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

Defense Depot Memphis, Tennessee



Defense Logistics Agency





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

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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
СГ	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

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> LIST OF ACRONYMS AND ABBREVIATIONS (Continued)

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

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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.

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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 [ms1]).

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

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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

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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).

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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).

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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.

					Opera	tional	Run Ti	mes (P	ercent)				
Recovery Well ID	Jan	Feb	March	April	May	June	July	Şuk	Sept	Oct	vov	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,

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historical flow rates were used to calculate the groundwater volume extracted. The average monthly pumping rate for each well is shown below.

		Aver	age M	onthly	[,] Pump	ing Ra	ite (Gal	lons Pe	r Minu	ite) and	Total	Volum	ıe (Gall	lons)
Recovery Well ID	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 Annual Operations Report – 2004 Dunn Field Groundwater IRA – Year Sıx MACTEC Project No. 6301-03-0015 June 2005 Revision 1.0

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.

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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

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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 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

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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.

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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).

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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 (μ g/L) at MW-32 to 19 μ g/L at MW-57. The detected concentrations exceeded the MCL of 5 μ g/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 μ g/L at MW-34 to 28 μ g/L at MW-71. The detected concentrations did not exceed the MCL for trihalomethanes of 80 μ g/L.
- DCE 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 $3.0 \ \mu g/L$. The concentration did not exceed the MCL of $100 \ \mu g/L$.
- <u>cDCE</u> was detected in monitoring wells MW-32 (1.7 μ g/L) and MW-54 (70 μ g/L). The reported concentration at MW-54 meets the MCL of 70 μ g/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.

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- <u>PCE</u> 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.
- <u>TCA</u> was not detected in any of the monitoring wells.
- <u>TCE</u> 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 μ g/L at MW-8 to 2700 μ g/L at MW-54. The detected concentrations of TCE exceeded the MCL of 5 μ g/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:

- <u>CT</u> 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.
- <u>CF</u> 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.
- <u>DCE</u> was detected in recovery wells RW-8 (12 μ g/L) and RW-9 (24 μ g/L). The concentrations exceeded the MCL of 7 μ g/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.
- <u>cDCE</u> 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.
- <u>PCA</u> 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.
- <u>PCE</u> 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.
- <u>TCA</u> was not detected in any of the recovery wells.

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• <u>TCE</u> was detected in all of the recovery wells at concentrations ranging from 22 μ g/L in RW-5 to 860 μ g/L in RW-4. The concentrations exceeded the MCL of 5 μ g/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 $12.0 \,\mu$ g/L exceeded the monthly average limit of $10 \,\mu$ g/L but was below the daily maximum of $20 \,\mu$ g/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

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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 μ g/L and acetone at 2000 μ g/L; the acetone result was rejected. Previous groundwater samples from MW-68 have only contained PCA sporadically and at concentrations below 10 μ g/L (Appendix E); the other two MW-68 PDB samples did not have PCA detected above the reporting limit of 1 μ g/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.

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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.
 - o 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.

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• 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

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TABLE 3-1

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

Wel	Aifer	WaerLewi	GoutteiSe	np ls
	Scened	Meanment	Арі	Otobr
MW-02	Fluvial	Х		
MW-03	Fluvial	Х		
MW-04**	Fluvial	Х		
MW-05	Fluvial	Х		
MW-06	Fluvial	Х		
MW-07	Fluvial	Х	х	Х
MW-08	Fluvial	Х	х	Х
MW-09	Fluvial	Х	Х	Х
MW-10	Fluvial	Х		
MW-11	Fluvial	Х		
MW-12	Fluvial	Х		
MW-13**	Fluvial	Х		
MW-14	Fluvial	х		
MW-15	Fluvial	Х		
MW-18	Intermediate	Х		
MW-19	Fluvial	Х		
MW-27	Fluvial	Х		
MW-28	Fluvial	Х		
MW-29	Fluvial	Х	х	Х
MW-30	Fluvial	Х	Х	Х
MW-31	Fluvial	Х	х	Х
MW-32	Fluvial	Х	х	Х
MW-33	Fluvial	Х	х	Х
MW-34	Intermediate	Х	х	Х
MW-35	Fluvial	Х		
MW-36	Intermediate	Х	х	Х
MW-37	Intermediate	Х	х	Х
MW-38	Intermediate	Х		
MW-40	Intermediate	Х	х	Х
MW-42	Fluvial	Х	х	Х
MW-43	Intermediate	Х	х	X
MW-44	Fluvial	Х	х	Х
MW-45**	Fluvial	Х		
MW-46	Fluvial	Х		
MW-51	Fluvial	Х	х	Х
MW-53	Fluvial	Х		
MW-54	Fluvial	Х	Х	Х
MW-55**	Fluvial	Х		
MW-56	Fluvial	Х	Х	
MW-57	Fluvial	Х	х	Х
MW-58	Fluvial	Х	х	
MW-59	Fluviał	Х		
MW-60	Fluvial	X		
MW-61	Fluviat	X		
MW-62	Fluvial	X		
MW-65	Fluvial	X		
MW-67	Memphis	X	x	Х
MW-68	Fluvial	X	x	Х
MW-69	Fluvial	X	x	Х
MW-70	Fluvial	X	x	Х
MW-71	Fluvial	х	Х	Х

TABLE 3-1

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

	Wel	Aifer	WterLevi	GouteiSr	npłs
	wei	Seened	Meanment	Аріі	Otobr
N	1W-73	Fluvial	Х		
N	1W-74	Fluvial	Х		
N	1W-75	Fluvial	Х		
M	1W-76	Fluvial	х	х	Х
N	1W-77	Fluvial	Х	х	Х
N	1W-78	Fluvial	Х	Х	Х
N	1W-79	Fluvial	Х	х	х
N	1W-80	Fluvial	Х	х	Х
M	W-84**	Fluvial	Х		
Ν	1W-87	Fluvial	Х		
Ν	1W-89	Intermediate	х		
Ν	1W-90	Intermediate	х		
Ν	1W-91	Fluvial	х		
M	W-95**	Fluvial	х	х	х
	W-126	Fluvial	X	x	x
	W-127	Fluvial	x	x	x
М	W-128	Fluvial	x	x	x
	W-129	Fluviat	х	x	X
	W-130	Fluvial	X	x	x
М	W-131	Fluvial	x		
	W-132	Fluvial	x		
М	W-133	Fluvial	Х		
	W-134	Fluvial	х		
М	W-135	Fluvial	х		
М	W-144	Fluvial	Х		
М	W-145	Fluvial	х		
М	W-147	Fluvial	Х		
М	W-148	Fluvial	х		
	W-149	Fluvial	х		
М	W-150	Fluvial	х		
I	PZ-02	Fluvial	Х		
	W-01	Fluvial	х	Х	Х
R	W-01A	Fluvial	x	x	x
R	W-01B	Fluvial	х	х	X
	W-02	Fluvial	х	x	x
R	W-03	Fluvial	X	x	x
	W-04	Fluvial	х	x	X
R	W-05	Fluvial	х	x	X
	W-06	Fluvial	х	x	x
	W-07	Fluvial	X	x	X
	W-08	Fluvial	x	x	X
R	W-09	Fluvial	Х	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

	Date	Measured Well	Depth to Water	Sample Depth Interval - 1	Sample Depth Interval - 2	Sample Depth Interval - 3	Sample Depth Interval - 4
Monitoring Well	Collected	Depth (ft bgs)	(feet from toc)	(feet btoc)	(feet btoc)	(feet btoc)	(feet btoc)
TO 1111	4/28/2004	73.5	66.0	66.9-68.9	70.5-72 5	ĪZ	IZ
/ n- m Ini	10/20/2004	73.5	66.0	69.6-71.6	IN	N	IN
	4/28/2004	674	61.3	65-67	z	IZ	IZ
00- W [V]	10/20/2004	67.4	61.4	64.2-66.2	N	NI	NI
1111 OC	4/28/2004	79.5	75.5	76.5-78.5	z	ĪZ	īz
60- W M	10/20/2004	79.5	75.5	78-79	ĪZ	IN	IN
00 2101	4/28/2004	53.6	37.4	40.7-42.7	45.7-47.7	50.7-52.7	ĪZ
67- M M	10/20/2004	53.6	37.8	41.6-43.6	46.1-48.1	50.6-52.6	IN
06 700	4/29/2004	60.0	46.0	46.5-48.5	51.5-53.5	56.5-58.5	īz
UC-WW	10/20/2004	60.0	45.9	49-51	53-55	57-59	IZ
10 1010	4/29/2004	81.0	69.6	72.2-74.2	77.5-79.5	IN	IZ
1 C - M M	10/20/2004	81.0	69.5	72.5-74.5	77.5-79.5	IZ	IN
CC 1111	4/29/2004	67.8	63.4	64.5-66.5	ĪN	IN	īz
75-W M	10/20/2004	67.8	62.3	65.9-66.9	NI	N	N
	4/29/2004	63.2	55.8	56-58	59.5-61.5	IZ	IN
66-W M	10/20/2004	63.2	55.7	59.3-61 3	IZ	NI	IN
PC 7004	4/28/2004	155.8	133.7	138-140	142-144	147-149	152-154
1vi w-34	10/20/2004	155.8	133.1	142.3-144.3	147.3-149.3	152.3-154.3	IN
25 1114	4/28/2004	206.2	148.9	192.9-194.9	197.9-199.9	202.9-204.9	ĪŻ
OC-WIN	10/21/2004	206.2	MN	192.7-194.7	197.7-199.7	202.7-204.7	IN
25 MM	4/29/2004	184.0	123.8	170.5-172.5	175.5-177.5	180.5-182.5	ĪZ
1 C - M M	10/21/2004	184.0	128.7	170.5-172.5	175.5-177.5	180.5-182.5	IN
NIV AD	4/29/2004	95.4	79.4	87.9-89.9	91.9-93.9	ĨN	ĪZ
04- M M	10/21/2004	95 4	80.6	86.9-88.9	91.9-93.9	NI	IN
CF /1184	4/29/2004	58.3	53.7	54.4-56.4	IN	IN	IN
7 + M [A]	10/21/2004	58.3	52.8	55.8-57.8	N	NI	IZ
CA 1114	4/29/2004	171.5	122.4	163-165	168-170	IN	IZ
CH-W[V]		2121	1760	163 165	142-170	NI	NIN

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

	Date	Measured Well	Depth to Water	Sample Depth Interval - 1	Sample Depth Interval - 2 (faat httod)	Sample Deptn Interval - 3 (feet htoc)	Sample Depui Interval - 4 (feet htor)
Monitoring Well	Collected	Deptn (It ogs)		(1001) 64.66	(1001) 60-71	NIN	ĪZ
MW-44	4/29/2004	0.77 8 CL	53.8	64-66	69-71	Z	ĪZ
	4/79/2014	6.6.6	39.3	58-60	63-65	IN	īz
MW-51	10/21/2004	66.6	39.8	58-60	63-65	IN	IN
	4/29/2004	94.4	79.5	85.6-87.6	90.6-92.6	IN	z
MW-54	10/21/2004	94.4	79.3	85.6-87.6	90.6-92.6	IN	z
MW-56	4/28/2004	69.4	67.1	67.2-69.2	NI	IN	IZ
	4/29/2004	70.4	63.4	64.5-65.5	61-69	N	īz
MW-57	10/21/2004	70.4	63.5	66.8-68.8	IN	N	Z
MW-58	4/28/2004	67.7	63.2	64.5-66.5	IN	IN	R
	4/29/2004	275.0	116.8	261-263	266-268	271-273	ĪZ
MW-67	10/21/2004	275.0	122.4	261-263	266-268	271-273	IN
	4/29/2004	81.6	68.0	69-71	73-75	78-80	Z
MW-68	10/21/2004	81.6	67.9	70.6-72.6	74.6-76.6	78.6-80.6	IN
	4/29/2004	94.9	83.0	86-88	26-16	IN	Z
69-MW	10/21/2004	94.9	83.0	86 4-88.4	91 4-93.4	N	IN
	4/29/2004	94.4	80.7	85.8-87.8	90.8-92.8	Z	Z
07-WM	10/21/2004	94.4	80.8	85.8-87.8	90.8-92.8	NI	IN
	4/29/2004	77.9	70.2	71-73	74.4-76.4	ĨN	Iz
MW-71	10/21/2004	6 77	70.0	73.9-75.9	IN	N	IN
	4/29/2004	94.8	83.6	86-88	91-93	IN	ĪZ
MW-76	10/21/2004	94.8	83.4	86.3-88.3	91.3-93.3	IZ	ĪZ
	4/29/2004	89.1	81.7	82-84	85.6-87.6	IZ	ĪZ
//-MW	10/21/2004	89.1	81.7	85.3-87.3	IN	N	IZ
	4/29/2004	65.3	47.5	47-49	52-54	57-59	62-64
MW-78	10/21/2004	65.3	47.5	51.8-53.8	56.8-58.8	61.8-63.8	IN
	4/29/2004	102.6	70.4	84-86	89-91	94-96	101-66
MW-79	10/22/2004	102.6	70.2	84-86	89-91	94-96	101-66
	4/29/2004	73.5	58.9	59.9-61.9	64.9-66.9	6.17-6.69	ĪZ
MW-80	10/22/2004	73.5	58.7	62-64	66-68	70-72	ĪZ

TABLE 3-2

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

	Date	Measured Well	Depth to Water	Sample Depth Interval - 1	Sample Depth Interval - 2	Sample Depth Interval - 3	Sample Depth Interval - 4
Monitoring Well	Collected	Depth (ft bgs)	(feet from toc)	(feet btoc)	(feet btoc)	(feet btoc)	(feet btoc)
	4/29/2004	60.7	25.6	42-44	47-49	52-54	57-59
02-WM	10/22/2004	60.7	27.4	42-44	47-49	52-54	57-59
	4/29/2004	25.7	15.3	17.2-19.2	22.2-24.2	IN	IZ
071-MW	10/22/2004	25.7	20.1	23.2-25.2	IN	IN	IZ
	4/29/2004	6.69	58.1	61.2-63.2	66.2-68.2	IZ	īz
171-MW	10/22/2004	6.69	57.8	61.2-63.2	66.2-68.2	IN	IZ
	4/29/2004	74.6	37.5	56-58	61-63	66-68	71-73
MW-128	10/22/2004	74.6	39.3	56-58	61-63	66-68	71-73
	4/29/2004	80.0	54.3	66.3-68.3	71.3-73.3	76.3-78.3	IN
M W-174	10/22/2004	80.0	58.5	66.3-68.3	71.3-73.3	76.3-78.3	ĪZ
0011101	4/29/2004	79.7	53.5	60.5-62.5	65.5-67.5	70.5-72.5	75.5-77.5
061-WM	10/22/2004	7.67	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	January 6-7, 2004	April 6-7, 2004	7, 2004	June 21-	June 21-22, 2004	October 1	October 14-15, 2004
		Top of		Water		Water		Water		Water
		Casing	Depth to	Level	Depth to	Level	Depth to	Level	Depth to	Level
	Screened	Elevation	Water	Elevation	Water	Elevation	Water	Elevation	Water	Elevation
Well ID	Interval	(ft. msl)	(ft. btoc)	(ft. msl)	(ft. btoc)	(ft. msl)	(ft. btoc)	(ft. msl)	(ft. btoc)	(ft. msl)
MW-02	Fluvial	292.04	MN	,	WN	ł	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	
90-WM	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
0-WM	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
11-WM	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	WN	•
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	ΣZ	•
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	ΜZ		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

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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.	-7, 2004	June 21-22, 2004	-22, 2004	October 14-15, 2004	4-15, 2004
		Top of		Water		Water		Water		Water
		Casing	Depth to	Level	Depth to	Level	Depth to	Level	Depth to	Level
	Screened	Elevation	Water	Elevation	Water	Elevation	Water	Elevation	Water	Elevation
Well ID	Interval	(ft. msl)	(ft. btoc)	(ft. msl)	(ft. btoc)	(ft. msl)	(ft. btoc)	(ft. msl)	(ft. btoc)	(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	ΣZ	•	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	MN	•
MW-49	Fluvial	310.49	78.39	232.10	78.08	232.41	<i>77.79</i>	232.70	MN	•
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	ΣZ	•	ΣZ	,	93.93	199.72	ΜN	•
MW-65	Fluvial	263.22	6.01	257.21	ΨZ	•	5.55	257.67	MN	•
MW-67	Memphis	278.21	Σ Z	۱	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
99-WM	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	66.69	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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WATER LEVEL MEASUREMENTS ANNUAL OPERATIONS REPORT - 2004 DUNN FIELD GROUNDWATER IRA - YEAR SIX Defense Depot Memphis, Tennessee

	Top of Casing Casing Casing Casing (ft.msl) al 311.15 al 311.15 al 311.19 al 311.19 al 311.19 al 311.19 al 311.19 al 294.93 al 294.19 al 293.01 al 259.43 al 259.22 al 259.33.01		Water Water bepth to Level Water Elevation ft. btoc) (ft. msl) 81.80 229.35 70.45 224.48 115.51 188.47 115.79 188.40	Depth to Water F	Water Level	Wate Depth to Level	Water Level	Depth to	Water Level
	-	1	Level Elevation (ft. msl) 229.35 224.48 188.47 188.40	Depth to Water	Level	Depth to	Level	Depth to	Level
	-		Elevation (ft. ms)) 229.35 224.48 188.47 188.40	Water					
			(ft. msl) 229.35 224.48 188.47 188.40	(F. L.L.)	Elevation	Water	Elevation	Water	Elevation
			229.35 224.48 188.47 188.40	(11. 0100)	(ft. msl)	(ft. btoc)	(ft. msl)	(ft. btoc)	(ft. msl)
			224.48 188.47 188.40	81.64	229.51	81.51	229.64	81,49	229.66
			188.47 188.40	70.12	224.81	69.90	225.03	70.21	224.72
			188.40	113.99	189.99	115.83	188.15	114.39	189.59
				114.21	189.98	116.07	188.12	114.63	189.56
			224.31	67.33	224.66	67.20	224.79	67.29	224.70
			231.65	25.60	233.83	25.10	234.33	27.44	231.99
			234.84	15.26	236.96	16.22	236.00	20.05	232.17
			210.29	58.07	210.64	58.14	210.57	57.80	210.91
			244.34	37.49	246.65	37.34	246.80	39.26	244.88
			237.90	54.25	238.76	53.49	239.52	58.45	234.56
			238.94	53.49	239.71	52.74	240.46	53.78	239.42
			,	MN		74.55	226.09	WN	•
			,	WN		75.14	225.59	MN	,
			·	ΜN	•	75.30	225.59	MN	•
				MN	ł	75.43	225.38	ΨN	•
				MN		75.10	225.43	ΜN	,
MW-144 Fluvial			۰	NA		73.16	218.44	73.28	218.32
MW-145 Fluvial			,	NA	ı	68.90	215.82	69.11	215.61
MW-147 Fluvial			•	٨A	ŀ	70.10	219.62	70.16	219.56
MW-148 Fluvial		I NA	ı	NA		77.28	217.43	77.35	217.36
MW-149 Fluvial			ı	NA		71.29	215.89	71.53	215.65
MW-150 Fluvial			،	ΝA		80.47	216.34	80.51	216.30
PZ-02 Fluvial			244.76	36.70	247.69	37.07	247.32	40.21	244 18
RW-01 Fluvial			219.80	69.00	226.71	70.61	225.10	ΜN	•
RW-01A Fluvial			221.77	73.36	222.06	73.65	221.77	73.71	221.71
RW-01B Fluvial			221.02	68.18	220.99	68.87	220.30	67.82	221.35
RW-02 Fluvial			220.21	71.25	218.67	69.32	220.60	66.10	223.82
RW-03 Fluvial			223.50	74.82	224.52	74.79	224.55	74.93	224.41
-			224.77	81.40	223.71	82.45	222.66	83.09	222.02
RW-05 Fluvial			219.43	86.75	220.38	89.30	217.83	86.30	220.83

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

			January (5-7, 2004	April 6	April 6-7, 2004	June 21-22, 2004	22, 2004	October 14-15, 2004	4-15, 200
		Top of		Water		Water		Water		Water
		Casing	Depth to	Depth to Level Dep	Depth to	Level	Depth to	Level	Depth to	Level
	Screened	Elevation	Water	Elevation	Water	Elevation	Water	Elevation	Water	Elevatio
Well ID	Interval	(ft. msl)	(ft. btoc)	(ft. msl)	(ft. btoc)	(ft. msl)	(ft. btoc)	(ft. msl)	(ft. btoc)	(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

<u>Notes:</u> NM Not Measured NA Not Applicable, well installed following water level measurements.

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

MW-007 MW07 69.56-71.56 10/20/2004 13:50 69.5-71.56	MW-008 MW08 64.2-66.2 10/20/2004 14:10 64.2 66.2	MW-009 MW09 78-79 10/20/2004 14:25 78-79	MW-029 MW29 41.6-43.6 10/20/2004 14:40 41.6 43.6	MW-029 DUP01 10/20/2004 41.6 43.6	MW-029 MW29 46.1-48.1 10/20/2004 14:45 46.1 48.1	MW-029 MW29 50.6-52.6 10/20/2004 14:50 50.6 52.6	MW-030 MW30 49-51 10/20/2004 15:30 49-51
.72 J	<1 U	<1 U	2.8	l, 9, 1	2.3	2.9	<1 U
<1.4 U	<1 U	<1 U	<1 U	<1 U	<1.7 U	<1 U	<1 U
L 7 S.	<1 U	<1 U	1.1	ļ	0.94 J	1.1	<1 U
17	1.1	<1 U	22	18	18	22	<1 U
.6 B	1.4 B	3.4 B	1.4 B	0.92 J	3 B	2.6 B	<5 J
1.4 U	<ł U	<1 U	<1 U	<1 J	<1.7 U	<1 U	<1 U
.44 J	<1 U	<1 U	<1 U	<1 U	<1.7 U	<1 U	<1 U
1.4 U	<1 U	0.76 J	0.41 J	0.4 J	<1.7 U	0.36 J	<1 U
1.4 U	<1 U	<1 U	<1 U	<1 U	<1.7 U	<1 U	<1 U
18	1.4	<1 U	23	19	20	21	<1 U
<1.4 U	<1 U	<1 U	<1 U	<1 U	<1.7 U	<1 U	<1 U
14	1.3	0.59 J	29	29	24	30	<1 U

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MCL	200 NA NA NA NA NA NA NA NA NA NA NA NA NA
Site ID Sample ID e Collected Depth	Units н g/L н g/L н g/L н g/L н g/L н g/L н g/L н g/L н g/L
Site ID Sample ID Date and Time Collected Depth	Volatile Organic Compounds 1,1,1-Trichloroethane 1,1,2,2-Tetrachloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethane Acetone Carbon tetrachloride Carbon tetrachloride Carbon tetrachloride Chloroform cis-1,2-Dichloroethene trans-1,2-Dichloroethene trans-1,2-Dichloroethene trans-1,2-Dichloroethene

- 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

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

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 10/2004 16:25 59.53-61.53	MW-034 MW34 142.3-144.3 10/20/2004 16:50 142.3-144.3
NA	<1 U	<1 U	⊲Ŭ	<[]>	C 1>	<15	ſ I>	[>
2.2	<1 U	<1 U	<1 U	<1 U	3.6	<1 U	<1 U	<1 U
NA	<1 U	<1 U	U</td <td>0.26 J</td> <td><!-- U</td--><td><1 U</td><td><1 U</td><td><1 U</td></td>	0.26 J	U</td <td><1 U</td> <td><1 U</td> <td><1 U</td>	<1 U	<1 U	<1 U
340	<1 U	<1 U	12	17	<1 U	<1 U	U</td <td><1 U</td>	<1 U
NA	1.6 B	<5 J	2.4 B	2.6 B	1.6 B	3.1 B	3.1 J	2.4 B
ę	<1 U	<1 U	<1 U	<1 J	2.3 J	<1J	<1 J	0.62 J
12	<1 U	<1 U	<1 U	<1 U	17	<1 U	<1 U	3.8
35	<1 U	<1 U	0.35 J	0.58 J	1.7	<1 U	<1 U	<1 U
NA	<1 U	<1 U	<1 U	U</td <td><!-- U</td--><td><1 U</td><td><1 U</td><td><!-- U</li--></td></td>	U</td <td><1 U</td> <td><1 U</td> <td><!-- U</li--></td>	<1 U	<1 U	<!-- U</li-->
2.5	<1 U	<1 U	0.31 J	0.42 J	<1 U	<1 U	<1 U	<1 U
50	<1 U	<1 U	<1 U	0.31 J	0.23 J	<1 U	<1 U	<1 U
5	<1 U	<1 U	2.7	4.7	7.3	<1 U	<1 U	0.98 J

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MCL	200 NA NA NA NA NA NA NA NA NA NA NA NA NA
Site ID Sample ID : Collected Depth	Units н g/L н g/L н g/L н g/L н g/L н g/L н g/L н g/L н g/L
Site ID Sample ID Date and Time Collected Depth	Volatile Organic Compounds 1,1,1-Trichloroethane 1,1,2,2-Tetrachloroethane 1,1,2,2-Tetrachloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethane Acetone 1,1-Dichloroethane Acetone Carbon tetrachloride Carbon tetrachloride Carbon tetrachloride Carbon tetrachloride Carbon tetrachloride Trichloroethene trans-1,2-Dichloroethene trans-1,2-Dichloroethene Trichloroethene

Maximum Contaminant Level	Tourset Construction from Dans
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MCL	C E

- Target Concentration from Dunn Field ROD, Table 2-21G
 Estimated quantitation result below the Reporting Limit
 Estimated quantitation: possibly biased high or false positive
 based upon blank data or professional judgment
 Not detected
 Rejected datum: do not use
 Not Applicable
 Not Applicable ЪС
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POSITIVE RESULTS SUMMARY - MONITORING WELLS, OCTOBER 2004 ANNUAL OPERATIONS REPORT - 2004 DUNN FIELD GROUNDWATER IRA - YEAR SIX Defense Depot Memphis, Tennessee

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<1U $<1U$ <t< td=""><td>2.2</td><td><!-- U</td--><td><1 U</td><td><1 U</td><td><1 U</td><td><1 U</td><td><1 U</td><td><!-- U</td--><td><1 U</td></td></td></t<>	2.2	U</td <td><1 U</td> <td><1 U</td> <td><1 U</td> <td><1 U</td> <td><1 U</td> <td><!-- U</td--><td><1 U</td></td>	<1 U	<1 U	<1 U	<1 U	<1 U	U</td <td><1 U</td>	<1 U
< 1 U $< 1 U$ < 1 U	NA	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
2.8B $1.6B$ $<5J$ $<5J$ $<0.7B$ $0.64J$ $0.35J$ $<1J$ $<1J$ $<1J$ $<0.7B$ $0.64J$ $0.35J$ $<3J$ $<1J$ $<1J$ $<1J$ $<1J$ $0.64J$ $0.35J$ $<3J$ $<1J$ $<1J$ $<1J$ $<1J$ 2.4 1.7 $<1U$	340	U</td <td><1 U</td> <td><1 U</td> <td>< U</td> <td><1 U</td> <td><1 U</td> <td><1 U</td> <td><1 U</td>	<1 U	<1 U	< U	<1 U	<1 U	<1 U	<1 U
0.64J $0.35J$ $<1J$	NA	2.8 B	1.6 B	<5J	<5 J	0.77 B	1.2 B	1.3 B	1.9 B
2.4 1.7 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <t< td=""><td>e</td><td>0.64 J</td><td>0.35 J</td><td><1J</td><td><!--]</td--><td><[]</td><td><1 J</td><td><1J</td><td>< J</td></td></t<>	e	0.64 J	0.35 J	<1J]</td <td><[]</td> <td><1 J</td> <td><1J</td> <td>< J</td>	<[]	<1 J	<1J	< J
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	12	2.4	1.7	<1 U	<1 U	U</td <td><1 U</td> <td><!-- U</td--><td><1 U</td></td>	<1 U	U</td <td><1 U</td>	<1 U
<1U	35	U</td <td><1 U</td> <td><1 U</td> <td><1 U</td> <td><!-- U</td--><td><1 U</td><td><1 U</td><td><1 U</td></td>	<1 U	<1 U	<1 U	U</td <td><1 U</td> <td><1 U</td> <td><1 U</td>	<1 U	<1 U	<1 U
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0.54 J <1 U <1 U <1 U	50	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<l li="" u<=""></l>
	5	0.83 J	0.54 J	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U

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Sample ID Date and Time Collected MCL Depth	unds Units µg/L 200 µg/L NA µg/L NA µg/L 7 µg/L 7 µg/L 80 µg/L 70 µg/L 70 µg/L 5 µg/L 100 µg/L 5
Date an	Volatile Organic Compounds 1,1,1-Trichloroethane 1,1,2,2-Tetrachloroethane 1,1-Dichloroethane 1,1-Dichloroethane Acetone Acetone Carbon tetrachloride Chloroform cis-1,2-Dichloroethene Methylene chloride Tetrachloroethene trans-1,2-Dichloroethene trans-1,2-Dichloroethene Trichloroethene

Site ID

- 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

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TABLE 4-2

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

Sa Date and Time C	Site ID Sample ID : Collected	MCL	TC	MW-040 MW40 86.9-88.9 10/21/2004 10-35	MW-040 MW40 91.9-93.9 10/71/2004 10-40	MW-042 MW42 55.8-57.8 10/21/2004 10:50	MW-043 MW43 163-165 10/21/2004 12-05	MW-043 MW43 168-170 10/21/2004 12-10	MW-043 DUP03 10/21/2004 12:10	MW-044 MW44 64-66	MW-044 MW44 69-71
	Depth			86.9-88.9	91.9-93.9	55.8-57.8	163-165	168-170	168-170	64-66	12-69
Volatile Organic Compounds	Units										
1,1,1-Trichloroethane	μg/L	200	NA	<1 J	< J	<1 J	<]	<]	<[]>	<1 J	
1,1,2,2-Tetrachloroethane	μg/L	NA	2.2	U</td <td><1 U</td> <td><1 U</td> <td><1 U</td> <td><1 U</td> <td><!-- U</td--><td><1 U</td><td><1 U</td></td>	<1 U	<1 U	<1 U	<1 U	U</td <td><1 U</td> <td><1 U</td>	<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
1,1-Dichloroethene	µg/L	L	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	ŝ	<1J]</td <td><1 J</td> <td><1 J</td> <td><1J</td> <td><1 J</td> <td>0.71 J</td> <td>0.54 J</td>	<1 J	<1 J	<1J	<1 J	0.71 J	0.54 J
Chloroform	µg/L	80	12	<1 U	U</td <td><1 U</td> <td><1 U</td> <td><1 U</td> <td><1 U</td> <td>0.64 J</td> <td>0.42 J</td>	<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	U</td <td>0.27 J</td> <td><1 U</td>	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	U</td <td><1 U</td> <td><1 U</td> <td><1 U</td> <td><1 U</td> <td><!-- U</td--><td><1 U</td></td>	<1 U	<1 U	<1 U	<1 U	U</td <td><1 U</td>	<1 U
Trichloroethene	μg/L	S	S	<1 U	<1 U	<1 U	<111	<111	<1111	0.55 I	0411

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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 R NA Bold
- Not detected Rejected datum: do not use Not Applicable Positive Results

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POSITIVE RESULTS SUMMARY - MONITORING WELLS, OCTOBER 2004	ANNUAL OPERATIONS REPORT - 2004	DUNN FIELD GROUNDWATER IRA - YEAR SIX
POSITIVE RESULTS SUMMARY - MONITOR	ANNUAL OPERATIONS RE	DUNN FIELD GROUNDWATER

		Defer	Defense Depot Memphis, Tennessee	nnessee				
TC	MW-051 MW51 58-60 10/21/2004 13:15 58-60	MW-051 MW51 63-65 10/21/2004 13:20 63-65	MW-054 MW54 85.6-87.6 10/21/2004 13:35 85 6-87 6	MW-054 MW54 90.6-92.6 10/21/2004 13:40 90.6-97 6	MW-057 MW57 66.8-68.8 10/21/2004 13:55 66 8-68 8	MW-067 MW67 261-263 10/21/2004 14:10 261-263	MW-067 DUP04 10/21/2004 14:10 261-263	MW-067 MW67 266-268 10/21/2004 14:15 266-268
								000
NA	<1 J	0.23 J	<140 U	<140 U	<1 U	≤IU	<1 J	<1 U
2.2	<1 U	<1 U	4300	4700	<1 U	<1 U	<1 U	<1 U
NA	<1 U	<1 U	<140 U	<140 U	<1 U	⊲IU	<1 U	<1 U
340	14	16	<140 U	<140 U	<1 U	<1 U	<1 U	<1 U
NA	1.3 R	4.1 B	<710 U	110 J	2.4 B	2.1 B	1.2 J	2.2 B
Ś	<1 J	<1 U	<140 U	<140 U	19	<1 U	<1 J	<1 U
12	<1 U	<1 U	<140 U	<140 U	6.1	<1U -	<1 U	<1 U
35	<1 U	<1 U	10 J	61 J	0.27 J	<i td="" u="" <=""><td><1 U</td><td><1 U</td></i>	<1 U	<1 U
NA	<1 U	<1 U	54 J	74 J	<1 U	U</td <td>0.41 B</td> <td><1 U</td>	0.41 B	<1 U
2.5	1.2	0.3 J	<140 U	<140 U	2.7	<1 U 	<1 U	<1 U
50	<1 U	<1 U	<140 U	<140 U	0.58 J	<10)	<1 U	<1 U
5	5.1	3.8	2500	2700	29	<1 U	<1 U	<1 U

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MCL	200 NA NA 5 80 80 70 80 70 80 100 100
Site ID Sample ID : Collected Depth	Units н g/L н g/L н g/L н g/L н g/L н g/L н g/L н g/L
Site ID Sample ID Date and Time Collected Depth	Volatile Organic Compounds 1,1,1-Trichloroethane 1,1,2,2-Tetrachloroethane 1,1-Dichloroethane 1,1-Dichloroethene Acetone Carbon tetrachloride Carbon tetrachloride Carbon tetrachloride Carbon tetrachloride Tarachloroethene trans-1,2-Dichloroethene trans-1,2-Dichloroethene trans-1,2-Dichloroethene

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

		1 1												
		MW-070 MW70 85.8-87.8 10/22/2004 15:25 85.8-87.8	11011>	0002	2000 <140 U	<140 U	250 J	<140 U	<140 U	41 J	1 95	<14011	<140 U	2100
		MW-069 DUP05 10/21/2004 15:15 91.4-93.4	7		du ⊿IU	<1 U	<5 J	<1 J		<1 U			01	<1 U
		MW-069 MW69 91.4-93.4 10/21/2004 15:15 91.4-92.8			 0 ⊽	<1 U	<5J		<10	<10			- - 8	
TABLE 4-2 POSITIVE RESULTS SUMMARY - MONITORING WELLS , OCTOBER 2004 ANNUAL OPERATIONS REPORT - 2004 DUNN FIELD GROUNDWATER IRA - YEAR SIX Defense Depot Memphis, Tennessee	3 2004	MW-069 MW69 86.4-88.4 10/21/2004 15:10 86.4-88.4	-		o i o	<1 U	0.93 B	<1 J	0.17 J	⊲U		51	21 I)	3.7
	G WELLS , OCTOBE) 18T - 2004 A - YEAR SIX messee	MW-068 MW68 78.6-80.6 10/21/2004 14:50 78.6-80.6	-		ol⊳	U</td <td>0.91 B</td> <td><pre>{ 1 }</pre></td> <td><1 U</td> <td></td> <td></td> <td></td> <td>1 U</td> <td> ⊲IU</td>	0.91 B	<pre>{ 1 }</pre>	<1 U				1 U	 ⊲IU
	MARY - MONITORIN OPERATIONS REPO GROUNDWATER IR se Depot Memphis, Ten	MW-068 MW68 74.6-76.6 10/21/2004 14:45 74.6-76.6			ΩI⊳	<1 U	2.8 B	<1 U	<1 U	<1 U	111		<1 U	~1 U
	MW-068 MW68 70.6-72.6 10/21/2004 14:40 70.6-72.6	1 88>	61	<33 U	<33 U	2000 R	<33.1	<33 U	<33 U	<33.0	33.U	<33 U	20 J	
	POSI	MW-067 MW67 271-273 10/21/2004 14:20 271-273			<pre><1 U</pre>	<1 U	1.6 B	<1 U	<1 U	≤I U	U</td <td><1 U</td> <td>≤ I U</td> <td>1 U</td>	<1 U	≤ I U	1 U
		IC	AN N	<i>с с</i>	NA	340	NA	ŝ	12	35	NA	2.5	50	5

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MCL	200 NA NA 5 5 80 80 70 80 100 5
Site ID Sample ID • Collected Depth	Units нg/L нg/L нg/L нg/L нg/L нg/L нg/L нg/L
Site ID Sample ID Date and Time Collected Depth	Volatile Organic Compounds 1,1,1-Trichloroethane 1,1,2,2-Tetrachtoroethane 1,1-Dichloroethane 1,1-Dichloroethene Acetone Carbon tetrachloride Chloroform cis-1,2-Dichloroethene trans-1,2-Dichloroethene trans-1,2-Dichloroethene trans-1,2-Dichloroethene

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- TC Target Concentration from Dunn Field ROD, Table 2-21G
 Target Concentration from Dunn Field ROD, Table 2-21G
 Estimated quantitation result below the Reporting Limit
 Estimated quantitation: possibly biased high or false positive based upon blank data or professional judgment
 Not detected
 Rejected datum: do not use
 A Not Applicable
 Not Applicable MCL J B
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POSITIVE RESULTS SUMMARY - MONITORING WELLS, OCTOBER 2004 ANNUAL OPERATIONS REPORT - 2004 DUNN FIELD GROUNDWATER IRA - YEAR SIX Defense Depot Memphis, Tennessee

MW-078 MW78 56.8-58.8 10/21/2004 16:25 56.8-58.8	ſ I>	0.74 J	<1 U	<1 U	<5 J	<] J	U</th <th><1 U</th> <th><1 U</th> <th>I U</th> <th><!-- U</th--><th>0.59 J</th></th>	<1 U	<1 U	I U	U</th <th>0.59 J</th>	0.59 J
MW-078 MW78 51.8-53.8 10/21/2004 16:20 51.8-53.8	[[>	< U	<1 U	<1 U	<5 R	<1 J	<1 U	<1 U	U</td <td><1 U</td> <td><1 U</td> <td><!-- U</td--></td>	<1 U	<1 U	U</td
MW-077 DUP06 10/21/2004 16:05 85.27-87.27	<140 J	4600	<140 U	<140 U	<710 R	<140 J	<140 U	63.1	<140 U	<140 U	<140 U	1700
MW-077 MW77 85.27-87.27 10/21/2004 16:05 85.27-87.27	<250 J	4700	<250 U	<250 U	<1200 R	<250 J	<250 U	64 J	220 J	<250 U	<250 U	1700
MW-076 MW76 91.3-93.3 10/21/2004 15:55 91.3-93.3]</td <td>12</td> <td><1 U</td> <td><1 U</td> <td>0.96 R</td> <td>< J</td> <td>0.18 J</td> <td>0.69 J</td> <td><1 U</td> <td><1 U</td> <td>0.24 J</td> <td>8.9</td>	12	<1 U	<1 U	0.96 R	< J	0.18 J	0.69 J	<1 U	<1 U	0.24 J	8.9
MW-076 MW76 86.3-88.3 10/21/2004 15:50 86.3-88.3	<pre>{ ></pre>	4.3	<1 U	<1 U	1.6 R	<1 J	0.16 J	0.24 J	0.73 B	0.27 J	<1 U	3.9
MW-071 MW71 73.86-75.86 10/21/2004 15:40 73.86-75.86	Ţ⊳	Q	<1 U	<1 U	1.5 B	5.6 J	28	0.7 J	0.38 B	0.4 J	<1 U	12
MW-070 MW70 90.8-92.8 10/21/2004 15:30 90.8-92.8	<170 J	4200	<170 U	<170 U	<830 R	<170 J	<170 U	<170 U	. 140 J	<170 U	<170 U	1100
IC	NA	2.2	NA	340	NA	ŝ	12	35	NA	2.5	50	5

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MCL	200 NA NA NA 80 80 80 70 80 80 100 100
Site ID Sample ID : Collected Depth	U nits н g/L н g/L н g/L н g/L н g/L н g/L н g/L
Site ID Sample ID Date and Time Collected Depth	Volatile Organic Compounds 1,1,1-Trichloroethane 1,1,2,2-Tetrachloroethane 1,1-Dichloroethane 1,1-Dichloroethene Acetone Carbon tetrachloride Carbon tetrachloride Carbon tetrachloride Carbon tetrachloride Trichloroethene Tetrachloroethene trans-1,2-Dichloroethene Trichloroethene

- 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

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TABLE 4-2

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

VIC VIC	
MULTEED UNDOND WALEN INA - LEAN JL	is, Tennessee
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S Date and Time	Site ID Sample ID : Collected Depth	MCL	TC	MW-078 MW78 61.8-63.8 10/21/2004 16:30 61.8-63.8	MW-079 MW79 84-86 10/22/2004 8:55 84-86	MW-079 MW79 89-91 10/22/2004 9:05 89-91	MW-079 MW79 94-96 10/22/2004 9:10 94-96	MW-079 MW79 99-101 10/22/2004 9:15 99-101	MW-080 MW80 62-64 10/22/2004 9:30 62-64	MW-080 MW80 66-68 10/22/2004 9:35 66-68	MW-080 MW80 70-72 10/22/2004 9:40 70-72
Volatile Organic Compounds	Units										
1,1,1-Trichloroethane	µg/L	200	NA	< 1	0.41 J	0.48 J	0.28 J	U</td <td><1 U</td> <td><1 U</td> <td><1 U</td>	<1 U	<1 U	<1 U
1,1,2,2-Tetrachloroethane	µg/L	NA	2.2	0.35 J	1 U	<1 U	U</td <td><1 U</td> <td><1 U</td> <td><1 U</td> <td><1 U</td>	<1 U	<1 U	<1 U	<1 U
1,1-Dichloroethane	µg/L	NA	NA	<!-- U</li-->	0.29 J	0.32 J		U</td <td><1 U</td> <td><1 U</td> <td></td>	<1 U	<1 U	
1,1-Dichloroethene	hg/L	7	340	<l li="" u<=""></l>	6.3	6.3	6.8	7.8	<1 U	<1 U	<1 U
Acetone	hg/L	NA	NA	1B	2.1 B	2.2 B	2.3 B	1.9 B	0.79 B	1.3 B	0.91 B
Carbon tetrachloride	J/gµ	5	ę	<1J	0.37 J	0.42 J	0.29 J	0.2 J	U</td <td><1 U</td> <td><1 U</td>	<1 U	<1 U
Chloroform	hg/L	80	12	U</td <td>0.26 J</td> <td>0.29 J</td> <td><1 U</td> <td><1 U</td> <td><1 U</td> <td><1 U</td> <td><1 U</td>	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	£	1.7	0.92 J	<1 U	<1 U	<!-- U</li-->
Methylene chloride	μg/L	NA	NA	<1 U	U</td <td><1 U</td> <td><1 U</td> <td><1 U</td> <td><1 U</td> <td><1 U</td> <td><l u=""></l></td>	<1 U	<1 U	<1 U	<1 U	<1 U	<l u=""></l>
Tetrachloroethene	μg/L	5	2.5	<1 U	1.4	1.2	1.5	1.8	<1 U	U I>	<!-- U</li-->
trans-1,2-Dichloroethene	μg/L	100	50	<1 U	2.8	3	1.9	1.4	⊲IU	<1 U	<i td="" u<=""></i>
Trichloroethene	μg/L	5	ŝ	0.35 J	19	21	14	9.5	<1 U	<1 U	<111

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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

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				9 of 11
		MW-127 MW127 66.2-68.2 10/22/2004 11:00 66.2-68.2	<pre></pre> <pre><</pre>	
		MW-127 MW127 61.2-63.2 10/22/2004 10:55 61.2-63.2	$\begin{array}{c} \begin{array}{c} \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\$	
		MW-126 MW126 23.2-25.2 10/22/2004 10:45 23.2-25.2		
	t 2004	MW-095 MW95 57-59 10/22/2004 10:30 57-59		
	3 WELLS , OCTOBEF RT - 2004 A - YEAR SIX nessee	MW-095 MW95 52-54 10/22/2004 10:25 52-54	$ \begin{array}{c} $	
TABLE 4-2	SULTS SUMMARY - MONITORING WELLS , OC ANNUAL OPERATIONS REPORT - 2004 DUNN FIELD GROUNDWATER IRA - YEAR SIX Defense Depot Memphis, Tennessee	MW-095 MW95 47-49 10/22/2004 10:20 47-79		
	POSITIVE RESULTS SUMMARY - MONITORING WELLS , OCTOBER 2004 ANNUAL OPERATIONS REPORT - 2004 DUNN FIELD GROUNDWATER IRA - YEAR SIX Defense Depot Memphis, Tennessee	MW-095 MW95 42-44 10/22/2004 10:15 42-44		
	LISO4	MW-080 DUP07 10/22/2004 9:40 70-72		
		IC	NA 2.2 NA 340 NA 35 35 35 50 50 50 50 50 50 50 50 50 50 50 50 50	

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MCL	200 NA NA 7 80 80 80 70 70 80 5 5
Site ID Sample ID : Collected Depth	Units и g/L и g/L и g/L и g/L и g/L и g/L и g/L и g/L и g/L
Site ID Sample ID Date and Time Collected Depth	Volatile Organic Compounds 1,1,1-Trichloroethane 1,1,2,2-Tetrachloroethane 1,1,2,2-Tetrachloroethane 1,1-Dichloroethane 1,1-Dichloroethane Acetone Carbon tetrachloride Carbon tetrachloride Carbon tetrachloride Carbon tetrachloride Tetrachloroethene trans-1,2-Dichloroethene Trichloroethene

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

			10 of 11
	MW-129 MW129 76.3-78.3 10/22/2004 11:40 76.3-78.3	25 31 31 32 32 32 32 32 32 32 32 32 32 32 32 32	01
	MW-129 MW129 71.3-73.3 10/22/2004 11:35 71.3-73.3	2.3 J 3.1 3.1 3.1 3.1 3.1 3.1 2.5 U 2.5 U 2.5 U 2.5 U 2.5 U 2.5 U 2.5 U 3.1 3.1 3.1 3.1 3.1 3.1 3.1 3.1 3.1 3.1	
	MW-129 MW129 66.3-68.3 10/22/2004 11:30 66.3-68.3	22 12 29 12 12 12 12 12 12 12 12 12 12	
. 2004	MW-128 MW128 71-73 10/22/2004 11:20 71-73	$\begin{bmatrix} - & - & - & - \\ 0 & - & - $	
: WELLS , OCTOBER 2004 8T - 2004 1 - YEAR SIX lessee	MW-128 MW128 66-68 10/22/2004 11:15 66-68	25 B 25 B 25 U 25 U 25 U 25 U	
POSITIVE RESULTS SUMMARY - MONITORING WELLS , OC ANNUAL OPERATIONS REPORT - 2004 DUNN FIELD GROUNDWATER IRA - YEAR SIX Defense Depot Memphis, Tennessee	MW-128 DUP08 10/22/2004 11:10 61-63	<pre><1 J </pre>	
IVE RESULTS SUMM ANNUAL DUNN FIELD Defens	MW-128 MW128 61-63 10/22/2004 11:10 61-63	1 s 1 s 1 s 1 s 1 s 1 s 1 s 1 s	
POSIT	MW-128 MW128 56-58 10/22/2004 11:05 56-58	20 20 20 20 20 20 20 20 20 20 20 20 20 2	
	IC	NA NA 340 35 35 35 50 50 50 50 50 50 50 50 50 50 50 50 50	

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TABLE 4-2

MCL	200 NA NA 7 70 80 80 80 70 80 80 80 80 80 80 80 80 80 80 80 80 80
Site ID Sample ID e Collected Depth	Units µg/L µg/L µg/L µg/L µg/L µg/L µg/L µg/L
Site ID Sample ID Date and Time Collected Depth	Volatile Organic Compounds 1,1,1-Trichloroethane 1,1,2,2-Tetrachloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethane Acetone Carbon tetrachloride Carbon tetrachloride Carbon tetrachloride Carbon tetrachloride Carbon tetrachloride Carbon tetrachloroethene Methylene chloride Tetrachloroethene trans-1,2-Dichloroethene Trichloroethene

MCL J B J C L	 MCL Maximum Contaminant Level Target Concentration from Dunn Field ROD, Table 2-21G Estimated quantitation result below the Reporting Limit Estimated quantitation: possibly biased high or false positive based upon blank data or professional judgment
	Not detected

- Rejected datum: do not use Not Applicable Positive Results R NA Bold

POSITIVE RESULTS SUMMARY - MONITORING WELLS , OCTOBER 2004 ANNUAL OPERATIONS REPORT - 2004 DIINN FIELD CROLINDWATER IRA - VEAR SIX

	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 Denth	Collected Denth	MCL	TC	10/22/2004 11:55 60.5-62.5	10/22/2004 12:00 65-5-67.5	10/22/2004 12:05 70.5-72.5	10/22/2004 12:10 75.5-77.5
						2	
atile Organic Compounds	Units						
1-Trichloroethane	µg/L	200	NA	3.8	3.9	4	4.1
2,2-Tetrachloroethane	µg/L	NA	2.2	<2 U	<3.3 U	<2.5 U	<2 U
Dichloroethane	μg/L	NA	NA	1.8 J	1.7 J	l 9.1	1.9.1
Dichloroethene	µg/L	7	340	33	31	33	35
tone	µg/L	NA	NA	30 B	28 B	14 B	20 B
bon tetrachloride	µg/L	5	ŝ	<2 U	<3.3 U	<2.5 U	<2 U
oroform	μg/L	80	12	<2 U	<3.3 U	<2.5 U	<2 U
1,2-Dichloroethene	µg/L	70	35	<2 U	<3.3 U	<2.5 U	0.63 J
hylene chloride	μg/L	NA	NA	<2 U	<3.3 U	<2.5 U	<2 U
achloroethene	μg/L	5	2.5	50	59	62	63
s-1,2-Dichloroethene	J/gµ	100	50	<2 U	<3.3 U	<2.5 U	<2 U
hloroethene	μg/L	5	5	47	46	48	50

mum Contaminant Level et Concentration from Dunn Field ROD, Table 2-21G nated quantitation result below the Reporting Limit iated quantitation: possibly biased high or false positive l upon blank data or professional judgment

tected

ted datum: do not use

Applicable ve Results

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Volati 1,1,1-7 1,1,2,2	I, I-Di	Carboi	cis-1,2 Methy	Tetrac	trans-1 Trichle		Maxim	Target Estima	Estima based 1	Not de Rejecte	Not A _l Positiv
						Notes:	MCL	2	в	<u>ک</u> ۳	NA Bold

		10/22/2004 15:10	Ł7J	£7.U		8.4 J	Ł7J	1.8	11	0.97 B	24	3.5	35
		R 4006 R 80 10/22/2004 15:05		¢U	₹7 U ₹7 II	\$J	1.5 J	1.8	0.38 J	0.36 B	2.1	0.23 J	22
		04 7 RW05 W RW 10/22/2004 15:00	42 J	840		45 J	42.1	4 2 U	25 J	39.1	4 2 U	42 U	860
		R4003 R4004 R5V R4V 10/22/2004 14:55	2]	3 U	1 C4		5.2 J	1.8 J	8.9	1.2 B	1.2 J	1.2 J	54
	LS, OCTOBER 2004 004 2AR SIX	R3002 R3 R3V F 10/22/2004 14:50	[4	83	ر ۲ کار ۲ کار	4.1 B	7.2 J	9.4	72	3 B	1.6 J	3.7.1	65
TABLE 4-3	POSITIVE RESULTS SUMMARY - RECOVERY WELLS, OCTOBER 2004 ANNUAL OPERATIONS REPORT - 2004 DUNN FIELD GROUNDWATER IRA - YEAR SIX Defense Depot Memphis, Tennessee	R 4601B R 169 10/22/2004 14:45	گ] گ	l.7 J	23.U 4.U 23.II 4.II	1.9 B	14 J	36	12	1.2 J	3.2	1.2 J	43
·	RESULTS SUMMAR ANNUAL OPEF DUNN FIELD GROU Defense Dep	R 1001 A R 1M 10/22/2004 14:40	33.J	160	33 U 37 H	10 B	18.1	680	9.8 J	33	11 J	33 U	230
	POSITIVE	R401 RW 10/22/2004 14:30	18	80	0 % 11 %	8.2 B	29 J	170	3.9 J	7.B	8.6	2.1 J	130
		TC	ŅĀ	2.2	340 340	NA	ŝ	12	35	٨A	2.5	50	5
		MCL	200	VN N	AN P	NA	S	80	70	NA	S	100	S

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I		:	
	Site ID	9	
	Sample ID	QI	
	Date and Time Collected		MCL
	Matile Ganic Compounds hats		
			200
	1,1,2,2-Tetrachloroethane g/L		<u>v</u>
	1,1-Dichloroethane		M
			7
	Acetone g/L		A.
	Carbon tetrachloride g/L		ŝ
	Chloroform g/L		0
	cis-1,2-Dichloroethene g/L		0
	Methylene chloride		ΝA
	Tetrachloroethene g/L		ŝ
	trans-1,2-Dichloroethene		100
	Trichloroethene g/L		Ś
Notes:	:4		
MCL	Maximum Contaminant Level		
TC	Target Concentration from Dunn Field RD, Table 2-21G	-21G	
-	Estimated quantitation result below the Reporting Limit	imit	
В	Estimated quantitation: possibly biased high or false	t)	
	positive based upon blank data or professional judgment	ment	
D	Not detected		
~	Rejected datum: do not use		
NA	Not Applicable		
Bold	Positive Results		

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

Site ID			R4007	R 4008	R 4009
Sample ID			RW	R&V	RW
Date and Time Collected	MCL	TC	10/22/2004 15:15	10/22/2004 15:25	10/22/2004 15:30
hits					
B/L	200	NA	4]	41 J	0.61 J
B/L	٨A	2.2	100	270	6.3
g/L	NA	NA	4 U	¢1 U	0.95 J
B/L	7	340	¢U	12	24
B/L	NA	NA	4.3 B	13 B	40 J
g/L	s.	ĥ	¢J	41 J	0.43 J
B/L	80	12	3.2 J	16	12
g/L	70	35	51	130	5.4
B/L	NA	NA	3.2 B	9.8 B	1.2 B
B/L	5	2.5	4.4	8.8 J	32
B/L	100	50	9.2	28	1.6 J
B/L	5	5	95	240	40
	Date and Time Collected bate and Time Collected ge/L ge/L ge/L ge/L ge/L ge/L ge/L ge/L	Barren Sample ID Sample ID By L By L By L By L By L By L By L By L	ample ID Sample ID ByL 200 N ByL 200 N ByL NA 2 ByL 70 3 ByL 70 5 2 2 2 2	start b Sample ID ByL Z00 ByL Z00 ByL NA ByL S S S S S S S S S S S S S S S S S S S S S S	Sample ID RW Sample ID RW Time Collected MCL TC 10/22/2004 15:15 1 grL NA 2.2 100 1 grL NA 2.2 100 grL NA 2.2 100 grL NA AU grL 7 340 grL 7 340 grL 8 4.1 grL 7 340 grL 7 320 grL 70 35 grL 70 35 grL 70 35 grL 5 3.2.1 grL 5 3.2.1 grL 100 50 grL 5 5 grL 5 5

Maximum Contaminant Level Target Concentration from Dunn Field RD, Table 2-21G Estimated quantitation result below the Reporting Limit Estimated quantitation: possibly biased high or false positive based upon blank data or professional judgment

Not detected Rejected datum: do not use Not Applicable 1 Positive Results

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Notes: Notes: J MCL J J B B N N N N N N N A N A

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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 Pernat Discharge Lumits Monthiy Average Instantaneous Maximum Level Darly Maximu	Discharge Limits Instantaneous Darly 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
Volith OnitCompond-SW8260B	4					
1,1,1-Trichloroethane		20	QN	QN	DN	QN
1,1.2.2-Tetrachloroethane	500	1000	43	54	110	150
1.1.2-Trichloroethane	50	001	QN	QN	QN	QN
1.1-Dichloroethene	50	001	6.5	8.1	7.4 J	5.9.1
Acetone	AN	NA	3 3 R	5.9 B	63B	QN
Carbon tetrachloride	20	40	4.1	7.1	5.1.3	2.2 J
Chloroform	100	400	42	61	63	9.3
cis-1.2-Dichlomethene	80	100	14	20	37	31
Methylene chloride	10	20	2.6 B	32B	QN	12 B
Tetrachloroethene	60	120	14	16	12	12
Toluene	20	4	QN	QN	1.5.1	QN
trans-1,2-Dichloroethene	50	100	2.5	3.9.J	75J	6.2.J
Trichloroethene	400	800	59	120	150	120
Meth - SW6010B h						
Aluminum	1000	2000	•	QN	ŀ	70 B
Arsenic	40	100	,	3.3 B	,	QZ
Barnum	NA	NA		104		120 J
Beryllium	NA	NA	•	ND	,	0 72 B
Cadmium	10	20	•	03B		QN
Calcium	NA	NA	٠	21800	•	22100
Chromium	200	400	•	6.8		5.8.1
Cobalt	NA	NA		ŊŊ		16B
Copper	200	400	•	ND	•	QN
Iron	10,000	20,000	•	118 B		270
Lead	150	300	•	QN	•	QN
Magnesium	NA	NA	•	10800 J	,	11600
Manganese	NA	NA	ı	78.2		120
Mercury		2	•	11	,	QN
Nickel	100	300		QN	•	Q
Potassium	NA	NA	·	900 B	•	610 J
Selenium	NA	NA	•	4.5.3	•	6.2 B
Sodium	NA	NA	1	23300	•	24200
Thallum	NA	NA	•	5.3 B	•	6.4 B

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

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

Notes:

Estimated quantitation: result below the Reporting Limit. Estimated quantitation: possibly biased high or false positive based upon blank data or professional judgment. Data Rejected based on quality control data Not Detected above the Reporting Limit Discharge limit not established in agreement ~ a z a z

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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
	DCE	17			
MW07	PCE	18			
	TCE	14			
	DCE	1.1			
MW08	PCE	1.4			
	TCE	1.3			
MW09	None	ND			
	DCE	22	18	22	
MW29	PCE	23	20	21	
	TCE	29	24	30	
MW30	None	ND	ND	ND	
NAW21	DCE	12	17		
MW31	TCE	2.7	4.7		
	PCA	3.6			
	СТ	2.3			
MW32	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		
	DCE	14	16		
MW51	PCE	1.2	0.30 J		
	TCE	5.1	3.8		
	PCA	4300	4700		• •
MW54	cDCE	70 J	61 J		
····-	TCE	2500	2700		
	CT	19			
MW57	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	e Interval	
Well	Contaminant	1	2	3	4
MW68	PCA	81	<1	<]	
VI W Uð	TCE	20 J	<1	<1	
MW69	PCE	1.5	<1		•
WI W 09	TCE	3.7	<1		
MW70	PCA	4200	5800		
	TCE	1100	2100		
	PCA	6			
MW71	СТ	5.6			
VI VV / 1	CF	28			
	TCE	12			
MW76	PCA	4.3	12		
IVI W 70	TCE	3.9	8.9		
	PCA	4700			
MW77	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
MW79	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
141 44 120	TCE	16	0.70 J	0.50 J	0.42
	DCE	30	31	32	
MW129	PCE	3.9	9.2	20	
	TCE	11	13	14	
	DCE	33	31	33	35
MW130	PCE	50	59	62	63
	TCE	47	46	48	50

Notes:

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

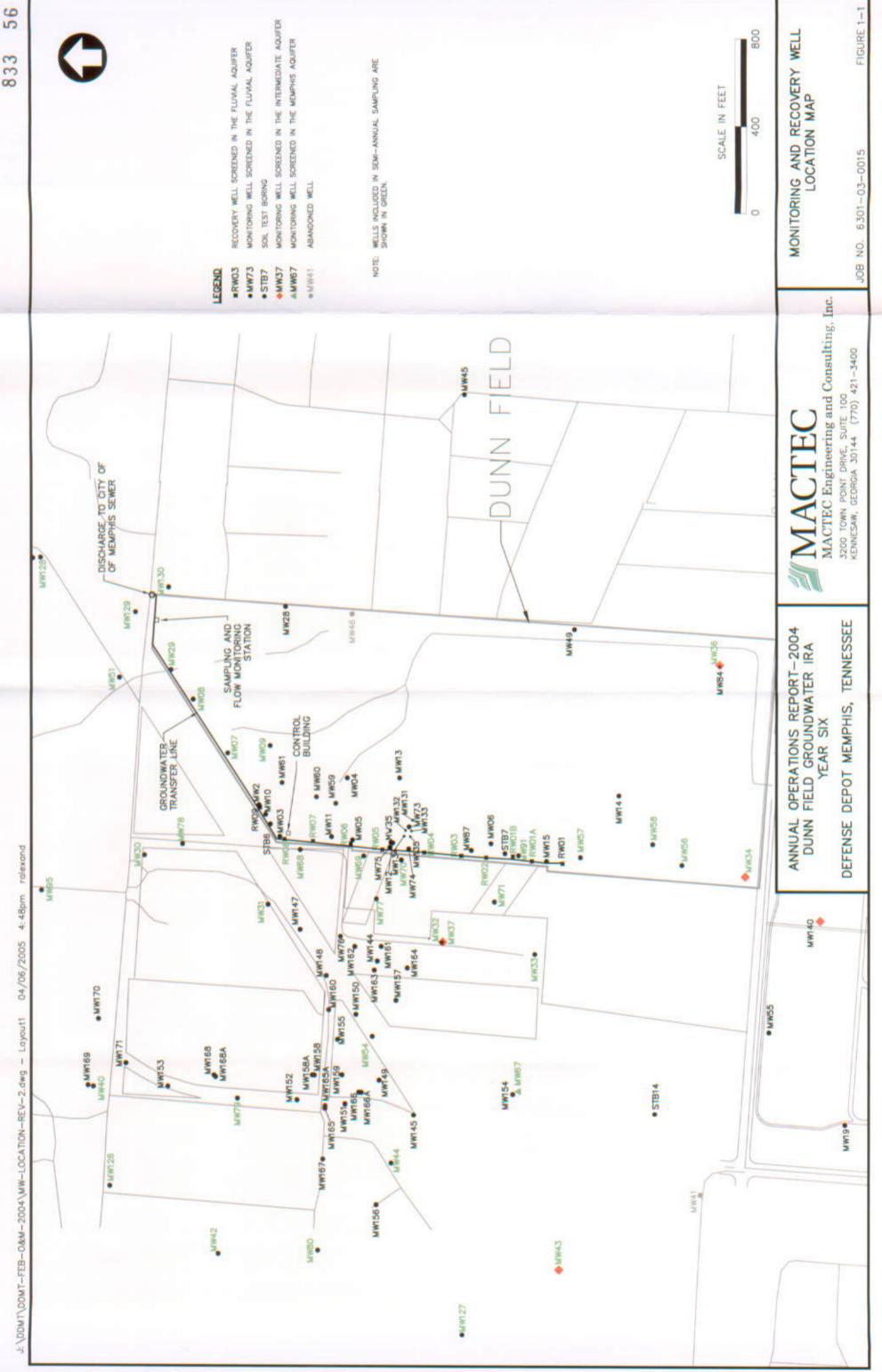
ND No COCs detected above reporting limits

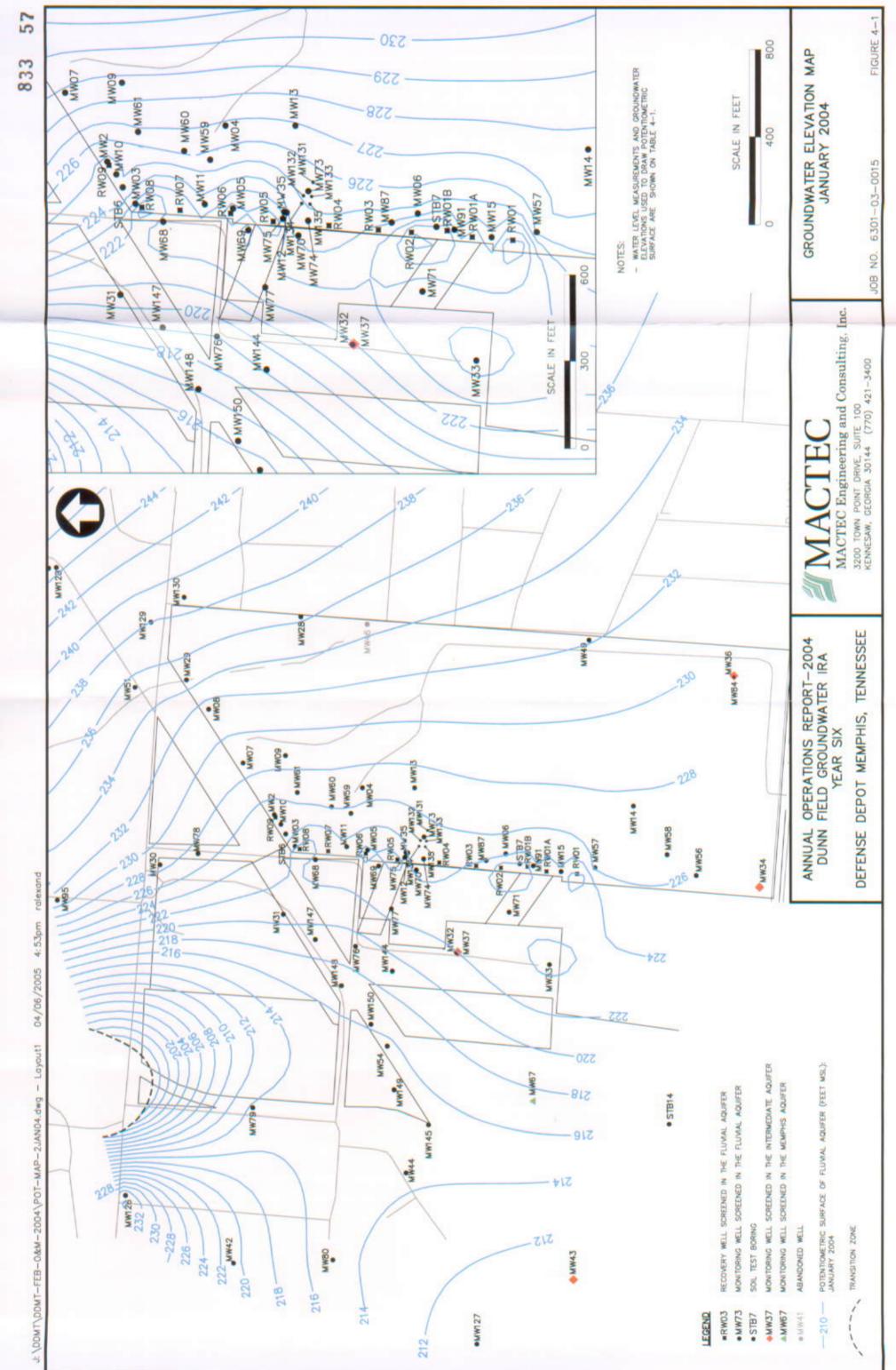
Bold Concentrations above MCL or Target Concentration

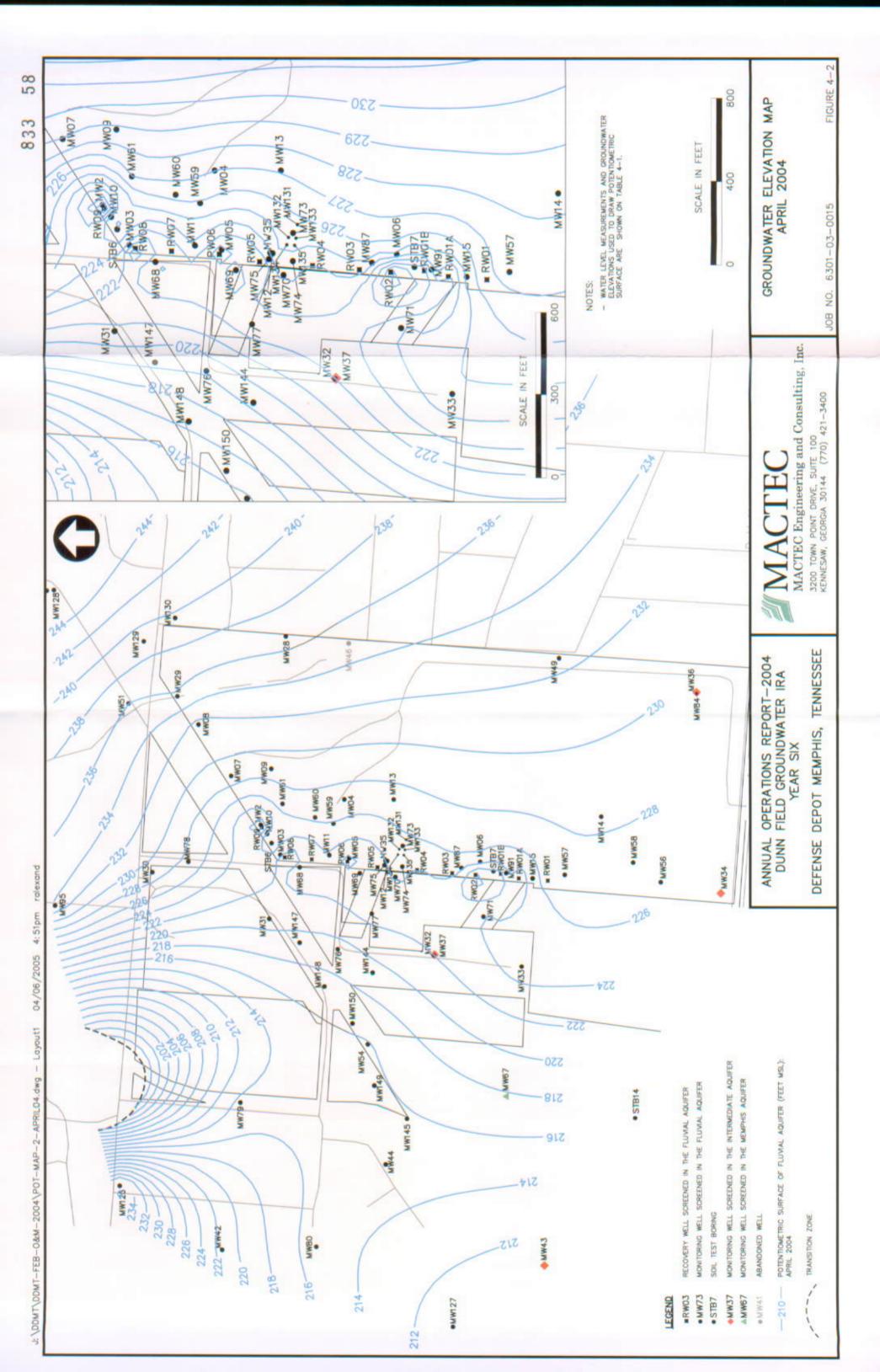
Annual Operations Report – 2004 Dunn Field Groundwater IRA – Year Six MACTEC Project No. 6301-03-0015

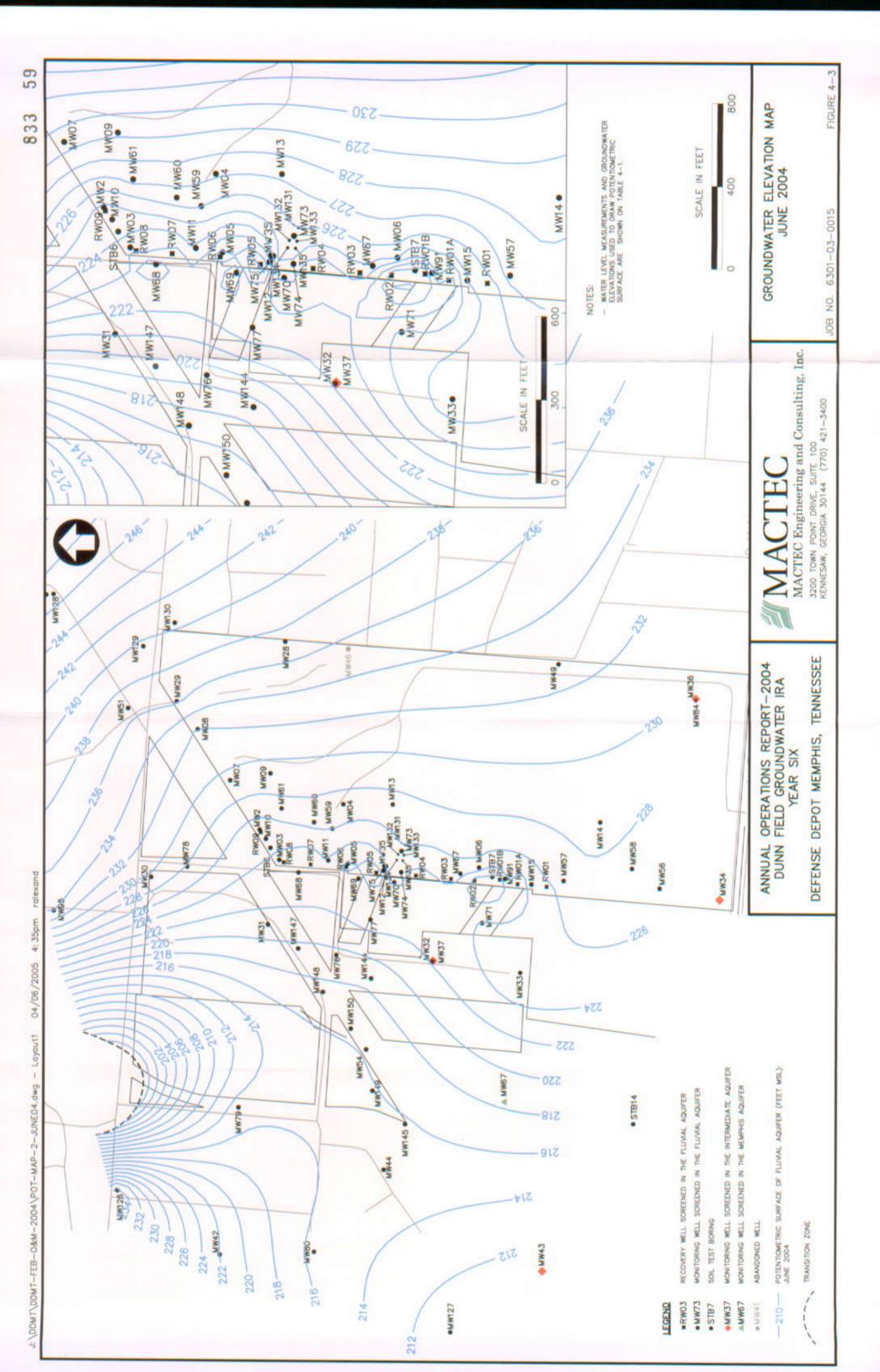
June 2005 Revision I.0

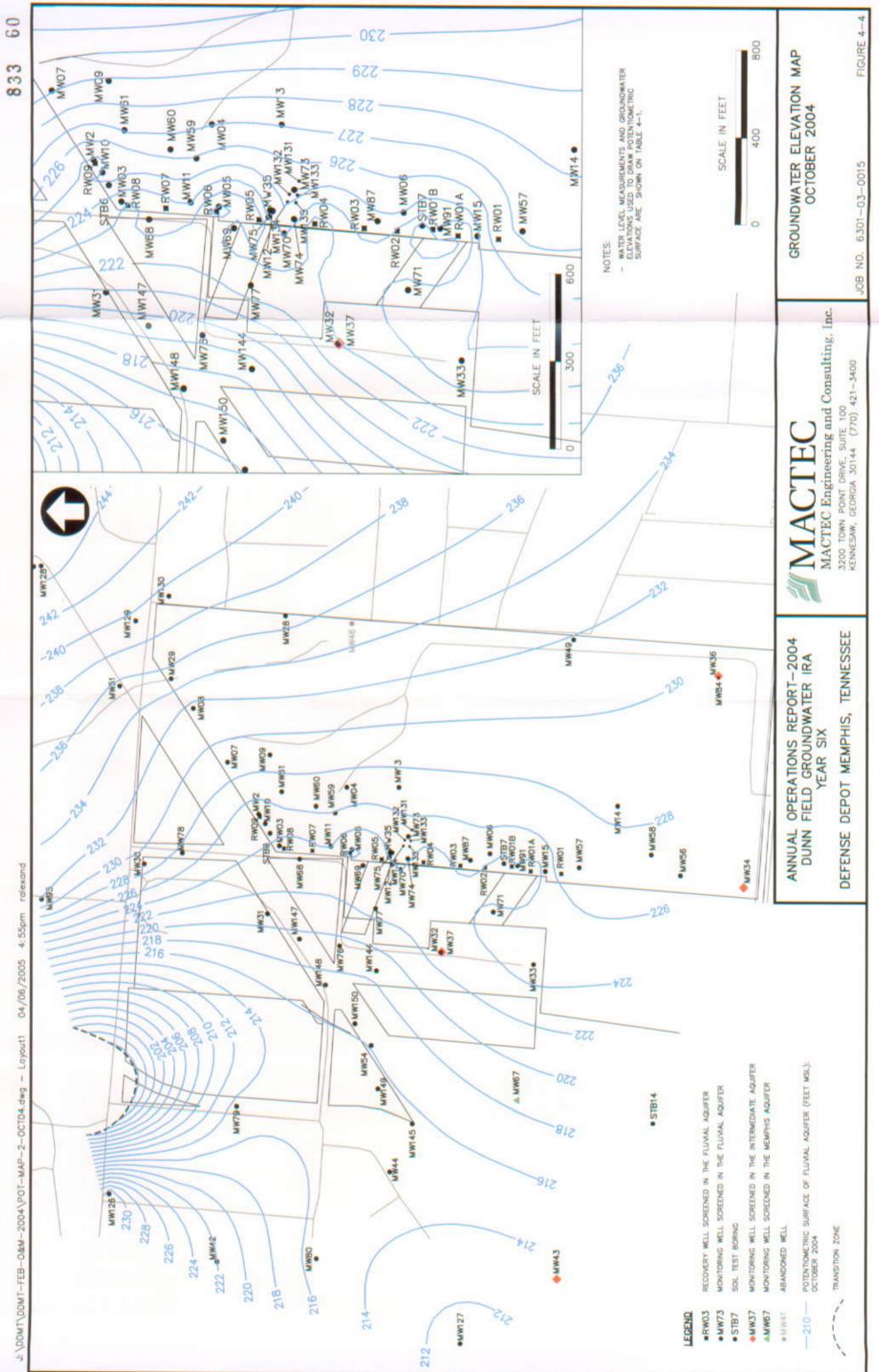
FIGURES

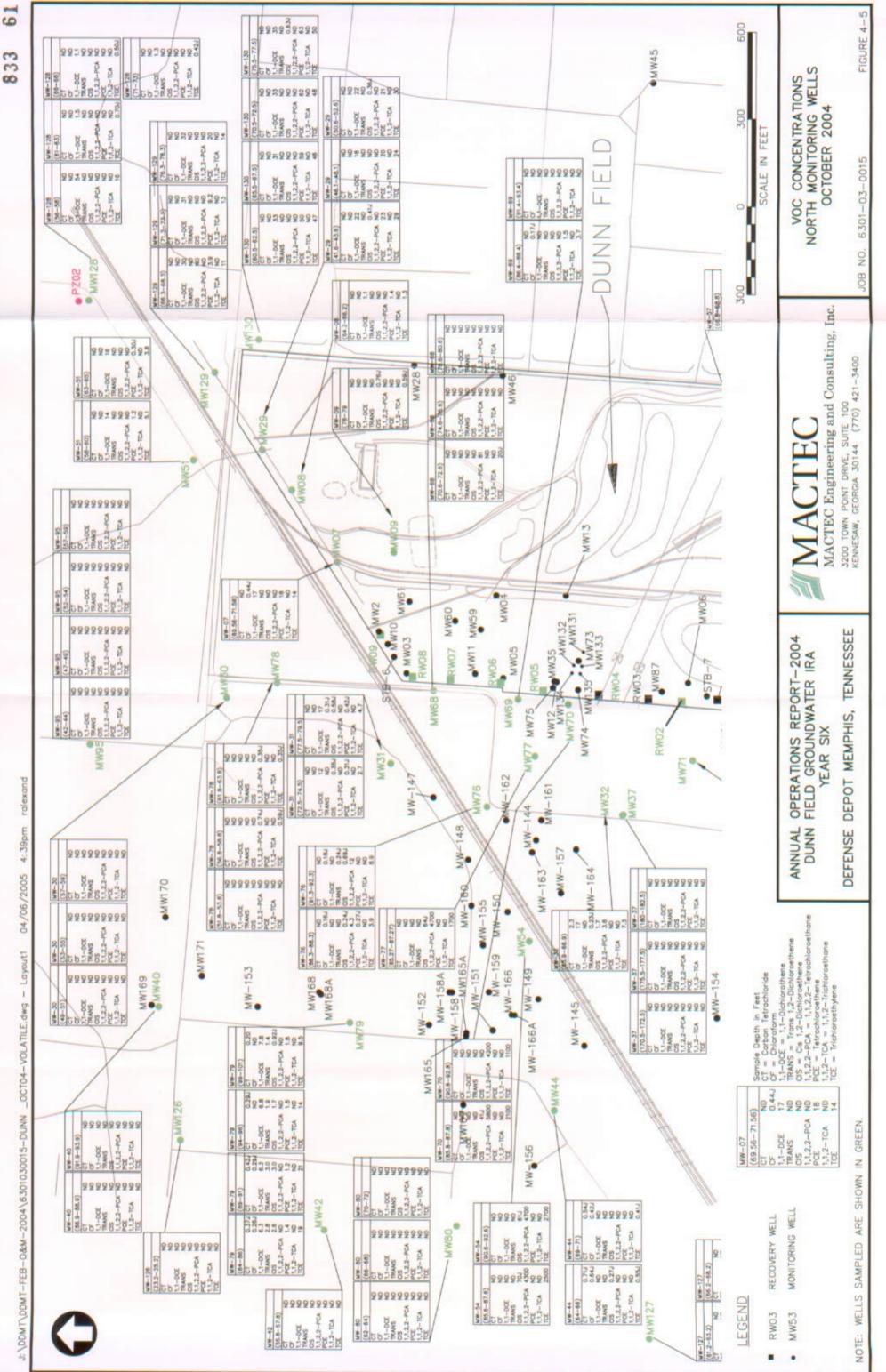


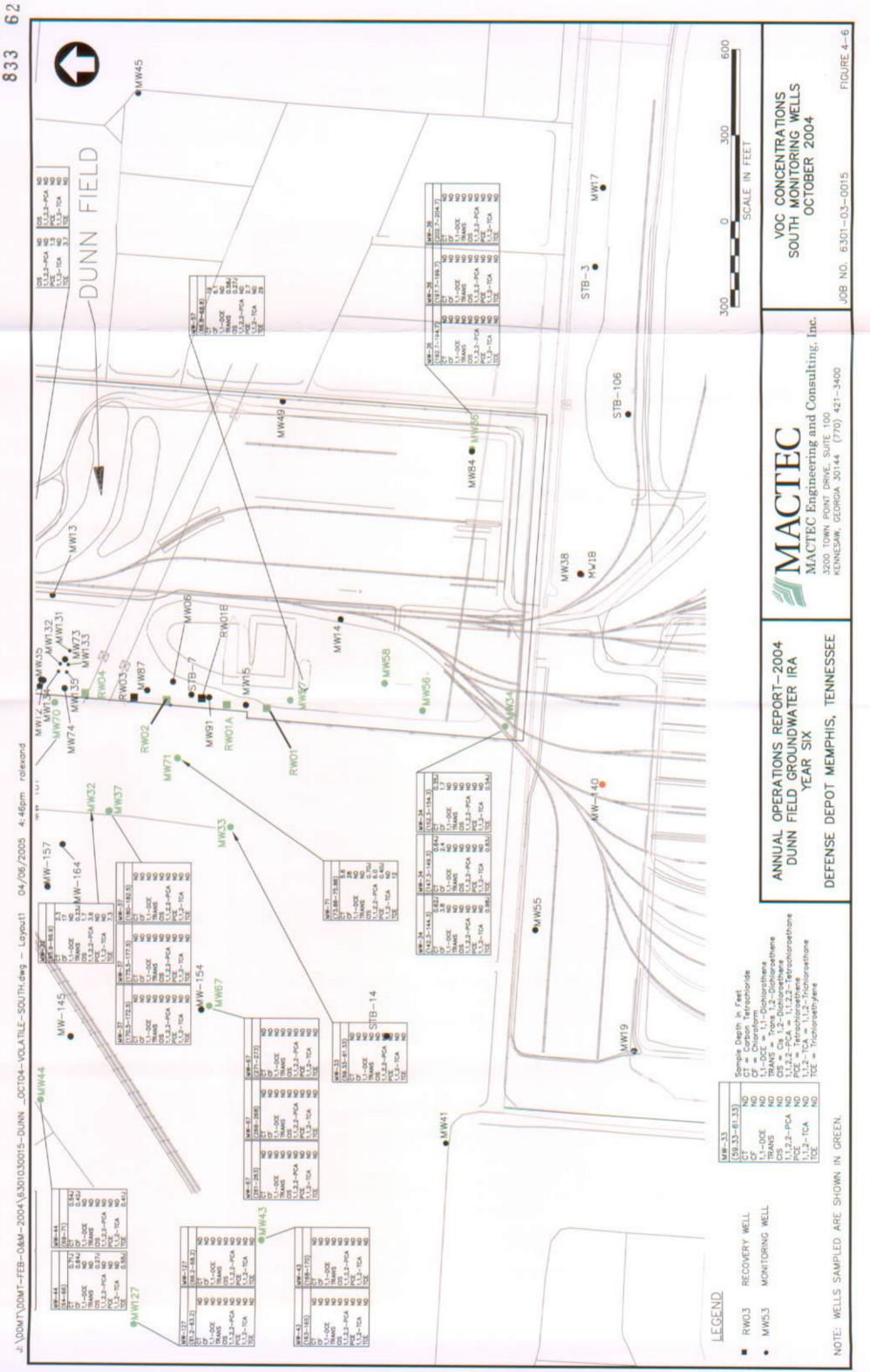


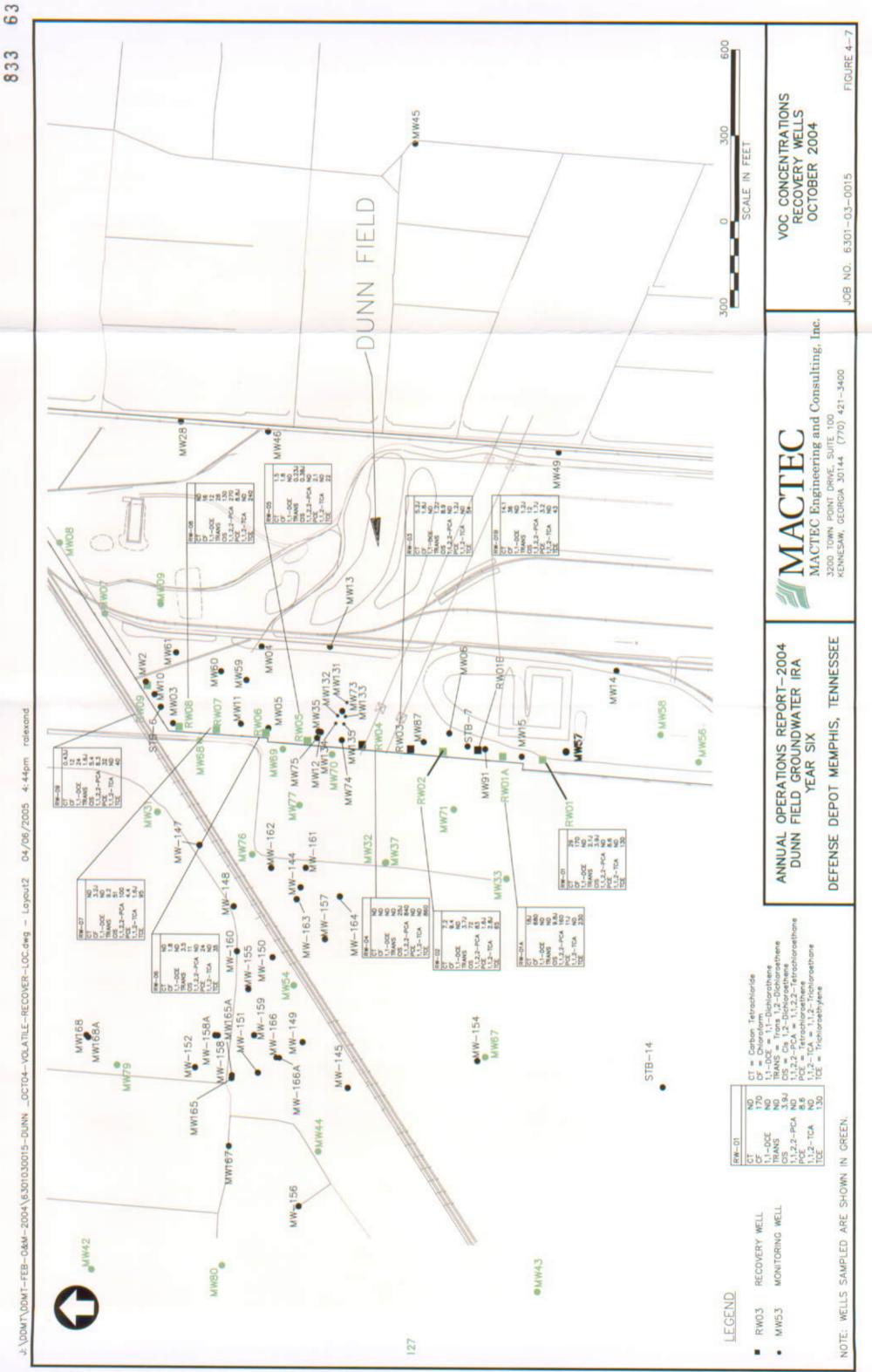






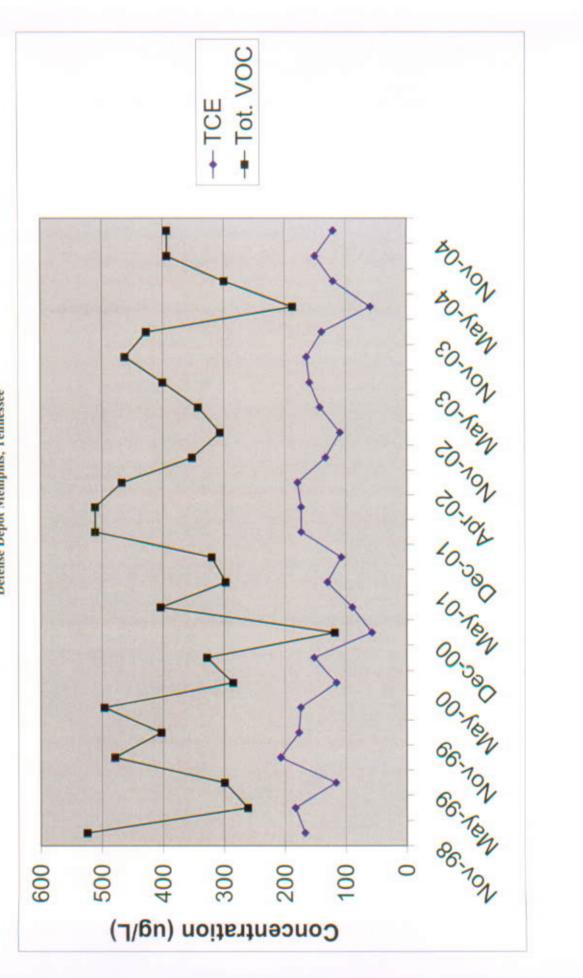








TCE AND TOTAL VOC CONCENTRATIONS IN EFFLUENT ANNUAL OPERATIONS REPORT - 2004 DUNN FIELD GROUNDWATER IRA - YEAR SIX Defense Depot Memphis, Tennessee



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June 2005 Revision 1.0

APPENDIX A

INDUSTRIAL WASTEWATER DISCHARGE AGREEMENT PERMIT NUMBER S-NN3.097



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,

and che crip hache

Akil AL-Chokhachi Environmental Engineer





Division of Public Works

Industrial Wastewater Discharge Agreement

made by and between the City of Memphis and

D D S P- D (Memphis)

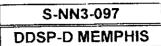
on

May 01, 2003

Approved by Jerry Collins, Director **Public Works**



City Of Memphis Industrial Wastewater Discharge Agreement



»»» Intent and Turpose «««

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.

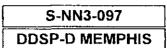
Each industrial user discharging compounds regulated by the pretreatment program or other programs identified by the Environmental Protection Agency (EPA) must also pretreat to the point as required by the EPA. In addition to this, the State of Tennessee has identified certain allowable levels for incompatibles 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



»»» Intent and Turpose «««

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: Monder

City of Memphis

Authorized Industrial User Representative:

JOHN P. DE BACK

DOD BRAC ENVIRONMENTAL LOUEDINGTOR

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D D S P- D (Memphis)

	st I and	City Of Memphis				
B H B L B		Industrial Wastewater Discharge	S		<u> </u>	97
H		Agreement		DDSP	D MEMP	HIS
17	ENNEGOEF	Agreement				
	SINESBU					
		Start Date	E	xpirati	on Date	
		May 01, 2003	1	April 3	0,2008]
			·			
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]
		Mcmphis		TN	38114	
A.4	Contact Official	John De Back				
	Title	B R A C Environmental Coordinator				
	Phone	(901) 544-0622				
		entre				
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 NO NO NO NO Y

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.

Bay May 01, 2003

Authorized Industrial User Representative: Signature/Date

City Of Memphis Industrial Wastewater Discharge Agreement

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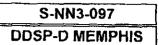
S-NN3-097

SECTION B - FACILITY OPERATIONAL CHARACTERISTICS

`.**e**

B.1 Description of manufacturing or service activities

	Description of m						
i 1 1	an open area, main installa intent of tra	Dunn Fiel tion. The	d, adjacen DDMT facil: much of th	a ground water re t to the northern ity is currently e facility to pri ccur in the Dunn	perimeter (being close(vate owners)	d with the nip.	
	continual bas	sis once th	e svstem i	very and discharg s completely oper ain the system.	e system wi ational. Th	ll operate or e federal	ı a
B.2	Standard Indus	trial Classific	ation(s)				
	a. 9711	b.	c. [d.	e.	f	
	Weekly days of		L	eek (GW)			
B.4	The hours of op	peration and 1 Tim		f employees per shift	Iber of Employ	000	
	05.4						
	<u>Shift</u>	Start	Stop	Weekday	Saturday		
	Day	8:00 am	5:00 pm	1			
	Evening						
	Night						
B.5	Is production o	peration sub	ject to seaso	nal variation? No			
	If so, complete	the following	[]				
	a. Seasonal m	aximum wasl	ewater disch	arged into the munic	ipal sewer syst	em is	
	[gall	ons/day, dur	ing the months of			
	b. Seasonal m	inimum wast	ewater disch	ے arged into the munici	pal sewer syst	em is	
	[gall	ons/day, dur	ing the months of			
	L	U	-	-			



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

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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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City Of Memphis Industrial Wastewater Discharge Agreement

S-NN3-097 DDSP-D MEMPHIS

B.8 Raw Materials

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Туре	Quantity	Units
N/A		
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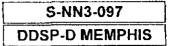
City Of Memphis Industrial Wastewater Discharge Agreement

S-NN3-097 DDSP-D MEMPHIS

Туре	Quantity	Units
Ν/Λ		
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B.9 Catalysts, Intermediates

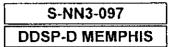
City Of Memphis Industrial Wastewater Discharge Agreement



B.10 Principal Products

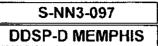
Туре	Quantity	Units
No Manufacturing Activities		
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City Of Memphis Industrial Wastewater Discharge Agreement



Туре	Quantity	Units
None		
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B.11 Byproducts and Waste Products



Туре	Quantity	Units
N/A		
]	

B 12 Components of Non-contact Cooling Water



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.

S-NN3-097

DDSP-D MEMPHIS

City Of Memphis Industrial Wastewater Discharge Agreement

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SECTION C - WATER USAGE CHARACTERISTICS

C.1 MLG&W Account number(s)

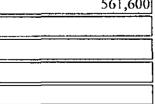
C.4 f. & C.5 a. - Recovered ground water only

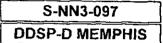
C.2 MLG&W Billing address (if different from A.3)



C.3 Annual water usage by source:	<u>From</u>	Million Gallons Per Year
	a. Public water supply	
	b. Private well	
	c. Surface stream	
C.4 Daily average water consumption:	<u></u>	Gallons Per Day
ý <u>-</u>	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





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

	Daily Average		Inst	antaneous	
	(Monthl	ly Average)	(One Day)		
	Maxin	num Level	Maximum Level		
Parameter	mg/l	lbs/day	mg/l	lbs/day	
Biochemical Oxygen Demand (BOD _s)	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)][T		
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 o	day. See Attac	chment)	Ľ		
Acidity (Pounds of 100% sodium hydroxide	e per day. Sec	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 quanti	fied.				

S-NN3-097

DDSP-D MEMPHIS

City Of Memphis Industrial Wastewater Discharge Agreement

SECTION D - WASTEWATER CHARACTERISTICS

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

PAGE 2 OF 2 Ground Water	with a	flow of	561,600 gall	ons / day
D.1 Analysis of wastewater discharged into the mur	nicipal sewer sy	ystem		
	Daily	Average	Inst	antaneous
	(Monthly	Average)	(0	ne Day)
	Maxim	um Level	Maxi	mum Level
Parameter	mg/1	lbs/day	mg/l	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 d	ay. See Attach	iment)	[
Acidity (Pounds of 100% sodium hydroxide	per day. See	Attachmer	nt) [
			Minimum	Maximum

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).

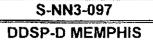
City Of Memphis Industrial Wastewater Discharge Agreement



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
	Daily Average Instantaneou		
		(Monthly Average	e) (One Day)
		Maximum Leve	I Maximum Level
Parameter	PPNClass	mg/i lbs/da	ay mg/i lbs/day
1,1,1-trichloroethane	11 Volat	0.010 0.0	47 0.020 0.094
1,1,2,2-tetrachloroethane	15Volat	0.500 2.3	42 1.000 4.684
1,1,2-trichloroethane	14 Volat	0.050 0.2	34 0.100 0.468
1,1-dichloroethene	Volta	0.050 0.2	34 0.100 0.468
Aluminum	Metal	1.000 4,6	84 2.000 9.367
Arsenic	115Metal	0.040 0.1	87 0.100 0.468
Bis (2-ethylhexyl) Phthalate	66 Semiv	0.010 0.0	47 0.020 0.094
Cadmium (total)	118 Metal	0.010 0.0	47 0.020 0.094
Carbon Tetrachloride (tetrachlor-)	6 Volat	0.020 0.0	94 0.040 0.187
Chloroform (trichloromethane)	23 Volat	0.100 0.4	68 0.200 0.937
Chromium (total)	119 Metal	0.200 0.9	37 0.400 1.873
Cis-1,2-dichloroethene	Volat	0.080 0.3	75 0.100 0.468
Copper (total)	120 Metal	0.200 0.9	37 0.400 1.873
Di-n-butyl Phthalate	68 Semiv	0.030 0.1	41 0.060 0.281
Iron	Metal	10.000 46.8	37 20.000 93.675
Lead (total)	122 Metal	0.150 0.7	03 0.300 1.405
Mercury	123 Metal	0.001 0.0	05 0.002 0.009
Methylene Chloride (dichlorometh-)	44 Volat	0.010 0.0	47 0.020 0.094
Naphthalene	55 Semiv	0.010 0.0	47 0.020 0.094
Nickel (total)	124 Metal	0.100 0.4	68 0.300 1.405
Phenol	65 Semiv	0.010 0.0	47 0.020 0.094
Tetrachloroethylene (perc- & Tet-)	85 Semiv	0.060 0.2	81 0.120 0.562
Toluene	86 Volat	0.020 0.0	94 0.040 0.187
Trans-1,2-dichloroethene	Volat	0.050 0.2	0.100 0.468
Trichloroethylene (Irichloroethe-)	87 Volat	0.400 1.8	0.800 3.747



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			561,600gallons / day
		Daily Average	Instantaneous
		(Monthly Average) (One Day)
		Maximum Level	Maximum Level
Parameter	PPNClass	mg/i ibs/day	/ mg/l lbs/day
Zinc (total)	128 Metal	0.300 1.40	5 1.000 4.684
		<u> </u>	

City Of Memphis Industrial Wastewater Discharge Agreement

S-NN3-097 DDSP-D MEMPHIS

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

D.6 Any batch wastewater discharges? No

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

S-NN3-097 DDSP-D MEMPHIS

D.7 Is wastewater treated prior to discharge into the municipal sewer system?

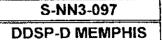
If yes, complete the following:

No

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



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.

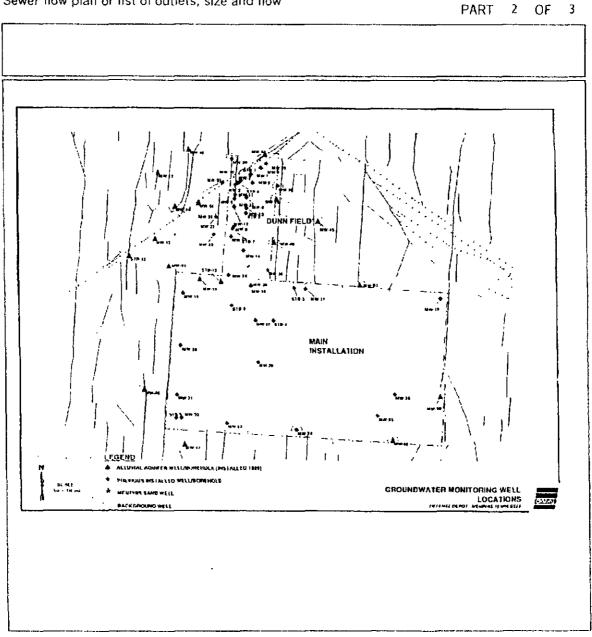
City Of Memphis Industrial Wastewater Discharge Agreement

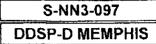
S-NN3-097 DDSP-D MEMPHIS

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

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

[] GROUNDWATER DISCHARGE LOCATION

S-NN3-097 DDSP-D MEMPHIS

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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City Of Memphis Industrial Wastewater Discharge Agreement

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E.4 Flow diagram of materials or processes

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City Of Memphis Industrial Wastewater Discharge Agreement

S-NN3-097 DDSP-D MEMPHIS

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
1 / 11 1			

storm water is being discharged into the sanitary sewer.				

City Of Memphis Industrial Wastewater Discharge Agreement

S-NN3-097 DDSP-D MEMPHIS

SECTION F - SELF-MONITORING SCHEDULE

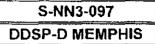
PART | OF]

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: 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: DH 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 of Memphis.

City Of Memphis Industrial Wastewater Discharge Agreement



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

S-NN3-097 DDSP-D MEMPHIS

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
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
Tead
pesticides
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S-NN3-097 DDSP-D MEMPHIS

SECTION I - ATTACHMENTS

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PART 1 OF 1

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11 Summary of Attachments

Apper Sewei	ndix r Use	A, B e Ord	, C, inanc	& O e Table	1&2		·	
Sara	312	Tier	Two	Emergenc	y and	Hazardous	Chemical	Inventory
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Annual Operations Report – 2004 Dunn Field Groundwater IRA – Year Sıx MACTEC Project No. 6301-03-0015

June 2005 Revision 1.0

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

	eration - January 2004 -	Revised	
Duration of System Operation:		i-Jan-04 3 i-Jan-04	
Data Collection Activities:			
Data Conection Activities:			
		nuary 7, 2004 Additional water levels were c er has been re-established Data downloaded	
System Operational Notes: Site visits were performed on a w was observed to be operating norr		ral system observations or to make repairs. W	ith the exception of the repair items noted below, the system
Recovery Well Operational Not	es:		
General Summary;			
		d RW-9 were not operating properly as of Janu	ary 1, 2004 The remainder of the system was observed to
Alarm Summary			
A low-flow alarm condition was r	noted on RW-1 This was	the only alarm noted	
		7-4 The well was successfully re-started on Ja or colored lenses were replaced in the control of	anuary 29, 2004 Flow meters at RW-3 and RW-9 were
Upcoming Maintenance for Feb		e, calored reades were replaced in the collifort	
Re-calibrate the data logger Data		003 is priusable	
Replace run lights on select cabin	-		
replace full lights on select cabin	iers at the recovery wens		
Total January 2004 Effluent Di	scharge Volume:	2639563	Gallons January 1 through January 31
January 2004 Average Discharge		59 6 GPM	
January 2004 Maximum Discharg		65 2 GPM	
January 2004 Minimum Discharg		58 8 GPM	
January 2004 Minimum Discharg Note - Flow rates for the wells wi		ters (RW-3 and RW-9) were based on historica	al average values
Note - Flow rates for the wells wi Explanations for deviations from recovery well's operation was con	th non-functional flow me 100% recovery well opera aducted manually as a chec	ters (RW-3 and RW-9) were based on historica	wery Well Operational Notes* section The tracking of eac e compiled to estimate each well's performance using record
Note - Flow rates for the wells wi Explanations for deviations from recovery well's operation was con	th non-functional flow me 100% recovery well opera aducted manually as a chec	ters (RW-3 and RW-9) were based on historication run times are provided in the above "Reco k to the telemetry operation, Recordings were	e compiled to estimate each well's performance using record
Note - I-low rates for the wells wi Explanations for deviations from recovery well's operation was con flow rates, totalized discharged vo <u>Well J.D.</u> RW-1	th non-functional flow me 100% recovery well opera nducted manually as a chec olume and low level cyclin *Run Time 100	ters (RW-3 and RW-9) were based on historica tion run times are provided in the above "Reco k to the telemetry operation. Recordings were g to yield the following recovery well operation <u>Average Flow Rate (GPM)</u> 0 1	wery Well Operational Notes' section The tracking of eac e compiled to estimate each well's performance using record onal run time percentages <u>Total Flow (GPM)</u> 4464
Note - Flow rates for the wells wi Explanations for deviations from recovery well's operation was con flow rates, totalized discharged vo <u>Well 1,D,</u> RW-1 RW-1	th non-functional flow me 100% recovery well opera- nducted manually as a chec- olume and low level cyclin <u>%Run Time</u> 100 100	ters (RW-3 and RW-9) were based on historica tion run times are provided in the above "Rece ik to the telemetry operation. Recordings were ig to yield the following recovery well operation <u>Average Flow Rate (GPM)</u> 0 i 3 6	wery Well Operational Notes* section The tracking of eac compiled to estimate each well's performance using record onal run time percentages <u>Total Flow (GPM)</u> 4464 160704
Note - I-low rates for the wells wi Explanations for deviations from recovery well's operation was con flow rates, totalized discharged vo <u>Well J.D.</u> RW-1	th non-functional flow me 100% recovery well opera nducted manually as a chec olume and low level cyclin *Run Time 100	ters (RW-3 and RW-9) were based on historica tion run times are provided in the above "Reco k to the telemetry operation. Recordings were g to yield the following recovery well operation <u>Average Flow Rate (GPM)</u> 0 1	wery Well Operational Notes' section The tracking of eac e compiled to estimate each well's performance using record onal run time percentages <u>Total Flow (GPM)</u> 4464
Note - Flow rates for the wells wi Explanations for deviations from recovery well's operation was con flow rates, totalized discharged vo <u>Well J.D.</u> RW-1 RW-1 RW-1B RW-2 RW-3	th non-functional flow me 100% recovery well opera aducted manually as a chec olume and low level cyclin *Run Time 100 100 100	ters (RW-3 and RW-9) were based on historica tion run times are provided in the above "Reco k to the telemetry operation, Recordings were ig to yield the following recovery well operation <u>Average Flow Rate (GPM1)</u> 0 1 3 6 1 5	wery Well Operational Notes* section The tracking of eac compiled to estimate each well's performance using record onal run time percentages <u>Total Flow (GPM)</u> 4464 160704 66960
Note - Flow rates for the wells wi Explanations for deviations from recovery well's operation was con flow rates, totalized discharged vo <u>Well J.D.</u> RW-1 RW-1A RW-1B RW-2 RW-3 RW-4	th non-functional flow me 100% recovery well opera nducted manually as a chec olume and low level cyclin %Run Time 100 100 100 100 6	ters (RW-3 and RW-9) were based on historica tion run times are provided in the above "Reco ik to the telemetry operation. Recordings were is to yield the following recovery well operation <u>Average Flow Rate (GPM)</u> 0 i 3 6 1 5 2 2 2 0 0 5	wery Well Operational Notes [*] section The tracking of eac e compiled to estimate each well's performance using record onal run time percentages Total Flow (GPM) 4464 160704 66960 98208 89280 1339
Note - Flow rates for the wells wi Explanations for deviations from recovery well's operation was con flow rates, totalized discharged vo <u>Well I.D.</u> RW-1 RW-1B RW-2 RW-3 RW-4 RW-5	th non-functional flow me 100% recovery well opera- nducted manually as a chec- olume and low level cyclin <u>*4Run Time</u> 100 100 100 100 100 100 100 10	ters (RW-3 and RW-9) were based on historica tion run times are provided in the above "Reco ik to the telemetry operation. Recordings were ig to yield the following recovery well operation Average Flow Rate (GPM) 0 i 3 6 1 5 2 2 2 0 0 5 3 3	wery Well Operational Notes" section The tracking of eac compiled to estimate each well's performance using record onal run time percentages <u>Total Flow (GPM)</u> 4464 160704 66960 98208 89280 1339 147312
Note - Flow rates for the wells will Explanations for deviations from recovery well's operation was con flow rates, totalized discharged vo <u>Well 1,D,</u> RW-1 RW-1A RW-1B RW-2 RW-3 RW-4 RW-5 RW-6	th non-functional flow me 100% recovery well opera- nducted manually as a chec- olume and low level cyclin %Run Time 100 100 100 100 100 100 100 10	ters (RW-3 and RW-9) were based on historica tion run times are provided in the above "Rece is to the telemetry operation. Recordings were ig to yield the following recovery well operation <u>Average Flow Rate (GPM)</u> 0 t 3 6 1 5 2 2 2 0 0 5 3 3 8 8	wery Well Operational Notes' section The tracking of eac compiled to estimate each well's performance using record onal run time percentages <u>Total Flow (CPM)</u> 4464 160704 66960 98208 89280 1339 147312 392832
Note - Flow rates for the wells will Explanations for deviations from recovery well's operation was con flow rates, totalized discharged vo <u>Well J.D.</u> RW-1 RW-1B RW-2 RW-3 RW-4 RW-5	th non-functional flow me 100% recovery well opera- nducted manually as a chec- olume and low level cyclin <u>*4Run Time</u> 100 100 100 100 100 100 100 10	ters (RW-3 and RW-9) were based on historica tion run times are provided in the above "Reco ik to the telemetry operation. Recordings were ig to yield the following recovery well operation Average Flow Rate (GPM) 0 i 3 6 1 5 2 2 2 0 0 5 3 3	wery Well Operational Notes' section The tracking of eac compiled to estimate each well's performance using record onal run time percentages Total Flow (GPM) 4464 160704 66960 98208 89280 (339 147312 392832 410688
Note - Flow rates for the wells wi Explanations for deviations from recovery well's operation was com flow rates, totalized discharged vo <u>Well J.D.</u> RW-1 RW-1A RW-1B RW-2 RW-3 RW-4 RW-5 RW-6 RW-7	th non-functional flow me 100% recovery well opera aducted manually as a chec olume and low level cyclin * Run Time 100 100 100 100 100 100 100 10	ters (RW-3 and RW-9) were based on historica tion run times are provided in the above "Rece is to the telemetry operation. Recordings were g to yield the following recovery well operation <u>Average Flow Rate (GPM1)</u> 0 t 3 6 1 5 2 2 2 0 0 5 3 3 8 8 9 2	wery Well Operational Notes' section The tracking of each compiled to estimate each well's performance using record onal run time percentages Total Flow (CPM) 4464 160704 66960 98208 89280 1339 147312 392832
Note - Flow rates for the wells wi Explanations for deviations from recovery well's operation was con flow rates, totalized discharged ve <u>Well I.D.</u> RW-1 RW-1 RW-1 RW-1 RW-1 RW-1 RW-1 RW-1	th non-functional flow me 100% recovery well opera nducted manually as a chec olume and low level cyclin 24 Run Time 100 100 100 100 100 100 100 10	ters (RW-3 and RW-9) were based on historica tion run times are provided in the above "Rece is to the telemetry operation. Recordings were g to yield the following recovery well operation Average Flow Rate (GPM) 0 t 3 6 1 5 2 2 2 0 0 5 3 3 8 8 9 2 13 9 14 5 System Effluent Sample was collecter scheduled sample will be in late Febr	wery Well Operational Notes' section The tracking of eac compiled to estimate each well's performance using record onal run time percentages <u>Total Flow (CPM)</u> 4464 160704 66960 98208 89280 1339 147312 392832 410688 620496 647280 ed by Jacobs in November 2003 The next ruary 2003 A summary of the previously
Note - Flow rates for the wells wi Explanations for deviations from recovery well's operation was con flow rates, totalized discharged ve <u>Well LD</u> , RW-1 RW-1A RW-18 RW-2 RW-3 RW-4 RW-5 RW-6 RW-7 RW-8	th non-functional flow me 100% recovery well opera nducted manually as a chec olume and low level cyclin 24 Run Time 100 100 100 100 100 100 100 10	ters (RW-3 and RW-9) were based on historica tion run times are provided in the above "Reco ik to the telemetry operation. Recordings were is to yield the following recovery well operation Average Flow Rate (GPM) 0 i 3 6 1 5 2 2 2 0 0 5 3 3 8 8 9 2 13 9 14 5 System Effluent Sample was collected scheduled sample will be in late Febricollected effluent samples prepared to Mass removal is calculated based on	Total Flow (GPM) 4464 160704 66960 98208 89280 1339 147312 392832 410688 620496 647280 ed by Jacobs in November 2003 The next ruary 2003 A summary of the previously by Jacobs is attached daily flow rates and the most recent
Note - Flow rates for the wells wi Explanations for deviations from recovery well's operation was con flow rates, totalized discharged ve <u>Well J.D.</u> RW-1 RW-1A RW-1B RW-2 RW-3 RW-4 RW-5 RW-6 RW-5 RW-6 RW-7 RW-8 RW-9 <u>System Effluent Samples Collec</u>	th non-functional flow me 100% recovery well opera nducted manually as a chec olume and low level cyclin 24 Run Time 100 100 100 100 100 100 100 10	ters (RW-3 and RW-9) were based on historica tion run times are provided in the above "Rece is to the telemetry operation. Recordings were g to yield the following recovery well operate <u>Average Flow Rate (GPM)</u> 0 t 3 6 1 5 2 2 2 0 0 5 3 3 8 8 9 2 13 9 14 5 System Effluent Sample was collected scheduled sample will be in late Febricollected effluent samples prepared to Mass removal is calculated based on analytical data. Cumulative amounts system startup.	wery Well Operational Notes" section The tracking of eac compiled to estimate each well's performance using record onal run time percentages Total Flow (GPM) 4464 160704 66960 98208 89280 1339 147312 392832 410688 620496 647280 ed by Jacobs in November 2003 The next ruary 2003 A summary of the previously by Jacobs is attached daily flow rates and the most recent a reflect contaminant removal since unitial
Note - Flow rates for the wells wi Explanations for deviations from recovery well's operation was con flow rates, totalized discharged ve <u>Well J.D.</u> RW-1 RW-1A RW-1B RW-2 RW-3 RW-4 RW-5 RW-6 RW-5 RW-6 RW-7 RW-8 RW-9 <u>System Effluent Samples Collec</u>	th non-functional flow me 100% recovery well opera nducted manually as a chec olume and low level cyclin 24 Run Time 100 100 100 100 100 100 100 10	ters (RW-3 and RW-9) were based on historica tion run times are provided in the above "Rece is to the telemetry operation. Recordings were g to yield the following recovery well operation <u>Average Flow Rate (GPM)</u> 0 t 3 6 1 5 2 2 2 0 0 5 3 3 8 8 9 2 13 9 14 5 System Effluent Sample was collected scheduled sample will be in late Febricollected effluent samples prepared to Mass removal is calculated based on analytical data. Cumulative amounts	Total Flow (GPM) 4464 160704 66960 98208 89280 1339 147312 392832 410688 620496 647280 ed by Jacobs in November 2003 The next ruary 2003 A summary of the previously by Jacobs is attached daily flow rates and the most recent a reflect contaminant removal since initial otal VOCs

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

undwater Recovery System Operation - February 2	MACTEC Project No. 6301-03-001 2004	
Duration of System Operation:	1-Feb-04 29-Feb-04	
Data Collection Activities:		
Data was downloaded from the data logger on a weekly	y basis The data was downloaded from the trans	ducers in the monitoring wells on 2-12-2004
System Operational Notes:		
Site visits were performed on a weekly basis either for observed to be operating normally	general system observations or to make repairs	With the exception of the repair items noted below, the system w
Recovery Well Operational Notes		
General Summary:		
		and an electrical short was found between the control panel 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 Reco	overy Well #4 was noted to both low flow and low	x-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 was sent to the manufacturer for re-eva		Pump pulled on March 1, 2004, new pump/motor ordered. The
Upcoming Maintenance for March:		
Re-calibrate the data logger - Data remains unusable.	#4. Denders subjection from Fourbase the manual	controller will also be repaired or replaced. Tentatively schedule
for the week of 15 March 2004		Sonsoner win also be repared to repared in remainery schedule
<u>Fotal February 2004 Effluent Discharge Volume:</u>	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	
	check to the telemetry operation. Recordings we	covery Well Operational Notes" section The tracking of each ere compiled to estimate each well's performance using recorded tronal run time percentages
Welt I.D. %Run Time	Average Flow Rate (GPM)	Total Flow (Gallons)
RW-1 100	10	41760
	36	
RW-1A 100		149041 58464
	1 4 2 1	58464 87696
RW-1A 100 RW-1B 100 RW-2 100 RW-3 100	1 4 2 1 0 1	58464 87696 4176
RW-1A 100 RW-1B 100 RW-2 100 RW-3 100 RW-4 38	1 4 2 1 0 1 0 4	58464 87696 4176 15827
RW-1A 100 RW-1B 100 RW-2 100 RW-3 100 RW-4 38 RW-5 100	1 4 2 1 0 1 0 4 3 2	58464 87696 4176 15827 133632
RW-1A 100 RW-1B 100 RW-2 100 RW-3 100 RW-4 38	1 4 2 1 0 1 0 4	58464 87696 4176 15827 133632 331783
RW-1A 100 RW-1B 100 RW-2 100 RW-3 100 RW-4 38 RW-5 100 RW-6 100	1 4 2 1 0 1 0 4 3 2 7 9	58464 87696 4176 15827 133632
RW-1A 100 RW-1B 100 RW-2 100 RW-3 100 RW-4 38 RW-5 100 RW-6 100 RW-7 100	1 4 2 1 0 1 0 4 3 2 7 9 9 2	58464 87696 4176 15827 133632 331783 384192
RW-1A 100 RW-1B 100 RW-2 100 RW-3 100 RW-4 38 RW-5 100 RW-6 100 RW-7 100 RW-8 97 RW-9 100	1 4 2 1 0 1 0 4 3 2 7 9 9 2 13 4 14 4 A system effluent sample was col	58464 87696 4176 15827 133632 331783 384192 560461 601344
RW-1A 100 RW-1B t00 RW-2 100 RW-3 100 RW-4 38 RW-5 100 RW-6 100 RW-7 100 RW-8 97	1 4 2 1 0 1 0 4 3 2 7 9 9 2 13 4 14 4 A system effluent sample was col the previously collected effluent s	58464 87696 4176 13827 133632 331783 384192 560461 601344
RW-1A 100 RW-1B 100 RW-2 100 RW-3 100 RW-4 38 RW-5 100 RW-6 100 RW-7 100 RW-8 97 RW-9 100	1 4 2 1 0 1 0 4 3 2 7 9 9 2 13 4 14 4 A system effluent sample was col the previously collected effluent s updated data is attached. The pre- table, there we no exceedances Mass removal is calculated based	58464 87696 4176 15827 133632 331783 384192 560461 601344
RW-1A 100 RW-1A 100 RW-1B 100 RW-2 100 RW-3 100 RW-4 38 RW-5 100 RW-6 100 RW-7 100 RW-8 97 RW-9 100	1 4 2 1 0 1 0 4 3 2 7 9 9 2 13 4 14 4 A system effluent sample was col the previously collected effluent s updated data is attached. The pre- table, there we no exceedances Mass removal is calculated based analytical data. Cumulative amou	58464 87696 4176 15827 133632 331783 384192 560461 601344 lected on February 21, 2004 A summary of samples prepared by Jacobs is attached with the Imminary data has been included in the attached
RW-1A 100 RW-1A 100 RW-2 100 RW-3 100 RW-4 38 RW-5 100 RW-6 100 RW-7 100 RW-8 97 RW-9 100	1 4 2 1 0 1 0 4 3 2 7 9 9 2 13 4 14 4 A system effluent sample was col the previously collected effluent s updated data is attached The pre- table, there we no exceedances Mass removal is calculated based analytical data Cumulative amounds system startup	58464 87696 4176 15827 133632 331783 384192 560461 601344 lected on February 21, 2004 A summary of samples prepared by Jacobs is attached with the liminary data has been included in the attached on daily flow rates and the most recent unts reflect contaminant removal since initial bs Total VOCs

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

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Field operational data was recorded during site visits as noted below Strict Operational Notes: Site visits were performed on March 1-3, 16 and 25, 2004, ether for general system observations or to make repurs: With the exception of the repair items noted be the system with heaves? Recentry, Vell Operational Notes: Generational Notes: Strict Stric	aundwater.Recovery System Ope		ACTEC Project No. 6301-03-0015		
31-Mar-04 Data Collection Activities: Field operational data was recorded during size visits as noted below Satisfies Discriptional Match 12, 16 and 25, 2004, either for general system observations or to make repairs. With the exception of the repair neons noted be the system was observed to be operating normally. Record Viel Operational Notes: Grant Along the analytic controller was replaced on March 16, 2004. The pump was removed and noted to require repair on March 2, 2004. The pump was removed and noted to require repair on March 2, 2004. The pump was removed and noted to require repair on March 2, 2004. The pump was removed and noted to require repair on March 2, 2004. Recovery Well 84 pores, noter and microcontroller was reserved to the analytic to that was been shad down March 2 through 16, 2004, due to a microcontroller sus reserved to the analytic to that was public of the W-9 was reduced to have a low-flow align on the March 16 and 25 site visits. RW-8 was noted to have a low-flow align on the March 16th Site Viat Microcort Well 74 was public on March 2, 2004. The pump notion over public from Recovery Well 74 was public on March 2, 2004. March 2004 Site Visits Control The pump and notion were public from Recovery Well 74 was public on March 2, 2004. March 2004 Site Visits Control The pump and notion were public from Recovery Well 74 was public on March 2, 2004. March 2004 Site Visits Control The pump and notion were public from Recovery Well 74 was public on March 2, 2004. March 2004 Site Visits Conthered 2, 2004 <td colspa<="" th=""><th></th><th></th><th></th><th></th></td>	<th></th> <th></th> <th></th> <th></th>				
Field operational data was recorded during site visits as noted below Structor Operational Notes: Site visits were performed on March 1-3, 16 and 25, 2004, ether for general system observations or to make repurs: With the exception of the repari items noted be the system with heaves? Recentry Vel1 Operational Notes: Generational Notes: Structure items in the management of the system with heaves? Recentry, Vel1 Operational Notes: Generation and items of the items of the system with heaves? Structure items of the management of the system with system of the system with system with system with system with system with system of the system with syste	Duration of System Operation:				
General Summary: Recovery Well # 4 pump, motor and microcontroller were replaced on March 16, 2004. The pump was removed and noted to require repare on March 2, 2004. Revore Yell # 4 was expeding on and off and shart down on March 12, 2004. The pum meter for RW-8 were replaced on March 25, 2004. RW-9 was noted to have been shart down March 2 through 16, 2004, due to a microcontroller usue Atom: Summary: Atom: Summary: The pump from Recovery Well # 4 was pulled on March 2, 2004, new pump/motor ordered. The microcontroller was resent to the manufacture for repair. The ne equipment was inselled on March 25, 2004. Water and Summary: The pump from Recovery Well # 4 was pulled on March 2, 2004, new pump/motor ordered. The microcontroller was resent to the manufacture for repair. The ne equipment was inselled on March 25, 2004. Uscomize Activities for Anells. Collects semi-annual groundwater samples Island March 2004 Kenge Pow Rate 53.7 GPM March 2004 Mammun Duscharge Flow Rate 40.2 GPM Atom 2004 Mammun Duscharge Flow Rate 40.2 GPM Revolutions for devations from 100% recovery well operations in mines: are provided in the above "Recovery Well Operational Notes" secton. The tracking of ear recovery well operational Notes" secton. The tracking of ear recovery well operational Notes" secton. The tracking of ear recovery well operation was collected annually as a note the to telement operational and the well's performance using recover flow flate dustarge Flow Rate (abover flow recovery Well Operational Notes" secton. The tracking of ear recovery well operational nume mere sector flow relakes	Data Collection Activities:				
Star varies were performed on March 1-3, 15 and 25, 2004, either for general system observations or to make repairs. With the exception of the repair items insteaded the system was observed to be operating normally. Recovery Vell Operational Notes General Summary: Recovery Vell 4 pump, motor and microcontroller were replaced on March 15, 2004. The pump was removed and noted to require repair on March 2, 2004. The motor for WV-8 were replaced on March 25, 2004. Revery Vell 48 was cycling on and off and shat down on March 15, 2004. The pum microcontroller was reserved with a shat down on March 25, 2004. Revery Vell 48 was poted to have a low-flow alarm on the March 16th Site Vant Microcater for repair. The mendmonemary: A low flow alarm condition was noted on RW-1 and RW-9 during the 16 and 25 site vants. RW-8 was noted to have a low-flow alarm on the March 16th Site Vant Microcater Summary: The pump from Recovery Well 4 was pulled on March 2, 2004. The pump and motor were pulled from Recovery Well 48 on March 17, 2004. The pump and motor were pulled from Recovery Well 48 on March 17, 2004. The pump and motor were pulled from Recovery Well 48 on March 11 through March 31, 2004. March 2004 Arcange Discharge Pow Rate 53.7 GPM March 2004 Maintum Discharge Columes: 2,398,602 Gations March 11 through March 31, 2004 March 2004 Maintum Discharge Flow Rate 53.7 GPM March 2004 Maintum Discharge Columes; 40.2 GPM Fellul March 2004 Maintum Discharge Columes; 2,398,602 Gations March 11 through March 31, 2004 March	Field operational data was recorde	d during site visits as noted	1 below		
He system was observed to be operating normally Recovery Well P A 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 resent to the manufacturer for repair on March 2, 2004. Recovery Well P as as cycling on and off and shard down on March 16, 2004. The pum more for KW-8 were replaced on March 2, 2004. RW-9 was noted to have been shal down March 2 through 16, 2004, due to a microcontroller issue Ahrin Simmariz: Ahrin Simmariz: Ahrin Simmariz: Ahrin Simmariz: The pump form Kerevery Well P A was publied on March 2, 2004, new pump/inder or doed. The microcontroller was re-sere to the manufacturer for repair. The ne equipment was installed on March 16, 2004. The pump and motor were publied from Recovery Well P as publied on March 2, 2004, new pump/inder or doed. The microcontroller was re-sere to the manufacturer for repair. The ne equipment was installed on March 2, 2004. New pump and motor were publied from Recovery Well P as and determined to be non-operational, a pumpmorrow rever stalled on March 12, 2004. The pump and motor were publied from Recovery Well P and the more operational, a more associated by a series. Lettel March 2004 Archage Discharger Velumer: 2,398,002 Gations March 11 through March 31, 2004 March 2004 Archage Discharger Velumer: 2,398,002 Gations March 11 through March 31, 2004 March 2004 Archage Discharger Velumer: 2,309,002 Gations March 2004 Archage Series and March 2, 2004, new pump/order order of the above "Recovery Well Operational Notes" section. The tracking	System Operational Notes:				
Recovery Well # 4 pump, motor and nucrocontroller were replaced on March 16, 2004. The pump was removed and noted to require replace on March 2, 2004. The pump motor for NNA were replaced on March 25, 2004. RECOVERY Well # Was sequing on and off and shou down on March 16, 2004. The pum motor for NNA were replaced on March 25, 2004. REVOLVENCE Well # Was noted to have been shou down March 2. 2004, due to a more controller was reverented on NNA the NS, 2004. Revolventer VMEI # Was noted to NNA the NS, 2004. Revolventer VMEI # Was noted to NNA the NS, 2004. The pump motor or control to was noted to NNA the NS. 2004. And the new control to was noted to NNA the NS. 2004. And the new control to was noted to NNA the NS. 2004. The pump from Recovery Well # Was null 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 pump/motor were installed on March 25, 2004. Uncerning Activities for Anril: Collect semi-annual groundwater samples Intel 2004 Areage Discharge You Rate 53.7 OPM March 2004 Among Discharge You Rate March 2004 Atomage Discharge You Rate 53.7 OPM March 2004 Grant Pow Rate March 2004 Atomage Discharge Flow Rate 62.2 GPM Explanations for IOV7 recovery well operation num times are provided in the above "Recovery Well Operational Notes" section. The tracking of can recovery well operational numery provided in the above a complete to estimate each well's performance using recording were complete to estimate each well's performance using recording were acounted to be in operational and the section of the			ther for general system observations or to make r	epairs With the exception of the repair items noted below	
Recovery Well # 4 pump, motor and nucrocontroller were replaced on March 16, 2004. The pump was removed and noted to require replace on March 2, 2004. The pump motor for NNA were replaced on March 25, 2004. RECOVERY Well # Was sequing on and off and shou down on March 16, 2004. The pum motor for NNA were replaced on March 25, 2004. REVOLVENCE Well # Was noted to have been shou down March 2. 2004, due to a more controller was reverented on NNA the NS, 2004. Revolventer VMEI # Was noted to NNA the NS, 2004. Revolventer VMEI # Was noted to NNA the NS, 2004. The pump motor or control to was noted to NNA the NS. 2004. And the new control to was noted to NNA the NS. 2004. And the new control to was noted to NNA the NS. 2004. The pump from Recovery Well # Was null 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 pump/motor were installed on March 25, 2004. Uncerning Activities for Anril: Collect semi-annual groundwater samples Intel 2004 Areage Discharge You Rate 53.7 OPM March 2004 Among Discharge You Rate March 2004 Atomage Discharge You Rate 53.7 OPM March 2004 Grant Pow Rate March 2004 Atomage Discharge Flow Rate 62.2 GPM Explanations for IOV7 recovery well operation num times are provided in the above "Recovery Well Operational Notes" section. The tracking of can recovery well operational numery provided in the above a complete to estimate each well's performance using recording were complete to estimate each well's performance using recording were acounted to be in operational and the section of the	Recovery Well Operational Note	3			
Intercontroller was resent to the manufacture for tepan on March 2, 2004. Recovery Well #8 was exclude on and off and shou down on March 16, 2004. The part more for KW-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 March Sammar; 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 Sammar; The parting from Recovery Well #4 was publied on March 2, 2004, new partition or oddeed. The microcontroller was re-sent to the manufacturer for repair. The ne quapment was installed on March 15, 2004. The partition and the wave publied from Recovery Well # 8 on March 17, 2004 and determined to be non-operational, a purportion or were called on March 53, 2004. Uncomise Activities for Anrili. Collect semi-annual groundwater samples Intel March 2004 Average Dicharge Thow Rate 53.7 OPM March 2004 Average Dicharge Flow Rate 62.3 GPM March 2004 Mammun Discharge Flow Rate 62.3 CPM Explanations for deviations was conducted manually as a check to the telemetry operation Recovery Well Operational Notes* section. The tracking of ear recovery well speration was conducted manually as a check to the telemetry operation run times are provided in the above "Recovery Well Operational Notes" section. The tracking of ear recovery well speration was conducted manually as a check to the telemetry operation and run time percentages <u>Well LD</u> <u>2 Ken Time</u> <u>Average Flow Rate (GPM)</u> <u>Total Flow (Calloon)</u> RW-1 100 17 (46,104 RW-1 100 12 46,404 RW-1 100 12 46,504 RW-1 100 13 66,900 RW-2 10 2,1 92,744 RW-3 10 2 45,523 RW-3 10 1 44,516 RW-4 100 14 5 6,900 RW-7 100 14 5 66,900 RW-7	General Summary:				
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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 Cullected: The most recent system effluent sample was collected on February 21, 2004 System Effluent Samples Cullected: The most recent system effluent sample was collected on February 21, 2004 System Effluent Samples Cullected: The most recent system effluent sample was collected on February 21, 2004 A System Effluent Samples Cullected: The most recent system effluent sample was collected on February 21, 2004 A Rundow 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 Cunstaminant Mass Removal: <td colspa<="" td=""><td></td><td></td><td>37</td><td>165,168</td></td>	<td></td> <td></td> <td>37</td> <td>165,168</td>			37	165,168
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Cumulative: 208.98 lbs TCE; 529.97 lbs Total VOCs	<u>Contaminant Mass Removal:</u>		analytical data Cumulative amounts re system startup	flect contaminant removal since initial	
Total System Effluent through 31 March 2004 175,026,076 Gailons					
	Total System Effluent through 3	51 March 2004	175,026,076 Ga	ailons	

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

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Duration of System Operation:		I-Apr-04 30-Apr-04	
Data Collection Activities:			
	ed during site visits as note	d below Status water levels were collected on A	pril 6-7, 2004. Passive diffusive bags samples were plac
n the wells on April 7, 2004 and		0, 2004 The semi-annual samples were collected	
System Operational Notes:			
Recovery Well # 8 was noted to r neters for wells RW-1, RW-3, ar were used to determine the month	id RW-5 were noted as requ	s due to excessive cycling and the thermal overlo aring repair. These recovery wells were observe	ad circuit breaker requiring to be reset. In addition, flow d to be functioning and the historical average flow rates
Recovery Well Operational Not	<u>es</u>		
General Summary:	\$		
		April 16, 2004 It was restarted on April 28, 20 uit to trip The circuit was then required to be m	04 and again on April 30, 2004 The cycling was traced annually reset.
Alarm Summary:			
v low-now alarm condition was	noted on K w-1 and K w-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 therma) overload circuit breaker h	apped on multiple occasions	
Upcoming Activities for May:			
Evaluate flow meters for repair o	r replacement and collect q	uarterly effluent sample	
otal April 2004 Effluent Disch	arge Volume:	2,134,512 Gal	lons April I through April 31, 2004
			······································
April 2004 Average Discharge Fl		49.4 GPM	
April 2004 Maximum Discharge		63 5 GPM	
April 2004 Minimum Discharge I	now Kale	40 3 GPM	
Explanations for deviations from	nducted manually as a check	ion run times are provided in the above "Recover	y Well Operational Notes" section. The tracking of each
llow rates, totalized discharged v	olume and low level cyclin	g to yield the following recovery well operational	mpiled to estimate each well's performance using record
low rates, totalized discharged v <u>Well I, D.</u>	olume and low level cyclin; <u>%Run Time</u>	g to yield the following recovery well operational	run time percentages [.] <u>Total Flow (Gations) - Based</u>
llow rates, totalized discharged v <u>Well I.D.</u>	olume and low level cyclin; <u>%Run Time</u>	g to yield the following recovery well operational <u>Average Flow Rate (GPM)</u>	run time percentages [.] <u>Total Flow (Gailons) - Based</u> on Average Flow Rate During
llow rates, totalized discharged v	olume and low level cyclin;	g to yield the following recovery well operational	run tune percentages [.] <u>Total Flow (Gations) - Based</u> on <u>Average Flow Rate During</u> 44,640
low rates, totalized discharged v <u>Welt I.D.</u> RW-1 RW-1A RW-1B	olume and low level cyclin; <u>%Run Time</u> 100 100 100	g to yield the following recovery well operational <u>Average Flow Rate (GPM)</u> 1 0 4 3 1.6	run time percentages [.] <u>Total Flow (Gałlons) - Based</u> on Average Flow, Rate During
llow rates, totalized discharged v <u>Welt I.B.</u> RW-1 RW-1A RW-1B RW-2	olume and low level cyclin; <u>%Run Time</u> 100 100 100 100	g to yield the following recovery well operational <u>Average Flow Rate (GPM)</u> 1 0 4 3 1.6 2 0	run time percentages: <u>Total Flow (Gailons) - Based</u> <u>on Average Flow Rate During</u> 44,640 191,952 71,424 89,280
low rates, totalized discharged v <u>Well I.D.</u> RW-1 RW-1A RW-1B RW-2 RW-3	olume and low level cyclin; <u>%Run /Time</u> 100 100 100 100 100	g to yield the following recovery well operational <u>Average Flow Rate (GPM)</u> 1 0 4 3 1,6 2 0 0 1	run time percentages: <u>Total Flow (Gałłons) - Based</u> <u>on Average Flow Rate During</u> 44,640 191,952 71,424 89,280 4,464
llow rates, totalized discharged v <u>Well L.D.</u> RW-1 RW-1A RW-1B RW-2 RW-3 RW-4	olume and low level cyclin; <u>%Run /Time</u> 100 100 100 100 100 100	y to yield the following recovery well operational <u>Average Flow Rate (GPM)</u> 1 0 4 3 1,6 2 0 0 1 3 0	run tune percentages: <u>Total Flow (Gallons) - Based</u> <u>on Average Flow Rate During</u> 44,640 191,952 71,424 89,280 4,464 133,920
llow rates, totalized discharged v <u>Well I.D.</u> RW-1 RW-1A RW-1B RW-2 RW-3	olume and low level cyclin; <u>%Run Time</u> 100 100 100 100 100 100 100	g to yield the following recovery well operational <u>Average Flow Rate (GPM)</u> 10 43 1.6 20 01 30 32	Tun time percentages: <u>Total Flow (Gailons) - Based</u> <u>on Average Flow Rate During</u> 44,640 191,952 71,424 89,280 4,464 133,920 142,848
llow rates, totalized discharged v <u>Well I.D.</u> RW-1 RW-1A RW-1B RW-2 RW-3 RW-4 RW-5	olume and low level cyclin; <u>%Run /Time</u> 100 100 100 100 100 100	y to yield the following recovery well operational <u>Average Flow Rate (GPM)</u> 1 0 4 3 1,6 2 0 0 1 3 0	Tun time percentages: <u>Total Flow (Gallons) - Based</u> <u>on Average Flow Rate During</u> 44,640 191,952 71,424 89,280 4,464 133,920
llow rates, totalized discharged v <u>Well I.D.</u> RW-1 RW-1A RW-1B RW-2 RW-3 RW-3 RW-4 RW-5 RW-6 RW-7 RW-8	olume and low level cyclin <u>%Run Time</u> 100 100 100 100 100 100 100 10	g to yield the following recovery well operational <u>Average Flow Rate (GPM)</u> 1 0 4 3 1.6 2 0 0 1 3 0 3 2 8 1 9 4 7 3	Tun time percentages: <u>Total Flow (Gallons) - Based</u> <u>on Average Flow Rate During</u> 44,640 191,952 71,424 89,280 4,464 133,920 142,848 361,584
llow rates, totalized discharged v <u>Well I.B.</u> RW-1 RW-1B RW-2 RW-3 RW-3 RW-5 RW-6 RW-7	olume and low level cyclin; <u>%Run Time</u> 100 100 100 100 100 100 100 10	g to yield the following recovery well operational Average Flow Rate (GPM) 1 0 4 3 1.6 2 0 0 1 3 0 3 2 8 1 9 4	Tun time percentages: <u>Total Flow (Gailons) - Based</u> <u>on Average Flow Rate During</u> 44,640 191,952 71,424 89,280 4,464 133,920 142,848 361,584 419,616
llow rates, totalized discharged v <u>Well I.D.</u> RW-1 RW-1A RW-1B RW-2 RW-3 RW-3 RW-4 RW-5 RW-6 RW-7 RW-8	olume and low level cyclin <u>%Run Time</u> 100 100 100 100 100 100 100 10	g to yield the following recovery well operational Average Flow Rate (GPM) 1 0 4 3 1.6 2 0 0 1 3 0 3 2 8 1 9 4 7 3 9 5 The most recent system effluent sample	Tun time percentages: Total Flow (Gallons) - Based on Average Flow Rate During 44,640 191,952 71,424 89,280 4,464 133,920 142,848 361,584 419,616 325,872 424,080 was collected on February 21, 2004
llow rates, totalized discharged v <u>Well I.D.</u> RW-1 RW-1A RW-1B RW-2 RW-2 RW-3 RW-4 RW-5 RW-6 RW-7 RW-8 RW-9	olume and low level cyclin <u>%Run Time</u> 100 100 100 100 100 100 100 10	g to yield the following recovery well operational <u>Average Flow Rate (GPM)</u> 1 0 4 3 1.6 2 0 0 1 3 0 3 2 8 1 9 4 7 3 9 5	Total Flow (Gailons) - Based on Average Flow Rate During 44,640 191,952 71,424 89,280 4,464 133,920 142,848 361,584 419,616 325,872 424,080 was collected on February 21, 2004 effluent samples prepared by Jacobs is iminary data has been included in the
llow rates, totalized discharged v <u>Well I.D.</u> RW-1 RW-1A RW-1B RW-2 RW-2 RW-3 RW-4 RW-5 RW-6 RW-7 RW-8 RW-9	olume and low level cyclin <u>%Run Time</u> 100 100 100 100 100 100 100 10	g to yield the following recovery well operational Average Flow Rate (GPM) 1 0 4 3 1.6 2 0 0 1 3 0 3 2 8 1 9 4 7 3 9 5 The most recent system effluent sample A summary of the previously collected of attached with the updated data The pre	Total Flow (Gallons) - Based on Average Flow Rate During 44,640 191,952 71,424 89,280 4,464 133,920 142,848 361,584 419,616 325,872 424,080 was collected on February 21, 2004 iffluent samples prepared by Jacobs is liminary data has been included in the
llow rates, totalized discharged v <u>Well LD</u> RW-1 RW-1B RW-2 RW-3 RW-3 RW-4 RW-5 RW-6 RW-7 RW-6 RW-7 RW-8 RW-9 System Effluent Samples Collect	olume and low level cyclin <u>%Run Time</u> 100 100 100 100 100 100 100 10	g to yield the following recovery well operational Average Flow Rate (GPM) 1 0 4 3 1,6 2 0 0 1 3 0 3 2 8 1 9 4 7 3 9 5 The most recent system effluent sample A summary of the previously collected o attached with the updated data. The pre attached table, there we no exceedances Mass removal is calculated based on dat analytical data. Cumulative amounts ref	Total Flow (Gallons) - Based on Average Flow Rate During 44,640 191,952 71,424 89,280 4,464 133,920 142,848 361,584 419,616 325,872 424,080 was collected on February 21, 2004 iffluent samples prepared by Jacobs is liminary data has been included in the
low rates, totalized discharged v <u>Well LD</u> RW-1 RW-1A RW-1B RW-2 RW-3 RW-3 RW-4 RW-5 RW-6 RW-7 RW-6 RW-7 RW-8 RW-9 System Effluent Samples Colleg	olume and low level cyclin <u>%Run Time</u> 100 100 100 100 100 100 100 10	Average Flow Rate (GPM) 1 0 4 3 1,6 2 0 0 1 3 0 3 2 8 1 9 4 7 3 9 5 The most recent system effluent sample A summary of the previously collected o attached with the updated data. The pre attached table, there we no exceedances Mass removal is calculated based on dat analytical data. Cumulative amounts ref system startup	Total Flow (Gallons) - Based on Average Flow Rate During 44,640 191,952 71,424 89,280 4,464 133,920 142,848 361,584 419,616 325,872 424,080 was collected on February 21, 2004 iffluent samples prepared by Jacobs is liminary data has been included in the by flow rates and the most recent lect contaminant removal since initial OCS

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

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 samp	e from RW- 8 was collected on May 6, 2004 follo
routine site visit was performed o		was collected on May 24, 2004 It should be noted	that RW-8 was not operational on May 24, 2004
	20, 2004		
addition, flow meters for wells R	W-1, RW-3, and RW-5 w	cessive exclong and an apparent short-circuit that wa ere noted as requiring replacement. These recovery flow rates were used to determine the monthly flow	wells remain operational and were observed to be
Recovery Well Operational No	tes		
General Summary:			
RW- 8 experienced down-time de tripped The remaining wells ope		ctrical short-circuiting RW-1 was experienced dow e-month	en time due to the thermal overload breaker being
Alarm Summary: The following low-flow alarm co	anditions were noted RW	-1. RW-4 and RW-8 on May 20th RW-1 and RW-	8 on the May 241h
Maintenance Summary:			
	as replaced on May 6, 200	etween the thermal overload switch breaker and the 14 Recovery Well #8 went down on May 18, 2004	
Upcoming Activities for June			
	ttch in RW#8 Replace fi	ow meters in Wells RW-1 RW-3 and RW-5, fight bi	ulbs for num lughts for RW-6 and RW-9 and record
monthly recovery well data. A p	lanned system shut-down	will occur on or about June 21, 2004 to allow for an formed in conjunction with the system shut-down	
Total May 2004 Efficient Disch	arge Yohume;	2,367,650 Galio	ns May 1 through May 31, 2004
May 2004 Average Discharge Fi	ow Rate	55 GPM	
May 2004 Maximum Discharge	Flow Rate	62.5 GPM	
	Too Rait	49 2 GPM	
May 2004 Minimum Discharge F			
- 		ter, a total of 2,450 gallons of well development wat	er from the Main Installation was discharged to the
In addition to the 2,365,200 galle saniary sewer system during the Explanations for deviations from recovery well's operation was co	month of May 100% recovery well oper nducted manually as a che		Well Operational Notes" section The tracking of ipiled to estimate each well's performance using
In addition to the 2,365,200 galle saniary sewer system during the Explanations for deviations from recovery well's operation was co	month of May 100% recovery well oper nducted manually as a che	ter, a total of 2,450 gallons of well development war atton run times are provided in the above "Recovery rck to the telemetry operation Recordings were con	Well Operational Notes" section The tracking of ipiled to estimate each well's performance using
In addition to the 2,365,200 galled sanitary sewer system during the Explanations for deviations from recovery well's operation was co recorded flow rates, totalized dis Well LD.	month of May 100% recovery well oper nducted manually as a che charged volume and low t <u>% Run Time</u>	ter, a total of 2,450 gallons of well development wat attom run times are provided in the above "Recovery ck to the telemetry operation Recordings were con evel evel over the following recovery well op Average Flow Rate (GPM)	Well Operational Notes" section The tracking of ipiled to estimate each well's performance using erational run time percentages <u>Total Flow (Callons) - Based on Average</u> <u>Rate During Operational Period</u>
In addition to the 2,365,200 galled sanilary sewer system during the Explanations for deviations from recovery well's operation was con recorded flow rates, totabized dis <u>Well LD</u> , RW-1	month of May 100% recovery well oper nducted manually as a che charged volume and low I <u>%Rtm Time</u> 65	ter, a total of 2,450 gallons of well development wa atton run times are provided in the above "Recovery ck to the telemetry operation. Recordings were con evel cycling to yield the following recovery well op <u>Average Flow Rate (GPM)</u> 0.6	Well Operational Notes" section The tracking of ipiled to estimate each well's performance using erational run time percentages <u>Total Flow (Gallons) - Based on Average</u> <u>Rate During Operational Period</u> 26,784
In addition to the 2,365,200 galled sanitary sewer system during the Explanations for deviations from recovery well's operation was co recorded flow rates, totalized dis Well LD.	month of May 100% recovery well oper nducted manually as a che charged volume and low t <u>% Run Time</u>	ter, a total of 2,450 gallons of well development wat attom run times are provided in the above "Recovery ck to the telemetry operation Recordings were con evel evel over the following recovery well op Average Flow Rate (GPM)	Well Operational Notes" section The tracking of ipiled to estimate each well's performance using erational run time percentages <u>Total Flow (Gallons) - Based on Average</u> <u>Rate During Operational Period</u>
In addition to the 2,365,200 galled sanilary sewer system during the Explanations for deviations from recovery well's operation was co- recorded flow rates, totabized dis <u>Well LD</u> , RW-1 RW-1 RW-1B, RW-2	month of May 100% recovery well oper nducted manuality as a che- charged volume and low t <u> 72 Run Time</u> 65 100	ter, a total of 2,450 gallons of well development wat attorn run times are provided in the above "Recovery ick to the telenietry operation. Recordings were con evel eveloped the following recovery well op <u>Average Flow Rate (GPM)</u> 0.6 4.2	Well Operational Notes" section The tracking of npiled to estimate each well's performance using erational run time percentages <u>Total Flow (Gallons) - Based on Average</u> <u>Rate During Operational Period</u> 26,784 187,488
In addition to the 2,365,200 galled sanitary sewer system during the Explanations for deviations from recovery well's operation was co- recorded flow rates, totabized dis <u>Well LD</u> RW-1 RW-1A RW-1B RW-2 RW-3	month of May 100% recovery well oper nducted manually as a che charged volume and low 1 <u>%Run Time</u> 65 100 100	ter, a total of 2,450 gallons of well development wat ation run times are provided in the above "Recovery ck to the telemetry operation Recordings were con evel or cling to vield the following recovery well op <u>Average Flow Rate (GPM)</u> 0.6 4.2 1.6	Well Operational Notes" section The tracking of ipiled to estimate each well's performance using erational run time percentages <u>Total Flow (Gallons) - Based on Average</u> <u>Rate During Operational Period</u> 26,784 187,488 71,424
In addition to the 2,365,200 galle sanilar, sewer system during the Explanations for deviations from recorded flow rates, totalized dis <u>Wetil LD</u> , RW-1 RW-1A RW-1B RW-2 RW-3 RW-4	month of May 100% recovery well oper nducted manually as a che charged volume and low 1 <u>74 Run Time</u> 65 100 100 100 100 100 100 100	ter, a total of 2,450 gallons of well development wat atton run times are provided in the above "Recovery rick to the telenietry operation. Recordings were con evel evelop to vield the following recovery well op evelop to vield the following recovery well op 0.6 4.2 1.6 2.1 0.1 3.2	Well Operational Notes" section The tracking of ipiled to estimate each well's performance using erational run time percentages <u>Total Flow (Gallons) - Based on Average</u> <u>Rate During Operational Period</u> 26,784 187,488 71,424 93,744
In addition to the 2.365,200 galled sanitary sewer system during the Explanations for deviations from recovery well's operation was con recorded flow rates, totalized dis <u>Well LD.</u> RW-1 RW-1A RW-1B RW-2 RW-3 RW-4 RW-5	month of May 100% recovery well oper nducted manually as a che charged volume and low 1 24Run Time 65 100 100 100 100 100 100 100 10	ter, a total of 2,450 gallons of well development wat ation run times are provided in the above "Recovery ck to the telemetry operation Recordings were con evel evelop to vield the following recovery well op <u>Average Flow Rate (GPM)</u> 0.6 4.2 1.6 2.1 0.1 3.2 3.2	Well Operational Notes" section The tracking of ipiled to estimate each well's performance using erational run time percentages <u>Total Flow (Gallons) - Based on Average</u> <u>Rate During Operational Period</u> 26,784 187,488 71,424 93,744 4,464 142,848 142,848
In addition to the 2,365,200 galled sanitary sewer system during the Explanations for deviations from recovery well's operation was con recorded flow rates, totabized dis <u>Well LD</u> RW-1 RW-1A RW-1B RW-2 RW-3 RW-3 RW-4 RW-5 RW-6	month of May 100% recovery well oper nducted manually as a che charged volume and low 1 2/Run Time 65 100 100 100 100 100 100 100 10	ter, a total of 2,450 gallons of well development war atton run times are provided in the above "Recovery ck to the telemetry operation Recordings were con evel cycling to yield the following recovery well op average Flow Rate (GPM) 0.6 4.2 1.6 2.1 0.1 3.2 3.2 9.8	Well Operational Notes" section The tracking of ipiled to estimate each well's performance using erational run time percentages <u>Total Flow (Gallons) - Based on Average</u> <u>Rate During Operational Period</u> 26,784 187,488 71,424 93,744 4,464 142,848 142,848 437,472
In addition to the 2,365,200 galled sanitary sewer system during the Explanations for deviations from recovery well's operation was co- recorded flow rates, totabized dis <u>Well LD</u> RW-1 RW-1A RW-1A RW-1A RW-13 RW-2 RW-3 RW-4 RW-5 RW-6 RW-7	month of May 100% recovery well oper nducted manually as a che- charged volume and low 1 26 Run Time 65 100 100 100 100 100 100 100 10	ter, a total of 2,450 gallons of well development wat attor run times are provided in the above "Recovery ick to the telemetry operation. Recordings were con evel evel evelopment of the following recovery well op <u>Average Flow Rate (GPM)</u> 0.6 4.2 1.6 2.1 0.1 3.2 3.2 3.8 9.8 9.3	Well Operational Notes" section The tracking of ipiled to estimate each well's performance using erational run time percentages <u>Total Flow (Gallons) - Based on Average</u> . <u>Bate During Operational Period</u> 26,784 187,488 71,424 93,744 4,464 142,848 142,848 142,848 142,848 143,742 415,152
In addition to the 2,365,200 gallo sanitary sewer system during the Explanations for deviations from recovery well's operation was con recorded flow rates, totabized dis <u>WetHLD</u> , RW-1 RW-1A RW-1B RW-2 RW-3 RW-4 RW-4 RW-6 RW-7 RW-8	month of May 100% recovery well oper nducted manually as a che charged volume and low 1 24 Run Time 65 100 100 100 100 100 100 100 10	ter, a total of 2,450 gallons of well development wat ation run times are provided in the above "Recovery ck to the telemetry operation Recordings were con evel evelop to vield the following recovery well op Average Flow Rate (GPM) 0.6 4.2 1.6 2.1 0.1 3.2 3.2 9.8 9.3 6.1	Well Operational Notes" section The tracking of mpiled to estimate each well's performance using relational run time percentages Table Flow (Gallons) - Based on Average Rate During Operational Period 26,784 187,488 71,424 93,744 4,464 142,848 142,848 142,848 142,848 142,848 142,848 142,848 142,848 142,848 143,472 115,152 272,304
In addition to the 2,365,200 galled sanitary sewer system during the Explanations for deviations from recovery well's operation was co- recorded flow rates, totabized dis <u>Well LD</u> RW-1 RW-1A RW-1A RW-1A RW-13 RW-2 RW-3 RW-4 RW-5 RW-6 RW-7	month of May 100% recovery well oper nducted manually as a che- charged volume and low 1 26 Run Time 65 100 100 100 100 100 100 100 10	ter, a total of 2,450 gallons of well development wat attor run times are provided in the above "Recovery ick to the telemetry operation. Recordings were con evel evel evelopment of the following recovery well op <u>Average Flow Rate (GPM)</u> 0.6 4.2 1.6 2.1 0.1 3.2 3.2 9.8 9.3	Well Operational Notes" section The tracking of ipiled to estimate each well's performance using erational run time percentages <u>Total Flow (Gallons) - Based on Average</u> . <u>Bate During Operational Period</u> 26,784 187,488 71,424 93,744 4,464 142,848 142,848 142,848 142,848 143,742 415,152
In addition to the 2,365,200 gallo sanitary sewer system during the Explanations for deviations from recovery well's operation was con recorded flow rates, totabized dis <u>WetHLD</u> , RW-1 RW-1A RW-1B RW-2 RW-3 RW-4 RW-4 RW-6 RW-7 RW-8	month of May 100% recovery well oper nducted manually as a che charged volume and low 1 24Run Time 65 100 100 100 100 100 100 100 10	ter, a total of 2,450 gallons of well development wat ation run times are provided in the above "Recovery ck to the telemetry operation Recordings were con evel evelop to vield the following recovery well op Average Flow Rate (GPM) 0.6 4.2 1.6 2.1 0.1 3.2 3.2 9.8 9.3 6.1	Well Operational Notes" section The tracking of ippled to estimate each well's performance using erational run time percentages Tatal Flow (Callons) - Based on Average Rate During Operational Period 26,784 187,488 71,424 93,744 4,464 142,848 437,472 415,152 272,304 660,672 as collected on May 24, 2004 A ent samples prepared by Jacobs is minary data has been included in the
In addition to the 2,365,200 gallo sanitary sewer system during the Explanations for deviations from recovery well's operation was co- recorded flow rates, totalized dis <u>Well LD.</u> RW-1 RW-1A RW-1B RW-2 RW-3 RW-4 RW-5 RW-6 RW-7 RW-6 RW-7 RW-8 RW-9	month of May 100% recovery well oper nducted manually as a che charged volume and low 1 24Run Time 65 100 100 100 100 100 100 100 10	ter, a total of 2,450 gallons of well development war atton run times are provided in the above "Recovery exch to the telemetry operation. Recordings were con- evel excling to vield the following recovery well op- 0.6 4.2 1.6 2.1 0.1 3.2 3.2 9.8 9.3 6.1 1.4.8 The most recent system effluent sample w summary of the previously collected efflu- attached with the updated data. The prefu- attached visit the updated data. The prefu- attached visit he updated data. The prefu- attached is calculated based on data analytical data. Cumutative amounts refle system startup	Well Operational Notes" section The tracking of ippled to estimate each well's performance using erational run time percentages Tatal Flow (Gallons) - Based on Average Rate During Operational Period 26,784 187,488 71,424 93,744 4,464 142,848 142,
In addition to the 2,365,200 gallo sanitary sewer system during the Explanations for deviations from recovery well's operation was co- recorded flow rates, totabized dis Well LD , RW-1 RW-1 RW-1 RW-1 RW-1 RW-3 RW-3 RW-4 RW-3 RW-4 RW-3 RW-4 RW-5 RW-6 RW-7 RW-8 RW-9 System Effluent Samples Colte	month of May 100% recovery well oper nducted manually as a che charged volume and low 1 24Run Time 65 100 100 100 100 100 100 100 10	ter, a total of 2,450 gallons of well development war atton run times are provided in the above "Recovery exch to the telemetry operation Recordings were con- evel excling to vield the following recovery well op- 0.6 4.2 1.6 2.1 0.1 3.2 3.2 9.8 9.3 6.1 1.4 8 The most recent system effluent sample w summary of the previously collected efflu- attached with the updated data. The prefu- attached visit the updated data. The prefu- attached visit he updated data. The prefu- attached visit he updated data. The prefu- attached visit he updated data. The prefu-	Well Operational Notes" section The tracking of mpled to estimate each well's performance using trational run time percentages Tated Flow (Gallons) - Based on Average. Rate During Operational Period 26,784 187,488 71,424 93,744 4,464 142,848 14

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

Duration of System Operation:		1-Jun-04	
		30-Jun-04	
Data.Collection Activities,			
Field operational data was record	ed during the site visits as n	ioted below. The system was shut down from Jur	ne 22 to June 25 to evaluate the effect of the groundwater
recovery system on the potentiom	etric surface. Static water l	levels were collected on June 21-22 to serve as ba	schne measuremens prior to the system shutdown (June
The final set of water level measu	rements were collected afte	r stabilization (approximately 72 hours) of the wa	ter levels in the recovery wells. The system was re-starte
June 25			
System Operational Notes:			
RW+8 was not operational on Jun RW-5 were replaced on June 23.8	& 24 These recovery wells	remained operational and were observed to be fu	une 8. In addition, flow meters for wells RW-1, RW-3, a inctioning during the site visits prior to replacement of th etay was installed in RW-8 on June 29. See comments al
regarding the system shul-down.	• •		
Recovery Well Operational Not	63		
General Summary:			
RW-8 experienced down time du flow meters were calibrated June		rical short circuiting and was repaired on June 8.	RW-1, 3 & 5 flow meters were replaced June 23-24 and
Alarm Summary:			
The following low-flow alarm co	nditions were noted RW-1	i, on June I}th and 22nd.	
Maintenance Summary:			
			e pump motor The wiring hamess on the pump was
			is replaced June 1st and the current relay was replaced Jun brated June 28-29 – Prior to and during the system shut-d
			re transducer in RW#1 calibrated within manufactures
specifications but the readings co			
Upcoming Activities for July			
Replace the current relay in RW /	(), evaluate the pressure tra	and the set of BW'#1, market and a support where down a	
		insurver of R w #1, perform a system snut-down o	n/or about July 19 to allow for relocation of the effluent l
due to the Hays Road constructio		insudcer in KW #1, perform a system snut-down o	n/or about July 19 to allow for relocation of the effluent l
due to the mays Road constructio		nsuutei in K w #1, periorin a system snut-uowa o	nt'or about July 19 to allow for relocation of the effluent l
Total June 2004 Effluent Disch	n.		n/or about July 19 to allow for relocation of the effluent i
Total June 2004 EMuent Risch	n. aree Volume:	2,323,161 Gail	
	n. <u>arge Volume:</u> ow Rate		
Total June 2004 Effluent Disch June 2004 Average Discharge Fic	n <u>arge Volume:</u> ow Rate Flow Rate	2,323,161 Gall 53,54	
Total June 2004 Effluent Disch June 2004 Average Discharge Fld June 2004 Maximum Discharge I	n <u>arge Volume:</u> ow Rate Flow Rate	2,323,161 Gall 53,54 68 4 GPN1	
Total June 2004 Effluent Disch June 2004 Average Discharge Fik June 2004 Maximum Discharge I June 2004 Minimum Discharge F	n <u>arre Volume:</u> ow Rate Flow Rate Flow Rate	2,323,161 Gall 53,54 68 4 GPM 0.0 GPM	ons June 1 through June 30, 2004
Total June 2004 EMuent Disch June 2004 Average Discharge Fk June 2004 Maximum Discharge F June 2004 Minimum Discharge F In addition to the 2,312,994 gallo	n ar <u>te Volume;</u> ow Rate Flow Rate Flow Rate ns of extracted groundwate	2,323,161 Gall 53,54 68 4 GPM 0.0 GPM	ons June 1 through June 30, 2004
Total June 2004 Effluent Disch June 2004 Average Discharge Fla June 2004 Maximum Discharge I June 2004 Minimum Discharge F In addition to the 2,312,994 galloo sewer system during the month o	n ar <u>ye Volume;</u> ow Rate Flow Rate Iow Rate Iow Rate So of extracted groundwate I June	2,323,161 Gall 53,54 68 4 GPM 0.0 GPM r, a total of 10,170 gallons of well development w	ons June 1 through June 30, 2004 ater from the Main Installation was discharged to the san
Total June 2004 Effluent Disch June 2004 Average Discharge Fic June 2004 Maximum Discharge I June 2004 Minimum Discharge F In addition to the 2,312,994 gallo sewer system during the month o Explanations for deviations from	n <u>artre Volume:</u> Dow Rate Now Rate Now Rate Sof extracted groundwate f June 100%; recovery well operat	2,323,161 Gall 53,54 68.4 GPM r, a total of 10,170 gallons of well development w ion run times are provided in the above "Recover	ens June 1 through June 30, 2004 after from the Main Installation was discharged to the san y Well Operational Notes" section The tracking of each
Total June 2004 Effluent Discharge Fi June 2004 Average Discharge Fi June 2004 Maximum Discharge I June 2004 Minimum Discharge F In addition to the 2,312,991 gallo sewer system during the month o Explanations for deviations from recovery well soperation was cor	n ar <u>te Volume;</u> ow Rate How Rate How Rate I ow Rate I June I MW% recovery well operati dicted manually as a check	2,323,161 Gall 53,54 68.4 GPM r, a total of 10,170 gallons of well development w ion run times are provided in the above "Recover	ater from the Main Installation was discharged to the san y Well Operational Notes" section The tracking of each mpiled to estimate each well's performance using recorde
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Total June 2004 Effluent Discharge Fi June 2004 Maximum Discharge Fi June 2004 Maximum Discharge I June 2004 Minimum Discharge F In addition to the 2,312,994 gallo sewer system during the month o Explanations for deviations from Explanations for deviations from tecovery well's operation was cor flow rates, totalized discharged vo <u>Yrell LD</u> , RW-1 RW-1 RW-1 RW-1 RW-1 RW-2 RW-3 RW-3 RW-6 RW-6 RW-6 RW-9 System Effluent Samples Collection	n arter <u>Volume:</u> arter <u>Volume:</u> pow Rate Plow Rate Plow Rate iow Rate iow Rate iow Rate plower to destracted groundwater for the second secon	2,323,161 Gall 53,54 68.4 GPM 0.0 GPM r, a total of 10,170 gallons of well development w ion run times are provided in the above "Recovery k to the telemetry operation. Recordings were congrouped by the following recovery well operational Average Flow Rate (GPM) 0.9 1.4 1.8 0.2 3.1 2.8 9.3 1.4 1.8 0.2 3.1 2.8 9.3 1.4 1.8 0.2 3.1 2.8 9.1 1.4 1.8 0.2 3.1 2.8 9.1 1.4 1.8 0.2 3.1 2.8 9.1 1.3 The most recent system effluent sample 's summary of the previously collected effluatathed with the updated data. The previously collected attached with the updated data. The great attached with the updated data. Cumulative amounts refluate analytical data. Cumulative amounts refluent sample 's system starup.	ens June 1 through June 30, 2004 ater from the Main Installation was discharged to the sam y Well Operational Notes" section. The tracking of each mpiled to estimate each well's performance using recorder run time percentages. <u>Total Flow (Callons) - Based on Average Flow</u> <u>During Operational Period</u> 34,016 162,720 60,912 79,056 9,279 35,560 122,400 401,184 353,520 384,192 566,352 was collected on May 24, 2004. A uent samples prepared by Jacobs is minary data has been included in the sa y flow rates and the most recent lect contaminant removal since sinual XCs

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 Ope	ration - July 2004		
Duration of System Operation:		i-Jul-04 31-Jul-04	
Data Collection Activities. Site visits were performed on July of the repair items noted below, th			id to make repairs on July 20-21 and July 28. With the exception
System Operational Notes,			
RW-7 was not operational on July	12, 2004, the pump wa	s damaged and was removed on July 20 A new	v pump was ordered on the July 21 and replaced on July 28
Recovery Well Operational Note	5		
General Summary:			
		romp failure. The well was not in operation du well was noted as going down on July 4, 2014	ring the site visit on July 12, 2004 For the purposes of flow
Alarm Summary: The following low-flow alarm con	ditions were noted: RV	V-4, on July 12th	
<u>Maintenance Summary:</u> 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 v sample for VOCs only	reck of August 2 to allo	w for relocation of the effluent line due to the i	Hays Road construction. Collect a quarterly discharge effluent
		flowing conversations with the data logger ven of the phone connections at the site	dor, an evaluation of the quality of the phone connection is required
Total June 2004 Effluent Discha	rge Vølume:	2,546,352	Gallens July I through July 31, 2004
July 2004 Average Discharge Flox July 2004 Maximum Discharge Fl July 2004 Minimum Discharge Fic	ow Rate (GPN1)	5924 682 654	
recovery well's operation was con-	fucted manually as a ch	ration run times are provided in the above "Rec eck to the telemetry operation. Recordings we ling to yield the following recovery well operat	covery Well Operational Notes" section. The tracking of each re compiled to estimate each well's performance using recorded ional run time percentages
Walt I.D.	<u>%Run Time</u>	Ascrape Flow Rain (GPA1)	Total Flow (Gallons) - Based on Average Flow Rate During Operational Period
RW-1 RW-1A	100 100	10 37	44,640 164,736
RW-1B RW-2	100	16	71,424
RW-2	100	1.8	80,352 86,400
RW-4	001	2,8	125,568
RW-5	100	3,3	148,896
RW-6	100	12 5	557,568
RW+7 RW-8	22 100	1,9 14.0	84,096 623,376
RW-9	200	14.0	657,504
System Effluent Samples Collect	<u>ed</u>	The most recent system effluent sar next sample is due to be collected in	nple was collected on May 24, 2004 The August, 2004
<u>Contaminant Mass Removal.</u>			n daily flow rates and the most recent ts reflect contaminant removal since minal
		July: 2 64 lbs TCE; 6.60 lbs Tota	I VOCs
		Cumulative: 216.5 lbs TCE, 550.1	5 lbs Total VOCs
Total System Effluent through 3	<u>1 July 2004</u>	184,584,807	Gations

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

Duration of System Operation:]-Aug-()4	
		31-Aug-04	
relocation of the effluent line due perform a detailed system evaluat transducers, flow control valves, f of the above mentioned tasks. A s	to the Hays Road construc- ion to further define the op low meters, flow indicator	ction. The August 17-18 visit was performed to i perating parameters of the electronic component	August 2 - 5 visit included a system shut-down to allow repair the pump in RW-4. The August 20 - 25 site visit to s. The system equipment inspection included, pressure system was observed to be operating normally upon comp August 27, 2004.
<u>System Operational Notes:</u> RW-4 was not operational on Aug	pust 13, 2004, the pump dr	op pipe was noted to be damaged and was repai	red on August 17-18. RW-6 was not operational on Augus
		repaired on August 23-24. Recovery wells RW s of the repairs are provided below	/-I, RW-IA, RW-IB, RW-2 and RW-4 were shutdown for
Recovery Well Operational Not	2		
General Summary:			
24th of August 2004 due to corror	sion of the pump drop pipe		pipe fitting, RW-6 experienced down-time from the 21st to be system inspection included manually adjusted flow rates
Alarm Summary: Alow-flow alarm condition was n	ofed at RW-4 on August	2, 2004	
Maintenance Summary: Recovery Wells #4 and #6 were	diagnosed with damaged	pamp drop pipes - The drop pipes were repaired	on August 18 and August 24, 2004, respectively
Upcoming Activities for Septem	ber		
General system observation visits	and replacement of the da	ssicant packs in the pressure transducers.	
<u>Total August 2004 Effluent Disc</u>	harge Volume.	2,469,038 Ga	illons August I through August 31, 2004
August 2004 Average Discharge 1 August 2004 Average Discharge 1 August 2004 Maximum Discharg August 2004 Minimum Discharge	Flow Rate (GPM) e Flow Rate (GPM)	2,469,038 G: 57 37 77 5 0	llons August I through August 31, 2004
August 2004 Average Discharge J August 2004 Maximum Discharg August 2004 Mmimum Discharge Explanations for deviations from	Flow Rate (GPM) e Flow Rate (GPM) = Flow Rate (GPM) 100% recovery well opera	57 37 77 5 0 tion run times are provided in the above "Recov	ery Well Operational Notes" section. The tracking of each
August 2004 Average Discharge 1 August 2004 Maximum Discharg August 2004 Mmimum Discharge Explanations for deviations from recovery well's operation was con	Flow Rate (GPM) e Flow Rate (GPM) e Flow Rate (GPM) 100% recovery well opera ducted manually as a chec	57 37 77 5 0 tion run times are provided in the above "Recov	ery Well Operational Notes" section. The tracking of each compiled to estimate each well's performance using records
August 2004 Average Discharge 1 August 2004 Maximum Discharg August 2004 Mmimum Discharge Explanations for deviations from recovery well's operation was con	Flow Rate (GPM) e Flow Rate (GPM) e Flow Rate (GPM) 100% recovery well opera ducted manually as a chec	57 37 77 5 0 tion run times are provided in the above "Recov k to the telemetry operation. Recordings were a	ery Well Operational Noies" section. The tracking of each compiled to estimate each well's performance using recorde al run time percentages
August 2004 Average Discharge 1 August 2004 Maximum Discharge August 2004 Mimmum Discharge Explanations for deviations from recovery well's operation was con flow rates, totalized discharged vo	Flow Rate (GPM) e Flow Rate (GPM) e Flow Rate (GPM) 100% recovery well opera ducted manually as a chec shurne and low level cyclir <u>%Run Time</u> 84	57.37 77.5 0 tion run times are provided in the above "Recov is to the telemetry operation. Recordings were o ig to yield the following recovery well operation <u>Average Flow Rate (GPNI)</u> 1 0	ery Well Operational Notes" section. The tracking of each compiled to estimate each well's performance using records al run time percentages <u>Total Flow (Gallons) - Based on Average Flow</u> <u>During Operational Peciod</u> -46,468
August 2004 Average Discharge 1 August 2004 Maximum Discharg August 2004 Minimum Discharg Explanations for deviations from recovery well's operation was con flow rates, totalized discharged vo <u>Well LD.</u> RW-1 RW-1 RW-1B	Flow Rate (GPM) e Flow Rate (GPM) e Flow Rate (GPM) 100% recovery well opera ducted manually as a chec olume and low level cyclir <u>%Run Time</u> 84 84 84	57.37 77.5 0 tton run times are provided in the above "Recov k to the telemetry operation. Recordings were o g to yield the following recovery well operation <u>Average Flow Rate (GPNI)</u> 1.0 3.5 1.5	ery Well Operational Notes" section. The tracking of each compiled to estimate each well's performance using records al run time percentages <u>Total Flow (Gallons) - Based on Average Flow</u> <u>During Operational Period</u>
August 2004 Average Discharge 1 August 2004 Maximum Discharg August 2004 Minimum Discharg Explanations for deviations from recovery well's operation was con flow rates, totalized discharged vo <u>Weth LD</u> , RW-1 RW-1A RW-1B RW-1B RW-2	Flow Rate (GPM) c Flow Rate (GPM) Flow Rate (GPM) 100% recovery well opera ducted manually as a chec olume and low level cyclin <u>%Run Time</u> 84 84 84 84	57.37 77.5 0 tion run times are provided in the above "Recov ik to the telemetry operation. Recordings were is go to yield the following recovery well operation <u>Average Flow Rate (GPM)</u> 1 U 3.5 1 5 3.3	ery Well Operational Notes" section. The tracking of each compiled to estimate each well's performance using records al run time percentages <u>Total Flow (Callons) - Based on Average Flow</u> <u>During Operational Peciod</u> -36, 368 154,860 65, 621 149 328
August 2004 Average Discharge 1 August 2004 Maximum Discharg August 2004 Mmimum Discharg Explanations for deviations from recovery well's operation was con flow rates, totalized discharged ve <u>Well LD</u> , RW-1 RW-1A RW-1B RW-2 RW-3	Flow Rate (GPM) c Flow Rate (GPM) Flow Rate (GPM) 100% recovery well opera iducted manually as a chec ohume and low level cyclin <u>%Rum Time</u> 84 84 84 84 84 90	57.37 77.5 0 tion run times are provided in the above "Recov is to the telemetry operation. Recordings were is go yield the following recovery well operation <u>Average Flow Rate (GPRI)</u> 10 3.5 1.5 1.5 3.3 2.3	ery Well Operational Notes" section. The tracking of each compiled to estimate each well's performance using records all run time percentages <u>Total Flow (Gallons) - Based on Average Flow</u> <u>During Operational Period</u> 46, 468 154,800 65 621 149 328 101,808
August 2004 Average Discharge 1 August 2004 Maximum Discharg August 2004 Minimum Discharg Explanations for deviations from recovery well's operation was con flow rates, totalized discharged ve <u>WetH LD.</u> RW-1 RW-1A RW-1B RW-1B RW-2 RW-3 RW-3	Flow Rate (GPM) c Flow Rate (GPM) : Flow Rate (GPM) 100% recovery well opera- iducted manually as a chec- olume and low level cyclin <u>%Run Time</u> <u>84</u> 84 84 84 90 60	57.37 77.5 0 tion run times are provided in the above "Recov is to the telemetry operation. Recordings were in ug to yield the following recovery well operation <u>Average Flow Rate (GPM)</u> 10 3.5 1.5 3.3 2.3 1.5	ery Well Operational Notes" section. The tracking of each compiled to estimate each well's performance using recorde al run time percentages <u>Total Flow (Gallons) - Based on Average Flow</u> <u>During Operational Period</u> 46, 368 154, 800 65, 621 149–328 101,808 67,882
August 2004 Average Discharge 1 August 2004 Maximum Discharg August 2004 Mmimum Discharg Explanations for deviations from recovery well's operation was con flow rates, totalized discharged ve <u>Well LD</u> , RW-1 RW-1A RW-1B RW-2 RW-3	Flow Rate (GPM) c Flow Rate (GPM) Flow Rate (GPM) 100% recovery well opera iducted manually as a chec ohume and low level cyclin <u>%Rum Time</u> 84 84 84 84 84 90	57.37 77.5 0 tion run times are provided in the above "Recov is to the telemetry operation. Recordings were is go yield the following recovery well operation <u>Average Flow Rate (GPRI)</u> 10 3.5 1.5 1.5 3.3 2.3	ery Well Operational Notes" section. The tracking of each compiled to estimate each well's performance using records al run time percentages <u>Total Flow (Gallons) - Based en Average Flow</u> <u>During Operational Period</u> -16,368 154,800 65,621 149 328 101,808 67,882 219,744
August 2004 Average Discharge 1 August 2004 Maximum Discharg August 2004 Minimum Discharg Explanations for deviations from recovery well's operation was con flow rates, totalized discharged vo <u>WetH LD</u> , RW-1 RW-1A RW-1A RW-1A RW-1A RW-2 RW-2 RW-3 RW-4 RW-5	Flow Rate (GPM) e Flow Rate (GPM) e Flow Rate (GPM) flow Rate (GPM) flow Rate (GPM) flow Rate (GPM) recovery well opera ducted manually as a chec blume and low level cyclin <u>%Run Time</u> 84 84 84 84 84 84 84 90 60 90	57.37 77.5 0 tton run times are provided in the above "Recov is to the telemetry operation. Recordings were of g to yield the following recovery well operation <u>Average Flow Rate (GPNI)</u> 1.0 3.5 1.5 1.5 1.5 4.9	ery Well Operational Notes" section. The tracking of each compiled to estimate each well's performance using records all run time percentages <u>Total Flow (Gallons) - Based on Average Flow</u> <u>Buring Operational Period</u> 46, 368 154,800 65,621 149,328 101,808 67,882 219,744 415,584
August 2004 Average Discharge 1 August 2004 Maximum Discharg August 2004 Minimum Discharg Explanations for deviations from recovery well's operation was con flow rates, totalized discharged vo <u>Well I.D.</u> RW-1 RW-1 RW-1 RW-2 RW-3 RW-4 RW-5 RW-6	Flow Rate (GPA1) c Flow Rate (GPA1) Flow Rate (GPA1) Flow Rate (GPA1) 100% recovery well opera- advected manually as a chec- blume and low level cyclin %Run Time 84 84 84 84 84 90 60 90 79	57.37 77.5 0 tion run times are provided in the above "Recov ik to the telemetry operation. Recordings were i ug to yield the following recovery well operation <u>Average Flow Rate (GPM)</u> 10 3.5 1.5 1.5 1.5 1.5 4.9 9.3	ery Well Operational Notes" section. The tracking of each compiled to estimate each well's performance using records al run time percentages <u>Total Flow (Gallons) - Based en Average Flow</u> <u>During Operational Period</u> -16,368 154,800 65,621 149 328 101,808 67,882 219,744
August 2004 Average Discharge 1 August 2004 Maximum Discharg August 2004 Minimum Discharg Explanations for deviations from recovery well's operation was con flow rates, totalized discharged vo <u>Well LD,</u> RW-1 RW-1A RW-1B RW-2 RW-3 RW-4 RW-5 RW-6 RW-7	Flow Rate (GPM) e Flow Rate (GPM) e Flow Rate (GPM) flow Rate (GPM) flow Rate (GPM) flow Rate (GPM) recovery well operator ducted manually as a check oburne and low level cyclin <u>%Run Time</u> 84 84 84 84 84 84 84 84 84 90 60 90 90	57.37 77.5 0 tton run times are provided in the above "Recov ik to the telemetry operation. Recordings were of g to yield the following recovery well operation <u>Average Flow Rate (GPNI)</u> 10 3.5 1.5 1.5 2.3 1.5 4.9 9.3 4.8	ery Well Operational Notes" section. The tracking of each compiled to estimate each well's performance using recorde al run time percentages <u>Total Flow (Gallons) - Based en Averane Flow</u> <u>Buring Operational Period</u> 46, 168 154, 800 65, 621 149–128 101, 808 67, 882 219, 744 415, 584 212, 544
August 2004 Average Discharge 1 August 2004 Maximum Discharg August 2004 Minimum Discharg Explanations for deviations from recovery well's operation was con flow rates, totalized discharged vo <u>WetH LD</u> RW-1 RW-1 RW-1 RW-1 RW-1 RW-2 RW-3 RW-3 RW-5 RW-5 RW-7 RW-8	Flow Rate (GPM) c Flow Rate (GPM) Flow Rate (GPM) 100% recovery well opera ducted manually as a chec ohume and low level cyclin %Run Time 84 84 84 84 90 60 90 90 90	57.37 77.5 0 tton run times are provided in the above "Recov is to the telemetry operation. Recordings were of ig to yield the following recovery well operation <u>Average Flow. Rate (GPN1)</u> 10 3.5 1.5 4.9 9.3 4.8 12.9	ery Well Operational Notes" section. The tracking of each compiled to estimate each well's performance using records al run time percentages Total Flow (Gallons) - Based en Average Flow During Operational Period 46,368 154,800 65,621 149,328 101,808 67,882 219,744 415,584 212,544 575,136 552,096 e was collected on August 27, 2004
August 2004 Average Discharge 1 August 2004 Maximum Discharg August 2004 Minimum Discharg Explanations for deviations from recovery well's operation was con flow rates, totalized discharged vo <u>Well I.D.</u> RW-1 RW-1 RW-1 RW-1 RW-1 RW-3 RW-3 RW-4 RW-5 RW-6 RW-7 RW-8 RW-9	Flow Rate (GPM) c Flow Rate (GPM) Flow Rate (GPM) 100% recovery well opera ducted manually as a chec ohume and low level cyclin %Run Time 84 84 84 84 90 60 90 90 90	57.37 77.5 0 tton run times are provided in the above "Recov is to the telemetry operation. Recordings were of g to yield the following recovery well operation <u>Average Flow Rate (GPNI)</u> 10 3.5 1.5 3.3 2.3 1.5 4.9 9.3 4.8 12.9 12.4 The most recent system effluent sampl The next sample is due to be collected Mass removal is calculated based on d	ery Well Operational Notes" section. The tracking of each compiled to estimate each well's performance using records all run time percentages <u>Total Flow (Callons) - Based on Average Flow</u> <u>During Operational Peciod</u> 46,368 154,800 65,621 149 328 101,808 67,882 219,744 415,584 212,544 212,544 575,136 552,096 e was collected on August 27, 2004 in November, 2004
August 2004 Average Discharge 1 August 2004 Maximum Discharg August 2004 Minimum Discharg Explanations for deviations from recovery well's operation was con flow rates, totalized discharged vo <u>WetH LD.</u> RW-1 RW-1B RW-2 RW-3 RW-4 RW-4 RW-4 RW-5 RW-6 RW-6 RW-9 System Effluent Samples Collect	Flow Rate (GPM) c Flow Rate (GPM) Flow Rate (GPM) 100% recovery well opera ducted manually as a chec ohume and low level cyclin %Run Time 84 84 84 84 90 60 90 90 90	57.37 77.5 0 tton run times are provided in the above "Recover k to the telemetry operation. Recordings were of g to yield the following recovery well operation <u>Average Flow Rate (GPM)</u> 10 3.5 1.5 4.9 9.3 4.8 12.9 12.4 The most recent system effluent sampl The next sample is due to be collected Mass removal is calculated based on d analytical data. Cumulative amounts of	ery Well Operational Notes" section. The tracking of each compled to estimate each well's performance using records all run time percentages Total Flow (Callons) - Based on Average Flow During Operational Peciod 46, 468 154,800 65,621 149,328 101,808 67,882 219,744 415,584 212,544 212,544 575,136 552,096 e was collected on August 27, 2004 in November, 2004 aily flow rates and the most recent effect contaminant removal since initial INOC5

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

Groundwater Recovery System Opt	ration -September 2004	1	
Duration of System Operation:		1-Sep-04 30-Sep-04	
	ce activilies were perform	ned on September 23 With the exception of	were performed on September 9 while both general system the repair items noted below, the system was observed to be
		· · · · · - · · · · ·	
Recovery Well Operational Note	3		
General Summary:			
Maintenance activities associated	with the system inspectio	n included replacement of the pressure transi	lucer desiccant packs for each recovery well
<u>Alarm Summary:</u> A low-flow alarm condition was n	oted at RW-1A on Septe	mber 9 and 23, 2004	
Maintenance Summary: The pressure transducer desiccant	packs were replaced at ea	ach recovery well during the September	
Upcoming Activities for October	<u>.</u>		
Perform the bi-monthly system ob	servation visits and colle-	et the groundwater samples using passive dif	ในรงon bag samplers
Total September 2004 Effluent J	Discharge Volume:	3,177,360	Gallons September 1 through September 30, 2004
September 2004 Average Dischar September 2004 Maximum Discha September 2004 Minimum Discha	arge Flow Rate (GPM)	76 1 76.4 75 1	
recovery well's operation was con-	ducted manually as a che	ation run times are provided in the above "Re ck to the telemetry operation - Recordings we ng to yield the following recovery well opera	covery Well Operational Notes" section – The tracking of each re compiled to estimate each well's performance using recorded tomal run time percentages
Well t.D.	%Run Time		Total Flow (Gallons) - Based on Average Flow Rute
RW-1	100	Average Flow Rate (GPM) 17	During Operational Period 73,440
RW-1A	100	6.4	276,480
RW-IB RW-2	100 100	22	95,040
RW-3	100	17	73,440 224,640
R W-4	100	2.5	108 000
RW-5	100	11.8	509,760
RW-6	100	12 1	521,568
RW-7	100	43	185,760
RW-8 RW-9	100 100	14 4 13 8	621,504
KH-7	100	15 a	595 872
System Effluent Samples Collect	ted:	The must recent custom affluent co	nple was collected on August 27-2004
STATE MARKIN SEMPLES VICE	<u></u>	The next sample is due to be collec	
<u>Contaminunt Mass Removal;</u>		analytical data Cumulative amoun system startup	n daily flow rates and the most recent is reflect contaminant removal since initial
		September: 4.11 lbs TCE; 10.791	
		Cumulative: 223.3 lbs TCE, 567.	77 lbs Total V OCs
Total System Effluent through 3	1 August 2004	190,431,221	Gailons

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

Foundwater Recovery System Ope	ration -October 2004	<u> </u>		
- ·····				
Duration of System Operation.		1-Oct-04 31-Oct-04		
Data Collection Activities: Site visits were performed on Octo monitoring wells for the semi-annu system was observed to be operation	ial sampling event on Oct-	General system observations were performed on ober 4 and 5 and were retrieved on October 20 and	October 4th 21, 2004	and the 20th. Passive diffusive bag were placed in the With the exception of the repair items noted below, the
System Operational Notes:				
No down time was observed for th	e recovery wells during O	ctober 2004,		
Recovery Well Operational Note	5			
General Summary:				
The recovery wells were observed	to be operating normally	during the site visits.		
Alarm Summary: A low-flow alarm condition was n	oted at RW-1A on Octob	er 4 and 20, 2004		
Maintenance Summary: Maintenance activities during this	reporting period included	the observation visits		
Upcoming Activities				
Perform the bi-monthly system ob- elevations in the vicinity of the zer	servation visits and collect to valent iron injection are	t the November quarterly effluent sample. Reloca a	ie transduce	rs from select monitoring wells for monitoring of groundwate
		······		
Total October 2004 Effluent Dis	charge Volume.	3,344,232	Gallons	October 1, 2004 through October 31, 2004
October 2004 Average Discharge		74.8		
October 2004 Maximum Discharg October 2004 Minimum Dischargi		76.4 71.6		
		000 gallons of purge water was discharged to the ton run times are provided in the above "Recovery		ctober 2004 ational Notes" section. The tracking of each recovery well's
operation was conducted manually	as a check to the telemeter	ry operation. Recordings were compiled to estima y well operational run time percentages	le each well	's performance using recorded flow rates, totalized discharge
Well LD.	%Run Time			Total Flon (Gallons) - Based on Average Flon Rate
RW-I	100	Average Flow Rate (CPM) 1-3		During Operational Period 58.464
RW-1A RW-1B	100 100	53		236,736
RW-2	100	2.0 1.8		91,008 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		193,192
RW-8 RW-9	100	14 3		638,352 653,328
	100			0.1.20
System Effluent Samples Collect	<u>ed</u> :	The most recent system effluent sample v sample is due to be collected in Novembe		a on August 27, 2004 The next
<u>Containinant Mass Removal:</u>		Mass removal is calculated based on daily data. Cumulative amounts reflect contain		
		October: 4.18 lbs TCE; 10.97 lbs Total	VOCs	
		Cumulative: 227.5 lbs TCE; 578.7 lbs 1		i
Total System Effluent through 3	1 October 2004	190,434,221	Gallons	

Prepared by: JMD 13-10-2004 Checked by EAT 13-10-2004 November 2004 Monthly Discharge Report Groundwater Recovery System Dunn Field, Memphis Depot, Tennessee MACTEC Project No. 6301-03-0015

· · · · · · · · · · · · · · · · · · ·			
Puration of System Operation:		1-Nov-04 30-Nov-04	
nta Collection Activities:			
ste visits were performed on Nover he system was observed to be opera	nber 7 and 30, 2004. Generating normally. The quarter	al system observations were performed on November 7th an iy effluent sample was collected on November 30, 2004 and	d the 30th. With the exception of the repair items noted beto was analyzed for VOCs, SVOCs, and metals.
ystem Operational Notes;			
ecovery Well RW-2 was observed peration.	to be inactive from Novem	ber 7, 2004 to the present. Recovery well RW-5 exhibited m	ore cycling than observed during the previous months of
·			
Recovery Well Operational Notes			
ieneral Summary:			
ecovery Well RW-2 was observed	to be inactive during each s	ite visit in November 2004 The motor protection switch in	RW-2 requires replacement and has been ordered
larm Summary; Now-flow alarm condition was not	ied at RW-1A on Novembe	r 7 and 30, 2004 and at RW-2 on November 7, 2004	
Isintenance Summary: Jaintenance activities during this re	porting period included the	observation visits and the diagnosis of the motor protection :	switch being faulty in RW-2.
Jpcoming Activities			
erform the bi-monthly system obse	rvation visits and replace th	e motor protection switch for Recovery Well RW-2	
otal November 2004 Effluent Di	scharge Volume:	2,726,776 Gallo	ns November 1, 2004 through November 30, 2004
lovember 2004 Average Discharge	Flow Pate (CDM)	63.0	
lovember 2004 Average Discharge		63.0 76.4	
ovember 2004 Minimum Discharg		597	
xplanations for deviations from 10 peration was conducted manually a	0% recovery well operation is a check to the telemetry of	0 gallens of purge water was discharged to the POTW in No- run turnes are provided in the above "Recovery Well Operati peration. Recordings were compiled to estimate each well's ell operational run turne percentages.	ional Notes" section. The tracking of each recovery well's
xplanations for deviations from 10 peration was conducted manually a olume and low level cycling to yie	0% recovery well operation is a check to the telemetry o ld the following recovery w	run turnes are provided in the above "Recovery Well Operation peration. Recordings were compiled to estimate each well's	ional Notes" section. The tracking of each recovery well's performance using recorded flow rates, totalized discharged
xplanations for deviations from 10 peration was conducted manually a olume and low level cycling to yie <u>Well 1,D.</u>	0% recovery well operation is a check to the telemetry of ld the following recovery w <u>%Run.Time</u>	run turnes are provided in the above "Recovery Well Operation peration. Recordings were compiled to estimate each well's	ional Notes" section. The tracking of each recovery well's performance using recorded flow rates, totalized discharged
xplanations for deviations from 10 peration was conducted manually i olume and low level cycling to yie <u>Well I.P.</u> RW-1	10% recovery well operation as a check to the telemetry of ld the following recovery w <u>%Run.Time</u> 100	run times are provided in the above "Recovery Well Operati peration. Recordings were compiled to estimate each well's ell operational run time percentages. <u>Average Flow Rate (GPM)</u> 1.4	ional Notes" section. The tracking of each recovery well's performance using recorded flow rates, totalized discharged <u>Total Flow (Gallons) - Based on Average Flow F</u> <u>During Operational Period</u> 60,480
xplanations for deviations from 10 peration was conducted manually a olume and low level cycling to yie <u>Well I.D.</u> RW-1 RW-1A	60% recovery well operation as a check to the telemetry o ld the following recovery w <u>%Run Time</u> 100 100	run times are provided in the above "Recovery Well Operati peration. Recordings were compiled to estimate each well's ell operational run time percentages. <u>Average Flow Rate (GPM)</u> 1.4 3.6	ional Notes" section. The tracking of each recovery well's performance using recorded flow rates, totalized discharged <u>Total Flow (Gallons) - Based on Average Flow F</u> <u>During Operational Period</u> 60,480 155,520
xplanations for deviations from 10 peration was conducted manually i olume and low level cycling to yie <u>Well I.P.</u> RW-1	10% recovery well operation as a check to the telemetry of ld the following recovery w <u>%Run.Time</u> 100	run times are provided in the above "Recovery Well Operati peration. Recordings were compiled to estimate each well's ell operational run time percentages. <u>Average Flow Rate (GPM)</u> 1.4	ional Notes" section. The tracking of each recovery well's performance using recorded flow rates, totalized discharged <u>Total Flow (Gallons) - Based on Average Flow F</u> <u>During Operational Period</u> 60,480 155,520 77 760
xplanations for deviations from 10 peration was conducted manually a olume and low level cycling to yie <u>Well I,D,</u> RW-1 RW-1A RW-1B	01% recovery well operation as a check to the telemetry of Id the following recovery w %Run.Time 100 100 100	nun turnes are provided in the above "Recovery Well Operati peration. Recordings were compiled to estimate each well's ell operational run time percentages. <u>Average Flow Rate (GPM)</u> 1.4 3.6 1.8	ional Notes" section. The tracking of each recovery well's performance using recorded flow rates, totalized discharger <u>Total Flow (Gallons) - Based on Average Flow F</u> <u>During Operational Period</u> 60,480 155,520 77 760 12,960
xplanations for deviations from 10 peration was conducted manually i olume and low level cycling to yie <u>Well L.P.</u> RW-1 RW-1A RW-1B RW-2	01% recovery well operation as a check to the telemetry of Id the following recovery w <u>%Run.Time</u> 100 100 100 20	run times are provided in the above "Recovery Well Operati peration. Recordings were compiled to estimate each well's ell operational run time percentages. <u>Average Flow Rate (CPM)</u> 1.4 3.6 1.8 0.3	ional Notes" section. The tracking of each recovery well's performance using recorded flow rates, totalized discharged <u>Total Flow (Gallons) - Based on Average Flow F</u> <u>During Operational Period</u> 60,480 155,520 77 760
xplanations for deviations from 10 peration was conducted manually a olume and low level cycling to yie <u>Well I, D.</u> RW-1 RW-1B RW-1B RW-18 RW-2 RW-3	00% recovery well operation is a check to the telemetry of Id the following recovery w 2%Run.Time 100 100 100 20 100 100	run times are provided in the above "Recovery Well Operati peration. Recordings were compiled to estimate each well's ell operational run time percentages. <u>Average Flow Rate (GPM)</u> 1.4 3.6 1.8 0.3 5.1	ional Notes" section. The tracking of each recovery well's performance using recorded flow rates, totalized discharged <u>Total Flow (Gallons) - Based on Average Flow F</u> <u>During Operational Period</u> 60,480 155,520 77 760 12,960 220,320
xplanations for deviations from 10 peration was conducted manually a olume and low level cycling to yie Well I.D. RW-1 RW-1A RW-1B RW-2 RW-3 RW-3 RW-4 RW-5 RW-6	00% recovery well operation is a check to the telemetry of Id the following recovery w %Run Time 100 100 100 100 100 100 100 10	num times are provided in the above "Recovery Well Operati peration. Recordings were compiled to estimate each well's ell operational run time percentages. <u>Average Flow Rate (GPM)</u> 1.4 3.6 1.8 0.3 5.1 2.5	ional Notes" section. The tracking of each recovery well's performance using recorded flow rates, totalized discharged <u>Total Flow (Gallons) - Based on Averace Flow B</u> <u>During Operational Period</u> 60,480 155,520 77 760 12,960 220,320 108,000
xplanations for deviations from 10 peration was conducted manually a olume and low level cycling to yie <u>Well LD,</u> RW-1 RW-1A RW-1B RW-2 RW-3 RW-4 RW-5	01% recovery well operation as a check to the telemetry of Id the following recovery w %Run.Time 100 100 100 20 20 100 100 100	nun turnes are provided in the above "Recovery Well Operati peration. Recordings were compiled to estimate each well's ell operational nun time percentages. <u>Average Flow Rate (GPM)</u> 1.4 3.6 1.8 0.3 5.1 2.5 2.5	ional Notes" section. The tracking of each recovery well's performance using recorded flow rates, totalized discharged <u>Total Flow (Gallons) - Based on Average Flow F</u> <u>During Operational Period</u> 60,480 155,520 77 760 12,960 220,320 108,000
xplanations for deviations from 10 peration was conducted manually a olume and low level cycling to yie Well I.D. RW-1 RW-1A RW-1B RW-2 RW-3 RW-3 RW-4 RW-5 RW-6	00% recovery well operation is a check to the telemetry of Id the following recovery w 2%Run.Time 100 100 100 20 100 100 100 100	run times are provided in the above "Recovery Well Operati peration. Recordings were compiled to estimate each well's ell operational run time percentages. <u>Average Flow Rate (GPM)</u> 1.4 3.6 1.8 0.3 5.1 2.5 2.5 1.8	ional Notes" section. The tracking of each recovery well's performance using recorded flow rates, totalized discharged <u>Total Flow (Gallons) - Based on Average Flow F</u> <u>During Operational Period</u> 60,480 155,520 77 760 12,960 220,320 108,000 108,000 509,760
xplanations for deviations from 10 peration was conducted manually a olume and low level cycling to yie Well I,D, RW-1 RW-1B RW-1B RW-1B RW-2 RW-3 RW-4 RW-4 RW-6 RW-6 RW-7	00% recovery well operation is a check to the telemetry of Id the following recovery w %Run.Time 100 100 100 100 100 100 100 10	In minines are provided in the above "Recovery Well Operation peration. Recordings were compiled to estimate each well's ell operational run time percentages. <u>Average Flow Rate (GPM)</u> 1.4 3.6 1.8 0.3 5.1 2.5 2.5 1.8 4.3	ional Notes" section. The tracking of each recovery well's performance using recorded flow rates, totalized discharged <u>Total Flow (Gallons) - Based on Average Flow B</u> <u>During Operational Period</u> 60,480 155,520 77 760 155,960 220,320 108,000 108,000 509,760 185,760
xplanations for deviations from 10 peration was conducted manually a olume and low level cycling to yie RW-1 RW-1 RW-1A RW-18 RW-18 RW-18 RW-18 RW-18 RW-18 RW-18 RW-19 RW-2 RW-3 RW-3 RW-4 RW-5 RW-6 RW-7 RW-8 RW-9	00% recovery well operation is a check to the telemetry of Id the following recovery w 2%Run.Time 100 100 20 100 100 100 100 100	inn times are provided in the above "Recovery Well Operati peration. Recordings were compiled to estimate each well's ell operational run time percentages. <u>Average Flow Rate (GPM)</u> 1.4 3.6 1.8 0.3 5.1 2.5 1.8 4.3 14.2 14.4	ional Notes" section. The tracking of each recovery well's performance using recorded flow rates, totalized discharged <u>Total Flow (Gallons) - Based on Average Flow F</u> <u>During Operational Period</u> 60,480 155,520 77 760 12,960 220,320 108,000 108,000 509,760 185,5760 613,440 622,080
xplanations for deviations from 10 peration was conducted manually a olume and low level cycling to yie RW-1 RW-1 RW-1A RW-18 RW-2 RW-3 RW-3 RW-4 RW-5 RW-6 RW-7 RW-8 RW-9	00% recovery well operation is a check to the telemetry of Id the following recovery w 2%Run.Time 100 100 20 100 100 100 100 100	nun tumes are provided in the above "Recovery Well Operati peration. Recordings were compiled to estimate each well's ell operational run time percentages. <u>Average Flow Rate (GPM)</u> 1.4 3.6 1.8 0.3 5.1 2.5 2.5 1.8 4.3 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4	ional Notes" section. The tracking of each recovery well's performance using recorded flow rates, totalized discharged <u>Total Flow (Gallons) - Based on Average Flow B</u> <u>During Operational Period</u> 60,480 155,520 77 760 12,560 220, V20 108,000 108,000 509,760 185,5760 613,440 622,080
aylanations for deviations from 10 peration was conducted manually a olume and low level cycling to yie Well I.P. RW-1 RW-1 RW-1 RW-1 RW-2 RW-3 RW-3 RW-3 RW-4 RW-5 RW-6 RW-5 RW-6 RW-9 System Effluent Samples Collected	00% recovery well operation is a check to the telemetry of Id the following recovery w 2%Run.Time 100 100 20 100 100 100 100 100	inn times are provided in the above "Recovery Well Operati peration. Recordings were compiled to estimate each well's ell operational run time percentages. <u>Average Flow Rate (GPM)</u> 1.4 3.6 1.8 0.3 5.1 2.5 1.8 4.3 14.2 14.4	ional Notes" section. The tracking of each recovery well's performance using recorded flow rates, totalized discharged Total Flow (Gallons) - Based on Average Flow E During Operational Period 60,480 155,520 77,760 12,960 220,320 108,000
xplanations for deviations from 10 peration was conducted manually i olume and low level cycling to yie <u>Weli LD.</u> RW-1 RW-1 RW-1B RW-2 RW-3 RW-4 RW-4 RW-6 RW-7 RW-8	00% recovery well operation is a check to the telemetry of Id the following recovery w 2%Run.Time 100 100 20 100 100 100 100 100	In minnes are provided in the above "Recovery Well Operation peration. Recordings were compiled to estimate each well's ell operational run time percentages. <u>Average Flow Rate (GPM)</u> 1.4 3.6 1.8 0.3 5.1 2.5 2.5 1.8 4.3 14.2 14.4 The most recent system effluent sample was colle Mass removal is calculated based on daily flow ra data Cumulative amounts reflect contaminant en	ional Notes" section. The tracking of each recovery well's performance using recorded flow rates, totalized discharged Total Flow (Gallons) - Based on Average Flow E During Operational Period 60,480 155,520 77,760 12,960 220,320 108,000
aylanations for deviations from 10 peration was conducted manually a olume and low level cycling to yie Well I.P. RW-1 RW-1 RW-1 RW-1 RW-2 RW-3 RW-3 RW-3 RW-4 RW-5 RW-6 RW-5 RW-6 RW-9 System Effluent Samples Collected	00% recovery well operation is a check to the telemetry of Id the following recovery w 2%Run.Time 100 100 20 100 100 100 100 100	In minnes are provided in the above "Recovery Well Operation peration. Recordings were compiled to estimate each well's ell operational run time percentages. <u>Average Flow Rate (GPM)</u> 1.4 3.6 1.8 0.3 5.1 2.5 1.8 4.3 14.2 14.4 The most recent system effluent sample was colle Mass removal is calculated based on daily flow ra	ional Notes" section. The tracking of each recovery well's performance using recorded flow rates, totalized discharged <u>Total Flow (Gallons) - Based on Average Flow F</u> <u>During Operational Period</u> 60,480 155,520 77 760 12,560 220,320 108,000 108,000 509,766 1185,760 613,440 622,080 cted on November 30, 2004

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

ouration of S	ystem Operation:	1-Dec-04 31-Dec-04		
ile visits wer		mber 27 through 29, 2004 General system observations were j be operating normally. The quarterly effluent sample was coll		
ystem Oper.	ational Notes:			
		m the November 2004 O&M to the present recovery Recover frozen and damaged pipes were noted at recovery wells RW-1.		t to be in operation from December 14 to the
ecovery We	II Operational Notes			
frozen and	I RW-2 was observed to be inactive fro cracked pipes the recovery has remained	m the November O&M through the present. The motor protect d off-line until present. The issues with RW-1B will be identifi		lacement on December 27, 2004 however
<u>larm Summ</u> low-flow al		December 14 and 29, 2004 Low-flow alarm conditions were	also reported for RW-3 and	RW-4 on December 14, 2004
faintenance	Summary. activities during this reporting period in neluded repair of piping at wells RW-1.	cluded the observation visits and the replacement of the motor $\mathbb{R}W$ -1A and $\mathbb{R}W$ -4	protection switch and piping	repairs at RW-2. Due to frozen pipes add
W-3, RW-6,	i monthly system observation visits. U	pcoming maintenance includes replacement of sampling ports is on control panels at RW-1A, RW-2, RW-3, RW-5, RW-6, R erved at RW-1B		
otal Decem	ber 2004 Effluent Descharge Volume.	2,551,968	Gallons December 1, 2	004 through December 31, 2004
ecember 20	04 Average Discharge Flow Rate (GPM	57 2		
occember 200 Jecember 200	14 Average Discharge Flow Rate (GPM 14 Maximum Discharge Flow Rate (GP 14 Minimum Discharge Flow Rate (GP) 19 purge water was discharged to the POT	M) 60 t M) 50 4		
ecember 20 ecember 20 <u>fo additional</u> xplanations as conducte	14 Maximum Discharge Flow Rate (GP 14 Minimum Discharge Flow Rate (GP 14 purge water was discharged to the POT for deviations from 100% recovery wel	M) 60 f M) 50 4 W in December 2004 I operation run times are provided in the above "Recover, Well pertation Recordings were compiled to estimate each well's pe		
lecember 200 lecember 200 le additional xplanatrons as conducte rvel eveling	H Maximum Discharge Flow Rate (GP H Minimum Discharge Flow Rate (GP purge water was discharged to the POT for deviations from 100% recovery well dimanually as a check to the telemetry of to yield the following recovery well ope	M) 60 f M) 50 4 W in December 2004 I operation run times are provided in the above "Recover, Well pertation Recordings were compiled to estimate each well's pe	rformance using recorded fi	ow rates, totalized discharged volume and
coember 200 coember 200 conditional xplanations as conducte well eveling Vell I.D.	H Maximum Discharge Flow Rate (GP H Minimum Discharge Flow Rate (GP) purge water was discharged to the POT for deviations from 100% recovery well d manually as a check to the telemetry of to yield the following recovery well ope <u>24Run Time</u>	M) 60 f M) 50 4 W in December 2004 Operation run times are provided in the above "Recovers Well operation Recordings were compiled to estimate each well's per rational run time percentages Average Fluw Rate (GPM)	rformance using recorded fi	ow rates, totalized discharged volume and <u>x (Gallons) - Based on Average Flow Rai</u> During Operational Period
ecomber 200 ecomber 200 xplanatrons as conducte well evolung <u>Vell I.D.</u> W-1	14 Maximum Discharge Flow Rate (GP 14 Minimum Discharge Flow Rate (GP) purge water was discharged to the POT for deviations from 100% recovery well d manually as a check to the telemetry 4 to yield the following recovery well ope <u>24Run Time</u> 97	M) 60 f M) 50 4 W in December 2004 I operation run times are provided in the above "Recover: Well operation Recordings were compiled to estimate each well's per rational run time percentages Average Flow Rate (GPM) 1 9	rformance using recorded fi	ow rates, totalized discharged volume and <u>x(Gallons) - Based on Average Flow Rat</u> <u>Durine Operational Period</u> 82,080
ccember 200 ecember 200 xplanatrons as conducte vel eveling /cl1 I.D. W-1 W-1A	14 Maximum Discharge Flow Rate (GP 14 Minimum Discharge Flow Rate (GP purge water was discharged to the POT for deviations from 100% recovery well d manually as a check to the telemetry of to yield the following recovery well ope <u>24Run Time</u> 97 95	M) 60 f M) 50 4 W in December 2004 Operation run times are provided in the above "Recovers Well operation Recordings were compiled to estimate each well's per rational run time percentages Average Fluw Rate (GPM)	rformance using recorded fi	ow rates, totalized discharged volume and <u>x.(Gallons) - Based on Average Flow Rai</u> <u>During Operational Period</u> 82,080 120,960
ccember 20 ccember 20 ccember 20 cplanatrons as conducte vel cveling <u>cell I.D.</u> W-1 W-1 A W-1 B	14 Maximum Discharge Flow Rate (GP 14 Minimum Discharge Flow Rate (GP) purge water was discharged to the POT for deviations from 100% recovery well d manually as a check to the telemetry 4 to yield the following recovery well ope <u>24Run Time</u> 97	M) 60 1 M) 50 4 W in December 2004 operation run times are provided in the above "Recovery Well pertation Recordings were compiled to estimate each well's per rational run time percentages <u>Average Flow, Rate (GPM)</u> 19 28	rformance using recorded fi	ow rates, totalized discharged volume and <u>x(Gallons) - Based on Average Flow Ra</u> <u>Durine Operational Period</u> 82,080
ccember 200 ccember 200 splanations as conducte vel eveling <u>/cli I.D.</u> W-1 W-1A W-1A W-1A W-2	14 Maximum Discharge Flow Rate (GP 14 Minimum Discharge Flow Rate (GP) purge water was discharged to the POT for deviations from 100% recovery well d manually as a check to the telemetry of to yield the following recovery well ope <u>V&Run Time</u> 97 95 42	M) 60 f M) 50 4 W in December 2004 l'operation run times are provided in the above "Recovers Well operation Recordings were compiled to estimate each well's per rational run time percentages <u>Averane Elow Rate (GPM)</u> 1 9 2 8 0 7	rformance using recorded fi	ow rates, totalized discharged volume and <u>y.(Gatlons) - Based on Average Flow Ra</u> <u>During Operational Period</u> 82,080 120,960 30,240
o <u>ndditional</u> coember 200 coember 200 xplanatrons as conducte vel eveling Vell 4.D. W-1 W-1 B W-1 B W-2 W-3 W-4	14 Maximum Discharge Flow Rate (GP 14 Minimum Discharge Flow Rate (GP) purge water was discharged to the POT for deviations from 100% recovery well d manually as a check to the telemetry 4 to yield the following recovery well ope 2/Run Time 97 95 42 10	M) 60 f M) 50 4 W in December 2004 I operation run times are provided in the above "Recover: Well operation Recordings were compiled to estimate each well's per rational run time percentages Average Flow Rate (GPM) 1 9 2 8 0 7 0 0	rformance using recorded fi	ow rates, totalized discharged volume and <u>x (Gallons) - Based on Average Flow Ra</u> <u>During Operational Period</u> 82,080 120,960 30,240 0
ccember 200 ccember 200 splanations as conducte vel eveling W-1A W-1A W-1A W-2 W-3 W-3 W-4 W-3	14 Maximum Discharge Flow Rate (GP 14 Minimum Discharge Flow Rate (GP purge water was discharged to the POT for deviations from 100% recovery well d manually as a check to the telemetry of to yield the following recovery well ope 24Run Time 97 95 42 100	M) 60 1 M) 50 4 W in December 2004 operation run times are provided in the above 'Recovery Well peration Recordings were compiled to estimate each well's per rational run time percentages Average Eluw Rate (GPM) 19 28 07 10 51	rformance using recorded fi	ow rates, totalized discharged volume and <u>x.(Gailons) - Based on Average Flow Ra</u> <u>During Operational Period</u> 82,080 120,960 30,240 0 220,320
ecember 200 coember 200 splanatrons as conducte vel eveling /cli LD. W-1 W-1 W-1 W-1 W-1 W-1 W-3 W-3 W-3 W-5 W-6	H Maximum Discharge Flow Rate (GP) Minimum Discharge Flow Rate (GP) purge water was discharged to the POT for deviations from 100% recovery well manually as a check to the telemetry of manually as a check to the telemetry of to yield the following recovery well ope	M) 60 1 M) 50 4 W in December 2004 loperation run times are provided in the above "Recovers Well operation Recordings were compiled to estimate each well's per rational run time percentages Average Fluw Rate (GPM) 19 28 07 00 51 23	rformance using recorded fi	ow rates, totalized discharged volume and <u>v.(Gatlons) - Based on Average Flow Ra</u> <u>Durine Operational Period</u> 82,080 120,960 30,240 0 220,320 99,360
ccember 200 ccember 200 ecember 200 splanatrons as conducte vel eveling V-14 W-1A W-1A W-1A W-1A W-1A W-13 W-4 W-3 W-4 W-5 W-7	14 Maximum Discharge Flow Rate (GP) 14 Minimum Discharge Flow Rate (GP) 14 Minimum Discharge Flow Rate (GP) 16 of deviations from 100% recovery well 16 annually as a check to the telemetry 4 16 annually as a check to the telemetry 4 17 18 10 10 10 10 10 10 10 10 10 10 10 10 10	M) 60 f M) 50 4 W in December 2004 I operation run times are provided in the above "Recovery Well operation Recordings were compiled to estimate each well's per rational run time percentages Average Flux Rate (GPM) 1 9 2 8 0 7 0 0 5 1 2 3 3 2	rformance using recorded fi	ow rates, totalized discharged volume and <u>x (Gallons) - Based on Average Flow Ra</u> <u>During Operational Period</u> 82,080 120,960 30,240 0 220,320 99,360 138,240
ecember 200 ecember 200 explanations as conducte vel eveling W-1 W-1A W-1B W-2 W-3 W-4 W-4 W-5 W-6 W-7 W-7	¹⁴ Maximum Discharge Flow Rate (GP) ¹⁴ Minimum Discharge Flow Rate (GP) purge water was discharged to the POT for deviations from 100% recovery well d manually as a check to the telemetry of to yield the following recovery well ope <u>24Run Time</u> 97 95 42 0 100 100 100 100 100 100 100	M) 60 f M) 50 4 W in December 2004 I operation run times are provided in the above "Recovers Well operation Recordings were compiled to estimate each well's per rational run time percentages Averance Eluw, Rate (GPM) 1 9 2 8 0 7 0 0 5 1 2 3 3 2 11 9 4 2 14 3	rformance using recorded fi	ow rates, totalized discharged volume and <u>x(Gallons) - Based on Average Flow Ra</u> <u>Durine Operational Period</u> 82,080 120,960 30,240 0 220,320 99,360 138,240 514,080
ecember 200 ecember 200 splanations as conducte vel evel evel W-1 W-1 W-1 W-1 W-1 W-2 W-3 W-4 W-5 W-4 W-5 W-7 W-8	Maximum Discharge Flow Rate (GP) Minimum Discharge Flow Rate (GP) purge water was discharged to the POI for deviations from 100% recovery well anaually as a check to the telemetry of to yield the following recovery well ope 2%Run Time 97 95 42 0 100 97 100 100	M) 60 1 M) 60 1 M) 50 4 W in December 2004 loperation run times are provided in the above "Recovers Well operation Recordings were compiled to estimate each well's per rational run time percentages Average Eliuw Rate (GPM) 19 28 07 10 51 23 32 11 9 42	rformance using recorded fi	ow rates, totalized discharged volume and <u>v.(Gatlons) - Based on Average Flow Rai</u> <u>Durine Operational Period</u> 82,080 120,960 30,240 0 220,320 99,360 138,240 514,080 181,440
lo additional ecember 200 ecember 200 applanations as conducte evel eveling W-14 W-14 W-14 W-14 W-14 W-14 W-14 W-14	¹⁴ Maximum Discharge Flow Rate (GP) ¹⁴ Minimum Discharge Flow Rate (GP) purge water was discharged to the POT for deviations from 100% recovery well d manually as a check to the telemetry of to yield the following recovery well ope <u>24Run Time</u> 97 95 42 0 100 100 100 100 100 100 100	M) 60 1 M) 60 1 M) 50 4 W in December 2004 operation run times are provided in the above "Recovery Well operation Recordings were compiled to estimate each well's per rational run time percentages Average Elux Rate (GPM) 1 9 2 8 0 7 0 0 5 1 2 3 3 2 11 9 4 2 14 3 10 6 The most recent system effluent sample we effluent sample reported a concentration or detection was determined to contain a "B" laboratory defines a "B" qualification as a associated method blank contains the tag concentration was compared to the listian meth-lene chloride of 20 ppb outlined in Permit This concentration of methylene	as collected on November 3 formance using recorded fi <u>Totel Floy</u> as collected on November 3 f methylene chloride at 12 qualification from the labo method blank contaminatu et analyte at a reportable leb ancous (one day) maximum the City of Memphis Waste chlorid does not exceed bu	ow rates, totalized discharged volume and <u>v.(Gallons) - Based on Average Flow Rai</u> <u>Durine Operational Period</u> 82,080 120,960 30,240 0 220,320 99,360 138,240 514,080 181,440 617,760 457,920 0,2004 The spb, however this ratory The n, where the el The level for vater Discharge
o additional ecember 200 conditional explanations as conducte exel excling W-14 W-18 W-14 W-18 W-14 W-18 W-14 W-18 W-14 W-18 W-14 W-18 W-14 W-18 W-14 W-18 W-14 W-18 W-14 W-18 W-19 W-19 W-19 W-19 W-19 W-19 W-19 W-19	Maximum Discharge Flow Rate (GP) Minimum Discharge Flow Rate (GP) purge water was discharged to the POI for deviations from 100% recovery well anaually as a check to the telemetry of to yield the following recovery well ope <mark>24Run Time 97 95 42 0 100 97 100 10</mark>	M) 60 1 M) 60 1 M) 50 4 W in December 2004 toperation run times are provided in the above "Recovers Well peration Recordings were compiled to estimate each well's perational run time percentages: Averance Fluw Rate (GPM) 19 28 07 00 51 23 32 119 42 143 106 The most recent system effluent sample w effluent sample reported a concentration of detection was determined to contain a "B" taboratory defines a "B" qualification as a associated method blank contains the tagg concentration was determined to contain as the taboratory defines a "B" qualification as a associated method blank contains the tagg concentration was determined to contain the linstan methy-lene chloride of 20 ppb, outlined in Permit This concentration of methy-lene the City of Memphrs/Wastiwater Discharg Mass removal is calculated based on dath	as collected on November 3 formance using recorded fi <u>Total Flor</u> as collected on November 3 f methylene chloride at 12 qualification from the labo qualification from the labo method blank contaminator et analyte at a reportuble lev ancous (on day) maximum the City of Memphis Waste chloride does not exceed the Permat flow rates and the most rec	w rates, totalized discharged volume and <u>Durine Operational Period</u> 82,080 120,960 30,240 0 220,320 99,360 138,240 514,080 181,440 617,760 457,920 0,2004 The pb, however this ratory The n, where the el The level for water Discharge lumit defined in cnt analytical
lo additional Aplanations as conducte evel eveling W-14 W-14 W-14 W-14 W-14 W-14 W-14 W-14	Maximum Discharge Flow Rate (GP) Minimum Discharge Flow Rate (GP) purge water was discharged to the POI for deviations from 100% recovery well anaually as a check to the telemetry of to yield the following recovery well ope <mark>24Run Time 97 95 42 0 100 97 100 10</mark>	M) 60 1 M) 60 1 M) 50 4 W in December 2004 operation run times are provided in the above "Recovers Well operation Recordings were compiled to estimate each well's per- rational run time percentages Average Fluw Rate (GPM) 1 9 2 8 0 7 0 0 5 1 2 3 3 2 11 9 4 2 14 3 10 6 The most recent system effluent sample w effluent sample reported a concentration of detection was determined to contain a "B" laboratory defines a "B" qualification as a associated method blank contains the sa associated method blank contains the sa methylene chloride of 20 ppb outlined in Permit Tais concentration of methylene the City of Memphys Wastwater Discharg	as collected on November 7 formance using recorded f <u>Total Floy</u> of methylene chloride at 12 qualification from the labo method blank contaminatue et analvie at a reportuble fev ancous (one day) maximum the Citv of Memphis Waste chloride does not exceed the e Permat flow rates and the most rec mant removal since initial s	w rates, totalized discharged volume and <u>Durine Operational Period</u> 82,080 120,960 30,240 0 220,320 99,360 138,240 514,080 181,440 617,760 457,920 0,2004 The pb, however this ratory The n, where the el The level for water Discharge lumit defined in cnt analytical

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

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June 2005 Revision 1.0

APPENDIX C

RESULTS OF LABORATORY ANALYSIS

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Annual Operations Report – 2004 Dunn Field Groundwater IRA – Year Six MACTEC Project No. 6301-03-0015

June 2005 Revision 1.0

APPENDIX C – 1

MONITORING WELLS

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	600-MW	MW-029	MW-029	MW-029	MW-030
	Sample ID Date Collected	MW07 69.56-71.56 10/20/2004 13 50	MW08 64.2-66.2 10/20/2004 14:10	MW09 78-79 10/20/2004 14:25	MW29 41.6-43.6 10/20/2004 14:40	MW29 46.1-48.1 10/20/2004 14:45	MW29 50.6-52.6 10/20/2004 14:50	MW30 49-51 10/20/2004 15:30
į	Depth	69.5-71.56	64.2 66.2	78-79	41.643.6	46.1 48.1	50.6 52.6	49-51
LABNAME	RESUNIT							
1,1,1-Trichloroethane	J/au	0.72 J	<1 U	<1 U	28	2.3	2.9	
1,1,2,2-Tetrachlorocthane	μg/L	<1.4 U	U</td <td><10</td> <td><1 U</td> <td><1.7 U</td> <td><1 U</td> <td><1 U</td>	<10	<1 U	<1.7 U	<1 U	<1 U
I, I, 2-Tnchloroethane	µg/L	<1.4 U	< I U	<1 U	<1 U	<1.7 U	<1 U	
I, I - Dichloroethane	J/gu	0.87 J	<1 U	<1 U	11	0.94 J	1.1	<1 U
I, I-Dichloroethene	μ <u>g</u> /L	17	1.1	<1 U	22	18	22	<1 U
1,2-Dichloroethane	J'gu	<14 U	<1 U	<1 U	<1 U	<1.7 U	<1 U	<1 U
1,2-Dichloropropane	η _β η	<14 U	<1 U	<1 U	U</td <td><1.7 U</td> <td><1 U</td> <td><1 U</td>	<1.7 U	<1 U	<1 U
2-Butanone (MEK)	μg/L	<72U	<5 U	<5 U	<5 U	<8.4 U	<5 U	<5 U
2-Hexanone	hg/L	<7.2 U	<5 U	<5 U	<\$U	<8.4 U	<5 U	<5 U
4-Methyl-2-pentanone (MIBK)	J/gu	<7.2 U	<5 U	<5 U	<5 U	<8.4 U	<5 U	<5 U
Acetone	μg/L	3.6 B	14B	34B	14B	3 B	2.6 B	<5J
Benzene	μg/L	<1.4 U	<1 U	<1 U	<!-- U</li-->	<1.7 U	<1 U	<1 U
Bromodichloromethane	μg/L	4 U</td <td><!-- U</td--><td><!-- U</td--><td><1 U</td><td><1.7 U</td><td><1 U</td><td><1 U</td></td></td>	U</td <td><!-- U</td--><td><1 U</td><td><1.7 U</td><td><1 U</td><td><1 U</td></td>	U</td <td><1 U</td> <td><1.7 U</td> <td><1 U</td> <td><1 U</td>	<1 U	<1.7 U	<1 U	<1 U
Broinoform	hg/L	< 4 U	<1 U	<1 U	<1 U	<1.7 U	<1 U	U</td
Bromomethane	hg/L	<1.4 U	<1 U	<1 U	<1 U	<1.7 U	<1 U	<1 U
Carbon disulfide	hg/L	<1.4 J]</td <td>∐></td> <td><!--]</td--><td><!--</td--><td>ſ₽</td><td><!--]</td--></td></td></td>	∐>]</td <td><!--</td--><td>ſ₽</td><td><!--]</td--></td></td>	</td <td>ſ₽</td> <td><!--]</td--></td>	ſ₽]</td
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
Chlorodibromomethane	μg/L							
Chloroethane	μg/L	<1.4 U		<1 U	≤IU	<1.7 U	1 L	<1 U
Chloroform	μg/L	0.44 J	<1 U	<1 U	U</td <td><1.7 U</td> <td><1 U</td> <td></td>	<1.7 U	<1 U	
Chloromethane	μg/L	<1.4 U	<1 U	<1 U	1 U	<1.7 U	U</td <td><1 U</td>	<1 U
cis-1,2-Dichloroethene	μg/L	<1.4 U		0.76 J	0.41 J	<1.7 U	0.36 J	U</td
cis-1,3-Dichloropropene	ηgμ	<1.4 U		U</td <td><1 U</td> <td><1.7 U</td> <td><1 U</td> <td><1 U</td>	<1 U	<1.7 U	<1 U	<1 U
Dibromochloromethane	л/дн	<1.4 U	<1 U	I U	<1 U	<1.7 U	<1 U	U</td
Ethylbenzene	hg/L	<1.4 U	<1 U	<1 U	<1 U	<1.7 U	<1 U	U</td
Methyl tert-butyl ether (MTBE)	μg/L	<72U	<5 U	<5 U	<5 U	<8.4 U	<5 U	<5 U
Methylene chloride	μg/L	<1,4 U	<1 U	U</td <td>≤IU</td> <td><1.7 U</td> <td><1 U</td> <td></td>	≤IU	<1.7 U	<1 U	
m-Xylene & p-Xylene	hg/L	<29U	<2 U	<2 U	<2 U	<3.3 U	<2 U	<2 U
o-Xylene	цg/L	<1.4 U	<1 U	<1 U	U</td <td><1.7 U</td> <td><1 U</td> <td><1 U</td>	<1.7 U	<1 U	<1 U
Styrene	μg/L	<1.4 U	<1 U	<1 U	U</td <td><17U</td> <td><1 U</td> <td></td>	<17U	<1 U	
Tetrachloroethene	μg/L	18	1.4	<1 U	23	20	21	
Toluene	μg/L	<1.4 U	<1 U	0.22 J	<1 U	<1.7 U	<1 U	
trans-1,2-Dichloroethene	μg/L	<1.4 U	<1 U	<1 U	U</th <th><1.7 U</th> <th><1 U</th> <th></th>	<1.7 U	<1 U	
trans-1,3-Dichloropropene	ηgμ	<1.4 U	<1 U	1 U	<1 U	<1.7 U	<1 U	< I U
Trichloroethene	η/βη	14	1.3	0.59 J	29	24	30	<1 U
Vinyl acetate	η <i>g</i> μ	⊲2.9 U	4 U	⊲2 U	⊲ U	<3.3 U	<2 U	2 U
Vinyl chloride	µg/L	<1,4 U	<1 U	< I U	<1 U	<1.7 U	1 U	<1 U

[+]	3	
TABLI	~	

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	0£0-WM	MW-031	MW-031	MW-032	MW-033	MW-034
	Sample ID Date Collected	MW30 53-55 10/20/2004 15 35	MW30 57-59 10/20/2004 15 40	MW31 72.5-74.5 10/20/2004 16:00	MW31 77.5-79.5 10/20/2004 16:05	MW32 65 9-66.9 10/20/2004 16:10	MW33 59.33-61.33 10/20/2004 16:25	MW34 142.3-144.3 10/20/2004 16:50
	Depth		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	J/gu	<1 U	<1 U	<1 U	< <u> </u> >	[]>	[>	[]>
1,1,2,2-Tetrachloroethane	hg/L	<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	<10	U</td <td><1 U</td>	<1 U
1,1-Dichloroethane	µg/L	<1 U	<1 U	U</td <td>0.26 J</td> <td><1 U</td> <td><1 U</td> <td><1 U</td>	0.26 J	<1 U	<1 U	<1 U
1,1-Dichloroethene	μg/L	∩ I>		12	17	<1 U	<1 Ŭ	<1 U
1,2-Dichloroethane	µg/L	<1 U	<1 U	≤IU	<1 U	<1 U	<1 U	<1 U
1,2-Dichloropropane	hg/L	<1 U	<1 U	<i td="" u<=""><td><1 U</td><td><1 U</td><td><1 U</td><td><1 U</td></i>	<1 U	<1 U	<1 U	<1 U
2-Butanone (MEK)	µg/L	<5 U	<5 U	<5 U	<5.1	<51	< 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	<\$ J	<\$]	<5J	<51
Acetone	J/gu	1.6 B	<5 J	2.4 B	2.6 B	1.6 B	3.1 B	2.4 B
Benzene	Д/ан	<1 U	<1 U	<1 U	<1 U	U</td <td><1 U</td> <td><!-- U</td--></td>	<1 U	U</td
Bromodichloromethane	L'gu	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Вготоботт	hg/L	<1 U	<1 U	<1 U	<15	J</td <td><!--]</td--><td>(></td></td>]</td <td>(></td>	(>
Bromomethane	hg/L	U</td <td><1 U</td> <td><1 U</td> <td><1 U</td> <td><1 U</td> <td><1 U</td> <td><1 U</td>	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Carbon disulfide	J'gu	<15	<15	[>	I U	<1 U	<1 U	<1 U
Carbon tetrachloride	µg/L	<1 U	<1 U	<1 U	<15	2.3 J	<1J	0.62 J
Chlorobenzene	J'gu	<1 U	<1 U	<1 U	<1 U	<1 U	U</td <td><1 U</td>	<1 U
Chlorodibromomethane	J'gu							
Chloroethane	hg/L	U</td <td><1 U</td> <td><1 U</td> <td><!-- U</td--><td><1 U</td><td><1 U</td><td>1 U</td></td>	<1 U	<1 U	U</td <td><1 U</td> <td><1 U</td> <td>1 U</td>	<1 U	<1 U	1 U
Chloroform	hg/L	<1 U		1 U	U</td <td>17</td> <td><1 U</td> <td>3.8</td>	17	<1 U	3.8
Chloromethane	hg/L	<1 U	<1 U	<1 U	U</td <td><1 U</td> <td><1 U</td> <td><1 U</td>	<1 U	<1 U	<1 U
cis-1,2-Dichloroethene	μg/L	<!-- U</li-->	<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 >	[I>]	(>
Dibromochloromethane	hg/L	<1 U		<1 U	<1 U	<1 U	<1 U	1 U
Ethylbenzene	hg/L		<1 Ū	<1 U	<1 U	<1 U	<1 U	<1 U
Methyl tert-butyl ether (MTBE)	μg/L	<5 U		<5 U	5.]	<5J		<5 J
Methylene chloride	J/gµ	U</td <td></td> <td><1 U</td> <td>I U</td> <td><1 U</td> <td><!-- U</td--><td><!-- U</td--></td></td>		<1 U	I U	<1 U	U</td <td><!-- U</td--></td>	U</td
m-Xylene & p-Xylene	hg/L	⊲ U	<2 U	<2 U	<2 U	<2 U		42 U
o-Xylene	hg/L	<1 U	<1 U	<1 U	1 U	<1 U	U</td <td>U I></td>	U I>
Styrene	hg/L	<1 U	<1 U	<1 U	U</td <td><1 U</td> <td><1 U</td> <td><l li="" u<=""></l></td>	<1 U	<1 U	<l li="" u<=""></l>
Tetrachloroethene	hg/L	<1 U		0.31 J	0.42 J	<1 U	<1 U	<1 U
Toluene	μg/L	U</td <td><!-- U</td--><td><!-- U</td--><td><!-- U</td--><td><1 U</td><td><1 U</td><td><1 U</td></td></td></td>	U</td <td><!-- U</td--><td><!-- U</td--><td><1 U</td><td><1 U</td><td><1 U</td></td></td>	U</td <td><!-- U</td--><td><1 U</td><td><1 U</td><td><1 U</td></td>	U</td <td><1 U</td> <td><1 U</td> <td><1 U</td>	<1 U	<1 U	<1 U
trans-1,2-Dichloroethene	μg/L	U</td <td><1 U</td> <td><1 U</td> <td>031J</td> <td>0.23 J</td> <td><1 U</td> <td><!-- U</td--></td>	<1 U	<1 U	031J	0.23 J	<1 U	U</td
trans-1,3-Dichloropropene	J/Brl	<1 U			<l r<="" td=""><td><1 R</td><td></td><td><1 R</td></l>	<1 R		<1 R
Trichloroethene	hg/L	<1 U			4.7	7.3		0 98 J
Vinyl acetate	η/gμ	2 U	<2 U		⊲2 R	⊲ R		
Vinyl chloride	hg/L	<1 U	<1 U	<1 U	<1 ∪	U</td <td><1 U</td> <td>1 U</td>	<1 U	1 U

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

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Ref <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <th< td=""><td>LABNAME</td><td>RESUNIT</td><td></td><td></td><td></td><td></td><td></td><td></td></th<>	LABNAME	RESUNIT						
RM	1, 1, 1-Trichloroethane	hg/L		<pre>(1></pre>				
RK < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 10 <td>1,1,2,2-Tetrachloroethane</td> <td>μg/L</td> <td><!-- U</td--><td>I U</td><td><1 U</td><td></td><td></td><td></td></td>	1,1,2,2-Tetrachloroethane	μg/L	U</td <td>I U</td> <td><1 U</td> <td></td> <td></td> <td></td>	I U	<1 U			
Matrix $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ $< < 10$ <th< td=""><td>1,1,2-Trichloroethane</td><td>J/Bri</td><td><!-- U</td--><td>I U</td><td><1 U</td><td><1 U</td><td></td><td></td></td></th<>	1,1,2-Trichloroethane	J/Bri	U</td <td>I U</td> <td><1 U</td> <td><1 U</td> <td></td> <td></td>	I U	<1 U	<1 U		
BX μ_{BL}^{-1} <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10	1,1-Dichloroethane	J/gu	<1 U	1 U	<1 U	<1 U	U</td <td><1 U</td>	<1 U
BX q_{10}	1,1-Dichloroethene	μg/L	<1 U	U</td <td><1 U</td> <td><!-- U</td--><td><!-- U</td--><td><1 U</td></td></td>	<1 U	U</td <td><!-- U</td--><td><1 U</td></td>	U</td <td><1 U</td>	<1 U
RX q_{10} ≤ 10 $= 10$ $= 10$ </td <td>1,2-Dichloroethane</td> <td><u>л'я</u>ц</td> <td><!-- U</td--><td><!-- U</td--><td><1 U</td><td><1 U</td><td><1 U</td><td><1 U</td></td></td>	1,2-Dichloroethane	<u>л'я</u> ц	U</td <td><!-- U</td--><td><1 U</td><td><1 U</td><td><1 U</td><td><1 U</td></td>	U</td <td><1 U</td> <td><1 U</td> <td><1 U</td> <td><1 U</td>	<1 U	<1 U	<1 U	<1 U
HX	1,2-Dichloropropane	це/Г		<1 U	<1 U	U</td <td><1 U</td> <td><1 U</td>	<1 U	<1 U
BX μ_{BL} $\leq R$ <t< td=""><td>2-Butanone (MEK)</td><td>μg/L</td><td><\$ J</td><td><5]</td><td><5J</td><td><\$J</td><td><51</td><td><5J</td></t<>	2-Butanone (MEK)	μg/L	<\$ J	< 5]	<5J	<\$J	<51	<5J
RX μ_{RL}^{-1} ≤ 1 ≤ 1 ≤ 1 ≤ 1 ≤ 3 $= 3$	2-Hexanone	μg/L	<5 R	<5 R	<5 R	<5 R	<5 R	<5 R
$\mu_{0}^{(1)}$ $2.8B$ $16B$ ≤ 1 $= 1$	4-Methyl-2-pentanone (MIBK)	hg/L	<5 J	<5 J	<51	<5]	<51	<\$J
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Acetone	hg/L	2.8 B	16B	<5J	<\$]	077B	1.2 B
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Benzene	Π/Bμ	1 U	U</td <td>≤IU</td> <td><1 U</td> <td><1 U</td> <td>1 €</td>	≤IU	<1 U	<1 U	1 €
High < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 <th< td=""><td>Bromodichloromethane</td><td>J/gu</td><td><!-- U</td--><td><1 U</td><td><1 U</td><td><1 U</td><td>1 U</td><td><1 U</td></td></th<>	Bromodichloromethane	J/gu	U</td <td><1 U</td> <td><1 U</td> <td><1 U</td> <td>1 U</td> <td><1 U</td>	<1 U	<1 U	<1 U	1 U	<1 U
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Bromoform	μg/L	< 1)		ſ I>	<15	<1J	<15
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Bromomethane	hg/L	<1 U	<1 U	<1 U	<1 U	<1 U	I U
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Carbon disulfide	hg/L	<1 U	<1 U	<1 U	<1 U		I U
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Carbon tetrachloride	hg/L	0.64 J	0.35 J	<1)]</td <td><1 J</td> <td></td>	<1 J	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Chlorobenzene	hg/L	U</td <td><1 U</td> <td></td> <td><1 U</td> <td></td> <td>∩ I></td>	<1 U		<1 U		∩ I>
High $< 1U$	Chlorodibromomethane	ηg/L						
High 24 1.7 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <th< th=""> <10 <10</th<>	Chloroethane	μg/L	<1 U	<1 U	√ 1 U	<1 U		
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Chloroform	hg/L	24	1.7	⊲IU	<1U	U</td <td></td>	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Chloromethane	hg/L	U</td <td><1 U</td> <td><1 U</td> <td><1 U</td> <td><i td="" u<=""><td></td></i></td>	<1 U	<1 U	<1 U	<i td="" u<=""><td></td></i>	
Hgl. <1	cis-1,2-Dichloroethene	Л/ди	<1 U	U</td <td><1 U</td> <td><1 U</td> <td></td> <td><1 U</td>	<1 U	<1 U		<1 U
Hgl. <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 </td <td>cis-1,3-Dichloropropene</td> <td>۲/Bnl</td> <td>(l></td> <td>(l></td> <td><ا J</td> <td><15</td> <td><1 J</td> <td></td>	cis-1,3-Dichloropropene	۲/Bnl	(l>	(l>	<ا J	<15	<1 J	
Hgf. <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <th< td=""><td>Dibromochloromethane</td><td>ηgμ</td><td><!-- U</td--><td><!-- U</td--><td>1 U</td><td><1 U</td><td><!-- U</td--><td>I U</td></td></td></td></th<>	Dibromochloromethane	ηgμ	U</td <td><!-- U</td--><td>1 U</td><td><1 U</td><td><!-- U</td--><td>I U</td></td></td>	U</td <td>1 U</td> <td><1 U</td> <td><!-- U</td--><td>I U</td></td>	1 U	<1 U	U</td <td>I U</td>	I U
IBD $\mu g (L < 5.1)$ < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 < 5.1 </td <td>Ethylbenzene</td> <td>hg/L</td> <td><1 U</td> <td><1 U</td> <td><!-- U</td--><td><1 U</td><td><!-- U</td--><td>⊲IU</td></td></td>	Ethylbenzene	hg/L	<1 U	<1 U	U</td <td><1 U</td> <td><!-- U</td--><td>⊲IU</td></td>	<1 U	U</td <td>⊲IU</td>	⊲IU
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Methyl tert-butyl ether (MTBE)	η/gμ	<5.1	<5]	<5.1	< 5 J	<5J	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Methylene chloride	hg/L	<1 U		<1 U	<1 U	<1 U	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	ın-Xylene & p-Xylene	J/an	42 U	~2 U	<2 U	<2 U	-2 U	<2 U
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	o-Xylene	hg/L	<1 U	<1 U	<1 U	<1 U	<1 U	
µg/L <1U	Styrene	μg/L	<1 U	<1 U		<1 U	<1 U	
Hg/L <1U	Tetrachloroethene	hg/L	<1 U	<1 U		<10		
µg/L <1U <1U <1U <1U <1U µg/L <1R <1R <1R <1R <1R µg/L 0831 0.54J <1U <1U <1U µg/L <2R <2R <2R <2R <2R µg/L <1U <1U <1U <1U <1U µg/L <1U <1U <1U <1U <1U	Toluene	hg/L	<1 U	٩U		<10		
ug/L <1 R <1 R <1 R <1 R <1 R µg/L 0.83 J 0.54 J <1 U	trans-1,2-Dichloroethene	hg/L	<1 U	<1 U				U</td
μg/L 083J 0.54J <1U <1	trans-1,3-Dichloropropene	д/gн	<1 R	R</td <td></td> <td></td> <td></td> <td></td>				
μg/L <2R <2R <2R <2R <2R <2R <2R ≤2R ≤2R ≤2R ≤2R ≤2R ≤1U ×3U ≤1U ≤1U ≤1U ≤1U	Trichloroethene	hg/L	0831	0.54 J				
	Vinyl acetate	η/aμ	.⊲.R	2 R				2 R
	Vinyl chloride	hg/L	<1 U	<1 U	<1 U			<1 U

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

	Sample Site ID	7E0-WM	750-WM	MW-040	MW-040	MW-042	MW-043	MW-043
	Sample ID Date Collected Denth	MW37 175.5-177 5 10/21/2004 10:10 175.5-177.5	MW37 180.5-182.5 10/21/2004 10:15 180.5-182.5	MW40 86.9-88.9 10/21/2004 10.35 86.9-88.9	MW40 91.9-93.9 10/21/2004 10:40 91.9-93.9	MW42 55.8-57.8 10/21/2004 10:50 55.8-57 8	MW43 163-163 10/21/2004 12.05 163-165	M W 43 168-170 10/21/2004 12:10 168-170
LABNAME	RESUNIT							
1,1,1-Trichloroethane	hg/L	<1 J	<]	[>				
1,1,2,2-Tetrachloroethane	μ <u>α</u> /L	<1 U	<1 U	U</td <td><1 U</td> <td><1 U</td> <td>⊲IU</td> <td>1 U</td>	<1 U	<1 U	⊲IU	1 U
1,1,2-Trichloroethane	μg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	
1, 1-Dichloroethane	ug/L	<1 U	<1 U	<1 U	<1 U	<1 U	U</td <td><1 U</td>	<1 U
1,1-Dichloroethene	μg/L	<1 U	<1 U	I U	<1 U	<1 U	<1 U	<1 U
1,2-Dichloroethane	J/gu	<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)	цg/L	<5.1	<u>ا</u> ک	< 5 J	<5J	<5 R	<5 R	<5 R
2-Hexanone	μg/L	<5 R	<5 R	<5 R	<5 R	<5 R	<5 R	≤s R
4-Methyl-2-pentanone (MIBK)	Hg/L	<51	<5J	5 J	<5J	<\$J	<5 J	<5]
Acetone	μg/L	1.3 B	1.9 B	4 I B	3.1 B	7.9 R	1.2 R	26R
Benzene	μg/L	<1 U	<1 U	<1 U	<1 U	< I U	<1 U	I U
Bromodichloromethane	hg/L	<1 U	<1 U	<1 U	U</td <td><1 U</td> <td><10</td> <td><1 U</td>	<1 U	<10	<1 U
Bromoform	hg/L	[>	۹J	(>	ſŀ	J</td <td>IJ</td> <td><1 J</td>	IJ	<1 J
Bromomethane	µg/L	<1 U	<1 U	<1 U	<1 U	≤IU	<1 U	<1 U
Carbon disulfide	µg/L	<1 U	0.94 J	⊲IU	<10	<1 U	<10	I U
Carbon tetrachloride	hg/L	ſŀ>	(∣>	L>]</td <td></td> <td></td> <td></td>			
Chlorobenzene	μg/L	<1 U	<1 U	0.44 J	0 72 J	SIU	<1 U	U</td
Chlorodibromomethane	μg/L							
Chloroethane	hg/L	<1 U	<1U ≤	<1 U	<1 U	<1 U	<10	1 I
Chloroform	μg/L	U</td <td><1 U</td> <td><1 U</td> <td><1 U</td> <td><!-- U</td--><td><10</td><td>1 U</td></td>	<1 U	<1 U	<1 U	U</td <td><10</td> <td>1 U</td>	<10	1 U
Chloromethane	μg/L	<1 U	<10	⊲IU	0 I ≥	<1 U	<1 U	<1 U
cis-1,2-Dichloroethene	J/gu	<1 U	<1 U	≤IU	<1 U	U</td <td>≤IU</td> <td><!-- U</li--></td>	≤IU	<!-- U</li-->
cis-1,3-Dichloropropene	hg/L	f 1>	<15	<15	<1 J	(>	J</td <td><!--]</td--></td>]</td
Dibromochloromethane	hg/L	<1U	I €	<1 U	1 U	0 1 ≥	<1 U	
Ethylbenzene	hg/L	I U	≤IŬ	<1 U	<1 U	<1 U	<1 U	√
Methyl tert-butyl ether (MTBE)	hg/L	<5J	<51	<5.1	<5 J	<5 J	<5J	<\$ J
Methylene chloride	hg/L	I U	U</td <td><1 U</td> <td><1 U</td> <td><1 U</td> <td><1 U</td> <td></td>	<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	< I U	≤IU	U</td <td><1 U</td> <td><1 U</td> <td><1 U</td> <td>⊲ U</td>	<1 U	<1 U	<1 U	⊲ U
Styrene	hg/L	≤IU	U</th <th><1 U</th> <th><1 U</th> <th><1 U</th> <th><1 U</th> <th></th>	<1 U	<1 U	<1 U	<1 U	
Tetrachloroethene	μg/L	I U	U</th <th><1 U</th> <th><1 U</th> <th></th> <th></th> <th><!-- U</li--></th>	<1 U	<1 U			<!-- U</li-->
Toluene	μg/L		U</th <th><1 U</th> <th><1 U</th> <th></th> <th><!-- U</th--><th></th></th>	<1 U	<1 U		U</th <th></th>	
trans-1,2-Dichloroethene	μg/L	<1 U	U</th <th><1 U</th> <th><1 U</th> <th></th> <th></th> <th></th>	<1 U	<1 U			
trans-1,3-Dichloropropene	μg/L	R</th <th><1 R</th> <th><1 R</th> <th><1 R</th> <th></th> <th><1 R</th> <th></th>	<1 R	<1 R	<1 R		<1 R	
Trichloroethene	μg/L	I U	U</td <td><1 U</td> <td></td> <td></td> <td></td> <td></td>	<1 U				
Vinyl acetate	μg/L	<2 R	Ω R	⊲2 R	<2 R	<2 R	⊲2 R	
Vinyl chloride	μg/L	1 U	<1 U	<1 U	<1 U	<1 U	U</td <td><1 U</td>	<1 U

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

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ELD GROUNDWATER IRA - YEAR SIX	efense Deport Memphis, Tennessee

	Sample Site ID	MW-044	MW-044	MW-051	MW-051	MW-054	MW-054	MW-057
	Sample ID Date Collected	MW44 64-66 10/21/2004 12.20	MW44 69-71 10/21/2004 12:25	MW51 58-60 10/21/2004 13:15	MW51 63-65 10/21/2004 13:20	MW54 85.6-87.6 10/21/2004 13:35	MW54 90.6-92.6 10/21/2004 13:40	MW57 66 8-68.8 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	hg/L]</td <td>[]></td> <td><!--]</td--><td>0.23 J</td><td><140 U</td><td><140 U</td><td><1 U</td></td>	[]>]</td <td>0.23 J</td> <td><140 U</td> <td><140 U</td> <td><1 U</td>	0.23 J	<140 U	<140 U	<1 U
1,1,2,2-Tetrachloroethane	hg/L	U</td <td><1 U</td> <td><!-- U</td--><td><!-- U</td--><td>4300</td><td>4700</td><td><1 U</td></td></td>	<1 U	U</td <td><!-- U</td--><td>4300</td><td>4700</td><td><1 U</td></td>	U</td <td>4300</td> <td>4700</td> <td><1 U</td>	4300	4700	<1 U
1,1,2-Trichloroethane	hg/L	<1 U	<1 U	<1 U	<1 U	<140 U	<140 U	<1 U
I, I-Dichloroethane	J'gu	∩ I>	<1 U	<1 U	<1 U	<140 U	<140 U	<1 U
1, I-Dichloroethene	Πg/L	<1 U	<1 U	14	16	<140 U	<140 U	<1 U
1,2-Dichloroethane	J/gu	<1 U	<1 U	<1 U	<1 U	<140 U	<140 U	⊲10
1,2-Dichloropropane	1/8n	<1 U	<1 U	<1 U	U</td <td><140 U</td> <td><140 U</td> <td><1 U</td>	<140 U	<140 U	<1 U
2-Butanone (MEK)	η/gμ	<5 R	<5 R	<5 R	<\$J	f 01/>	<710.1	<\$ J
2-Hexanone	μg/L	<5 R	<5 R	<5 R	<5 U	<710 U	<710 U	<5 U
4-Methyl-2-pentanone (MIBK)	ηgμ	<u>\$</u> ا	<5 J	<\$J	<5 U	<710 U	<710 U	<5 U
Acetone	лg/L	2.2 R	<5 R	1.3 R	4.1 B	<710 U	110 J	2.4 B
Benzene	hg/L	<1 U <1 U	<1 U	<1 U	<1 U	<140 U	<140 U	<1 U
Bromodichloromethane	hg/L	1 U	<1 U	<1 U	<1 U	<140 U	<140 Ŭ	<1 U
Bromoform	hg/L	<1J	f 1>	<15	<1 U	<140 U	<140 U	<1 U
Bromomethane	hg/L	1 U	<1 U	<1 U	<1 U	<140 U	<140 U	<1 U
Carbon disulfide	hg/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	<1J	<1 U	<140 U	<140 U	61
Chlorobenzene .	μg/L	1 U	<1 U	<1 U	<1 U	<140 U	<140 U	<1 U
Chlorodibromomethane	hg/L							
Chloroethane	hg/L	<1 U	<1 U	<1 U	<1 U	<140 U	<140 U	<1 U
Chloroform	hg/L	0.64 J	042J	<1 U	U</td <td><140 U</td> <td><140 U</td> <td>61</td>	<140 U	<140 U	61
Chloromethane	μg/L	<1 U	<1 U	<1 U	<1 U	<140 U	<140 U	<1 U
cis-1,2-Dichloroethene	η/gμ	0.27 J	<1 U	<1 U	<1 U	10 J	61 J	027J
cis-1,3-Dichloropropene	лgи	ſ I>	(I>		<1 U	<140 U	<140 U	<1 U
Dibromochloromethane	η/gμ	I U	<1 U	≤IU	<1 U	<140 U	<140 U	1 U
Ethylbenzene	η/gμ	I U	<1 U	≤IU	<1 U	<140 U	<140 U	1 U
Methyl tert-butyl ether (MTBE)	η/gμ	<5 J	<\$]	<5 J	<5 U	<710 U	<710 U	su
Methylene chloride	hg/L	U</td	<1 U	<1 U	<1 U	54 J	74 J	U</td
m-Xylene & p-Xylene	η/gμ	<2 U	<2 U	<2 U	⊲1U	<290 U	<290 U	⊲2 U
o-Xylene	Л/дн	<1 U	I U	U</td <td>0 I></td> <td><140 U</td> <td><140 U</td> <td><i td="" u<=""></i></td>	0 I>	<140 U	<140 U	<i td="" u<=""></i>
Styrene	hg/L	U</td <td><1 U</td> <td><!-- U</td--><td><!-- U</td--><td><140 U</td><td><140 U</td><td><!-- U</td--></td></td></td>	<1 U	U</td <td><!-- U</td--><td><140 U</td><td><140 U</td><td><!-- U</td--></td></td>	U</td <td><140 U</td> <td><140 U</td> <td><!-- U</td--></td>	<140 U	<140 U	U</td
Tetrachloroethene	μg/L	<1 U	U</td <td>12</td> <td>03J</td> <td><140 U</td> <td><140 U</td> <td>2.7</td>	12	03J	<140 U	<140 U	2.7
Toluene	Л/дц	<!-- U</li-->	<1 U	<1 U	<1 U	<140 U	<140 U	<1 U
trans-1,2-Dichloroethene	hg/L	1 U	<1 U	<1 U	<1 U	<140 U	<140 U	0.58 J
trans-1,3-Dichloropropene	μg/L	R</td <td><l r<="" td=""><td><!-- R</td--><td><1 U</td><td><140 U</td><td><140 U</td><td>1 U</td></td></l></td>	<l r<="" td=""><td><!-- R</td--><td><1 U</td><td><140 U</td><td><140 U</td><td>1 U</td></td></l>	R</td <td><1 U</td> <td><140 U</td> <td><140 U</td> <td>1 U</td>	<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	η/gμ	⊲ R	∆ R	<2 R	<2 U	<290 U	<290 U	<2 U
Vinyl chloride	J/8π	<1 U	10	1 U	<1 U	<140 U	<140 U	I U

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

	Samula Sita ID	MW_067	LAN MW	MW-067	MW-068	MW-068	MW-068	690-WM
	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 Depth	10/21/2004 14:10 261-263	10/21/2004 14:15 266-268	10/21/2004 14:20 271-273	10/21/2004 14:40 70 6-72.6	10/21/2004 14 45 74.6-76.6	10/21/2004 14:50 78.6-80.6	10/21/2004 15.10 86.4-88.4
LABNAME	RESUNIT							
1,1,1-Trichloroethane	hg/L	U</th <th><1 U</th> <th><1 U</th> <th><33 J</th> <th><!-- U</th--><th>< i J</th><th><[]></th></th>	<1 U	<1 U	<33 J	U</th <th>< i J</th> <th><[]></th>	< i J	<[]>
1,1,2,2-Tetrachloroethane	hg/L	<1 U	< U	<1 U	81	U</th <th><1 U</th> <th><!-- U</th--></th>	<1 U	U</th
1,1,2-Trichloroethane	ug/L	<1 U	<1 U	<1 U	<33 U	U</th <th><1 U</th> <th><1 U</th>	<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	J/gu	<1 U	<1 U	<1 U	<33 U	U</th <th><1 U</th> <th><1 U</th>	<1 U	<1 U
1,2-Dichloroethane	hg/L	0.28 J	<1 U	<1 U	<33 U	<1 U	<i th="" u<=""><th><1 ∪</th></i>	<1 ∪
I,2-Dichloropropane	μg/L	<1 U	<1 U	<1 U	<33 U	U</th <th><1 U</th> <th><!-- U</th--></th>	<1 U	U</th
2-Butanone (MEK)	ng/L	<5 J	<\$J	<5J	<170 R	<5J	<5 R	<5 R
2-Hexanone	hg/L	<5 U	<5 U	<5 U	<170 R	<5 U	<5 R	<5 R
4-Methyl-2-pentanone (MIBK)	hg/L	<5 U	<\$ U	<5 U	<170 J	<5 U	¢J	<5 J
Acetone	hg/L	2.1 B	2.2 B	1.6 B	2000 R	2.8 B	0 91 B	0.93 B
Benzene	hg/L	<1 U	<1 U	⊲IU	<33 U	<1 U	<1 U	<1 U
Bromodichloromethane	hg/L	∩ I>	<1 U	1 U	<33 U	∩ t>	<1 U	<1 U
Bromoform	hg/L	0 I>	<1 U	<1 U	<33 J	<1 U	<15]</th
Bromomethane	hg/L		<1 U	<1 U	<33 U		<1 U	<1 U
Carbon disulfide	hg/L		<1 U	U</th <th>661</th> <th><1 U</th> <th>0.28 J</th> <th><1 U</th>	661	<1 U	0.28 J	<1 U
Carbon tetrachlonde	hg/L	<1 U	<1 U	<1 U	<33 J		<1 J	<[]
Chlorobenzene	hg/L	<1 U	<1 U	<1 U	<33 U	<i th="" u<=""><th><1 U</th><th><1 U</th></i>	<1 U	<1 U
Chlorodibromomethane	hg/L							
Chloroethane	μg/L	U</th <th><1 U</th> <th><1 U</th> <th><33 U</th> <th></th> <th><1 U</th> <th><!-- U</th--></th>	<1 U	<1 U	<33 U		<1 U	U</th
Chloroform	hg/L	<1 U	<1 U	<1 U	<33 U		<1 U	0.17 J
Chloromethane	μg/L	<1 U			<33 U		<1 U	<1 U
cis-1,2-Dichloroethene	μg/L	<1 U			<33 U		<1 U	<1 U
cis-1,3-Dichloropropene	Л/Вц	<1 U		⊲IU	<33 J	<1 U	J</th <th>≤1 J</th>	≤1 J
Dibromochloromethane	1/aπ	1 U	<1 U		<33 U		<1 U	<1 U
Ethylbenzene	hg/L	U I>			<33 U	<1 U	<1 U	<1 U
Methyl tert-butyl ether (MTBE)	Л/дц	<\$ U		<5 U	<170 J	<5 U	<5J	<5J
Methylene chloride	J/Brl	<1 U		ΩI⊳	<33 U			<1 U
m-Xylene & p-Xylene	hg/L	4 U		⊲2 U	<67 U	<2 U	4 U	4 U
o-Xylene	hg/L	<1 U		U</th <th><33 U</th> <th><1 U</th> <th><1 U</th> <th><1 U</th>	<33 U	<1 U	<1 U	<1 U
Styrene	hg/L	U</th <th><1 U</th> <th>0 I></th> <th><33 U</th> <th><1 U</th> <th><1 U</th> <th><1 U</th>	<1 U	0 I>	<33 U	<1 U	<1 U	<1 U
Tetrachloroethene	hg/L	<1 U			<33 U	<1 U		1.5
Toluene	μg/L	<1 U			<33 U	<1 U		<1 U
trans-1,2-Dichloroethene	η/gμ	<1 U	<1 U	<1 U	<33 U	⊲IU	<1 U	<1 U
trans-1,3-Dichloropropene	hg/L	<1 U	<1 U	<1 U	<33 R	<1 U	<1 R	<1 R
Trichloroethene	μg/L	<1 U	<1 U		20 J			3.7
Vinyl acetate	µg/L	-2 U	<2 U	<2 U	<67 R			<u></u> З R
Vinyl chloride	μg/L	U</th <th><1 U</th> <th>≤ I U</th> <th><33 U</th> <th>⊲U</th> <th><10</th> <th><!-- U</th--></th>	<1 U	≤ I U	<33 U	⊲U	<10	U</th

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

	Sample Site ID)-MM-(070-WM	MW-070	170-WM	MW-076	MW-076	MW-077
	Sample ID Date Collected	MW69 91 4-93 4 10/21/2004 15:15	MW70 85.8-87.8 10/22/2004 15:25	MW70 90.8-92.8 10/21/2004 15:30	MW71 73.86-75.86 10/21/2004 15:40	MW76 86.3-88 3 10/21/2004 15:50	MW76 91.3-93.3 10/21/2004 15:55	MW77 85.27-87.27 10/21/2004 16.05
	Depth		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							
l, l, l - Trichloroethane	hg/L	[]>	<140 U	<170 J]</td <td>[]></td> <td><1 J</td> <td><250 J</td>	[]>	<1 J	<250 J
1,1,2,2-Tetrachloroethane	μg/L	U</td <td>5800</td> <td>4200</td> <td>9</td> <td>4.3</td> <td>12</td> <td>4700</td>	5800	4200	9	4.3	12	4700
1,1,2-Trichloroethane	μ <u>g</u> /L	<1 U	<140 U	<170 U	<1 U	<1 U	<1 U	<250 U
1,1-Dichloroethane	μg/L	U</td <td><140 U</td> <td><170 U</td> <td><1 U</td> <td><!-- U</td--><td><1 U</td><td><250 U</td></td>	<140 U	<170 U	<1 U	U</td <td><1 U</td> <td><250 U</td>	<1 U	<250 U
1,1-Dichloroethene	μg/L	<1 U	<140 U	<170 U	<1 U	U</td <td><1 U</td> <td><250 U</td>	<1 U	<250 U
1,2-Dichloroethane	μg/L	<1 U	<140 U	<170 U	<1 U	<1 U	<1 U	<250 U
I,2-Dichloropropane	μg/L	<1 U	<140 U	<170 U	<1 U	<1 U	<1 U	<250 U
2-Butanone (MEK)	J/gri	<5 R	<710.J	<830 J	<5 R	< 5 1	5 J	<1200 J
2-Hexanone	μg/L	<5 R	<710 U	<830 R	<5 R	<5 R	<5 R	<1200 R
4-Methyf-2-pentanone (MIBK)	J/BH	<51	<710 U	<830 J	<5J	<5J	<5J	<1200 J
Acetone	μg/L	<5 J	250 J	<830 R	1.5 B	1.6 R	0.96 R	<1200 R
Benzene	hg/L	<1 U <	<140 U	<170 U	<1 U	<1 U	<1 U	<250 U
Bromodichloromethane	J/BH	<1 U	<140 U	<170 U	<1 U	<1 U	<1 U	<250 U
Bromoform	J/gu	<1 >	<140 U	<170 U	(>	U</td <td><1 U</td> <td><250 U</td>	<1 U	<250 U
Bromomethane	μ <u>g</u> /L	<1 U	<140 U	<170 U	<1 U	<1 U	<1 U	<250 U
Carbon disulfide	ц <u>в</u> /L	<1 U	<140 U	<170 U	<1 U	<1 U	<1 U	<250 U
Carbon tetrachloride	J/gu]</td <td><140 U</td> <td><170 J</td> <td>5.6 J</td> <td><!-- --></td> <td><pre>[]></pre></td> <td><250 J</td>	<140 U	<170 J	5.6 J		<pre>[]></pre>	<250 J
Chlorobenzene	μ <u>g</u> /L	U I>	<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	0.16J	0.18 J	<250 U
Chloromethane	μg/L	<1 U	<140 U	<170 U	<10	<1 U	<1 U	<250 U
cis-1,2-Dichloroethene	J/gu	<1 U	41 J	<170 U	0.7.1	0.24 J	0 69 J	64 J
cis-1,3-Dichloropropene	μg/L		<140 U	<170 J]</td <td>(l></td> <td>< }</td> <td><250 J</td>	(l>	< }	<250 J
Dibromochloromethane	hg/L	<1 U	<140 U	<170 U	<1 U	<1 U	<1 U	<250 U
Ethylbenzene	μg/L	<1 U	<140 U	<170 U	U</td <td><1 U</td> <td><1 U</td> <td><250 U</td>	<1 U	<1 U	<250 U
Methyl tert-butyl ether (MTBE)	μg/L	<\$]	<710 U	<830 U	<5J	<5 U	<5 U	<1200 U
Methylene chloride	μg/L	<1 U	56 J	140 J	0.38 B	0.73 B	<1U	220 J
m-Xylene & p-Xylene	hg/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	hg/L	<1 U	<140 U	<170 U	<1 U	<1 U	U</td <td><250 U</td>	<250 U
Tetrachloroethene	hg/L	<1 U	<140 U	<170 U	0.4 J	0.27 J	<1 U	<250 U
Toluene	μg/L	U</td <td><140 U</td> <td><170 U</td> <td><1 U</td> <td><1 U</td> <td><1 U</td> <td><250 U</td>	<140 U	<170 U	<1 U	<1 U	<1 U	<250 U
trans-1,2-Dichloroethene	hg/L	R</td <td><140 U</td> <td><170 U</td> <td><1 U</td> <td><1 U</td> <td>0.24 J</td> <td><250 U</td>	<140 U	<170 U	<1 U	<1 U	0.24 J	<250 U
trans-1,3-Dichloropropene	hg/L	R</td <td><140 U</td> <td><170 R</td> <td><1 R</td> <td><1 R</td> <td><1 R</td> <td><250 R</td>	<140 U	<170 R	<1 R	<1 R	<1 R	<250 R
Trichloroethene	hg/L	U</td <td>2100</td> <td>0011</td> <td>12</td> <td>3.9</td> <td>8.9</td> <td>1700</td>	2100	0011	12	3.9	8.9	1700
Vinyl acetate	μg/L	⊲2 R	<290 U	<330 R	Ω.R	<2 R	⊲2 R	<500 R
Vinyl chloride	µg/L	U</td <td><140 U</td> <td><170 U</td> <td><1 U</td> <td><1 U</td> <td><1 U</td> <td><250 U</td>	<140 U	<170 U	<1 U	<1 U	<1 U	<250 U

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

	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	19-09-000-000	MW79 94-96	101-66 62 MM
	Date Collected Depth	10/21/2004 16:20 51.8-53 8	10/21/2004 16:25 56 8-58.8	10/21/2004 16:30 61.8-63.8	10/22/2004 8.55 84-86	cu:4 4002/22/01	10/22/2004 9:10 94-96	101-202122004 9:12
LABNAME	RESUNIT							
I, I, I - Trichloroethane	hg/L	<1 J	<]	[⊳	0.41 J	0.48 J	0 28 J	<1 U
I, I, 2, 2-Tetrachloroethane	hg/L	<1 U	0.74 J	0.35 J	<1 U	U</th <th><1 U</th> <th><1 U</th>	<1 U	<1 U
1,1,2-Trichloroethane	hg/L		<1 U	<1 U		<1 U	<1 U	<1 U
1, 1-Dichloroethane	hg/L	<1 U	<1 U	<1 U	0.29 J	0.32 J	<1 U	<1 U
1,1-Dichloroethene	hg/L	<1 U	<1 U	<1 U	6.3	6.3	68	7.8
1,2-Dichloroethane	hg/L	U</th <th><1 U</th> <th><1 U</th> <th><1 U</th> <th><1 U</th> <th><!-- U</li--></th> <th><1 U</th>	<1 U	<1 U	<1 U	<1 U	<!-- U</li-->	<1 U
1,2-Dichloropropane	д/д	<1 U	<1 U	<1 U	<1 U	1 U	<1 U	<1 U
2-Butanone (MEK)	J/gu	<5J	<\$J	< 2 J	< 2 J	<5J	<51	<\$J
2-Hexanone	ηgη.	<5 R	<\$ J	<5J	<5 U	<5 U	<5 U	<5 U
4-Methyl-2-pentanone (MIBK)	J/gu	<5J	<\$ J	< S J	<5 U	<5 U	<\$ U	<5 U
Acetone	hg/L		<\$ J	18	2.1 B	2.2 B	2.3 B	19B
Benzene	hg/L	<1 U	<1 U	<1 U	<1 U	1 U	<1 U	
Bromodichloromethane	hg/L	<1 U	<1 U	<1 U	<1 U	≤1 U	<1 U	<1 U
Bromoform	hg/L	<1 U	ſ⊳	<pre>[]></pre>	ſ⊳	<1 U	<1 U	<1 U
Bromomethane	hg/L	<1 U	<1 U	<1 U	U</th <th><1 U</th> <th><1 U</th> <th><1 U</th>	<1 U	<1 U	<1 U
Carbon disulfide	hg/L		⊲U	<1 U	<1 U	<1 U	<1 U	<1 U
Carbon tetrachloride	hg/L	[]>	<pre>[!></pre>	[I>	037J	042J	0 29 J	0.2 J
Chlorobenzene	μg/L	<1 U	⊲IU	<1 U	<1 U	<1 U	<1 U	<i th="" u<=""></i>
Chlorodibromomethane	hg/L							
Chloroethane	hg/L	<1 U	≤IU	<1 U	<1 U	1 L	1 U	<1 U
Chloroform	hg/L	<1 U	≤IU	<1 U	0.26 J	0.29 J	<1 U	<1 U
Chloromethane	hg/L		U</th <th><1 U</th> <th><1 U</th> <th><1 U</th> <th><1 U</th> <th><1 U</th>	<1 U	<1 U	<1 U	<1 U	<1 U
cis-1,2-Dichloroethene	μg/L		<1 U	<1 U	2.6	S	1.7	0.92 J
cis-1,3-Dichloropropene	hg/L	<15	J</th <th><15</th> <th><1 U</th> <th><1 U</th> <th><!-- U</th--><th>1 U</th></th>	<15	<1 U	<1 U	U</th <th>1 U</th>	1 U
Dibromochloromethane	μg/L	<1 U	N⊳	0 I>	<1 U	<1 U	<1 U	<1 U
Ethylbenzene	hg/L	0 I>	I U	<1 U	<1 U	U</th <th><1 U</th> <th><1 U</th>	<1 U	<1 U
Methyl tert-butyl ether (MTBE)	hg/L	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
Methylene chloride	hg/L		1 U	1 U	<1 U	1 €	<1 U	<1 U<
m-Xylene & p-Xylene	η/βη		ΔU	<2 U	<2 U	~2 U	⊲2 U	42 U
o-Xylene	hg/L	<1 U	U</th <th>I U</th> <th><10</th> <th><1 U</th> <th><!-- U</th--><th></th></th>	I U	<10	<1 U	U</th <th></th>	
Styrene	hg/L		U</th <th><1 U</th> <th><1 U</th> <th>I U</th> <th><1 U</th> <th><1 U</th>	<1 U	<1 U	I U	<1 U	<1 U
Tetrachloroethene	1/Brf	<1 U	U</th <th>1 U</th> <th>1.4</th> <th>1.2</th> <th>1.5</th> <th>1.8</th>	1 U	1.4	1.2	1.5	1.8
Toluene	hg/L		U</th <th><!-- U</th--><th><1 U</th><th><1 U</th><th><1 U</th><th><1 U</th></th>	U</th <th><1 U</th> <th><1 U</th> <th><1 U</th> <th><1 U</th>	<1 U	<1 U	<1 U	<1 U
trans-1,2-Dichloroethene	η/āri		<1 U	U</th <th>2.8</th> <th>3</th> <th>1.9</th> <th>1.4</th>	2.8	3	1.9	1.4
trans-1,3-Dichloropropene	η/Bri		≤I R	<l <<="" r="" th=""><th><!-- U</th--><th><1 U</th><th><1 U</th><th><1 U</th></th></l>	U</th <th><1 U</th> <th><1 U</th> <th><1 U</th>	<1 U	<1 U	<1 U
Trichloroethene	η/âπ		0.59 J	035J	61	21	14	9.5
Vinyl acetate	μg/L	<2 R	<2 R	⊲2 R	<2 U	2 U	40 U	⊲2 U
Vinyl chloride	hg/L	<1 U	⊲IU	1 U	1 U	⊲I U	1 U	<1 U

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TABLE	

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 Date Collected	MW80 62-64 10/22/2004 9:30	MW80 66-68 10/22/2004 9:35	MW80 70-72 10/22/2004 9:40	MW95 42-44 10/22/2004 10:15	MW95 47-49 10/22/2004 10:20	MW95 52-54 10/22/2004 10:25
	Depth	62-64	66-68	70-72	42-44	47-79	52-54
LABNAME	RESUNIT						
1.1.1-Trichloroethane	hg/L	<1 U		<1 U	<1 U	1 U	
1,1,2,2-Tetrachloroethane	hg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,1,2-Trichloroethane	hg/L	<1 U	<1 U	<1 U	<i td="" u<=""><td>U I></td><td><1 U</td></i>	U I>	<1 U
1,1-Dichloroethane	µg/L	<1 U	<1 U	I U	<1 U	⊲U	<1 U
1, 1-Dichloroethene	J/gri	<1 U	<1 U	<1 U	<1 U	U</td <td><1 U</td>	<1 U
1,2-Dichloroethane	J/gu	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,2-Dichloropropane	J/gu	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
2-Butanone (MEK)	J/gu	<5 J	<5 J	¢J	< <u>5</u>]	{\$]	<\$ J
2-Hexanone	η/āπ	<5 U	<5 U	<5 U	<5 U	<5 U	<5 U
4-Methyl-2-pentanone (MIBK)	J/8n	<5 U	<5 U	<5 U	<5 U	<\$ U	<5 U
Acetone	hg/L	0 79 B	13B	0.91 B	3 I B	2 B	5.7B
Benzene	hg/L	<1 U	U</td <td><1 U</td> <td><1 U</td> <td><!-- U</td--><td><I U</td></td>	<1 U	<1 U	U</td <td><I U</td>	< I U
Bromodichloromethane	hg/L	<1 U	U</td <td><1 U</td> <td><1 U</td> <td><1 U</td> <td>I U</td>	<1 U	<1 U	<1 U	I U
Bromoform	J/gµ	<1 U	U</td <td><1 U</td> <td><1 U</td> <td><1 U</td> <td>⊲IU</td>	<1 U	<1 U	<1 U	⊲IU
Bromomethane	цg/L	<1 U	<1 U	<1 U	<1 U	<1 U	≤IU
Carbon disulfide	hg/L	<1 U	<1 U	<1 U		<1 U	I U
Carbon tetrachloride	J/gu	<1 U	<1 U	<1 U	<1 U	<1 U	U</td
Chlorobenzene	J/gri	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Chlorodibromomethane	hg/L						
Chloroethane	hg/L	<1 U	<1 U	<1 U		<1 U	U</td
Chloroform	hg/L	<1 U	1 U	<1 U		U</td <td></td>	
Chloromethane	hg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
cis-1,2-Dichloroethene	hg/L	<1 U	<1 U	<1 U	1 U	<1 U	
cis-1,3-Dichloropropene	hg/L			<1 U		U</td <td><1 U</td>	<1 U
Dibromochloromethane	η/aπ		<1 U	<1 U	<1 U<	<1 U	
Ethylbenzene	hg/L	1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Methyl tert-butyl ether (MTBE)	hg/L	<5 U		<\$U		<5 U	
Methylene chloride	hg/L	<i td="" u<=""><td></td><td></td><td><1 U</td><td>0.98 J</td><td><1 U</td></i>			<1 U	0.98 J	<1 U
m-Xylene & p-Xylene	J/au				40 40	40 2 U	
o-Xylene	hg/L	<1 U		<1 U	U</td <td><!-- U</td--><td><1 U</td></td>	U</td <td><1 U</td>	<1 U
Styrene	hg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Tetrachloroethene	hg/L		<1 U			<1 U	<1 U
Toluene	hg/L	1 U			<1 U	<1 U	
trans-1,2-Dichloroethene	hg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
trans-1,3-Dichloropropene	л/дн	<1 U	<1 U	<1 U	<1 U	⊲U	
Trichloroethene	hg/L		<1 U	<1 U	<1 U		
Vinyl acetate	hg/L		42 U	2 U	4 U C		2 U
Vinyl chloride	η/gμ	<1 U	<1 U	<1 U	<1 U	I U	<1 U

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APPENDIX C – 2

RECOVERY WELLS

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		DUNN	FIELD GROUNDWATER IRA - YE Defense Deport Memphis, Tennessee	DUNN FIELD GROUNDWATER IRA - YEAR SIX Defense Deport Memphis, Tennessee	SIX		
	Sample Site ID	RW-001	RW-001A	RW-001B	RW-002 BM7	RW-003	RW-004
	Date Collected	KW1 10/22/2004 14:30	к и ја 10/22/2004 14:40	KW IB 10/22/04 2:45 PM	LW 2 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	hg/L	4 J	<33.1	<2 J	<4 J	Q J	<42 J
1,1,2,2-Tetrachloroethane	hg/L	<8 U	160	1.7.1	83	<2 U	840
1,1,2-Trichloroethane	μg/L	<8 U <	<33 U	<2 U	2.8 J	<2 U	<42 U
l, l-Dichloroethane	Ъ /дщ	<8 U	<33 U	<2 U	<4 U	<2 U	<42 U
1,1-Dichloroethene	ng/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	ηg/L	<8 U	<33 U	⊲2 U	<4 U	<2 U	<42 U
2-Butanone (MEK)	μg/L	<40 J	<170 J	<10.5	<20 J	<10.1	<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	<10.1	<20 J	<101	<210.J
Acetone	μg/L	8.2 B	40 B	1.9 B	4.1 B	1.5 B	45 J
Benzene	hg/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	ηgμ	<8 U	<33 U	⊲2 U	<4 U	<2 U	<42 U
Carbon tetrachlonde	η/gμ	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	J/gµ	<8 U	<33 U	<2 U	<4 U	<2 U	<42 U
Chloroform	hg/L	170	680	36	9.4	1.8.1	<42 U
Chloromethane	μg/L	<8 U	<33 U	⊲2 U	<4 U	<2 U	<42 U
cis-1,2-Díchloroethene	μg/L	3.9 J	9.8 J	12	72	8.9	25 J
cis-1,3-Dichloropropene	μg/L	≤ 8 J	<33 J	<2.1	<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	1.2.1	3 B	1.2 B	39.1
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 ∪	<33 U	<2 U	<4 U	<2 U	<42 U
Tetrachloroethene	ηg/L	8.6	11 J	3.2	1.6.1	1.2 J	<42 U
Toluene	ηg/L	<8 U	<33 U	<2 U	<4 U	<2 U	<42 U
trans-1,2-Dichloroethene	μg/L	2.1 J	<33 U	l.2.J	3.7 J	1.2 J	<42 U
trans-1,3-Dichloropropene	μg/L	<8 R	<33 R	⊲2 R	<4 R	Ω 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

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

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		Defens	Defense Deport Memphis, Tennessee	see		
	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 N/A	10/22/2004 3:10:00 PM N/A	10/22/2004 3:15:00 PM N/A	10/22/2004 15:25 N/A	10/22/2004 15:30 N/A
LABNAME	RESUNIT	1911 ·				
1,1,1-Trichloroethane	µg/L		<1.7 J	<4 J	<11 J	0.61 J
1,1,2,2-Tetrachloroethane	µg/L	<!-- U</li-->	<1.7 U	100	270	6.3
1,1,2-Trichloroethane	J/gu	1 U	<1.7U	1.6 J	4 J	⊲2 U
1,1-Dichloroethane	hg/L	<1 U	<1.7 U	<4 U	<11 U	0.95 J
1, 1-Dichloroethene	hg/L	<1 U	<1.7 U	<4 U	12	24
1,2-Dichloroethane	hg/L	<1 U	<1.7 U	<4 U	<11 U	⊲2 U
1,2-Dichloropropane	μg/L	U</td <td><1.7 U</td> <td><4 U</td> <td><11 U</td> <td>⊲U</td>	<1.7 U	<4 U	<11 U	⊲U
2-Butanone (MEK)	μg/L	<5J	<8.4 J	<20 J	<56 J	<10.5
2-Hexanone	μg/L	<5 R	<8.4 R	<20 R	<56 R	<10 R
4-Methyl-2-pentanone (MIBK)	μg/L	<5J	<8.4 J	<20 J	<56 J	<10.J
Acetone	μg/L	< 5 J	<8.4 J	4.3 B	13 B	<10.7
Benzene	hg/L		<1.7 U	<4 U	<11 U	<2 U
Bromodichloromethane	hg/L	<1 U	<1.7 U	<4 U	<11 U	<2 U
Bromoform	hg/L	<1 U	<1.7 U	<4 U	<11 U	⊲2 U
Bromomethane	hg/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 tetrachlonde	μg/L	1.5.1	(<i>1.</i> 1>	<4 J	<11 J	0.43 J
Chlorobenzene	μg/L		<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	hg/L	<1 U	<1.7 U	<4 U	<11 U	<2 U
cis-1,2-Dichloroethene	μg/L	0.38 J	Ξ	51	130	5.4
cis-1,3-Dichloropropene	hg/L	<15	<1.7 J	<4 J	<11 J	2J
Dibromochloromethane	μg/L	<1 U	<1.7 U	<4 U	<11 U	~2 U
Ethylbenzene	μg/L	<10	<1.7 U	<4 U	<11 U	<2U
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	42 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	ηgμ	<10	<1.7 U	<4 U	11 U	42 U

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

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APPENDIX C – 3

EFFLUENT SAMPLES

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

	Sample Site ID Sample ID Date Collected Depth	EFF-02-21-04 EFF-02-21-04 (EFFLUENT) 2/21/2004 15:20 N/A	EFF-05-24-04 EFF-05-24-04 EFFLUENT 5/24/2004 13:56 N/A	EFF-08-27-04 EFF-8-27-04(EFFLUENT) 8/27/2004 13:00 N/A	EFF-11-30-04 EFFLUENT 11/30/2004 12:15:00 PM 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		1 0.91
	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 Thallum	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	ane μg/L	43	54	110	150
SW8260B 1,1,2-Trichloroethane	hg/L	<2.5 U	<4 U	<7.7 U	<9.1 U
SW8260B 1,1-Dichloroethane	hg/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	<0.1 U
SW8260B 2-Butanone	μg/L				<45 J
SW8260B 2-Butanone (MEK)	hg/L	<12 J	<20 J	<38 J	
SW8260B 2-Hexanone	lug/L	<12 U	<20 U	<38 U	<45 J
SW8260B 4-Methyl-2-pentanone					<45 U

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

		Sample Site ID Sample ID Date Collected Denth	EFF-02-21-04 EFF-02-21-04 (EFFLUENT) 2/21/2004 15:20 M/A	EFF-05-24-04 EFF-05-24-04 EFFLUENT 5/24/2004 13:56 N/A	EFF-08-27-04 EFF-8-27-04(EFFLUENT) 8/27/2004 13:00 N/A	EFF-11-30-04 EFFLUENT 11/30/2004 12:15:00 PM 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	ug/L	<2.5 U	<4 U	<7.7 U	<9.1 U
SW8260B	Bromodichloromethane	μg/L	<2.5 U	<4 U	<7.7 U	U 1.6>
SW8260B	Bromoform	J/gu	<2.5 U	<4 U	<7.7 U	<9.1 U
SW8260B	Bromomethane	ng/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	ug/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	J/gr	<2.5 U			
SW8260B	Chloroethane	μg/L	<2.5 U	<4 U	<7.7 J	<9.1 R
SW8260B	Chloroform	hg/L	42	61	63	9.3
SW8260B	Chloromethane	ng/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	hg/L		<4 U	<7.7 U	<9.1 U
SW8260B	Ethylbenzene	hg/L	<2.5 U	<4 U	<7.7 U	<9.1 U
SW8260B	Methyl tert-butyl ether	д/gц				<45 U
SW8260B	Methyl tert-butyl ether (MTBE)				<38 U	
SW8260B	Methylene chloride	hg/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	hg/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	hg/L	<2.5 U	<4 U	1.5 J	<0.1 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
	Vinyl acetate	μg/L	<5 U	<8 U	<15 J	<18 U
SW8260B	Vinyl chloride	hg/L	<2 5 U	<4 U	<7.7 U	U 1.6>
SW8270C	1,2,4-Trichlorobenzene	hg/L				<10 U
SW8270C	1,2-Dichlorobenzene	ng/L				<10 U
SW8270C	1,3-Dichlorobenzene	hg/L				<10 U
SW8270C	1,4-Dichlorobenzene	hg/L				<10 U

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N/A	EFFLUENT EFFLUENT 11/30/2004 12:15:00 PM
	N/A
	<10 U
	<50 U
	<10 U
	<50 U
	<10 U
	<50 U
	<50 U
	<50 U
	<10 U
	<50 U
	<50 U
	<10 U

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

		Sample Site ID Sample ID Date Collected	EFF-02-21-04 EFF-02-21-04 (EFFLUENT) 2/21/2004 15:20	EFF-05-24-04 EFF-05-24-04 EFFLUENT 5/24/2004 13:56	EFF-08-27-04 EFF-8-27-04(EFFLUENT) 8/27/2004 13:00	EFF-11-30-04 EFFLUENT 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	Π/gμ				<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	hg/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	lsophorone	hg/L		<5 U		<10 U
SW8270C	Naphthalene	μg/L		<5 U		<10 U
SW8270C	Nitrobenzene	J/gµ		<5 U		<10 U
SW8270C	N-Nitrosodi-n-propylamine	µg/L		<5 U		<10 U
SW8270C	N-Nitrosodiphenylamine	J/gn		<5 U		<10 U
SW8270C	Pentachlorophenol	μg/L		<25 U		<10 U
SW8270C	Phenanthrene	μg/L		<5 U		<10 U
SW8270C	Phenol	μg/L		<\$ U		<10 U
SW8270C	Pyrene	μg/L		<5 U		<10 U
		Ι				

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APPENDIX C-4

QUALITY CONTROL SAMPLES

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

					700-W M	200- M INI	//		
	Sample ID	DUP01	DUP02	DUP03	DUP04	DUP05	DUP06	DUP07	DUP08
	Date Collected Depth	10/20/2004 41.6-43 6	10/20/2004 16.25 59 53-61 53	10/21/2004 12:10 168-170	10/21/2004 14:10 261-263	10/21/2004 15.15 91.4-93.4	10/21/2004 16·05 85.27-87.27	10/22/2004 9:40 70-72	10/22/2004 11:10 61-63
LABNAME	RESUNIT								
1,1,1-Trichloroethane	ηg/L	L 9 J	(>	l I>	ſ⊳	!</th <th><140 J</th> <th>[></th> <th><!-- --></th>	<140 J	[>	
1,1,2,2-Tetrachloroethane	hg/L	<1 U	<1 U	<1 U	∩ 1>	I 0	4600	≤IU	<1 U
1,1,2-Trichloroethane	μg/L	<1 U	<1 U	<1 U	<1 U	I U	<140 U	<1 U	<1 U
1, 1-Dichloroethane	ηgη	I	<1 U	<1 U	1 U	U</th <th><140 U</th> <th><1 U</th> <th><1 U</th>	<140 U	<1 U	<1 U
l, l-Dichloroethene	J'gu	18	<1 U	<1 U	<1 U	<1 U	<140 U	<1 U	1.6
1,2-Dichloroethane	J/gu	o I⊳	<1 U	1 U	0.26 J	<1 U	<140 U	<1 U	<1 U
1,2-Dichloropropane	J/gu	1 U	<1 U	<1 U	U</th <th><1 U</th> <th><140 U</th> <th><1 ∪</th> <th><!-- U</th--></th>	<1 U	<140 U	<1 ∪	U</th
2-Butanone (MEK)	J/gu	<5J	<\$]	<51	<5J	<5.1	<710.1	<5J	<\$ J
2-Hexanone	hg/L	<5 R	<5 R	<5 R	<5 R	<5 R	<710 R	<5 R	≤SR
4-Methyl-2-pentanone (MIBK)	μ <u>β</u> /L	<5 J	<5J	<5J	<5J	<5J	<710 J	<5J	<\$]
Acetone	hg/L	0.92 J	3.1 J	2.2 J	1.2 J	<\$]	<710 R	<5 J	3.7 B
Benzene	hg/L	<1 U	<1 U		< 1 U	0 I>	<140 U	<1 U	≤I U
Bromodichloromethane	hg/L	<1 U	<1 U	<1 U	<1 Ü	<1 U	<140 U	<1 U	U</th
Bromoform	J/gri	ſ I>	ſ⊳	ſ I>	ſ⊳		<140 U	<1 U	<1 U
Bromomethane	hg/L	1 U	<1 U	<1 U	∩ t>	<1 ∪	<140 U	<1 U	U</th
Carbon disulfide	hg/L	1 U	<1 U	1 67 0	<1 U	<1 U	<140 U	<1 U	<1 U
Carbon tetrachloride	hg/L	<1 J	<pre>[]></pre>]</th <th>f ></th> <th>[]></th> <th><140 J</th> <th>< 1 J</th> <th><!-- --></th>	f >	[]>	<140 J	< 1 J	
Chlorobenzene	hg/L	~I U ⊳	<1 U	<1 U	<1 U	<1 U	<140 U	<1 U	<1 U
Chloroethane	ug/L	<i th="" u<=""><th><1 U</th><th><1 U</th><th><1 U</th><th>I U</th><th><140 U</th><th><1 U</th><th><1 ∪</th></i>	<1 U	<1 U	<1 U	I U	<140 U	<1 U	<1 ∪
Chloroform	μg/L	≤I U	<1 U	U</th <th><1 U</th> <th><1 U</th> <th><140 U</th> <th>0 1 €</th> <th>⊲I Ū</th>	<1 U	<1 U	<140 U	0 1 €	⊲I Ū
Chloromethane	hg/L	≤I U	<1 U	<1 U	U</th <th>1 0</th> <th><140 U</th> <th><1 U</th> <th><!-- U</th--></th>	1 0	<140 U	<1 U	U</th
cis-1,2-Dichloroethene	hg/L	0.4 J	<1 U	<1 U	<i th="" u<=""><th><1 U</th><th>63 J</th><th><1 U</th><th><!-- U</th--></th></i>	<1 U	63 J	<1 U	U</th
cis-1,3-Dichloropropene	hg/L	۲	۲I	<15	<15]</th <th><140 J</th> <th><15</th> <th><15</th>	<140 J	<15	<15
Dibromochloromethane	hg/L	<1 U	<1 U	<1 U	<1 U	<1 U	<140 U	<1 U	<1 U
Ethylbenzene	Ъ/дц	1 U	<1 U	<1 U	<1 U	<1 U	<140 U	<1 U	U</th
Methyl tert-butyl ether (MTBE)	hg/L	<5 J	<5J	5 J	<5.1	5 J	<710 U	<5 U	<5 U
Methylene chloride	ן/8ת	0 I>	U</th <th><1 U</th> <th>0.41 B</th> <th><1 U</th> <th><140 U</th> <th>0.5 B</th> <th>0.52 B</th>	<1 U	0.41 B	<1 U	<140 U	0.5 B	0.52 B
m-Xylene & p-Xylene	ηgη	40 2 U	43 U	2 U	~2 U	2 U	<290 U	2 U	⊲2 U
o-Xylene	J/gu	≤1 U	<1 U	<1 U	<1 U	<1 U	<140 U	<1 U	<1 U
Styrene	J/gµ	<1 U	<10	<1 U	⊽	<1 U	<140 U	<1 U	<1 U
Tetrachloroethene	J/gu	19	<1 U	<1 U	<1 U	<1 U	<140 U	<1 U	1 U
Toluene	Π/gμ	≤I U	<1 U	<10	<1 U	I U	<140 U	U</th <th><1 U</th>	<1 U
trans-1,2-Dichloroethene	hg/L	≤I U	<1 U	<10	<10	<1 U	<140 U	<1 U	<1 U
trans-1,3-Dichloropropene	η/βri	<1 R	<1 R	<1 R	<1R	R</th <th><140 R</th> <th><1 R</th> <th><1 R</th>	<140 R	<1 R	<1 R
Tuchloroethene	Л/дц	29	1 U	<1 U	<1 U	<1 U	1700	<1 U	0.7 J
Vinyl acetate	Л/дц	<2 R	<2 R	∆ R	2 R	⊲2 R	<290 R	ΔR	∂ R
Vinyl chlorde	µg/L	<1 U	<10	<1 U	<10	<1 U	<140 U	<1 U	U</th

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

	Sample Site IU	KW-008	FIELD BLANK 01	FIELD BLANK 02	FIELD BLANK 03	FIELD BLANK 04	FIELD BLANN US
	Sample ID	DUP	FIELD BLANK 01	FIELD BLANK 02	FIELD BLANK 03	FIELD BLANK 04	FIELD BLANK 05
	Date Collected	N/A	10/20/2004 5:50:00 PM	MA UU'UC:4 4002/12/UT	10/21/2004 1:22:00 FM	1012112004 2:33:00 FIN	N/A
LABNAME	RESUNIT						
1,1,1-Trichloroethane	µg/L	<12 J	U</td <td><1 J</td> <td><1 U</td> <td>ſŀ</td> <td>I J</td>	<1 J	<1 U	ſŀ	I 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	<10	1 U	U</td <td><1 U</td> <td><1 U</td>	<1 U	<1 U
1,1-Dichloroethane	μg/L	<12 U	<1 U	U</td <td><1 U</td> <td>I U</td> <td><1 U</td>	<1 U	I U	<1 U
1,1-Dichloroethene	ue/L	111	<1 U	<1 U	U I>	<1 U	<1 U
1,2-Dichloroethane	μg/L	<12 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,2-Dichloropropane	ne/L	<12 U	<10	<1 U	<1 U	U</td <td><1 U</td>	<1 U
2-Butanone (MEK)	ng/L	<62 J	074J	0.85 J	0.89 J	0.55 R	0.49 J
2-Hexanone	ng/L	<62 R	<5 U	<5 R	<\$ U	<5 R	<5J
4-Methvi-2-pentanone (MIBK)	1/2n	<62 J	<5 U	<5 J	<5 U	<5 J	<5.1
Acetone	ug/L	13 B	П	7 J	10 J	5.1 B	4,4 J
Benzene	- a-	<12 U	1 L	U</td <td><!-- U</td--><td><1 U</td><td>∩ I></td></td>	U</td <td><1 U</td> <td>∩ I></td>	<1 U	∩ I>
Bromodichloromethane	-a-	<12 U	<1 U	<1 ∪	<1 U	⊲ות	<1 U
Bromoform	ue/L	<12 U	<1 U	(I>	1 U	<1 J	
Brothomethane	ue/L	<12 U	<1 U	<1 U	<1 U	<1 U	<1 U
Carbon disulfide	ng/L	<12 U	<1 J	<15	I Ŭ	<1 U	<1 U
Carbon tetrachloride	μg/L	<12.)	<1 U	<1 J	⊲IU	<1 J	<1 J
Chiorobenzene	μg/L	<12 U	<1 U	<1 U	<1 U	<1 U	<1 U
Chloroethane	J/gri	<12 U	<1 U	1 U	I U	U</th <th><1 U</th>	<1 U
Chloroform	μg/L	17	<1 U	<1 U	U</th <th><1 U</th> <th><1 U</th>	<1 U	<1 U
Chloromethane	μg/L	<12 U	<1 U	U</td <td><1 U</td> <td><!-- U</td--><td><i td="" u<=""></i></td></td>	<1 U	U</td <td><i td="" u<=""></i></td>	<i td="" u<=""></i>
cis-I,2-Dichloroethene	hg/L	140	U I>	<1 U	U</th <th><1 U</th> <th><1 U</th>	<1 U	<1 U
cis-1,3-Dichloropropene	J/gri	<12 J	<1 U	<1 J	<1 U	ſ⊳	. L≥
Dibromochloromethane	μg/L	<12 U	<1 U	U</th <th>∩ I></th> <th><1 U</th> <th><1 U</th>	∩ I>	<1 U	<1 U
Ethylbenzene	hg/L	<12 U	<1 U	I U	U</th <th><1 U</th> <th><1 U</th>	<1 U	<1 U
Methyl tert-butyl ether (MTBE)	hg/L	<62 U	<5 U	< 5 J	<5 U	<5J	<5 U
Methylene chloride	hg/L	11 B	<1 U	1 B	≤ 1 U	<1∪	<1 U
m-Xylene & p-Xylene	ηg/L	<25 U	<2 U	⊲2 U	2 U	<2 U	2 U
o-Xylene	ηg/L	<12 U	<1 U	<1 U	049J	U</td <td><1 U</td>	<1 U
Styrene	hg/L	<12 U	<1 U	<1 ∪	I U	I U	U</td
Tetrachloroethene	μg/L	9.8.1	<1 U	I U	<1 U	<1 U	<1 U
Toluene	ηg/L	<12 U	<1 U	U</td <td>≤1 U</td> <td>≤I U</td> <td><1 U</td>	≤1 U	≤I U	<1 U
trans-1,2-Dichloroethene	μg/L	27	U</td <td><!-- U</td--><td>I U</td><td><1 U</td><td><1 U</td></td>	U</td <td>I U</td> <td><1 U</td> <td><1 U</td>	I U	<1 U	<1 U
trans-1,3-Dichloropropene	μg/L	<12 R	U</td <td><!-- R</td--><td><1 U</td><td><!-- R</td--><td><1 R</td></td></td>	R</td <td><1 U</td> <td><!-- R</td--><td><1 R</td></td>	<1 U	R</td <td><1 R</td>	<1 R
Trichloroethene	μg/L	240	U</td <td>1 U</td> <td>1 U</td> <td></td> <td></td>	1 U	1 U		
Vinyl acetate	hg/L	<25 R	<2 U	⊲2 R	40 V	-2 R	<2 R
Vinyl chloride	μg/L	<12 U	<10	<1 U	<10	U</td <td><1 U</td>	<1 U

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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) Thin M MNK (COOLER, K849)
	Sample 11 Date Collected	FIELD BLANK 06 10/22/2004 10:35:00 AM	FIELU BLANK 07 10/22/2004 11:45:00 AM	10/22/2004	I KIP BLANN (UUULER, N2W) 10/22/2004	1 MIT BLAINN (COULEN: NoT7) 10/22/2004
	Depth	N/A	N/A	N/A	N/A	N/A
LABNAME	RESUNIT					
1, 1, 1-Trichloroethane	η/Bri	<1 U	<1 U	<1>	<15	<10
1,1,2,2-Tetrachloroethane	η/gμ	<1 U	<1 U	⊲IU	<10	<1 U
1,1,2-Trichloroethane	Л/дц	<1 U	<1 U	≤IU	<10	<1 U
1,1-Dichloroethane	μg/L	<1 U	<1 U	U</td <td><1 U</td> <td><1 U</td>	<1 U	<1 U
I, I-Dichloroethene	η <u>β</u> η	<1 U	<1 U	<1 U	<1 U	<1 U
1,2-Dichloroethane	μg/L	<1 U	<1 U	U</td <td><1 U</td> <td><1 U</td>	<1 U	<1 U
1,2-Dichloropropane	J/gu	<1 U	<1 U	<1 U	<1 U	<1 U
2-Butanone (MEK)	ug/L	0.92 B	0.91 B	<\$]	0.88 J	0.43 J
2-Hexanone	ng/L	<5 U	<5 U	<5 R	<5 R	<5U
4-Methyl-2-pentanone (MIBK)	ug/L	<5 U	<5 U	<5.1	<5.1	<5 U
Acetone	J/an	11	11 B	11B	38	2.2 B
Benzene	ng/L	<1 U	<1 U	<1 ∪	<1 U	<1 U
Bromodichloromethane	hg/L	<1 U	<1 U	<1 U	<1 U	<1 U
Bromoform	hg/L	<1 U	<1 U	<1 U	<1 U	!</td
Bromomethane	μg/L	<1 U	1 U	I U	<10	<10
Carbon disulfide	hg/L	<1 U	U</td <td>1 U</td> <td><10</td> <td>I U</td>	1 U	<10	I U
Carbon tetrachloride	μg/L	<1 U	U</td <td><1J</td> <td><15</td> <td>IU</td>	<1J	<15	IU
Chlorobenzene	hg/L	<1 U	1 1∨	∩ I>	<10	I U
Chloroethane	μg/L	<1 U	<1 U	U</td <td><1 U</td> <td><1 U</td>	<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	<10	I U	<15	<1J	<1 U
Dibromochloromethane	hg/L	<10	<1 U	<1 U	<1 U	<1 U
Ethylbenzene	μg/L	<1 U	<1 U	1 U	U</td <td><1 U</td>	<1 U
Methyl tert-butyl ether (MTBE)	hg/L	<5 U	<\$ U	<5 U	<5 U	<5 U
Methylene chloride	μg/L	<1 U		<1 U	4.9 B	<1 U
m-Xylene & p-Xylene	μg/L	<2 U	2 U	<2 U	20	<2 U
o-Xylene	μg/L	<1 U	1 U	≤l U	1 U	<1 U
Styrene	J/Brl	<1 U	<1 U	<1 U	<1∪	<1 U
Tetrachloroethene	µg/L	<1 U	<1 U	<1 U	≤l U	<1 U
Toluene	цg/L	<1 U		<1 U	I U	0.19 J
trans-1,2-Dichloroethene	µg/L	<10	<1 U	<1 U	<10	U</td
trans-1,3-Dichloropropene	μg/L	<10	√1 U	<1 R	<1 R	<10
Trichloroethene	μg/L	1 U	<1 U	<1 U	01∨	I U
Vinyl acetate	µg/L	<2 U	2 U	2 R	2 R	⊲2 U
Vinyl chloride	μg/L	<10	<1 U	<1 U	<1 U	<1 U

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APPENDIX D

DATA QUALITY EVALUATION

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APPENDIX D

1.0 DATA QUALITY EVALUATION

The Operations and Maintenance (OM) 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. θ (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 OM 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.

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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

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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 Sei	mi-Annual Event			
		RW-1	RW-3	RW-7	Trip Blank
1	A4J250140	RW-1A	RW-4	RW-8	DUP
1	A4J250140	RW-1B	RW-5	RW-9	
		RW-2	RW-6		
		MW-07 (69.56-71.56)	MW-32 (65.9-66.9)	MW-37 (180.5-182.5)	Field Blank 01
		MW-08 (64.266.2)	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 I)	MW-34 (147 3-149.3)	MW-43 (163-165)	
2	4J250156	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)		
		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)	
1	141250172	MW-67 (261-263)	MW-71 (73.86-75.86)	MW-79 (99-101)	
3	A4J250172	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)		
		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
1	A4J250189	MW-127 (66.2-68.2)	MW-129 (71 3-73 3)		Dup 02
•	A-12,0107				Dup 03
					Dup 04
					Dup 05
					Dup 06
					Dup 07
					Dup 08
	Effluent Samplin	g 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

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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

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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	Associ	ated_Sam	ples
Acetone	-34.7	<u>+</u> 20%; <40%	RW-1, RW-1A, RW-1B	, RW-2, H	RW-3, RW-4, RW-5, RW-6
2-Butanone	-28.8	<u>+</u> 20%; <40%	RW-7, RW-8, RW-9, DU	JP, Trip I	Blank
Carbon tetrachloride	-24.8	<u>+</u> 20%; <40%			
cis-1,3-Dichloropropene	-30.1	<u>+</u> 20%; <40%	CCV(11/04/04, 20:30)	%D	Limit
trans-1,3-Dichloroproper	ne-50.6	<u>+</u> 20%; <40%	2-Hexanone	-41.8	±20%; <40%
4-Methyl-2-pentanone	-29.1	<u>+</u> 20%; <40%	1,1,1-Trichloroethane	-21.1	+20%; <40%
Vinyl acetate	-62.2	<u>+</u> 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.

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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.

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: <u>BAK 12/06/2004</u> Checked by: <u>JAV 01/04/2005</u>

SDG# 4J25156 6/23/2005 Page 1 of 5

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 (64.266.2)	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.

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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:

<u>CCV (11/02/04, 10:29)</u>	<u>%</u> D	Limit	Associated Samples
Carbon disulfide	26.4	<u>+</u> 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	Associated Samples
Acetone	-38.8	<u>+</u> 20%; <40%	MW-31 (77.5-79.5), MW-32 (65.9-66.9),
Bromoform	-27.2	<u>+</u> 20%; <40%	MW-33 (59.33-61.33), MW-34 (142.3-144.3),
Carbon tetrachloride	-30.6	<u>+</u> 20%; <40%	MW-34 (147.3-149.3), MW-34 (152.3-154.33),
2-Butanone	-34.1	<u>+</u> 20%; <40%	MW-36 (192.7-194.7), MW-36 (197.7-199.7),
cis-1,3-Dichloropropene	-37.1	<u>+</u> 20%; <40%	MW-36 (202.7-204.7), MW-37 (170.5-172.5),
trans-1,3-Dichloropropen	e-57.2	<u>+</u> 20%; <40%	MW-37 (175.5-177.5), MW-37 (180.5-182.5),
2-Hexanone	-44.1	<u>+</u> 20%; <40%	MW-40 (86.9-88.9), MW-40 (91.9-93.9), Field Blank 02
4-Methyl-2-pentanone	-26.9	<u>+</u> 20%; <40%	
Methyl tert-butyl ether	-32.6	<u>+</u> 20%; <40%	<u>CCV (11/02/04, 21:26) %D Limit</u>
Vinyl acetate	-62.3	<u>+</u> 20%; <40%	1,1,1-Trichloroethane -29.8 <u>+</u> 20%; <40%
CCV(11/03/04, 10:20)	%D	Limit	Associated Samples
Acetone	-47.9	+20%; <40%	MW-42 (55.8-57.8), MW-43 (163-165), MW-43 (168-170),
Bromoform	-27.2	<u>+20%; <40%</u>	MW-44 (64-66), MW-44 (69-71), MW-51 (58-60)
2-Butanone	-43.3	+20%; <40%	
Carbon tetrachloride	-34.5	<u>+20%; <40%</u>	<u>CCV(11/03/04, 10:20)</u> %D Limit
cis-1,3-Dichloropropene	-37.1	<u>+</u> 20%; <40%	trans-1,3-Dichloropropene-57.7 +20%; <40%
2-Hexanone	-51.2	<u>+20%; <40%</u>	4-Methyl-2-pentanone $-34.9 \pm 20\%$; <40%
Methyl tert-butyl ether	-29.0	<u>+</u> 20%; <40%	$1,1,1$ -Trichloroethane -31.3 $\pm 20\%$; <40%
Vinyl acetate	-66.7	<u>+</u> 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:

- - -

<u>GV498</u>	Exceedan	ce	Action		Associated Samples
Bromomethane	Out low	No flag	g – within SMF	MW-07	(69.56-71.56), MW-08 (64.2-66.2),
Carbon disulfide	Out high	No fla	g – within SMF	MW-09	(78-79), MW-29 (41.6-43.6),
2-Hexanone	Out low		g – 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
<u>GV4P0</u>	F	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 tetrachlo		Out low	No flag – within		MW-36 (192.7-194.7), MW-36 (197.7-199.7),
cis-1,3-Dichloro	propene	Out low	Flag associated	results " J "	MW-36 (202.7-204.7), MW-37 (170.5-172.5),
trans-1,3-Dichlor	ropropene	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-pent		Out low	Flag associated		Field Blank 02
Methyl tert-buty	l ether	Out low	No flag – within	I SMF	
1,1,1-Trichloroet	thane	Out low	No flag – within	SMF	
CM 200 UN		~ I	.		
GV7WW Bromoform	l1	Exceedance	Action		Associated Samples
		Out low			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 tetrachlo	nida	Out low		ta _ 66 T22	
Chloromethane	nae	Out low	Flag associated		MW-44 (69-71), MW-51 (58-60),
		Out low	No flag – within		
cis-1,3-Dichloro	• •		Flag associated		
trans-1,3-Dichlo 2-Hexanone	• •	Out low Out low	Flag associated		
		Out low	Flag associated		
4-Methyl-2-pent			Flag associated		
Methyl tert-buty	reiner	Out low	No flag – within	SMF	

Matrix Spike/Matrix Spike Duplicate

Out low

1,1,1-Trichloroethane

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:

No flag - within SMF

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.

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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: <u>BAK 12/07/2004</u> Checked by: <u>JAV 01/03/2005</u>

SDG# A4J250172 6/23/2005 Page 1 of 6

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

SDG: A4J2501Z

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.

SDG# A4J250172 6/23/2005 Page 2 of 6

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	i-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	e 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)	<u>%D</u>	Limit	Associated Samples
Acetone	86.5	<u>+</u> 20%; <40%	MW-68 (70.6-72.6)
2-Butanone	70.8	<u>+</u> 20%; <40%	
Carbon disulfide	26.8	<u>+</u> 20%; <40%	

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<u>CCV(11/03/04, 10:20)</u>	_%D	Limit	Associated Samples
Acetone	-47.9	+20%; <40%	MW-68 (70.6-72.6), MW-68 (78.6-80.6), MW-69 (86.4-88.4),
Bromoform	-27.2	<u>+</u> 20%; <40%	MW-69 (91.4-93.4), MW-71 (73.86-75.86), Field Blank 04
2-Butanone	-43.3	<u>+</u> 20%; <40%	
Carbon tetrachloride	-34.5	<u>+</u> 20%; <40%	<u>CCV(11/03/04, 10:20) %D Limit</u>
cis-1,3-Dichloropropene		-37.1 <u>+</u> 20%;	<pre><40% trans-1,3-Dichloropropene-57.7 ±20%; <40%</pre>
2-Hexanone	-51.2	<u>+</u> 20%; <40%	4-Methyl-2-pentanone -34.9 <u>+</u> 20%; <40%
Methyl tert-butyl ether	-31.4	<u>+</u> 20%; <40%	$1,1,1$ -Trichloroethane -31.3 $\pm 20\%$; <40%
Vinyl acetate	-66.7	<u>+</u> 20%; <40%	
<u>CCV(11/03/04, 22:56)</u>	%D	Limit	Associated Samples
Acetone	-30.0	<u>+</u> 20%; <40%	MW-78 (56.8-58.8), MW-78 (61.8-63.8), Field Blank 05
2-Butanone	-23.8	+20%; <40%	
Carbon tetrachloride	-25.3	+20%; <40%	CCV(11/03/04, 10:20) %D Limit
cis-1,3-Dichloropropene	-31.9		trans-1,3-Dichloropropene-50.3 <u>+20%; <40%</u>
2-Hexanone	-35.3		4-Methyl-2-pentanone -26.2 +20%; <40%
1,1,1-Trichloroethane	-24.1	<u>+</u> 20%; <40%	Vinyl acetate $-54.8 \pm 20\%; <40\%$
CCV(11/04/04, 09:41)	%D	Limit	Associated Samples
Acetone	-42.1	<u>+</u> 20%; <40%	MW-70 (90.8-92.8), MW-76 (86.3-88.3), MW-76 (91.3-93.3),
2-Butanone	-36.5	<u>+</u> 20%; <40%	MW-77 (85.27-87.27), MW-78 (51.8-53.8)
Carbon tetrachloride	-26.8	<u>+</u> 20%; <40%	
cis-1,3-Dichloropropene	-30.9	<u>+</u> 20%; <40%	<u>CCV(11/04/04, 09:41) %D Limit</u>
trans-1,3-Dichloropropen	ie-49.2	<u>+</u> 20%; <40%	2-Hexanone -42.6 <u>+</u> 20%; <40%
4-Methyl-2-pentanone	-32.3	<u>+</u> 20%; <40%	1,1,1-Trichloroethane -28.7 <u>+</u> 20%; <40%
Vinyl acetate	-58.7	<u>+</u> 20%; <40%	
<u>CCV (11/04/04, 10:46)</u>	<u>%</u> D	Limit	Associated Samples
2-Butanone	21.6	<u>+</u> 20%; <40%	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".

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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:

<u>GV7W5</u>	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-Dichloropropen	eOut low	Flag associated results "	յ,
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	
<u>GV7WW</u>	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		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-Dichloropropen	e 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	
		-	
<u>GV9KC</u>	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	

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GWAEF	Exceedance	Action	Associated Samples
Acetone	Out high	Flag positives "J"	MW-51 (63-65), MW-54 (85.6-87.6),
2-Butanone	Out high	Flag positives "J"	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
GWALH	Exceedance	Action	Associated Samples
Acetone	Out low	Flag associated results "	J' MW-70 (90.8-92.8), MW-76 (86.3-88.3),
2-Butanone	Out low	Flag associated results "	J" MW-76 (91.3-93.3), MW-77 (85.27-87.27),
Carbon tetrachloride	Out low	No flag – within SMF	MW-78 (51.8-53.8)
Chloromethane	Out low	No flag - within SMF	
cis-1,3-Dichloropropene	Out low	Flag associated results "	J"
trans-1,3-Dichloropropen	eOut 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.

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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: <u>BAK 12/07/2004</u> Checked by: <u>JAV 01/05/2005</u>

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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 (5254)	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.

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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:

<u>CCV(11/02/04, 21:26)</u>	<u>%D</u>	Limit	Associa	ted Sam	ples
Acetone	-38.8	<u>+</u> 20%; <40%	Dup 01, Dup 02, Dup 03,	Dup 04.	Dup 05
Bromoform	-27.2	<u>+</u> 20%; <40%		•	
2-Butanone	-34.1	<u>+</u> 20%; <40%	CCV(11/02/04, 21:26)	%D	Limit
Carbon tetrachloride	-30.6	<u>+</u> 20%; <40%	cis-1,3-Dichloropropene	-37.1	<u>+20%; <40%</u>
trans-1,3-Dichloroprope	ne-57.2	<u>+</u> 20%; <40%	2-Hexanone	-44.4	+20%; <40%
4-Methyl-2-pentanone	-26.9	<u>+</u> 20%; <40%	Methyl tert-butyl ether	-32.6	<u>+20%; <40%</u>
1,1,1-Trichloroethane	-29.8	<u>+</u> 20%; <40%	Vinyl acetate	-62.3	<u>+</u> 20%; <40%

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CCV (11/03/04, 22:09)	%D	Limit	Associated Sam	ples
2-Butanone	20.7	<u>+20%; <40%</u>	MW-95 (47-49), MW-95 (52-54), MW-95 (57-59),	
			MW-126 (23.2-25.2), MW-127 (6	. ,,
<u>CCV(11/04/04, 09:41)</u>	%D	Limit	Associated Samples	
Acetone	-42.1	<u>+</u> 20%; <40%	Dup 06	
2-Butanone	-36.5	<u>+</u> 20%; <40%		
Carbon tetrachloride	-26.8	<u>+</u> 20%; <40%	<u>CCV(11/02/04, 21:26)</u> %D	Limit
cis-1,3-Dichloropropene	-30.9	<u>+</u> 20%; <40%	trans-1,3-Dichloropropene-49.2	±20%; <40%
2-Hexanone	-42.6	<u>+</u> 20%; <40%	4-Methyl-2-pentanone -32.2	±20%; <40%
1,1,1-Trichloroethane	-28.7	<u>+</u> 20%; <40%	Vinyl acetate -58.7	+20%; <40%
CCV(11/04/04, 20:30)	%D	<u> </u>	Associated Sam	ples
Acetone	-34.7	<u>+</u> 20%; <40%	MW-127 (66.2-68.2), MW-128 (6	51-63), MW-128 (66-68),
2-Butanone	-28.8	<u>+</u> 20%; <40%	MW-128 (71-73), Dup 07, Dup 0	8, Trip Blank (K200)
Carbon tetrachloride	-24.8	<u>+</u> 20%; <40%	· · · · ·	
cis-1,3-Dichloropropene	-30.1	<u>+</u> 20%; <40%	<u>CCV(11/02/04, 21:26) %D</u>	Limit
trans-1,3-Dichloropropen	e-50.6	<u>+</u> 20%; <40%	2-Hexanone -41.8	<u>+</u> 20%; <40%
4-Methyl-2-pentanone	-29.1	<u>+</u> 20%; <40%	1,1,1-Trichloroethane -21.1	<u>+</u> 20%; <40%
Vinyl acetate	-62.2	<u>+</u> 20%; <40%		
CCV (11/04/04, 21:35)	%D	Limit	Associated Sam	ples
2-Butanone	26.0	<u>+</u> 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 (6	
			MW-130 (65.5-67.5), MW-130 (7	
			MW-130 (75.5-77.5), Field Blank	
			. ,,	,

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.

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Surrogates

The recoveries for the four method-specified surrogates toluene-d₈, 4-bromofluorobenzene, dibromofluoromethane, and 1,2-dichloroethane-d₄ 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:

<u>GV9LD</u>	Exceedance	Action	Associated Samples
Bromomethane	Out low	No flag – within SMF	MW-95 (47-49), MW-95(52-54),
trans-1,3-Dichloropropen	e 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	e 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-Dichloropropen	e Out low	No flag – within SMF	
2-Hexanone	Out low	No flag – within SMF	
4-Methyl-2-pentanone	Out low	No flag – within SMF	
4-Memyi-z-pentanone	Outlow	NO hag – within SMT	

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		Page 5 of 5
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	e 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 2butanone. 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 (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.

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: <u>BAK 12/08/2004</u> Checked by: <u>JAV 01/06/2005</u>

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SDG# A4B250249 4/7/2005 Page 1 of 3

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.

SDG# A4B250249 4/7/2005 Page 2 of 3

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	<u>+</u> 20%; <40%	EFF-02-21-04
2-Butanone	21.6	<u>+20%; <40%</u>	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-d₅ (IS1), fluorobenzene (IS2), and 1,4-dichlorobenzene-d₄ (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.

SDG# A4B250249 4/7/2005 Page 3 of 3

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: <u>BAK 06/17/2004</u> Checked by: <u>JAV 07/06/2004</u>

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SDG# A4E260222 4/7/2005 Page 1 of 5

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.

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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.

SDG# A4E260222 4/7/2005 Page 3 of 5

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.

Semi-Volatile Analyses (8270C)

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.

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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-d₅ (S4), phenol-d₅ (S5), and terphenyl-d₁₄ (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.

SDG# A4E260222 4/7/2005 Page 5 of 5

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: <u>BAK 06/28/2004</u> Checked by: <u>JAV 07/08/2004</u>

SDG# A4H280149 4/7/2005 Page 1 of 3

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.

SDG# A4H280149 4/7/2005 Page 2 of 3

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:

<u>1CV</u>	%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	<u>+</u> 20%; <40%	EFF-08-27-04
Carbon disulfide	27.8	<u>+</u> 20%; <40%	Trip Blank
Chloroethane	20.6	<u>+</u> 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"	

SDG# A4H280149 4/7/2005 Page 3 of 3

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: <u>BAK 09/27/2004</u> Checked by:

SDG# A4L140274 4/7/2005 Page 1 of 5

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).

SDG# A4L140274 4/7/2005 Page 2 of 5 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	<u>+</u> 20%	EFFLUENT, TRIP BLANK
2-Butanone	67.36	<u>+</u> 20%	
2-Hexaone	71.54	<u>+</u> 20%	
CCV (12/09/04, 10:13)_	<u>%</u> D	Limit	Associated Samples
Acetone	25.8	<u>+</u> 20%; <40%	EFFLUENT, TRIP BLANK
Bromomethane	20.6	<u>+</u> 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.

SDG# A4L140274 4/7/2005 Page 3 of 5

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 2butanone 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.

SDG# A4L140274 4/7/2005 Page 4 of 5

Surrogates

The recoveries for the six method-specified surrogates 2,4,5-tribromophenol (S1), 2-fluorobiphenyl (S2), 2-fluorophenol (S3), nitrobenzene-d₅ (S4), phenol-d₅ (S5), and terphenyl-d₁₄ (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.

SDG# A4L140274 4/7/2005 Page 5 of 5

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: <u>BAK 01/17/2005</u> Checked by: <u>JAV 01/31/2005</u>

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June 2005 Revision 1.0

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	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	D LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	< 10	2 J	2 J	< 10	v	1.69	0.94 J
8260	1,1,2,2-Tetrachloroethane	µg/L	< 10	< 10	< 10	< 10		~	<1 U
8260	1,1,2-Trichloroethane	µg/L	< 10	< 10	< 10	< 10	~	~	<1 U
8260	1,1-Dichloroethene	hg/L	26	50	47	25	18.7	40.9	22
8260	Carbon tetrachloride	hg/L	< 10	< 10	< 10	< 10	1.23	v	0.29 J
8260	Chloroform	μg/L	8 J	ſб	2 J	7 J	139	v	90
8260	cis-1,2-Dichloroethene	μg/L					~	v	<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	Vinvl chloride	ue/L	< 10	< 10	< 10	< 10	~	v	<1 U

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MW-007 Historical Analytical Results Annual Operations Report - 2004 Dunn Field Groundwater IRA- Year Six Defense Depot Memphis, Tennessee

MW-007	Sample Name MW07 (70_5-72_5) MW07 69.56-71.56	10/20/2004	1:50:00 PM	69.5-71.56		0.72 J	<1.4 U	<1.4 U	17	<1.4 U	0.44 J	<1.4 U	18	<1.4 U	14	<1.4 U
MW-007	MW07 (70_5-72	4/28/2004	4:15:00 PM	70.5-72.5		1.5	<1.2 U	<1.2 U	32	<1.2 U	<1.2 U	<1.2 U	50		32	<1.2 U
Site ID	Sample Name	Date Sampled	Time Sampled	Depth	RESUNIT	hg/L	μg/L	µg/L	µg/L	μg/L	hg/L	µg/L	μg/L	hg/L	hg/L	µg/L
					LABNAME	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethene	Carbon tetrachloride	Chloroform	cis-1,2-Dichloroethene	Tetrachloroethene	Trans 1,2-Dichloroethene	Trichloroethene	Vinyl chloride
					METHOD	8260	8260	8260	8260	8260	8260	8260	8260	8260	8260	8260

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MW-008 Historical Analytical Results Annual Operations Report - 2004 Dunn Field Groundwater IRA- Year Six Defense Depot Memphis, Tennessee

<1 U	<1 U	μg/L	Vinyl chloride	8260
1.3	0.85 J	hg/L	Trichloroethene	8260
<1 U		μg/L	Trans 1,2-Dichloroethene	8260
1.4	0.37 J	hg/L	Tetrachloroethene	8260
<1 U	<1 U	μg/L	cis-1,2-Dichloroethene	8260
<1 U	0 I ∨	η/βri	Chloroform	8260
<1 U	<1 U	μg/L	Carbon tetrachloride	8260
1.1	1.3	μg/L	1,1-Dichloroethene	8260
1 U	l⊳	μg/L	1,1,2-Trichloroethane	8260
<1 U	0 I ≥	μg/L	1,1,2,2-Tetrachloroethane	8260
<1 U	∩ I>	μg/L	1,1,1-Trichloroethane	8260
		RESUNIT	LABNAME	METHOD
64.2 66.2	65-67	Depth		
2:10:00 PM	3:45:00 PM	Time Sampled		
10/20/2004	4/28/2004	Date Sampled		
Sample Name MW08 (65-67) MW08 64.2-66.2	MW08 (65-67)	Sample Name		
MW-008	MW-008	Site ID		

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MW-009 Historical Analytical Results Annual Operations Report - 2004 Dunn Field Groundwater IRA- Year Six Defense Depot Memphis, Tennessee

		Site ID	60-WW	60-MW	60-MW	MW-09	60-MW	600-MW	600- M M
		Sample Name	MW092	60MM	MW094	MW095	I-60-MM	AW09 (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	hg/L	< 10	< 10	< 10	0I >	~	<1 U	<1 U
8260	1,1,2,2-Tetrachloroethane	µg/L	< 10	< 10	< 10	< 10	v	U</td <td>1 U</td>	1 U
8260	1,1,2-Trichloroethane	hg/L	01 >	< 10	01 >	< 10	v	<1 U	<1 U
8260	1,1-Dichloroethene	µg/L	2 J	1	1 J	< 10	- v	I U	I 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					~	U I>	0.76 J
8260	Tetrachloroethene	μg/L	1 J	4 J	3 J	6 J	1.89	U I>	1 U
8260	Trans 1,2-Dichloroethene	μg/L							1 U
8260	Trichloroethene	μg/L	6J	2 J	2 J	4 J	3.32	0.25 J	0.59 J
8260	Vinvl chloride	ue/L	< 10	< 10	< 10	< 10	-	<1 U	< <u>l</u> U

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MW-029 Historical Analytical Results Annual Operations Report - 2004 Dunn Field Groundwater IRA- Year Six Defense Depot Memphis, Tennessee

		Site ID	MW-29	MW-29	MW-29	MW-29	MW-29	MW-29	MW-29
		Sample Name	MW292	MW293	MW294	MW295	AW-29-1_030728		IW-29-1_03072&W-29-2_030728
			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	I 1:30:00 PM	1:30:00 PM	1:35:00 PM
		Depth							
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	hg/L	8 J	ſ L	5 J	5 J	2.28	2.28	2.21
8260	1,1,2,2-Tetrachloroethane	hg/L	<10	01>	<10	<10	V	V	~
8260	1,1,2-Trichloroethane	μg/L	<10	01>	<10	01>	~	V	7
8260	1,1-Dichloroethene	µg/L	32	29	28	21	19.5	19.5	20.5
8260	Carbon tetrachloride	μg/L	<10	<10	<10	01>	V	$\overline{\mathbf{v}}$	V
8260	Chloroform	μg/L	<10	<10	<10	<10	V	V	7
8260	cis-1,2-Dichloroethene	μg/L					~	~	~
8260	Tetrachloroethene	μg/L	38	29	37	29	20.9	20.9	21.7
8260	Trans 1,2-Dichloroethene	hg/L							
8260	Trichloroethene	hg/L	18	18	17	17	22.5	22.5	23.8
8260	Vinvl chloride	ug/L	<10	<10	<10	<10	<1	<1	<1

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		Site ID	MW-29		MW-29	MW-29 MW-29 MW-29 MW-29 MW-29 MW-29 MW-29 MW-27 12	020-WM	WW-029 WW -029 WW -029	620-MM
		Date Sample vinded	7/28/2003	Σ	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
МЕТИОП	I ABNAME	Depth					40.7-42.7	45.7-47.7	20.7-27.7
8260	[-].[-]		2.06	3.36	3.58	3.61	2.7	2.6	2.8
8260	1,1,2,2-Tetrachloroethane	µg/L	V	<u>د</u> ا	<u>ا</u>	4	$\overline{\mathbf{v}}$	~	v
8260	1.1.2-Trichloroethane	μg/L	v	~	v	∠	v	V	7
8260	1,1-Dichloroethene	hg/L	20.7	33.2	34.8	32.8	24	24	24
8260	Carbon tetrachloride	hg/L	V	V	V	Ī	$\overline{\mathbf{v}}$	\overline{v}	v
8260	Chloroform	hg/L	v	~	V	ī~	$\overline{\nabla}$	$\overline{\mathbf{v}}$	v
8260	cis-1,2-Dichloroethene	μg/L	$\overline{\vee}$	₽		V	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	hg/L							
8260	Trichloroethene	µg/L	20.8	27.9	29.6	28.5	29	29	31
82.60	Vinvl chloride	ue/L	V	V	V	-	~	~	~

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MW-029 Historical Analytical Results Annual Operations Report - 2004 Dunn Field Groundwater IRA- Year Six Defense Depot Memphis, Tennessee

		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	46,148.1	50.6 52.6	41.643.6
METHOD	D LABNAME	RESUNIT					
8260	1,1,1-Trichloroethane	µg/L	2.6	2.8	2.3	2.9	l. 9.1
8260	1,1,2,2-Tetrachloroethane	μg/L	~	~	<1.7	~	7
8260	1,1,2-Trichloroethane	μg/L	$\overline{\vee}$	~	<1.7	~	V
8260	1,1-Dichloroethene	μg/L	22	22	18	22	18
8260	Carbon tetrachloride	µg/L	V	√	<1.7	~	J</td
8260	Chloroform	μg/L	V	√	<1.7	V	v
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		~	<1.7	v	v
8260	Trichloroethene	µg/L	29	29	24	30	29
8260	Vinvl chloride	ug/L	⊽	V	<1.7	~	~

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$ \begin{array}{c c c c c c c c c c c c c c c c c c c $			Site ID	MW-30	MW-30	MW-30	MW-30	MW-30	MW-30
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $			Sample Name	MW302	MW303	MW304	MW305	MW-30-YIQI	MW-30-Y1Q2
Time Sampled 3:15:00 PM 2:15:00 PM 12:37:00 PM 11:45:00 AM Depth Depth 2:15:00 PM 12:37:00 PM 11:45:00 AM 11:45:00 AM LABNAME RESUNIT Call 2:10 2:11 2			Date Sampled	266112119	9/24/1997	3/24/1998	10/16/1998	2/2/1999	5/24/1999
$\begin{array}{c c c c c c c c c c c c c c c c c c c $			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
$\begin{array}{llllllllllllllllllllllllllllllllllll$			Depth						
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	METHOL		RESUNIT					-	
1,1,2,2-Tetrachloroethane $\mu g/L$ <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <10 <	8260	1,1,1-Trichloroethane	µg/L	<10	<10	<10	<10	7	7
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	8260	1,1,2,2-Tetrachloroethane	μg/L	<10	<10	<10	<10	V	~
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	8260	1,1,2-Trichloroethane	η/gμ	<10	<10	<10	<10	V	V
$ \begin{array}{llllllllllllllllllllllllllllllllllll$	8260	1,1-Dichloroethene	µg/L	<10	0 <u>1</u> >	0I>	<10	V	~
$ \begin{array}{llllllllllllllllllllllllllllllllllll$	8260	Carbon tetrachloride	μg/L	<10	<10	<10	<10	V	.∼
$ \begin{array}{llllllllllllllllllllllllllllllllllll$	8260	Chloroform	μg/L	<10	<10	<10	<10	7	7
$ \begin{array}{llllllllllllllllllllllllllllllllllll$	8260	oroet	μg/L					7	~
Trans 1.2-Dichloroethene $\mu g/L$ Trichloroethene $\mu g/L$ <10 <10 <10 <10 Vinvl chloride $\mu g/L$ <10 <10 <10 <10	8260	Tetrachloroethene	μg/L	01>	<10	<10	01>	7	~
Trichloroethene $\mu g/L < 10 < 10 < 10$ Vinvl chloride $\mu g/L < 10 < 10 < 10$	8260	Trans 1,2-Dichloroethene	μg/L						
μg/L <10 <10 <10 <10	8260	Trichloroethene	μg/L	<10	<10	<10	<10	7	~
	8260	Vinyl chloride	μ <u>g</u> /L	<10	<10	<10	<10	~	4

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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-Y3SI
		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	hg/L	V	⊽	V	√	~	⊽	~
8260	1,1,2,2-Tetrachloroethane	μg/L	₽	⊽	⊽	⊽	7	⊽	~
8260	1,1,2-Trichloroethane	µg/L	v	V	⊽	⊽	⊽	⊽	~
8260	1,1-Dichloroethene	µg/L	V	~	⊽	~	⊽	⊽	$\overline{\mathbf{v}}$
8260	Carbon tetrachloride	µg/L	~	V	⊽	~	~	⊽	V
8260	Chloroform	µg/L	7	Ÿ	⊽	7	v	⊽	7
8260	cis-1,2-Dichloroethene	µg/L	~	7	~		~	⊽	7
8260	Tetrachloroethene	μg/L	v	V	⊽	v	7	⊽	~
8260	Trans 1,2-Dichloroethene	μg/L				V			~
8260	Trichloroethene	µg/L	V	⊽	v	V	v	7	7
8260	Vinvl chloride	ue/L	V	~	~	⊽	~	.⊳	

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		Site ID	MW-30	MW-30	MW-30	MW-30	MW-30	MW-30
		Sample Name M	ie MW-30-Y3S2-A	MW-30-Y3S2-B	MW-30-1 020410	MW-30-1 020410 MW-30-2 020410	MW-30-1_021002 MW-30-2_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	~	~	~	V	√	7
8260	1,1,2,2-Tetrachloroethane	μg/L	v	⊽	⊽	₽	.^	~
8260	1,1,2-Trichloroethane	hg/L	⊽	⊽	⊽	⊽	.^	√
8260	1,1-Dichloroethene	hg/L	⊽	⊽	⊽	i⊽	√	7
8260	Carbon tetrachloride	hg/L	∼	⊽	7	⊽	√	√
8260	Chloroform	μg/L	~	V	⊽			7
8260	cis-1,2-Dichloroethene	hg/L	⊽	⊽	⊽	⊽	⊽	7
8260	Tetrachloroethene	Л/8́п	V	⊽	√	v	⊽	~
8260	Trans 1,2-Dichloroethene	J/gµ						
8260	Trichloroethene	hg/L	⊽	V	7		V	√
8260	Vinvl chloride	ue/L	V	⊽	~	5	~	~

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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 (46_5-48_5) MW30 (51_5-53_5) MW30 (56_5-58_5) MW30 49-51	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		4648.5	51.5-53.5	56.5-58.5	49-51
METHOD	LABNAME	RESUNIT						ļ
8260	1,1,1-Trichloroethane	μg/L	v	$\overline{\mathbf{v}}$		~	⊽	V
8260	1,1,2,2-Tetrachloroethane	μg/L	7	~	⊽	$\overline{\mathbf{v}}$	~	⊽
8260	1,1,2-Trichloroethane	μg/L	V	⊽	⊽	~	⊽	⊽
8260	1, I - Dichloroethene	μg/L	V	v	√	~	⊽	⊽
8260	Carbon tetrachloride	µg/L	$\overline{\mathbf{v}}$	V	~	$\overline{\mathbf{v}}$	$\overline{\nabla}$	⊽
8260	Chloroform	µg/L	$\overline{\mathbf{v}}$		~	~	~	₽ V
8260	cis-1,2-Dichloroethene	μg/L	~	!>	⊽	~	~	⊽
8260	Tetrachloroethene	µg/L	v	~	⊽	√	⊽	v
8260	Trans 1,2-Dichloroethene	µg/L	ī					v
8260	Trichloroethene	hg/L	V	⊽	⊽	⊽	$\overline{\mathbf{v}}$	v
8260	Vinvl chloride	ue/L	$\overline{\nabla}$	~	~	~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	$\overline{\mathbf{v}}$	$\overline{\mathbf{v}}$
8260	1,1,2,2-Tetrachloroethane	μg/L	⊽	$\overline{\mathbf{v}}$
8260	1,1,2-Trichloroethane	μg/L	⊽	~
8260	1,1-Dichloroethene	μg/L	~	v
8260	Carbon tetrachloride	μg/L	~	~
8260	Chloroform	μg/L	~	~
8260	cis-1,2-Dichloroethene	μg/L	~	V
8260	Tetrachloroethene	μg/L	ī	V
8260	Trans 1,2-Dichloroethene	hg/L	V	v
8260	Trichloroethene	μg/L	V	v
8260	Vinyl chloride	µg/L	<1	

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				10-M M	10-M M	N W-51	10-W M	IC-MW	
		Sample Name	MW312	MW313ADD	MW314	MW315	MW-31-YIQI	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	hg/L	2 J	2 J	25 U	25 U	1.26	~	~
8260	1,1,2,2-Tetrachloroethane	μg/L	<10	10 J	76	33	3.22	V	~
8260	1,1,2-Trichloroethane	μg/L	01>	20 U	4 J	25 U	V	V	7
8260	1,1-Dichloroethene	J/gu	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	$\overline{\mathbf{v}}$	0.59 J
8260	Chloroform	μg/L	01	6 4	21 J	16 J	7.22	~	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	μ <u>g</u> /L	<10	20 U	25 U	25 U	₽	[∨	Ā

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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 Denth	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
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	$\overline{\vee}$	~	0.2 J	02J	$\overline{\vee}$	0.42 J	$\overline{\vee}$
8260	1,1,2,2-Tetrachloroethane	μg/L	$\overline{\vee}$	$\overline{\nabla}$	V	v	v	$\overline{\vee}$	7
8260	I, I, 2-Trichloroethane	μg/L	$\overline{\vee}$	~	V	$\overline{\nabla}$	v	~	V
8260	1,1-Dichloroethene	μg/L	5.98	9.89	90	6	22.3	⊽	31.5
8260	Carbon tetrachloride	µg/L	$\overline{\nabla}$	~	$\overline{\nabla}$	$\overline{\vee}$	$\overline{\mathbf{v}}$	0.4 J	V
8260	Chloroform	µg/L	0.92 J	1.19	0.5 J	0.4 J	1.29	⊽	$\overline{\mathbf{v}}$
8260	cis-1,2-Dichlorocthene	µg/L	5.09	689	0.6 J	0.4 J	15.5	12.3	4.24
8260	Tetrachloroethenc	μg/L	0.9 J	0.64 J	1 J	1	1.16	2.08	0.92 J
8260	Trans 1,2-Dichlorocthene	μg/L							
8260	Trichloroethene	µg/L	18	25.6	4	4	49.5	68.1	18.5
8260	Vinvl chloride	ug/L	~	~	V	~	7	V	V

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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
			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
i		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	⊽	~	0.7 J	√	0.5 J	0.62 J
8260	1,1,2,2-Tetrachloroethane	µg/L	14.8	~	~	∼	⊽	~
8260	1,1,2-Trichloroethane	µg/L	1.2	~	~	~	⊽	√
8260	1,1-Dichloroethene	µg/L	7.98	20.6	31.2	20.6	39.5	39.3
8260	Carbon tetrachloride	J/gu	2.76	1.25	$\overline{\mathbf{v}}$	~	~	0.88 J
8260	Chloroform	μg/L	25.1	1.61	~	₽ V	⊽	1.08
8260	cis-1,2-Dichloroethene	hg/L	148	44.2	5.53	6.78	2.66	17
8260	Tetrachloroethene	μg/L	5.02	2.1	4.19	-	1.24	1.32
8260	Trans 1,2-Dichloroethene	hg/L						
8260	Trichloroethene	µg/L	241	227	38.1	33.1	21.5	87.5
8260	Vinvl chloride	ug/L	~	-1	⊽	l>	~	<1

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		Site ID	MW-31	MW-31	IE-WM	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	v	v	~	~	⊽
8260	1,1,2,2-Tetrachloroethane	μg/L	$\overline{\nabla}$	$\overline{\mathbf{v}}$	v	~	~	$\overline{\nabla}$
8260	1,1,2-Trichloroethane	µg/L	~	V	$\overline{\mathbf{v}}$	~		Ā
8260	1,1-Dichloroethene	J/gr	55.4	13.7	5.37	8.38	7.61	8.21
8260	Carbon tetrachloride	μg/L	~	v	\overline{v}	$\overline{\mathbf{v}}$	$\overline{\mathbf{v}}$	~
8260	Chloroform	µg/L	~	V	$\overline{\vee}$	~	$\vec{\nabla}$	Ā
8260	cis-1,2-Díchloroethene	μg/L	1.24	2.06	$\overline{\vee}$	~	~	7
8260	Tetrachloroethene	μg/L	1.1	0.92	0.83	7	~	1.08
8260	Trans 1,2-Dichloroethene	hg/L						
8260	Trichloroethene	hg/L	15.8	13.5	1.24	1.46	2.32	1.97
8260	Vinvl chloride	u ^{g/L}	~	V	V	~	~	<1

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Sample Name MW31 (72, 2-74, 2) MW31 (77, 5-79, 5) MW31 72.5-74.5 Date Sampled 3:10.00 PM 3:15:00 PM 4/29/2004 Time Sampled 3:10.00 PM 3:15:00 PM 4.00:202004 Depth 72.2-742 77.5-79.5 72.5-74.5 Depth 72.2-742 0.74 0.74 10/20/2004 1,1,2,2-Tetrachloroethane $\mu g/L$ <1 <1 <1 1,1,2,2-Tetrachloroethane $\mu g/L$ <1 <1 <1 I,1,2,2-Tetrachloroethane $\mu g/L$ 0.74 0.32 12 <1 Carbon tetrachloroethene			Site ID	MW-031	MW-031	MW-031	MW-031
Date Sampled 4/29/2004 4/29/2004 10/20/2004 Time Sampled 3:10.00 PM 3:15:00 PM 4:00:00 PM LABNAME RESUNIT $72.2-74.2$ $77.5-79.5$ $72.5-74.5$ LI,I.1-Trichloroethane $\mu g/L$ $c1$ $c1$ $c1$ L1,2.2-Tetrachloroethane $\mu g/L$ $c1$ $c1$ $c1$ L1,2.2-Tetrachloroethane $\mu g/L$ $c1$ $c1$ $c1$ L1,2.2-Tetrachloroethane $\mu g/L$ $c1$ $c1$ $c1$ L1,2.2-Trichloroethane $\mu g/L$ $c1$ $c1$ $c1$ L1,2.2-Trichloroethene $\mu g/L$ 0.24 0.33 12 Carbon tetrachloride $\mu g/L$ 0.32 0.33			Sample Name	MW31 (72_2-74_2)	MW31 (77_5-79_5)	MW31 72.5-74.5	MW31 77.5-79.5
Time Sampled $3:10.00 \text{ PM}$ $3:15:00 \text{ PM}$ $4:00:00 \text{ PM}$ $4:00:00 \text{ PM}$ Depth $72.2-74.2$ $77.5-79.5$ $72.5-74.5$ $72.5-74.5$ LABNAME RESUNIT 0.74 J 0.54 J $4:00:00 \text{ PM}$ $4:00:00 \text{ PM}$ $1,1,1$ -Trichloroethane $\mu g/L$ <1 <1 <1 <1 $1,1,2.7$ -Trichloroethane $\mu g/L$ $<0.24 \text{ J}$ 0.32 J $2.7 Carbon tetrachloride \mu g/L 0.32 \text{ J} 0.33 \text{ J} <1 <1 Carbon tetrachloroethene \mu g/L 0.32 $			Date Sampled	4/29/2004	4/29/2004	10/20/2004	10/20/2004
$\begin{array}{c c c c c c c c c c c c c c c c c c c $			Time Sampled	3:10.00 PM	3:15:00 PM	4:00:00 PM	4:05:00 PM
LABNAMERESUNITLABNAMERESUNITL,1,1-Trichloroethane $\mu g/L$ 0.74 J 0.54 J <1 L,1,2.Tetrachloroethane $\mu g/L$ <1 <1 <1 L,1,2.Trichloroethane $\mu g/L$ 0.24 J 0.18 J <1 L,1,2.Trichloroethene $\mu g/L$ 0.24 J 0.18 J <1 Carbon tetrachloride $\mu g/L$ 0.24 J 0.32 J <1 Chloroform $\mu g/L$ 0.24 J 0.32 J 0.33 JChloroethene $\mu g/L$ 0.32 J 0.36 J 0.31 JFrans 1,2.Dichloroethene $\mu g/L$ 2.2 0.85 J 0.31 JFrans 1,2.Dichloroethene $\mu g/L$ 16 12 2.7 Vinyl chloride $\mu g/L$ <1 <1 <1			Depth	72.2-74 2	77.5-79.5	72.5-74.5	77.5-79.5
$\mu_1 1$ -Trichloroethane μ_g/L 0.74 J 0.54 J <1 $\mu_1 2$, 2-Tetrachloroethane μ_g/L <1 <1 <1 <1 $\mu_1 1$, 2-Trichloroethane μ_g/L <1 <1 <1 <1 <1 $\mu_1 1$, 2-Trichloroethane μ_g/L <1 <1 <1 <1 <1 $\mu_1 1$, 2-Trichloroethane μ_g/L <1 <1 <1 <1 <1 $\mu_1 1$, 2-Trichloroethane μ_g/L 0.24 J 0.18 J <1 <1 $\mu_2 1$ 0.24 J 0.18 J 0.32 J 0.32 J 0.33 J <1 Σ chloroform μ_g/L 0.24 J 0.32 J 0.33 J <1 Σ chloroform μ_g/L 0.32 J 0.36 J 0.33 J <1 Σ chloroethene μ_g/L 2.2 0.35 J 0.31 J <1 Γ chloroethene μ_g/L 0.46 J 0.35 J 0.31 J <1 <1 Γ chloroethene μ_g/L 2.2 0.35 J 0.31 J	METHOD) LABNAME				-	
1,1,2,2.Tetrachloroethane $\mu g/L$ <1	8260	1,1,1-Trichloroethane		0.74 J	0.54 J	V	<1 J
1,1,2-Trichloroethane $\mu g/L$ <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1	8260	1,1,2,2-Tetrachloroethane		V	.⊳	~	~
I, I-Dichlorocthene $\mu g/L$ 40 33 12 Carbon tetrachloride $\mu g/L$ 0.24 0.18 <1 Carbon tetrachloride $\mu g/L$ 0.24 0.18 <1 Chloroform $\mu g/L$ 0.32 0.32 <1 Chloroform $\mu g/L$ 0.32 0.32 <1 cis-1,2-Dichloroethene $\mu g/L$ 0.46 0.35 0.35 Tetrachloroethene $\mu g/L$ 2.2 0.35 0.31 0.31 Trans 1,2-Dichloroethene $\mu g/L$ 16 16 <1 <1 Trichloroethene $\mu g/L$ 16 16 <1 <1	8260	1,1,2-Trichloroethane		⊽	⊽	∠	~
Carbon tetrachloride $\mu g/L$ 0.24 J 0.18 J <1 Chloroform $\mu g/L$ 0.32 J 0.32 J <1	8260	1,1-Dichloroethene		40	33	12	17
Chloroform $\mu g/L$ 0.32 J 0.32 J <1 cis-1,2-Dichloroethene $\mu g/L$ 0.46 J 0.56 J 0.35 J Tetrachloroethene $\mu g/L$ 2.2 0.85 J 0.31 J Trans 1,2-Dichloroethene $\mu g/L$ 2.2 0.85 J 0.31 J Trans 1,2-Dichloroethene $\mu g/L$ 16 12 2.7 Vinyl chloriethene $\mu g/L$ <1	8260	Carbon tetrachloride		0.24 J	0.18 J	v	<1J
cis-1,2-Dichloroethene $\mu g/L$ 0.46 J 0.56 J 0.35 J Tetrachloroethene $\mu g/L$ 2.2 0.85 J 0.31 J Trans 1,2-Dichloroethene $\mu g/L$ 16 12 2.7 Trichloroethene $\mu g/L$ 16 12 2.7 Vinyl chloride $\mu g/L$ <1 <1 <1	8260	Chloroform		0.32 J	0.32 J	V	~
Tetrachloroethene $\mu g/L$ 2.20.85 J0.31 JTrans 1,2-Dichloroethene $\mu g/L$ c_1 c_1 Trichloroethene $\mu g/L$ 16122.7Vinyl chloride $\mu g/L$ c_1 c_1 c_1	8260	cis-1,2-Dichloroethene		0.46 J	0.56 J	0.35 J	0.58 J
Trans I,2-Dichloroethene $\mu g/L$ <1Trichloroethene $\mu g/L$ 1612Vinyl chloride $\mu g/L$ <1	8260	Tetrachloroethene		2.2	0.85 J	0.31 J	0.42 J
Trichloroethene $\mu g/L$ 16 12 Vinyl chloride $\mu g/L$ <1 <1	8260	Trans 1,2-Dichloroethene				⊽	0.31 J
Vinyl chloride	8260	Trichloroethene		16	12	2.7	4.7
	8260	Vinyl chloride		~	~	~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	7661/62/6	3/27/1998	2/3/1999	5/25/1999	8/26/1999	11/3/1999
		Sampled	12:10:00 PM	2:45:00 PM	10:35:00 AM	0:35:00 AM 11:50:00 AM	12:00:00 PM	5:30:00 PM	11:55:00 AM
		Depth							
METHOD	D LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	μg/L	<10	<10	<10	V	~	⊽	~
8260	1,1,2,2-Tetrachloroethane	μg/L	16	110	140	5.67	4.42	0.92 J	~
8260	1,1,2-Trichloroethane	μg/L	51	5 J	6 J	1.54	$\overline{\mathbf{v}}$	~	∠
8260	1,1-Dichloroethene	μg/L	<10	<10	<10	~	$\overline{\mathbf{v}}$	⊽	∠
8260	Carbon tetrachloride	μg/L	25	16	20	25.2	14.2	17.3	25.2
8260	Chloroform	µg/L	8 J	6J	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	1.1	1.16	1.28	2.22	2.63
8260	Trans 1,2-Dichloroethene	hg/L							
8260	Trichloroethene	hg/L	93	76	100	31.9	28.1	34.6	36.8
8260	Vinyl chloride	ng/L	<10	<10	<10	7	V	~	√

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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	$\overline{\mathbf{v}}$	$\overline{\nabla}$	$\overline{\mathbf{v}}$	V	⊽	7
8260		μg/L	$\overline{\mathbf{v}}$	~	2.12	21.5	68.2	216
8260	-	μg/L	7	~	√	0.61 J	~	~
8260	-	μg/L	$\overline{\mathbf{v}}$	$\overline{\mathbf{v}}$	~	$\overline{\mathbf{v}}$	~	√
8260	Carbon tetrachloride	hg/L	25.5	37	47.2	61.3	19.7	42.7
8260	Chloroform	J/gu	2.77.2	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	hg/L	2.34	3.94	5.9	6.39 J	3.74	
8260	Trans 1,2-Dichloroethene	hg/L						
8260	Trichloroethene	μg/L	41.8	58.2	89.2	94.8	71.9	238
8260	Vinvl chloride	ne/L	V	V	V	~	~	~

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		SITC IU	MW-32	MW-32	MW-52	MW-32	M W-052
		Sample Name v	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	1,1,1-Trichloroethane	µg/L	$\overline{\vee}$	~	₹	~	<1 U
8260	1,1,2,2-Tetrachloroethane	μ <u>g</u> /L	24	14	11	7.82	8.1
8260 1	1,1,2-Trichloroethane	μg/L	0.59 J	V	0.52	∠	U</td
_	1, 1-Dichloroethene	μg/L	$\overline{\mathbf{v}}$	V	$\overline{\mathbf{v}}$	~	<1 U
Ŭ	Carbon tetrachloride	µg/L	12.1	12.3	1.18	$\overline{\nabla}$	8.2
Ŭ	Chloroform	J/gu	102	91.5	50.2	50.9	37
	cis-1,2-Dichloroethene	µg/L	4.21	3.49	9.16	7.97	2
8260 J	Tetrachloroethene	µg/L	0.82 J	1.41	V	~	0.37 J
8260 7	Trans 1,2-Dichloroethene	µg/L					
8260 7	Tuchloroethene	µg/L	37.9	34.8	13.5	13.4	14
8260	Vinvl chloride	ug/L	~	V	~	<	<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	U</td
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	hg/L			0.23 J
8260	Trichlorocthene	μg/L	13	24	7.3
8260	Vinyl chloride	µg/L	<1 U	<2.5 U	<l li="" u<=""></l>

		Site ID	MW-33	MW-33	MW-33	MW-33	MW-33	MW-33	60- M M
		Sample Name	MW332	MW333	MW334	MW335	MW-33-YIQI	MW-33-Y1Q2	MW-33-Y1Q3
		Date Sampled	2661/81/9	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				r.			
8260	1,1,1-Trichloroethane	µg/L	01>	<10	01>	<10	7	∼	7
8260	1,1,2,2-Tetrachloroethane	µg/L	<10	<10	<10	<10	7		~
8260	1,1,2-Trichloroethane	µg/L	01>	<10	<10	<10	⊽	v	~
8260	1,1-Dichloroethene	µg/L	<10	<10	<10	<10	v	$\overline{\mathbf{v}}$	~
8260	Carbon tetrachloride	µg/L	<10	<10	01>	<10	~	∠	7
8260	Chloroform	μg/L	<10	<10	<10	<10	~	~	~
8260	cis-1,2-Dichloroethene	hg/L					⊽	$\overline{\nabla}$	7
8260	Tetrachloroethene	μg/L	01>	01>	<10	<10	~	$\overline{\mathbf{v}}$	$\overline{\vee}$
8260	Trichloroethene	μg/L	01>	01>	<10	<10	v	v	v
8260	Vinyl chloride	µg/L	<10	<10	<10	<10	7		~

		Site ID	MW-33	MW-33	MW-33	MW-33	MW-33	MW-033	MW-33
		Sample Name	MW-33-Y1Q4	MW-33-Y2QI	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	$\overline{\nabla}$	~	7	⊽	~	⊽	7
8260	1,1,2,2-Tetrachloroethane	µg/L	$\overline{\vee}$	$\overline{\nabla}$	$\overline{\mathbf{v}}$	$\overline{\nabla}$	⊽	√	7
8260	1,1,2-Trichloroethane	µg/L	~	$\overline{\mathbf{v}}$	⊽	⊽	$\overline{\nabla}$	⊽	7
8260	1,1-Dichloroethene	µg/L	$\overline{\nabla}$	~	$\overline{\nabla}$	⊽	$\overline{\mathbf{v}}$	$\overline{\nabla}$	7
8260	Carbon tetrachloride	hg/L	v	$\overline{\nabla}$	v	V	~	⊽	7
8260	Chloroform	µg/L	~	Ţ	$\overline{\vee}$	v	$\overline{\vee}$	$\overline{\mathbf{v}}$	7
8260	cis-1,2-Dichloroethene	µg/L	V	~	V	⊽	$\overline{\nabla}$		7
8260	Tetrachloroethene	ug/L	$\overline{\vee}$	$\overline{\mathbf{v}}$	$\overline{\nabla}$	~	~	$\overline{\mathbf{v}}$	⊽
								~	
8260	Trichloroethene	µg/L	v	i~	v	V	$\overline{\mathbf{v}}$	$\overline{\nabla}$	v
8260	Vinvl chloride	ue/L	$\overline{\vee}$	~	V	~	~	V	V

833 195

MW-33-1 020410 MW-33-1 031028 MW-33-1 031028 MW33 (56-58) 4/10/2002 10/2/2002 4/8/2003 10/28/2003 4/29/2004 11:47:00 AM 9:05:00 AM 2:00:00 PM 11:20:00 AM 6 3 2:00:00 PM 11:20:00 AM 6 4/10/2002 4/8/2003 4/29/2004 11:47:00 AM 9:05:00 AM 2:00:00 PM 11:20:00 AM 6 4 4 4 4/29/2004 6 4 4 4 4/29/2004 7 4 4 4 4/29/2004 8 4 4 4 4/29/2004 8 4 4 4 4/29/2004 8 4 4 4 4/29/2004 9 4 4 4 4 10 4 4 4 4 11 4 4 4 4 11 4 4 4 4 11 4 4 4 4 11 4 4 4 4 11 4 4 4 4 11 4 4 4 4 11			Site ID	MW-33	MW-33	MW-33	MW-33	MW-033	MW-033
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$			Sample Name N	AW-33-1_020410	MW-33-1_021002	MW-33-1	MW-33-1_031028	MW33 (56-58)	MW33 (59_5-61_5)
Time Sampled11:47:00 AM9:05:00 AM2:00:00 PM11:20:00 AM1DepthDepth2:00:00 PM11:20:00 AM1LABNAMERESUNIT56-58LABNAMERESUNIT $<<1$ <1 <1 1,1,1-Trichloroethane $\mu g/L$ <1 <1 <1 <1 1,1,2-Trachloroethane $\mu g/L$ <1 <1 <1 <1 1,1,2-Trichloroethane $\mu g/L$ <1 <1 <1 <1 <1 1,1,2-Trichloroethane $\mu g/L$ <1 <1 <1 <1 <1 <1 Carbon terrachloride $\mu g/L$ <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <			Date Sampled	4/10/2002	10/2/2002	4/8/2003	10/28/2003	4/29/2004	4/29/2004
Depth56-58LABNAMERESUNITLABNAMERESUNIT1,1,1-Trichloroethane $\mu g/L$ 1,1,2-Tetrachloroethane <td< th=""><th></th><th></th><th>Time Sampled</th><th>11:47:00 AM</th><th>9:05:00 AM</th><th></th><th>2:00:00 PM</th><th>11:20:00 AM</th><th>11:25:00 AM</th></td<>			Time Sampled	11:47:00 AM	9:05:00 AM		2:00:00 PM	11:20:00 AM	11:25:00 AM
LABNAMERESUNITLABNAMERESUNIT1,1,1-Trichloroethane $\mu g/L$ <1<11,1,2.7-Tetrachloroethane $\mu g/L$ <1<1<11,1,2.7-Tetrachloroethane $\mu g/L$ <1<1<11,1.2.7-Tetrachloroethane $\mu g/L$ <1<1<1Carbon tetrachloride $\mu g/L$ <1<1<1<1Chloroform $\mu g/L$ <1<1<1<1<1Chloroethene $\mu g/L$ <1<1<1<1<1<1Tetrachloroethene $\mu g/L$ <1<1<1<1<1<1<1<1Trichloroethene $\mu g/L$ <1<1<1<1<1<1<1<1<1Trichloroethene $\mu g/L$ <1<1<1<1<1<1<1<1<1<1<1<1Trichloroethene $\mu g/L$ <1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1<1			Depth					56-58	59.5-61.5
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	METHOD		RESUNIT						
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	8260	1,1,1-Trichloroethane	µg/L	~	₽	∠	⊽	U</td <td><!-- U</td--></td>	U</td
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	8260	1,1,2,2-Tetrachloroethane	µg/L	~	~	5	₽	<1 U	U</td
$ \begin{array}{cccccc} 1,1-\text{Dichloroethene} & \mu g/L & <1 & <1 & <1 \\ \text{Carbon tetrachloride} & \mu g/L & <1 & <1 & <1 \\ \text{Carbon tetrachloride} & \mu g/L & <1 & <1 & <1 \\ \text{Chloroform} & \mu g/L & <1 & <1 & <1 \\ \text{cis-1},2-\text{Dichloroethene} & \mu g/L & <1 & <1 & <1 \\ \text{Tetrachloroethene} & \mu g/L & <1 & <1 & <1 \\ \text{Trichloroethene} & \mu g/L & <1 & <1 & <1 \\ \text{Vinvl chloride} & \mu g/L & <1 & <1 & <1 \\ \text{Vinvl chloride} & \mu g/L & <1 & <1 & <1 \\ \text{Vinvl chloride} & \mu g/L & <1 & <1 & <1 \\ \text{Vinvl chloride} & \mu g/L & <1 & <1 & <1 \\ \text{Chloroethene} & \mu g/L & <1 & <1 & <1 \\ \text{Chloroethene} & \mu g/L & <1 & <1 & <1 \\ \text{Chloroethene} & \mu g/L & <1 & <1 & <1 \\ \text{Chloroethene} & \mu g/L & <1 & <1 & <1 \\ \text{Chloroethene} & \mu g/L & <1 & <1 & <1 \\ \text{Chloroethene} & \mu g/L & <1 & <1 & <1 \\ \end{array} $	8260	1,1,2-Trichloroethane	μg/L	V	⊳	∠	V	<1 U	U</td
$ \begin{array}{c cccc} Carbon \mbox{ terrachloride} & \mu g/L & <1 & <1 & <1 & <1 \\ Chloroform & \mu g/L & <1 & <1 & <1 \\ Chloroform & \mu g/L & <1 & <1 & <1 \\ cis-1,2-Dichloroethene & \mu g/L & <1 & <1 & <1 \\ Terrachloroethene & \mu g/L & <1 & <1 & <1 \\ Trichloroethene & \mu g/L & <1 & <1 & <1 \\ Vinyl chloride & \mu g/L & <1 & <1 & <1 \\ \end{array} $	8260	1,1-Dichloroethene	µg/L	v	⊽	∼	⊽	<1 U	U</td
$ \begin{array}{llllllllllllllllllllllllllllllllllll$	8260	Carbon tetrachloride	μg/L	V	₽	ī	⊽	<1 U	U</td
cis-1,2-Dichloroethene $\mu g/L$ <1<1<1Tetrachloroethene $\mu g/L$ <1	8260	Chloroform	µg/L	V	~	Ÿ	$\overline{\mathbf{v}}$	<1 U	U</td
$Tetrachloroethene \qquad \mu g/L < 1 < 1 < 1 < 1 \\ Trichloroethene \qquad \mu g/L < 1 < 1 < 1 < 1 \\ Vinyl chloride \qquad \mu g/L < 1 < 1 < 1 < 1 \\ Vinyl chloride \qquad \mu g/L < 1 < 1 < 1 < 1 \\ Vinyl chloride \qquad \mu g/L < 1 < 1 < 1 \\ Vinyl chloride \qquad Vin$	8260	cis-1,2-Dichloroethene	hg/L	V	⊳	⊽	⊽	<1 U	<!-- U</li-->
Trichloroethene μg/L <1 <1 <1 <1 Vinyl chloride μg/L <1 <1 <1 <1	8260	Tetrachloroethene	µg/L	v	</td <td>$\overline{\mathbf{v}}$</td> <td>⊽</td> <td><1 U</td> <td>1 U</td>	$\overline{\mathbf{v}}$	⊽	<1 U	1 U
Vinvl chloride ug/L <1 <1 <1 <1	8260	Trichloroethene	hg/L	v	~	V	īv	<1 U	I U
	8260	Vinyl chloride	μ <u>g</u> /L	۲ ۲	₽	.∧	1>	<1 U	<1 U

833 196

		Site ID	MW-033	MW-033
		Sample Name	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	J/gu	ſ⊳	{ I>
8260	1,1,2,2-Tetrachloroethane	µg/L	$\overline{\mathbf{v}}$	
8260	1,1,2-Trichloroethane	μg/L	⊽	V
8260	1,1-Dichloroethene	hg/L	⊽	v
8260	Carbon tetrachloride	μg/L	ſ I>	< []>
8260	Chloroform	μg/L	V	V
8260	cis-1,2-Dichloroethene	μg/L	⊽	⊽
8260	Tetrachloroethene	hg/L	$\overline{\mathbf{v}}$	⊽
			⊽	Ī
8260	Trichloroethene	J/Bri		ī
8260	Vinyl chloride	μg/L	<	<1

		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-YIQI	MW-34-Y1Q2
		Date Sampled	2661/61/9	2661/61/9	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	D LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	μg/L	<10	<10	<10	<10	<10	V	√
8260	1,1,2,2-Tetrachloroethane	μg/L	<10	<10	<10	2 J	<10	⊽	.⊳
8260	1,1,2-Trichloroethane	μg/L	<10	<10	<10	<10	<10	⊽	
8260	1,1-Dichloroethene	μg/L	<10	<10	<10	<10	<10	$\overline{\nabla}$	7
8260	Carbon tetrachloride	hg/L	<10	<10	<10	<10	<10	1.01	1.23
8260	Chloroform	µg/L	2 J	2 J	l J	<10	<10	4.34	7
8260	cis-1,2-Dichloroethene	µg/L						1.03	√
8260	Tetrachloroethene	hg/L	<10	<10	<10	<10	<10	7	$\overline{\nabla}$
8260	Trans 1,2-Dichloroethene	hg/L							
8260	Trichloroethene	hg/L	<10	<10	<10	<10	<10	4.39	~
8260	Vinvl chloride	μg/L	<10	<10	<10	<10	<10		<1

833 198

		Site ID	MW-34	MW-34	MW-34	MW-34	MW-34	MW-34	MW-34
			MW-34-Y103	MW-34-Y1Q4	MW-34-Y2Q1	MW-34	MW-34-Y2Q3	MW-34-Y2Q4	MW-34_01022(
		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	$\overline{\nabla}$	$\overline{\mathbf{v}}$	$\overline{\nabla}$	$\overline{\mathbf{v}}$	~	V	$\overline{\vee}$
8260	1,1,2,2-Tetrachloroethane	µg/L	~	$\overline{\nabla}$	~	$\overline{\nabla}$	~	~	2.91
8260	1,1,2-Trichloroethane	µg/L	$\overline{\nabla}$	~	~	$\overline{\nabla}$	~	7	~
8260	1.1-Dichloroethene	µg/L	v	$\overline{\nabla}$	$\overline{\nabla}$	⊽	$\overline{\mathbf{v}}$	v	⊽
8260	Carbon tetrachloride	µg/L	0.51 J	$\overline{\mathbf{v}}$	1.04	1.03	0.86 J	$\overline{\vee}$	0.82 J
8260	Chloroform	ug/L	0.66 J	~	1.98	3.49	$\overline{\vee}$	$\overline{\vee}$	4.24
8260	cis-1,2-Dichloroethene	J/gu	~	V	V	⊽	~	7	7
8260	Tetrachloroethene	µg/L	7	~	$\overrightarrow{\mathbf{v}}$	⊽	~	~	V
8260	Trans 1,2-Dichloroethene	µg/L				V			
8260	Trichloroethene	hg/L	0.64 J	$\overline{\nabla}$	0.85 J	2.15	2.55	1.43	1.62
8260	Vinvl chloride	ug/L	~	⊽	~	~	<1	<1	1>

833 199

		Site ID	MW-34	MW-34	MW-34	MW-34	M W-34	M W-24
		Sample Name	MW-34-Y3S2-A	MW-34-Y3S2-B	MW-34-Y3S2-C	MW34-147-152BL	MW34-147-152BL MW-34-1_020410	0 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	~	₽ V	V	⊽	~	V
8260	1,1,2,2-Tetrachloroethane	µg/L	₽	~	$\overline{\nabla}$	⊽	~	~
8260	1,1,2-Trichloroethane	µg/L	~	₽	⊽	⊽	⊽	7
8260	1,1-Dichloroethene	μg/L	~	~	⊽	⊽	⊽	7
8260	Carbon tetrachloride	μg/L	$\overline{\nabla}$	~	0.96 J	0.7 J	$\overline{\mathbf{v}}$	7
8260	Chloroform	μg/L	1.46	~	⊽	ŝ	10.5	7.78
8260	cis-1,2-Dichloroethene	μg/L	~	!∽	⊽	√	⊽	7
8260	Tetrachloroethene	μg/L	$\overline{\nabla}$	~	⊽	√	~	7
8260	Trans 1,2-Dichloroethene	μg/L						
8260	Trichloroethene	μg/L	⊽	1.48	2	0.93 J	1.16	0.97 J
8260	Vinvl chloride	ue/L	~	~	~	~	<1	<1

833 200

		Site ID	MW-34	MW-34	MW-34	MW-34	M W-34	M W-24
		Sample Name M	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	1,1,1-Trichloroethane	μg/L	V	~	$\overrightarrow{\nabla}$	~	$\overline{\nabla}$	V
8260 1	1,1,2,2-Tetrachloroethane	μg/L	⊽	⊽	~		~	7
8260 1	1,1,2-Trichloroethane	μg/L		~	⊽	⊽	⊽	V
8260 1	1,1-Dichloroethene	µg/L	~	~	⊽	⊽	⊽	V
8260 (Carbon tetrachloride	µg/L	~	~	⊽	⊽	1.08	7
Ŭ	Chloroform	µg/L		2.56	1.26	⊽	13.9	7.66
8260 c	cis-1,2-Dichloroethene	µg/L	⊽	~	~	⊽	7	V
	Tetrachloroethene	μg/L	⊽	~	~	⊽	⊽	V
8260 7	Trans 1,2-Dichloroethene	μg/L						
8260 T	Trichloroethene	μg/L	l. 0.0		$\overline{\mathbf{v}}$	~	1.75	120
8260 \	Vinvl chloride	ug/L	~	~	~	~	$\overline{\vee}$	<u>ا</u>

833 201

		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	00:00:6	9:05:00
		Depth	155-157				
METHOD	LABNAME	RESUNIT					
8260	1,1,1-Trichloroethane	μg/L	~	⊽	7	$\overline{\nabla}$	⊽
8260	1,1,2,2-Tetrachloroethane		$\overline{\vee}$	~	√	~	~
8260	1,1,2-Trichloroethane		$\overline{\mathbf{v}}$	~	~	~	~
8260	1,1-Dichloroethene		$\overline{\mathbf{v}}$	~	~	~	⊽
	Carbon tetrachloride		$\overline{\mathbf{v}}$	$\overline{\mathbf{v}}$	$\overline{\nabla}$	⊽	~
8260 (Chloroform	μg/L	4.45	$\overline{\mathbf{v}}$	F)	~	
8260 0	cis-1,2-Dichloroethene	µg/L	$\overline{\mathbf{v}}$	⊽	⊽	~	⊽
	Tetrachloroethene	µg/L	ī	$\overline{\mathbf{v}}$	$\overline{\mathbf{v}}$	~	⊽
8260 7	Trans 1,2-Dichloroethene	μg/L					
8260	Trichloroethene	µg/L	0.74	0.476 J	v	~	⊽
8260 1	Vinvl chloride	μg/L	~	V	~	~	7

833 202

		Site ID	MW-034	MW-034	M W -034	MW-034	M W -U34
		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	hg/L	~	V	~	ī	
8260	1,1,2,2-Tetrachloroethane	μg/L	~	√	V	~	
8260	1,1,2-Trichloroethane	μg/L	~	⊽	~	~	⊽
8260	1,1-Dichloroethene	µg/L	~	$\overline{\mathbf{v}}$	~	√	⊽
8260	Carbon tetrachloride	µg/L	~	~	0.19 J	⊽	0.62 J
8260	Chloroform	μg/L	1.1 J	1.2 J	1.2	1.2	3.8
	cis-1,2-Dichloroethene	µg/L	~	⊽	~	⊽	⊽
	Tetrachloroethene	µg/L	~	V	⊽	⊽	⊽
8260	Trans 1,2-Dichloroethene	µg/L					~
8260	Trichloroethene	µg/L	7	√	0.39 J	0.29 J	0.98 J
8260	Vinyl chloride	μg/L	<1	!>	<1	<1	<

833 203

		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	V	.^
8260	1,1,2-Trichloroethane	hg/L	~	√
8260	1,1-Dichloroethene	μg/L	√	√
8260	Carbon tetrachloride	hg/L	0.64 J	0.35 J
8260	Chloroform	μg/L	2.4	1.7
8260	cis-1,2-Dichloroethene	hg/L	~	
8260	Tetrachloroethene	hg/L	$\overline{\vee}$	⊽
8260	Trans 1,2-Dichloroethene	hg/L	$\overline{\mathbf{v}}$	$\overline{\mathbf{v}}$
8260	Trichloroethene	µg/L	0.83 J	0.54 J
8260	Vinyl chloride	hg/L	~	>

		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)	IW-36-197-202ВИW-36-1_030423⁄иW-36-2_03042	MW-36-2_03042
		Date Sampled	2661/61/9	9/24/1997	3/24/1998	10/13/1998	3/18/2002	4/23/2003	4/23/2003
		ů.	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
METHOD	LABNAME	RESUNIT					707-121		
8260 1,1	1,1,1-Trichloroethane	μg/L	<10	<10	<10	<10	⊽	~	7
	1,1,2,2-Tetrachloroethane	дg/L	<10	<10	<10	<10	⊽	V	₩
8260 1,1	I, I, 2-Trichloroethane	µg/L	<10	<10	<10	<10	⊽	V	~
	l, l-Dichloroethene	µg/L	<10	<10	<10	<10	⊽	⊽	⊽
-	Carbon tetrachloride	μg/L	<10	<10	<10	<10	~	⊽	⊽
•	Chloroform	µg/L	<10	<10	<10	<10	⊽	V	0.97
	cis-1,2-Dichloroethene	μg/L					⊽		⊽
8260 Tet	Tetrachloroethene	μg/L	<10	<10	<10	<10	~	~	⊽
8260 Tra	Trans 1,2-Dichloroethene	μg/L							
8260 Tn	Trichloroethene	µg/L	<10	<10	<10	<10	V	⊽	~
8260 Vir	Vinyl chloride	μg/L	<10	<10	<10	<10	l>	<	-1

833 205

		Site ID	MW-36	MW-36	MW-36	MW-36	MW-36	MW-36	MW-036
		Sample Name AV	W-36-3 030423	MW-36-1	MW-36-2	MW-36-3	MW-36-1	WW-36 MW-36-2W36 (192_9-194	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	~	v	v	7	⊽	₽	7
8260	1,1,2,2-Tetrachloroethane	μg/L	⊽	⊽	V	√		7	7
8260	1,1,2-Trichloroethane	μg/L	⊽	⊽	Ÿ	v	~	⊽	V
8260	1, I - Dichloroethene	hg/L	⊽	$\overline{\mathbf{v}}$	v	⊽	$\overline{\nabla}$	⊽	7
8260	Carbon tetrachloride	µg/L	V	V	v	⊽	~	~	V
8260	Chloroform	µg/L	0.92	⊽	√	$\vec{\nabla}$	~	₽	V
8260	cis-1,2-Dichloroethene	µg/L	$\overline{\mathbf{v}}$	⊽	⊽	V	⊽	⊽	
8260	Tetrachloroethene	µg/L	∼	⊽	v	$\overline{\mathbf{v}}$	~	~	$\overline{\mathbf{v}}$
8260	Trans 1,2-Dichloroethene	μg/L							
8260	Trichloroethene	hg/L	~	V	.^	⊽	7	~	$\overline{\mathbf{v}}$
8260	Vinvl chloride	μg/L		~	~	⊽	⊽	V	

833 206

		Sample Name IV	/36 (197_9-199_9	IW36 (202_9-204_9	Sample Name 1W36 (197_9-199_91W36 (202_9-204_9MW36 192.7-194.7 MW36 197.7-199.7 MW36 202.7-204.7	MW36 197.7-199.7	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	D LABNAME	RESUNIT					
8260	I, I, I-Trichloroethane	hg/L	$\overline{\nabla}$	$\overline{\vee}$	f !>	<1 J	⊲J
8260	I, I, 2, 2-Tetrachloroethane	hg/L	~	⊽	$\overline{\nabla}$	~	~
8260	I, I, 2-Trichloroethane	hg/L	~	~	$\overline{\nabla}$	⊽	⊽
8260	1,1-Dichloroethene	hg/L	$\overline{\mathbf{v}}$	⊽	~	⊽	~
8260	Carbon tetrachloride	hg/L	~	~	<1 J	<pre>[]></pre>	[>
8260	Chloroform	hg/L	~	$\overline{\mathbf{v}}$	{>	₽	~
8260	cis-1,2-Dichloroethene	J/gu	√	~	~	√	⊽
8260	Tetrachloroethene	μg/L	~	V	~	⊽	⊽
8260	Trans 1,2-Dichloroethene	hg/L			$\overline{\nabla}$	V	$\overline{\nabla}$
8260	Trichloroethene	μg/L	~	~√	7	⊽	⊽
8260	8260 Vinvl chloride	μg/L	∠	4		~	<1

833 207

Sample Name MW373 MW372
Date Sampled 9/29/1996 6/18/1997
Time Sampled 11:12:00 AM
Depth
RESUNIT
μg/L <10
μg/L <10
μg/L <10
μg/L <10
µg/L <10
μg/L <10
μg/L
µg/L <10
hg/L
µg/L <10
ue/L <10

833 208

		Site ID	MW-037	MW-37	MW-37	MW-37	MW-37	MW-37	MW-37
		Sample Name	MW-37-Y3S2	MW-37-1_020416	AW-37-2_020410	MW-37-3_020416	MW-37-1_02100	MW-37-2_021001	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	I, I, I - Trichloroethane	μg/L	~	$\overline{\mathbf{v}}$	$\overline{\nabla}$	$\overline{\mathbf{v}}$	$\overline{\mathbf{v}}$	V	⊽
	1,1,2,2-Tetrachloroethane	µg/L	$\overline{\mathbf{v}}$	$\overline{\nabla}$	$\overrightarrow{\mathbf{v}}$	~	$\overline{\mathbf{v}}$	V	~
	1,1,2-Trichloroethane	μg/L	7	~	$\overline{\mathbf{v}}$	~	⊽	7	~
_	1,1-Dichloroethene	μg/L	$\overline{\mathbf{v}}$	~	$\overline{\mathbf{v}}$	~	~	7	~
Ŭ	Carbon tetrachloride	μg/L	7	~	~	$\overline{\mathbf{v}}$	⊽	V	~
Ŭ	Chloroform	µg/L	$\overline{\vee}$	~	~	~	~	7	~
8260 c	cis-1,2-Dichloroethene	μg/L		~	$\overline{\vee}$	⊽	~	7	7
•	Tetrachloroethene	μg/L	$\overline{\mathbf{v}}$	~	~	7	~	7	⊽
8260 7	Trans 1,2-Dichloroethene	hg/L	$\overline{\nabla}$						
8260 J	Trichloroethene	μg/L	$\overline{\mathbf{v}}$	⊽	7	7	~	7	⊽
8260	Vinvl chloride	ue/L	~	~	~	~	V	⊽	<u>ا</u>

833 209

		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	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	l, l, l-Trichloroethane	μg/L	$\overline{\nabla}$	~	$\overline{\vee}$	√	Ţ.	~
8260 1,1	1, 1, 2, 2-Tetrachloroethane	µg/L	~			~	~	~
-	1,1,2-Trichloroethane	μg/L	$\overline{\mathbf{v}}$		⊽	$\overline{\mathbf{v}}$	~	-
	1,1-Dichloroethene	μg/L	~	>	~	$\overline{\nabla}$	~	~
Ŭ	Carbon tetrachloride	μg/L	$\overline{\nabla}$	~	~	V	⊽	$\overline{\mathbf{v}}$
Ŭ	Chloroform	μg/L	⊽	∼	⊽	$\overline{\mathbf{v}}$	⊽	~
8260 cis	cis-1,2-Dichloroethene	μg/L	V	<u>1</u>	V	$\overline{\nabla}$	⊽	~
·	Tetrachloroethene	μg/L	$\overline{\nabla}$	⊽	$\overline{\vee}$	~	~	~
8260 Tr	Trans 1,2-Dichloroethene	μg/L						
8260 Tr	Frichloroethene	μg/L	0.83	$\overline{\vee}$	V	0.69	~	~
8260 Vi	8260 Vinyl chloride	ue/L	$\overline{\nabla}$		~	$\overline{\mathbf{v}}$	~	~

833 210

		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)	MW37 (175_5-177_5)	MW37 (180-182_5)
		Date Sampled		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	2.171-2.271	C.281-081
METHOD		RESUNIT				
8260	1,1,1-Trichloroethane	µg/L	$\overline{\mathbf{v}}$	~	~	~
8260	1,1,2,2-Tetrachloroethane	μg/L	~		~	~
8260	1,1,2-Trichloroethane	μg/L	V	~		~
8260	1,1-Dichlorocthene	1/βπ	√	~	⊽	⊽
8260	Carbon tetrachloride	µg/L	⊽	~	√	~
8260	Chloroform	μg/L			.^	~
8260	cis-1,2-Dichloroethene	μg/L	⊽	-1		~
8260	Tetrachloroethene	μg/L	⊽	~	7	$\overline{\mathbf{v}}$
8260	Trans 1,2-Dichloroethene	µg/L				
8260	Trichloroethene	μg/L	~	~	~	⊽
8260	Vinvl chloride	ug/L	~	~	~ <u>-</u> 1	V

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		Site ID	MW-037	MW-037	MW-037
		Sample Name N	1W37 170.5-172.5	Sample Name MW37 170.5-172.5 MW37 175.5-177.5 MW37 180.5-182.5	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	ſ !>	(I>	<1J
8260	1,1,2,2-Tetrachloroethane	μg/L	⊽	~	4
8260	1,1,2-Trichloroethane	μg/L	v	~	~
8260	1,1-Dichloroethene	μg/L	v	⊽	$\overline{\mathbf{v}}$
8260	Carbon tetrachloride	μg/L	[>]</td
8260	Chloroform	μg/L	v	.∼	~
8260	cis-1,2-Dichloroethene	μg/L	⊽		~
8260	Tetrachloroethene	μg/L	v	~	~
8260	Trans 1,2-Dichloroethene	μg/L	$\overline{\mathbf{v}}$	⊽	~
8260	Trichloroethene	μg/L	v	~	~
8260	Vinyl chloride	μg/L	1	⊳	⊽

		Site ID	MW-40	MW-40	MW-40	MW-40	MW-40	MW-40	MW-40
		Sample Name	MW402	MW403	MW404	MW405	MW-40-YIQI	MW-40-Y1Q2	MW-40-YIQ3
		Date Sampled	2661/61/9	9/26/1997	3/28/1998	10/19/1988	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	D LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	<10	<10	<10	l J	V	V	$\overline{\mathbf{v}}$
8260	1,1,2,2-Tetrachloroethane	μg/L	<10	<10	<10	<10	~	⊽	$\overline{\vee}$
8260	1,1,2-Trichloroethane	µg/L	<10	<10	01>	<10	V	V	⊽
8260	1,1-Dichloroethene	μg/L	<10	<10	2 J	<10	1.35	1.07	$\overline{\mathbf{v}}$
8260	Carbon tetrachloride	μg/L	<10	<10	<10	<10	v	√	v
8260	Chloroform	μg/L	<10	<10	<10	<10	V	V	~
8260	cis-1,2-Dichloroethene	µg/L					V	7	7
8260	Tetrachloroethene	μg/L	<10	<10	<10	<10	$\overline{\mathbf{v}}$	V	~
8260	Trans 1,2-Dichloroethene	hg/L							
8260	Trichloroethene	µg/L	<10	<10	<10	<10	1.55	v	v V
8260	Vinvl chloride	η _σ η	<10	<10	<10	<10	V	~	

833 213

MW-40-Y2Q4 10:50:00 AM 11/8/2000 MW-40 $\overrightarrow{\mathsf{v}}$ $\overrightarrow{\mathsf{v}}$ $\overline{\vee}$ $\overline{\mathsf{v}}$ \overrightarrow{v} \overrightarrow{v} $\overline{\mathbf{v}}$ V V $\overline{\nabla}$ MW-40-Y2Q3 2:15:00 PM 8/23/2000 MW-40 $\overline{\vee} \overline{\vee}$ $\overline{v} \ \overline{v}$ $\overline{\vee}$ $\overline{\vee} \overline{\vee}$ v \overline{v} v MW-40-Y2Q2 5/17/2000 MW-040 $\overline{\mathbf{v}}$ $\overline{\mathbf{v}}$ $\overline{\mathbf{v}}$ v $\overline{\mathbf{v}}$ $\overline{\mathbf{v}}$ $\overline{\nabla}$ $\overline{\vee}$ $\overline{\vee}$ $\overline{\mathbf{v}}$ 10:15:00 AM 5/16/2000 MW-40 MW-40 $\overline{\mathbf{v}}$ $\overline{\mathbf{v}}$ $\overline{\mathbf{v}}$ Ÿ $\overrightarrow{\mathsf{v}}$ $\overrightarrow{\mathbf{v}}$ $\overline{\mathbf{v}}$ $\overline{\mathbf{v}}$ v $\overline{\mathbf{v}}$ 3:22:00 PM MW40NA 3/22/2000 **MW-40** 0.2.J v $\overline{\nabla}$ $\overline{\nabla}$ $\overline{\mathbf{v}}$ $\overline{\mathbf{v}}$ $\overline{\mathbf{v}}$ ∇ $\overline{\nabla}$ $\overline{\mathbf{v}}$ MW-40-Y2Q1 8:30:00 AM 2/15/2000 MW-40 $\overline{v} \ \overline{v}$ $\overline{\nabla} \overline{\nabla}$ $\overline{\vee}$ $\overline{\nabla}$ \overline{v} $\overline{\vee}$ \overline{v} $\overline{\mathbf{v}}$ Sample Name MW-40-Y1Q4 12:00:00 PM 11/2/1999 MW-40 $\overline{\mathbf{v}}$ v \overline{v} v $\overline{\vee} \overline{\vee}$ v $\overline{\vee}$ v $\overline{\nabla}$ Date Sampled Time Sampled µg/L нg/L µg/L µg/L µg/L µg/L μg/L µg/L Depth µg/L ug/L Site ID RESUNIT 1,1,2,2-Tetrachloroethane Trans 1,2-Dichloroethene cis-1,2-Dichloroethene 1,1,1-Trichloroethane I, I, 2-Trichloroethane Carbon tetrachloride LABNAME I, I-Dichloroethene Tetrachloroethene Trichloroethene Vinyl chloride Chloroform METHOD 8260 8260 8260 8260 8260 8260 8260 8260 8260 8260 8260 833 214

		Site ID	MW-40	MW-040	MW-40	MW-40	MW-040	MW-40
		Sample Name	MW-40 010214	MW-40-Y3SI	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	∼	⊽	⊽	~	$\overline{\mathbf{v}}$	~
8260	1,1,2,2-Tetrachloroethane	µg/L	.⊳	V	$\overline{\nabla}$	~	⊽	⊽
8260	1,1,2-Trichloroethane	μg/L	~	₽	~	⊽	~	
8260	l, l-Dichloroethene	µg/L	v	₽	$\overline{\nabla}$	⊽	√	⊽
8260	Carbon tetrachloride	μg/L	$\overline{\mathbf{v}}$		$\overline{\nabla}$	⊽	$\overline{\mathbf{v}}$	√
8260	Chloroform	µg/L	~		$\overline{\mathbf{v}}$	$\overline{\mathbf{v}}$	~	√
8260	cis-1,2-Dichloroethene	μg/L	~		$\overline{\nabla}$	~		~
8260	Tetrachloroethene	μg/L	$\overline{\nabla}$		$\overline{\mathbf{v}}$	⊽	v	.^
8260	Trans 1,2-Dichloroethene	μg/L		$\overline{\mathbf{v}}$			7	
8260	Trichloroethene	μg/L	$\overline{\mathbf{v}}$	⊽	⊽	⊽	v	~
8260	Vinvl chloride	u ^{g/L}	₽ V	Ţ	~	~	~	~

833 215

		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	~	~	~	⊽	V
8260	1,1,2,2-Tetrachloroethane	hg/L	√	⊽	~	~	$\overline{\mathbf{v}}$
8260	1,1,2-Trichloroethane	µg/L	⊽	⊽	7		~
8260	1,1-Dichloroethene	J/Bµ	⊽	~	~	⊽	~
8260	Carbon tetrachloride	µg/L	V	~	~	~	~
8260	Chloroform	hg/L	~	~1	~	$\overline{\nabla}$	0.38 J
8260	cis-1,2-Dichloroethene	µg/L		V		V	~
8260	Tetrachloroethene	hg/L	⊽	v	v	~	~
8260	Trans 1,2-Dichloroethene	hg/L	$\overline{\nabla}$		~		
8260	Trichloroethene	hg/L	$\overline{\mathbf{v}}$	7	V	~	$\overline{\mathbf{v}}$
8260	Vinvl chloride	µg/L	~	V	~	<1	-1

833 216

		Site ID	MW-040	MW-040	MW-040
		Sample Name M	W40 (91 9-93 9	Sample Name 4W40 (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	hg/L	⊽	<1 J	I ≥
8260	1,1,2,2-Tetrachloroethane	μg/L	V	~	7
8260	1,1,2-Trichloroethane	η/gμ	⊽	~	7
8260	1,1-Dichloroethene	J/Bri	v	⊽	~
8260 0	Carbon tetrachloride	μg/L	$\overline{\mathbf{v}}$	< 1>	<1 J
8260	Chloroform	hg/L	V	∠	4
8260	cis-1,2-Dichloroethene	μg/L	$\overline{\mathbf{v}}$	~	~
8260	Tetrachloroethene	μg/L	$\overline{\mathbf{v}}$	~	⊽
8260	Trans 1,2-Dichloroethene	μg/L		⊽	⊽
8260	Trichloroethene	hg/L	V	v	~
8260	Vinvl chloride	ug/L	⊽	⊽	~

		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	7991/12/6	3/27/1998	8661/21/01	2/15/2001	2/19/2001	2/19/2001
			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 N	10 U	10 U	1 U	UN I	~
8260	1,1,2,2-Tetrachloroethane	μg/L	10 U	10 N	10 U	10 U	1 U	UN I	6
8260	1,1,2-Trichloroethane	μg/L	10 U	10 N	10 U	10 U	1 U		~
8260	1,1-Dichloroethene	μg/L	10 U	10 N	10 U	10 U	1 U	UN I	⊽
8260	Carbon tetrachloride	µg/L	10 N	10 N	10 N	10 U	1 U	UN I	√
8260	Chloroform	μg/L	10 N	10 U	10 U	10 U	1 U	UN I	V
8260	cis-1,2-Dichloroethene	μg/L					1 U	UN I	
8260	Tetrachloroethene	hg/L	10 N	10 U	10 N	10 U	1 U	ON I	~
8260	Trans 1,2-Dichloroethene	μg/L							~
8260	Trichloroethene	hg/L	10 N	10 U	10 N	10 U	1 U		-
8260	Vinvl chloride	ng/L	10 N	10 U	10 U	10 U	1 U	I ND	<1

833 218

$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$			Site ID	MW-42	MW-42	MW-042	MW-42	MW-42	MW-42
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $			Sample Name	MW-42-Y3S2	MW-42-1_020410	MW-42-Y4S1	MW-42-1_021001	MW-42-1	MW-42-1_031028
$\label{eq:linear} \begin{tabular}{c c c c c c c c c c c c c c c c c c c $			Date Sampled	10/3/2001	4/10/2002	4/10/2002	10/1/2002	4/8/2003	10/28/2003
$\begin{array}{c c c c c c c c c c c c c c c c c c c $			Time Sampled		1:42:00 PM		11:25:00 AM		3:25:00 PM
$ \begin{array}{llllllllllllllllllllllllllllllllllll$			Depth	57.5-58.5		57-58	57-58	57-58	57-58
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	METHOI		RESUNIT						
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	8260	1,1,1-Trichloroethane	μg/L	ות	ON I	$\overline{\mathbf{v}}$	UN I	UN I	UN I
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	8260	1,1,2,2-Tetrachloroethane	μg/L	١U	UN I	~	I ND	UN I	I ND
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	8260	1,1,2-Trichloroethane	µg/L	١U	I ND	~	I ND	I ND	I ND
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	8260	1,1-Dichloroethene	µg/L	٦ I	I ND	~	I ND	UN I	I ND
$ \begin{array}{c ccccc} Chloroform & \mu g/L & 1 U & 1 ND & <1 & 1 ND $	8260	Carbon tetrachloride	hg/L	U I	I ND	~	I ND	UN I	I ND
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	8260	Chloroform	hg/L	1 U	ON I	~	I ND	I ND	1 ND
$ \begin{array}{cccc} Tetrachloroethene & \mu g/L & 1 U & 1 ND & <1 & 1 ND & 1 ND & 1 Trans 1,2-Dichloroethene & \mu g/L & 1 U & 1 ND & <1 & 1 ND & 1 ND & 1 Trichloroethene & \mu g/L & 1 U & 1 ND & <1 & 1 ND $	8260	cis-1,2-Dichloroethene	hg/L	١U	I ND		I ND	UN I	UN I
$ \begin{array}{llllllllllllllllllllllllllllllllllll$	8260	Tetrachloroethene	hg/L	١U	I ND	~	I ND	UN I	I ND
Trichloroethene $\mu g/L$ 1 U1 ND1 ND1 NDVinyl chloride $\mu g/L$ 1 U1 ND<1	8260	Trans 1,2-Dichloroethene	J/grt			~			
Vinyl chloride µg/L 1 U 1 ND <1 1 ND 1	8260	Trichloroethene	hg/L	1 U	UN I	⊽	ON L	UN I	I ND
	8260	Vinyl chloride	μg/L	1 U	1 ND	~	UN I	I ND	I ND

833 219

		Site ID	MW-042	MW-042
		Sample Name M	W42 (54_4-56_4)	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∫
8260	1,1,2,2-Tetrachloroethane	μg/L	∩ I>	<1 U
8260	1,1,2-Trichloroethane	hg/L	∩ I⊳	<1 U
8260	I, I-Dichloroethene	μg/L	1 U	<1 U
8260	Carbon tetrachloride	μg/L	I U	<]
8260	Chloroform	μg/L	1 U	<1 U
8260	cis-1,2-Dichloroethene	μg/L	< I U	<1 U
8260	Tetrachloroethene	μg/L	<1 U	<1 U
8260	Trans 1,2-Dichloroethene	μg/L		U</td
8260	Trichloroethene	hg/L	1 U	⊲IU
8260	Vinyl chloride	μg/L	<1 U	<1 U

833 220

	Site ID	MW-43	MW-43	MW-43	MW-43	MW-45	M W-43	M-40
	Sample Name	MW431_45	MW435	MW435B	MW435U	MW-43	MW-43-Y3S2-A	dw-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	AN NA	NA	NA	NA		163.5-165.5	168.5-170.5
LABNAME	RESUNIT							
1,1,1-Trichloroethane	μg/L	<10	L I	14	2 J	v	V	7
I, I, 2, 2-Tetrachloroethane	μg/L	<10	<10	<10	<10	9.59	√	< <u>1</u>
, 1, 2-Trichloroethane	μg/L	<10	<10	<10	<10	⊽	7	7
I, I-Dichloroethene	µg/L	<10	<10	<10	<10	⊽	7	~
Carbon tetrachloride	µg/L	<10	<10	<10	<10	v	$\overline{\mathbf{v}}$	~
Chloroform	µg/L	2 J	<10	01>	<10	v	√	7
cis-1,2-Dichloroethene	μg/L					V	⊽	7
Tetrachloroethene	Л/дц	<10	<10	01>	<10	v	~	~
Trans 1,2-Dichloroethene	μg/L							
Trichloroethene	μg/L	<10	<10	<10	<10	1.02	⊽	v
Vinvl chloride	ug/L	<10	<10	<10	01>	V	⊽	~

833 221

		Site ID	MW-43	MW-43	MW-43	MW-43	MW-43	MW-43	MW-43
		Sample Name MW-43-1 020410	W-43-1 020410	MW-43-2 02041(MW-43-2 02041MW-43-1 02100 MW-43-2 02100	AW-43-2_021001	MW-43-1	MW-43-2	WW-43-1_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	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	D LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	μg/L	V	7	⊽	⊽	~	$\overline{\vee}$	⊽
8260	1,1,2,2-Tetrachloroethane	μg/L	v	⊽	.∼	<u>~</u>	~	$\overline{\mathbf{v}}$	~
8260	1,1,2-Trichloroethane	hg/L	V	⊽	⊽	√	~	V	~
8260	1,1-Dichloroethene	μg/L	$\overline{\vee}$	$\overrightarrow{\mathbf{v}}$	\vec{v}	~	$\overline{\mathbf{v}}$	7	~
8260	Carbon tetrachloride	µg/L	V	$\overline{\vee}$	v	~	$\overline{\mathbf{v}}$	$\overline{\nabla}$	~
8260	Chloroform	µg/L	~	~	~	$\overline{\nabla}$	V	Ā	~
8260	cis-1,2-Dichloroethene	μg/L	V	~	~	⊽	~	$\overline{\mathbf{v}}$	~
8260	Tetrachloroethene	μg/L	v	~	~	~	$\overline{\mathbf{v}}$	$\overline{\nabla}$	⊽
8260	Trans 1,2-Dichloroethene	μg/L							
8260	Trichloroethene	μg/L	v	V	7	īv	$\overline{\nabla}$	⊽	7
8260	Vinvl chloride	ug/L	V	V	~	~	~		<

833 222

		Sample Name MW-43-2_031028 MW43 (103-103) MW43 (108-170)
	4/29/	-
9:50:00 AM 9:55:00 AM	Ċ,	3:50:00 PM 9:1
163-165		NA
V		√
V		√
~		₽
▽		⊽
v		V
V		₽
⊽		
v		v
V		$\overline{\mathbf{v}}$
∼		~

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833 223

		Site ID	MW-043	MW-043
		Sample Name	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	<pre>[]></pre>	J</td
8260	1,1,2,2-Tetrachloroethane	μg/L	7	7
8260	1,1,2-Trichloroethane	μg/L	7	∠
8260	1,1-Dichloroethene	μg/L	$\overline{\nabla}$	7
8260	Carbon tetrachloride	μg/L	<15	<1J
8260	Chloroform	μg/L		7
8260	cis-1,2-Dichloroethene	μg/L	⊽	7
8260	Tetrachloroethene	μg/L	⊽	⊽
8260	Trans 1,2-Dichloroethene	μg/L	~	V
8260	Trichloroethene	μg/L	~	-1
8260	Vinyl chloride	μg/L	>	- -

833 224

		Site ID	MW-44	MW-44	MW-44	MW-44	MW-44	MW-44	MW-44
		Sample Name MW442DUP	AW442DUP	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	1:20:00 AM	11:40:00 AM	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
METHOD	D LABNAME	RESUNIT						-	
8260	1,1,1-Trichloroethane	μg/L	<10	<10	<10	<10	01>	<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	I, I-Dichloroethene	µg/L	<10	<10	<10	<10	<10	<10	<10
8260	Carbon tetrachloride	µg/L	6 J	6 J	7 J	4 J	53	<10	<10
8260	Chloroform	µg/L	ſ L	<10	<10	4 J	5 J	<10	<10
8260	cis-1,2-Dichloroethene	µg/L							
8260	Tetrachloroethene	μg/L	01>	<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	Vinvl chloride	ug/L	<10	<10	<10	<10	<10	<10	01>

833 225

		Site ID	MW-44	MW-44	MW-44	MW-44	MW-44	MW-044	MW-44
		Sample Name	MW-44-YIQI	MW-44-Y1Q2	MW-44-Y1Q3	MW-44-YIQ4	MW-44-Y2QI	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	$\overline{\nabla}$	~	<10	$\overline{\mathbf{v}}$	~	v	7
8260	1,1,2,2-Tetrachloroethane	μg/L	V	⊽	<10	⊽	$\overline{\mathbf{v}}$	12	7
8260	1,1,2-Trichloroethane	µg/L	⊽	$\overline{\nabla}$	<10	$\overline{\nabla}$	V	~	v
8260	1,1-Dichloroethene	µg/L	Ÿ	$\overline{\nabla}$	<10	v	~	~	⊽
8260	Carbon tetrachloride	μg/L	V	~	<10	⊽	$\overline{\mathbf{v}}$	~	2.3
8260	Chloroform	μg/L	~	$\overline{\nabla}$	<10	$\overline{\vee}$	⊽	√	1.88
8260	cis-1,2-Dichloroethene	μg/L	7	~	<10	$\overline{\vee}$	$\overline{\vee}$		0.65 J
8260	Tetrachloroethene	µg/L	⊽	$\overline{\mathbf{v}}$	<10	$\overline{\mathbf{v}}$	⊽	<u>~</u>	$\overline{\mathbf{v}}$
8260	Trans 1,2-Dichloroethene	hg/L						7	
8260	Trichloroethene	µg/L	7	$\overline{\mathbf{v}}$	<10	⊽	⊽	£	1.36
8260	Vinvl chloride	ug/L	~	$\overline{\nabla}$	<10	V	~	7	7

833 226

MW-44 MW-44	A MW-44-Y3S2-B fW-44-Y3S2-(10/3/2001 10/3/2001			65-67 /0-72											
MW-44	MW-44-Y3S2-A	10/3/2001		60-62			⊽	< 1.29	1.29	1.29 △	≥ 2 . 29 ⊃ ⊃ ⊃	<pre><1 29 <1.29 <1.29 <1.20 <1.20 <1.20 <2.05 </pre>	<pre><!-- <!</td--><td><pre>~ 1.29 2.05 2.05</pre></td><td>1.29 2. △ △ △ △</td><td>1.29</td></pre>	<pre>~ 1.29 2.05 2.05</pre>	1.29 2. △ △ △ △	1.29
MW-44	MW-44-Y2Q4	11/8/2000	1:15:00 PM				~	⊽ ⊽	$\nabla \nabla \nabla$	$\nabla \nabla \nabla \nabla$	⊽ ⊽ ⊽ 7	⊽	<pre><1 </pre> <1 <1 <pre><1 <pre><1 <pre><1 <pre><1 <pre><2 <pre><1 <pre><2 <pre><1 <pre><2 <pre><1 <pre><2 <pre><2 <pre><1 <pre><2 <p></p></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre>	<pre>< <!--</td--><td><pre><1 23 0.622 J </pre></td><td><pre></pre></td></pre>	<pre><1 23 0.622 J </pre>	<pre></pre>
MW-44	MW-44-Y2Q3	8/24/2000	3:30:00 PM			V	-				. <u>.</u> č.	. ≏ ≏ £ 5 . 6.	3.62 1.35	3.62 △ △ △ △ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○	5. △ △ △ △ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○	. △ △ △ 5.5.5. △ △ △ 4. 2.62 2.62
MW-044	MW-44-Y2Q2	5/16/2000				$\overline{\mathbf{v}}$		V	~ ~	~ ~ ~	- <u>-</u> <u>-</u> <u>-</u> ∼	- - ⊽ ⊽ ~ −	- <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u>	$\overline{\nabla} \overline{\nabla} \overline{\nabla} \overline{\nabla} \mathbf{a} - \overline{\nabla}$	$\overline{\nabla} \overline{\nabla} \overline{\nabla} \overline{\nabla} \mathbf{N} - \overline{\nabla} \overline{\nabla}$	$\overline{\nabla} \overline{\nabla} \overline{\nabla} \mathbf{v} \mathbf{v} - \overline{\nabla} \overline{\nabla} -$
Site ID	Sample Name	Date Sampled	Time Sampled	Depth	RESUNIT	J/gu)	μg/L	µg/L µg/L	-1/8 п п	1/8н 1/8н 1/8н		С (((((((((((((((((((
					LABNAME	 I.I.I.Trichloroethane 		1,1,2,2-Tetrachloroethane	1,1,2,2-Tetrachloroethane 1,1,2-Trichloroethane	 1, 1, 2, 2-Tetrachloroethane 1, 1, 2-Trichloroethane 1, 1-Dichloroethene 	 1, 1, 2, 2-Tetrachloroethane 1, 1, 2-Truchloroethane 1, 1-Dichloroethene Carbon tetrachloride 	 1, 1, 2, 2-Tetrachloroethane 1, 1, 2-Truchloroethane 1, 1-Dichloroethene Carbon tetrachloride Chloroform 	 1, 1, 2, 2- Tetrachloroethane 1, 1, 2, Truchloroethane 1, 1-Dichloroethene Carbon tetrachloride Chloroform cis-1, 2-Dichloroethene 	1, 1, 2, 2- Tetrachloroethane 1, 1, 2- Trichloroethane 1, 1-Dichloroethene Carbon tetrachloride Chloroform cis-1, 2-Dichloroethene Tetrachloroethene	1, 1, 2, 2- Tetrachloroethane 1, 1, 2, -Trichloroethane 1, 1-Dichloroethene Carbon tetrachloride Chloroform cis-1, 2-Dichloroethene Tetrachloroethene Trans 1, 2-Dichloroethene	1, 1, 2, 2- Tetrachloroethane 1, 1, 2, -Trichloroethane 1, 1-Dichloroethene Carbon tetrachloride Chloroform cis-1, 2-Dichloroethene Tetrachloroethene Trans 1, 2-Dichloroethene Trichloroethene
					METHOD	8260		8260	8260 8260	8260 8260 8260	8260 8260 8260 8260	8260 8260 8260 8260 8260	8260 8260 8260 8260 8260 8260	8260 8260 8260 8260 8260 8260 8260	8260 8260 8260 8260 8260 8260 8260 8260	8260 8260 8260 8260 8260 8260 8260 8260

833 227

L MW-44	00 MW-44-1_02100	10/1/2002	AM 11:30:00AM	60-62		~	~	~	v	v	v	v	7		v	-
MW-44	MW-44-100	10/1/2002	11:30:00 AM			7	V	v	v	v	$\overline{\mathbf{v}}$	V	V		7	7
MW-44	MW-44-3 020410	4/10/2002	1:40:00 PM	69.4 -1.4	-	⊽	⊽	⊽	⊽	2.1	1.29	₽	$\overline{\nabla}$		0.85 J	7
MW-44	MW-44-2 020410	4/10/2002	1:37:00 PM	64.4-66.4		V	~	$\overline{\mathbf{v}}$	$\overline{\mathbf{v}}$	4.36	2.81	1.1	~		2.05	- 1
MW-44	MW-44-1 020410	4/10/2002	1:35:00 PM	59.4-61.4		~	~	~	7	~	$\overline{\nabla}$	⊽	⊽		$\overline{\nabla}$	7
Site ID	Sample Name	Date Sampled	Time Sampled	Depth	RESUNIT	μg/L	hg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	hg/L	μg/L	
					LABNAME	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethene	Carbon tetrachloride	Chloroform	cis-1,2-Dichloroethene	Tetrachloroethene	Trans 1,2-Dichloroethene	Trichloroethene	<i>11:</i>
					METHOD	8260	8260	8260	8260	8260	8260	8260	8260	8260	8260	0700

833 228

		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-Y5SI	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					1	
8260	1,1,1-Trichloroethane	µg/L	~	$\overline{\nabla}$	V	V	~	$\overline{\mathbf{v}}$
8260	1,1,2,2-Tetrachloroethane	hg/L	~	⊽	~	v	√	v
8260	1,1,2-Trichloroethane	hg/L	$\overline{\nabla}$	$\overline{\mathbf{v}}$	$\overline{\vee}$	~	~	⊽
\$260	1,1-Dichloroethene	µg/L	~	$\overline{\nabla}$	$\overline{\mathbf{v}}$	v	~	⊽
3260	Carbon tetrachloride	ng/L	4.39	$\overline{\nabla}$	3.65	£	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	$\overline{\vee}$	0.84		⊽	0.35 J
8260	Tetrachloroethene	hg/L	$\overline{\mathbf{v}}$	~	\overline{v}	$\overline{\mathbf{v}}$	~	7
8260	Trans 1,2-Dichloroethene	hg/L		⊽		v		
8260	Trichloroethene	hg/L	1.67	V	1.64	-	0.82 J	0.75 J
8260	Vinvl chloride	ng/L	~	~	V	$\overline{\mathbf{v}}$		<1

833 229

	Site ID	MW-044	MW-044	MW-044
	Sample Name	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
	RESUNIT			
	μg/L	~	<1 J	<1J
, 1,2,2-Tetrachloroethane	μg/L	⊽	~	V
	μg/L	⊽	~	V
	hg/L	V	~	v
	μg/L	0.85 J	0.71 J	0.54 J
	μg/L	0.42 J	0.64 J	0.42 J
	μg/L	⊽	0.27 J	~
	μg/L	$\overline{\mathbf{v}}$	$\overline{\nabla}$	V
	hg/L		7	$\overline{\nabla}$
	μg/L	0.35 J	0.55 J	0.41 J
	ue/L	Ā	₽	V

		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	10/19/1988	2/2/1999	5/24/1999	8/26/1999
		Time Sampled Depth	9:00:00 AM		11:30:00 AM	2:50:00 PM	3:30:00 PM	6:50:00 PM	1:30:00 PM
<i><u>AETHOD</u></i>	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	μg/L	<10	2 J	2 J	<10	~	V	V
8260	1,1,2,2-Tetrachloroethane	μg/L	<10	<10	<10	<10	⊽	7	v
8260	1,1,2-Trichloroethane	μg/L	<10	<10	<10	<10	~	~	v
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	⊽	7	v
8260	Chloroform	µg/L	<10	01>	<10	<10	$\overline{\vee}$	$\overline{\mathbf{v}}$	⊽
8260	cis-1,2-Dichloroethene	μg/L					⊽	$\overline{\mathbf{v}}$	$\overline{\mathbf{v}}$
8260	Tetrachloroethene	μg/L	L I	4 J	4]	2 J	1.5	$\overline{\mathbf{v}}$	0.54 J
8260	Trans 1,2-Dichloroethene	µg/L							
8260	Trichloroethene	µg/L	5]	13	15	1 J	8.44	4.64	3.71
8260	Vinvl chloride	ug/L	<10	<10	<10	<10	V	~	V

833 231

		Site ID	MW-51	MW-51	MW-51	MW-51	MW-51	MW-51	MW-51
		Sample Name	MW-51-Y1Q4	MW-51-Y201	MW-51	MW-51-Y2Q3	MW-51-Y2Q4	MW-51_010219 MW-51-Y3S2-A	MW-51-Y3S2-,
		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	V	⊽	~	$\overline{\nabla}$	1.79	⊽	0.71 J
8260	1,1,2,2-Tetrachloroethane	µg/L	V	7	7	~	~	V	V
8260	1,1,2-Trichloroethane	μg/L	7	⊽	7	~	⊽	~	V
8260	1,1-Dichloroethene	J/gµ	8.19	1.08	8.23	12.9	57.9	15.8	31.4
8260	Carbon tetrachloride	µg/L	~	⊽	$\overline{\vee}$	$\overline{\nabla}$	⊽	Ÿ	⊽
8260	Chloroform	hg/L	~	V	$\overline{\nabla}$	~	$\overline{\vee}$	~	V
8260	cis-1,2-Dichloroethene	µg/L	~	$\overline{\nabla}$	~	~	$\overline{\vee}$		īv
8260	Tetrachloroethene	µg/L	0.83 J	$\overline{\mathbf{v}}$	$\overline{\nabla}$	1.49	3.51	1.86	2.13
8260	Trans 1,2-Dichloroethene	µg/L							
8260	Trichloroethene	hg/L	2.93	0.7 J	4.63	6.33	13.2	6.09	9.88
8260	Vinvl chloride	ug/L	$\overline{}$	V	~	-	⊽	V	V

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833 232

		Site ID	MW-51	MW-51	MW-51	MW-51	MW-51
		Sample Name	Sample Name MW-51-Y3S2-B	MW-51-1 020410 1	MW-51-1 020410 MW-51-100 020410	MW-51-2_020410_MW-51-100_021001	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			-		
	1,1,1-Trichloroethane	hg/L	0.74 J	$\overline{\nabla}$	⊽	⊽	1.07
8260 1,1,	1,2,2-Tetrachloroethane	μg/L	$\overline{\vee}$		~	~	$\overline{\nabla}$
	I, I, 2-Trichloroethane	μg/L	~		7		~
8260 1,1-	., I - Dichloroethene	µg/L	26.9	26.4	27.2	18.2	59.5
0	Carbon tetrachloride	µg/L	▽	⊽	~	⊽	⊽
0	Chloroform	μg/L	~	~	~	⊽	~
Ū	cis-1,2-Dichloroethene	µg/L	~	$\overline{\nabla}$	~	⊽	⊽
•	Tetrachloroethene	μg/L	_	$\overline{\mathbf{v}}$	~	⊽	0.85 J
	Frans 1,2-Dichloroethene	hg/L					
8260 Tric	Frichloroethene	hg/L	10.7	1.9	2.03	1.72	6.81
8260 Vin	Vinyl chloride	μg/L	~	~	~	⊽	~

833 233

	Site ID	MW-51	MW-51	MW-51	MW-51		MW-51
Sample Name MW-	ЧW.	MW-51-1_021001	MW-51-2_021001	MW-51-1	MW-51-100	Σ	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:	öö	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	
RESUNIT							
hg/L		1.09		0.7	0.65		⊽ 1
hg/L		V	~	Ī>	⊽	⊽	⊽
μg/L			√	ī ⊽	⊽	7	~
hg/L		57	53.7	33.3	32.8	33	17.6
hg/L		V	~	V	⊽	~	⊽
μg/L		ī	⊽	~1	~	Ī	⊽
hg/L		v	⊽	<u>-</u>	~		√
hg/L		0.74 J	⊽	0.74	0.76	[>	0.92 J
µg/L						$\overline{\mathbf{v}}$	
hg/L		7.11	7.04	10	9.83	10	5.54
ug/L		<1	<1	1>	<1	►	√

833 234

		Site ID	MW-051	MW-051	MW-051	MW-051
		Sample Name	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,	,1,1-Trichloroethane	μg/L	0.33 J	0.36 J	[1>	0.23 J
8260 1,1,	,1,2,2-Tetrachloroethane	μg/L	⊽	V	V	v
8260 1,1,	,1,2-Trichloroethane	μg/L	√	⊽	V	7
8260 1,1-	, I-Dichloroethene	μg/L	17	21	14	16
8260 Car	Carbon tetrachloride	μg/L	$\overline{\mathbf{v}}$	⊽	Ĺ►	$\overline{\mathbf{v}}$
8260 Chl	Chloroform	μg/L	$\overline{\mathbf{v}}$	$\overline{\mathbf{v}}$	$\overline{\vee}$	~
8260 cis-	cis-1,2-Dichloroethene	μg/L	⊽	V	$\overline{\vee}$	V
8260 Teti	etrachloroethene	μg/L	1.3	0.5 J	1.2	0.3 J
8260 Trai	Trans 1,2-Dichloroethene	hg/L			⊽	$\overline{\mathbf{v}}$
8260 Tric	Frichloroethene	μg/L	5.3	5.5	5.1	3.8
8260 Vin	Vinyl chloride	J/gri	.⊳		V	∠

L

•		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
			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	01>	<10	<10	<10	$\overline{\nabla}$	$\overline{\mathbf{v}}$	<10
8260	1,1,2,2-Tetrachloroethane	µg/L	<10	<10	<10	<10	~	$\overline{\nabla}$	<10
8260	1,1,2-Trichloroethane	µg/L	<10	<10	<10	<10	~	$\overline{\mathbf{v}}$	01>
8260	1,1-Dichloroethene	μg/L	<10	01>	<10	<10	V	~	<10
8260	Carbon tetrachloride	μg/L	<10	L I	2 J	<10	~	3.53	12.8
8260	Chloroform	μg/L	01>	<10	1 J	<10	~	7	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	$\overline{\mathbf{v}}$	⊽	<10
8260	Trans 1,2-Dichloroethene	μg/L							
8260	Trichloroethene	µg/L	58	150	180	79	60.6	61	50
8260	Vinvl chloride	ug/L	<10	<10	<10	<10	V		<10

833 236

		Site ID	MW-54	MW-54	MW-54	MW-54	MW-54	MW-54	MW-54
		Sample Name M	MW-54-Y1Q4	MW-54-Y2Q1	MW54NA	MW-54_000517	MW-54-Y2Q3	MW-54-Y2Q4	MW-54AY2Q4
		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							
AETHOD	LABNAME	RESUNIT					8.		
8260	1,1,1-Trichloroethane	µg/L	v	~	$\overline{\vee}$	$\overline{\nabla}$	$\overline{\vee}$	V	⊽
8260	1,1,2,2-Tetrachloroethane	µg/L	40.1	23.6	19	~	4.9	22.7	20.4
8260	1,1,2-Trichloroethane	µg/L	1.15	l 9.0		~	0.56 J	1.24	-
8260	1,1-Dichloroethene	µg/L	$\overline{\vee}$	$\overline{\mathbf{v}}$	V	~	v	~	√
8260	Carbon tetrachloride	µg/L	5.02	14.7	19	4.46	7.97	12.8	8.65
8260	Chloroform	J/gu	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	v	~	0.74 J	0.91 J	0.63 J
8260	Trans 1,2-Dichloroethene	J/BH							
8260	Trichloroethene	μg/L	30.6	43.3	50	11.6	28.1	29.2	22.6
8260	Vinyl chloride	ug/L	$\overline{\mathbf{v}}$	V	0.1 J	7	V	~	7

833 237

Y3SI MW-54-Y3S2-A		Sample Name MW-54-Y3S1 MW-54-Y
001 10/3/2001		Date Sampled 2/15/2001 10/3/
		Time Sampled
81.8 - 83.8	81.8 - 8	
		RESUNIT
~	</td <td>µg/L <1 <1</td>	µg/L <1 <1
3.93	37 3.93	37
⊽	<1 <1	μg/L <1 <1
⊽	√ √	~
1.79	11 1.79	11
6.87	14 6.87	μg/L 14 6.87
11.3	11.3	
⊽	<] <	μg/L J <!</td
	-	μg/L I
20.2	28 20.2	28
V	<] </td <td></td>	

833 238

		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	~	<10	<10	<10	⊽	<10
8260	1,1,2,2-Tetrachloroethane	J/Bu	17.5	40	60.1	50.7	10.3	40.6
8260	1,1,2-Trichloroethane	μg/L	1.1	<10	<10	<10	~	<10
8260	1,1-Dichloroethene	µg/L	~	<10	<10	<10	⊽	<10
8260	Carbon tetrachloride	µg/L	14.4	5.58 J	14.4	14	0.68	7.32
8260	Chloroform	μ <u>g</u> /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	$\overline{\mathbf{v}}$	3.43
8260	Trans 1,2-Dichloroethene	hg/L						
8260	Trichloroethene	µg/L	723	333	632	920	72.4	632
8260	Vinvl chloride	ug/L	~	<10	<10	<10	¦∨	<10

833 239

		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 L/	LABNAME	RESUNIT					
8260 1,1,1-Tric	I, I, I - Trichloroethane	µg/L	<10	~	⊽	⊽	7
8260 1.1.2.2-Te	.1.2.2-Tetrachloroethane	µg/L	44.1	301	1680	1760	1610
-	,1,2-Trichloroethane	μg/L	<10	2.05	7.86	10.4	9.8
8260 1,1-Dichle	, I-Dichloroethene	µg/L	<10	⊽	⊽	⊽	V
Ŭ	Carbon tetrachloride	µg/L	7.48	.∽	3.35	2.58	2.73
Ŭ	ш	µg/L	<10	~	3.18	3.68	3.82
8260 cis-1,2-Di	cis-1,2-Dichloroethene	μg/L	44.3	26.3	75.5	85.3	87.7
	roethene	hg/L	4.02	⊽	7.37	10.1	10.4
8260 Trans 1,2-	Irans 1,2-Dichloroethene	hg/L					
8260 Trichloroethene	ethene	hg/L	629	216	1530	1900	1760
8260 Vinvl chloride	oride	ug/L	<10	~	⊽		₽

		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		RESUNIT				
8260	1,1,1-Trichloroethane	μg/L	0.25 U	0.25 U	0.25 U	<50
8260	1.1.2.2-Tetrachloroethane	ц <u>г</u> л	2150	2180	1350	1300
8260	1,1,2-Trichloroethane	цg/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	N)	5.79	3.94	≪50
8260	Chloroform	ug/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	hg/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	Vinvl chloride	1/2n	0.441 J	0.301 J	0.25 U	<50

833 241

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
RESUNIT			
μg/L	<67	<140	<140
μg/L	2000	4300	4700
μg/L	<67	<140	<140
μg/L	<67	<140	<140
μg/L	<67	<140	<140
μg/L	<67	<140	<140
μg/L	64 J	70 J	61 J
μg/L	<67	<140	<140
µg/L		<140	<140
μg/L	2000	2500	2700
ue/L	<67	<140	<140

833 242

		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	7	√	~	V	⊽	$\overline{\vee}$
8260	1,1,2,2-Tetrachloroethane	µg/L	<10	V	v	~	V	~	⊽
8260	1,1,2-Trichloroethane	μg/L	<10	⊽	V	v	⊽	$\overline{\nabla}$	v
8260	1, I-Dichloroethene	μg/L	01>	$\overline{\mathbf{v}}$	⊽	V	⊽	~	V
8260	Carbon tetrachloride	µg/L	0I>	0.57 J	V	V	⊽	~	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		⊽	- V		~	~	V
8260	Tetrachloroethene	µg/L	01>	⊽	V	√	0.41 J	⊽	$\overline{\vee}$
8260	Trans 1,2-Dichloroethene	µg/L				v			
8260	Trichloroethene	µg/L	<10	1.7	1.82	1	0.74 J	1.54	2.01
8260	Vinyl chloride	μg/L	<10	₽	∠	∠	~	~	7

833 243

		Site ID	MW-56	MW-56	MW-56	MW-56	MW-56	MW-56
		Sample Name N	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	, I, I-Trichloroethane	μg/L	$\overline{\vee}$	v	$\overline{\mathbf{v}}$	$\overline{\mathbf{v}}$	~	V
8260 1,1	,1,2,2-Tetrachloroethane	hg/L	$\overline{\vee}$	$\overline{\mathbf{v}}$	$\overline{\vee}$	~	~	~
8260 1,1	, 1,2-Trichloroethane	μg/L	$\overline{\mathbf{v}}$	V	~	⊽	⊳	⊽
8260 1,1	, I-Dichloroethene	hg/L	v	⊽	$\overline{\mathbf{v}}$	~	~	~
Ŭ	Carbon tetrachloride	μg/L	0.71 J	0.71 J	$\overline{\nabla}$	$\overline{\nabla}$	⊽	$\overline{\mathbf{v}}$
8260 Ch	Chloroform	µg/L	59.4	61.4	27.8	31.6	49.3	41.2
	cis-1,2-Dichloroethene	µg/L	V	⊽	$\overline{\mathbf{v}}$	⊽	4	⊽
L	Fetrachloroethene	hg/L	0.71 J	⊽	$\overline{\mathbf{v}}$	~		~
8260 Tri	Frans 1,2-Dichloroethene	µg/L				$\overline{\mathbf{v}}$		
8260 Tri	Frichloroethene	µg/L	1.99	2.01	1.18	1.27	1.95	1.32
8260 Vi	Vinvl chloride	ue/L	V	⊽	V	~	⊽	7

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		Site ID	MW-56	MW-056
		Sample Name	MW-56-1_031028	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
METHOD	LABNAME	RESUNIT		
8260	1,1,1-Trichloroethane	η/Brl	$\overline{\vee}$	4
8260	1,1,2,2-Tetrachloroethane	μg/L	$\overline{\mathbf{v}}$	4
8260	1,1,2-Trichloroethane	μg/L	$\overline{\nabla}$	4
8260	1,1-Dichlorocthene	μg/L	⊽	\$
8260	Carbon tetrachloride	μg/L	$\overline{\nabla}$	4
8260	Chloroform	μg/L	26	22
8260	cis-1,2-Dichloroethene	μg/L	V	4
8260	Tetrachloroethene	μg/L	⊽	4
8260	Trans 1,2-Dichloroethene	μg/L		
8260	Trichloroethene	μg/L	$\overline{\mathbf{v}}$	[]
8260	Vinyl chloride	μg/L	-1	4

		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-Y3SI	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	$\overline{\mathbf{v}}$	V	V	$\overline{\mathbf{v}}$	V	~
8260	1,1,2,2-Tetrachloroethane	hg/L	<10	v	$\overline{\nabla}$	v	$\overline{\mathbf{v}}$	V	₽
8260	1,1,2-Trichloroethanc	μg/L	<10	$\overline{\mathbf{v}}$	ī	v	$\overline{\mathbf{v}}$	v	
8260	1,1-Dichloroethene	hg/L	<10	$\overline{\nabla}$	$\overline{\vee}$	$\overline{\mathbf{v}}$	v	v	⊽
8260	Carbon tetrachloride	hg/L	14	39,9	50.6	45.7	48.3	44	37.1
8260	Chloroform	hg/L	6 J	13.2	10.3	11.3	8.93	11	25.9
8260	cis-1,2-Dichloroethene	µg/L		~	V	0.53 J	0.411 J		0.86 J
8260	Tetrachloroethene	µg/L	2 J	5.38	5.1	5.86	5.07	ŝ	5.24
8260	Trans 1,2-Dichloroethene	hg/L						_	
8260	Trichloroethene	hg/L	22	50.8	46.5	49.2	30.9	28	73.4
8260	Vinvl chloride	ug/L	01>	~	V	V		$\overline{\mathbf{v}}$	~

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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-57-1 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	62-69	64.5-65.5	67-69	64.5-65.5
METHOD	LABNAME	RESUNIT						
8260	l, l, l-Trichloroethane	µg/L	~		~	⊽	~	⊽
8260	1,1,2,2-Tetrachloroethane	µg/L	ī	.⊳	⊽	$\overline{\mathbf{v}}$	$\overline{\mathbf{v}}$	V
8260	I, I, 2-Trichloroethane	µg/L	√		⊽	⊽	⊽	v
8260	I, I-Dichloroethene	µg/L	√	⊽	~	$\overline{\mathbf{v}}$	$\overline{\mathbf{v}}$	$\overline{\mathbf{v}}$
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	l 79.0	0.51 J	0.55 J	0.54 J	1.13	0.53
8260	Tetrachloroethene	hg/L	4.58	6.08	5.02	3.64	8.14	6.43
8260	Trans 1,2-Dichloroethene	µg/L						
8260	Trichloroethene	hg/L	77.4	58.8	66.4	54.1	III	60.9
8260	Vinyl chloride	ng/L	∠	~	~	~	~	V

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		Site ID	MW-57	MW-57	MW-57	MW-057	MW-057	MW-057
		Sample Name	MW-57-2	1028	MW-57-2 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	62-69	64.5-65.5	67-69	64.5-66.5	67-69	67-69
METHOD	D LABNAME	RESUNIT	:					
8260	1,1,1-Trichloroethane	µg/L	v	~	~	<3.3	<1.7	7
8260	1,1,2,2-Tetrachloroethane	hg/L	Ī	~	~	<3.3	<1.7	7
8260	1,1,2-Trichloroethane	Л/дц	~	~	~	<3.3	<1.7	₽
8260	1,1-Dichloroethene	д/дл	$\overline{\vee}$	~	$\overline{\mathbf{v}}$	<3.3	<1.7	7
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	~	~	6.6	<1.7	
8260	Tetrachloroethene	µg/L	7.86	5.32	5.28	S	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	Vinvl chloride	ue/L	V	~		<u>ئ</u> ئ	<1.7	<1

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Site ID MW-057	Sample Name 1W57 66.8-68.8	led 10/21/2004	led 1:55:00 PM	oth 66.8-68.8		µg/L <1	μg/L <1	μg/L <1	µg/L <i< th=""><th>μg/L 19</th><th>μg/L 6.1</th><th>μg/L 0.27 J</th><th>µg/L 2.7</th><th>μg/L 0.58 J</th><th>μg/L 29</th><th>µg/L <1</th></i<>	μg/L 19	μg/L 6.1	μg/L 0.27 J	µg/L 2.7	μg/L 0.58 J	μg/L 29	µg/L <1
Site	Sample Nai	Date Sampled	Time Sampled	Depth	RESUNIT	Ĩ	зц	3rf	3n	3rf	3rf	3n	ริที	3n	ริท	Зп
					LABNAME	1,1,1-Trichloroethane	1, 1, 2, 2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethene	Carbon tetrachloride	Chloroform	cis-1,2-Dichloroethene	Tetrachloroethene	Trans 1,2-Dichloroethene	Trichloroethene	Vinyl chloride
					METHOD	8260	8260	8260	8260	8260	8260	8260	8260	8260	8260	8260

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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-Y201	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						i	65 - 67
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	μg/L	<10	√	V	⊽	$\overline{\mathbf{v}}$	$\overline{\nabla}$	~
8260	1,1,2,2-Tetrachloroethane	μg/L	<10	√	V	v	⊽	~	~
8260	1,1,2-Trichloroethane	μg/L	<10	~	V	V	$\overline{\vee}$	⊽	~
8260	1, 1-Dichloroethene	μg/L	<10	$\overline{\nabla}$	v	v	⊽	⊽	~
8260	Carbon tetrachloride	μg/L	<10	₽ V	Ÿ	0.26 J	~	0.43 J	⊽
8260	Chloroform	μg/L	<10	3.68	5.88	2.42	1.91	2.05	1.85
	cis-1,2-Dichloroethene	μg/L		∠	V	v	v	⊽	√
	Tetrachloroethene	μg/L	<10	∼	V	0.41 J	⊽	0.4 J	⊽
8260	Trans 1,2-Dichloroethene	µg/L							
8260	Trichloroethene	J/gµ	<10	4.36	4.22	1.44	2.72	2.47	1.78
8260	Vinvl chloride	J/2U	<10	∠	v	~	~	7	⊽

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		Site ID	MW-58	MW-58	MW-58	MW-58	MW-058
		Sample Name	Sample Name MW-58-1_020410 N	MW-58-1_021001	MW-58-1	MW-58-1_031028 N	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	~	V	v	⊽	<1 U
8260	1,1,2,2-Tetrachloroethane	µg/L	~	~	V	⊽	≤I U
8260	1,1,2-Trichloroethane	μg/L		$\overline{\nabla}$	~	⊽	<1 U
8260	1, 1-Dichloroethene	µg/L	⊽	⊽	$\overline{\nabla}$	⊽	≤IU
8260	Carbon tetrachloride	µg/L		$\overline{\mathbf{v}}$	v	⊽	U</td
8260	Chloroform	μg/L	2.75	3.36	1.47	⊽	1.1
8260	cis-1,2-Dichloroethene	μg/L	~	~	V		⊲IU
8260	Tetrachloroethene	μg/L	⊽	v	0.57		lI⊳
8260	Trans 1,2-Dichloroethene	μg/L					
8260	Trichloroethene	μg/L	2.46	1.82	1.06	~	0.41 J
8260	Vinvl chloride	μg/L	~	~	Ā	~	<1 U

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LABNAME
1,1,1-Trichloroethane
1,1,2,2-Tetrachloroethane
I, I, 2-Trichloroethane
1,1-Dichloroethene
Carbon tetrachloride
cis-1,2-Dichloroethene
Tetrachloroethene
Trans 1,2-Dichloroethene
Trichloroethene
Vinvl chloride

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		Site ID	MW-67	79-WM	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	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	hg/L	$\overline{\nabla}$	$\overline{\mathbf{v}}$	~	~	⊽	~
8260	1,1,2,2-Tetrachloroethane	hg/L	V	⊽		7	⊽	~
8260	1,1,2-Trichloroethane	hg/L	v	⊽	~	⊽	⊽	7
8260	1, 1-Dichloroethene	hg/L	~	⊽	⊽	~	Þ	7
8260	Carbon tetrachloride	hg/L	~	$\overline{\mathbf{v}}$	~	~	⊽	~
8260	Chloroform	hg/L	~	v		~	∠	√
	cis-1,2-Dichloroethene	μg/L	~	$\overline{\mathbf{v}}$	~	~	⊽	~
	Tetrachloroethene	µg/L	$\overline{\vee}$	~	√	$\overline{\mathbf{v}}$	⊽	V
8260	Trans 1,2-Dichloroethene	µg/L						
8260	Trichloroethene	hg/L	1.26	7	⊽	v	~	7
8260	Vinvl chloride	ng/L	4	~	4	~	~	<1

		Site ID	MW-67	76-WM	19-MW	MW-67	70-WM	/ 0- M W
		Sample Name N	Sample Name MW-67-3 020410	MW-67-1 021001	MW-67-2 021001	MW-67-3_021001	I-79-WM	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	1,1,1-Trichloroethane	hg/L	⊽	⊽	~	⊽	V	⊽
8260 1	1,1,2,2-Tetrachloroethane	J/BH	⊽	⊽	~	⊽	₽	⊽
8260 1	I, I, 2-Trichloroethane	ηgη	~	⊽	~	~	v	7
	I, I-Dichloroethene	μg/L	⊽	⊽	⊽	⊽	⊽	⊽
0	Carbon tetrachloride	μg/L	⊽	$\overline{\nabla}$	$\overline{\mathbf{v}}$	~	v	$\overline{\mathbf{v}}$
0	Chloroform	μg/L	V	$\overline{\mathbf{v}}$	$\overline{\mathbf{v}}$	~	V	∠
8260 c	cis-1,2-Dichloroethene	μ <i>g</i> /L	v	⊽	$\overline{\mathbf{v}}$	~	ī	~
-	Tetrachloroethene	μg/L	v	⊽	$\overline{\mathbf{v}}$	√	7	⊽
8260 T	Frans 1,2-Dichloroethene	μg/L						
8260 T	Trichloroethene	μg/L	V	v	$\overline{\mathbf{v}}$	$\overline{\mathbf{v}}$	V	V
8260 V	Vinyl chloride	μg/L	~	~	V	~	~	~

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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-67-2 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	1,1,1-Trichloroethane	hg/L	V		⊽	~	⊽	⊽
8260 1	I, I, 2, 2-Tetrachloroethane	µg/L	V	~	~	~	⊽	7
8260 1	I, I, 2-Trichloroethane	μg/L	V	~	~	~	⊽	7
8260 1	l, l-Dichloroethene	hg/L	V	~	⊽	⊽	⊽	7
8260 C	Carbon tetrachloride	µg/L	V	~	$\overline{\nabla}$	⊽	⊽	⊽
8260 C	Chloroform	µg/L	V	~	⊽	⊽	⊽	7
8260 ci	cis-1,2-Dichloroethene	µg/L	$\overline{\vee}$	⊽	V	⊽	⊽	₽
8260 T	Tetrachloroethene	μg/L	$\overline{\vee}$	⊽	~	⊽	~	⊽
8260 T	Trans 1,2-Dichloroethene	µg/L						
8260 T	Frichloroethene	µg/L	v	~	~	⊽	~	~
8260 V	Vinvl chloride	ug/L	V	V	~	7	V	~

MW-067	MW67 271-273	10/21/2004	2:20:00 PM	271-273		~	4	√	v	v	v	⊽	√	⊽	V	V
MW-067	MW67 266-268 MW	10/21/2004 1(2:15:00 PM 2:	266-268		V	V	~	<1	√	<	7	⊽	V	V	~
MW-067	DUP04	10/21/2004	2:10:00 PM	261-263		<15	⊽	⊽	v	<1 J		v		⊽	⊽	$\overline{\mathbf{v}}$
MW-067	MW67 261-263	10/21/2004	2:10:00 PM	261-263		⊽	~	⊽	⊽	₽	~	.⊳	~	~	~	~
MW-067	MW67 (271-273)	4/29/2004	9:35:00 AM	271-273		$\overline{\mathbf{v}}$	⊽	⊽	V	$\overline{\mathbf{v}}$	~	⊽	⊽		$\overline{\mathbf{v}}$	V
Site ID	Sample Name N	Date Sampled	Time Sampled	Depth	RESUNIT	µg/L	μg/L	hg/L	J/gµ	hg/L	hg/L	µg/L	μg/L	µg/L	hg/L	.Π.
					LABNAME		1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1, 1-Dichloroethene	Carbon tetrachloride	Chloroform	cis-1,2-Dichloroethene	Tetrachloroethene	Trans 1,2-Dichloroethene	Trichloroethene	Vinvl chloride
					METHOD	8260	8260	8260	8260	8260	8260	8260	8260	8260	8260	8260

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.

	Site ID	89-WM	MW-68	89-MW	MW-68	MW-68	MW-68	MW-68
Sai	Sample Name 4	W-68_000518	MW-68-Y2Q3	MW-68-Y2Q4	JW-68_010214	AW-68-Y3S2-A	le Name 1W-68_000511MW-68-Y2Q3MW-68-Y2Q41W-68_010214MW-68-Y3S2-A MW-68-Y3S2-B MW-68-Y4S2-A	MW-68-Y4S2-A
Dat	Date Sampled	5/18/2000	8/23/2000	11/8/2000	2/14/2001	10/3/2001	10/3/2001	10/3/2001
Time	Fime 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
2	Lĩ ĩ.							
	μg/L	1 U	ומ	1 U	⊽	n i	1 U	1 0
	µg/L	D I	6.55	1 U	⊽	Π	4.15	1 U
	μg/L	U I	٦ ١	1 U	⊽	1 U	1 U	١U
	μg/L	١U	ות	1 U	⊽	10	1 U	9.01
	μg/L	0.89 J	ות	1 U	$\overline{\mathbf{v}}$	١U	1 U	1 U
	µg/L	6.44	лı	1 U	⊽	1 U	3.5	1.43
	µg/L	13.7	31	1.9	4.38	1 U	3.12	1 U
	µg/L	2.07	8.35	0.4 J	0.92 J	10	1.6	4.3
	µg/L							
	μg/L	44.5	48.9	3.21	9.67	0.5 J	6.56	3.85
	п₽/].	1 U	1 U	1 U		1 U	10	1 U

AW-68-1 031025 12:40:00 PM 10/28/2003 74.1-76.1 MW-68 $\overline{\mathbf{v}}$ \overrightarrow{v} \overrightarrow{v} \overrightarrow{v} \overrightarrow{v} \overrightarrow{v} \overrightarrow{v} ∇ ∇ $\overline{\mathbf{v}}$ MW-68-2 4/8/2003 79.1-81.1 MW-68 \overrightarrow{v} \overrightarrow{v} \overrightarrow{v} \overrightarrow{v} \overrightarrow{v} \overrightarrow{v} $\overline{\mathbf{v}}$ ∇ ∇ $\overline{\vee}$ 74.1-76.1 MW-68-1 4/8/2003 MW-68 \overrightarrow{v} \overrightarrow{v} \overrightarrow{v} $\overline{\mathbf{v}}$ $\overline{\vee}$ $\overline{\mathbf{v}}$ $\overline{\mathbf{v}}$ $\overline{\vee}$ $\overline{\nabla}$ Sample Name AW-68-1 020416/W-68-2_020416/W-68-2_021001/W-68-1_021001 9:40:00 AM 10/1/2002 74.1-76.1 MW-68 0.94 J 7.88 \overrightarrow{v} \overrightarrow{v} \overrightarrow{v} \overrightarrow{v} \overrightarrow{v} V $\overline{\lor} \overline{\lor}$ 9:42:00 AM 10/1/2002 MW-68 9.01 1.43 3.85 2.4 $\overline{\mathbf{v}}$ $\overline{\nabla}$ $\overline{\nabla}$ $\overline{\mathsf{v}}$ v 10:58:00 AM 4/10/2002 MW-68 79.1-81.1 ∇ ∇ $\overline{\nabla}$ 10:55:00 AM 4/10/2002 74.1-76.1 MW-68 l> <u>1</u>. $\overline{\mathbf{v}}$ $\overline{\mathbf{v}}$ $\overrightarrow{}$ $\overline{\mathbf{v}}$ $\overline{\vee} \ \overline{\vee} \ \overline{\vee}$ Date Sampled Time Sampled µg/L µg/L µg/L µg/L Depth нg/L µg/L µg/L Site ID μg/L RESUNIT 1,1,2,2-Tetrachloroethane Trans 1,2-Dichloroethene cis-1,2-Dichloroethene I, I, I-Trichloroethane t, 1, 2-Trichloroethane Carbon tetrachloride LABNAME , I-Dichloroethene Tetrachloroethene **Trichloroethene** Vinyl chloride Chloroform METHOD 8260 8260 8260 8260 8260 8260 8260 8260 8260 8260 8260 833 258

		Site ID	MW-68	MW-068	MW-068	MW-068	MW-068	MW-068
		Sample Name N	Sample Name MW-68-2 031028	MW68 (69-71)	MW68 (73-75)	MW68 (78-80)	MW68 70.6-72.6	4W68 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	V	<2.5	~	~	<33 J	⊽
8260	1,1,2,2-Tetrachloroethane	μg/L	V	0.85 J	⊽	v	81	~
8260	1,1,2-Trichloroethane	ug/L	V	<2.5	~	⊽	<u>5</u> 3	⊽
8260	1,1-Dichloroethene	μg/L	V	<2.5	~	1.5	\$3	⊽
8260	Carbon tetrachloride	hg/L	~	<2.5	0.21 J	$\overline{\nabla}$	<33 J	⊽
8260	Chloroform	ug/L	~	0.78 J	0.59 J	1>	€53	√
	cis-1,2-Dichloroethene	ug/L	~	2.5	~	~	ŝ	⊽
	Tetrachloroethene	л/дп	~	2.5	0.32 J	2.1	<33	⊽
8260	Trans 1,2-Dichloroethene	μg/L					ŝ	⊽
8260	Trichloroethene	цg/L	~	1 J	$\overline{\mathbf{v}}$	1.4	20 J	⊽
8260	Vinvl chloride	ne/L	√	<2.5	∠	~	€	₽ V

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<1	µg/L	Vinyl chloride	8260
₽	µg/L	Trichloroethene	8260
~	μg/L	Trans 1,2-Dichloroethene	8260
v	μg/L	Tetrachloroethene	8260
īv	μg/L	cis-1,2-Dichloroethene	8260
~	μg/L	Chloroform	8260
]</td <td>μg/L</td> <td>Carbon tetrachloride</td> <td>8260</td>	μg/L	Carbon tetrachloride	8260
~	μg/L	1,1-Dichloroethene	8260
~	μg/L	1,1,2-Trichloroethane	8260
~	μg/L	1,1,2,2-Tetrachloroethanc	8260
<1 J	μg/L	I, I, I - Trichloroethane	8260
	RESUNIT	D LABNAME	METHOD
78.6-80.6	Depth		
2:50:00 PM	Time Sampled		
10/21/2004	Date Sampled		
MW68 78.6-80.6	Sample Name		
MW-068	Site ID		

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		Site ID	69-WM	09-WM	09-WW	09-WW	09-MM	69-MW	090-WW
		Sample Name MW-69-Y2Q	IW-69-Y2Q1	69-MM	MW-69-Y2Q3.	AW-69-Y2Q3MW-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	
METHOD	D LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	hg/L	V	V	V	V	$\overline{\mathbf{v}}$	⊽	~
8260	1,1,2,2-Tetrachloroethane	µg/L	V	~	4.36	V	0.6 J	⊽	~
8260	1,1,2-Trichloroethane	hg/L	V	Ā	⊽	v	$\overline{\nabla}$	7	$\overline{\mathbf{v}}$
8260	1, 1-Dichloroethene	hg/L	V	V	⊽	V	V	7	Ÿ
8260	0	hg/L	$\overline{\vee}$	0.73 J	V	īv	0.3 J	$\overline{\nabla}$	V
8260	Chloroform	µg/L	$\overline{\nabla}$	3.56	~	2.12		0.1 J	~
8260	cis-1,2-Dichloroethene	hg/L	4.11	31.2	2.26	23.1	11	⊽	
8260	Tetrachloroethene	hg/L	1.76	4.87	0.68 J	6.39 J	4	7	J</td
8260	Trans 1,2-Dichloroethene	μg/L							1
8260	Trichloroethene	µg/L	99.2	642	50.4	464	350	V	42
8260	Vinyl chloride	ug/L	V	7	~	⊽	⊽	V	~

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		Site ID	69-MW	69-MM	0 69-MW	69-MW	69-MW	MW-69	69-MW
		Sample Name M	W-69-Y3S2-A	MW-69-Y3S2-B	Sample Name MW-69-Y3S2-A MW-69-Y3S2-B AW-69-1_020410	JW-69-2_020416	AW-69-2_021002	MW-69-1_021003	02W-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	
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	μg/L	~	~	$\overline{\nabla}$	$\overline{\vee}$	4	$\vec{\mathbf{v}}$	V
8260	1,1,2,2-Tetrachloroethane	µg/L	$\overline{\vee}$	v	V	$\overline{\mathbf{v}}$	$\overline{\mathbf{v}}$	V	V
8260	1,1,2-Trichloroethane	μg/L	$\overline{\mathbf{v}}$	V	~	$\overline{\nabla}$	V	~	√
8260	1,1-Dichloroethene	μg/L	$\overline{\mathbf{v}}$	$\overline{\mathbf{v}}$	~	~	$\overline{\nabla}$	~	V
8260	Carbon tetrachloride	Hg/L	ī	~	v	~	V	~	$\overline{\mathbf{v}}$
8260	Chloroform	µg/L	~	~	1.52	~	~	v	$\overline{\nabla}$
8260	cis-1,2-Dichloroethene	μg/L	~	$\overline{\mathbf{v}}$	7.92	~	~	$\overline{\vee}$	V
8260	Tetrachloroethene	μg/L	~	V	1.84	~	~	0.98 J	2.4
8260	Trans 1,2-Dichloroethene	µg/L							
8260	Trichloroethene	μg/L	10.1	~	128	$\overline{\nabla}$	~	8.12	2.9
8260	Vinvl chloride	ue/L	- V	~	$\overline{\vee}$	~	V	√	~

		Site ID	69-MM	09-WW	69-MW	69-MW	69-MM	0690-WM
		Sample Name	MW-69-1	MW-69-2	MW-69-1 031028 AW-69-100 031028 MW-69-2_031028 MW69 (86-88)	IW-69-100 031028	MW-69-2 031028	3 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	hg/L	$\overline{\mathbf{v}}$	⊽	⊽	~	⊽	V
8260	1,1,2,2-Tetrachloroethane	hg/L	⊽	~	~	~	~	V
8260	1,1,2-Trichloroethane	hg/L	~	$\overline{\nabla}$	⊽	~	⊽	7
8260	1, 1-Dichloroethene	μg/L	$\overline{\mathbf{v}}$	v	v	~	v	v
8260	Carbon tetrachlonde	μg/L	~	$\overline{\mathbf{v}}$	~	V	▼	⊽
8260	Chloroform	μg/L	V	V	~	~	~	v
8260	cis-1,2-Dichloroethene	нg/L	~	~	~	~	~	$\overline{\mathbf{v}}$
8260	Tetrachloroethene	µg/L	1.94	$\overline{\mathbf{v}}$	$\overline{\mathbf{v}}$	~	⊽	0.55 J
8260	Trans 1,2-Dichloroethene	μg/L						
8260	Trichloroethene	hg/L	2.18	$\overline{\mathbf{v}}$	V	v	~	0.47 J
8260	Vinvl chloride	ng/L	$\overline{\vee}$	~	V	~	⊽	7

		Site ID	690-WW	690-MW	690-MW	690-MW	690-MW
		Sample Name	(E6-16) 69MM	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		RESUNIT					
8260	1,1,1-Trichloroethane	µg/L	⊽	4	< J	< 1]	[>
8260	1,1,2,2-Tetrachloroethane	μg/L	.⊳	۲	⊽	~	V
8260	1,1,2-Trichloroethane	µg/L	~	~	~	⊽	⊽
8260	1,1-Dichloroethene	µg/L	~	~	~	⊽	⊽
8260	Carbon tetrachloride	µg/L	~	~	< 1 >	< J]</td
8260	Chloroform	µg/L	⊽	~	0.17 J		V
8260	cis-1,2-Dichloroethene	µg/L	⊽	$\overline{\mathbf{v}}$	~	⊽	⊽
8260	Tetrachloroethene	µg/L	⊽	$\overline{\mathbf{v}}$	1.5	~	v
8260	Trans 1,2-Dichloroethene	μg/L			~	<1 R	v
8260	Trichloroethene	hg/L	~	~	3.7	~	∼
8260	Vinyl chloride	ug/L	~	~	~	~	~

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					0/- AA TAI		0/ - AA 1A]		
		Sample Name MW-70-Y20	MW-70-Y201	MW70NA	MW-70-Top	MW-70-Top AW-70 Botton	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-Tr	1,1,1-Trichloroethane	hg/L	$\overline{\mathbf{v}}$.∼	V	v	V	~	~
8260 1,1,2,2-	, 1, 2, 2-Tetrachloroethane	µg/L	4830	310	284	342	930	3370	390
8260 1,1,2-Tr	,1,2-Trichloroethane	μg/L	39.4	4	2.64	3.93	15.2	16	2
8260 1,1-Dicl	, l-Dichloroethene	µg/L	0.61 J	$\overline{\nabla}$	⊽	v	v	⊽	7
8260 Carbon	Carbon tetrachloride	μg/L	3.48	0.4 J	Ţ.	0.64 J	2.46	1.81	0.4 J
8260 Chloroform	orm	μg/L	18.2	7	4.36	5.18	8.46	9.37	1 J
	cis-1,2-Dichloroethene	μg/L	522	46	38.8	54.8	211	292	21
8260 Tetrachi	Fetrachloroethene	μg/L	89.7	13	2.92	5.35	35.8	32.5 J	2
8260 Trans 1,	Frans 1,2-Dichloroethene	μg/L							
8260 Trichlor	Frichloroethene	μg/L	11700	1100	538	720	4240	4040	590
8260 Vinyl chloride	hloride	µg/L	1.88	0.2 J	<1	-<1	0.62 J	1.69	

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		Site ID	MW-70	MW-70	MW-70	MW-070	MW-70	MW-70	MW-70
		Sample Name M	AW70-89 5FT	MW70-93FT	RW20-80FT	MW-70-Y3S1	MW-70-Y3S2-A	MW-70-Y3S2-A MW-70-Y3S2-B 4W-70-1_02041	: 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		V	$\overline{\mathbf{v}}$	⊽	~	$\overline{\nabla}$	~
8260	1,1,2,2-Tetrachloroethane	ug/L	130 J	14	18	482	1320	766	2540
8260	1,1,2-Trichloroethane	Hg/L	-	0.6 J	0.6 J	-	~	$\overline{\mathbf{v}}$	7.35
8260	1,1-Dichloroethene	µg/L	⊽	$\overline{\vee}$	v	V	v	⊽	7
8260	Carbon tetrachloride	µg/L	0.3 J	V	7	<15	$\overline{\vee}$	⊽	~
8260	Chloroform	μg/L	0.5 J	0.1 J	0.1 J		V	~	3.99
8260	cis-1,2-Dichloroethene	µg/L	6	12	11		92.8 J	55.9 J	114
	Tetrachloroethene	μg/L	0.8 J	V	~	Ŵ	$\overline{\mathbf{v}}$	⊽	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	J/2u	~	00	%	<1 J	~		~

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Site ID	07-WM	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
RESUNIT						
µg/L <1		<50	<50	<50	<200	<50
μg/L 1580		12400	11500	7980	3060	2120
µg/L 5.2		<50	<50	<50	<200	<50
_		<50	<50	<50	<200	<50
μg/L <1		<50	<50	<50	<200	<50
		<50	<50	<50	<200	<50
μg/L 69.2		72.4	67	42.5 J	<200	31.6
μg/L 3.27		<50	<50	<50	<200	<50
μg/L						
μg/L 1490		1980	1870	1340	1220	824
ue/L 17		<50	<50	<50	<200	<50

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MW70 (85_8-87_8) MW70 (90_8-92_8) MW70 85.8-87.8MW70 90.8-92.8 3:30:00 PM 10/21/2004 MW-070 90.8-92.8 <170 J <170 J <170 <170 <170 <170 <170 <170 4200 1100 <170 10/22/2004 3:25:00 PM MW-070 85.8-87.8 <140 5800 <140 <140 <140 <140 <140 <140 2100 <140 41 J 12:10:00 PM 4/29/2004 90.8-92 8 MW-070 200 <200 200 6900 <200 <200 110 J **200** 2200 <200 12:05:00 PM 4/29/2004 85.8-87.8 MW-070 <250 <250 <250 <250 <250 8500 120 J 250 3700 <250 MW-70-2 031028 10/28/2003 I:10:00 PM 89.3-91.3 07-WM <] 4170 4.39 1410 3.85 10.3 $\overline{\mathbf{v}}$ $\overline{\mathbf{v}}$ $\overline{\nabla}$ 50 Sample Name MW-70-1 031028 1:05:00 PM 10/28/2003 84 3-86.3 MW-70 0.64 J 8270 2530 6.92 17.3 2.5 112 $\overline{\vee}$ v V Site ID μg/L μg/L μg/L µg/L μ<u>β</u>/L hg/L μg/L µg/L μg/L µg/L µg/L Date Sampled Time Sampled Depth RESUNIT Trans 1,2-Dichloroethene 1, 1, 2, 2-Tetrachloroethane cis-1,2-Dichloroethene 1,1,2-Trichloroethane 1,1,1-Trichloroethane Carbon tetrachloride LABNAME I, I-Dichloroethene Tetrachloroethene Trichloroethene Vinyl chloride Chloroform METHOD 8260 8260 8260 8260 8260 8260 8260 8260 8260 8260 8260

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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	hg/L
8260	Chloroform	hg/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	Site ID MW-071	MW-071	MW-071	MW-071	MW-071	MW-071	MW-071
		Sample Name N	AW-71-Y2Q2	1SEY-17-Wh	le Name MW-71-Y2Q2MW-71-Y3S1 MW-71-Y4S1 MW-71-Y4S1 MW-71-Y4S2	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							
÷.	1,1,1-Trichloroethane	µg/L	v	₽	⊽	ī	√	V	~
<u> </u>	1,1,2,2-Tetrachloroethane	μg/L	181	<u>66</u>	332	68	6	26	30
-	., 1,2-Trichloroethane	µg/L	¥	_	9	I	7	⊽]</td
÷	I, I-Dichloroethene	hg/L	V	\vec{v}	$\overline{\mathbf{v}}$	v	√	⊽	7
Ű	Carbon tetrachloride	hg/L	34	24	20	17	$\overline{\mathbf{v}}$	11	17
σ	Chloroform	µg/L	1080	624	788	233	80	73	117
:ï	cis-1,2-Dichloroethene	µg/L							
Ĕ	Tetrachloroethene	μg/L	4	S		-	⊽	7	_
Ē	Trans 1,2-Dichloroethene	hg/L	÷	1	ę	-	$\overline{\mathbf{v}}$	$\overline{\nabla}$	<pre>[]></pre>
F	Frichloroethene	hg/L	239	77	184	70	-	27	44
>	Vinyl chloride	ug/L	V	Ā	Þ	<]	<1	<1	<

		Site ID	MW-071	MW-071	170-WM	MW-071	MW-071	MW-071
		Sample Name	MW-71-Y5SI	MW-71-Y5S2	MW-71-Y5S2	MW71 (71-73) 1	W7I (74 4-76 4	W71 (74_4-76_4/W71 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	~	~	~	⊲2 U	₽	<l j<="" td=""></l>
8260	1,1,2,2-Tetrachloroethane		7	27	⊽	16	3.8	6
8260	1,1,2-Trichloroethane		⊽	⊽	⊽	⊲2 U	v	~
8260	1,1-Dichloroethene	µg/L	⊽	$\overline{\nabla}$	⊽	<2 U	v	V
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	$\overline{\vee}$	$\overline{\mathbf{v}}$	$\overline{\mathbf{v}}$	0.54 J	0.31 J	0.4 J
8260	Trans 1,2-Dichloroethene	μg/L	v	V	V			~
8260	Trichloroethene	hg/L	16	17	10	15	6.9	12
8260	Vinvl chloride	µg/L	~	~	V	-2 U	⊽	~

MW-76	.1(MW-76-2_02041(4/10/2002	11:12:00 AM			~	15.5	~	⊽	~	1.22	13.5	1.81		142	₽
MW-76	4W-76-Y3S2-,MW-76-Y3S2-BMW-76-1_02041	4/10/2002	11:10:00 AM			⊽	117	⊽	⊽	⊽	V	10.6	~		90.7	V
MW-76	MW-76-Y3S2-F	10/3/2001		91.5-93.5		⊽	332	⊽	⊽	$\overline{\mathbf{v}}$	$\overline{\vee}$	19.6	⊽		117	1>
MW-76	4W-76-Y3S2-	10/3/2001		86.5-88.5		⊽	106	V	⊽	V	~	4.67 J	V		72.2	<1
MW-76	MW-76	2/14/2001	3:00:00 PM			v	694	$\overline{\mathbf{v}}$	v	v	v	17.8	3.98		276	<1
92-WM	7F7MW76-88 7F1	1/8/2001	3:35:00 PM			⊽	2000	7	ī	Ÿ	0.9 J	34	ŝ		840	-1
MW-76	W76-91 7F7	1/8/2001	3:30:00 PM			V	2300	ы	Ā	₽	1	58	-		690	0.3 J
Site ID	Sample Name M	Date Sampled	Time Sampled	Depth	RESUNIT	µg/L	μg/L	hg/L	hg/L	µg/L	µg/L	µg/L	hg/L	µg/L	μg/L	μg/L
					LABNAME	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	I, 1, 2-Trichloroethane	1,1-Dichloroethene	Carbon tetrachloride	Chloroform	cis-1,2-Dichloroethene	Tetrachloroethene	Trans 1,2-Dichloroethene	Trichloroethene	Vinyl chloride
					METHOD	8260	8260	8260	8260	8260	8260	8260	8260	8260	8260	8260

		Site ID	MW-76	MW-76	MW-76	MW-76	MW-76	MW-76	MW-076
		Sample Name MW	W-76-1 02100	MW-76-2 02100	MW-76-1	MW-76-2	MW-76-1_031028	dW-76-1_03102MW-76-2_03102{ MW76 (86-88)	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 Depth	9:45:00 AM	9:47:00 AM			12:55:00 PM	1:00:00 PM	11:05:00 AM 86-88
METHOD	LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	√	~	~	~	⊽	$\overline{\nabla}$	U</td
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	⊽	7⊽	~	$\overline{\vee}$	⊽	7	<1 U
8260	1,1-Dichloroethene	μg/L	$\overline{\mathbf{v}}$	$\overline{\mathbf{v}}$	$\overline{\nabla}$	$\overline{\mathbf{v}}$	$\overline{\mathbf{v}}$	⊽	<1 U
8260	Carbon tetrachloride	µg/L	V		~	$\overline{\nabla}$	$\overline{\mathbf{v}}$	⊽	<1 U
8260	Chloroform	μg/L	$\overline{\nabla}$	~	~	1.44	⊽	$\overline{\vee}$	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	$\overline{\vee}$	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	Vinvl chloride	ug/L	V	~	Ā	~	V	7	<1 U

$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$			Site ID	MW-076	MW-076	MW-076	MW-076
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$			Sample Name	MW76 (91-93)	MW-76	MW76 86.3-88.3	MW76 91.3-93.3
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $			Date Sampled	4/29/2004	8/16/2004	10/21/2004	10/21/2004
$\begin{array}{c c c c c c c c c c c c c c c c c c c $			Time Sampled	11:10:00 AM	1:15:00 PM	3:50:00 PM	3:55:00 PM
$\begin{array}{c ccccc} LABNAME & RESUNIT \\ LABNAME & RESUNIT \\ 1,1.Trichloroethane & \mug/L & <1U & <2U & <1 \\ 1,1,2.Trichloroethane & \mug/L & 10 & 2.9 & 4.3 \\ 1,1,2.Trichloroethane & \mug/L & <1U & <2U & <1 \\ 1,1.Dichloroethane & \mug/L & <1U & <2U & <1 \\ 1,1.Dichloroethane & \mug/L & <1U & <2U & <1 \\ 1,1.Dichloroethane & \mug/L & <1U & <2U & <1 \\ 1,1.Dichloroethane & \mug/L & 0.23 & 0.47 & 0.16 & <1 \\ 1,1.Dichloroethene & \mug/L & 0.25 & 0.24 & 1 \\ 1,1.Dichloroethene & \mug/L & 0.86 & 0.24 & 0.24 & 1 \\ 1.8 & 0.27 & 0.16 & 0.27 & <1 \\ 1.8 & 0.27 & 0.16 $			Depth	61-93		86.3-88.3	91.3-93.3
1,1.Trichloroethane $\mu g/L$ <1U <2U <1J 1,1,2.Trichloroethane $\mu g/L$ 10 2.9 4.3 1,1,2.Trichloroethane $\mu g/L$ <1U	METHOD		RESUNIT				-
1,1,2,2-Tetrachloroethane $\mu g/L$ 10 2.9 4.3 1,1,2-Trichloroethane $\mu g/L$ $<1U$ $<2U$ <1 1,1,2-Trichloroethane $\mu g/L$ $<1U$ $<2U$ <1 1,1,2-Trichloroethane $\mu g/L$ $<1U$ $<2U$ <1 Carbon tetrachloride $\mu g/L$ $<1U$ $<2U$ <1 Chloroform $\mu g/L$ $<1U$ $<2U$ <1 Chloroform $\mu g/L$ 0.23 0.47 0.16 Chloroform $\mu g/L$ 0.23 0.47 0.16 Chloroform $\mu g/L$ 0.23 0.24 1 Chloroform $\mu g/L$ 0.23 0.27 1 Tetrachloroethene $\mu g/L$ 0.86 1.8 0.27 1 Trans 1,2-Dichloroethene $\mu g/L$ 0.95 0.24 1 0.27 Trans 1,2-Dichloroethene $\mu g/L$ 0.86 1.8 0.27 1 Trans 1,2-Dichloroethene	8260	I, I, I-Trichloroethane	µg/L		<2 U]</td <td></td>	
1,1,2-Trichloroethane $\mu g/L$ <1U <2U <1 1,1-Dichloroethane $\mu g/L$ <1U	8260	1,1,2,2-Tetrachloroethane	μg/L	10	2.9	4.3	12
1,1-Dichloroethene $\mu g/L$ <1U <2U <1 Carbon terrachloride $\mu g/L$ <1U	8260	1,1,2-Trichloroethane	μg/L	<1 U	<2 U	⊽	<1
Carbon tetrachloride $\mu g/L$ <1 U <2 U <1 J Chloroform $\mu g/L$ 0.23 J 0.47 J 0.16 J Chloroform $\mu g/L$ 0.23 J 0.47 J 0.16 J cis-1,2-Dichloroethene $\mu g/L$ 0.95 J 6.9 0.24 J Tetrachloroethene $\mu g/L$ 0.86 J 1.8 J 0.27 J Trans 1,2-Dichloroethene $\mu g/L$ 1.8 J 0.27 J Trans 1,2-Dichloroethene $\mu g/L$ 10 3.4 3.9 Vinyl chloride $\mu g/L$ 10 2.1 <1	8260	1,1-Dichloroethene	μg/L	<1 U	<2 U	⊽	~
Chloroform $\mu g/L$ 0.23 J 0.47 J 0.16 J cis-1,2-Dichloroethene $\mu g/L$ 0.95 J 6.9 0.24 J Tetrachloroethene $\mu g/L$ 0.86 J 1.8 J 0.27 J Trans 1,2-Dichloroethene $\mu g/L$ 0.86 J 1.8 J 0.27 J Trans 1,2-Dichloroethene $\mu g/L$ 10 3.4 3.9 Vinyl chloride $\mu g/L$ 10 3.4 3.9	8260	Carbon tetrachloride	μg/L	<1 U	<2 U]</td <td><1J</td>	<1J
cis-1,2-Dichloroethene $\mu g/L$ 0.95 J6.90.24 JTetrachloroethene $\mu g/L$ 0.86 J1.8 J0.27 JTrans 1,2-Dichloroethene $\mu g/L$ 1.6343.9Trichloroethene $\mu g/L$ 10343.9Vinyl chloride $\mu g/L$ <1 U	8260	Chloroform	μg/L	0.23 J	0.47 J	0.16 J	0.18 J
Tetrachloroethene $\mu g/L$ 0.86 J1.8 J0.27 JTrans 1,2-Dichloroethene $\mu g/L$ 10343.9Trichloroethene $\mu g/L$ 10343.9Vinyl chloride $\mu g/L$ <1 U	8260	cis-1,2-Dichloroethene	μg/L	0.95 J	6.9	0.24 J	0.69 J
$ \begin{array}{llllllllllllllllllllllllllllllllllll$	8260	Tetrachloroethene	Д/В́́л	0.86 J	1.8 J	0.27 J	.∠
	8260	Trans 1,2-Dichloroethene	hg/L			$\overline{\mathbf{v}}$	0.24 J
Vinyl chloride	8260	Trichloroethene	hg/L	10	34	3.9	8.9
	8260	Vinyl chloride	μg/L	<1 U	<2 U		

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7	007	002	7	7	<10	0.4 J	µg/L	VINYI Chloride	8260
4000	0250	5040	91/0	1620	2400	2500	hg/L	Trichloroethene	8260
		•					μg/L	Trans 1,2-Dichloroethene	8260
14.8	<50	<50	7.18	$\overline{\vee}$	11	ò	µg/L	Tetrachloroethene	8260
189	230	237	176	76.4 J	130	130	µg/L	cis-1,2-Dichloroethene	8260
4.96	<50	<50	5.39	~	4 J	4	μg/L	Chloroform	8260
0.86 J	<50	<50	~	$\overline{\mathbf{v}}$	<10	0.6 J	µg/L	Carbon tetrachloride	8260
~	<50	<50	~	V	<10	$\overline{\mathbf{v}}$	hg/L	1,1-Dichloroethene	8260
8.53	<50	<50	9.46	V	ſ L	œ	μg/L	1,1,2-Trichloroethane	8260
12800	30000	18200	4330	1820	2400	2900	hg/L	1,1,2,2-Tetrachloroethane	8260
⊽	<50	<50	~	$\overline{\vee}$	<10	$\overline{\mathbf{v}}$	hg/L	1,1,1-Trichloroethane	8260
		-					RESUNIT	LABNAME	METHOD
84.9-86.9				85-87			Depth		
11:00:00 AM		9:50:00 AM	11:15:00 AM		3:15:00 PM	3:10:00 PM	Time Sampled		
11/18/2003	4/8/2003	10/1/2002	4/10/2002	10/3/2001	1/8/2001	1/8/2001	Date Sampled		
4W-77-1_031118	1-77-WM	IW-77-1_02100	MW-77-Y3S2 W-77-1_0204 MW-77-1_02100	иW-77-Y3S2		W77-87_5F1	Sample Name WW77-87_5F1 MW77-85FT		
MW-77	MW-77	MW-77	MW-77	77-WM	MW-77	MW-77	Site ID		

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		Site ID	MW-077	MW-077	MW-077	MW-077	MW-077	1/0-MW
		Sample Name	MW77 (82-84)	MWDUP-6	1W77 (85 6-87 (MW-77	4W77 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	J/an	<620 U	<500 U	<500 U	<330 U	<250	<140
8260	1.1-Dichloroethene	ne/L	<620 U	<500 U	<500 U	<330 U	<250	<140
8260	Carbon tetrachloride	ne/L	<620 U	<500 U	<500 U	<330 U	<250 J	<140 J
8260	Chloroform	ne/L	<620 U	<500 U	<500 U	<330 U	<250	<140
8260	cis-1.2-Dichloroethene	ne/L	[0/1	130 J	160 J	94 J	64 J	63 J
8260	Tetrachloroethene	ug/L	<620 U	<500 U	<500 U	<330 U	<250	<140
8260	Trans 1.2-Dichloroethene	ne/L					<250	<140
8260	Trichloroethene	ng/L	5400	4600	5000	3200	1700	1700
8260	Vinvl chloride	ne/L	<620 U	<500 U	<500 U	<330 U	<250	<140

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					0/- AA IAI	0/- M M	07 - AA TAT	0/- AA TAT	0 / - AA TAT
		Sample Name	MW-78	1W-78-Y3S2-//	1W-78-Y3S2-F	AW-78-Y3S2-A	W-78-Y3S2-//W-78-Y3S2-I/W-78-Y3S2-MW-78-1 020416	MW-78-2 02041(JW-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	1,1,1-Trichloroethane	μg/L	V	v	v	v	v	~	V
	1,1,2,2-Tetrachloroethane	µg/L	V	V	▽	$\overrightarrow{\mathbf{v}}$	v	$\overline{\mathbf{v}}$	√
-	I, I, 2-Trichloroethane	μg/L	V	v	V	$\overline{\vee}$	√	∠	V
-	I, I-Dichloroethene	hg/L	v	~	√	$\overline{\vee}$	v	~	V
-	Carbon tetrachloride	µg/L	$\overline{\mathbf{v}}$	$\overline{\mathbf{v}}$	$\overline{\nabla}$	V	V	v	7
-	Chloroform	hg/L	V	$\overline{\vee}$	$\overline{\vee}$	$\overline{\vee}$	⊽	$\overline{\vee}$	~
8260 c	cis-1,2-Dichloroethene	hg/L	$\overline{\mathbf{v}}$	$\overline{\mathbf{v}}$	⊽	V	~	~	7
8260 T	Tetrachloroethene	hg/L	v	$\overline{\mathbf{v}}$	$\overline{\mathbf{v}}$	$\overline{\vee}$	~	~	⊽
8260 T	Trans 1,2-Dichloroethene	J/BH							
8260 T	Trichloroethene	μg/L	v	v	v	v	7	₽	$\overline{\mathbf{v}}$
8260 V	Vinyl chloride	μg/L	<ا	<pre></pre>	<1>	۲×	V	₽	⊽

833 277

AW-78-1_031025 MW78 (47-49) MW78 (52-54) 10:30:00 AM 4/29/2004 MW-078 52-54 0.28 J <! U</td> ∩ I> ∩ I> U I> 0 I ≥ ∪ I> 4 10:25.00 AM 4/29/2004 MW-078 47-49 0.36 J 0 I 1 √ ∩ I⊳ <! U 5.2 .2:30:00 PM 10/28/2003 MW-78 $\overline{v} \ \overline{v}$ $\overline{\vee}$ \overrightarrow{v} \overrightarrow{v} \overrightarrow{v} $\overline{\nabla} \overline{\nabla}$ $\overline{\vee} \overline{\vee}$ MW-78-1 MW-78 4/8/2003 $\overline{\vee} \overline{\vee}$ $\overline{\lor} \overline{\lor} \overline{\lor}$ $\overline{\mathbf{v}}$ $\overline{\mathbf{v}}$ $\overline{\vee}$ $\overline{\vee}$ $\overline{\vee}$ Sample Name vtW-78-1_02100/tW-78-2_021001/tW-78-3_021001 9:34:00 AM 10/1/2002 MW-78 $\overline{\vee} \overline{\vee} \overline{\vee}$ $\overline{\nabla} \ \overline{\nabla} \ \overline{\nabla}$ $\overline{\vee}$ v $\overline{\nabla}$ $\overline{\nabla}$ 9:32:00 AM 10/1/2002 MW-78 $\overline{\lor}\ \overline{\lor}\ \overline{\lor}\ \overline{\lor}\ \overline{\lor}\ \overline{\lor}\ \overline{\lor}\ \overline{\lor}\ \overline{\lor}\ \overline{\lor}$ $\overline{\vee} \overline{\vee}$ 9:30:00 AM 10/1/2002 MW-78 $\overline{\nabla}$ \overrightarrow{v} \overrightarrow{v} \overrightarrow{v} $\overrightarrow{\mathsf{v}}$ $\overline{\vee} \overline{\vee} \overline{\vee}$ $\overline{\vee}$ $\overline{\mathbf{v}}$ μg/L μg/L μg/L μg/L µg/L µg/L Date Sampled Time Sampled µg/L µg/L Site ID Depth RESUNIT ug/L 1,1,2,2-Tetrachloroethane Trans 1,2-Dichloroethene cis-1,2-Dichloroethene 1, 1, 1-Trichloroethane I, I, 2-Trichloroethane Carbon tetrachloride LABNAME I, I-Dichloroethene Tetrachloroethene **Trichloroethene** Vinyl chloride Chloroform METHOD 8260 8260 8260 8260 8260 8260 8260 8260 8260 8260 8260 833 278

$\label{eq:relation} \begin{array}{c ccccccccccccccccccccccccccccccccccc$			Site ID	MW-078	MW-078	MW-078	MW-078	MW-078
$ \begin{array}{llllllllllllllllllllllllllllllllllll$			Sample Name	MW78 (57-59)	MW78 (62-64)	MW78 51.8-53.8	MW78 56.8-58.8	MW78 61.8-63.8
$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$			Date Sampled	4/29/2004	4/29/2004	10/21/2004	10/21/2004	10/21/2004
$\begin{array}{c c c c c c c c c c c c c c c c c c c $			Time Sampled	10:35:00 AM	10:40:00 AM	4:20:00 PM	4:25:00 PM	4:30:00 PM
LABNAMERESUNITLABNAMERESUNIT1,1,1-Trichloroethane $\mu g/L$ 1,1,2-Trichloroethane $\mu g/L$ 1,1,2,2-Tetrachloroethane $\mu g/L$ 1,1,2,2-Tetrachloroethane $\mu g/L$ 1,1,2,2-Tetrachloroethane $\mu g/L$ 1,1,2,2-Tetrachloroethane $\mu g/L$ 1,1,2,1,1-Dichloroethane $\mu g/L$ 1,1-Dichloroethane $\mu g/L$ 1,1-Dichloroethene $\mu g/L$ 1,2-Dichloroethene $\mu g/L$ 1,1-Dichloroethene $\mu g/L$ 1,1-2-Dichloroethene $\mu g/L$ 1,1-2-1-2-Dichloroethene $\mu g/L$ 1,1-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-			Depth	57-59	62-64	51.8-53.8	56.8-58.8	61.8-63.8
ethane $\mu g/L$ <1U <1U <1J <1J <th< td=""><td>METHOD</td><td></td><td>RESUNIT</td><td></td><td></td><td></td><td></td><td></td></th<>	METHOD		RESUNIT					
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	8260	1,1,1-Trichloroethane	μg/L	<1 U	<1 U	[>	<pre></pre>	<1 J
ethane $\mu g/L$ <1U <1U <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1	8260	1,1,2,2-Tetrachloroethane	J/gµ	3.1	<1 U	~	0.74 J	0.35 J
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	8260	1,1,2-Trichloroethane	µg/L	<1 U	<1 U	$\overline{\mathbf{v}}$	⊽	7
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	8260	1,1-Dichloroethene	µg/L	<1 U	<1 U	$\overline{\mathbf{v}}$	$\overline{\mathbf{v}}$	V
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	8260	Carbon tetrachloride	hg/L	<1 U	<1 U	(>	<15	<1 J
octhene $\mu g/L$ <1 U <1 U <1 <1 <1 ane $\mu g/L$ <1 U	8260	Chloroform	μg/L	1 U	<1 U	$\overline{\mathbf{v}}$	V	~
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	8260	cis-1,2-Dichloroethene	hg/L	<1 U	<1 U	~	~	~
$ \begin{array}{cccc} & \mu g/L & <1 & <1 & <1 \\ e & \mu g/L & 0.26 J & <1 U & <1 & 0.59 J \\ & \mu g/L & <1 U & <1 & <1 \\ \end{array} $	8260	Tetrachloroethene	hg/L	<1 U	<1 U	$\overline{\mathbf{v}}$	7	7
e $\mu g/L$ 0.26 J <1 U <1 0.59 J $\mu g/L$ <1 U <1 U <1 <1 <1 U	8260	Trans 1,2-Dichloroethene	hg/L			v	√	V
μg/L <1 U	8260	Trichloroethene	µg/L	0.26 J	<1 U	v	0.59 J	0.35 J
	8260	Vinyl chloride	µg/L	<1 U	<1 U	₽	⊽	

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MW-79	MW-79-Y3S2-A	10/3/2001		85-87		0.35 J	~	~	21	$\overline{\nabla}$	⊽	0.62 J	6.28		8.8	V
MW-79	MW-79	2/19/2001	11:45:00 AM			⊽	3.34	₽	30.1	⊽	⊽	2.52	14		9.6	⊽
MW-79	MW201-64FEET	2/15/2001	9:50:00 AM			1.2	v	⊽	47	0.1.J	0.75 J	0.5 J	33		20	⊽
MW-79	4W79-86_1F7N	2/15/2001	9:45:00 AM		-	0.8 J	3.8 U	⊽	22	$\overline{\mathbf{v}}$	1.7	6.1	3.2		18	⊽
MW-79	7W79-96FEEMW79-91 3FMW79-86 1F1	2/15/2001	9:40:00 AM			1.2	$\overline{\mathbf{v}}$	V	48	0.1 J	0.76 J	0.51 J	31		20	~
MW-79	IW79-96FEEN	2/15/2001	9:35:00 AM			1.2		-1	48	~	0.76 J	0.53 J	33		20	₽
MW-79	W79-100 5F7	2/15/2001	9:30:00 AM			√	⊽	V	46	0.099 J	0.8 J	0.89 J	34		26	<1
Site ID	Sample Name 1	Date Sampled	Time Sampled		RESUNIT	hg/L	μg/L	µg/L	μg/L	µg/L	µg/L	µg/L	μg/L	hg/L	µg/L	µg/L
					LABNAME	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethene	Carbon tetrachloride	Chloroform	cis-1,2-Dichloroethene	Tetrachloroethene	Trans 1,2-Dichloroethene	Trichloroethene	Vinyl chloride
					METHOD	8260	8260	8260	8260	8260	8260	8260	8260	8260	8260	8260

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		Site ID	MW-79	67-WM	MW-79	MW-79	MW-79	MW-79	MW-79
		Sample Name MV	fW-79-Y3S2-B	V-79-Y3S2-B MW-79-Y3S2-C1	MW-79-Y3S2-D	C MW-79-Y3S2-DMW-79-1_02041MW-79-2_02041	MW-79-2_02041	MW-79-200	dW-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	⊽	v	√	V
8260	1,1,2,2-Tetrachloroethane	μg/L	~	~	⊽	~	7	7	V
8260	1,1,2-Trichloroethane	μg/L	⊽	~	~	V	~	⊽	-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	⊽	~	Ÿ	v	~	$\overline{\mathbf{v}}$	V
8260	Chloroform	µg/L	v	~	~	~	√	7	7
	cis-1,2-Dichloroethene	μg/L	0.88 J	0.57 J	.⊳	0.68 J	⊽	~	7
	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	6	6.05	6.37	6.87
8260	Vinvl chloride	ug/L	⊽	⊽	∠	~	~	~	~

		Site ID	MW-79	MW-79	MW-79	MW-79	MW-79	M W - /
		Sample Name MW-79-4 020410	W-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	hg/L	~	<10	<10	<10	<10	<10
8260	1,1,2,2-Tetrachloroethane	μg/L	~	<10	<10	<10	<10	<10
8260	1,1,2-Trichloroethane	μg/L	~	<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	η _g μ	V	<10	<10	<10	<10	<10
8260 (Chloroform	μg/L	V	<10	<10	<10	<10	<10
	cis-1,2-Dichloroethene	Д/дл	⊽	5.34 J	8.67 J	8.07 J	7.02 J	6.7 J
	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	Vinvl chloride	μg/L	ī	<10	<10	<10	<10	<10

		Site ID	MW-79	6 <i>L</i> -WM	MW-79	07-WM	02-WM	MW-79
		Sample Name	1-97-WM	MW-79-100 030408	1-9-1M	MW-79-2	dW-79-1_031028W-79-100_0310	1W-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	$\overline{\mathbf{v}}$	⊽	⊽	0.44	$\overline{\nabla}$	⊽
8260	I, I, 2, 2-Tetrachloroethane	hg/L	$\overline{\mathbf{v}}$	~		V	⊽	~
8260	1,1,2-Trichloroethane	µg/L	V	⊽	~	7	⊽	
8260	1, 1-Dichloroethene	µg/L	29.3	30.1	29.3	35.8	21.6	23.4
8260	Carbon tetrachloride	μg/L	v	⊽	⊽	⊽	⊽	⊽
8260	Chloroform	μg/L	v	⊽		$\overline{\mathbf{v}}$	⊽	V
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	Vinvl chloride	ne/L	V	V	~	⊽	~	~

		Site ID	62-WM	MW-079	620-MM	MW-079	MW-079	MW-079	MW-079
		Sample Name MV	W-79-2 031028	MW79 (84-86)	(16-68) 6LMW	MW79 (94-96)	(101-66) 62 MW	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	16-68	94-96	99-101		84-86
METHOD	D LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	μg/L	V	<1 U	<1 U	<1 U	<1 U	0.27 J	0.41 J
8260	1,1,2,2-Tetrachloroethane	μg/L	⊽	<1 U	<1 U	<!-- U</li-->	<1 U	<1 U	~
8260	1,1,2-Trichloroethane	μg/L	v	<1 U	<1 U	1 U	<1 U	<1 U	⊽
8260	1, 1-Dichloroethene	ug/L	23.9	9.4	8.9	10	12	7.6 B	6.3
8260	Carbon tetrachloride	μg/L	Ÿ	U</td <td><1 U</td> <td>∪ I></td> <td><1 U</td> <td>0.77 J</td> <td>0.37 J</td>	<1 U	∪ I>	<1 U	0.77 J	0.37 J
8260	Chloroform	μg/L	$\overline{\nabla}$	<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	-	0.56 J	1.9	2.6
8260	Tetrachloroethene	hg/L	1.95	1.7	1.5	1.8	2.1	1.7	1.4
8260	Trans 1,2-Dichloroethene	J'L							2.8
8260	Trichloroethene	μg/L	12.4	12	11	8.3	5.8	14	19
8260	Vinyl chloride	µg/L	⊽	<1 U	<1 U	<1 U	<1 U	<1 U	∠

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	Site ID	MW-079	MW-079	MW-079
	Sample Name	16-68 6LMW	MW79 94-96	101-66 62MW
	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	7
8260 1,1,2,2-Tetrachloroethane		⊽	~	V
8260 1,1,2-Trichloroethane	µg/L	⊽	⊽	V
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	hg/L	0.29 J	V	V
260 cis-1,2-Dichloroethene	hg/L	ę	1.7	0.92 J
8260 Tetrachloroethene	hg/L	1.2	1.5	1.8
8260 Trans 1,2-Dichloroethene	hg/L	ę	1.9	1.4
8260 Trichloroethene	hg/L	21	14	9.5
8260 Vinvl chloride	ug/L	V	V	~

$\begin{array}{c c} \text{Sample Name MW80-71_SF'4} \\ \text{Date Sampled $2/15/2001$} \\ \text{Date Sampled $2/15/2001$} \\ \text{Time Sampled $10:05:00 \ \text{AM}$} \\ \text{Depth} \\ \text{Depth} \\ \text{Depth} \\ \text{Depth} \\ \text{Depth} \\ \text{LABNAME} \\ \text{RESUNIT} \\ \text{H}_{1,1}.\text{Prichloroethane} \\ \text{H}_{2}/\text{L} \\ \text{H}_{1,1}.\text{Prichloroethane} \\ \text{H}_{1,1}.\text{Prichloroethane} \\ \text{H}_{2}/\text{L} \\ \text{Carbon tetrachloroethane} \\ \text{H}_{2}/\text{L} \\ \text{Carbon tetrachloroethene} \\ \text{H}_{2}/\text{L} \\ \text{Carbon tetrachloroethene} \\ \text{H}_{2}/\text{L} \\ \text{Carbon tetrachloroethene} \\ \text{H}_{2}/\text{L} \\ \text{Clarbon tetrachloroethene} \\ \\ \ \text{H}_{2}/\text{L} \\ \\ \ \text{Clarbon tetrachloroethene} \\ \\ \ \text{H}_{2}/\text{L} \\ \\ \ \text{Clarbon tetrachloroethene} \\ \\ \ \ \text{H}_{2}/\text{L} \\ \\ \ \ \ \text{Clarbon tetrachloroethene} \\ \\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ $	le Name MW80-71_5F4W80-68_5F74W80-65_3F1	LAWRONKS 2ET	00 1117 -			
$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$			08-WW	MW-80-Y3S2-A	MW-80-Y3S2-AMW-80-Y3S2-B MW-80-Y3S2-(MW-80-Y3S2-C
Time Sampled10:05:00 AMLABNAMEDepthLABNAMENESUNITLABNAMERESUNIT1,1,1-Trichloroethane $\mu g/L$ 1,1,2-Trichloroethane $\mu g/L$ 1,1-Dichloroethane $\mu g/L$ 1,2-Dichloroethene $\mu g/L$ 1,2-Dichloroethene $\mu g/L$ 1,2-Dichloroethene $\mu g/L$		2/15/2001	2/19/2001	10/3/2001	10/3/2001	10/3/2001
LABNAME RESU LABNAME RESU 1,1,2,2-Tetrachloroethane 1,1,2,2-Tetrachloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane Carbon tetrachloride Carbon tetrachloride Chloroform cis-1,2-Dichloroethene Tetrachloroethene	10:05:00 AM	10:10:00 AM 10:15:00 AM 12:00:00 PN	2:00:00 PM			
LABNAME RESU LABNAME RESU 1,1,1-Trichloroethane 1,1,2-Trichloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethane Carbon tetrachloride Chloroform cis-1,2-Dichloroethene Tetrachloroethene	spth			61.2-63.2	65.2-67.2	67.2-69.2
1,1,1-Trichloroethane 1,1,2,2-Tetrachloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane Carbon tetrachloride Chloroform cis-1,2-Dichloroethene Tetrachloroethene	NIT		z			
1, 1, 2, 2-T etrachloroethane 1, 1, 2-Trichloroethane 1, 1-Dichloroethene Carbon tetrachloride Chloroform cis-1, 2-Dichloroethene Tetrachloroethene	g/L <1 <1	$\overline{\nabla}$	v	⊽	⊽	~
1,1,2-Trichloroethane 1,1-Dichloroethene Carbon tetrachloride Chloroform cis-1,2-Dichloroethene Tetrachloroethene	.g/L <1 <1	$\overline{\mathbf{v}}$	v	⊽	~	~
1,1-Dichloroethene Carbon tetrachloride Chloroform cis-1,2-Dichloroethene Tetrachloroethene	g/L <1 <1	⊽	V	⊽	V	~
Carbon tetrachloride Chloroform cis-1,2-Dichloroethene Tetrachloroethene	.g/L <1 <1	$\overline{\mathbf{v}}$	$\overline{\mathbf{v}}$	⊽	⊽	⊽
Chloroform cis-1,2-Dichloroethene Tetrachloroethene	<u>g</u> /L <1 <1	$\overline{\nabla}$	v	$\overline{\mathbf{v}}$	⊽	$\overline{\mathbf{v}}$
cis-1,2-Dichloroethene Tetrachloroethene	_g/L <1 <1	$\overline{\mathbf{v}}$	$\overline{\mathbf{v}}$	$\overline{\mathbf{v}}$	1.07	√
Tetrachloroethene	g/L <1 <1	⊽	V	⊽	V	~
	g/L <1 <1	$\overline{\mathbf{v}}$	v	⊽	v	7
8260 Trans 1,2-Dichloroethene μg/L	g/L					
	g/L <1 <1	v	v	V	v	⊽
8260 Vinyl chloride μg/L <1	g/L <1 <1	<l< td=""><td></td><td><1</td><td>-1</td><td>⊽</td></l<>		<1	-1	⊽

		Site ID	MW-80	MW-80	MW-80	MW-80	MW-80	MW-80	MW-80
		Sample Name M	W-80-1_020416	AW-80-2_020410	AW-80-3_020410	MW-80-1_021007	AW-80-2_021001	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	⊽	⊽	~	⊽	⊽	₽	⊽
8260	1,1,2,2-Tetrachloroethane	µg/L	$\overline{\vee}$	⊽	~	$\overline{\nabla}$	V	~	V
8260	1,1,2-Trichloroethane	µg/L	⊽	⊽	$\overline{\mathbf{v}}$	⊽	v		V
8260	1,1-Dichloroethene	µg/L	$\overline{\mathbf{v}}$	⊽	$\overline{\mathbf{v}}$	⊽	V		V
8260	Carbon tetrachloride	μg/L	V	⊽	$\overline{\mathbf{v}}$	~	⊽	7	Ÿ
8260	Chloroform	µg/L	~	⊽	$\overline{\mathbf{v}}$	$\overline{\mathbf{v}}$	⊽	~	V
8260	cis-1,2-Dichloroethene	μg/L	V	$\overline{\mathbf{v}}$	$\overline{\mathbf{v}}$	V	V	7	7
8260	Tetrachloroethene	μg/L	V	⊽	$\overline{\mathbf{v}}$	v	⊽	7	7
8260	Trans 1,2-Dichloroethene	µg/L							
8260	Trichloroethene	µg/L	V	⊽	V	~	~	7	V
8260	Vinvl chloride	ue/L	V	V	~	~	V	~	7

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MW-080 Historical Analytical Results Annual Operations Report - 2004 Dunn Field Groundwater IRA- Year Six Defense Depot Memphis, Tennessee

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		Site ID	MW-80	MW-080	MW-080	MW-080	MW-080	MW-080
		Sample Name N	AW-80-1_031028	MW80 (59_9-61_9)	MW80 (59_9-61_9)MW80 (64_9-66_9)MW80 (69_9-71_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	6.0-21.9		62-64
METHOD	LABNAME	RESUNIT						
8260	1,1,1-Trichloroethane	µg/L	~	<1 U	<1 J	<1 J	<1 U	Ÿ
8260	1,1,2,2-Tetrachloroethane	μg/L	~	<1 U	<1J	< J	U</td <td></td>	
8260	1,1,2-Trichloroethane	μg/L	⊽	<1 U	< 1 J	<[]>	<1 U	⊽
8260	1,1-Dichloroethene	μg/L	⊽	<1 U]</td <td><!--⊃</td--><td>0 I></td><td>⊽</td></td>	⊃</td <td>0 I></td> <td>⊽</td>	0 I>	⊽
8260	Carbon tetrachloride	μg/L	⊽	<1 U	J</td <td><pre>[]></pre></td> <td><i td="" u<=""><td>⊽</td></i></td>	<pre>[]></pre>	<i td="" u<=""><td>⊽</td></i>	⊽
8260	Chloroform	μg/L	∠	<1 U	J</td <td><1 J</td> <td><1 U</td> <td>√</td>	<1 J	<1 U	√
8260	cis-1,2-Dichloroethene	μg/L	⊽	<1 U	< J	<1 J	<1 U	⊽
8260	Tetrachloroethene	μg/L	⊽	<1 U	<1 J	<1 J	<1 U	⊽
8260	Trans 1,2-Dichloroethene	л/дн						$\overline{\mathbf{v}}$
8260	Trichloroethene	µg/L	₽	1 U	<1 J	<pre>[]></pre>	<1 U	$\overline{\nabla}$
82.60	Vinvl chloride	ne/L	V	<1 U	<1 J	J</td <td><!-- U</td--><td>⊳</td></td>	U</td <td>⊳</td>	⊳

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MW-080 Historical Analytical Results Annual Operations Report - 2004 Dunn Field Groundwater IRA- Year Six Defense Depot Memphis, Tennessee

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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	hg/L	~	~	ſ⊳
8260	1,1,2,2-Tetrachloroethane	µg/L	⊽	~	₽
8260	1,1,2-Trichloroethane	μg/L	⊽	~	~
8260	1,1-Dichloroethene	hg/L	⊽	⊽	~
8260	Carbon tetrachloride	μg/L	⊽	~	ſ I>
8260	Chloroform	μg/L	⊽	~	7
8260	cis-1,2-Dichloroethene	µg/L	~	~	7
8260	Tetrachloroethene	hg/L	⊽	~	⊽
8260	Trans 1,2-Dichloroethene	hg/L	⊽	~	V
8260	Trichloroethene	μg/L	7	~	7
8260	Vinvl chloride	ug/L	∠	V	~

MW-095 Historical Analytical Results Annual Operations Report - 2004 Dunn Field Groundwater IRA- Year Six Defense Depot Memphis, Tennessee

		Site ID	MW-95	MW-95	MW-95	MW-95	MW-95	MW-95	MW-95
		Sample Name	26-WM	4W-95-Y3S2-A		[W-95-Y3S2-ИW-95-Y3S2-(MW-95-Y3S2-D	AW-95-Y3S2-D	MW-95-1_020410	AW-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
i		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	D LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	μg/L	$\overline{\mathbf{v}}$	⊽	ī⊽	V	7	$\overline{\nabla}$	⊽
8260	1,1,2,2-Tetrachloroethane	μg/L	v	V	ī>	V	7	~	7
8260	1,1,2-Trichloroethane	μg/L	v	v	V	⊽	7	⊽	~
8260	1, 1-Dichloroethene	μg/L	v	v	√	v	⊽	v	$\overline{\nabla}$
8260	Carbon tetrachloride	μg/L	v	$\overline{\mathbf{v}}$	¦∼	√	√	⊽	⊽
8260	Chloroform	μg/L	v	Ā	√	V	⊽	V	$\overline{\nabla}$
8260	cis-1,2-Dichloroethene	μg/L	v	₽	v	V	~	7	7
8260	Tetrachloroethene	µg/L	v	⊽	Ÿ	v	~	7	⊽
8260	Trans 1,2-Dichloroethene	µg/L							
8260	Trichloroethene	μg/L	V	⊽	Ā	v	7	V	7
8260	Vinyl chloride	μg/L	Ā	۲	₽	~	⊽	⊽	⊽

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		Site ID	MW-95	MW-95	MW-95	MW-95	MW-95	MW-95	MW-95
		Sample Name AW	-95-3 02041	(MW-95-4 02041(MW-95-1 021001	WW-95-2_02100	MW-95-3_02100	DMW-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	1,1,1-Trichloroethane	µg/L	$\overline{\vee}$	$\overrightarrow{\mathbf{v}}$	$\overline{\mathbf{v}}$	V	₩	$\overline{\vee}$	7
8260 1	I, I, 2, 2-Tetrachloroethane	µg/L	V	v	~	~	~	~	⊽
8260 1	I, I, 2-Trichloroethane	µg/L	~	$\overline{\mathbf{v}}$	~	~	~	~	V
8260 1	1,1-Dichloroethene	µg/L	v	$\overline{\nabla}$	$\overline{\nabla}$	$\overline{\nabla}$	V	~	V
8260 C	Carbon tetrachloride	µg/L	$\overline{\mathbf{v}}$	v	$\overline{\nabla}$	$\overline{\mathbf{v}}$	7	V	v
8260 C	Chloroform	hg/L	~	$\overline{\nabla}$	$\overline{\mathbf{v}}$	$\overline{\mathbf{v}}$	⊽	$\overline{\mathbf{v}}$	v
8260 c	cis-1,2-Dichloroethene	μg/L	∼	V	$\overline{\nabla}$	⊽	7	√	7
8260 T	Tetrachloroethene	µg/L	~	$\overline{\mathbf{v}}$	$\overline{\mathbf{v}}$	$\overline{\mathbf{v}}$	⊽	$\overline{\mathbf{v}}$	V
8260 T	Trans 1,2-Dichloroethene	hg/L							
8260 T	Trichloroethene	µg/L	V	7	$\overline{\nabla}$	√	$\overline{\mathbf{v}}$	V	V
8260 V	Vinvl chloride	ne/L	~	V	~	~	V	V	V

MW-095 Historical Analytical Results Annual Operations Report - 2004 Dunn Field Groundwater IRA- Year Six Defense Depot Memphis, Tennessee

		Site ID	MW-95	MW-095	MW-095	MW-095	MW-095	C60- M W
		Sample Name N	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	1,1,1-Trichloroethane	µg/L	$\overline{\nabla}$	$\overline{\nabla}$	⊽	~	l ⊳	$\overline{\mathbf{v}}$
8260 1	I, I, 2, 2-Tetrachloroethane	µg/L	~	V	~	⊽	ſ⊳	⊽
8260 1	I, I, 2-Trichloroethane	μg/L	$\overline{\nabla}$	$\overline{\vee}$	~	⊽	ſ⊳	~
8260 1	I, I-Dichloroethene	µg/L	$\overline{\mathbf{v}}$	V	~	⊽	ſ⊳	7
8260 C	Carbon tetrachloride	µg/L	~	▽	~	~	_ ∑	V
-	Chloroform	μg/L	~	~		$\overline{\nabla}$	[>	V
	cis-1,2-Dichloroethene	μg/L	~	-	~	~	[>	V
8260 T	Tetrachloroethene	µg/L	~	~	⊽	⊽	< J	7
8260 T	Trans 1,2-Dichloroethene	μg/L						V
8260 T	Trichloroethene	μg/L	$\overline{\mathbf{v}}$	V		v	<pre></pre>	7
8260 V	Vinvl chloride	ug/L	~	~	~	~	[]>	V

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MW-095 Historical Analytical Results Annual Operations Report - 2004 Dunn Field Groundwater IRA- Year Six Defense Depot Memphis, Tennessee

	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
LABNAME	RESUNIT			
, I, I-Trichloroethane	hg/L	~	V	~
,1,2,2-Tetrachlorocthane	µg/L	V	~	~
, I, 2-Trichloroethane	hg/L	~	⊽	~
, I-Dichloroethene	J/Bri	$\overline{\mathbf{v}}$	⊽	~
Carbon tetrachloride	hg/L	$\overline{\mathbf{v}}$	7	~
	µg/L	~	~	~
cis-1,2-Dichloroethene	hg/L	~	¥	~
Cetrachloroethene	hg/L	~	√	V
Trans 1,2-Dichloroethene	hg/L	~	∼	V
Tichloroethene	μg/L	v	V	~
	ue/L	~	V	Ā

MW-126 Historical Analytical Results Annual Operations Report - 2004 Dunn Field Groundwater IRA- Year Six Defense Depot Memphis, Tennessee

$ \begin{array}{c c c c c c c c c c c c c c c c c c c $			Site ID	Site ID MW-126	MW-126	MW-126	MW-126	MW-126	MW-126
$ \begin{array}{llllllllllllllllllllllllllllllllllll$			Sample Name A	V-126-1 0210		N-126-1_0310	V126 (17_2-19V	V126 (22_2-24_1	MW126 23.2-25.2
$\label{eq:linear} \begin{tabular}{ c c c c c c c c c c c c c c c c c c c$			Date Sampled	10/1/2002	4/8/2003	10/28/2003	4/29/2004	4/29/2004	10/22/2004
$\begin{array}{l lllllllllllllllllllllllllllllllllll$			Time Sampled	11:00:00 AM		2:55:00 PM	2:15:00 PM	2:20:00 PM	10:45:00 AM
LABNAME RESU LABNAME RESU 1,1,1-Trichloroethane 1,1,2-Trichloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethane cis-1,2-Dichloroethane Tetrachloroethane Trichloroethane Trichloroethane Viny1 chloride		l	Depth	22-24	22-24	22-24	17.2-19.2	22.2-24.2	23.2-25.2
 1, 1. Trichloroethane 1, 1, 2, 2-Tetrachloroethane 1, 1, 2-Trichloroethane 1, 1-Dichloroethene Carbon tetrachloride Chloroform Carbon tetrachloroethene Tetrachloroethene Trans 1, 2-Dichloroethene Trichloroethene Vinyl chloride 	METHOD		RESUNIT				-		
1, 1, 2, 2- Tetrachloroethane 1, 1, 2- Trichloroethane 1, 1 - Dichloroethene Carbon tetrachloride Chloroform cis-1, 2-Dichloroethene Tetrachloroethene Trans 1, 2-Dichloroethene Trichloroethene Vinyl chloride	8260	1,1,1-Trichloroethane	ηg/L	V	v	V	⊽	V	7
1, 1, 2-Trichloroethane 1, 1-Dichloroethene Carbon tetrachloride Chloroform cis-1, 2-Dichloroethene Tetrachloroethene Trans 1, 2-Dichloroethene Trichloroethene Vinyl chloride	8260	1,1,2,2-Tetrachloroethane	hg/L	īv	V	V	⊽	~	~
1, 1-Dichloroethene Carbon tetrachloride Chloroform cis-1,2-Dichloroethene Tetrachloroethene Trans 1,2-Dichloroethene Trichloroethene Vinyl chloride	8260	1,1,2-Trichloroethane	hg/L	V	v	~	$\overline{\mathbf{v}}$	~	~
Carbon tetrachloride Chloroform cis-1,2-Dichloroethene Tetrachloroethene Trans 1,2-Dichloroethene Trichloroethene Vinyl chloride	8260	1,1-Dichloroethene	J/84	$\overline{\mathbf{v}}$	v	V	$\overline{\mathbf{v}}$	$\overline{\mathbf{v}}$	$\overline{\mathbf{v}}$
Chloroform cis-1,2-Dichloroethene Tetrachloroethene Trans 1,2-Dichloroethene Trichloroethene Vinyl chloride	8260	Carbon tetrachloride	hg/L	V	V	V	$\overline{\nabla}$	V	√
cis-1,2-Dichloroethene Tetrachloroethene Trans 1,2-Dichloroethene Trichloroethene Vinyl chloride	8260	Chloroform	hg/L	\overrightarrow{v}	V	√	⊽	~	~
Tetrachloroethene Trans 1,2-Dichloroethene Trichloroethene Vinyl chloride	8260	cis-1,2-Dichloroethene	μg/L	V	V	7	~	7	~
Trans 1,2-Dichloroethene Trichloroethene Vinyl chloride	8260	Tetrachloroethene	μg/L	$\overline{\mathbf{v}}$	ī	v	~	~	7
Trichloroethene Vinyl chloride	8260	Trans 1,2-Dichloroethene	μg/L						~
Vinyl chloride	8260	Trichloroethene	hg/L	V	v	V	7	V	V
	8260	Vinyl chloride	µg/L	1	⊽	~	V	~	⊽

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MW-127 Historical Analytical Results Annual Operations Report - 2004 Dunn Field Groundwater IRA- Year Six Defense Depot Memphis, Tennessee

				171-MW	171-MW	MW-127	/71-MW	121-W M	121-W M
		Sample Name N-127-1 0210	-127-1 0210	MW-127-2	MW-127-1	W-127-1 0310V	V127 (61_2-63_:	N-127-1 0310W127 (61_2-63_W127 (66_2-68_MW127 61.2-63.	WW12761.2-63.2
		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,	1,1,1-Trichloroethane	hg/L	$\overline{\vee}$	$\overline{\nabla}$	V	~	$\overline{\mathbf{v}}$	V	7
8260 1,	1,1,2,2-Tetrachloroethane	hg/L	v	$\overline{\vee}$	V	v	~	V	7
8260 1,	., 1, 2-Trichloroethane	hg/L	$\overline{\nabla}$	⊽	$\overline{\mathbf{v}}$	V	~	$\overline{\mathbf{v}}$	~
8260 1,	., I-Dichloroethene	hg/L	$\overline{\nabla}$	⊽	v	~	~	$\overline{\mathbf{v}}$	~
-	Carbon tetrachloride	hg/L	⊽	⊽	V	√	$\overline{\nabla}$	~	$\overline{\nabla}$
č	Chloroform	hg/L	$\overline{\mathbf{v}}$	v	V	⊽	V	~	$\overline{\vee}$
	cis-1,2-Dichloroethene	hg/L	$\overline{\mathbf{v}}$	v	V	~	⊽	~	$\overline{\vee}$
8260 Te	Tetrachloroethene	hg/L	$\overline{\nabla}$	v	ī	⊽	v	$\overline{\mathbf{v}}$	$\overline{\nabla}$
8260 Tr	Trans 1,2-Dichloroethene	J/Brl							~
8260 Tr	Trichloroethene	μg/L	īv	V	v	$\overline{\mathbf{v}}$	7	7	~
8260 V ₁	Vinyl chloride	μg/L	<1	<1	۲ ا	V		V	

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MW-127 Historical Analytical Results Annual Operations Report - 2004 Dunn Field Groundwater IRA- Year Six Defense Depot Memphis, Tennessee

		Site ID	MW-127
		Sample Name V	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	< I J
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	۲∣
8260	Chloroform	µg/L	0.18 J
8260	cis-1,2-Dichloroethene	μg/L	V
8260	Tetrachloroethene	μg/L	√
8260	Trans 1,2-Dichloroethene	μg/L	$\overline{\mathbf{v}}$
8260	Trichloroethene	μg/L	v
8260	Vinvl chloride	μg/L	V

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MW-128 Historical Analytical Results Annual Operations Report - 2004 Dunn Field Groundwater IRA- Year Six Defense Depot Memphis, Tennessee

		Sample Name M	MW-128 W-128-Y5S2	MW-128 AW-128-Y5S2	MW-128-Y5S2	MW-128 MW-128-Y5S2N	MW-128 MW128 (56-58)	Site ID MW-128 MW-128 MW-128 MW-128 MW-128 MW-128 MW-128 MW-128 MW-128 IMW-128 (56-68) MW128 (56-68)	MW128 (66-68
		Date Sampled Time Sampled	10/28/2003	10/28/2003	10/28/2003	10/28/2003	4/29/2004 3:35:00 PM	4/29/2004 3-40-00 PM	4/29/2004 3-45-00 PM
		nune sampleu 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	V	₽ V	V	~	4.8 J	⊽	V
8260	1,1,2,2-Tetrachloroethane	µg/L	V	$\overline{\mathbf{v}}$	V	~	<11	~	v
8260	1,1,2-Trichloroethane	μg/L	⊽	~	V	~	112	~	~
8260	1,1-Dichloroethene	µg/L	7	ę	7	7	310	5.1	2.3
8260	Carbon tetrachloride	µg/L	⊽	ŗ.	v	$\overline{\nabla}$	<u></u>	$\overline{\mathbf{v}}$	√
8260	Chloroform	µg/L	√	ŗ	V	~	<11	~	⊽
8260	cis-1,2-Dichloroethene	μg/L					<11	7	⊽
8260	Tetrachloroethene	μg/L	⊽	v	$\overline{\mathbf{v}}$	$\overline{\mathbf{v}}$		0.15 J	0.18 J
8260	Trans 1,2-Dichloroethene	hg/L	V	⊽	$\overline{\mathbf{v}}$	$\overline{\nabla}$			
8260	Trichloroethene	μg/L	1	_	V	$\overline{\vee}$	38	1.3	1
82.60	Vinvl chloride	ue/L	V	V	V	V	<1>	~	∠

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MW-128 Historical Analytical Results Annual Operations Report - 2004 Dunn Field Groundwater IRA- Year Six Defense Depot Memphis, Tennessee

MW128 71-73 11:20:00 AM 10/22/2004 MW-128 71-73 0.42 J . ⊽ ŗ 1.3 V $\overline{\vee}$ $\overline{\mathbf{v}}$ $\overline{\vee}$ $\overline{\vee}$ $\overrightarrow{\vee}$ V MW128 66-68 11:15:00 AM 10/22/2004 MW-128 66-68 0.5 J ∑ ∫ ŗ 1.1 $\overline{\nabla}$ $\overline{\vee}$ $\overline{\nabla}$ $\overline{\vee}$ $\overline{\vee}$ $\overline{\nabla}$ V 11:10:00 AM 0/22/2004 MW-128 DUP08 61-63 . ∼ 0.7 J 1.6 _ ∟ v $\overrightarrow{\mathsf{v}}$ \overrightarrow{v} \overrightarrow{v} $\overline{\mathbf{v}}$ $\overline{\mathbf{v}}$ V MW128 61-63 11:10:00 AM 10/22/2004 MW-128 61-63 0.7 J 1.5 _ ∫ ∠ J $\overline{\nabla}$ $\overline{\nabla}$ $\overline{\nabla}$ $\overleftarrow{\mathsf{v}}$ $\overline{\mathbf{v}}$ v v MW128 56-58 11:05:00 AM 10/22/2004 <u>MW-128</u> 56-58 31 0 ΰ \heartsuit \heartsuit 2 3 \Im ♡ ∇ 12:00:00 PM **MWDUP-8** 4/29/2004 MW-128 61-63 3.8 **?**: ⊽ ∇ $\overline{\mathbf{v}}$ $\overline{\vee}$ $\overline{\nabla}$ $\overline{\nabla}$ $\overrightarrow{\mathbf{v}}$ $\overline{\vee}$ Sample Name MW128 (71-73) 3:50:00 PM 4/29/2004 MW-128 71-73 0.59 J 2.2 $\overline{\vee}$ $\overline{\mathbf{v}}$ $\overline{\vee}$ $\overline{\mathsf{v}}$ $\overrightarrow{\mathsf{v}}$ $\overline{\mathbf{v}}$ \overline{v} v µg/L μg/L μg/L μg/L µg/L µg/L μg/L µg/L µg/L μg/L Site ID Date Sampled Time Sampled Denth ug/L RESUNIT 1,1,2,2-Tetrachloroethane Trans 1,2-Dichloroethene cis-1,2-Dichloroethene 1,1,2-Trichloroethane I, I, I-Trichloroethane Carbon tetrachloride LABNAME I.1-Dichloroethene **Tetrachloroethene** Trichloroethene Vinyl chloride Chloroform METHOD 8260 8260 8260 8260 8260 8260 8260 8260 8260 8260 8260 833 298

Sampl Date S Date S Time S Time S 1,1,1-Trichloroethane 1,1,2,2-Tetrachloroethane 1,1,2,2-Tetrachloroethane 1,1,2,2-Tichloroethane 1,1,2,2-Tichloroethane 1,1,2,2-Tichloroethane 1,1,2,2-Tichloroethane 1,1,2,2-Tichloroethane 1,1,2,2-Tichloroethane 1,1,2,2-Tichloroethane 1,1,2,2-Dichloroethane Trans 1,2-Dichloroethane Trans 1,2-Dichloroethane	5						
Date Sampled Time Sampled Time Sampled Depth LABNAME RESUNIT LABNAME RESUNIT Laboration μg/L Lit, 1-Trichloroethane μg/L Lit, 2.2 Tetrachloroethane μg/L Carbon tetrachloroethane μg/L Carbon tetrachloride μg/L Chloroform μg/L Farachloroethene μg/L Ferachloroethene μg/L Trans 1,2-Dichloroethene μg/L		W-129-2 0307	V-129-3 0307	N-129-1 0310	MW-129-100	IW-129-2_031021	IW-129-3_03102
Time SampledDepthLABNAMETime Sampled $Depth$ LABNAMERESUNIT $(1,1-Trichloroethane(1,2,2-Trichloroethane(1,2,2-Trichloroethane(1,2,2-Trichloroethane(1,2-Dichloroethane(1,2,2-Dichloroethane$	ampled //28/2005	7/28/2003	7/28/2003	10/28/2003	10/28/2003	10/28/2003	10/28/2003
Depth LABNAME Depth LABNAME RESUNIT L1.1-Trichloroethane µg/L .1,2,2-Tetrachloroethane µg/L .1,1-Dichloroethane µg/L Carbon tetrachloride µg/L Chloroform µg/L Cris-1,2-Dichloroethene µg/L Farash 1,2-Dichloroethene µg/L Fetrachloroethene µg/L Farash 1,2-Dichloroethene µg/L	ampled 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
LABNAMERESUNITLABNAMERESUNIT1,1,1-Trichloroethane $\mu g/L$ 1,2,2-Tetrachloroethane $\mu g/L$ 1,2,2-Trichloroethane $\mu g/L$ 1,2-Trichloroethane $\mu g/L$ Carbon tetrachloride $\mu g/L$ Carbon tetrachloroethene $\mu g/L$ Tetrachloroethene $\mu g/L$ Trans 1,2-Dichloroethene $\mu g/L$	Depth				66.3-68.3	71.3-73.3	76.3-78.3
1,1,1-Trichloroethaneμg/L1,1,2,2-Tetrachloroethaneμg/L1,1,2,2-Trichloroethaneμg/L1,1-Dichloroetheneμg/L1,1-Dichloroetheneμg/LCarbon tetrachlorideμg/LCarbon tetrachlorideμg/LCis-1,2-Dichloroetheneμg/LTetrachloroetheneμg/L	SUNIT						
1,1,2,2-Tetrachloroethane μg/L 1,1,2-Trichloroethane μg/L 1,1-Dichloroethane μg/L 1,1-Dichloroethane μg/L Carbon tetrachloride μg/L Carbon tetrachloride μg/L Cis-1,2-Dichloroethene μg/L Tetrachloroethene μg/L Trans 1,2-Dichloroethene μg/L	μg/L 1.99	1.98	2.8	3.02	3.05	3.43	3.5
1,1,2-Trichloroethaneμg/L1,1-Dichloroethaneμg/L1,1-Dichloroethaneμg/LCarbon tetrachlorideμg/LChloroformμg/LCis-1,2-Dichloroethaneμg/LTans 1,2-Dichloroethaneμg/L	μg/L <1	V	$\overline{\mathbf{v}}$	⊽	v	₽	~
1,1-Dichloroetheneμg/LCarbon tetrachlorideμg/LChloroformμg/Lcis-1,2-Dichloroetheneμg/LTetrachloroetheneμg/L	μg/L <1	~	$\overline{\mathbf{v}}$	~	$\overline{\mathbf{v}}$	i>	4
Carbon tetrachlorideμg/LChloroformμg/Lcis-1,2-Dichloroetheneμg/LTetrachloroetheneμg/L	μg/L 33.8	33.2	41	42	35.4	41	40.2
Chloroform μg/L cis-1,2-Dichloroethene μg/L Tetrachloroethene μg/L Trans 1,2-Dichloroethene μg/L	μg/L <1	V	v	$\overline{\mathbf{v}}$	v	<u>1</u>	~
cis-1,2-Dichloroethene μg/L Tetrachloroethene μg/L Trans 1,2-Dichloroethene μg/L	µg/L <1	V	V	$\overline{\mathbf{v}}$	V	7	~
Tetrachloroethene μg/L Trans 1,2-Dichloroethene μg/L	μg/L <1	v	v	V	V		4
Trans 1,2-Dichloroethene $\mu g/L$	μg/L 6.44	8.85	21.3	12.8	12.8	24.9	26.1
:	µg/L						
	μg/L 8.75	9.71	14.5	12	11.8	12.4	13.4
	µg/L <l< td=""><td>V</td><td><u>۲</u></td><td>7</td><td>₽</td><td>~1</td><td>-</td></l<>	V	<u>۲</u>	7	₽	~1	-

29 MW-129	Sample Name W129 (66 3-68 W129 (71 3-73 W129 (76 3-78 MW129 66.3-68MW129 71.3-73MW129 76.3-78	004 10/22/2004	AM 11:40:00 AM	1.3 76.3-78.3		2.5	4	4	32	4	4	4	20	4	14	\$
MW-129	MW12971	10/22/2004	11:35:00 AM	71.3-73.3		2.3 J	<2.5	<2.5	31	<2.5	<2.5	<2.5	9.2	<2.5	13	<2.5
MW-129	MW129 66.3-68.	10/22/2004	11:30:00 AM	66.3-68.3		2.2	<1.7	<1.7	30	<1.7	<1.7	<1.7	3.9	<1.7	11	<1.7
MW-129	W129 (76_3-78	4/29/2004	6:00:00 PM	76.3-78.3		1.9	⊽	₽	25	⊽	√		18		12	ŀ>
MW-129	W129 (71 3-73	4/29/2004	5:55:00 PM	71.3-73.3		7	~	∠	27	$\overline{\nabla}$	~	⊽	9.6		11	
MW-129	/129 (66 3-68	4/29/2004	5:50:00 PM	66.3-68.3		1.8	~	V	26	~	$\overline{\vee}$	0.27 J	7.1		II	12
Site ID	Sample Name W	Date Sampled	Time Sampled	Depth	RESUNIT	μg/L	ng/L	μg/L	ug/L	ne/L	μg/L	μg/L	ue/L	ug/L	ug/L	ug/L
					LABNAME	1.1.1-Trichloroethane	1,1.2.2-Tetrachloroethane	1.1.2-Trichloroethane	1.1-Dichloroethene	Carbon tetrachloride	Chloroform	cis-1.2-Dichloroethene	Tetrachloroethene	Trans 1.2-Dichloroethene	Trichloroethene	Vinyl chloride
					METHOD	8260	8260	8260	8260	8260	8260	8260	8260	8260	8260	8260

MW-130 Historical Analytical Results Annual Operations Report - 2004 Dunn Field Groundwater IRA- Year Six Defense Depot Memphis, Tennessee

		Site ID	MW-130	MW-130	MW-130	MW-130	MW-130	MW-130	MW-130
		Sample Name A	V-130-1 0307	W-130-2 0307	W-130-3 0307	ble Name N-130-1 0307N-130-2 0307W-130-3 0307W-130-4 0307	MW-130-400	AW-130-1_031024	XW-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	D 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	V	v	~	v	⊽	~	⊽
8260	1,1,2-Trichloroethane	μg/L	$\overline{\mathbf{v}}$	V	7	ī	$\overline{\nabla}$	⊽	7
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	v	v	7	v	$\overline{\mathbf{v}}$	⊽	$\overline{\nabla}$
8260	Chloroform	μg/L	$\overline{\mathbf{v}}$	ī	~	V	⊽	⊽	~
8260	cis-1,2-Dichloroethene	μg/L	0.46 J	0.49 J	0.5 J	0.54 J	₹	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>	⊽	►	7	~	V

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MW-130 Historical Analytical Results Annual Operations Report - 2004 Dunn Field Groundwater IRA- Year Six Defense Depot Memphis, Tennessee

		Site ID	MW-130	MW-130	MW-130	MW-130	MW-130	MW-130	MW-130
		Sample Name 1W-130-3 03102		4W-130-4 03102	W130 (60 5-62	4W-130-4 03102W130 (60 5-62 W130 (65 5-67 W130 (70 5-72 W130 (75 5-77 MW130 60.5-62.	W130 (70_5-72_	W130 (75_5-77_	VW130 60.5-62.5
		Date Sampled		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	D LABNAME	RESUNIT							
8260	l, l, l-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	V	~	⊲.3	Ş	<4	4	4
8260	1,1,2-Trichloroethane	μg/L	7	⊽	<3.3	\$	4	\$	4
8260	I, I - Dichloroethene	μg/L	38.4	38	41	52	55	57	33
8260	Carbon tetrachloride	μg/L	√	7	<3.3	Ş	4	4	Q
8260	Chloroform	μg/L		⊽	<3.3	Ş	4	4	4
8260	cis-1,2-Dichloroethene	μg/L	⊽	0.59 J	-3.3	\$	4	4	4
8260	Tetrachloroethene	μg/L	80.3	76.6	88	120	120	120	50
8260	Trans 1,2-Dichloroethene	µg/L							4
8260	Trichloroethene	μg/L	60.4	62.3	58	75	76	74	47
8260	Vinyl chloride	μg/L	$\overline{\nabla}$	$\overline{\nabla}$	<3.3	<5	4	<4	4

MW-130 Historical Analytical Results Annual Operations Report - 2004 Dunn Field Groundwater IRA- Year Six Defense Depot Memphis, Tennessee

		Site ID	MW-130	MW-130	MW-130
		Sample Name N	AW130 65.5-67.5	Sample Name MW130 65.5-67.5 MW130 70.5-72.5 MW130 75.5-77.5	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	hg/L	3.9	4	4.1
8260 1	.,1,2,2-Tetrachloroethane	μg/L	<3.3	2.5	4
8260 1	, 1,2-Trichloroethane	µg/L	3.3	2.5	4
8260 1	, 1-Dichloroethene	μg/L	31	33	35
8260 C	Carbon tetrachloride	μg/L	<3.3	<2.5	4
8260 C	Chloroform	μg/L	3.3	<2.5	4
8260 ci	cis-1,2-Dichloroethene	μg/L	3.3	<2.5	0.63 J
8260 T	Tetrachloroethene	μg/L	59	62	63
8260 T	Trans 1,2-Dichloroethene	μg/L	€.5	<2.5	\$
8260 T	Frichloroethene	μg/L	46	48	50
8260 V	Vinyl chloride	µg/L	<3.3	<2.5	4

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PZ-002 Historical Analytical Results Annual Operations Report - 2004 Dunn Field Groundwater IRA- Year Six Defense Depot Memphis, Tennessee

	Site ID	PZ-002
	Sample Name	PZ-02-Y4S1
	Date Sampled	4/10/2002
	Time Sampled	
	Depth	
LABNAME	RESUNIT	
1,1,1-Trichloroethane	μg/L	
I, 1, 2, 2-Tetrachloroethane	η/gri	⊽
I, I, 2-Trichloroethane	J/Brl	
I, I-Dichloroethene	ηg/L	112
Carbon tetrachloride	μg/L	⊽
Chloroform	μg/L	⊽
cis-1,2-Dichloroethene	μg/L	
Tetrachloroethene	μg/L	V
Trans 1,2-Dichloroethene	μg/L	v
Trichloroethene	μg/L	24
Vinyl chloride	μg/L	<1

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RW-001 Historical Analytical Results Annual Operations Report - 2004 Dunn Field Groundwater IRA- Year Six Defense Depot Memphis, Tennessee

		Site ID	Site ID RW-001	RW-I	RW-1	RW-001	RW-001
		Sample Name RW-01-Y2Q2RW-1 020410RW-1 031029	3W-01-Y2Q2	RW-1 020410	ZW-1_031029	RW-I	RWI
		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	D LABNAME	RESUNIT			-		
8260	1,1,1-Trichloroethane	hg/L	v	⊽	⊽	<3.3	<8 J
8260	1,1,2,2-Tetrachloroethane	µg/L	V	V	V	3.3	%
8260	1,1,2-Trichloroethane	μg/L	ī	V	v	€.6	80 V
8260	1,1-Dichloroethene	hg/L	$\overline{\vee}$	Ÿ	v	€. €	80
8260	Carbon tetrachloride	hg/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	hg/L	1				2.1 J
8260	Trichloroethene	μg/L	45	58.2	154	87	130
8260	Vinvl chloride	ug/L		V	V	33	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

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RW-001A Historical Analytical Results Annual Operations Report - 2004 Dunn Field Groundwater IRA- Year Six Defense Depot Memphis, Tennessee

		Site ID	RW-1A	RW-1A	RW-1A	RW-IA	RW-01A	RW-IA	RW-1A
		Sample Name F	W-1A-Y102	RW-1A-Y103	RW-1A-Y1Q4	le Name RW-1A-Y1Q2RW-1A-Y1Q3RW-1A-Y1Q4RW-1A-Y2Q1	RW-01A-Y2Q2	RW-IA	RW-1A-Y2Q3
		Date Sampled	5/24/1999	8/27/1999	6661/1/11	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	V	~	⊽	V	V	$\overline{\nabla}$	V
8260	1,1,2,2-Tetrachloroethane	µg/L	72.6	$\overline{\nabla}$	46.5	49.8	25	25.8	35.3
8260	1,1,2-Trichloroethane	µg/L	1.6	$\overline{\vee}$	2.12	1.54	<1 J	0.82 J	1.08
8260	1, I-Dichloroethene	μg/L	12.9	$\overline{\nabla}$	⊽	V	~	V	7
8260	Carbon tetrachloride	µg/L	1.29	∼	16	15.2	10	10.6	9.47
8260	Chloroform	ug/L	10	3.17	6.27	397	339	339	292
8260	cis-1,2-Dichloroethene	μg/L	104	Ń	52.1	3.63		2.49	2.75
8260	Tetrachloroethene	μg/L	5.52	10	1.18	3.14	7	2.31	2.2
8260	Trans 1,2-Dichloroethene	µg/L					< <u> </u> 		
8260	Trichloroethene	μg/L	198	33.1	64.3	119	73	73	73.9
8260	Vinvl chloride	ng/L	√	<u>-</u>	⊽	⊽		~	~

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RW-001A Historical Analytical Results Annual Operations Report - 2004 Dunn Field Groundwater IRA- Year Six Defense Depot Memphis, Tennessee

2:40:00 PM 10/22/2004 RW-001A RW1A N/A <33 J 9.8 J 18 J 11 J 33 ŝ 680 33 230 160 ₩ 4:13:00 PM RW-001A RW-IA 5/4/2004 <25 U <25 U <25 U 24 J 580 J <25 U 110 10 J 230 16 RW-1A_020410 RW-1A_021001 RW-1A_030423 RW-1A_031029 5:10:00 PM 10/29/2003 RW-IA 4.22 <| 33.6 776 11.3 ⊽ **69** 11.1 285 <1 2:20:00 PM 4/23/2003 RW-IA 14.6 449 6.44 4.54 112 167 2.7 $\overline{\vee}$ $\overline{\nabla}$ I:40:00 PM 10/1/2002 RW-1A 3.32 J 01v 65.3 1120 17.6 <10 **187** 12.3 294 <10 8:45:00 AM 4/10/2002 RW-IA 44.5 700 12.1 13.3 3.41 156 289 $\overline{\vee}$ Sample Name RW-1A-Y2Q4 2:40:00 PM 11/9/2000 RW-IA 2.62 J 420 J 3.29 43.9 1.39 15.6 66.4 $\overline{\mathsf{v}}$ V µg/L нg/L µg/L µg/L µg/L μg/L μg/L μg/L μg/L µg/L Date Sampled Depth μg/L Site ID **Time Sampled** RESUNIT 1,1,2,2-Tetrachloroethane **Frans 1,2-Dichloroethene** cis-1,2-Dichloroethene I, I, 2-Trichloroethane 1,1,1-Trichloroethane Carbon tetrachloride LABNAME 1.1-Dichloroethene Tetrachloroethene Trichloroethene Vinyl chloride Chloroform METHOD 8260 8260 8260 8260 8260 8260 8260 8260 8260 8260 8260 833 307

RW-001B Historical Analytical Results Annual Operations Report - 2004 Dunn Field Groundwater IRA- Year Six Defense Depot Memphis, Tennessee

		Site ID	RW-1B	RW-1B	RW-IB	RW-IB	RW-IB	RW-1B	RW-1B
		Sample Name R	e Name RW-1B-Y2Q1	RW-1B	RW-1B-Y2Q3F	tW-1B-Y2Q4 F	RW-1B-Y2Q3RW-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 Depth	9:40:00 AM	7:00:00 PM	HI:15:00 AM	3:15:00 PM	8:50:00 AM	1:42:00 PM	12:10:00 PM
METHOD	D LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	μg/L	V	ī	$\overline{\nabla}$	~	V	$\overline{\mathbf{v}}$	~
8260	I, I, 2, 2-Tetrachloroethane	µg/L		ī	$\overline{\mathbf{v}}$	v	V	1.43	~
8260	1,1,2-Trichloroethane	µg/L	V	Ā	0.32 J	V	7	0.66 J	7
8260	I, I-Dichloroethene	µg/L	V	V	V	v	√	$\overline{\mathbf{v}}$	7
8260	Carbon tetrachloride	J/gu	20.6	12.3	26.1	20.1	22.5	27.9	30.9
8260	Chloroform	J/gu	20.7	15.3	49.4	37	26.4	20.8	34.1
8260	cis-1,2-Dichloroethene	J/Bri	3.32	2.18	5.57	3.66	10.7	12.5	8.28
8260	Tetrachloroethene	hg/L	2.37	1.08	2.84	l .93 J	2.99	2.05	4.6
8260	Trans 1,2-Dichloroethene	J/BH							
8260	Trichloroethene	hg/L	21.9	13.6	35.7	21.1	34.8	24.1	46.4
8260	Vinyl chloride	μ <u>α</u> /L	V	V	~	∼	⊽	>	<1

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RW-001B Historical Analytical Results Annual Operations Report - 2004 Dunn Field Groundwater IRA- Year Six Defense Depot Memphis, Tennessee

,

		Site ID	RW-IB	RW-001B	RW-001B
		Sample Name I	Sample Name RW-1B_031029	RW-IB	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	$\overline{\mathbf{v}}$	<1.7 U	Q]
8260	1, 1, 2, 2-Tetrachloroethane	μg/L	3.75	1.4 J	1.7 J
8260	1,1,2-Trichloroethane	μg/L	$\overline{\mathbf{v}}$	<1.7 U	\$
8260	1, 1-Dichloroethene	μg/L	$\overline{\mathbf{v}}$	<1.7 U	\$
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	V	<1.7 U	₽

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RW-002 Historical Analytical Results Annual Operations Report - 2004 Dunn Field Groundwater IRA- Year Six Defense Depot Memphis, Tennessee

		Site ID	RW-2	RW-2	RW-2	RW-2	RW-2	RW-002	RW-002
		Sample Name I	e 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	10/1/2002 4/17/2003 10/29/2003	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	v	₽	$\overline{\mathbf{v}}$	$\overline{\mathbf{v}}$	V	<2.9 U	<4]
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	l 9.1	2.8 J
8260	1, 1-Dichloroethene	µg/L	V	₽	$\overline{\mathbf{v}}$	~	V	<2.9 U	4
8260	Carbon tetrachloride	µg/L	13	21.6	15.5	14	14.1	6.5	T.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	Tetrachlorocthene	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	Vinvl chloride	ne/L	v	V	$\overline{\mathbf{v}}$	V	V	<2.9 U	4

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RW-003 Historical Analytical Results Annual Operations Report - 2004 Dunn Field Groundwater IRA- Year Six Defense Depot Memphis, Tennessee

		Site ID	RW-3	RW-3	RW-3	RW-3	RW-3	RW-003	RW-003
		Sample Name I	ple Name RW-3 0204101	RW-3 021001	RW-3 030417	RW-3 031029.	RW-3 030417RW-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 Depth	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
METHOD	D LABNAME	RESUNIT							
8260	1,1,1-Trichloroethane	µg/L	V	ī	Ā	Ÿ	~	<2.9 U	<2 J
8260	1,1,2,2-Tetrachloroethane	μg/L	4.35	3.61	31.7	Ÿ	37.7	<2.9 U	8
8260	1,1,2-Trichloroethane	цg/L	V	v	1.31	⊽	1.46	<2.9 U	6
8260	1,1-Dichloroethene	μg/L	v	$\overline{\nabla}$	ī	V	V	<2.9 U	Q
8260	Carbon tetrachloride	μg/L	9.75	15.2	1.9.1	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	1.1.1	1.2 J
8260	Trans 1,2-Dichloroethene	μg/L							l.2.J
8260	Trichloroethene	μg/L	87.2	70.4	70.4	66.4	65.7	68	54
8260	Vinvl chloride	ug/L	√	∠	$\overline{\nabla}$	~	V	<2.9 U	₽

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RW-004 Historical Analytical Results Annual Operations Report - 2004 Dunn Field Groundwater IRA- Year Six Defense Depot Memphis, Tennessee

004 RW-004	/-4 RW4	004 10/22/2004	0 PM 3:00:00 PM			25 U <42 J						26 25 J		<42	820 860	<25 U <42
RW-004	7 RW-4	5/4/2004	4:47:00 PM			\$	25	\$	\$	\$	4	7	7.7		80	ģ
RW-4	IRW-4_03041	4/17/2003	11:55:00 AM			7	55.4	2.87	v	1.61	2.41	22.8	5.97		562	V
RW-4	RW-4 021001	10/1/2002	1:54:00 PM			v	699	5.25	V	1.77	3.33	38.8	5.73		1050	V
RW-4	tW-4 020410	4/10/2002	8:05:00 AM			ī	37.5	3.33	⊽	1.7	2.23	26.8	6.21		665	1 V
Site ID	Sample NameRW-4 020410RW-4 021001RW-4 030417	Date Sampled	Time Sampled 8:05:00 AM	Depth	RESUNIT	µg/L	μg/L	μg/L	µg/L	hg/L	J/gu	µg/L	μg/L	μg/L	ηgη Γ	
					D LABNAME	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethene	Carbon tetrachloride	Chloroform	cis-1,2-Dichloroethene	Tetrachloroethene	Trans 1,2-Dichloroethene	Trichloroethene	Vinvl chloride
					METHOD	8260	8260	8260	8260	8260	8260	8260	8260	8260	8260	8260

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RW-005 Historical Analytical Results Annual Operations Report - 2004 Dunn Field Groundwater IRA- Year Six Defense Depot Memphis, Tennessee

		Site ID	RW-5	RW-5	RW-5	RW-5	RW-005	RW-005	RW-005
		Sample Name F	le Name RW-5_020410	0RW-5_021001	RW-5_0304171	RW-5_031029	DUP	RW-5	RW5
		Date Sampled	4/10/2002	10/1/2002	4/17/2003 10/29/2003	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	4:30:00 PM	12:00:00 PM	4:59:00 PM	3:05:00 PM
		Depth							
METHOD	LABNAME	RESUNIT							
8260 1,1,1-T	1,1,1-Trichloroethane	µg/L	.∼	7	∼	⊽	<8 U	<8 U	I>
1,1,2,2	1,1,2,2-Tetrachloroethane	hg/L	196	47.8	5.6	14.9	12	14	
1,1,2-T	I, I, 2-Trichloroethane	μg/L	V	∠	~	7	<8 U	<8 U	√
1,1-Dic	I.I-Dichloroethene	hg/L	v	V	⊽	Ţ.	<8 U	<8 U	7
Carbor	Carbon tetrachloride	hg/L	Ÿ	.∽	₽ V	Ÿ	<8 U	<8 U	1.5 J
Chloroform	form	μg/L	1.24		1.04	1.04	1.9 J	<8 U	1.8
cis-1.2	cis-1,2-Dichloroethene	μg/L	15.8	12.8	3.95	7.08	7.1 J	6.6 J	0.38 J
Tetracl	Tetrachloroethene	ng/L	5.89	4.36	10.2	7.47	1 J	6.4 J	2.1
Trans I	Trans 1,2-Dichloroethene	μg/L	400	142	95	193			0.23 J
Trichlc	Frichloroethene	μg/L	V	ī	7	₽ V	200	200	22
Vinvl c	Vinvl chloride	ue/L					⊲8 U	<8 U	~

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RW-006 Historical Analytical Results Annual Operations Report - 2004 Dunn Field Groundwater IRA- Year Six Defense Depot Memphis, Tennessee

3:10:00 PM 0/22/2004 RW-006 RW6 <1.7 J <1.7 J
1.8
1.8
1.8
3.5
3.5
3.5 <1.7 <1.7 <1.7 <1.7 5:07:00 PM 5/4/2004 RW-006 **RW-6** <1.2 U <1.2 U <1.2 U <1.2 U <1.2 U <1.2 U 1.8 11 8 39 Sample Name RW-6 020411 RW-6_021001 RW-6_030417 RW-6_031029 10/29/2003 10:50:00 AM 4:20:00 PM RW-6 2.15 11.2 37.1 40.7 $\overline{\vee} \ \overline{\vee}$ $\overline{\vee}$ $\overline{\vee} \overline{\vee}$ $\overline{\mathsf{v}}$ 4/17/2003 RW-6 3.11 15.7 37.6 59.4 $\overline{\lor} \overline{\lor} \overline{\lor}$ $\overline{\vee} \overline{\vee}$ V 1:58:00 PM 10/1/2002 RW-6 3.15 10 32.6 <1 <1 ⊽ **∾** ⊽ ⊽ v Time Sampled 1:30:00 PM Date Sampled 4/11/2002 **RW-6** 1.37 1.39 28.7 5.42 $\overline{\mathbf{v}}$ $\overline{\mathbf{v}}$ $\overline{\nabla}$ $\overline{\nabla}$ $\overline{\mathbf{v}}$ v Site ID μg/L µg/L µg/L µg/L μg/L μg/L µg/L µg/L μg/L μg/L Depth μg/L RESUNIT 1,1,2,2-Tetrachloroethane Trans 1,2-Dichloroethene cis-1,2-Dichloroethene 1, 1, 1 - Trichloroethane I, 1, 2-Trichloroethane Carbon tetrachloride LABNAME I, I-Dichloroethene Tetrachloroethene **Trichloroethene** Vinyl chloride Chloroform METHOD 8260 8260 8260 8260 8260 8260 8260 8260 8260 8260 8260 833 314

RW-007 Historical Analytical Results Annual Operations Report - 2004 Dunn Field Groundwater IRA- Year Six Defense Depot Memphis, Tennessee

		Site ID	RW-7	RW-7	RW-7	RW-7	RW-007	RW-007
		Sample Name RW-7 02041	RW-7 020410	RW-7 021001	RW-7 02100IRW-7 030417RW-7 031029	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		⊽	V	$\overline{\vee}$	⊽	<5 U	<4 J
8260	1,1,2,2-Tetrachloroethane		115	156	144	214	160	100
	1,1,2-Trichloroethane		1.87	1.43	2.2	2.21	<5 U	1.6 J
	1,1-Dichloroethene		V	v	$\overline{\mathbf{v}}$	⊽	<5 U	45
	Carbon tetrachloride		¦∨	0.98 J	$\overline{\nabla}$	~	<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	$\overline{\mathbf{v}}$	\overline{v}	$\overline{\vee}$	$\overline{\mathbf{v}}$	61	95
8260	8260 Vinyl chloride	μg/L					<5 U	<4

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RW-008 Historical Analytical Results Annual Operations Report - 2004 Dunn Field Groundwater IRA- Year Six Defense Depot Memphis, Tennessee

i

		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	11:25:00 AM	3:25:00 PM	3:25:00 PM
		Depth			
METHOD	LABNAME	RESUNIT	-	i	
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	l 11
8260	Carbon tetrachloride	hg/L	<13 U	<115	<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	8.8.1	9.8 J
8260	Trans 1,2-Dichloroethene	hg/L		28	27
8260	Trichloroethene	µg/L	240	240	240
8260	Vinyl chloride	µg/L	<13 U	<11	<12

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APPENDIX F

TIME TREND PLOTS

