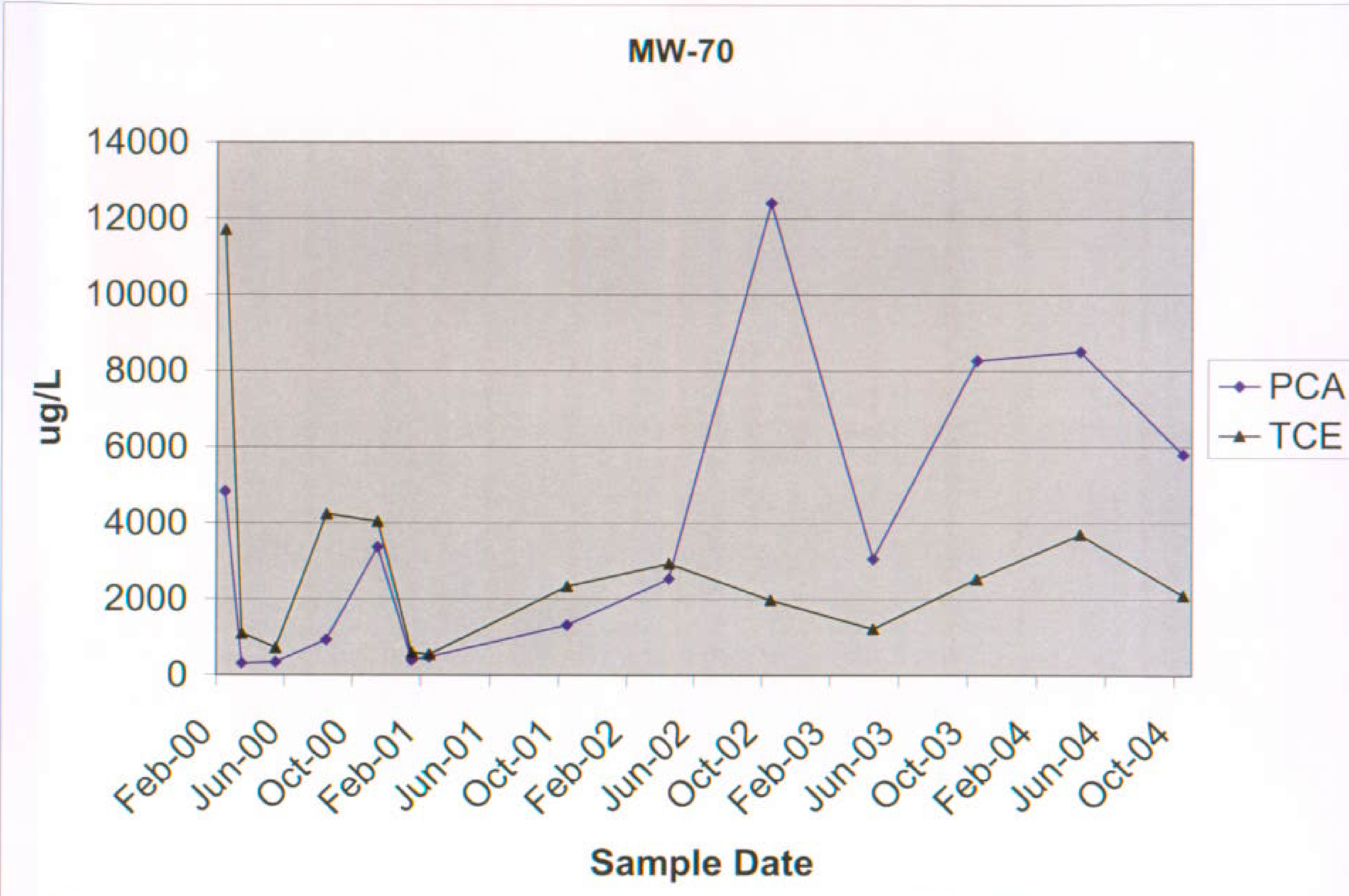


MW-54
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
ug/L
6/20/1997
12/20/1997
6/20/1998
12/20/1998
6/20/1999
12/20/1999
6/20/2000
12/20/2000
6/20/2001
12/20/2001
6/20/2002
12/20/2002
6/20/2003
12/20/2003
6/20/2004
Sample Date
PCA
TCE

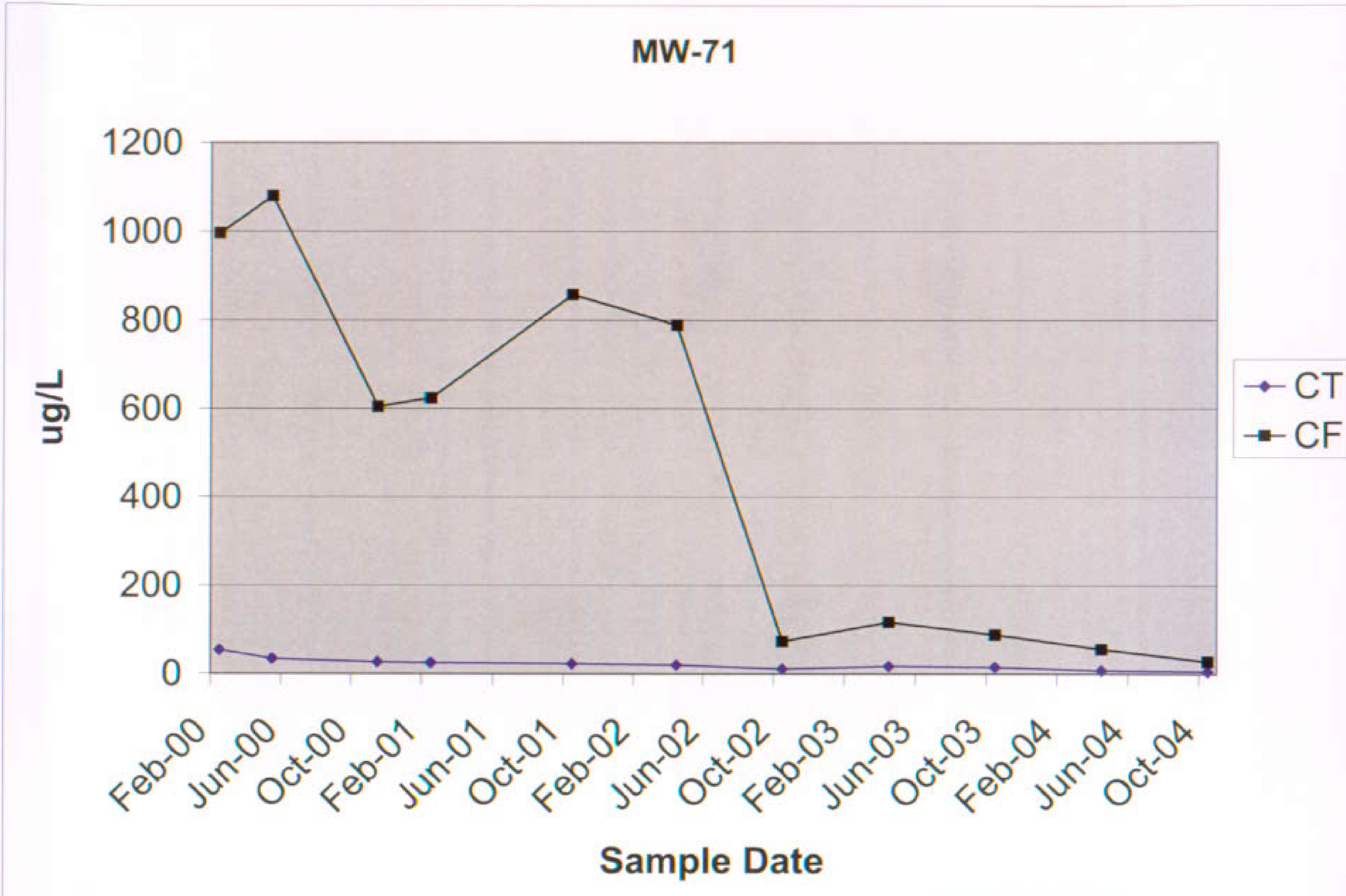

MW-57
ug/L
120
100
80
60
40
20
0
Mar-99
Sep-99
Mar-00
Sep-00
Mar-01
Sep-01
Mar-02
Sep-02
Mar-03
Sep-03
Mar-04
Sep-04
Sample Date
CT
TCE
PCE


MW-68
60
50
40
30
20
10
0
ug/L
May-00
Sep-00
Jan-01
May-01
Sep-01
Jan-02
May-02
Sep-02
Jan-03
May-03
Sep-03
Jan-04
May-04
Sep-04
Sample Dates
PCE
TCE

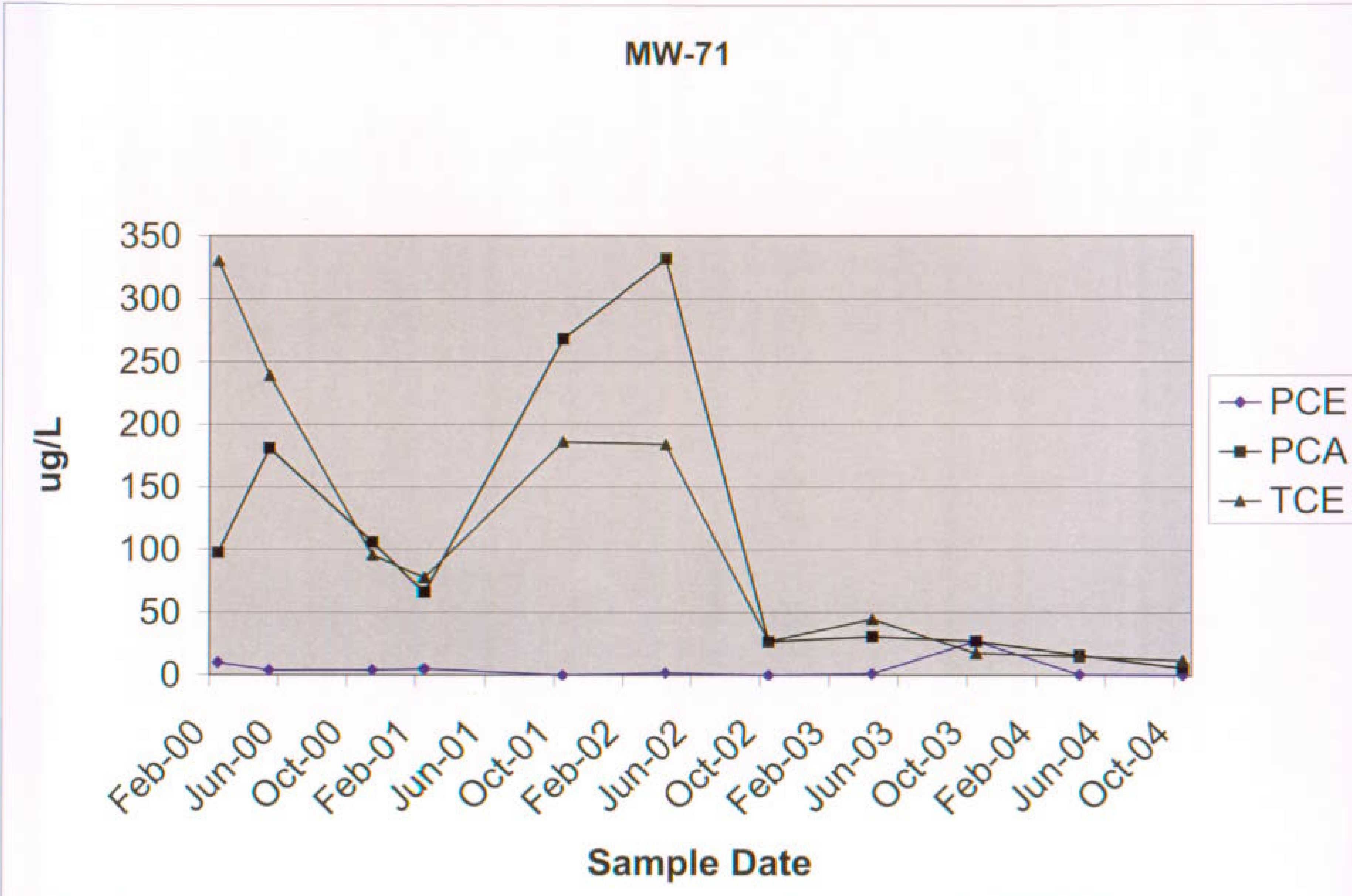

MW-69
700
600
500
400
300
200
100
0
ug/L
2/16/2000
6/16/2000
10/16/2000
2/16/2001
6/16/2001
10/16/2001
2/16/2002
6/16/2002
10/16/2002
2/16/2003
6/16/2003
10/16/2003
2/16/2004
6/16/2004
10/16/2004
Sample Date
TCE

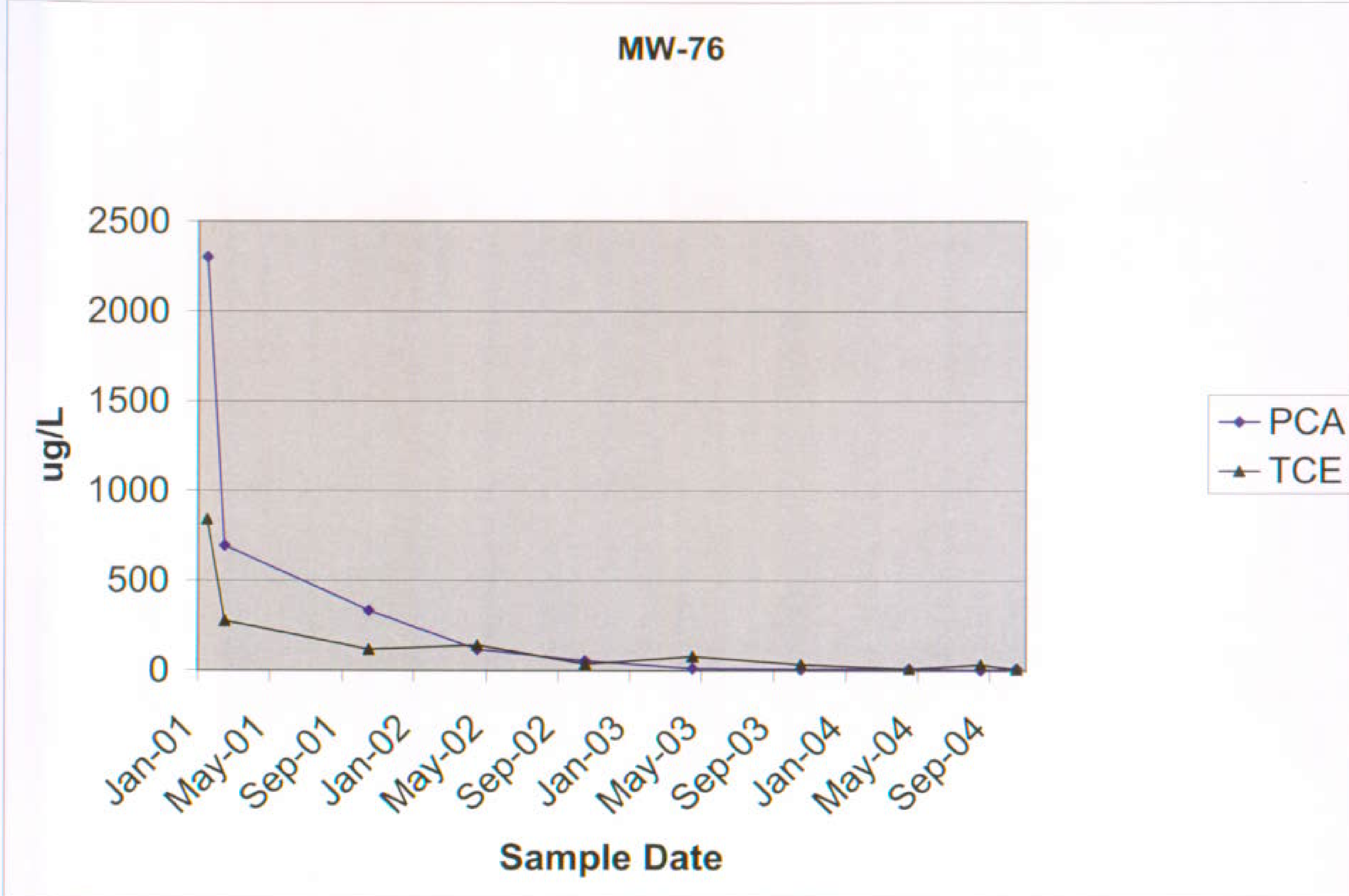

MW-70
14000
12000
10000
8000
6000
4000
2000
0
ug/L
Feb-00
Jun-00
Oct-00
Feb-01
Jun-01
Oct-01
Feb-02
Jun-02
Oct-02
Feb-03
Jun-03
Oct-03
Feb-04
Jun-04
Oct-04
Sample Date
PCA
TCE

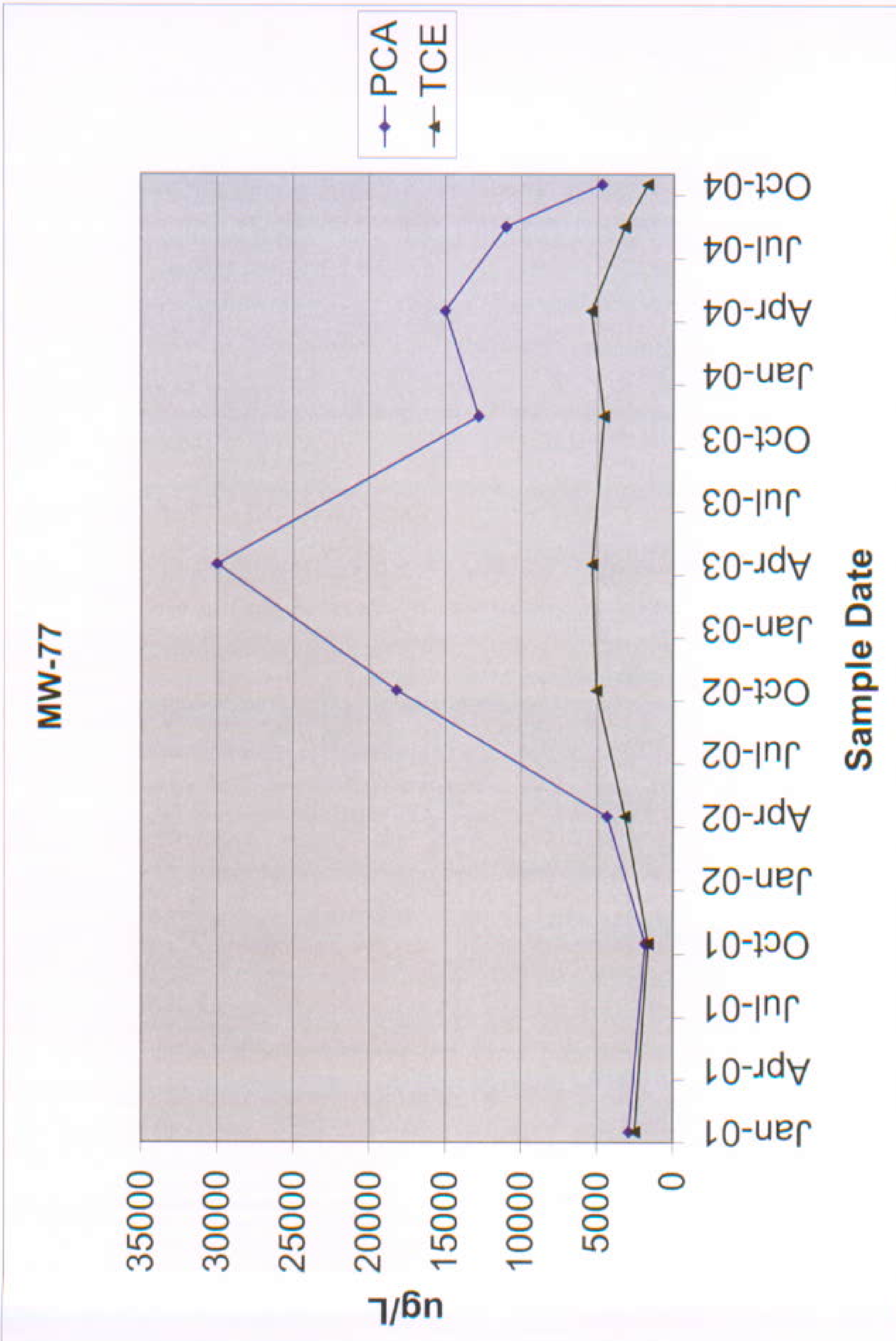
833 328


MW-71
ug/L
1200
1000
800
600
400
200
0
Feb-00
Jun-00
Oct-00
Feb-01
Jun-01
Oct-01
Feb-02
Jun-02
Oct-02
Feb-03
Jun-03
Oct-03
Feb-04
Jun-04
Oct-04
Sample Date
CT
CF

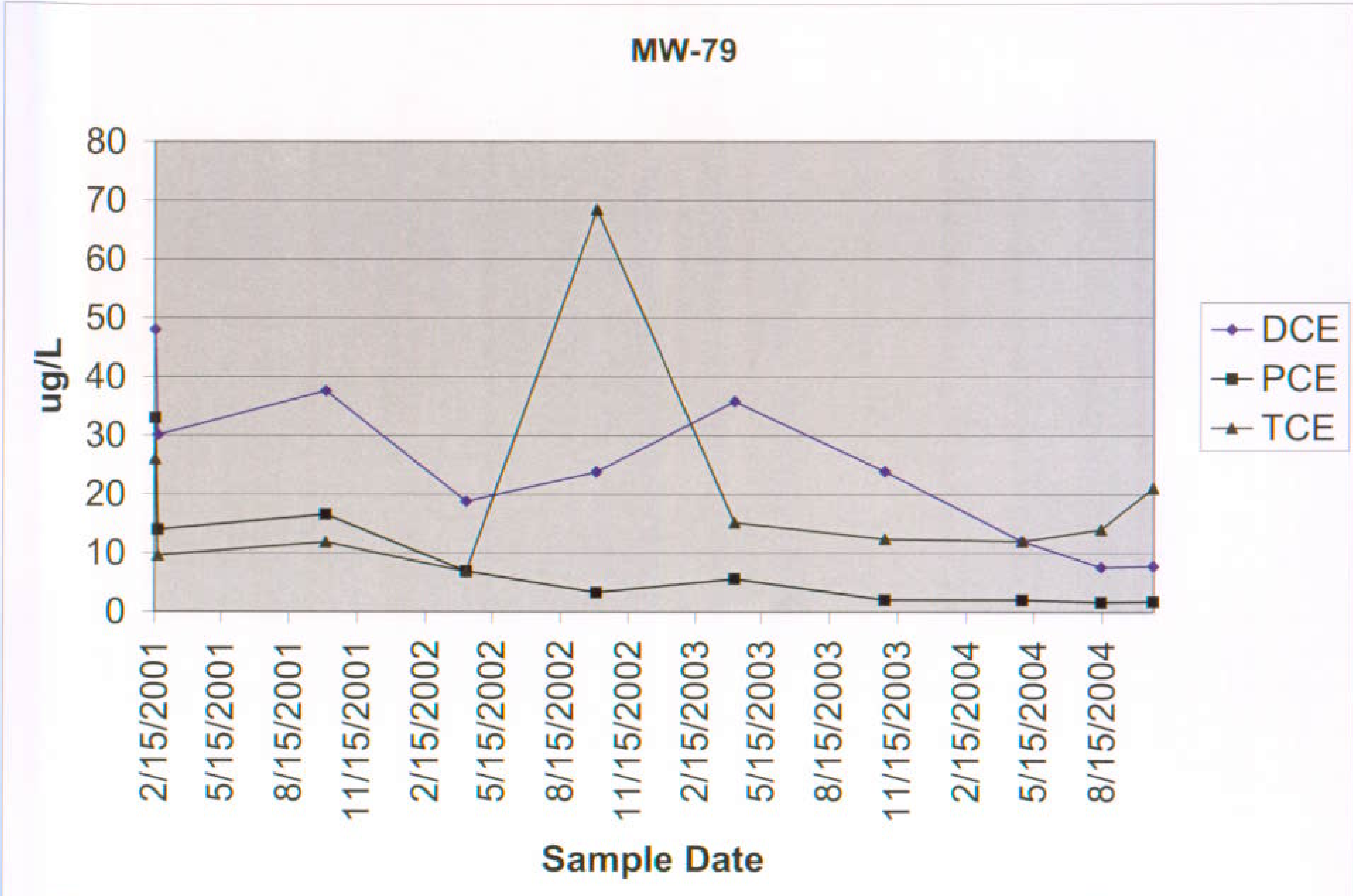
833 329

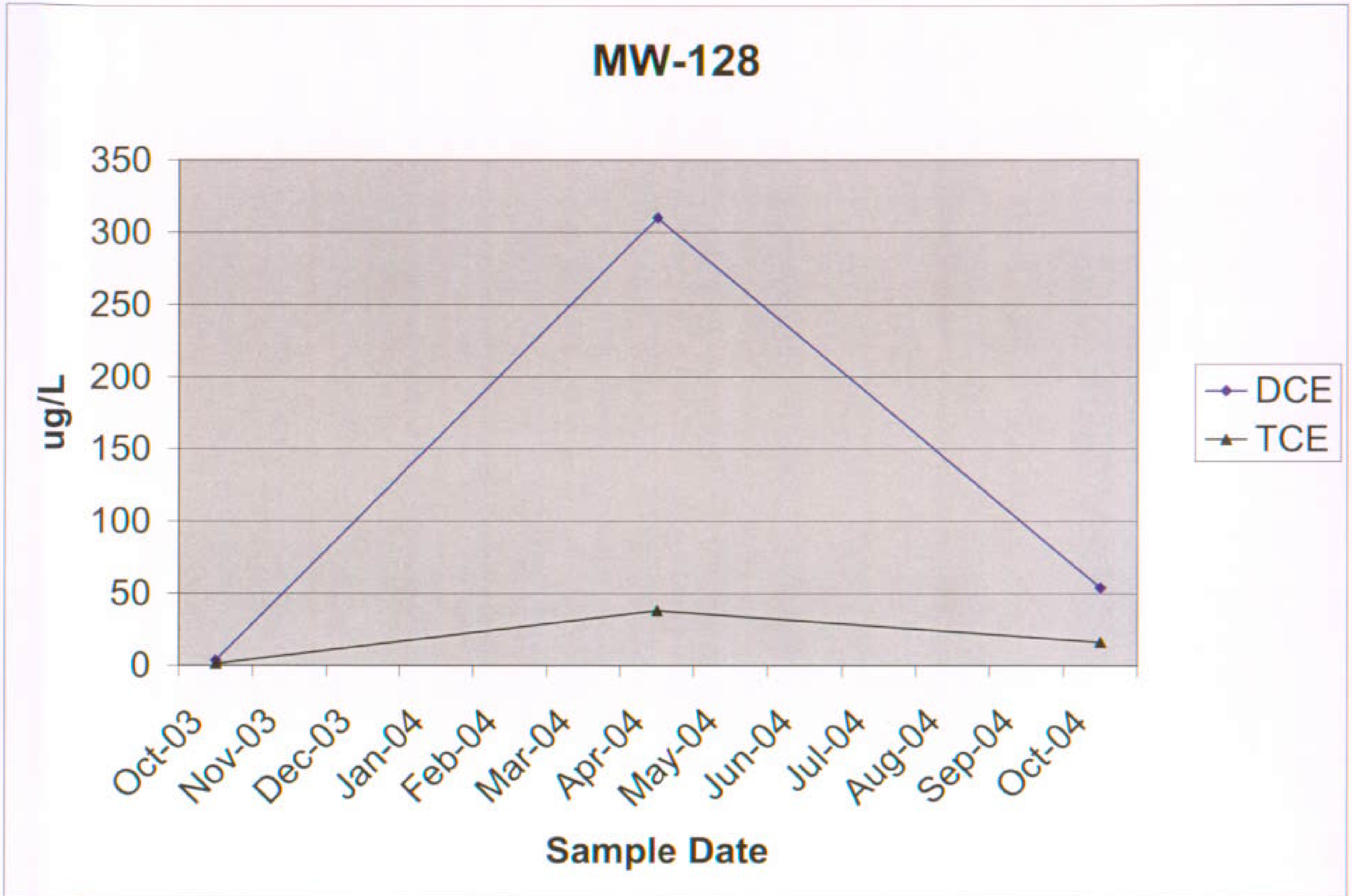

MW-71
ug/L
350
300
250
200
150
100
50
0
Feb-00
Jun-00
Oct-00
Feb-01
Jun-01
Oct-01
Feb-02
Jun-02
Oct-02
Feb-03
Jun-03
Oct-03
Feb-04
Jun-04
Oct-04
Sample Date
PCE
PCA
TCE


MW-76
ug/L
2500
2000
1500
1000
500
0
Jan-01
May-01
Sep-01
Jan-02
May-02
Sep-02
Jan-03
May-03
Sep-03
Jan-04
May-04
Sep-04
Sample Date
PCA
TCE

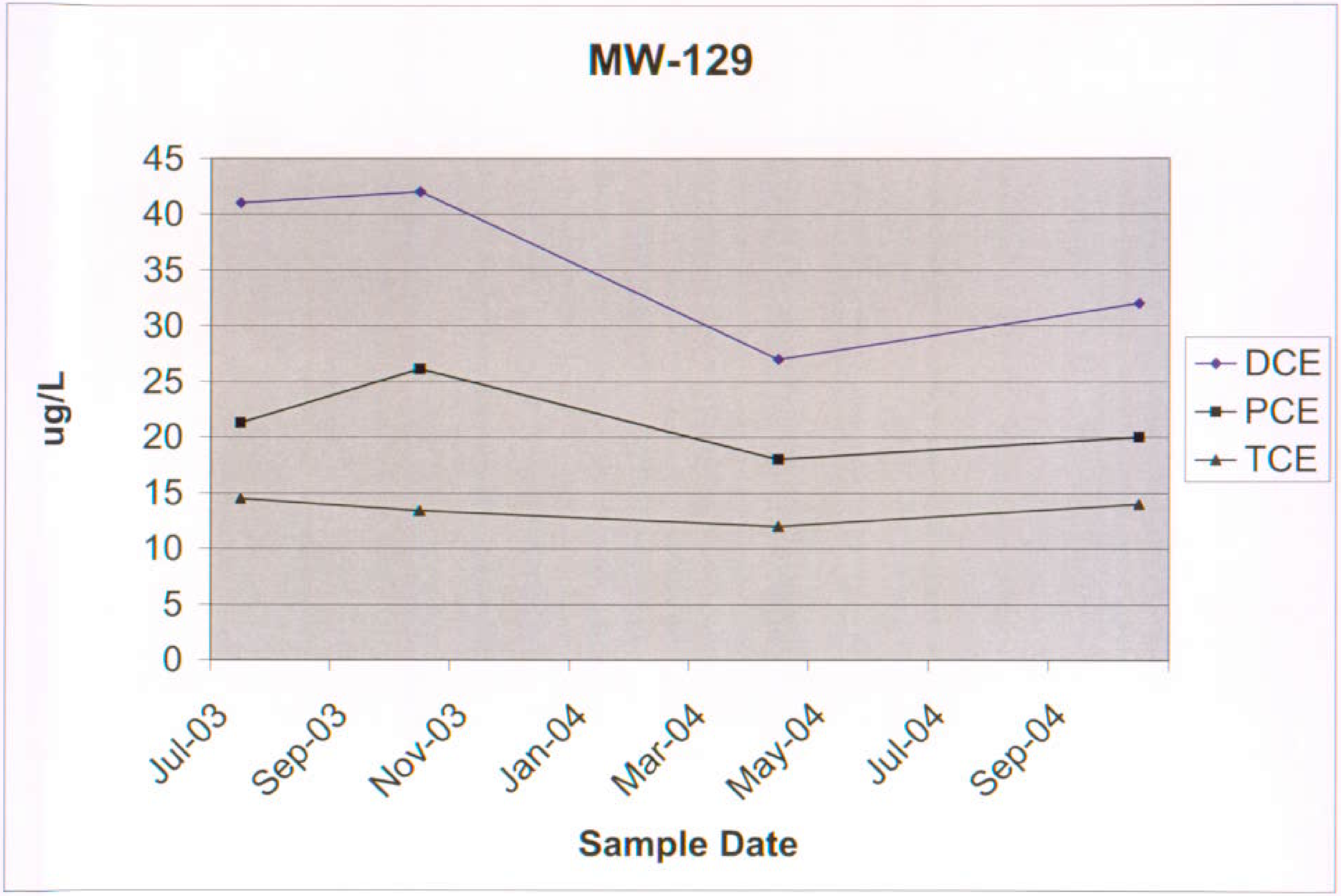


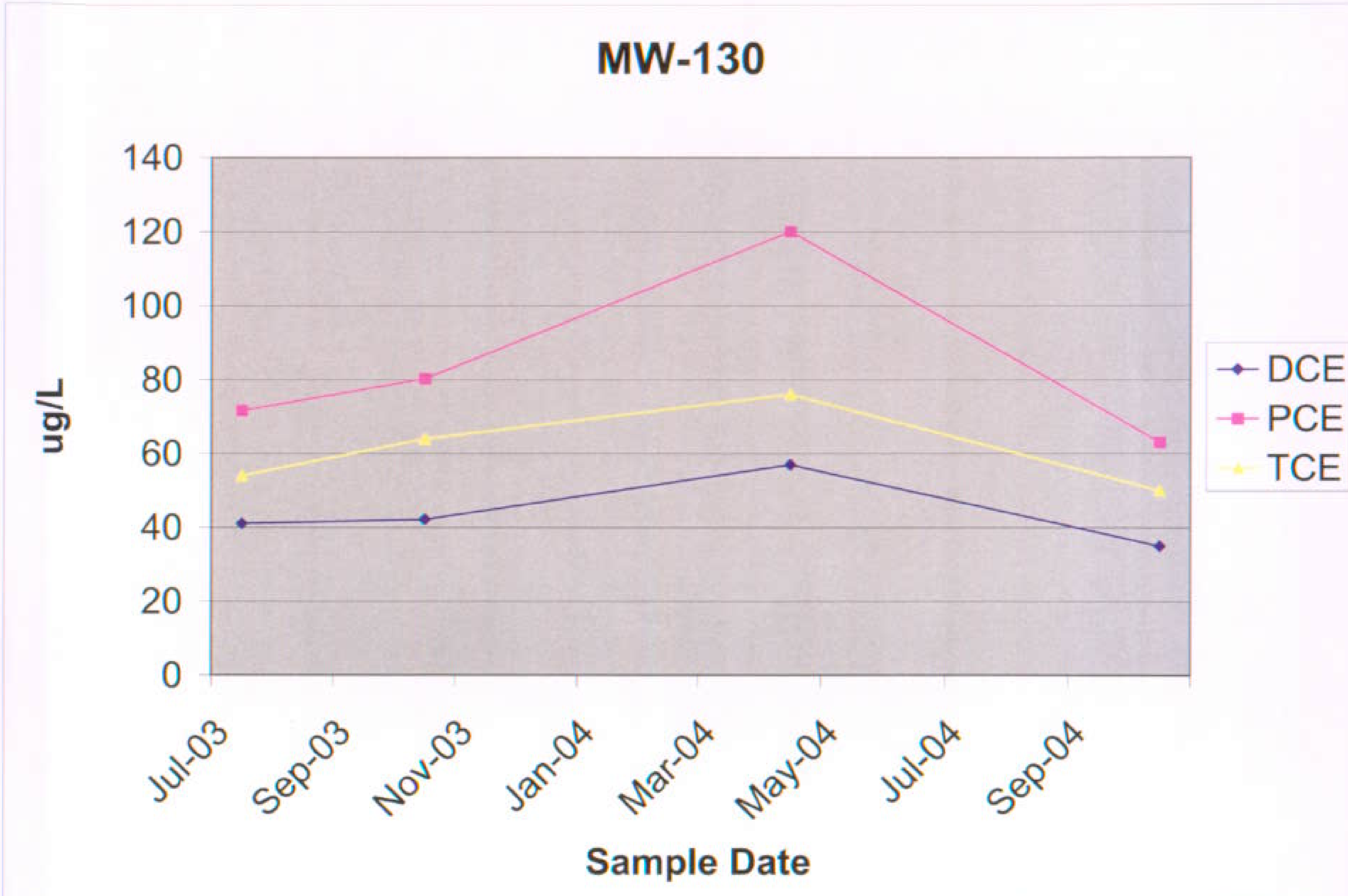
MW-77
ug/L
35000
30000
25000
20000
15000
10000
5000
0
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Sample Date
PCA
TCE


MW-79
80
70
60
50
40
30
20
10
0
ug/L
2/15/2001
5/15/2001
8/15/2001
11/15/2001
2/15/2002
5/15/2002
8/15/2002
11/15/2002
2/15/2003
5/15/2003
8/15/2003
11/15/2003
2/15/2004
5/15/2004
8/15/2004
Sample Date
DCE
PCE
TCE



MW-128
350
300
250
200
150
100
50
0
ug/L
Oct-03
Nov-03
Dec-03
Jan-04
Feb-04
Mar-04
Apr-04
May-04
Jun-04
Jul-04
Aug-04
Sep-04
Oct-04
Sample Date
DCE
TCE


MW-129
ug/L
45
40
35
30
25
20
15
10
5
0
Jul-03
Sep-03
Nov-03
Jan-04
Mar-04
May-04
Jul-04
Sep-04
Sample Date
DCE
PCE
TCE


MW-130
140
120
100
80
60
40
20
0
ug/L
Jul-03
Sep-03
Nov-03
Jan-04
Mar-04
May-04
Jul-04
Sep-04
Sample Date
DCE
PCE
TCE

833 336

FINAL PAGE

ADMINISTRATIVE RECORD

FINAL PAGE