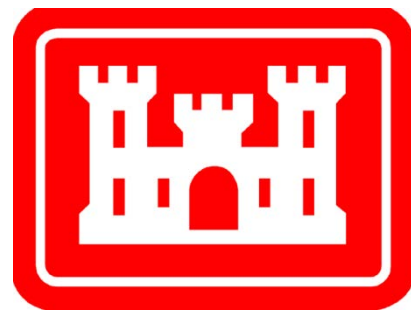


**MAIN INSTALLATION
ANNUAL LONG-TERM MONITORING REPORT – 2011**

Defense Depot Memphis, Tennessee



Department of the Army



**USACE Contract No. W9126G-09-D-0069
Task Order No. 0019**

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Defense Depot Memphis, Tennessee

Prepared for:

U.S. Army Corps of Engineers, Fort Worth District
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LIST OF ACRONYMS AND ABBREVIATIONS

AFCEE	Air Force Center for Engineering and the Environment
bgs	Below Ground Surface
cDCE	cis-1,2-Dichloroethene
CF	chloroform or confidence factor
COV	coefficient of variation
CT	carbon tetrachloride
CVOC	Chlorinated Volatile Organic Compound
DDMT	Defense Depot Memphis, Tennessee
DQE	Data Quality Evaluation
DQO	Data Quality Objective
EBT	Enhanced Bioremediation Treatment
IAQ	Intermediate Aquifer
IDW	Investigation-derived Waste
IRACR	Interim Remedial Action Completion Report
LCS	Laboratory Calibration Standard
LTM	Long-term Monitoring
LTOA	Long-Term Operational Area
LUC	Land Use Control
MACTEC	MACTEC Engineering and Consulting, Inc.
MAQ	Memphis Aquifer
MAROS	Monitoring and Remediation Optimization System
MCL	Maximum Contaminant Level
µg/L	Micrograms per Liter
MI	Main Installation
msl	Mean Sea Level
MS/MSD	Matrix Spike/Matrix Spike Duplicate
MW	Monitoring Well
NTU	Nephelometric Turbidity Units
PCE	Tetrachloroethene
PDB	Passive Diffusion Bags
PMW	Performance Monitoring Well
PZ	Piezometer
RA	Remedial Action

LIST OF ACRONYMS AND ABBREVIATIONS
(Continued)

RAO	Remedial Action Objective
RA SAP	Remedial Action Sampling and Analysis Plan
RD	Remedial Design or Reductive Dechlorination
RI	Remedial Investigation
ROD	Record of Decision
RL	Reporting Limit
TCA	1,1,1-Trichloroethane
TCE	Trichloroethene
TDEC	Tennessee Department of Environment and Conservation
TTA	Target Treatment Area
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
VC	Vinyl Chloride
VOC	Volatile Organic Compound

1.0 INTRODUCTION

HDR has prepared this 2011 Annual Long-term Monitoring (LTM) Report for the Main Installation (MI) at Defense Depot Memphis, Tennessee (DDMT) under Contract W9216G-09-D-0069, Task Order 0019 to the United States Army Corps of Engineers (USACE), Ft. Worth District. MI LTM is performed to document changes in plume concentrations and to detect potential plume migration to off-site areas or into deeper aquifers. This report documents the groundwater monitoring activities on the MI during 2011, performed in accordance with the LTM Plan in Appendix B of the *Main Installation Final Remedial Design, Rev.1* (RD) (CH2M HILL, 2004).

1.1 SITE LOCATION AND DESCRIPTION

DDMT is located in southeastern Memphis, Shelby County, Tennessee approximately 5 miles east of the Mississippi River and just northeast of Interstate 240 ([Figure 1](#)). DDMT originated as a military facility in the early 1940s; it 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 facilities to be closed under Base Realignment and Closure. Storage and distribution of material continued until the facility closed in September 1997.

The property consists of approximately 642 acres and includes the MI and Dunn Field. The MI contains approximately 578 acres with open storage areas, warehouses, former military family housing, and outdoor recreational areas. Dunn Field, which is located across Dunn Avenue from the north-northwest portion of the MI, contains approximately 64 acres and includes former mineral storage and waste disposal areas.

In 1992, DDMT was added to the National Priorities List (57 Federal Register 47180 No. 199). Responsibility for environmental restoration activities at DDMT transferred from the Defense Logistics Agency to the Department of the Army in December 2010. The regulatory oversight agencies are U.S. Environmental Protection Agency (USEPA) Region 4 and the Tennessee Department of Environment and Conservation (TDEC). DDMT's USEPA Identification Number is TN4210020570.

1.2 GEOLOGY AND HYDROGEOLOGY

The geologic units of interest at DDMT are (from youngest to oldest): loess, including surface soil; fluvial deposits; Jackson formation/Upper Claiborne group; and Memphis Sand.

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

The fluvial (terrace) deposits consist of two general layers. The upper layer is a silty, sandy clay that transitions to a clayey sand and ranges from about 10 to 40 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 uppermost aquifer is the unconfined fluvial aquifer, which consists of saturated sands and gravelly sands in the lower portion of the fluvial deposits. Recharge to this unit is mainly from rainfall infiltration; discharge is to underlying units or laterally into adjacent stream channels. The saturated thickness ranges from 0 feet (dry) to approximately 60 feet, and is controlled by the uppermost clay configuration in the Jackson formation/Upper Claiborne group. The groundwater in the fluvial aquifer is not a drinking water source for area residents.

Groundwater flow in the fluvial aquifer on the MI is toward the gap in the uppermost clay in the northwest area of the MI. The flow is toward the low point on the gap's southeast side, and the fluvial aquifer is dewatered (or "pinches out") elsewhere on the gap's perimeter. Water level elevations in the fluvial aquifer at the MI range from a high of approximately 240 feet mean sea level (msl) in the northeast to a low of approximately 195 feet msl in the central area.

The intermediate aquifer (IAQ) is locally developed in Jackson formation/Upper Claiborne group deposits, which contain laterally extensive, thick clay deposits. The uppermost clay unit appears to be continuous, except for a large gap in the MI's northwestern area and Dunn Field's southwestern area. There are other possible gaps in the clay off-site, west and northwest of Dunn Field. Where present, these gaps create connections to the underlying IAQ from the fluvial deposits. Water level elevations in the IAQ, away from areas of recharge from the fluvial aquifer, are approximately 160 feet msl with a general westward flow.

The Memphis Sand primarily consists of thick-bedded, white to brown or gray, very fine-grained to gravelly, partly argillaceous and micaceous sand. The Memphis Sand ranges from 500 to 890 feet in thickness and begins at a depth below ground surface (bgs) of approximately 120 to 300 feet. The top of the Memphis Sand was identified at approximately 280 feet bgs (elevation of 15 feet above msl) in

monitoring well (MW)-254 and MW-255 near the northwest corner of the MI. The Memphis aquifer (MAQ) is confined by overlying clays and silts in the Cook Mountain formation (part of the Jackson/Upper Claiborne group) and 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, which is operated by Memphis Light, Gas and Water, is located approximately 2 miles west of DDMT. The top of the MAQ potentiometric surface at MW-254 and MW-255 is approximately 160 feet msl.

1.3 REMEDIAL ACTION OBJECTIVES

Remedial action objectives (RAOs) for the MI were established in the *Main Installation Record of Decision* (ROD) (CH2MHILL, 2001). The groundwater RAOs are:

- to prevent human ingestion of water contaminated with volatile organic compounds (VOCs) in excess of maximum contaminant levels (MCLs) from potential future onsite wells;
- to restore groundwater to concentrations at or less than MCLs; and
- to prevent migration horizontally and vertically offsite of groundwater contaminants in excess of MCLs.

The groundwater remedy selected in the ROD was enhanced bioremediation treatment (EBT) with LTM and land use controls (LUCs). EBT was conducted from September 2006 to February 2009 in the most contaminated part of the plume within the MI and untreated parts of the plume were allowed to degrade under natural attenuation processes. LUCs were implemented through deed and lease restrictions, zoning and a recorded Notice of Land Use Restrictions.

1.4 PREVIOUS GROUNDWATER MONITORING

Historical groundwater monitoring results described in the MI RD were mainly associated with focused investigations; monitoring wells had not been sampled consistently over extended periods. The LTM Plan summarized results for three groundwater sampling programs: Remedial Investigation (RI) sampling events conducted from January 1996 to November 1998, the long-term operational area (LTOA) investigation from September through December 2001, and a baseline sampling event conducted in March 2002. The RI identified six VOCs as commonly detected at the MI: tetrachloroethene (PCE); trichloroethene (TCE); total 1,2-dichloroethene; carbon tetrachloride (CT); chloroform (CF) and 1,1,1-trichloroethane (TCA). PCE and TCE were the most frequently detected VOCs during the RI and at that time had maximum concentrations of 120 and 58 micrograms per liter (µg/L), respectively. The LTOA

and baseline sampling events were considered contemporaneous for the purpose of reviewing the analytical results. The review confirmed the presence of the VOCs identified in the RI, except TCA.

The LTM Plan presented a decision tree for determining well sampling frequency based on the *Final Long-term Monitoring Optimization Guide, Version 1.1* (Air Force Center for Engineering and the Environment [AFCEE], 1997). LTM wells were classified in four categories:

- Background – wells screened in the fluvial aquifer located along or outside the MI boundary; wells upgradient of or at a distance from groundwater plumes on the MI and Dunn Field; and wells with no, or low, previous detections of site constituents.
- Boundary – wells screened in the fluvial aquifer located along or outside the MI boundary to monitor constituent migration from off-site sources.
- Sentinel – wells screened within either the fluvial or IAQ adjacent to or within the window to the IAQ.
- Performance – wells screened in the fluvial aquifer and within the limits of known groundwater plumes.

The LTM plan also established an initial sampling frequency (biennial, annual, semiannual, or quarterly) for the 47 existing wells and piezometers (PZs).

The LTM program was initiated by MACTEC Engineering and Consulting, Inc. (MACTEC) in 2004 to provide updated baseline groundwater data at the MI. Results of water level measurements and groundwater samples in four sampling events from March 2004 to May 2005 were summarized in *Annual Long-Term Monitoring Report, Main Installation Rev.1* (MACTEC, 2006). During the initial year of LTM, MCLs for PCE and TCE were exceeded in samples collected at wells located throughout the MI. The wells exceeding MCLs were grouped into six plumes in the fluvial aquifer. Sentinel wells in the IAQ and the transition zone between the fluvial aquifer and the IAQ are listed separately.

Plume	Primary CVOCs
TTA-1 North	PCE
TTA-1 South	PCE, TCE
TTA-2	PCE, CT, CF
West Central	PCE
Building 835	TCE
North Central	TCE
Sentinel	PCE

The initial annual LTM report (MACTEC, 2006) included recommendations for additional monitoring wells at six locations to further delineate plumes outside the EBT treatment areas and to provide suitable compliance well networks. The report also recommended changes in the monitoring frequency at specific wells and limiting laboratory analysis of LTM samples to VOCs.

Further MI LTM was postponed until the MI Remedial Action (RA) was initiated by HDR in August 2006. LTM activities in 2006 and 2007 consisted of phased installation and development of 36 new monitoring wells, abandonment of 24 monitoring wells and quarterly monitoring of designated LTM wells during five sampling events in October 2006, January 2007, April 2007, July 2007, and October 2007. The LTM activities and findings were documented in *Annual Long-Term Monitoring Report - 2007, Main Installation Rev.1* (HDR|e²M, 2010a). The monitoring wells installed in 2006 and 2007 provided additional information on the top of clay and groundwater flow directions on the MI and the groundwater samples improved the delineation of the groundwater plumes.

LTM activities in 2008 consisted of water level measurements and groundwater sampling of designated LTM wells during three events in January, April and October 2008. The LTM activities and findings were documented in *Annual Long-Term Monitoring Report - 2008, Main Installation Rev.1* (HDR|e²M, 2010b). No changes were recommended for the 2009 LTM events.

LTM activities in 2009 consisted of water level measurements and groundwater sampling of designated LTM wells in April and October 2009. The LTM activities and findings were documented in *Annual Long-Term Monitoring Report - 2009, Main Installation Rev.0* (HDR|e²M, 2010c). Additional sentinel wells in the MAQ were planned to support source investigation and modeling results which indicated further active groundwater treatment was not necessary to meet the MI RAOs. Following completion of the *Main Installation Interim Remedial Action Completion Report Rev. 1* (MI IRACR) (HDR|e²M, 2010d), sentinel wells were proposed in the IAQ to determine the extent of chlorinated volatile organic compounds (CVOCs) downgradient of MW-90 and to aid placement of the MAQ wells. Recommended locations for the IAQ and MAQ wells were presented in the 2009 LTM report. In addition, the report recommended changes to LTM wells to improve distribution of sample locations and changes to sample frequency per guidelines in the LTM plan. The recommendations were approved by USEPA and TDEC and were implemented in 2010.

LTM activities in 2010 consisted of water level measurements and groundwater sampling of designated LTM wells in April and October 2009. Additional sentinel wells were installed as recommended in the MI IRACR. Two IAQ wells, MW-252 and MW-253, were installed at the proposed locations in June

2010. Based on findings from these wells, a third IAQ well, MW-256, and two MAQ wells, MW-254 and MW-255, were installed in July 2010. The new sentinel wells were sampled following installation and in October and December 2010. The LTM activities and findings were documented in *Annual Long-Term Monitoring Report - 2010, Main Installation Rev.0* (HDR, 2011).

The boring logs and cross-section developed from the new sentinel wells supported the conceptual model of a connection between the fluvial and deeper aquifers. The data also indicated the two MAQ wells and the third IAQ well, MW-256, are appropriately located to serve as sentinel wells for vertical migration of contaminants. The analytical results were consistent with the groundwater modeling described in the IRACR, which indicated the potential for low CVOC concentrations in the Intermediate and Memphis aquifers at the MI. The results did not indicate significant impact to the MAQ.

The report also included minor changes to LTM. Well PZ-06 was determined to be redundant and recommended for abandonment. The sample frequency at MW-143 was recommended to be revised from biennial to semi-annual due to detection of TCE above the MCL.

2.0 LTM ACTIVITIES

LTM activities during 2011 consisted of monitoring designated LTM wells during sampling events in April and October 2011. Field activities and laboratory analyses were performed in accordance with the *Remedial Action Sampling and Analysis Plan* (RA SAP) (MACTEC, 2005).

Changes to MI LTM wells were made in accordance with the 2010 LTM report:

- Well PZ-06 was omitted from LTM; it will be abandoned in 2012.
- The sample frequency at MW-143 was changed from biennial to semi-annual.

The LTM wells are classified as boundary, background, performance or sentinel wells and assigned semiannual, annual or biennial sampling frequencies. There are 109 wells used for MI LTM: 7 background wells, 7 boundary wells, 71 performance wells and 24 sentinel wells. The five new sentinel wells (MW-252 to MW-256) had the fourth quarterly sampling event in April. The remaining wells have the following sample frequency: biennial (12 wells), annual (32 wells) and semiannual (60 wells). The LTM wells are listed on [Table 1](#) and the locations are shown on [Figure 2](#). The current well classification, sample frequency, and 2011 sampling events are shown on [Table 2](#).

2.1 GROUNDWATER MONITORING

Groundwater levels were measured in all LTM wells prior to sampling during the two events. Measurements were made using Solinst Model 101 water level meters with electronic sensors and tapes graduated in 0.01-foot increments. The water level measurements are listed on [Table 3](#).

Groundwater samples were collected from most monitoring wells using low-flow purging methods. Dedicated polyvinyl chloride and stainless steel bladder pumps were installed in most LTM wells to facilitate sampling. Other wells were sampled with portable stainless steel bladder pumps. Teflon® bladders and Teflon®-lined polyethylene tubing were used for each well. The pumping rate at each well was monitored in order that the water levels would not decline more than 4 inches (0.1 meter). Following sampling, the bladders and tubing for each well without a dedicated pump were placed in separate, sealed plastic bags and stored for future sampling events. Piezometers and certain monitoring wells were sampled with bailers due to the small diameter casing in the piezometers and the slow recharge and thin saturated layer in the wells.

Water quality parameters were measured at approximately 5 to 10 minute intervals during purging using a flow-through cell with an YSI 6550 and a LaMotte 2020e turbidity meter. The wells sampled with a bailer had stabilization parameters collected using the same instrumentation; a sampling cup was filled from the bailer and a set of stabilization parameters were collected for every well volume. The units were calibrated each morning prior to sampling, and if abnormal readings were observed during the day, the instruments were recalibrated in the field. All measurements were recorded on the field sampling forms.

Purging continued at each well for up to two hours in order to meet the stabilization criteria: three successive readings within 0.1 for pH, 10 milliVolts for oxygen reduction potential, 3 percent for specific conductance, 10 percent for dissolved oxygen and <20 nephelometric turbidity units (NTU) for turbidity. Temperature was also measured and recorded but was not used as a stabilization parameter. Samples were collected when stabilization criteria were met or the field team leader approved the variance from the criteria. The final stabilization measurements for each event are shown on [Tables 4 and 5](#).

Samples were sent to Microbac Laboratories in Marietta, Ohio, for laboratory analysis of VOCs by method 8260B. The activities during each sampling event are summarized in the following sections.

2.1.1 April 2011

Water levels were measured in LTM wells on 30 March 2011. Semiannual groundwater sampling was conducted with samples collected from 64 of 65 designated wells on 31 March to 5 April 2011. MW-213 was dry, as it has been since installation. There were 65 groundwater samples collected; samples were collected from the top and bottom screened intervals at MW-101.

Groundwater samples were collected from 62 wells using low-flow purging methods. Two wells, MW-62 and MW-212, were sampled with a Teflon® bailer due to thin saturated layer and slow recharge. The final stabilization measurements are shown on [Table 4](#). The following samples were collected without meeting the stabilization criteria:

- Samples from MW-62 and MW-212 were collected with turbidity values of 143 and 854 NTUs, respectively. Both wells were purged and sampled with bailers after three well volumes had been drawn from the well.
- The sample from MW-217 was collected with turbidity of 103.8 NTUs. The well was sampled after 2 hours of purging.

2.1.2 October 2011

Water levels were measured in LTM wells on 28-29 September 2011. Water levels were not collected at two wells; MW-22 was inaccessible due to material placed over the well and MW-23 was not located due to vegetation. Annual groundwater sampling was conducted with samples collected from 96 of the 97 designated wells on 30 September to 9 October 2011. MW-213 was dry. There were 98 groundwater samples collected; samples were collected from two screened intervals at both MW-101 and MW-107.

Groundwater samples were collected from 93 wells using low-flow purging methods. Two wells (MW-62 and MW-212) and a piezometer (PZ-03) were sampled with a Teflon® bailer due to the slow recharge, small diameter of casing and/or thin saturated layer. The final stabilization measurements are shown on [Table 5](#). The samples were collected according to the procedures described above with the following exceptions:

- Samples were collected from MW-212, PZ-03 and MW-62 with turbidity values of 176, 280 and 344 NTUs, respectively. The wells were purged and sampled with bailers after three well volumes had been drawn from the well.

2.2 WASTE DISPOSAL

The waste generated during MI LTM activities in 2011 was classified as either non-investigative waste or investigation-derived waste (IDW). Non-investigative waste, such as packaging materials, personal protective equipment, disposable sampling supplies, and other inert refuse, was collected, containerized, and transported to a designated collection bin for disposal at a municipal landfill. The IDW consisted of waste water from equipment decontamination, and groundwater from well development and purging prior to sampling.

The waste water was collected in five gallon buckets with lids and added to the fluvial soil vapor extraction condensate storage tank on Dunn Field. When the storage tank nears capacity, the waste water will be analyzed and, if concentration limits are met, discharged to the storm sewer per agreement with the TDEC.

3.0 SUMMARY OF MONITORING RESULTS

3.1 HYDROGEOLOGY

Water level measurements for the 2011 LTM events are shown on [Table 3](#). Groundwater elevations for all LTM wells, with contours for the fluvial aquifer and the IAQ within the window, are shown on [Figures 3](#) and [4](#). The groundwater elevation contour maps are similar. Groundwater flow near TTA-1 is to the northeast with an approximate gradient of 0.003 in April and October (DR1-5A to MW-197B). The groundwater flow near TTA-2 is to the west-southwest with an approximate gradient of 0.02 in April and October (DR2-1 to MW-26). The gradient in the ‘window’ is to the northwest with an approximate gradient of 0.024 in April and 0.029 in October (MW-90 to MW-140).

Groundwater contour maps for the water level measurements in the IAQ and MAQ wells during the two LTM events are contoured on [Figures 5](#) and [6](#). The water levels for the IAQ indicate flow is generally to the northwest. The water levels in the three deepest wells show the gradient is to the west, from MW-140 to MW-254.

3.2 DATA QUALITY EVALUATION

Data collected during the 2011 LTM sampling events were reviewed based on guidelines in the RA SAP. Data review was performed by an independent data validation contractor, Diane Short and Associates, Inc. Based on the review and the project data quality objectives (DQOs), the data are acceptable and usable. The complete analytical results with data quality evaluation (DQE) flags are presented for each sample event in [Appendix A](#). The main findings from the DQE are summarized below.

- Cis-1,2-dichloroethene was qualified as estimated J in one sample (PMW92-03-LS-13) due to low matrix spike/matrix spike duplicate (MS/MSD) recoveries and a high relative percent difference. PCE in two samples (DR2-2-LA-14 and MW-197A-LA-14) was qualified as estimated J and bromomethane in one sample (MW-209A-LA-14) was qualified as non-detect estimated UJ based on low MS/MSD recovery. The results could be biased low approximately proportional to the recoveries.
- When a high laboratory calibration standard (LCS) recovery is associated with a non-detect in samples, no qualifier is added since the indicated bias is high. When the analyte is detected, the result is qualified as J and data could be biased high proportional to the LCS percent recovery. All results associated with low recoveries are qualified J. Carbon tetrachloride in three samples

(DR2-5-LS-13, MW-209B-LS-13 and MW-218-LS-13), vinyl chloride in five samples (MW-92-LS-13, MW-100B-LA-14, MW-197B-LS-13, MW-205A-LS-13 and MW-205B-LS-13), and acetone and MTBE in two samples (MW-214A-LA-14 and MW-214B-LA-14) were qualified J due to high LCS recoveries.

- Several chain of custody issues were reviewed and determined not to have impacted data quality.
- Bromomethane, chloromethane, dichlorofluoromethane and chloroethane were non-detect and qualified UJ in several samples due to high percent difference with low response in continuing calibration standards.
- 1,4-Dichlorobenzene was qualified B in two samples (MW-88-LA-14 and MW-229-LA-14) because this analyte was also detected in the associated trip blank; these sample results may be biased high.
- Any result reported below the reporting limit (RL) but above the method detection limit was qualified J and considered an estimated result (unless overridden by other quality control flags).

Overall, the VOC data from the LTM events met project DQOs and were determined to be sufficient to support the evaluation of remedial action. The complete DQE for 2011 LTM is provided in [Appendix B](#).

3.3 ANALYTICAL RESULTS

The results for each sampling event are discussed in the following sections based on concentrations detected above the RL for the primary CVOCs: PCE, TCE, cis-1,2-Dichloroethene (cDCE), CT, CF and vinyl chloride (VC). The analytical results were compared to the MCLs: 5 µg/L for PCE, TCE, and CT; 70 µg/L for cDCE, and 2 µg/L for VC. The MCL for total trihalomethanes, which includes CF, is 80 µg/L.

3.3.1 April 2011

Groundwater samples were collected from 64 LTM wells for the semiannual event in April 2011. A total of 65 groundwater samples were collected; samples were collected from two screened intervals in MW-101. [Table 6](#) lists the analytical results for the primary CVOCs and for other VOCs detected above the RL in one or more samples. A summary of analytical results for the primary CVOCs is provided on [Table 7](#). Twelve VOCs were detected above RLs. The analytical results for the primary CVOCs are summarized below:

- PCE was reported in 56 wells with a maximum concentration of 193 µg/L in DR1-6. The MCL (5 µg/L) was exceeded in 53 wells.

- TCE was reported in 59 wells with a maximum concentration of 166 µg/L in DR1-6A. The MCL (5 µg/L) was exceeded in 41 wells.
- cDCE was reported in 37 wells with a maximum concentration of 87.1 µg/L in DR2-5. The MCL (70 µg/L) was exceeded in three wells.
- CT was reported in 15 wells with a maximum concentration of 175 micrograms per liter (µg/L) in DR2-5. The MCL (5 µg/L) was exceeded in 11 wells.
- CF was reported in 25 wells with a maximum concentration of 67 µg/L in DR2-5. The MCL (80 µg/L for total trihalomethanes) was not exceeded.
- VC was reported in 6 wells with a maximum concentration of 153 µg/L in MW100B. The MCL (2 µg/L) was exceeded in 6 samples.

3.3.2 October 2011

Groundwater samples were collected from 96 LTM wells for the annual event in October 2011. A total of 98 groundwater samples were collected; samples were collected from two screened intervals in MW-101 and MW-107. [Table 8](#) lists the analytical results for the primary CVOCs and for other VOCs detected above the RL in one or more samples. A summary of analytical results for the primary CVOCs is provided on [Table 9](#). Fifteen VOCs were detected above RLs. The analytical results for the primary CVOCs are summarized below:

- PCE was reported in 74 wells with a maximum concentration of 189 µg/L in MW-113. The MCL (5 µg/L) was exceeded in 63 wells.
- TCE was reported in 75 wells with a maximum concentration of 166 µg/L in DR1-6A. The MCL (5 µg/L) was exceeded in 46 wells.
- cDCE was reported in 36 wells with a maximum concentration of 87.4 µg/L in DR2-5. The MCL (70 µg/L) was exceeded in one well.
- CT was reported in 20 wells with a maximum concentration of 167 µg/L in DR2-5. The MCL (5 µg/L) was exceeded in 11 wells.
- CF was reported in 35 wells with a maximum concentration of 66.2 µg/L in DR2-5. The MCL (80 µg/L for total trihalomethanes) was not exceeded.
- VC was reported in 7 wells with a maximum concentration of 181 µg/L in MW100B. The MCL (2 µg/L) was exceeded in 3 wells.

3.4 PLUME MAPS AND CROSS-SECTIONS

PCE, TCE and CT isoconcentration maps are shown on [Figures 7, 8 and 9](#) for the April 2011 LTM semiannual samples and on [Figures 10, 11 and 12](#) for the October 2011 LTM annual samples. The isopleths, indicating plume extent, were based on concentrations in adjacent wells with limited consideration of groundwater gradient. Concentrations in adjacent wells were generally assumed to have the same source even with distances of a few hundred feet between the wells.

The isopleths are generally similar to those from previous LTM sampling events. Several wells in the west-central plume and sentinel wells continue to have reduced PCE concentrations, due to EBT in TTA-1. In April 2009, the highest PCE concentration in the west-central plume was 163 µg/L in MW-208A; the 2011 PCE concentrations in MW-208A were 3.94 µg/L in April and 10.5 µg/L in October. cDCE concentrations increased in MW-208A from 3.61 µg/L in April 2009 to 39.7 µg/L in October 2011. The highest PCE concentration in the sentinel wells in April 2009 was 80.8 µg/L in MW-90; the 2011 PCE concentrations in MW-90 were 31.1 µg/L in April and 29.2 µg/L in October. The PCE concentration in MW-207B at the eastern end of the west-central plume decreased in 2011 from 113 µg/L in October 2010 to 55 µg/L in October 2011; PCE concentrations in MW-207B have varied from 15.3 µg/L to 113 µg/L in 2009 to 2011.

Wells with individual concentrations of the parent compounds (PCE, TCE and CT) above 100 µg/L during the annual sampling in October 2011 are identified below; that was the concentration used to select areas for EBT during the MI RA. PCE concentrations above 100 µg/L were limited to DR1-6 on the south side of TTA-1; DR2-1, MW-113, PMW92-03 and PLW92-06 in TTA-2; and MW-203A at the upgradient area of the West-Central plume. TCE concentrations above 100 µg/L were limited to DR1-6A on the south side of the TTA-1 and MW-62 at the upgradient end of the Building 835 plume. CT concentrations above 100 µg/L were limited to DR2-5 and PMW92-06 in TTA-2.

The 2011 analytical results for PCE and TCE in IAQ and MAQ wells are shown on the cross-sections in [Figures 13 and 14](#). PCE concentrations are higher in the wells screened in the upper portion of the IAQ and decrease downgradient from MW-90.

3.5 WELL CLASSIFICATION REVIEW

Currently, 109 wells are included in MI LTM. The current well classifications are shown on [Table 2](#): 7 background wells, 7 boundary wells, 71 performance wells and 24 sentinel wells. Analytical results for the individual well classifications in the 2011 LTM events are summarized in the following sections.

Historical analytical results for the primary CVOCs in all LTM wells are provided in [Appendix C](#). Time trend plots for primary CVOCs where one or more were detected above MCLs in LTM wells are provided by area in [Appendix D](#).

3.5.1 Background Wells

There are seven LTM background wells screened in the fluvial aquifer located along or outside the MI boundary; wells upgradient of or at a distance from groundwater plumes on the MI and Dunn Field; and wells with no, or low, previous detections of site constituents. The background wells are MW-16, MW-19, MW-53, MW-55, MW-66A, MW-99, and MW-143. MW-143 was sampled in April and October 2011; no other background wells were sampled in 2011.

One primary CVOC was detected above the RL in MW-143; TCE was detected at 10.1 µg/L in April and at 12.6 µg/L in October. MW-143 was installed approximately 650 feet west of MW-62 in April 2004 and has since been sampled semiannually to annually. TCE was first detected in May 2005 at 0.31 µg/L, below the RL; concentrations have continually increased and exceeded the MCL (5 µg/L) in October 2010. Based on the current results, MW-143 will be re-classified as a performance well and included with wells in the Building 835 plume; the well is recommended for semiannual sampling.

3.5.2 Boundary Wells

There are seven LTM boundary wells screened in the fluvial aquifer located along or outside the MI boundary to monitor constituent migration from off-site sources. The boundary wells are MW-22, MW-23, MW-24, MW-50, MW-93, MW-102B, and MW-219. MW-219 was sampled in April and October 2011; no other boundary wells were sampled in 2011.

One primary CVOC was detected above the RL in MW-219; PCE was detected at 4.55 µg/L in April and at 6.51 µg/L in October. Well MW-219 was installed in April 2007 on the western MI boundary and immediately upgradient of TTA-1 North; PCE concentrations in MW-219 have generally decreased since a high of 48 µg/L in January 2008. The results at MW-219 indicate potential plume migration on to the MI.

3.5.3 Sentinel Wells

There are 24 LTM sentinel wells screened within either the fluvial, intermediate or Memphis aquifers adjacent to or within the window. The sentinel wells are MW-34, MW-38, MW-63A/B, MW-89, MW-90, MW-107, MW-108, MW-140, MW-141, MW-199A, MW202A/B, MW-207A/B, MW-209A, MW-210A,

MW-211, MW-229 and MW-252 to MW-256. Twelve sentinel wells were sampled in April and all sentinel wells were sampled in October 2011.

Primary CVOCs were not detected above RLs in seven sentinel wells (MW-38, MW-63A, MW-199A, MW-211, MW-229, MW-252 and MW-255). The remaining sentinel wells had CVOCs detected above the RLs and ten wells (MW-63B, MW-90, MW-107, MW-108, MW-141, MW-202B, MW-207A/B, MW-210A, MW-253 and MW-256) had PCE and/or TCE at concentrations above the MCL. The highest concentrations were at MW-207B (PCE at 99.4 µg/L and TCE at 38.4 µg/L) in April and at MW-207B (PCE at 55 µg/L) and MW-108 (TCE at 26 µg/L) in October.

Well MW-107 had PCE concentrations above the MCL in samples from the two screened sections (32.1 µg/L and 31.7 µg/L) in the October samples. The well was installed in October 2001 and is located in the upgradient portion of the window. TCE has been detected at low concentrations below the MCL since 2001. PCE was first detected above the RL in October 2008 and exceeded the MCL in October 2009 with a concentration of 5.05 µg/L. The sample frequency in MW-107 is recommended to change from annual to semiannual.

Five new sentinel wells were installed in 2010 and have been sampled five times. Wells MW-252, MW-253 and MW-256 were installed in the IAQ; MW-256 is located downgradient of IAQ wells in the window with PCE concentrations above the MCL (MW-90 and MW-202B). Wells MW-254 and MW-255 were installed in the MAQ. MW-255 is located adjacent to MW-256 with the screened interval approximately 160 feet deeper; MW-254 is located approximately 350 feet to the west of MW-255 and is downgradient.

Analytical results for primary CVOCs are summarized below:

- MAQ Wells
 - MW-254 - TCE has been detected consistently near 2 µg/L and other CVOCs (CT, CF, cDCE and PCE) have been detected at 1 µg/L and below the RL.
 - MW-255 - No detections above the RL but TCE has been detected below the RL.
- IAQ Wells
 - MW-252 – PCE, TCE and CF have been detected above the RL in two of the five samples. PCE slightly exceeded the MCL in March 2011 but was not detected in October 2011.

- MW-253 – TCE has been detected in all 5 samples with concentration increasing from 0.34 µg/L in June 2010 to 9.81 µg/L in October 2011. MW-253 is located adjacent to MW-143, which is screened in the fluvial aquifer and has had increasing concentrations since 2005. The boring logs in the 2010 LTM report show the IAQ soils in MW-253 differed from the other IAQ wells. The clay below the fluvial aquifer was thinner and contained more sand at MW-253; the well was screened in a relatively thin sand layer between two clay units. The similar trend in TCE concentration with MW-143 is considered to be due to migration through the thinner clay zone; there were no reported problems during installation of the outer casing that would indicate the well might act as a conduit for contaminant migration. Although MW-253 is not well-positioned for its intended purpose of monitoring CVOC migration through the window, it will be maintained to monitor the increased TCE concentration..
- MW-256 - PCE, TCE and CF have been detected above the RL in all five samples with PCE at concentrations of 8.6 to 20 µg/L, above the MCL. PCE concentrations have increased since installation, but are consistent with concentrations in upgradient well MW-202B; a decrease in concentrations is expected based on the trend at MW-90 which is located upgradient of MW-202B.

3.5.4 Performance Wells

There are 67 LTM performance wells, including one piezometer, screened in the fluvial aquifer and within the limits of designated groundwater plumes: TTA-1 North (MW-21 Area), TTA-1 South (MW-101 Area), TTA-2, West Central, Building 835 and North Central. The designated plumes, primary CVOCs and associated LTM wells are listed below.

Plume	CVOC	LTM Wells
TTA-1 North	PCE	DR1-2, DR1-7, DR1-8, MW-21, MW-100B, PMW21-03, PMW21-05
TTA-1 South	PCE, TCE	DR1-1, DR1-1A, DR1-3, DR1-4, DR1-5, DR1-5A, DR1-6, DR1-6A, MW-101, PMW101-04A/B
TTA-2	PCE, CT, CF	DR2-1, DR2-2, DR2-3, DR2-4, DR2-5, DR2-6, MW-26, MW-64, MW-85, MW-88, MW-92, MW-96, MW-113, MW-217, MW-218, PMW92-03 and PMW92-06
West-Central	PCE	MW-39/39A, MW-94A, MW-98, MW-197A/B, MW-200, MW-203A/B, MW-204A/B, MW-205A/B, MW-206A/B, MW-208A/B, MW-210B, MW-214A/B, MW-215A/B, PZ-03
Building 835	TCE	MW-62, MW-142, MW-198, MW199B, MW-209B, MW-212, MW-213 (dry)
North-Central	TCE	MW-103, MW-104

There are four isolated LTM performance wells outside the designated plumes (MW-25A, MW-52, MW-97 and MW-216). MW-97 was sampled in April, and all four wells were sampled in October 2010. MW-216, in the southwestern MI, did not have any primary CVOCs above the RL. The three other wells had CVOC concentrations above MCLs in 2011; the highest concentration was TCE at 53.8 µg/L in MW-97 in October. TCE concentrations in MW-97 have increased steadily since 2004; MW-216 is located 150 feet upgradient of MW-97. PCE concentrations in MW-25A and MW-52 have remained relatively stable near 10 µg/L.

3.5.4.1 TTA-1 North

The TTA-1 North plume is a generally oval-shaped area with elevated PCE concentrations near the central section of Building 1089 and north of former Buildings 1084 and 1085. The depth of water is approximately 90 feet bgs and the average saturated thickness is 26 feet.

Seven LTM performance wells are associated with the TTA-1 North plume. Four wells were sampled in April, and all seven wells were sampled in October 2011. The maximum PCE concentration was 80 µg/L at MW-21 in October.

3.5.4.2 TTA-1 South

The TTA-1 South plume is located a few hundred feet southeast of TTA-1 North, on the west side of Building 1088 and the southern section of Building 972. Based on the distribution of PCE and TCE in the plume, there appear to be two source areas. Wells in the southern area have high TCE concentrations and moderate PCE concentrations while those in the northern area have high PCE concentrations and low TCE concentrations. The depth of water is approximately 90 feet bgs and the average saturated thickness is 36 feet.

Eleven LTM performance wells are associated with the TTA-1 South plume. Eight wells were sampled in April, and all eleven wells were sampled in October 2011. The maximum concentrations were PCE at 193 µg/L at DR1-6 in April and TCE at 166 µg/L at DR1-6A in April and October.

3.5.4.3 TTA-2

The TTA-2 plume is an irregularly shaped area with elevated concentrations of PCE, TCE, CT and CF. The distribution of PCE and CT in TTA-2 suggest two or more source areas. While PCE concentrations are elevated throughout most of the plume area, CT concentrations are primarily in the northwestern

plume area (near Buildings 260, 261 and 263). The depth of water is approximately 93 feet bgs and the average saturated thickness is 9 feet.

Seventeen LTM performance wells are associated with the TTA-2 plume. Fifteen wells were sampled in April, and all seventeen wells were sampled in October 2011. The maximum concentrations were PCE at 189 µg/L at MW-113 and TCE at 49.2 µg/L at MW-218 in October, and CT at 175 µg/L and CF at 67 µg/L at DR2-5 in April.

3.5.4.4 West Central

The West-Central plume is a broad area of elevated PCE concentrations in groundwater approximately 1500 feet northeast of TTA-1. The eastern end of the plume is at the former location of Buildings 873 and 875 and the central area is near Building 770. The depth of water is approximately 100 feet bgs and the saturated thickness ranges from 7 to 94 feet with an average of 48 feet.

Twenty-three LTM performance wells are associated with the West Central plume. Eighteen wells were sampled in April, and all twenty-three wells were sampled in October 2011. The maximum PCE concentration was 147 µg/L in MW-203A in April and October.

3.5.4.5 Building 835

The Building 835 plume located in the western portion of the MI contains elevated concentrations of TCE. The plume is orientated along the southern edge of the clay adjacent to the window in the northwest corner of the MI. The depth of water is approximately 94 feet bgs and the average saturated thickness is 6 feet.

Seven LTM performance wells are associated with the Building 835 plume. Four wells were sampled in April, and six wells were sampled in October 2011; MW-213 was dry during both sample events. The maximum TCE concentration was 157 µg/L at MW-62 in October.

3.5.4.6 North Central

The North-central plume is located in the northeastern portion of the MI contains and contains slightly elevated concentrations of TCE. Additional plume delineation is not considered necessary because of the low concentrations. The depth of water is approximately 66 feet bgs and the average saturated thickness is 23 feet.

Two LTM performance wells are associated with the North Central plume. Both wells were sampled in October 2011. The maximum TCE concentration was 9.61 µg/L in MW-103.

3.6 TREND ANALYSIS

Concentration trends were assessed for the available groundwater analytical results for the LTM wells from January 2004 through October 2011 using the Mann-Kendall test. The Mann-Kendall test does not require any assumptions as to the statistical distribution of the data and can be used with data sets which include irregular sampling intervals and missing data. The analysis was performed using the Mann-Kendall module within the Monitoring and Remediation Optimization System (MAROS) software version 2.2 developed by AFCEE. The Mann-Kendall trend evaluation using MAROS relies on three statistical metrics: the Mann-Kendall statistic (S), the coefficient of variation (COV) and the confidence factor (CF).

S measures the trend in the data. Positive values indicate an increase in constituent concentrations over time, whereas negative values indicate a decrease in constituent concentrations over time. The strength of the trend is proportional to the magnitude of S (i.e., large magnitudes indicate a strong trend).

COV is a statistical measure of how the individual data points vary about the mean value; it is defined as the standard deviation divided by the average. Values less than or near 1.00 indicate that the data form a relatively close group about the mean value. Values larger than 1.00 indicate that the data show a greater degree of scatter about the mean. CF is the statistical probability that the constituent concentration is increasing ($S > 0$) or decreasing ($S < 0$).

The Concentration Trend for each well is determined according to the following rules:

Mann-Kendall Statistic	Confidence Factor	Concentration Trend
$S > 0$	$> 95\%$	Increasing
$S > 0$	90 - 95%	Probably Increasing
$S > 0$	$< 90\%$	No Trend
$S \leq 0$	$< 90\%$ and $COV \geq 1$	No Trend
$S \leq 0$	$< 90\%$ and $COV < 1$	Stable
$S < 0$	90 - 95%	Probably Decreasing
$S < 0$	95%	Decreasing

The Mann-Kendall analysis was run for PCE, TCE and cDCE on analytical results for 110 LTM sample locations, including both screened intervals in MW101 and MW-107. MW-213 (dry) was excluded. In

addition, Mann-Kendall analysis was run for CT and CF on analytical results for 17 LTM wells in TTA-2. The analysis was limited to samples collected since January 2004 to provide a more consistent comparison between wells; many of the LTM performance wells were installed from 2004 to 2007 and regular groundwater monitoring was not performed before 2004.

The results of the Mann-Kendall analysis are shown on [Tables 10](#) through [14](#). The tables present the statistical metrics for each well, the concentration trend, the number of sample rounds and the number of samples with detects. In addition, the maximum and minimum analytical results for the review period are shown.

Most of the boundary (7) and background (7) wells had non-detects or very low concentrations of CVOCs and the majority of those wells had insufficient data or no trend. One boundary well, MW-219 located upgradient of TTA-1 North, has PCE concentrations up to 48 µg/L and may represent a groundwater plume migrating on to the MI; the PCE concentration at MW-219 was 6.51 µg/L in October 2011 and the well has a decreasing trend.

The results for sentinel (25) and performance (71) sample locations are summarized below.

	Total Locations	Insufficient Data	Increasing/ Probably Increasing	Stable/ No Trend	Decreasing/ Probably Decreasing
PCE	96	9	24	36	27
TCE	96	1	30	47	18
cDCE	96	24	28	33	11

The analysis indicates that many locations show no clear trend or are stable for these CVOCs. More of the remaining locations have decreasing trends for PCE, with increasing trends for TCE and cDCE.

The results for TCE show a greater proportion of increasing trends for TCE if the sample locations are limited to those with a maximum concentration above the MCL (since January 2004), as shown below.

	Total Locations	Insufficient Data	Increasing/ Probably Increasing	Stable/ No Trend	Decreasing/ Probably Decreasing
PCE	71	0	20	26	25
TCE	54	0	27	26	11
cDCE	9	0	2	3	4

Trends for the parent/primary CVOCs in each plume are summarized below.

Plume	Analyte	Total Locations	Insufficient Data	Increasing/ Probably Increasing	Stable/ No Trend	Decreasing/ Probably Decreasing
TTA-1 North	PCE	7	1	2	2	2
TTA-1 South	PCE	12	0	3	5	4
TTA-1 South	TCE	12	0	3	7	2
TTA-2	PCE	17	0	4	7	6
TTA-2	CT	17	0	2	9	6
TTA-2	CF	17	0	1	6	10
West-Central	PCE	23	0	5	4	14
Building 835	TCE	6	0	2	1	3
North-Central	TCE	2	0	1	1	0
Sentinel	PCE	25	3	9	12	1

The wells in several plumes within the fluvial aquifer generally have stable trends for the parent compounds with roughly equal increasing and decreasing trends. However, the West-Central plume (PCE) and the TTA-2 plumes (CT and CF) have more pronounced decreasing trends. Conversely, the sentinel wells (PCE) have more increasing trends (9 locations) than decreasing trends (1 location). This may be due to the time required for migration of groundwater with reduced CVOC concentrations resulting from EBT treatment.

3.7 REBOUND IN EBT AREAS

There are nine LTM performance wells located in the central or downgradient portions of the EBT areas: MW-100B and PMW21-03 in TTA-1N; MW-101, PMW101-04A and B in TTA-1S; and DR2-5, MW-113, PMW92-03 and PMW92-06 in TTA-2. All except MW-100B and MW-113 were included in EBT performance monitoring and classified for indicators of reductive dechlorination (RD) in the MI IRACR. Well DR2-5 was classified as negative for RD, MW-101 was classified as positive for RD and the remaining five wells were classified as showing the best indication of RD. Analytical results for PCE and cDCE in all the wells and for CT and CF in the TTA-2 wells are shown below for August 2006 (pre-EBT baseline), March 2009 (after final EBT injection in February 2009), October 2010 and October 2011. The time trend plots for these wells are included in [Appendix D](#).

Well	PCE (µg/L)				cDCE (µg/L)			
	Aug 06	Mar 09	Oct 10	Oct 11	Aug 06	Mar 09	Oct 10	Oct 11
MW-100B	101	<1	<1	28.7	112	22.3	11	9.9
PMW21-03	185	18.7	45.9	55	2.55	57.4	0.687	1.11
MW-101-T	251	46.9	75.6	53.1	0.266	35.2	<1	<1
PMW101-04A	199	22.6	44.6	59.6	<1	47	13.5	3.12
PMW101-04B	90.4	22.4	28.7	31.2	0.971	37.2	<1	<1
DR2-5	54.2	114	21.1	86.5	31	62	105	87.4
MW-113	182	192	149	189	54.9	57.1	29.7	26.2
PMW92-03	252	15.6	104	147	19.9	139	83	51.9
PMW92-06	179	3.88	141	135	91.4	200	68.5	58

Since EBT injections ended, most of these wells have shown some rebound, with increases in PCE concentrations and decreases in cDCE concentrations. PCE concentrations in MW-100B and DR2-5 did not increase until the October 2011 sample event. PCE concentrations remain well below the pre-EBT baseline in TTA-1N and TTA-1S, but are near or above baseline in three TTA-2 wells (DR2-5, MW-113 and PMW92-06).

Well	CT (µg/L)				CF (µg/L)			
	Aug 06	Mar 09	Oct 10	Oct 11	Aug 06	Mar 09	Oct 10	Oct 11
DR2-5	142	206	25	167	46.7	68.8	21.5	66.2
MW-113	75.6	101	77.3	65.8	33.8	39	24.3	16.2
PMW92-03	58.1	<1	<1	<1	19.2	<0.3	0.26	<0.3
PMW92-06	182	<1	110	106	82.7	<0.3	41.1	36.3

The rebound in CT concentrations in TTA-2 is similar to that for PCE. Only well PMW92-03 does not show rebound.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Some rebound in concentrations of parent compounds in TTA-1 and TTA-2 was again observed in 2011 LTM samples. In nine LTM wells within the former EBT areas, PCE concentrations are at 20% to 60% of the baseline concentrations (August 2006) in six wells, and near or above baseline concentrations in three wells.

In 2009, PCE concentrations decreased in MW-208A and MW-90, the West-central plume and Sentinel wells with the highest concentrations; concentrations in these wells remained at reduced levels in 2011. Trend analysis indicated PCE concentrations in most West-central plume wells had decreasing trends, but many Sentinel wells had increasing trends. To the extent that concentrations continue to decrease in the West-central wells, concentrations in Sentinel wells, which are generally downgradient, should also decrease. Concentration trends and other results considered significant are discussed below.

PCE concentrations in sentinel well MW-202B, within the window and downgradient of MW-90, have increased steadily to 27.1 in October 2011 and PCE concentrations in well MW-256, further downgradient, have increased to 20 µg/L since installation in 2010. However, the increased concentrations in these IAQ wells have not resulted in increased impacts to the MAQ. Individual CVOC concentrations in the two MAQ wells, MW-254 and MW-255, remained at concentrations from non-detect to near 2 µg/L.

TCE concentrations in background well MW-143, located west of the Building 835 plume, increased to 12.6 µg/L in October 2011, while TCE concentrations in the adjacent sentinel well, MW-253, increased to 9.8 µg/L. TCE concentrations at performance well MW-142, located downgradient and to the southeast, have increased over the last two years to 11 µg/L. These three wells are located upgradient or cross-gradient to MW-62 which has been considered to be near the upgradient extent of the Building 835 plume. While the concentrations are not very high, the increases raise the possibility of the source being further northwest of MW-62 or of a different source. Inquiries should be made regarding solvent use at Barnhart Crane, the current tenant. In addition, a new fluvial aquifer well (MW-257) is recommended northeast of MW-143 to confirm the upgradient limit of the TCE plume.

CT isopleths on [Figures 9](#) and [12](#) show the plume at TTA-2 extending to the southwest which is consistent with the groundwater contours. The PCE and TCE isopleths previously indicated contaminant migration was to the northwest toward the window, but those isopleths were affected by concentrations in wells MW-215A/B, which may be due to other sources. PCE and TCE source areas on the MI are

apparently more widespread than CT, which was only detected at high concentrations near TTA-2. If migration from TTA-2 is to the southwest and not toward the window, the TTA-2 plumes would have less potential for impact to the MAQ. The CT isopleths indicate potential for further contaminant migration to the southwest and possibly off-site. However, boundary wells MW-24 and MW-93 on the southern property line have not had CVOCs detected since 2004. An additional fluvial aquifer well (MW-259) southwest of MW-217 is recommended to clarify the direction and extent of contaminant migration.

Two locations near the upgradient end of the window had increasing concentrations in 2011. MW-107 had PCE concentrations from the two screened sections of 32.1 µg/L and 31.7 µg/L in 2011 samples, well above the MCL; PCE was first detected above the RL at that well in 2008. Concentrations of PCE and TCE in MW-214A and MW-214B, located southeast of the window, increased above the MCL in 2010 and remained at those concentrations in 2011; concentrations are approximately 10 µg/L for PCE and 5 µg/L for TCE. An additional fluvial aquifer well (MW-258) between MW-214A and MW-103 is recommended to evaluate potential for an upgradient source affecting these wells.

In addition to the new wells described above, the following changes to well classification and sample frequency are recommended:

- Boundary well MW-143 to be re-classified as a performance well (Building. 835) plume with semiannual sample frequency.
- Sentinel well MW-107 sample frequency changed from annual to semiannual because of increased concentrations.
- Performance wells MW-214 A/B sample frequency changed from annual to semiannual because of increased concentrations.
- New sentinel wells, MW-252 to MW-256, to have semiannual sample frequency.
- Sentinel wells MW-34, MW-38 and MW-229 sample frequency changed from annual to biennial due to consistent analytical results from non-detect to near 1 µg/L.

The proposed well locations are shown on [Figure 15](#) and the 2012 LTM sample schedule is shown on [Table 15](#).

A change to the groundwater sampling procedure from low-flow sampling to passive diffusion bags (PDBs) is also recommended. PDBs have been used for most Dunn Field monitoring wells since 2001. Initial samples from newly installed wells have been collected by low flow sampling with later samples collected with PDBs; there has been no apparent difference in the analytical results for samples collected

by the two methods. Field water quality measurements collected during low-flow sampling on the MI were used in evaluation of aerobic/anaerobic aquifer conditions, but the presence of daughter compounds (cDCE and VC) in laboratory analyses provide a better indication. If EBT is re-started, low-flow sampling with measurement of field parameters will be performed in selected wells within those areas. Low-flow sampling or bailers will be used where the saturated screen thickness is not sufficient for PDBs.

Based on the rebound in concentrations of parent compounds in TTA-1 and TTA-2, stable concentrations throughout the MI and concentrations above MCLs in the intermediate aquifer, additional EBT is recommended. The recommendation is made as a proactive response to improve progress toward groundwater RAOs, decrease the time required for LTM and reduce potential for impacts to the Memphis Aquifer. EBT is recommended in areas where individual CVOC concentrations of parent compounds (PCE, TCE and CT) exceed 100 µg/L; this would include TTA-1, TTA-2, the west-central plume and the Bldg 835 plume. Within TTA-1 and TTA-2, injections would be made in selected areas where previous EBT has reduced concentrations below 100 µg/L.

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TABLES

TABLE 1
LTM WELLS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

Well	Aquifer	Well Classification	Sample Frequency	Northing (ft)	Easting (ft)	Ground Elevation (ft, msl)	Stick Up (ft)	Riser Length (ft)	Screen Length (ft)	Total Well Depth (ft, btoc)
MW-16	Fluvial	Background	Biennial	278837.83	807099.66	300.19	-0.3	57.6	15	72.6
MW-19	Fluvial	Background	Biennial	278945.87	800782.26	290.86	-0.3	83.1	10	93.1
MW-21	Fluvial	Performance	Semiannual	276473.39	800602.39	295.21	-0.2	92.1	15	107.1
MW-22	Fluvial	Boundary	Biennial	275912.38	800702.16	298.49	-0.5	95.4	10	105.4
MW-23	Fluvial	Boundary	Biennial	275791.02	801817.13	299.24	-0.3	101.2	10	111.2
MW-24	Fluvial	Boundary	Biennial	275616.05	803538.81	299.81	-0.3	97.3	15	112.3
MW-25A	Fluvial	Performance	Annual	275975.11	805521.27	270.13	-0.3	73.0	10	83.0
MW-26	Fluvial	Performance	Semiannual	276508.16	805962.09	303.89	-0.2	97.6	10	107.6
MW-34	Intermediate	Sentinel	Annual	279411.21	801917.96	300.80	-0.8	136.6	20	156.6
MW-38	Intermediate	Sentinel	Annual	279141.38	802450.43	308.45	-1.0	139.9	15	154.9
MW-39	Fluvial	Performance	Semiannual	277280.67	802598.11	296.58	-0.3	95.5	20	115.5
MW-39A	Fluvial	Performance	Semiannual	277278.20	802607.72	298.49	0.0	147.9	20	167.9
MW-50	Fluvial	Boundary	Biennial	276455.81	807065.28	299.32	-0.5	115.0	10	125.0
MW-52	Fluvial	Performance	Annual	275371.97	805897.36	279.71	-0.5	94.0	10	104.0
MW-53	Fluvial	Background	Biennial	279176.66	805136.05	305.58	0.8	72.5	10	82.5
MW-55	Fluvial	Background	Biennial	279301.05	801204.62	292.48	-0.4	64.0	10	74.0
MW-62	Fluvial	Performance	Semiannual	278289.89	801858.16	294.10	-0.5	86.0	10	96.0
MW-63A	Fluvial/Intermediate	Sentinel	Annual	278200.31	803572.83	306.33	-0.4	140.0	10	150.0
MW-63B	Fluvial/Intermediate	Sentinel	Annual	278201.32	803557.77	306.22	-0.4	115.0	10	125.0
MW-64	Fluvial	Performance	Semiannual	276951.52	805005.97	304.46	-0.2	102.0	10	112.0
MW-66A	Fluvial	Background	Biennial	276626.02	799792.63	284.34	-0.1	74.6	20	94.6
MW-85	Fluvial	Performance	Semiannual	276704.14	806064.51	304.50	-0.4	95.9	15	110.9
MW-88	Fluvial	Performance	Semiannual	276879.05	806512.88	305.47	-0.3	82.0	15	97.0
MW-89	Intermediate	Sentinel	Annual	278286.97	802555.25	304.38	-0.4	147.0	30	177.0
MW-90	Intermediate	Sentinel	Semiannual	278283.60	802539.51	304.64	-0.5	115.0	30	145.0
MW-92	Fluvial	Performance	Semiannual	276614.20	806489.66	304.78	-0.4	93.0	15	108.0
MW-93	Fluvial	Boundary	Biennial	275542.22	804440.10	294.31	-0.2	92.0	15	107.0
MW-94A	Fluvial	Performance	Semiannual	276805.80	803085.80	303.23	-0.2	109.6	10	119.6
MW-96	Fluvial	Performance	Annual	276310.14	806320.24	289.67	-0.7	75.5	20	95.5
MW-97	Fluvial	Performance	Semiannual	276074.23	802139.23	297.70	-0.3	97.5	20	117.5
MW-98	Fluvial	Performance	Semiannual	276891.37	802572.77	294.93	-0.5	137.0	10	147.0
MW-99	Fluvial	Background	Biennial	277443.37	801114.53	285.69	-0.4	91.5	20	111.5
MW-100B	Fluvial	Performance	Semiannual	276600.65	800854.43	291.60	-0.5	107.5	20	127.5

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LTM WELLS
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Well	Aquifer	Well Classification	Sample Frequency	Northing (ft)	Easting (ft)	Ground Elevation (ft, msl)	Stick Up (ft)	Riser Length (ft)	Screen Length (ft)	Total Well Depth (ft, btoc)
MW-101	Fluvial	Performance	Semiannual	276204.27	801110.38	291.99	-0.3	89.0	15	104.0
MW-102B	Fluvial	Boundary	Biennial	275760.59	800707.72	312.07	-0.7	120.5	20	140.5
MW-103	Fluvial	Performance	Annual	278690.88	805159.83	301.89	-0.5	70.0	20	90.0
MW-104	Fluvial	Performance	Annual	278676.47	805417.03	292.18	-0.2	70.5	20	90.5
MW-107	Fluvial/Intermediate	Sentinel	Annual	278419.07	803009.93	305.18	-0.3	128.0	15	143.0
MW-108	Fluvial/Intermediate	Sentinel	Semiannual	277658.02	802985.53	303.25	-0.2	160.0	10	170.0
MW-113	Fluvial	Performance	Semiannual	276685.34	806279.10	304.92	-0.1	96.0	10	106.0
MW-140	Intermediate	Sentinel	Annual	279061.29	801715.68	298.16	0.0	224.6	20	244.6
MW-141	Intermediate	Sentinel	Semiannual	278019.19	802571.25	303.70	0.0	148.7	20	168.7
MW-142	Fluvial	Performance	Annual	278056.03	801629.12	291.49	-0.3	85.0	20	105.0
MW-143	Fluvial	Background	Semiannual	278301.27	801201.33	290.74	-0.2	78.5	20	98.5
MW-197A	Fluvial	Performance	Semiannual	276975.42	802042.30	291.54	-0.3	162.0	15	177.0
MW-197B	Fluvial	Performance	Semiannual	276973.14	802036.92	291.43	-0.4	94.2	15	109.2
MW-198	Fluvial	Performance	Annual	277775.67	802141.93	291.80	-0.3	90.0	15	105.0
MW-199A	Intermediate	Sentinel	Annual	277756.40	802573.52	301.84	-0.3	146.1	15	161.1
MW-199B	Fluvial	Performance	Semiannual	277751.74	802575.66	302.07	-0.3	104.6	15	119.6
MW-200	Fluvial	Performance	Semiannual	277006.10	802859.39	300.51	-0.3	102.9	15	117.9
MW-202A	Intermediate	Sentinel	Annual	278685.74	802111.27	299.69	-0.5	176.2	15	191.2
MW-202B	Intermediate	Sentinel	Semiannual	278692.79	802112.04	299.74	-0.2	118.8	15	133.8
MW-203A	Fluvial	Performance	Semiannual	276841.61	801740.37	290.78	-0.2	142.9	15	158.0
MW-203B	Fluvial	Performance	Semiannual	276821.58	801741.76	290.75	-0.2	92.8	15	107.8
MW-204A	Fluvial	Performance	Semiannual	276724.66	802168.25	292.49	-0.3	133.3	15	148.3
MW-204B	Fluvial	Performance	Semiannual	276707.82	802167.00	292.67	-0.4	94.5	15	109.5
MW-205A	Fluvial	Performance	Semiannual	277157.28	802277.37	292.32	-0.4	141.0	15	156.0
MW-205B	Fluvial	Performance	Semiannual	277173.13	802277.76	292.04	-0.2	97.0	15	112.0
MW-206A	Fluvial	Performance	Semiannual	277219.28	802792.28	300.35	-0.4	127.3	15	142.4
MW-206B	Fluvial	Performance	Semiannual	277200.85	802794.78	300.12	-0.2	96.7	15	111.7
MW-207A	Fluvial	Sentinel	Semiannual	277652.65	803191.86	303.99	-0.2	149.7	15	164.7
MW-207B	Fluvial	Sentinel	Semiannual	277665.39	803193.06	304.03	-0.2	108.3	15	123.3
MW-208A	Fluvial	Performance	Semiannual	277382.04	802799.25	301.91	-0.4	183.4	15	198.5
MW-208B	Fluvial	Performance	Semiannual	277396.90	802814.96	302.08	-0.3	106.7	15	121.7
MW-209A	Intermediate	Sentinel	Annual	277574.28	802507.10	298.36	-0.3	189.0	15	204.0
MW-209B	Fluvial	Performance	Semiannual	277581.50	802520.13	298.72	-0.2	102.3	15	117.3

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Well	Aquifer	Well Classification	Sample Frequency	Northing (ft)	Easting (ft)	Ground Elevation (ft, msl)	Stick Up (ft)	Riser Length (ft)	Screen Length (ft)	Total Well Depth (ft, btoc)
MW-210A	Intermediate	Sentinel	Semiannual	277238.49	801958.05	289.78	-0.1	177.1	15	192.0
MW-210B	Fluvial	Performance	Semiannual	277228.18	801951.94	289.53	-0.2	97.0	15	112.0
MW-211	Intermediate	Sentinel	Annual	278000.59	802973.69	304.09	-0.4	166.3	15	181.3
MW-212	Fluvial	Performance	Semiannual	278028.36	802225.44	295.68	-0.3	85.7	15	100.7
MW-213	Fluvial	Performance	Semiannual	278426.83	801668.99	294.12	-0.3	76.9	15	91.9
MW-214A	Fluvial	Performance	Annual	277877.62	803906.94	303.96	-0.4	119.1	15	134.1
MW-214B	Fluvial	Performance	Annual	277875.84	803922.20	303.96	-0.3	101.6	15	116.6
MW-215A	Fluvial	Performance	Annual	277298.37	804164.31	304.86	-0.4	128.8	15	143.8
MW-215B	Fluvial	Performance	Annual	277298.27	804177.33	304.98	-0.4	105.4	15	120.4
MW-216	Fluvial	Performance	Annual	276024.68	801995.93	297.63	-0.3	99.9	15	115.0
MW-217	Fluvial	Performance	Semiannual	276670.60	805213.69	304.51	-0.3	101.8	15	116.8
MW-218	Fluvial	Performance	Semiannual	276936.70	805628.44	306.00	-0.4	98.9	15	114.0
MW-219	Fluvial	Boundary	Semiannual	276429.60	800460.96	295.07	-0.2	97.7	15	112.8
MW-229	Intermediate	Sentinel	Annual	279293.98	802836.28	311.99	-0.2	188.4	20	208.4
MW-252	Intermediate	Sentinel	TBD	278789.21	801364.70	294.40	-0.2	126.1	20	146.1
MW-253	Intermediate	Sentinel	TBD	278287.43	801191.42	290.80	-0.3	118.3	20	138.3
MW-254	Memphis	Sentinel	TBD	279334.36	800857.53	293.28	-0.4	285.8	20	305.8
MW-255	Memphis	Sentinel	TBD	279304.76	801226.84	292.38	-0.5	284.7	20	304.7
MW-256	Intermediate	Sentinel	TBD	279301.82	801243.80	293.40	-0.7	127.1	20	147.1
PMW21-03	Fluvial	Performance	Semiannual	276573.43	800742.52	292.72	-0.6	90.3	20	110.3
PMW21-05	Fluvial	Performance	Semiannual	276628.32	801129.72	288.92	-0.4	94.3	20	114.3
PMW92-03	Fluvial	Performance	Semiannual	276678.91	806438.66	304.17	-0.3	92.5	10	102.5
PMW92-06	Fluvial	Performance	Semiannual	276766.94	806270.66	304.97	-0.3	91.6	10	101.6
PMW101-04A	Fluvial	Performance	Semiannual	276299.41	801182.12	291.43	-0.4	117.9	20	137.9
PMW101-04B	Fluvial	Performance	Semiannual	276296.40	801186.86	291.75	-0.3	98.6	20	118.6
PZ-03	Fluvial	Performance	Annual	276379.33	802941.05	298.98	-0.5	108.9	10	118.9
DR1-1	Fluvial	Performance	Annual	276300.45	800855.38	293.26	-0.2	121.7	20	141.7
DR1-1A	Fluvial	Performance	Annual	276307.37	800863.15	293.29	-0.2	89.3	20	109.3
DR1-2	Fluvial	Performance	Annual	276536.56	801152.64	290.28	-0.2	97.8	20	117.8
DR1-3	Fluvial	Performance	Semiannual	276527.27	801415.91	291.11	-0.2	109.7	20	129.7
DR1-4	Fluvial	Performance	Annual	276231.20	801399.53	293.00	-0.2	106.3	20	126.3
DR1-5	Fluvial	Performance	Semiannual	276079.76	800828.18	294.88	-0.4	125.2	20	145.2
DR1-5A	Fluvial	Performance	Semiannual	276086.88	800835.32	294.88	-0.3	89.7	20	109.7

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Well	Aquifer	Well Classification	Sample Frequency	Northing (ft)	Easting (ft)	Ground Elevation (ft, msl)	Stick Up (ft)	Riser Length (ft)	Screen Length (ft)	Total Well Depth (ft, btoc)
DR1-6	Fluvial	Performance	Semiannual	276044.05	801103.49	293.44	-0.5	115.8	20	135.8
DR1-6A	Fluvial	Performance	Semiannual	276035.13	801103.29	293.52	-0.4	90.8	20	110.8
DR1-7	Fluvial	Performance	Annual	276791.26	801441.36	289.46	-0.3	108.3	20	128.3
DR1-8	Fluvial	Performance	Annual	276752.46	800875.44	290.37	-0.4	92.7	20	112.7
DR2-1	Fluvial	Performance	Semiannual	276772.10	806497.62	305.08	-0.2	73.9	20	93.9
DR2-2	Fluvial	Performance	Semiannual	276771.06	806658.74	304.49	-0.1	79.0	20	99.0
DR2-3	Fluvial	Performance	Semiannual	276539.12	806203.16	303.66	-0.2	93.0	20	113.0
DR2-4	Fluvial	Performance	Annual	276455.68	806632.64	303.80	-0.3	88.0	20	108.0
DR2-5	Fluvial	Performance	Semiannual	276830.90	806180.36	305.55	-0.1	85.0	20	105.0
DR2-6	Fluvial	Performance	Semiannual	276643.99	805860.91	304.92	-0.2	94.6	20	114.6

Notes:

ft: feet

ft, btoc: feet below top of casing

ft, msl: feet mean seal level

TABLE 2
LTM SAMPLE SCHEDULE
ANNUAL LONG TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

Well ID	Well Type	Current Sample Frequency	Semiannual Apr-2011	Annual Oct-11
MW-16	Background	Biennial	-	-
MW-19	Background	Biennial	-	-
MW-21	Performance	Semiannual	X	X
MW-22	Boundary	Biennial	-	-
MW-23	Boundary	Biennial	-	-
MW-24	Boundary	Biennial	-	-
MW-25A	Performance	Annual	-	X
MW-26	Performance	Semiannual	X	X
MW-34	Sentinel	Annual	-	X
MW-38	Sentinel	Annual	-	X
MW-39	Performance	Semiannual	X	X
MW-39A	Performance	Semiannual	X	X
MW-50	Boundary	Biennial	-	-
MW-52	Performance	Annual	-	X
MW-53	Background	Biennial	-	-
MW-55	Background	Biennial	-	-
MW-62	Performance	Semiannual	X	X
MW-63A	Sentinel	Annual	-	X
MW-63B	Sentinel	Annual	-	X
MW-64	Performance	Semiannual	X	X
MW-66A	Background	Biennial	-	-
MW-85	Performance	Semiannual	X	X
MW-88	Performance	Semiannual	X	X
MW-89	Sentinel	Annual	-	X
MW-90	Sentinel	Semiannual	X	X
MW-92	Performance	Semiannual	X	X
MW-93	Boundary	Biennial	-	-
MW-94A	Performance	Semiannual	X	X
MW-96	Performance	Annual	-	X
MW-97	Performance	Semiannual	X	X
MW-98	Performance	Semiannual	X	X
MW-99	Background	Biennial	-	-
MW-100B	Performance	Semiannual	X	X
MW-101 ¹	Performance	Semiannual	X	X
MW-102B	Boundary	Biennial	-	-
MW-103	Performance	Annual	-	X
MW-104	Performance	Annual	-	X
MW-107 ¹	Sentinel	Annual	-	X
MW-108	Sentinel	Semiannual	X	X
MW-113	Performance	Semiannual	X	X
MW-140	Sentinel	Annual	-	X
MW-141	Sentinel	Semiannual	X	X
MW-142	Performance	Annual	-	X
MW-143	Background	Semiannual	X	X
MW-197A	Performance	Semiannual	X	X

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Well ID	Well Type	Current Sample Frequency	Semiannual Apr-2011	Annual Oct-11
MW-197B	Performance	Semiannual	X	X
MW-198	Performance	Annual	-	X
MW-199A	Sentinel	Annual	-	X
MW-199B	Performance	Semiannual	X	X
MW-200	Performance	Semiannual	X	X
MW-202A	Sentinel	Annual	-	X
MW-202B	Sentinel	Semiannual	X	X
MW-203A	Performance	Semiannual	X	X
MW-203B	Performance	Semiannual	X	X
MW-204A	Performance	Semiannual	X	X
MW-204B	Performance	Semiannual	X	X
MW-205A	Performance	Semiannual	X	X
MW-205B	Performance	Semiannual	X	X
MW-206A	Performance	Semiannual	X	X
MW-206B	Performance	Semiannual	X	X
MW-207A	Sentinel	Semiannual	X	X
MW-207B	Sentinel	Semiannual	X	X
MW-208A	Performance	Semiannual	X	X
MW-208B	Performance	Semiannual	X	X
MW-209A	Sentinel	Annual	-	X
MW-209B	Performance	Semiannual	X	X
MW-210A	Sentinel	Semiannual	X	X
MW-210B	Performance	Semiannual	X	X
MW-211	Sentinel	Annual	-	X
MW-212	Performance	Semiannual	X	X
MW-213	Performance	Semiannual	NS	NS
MW-214A	Performance	Annual	-	X
MW-214B	Performance	Annual	-	X
MW-215A	Performance	Annual	-	X
MW-215B	Performance	Annual	-	X
MW-216	Performance	Annual	-	X
MW-217	Performance	Semiannual	X	X
MW-218	Performance	Semiannual	X	X
MW-219	Boundary	Semiannual	X	X
MW-229	Sentinel	Annual	-	X
MW-252	Sentinel	TBD	X	X
MW-253	Sentinel	TBD	X	X
MW-254	Sentinel	TBD	X	X
MW-255	Sentinel	TBD	X	X
MW-256	Sentinel	TBD	X	X
PMW21-03	Performance	Semiannual	X	X
PMW21-05	Performance	Semiannual	X	X
PMW92-03	Performance	Semiannual	X	X
PMW92-06	Performance	Semiannual	X	X
PMW101-04A	Performance	Semiannual	X	X

TABLE 2
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Well ID	Well Type	Current Sample Frequency	Semiannual Apr-2011	Annual Oct-11
PMW101-04B	Performance	Semiannual	X	X
PZ-03	Performance	Annual	-	X
DR1-1	Performance	Annual	-	X
DR1-1A	Performance	Annual	-	X
DR1-2	Performance	Annual	-	X
DR1-3	Performance	Semiannual	X	X
DR1-4	Performance	Annual	-	X
DR1-5	Performance	Semiannual	X	X
DR1-5A	Performance	Semiannual	X	X
DR1-6	Performance	Semiannual	X	X
DR1-6A	Performance	Semiannual	X	X
DR1-7	Performance	Annual	-	X
DR1-8	Performance	Annual	-	X
DR2-1	Performance	Semiannual	X	X
DR2-2	Performance	Semiannual	X	X
DR2-3	Performance	Semiannual	X	X
DR2-4	Performance	Annual	-	X
DR2-5	Performance	Semiannual	X	X
DR2-6	Performance	Semiannual	X	X

Notes:

- 1) Samples collected from two screened intervals in MW-101 and MW-108
- X: Sample Collected
- NS: Sample planned but not collected
- TBD: To be determined
- : Sample not planned or collected

TABLE 3
WATER LEVEL MEASUREMENTS
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Well ID	Aquifer	Top of Casing Elevation (ft, msl)	Top of Screen Elevation (ft, msl)	Depth to Water (ft, btoc)	Groundwater Elevation 30-Mar-11 (ft, msl)	Depth to Water (ft, btoc)	Groundwater Elevation 28 to 29-Sep-11 (ft, msl)
DR1-1	Fluvial	293.09	171.42	88.66	204.43	88.35	204.74
DR1-1A	Fluvial	293.13	203.79	88.60	204.53	88.29	204.84
DR1-2	Fluvial	290.08	192.28	86.66	203.42	86.38	203.70
DR1-3	Fluvial	290.93	181.26	88.51	202.42	88.21	202.72
DR1-4	Fluvial	292.78	186.50	88.88	203.90	88.50	204.28
DR1-5	Fluvial	294.50	169.28	89.85	204.65	89.53	204.97
DR1-5A	Fluvial	294.61	204.88	89.93	204.68	89.60	205.01
DR1-6	Fluvial	292.98	177.14	88.60	204.38	88.20	204.78
DR1-6A	Fluvial	293.14	202.32	88.69	204.45	88.29	204.85
DR1-7	Fluvial	289.15	180.86	87.00	202.15	86.73	202.42
DR1-8	Fluvial	290.02	197.37	85.93	204.09	85.62	204.40
DR2-1	Fluvial	304.90	231.00	86.85	218.05	86.65	218.25
DR2-2	Fluvial	304.37	225.37	80.69	223.68	80.90	223.47
DR2-3	Fluvial	303.44	210.44	94.92	208.52	94.66	208.78
DR2-4	Fluvial	303.47	215.47	92.30	211.17	92.19	211.28
DR2-5	Fluvial	305.44	220.44	94.30	211.14	94.27	211.17
DR2-6	Fluvial	304.70	210.10	98.53	206.17	98.20	206.50
MW-16	Fluvial	299.86	242.26	56.75	243.11	56.70	243.16
MW-19	Fluvial	290.57	207.47	83.79	206.78	83.80	206.77
MW-21	Fluvial	295.00	202.90	89.59	205.41	89.26	205.74
MW-22	Fluvial	298.04	202.64	92.44	205.60	NM	-
MW-23	Fluvial	298.99	197.79	94.74	204.25	NM	-
MW-24	Fluvial	299.51	202.21	100.69	198.82	100.63	198.88
MW-25A	Fluvial	269.88	196.88	67.94	201.94	67.78	202.10
MW-26	Fluvial	303.69	206.09	96.82	206.87	96.48	207.21
MW-34	Intermediate	299.97	163.37	127.42	172.55	131.80	168.17
MW-38	Intermediate	307.45	167.55	123.64	183.81	126.00	181.45
MW-39	Fluvial	296.28	200.78	98.60	197.68	98.58	197.70
MW-39A	Fluvial	298.45	150.53	98.91	199.54	98.94	199.51
MW-50	Fluvial	298.82	183.82	83.64	215.18	83.70	215.12
MW-52	Fluvial	279.26	185.26	76.01	203.25	75.75	203.51
MW-53	Fluvial	306.38	233.88	72.91	233.47	73.07	233.31
MW-55	Fluvial	292.08	228.08	70.16	221.92	69.90	222.18
MW-62	Fluvial	293.65	207.65	91.66	201.99	91.41	202.24
MW-63A	Fluvial/Intermediat	305.96	165.96	99.89	206.07	100.31	205.65
MW-63B	Fluvial/Intermediat	305.78	190.78	99.63	206.15	100.08	205.70
MW-64	Fluvial	304.21	202.21	103.55	200.66	103.46	200.75
MW-66A	Fluvial	284.22	209.60	75.95	208.27	75.67	208.55
MW-85	Fluvial	304.13	208.23	96.22	207.91	96.00	208.13
MW-88	Fluvial	305.15	223.15	78.14	227.01	78.05	227.10
MW-89	Intermediate	303.98	156.98	109.50	194.48	110.76	193.22
MW-90	Intermediate	304.19	189.19	110.11	194.08	111.23	192.96
MW-92	Fluvial	304.41	211.41	93.46	210.95	93.41	211.00
MW-93	Fluvial	294.08	202.08	96.26	197.82	96.24	197.84
MW-94A	Fluvial	303.00	193.38	103.87	199.13	103.84	199.16
MW-96	Fluvial	289.02	213.52	79.67	209.35	79.48	209.54

TABLE 3
WATER LEVEL MEASUREMENTS
ANNUAL LONG TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

Well ID	Aquifer	Top of Casing Elevation (ft, msl)	Top of Screen Elevation (ft, msl)	Depth to Water (ft, btoc)	Groundwater Elevation 30-Mar-11 (ft, msl)	Depth to Water (ft, btoc)	Groundwater Elevation 28 to 29-Sep-11 (ft, msl)
MW-97	Fluvial	297.44	199.94	94.77	202.67	94.48	202.96
MW-98	Fluvial	294.43	157.43	94.53	199.90	94.49	199.94
MW-99	Fluvial	285.33	193.83	83.19	202.14	82.87	202.46
MW-100B	Fluvial	291.06	183.56	86.77	204.29	86.60	204.46
MW-101T	Fluvial	291.70	202.70	87.35	204.35	86.97	204.73
MW-102B	Fluvial	311.40	190.90	105.21	206.19	104.81	206.59
MW-103	Fluvial	301.37	231.35	68.80	232.57	68.84	232.53
MW-104	Fluvial	291.98	225.26	58.44	233.54	58.51	233.47
MW-107T	Fluvial/Intermediat	304.92	176.92	103.70	201.22	104.35	200.57
MW-108	Fluvial/Intermediat	303.07	143.07	104.00	199.07	104.35	198.72
MW-113	Fluvial	304.81	208.81	94.92	209.89	94.67	210.14
MW-140	Intermediate	298.12	73.52	130.85	167.27	138.55	159.57
MW-141	Intermediate	303.71	155.01	107.78	195.93	108.75	194.96
MW-142	Fluvial	291.18	206.18	89.60	201.58	89.39	201.79
MW-143	Fluvial	290.56	212.06	86.90	203.66	86.61	203.95
MW-197A	Fluvial	291.26	129.30	90.91	200.35	90.75	200.51
MW-197B	Fluvial	291.03	196.88	90.79	200.24	90.68	200.35
MW-198	Fluvial	291.50	201.47	91.52	199.98	91.35	200.15
MW-199A	Intermediate	301.53	155.45	104.84	196.69	105.57	195.96
MW-199B	Fluvial	301.73	197.12	102.29	199.44	102.22	199.51
MW-200	Fluvial	300.18	196.98	101.05	199.13	101.00	199.18
MW-202A	Intermediate	299.23	122.73	117.81	181.42	119.72	179.51
MW-202B	Intermediate	299.51	180.42	117.78	181.73	118.82	180.69
MW-203A	Fluvial	290.59	147.65	89.93	200.66	89.39	201.20
MW-203B	Fluvial	290.51	197.68	89.44	201.07	89.31	201.20
MW-204A	Fluvial	292.21	158.95	91.95	200.26	91.84	200.37
MW-204B	Fluvial	292.32	197.83	91.98	200.34	91.85	200.47
MW-205A	Fluvial	291.93	150.96	92.20	199.73	92.15	199.78
MW-205B	Fluvial	291.82	194.82	91.99	199.83	91.92	199.90
MW-206A	Fluvial	299.92	172.58	100.86	199.06	100.87	199.05
MW-206B	Fluvial	299.90	203.18	100.80	199.10	100.84	199.06
MW-207A	Fluvial	303.78	154.13	104.75	199.03	105.02	198.76
MW-207B	Fluvial	303.83	195.58	104.68	199.15	104.81	199.02
MW-208A	Fluvial	301.50	118.05	102.53	198.97	102.51	198.99
MW-208B	Fluvial	301.79	195.13	102.73	199.06	102.77	199.02
MW-209A	Intermediate	298.05	109.07	100.81	197.24	101.25	196.80
MW-209B	Fluvial	298.49	196.17	99.50	198.99	99.02	199.47
MW-210A	Intermediate	289.66	112.60	95.33	194.33	96.55	193.11
MW-210B	Fluvial	289.29	192.33	89.21	200.08	89.10	200.19
MW-211	Intermediate	303.74	137.48	105.21	198.53	105.79	197.95
MW-212	Fluvial	295.34	209.69	95.34	200.00	95.09	200.25
MW-213	Fluvial	293.83	216.92	92.20	201.63	91.20	202.63
MW-214A	Fluvial	303.61	184.53	99.61	204.00	99.80	203.81
MW-214B	Fluvial	303.70	202.13	99.20	204.50	99.46	204.24
MW-215A	Fluvial	304.50	175.75	105.33	199.17	105.45	199.05
MW-215B	Fluvial	304.56	199.15	105.42	199.14	105.55	199.01

TABLE 3
WATER LEVEL MEASUREMENTS
ANNUAL LONG TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

Well ID	Aquifer	Top of Casing	Top of Screen	Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation
		Elevation (ft, msl)	Elevation (ft, msl)	(ft, btoc)	30-Mar-11 (ft, msl)	28 to 29-Sep-11 (ft, btoc)	28 to 29-Sep-11 (ft, msl)
MW-216	Fluvial	297.34	197.41	94.48	202.86	94.18	203.16
MW-217	Fluvial	304.18	202.39	103.89	200.29	103.75	200.43
MW-218	Fluvial	305.60	206.69	99.61	205.99	100.27	205.33
MW-219	Fluvial	294.90	197.16	89.25	205.65	88.92	205.98
MW-229	Intermediate	311.77	123.34	143.89	167.88	151.06	160.71
MW-252	Intermediate	294.16	168.36	126.04	168.12	131.82	162.34
MW-253	Intermediate	290.47	172.47	104.32	186.15	106.60	183.87
MW-254	Memphis	292.84	7.24	126.70	166.14	134.90	157.94
MW-255	Memphis	291.84	7.34	125.15	166.69	133.15	158.69
MW-256	Intermediate	292.68	166.68	125.10	167.58	130.65	162.03
PMW21-03	Fluvial	292.11	201.80	87.65	204.46	87.41	204.70
PMW21-05	Fluvial	288.53	194.28	85.56	202.97	85.28	203.25
PMW92-03	Fluvial	303.91	211.42	92.30	211.61	92.25	211.66
PMW92-06	Fluvial	304.65	213.02	93.29	211.36	93.17	211.48
PMW101-04A	Fluvial	291.07	173.13	87.40	203.67	87.02	204.05
PMW101-04B	Fluvial	291.47	192.91	87.95	203.52	87.55	203.92
PZ-03	Fluvial	298.51	189.61	99.00	199.51	99.05	199.46

Notes:

ft, btoc: feet below top of casing

ft, msl: feet mean sea level

NM: Not measured

TABLE 4
FINAL WELL STABILIZATION MEASUREMENTS, APRIL 2011
ANNUAL LONG TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

Well ID	Sample Date	Method	Time Sampled	Sample Pump Depth (ft, btoc)	Water Depth (ft, btoc)	Purge Rate (mL/min)	Volume Purged (L)	pH	Temp (°C)	Specific Conductivity (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTUs)
DR1-3	4/1/2011	low flow	10:37	121.6	88.40	45	3.1	5.9	15.6	0.359	3.83	-82.3	0.9
DR1-5	3/31/2011	low flow	15:18	136.3	89.75	320	7.9	5.9	18.5	0.314	23.46	135.1	0.9
DR1-5A	3/31/2011	low flow	15:58	102.3	89.82	320	6.3	5.9	18.2	0.141	20.45	147.3	1.0
DR1-6	4/1/2011	low flow	13:35	126.6	88.60	180	3.5	5.8	19.5	0.418	4.86	-108.4	2.1
DR1-6A	4/1/2011	low flow	14:06	102.8	88.69	240	4.5	5.6	19.7	0.171	5.51	-100.1	2.0
DR2-1	4/2/2011	low flow	14:19	92.3	87.60	60	1.1	5.7	24.6	0.260	3.89	-164.2	4.0
DR2-2	4/3/2011	low flow	11:34	88.6	82.80	80	3.0	5.4	22.6	0.267	4.66	-161.9	2.5
DR2-3	4/1/2011	low flow	15:40	102.6	94.10	120	3.2	5.5	19.7	0.335	4.57	-122.7	1.6
DR2-5	4/2/2011	low flow	16:32	98.6	94.90	100	3.1	5.3	22.9	0.230	3.01	-238.1	3.2
DR2-6	3/31/2011	low flow	13:59	109.2	98.41	140	4.4	6.0	20.1	0.220	3.73	-11.4	14.1
MW-21	4/1/2011	low flow	12:31	92.2	89.67	100	3.1	5.7	17.5	0.287	4.52	-98.0	1.9
MW-26	3/31/2011	low flow	12:41	104.1	96.73	100	3.1	5.6	18.2	0.309	5.99	46.2	0.7
MW-39	4/1/2011	low flow	13:15	110.1	100.20	200	4.0	6.3	18.3	0.385	12.87	131.0	4.2
MW-39A	4/1/2011	low flow	12:37	161.6	98.83	400	8.0	6.1	18.2	0.344	12.89	137.4	0.0
MW-62	4/3/2011	bailer	15:56	na	91.59	na	9.0	5.8	19.9	0.113	14.51	200.9	143.0
MW-64	3/31/2011	low flow	10:36	110.4	103.45	270	6.6	5.7	18.7	0.301	6.13	49.8	2.4
MW-85	4/3/2011	low flow	16:17	105.1	96.10	130	3.6	5.3	23.2	0.239	4.64	-210.0	7.8
MW-88	3/31/2011	low flow	16:24	87.0	81.43	100	3.0	6.0	18.4	0.361	4.83	-9.2	2.9
MW-90	4/1/2011	low flow	10:25	130.6	110.05	330	6.6	6.0	17.8	0.498	14.18	189.4	1.3
MW-92	4/2/2011	low flow	13:30	102.1	93.82	100	3.2	6.1	22.1	0.371	2.74	-189.4	3.3
MW-94A	4/2/2011	low flow	10:59	117.5	104.02	200	4.3	5.6	19.5	0.374	3.05	-187.2	14.2
MW-97	3/31/2011	low flow	14:41	109.2	94.62	135	3.6	5.7	19.0	0.155	5.45	-3.4	11.0
MW-98	4/1/2011	low flow	8:39	142.6	94.38	130	3.0	5.6	17.2	0.318	5.25	-97.0	7.0
MW-100B	4/4/2011	low flow	8:20	118.5	86.60	240	6.0	6.1	19.2	0.700	4.55	12.1	7.6
MW101T	4/5/2011	low flow	8:44	98.5	87.64	140	3.2	6.2	17.5	0.416	7.84	181.1	4.8
MW101B	4/5/2011	low flow	9:22	127.6	87.64	120	3.3	6.1	18.5	0.410	7.28	166.8	2.6
MW-108	4/1/2011	low flow	14:22	167.9	104.03	370	9.1	5.7	18.1	0.547	15.48	167.5	13.8
MW-113	3/31/2011	low flow	12:23	103.2	96.65	100	3.1	5.3	23.7	0.223	3.42	-214.4	1.7
MW-141	4/1/2011	low flow	11:09	161.0	107.75	310	6.3	5.8	17.3	0.532	15.67	183.1	0.8
MW-143	4/5/2011	low flow	9:08	86.0	87.20	260	6.4	5.5	16.6	0.240	8.03	-174.0	15.6
MW-197A	4/2/2011	low flow	15:49	170.4	91.02	380	9.6	6.1	18.4	0.310	7.30	116.9	12.5

TABLE 4
FINAL WELL STABILIZATION MEASUREMENTS, APRIL 2011
ANNUAL LONG TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

Well ID	Sample Date	Method	Time Sampled	Sample Pump Depth (ft, btoc)	Water Depth (ft, btoc)	Purge Rate (mL/min)	Volume Purged (L)	pH	Temp (°C)	Specific Conductivity (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTUs)
MW-197B	4/2/2011	low flow	16:51	102.6	90.90	330	11.1	6.3	18.4	0.372	5.92	81.3	19.1
MW-199B	4/2/2011	low flow	12:31	113.3	102.43	160	3.4	5.3	19.4	0.183	4.59	-131.3	2.1
MW-200	3/31/2011	low flow	15:32	112.0	100.80	200	7.7	5.9	17.7	0.369	3.64	-24.6	1.7
MW-202B	4/2/2011	low flow	9:34	129.9	120.03	160	4.0	5.4	19.3	0.548	4.77	-140.1	8.1
MW-203A	4/3/2011	low flow	13:11	150.5	89.40	210	4.2	5.9	19.9	0.330	5.46	179.7	1.0
MW-203B	4/3/2011	low flow	13:47	100.3	89.40	180	3.6	6.2	20.3	0.388	6.30	97.1	3.7
MW-204A	4/2/2011	low flow	8:54	139.0	92.10	310	7.7	6.2	17.8	0.394	9.55	177.9	4.5
MW-204B	4/2/2011	low flow	8:14	100.5	92.10	170	3.3	6.1	17.2	0.320	12.11	190.0	5.5
MW-205A	4/2/2011	low flow	10:22	147.0	92.34	260	8.7	6.1	18.5	0.331	8.14	132.5	3.3
MW-205B	4/2/2011	low flow	9:33	103.1	92.13	170	3.4	6.3	18.6	0.368	9.03	130.9	8.3
MW-206A	4/2/2011	low flow	13:13	134.8	101.00	380	9.4	6.1	18.9	0.296	6.11	105.4	4.4
MW-206B	4/2/2011	low flow	12:29	107.9	101.00	200	4.0	6.0	19.2	0.256	7.53	158.0	3.5
MW-207A	4/1/2011	low flow	15:55	157.2	104.65	220	4.4	5.7	19.1	0.553	15.22	191.8	2.2
MW-207B	4/1/2011	low flow	15:18	115.6	104.60	90	3.1	5.8	18.7	0.359	15.20	181.3	0.4
MW-208A	4/1/2011	low flow	14:45	191.0	102.98	130	3.3	6.2	19.9	0.277	5.80	-107.1	3.1
MW-208B	4/2/2011	low flow	13:54	114.2	102.90	260	5.2	6.2	19.9	0.277	5.80	-107.1	3.1
MW-209B	4/2/2011	low flow	8:51	108.3	99.13	60	3.1	5.5	17.4	0.146	5.90	-122.1	2.5
MW-210A	4/3/2011	low flow	12:19	184.5	95.22	280	6.9	6.0	19.7	0.298	11.38	187.4	11.7
MW-210B	4/3/2011	low flow	11:14	104.5	89.20	210	4.2	5.9	19.6	0.231	12.69	194.0	5.9
MW-212	4/3/2011	bailer	15:08	na	95.20	na	10.8	5.8	19.1	0.134	16.64	167.2	854.0
MW-213	-	-	-	DRY	DRY	-	-	-	-	-	-	-	-
MW-217	3/31/2011	low flow	11:21	111.0	103.80	110	3.2	5.5	17.6	0.220	4.99	44.3	103.8
MW-218	4/3/2011	low flow	10:25	108.2	100.56	100	3.6	5.6	22.9	0.272	5.21	-171.6	2.5
MW-219	4/3/2011	low flow	10:24	105.2	89.23	230	7.0	6.0	18.7	0.289	13.06	176.3	1.6
MW-252	3/31/2011	low flow	12:57	138.2	126.20	500	10.0	6.0	18.6	0.242	18.25	125.2	3.2
MW-253	3/31/2011	low flow	13:48	124.2	107.00	470	14.0	6.1	18.2	0.259	21.38	44.6	2.6
MW-254	3/31/2011	low flow	11:20	295.8	127.00	190	6.1	6.2	18.0	0.248	21.69	150.4	17.3
MW-255	3/31/2011	low flow	10:15	294.7	125.50	500	18.0	6.0	18.4	0.264	12.62	107.3	10.0
MW-256	3/31/2011	low flow	9:24	137.1	125.09	450	8.9	5.8	18.2	0.448	11.72	169.1	16.0
PMW21-03	4/4/2011	low flow	10:59	101.2	87.49	240	4.7	5.3	19.2	0.283	5.44	-8.8	4.2
PMW101-04A	4/4/2011	low flow	9:15	128.8	87.20	90	3.2	6.6	19.3	0.522	5.52	-79.2	18.6

TABLE 4
 FINAL WELL STABILIZATION MEASUREMENTS, APRIL 2011
 ANNUAL LONG TERM MONITORING REPORT - 2011
 Main Installation - Defense Depot Memphis, Tennessee

Well ID	Sample Date	Method	Time Sampled	Sample Pump Depth (ft, btoc)	Water Depth (ft, btoc)	Purge Rate (mL/min)	Volume Purged (L)	pH	Temp (°C)	Specific Conductivity (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTUs)
PMW101-04B	4/4/2011	low flow	11:03	109.5	87.66	100	3.3	5.8	19.7	0.254	5.06	79.5	19.8
PMW21-05	4/4/2011	low flow	10:12	105.1	85.35	180	5.5	5.4	20.2	0.273	0.82	-78.0	2.0
PMW92-06	4/2/2011	low flow	15:28	98.9	93.49	100	3.3	5.2	23.6	0.223	2.98	-202.9	3.3
PMW92-03	4/3/2011	low flow	14:25	98.6	92.85	90	3.2	6.2	23.8	0.549	3.12	-191.6	1.0

Notes:

°C :	degrees Celsius	mS/cm:	milliSiemens per centimeter
DO:	Dissolved Oxygen	mV:	millivolts
ft, btoc:	feet below top of casing	NA:	not available
L:	liters	NTU:	nephelometric turbidity unit
mg/L:	milligrams per liter	ORP:	Oxidation Reduction Potential
mL/min:	milliliters per minute		

TABLE 5
FINAL WELL STABILIZATION MEASUREMENTS, OCTOBER 2011
ANNUAL LONG TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

Well ID	Sample Date	Method	Time Sampled	Sample Pump Depth (ft, btoc)	Water Depth (ft, btoc)	Purge Rate (mL/min)	Volume Purged (L)	(pH)	Temp (°C)	Specific Conductivity (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTUs)
DR1-1	10/6/2011	low flow	10:50	133.8	88.45	59	3.2	6.1	24.2	0.335	2.5	175	0
DR1-1A	10/6/2011	low flow	11:53	101.3	88.37	111	4.4	6.2	22.8	0.314	0.5	170	1
DR1-2	10/5/2011	low flow	12:26	109.1	87.45	127	3.2	6.1	22.5	0.431	6.7	167	0
DR1-3	10/4/2011	low flow	9:45	121.6	88.49	99	3.5	6.0	20.7	0.273	1.3	18	2
DR1-4	10/4/2011	low flow	12:54	117.6	88.70	160	4.0	6.0	21.0	0.366	1.2	140	2
DR1-5	10/4/2011	low flow	14:55	136.3	89.64	94	3.1	5.8	24.3	0.307	5.5	149	2
DR1-5A	10/4/2011	low flow	13:58	102.3	89.75	200	7.6	5.7	22.2	0.136	8.8	159	4
DR1-6	10/4/2011	low flow	11:07	126.6	88.45	172	4.3	6.0	21.9	0.374	6.1	140	2
DR1-6A	10/4/2011	low flow	12:00	102.8	88.51	236	5.9	5.8	21.6	0.122	7.2	159	3
DR1-7	10/4/2011	low flow	18:43	120.3	87.00	172	3.4	6.0	18.9	0.283	6.1	86	9
DR1-8	10/6/2011	low flow	9:24	103.5	85.75	136	3.4	6.0	20.9	0.277	8.1	194	0
DR2-1	10/2/2011	low flow	8:14	92.3	86.74	136	3.4	5.9	20.0	0.182	7.8	93	9
DR2-2	10/2/2011	low flow	8:55	88.6	80.76	113	3.4	5.7	20.4	0.193	5.9	112	5
DR2-3	10/2/2011	low flow	11:12	102.6	94.79	86	3.0	5.7	21.4	0.291	5.6	127	0
DR2-4	10/2/2011	low flow	10:13	102.0	92.36	120	3.0	5.7	21.6	0.262	5.4	107	7
DR2-5	10/2/2011	low flow	13:28	98.6	94.39	120	3.0	5.6	24.2	0.167	1.5	100	6
DR2-6	10/3/2011	low flow	14:58	109.2	98.18	83	2.9	5.7	22.1	0.285	6.6	-152	2
MW-21	10/6/2011	low flow	8:30	92.2	89.32	126	3.8	6.0	18.9	0.266	10.6	204	1
MW-25A	10/7/2011	low flow	12:47	79.0	67.85	250	5.0	5.7	18.9	0.388	0.1	174	1
MW-26	10/3/2011	low flow	14:03	104.1	96.61	78	3.1	5.5	21.9	0.331	8.4	-89	0
MW-34	10/9/2011	low flow	10:44	148.9	132.18	36	2.5	5.9	24.2	0.185	4.9	178	6
MW-38	10/3/2011	low flow	11:22	147.0	126.32	139	4.2	6.4	20.6	0.212	1.7	119	1
MW-39	10/6/2011	low flow	8:26	110.1	98.60	107	3.2	6.2	19.7	0.442	8.5	124	2
MW-39A	10/5/2011	low flow	14:56	161.6	98.95	180	10.8	6.0	21.4	0.358	0.2	103	1
MW-52	10/7/2011	low flow	13:32	97.4	75.80	293	5.9	5.9	20.1	0.899	0.1	149	1
MW-62	10/8/2011	bailer	8:50	na	91.50	1100	7.1	6.3	18.6	0.216	11.6	171	344
MW-63A	10/6/2011	low flow	14:58	136.1	100.38	300	6.0	5.8	21.2	0.385	4.5	192	0
MW-63B	10/7/2011	low flow	9:25	120.8	100.30	265	26.5	5.7	20.6	0.600	0.2	197	1
MW-64	10/3/2011	low flow	15:50	110.4	103.59	160	4.0	5.6	22.1	0.351	8.1	-124	8
MW-85	10/9/2011	low flow	10:51	105.1	95.96	145	4.8	6.3	21.8	0.203	6.5	50	16

TABLE 5
FINAL WELL STABILIZATION MEASUREMENTS, OCTOBER 2011
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Main Installation - Defense Depot Memphis, Tennessee

Well ID	Sample Date	Method	Time Sampled	Sample Pump Depth (ft, btoc)	Water Depth (ft, btoc)	Purge Rate (mL/min)	Volume Purged (L)	(pH)	Temp (°C)	Specific Conductivity (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTUs)
MW-88	10/2/2011	low flow	14:17	87.0	78.15	141	3.8	5.9	22.9	0.254	5.2	117	3
MW-89	10/1/2011	low flow	15:04	164.3	111.10	133	4.0	5.9	20.8	0.220	7.0	184	0
MW-90	10/1/2011	low flow	13:58	130.6	111.60	128	3.2	5.8	22.0	0.630	5.7	184	1
MW-92	10/3/2011	low flow	9:53	102.1	93.49	65	1.6	6.1	22.6	0.340	8.6	-21	3
MW-94A	10/4/2011	low flow	8:23	117.5	104.00	153	4.6	5.9	19.5	0.401	8.1	-158	1
MW-96	10/7/2011	low flow	11:41	89.2	79.50	207	12.4	5.9	20.8	0.194	0.2	154	0
MW-97	10/5/2011	low flow	15:52	109.2	94.42	144	5.8	5.8	21.3	0.232	6.3	186	19
MW-98	10/4/2011	low flow	15:10	142.6	94.60	200	4.0	5.7	21.1	0.288	3.3	124	20
MW-100B	10/7/2011	low flow	14:05	118.5	86.75	60	3.3	6.4	26.2	0.639	1.2	-59	11
MW101B	10/7/2011	low flow	12:11	127.6	87.18	73	4.6	6.1	22.1	0.464	9.5	173	14
MW101T	10/7/2011	low flow	10:42	98.5	87.15	55	3.0	6.2	24.6	0.463	11.0	175	7
MW-103	10/7/2011	low flow	15:22	80.0	68.40	204	5.1	5.6	21.3	0.846	0.1	164	15
MW-104	10/9/2011	low flow	8:45	77.2	58.57	176	10.5	5.6	20.0	0.794	2.2	223	4
MW-107B	10/8/2011	low flow	10:10	153.0	104.55	118	4.1	5.8	20.9	0.170	3.5	172	15
MW-107T	10/8/2011	low flow	9:18	136.0	104.55	46	3.0	5.9	20.2	0.168	5.8	188	3
MW-108	10/6/2011	low flow	10:37	167.9	104.44	370	7.4	5.6	19.2	0.655	4.8	207	9
MW-113	10/3/2011	low flow	12:54	103.2	94.79	120	12.0	5.4	23.1	0.242	7.3	-141	0
MW-140	10/3/2011	low flow	10:20	238.5	138.42	126	6.3	5.7	19.6	0.205	5.4	66	1
MW-141	10/2/2011	low flow	15:10	161.0	109.05	127	3.2	5.7	21.8	0.529	2.8	211	2
MW-142	10/9/2011	low flow	8:20	96.9	89.36	107	3.2	5.8	20.2	0.351	11.1	191	4
MW-143	10/7/2011	low flow	9:02	86.0	86.76	164	3.3	5.9	20.4	0.287	14.3	160	16
MW-197A	10/5/2011	low flow	10:52	170.4	90.84	102	4.1	6.1	20.1	0.330	2.4	94	5
MW-197B	10/5/2011	low flow	9:55	102.6	97.50	263	31.6	6.3	18.8	0.374	2.1	70	0
MW-198	10/8/2011	low flow	11:06	100.5	91.46	140	3.5	5.9	22.7	0.145	2.3	185	3
MW-199A	10/3/2011	low flow	13:18	154.6	105.85	189	5.7	5.8	20.3	0.202	5.7	103	17
MW-199B	10/3/2011	low flow	13:48	113.3	102.40	284	5.7	5.8	20.0	0.143	7.8	115	1
MW-200	10/4/2011	low flow	9:28	112.0	101.21	233	4.7	5.8	18.6	0.411	8.1	-181	1
MW-202A	10/1/2011	low flow	9:07	185.0	120.10	106	5.8	5.8	19.7	0.250	13.6	164	2
MW-202B	10/1/2011	low flow	11:58	129.9	119.29	73	7.7	5.8	21.7	0.470	6.2	190	13
MW-203A	10/5/2011	low flow	12:28	150.5	89.45	303	6.1	5.8	19.4	0.318	1.2	176	2

TABLE 5
FINAL WELL STABILIZATION MEASUREMENTS, OCTOBER 2011
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Well ID	Sample Date	Method	Time Sampled	Sample Pump Depth (ft, btoc)	Water Depth (ft, btoc)	Purge Rate (mL/min)	Volume Purged (L)	(pH)	Temp (°C)	Specific Conductivity (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTUs)
MW-203B	10/5/2011	low flow	13:22	100.3	89.35	203	7.1	6.1	20.4	0.361	1.5	134	3
MW-204A	10/4/2011	low flow	12:57	139.0	92.00	149	4.5	6.0	20.6	0.430	1.3	180	2
MW-204B	10/4/2011	low flow	14:29	100.5	91.95	217	15.2	6.0	20.1	0.375	3.2	126	0
MW-205A	10/4/2011	low flow	8:44	147.0	92.21	147	5.9	6.1	19.4	0.366	7.5	149	1
MW-205B	10/4/2011	low flow	9:34	103.1	92.10	155	4.6	6.2	19.7	0.385	4.4	137	1
MW-206A	10/4/2011	low flow	10:42	134.8	101.10	67	3.0	5.8	20.8	0.397	8.4	-172	2
MW-206B	10/4/2011	low flow	11:49	107.9	101.04	75	3.0	5.7	21.0	0.355	7.5	-154	1
MW-207A	10/2/2011	low flow	8:47	157.2	105.35	193	4.8	5.6	19.7	0.583	6.3	183	2
MW-207B	10/6/2011	low flow	9:36	115.6	104.94	150	6.0	5.8	21.4	0.376	9.6	195	13
MW-208A	10/6/2011	low flow	12:54	191.0	102.80	151	10.6	6.0	22.4	0.413	1.5	-20	1
MW-208B	10/6/2011	low flow	11:23	114.2	103.80	295	5.9	5.7	20.2	0.285	8.5	204	4
MW-209A	10/3/2011	low flow	14:40	195.3	101.34	182	4.6	5.8	21.7	0.229	7.1	124	3
MW-209B	10/3/2011	low flow	15:24	108.3	99.15	150	3.0	5.7	21.2	0.100	7.4	118	8
MW-210A	10/4/2011	low flow	11:34	184.5	96.75	185	3.7	6.0	20.4	0.294	4.6	205	3
MW-210B	10/4/2011	low flow	10:50	104.5	89.31	188	4.7	5.8	19.9	0.212	6.5	210	3
MW-211	10/3/2011	low flow	12:24	174.0	106.05	300	6.0	5.8	19.8	0.272	3.8	91	5
MW-212	10/8/2011	bailer	8:18	na	95.15	506	9.1	6.4	18.2	0.238	10.8	175	176
MW-213	-	-	-	-	DRY	-	-	-	-	-	-	-	-
MW-214A	10/2/2011	low flow	13:34	126.6	100.10	242	4.8	5.7	21.8	0.291	4.7	174	13
MW-214B	10/2/2011	low flow	14:09	109.6	99.55	202	4.0	5.8	21.4	0.287	4.2	188	1
MW-215A	10/7/2011	low flow	15:39	136.3	105.58	67	3.0	5.8	25.1	0.395	8.4	184	3
MW-215B	10/4/2011	low flow	15:48	114.4	105.69	98	6.4	5.7	24.2	0.382	8.1	-161	13
MW-216	10/5/2011	low flow	14:49	107.4	94.15	55	3.0	6.2	24.2	0.562	6.7	161	19
MW-217	10/4/2011	low flow	13:41	111.0	103.94	120	3.6	5.6	21.7	0.261	7.8	-155	9
MW-218	10/7/2011	low flow	14:30	108.2	100.34	220	4.4	5.7	22.6	0.219	0.1	158	1
MW-219	10/6/2011	low flow	15:19	105.2	88.97	126	3.8	6.0	20.1	0.273	0.1	161	2
MW-229	10/2/2011	low flow	11:14	200.0	151.00	98	11.8	6.5	20.5	0.232	1.2	-52	0
MW-252	10/6/2011	low flow	14:13	138.2	132.15	230	4.6	5.9	21.8	0.306	4.9	121	1
MW-253	9/30/2011	low flow	13:57	124.2	107.00	343	12.0	5.9	19.7	0.243	5.3	65	2
MW-254	9/30/2011	low flow	13:02	295.6	135.32	229	8.0	5.7	19.8	0.198	6.2	163	19

TABLE 5
FINAL WELL STABILIZATION MEASUREMENTS, OCTOBER 2011
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Well ID	Sample Date	Method	Time Sampled	Sample Pump Depth (ft, btoc)	Water Depth (ft, btoc)	Purge Rate (mL/min)	Volume Purged (L)	(pH)	Temp (°C)	Specific Conductivity (mS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTUs)
MW-255	9/30/2011	low flow	12:07	294.5	133.60	201	8.0	5.8	20.7	0.231	2.8	147	9
MW-256	9/30/2011	low flow	11:01	137.1	131.00	393	9.8	5.7	19.5	0.412	1.6	170	9
PMW21-03	10/5/2011	low flow	8:54	101.2	87.45	80	3.2	6.1	19.7	0.320	8.5	180	0
PMW21-05	10/5/2011	low flow	11:27	105.1	85.45	25	3.0	6.0	24.5	0.324	4.9	177	2
PMW92-03	10/3/2011	low flow	10:44	98.6	92.36	81	2.4	6.2	23.5	0.432	9.0	-18	1
PMW92-06	10/3/2011	low flow	9:00	98.9	93.29	110	4.4	5.4	21.6	0.230	8.8	-131	8
PMW101-04A	10/6/2011	low flow	13:03	128.8	87.15	119	4.2	6.6	21.9	0.473	0.1	-86	10
PMW101-04B	10/6/2011	low flow	14:13	109.5	87.64	145	5.8	5.9	21.7	0.265	0.0	109	20
PZ-03	10/8/2011	bailer	11:20	na	99.20	125	7.5	6.2	20.4	0.396	5.1	201	280

Notes:

°C : degrees Celsius
DO: Dissolved Oxygen
ft, btoc: feet below top of casing
L: liters
mg/L: milligrams per liter
mL/min: milliliters per minute

mS/cm: milliSiemens per centimeter
mV: millivolts
NA: not available
NTU: nephelometric turbidity unit
ORP: Oxidation Reduction Potential

TABLE 6
ANALYTICAL RESULTS SUMMARY, APRIL 2011
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Main Installation - Defense Depot Memphis, Tennessee

	Well ID	Maximum	DR1-3	DR1-5	DR1-5A	DR1-6	DR1-6A	DR2-1	DR2-2
	Date	Contaminant	4/1/2011	3/31/2011	3/31/2011	4/1/2011	4/1/2011	4/2/2011	4/3/2011
	Lab ID	Level	L11040061-01	L11040062-01	L11040062-04	L11040061-02	L11040061-03	L11040172-01	L11040172-02
Analyte	units								
Carbon tetrachloride	µg/L	5	<1	<1	<1	<1	<1	19.2	4.56
Chloroform	µg/L	80	<0.3	<0.3	0.197 J	<0.3	0.32	6.75	0.563
cis-1,2-Dichloroethene	µg/L	70	<1	<1	2.9	1.56	7.83	15.3	1.14
Tetrachloroethene	µg/L	5	13.2	18.2	50.4	193	57.8	152	38.9
trans-1,2-Dichloroethene	µg/L	100	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	5	2.1	<1	86.3	1.7	166	6.02	3.27
Vinyl chloride	µg/L	2	<1	<1	<1	<1	<1	<1	<1
Additional VOCs									
1,1,2,2-Tetrachloroethane	µg/L	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-Trichloropropane	µg/L	--	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acetone	µg/L	--	<10	<10	<10	<10	<10	<10	<10
Methyl t-butyl ether (MTBE)	µg/L	--	1.07 J	6.53	7.19	<5	<5	<5	<5
Trichlorofluoromethane	µg/L	--	<1	<1	<1	<1	<1	<1	<1

Notes:
VOC samples analyzed using method 8260B
µg/L : micrograms per liter
RL: reporting limit
<: Not detected above RL
Results detected above RL shown in bold

DQE Flags:
J: Estimated concentration

TABLE 6
ANALYTICAL RESULTS SUMMARY, APRIL 2011
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Main Installation - Defense Depot Memphis, Tennessee

	Well ID	Maximum	DR2-3	DR2-5	DR2-6	MW-21	MW-26	MW-39	MW-39A
	Date	Contaminant	4/1/2011	4/2/2011	4/1/2011	4/1/2011	3/31/2011	4/1/2011	4/1/2011
	Lab ID	Level	L11040061-04	L11040172-03	L11040061-05	L11040061-09	L11040061-11	L11040060-05	L11040060-06
Analyte	units								
Carbon tetrachloride	µg/L	5	7.38	175 J	14.9	<1	9.99	<1	<1
Chloroform	µg/L	80	1.3	67	5.76	<0.3	1.33	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	70	1.7	87.1	43.7	2.75	1.23	13.5	40.8
Tetrachloroethene	µg/L	5	50.3	68.3	22.3	74	50.4	33.8	29.5
trans-1,2-Dichloroethene	µg/L	100	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	5	2.41	32.3	4.09	5.89	2.33	12.4	11.4
Vinyl chloride	µg/L	2	<1	<1	<1	<1	<1	0.6 J	<1
Additional VOCs									
1,1,2,2-Tetrachloroethane	µg/L	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-Trichloropropane	µg/L	--	<1	18.6	9.24	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	--	<0.5	0.534	<0.5	1	<0.5	<0.5	<0.5
Acetone	µg/L	--	<10	<10	<10	<10	<10	<10	<10
Methyl t-butyl ether (MTBE)	µg/L	--	<5	<5	<5	<5	<5	<5	<5
Trichlorofluoromethane	µg/L	--	<1	<1	<1	<1	<1	<1	<1

Notes:
VOC samples analyzed using method 8260B
µg/L : micrograms per liter
RL: reporting limit
<: Not detected above RL
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DQE Flags:
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TABLE 6
ANALYTICAL RESULTS SUMMARY, APRIL 2011
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	Well ID	Maximum	MW-62	MW-64	MW-85	MW-88	MW-90	MW-92	MW-94A
	Date	Contaminant	4/3/2011	3/31/2011	4/3/2011	3/31/2011	4/1/2011	4/2/2011	4/2/2011
	Lab ID	Level	L11040173-08	L11040061-12	L11040172-12	L11040061-13	L11040060-07	L11040172-13	L11040172-14
Analyte	units								
Carbon tetrachloride	µg/L	5	0.732 J	3.61	119	12.2	0.355 J	<1	<1
Chloroform	µg/L	80	0.356	1.45	27	1.93	2.77	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	70	<1	0.514 J	17.3	2.34	0.303 J	86.7	3.29
Tetrachloroethene	µg/L	5	0.584 J	21.4	46.2	47.2	31.1	50.9	28.8
trans-1,2-Dichloroethene	µg/L	100	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	5	153	38.8	13.5	4.15	5.25	13.8	6.59
Vinyl chloride	µg/L	2	<1	<1	<1	<1	<1	13.6 J	<1
Additional VOCs									
1,1,2,2-Tetrachloroethane	µg/L	--	<0.5	0.748	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-Trichloropropane	µg/L	--	<1	<1	9.04	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	--	<0.5	0.38 J	<0.5	<0.5	<0.5	<0.5	<0.5
Acetone	µg/L	--	<10	<10	<10	2.75 J	<10	<10	<10
Methyl t-butyl ether (MTBE)	µg/L	--	<5	<5	<5	<5	<5	<5	<5
Trichlorofluoromethane	µg/L	--	<1	<1	<1	<1	<1	<1	<1

Notes:
VOC samples analyzed using method 8260B
µg/L : micrograms per liter
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<: Not detected above RL
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DQE Flags:
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Main Installation - Defense Depot Memphis, Tennessee

	Well ID	Maximum	MW-97	MW-98	MW-100B	MW-101T	MW-101B	MW-108	MW-113
	Date	Contaminant	3/31/2011	4/1/2011	4/4/2011	4/5/2011	4/5/2011	4/1/2011	4/3/2011
	Lab ID	Level	L11040061-14	L11040061-15	L11040146-02	L11040234-03	L11040234-02	L11040060-01	L11040172-05
Analyte	units								
Carbon tetrachloride	µg/L	5	<1	<1	<1	<1	<1	<1	63.5
Chloroform	µg/L	80	0.235 J	0.125 J	<0.3	<0.3	<0.3	11.9	16.9
cis-1,2-Dichloroethene	µg/L	70	<1	0.448 J	23.6	0.342 J	0.253 J	0.677 J	25.1
Tetrachloroethene	µg/L	5	<1	38	3.87	80	76.3	7.25	157
trans-1,2-Dichloroethene	µg/L	100	<1	<1	0.269 J	<1	<1	<1	<1
Trichloroethene	µg/L	5	40.7	3.44	0.62 J	<1	<1	33.1	17.6
Vinyl chloride	µg/L	2	<1	<1	153	<1	<1	<1	<1
Additional VOCs									
1,1,2,2-Tetrachloroethane	µg/L	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-Trichloropropane	µg/L	--	<1	<1	<1	<1	<1	<1	4.19
1,2-Dichloroethane	µg/L	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acetone	µg/L	--	<10	<10	14.7	4.37 J	<10	<10	<10
Methyl t-butyl ether (MTBE)	µg/L	--	<5	<5	65.3	3.17 J	2.86 J	<5	<5
Trichlorofluoromethane	µg/L	--	<1	<1	<1	<1	<1	<1	<1

Notes:
VOC samples analyzed using method 8260B
µg/L : micrograms per liter
RL: reporting limit
<: Not detected above RL
Results detected above RL shown in bold

DQE Flags:
J: Estimated concentration

TABLE 6
ANALYTICAL RESULTS SUMMARY, APRIL 2011
ANNUAL LONG-TERM MONITORING REPORT – 2011
Main Installation - Defense Depot Memphis, Tennessee

	Well ID	Maximum	MW-141	MW-143	MW-197A	MW-197B	MW-199B	MW-200	MW-202B
	Date	Contaminant	4/1/2011	4/5/2011	4/2/2011	4/2/2011	4/2/2011	4/1/2011	4/2/2011
	Lab ID	Level	L11040060-02	L11040234-04	L11040178-03	L11040178-04	L11040172-06	L11040061-08	L11040172-07
Analyte	units								
Carbon tetrachloride	µg/L	5	<1	<1	<1	<1	0.545 J	<1	0.45 J
Chloroform	µg/L	80	2.67	<0.3	<0.3	<0.3	<0.3	<0.3	1.24
cis-1,2-Dichloroethene	µg/L	70	<1	<1	1.64	8.85	<1	13	0.477 J
Tetrachloroethene	µg/L	5	30.4	<1	32.8	31.5	0.567 J	31.8	26.6
trans-1,2-Dichloroethene	µg/L	100	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	5	3.86	10.1	1.51	10	71.5	6.66	4.98
Vinyl chloride	µg/L	2	<1	<1	<1	3.25 J	<1	<1	<1
Additional VOCs									
1,1,2,2-Tetrachloroethane	µg/L	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-Trichloropropane	µg/L	--	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acetone	µg/L	--	<10	<10	<10	<10	<10	<10	<10
Methyl t-butyl ether (MTBE)	µg/L	--	<5	5.55	<5	0.812 J	<5	<5	<5
Trichlorofluoromethane	µg/L	--	<1	<1	<1	<1	<1	<1	<1

Notes:
VOC samples analyzed using method 8260B
µg/L : micrograms per liter
RL: reporting limit
<: Not detected above RL
Results detected above RL shown in bold

DQE Flags:
J: Estimated concentration

TABLE 6
ANALYTICAL RESULTS SUMMARY, APRIL 2011
ANNUAL LONG-TERM MONITORING REPORT – 2011
Main Installation - Defense Depot Memphis, Tennessee

	Well ID	Maximum	MW-203A	MW-203B	MW-204A	MW-204B	MW-205A	MW-205B	MW-206A
	Date	Contaminant	4/3/2011	4/3/2011	4/2/2011	4/2/2011	4/2/2011	4/2/2011	4/2/2011
	Lab ID	Level	L11040173-02	L11040173-03	L11040178-05	L11040178-06	L11040178-07	L11040178-08	L11040178-09
Analyte	units								
Carbon tetrachloride	µg/L	5	<1	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	80	<0.3	<0.3	<0.3	0.166 J	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	70	5.27	6.15	2.7	1.25	24.6	10.4	15.6
Tetrachloroethene	µg/L	5	147	30.6	46.8	13.9	30.1	31.3	18.1
trans-1,2-Dichloroethene	µg/L	100	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	5	2.8	7.64	1.48	5.92	9.18	9.9	13.9
Vinyl chloride	µg/L	2	<1	3.01	<1	<1	2.34 J	2.6 J	<1
Additional VOCs									
1,1,2,2-Tetrachloroethane	µg/L	--	<0.5	<0.5	<0.5	1.16	<0.5	<0.5	<0.5
1,2,3-Trichloropropane	µg/L	--	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acetone	µg/L	--	<10	<10	5.56 J	<10	<10	<10	<10
Methyl t-butyl ether (MTBE)	µg/L	--	<5	1.01 J	<5	<5	<5	0.623 J	<5
Trichlorofluoromethane	µg/L	--	<1	<1	<1	<1	<1	<1	<1

Notes:
VOC samples analyzed using method 8260B
µg/L : micrograms per liter
RL: reporting limit
<: Not detected above RL
Results detected above RL shown in bold

DQE Flags:
J: Estimated concentration

TABLE 6
ANALYTICAL RESULTS SUMMARY, APRIL 2011
ANNUAL LONG-TERM MONITORING REPORT – 2011
Main Installation - Defense Depot Memphis, Tennessee

	Well ID	Maximum	MW-206B	MW-207A	MW-207B	MW-208A	MW-208B	MW-209B	MW-210A
	Date	Contaminant	4/2/2011	4/1/2011	4/1/2011	4/2/2011	4/2/2011	4/2/2011	4/3/2011
	Lab ID	Level	L11040178-10	L11040060-03	L11040060-04	L11040178-11	L11040178-12	L11040172-10	L11040173-04
Analyte	units								
Carbon tetrachloride	µg/L	5	<1	0.307 J	1.89	<1	<1	0.932 J	<1
Chloroform	µg/L	80	<0.3	11	7.34	<0.3	0.328	0.353	<0.3
cis-1,2-Dichloroethene	µg/L	70	5	0.627 J	0.777 J	41	1.91	<1	2.11
Tetrachloroethene	µg/L	5	13.7	18.6	99.4	3.94	16.9	0.342 J	13.3
trans-1,2-Dichloroethene	µg/L	100	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	5	9.57	27.9	38.4	16.5	41.2	29.5	5.54
Vinyl chloride	µg/L	2	<1	<1	<1	<1	<1	<1	<1
Additional VOCs									
1,1,2,2-Tetrachloroethane	µg/L	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-Trichloropropane	µg/L	--	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acetone	µg/L	--	<10	<10	<10	<10	<10	<10	<10
Methyl t-butyl ether (MTBE)	µg/L	--	<5	<5	<5	<5	<5	<5	<5
Trichlorofluoromethane	µg/L	--	<1	<1	<1	<1	<1	<1	<1

Notes:
VOC samples analyzed using method 8260B
µg/L : micrograms per liter
RL: reporting limit
<: Not detected above RL
Results detected above RL shown in bold

DQE Flags:
J: Estimated concentration

TABLE 6
ANALYTICAL RESULTS SUMMARY, APRIL 2011
ANNUAL LONG-TERM MONITORING REPORT – 2011
Main Installation - Defense Depot Memphis, Tennessee

	Well ID	Maximum	MW-210B	MW-212	MW-217	MW-218	MW-219	MW-252	MW-253
	Date	Contaminant	4/3/2011	4/3/2011	3/31/2011	4/3/2011	4/3/2011	3/31/2011	3/31/2011
	Lab ID	Level	L11040173-05	L11040173-06	L11040061-10	L11040172-11	L11040173-07	L11040062-05	L11040062-06
Analyte	units								
Carbon tetrachloride	µg/L	5	<1	0.319 J	47.7	9.84 J	<1	<1	<1
Chloroform	µg/L	80	<0.3	<0.3	4.25	2.79	<0.3	1.07	<0.3
cis-1,2-Dichloroethene	µg/L	70	1.1	<1	0.871 J	0.419 J	<1	<1	<1
Tetrachloroethene	µg/L	5	8.64	<1	27.7	16.8	4.55	5.64	<1
trans-1,2-Dichloroethene	µg/L	100	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	5	8.21	20.1	46.1	46.2	0.439 J	3.73	7.75
Vinyl chloride	µg/L	2	<1	<1	<1	<1	<1	<1	<1
Additional VOCs									
1,1,2,2-Tetrachloroethane	µg/L	--	<0.5	<0.5	0.319 J	1.43	<0.5	<0.5	<0.5
1,2,3-Trichloropropane	µg/L	--	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	--	<0.5	<0.5	0.32 J	0.587	0.371 J	<0.5	<0.5
Acetone	µg/L	--	<10	<10	<10	<10	<10	<10	<10
Methyl t-butyl ether (MTBE)	µg/L	--	<5	<5	<5	<5	<5	<5	7.51
Trichlorofluoromethane	µg/L	--	<1	<1	1.04	1.57	<1	<1	<1

Notes:
VOC samples analyzed using method 8260B
µg/L : micrograms per liter
RL: reporting limit
<: Not detected above RL
Results detected above RL shown in bold

DQE Flags:
J: Estimated concentration

TABLE 6
ANALYTICAL RESULTS SUMMARY, APRIL 2011
ANNUAL LONG-TERM MONITORING REPORT – 2011
Main Installation - Defense Depot Memphis, Tennessee

	Well ID	Maximum	MW-254	MW-255	MW-256	PMW21-03	PMW21-05	PMW92-03	PMW92-06
	Date	Contaminant	3/31/2011	3/31/2011	3/31/2011	4/4/2011	4/4/2011	4/3/2011	4/2/2011
	Lab ID	Level	L11040062-07	L11040062-08	L11040062-09	L11040146-03	L11040146-04	L11040172-17	L11040172-20
Analyte	units								
Carbon tetrachloride	µg/L	5	1.06	<1	0.36	<1	<1	<1	110
Chloroform	µg/L	80	0.249 J	<0.3	2.35	<0.3	<0.3	<0.3	41.5
cis-1,2-Dichloroethene	µg/L	70	<1	<1	<1	1.07	0.939 J	73.4 J	67.1
Tetrachloroethene	µg/L	5	<1	<1	12.1	39.5	40.6	136	133
trans-1,2-Dichloroethene	µg/L	100	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	5	1.8	0.345 J	3.51	11.6	3.78	21.1	33.1
Vinyl chloride	µg/L	2	<1	<1	<1	<1	<1	0.286 J	<1
Additional VOCs									
1,1,2,2-Tetrachloroethane	µg/L	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-Trichloropropane	µg/L	--	<1	<1	<1	<1	<1	<1	92
1,2-Dichloroethane	µg/L	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.505
Acetone	µg/L	--	<10	3.7 J	<10	<10	4.9 J	<10	<10
Methyl t-butyl ether (MTBE)	µg/L	--	<5	<5	<5	12.2	<5	<5	<5
Trichlorofluoromethane	µg/L	--	<1	<1	<1	<1	<1	<1	<1

Notes:
VOC samples analyzed using method 8260B
µg/L : micrograms per liter
RL: reporting limit
<: Not detected above RL
Results detected above RL shown in bold

DQE Flags:
J: Estimated concentration

TABLE 6
ANALYTICAL RESULTS SUMMARY, APRIL 2011
ANNUAL LONG-TERM MONITORING REPORT – 2011
Main Installation - Defense Depot Memphis, Tennessee

	Well ID	Maximum	PMW101-04A	PMW101-04B
	Date	Contaminant	4/4/2011	4/4/2011
	Lab ID	Level	L11040172-15	L11040172-16
Analyte	units			
Carbon tetrachloride	µg/L	5	<1	<1
Chloroform	µg/L	80	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	70	7.76	<1
Tetrachloroethene	µg/L	5	57.3	26.1
trans-1,2-Dichloroethene	µg/L	100	<1	<1
Trichloroethene	µg/L	5	6.1	2.79
Vinyl chloride	µg/L	2	<1	<1
Additional VOCs				
1,1,2,2-Tetrachloroethane	µg/L	--	<0.5	<0.5
1,2,3-Trichloropropane	µg/L	--	<1	<1
1,2-Dichloroethane	µg/L	--	<0.5	<0.5
Acetone	µg/L	--	<10	<10
Methyl t-butyl ether (MTBE)	µg/L	--	1.36 J	1.96 J
Trichlorofluoromethane	µg/L	--	<1	<1

Notes:
VOC samples analyzed using method 8260B
µg/L : micrograms per liter
RL: reporting limit
<: Not detected above RL
Results detected above RL shown in bold

DQE Flags:
J: Estimated concentration

TABLE 7
 PRIMARY CVOC RESULTS, APRIL 2011
 ANNUAL LONG TERM MONITORING REPORT - 2011
 Main Installation - Defense Depot Memphis, Tennessee

VOC Analyte	MCL (µg/L)	Number of Locations with Analyte Above RL	Maximum Concentrations (µg/L)	Location of Maximum Concentration	Number of Locations with Analyte Above MCL
Carbon tetrachloride	5	15	175	DR2-5	11
Chloroform	80	25	67	DR2-5	0
cis-1,2-Dichloroethene	70	37	87.1	DR2-5	3
Tetrachloroethene	5	56	193	DR1-6	53
trans-1,2-Dichloroethene	100	0	0.269	MW-100B	0
Trichloroethene	5	59	166	DR1-6A	41
Vinyl chloride	2	6	153	MW-100B	6

Notes:

µg/L: micrograms per liter

--: not listed

MCL: Maximum Contaminant Level

RL: Reporting Limit

TABLE 8
ANALYTICAL RESULTS SUMMARY, OCTOBER 2011
ANNUAL LONG-TERM MONITORING REPORT – 2011
Main Installation - Defense Depot Memphis, Tennessee

	Well Date	Maximum	DR1-1 10/6/2011	DR1-1A 10/6/2011	DR1-2 10/5/2011	DR1-3 10/4/2011	DR1-4 10/4/2011	DR1-5 10/4/2011
	Lab ID	Contaminant	L11100282-14	L11100282-15	L11100191-05	L11100191-30	L11100191-31	L11100191-32
Analyte	Units	Level						
Carbon tetrachloride	µg/L	5	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	80	<0.3	0.288 J	<0.3	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	70	1.31	0.356 J	0.791 J	<1	<1	<1
Tetrachloroethene	µg/L	5	3	1.08	1.92	13.9	0.831 J	29
trans-1,2-Dichloroethene	µg/L	100	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	5	0.326 J	2.35	<1	1.81	0.252 J	<1
Vinyl chloride	µg/L	2	<1	<1	<1	<1	<1	<1
Additional VOCs								
1,1,2,2-Tetrachloroethane	µg/L	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	µg/L	--	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	--	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-Trichloropropane	µg/L	--	<1	<1	<1	<1	<1	<1
Acetone	µg/L	--	<10	<10	<10	<10	<10	<10
Carbon disulfide	µg/L	--	<1	<1	<1	<1	<1	<1
Methyl t-butyl ether (MTBE)	µg/L	--	<5	<5	<5	1.89 J	<5	14
Trichlorofluoromethane	µg/L	--	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using method 8260B

µg/L : micrograms per liter

RL: Reporting Limit

<: Not detected above RL

Results detected above RL shown in bold

DQE Flags:

J: Estimated concentration

TABLE 8
ANALYTICAL RESULTS SUMMARY, OCTOBER 2011
ANNUAL LONG-TERM MONITORING REPORT – 2011
Main Installation - Defense Depot Memphis, Tennessee

	Well Date	Maximum	DR1-5A 10/4/2011	DR1-6 10/4/2011	DR1-6A 10/4/2011	DR1-7 10/4/2011	DR1-8 10/6/2011	DR2-1 10/2/2011
	Lab ID	Contaminant	L11100191-33	L11100191-34	L11100191-35	L11100191-36	L11100282-16	L11100105-09
Analyte	Units	Level						
Carbon tetrachloride	µg/L	5	<1	<1	<1	<1	<1	23.3
Chloroform	µg/L	80	0.191 J	<0.3	0.248 J	0.174 J	<0.3	7.87
cis-1,2-Dichloroethene	µg/L	70	2.76	1.31	9.24	0.532 J	<1	17.8
Tetrachloroethene	µg/L	5	49.7	168	60.3	2.62	<1	151
trans-1,2-Dichloroethene	µg/L	100	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	5	77.6	1.28	166	0.441 J	<1	7.07
Vinyl chloride	µg/L	2	<1	<1	<1	<1	<1	<1
Additional VOCs								
1,1,2,2-Tetrachloroethane	µg/L	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	µg/L	--	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	--	<1	<1	0.293 J	<1	<1	<1
1,2-Dichloroethane	µg/L	--	<0.5	<0.5	<0.5	<0.5	0.351 J	<0.5
1,2,3-Trichloropropane	µg/L	--	<1	<1	<1	<1	<1	<1
Acetone	µg/L	--	<10	<10	<10	<10	<10	<10
Carbon disulfide	µg/L	--	<1	<1	<1	<1	<1	<1
Methyl t-butyl ether (MTBE)	µg/L	--	4.17 J	<5	<5	<5	<5	<5
Trichlorofluoromethane	µg/L	--	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using method 8260B

µg/L : micrograms per liter

RL: Reporting Limit

<: Not detected above RL

Results detected above RL shown in bold

DQE Flags:

J: Estimated concentration

TABLE 8
ANALYTICAL RESULTS SUMMARY, OCTOBER 2011
ANNUAL LONG-TERM MONITORING REPORT – 2011
Main Installation - Defense Depot Memphis, Tennessee

	Well Date	Maximum	DR2-2 10/2/2011	DR2-3 10/2/2011	DR2-4 10/2/2011	DR2-5 10/2/2011	DR2-6 10/3/2011	MW-21 10/6/2011
	Lab ID	Contaminant	L11100105-10	L11100105-13	L11100105-14	L11100105-15	L11100105-29	L11100282-10
Analyte	Units	Level						
Carbon tetrachloride	µg/L	5	4.37	6.7	4.45	167	27.1	<1
Chloroform	µg/L	80	0.714	1.04	0.835	66.2	7.82	<0.3
cis-1,2-Dichloroethene	µg/L	70	1.31	1.19	0.412 J	87.4	50.5	2.27
Tetrachloroethene	µg/L	5	35.9	33.5	13.7	86.5	32.7	80
trans-1,2-Dichloroethene	µg/L	100	<1	<1	<1	0.396 J	<1	<1
Trichloroethene	µg/L	5	2.92	2.38	1.58	37.8	11.7	5.3
Vinyl chloride	µg/L	2	<1	<1	<1	<1	0.302 J	<1
Additional VOCs								
1,1,2,2-Tetrachloroethane	µg/L	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	µg/L	--	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	--	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	--	<0.5	<0.5	<0.5	0.436 J	<0.5	1
1,2,3-Trichloropropane	µg/L	--	<1	<1	<1	20.5	13.1	<1
Acetone	µg/L	--	<10	<10	<10	<10	<10	<10
Carbon disulfide	µg/L	--	<1	<1	<1	<1	<1	<1
Methyl t-butyl ether (MTBE)	µg/L	--	<5	<5	<5	<5	<5	<5
Trichlorofluoromethane	µg/L	--	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using method 8260B

µg/L : micrograms per liter

RL: Reporting Limit

<: Not detected above RL

Results detected above RL shown in bold

DQE Flags:

J: Estimated concentration

TABLE 8
ANALYTICAL RESULTS SUMMARY, OCTOBER 2011
ANNUAL LONG-TERM MONITORING REPORT – 2011
Main Installation - Defense Depot Memphis, Tennessee

	Well Date	Maximum Contaminant	MW-25A 10/7/2011	MW-26 10/3/2011	MW-34 10/9/2011	MW-38 10/3/2011	MW-39 10/6/2011	MW-39A 10/5/2011
	Lab ID	Level	L11100282-18	L11100105-23	L11100336-01	L11100105-33	L11100282-01	L11100191-07
Analyte	Units							
Carbon tetrachloride	µg/L	5	2.22	8.97	0.783 J	<1	<1	<1
Chloroform	µg/L	80	0.324	1.4	0.406	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	70	<1	1.01	<1	<1	9.96	30.9
Tetrachloroethene	µg/L	5	6.94	52.5	0.341 J	<1	29	30.9
trans-1,2-Dichloroethene	µg/L	100	<1	<1	<1	<1	<1	0.465 J
Trichloroethene	µg/L	5	0.335 J	1.92	1.48	0.291 J	10.9	8.74
Vinyl chloride	µg/L	2	<1	<1	<1	<1	0.914 J	1.06
Additional VOCs								
1,1,2,2-Tetrachloroethane	µg/L	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	µg/L	--	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	--	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-Trichloropropane	µg/L	--	<1	<1	<1	<1	<1	<1
Acetone	µg/L	--	<10	<10	<10	<10	<10	<10
Carbon disulfide	µg/L	--	<1	<1	<1	<1	<1	<1
Methyl t-butyl ether (MTBE)	µg/L	--	0.555 J	<5	<5	<5	<5	<5
Trichlorofluoromethane	µg/L	--	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using method 8260B

µg/L : micrograms per liter

RL: Reporting Limit

<: Not detected above RL

Results detected above RL shown in bold

DQE Flags:

J: Estimated concentration

TABLE 8
ANALYTICAL RESULTS SUMMARY, OCTOBER 2011
ANNUAL LONG-TERM MONITORING REPORT – 2011
Main Installation - Defense Depot Memphis, Tennessee

	Well Date	Maximum Contaminant	MW-52 10/7/2011	MW-62 10/8/2011	MW-63A 10/6/2011	MW-63B 10/7/2011	MW-64 10/3/2011	MW-85 10/9/2011
	Lab ID	Level	L11100282-19	L11100336-06	L11100282-02	L11100282-20	L11100105-24	L11100336-02
Analyte	Units							
Carbon tetrachloride	µg/L	5	<1	0.563 J	<1	<1	2.52	55.9
Chloroform	µg/L	80	0.794	0.315	<0.3	0.759	1.41	16.4
cis-1,2-Dichloroethene	µg/L	70	0.632 J	<1	<1	<1	0.544 J	21.2
Tetrachloroethene	µg/L	5	6.19	0.504 J	0.466 J	5.11	16.2	29.4
trans-1,2-Dichloroethene	µg/L	100	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	5	0.98 J	157	0.432 J	2.76	26.1	9.96
Vinyl chloride	µg/L	2	<1	<1	<1	<1	<1	<1
Additional VOCs								
1,1,2,2-Tetrachloroethane	µg/L	--	<0.5	<0.5	<0.5	<0.5	0.546	<0.5
1,1-Dichloroethene	µg/L	--	<1	0.851 J	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	--	<1	<1	<1	0.445 J	<1	<1
1,2-Dichloroethane	µg/L	--	<0.5	<0.5	<0.5	<0.5	0.502	<0.5
1,2,3-Trichloropropane	µg/L	--	<1	<1	<1	<1	<1	10.9
Acetone	µg/L	--	<10	<10	<10	<10	<10	<10
Carbon disulfide	µg/L	--	<1	<1	<1	<1	<1	<1
Methyl t-butyl ether (MTBE)	µg/L	--	<5	<5	<5	<5	<5	<5
Trichlorofluoromethane	µg/L	--	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using method 8260B

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J: Estimated concentration

TABLE 8
ANALYTICAL RESULTS SUMMARY, OCTOBER 2011
ANNUAL LONG-TERM MONITORING REPORT – 2011
Main Installation - Defense Depot Memphis, Tennessee

	Well Date	Maximum Contaminant	MW-88 10/2/2011	MW-89 10/1/2011	MW-90 10/1/2011	MW-92 10/3/2011	MW-94A 10/4/2011	MW-96 10/7/2011
	Lab ID	Level	L11100105-08	L11100105-01	L11100105-04	L11100105-25	L11100191-15	L11100282-21
Analyte	Units							
Carbon tetrachloride	µg/L	5	7.56	0.38 J	<1	<1	<1	4.64
Chloroform	µg/L	80	1.34	0.278 J	3.07	<0.3	<0.3	0.972
cis-1,2-Dichloroethene	µg/L	70	1.68	<1	0.322 J	64.2	3.41	0.631 J
Tetrachloroethene	µg/L	5	35.2	3.68	29.2	78.4	24.9	2.42
trans-1,2-Dichloroethene	µg/L	100	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	5	2.92	1.95	5.64	13.6	6.29	<1
Vinyl chloride	µg/L	2	<1	<1	<1	3.02	<1	<1
Additional VOCs								
1,1,2,2-Tetrachloroethane	µg/L	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	µg/L	--	<1	<1	0.617 J	<1	<1	<1
1,1-Dichloroethane	µg/L	--	<1	<1	0.822 J	<1	<1	<1
1,2-Dichloroethane	µg/L	--	<0.5	<0.5	<0.5	<0.5	<0.5	0.339 J
1,2,3-Trichloropropane	µg/L	--	<1	<1	<1	<1	<1	<1
Acetone	µg/L	--	10.9	<10	<10	<10	<10	<10
Carbon disulfide	µg/L	--	1.51	<1	<1	<1	<1	<1
Methyl t-butyl ether (MTBE)	µg/L	--	<5	<5	<5	<5	<5	<5
Trichlorofluoromethane	µg/L	--	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using method 8260B

µg/L : micrograms per liter

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TABLE 8
ANALYTICAL RESULTS SUMMARY, OCTOBER 2011
ANNUAL LONG-TERM MONITORING REPORT – 2011
Main Installation - Defense Depot Memphis, Tennessee

	Well Date	Maximum	MW-97 10/5/2011	MW-98 10/4/2011	MW-100B 10/7/2011	MW-101T 10/7/2011	MW-101B 10/7/2011	MW-103 10/7/2011
	Lab ID	Contaminant	L11100191-01	L11100191-23	L11100282-25	L11100282-26	L11100282-27	L11100282-22
Analyte	Units	Level						
Carbon tetrachloride	µg/L	5	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	80	0.238 J	<0.3	<0.3	<0.3	<0.3	9.61
cis-1,2-Dichloroethene	µg/L	70	<1	0.374 J	9.9	<1	<1	0.439 J
Tetrachloroethene	µg/L	5	<1	41.7	28.7	53.1	72.3	<1
trans-1,2-Dichloroethene	µg/L	100	<1	<1	0.845 J	<1	<1	<1
Trichloroethene	µg/L	5	53.8	3.05	0.521 J	<1	<1	7.2
Vinyl chloride	µg/L	2	<1	<1	181	<1	<1	<1
Additional VOCs								
1,1,2,2-Tetrachloroethane	µg/L	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	µg/L	--	<1	<1	<1	<1	<1	2.3
1,1-Dichloroethane	µg/L	--	<1	<1	<1	<1	<1	2.61
1,2-Dichloroethane	µg/L	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-Trichloropropane	µg/L	--	<1	<1	<1	<1	<1	<1
Acetone	µg/L	--	<10	<10	<10	<10	<10	<10
Carbon disulfide	µg/L	--	<1	<1	<1	<1	<1	<1
Methyl t-butyl ether (MTBE)	µg/L	--	<5	<5	61.6	2.69 J	3.13 J	<5
Trichlorofluoromethane	µg/L	--	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using method 8260B

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TABLE 8
ANALYTICAL RESULTS SUMMARY, OCTOBER 2011
ANNUAL LONG-TERM MONITORING REPORT – 2011
Main Installation - Defense Depot Memphis, Tennessee

	Well Date	Maximum Contaminant	MW-104 10/9/2011	MW-107T 10/8/2011	MW-107B 10/8/2011	MW-108 10/6/2011	MW-113 10/3/2011	MW-140 10/3/2011
	Lab ID	Level	L11100336-03	L11100336-11	L11100336-12	L11100282-03	L11100105-26	L11100105-34
Analyte	Units							
Carbon tetrachloride	µg/L	5	<1	0.704 J	0.655 J	<1	65.8	0.27 J
Chloroform	µg/L	80	8.78	0.3 J	0.308	11.6	16.2	<0.3
cis-1,2-Dichloroethene	µg/L	70	0.574 J	<1	<1	0.619 J	26.2	<1
Tetrachloroethene	µg/L	5	<1	31.7	32.1	6.06	189	1.19
trans-1,2-Dichloroethene	µg/L	100	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	5	17.3	2.84	2.86	26	18	1.43
Vinyl chloride	µg/L	2	<1	<1	<1	<1	<1	<1
Additional VOCs								
1,1,2,2-Tetrachloroethane	µg/L	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	µg/L	--	2.31	<1	<1	1.19	<1	<1
1,1-Dichloroethane	µg/L	--	1.13	<1	<1	0.988 J	<1	<1
1,2-Dichloroethane	µg/L	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-Trichloropropane	µg/L	--	<1	<1	<1	<1	4.7	<1
Acetone	µg/L	--	<10	<10	<10	<10	<10	<10
Carbon disulfide	µg/L	--	<1	<1	<1	<1	<1	<1
Methyl t-butyl ether (MTBE)	µg/L	--	<5	<5	<5	<5	<5	<5
Trichlorofluoromethane	µg/L	--	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using method 8260B

µg/L : micrograms per liter

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DQE Flags:

J: Estimated concentration

TABLE 8
ANALYTICAL RESULTS SUMMARY, OCTOBER 2011
ANNUAL LONG-TERM MONITORING REPORT – 2011
Main Installation - Defense Depot Memphis, Tennessee

	Well Date	Maximum Contaminant	MW-141 10/2/2011	MW-142 10/9/2011	MW-143 10/7/2011	MW-197A 10/5/2011	MW-197B 10/5/2011	MW-198 10/8/2011
	Lab ID	Level	L11100105-16	L11100336-04	L11100282-28	L11100191-08	L11100191-11	L11100336-13
Analyte	Units							
Carbon tetrachloride	µg/L	5	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	80	2.68	<0.3	<0.3	0.126 J	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	70	<1	<1	<1	1.26	5.27	<1
Tetrachloroethene	µg/L	5	23.7	<1	<1	32.2	29.7	<1
trans-1,2-Dichloroethene	µg/L	100	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	5	3.6	11	12.6	1.51	9.4	0.44 J
Vinyl chloride	µg/L	2	<1	<1	<1	<1	1.86	<1
Additional VOCs								
1,1,2,2-Tetrachloroethane	µg/L	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	µg/L	--	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	--	0.334 J	<1	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-Trichloropropane	µg/L	--	<1	<1	<1	<1	<1	<1
Acetone	µg/L	--	<10	<10	<10	<10	<10	<10
Carbon disulfide	µg/L	--	<1	<1	<1	<1	<1	<1
Methyl t-butyl ether (MTBE)	µg/L	--	<5	8.32	3.98 J	<5	0.771 J	<5
Trichlorofluoromethane	µg/L	--	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using method 8260B

µg/L : micrograms per liter

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TABLE 8
ANALYTICAL RESULTS SUMMARY, OCTOBER 2011
ANNUAL LONG-TERM MONITORING REPORT – 2011
Main Installation - Defense Depot Memphis, Tennessee

	Well Date	Maximum Contaminant	MW-199A 10/3/2011	MW-199B 10/3/2011	MW-200 10/4/2011	MW-202A 10/1/2011	MW-202B 10/1/2011	MW-203A 10/5/2011
	Lab ID	Level	L11100105-35	L11100105-36	L11100191-16	L11100105-05	L11100105-06	L11100191-12
Analyte	Units							
Carbon tetrachloride	µg/L	5	<1	0.324 J	<1	0.265 J	0.31 J	<1
Chloroform	µg/L	80	<0.3	<0.3	<0.3	0.222 J	0.712	<0.3
cis-1,2-Dichloroethene	µg/L	70	<1	<1	15.3	<1	0.411 J	5.75
Tetrachloroethene	µg/L	5	<1	0.881 J	25.6	1.56	27.1	147
trans-1,2-Dichloroethene	µg/L	100	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	5	0.963 J	59.7	5.05	1.5	5.13	2.72
Vinyl chloride	µg/L	2	<1	<1	<1	<1	<1	<1
Additional VOCs								
1,1,2,2-Tetrachloroethane	µg/L	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	µg/L	--	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	--	<1	<1	<1	<1	0.255 J	<1
1,2-Dichloroethane	µg/L	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-Trichloropropane	µg/L	--	<1	<1	<1	<1	<1	<1
Acetone	µg/L	--	<10	<10	<10	<10	<10	<10
Carbon disulfide	µg/L	--	<1	<1	<1	<1	<1	<1
Methyl t-butyl ether (MTBE)	µg/L	--	3.26 J	<5	<5	<5	<5	<5
Trichlorofluoromethane	µg/L	--	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using method 8260B

µg/L : micrograms per liter

RL: Reporting Limit

<: Not detected above RL

Results detected above RL shown in bold

DQE Flags:

J: Estimated concentration

TABLE 8
ANALYTICAL RESULTS SUMMARY, OCTOBER 2011
ANNUAL LONG-TERM MONITORING REPORT – 2011
Main Installation - Defense Depot Memphis, Tennessee

	Well Date	Maximum Contaminant	MW-203B 10/5/2011	MW-204A 10/4/2011	MW-204B 10/4/2011	MW-205A 10/4/2011	MW-205B 10/4/2011	MW-206A 10/4/2011
	Lab ID	Level	L11100191-13	L11100191-24	L11100191-25	L11100191-26	L11100191-27	L11100191-17
Analyte	Units							
Carbon tetrachloride	µg/L	5	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	80	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	70	4.81	1.53	0.793 J	13.4	6.46	7.81
Tetrachloroethene	µg/L	5	23.2	50.2	27.8	30.9	28.9	14
trans-1,2-Dichloroethene	µg/L	100	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	5	8.72	0.91 J	2.99	8.03	8.38	12.5
Vinyl chloride	µg/L	2	2.74	<1	<1	1.83	1.73	<1
Additional VOCs								
1,1,2,2-Tetrachloroethane	µg/L	--	<0.5	<0.5	0.529	<0.5	<0.5	<0.5
1,1-Dichloroethene	µg/L	--	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	--	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-Trichloropropane	µg/L	--	<1	<1	<1	<1	<1	<1
Acetone	µg/L	--	<10	<10	<10	<10	<10	<10
Carbon disulfide	µg/L	--	<1	<1	<1	<1	<1	<1
Methyl t-butyl ether (MTBE)	µg/L	--	1.42 J	<5	<5	<5	<5	<5
Trichlorofluoromethane	µg/L	--	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using method 8260B

µg/L : micrograms per liter

RL: Reporting Limit

<: Not detected above RL

Results detected above RL shown in bold

DQE Flags:

J: Estimated concentration

TABLE 8
ANALYTICAL RESULTS SUMMARY, OCTOBER 2011
ANNUAL LONG-TERM MONITORING REPORT – 2011
Main Installation - Defense Depot Memphis, Tennessee

	Well Date	Maximum Contaminant	MW-206B 10/4/2011	MW-207A 10/2/2011	MW-207B 10/6/2011	MW-208A 10/6/2011	MW-208B 10/6/2011	MW-209A 10/3/2011
	Lab ID	Level	L11100191-18	L11100105-17	L11100282-04	L11100282-05	L11100282-06	L11100105-37
Analyte	Units							
Carbon tetrachloride	µg/L	5	<1	<1	2.08	<1	<1	<1
Chloroform	µg/L	80	<0.3	11.8	4.01	<0.3	0.384	<0.3
cis-1,2-Dichloroethene	µg/L	70	2.38	0.592 J	0.544 J	39.7	1.67	<1
Tetrachloroethene	µg/L	5	15.4	14.4	55	10.5	19.8	<1
trans-1,2-Dichloroethene	µg/L	100	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	5	8.08	21.3	16.2	19.1	34.8	1.04
Vinyl chloride	µg/L	2	<1	<1	<1	<1	<1	<1
Additional VOCs								
1,1,2,2-Tetrachloroethane	µg/L	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	µg/L	--	<1	1.31	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	--	<1	1.28	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	--	<0.5	<0.5	2.01	<0.5	<0.5	<0.5
1,2,3-Trichloropropane	µg/L	--	<1	<1	<1	<1	<1	<1
Acetone	µg/L	--	<10	<10	<10	<10	<10	<10
Carbon disulfide	µg/L	--	<1	<1	<1	<1	<1	<1
Methyl t-butyl ether (MTBE)	µg/L	--	<5	<5	<5	<5	<5	2.76 J
Trichlorofluoromethane	µg/L	--	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using method 8260B

µg/L : micrograms per liter

RL: Reporting Limit

<: Not detected above RL

Results detected above RL shown in bold

DQE Flags:

J: Estimated concentration

TABLE 8
ANALYTICAL RESULTS SUMMARY, OCTOBER 2011
ANNUAL LONG-TERM MONITORING REPORT – 2011
Main Installation - Defense Depot Memphis, Tennessee

	Well Date	Maximum Contaminant	MW-209B 10/3/2011	MW-210A 10/4/2011	MW-210B 10/4/2011	MW-211 10/3/2011	MW-212 10/8/2011	MW-214A 10/2/2011
	Lab ID	Level	L11100105-40	L11100191-28	L11100191-29	L11100105-41	L11100336-07	L11100105-18
Analyte	Units							
Carbon tetrachloride	µg/L	5	0.563 J	<1	<1	<1	<1	1.18
Chloroform	µg/L	80	0.173 J	<0.3	<0.3	0.152 J	<0.3	4.34
cis-1,2-Dichloroethene	µg/L	70	<1	1.81	0.781 J	<1	<1	<1
Tetrachloroethene	µg/L	5	0.492 J	12.6	7.24	0.275 J	<1	11.1
trans-1,2-Dichloroethene	µg/L	100	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	5	30.6	5.4	9.73	0.512 J	16.5	6.71
Vinyl chloride	µg/L	2	<1	<1	<1	<1	<1	<1
Additional VOCs								
1,1,2,2-Tetrachloroethane	µg/L	--	<0.5	<0.5	<0.5	<0.5	<0.5	0.384 J
1,1-Dichloroethene	µg/L	--	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	--	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-Trichloropropane	µg/L	--	<1	<1	<1	<1	<1	<1
Acetone	µg/L	--	<10	<10	<10	<10	<10	4.42 J
Carbon disulfide	µg/L	--	<1	<1	<1	<1	<1	<1
Methyl t-butyl ether (MTBE)	µg/L	--	<5	0.639 J	<5	<5	<5	2.6 J
Trichlorofluoromethane	µg/L	--	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using method 8260B

µg/L : micrograms per liter

RL: Reporting Limit

<: Not detected above RL

Results detected above RL shown in bold

DQE Flags:

J: Estimated concentration

TABLE 8
ANALYTICAL RESULTS SUMMARY, OCTOBER 2011
ANNUAL LONG-TERM MONITORING REPORT – 2011
Main Installation - Defense Depot Memphis, Tennessee

	Well Date	Maximum Contaminant	MW-214B 10/2/2011	MW-215A 10/7/2011	MW-215B 10/4/2011	MW-216 10/5/2011	MW-217 10/4/2011	MW-218 10/7/2011
	Lab ID	Level	L11100105-19	L11100282-29	L11100191-19	L11100191-02	L11100191-20	L11100282-23
Analyte	Units							
Carbon tetrachloride	µg/L	5	1.27	0.596 J	1.12	<1	32.1	9.75
Chloroform	µg/L	80	3.94	0.908	0.589	<0.3	3.77	2.52
cis-1,2-Dichloroethene	µg/L	70	<1	<1	<1	<1	0.581 J	0.436 J
Tetrachloroethene	µg/L	5	9.24	3.51	4.82	<1	24.6	19.5
trans-1,2-Dichloroethene	µg/L	100	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	5	5.16	2.08	1.42	<1	44.1	49.2
Vinyl chloride	µg/L	2	<1	<1	<1	<1	<1	<1
Additional VOCs								
1,1,2,2-Tetrachloroethane	µg/L	--	0.393 J	0.289 J	<0.5	<0.5	0.232 J	2.21
1,1-Dichloroethene	µg/L	--	<1	<1	<1	<1	<1	1.22
1,1-Dichloroethane	µg/L	--	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	--	<0.5	<0.5	<0.5	<0.5	0.291 J	0.764
1,2,3-Trichloropropane	µg/L	--	<1	<1	<1	<1	<1	<1
Acetone	µg/L	--	3.66 J	<10	<10	<10	<10	<10
Carbon disulfide	µg/L	--	<1	<1	<1	<1	<1	<1
Methyl t-butyl ether (MTBE)	µg/L	--	2.22 J	0.865 J	0.995 J	<5	<5	<5
Trichlorofluoromethane	µg/L	--	<1	<1	<1	<1	1.01	1.64

Notes:

VOC samples analyzed using method 8260B

µg/L : micrograms per liter

RL: Reporting Limit

<: Not detected above RL

Results detected above RL shown in bold

DQE Flags:

J: Estimated concentration

TABLE 8
ANALYTICAL RESULTS SUMMARY, OCTOBER 2011
ANNUAL LONG-TERM MONITORING REPORT – 2011
Main Installation - Defense Depot Memphis, Tennessee

	Well Date	Maximum Contaminant	MW-219 10/6/2011	MW-229 10/2/2011	MW-252 10/6/2011	MW-253 9/30/2011	MW-254 9/30/2011	MW-255 9/30/2011
	Lab ID	Level	L11100282-11	L11100105-20	L11100282-07	L11100105-42	L11100105-43	L11100105-44
Analyte	Units							
Carbon tetrachloride	µg/L	5	<1	<1	<1	<1	0.869 J	<1
Chloroform	µg/L	80	<0.3	<0.3	<0.3	<0.3	0.205 J	<0.3
cis-1,2-Dichloroethene	µg/L	70	<1	<1	<1	<1	0.303 J	<1
Tetrachloroethene	µg/L	5	6.51	<1	<1	<1	0.578 J	<1
trans-1,2-Dichloroethene	µg/L	100	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	5	0.614 J	<1	<1	9.81	2.28	0.298 J
Vinyl chloride	µg/L	2	<1	<1	<1	<1	<1	<1
Additional VOCs								
1,1,2,2-Tetrachloroethane	µg/L	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	µg/L	--	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	--	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	--	0.541	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-Trichloropropane	µg/L	--	<1	<1	<1	<1	<1	<1
Acetone	µg/L	--	<10	<10	<10	<10	<10	<10
Carbon disulfide	µg/L	--	<1	<1	<1	<1	<1	<1
Methyl t-butyl ether (MTBE)	µg/L	--	<5	<5	<5	6.63	<5	<5
Trichlorofluoromethane	µg/L	--	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using method 8260B

µg/L : micrograms per liter

RL: Reporting Limit

<: Not detected above RL

Results detected above RL shown in bold

DQE Flags:

J: Estimated concentration

TABLE 8
ANALYTICAL RESULTS SUMMARY, OCTOBER 2011
ANNUAL LONG-TERM MONITORING REPORT – 2011
Main Installation - Defense Depot Memphis, Tennessee

	Well Date	Maximum Contaminant	MW-256 9/30/2011	PMW21-03 10/5/2011	PMW21-05 10/5/2011	PMW92-03 10/3/2011	PMW92-06 10/3/2011	PMW101-04A 10/6/2011
	Lab ID	Level	L11100105-45	L11100191-03	L11100191-04	L11100105-27	L11100105-28	L11100282-12
Analyte	Units							
Carbon tetrachloride	µg/L	5	0.268 J	<1	<1	<1	106	<1
Chloroform	µg/L	80	2.27	<0.3	<0.3	<0.3	36.3	<0.3
cis-1,2-Dichloroethene	µg/L	70	<1	1.11	0.298 J	51.9	58	3.12
Tetrachloroethene	µg/L	5	20	55	19.5	147	135	59.6
trans-1,2-Dichloroethene	µg/L	100	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	5	4.68	14.4	1.46	15.1	29.8	2.11
Vinyl chloride	µg/L	2	<1	<1	<1	<1	<1	<1
Additional VOCs								
1,1,2,2-Tetrachloroethane	µg/L	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	µg/L	--	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	--	0.212 J	<1	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	--	<0.5	<0.5	<0.5	<0.5	0.412 J	<0.5
1,2,3-Trichloropropane	µg/L	--	<1	<1	<1	<1	85.5	<1
Acetone	µg/L	--	<10	<10	<10	3.07 J	<10	<10
Carbon disulfide	µg/L	--	<1	<1	<1	<1	<1	<1
Methyl t-butyl ether (MTBE)	µg/L	--	<5	14.6	<5	<5	<5	1.57 J
Trichlorofluoromethane	µg/L	--	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using method 8260B

µg/L : micrograms per liter

RL: Reporting Limit

<: Not detected above RL

Results detected above RL shown in bold

DQE Flags:

J: Estimated concentration

TABLE 8
ANALYTICAL RESULTS SUMMARY, OCTOBER 2011
ANNUAL LONG-TERM MONITORING REPORT – 2011
Main Installation - Defense Depot Memphis, Tennessee

Analyte	Well Date	Maximum	PMW101-04B 10/6/2011	PZ-03 10/8/2011
	Lab ID Units	Contaminant Level	L11100282-13	L11100336-08
Carbon tetrachloride	µg/L	5	<1	<1
Chloroform	µg/L	80	<0.3	0.235 J
cis-1,2-Dichloroethene	µg/L	70	<1	<1
Tetrachloroethene	µg/L	5	31.2	3.39
trans-1,2-Dichloroethene	µg/L	100	<1	<1
Trichloroethene	µg/L	5	3.23	2.64
Vinyl chloride	µg/L	2	<1	<1
Additional VOCs				
1,1,1,2-Tetrachloroethane	µg/L	--	<0.5	<0.5
1,1-Dichloroethene	µg/L	--	<1	<1
1,1-Dichloroethane	µg/L	--	<1	<1
1,2-Dichloroethane	µg/L	--	<0.5	<0.5
1,2,3-Trichloropropane	µg/L	--	<1	<1
Acetone	µg/L	--	<10	<10
Carbon disulfide	µg/L	--	<1	<1
Methyl t-butyl ether (MTBE)	µg/L	--	2.75 J	<5
Trichlorofluoromethane	µg/L	--	<1	0.26 J

Notes:

VOC samples analyzed using method 8260B

µg/L : micrograms per liter

RL: Reporting Limit

<: Not detected above RL

Results detected above RL shown in bold

DQE Flags:

J: Estimated concentration

TABLE 9
 PRIMARY CVOC RESULTS, OCTOBER 2011
 ANNUAL LONG TERM MONITORING REPORT - 2011
 Main Installation - Defense Depot Memphis, Tennessee

VOC Analyte	MCL (µg/L)	Number of Locations with Analyte Above RL	Maximum Concentrations (µg/L)	Location of Maximum Concentration	Number of Locations with Analyte Above MCL
Carbon tetrachloride	5	20	167	DR2-5	11
Chloroform	80	35	66.2	DR2-5	0
cis-1,2-Dichloroethene	70	36	87.4	DR2-5	1
Tetrachloroethene	5	74	189	MW-113	63
trans-1,2-Dichloroethene	100	0	0.845 F	MW-100B	0
Trichloroethene	5	75	166	DR1-6A	46
Vinyl chloride	2	7	181	MW-100B	3

Notes:

µg/L: micrograms per liter

--: not listed

MCL: Maximum Contaminant Level

RL: Reporting Limit

TABLE 10
MANN-KENDALL TREND ANALYSIS - PCE
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

Well	Plume	COC	Coefficient of		Confidence Factor (CF)	Concentration Trend	Number of		Max	Min
			Variation	MK (S)			Sample Rounds	Detects		
DR1-1	TTA-1 South	PCE	0.14	-13	85.40%	S	10	10	3.3	2.12
DR1-1A	TTA-1 South	PCE	0.34	-37	98.70%	D	13	13	1.8	0.747
DR1-2	TTA-1 North	PCE	0.18	-16	90.70%	PD	10	10	2.5	1.47
DR1-3	TTA-1 South	PCE	1.04	-22	76.60%	NT	19	19	54.7	0.45
DR1-4	TTA-1 South	PCE	1.10	-33	97.50%	D	13	11	12.4	0.435
DR1-5	TTA-1 South	PCE	0.71	14	73.65%	NT	15	15	95.8	4.3
DR1-5A	TTA-1 South	PCE	0.21	34	94.85%	PI	15	15	70.4	24
DR1-6	TTA-1 South	PCE	0.57	59	99.90%	I	15	15	239	13
DR1-6A	TTA-1 South	PCE	0.40	92	100.00%	I	15	15	60.3	17
DR1-7	TTA-1 North	PCE	0.88	-38	100.00%	D	10	10	30	2.62
DR1-8	TTA-1 North	PCE	0.00	0	46.43%	ND	10	0		
DR2-1	TTA-2	PCE	0.41	-73	99.50%	D	19	19	280	33.7
DR2-2	TTA-2	PCE	0.73	27	89.90%	NT	15	15	159	10
DR2-3	TTA-2	PCE	0.27	4	55.80%	NT	15	15	50.3	20.6
DR2-4	TTA-2	PCE	0.30	12	83.20%	NT	10	10	19.8	7.15
DR2-5	TTA-2	PCE	0.38	-16	69.80%	S	19	19	114	21.1
DR2-6	TTA-2	PCE	0.50	-33	94.30%	PD	15	15	115	20.9
MW-16	Background	PCE	0.00	0	37.50%	ND	4	0		
MW-19	Background	PCE	0.00	0	37.50%	ND	4	0		
MW-21	TTA-1 North	PCE	0.38	57	97.50%	I	19	19	192	53
MW-22	Boundary	PCE	1.14	-1	50.00%	NT	4	1	0.79	0.79
MW-23	Boundary	PCE	0.00	0	37.50%	ND	4	0		
MW-24	Boundary	PCE	0.00	0	37.50%	ND	4	0		
MW-25A	-	PCE	0.28	-7	70.00%	S	10	10	13.6	4.91
MW-26	TTA-2	PCE	0.36	30	92.30%	PI	15	15	52.5	13.7
MW-34	Sentinel	PCE	0.44	-5	59.40%	S	13	11	0.75	0.269
MW-38	Sentinel	PCE	0.71	-2	55.70%	S	7	1	0.446	0.446
MW-39	West Central	PCE	0.49	-66	99.90%	D	16	16	158	29
MW-39A	West Central	PCE	0.55	-48	99.10%	D	15	15	234	25.6
MW-50	Boundary	PCE	0.47	6	95.80%	I	4	3	0.46	0.263
MW-52	-	PCE	0.30	-15	85.90%	S	11	11	10.8	4.7
MW-53	Background	PCE	0.49	0	37.50%	S	4	4	2.26	0.59
MW-55	Background	PCE	0.00	0	37.50%	ND	4	0		
MW-62	Building 835	PCE	0.59	19	78.80%	NT	16	13	1.1	0.318
MW-63A	Sentinel	PCE	0.67	4	64.00%	NT	8	7	1.69	0.32
MW-63B	Sentinel	PCE	0.49	14	94.60%	PI	8	8	7.47	1.58
MW-64	TTA-2	PCE	0.14	23	90.80%	PI	13	13	23.8	16
MW-66A	Background	PCE	0.27	3	61.40%	NT	7	7	3.31	1.7
MW-85	TTA-2	PCE	0.38	-49	95.30%	D	19	19	74.8	14.4
MW-88	TTA-2	PCE	0.41	58	99.85%	I	15	15	56.1	14
MW-89	Sentinel	PCE	1.36	10	86.20%	NT	8	7	3.68	0.251
MW-90	Sentinel	PCE	0.51	22	89.80%	NT	13	13	80.8	19
MW-92	TTA-2	PCE	0.87	-45	98.60%	D	15	14	193	0.499
MW-93	Boundary	PCE	0.11	-5	76.50%	S	6	1	0.16	0.16
MW-94A	West Central	PCE	0.26	-54	99.65%	D	15	15	52.2	24.9
MW-96	TTA-2	PCE	1.88	-28	95.00%	D	13	13	63	1.46

TABLE 10
MANN-KENDALL TREND ANALYSIS - PCE
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

Well	Plume	COC	Coefficient of		Confidence Factor (CF)	Concentration Trend	Number of		Max	Min
			Variation	MK (S)			Sample Rounds	Detects		
MW-97	-	PCE	0.00	0	47.60%	ND	13	0		
MW-98	West Central	PCE	0.19	61	99.90%	I	15	15	41.7	17
MW-99	Background	PCE	0.00	0	42.27%	ND	6	0		
MW-100B	TTA-1 North	PCE	1.61	-6	59.60%	NT	15	9	101	0.706
MW-101B	TTA-1 South	PCE	0.50	-65	100.00%	D	15	15	239	47
MW-101T	TTA-1 South	PCE	0.56	-73	100.00%	D	15	15	251	16.5
MW-102B	Boundary	PCE	0.48	-1	50.00%	S	6	1	0.308	0.308
MW-103	North Central	PCE	0.00	0	45.20%	ND	8	0		
MW-104	North Central	PCE	0.00	0	46.43%	ND	10	0		
MW-107B	Sentinel	PCE	1.95	17	99.50%	I	7	7	32.1	0.291
MW-107T	Sentinel	PCE	1.65	11	97.20%	I	6	6	31.7	0.411
MW-108	Sentinel	PCE	0.25	29	95.60%	I	13	13	7.25	3.3
MW-113	TTA-2	PCE	0.24	52	99.50%	I	15	15	200	64
MW-140	Sentinel	PCE	0.56	42	100.00%	I	10	9	1.19	0.38
MW-141	Sentinel	PCE	0.31	-1	50.00%	S	15	15	31	5.9
MW-142	Building 835	PCE	0.00	0	46.43%	ND	10	0		
MW-143	Background	PCE	0.00	0	46.00%	ND	9	0		
MW-197A	West Central	PCE	0.55	-72	100.00%	D	13	13	130	32.2
MW-197B	West Central	PCE	0.85	-42	99.50%	D	13	13	179	16.7
MW-198	Building 835	PCE	0.00	0	46.87%	ND	11	0		
MW-199A	Sentinel	PCE	0.52	-2	54.00%	S	9	1	0.361	0.361
MW-199B	Building 835	PCE	2.69	12	74.50%	NT	13	13	23.4	0.393
MW-200	West Central	PCE	0.56	-29	95.60%	D	13	13	132	23.8
MW-202A	Sentinel	PCE	0.76	25	97.00%	I	11	11	1.56	0.257
MW-202B	Sentinel	PCE	0.51	60	100.00%	I	13	13	27.1	3.82
MW-203A	West Central	PCE	0.29	38	99.60%	I	12	12	170	62.6
MW-203B	West Central	PCE	0.39	19	88.85%	NT	12	12	38.4	9.39
MW-204A	West Central	PCE	0.11	32	98.40%	I	12	12	50.2	36.2
MW-204B	West Central	PCE	0.26	-14	81.00%	S	12	12	29.4	13.9
MW-205A	West Central	PCE	0.59	-50	100.00%	D	12	12	180	30.1
MW-205B	West Central	PCE	0.82	-32	98.40%	D	12	12	149	19.7
MW-206A	West Central	PCE	0.65	-48	100.00%	D	12	12	114	14
MW-206B	West Central	PCE	0.68	-43	99.85%	D	12	12	77.5	12.3
MW-207A	Sentinel	PCE	0.29	44	99.90%	I	12	12	18.6	7.92
MW-207B	Sentinel	PCE	0.80	18	87.50%	NT	12	12	113	13
MW-208A	West Central	PCE	0.66	-45	99.95%	D	12	12	198	3.94
MW-208B	West Central	PCE	0.91	46	100.00%	I	12	12	19.8	1.68
MW-209A	Sentinel	PCE	0.51	-7	70.00%	S	10	2	0.326	0.323
MW-209B	Building 835	PCE	0.53	31	98.10%	I	12	7	0.492	0.278
MW-210A	Sentinel	PCE	0.46	-56	100.00%	D	12	12	38.2	8.48
MW-210B	West Central	PCE	0.50	-62	100.00%	D	12	12	32.4	7.24
MW-211	Sentinel	PCE	0.65	17	95.10%	I	9	6	0.811	0.275
MW-212	Building 835	PCE	0.74	-6	63.10%	S	12	3	0.516	0.407
MW-214A	West Central	PCE	0.33	-3	56.90%	S	10	10	11.1	4.51
MW-214B	West Central	PCE	0.36	-9	75.80%	S	10	10	10	4
MW-215A	West Central	PCE	0.21	-26	98.90%	D	10	10	7.01	3.51

TABLE 10
MANN-KENDALL TREND ANALYSIS - PCE
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

Well	Plume	COC	Coefficient of		Confidence Factor (CF)	Concentration Trend	Number of		Max	Min
			Variation	MK (S)			Sample Rounds	Detects		
MW-215B	West Central	PCE	0.22	27	99.20%	I	10	10	5.81	2.1
MW-216	-	PCE	2.89	5	65.65%	NT	9	2	34.2	0.285
MW-217	TTA-2	PCE	0.15	-8	68.10%	S	12	12	34.7	18.4
MW-218	TTA-2	PCE	0.16	-12	77.00%	S	12	12	19.5	11.2
MW-219	Boundary	PCE	0.65	-28	96.90%	D	12	12	48	4.55
MW-229	Sentinel	PCE	0.00	0	43.73%	ND	7	0		
MW-252	-	PCE	1.37	3	67.50%	NT	5	2	5.64	2.75
MW-253	-	PCE	0.00	0	40.80%	ND	5	0		
MW-254	-	PCE	0.48	-4	75.80%	S	5	4	0.854	0.578
MW-255	-	PCE	0.00	0	40.80%	ND	5	0		
MW-256	-	PCE	0.41	6	88.30%	NT	5	5	20	8.64
PMW101-04A	-	PCE	1.06	-11	70.50%	NT	14	14	199	4.64
PMW101-04B	-	PCE	0.85	-15	77.50%	S	14	14	109	5.33
PMW21-03	-	PCE	0.85	-5	58.50%	S	14	14	185	18.7
PMW21-05	-	PCE	0.48	41	98.70%	I	14	14	61.2	6.37
PMW92-03	-	PCE	0.86	-14	75.80%	S	14	14	252	15.6
PMW92-06	-	PCE	0.80	-35	96.90%	D	14	14	179	0.67
PZ-03	West Central	PCE	0.43	-12	91.10%	PD	8	8	5	0.523

Notes:

D: Decreasing

I: Increasing

N/A: Insufficient Data

ND: Not Detected

NT: No Trend

PD: Probably Decreasing

PI: Probably Increasing

S: Stable

TABLE 11
MANN-KENDALL TREND ANALYSIS - TCE
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

Well	Plume	COC	Coefficient of		Confidence Factor (CF)	Concentration Trend	Number of		Max	Min
			Variation	MK (S)			Sample Rounds	Detects		
DR1-1	TTA-1 South	TCE	0.32	17	92.20%	PI	10	8	0.399	0.255
DR1-1A	TTA-1 South	TCE	0.34	-38	98.90%	D	13	13	6.9	2.33
DR1-2	TTA-1 North	TCE	1.82	3	56.90%	NT	10	1	1.83	1.83
DR1-3	TTA-1 South	TCE	0.60	-37	89.50%	S	19	18	5.13	0.303
DR1-4	TTA-1 South	TCE	0.65	-20	87.40%	S	13	11	1.69	0.252
DR1-5	TTA-1 South	TCE	2.67	2	51.95%	NT	15	1	4.28	4.28
DR1-5A	TTA-1 South	TCE	0.21	-14	73.65%	S	15	15	114	47
DR1-6	TTA-1 South	TCE	0.42	-37	96.30%	D	15	15	4.61	1.27
DR1-6A	TTA-1 South	TCE	0.21	68	100.00%	I	15	15	166	87
DR1-7	TTA-1 North	TCE	0.54	-28	99.35%	D	10	10	2.2	0.441
DR1-8	TTA-1 North	TCE	1.21	5	63.60%	NT	10	2	1.03	0.341
DR2-1	TTA-2	TCE	0.34	-77	99.70%	D	19	19	12.7	2.61
DR2-2	TTA-2	TCE	0.17	-7	61.50%	S	15	15	4.25	2.45
DR2-3	TTA-2	TCE	0.11	-31	93.00%	PD	15	15	2.7	2
DR2-4	TTA-2	TCE	0.11	-23	97.70%	D	10	10	2.2	1.54
DR2-5	TTA-2	TCE	0.36	3	52.70%	NT	19	19	37.8	12.1
DR2-6	TTA-2	TCE	0.50	-21	83.60%	S	15	15	19.7	2.2
MW-16	Background	TCE	0.00	0	37.50%	ND	4	0		
MW-19	Background	TCE	0.00	0	37.50%	ND	4	0		
MW-21	TTA-1 North	TCE	0.47	-49	95.30%	D	19	19	32.5	5.3
MW-22	Boundary	TCE	0.70	-1	50.00%	S	4	2	0.531	0.329
MW-23	Boundary	TCE	0.00	0	37.50%	ND	4	0		
MW-24	Boundary	TCE	0.00	0	37.50%	ND	4	0		
MW-25A	-	TCE	0.24	-16	90.70%	PD	10	10	0.644	0.335
MW-26	TTA-2	TCE	0.20	-15	75.20%	S	15	15	2.5	1.3
MW-34	Sentinel	TCE	0.44	42	99.50%	I	13	13	1.48	0.29
MW-38	Sentinel	TCE	1.40	-2	55.70%	NT	7	4	4.63	0.291
MW-39	West Central	TCE	0.23	47	98.15%	I	16	16	13.9	6.15
MW-39A	West Central	TCE	0.35	34	94.85%	PI	15	15	11.8	4.04
MW-50	Boundary	TCE	0.15	2	62.50%	NT	4	4	1.5	1.1
MW-52	-	TCE	0.29	0	46.87%	S	11	11	1.4	0.34
MW-53	Background	TCE	0.00	0	37.50%	ND	4	0		
MW-55	Background	TCE	0.00	0	37.50%	ND	4	0		
MW-62	Building 835	TCE	0.29	17	76.10%	NT	16	16	184	59.2
MW-63A	Sentinel	TCE	0.48	8	80.10%	NT	8	8	1.81	0.432
MW-63B	Sentinel	TCE	0.55	18	98.40%	I	8	8	4.56	0.92
MW-64	TTA-2	TCE	0.13	11	72.50%	NT	13	13	41.5	26.1
MW-66A	Background	TCE	0.00	0	43.73%	ND	7	0		
MW-85	TTA-2	TCE	0.35	-78	99.70%	D	19	19	25.1	7
MW-88	TTA-2	TCE	0.15	12	70.40%	NT	15	15	4.8	2.7
MW-89	Sentinel	TCE	0.23	-6	72.60%	S	8	8	2.13	1.1
MW-90	Sentinel	TCE	0.42	16	81.60%	NT	13	13	8.55	2.4
MW-92	TTA-2	TCE	0.76	0	48.00%	S	15	13	13.8	1.72
MW-93	Boundary	TCE	0.00	0	42.27%	ND	6	0		
MW-94A	West Central	TCE	0.18	38	96.70%	I	15	15	9.49	4.2
MW-96	TTA-2	TCE	0.54	-13	76.35%	S	13	2	0.419	0.22

TABLE 11
MANN-KENDALL TREND ANALYSIS - TCE
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Well	Plume	COC	Coefficient of		Confidence Factor (CF)	Concentration Trend	Number of		Max	Min
			Variation	MK (S)			Sample Rounds	Detects		
MW-97	-	TCE	0.55	72	100.00%	I	13	13	53.8	2.2
MW-98	West Central	TCE	0.23	67	100.00%	I	15	15	3.44	1.2
MW-99	Background	TCE	0.42	-5	76.50%	S	6	1	0.28	0.28
MW-100B	TTA-1 North	TCE	1.67	-14	73.65%	NT	15	9	43.1	0.309
MW-101B	TTA-1 South	TCE	1.29	-3	53.90%	NT	15	11	4.15	0.293
MW-101T	TTA-1 South	TCE	1.03	3	53.90%	NT	15	10	2.16	0.298
MW-102B	Boundary	TCE	0.00	0	42.27%	ND	6	0		
MW-103	North Central	TCE	0.22	12	91.10%	PI	8	8	7.2	3.98
MW-104	North Central	TCE	0.16	11	81.00%	NT	10	10	18.2	11
MW-107B	Sentinel	TCE	0.45	21	100.00%	I	7	7	2.86	0.585
MW-107T	Sentinel	TCE	0.32	13	99.20%	I	6	6	2.84	0.999
MW-108	Sentinel	TCE	0.20	14	78.20%	NT	13	13	38.4	15
MW-113	TTA-2	TCE	0.25	13	72.10%	NT	15	15	29.5	8.8
MW-140	Sentinel	TCE	0.23	4	60.25%	NT	10	10	1.49	0.54
MW-141	Sentinel	TCE	0.24	56	99.75%	I	15	15	3.86	1.2
MW-142	Building 835	TCE	1.37	31	99.80%	I	10	10	11	0.3
MW-143	Background	TCE	1.36	33	100.00%	I	9	6	12.6	0.31
MW-197A	West Central	TCE	0.16	-35	98.20%	D	13	13	2.42	1.51
MW-197B	West Central	TCE	0.12	25	92.70%	PI	13	13	12.6	8.51
MW-198	Building 835	TCE	0.82	-27	98.00%	D	11	11	25.8	0.44
MW-199A	Sentinel	TCE	1.06	19	97.00%	I	9	3	0.968	0.419
MW-199B	Building 835	TCE	0.30	-33	97.50%	D	13	13	136	53.8
MW-200	West Central	TCE	0.24	1	50.00%	NT	13	13	8.04	3.42
MW-202A	Sentinel	TCE	0.18	-21	94.00%	PD	11	11	2.22	1.21
MW-202B	Sentinel	TCE	0.50	68	100.00%	I	13	13	5.13	0.811
MW-203A	West Central	TCE	0.23	64	100.00%	I	12	12	2.8	1.27
MW-203B	West Central	TCE	0.18	0	47.30%	S	12	12	11.3	6.25
MW-204A	West Central	TCE	0.26	4	58.00%	NT	12	12	1.83	0.852
MW-204B	West Central	TCE	0.28	18	87.50%	NT	12	12	5.92	2.37
MW-205A	West Central	TCE	0.22	52	100.00%	I	12	12	9.18	3.69
MW-205B	West Central	TCE	0.19	18	87.50%	NT	12	12	11.8	5.15
MW-206A	West Central	TCE	0.10	19	88.85%	NT	12	12	13.9	9.81
MW-206B	West Central	TCE	0.14	-28	96.90%	D	12	12	11.7	7.5
MW-207A	Sentinel	TCE	0.39	24	94.20%	PI	12	12	52.7	18.6
MW-207B	Sentinel	TCE	0.56	-6	63.10%	S	12	12	109	12.1
MW-208A	West Central	TCE	0.36	41	99.75%	I	12	12	19.1	6.48
MW-208B	West Central	TCE	0.44	38	99.60%	I	12	12	45.1	13.2
MW-209A	Sentinel	TCE	0.30	23	97.70%	I	10	10	1.04	0.404
MW-209B	Building 835	TCE	0.47	50	100.00%	I	12	12	31.8	6.4
MW-210A	Sentinel	TCE	0.07	-4	58.00%	S	12	12	6.37	4.92
MW-210B	West Central	TCE	0.13	-4	58.00%	S	12	12	10.7	7.06
MW-211	Sentinel	TCE	0.46	14	91.00%	PI	9	9	1.38	0.436
MW-212	Building 835	TCE	0.29	-40	99.70%	D	12	12	47.9	16.5
MW-214A	West Central	TCE	0.46	-7	70.00%	S	10	10	7.88	1.95
MW-214B	West Central	TCE	0.39	-11	81.00%	S	10	10	5.65	1.93
MW-215A	West Central	TCE	0.40	-27	99.20%	D	10	10	10.2	2.08

TABLE 11
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Well	Plume	COC	Coefficient of		Confidence Factor (CF)	Concentration Trend	Number of		Max	Min
			Variation	MK (S)			Sample Rounds	Detects		
MW-215B	West Central	TCE	0.10	-3	56.90%	S	10	10	1.76	1.25
MW-216	-	TCE	1.65	0	46.00%	NT	9	1	1.5	1.5
MW-217	TTA-2	TCE	0.17	14	81.00%	NT	12	12	46.1	25.6
MW-218	TTA-2	TCE	0.12	-9	70.40%	S	12	12	49.2	32.8
MW-219	Boundary	TCE	0.59	-32	98.40%	D	12	12	3.74	0.439
MW-229	Sentinel	TCE	0.00	0	43.73%	ND	7	0		
MW-252	-	TCE	1.38	3	67.50%	NT	5	2	3.73	1.62
MW-253	-	TCE	0.73	10	99.20%	I	5	5	9.81	0.344
MW-254	-	TCE	0.13	-1	50.00%	S	5	5	2.58	1.8
MW-255	-	TCE	0.31	6	88.30%	NT	5	4	0.345	0.269
MW-256	-	TCE	0.27	10	99.20%	I	5	5	4.68	2.43
PMW101-04A	-	TCE	1.06	62	100.00%	I	14	12	7.89	0.26
PMW101-04B	-	TCE	1.16	-7	62.60%	NT	14	14	23.2	1.24
PMW21-03	-	TCE	0.88	1	50.00%	NT	14	14	58	6.73
PMW21-05	-	TCE	0.71	-61	100.00%	D	14	14	34.6	1.46
PMW92-03	-	TCE	0.48	27	92.10%	PI	14	14	21.1	4.66
PMW92-06	-	TCE	0.75	-30	94.35%	PD	14	12	39.7	0.747
PZ-03	West Central	TCE	0.63	21	99.55%	I	8	8	2.64	0.321

Notes:

D: Decreasing

I: Increasing

N/A: Insufficient Data

ND: Not Detected

NT: No Trend

PD: Probably Decreasing

PI: Probably Increasing

S: Stable

TABLE 12
MANN-KENDALL TREND ANALYSIS - cDCE
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

Well	Plume	COC	Coefficient of Variation	MK (S)	Confidence Factor (CF)	Concentration Trend	Number of Sample Rounds	Detects	Max	Min
DR1-1	TTA-1 South	cDCE	0.34	13	85.40%	NT	10	9	1.31	0.8
DR1-1A	TTA-1 South	cDCE	0.54	-44	99.70%	D	13	12	1	0.262
DR1-2	TTA-1 North	cDCE	0.16	1	50.00%	NT	10	10	0.81	0.48
DR1-3	TTA-1 South	cDCE	1.26	-11	63.50%	NT	19	11	32.9	0.22
DR1-4	TTA-1 South	cDCE	1.93	4	57.10%	NT	13	5	8.09	0.582
DR1-5	TTA-1 South	cDCE	0.32	2	51.95%	NT	15	1	0.295	0.295
DR1-5A	TTA-1 South	cDCE	0.28	-22	84.75%	S	15	15	5.2	1.7
DR1-6	TTA-1 South	cDCE	0.65	-52	99.50%	D	15	15	6.2	1.09
DR1-6A	TTA-1 South	cDCE	0.39	59	99.90%	I	15	15	9.24	2.6
DR1-7	TTA-1 North	cDCE	0.25	3	56.90%	NT	10	10	0.787	0.344
DR1-8	TTA-1 North	cDCE	0.00	0	46.43%	ND	10	0		
DR2-1	TTA-2	cDCE	0.85	-39	90.70%	PD	19	19	86.4	4.89
DR2-2	TTA-2	cDCE	0.69	5	57.70%	NT	15	14	7.39	1.06
DR2-3	TTA-2	cDCE	0.43	-8	63.30%	S	15	15	1.8	0.549
DR2-4	TTA-2	cDCE	0.45	21	96.40%	I	10	7	0.414	0.22
DR2-5	TTA-2	cDCE	0.50	57	97.50%	I	19	19	105	25.9
DR2-6	TTA-2	cDCE	0.59	59	99.90%	I	15	15	50.5	0.69
MW-16	Background	cDCE	0.00	0	37.50%	ND	4	0		
MW-19	Background	cDCE	0.00	0	37.50%	ND	4	0		
MW-21	TTA-1 North	cDCE	0.27	119	100.00%	I	19	19	2.75	0.99
MW-22	Boundary	cDCE	0.89	-1	50.00%	S	4	1	0.527	0.527
MW-23	Boundary	cDCE	0.00	0	37.50%	ND	4	0		
MW-24	Boundary	cDCE	0.00	0	37.50%	ND	4	0		
MW-25A	-	cDCE	0.00	0	46.43%	ND	10	0		
MW-26	TTA-2	cDCE	0.52	1	50.00%	NT	15	14	1.23	0.295
MW-34	Sentinel	cDCE	0.00	0	47.60%	ND	13	0		
MW-38	Sentinel	cDCE	0.00	0	43.73%	ND	7	0		
MW-39	West Central	cDCE	1.28	75	100.00%	I	16	13	21.3	0.435
MW-39A	West Central	cDCE	1.26	72	100.00%	I	15	13	40.8	0.362
MW-50	Boundary	cDCE	0.28	-6	95.80%	D	4	4	0.52	0.30
MW-52	-	cDCE	0.20	7	67.60%	NT	11	11	0.993	0.58
MW-53	Background	cDCE	0.00	0	37.50%	ND	4	0		
MW-55	Background	cDCE	0.00	0	37.50%	ND	4	0		
MW-62	Building 835	cDCE	1.11	-24	84.70%	NT	16	7	1.3	0.26
MW-63A	Sentinel	cDCE	0.00	0	45.20%	ND	8	0		
MW-63B	Sentinel	cDCE	0.58	8	80.10%	NT	8	3	0.401	0.253
MW-64	TTA-2	cDCE	0.17	52	100.00%	I	13	13	0.544	0.31
MW-66A	Background	cDCE	0.00	0	43.73%	ND	7	0		
MW-85	TTA-2	cDCE	0.68	-20	74.40%	S	19	19	59.2	1.3
MW-88	TTA-2	cDCE	0.48	25	88.00%	NT	15	15	2.54	0.325
MW-89	Sentinel	cDCE	0.52	-14	94.60%	PD	8	4	0.404	0.27
MW-90	Sentinel	cDCE	0.29	23	90.80%	PI	13	12	0.484	0.29
MW-92	TTA-2	cDCE	0.77	42	97.95%	I	15	15	123	7.32
MW-93	Boundary	cDCE	0.00	0	42.27%	ND	6	0		
MW-94A	West Central	cDCE	0.74	63	99.90%	I	15	15	3.41	0.42
MW-96	TTA-2	cDCE	2.73	-23	90.80%	PD	13	9	19	0.34
MW-97	-	cDCE	0.00	0	47.60%	ND	13	0		

TABLE 12
MANN-KENDALL TREND ANALYSIS - cDCE
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Well	Plume	COC	Coefficient of Variation	MK (S)	Confidence Factor (CF)	Concentration Trend	Number of Sample Rounds	Detects	Max	Min
MW-98	West Central	cDCE	2.66	54	99.65%	I	15	9	8.6	0.22
MW-99	Background	cDCE	0.00	0	42.27%	ND	6	0		
MW-100B	TTA-1 North	cDCE	0.72	-65	100.00%	D	15	15	160	8.8
MW-101B	TTA-1 South	cDCE	1.34	-16	76.70%	NT	15	13	35.6	0.253
MW-101T	TTA-1 South	cDCE	2.17	-2	51.95%	NT	15	12	51.2	0.266
MW-102B	Boundary	cDCE	0.00	0	42.27%	ND	6	0		
MW-103	North Central	cDCE	0.30	-4	64.00%	S	8	7	0.44	0.314
MW-104	North Central	cDCE	0.23	15	89.20%	NT	10	10	0.63	0.305
MW-107B	Sentinel	cDCE	0.59	1	50.00%	NT	7	3	0.449	0.252
MW-107T	Sentinel	cDCE	0.50	-4	70.25%	S	6	3	0.385	0.257
MW-108	Sentinel	cDCE	0.19	10	70.50%	NT	13	13	0.75	0.33
MW-113	TTA-2	cDCE	0.47	-79	100.00%	D	15	15	110	25.1
MW-140	Sentinel	cDCE	0.36	-17	92.20%	PD	10	3	0.28	0.22
MW-141	Sentinel	cDCE	0.00	0	48.00%	ND	15	0		
MW-142	Building 835	cDCE	0.00	0	46.43%	ND	10	0		
MW-143	Background	cDCE	0.00	0	46.00%	ND	9	0		
MW-197A	West Central	cDCE	0.73	26	93.60%	PI	13	13	3.69	0.345
MW-197B	West Central	cDCE	1.05	14	78.20%	NT	13	13	48.7	0.484
MW-198	Building 835	cDCE	0.00	0	46.87%	ND	11	0		
MW-199A	Sentinel	cDCE	0.00	0	46.00%	ND	9	0		
MW-199B	Building 835	cDCE	0.00	0	47.60%	ND	13	0		
MW-200	West Central	cDCE	1.14	52	100.00%	I	13	13	16.7	0.303
MW-202A	Sentinel	cDCE	0.28	-4	58.95%	S	11	1	0.251	0.251
MW-202B	Sentinel	cDCE	0.66	31	96.65%	I	13	3	0.477	0.299
MW-203A	West Central	cDCE	0.89	63	100.00%	I	12	10	5.75	0.294
MW-203B	West Central	cDCE	0.73	-52	100.00%	D	12	12	63.5	4.81
MW-204A	West Central	cDCE	0.97	40	99.70%	I	12	12	6.88	0.763
MW-204B	West Central	cDCE	0.85	8	68.10%	NT	12	12	6.13	0.793
MW-205A	West Central	cDCE	0.93	48	100.00%	I	12	12	31.8	0.337
MW-205B	West Central	cDCE	0.80	6	63.10%	NT	12	12	43	0.546
MW-206A	West Central	cDCE	0.91	40	99.70%	I	12	12	18.6	0.607
MW-206B	West Central	cDCE	0.83	24	94.20%	PI	12	12	11	0.582
MW-207A	Sentinel	cDCE	0.33	34	99.00%	I	12	12	0.974	0.382
MW-207B	Sentinel	cDCE	0.94	28	96.90%	I	12	4	0.9	0.544
MW-208A	West Central	cDCE	1.22	42	99.80%	I	12	12	41	0.517
MW-208B	West Central	cDCE	0.26	28	96.90%	I	12	12	2.14	0.932
MW-209A	Sentinel	cDCE	0.00	0	46.43%	ND	10	0		
MW-209B	Building 835	cDCE	0.00	0	47.30%	ND	12	0		
MW-210A	Sentinel	cDCE	0.44	46	100.00%	I	12	12	2.25	0.727
MW-210B	West Central	cDCE	0.37	31	98.10%	I	12	12	1.3	0.433
MW-211	Sentinel	cDCE	0.00	0	46.00%	ND	9	0		
MW-212	Building 835	cDCE	0.00	0	47.30%	ND	12	0		
MW-214A	West Central	cDCE	0.00	0	46.43%	ND	10	0		
MW-214B	West Central	cDCE	0.00	0	46.43%	ND	10	0		
MW-215A	West Central	cDCE	0.00	0	46.43%	ND	10	0		
MW-215B	West Central	cDCE	0.00	0	46.43%	ND	10	0		
MW-216	-	cDCE	0.38	0	46.00%	S	9	1	0.288	0.288

TABLE 12
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Well	Plume	COC	Coefficient of Variation	MK (S)	Confidence Factor (CF)	Concentration Trend	Number of Sample Rounds	Detects	Max	Min
MW-217	TTA-2	cDCE	0.63	-20	90.20%	PD	12	12	4.8	0.581
MW-218	TTA-2	cDCE	0.14	-11	74.85%	S	12	12	0.508	0.303
MW-219	Boundary	cDCE	0.58	-25	94.95%	PD	12	9	1.15	0.393
MW-229	Sentinel	cDCE	0.00	0	43.73%	ND	7	0		
MW-252	-	cDCE	0.00	0	40.80%	ND	5	0		
MW-253	-	cDCE	0.00	0	40.80%	ND	5	0		
MW-254	-	cDCE	0.49	5	82.05%	NT	5	2	0.303	0.299
MW-255	-	cDCE	0.00	0	40.80%	ND	5	0		
MW-256	-	cDCE	0.00	0	40.80%	ND	5	0		
PMW101-04A	-	cDCE	0.96	-2	52.15%	S	14	11	86.9	3.12
PMW101-04B	-	cDCE	1.06	-34	96.45%	D	14	11	86.3	0.394
PMW21-03	-	cDCE	2.52	26	91.25%	PI	14	14	57.4	0.355
PMW21-05	-	cDCE	0.61	27	92.10%	PI	14	13	1.47	0.278
PMW92-03	-	cDCE	0.51	-14	75.80%	S	14	14	182	19.9
PMW92-06	-	cDCE	0.44	-5	58.50%	S	14	14	200	58
PZ-03	West Central	cDCE	0.43	1	50.00%	NT	8	2	0.287	0.26

Notes:

D: Decreasing

I: Increasing

N/A: Insufficient Data

ND: Not Detected

NT: No Trend

PD: Probably Decreasing

PI: Probably Increasing

S: Stable

TABLE 13
MANN-KENDALL TREND ANALYSIS - CT
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

Well	Plume	COC	Coefficient of		Confidence Factor (CF)	Concentration Trend	Number of Sample		Max	Min
			Variation	MK (S)			Rounds	Detects		
DR2-1	TTA-2	CT	0.49	-71	99.40%	D	19	19	35	1.26
DR2-2	TTA-2	CT	0.58	19	81.00%	NT	15	15	16.2	1.8
DR2-3	TTA-2	CT	0.20	47	99.00%	I	15	15	7.38	4.1
DR2-4	TTA-2	CT	0.18	13	85.40%	NT	10	10	4.56	2.2
DR2-5	TTA-2	CT	0.39	-48	94.95%	PD	19	19	260	25
DR2-6	TTA-2	CT	0.68	-19	81.00%	S	15	15	92	7.2
MW-26	TTA-2	CT	0.26	20	82.30%	NT	15	15	9.99	4.38
MW-64	TTA-2	CT	0.11	1	50.00%	NT	13	13	3.68	2.52
MW-85	TTA-2	CT	0.43	-32	85.90%	S	19	19	188	22.5
MW-88	TTA-2	CT	0.43	31	93.00%	PI	15	15	12.2	2.66
MW-92	TTA-2	CT	1.17	-72	100.00%	D	15	8	27.2	6.3
MW-96	TTA-2	CT	2.93	-16	81.60%	NT	13	13	150	0.69
MW-113	TTA-2	CT	0.34	27	89.90%	NT	15	15	110	20
MW-217	TTA-2	CT	0.35	-2	52.70%	S	12	12	96.3	32.1
MW-218	TTA-2	CT	0.28	-28	96.90%	D	12	12	17.7	7.56
PMW92-03	TTA-2	CT	1.94	-70	100.00%	D	14	7	58.1	0.586
PMW92-06	TTA-2	CT	0.85	-28	92.90%	PD	14	10	182	1.53

Notes:

D: Decreasing

I: Increasing

N/A: Insufficient Data

ND: Not Detected

NT: No Trend

PD: Probably Decreasing

PI: Probably Increasing

S: Stable

TABLE 14
MANN-KENDALL TREND ANALYSIS - CF
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

Well	Plume	COC	Coefficient of		Confidence Factor (CF)	Concentration Trend	Number of		Max	Min
			Variation	MK (S)			Sample Rounds	Detects		
DR2-1	TTA-2	CF	0.39	-104	100.00%	D	19	19	16	3.76
DR2-2	TTA-2	CF	0.67	-2	51.95%	S	15	15	4.23	0.56
DR2-3	TTA-2	CF	0.33	-34	94.85%	PD	15	15	1.9	0.76
DR2-4	TTA-2	CF	0.18	-19	94.60%	PD	10	10	1.06	0.58
DR2-5	TTA-2	CF	0.32	-25	79.70%	S	19	19	82	21.5
DR2-6	TTA-2	CF	0.69	-31	93.00%	PD	15	15	43.1	1.5
MW-26	TTA-2	CF	0.23	-5	57.70%	S	15	15	1.8	0.87
MW-64	TTA-2	CF	0.20	50	99.90%	I	13	13	1.45	0.82
MW-85	TTA-2	CF	0.48	-43	92.80%	PD	19	19	51.5	8.03
MW-88	TTA-2	CF	0.42	-1	50.00%	S	15	15	2.5	0.41
MW-92	TTA-2	CF	0.99	-54	99.65%	D	15	8	13.2	7.6
MW-96	TTA-2	CF	2.83	-10	70.50%	NT	13	13	33	0.34
MW-113	TTA-2	CF	0.26	-42	97.95%	D	15	15	45.3	16.2
MW-217	TTA-2	CF	0.46	-20	90.20%	PD	12	12	13.4	3.73
MW-218	TTA-2	CF	0.08	-9	70.40%	S	12	12	3.15	2.42
PMW92-03	TTA-2	CF	1.34	-65	100.00%	D	14	10	31	0.15
PMW92-06	TTA-2	CF	0.72	-38	97.90%	D	14	12	114	1.11

Notes:

D: Decreasing

I: Increasing

N/A: Insufficient Data

NT: No Trend

PD: Probably Decreasing

PI: Probably Increasing

TABLE 15
2012 LTM SCHEDULE
ANNUAL LONG TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

Well ID	Well Type	Current Sample Frequency	Semiannual Apr-2012	Annual Oct-12
MW-16	Background	Biennial	-	-
MW-19	Background	Biennial	-	-
MW-21	Performance	Semiannual	P	P
MW-22	Boundary	Biennial	-	-
MW-23	Boundary	Biennial	-	-
MW-24	Boundary	Biennial	-	-
MW-25A	Performance	Annual	-	P
MW-26	Performance	Semiannual	P	P
MW-34	Sentinel	Biennial	-	-
MW-38	Sentinel	Biennial	-	-
MW-39	Performance	Semiannual	P	P
MW-39A	Performance	Semiannual	P	P
MW-50	Boundary	Biennial	-	-
MW-52	Performance	Annual	-	P
MW-53	Background	Biennial	-	-
MW-55	Background	Biennial	-	-
MW-62	Performance	Semiannual	P	P
MW-63A	Sentinel	Annual	-	P
MW-63B	Sentinel	Annual	-	P
MW-64	Performance	Semiannual	P	P
MW-66A	Background	Biennial	-	-
MW-85	Performance	Semiannual	P	P
MW-88	Performance	Semiannual	P	P
MW-89	Sentinel	Annual	-	P
MW-90	Sentinel	Semiannual	P	P
MW-92	Performance	Semiannual	P	P
MW-93	Boundary	Biennial	-	-
MW-94A	Performance	Semiannual	P	P
MW-96	Performance	Annual	-	P
MW-97	Performance	Semiannual	P	P
MW-98	Performance	Semiannual	P	P
MW-99	Background	Biennial	-	-
MW-100B	Performance	Semiannual	P	P
MW-101 ¹	Performance	Semiannual	P	P
MW-102B	Boundary	Biennial	-	-
MW-103	Performance	Annual	-	P
MW-104	Performance	Annual	-	P
MW-107 ¹	Sentinel	Semiannual	P	P
MW-108	Sentinel	Semiannual	P	P
MW-113	Performance	Semiannual	P	P
MW-140	Sentinel	Annual	-	P
MW-141	Sentinel	Semiannual	P	P
MW-142	Performance	Annual	-	P
MW-143	Performance	Semiannual	P	P
MW-197A	Performance	Semiannual	P	P
MW-197B	Performance	Semiannual	P	P
MW-198	Performance	Annual	-	P
MW-199A	Sentinel	Annual	-	P
MW-199B	Performance	Semiannual	P	P
MW-200	Performance	Semiannual	P	P
MW-202A	Sentinel	Annual	-	P
MW-202B	Sentinel	Semiannual	P	P
MW-203A	Performance	Semiannual	P	P
MW-203B	Performance	Semiannual	P	P
MW-204A	Performance	Semiannual	P	P
MW-204B	Performance	Semiannual	P	P
MW-205A	Performance	Semiannual	P	P
MW-205B	Performance	Semiannual	P	P
MW-206A	Performance	Semiannual	P	P
MW-206B	Performance	Semiannual	P	P
MW-207A	Sentinel	Semiannual	P	P

TABLE 15
2012 LTM SCHEDULE
ANNUAL LONG TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

Well ID	Well Type	Current Sample Frequency	Semiannual Apr-2012	Annual Oct-12
MW-207B	Sentinel	Semiannual	P	P
MW-208A	Performance	Semiannual	P	P
MW-208B	Performance	Semiannual	P	P
MW-209A	Sentinel	Annual	-	P
MW-209B	Performance	Semiannual	P	P
MW-210A	Sentinel	Semiannual	P	P
MW-210B	Performance	Semiannual	P	P
MW-211	Sentinel	Annual	-	P
MW-212	Performance	Semiannual	P	P
MW-213	Performance	Semiannual	P	P
MW-214A	Performance	Semiannual	P	P
MW-214B	Performance	Semiannual	P	P
MW-215A	Performance	Annual	-	P
MW-215B	Performance	Annual	-	P
MW-216	Performance	Annual	-	P
MW-217	Performance	Semiannual	P	P
MW-218	Performance	Semiannual	P	P
MW-219	Boundary	Semiannual	P	P
MW-229	Sentinel	Biennial	-	-
MW-252	Sentinel	Semiannual	P	P
MW-253	Sentinel	Semiannual	P	P
MW-254	Sentinel	Semiannual	P	P
MW-255	Sentinel	Semiannual	P	P
MW-256	Sentinel	Semiannual	P	P
MW-257	TBD	TBD	P	P
MW-258	TBD	TBD	P	P
MW-259	TBD	TBD	P	P
PMW21-03	Performance	Semiannual	P	P
PMW21-05	Performance	Semiannual	P	P
PMW92-03	Performance	Semiannual	P	P
PMW92-06	Performance	Semiannual	P	P
PMW101-04A	Performance	Semiannual	P	P
PMW101-04B	Performance	Semiannual	P	P
PZ-03	Performance	Annual	-	P
DR1-1	Performance	Annual	-	P
DR1-1A	Performance	Annual	-	P
DR1-2	Performance	Annual	-	P
DR1-3	Performance	Semiannual	P	P
DR1-4	Performance	Annual	-	P
DR1-5	Performance	Semiannual	P	P
DR1-5A	Performance	Semiannual	P	P
DR1-6	Performance	Semiannual	P	P
DR1-6A	Performance	Semiannual	P	P
DR1-7	Performance	Annual	-	P
DR1-8	Performance	Annual	-	P
DR2-1	Performance	Semiannual	P	P
DR2-2	Performance	Semiannual	P	P
DR2-3	Performance	Semiannual	P	P
DR2-4	Performance	Annual	-	P
DR2-5	Performance	Semiannual	P	P
DR2-6	Performance	Semiannual	P	P

Notes:

- 1) Samples collected from two screened intervals in MW-101 and MW-108
- P Sample planned
- X Sample Collected
- NS Sample planned but not collected
- TBD To be determined
- Sample not planned or collected

FIGURES



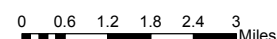
Figure 1

SITE LOCATION MAP

ANNUAL LONG-TERM
MONITORING REPORT – 2011

MAIN INSTALLATION
DEFENSE DEPOT
MEMPHIS, TENNESSEE

Projection: NAD 1927 StatePlane Tennessee
Units: Feet



Date: December 2011
Edition: Rev 0





WELL LOCATION MAP

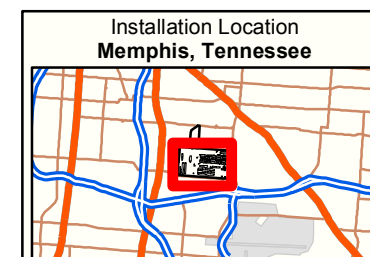
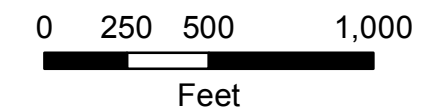
ANNUAL LONG-TERM
MONITORING REPORT – 2011

MAIN INSTALLATION
DEFENSE DEPOT
MEMPHIS, TENNESSEE

Well Classification

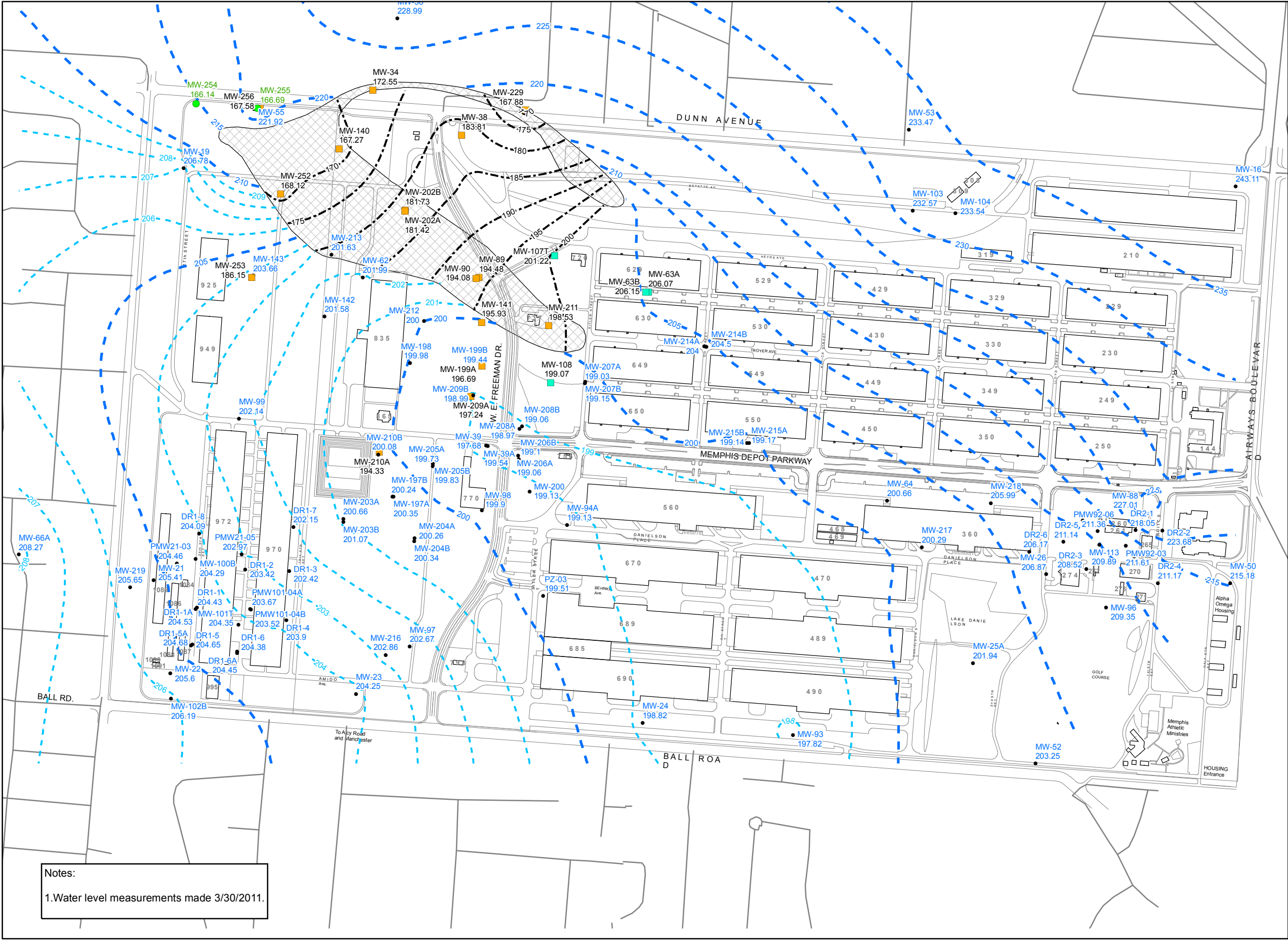
- MW-16 Background
- MW-34 Sentinel
- MW-21 Performance
- MW-219 Boundary

Projection: NAD 1927 StatePlane Tennessee
Units: Feet



Date: December 2011
Edition: Rev 0





Notes:
1. Water level measurements made 3/30/2011.



Figure 3

**GROUNDWATER
ELEVATIONS,
APRIL 2011**

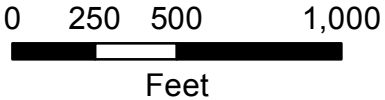
ANNUAL LONG-TERM
MONITORING REPORT – 2011

MAIN INSTALLATION
DEFENSE DEPOT
MEMPHIS, TENNESSEE

Legend

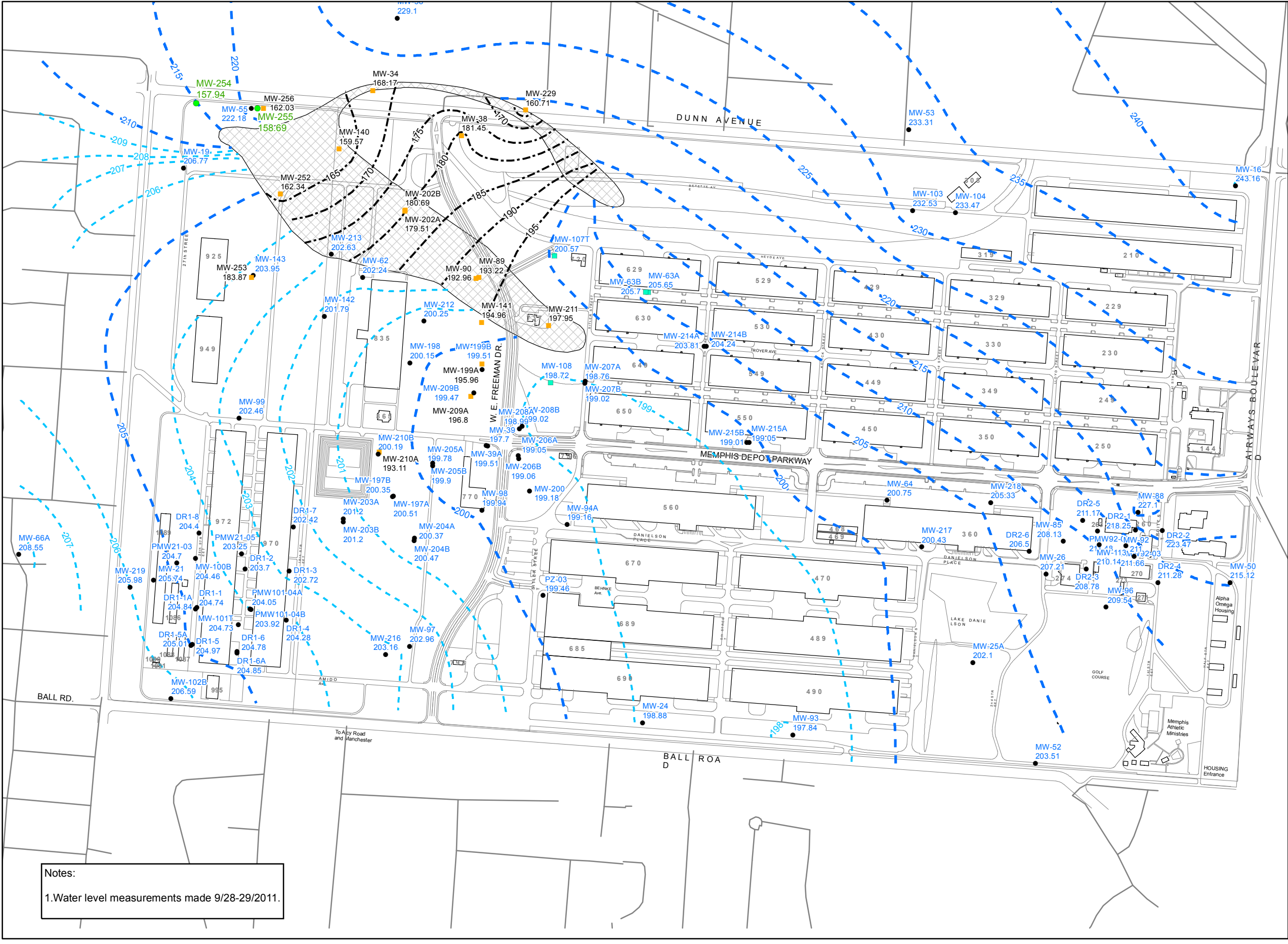
- Monitoring Well Screened in the Fluvial Aquifer
- Monitoring Well Screened in the Intermediate Aquifer
- Monitoring Well Screened in the Transition Zone
- Potentiometric surface of the Fluvial Aquifer 1-ft. contour
- Potentiometric surface of the Fluvial Aquifer 5-ft. contour
- Potentiometric surface of the Intermediate Aquifer 5-ft. contour
- Clay Elevation Exceeds Groundwater Elevation
- MW-03 Blue: value used for Fluvial Aquifer groundwater contours
- MW-237 Black: value used for Intermediate Aquifer groundwater contours
- MW-254 Green: Memphis Aquifer, not contoured

Projection: NAD 1927 StatePlane Tennessee
Units: Feet



Date: December 2011
Edition: Rev 0





Notes:
1. Water level measurements made 9/28-29/2011.



Figure 4

**GROUNDWATER
ELEVATIONS,
OCTOBER 2011**

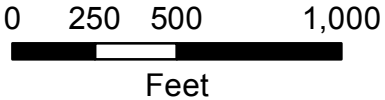
ANNUAL LONG-TERM
MONITORING REPORT – 2011

MAIN INSTALLATION
DEFENSE DEPOT
MEMPHIS, TENNESSEE

Legend

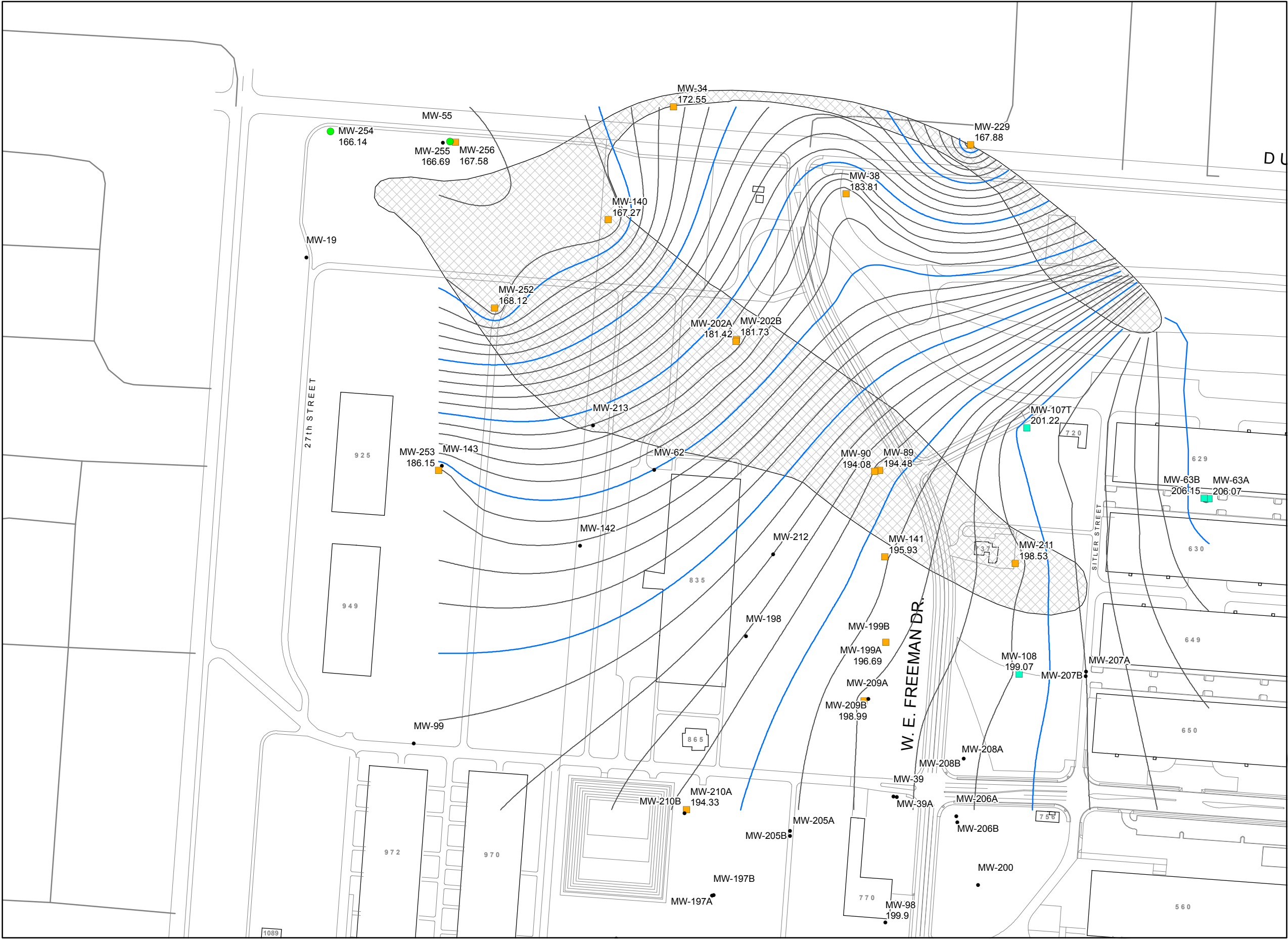
- Monitoring Well Screened in the Fluvial Aquifer
- Monitoring Well Screened in the Intermediate Aquifer
- Monitoring Well Screened in the Transition Zone
- Potentiometric surface of the Fluvial Aquifer 1-ft. contour
- Potentiometric surface of the Fluvial Aquifer 5-ft. contour
- Potentiometric surface of the Intermediate Aquifer 5-ft. contour
- Clay Elevation Exceeds Groundwater Elevation
- MW-03 Blue: value used for Fluvial Aquifer groundwater contours
- MW-237 Black: value used for Intermediate Aquifer groundwater contours
- MW-254 Green: Memphis Aquifer, not contoured

Projection: NAD 1927 StatePlane Tennessee
Units: Feet



Date: December 2011
Edition: Rev 0





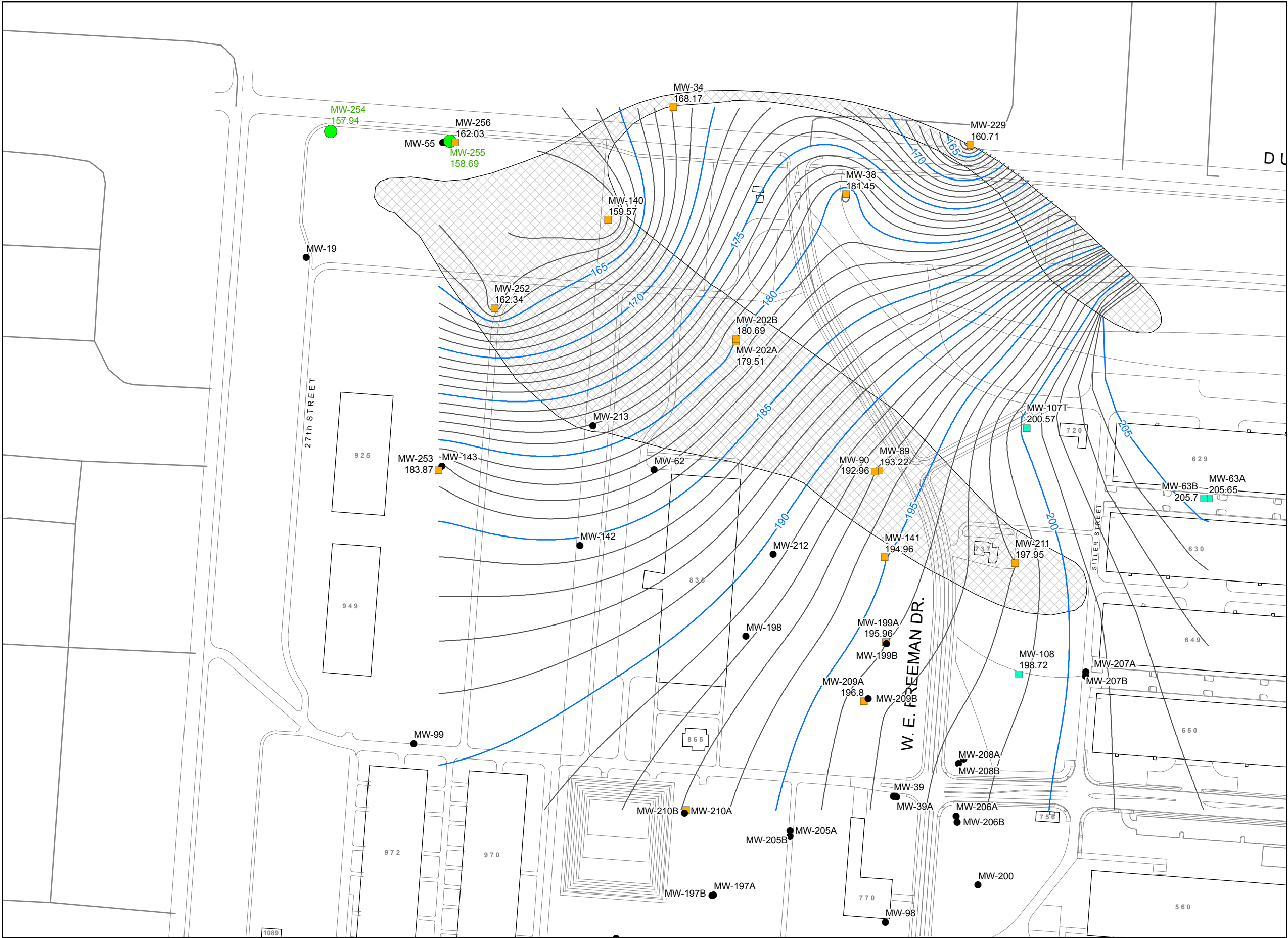


Figure 6

INTERMEDIATE AND MEMPHIS AQUIFER GROUNDWATER ELEVATIONS, OCTOBER 2011

ANNUAL LONG-TERM MONITORING REPORT – 2011

MAIN INSTALLATION DEFENSE DEPOT MEMPHIS, TENNESSEE

Legend

- Monitoring Well Screened in the Fluvial Aquifer
- Monitoring Well Screened in the Transition Zone
- Monitoring Well Screened in the Intermediate Aquifer
- Monitoring Well Screened in the Memphis Aquifer
- Potentiometric surface 1 - Ft. Contour
- Potentiometric surface 5 - Ft. Contour
- Clay Elevation Exceeds Fluvial Aquifer Groundwater Elevation
- MW-63 205.52 Groundwater Elevation (msl)

Projection: NAD 1927 StatePlane Tennessee
Units: Feet

0 100 200 400
Feet

Installation Location
Memphis, Tennessee

Date: December 2011
Edition: Rev 0



Figure 7
PCE ISOPLETH MAP,
APRIL 2011

ANNUAL LONG-TERM
MONITORING REPORT – 2011

MAIN INSTALLATION
DEFENSE DEPOT
MEMPHIS, TENNESSEE

Legend

PCE Ranges

- ug/L
- 0 - 5
 - 5 - 10
 - 10 - 50
 - 50 - 100
 - 100 - 300

PCE Isopleth

- ug/L
- 5
 - 10
 - 50
 - 100

Clay Elevation Exceeds Groundwater Elevation

- Potentiometric surface of the Fluvial Aquifer 1-ft. contour
- Potentiometric surface of the Fluvial Aquifer 5-ft. contour
- Potentiometric surface of the Intermediate Aquifer 5-ft. contour

Projection: NAD 1927 StatePlane Tennessee
Units: Feet

0 200 400 800
Feet

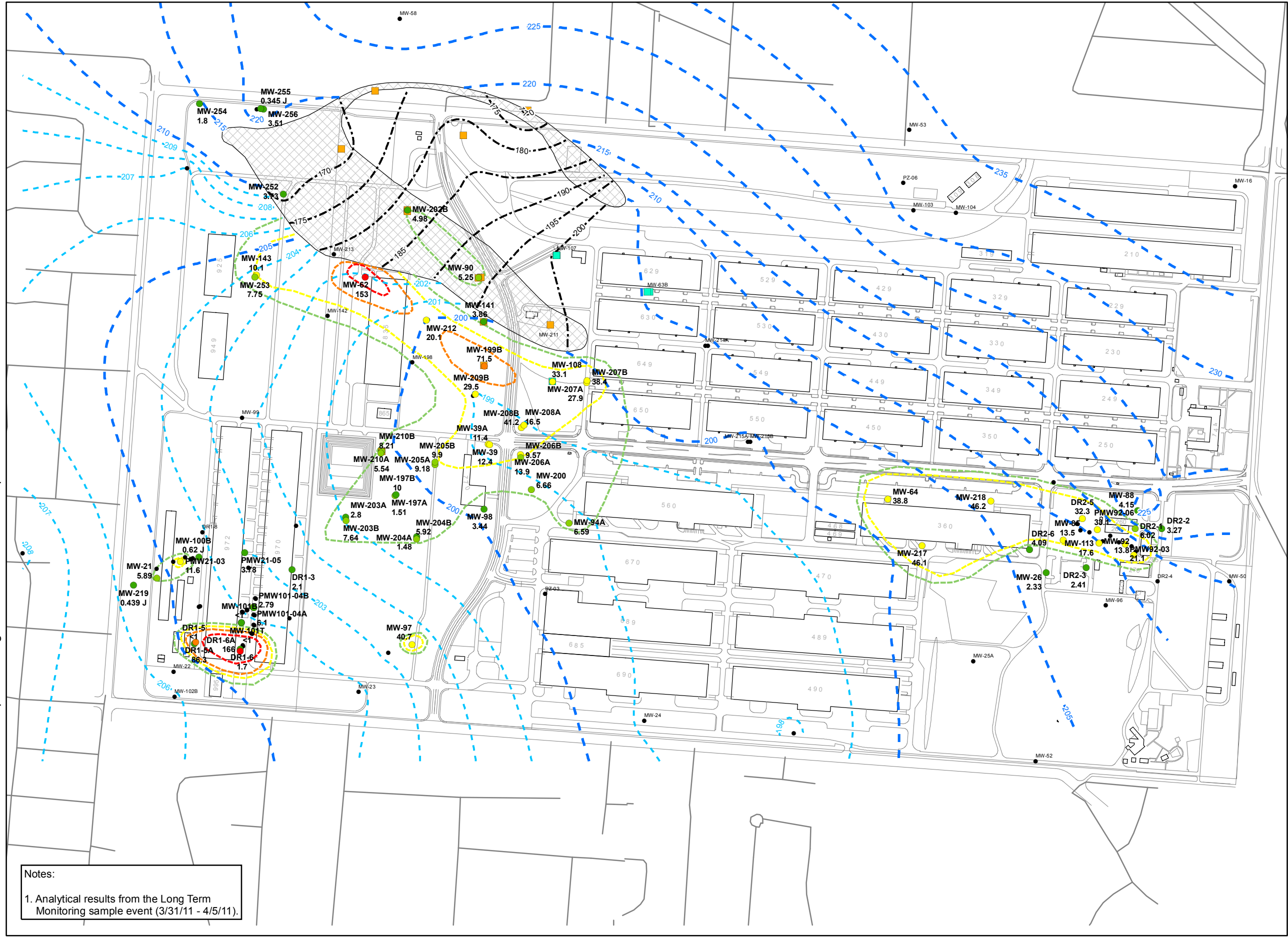


Date: December 2011
Edition: Rev 0

HDR

Notes:

1. Analytical results from the Long Term Monitoring sample event (3/31/11 - 4/5/11).



Notes:

1. Analytical results from the Long Term Monitoring sample event (3/31/11 - 4/5/11).



Figure 8
TCE ISOPLETH MAP,
APRIL 2011

ANNUAL LONG-TERM
MONITORING REPORT – 2011

MAIN INSTALLATION
DEFENSE DEPOT
MEMPHIS, TENNESSEE

Legend

TCE Ranges
ug/L

- 0 - 5
- 5 - 10
- 10 - 50
- 50 - 100
- 100 - 300

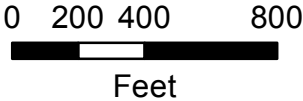
TCE Isopleth
ug/L

- 5
- 10
- 50
- 100

Clay Elevation Exceeds Groundwater Elevation

Potentiometric surface of the Fluvial Aquifer 1-ft. contour
Potentiometric surface of the Fluvial Aquifer 5-ft. contour
Potentiometric surface of the Intermediate Aquifer 5-ft. contour

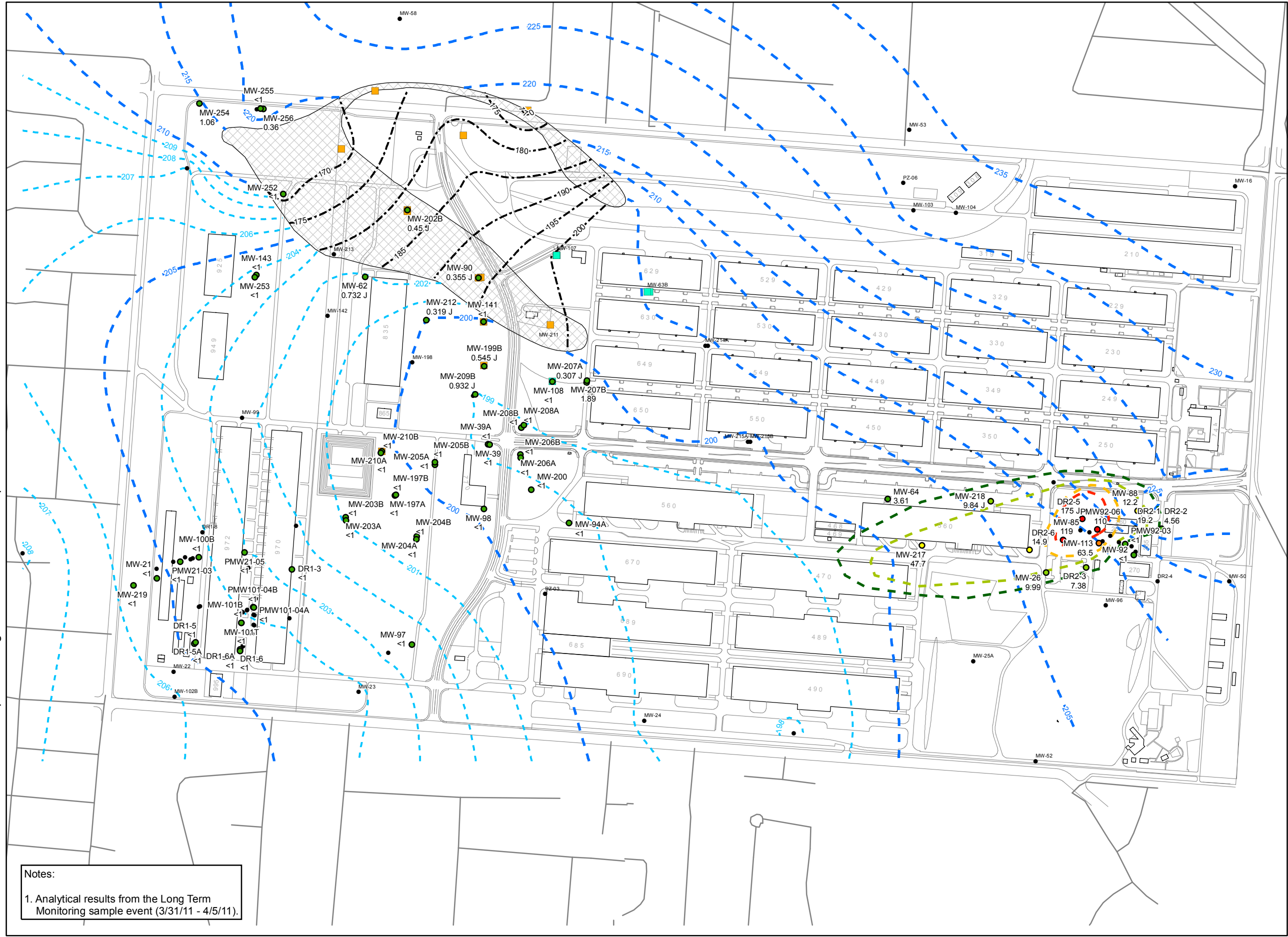
Projection: NAD 1927 StatePlane Tennessee
Units: Feet



Date: December 2011
Edition: Rev 0



Path: G:\145803\2011 LTM Annual Report\GIS\Figure 9 - CT ISOPLETH MAP, APRIL 2011.mxd



Notes:
1. Analytical results from the Long Term Monitoring sample event (3/31/11 - 4/5/11).



Figure 9
CT ISOPLETH MAP,
APRIL 2011

ANNUAL LONG-TERM
MONITORING REPORT – 2011

MAIN INSTALLATION
DEFENSE DEPOT
MEMPHIS, TENNESSEE

- Legend**
- CT Ranges**
ug/L
- 0-5
 - 5-10
 - 10-50
 - 20-100
 - 100-200
- CT Isopleth**
ug/L
- 5
 - 10
 - 50
 - 100
- Clay Elevation Exceeds Groundwater Elevation
- Potentiometric surface of the Fluvial Aquifer 1-ft. contour
Potentiometric surface of the Fluvial Aquifer 5-ft. contour
Potentiometric surface of the Intermediate Aquifer 5-ft. contour

Projection: NAD 1927 StatePlane Tennessee
Units: Feet

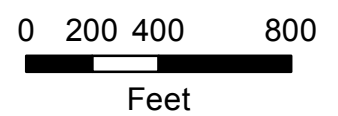




Figure 10

PCE ISOPLETH MAP, OCTOBER 2011

ANNUAL LONG-TERM
MONITORING REPORT – 2011

MAIN INSTALLATION
DEFENSE DEPOT
MEMPHIS, TENNESSEE

Legend

PCE Ranges

ug/L

- 0 - 5
- 5 - 10
- 10 - 50
- 50 - 100
- 100 - 300

PCE Isopleth

ug/L

- 5
- 10
- 50
- 100

Clay Elevation Exceeds Groundwater Elevation

Potentiometric surface of the Fluvial Aquifer 1-ft. contour

Potentiometric surface of the Fluvial Aquifer 5-ft. contour

Potentiometric surface of the Intermediate Aquifer 5-ft. contour

Projection: NAD 1927 StatePlane Tennessee

Units: Feet

0 200 400 800

Feet

Installation Location
Memphis, Tennessee



Date: March 2012
Edition: Rev 1

HDR

Notes:

1. Analytical results from the Long Term Monitoring sample event (9/30/11 - 10/9/11).



Figure 11

TCE ISOPLETH MAP, OCTOBER 2011

ANNUAL LONG-TERM
MONITORING REPORT – 2011

MAIN INSTALLATION
DEFENSE DEPOT
MEMPHIS, TENNESSEE

Legend

TCE Ranges

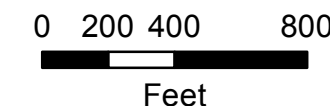
- ug/L
- 0 - 5
 - 5 - 10
 - 10 - 50
 - 50 - 100
 - 100 - 300

TCE Isopleth

- ug/L
- 5
 - 10
 - 50
 - 100
- Clay Elevation Exceeds Groundwater Elevation

- Potentiometric surface of the Fluvial Aquifer 1-ft. contour
- Potentiometric surface of the Fluvial Aquifer 5-ft. contour
- Potentiometric surface of the Intermediate Aquifer 5-ft. contour

Projection: NAD 1927 StatePlane Tennessee
Units: Feet



Date: December 2011
Edition: Rev 0

HDR

Notes:

- Analytical results from the Long Term Monitoring sample event (9/30/11 - 10/9/11).



Figure 12

CT ISOPLETH MAP,
OCTOBER 2011

ANNUAL LONG-TERM
MONITORING REPORT – 2011

MAIN INSTALLATION
DEFENSE DEPOT
MEMPHIS, TENNESSEE

Legend

CT Ranges

ug/L

0-5

5-10

10-50

20-100

100-200

CT Isopleth

ug/L

5

10

50

100

Clay Elevation Exceeds Groundwater Elevation

Potentiometric surface of the Fluvial Aquifer 1-ft. contour

Potentiometric surface of the Fluvial Aquifer 5-ft. contour

Potentiometric surface of the Intermediate Aquifer 5-ft. contour

Projection: NAD 1927 StatePlane Tennessee

Units: Feet

0 200 400 800

Feet

Installation Location
Memphis, Tennessee



Date: December 2011
Edition: Rev 0

HDR

Notes:

1. Analytical results from the Long Term Monitoring sample event (9/30/11 - 10/9/11).

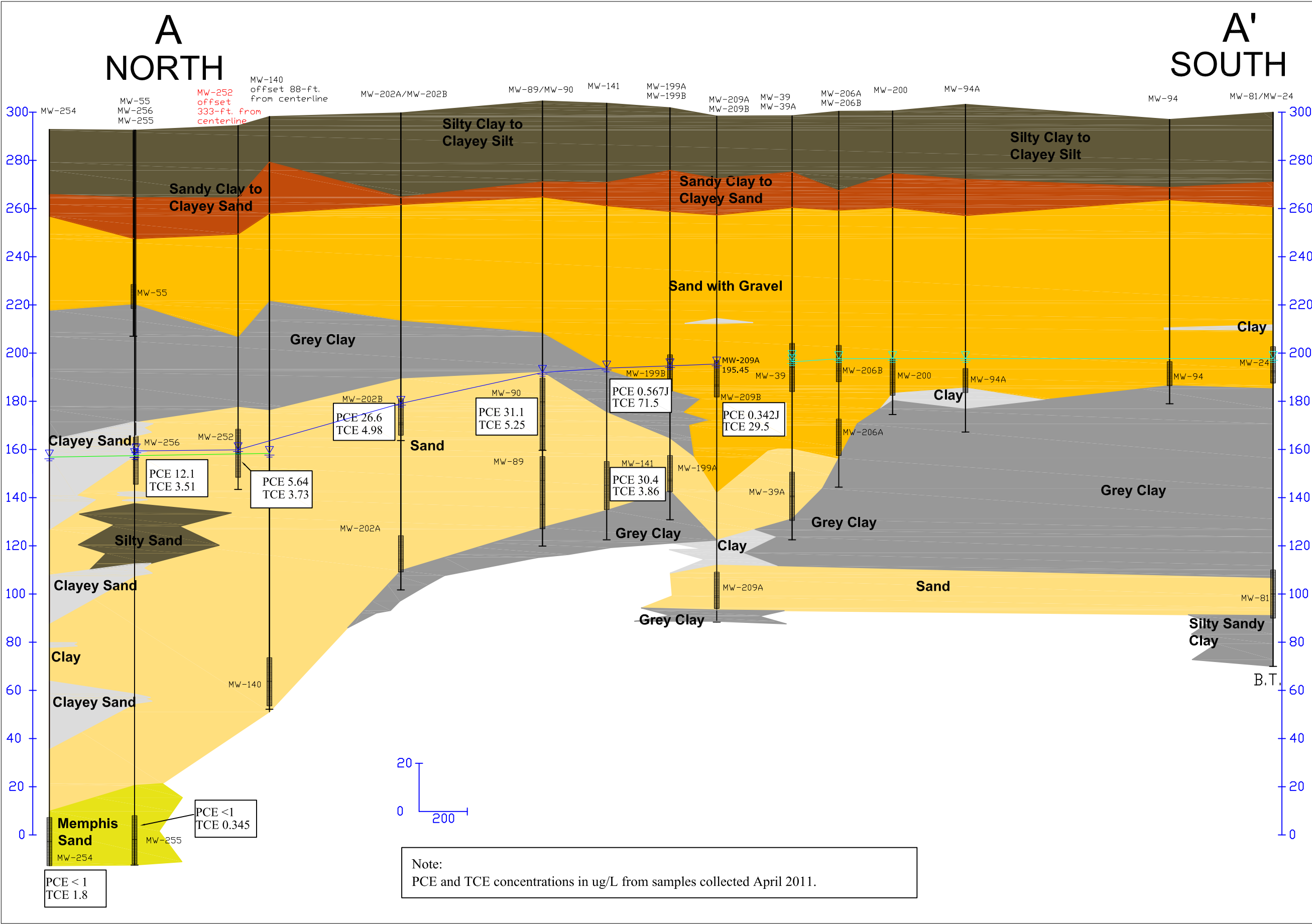


Figure 13
LITHOLOGIC CROSS-SECTION WITH PCE AND TCE RESULTS, APRIL 2011

LONG TERM MONITORING REPORT-2011

MAIN INSTALLATION DEFENSE DEPOT MEMPHIS, TENNESSEE

Legend:

- Silty Clay to Clayey Silt
- Sandy Clay to Clayey Sand
- Fluvial Sand or Sand with Gravel
- Clayey Sand to Silty Clay
- Intermediate Sand
- Clay
- Memphis Sand
- Groundwater Elevation
- Fluvial Aquifer Groundwater Elevation 10/4/2010
- Intermediate Aquifer Groundwater Elevation 10/4/2010
- Memphis Aquifer Groundwater Elevation 10/4/2010
- Well Screen Interval

Installation Location
Memphis, Tennessee

Date: December 2011
Edition: Rev 0

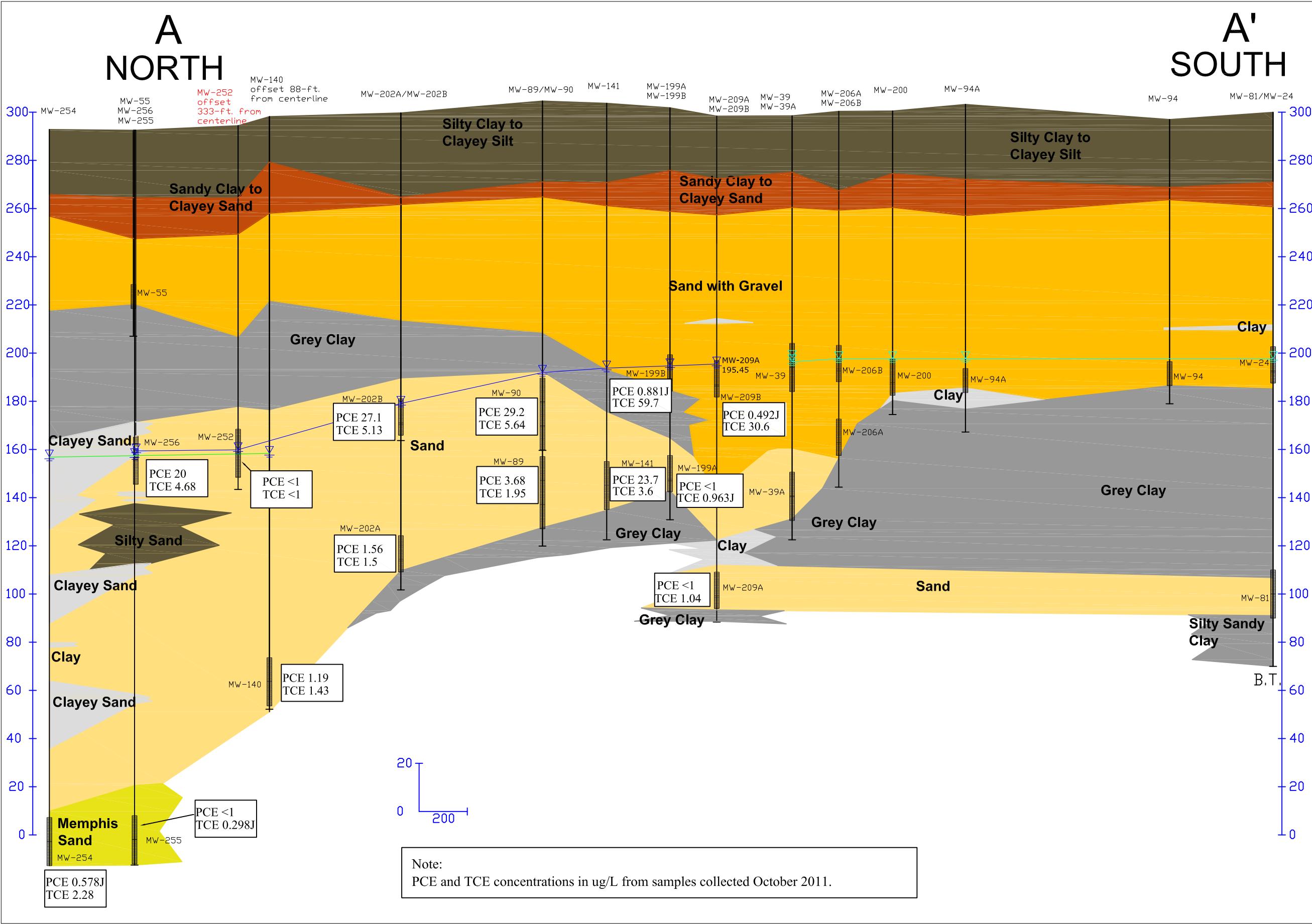




Figure 15

PROPOSED WELL LOCATIONS

DECEMBER 2011
EBT BASELINE
SAMPLE REPORT

MAIN INSTALLATION
DEFENSE DEPOT
MEMPHIS, TENNESSEE

Legend

⊕ Proposed Monitoring Well

TCE Ranges

ug/L

- 0 - 5
- 5 - 10
- 10 - 50
- 50 - 100
- 100 - 300

TCE Isopleth

ug/L

- 5
- 10
- 50
- 100

Clay Elevation Exceeds Groundwater Elevation

- Potentiometric surface of the Fluvial Aquifer 1-ft. contour
- Potentiometric surface of the Fluvial Aquifer 5-ft. contour
- Potentiometric surface of the Intermediate Aquifer 5-ft. contour

Projection: NAD 1927 StatePlane Tennessee
Units: Feet

0 200 400 800
Feet



Date: March 2012
Edition: Rev 1

HDR

Notes:

- Analytical results from the Long Term Monitoring sample event (9/30/11 - 10/9/11).

APPENDIX A
COMPLETE ANALYTICAL RESULTS

TABLE A-1
ANALYTICAL RESULTS - APRIL 2011 GROUNDWATER SAMPLES
ANNUAL LONG-TERM MONITORING REPORT – 2011
Main Installation - Defense Depot Memphis, Tennessee

	Well ID	DR1-3	DR1-3 DUP	DR1-5	DR1-5A	DR1-6	DR1-6A	DR2-1
	Lab ID	L11040061-01	L11040061-07	L11040062-01	L11040062-04	L11040061-02	L11040061-03	L11040172-01
	Date	4/1/2011	4/1/2011	3/31/2011	3/31/2011	4/1/2011	4/1/2011	4/2/2011
Analyte	Units							
1,1,1,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	<1	<1	<1	0.143 J	<1	0.272 J	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloropropene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	µg/L	<2	<2	<2	<2	<2	<2	<2
1,2-Dibromoethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	µg/L	<1	<1	<1	0.284 J	<1	0.546 J	<1
1,3,5-Trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3-Dichloropropane	µg/L	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,4-Dichlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1-Chlorohexane	µg/L	<1	<1	<1	<1	<1	<1	<1
2,2-Dichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1
2-Chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
2-Hexanone	µg/L	<10	<10	<10	<10	<10	<10	<10
4-Chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
Acetone	µg/L	<10	<10	<10	<10	<10	<10	<10
Benzene	µg/L	<0.4	<0.4	<0.4	<0.4	<0.4	0.215 J	<0.4
Bromobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromomethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Carbon disulfide	µg/L	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1	19.2
Chlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	<0.3	<0.3	<0.3	0.197 J	<0.3	0.32	6.75
Chloromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	2.9	1.56	7.83	15.3
cis-1,3-Dichloropropene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Hexachlorobutadiene	µg/L	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Isopropylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
m-,p-Xylene	µg/L	<2	<2	<2	<2	<2	<2	<2
MEK (2-Butanone)	µg/L	<10	<10	<10	<10	<10	<10	<10
Methyl t-butyl ether (MTBE)	µg/L	1.07 J	1.01 J	6.53	7.19	<5	<5	<5
Methylene chloride	µg/L	<1	<1	<1	<1	<1	<1	<1
MIBK (methyl isobutyl ketone)	µg/L	<10	<10	<10	<10	<10	<10	<10
Naphthalene	µg/L	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
n-Propylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
o-Xylene	µg/L	<1	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Styrene	µg/L	<1	<1	<1	<1	<1	<1	<1
tert-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	13.2	13	18.2	50.4	193	57.8	152
Toluene	µg/L	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	µg/L	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	2.1	2.05	<1	86.3	1.7	166	6.02
Trichlorofluoromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1	<1

VOC samples analyzed using method 8260B

µg/L : micrograms per liter

RL: reporting limit

<: Not detected above RL

DQE FLAGS:

J: Estimated concentration

TABLE A-1
ANALYTICAL RESULTS - APRIL 2011 GROUNDWATER SAMPLES
ANNUAL LONG-TERM MONITORING REPORT – 2011
Main Installation - Defense Depot Memphis, Tennessee

	Well ID	DR2-2	DR2-3	DR2-5	DR2-6	MW-21	MW-21 DUP	MW-26
	Lab ID	L11040172-02	L11040061-04	L11040172-03	L11040061-05	L11040061-09	L11040061-06	L11040061-11
	Date	4/3/2011	4/1/2011	4/2/2011	4/1/2011	4/1/2011	4/1/2011	3/31/2011
Analyte	Units							
1,1,1,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloropropene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	µg/L	<1	<1	18.6	9.24	<1	<1	<1
1,2,4-Trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	µg/L	<2	<2	<2	<2	<2	<2	<2
1,2-Dibromoethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	µg/L	<1	<1	0.209 J	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	<0.5	<0.5	0.534	<0.5	1	0.977	<0.5
1,2-Dichloropropane	µg/L	<1	<1	0.468 J	<1	<1	<1	<1
1,3,5-Trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3-Dichloropropane	µg/L	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,4-Dichlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1-Chlorohexane	µg/L	<1	<1	<1	<1	<1	<1	<1
2,2-Dichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1
2-Chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
2-Hexanone	µg/L	<10	<10	<10	<10	<10	<10	<10
4-Chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
Acetone	µg/L	<10	<10	<10	<10	<10	<10	<10
Benzene	µg/L	<0.4	<0.4	0.185 J	<0.4	<0.4	<0.4	<0.4
Bromobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromomethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Carbon disulfide	µg/L	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	4.56	7.38	175 J	14.9	<1	<1	9.99
Chlorobenzene	µg/L	<0.5	<0.5	0.313 J	0.254 J	<0.5	<0.5	<0.5
Chloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	0.563	1.3	67	5.76	<0.3	<0.3	1.33
Chloromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	µg/L	1.14	1.7	87.1	43.7	2.75	2.92	1.23
cis-1,3-Dichloropropene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Hexachlorobutadiene	µg/L	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Isopropylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
m-,p-Xylene	µg/L	<2	<2	<2	<2	<2	<2	<2
MEK (2-Butanone)	µg/L	<10	<10	<10	<10	<10	<10	<10
Methyl t-butyl ether (MTBE)	µg/L	<5	<5	<5	<5	<5	<5	<5
Methylene chloride	µg/L	<1	<1	<1	<1	<1	<1	<1
MIBK (methyl isobutyl ketone)	µg/L	<10	<10	<10	<10	<10	<10	<10
Naphthalene	µg/L	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
n-Propylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
o-Xylene	µg/L	<1	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Styrene	µg/L	<1	<1	<1	<1	<1	<1	<1
tert-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	38.9	50.3	68.3	22.3	74	76	50.4
Toluene	µg/L	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	µg/L	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	3.27	2.41	32.3	4.09	5.89	6	2.33
Trichlorofluoromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1	<1

VOC samples analyzed using method 8260B

µg/L : micrograms per liter

RL: reporting limit

<: Not detected above RL

DQE FLAGS:

J: Estimated concentration

TABLE A-1
ANALYTICAL RESULTS - APRIL 2011 GROUNDWATER SAMPLES
ANNUAL LONG-TERM MONITORING REPORT – 2011
Main Installation - Defense Depot Memphis, Tennessee

	Well ID	MW-39	MW-39A	MW-62	MW-64	MW-85	MW-88	MW-90
	Lab ID	L11040060-05	L11040060-06	L11040173-08	L11040061-12	L11040172-12	L11040061-13	L11040060-07
	Date	4/1/2011	4/1/2011	4/3/2011	3/31/2011	4/3/2011	3/31/2011	4/1/2011
Analyte	Units							
1,1,1,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	0.748	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	<1	<1	<1	<1	<1	<1	0.71 J
1,1-Dichloroethene	µg/L	<1	<1	0.89 J	0.637 J	<1	<1	0.52 J
1,1-Dichloropropene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	µg/L	<1	<1	<1	<1	9.04	<1	<1
1,2,4-Trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	µg/L	<2	<2	<2	<2	<2	<2	<2
1,2-Dibromoethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	<0.5	<0.5	<0.5	0.38 J	<0.5	<0.5	<0.5
1,2-Dichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3-Dichloropropane	µg/L	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,4-Dichlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1-Chlorohexane	µg/L	<1	<1	<1	<1	<1	<1	<1
2,2-Dichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1
2-Chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
2-Hexanone	µg/L	<10	<10	<10	<10	<10	<10	<10
4-Chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
Acetone	µg/L	<10	<10	<10	<10	<10	2.75 J	<10
Benzene	µg/L	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Bromobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromomethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Carbon disulfide	µg/L	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	0.732 J	3.61	119	12.2	0.355 J
Chlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	<0.3	<0.3	0.356	1.45	27	1.93	2.77
Chloromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	µg/L	13.5	40.8	<1	0.514 J	17.3	2.34	0.303 J
cis-1,3-Dichloropropene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Hexachlorobutadiene	µg/L	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Isopropylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
m-,p-Xylene	µg/L	<2	<2	<2	<2	<2	<2	<2
MEK (2-Butanone)	µg/L	<10	<10	<10	<10	<10	<10	<10
Methyl t-butyl ether (MTBE)	µg/L	<5	<5	<5	<5	<5	<5	<5
Methylene chloride	µg/L	<1	<1	<1	<1	<1	<1	<1
MIBK (methyl isobutyl ketone)	µg/L	<10	<10	<10	<10	<10	<10	<10
Naphthalene	µg/L	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
n-Propylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
o-Xylene	µg/L	<1	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Styrene	µg/L	<1	<1	<1	<1	<1	<1	<1
tert-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	33.8	29.5	0.584 J	21.4	46.2	47.2	31.1
Toluene	µg/L	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	µg/L	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	12.4	11.4	153	38.8	13.5	4.15	5.25
Trichlorofluoromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	µg/L	0.6 J	<1	<1	<1	<1	<1	<1

VOC samples analyzed using method 8260B

µg/L : micrograms per liter

RL: reporting limit

<: Not detected above RL

DQE FLAGS:

J: Estimated concentration

TABLE A-1
ANALYTICAL RESULTS - APRIL 2011 GROUNDWATER SAMPLES
ANNUAL LONG-TERM MONITORING REPORT – 2011
Main Installation - Defense Depot Memphis, Tennessee

	Well ID	MW-92	MW-94A	MW-94A DUP	MW-97	MW-98	MW-100B	MW-101T
	Lab ID	L11040172-13	L11040172-14	L11040172-04	L11040061-14	L11040061-15	L11040146-02	L11040234-03
	Date	4/2/2011	4/2/2011	4/2/2011	3/31/2011	4/1/2011	4/4/2011	4/5/2011
Analyte	Units							
1,1,1,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloropropene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	µg/L	<2	<2	<2	<2	<2	<2	<2
1,2-Dibromoethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3-Dichloropropane	µg/L	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,4-Dichlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1-Chlorohexane	µg/L	<1	<1	<1	<1	<1	<1	<1
2,2-Dichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1
2-Chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
2-Hexanone	µg/L	<10	<10	<10	<10	<10	<10	<10
4-Chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
Acetone	µg/L	<10	<10	<10	<10	<10	14.7	4.37 J
Benzene	µg/L	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Bromobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromomethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Carbon disulfide	µg/L	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	<0.3	<0.3	<0.3	0.235 J	0.125 J	<0.3	<0.3
Chloromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	µg/L	86.7	3.29	3.49	<1	0.448 J	23.6	0.342 J
cis-1,3-Dichloropropene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Hexachlorobutadiene	µg/L	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Isopropylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
m-,p-Xylene	µg/L	<2	<2	<2	<2	<2	<2	<2
MEK (2-Butanone)	µg/L	<10	<10	<10	<10	<10	<10	<10
Methyl t-butyl ether (MTBE)	µg/L	<5	<5	<5	<5	<5	65.3	3.17 J
Methylene chloride	µg/L	<1	<1	<1	<1	<1	<1	<1
MIBK (methyl isobutyl ketone)	µg/L	<10	<10	<10	<10	<10	<10	<10
Naphthalene	µg/L	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
n-Propylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
o-Xylene	µg/L	<1	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Styrene	µg/L	<1	<1	<1	<1	<1	<1	<1
tert-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	50.9	28.8	28.4	<1	38	3.87	80
Toluene	µg/L	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	0.269 J	<1
trans-1,3-Dichloropropene	µg/L	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	13.8	6.59	6.65	40.7	3.44	0.62 J	<1
Trichlorofluoromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	µg/L	13.6 J	<1	<1	<1	<1	153	<1

VOC samples analyzed using method 8260B

µg/L : micrograms per liter

RL: reporting limit

<: Not detected above RL

DQE FLAGS:

J: Estimated concentration

TABLE A-1
ANALYTICAL RESULTS - APRIL 2011 GROUNDWATER SAMPLES
ANNUAL LONG-TERM MONITORING REPORT – 2011
Main Installation - Defense Depot Memphis, Tennessee

	Well ID	MW-101B	MW-108	MW-113	MW-141	MW-143	MW-197A	MW-197A DUP
	Lab ID	L11040234-02	L11040060-01	L11040172-05	L11040060-02	L11040234-04	L11040178-03	L11040178-01
	Date	4/5/2011	4/1/2011	4/3/2011	4/1/2011	4/5/2011	4/2/2011	4/2/2011
Analyte	Units							
1,1,1,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	<1	0.733 J	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	0.926 J	<1	<1	<1	<1	<1
1,1-Dichloropropene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	µg/L	<1	<1	4.19	<1	<1	<1	<1
1,2,4-Trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	µg/L	<2	<2	<2	<2	<2	<2	<2
1,2-Dibromoethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	µg/L	<1	<1	0.228 J	<1	<1	<1	<1
1,3,5-Trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3-Dichloropropane	µg/L	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,4-Dichlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1-Chlorohexane	µg/L	<1	<1	<1	<1	<1	<1	<1
2,2-Dichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1
2-Chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
2-Hexanone	µg/L	<10	<10	<10	<10	<10	<10	<10
4-Chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
Acetone	µg/L	<10	<10	<10	<10	<10	<10	<10
Benzene	µg/L	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Bromobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromomethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Carbon disulfide	µg/L	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	63.5	<1	<1	<1	<1
Chlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	<0.3	11.9	16.9	2.67	<0.3	<0.3	<0.3
Chloromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	µg/L	0.253 J	0.677 J	25.1	<1	<1	1.64	1.65
cis-1,3-Dichloropropene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Hexachlorobutadiene	µg/L	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Isopropylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
m,p-Xylene	µg/L	<2	<2	<2	<2	<2	<2	<2
MEK (2-Butanone)	µg/L	<10	<10	<10	<10	<10	<10	<10
Methyl t-butyl ether (MTBE)	µg/L	2.86 J	<5	<5	<5	5.55	<5	<5
Methylene chloride	µg/L	<1	<1	<1	<1	<1	<1	<1
MBK (methyl isobutyl ketone)	µg/L	<10	<10	<10	<10	<10	<10	<10
Naphthalene	µg/L	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
n-Propylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
o-Xylene	µg/L	<1	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Styrene	µg/L	<1	<1	<1	<1	<1	<1	<1
tert-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	76.3	7.25	157	30.4	<1	32.8	34.1
Toluene	µg/L	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	µg/L	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	<1	33.1	17.6	3.86	10.1	1.51	1.64
Trichlorofluoromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1	<1

VOC samples analyzed using method 8260B

µg/L : micrograms per liter

RL: reporting limit

<: Not detected above RL

DQE FLAGS:

J: Estimated concentration

TABLE A-1
ANALYTICAL RESULTS - APRIL 2011 GROUNDWATER SAMPLES
ANNUAL LONG-TERM MONITORING REPORT – 2011
Main Installation - Defense Depot Memphis, Tennessee

	Well ID	MW-197B	MW-199B	MW-200	MW-202B	MW-203A	MW-203B	MW-204A
	Lab ID	L11040178-04	L11040172-06	L11040061-08	L11040172-07	L11040173-02	L11040173-03	L11040178-05
	Date	4/2/2011	4/2/2011	4/1/2011	4/2/2011	4/3/2011	4/3/2011	4/2/2011
Analyte	Units							
1,1,1,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	<1	<1	<1	0.396 J	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloropropene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	µg/L	<2	<2	<2	<2	<2	<2	<2
1,2-Dibromoethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3-Dichloropropane	µg/L	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,4-Dichlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1-Chlorohexane	µg/L	<1	<1	<1	<1	<1	<1	<1
2,2-Dichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1
2-Chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
2-Hexanone	µg/L	<10	<10	<10	<10	<10	<10	<10
4-Chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
Acetone	µg/L	<10	<10	<10	<10	<10	<10	5.56 J
Benzene	µg/L	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Bromobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromomethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Carbon disulfide	µg/L	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	0.545 J	<1	0.45 J	<1	<1	<1
Chlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	<0.3	<0.3	<0.3	1.24	<0.3	<0.3	<0.3
Chloromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	µg/L	8.85	<1	13	0.477 J	5.27	6.15	2.7
cis-1,3-Dichloropropene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Hexachlorobutadiene	µg/L	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Isopropylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
m-,p-Xylene	µg/L	<2	<2	<2	<2	<2	<2	<2
MEK (2-Butanone)	µg/L	<10	<10	<10	<10	<10	<10	<10
Methyl t-butyl ether (MTBE)	µg/L	0.812 J	<5	<5	<5	<5	1.01 J	<5
Methylene chloride	µg/L	<1	<1	<1	<1	<1	<1	<1
MIBK (methyl isobutyl ketone)	µg/L	<10	<10	<10	<10	<10	<10	<10
Naphthalene	µg/L	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
n-Propylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
o-Xylene	µg/L	<1	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Styrene	µg/L	<1	<1	<1	<1	<1	<1	<1
tert-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	31.5	0.567 J	31.8	26.6	147	30.6	46.8
Toluene	µg/L	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	µg/L	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	10	71.5	6.66	4.98	2.8	7.64	1.48
Trichlorofluoromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	µg/L	3.25 J	<1	<1	<1	<1	3.01	<1

VOC samples analyzed using method 8260B

µg/L : micrograms per liter

RL: reporting limit

<: Not detected above RL

DQE FLAGS:

J: Estimated concentration

TABLE A-1
ANALYTICAL RESULTS - APRIL 2011 GROUNDWATER SAMPLES
ANNUAL LONG-TERM MONITORING REPORT – 2011
Main Installation - Defense Depot Memphis, Tennessee

	Well ID	MW-204B	MW-205A	MW-205B	MW-205B DUP	MW-206A	MW-206B	MW-207A
	Lab ID	L11040178-06	L11040178-07	L11040178-08	L11040178-02	L11040178-09	L11040178-10	L11040060-03
Analyte	Date	4/2/2011	4/2/2011	4/2/2011	4/2/2011	4/2/2011	4/2/2011	4/1/2011
	Units							
1,1,1,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	µg/L	1.16	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	<1	<1	<1	<1	<1	<1	0.836 J
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	0.885 J
1,1-Dichloropropene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	µg/L	<2	<2	<2	<2	<2	<2	<2
1,2-Dibromoethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3-Dichloropropane	µg/L	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,4-Dichlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1-Chlorohexane	µg/L	<1	<1	<1	<1	<1	<1	<1
2,2-Dichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1
2-Chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
2-Hexanone	µg/L	<10	<10	<10	<10	<10	<10	<10
4-Chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
Acetone	µg/L	<10	<10	<10	<10	<10	<10	<10
Benzene	µg/L	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Bromobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromomethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Carbon disulfide	µg/L	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1	0.307 J
Chlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	0.166 J	<0.3	<0.3	<0.3	<0.3	<0.3	11
Chloromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	µg/L	1.25	24.6	10.4	9.57	15.6	5	0.627 J
cis-1,3-Dichloropropene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Hexachlorobutadiene	µg/L	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Isopropylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
m-,p-Xylene	µg/L	<2	<2	<2	<2	<2	<2	<2
MEK (2-Butanone)	µg/L	<10	<10	<10	<10	<10	<10	<10
Methyl t-butyl ether (MTBE)	µg/L	<5	<5	0.623 J	<5	<5	<5	<5
Methylene chloride	µg/L	<1	<1	<1	<1	<1	<1	<1
MIBK (methyl isobutyl ketone)	µg/L	<10	<10	<10	<10	<10	<10	<10
Naphthalene	µg/L	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
n-Propylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
o-Xylene	µg/L	<1	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Styrene	µg/L	<1	<1	<1	<1	<1	<1	<1
tert-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	13.9	30.1	31.3	31.4	18.1	13.7	18.6
Toluene	µg/L	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	µg/L	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	5.92	9.18	9.9	8.61	13.9	9.57	27.9
Trichlorofluoromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	µg/L	<1	2.34 J	2.6 J	2.16	<1	<1	<1

VOC samples analyzed using method 8260B

µg/L : micrograms per liter

RL: reporting limit

<: Not detected above RL

DQE FLAGS:

J: Estimated concentration

TABLE A-1
ANALYTICAL RESULTS - APRIL 2011 GROUNDWATER SAMPLES
ANNUAL LONG-TERM MONITORING REPORT – 2011
Main Installation - Defense Depot Memphis, Tennessee

	Well ID	MW-207B	MW-208A	MW-208B	MW-209B	MW-210A	MW-210B	MW-212
	Lab ID	L11040060-04	L11040178-11	L11040178-12	L11040172-10	L11040173-04	L11040173-05	L11040173-06
	Date	4/1/2011	4/2/2011	4/2/2011	4/2/2011	4/3/2011	4/3/2011	4/3/2011
Analyte	Units							
1,1,1,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	0.223 J	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloropropene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	µg/L	<2	<2	<2	<2	<2	<2	<2
1,2-Dibromoethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3-Dichloropropane	µg/L	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,4-Dichlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1-Chlorohexane	µg/L	<1	<1	<1	<1	<1	<1	<1
2,2-Dichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1
2-Chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
2-Hexanone	µg/L	<10	<10	<10	<10	<10	<10	<10
4-Chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
Acetone	µg/L	<10	<10	<10	<10	<10	<10	<10
Benzene	µg/L	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Bromobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromomethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Carbon disulfide	µg/L	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	1.89	<1	<1	0.932 J	<1	<1	0.319 J
Chlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	7.34	<0.3	0.328	0.353	<0.3	<0.3	<0.3
Chloromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	µg/L	0.777 J	41	1.91	<1	2.11	1.1	<1
cis-1,3-Dichloropropene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Hexachlorobutadiene	µg/L	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Isopropylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
m-,p-Xylene	µg/L	<2	<2	<2	<2	<2	<2	<2
MEK (2-Butanone)	µg/L	<10	<10	<10	<10	<10	<10	<10
Methyl t-butyl ether (MTBE)	µg/L	<5	<5	<5	<5	<5	<5	<5
Methylene chloride	µg/L	<1	<1	<1	<1	<1	<1	<1
MIBK (methyl isobutyl ketone)	µg/L	<10	<10	<10	<10	<10	<10	<10
Naphthalene	µg/L	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
n-Propylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
o-Xylene	µg/L	<1	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Styrene	µg/L	<1	<1	<1	<1	<1	<1	<1
tert-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	99.4	3.94	16.9	0.342 J	13.3	8.64	<1
Toluene	µg/L	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	µg/L	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	38.4	16.5	41.2	29.5	5.54	8.21	20.1
Trichlorofluoromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1	<1

VOC samples analyzed using method 8260B

µg/L : micrograms per liter

RL: reporting limit

<: Not detected above RL

DQE FLAGS:

J: Estimated concentration

TABLE A-1
ANALYTICAL RESULTS - APRIL 2011 GROUNDWATER SAMPLES
ANNUAL LONG-TERM MONITORING REPORT – 2011
Main Installation - Defense Depot Memphis, Tennessee

	Well ID	MW-212 DUP	MW-217	MW-218	MW-219	MW-252	MW-253	MW-254
	Lab ID	L11040173-01	L11040061-10	L11040172-11	L11040173-07	L11040062-05	L11040062-06	L11040062-07
	Date	4/3/2011	3/31/2011	4/3/2011	4/3/2011	3/31/2011	3/31/2011	3/31/2011
Analyte	Units							
1,1,1,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	µg/L	<0.5	0.319 J	1.43	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	0.787 J	<1	<1	<1	<1
1,1-Dichloropropene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	µg/L	<2	<2	<2	<2	<2	<2	<2
1,2-Dibromoethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	<0.5	0.32 J	0.587	0.371 J	<0.5	<0.5	<0.5
1,2-Dichloropropane	µg/L	<1	0.361 J	0.549 J	<1	<1	<1	<1
1,3,5-Trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3-Dichloropropane	µg/L	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,4-Dichlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1-Chlorohexane	µg/L	<1	<1	<1	<1	<1	<1	<1
2,2-Dichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1
2-Chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
2-Hexanone	µg/L	<10	<10	<10	<10	<10	<10	<10
4-Chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
Acetone	µg/L	<10	<10	<10	<10	<10	<10	<10
Benzene	µg/L	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Bromobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromomethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Carbon disulfide	µg/L	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	0.399 J	47.7	9.84 J	<1	<1	<1	1.06
Chlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	<0.3	4.25	2.79	<0.3	1.07	<0.3	0.249 J
Chloromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	µg/L	<1	0.871 J	0.419 J	<1	<1	<1	<1
cis-1,3-Dichloropropene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Hexachlorobutadiene	µg/L	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Isopropylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
m-,p-Xylene	µg/L	<2	<2	<2	<2	<2	<2	<2
MEK (2-Butanone)	µg/L	<10	<10	<10	<10	<10	<10	<10
Methyl t-butyl ether (MTBE)	µg/L	<5	<5	<5	<5	<5	7.51	<5
Methylene chloride	µg/L	<1	<1	<1	<1	<1	<1	<1
MIBK (methyl isobutyl ketone)	µg/L	<10	<10	<10	<10	<10	<10	<10
Naphthalene	µg/L	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
n-Propylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
o-Xylene	µg/L	<1	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Styrene	µg/L	<1	<1	<1	<1	<1	<1	<1
tert-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	0.393 J	27.7	16.8	4.55	5.64	<1	<1
Toluene	µg/L	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	µg/L	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	20.7	46.1	46.2	0.439 J	3.73	7.75	1.8
Trichlorofluoromethane	µg/L	<1	1.04	1.57	<1	<1	<1	<1
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1	<1

VOC samples analyzed using method 8260B

µg/L : micrograms per liter

RL: reporting limit

<: Not detected above RL

DQE FLAGS:

J: Estimated concentration

TABLE A-1
ANALYTICAL RESULTS - APRIL 2011 GROUNDWATER SAMPLES
ANNUAL LONG-TERM MONITORING REPORT – 2011
Main Installation - Defense Depot Memphis, Tennessee

	Well ID	MW-255	MW-256	PMW21-03	PMW21-03 DUP	PMW21-05	PMW92-03	PMW92-06
	Lab ID	L11040062-08	L11040062-09	L11040146-03	L11040146-01	L11040146-04	L11040172-17	L11040172-20
	Date	3/31/2011	3/31/2011	4/4/2011	4/4/2011	4/4/2011	4/3/2011	4/2/2011
Analyte	Units							
1,1,1,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	<1	0.197 J	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloropropene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	µg/L	<1	<1	<1	<1	<1	<1	92
1,2,4-Trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	µg/L	<2	<2	<2	<2	<2	<2	<2
1,2-Dibromoethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	0.32 J
1,2-Dichloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.505
1,2-Dichloropropane	µg/L	<1	<1	<1	<1	<1	<1	0.465 J
1,3,5-Trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3-Dichloropropane	µg/L	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,4-Dichlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1-Chlorohexane	µg/L	<1	<1	<1	<1	<1	<1	<1
2,2-Dichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1
2-Chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
2-Hexanone	µg/L	<10	<10	<10	<10	<10	<10	<10
4-Chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
Acetone	µg/L	3.7 J	<10	<10	<10	4.9 J	<10	<10
Benzene	µg/L	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Bromobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromomethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Carbon disulfide	µg/L	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	0.36	<1	<1	<1	<1	110
Chlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	<0.3	2.35	<0.3	<0.3	<0.3	<0.3	41.5
Chloromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	µg/L	<1	<1	1.07	0.972 J	0.939 J	73.4 J	67.1
cis-1,3-Dichloropropene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Hexachlorobutadiene	µg/L	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Isopropylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
m-,p-Xylene	µg/L	<2	<2	<2	<2	<2	<2	<2
MEK (2-Butanone)	µg/L	<10	<10	<10	<10	<10	<10	<10
Methyl t-butyl ether (MTBE)	µg/L	<5	<5	12.2	11.9	<5	<5	<5
Methylene chloride	µg/L	0.464 J	<1	<1	<1	<1	<1	<1
MIBK (methyl isobutyl ketone)	µg/L	<10	<10	<10	<10	<10	<10	<10
Naphthalene	µg/L	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
n-Propylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
o-Xylene	µg/L	<1	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Styrene	µg/L	0.257 J	<1	<1	<1	<1	<1	<1
tert-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	12.1	39.5	40.4	40.6	136	133
Toluene	µg/L	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	µg/L	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	0.345 J	3.51	11.6	11.6	3.78	21.1	33.1
Trichlorofluoromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	0.286 J	<1

VOC samples analyzed using method 8260B

µg/L : micrograms per liter

RL: reporting limit

<: Not detected above RL

DQE FLAGS:

J: Estimated concentration

TABLE A-1
ANALYTICAL RESULTS - APRIL 2011 GROUNDWATER SAMPLES
ANNUAL LONG-TERM MONITORING REPORT – 2011
Main Installation - Defense Depot Memphis, Tennessee

Analyte	Well ID Lab ID Date Units	PMW101-04A	PMW101-04B
		L11040172-15 4/4/2011	L11040172-16 4/4/2011
1,1,1,2-Tetrachloroethane	µg/L	<0.5	<0.5
1,1,1-Trichloroethane	µg/L	<1	<1
1,1,2,2-Tetrachloroethane	µg/L	<0.5	<0.5
1,1,2-Trichloroethane	µg/L	<1	<1
1,1-Dichloroethane	µg/L	<1	<1
1,1-Dichloroethene	µg/L	<1	<1
1,1-Dichloropropene	µg/L	<1	<1
1,2,3-Trichlorobenzene	µg/L	<1	<1
1,2,3-Trichloropropane	µg/L	<1	<1
1,2,4-Trichlorobenzene	µg/L	<1	<1
1,2,4-Trimethylbenzene	µg/L	<1	<1
1,2-Dibromo-3-chloropropane	µg/L	<2	<2
1,2-Dibromoethane	µg/L	<1	<1
1,2-Dichlorobenzene	µg/L	<1	<1
1,2-Dichloroethane	µg/L	<0.5	<0.5
1,2-Dichloropropane	µg/L	<1	<1
1,3,5-Trimethylbenzene	µg/L	<1	<1
1,3-Dichlorobenzene	µg/L	<1	<1
1,3-Dichloropropane	µg/L	<0.4	<0.4
1,4-Dichlorobenzene	µg/L	<0.5	<0.5
1-Chlorohexane	µg/L	<1	<1
2,2-Dichloropropane	µg/L	<1	<1
2-Chlorotoluene	µg/L	<1	<1
2-Hexanone	µg/L	<10	<10
4-Chlorotoluene	µg/L	<1	<1
Acetone	µg/L	<10	<10
Benzene	µg/L	<0.4	<0.4
Bromobenzene	µg/L	<1	<1
Bromochloromethane	µg/L	<1	<1
Bromodichloromethane	µg/L	<0.5	<0.5
Bromoform	µg/L	<1	<1
Bromomethane	µg/L	<1	<1
Carbon disulfide	µg/L	<1	<1
Carbon tetrachloride	µg/L	<1	<1
Chlorobenzene	µg/L	<0.5	<0.5
Chloroethane	µg/L	<1	<1
Chloroform	µg/L	<0.3	<0.3
Chloromethane	µg/L	<1	<1
cis-1,2-Dichloroethene	µg/L	7.76	<1
cis-1,3-Dichloropropene	µg/L	<0.5	<0.5
Dibromochloromethane	µg/L	<0.5	<0.5
Dibromomethane	µg/L	<1	<1
Dichlorodifluoromethane	µg/L	<1	<1
Ethylbenzene	µg/L	<1	<1
Hexachlorobutadiene	µg/L	<0.6	<0.6
Isopropylbenzene	µg/L	<1	<1
m-,p-Xylene	µg/L	<2	<2
MEK (2-Butanone)	µg/L	<10	<10
Methyl t-butyl ether (MTBE)	µg/L	1.36 J	1.96 J
Methylene chloride	µg/L	<1	<1
MIBK (methyl isobutyl ketone)	µg/L	<10	<10
Naphthalene	µg/L	<1	<1
n-Butylbenzene	µg/L	<1	<1
n-Propylbenzene	µg/L	<1	<1
o-Xylene	µg/L	<1	<1
p-Isopropyltoluene	µg/L	<1	<1
sec-Butylbenzene	µg/L	<1	<1
Styrene	µg/L	<1	<1
tert-Butylbenzene	µg/L	<1	<1
Tetrachloroethene	µg/L	57.3	26.1
Toluene	µg/L	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1
trans-1,3-Dichloropropene	µg/L	<1	<1
Trichloroethene	µg/L	6.1	2.79
Trichlorofluoromethane	µg/L	<1	<1
Vinyl chloride	µg/L	<1	<1

VOC samples analyzed using method 8260B

µg/L : micrograms per liter

RL: reporting limit

<: Not detected above RL

DQE FLAGS:

J: Estimated concentration

TABLE A-2
ANALYTICAL RESULTS - OCTOBER 2011 GROUNDWATER SAMPLES
ANNUAL LONG-TERM MONITORING REPORT – 2011
Main Installation - Defense Depot Memphis, Tennessee

	Well ID	DR1-1	DR1-1A	DR1-2	DR1-3	DR1-4	DR1-5	DR1-5A
	Lab ID	L11100282-14	L11100282-15	L11100191-05	L11100191-30	L11100191-31	L11100191-32	L11100191-33
Analyte	Date	10/6/2011	10/6/2011	10/5/2011	10/4/2011	10/4/2011	10/4/2011	10/4/2011
	Units							
1,1,1,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloropropene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	µg/L	<2	<2	<2	<2	<2	<2	<2
1,2-Dibromoethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	µg/L	<1	<1	<1	<1	<1	<1	0.308 J
1,3,5-Trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3-Dichloropropane	µg/L	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,4-Dichlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1-Chlorohexane	µg/L	<1	<1	<1	<1	<1	<1	<1
2,2-Dichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1
2-Chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
2-Hexanone	µg/L	<10	<10	<10	<10	<10	<10	<10
4-Chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
Acetone	µg/L	<10	<10	<10	<10	<10	<10	<10
Benzene	µg/L	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Bromobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromomethane	µg/L	<1 UJ	<1 UJ	<1	<1	<1	<1 UJ	<1 UJ
Carbon disulfide	µg/L	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	<0.3	0.288 J	<0.3	<0.3	<0.3	<0.3	0.191 J
Chloromethane	µg/L	<1 UJ	<1 UJ	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	µg/L	1.31	0.356 J	0.791 J	<1	<1	<1	2.76
cis-1,3-Dichloropropene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Hexachlorobutadiene	µg/L	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Isopropylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
m-,p-Xylene	µg/L	<2	<2	<2	<2	<2	<2	<2
MEK (2-Butanone)	µg/L	<10	<10	<10	<10	<10	<10	<10
Methyl t-butyl ether (MTBE)	µg/L	<5	<5	<5	1.89 J	<5	14	4.17 J
Methylene chloride	µg/L	<1	<1	<1	<1	<1	<1	<1
MIBK (methyl isobutyl ketone)	µg/L	<10	<10	<10	<10	<10	<10	<10
Naphthalene	µg/L	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
n-Propylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
o-Xylene	µg/L	<1	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Styrene	µg/L	<1	<1	<1	<1	<1	<1	<1
tert-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	3	1.08	1.92	13.9	0.831 J	29	49.7
Toluene	µg/L	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	µg/L	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	0.326 J	2.35	<1	1.81	0.252 J	<1	77.6
Trichlorofluoromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1	<1

VOC samples analyzed using method 8260B

µg/L : micrograms per liter

RL: reporting limit

<: Not detected above RL

DQE FLAGS:

J: Estimated concentration

B: Blank Contamination

UJ: Not-Detected, RL estimated

TABLE A-2
ANALYTICAL RESULTS - OCTOBER 2011 GROUNDWATER SAMPLES
ANNUAL LONG-TERM MONITORING REPORT – 2011
Main Installation - Defense Depot Memphis, Tennessee

	Well ID	DR1-6	DR1-6 DUP-9	DR1-6A	DR1-7	DR1-8	DR2-1	DR2-2
	Lab ID	L11100191-34	L11100191-37	L11100191-35	L11100191-36	L11100282-16	L11100105-09	L11100105-10
Analyte	Date Units	10/4/2011	10/4/2011	10/4/2011	10/4/2011	10/6/2011	10/2/2011	10/2/2011
1,1,1,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	<1	<1	0.293 J	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloropropene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	µg/L	<2	<2	<2	<2	<2	<2	<2
1,2-Dibromoethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	0.351 J	<0.5	<0.5
1,2-Dichloropropane	µg/L	<1	<1	0.527 J	<1	<1	<1	<1
1,3,5-Trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3-Dichloropropane	µg/L	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,4-Dichlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1-Chlorohexane	µg/L	<1	<1	<1	<1	<1	<1	<1
2,2-Dichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1
2-Chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
2-Hexanone	µg/L	<10	<10	<10	<10	<10	<10	<10
4-Chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
Acetone	µg/L	<10	<10	<10	<10	<10	<10	<10
Benzene	µg/L	<0.4	<0.4	0.21 J	<0.4	<0.4	<0.4	<0.4
Bromobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromomethane	µg/L	<1 UJ	<1 UJ	<1 UJ	<1 UJ	<1 UJ	<1	<1
Carbon disulfide	µg/L	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	23.3	4.37
Chlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	<0.3	<0.3	0.248 J	0.174 J	<0.3	7.87	0.714
Chloromethane	µg/L	<1	<1	<1	<1	<1 UJ	<1	<1
cis-1,2-Dichloroethene	µg/L	1.31	1.34	9.24	0.532 J	<1	17.8	1.31
cis-1,3-Dichloropropene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Hexachlorobutadiene	µg/L	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Isopropylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
m-,p-Xylene	µg/L	<2	<2	<2	<2	<2	<2	<2
MEK (2-Butanone)	µg/L	<10	<10	<10	<10	<10	<10	<10
Methyl t-butyl ether (MTBE)	µg/L	<5	<5	<5	<5	<5	<5	<5
Methylene chloride	µg/L	<1	<1	0.293 J	<1	<1	<1	<1
MIBK (methyl isobutyl ketone)	µg/L	<10	<10	<10	<10	<10	<10	<10
Naphthalene	µg/L	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
n-Propylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
o-Xylene	µg/L	<1	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Styrene	µg/L	<1	<1	<1	<1	<1	<1	<1
tert-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	168	172	60.3	2.62	<1	151	35.9 J
Toluene	µg/L	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	µg/L	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	1.28	1.23	166	0.441 J	<1	7.07	2.92
Trichlorofluoromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1	<1

VOC samples analyzed using method 8260B

µg/L : micrograms per liter

RL: reporting limit

<: Not detected above RL

DQE FLAGS:

J: Estimated concentration

B: Blank Contamination

UJ: Not-Detected, RL estimated

TABLE A-2
ANALYTICAL RESULTS - OCTOBER 2011 GROUNDWATER SAMPLES
ANNUAL LONG-TERM MONITORING REPORT – 2011
Main Installation - Defense Depot Memphis, Tennessee

	Well ID	DR2-3	DR2-4	DR2-5	DR2-6 DUP-10	DR2-6	MW-21	MW-25A
	Lab ID	L11100105-13	L11100105-14	L11100105-15	L11100105-31	L11100105-29	L11100282-10	L11100282-18
Analyte	Date Units	10/2/2011	10/2/2011	10/2/2011	10/3/2011	10/3/2011	10/6/2011	10/7/2011
1,1,1,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloropropene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	µg/L	<1	<1	20.5	13.2	13.1	<1	<1
1,2,4-Trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	µg/L	<2	<2	<2	<2	<2	<2	<2
1,2-Dibromoethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	µg/L	<1	<1	0.195 J	0.132 J	0.15 J	<1	<1
1,2-Dichloroethane	µg/L	<0.5	<0.5	0.436 J	<0.5	<0.5	1	<0.5
1,2-Dichloropropane	µg/L	<1	<1	0.418 J	0.327 J	0.368 J	<1	<1
1,3,5-Trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3-Dichloropropane	µg/L	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,4-Dichlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1-Chlorohexane	µg/L	<1	<1	<1	<1	<1	<1	<1
2,2-Dichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1
2-Chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
2-Hexanone	µg/L	<10	<10	<10	<10	<10	<10	<10
4-Chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
Acetone	µg/L	<10	<10	<10	<10	<10	<10	<10
Benzene	µg/L	<0.4	<0.4	0.178 J	<0.4	<0.4	<0.4	<0.4
Bromobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromomethane	µg/L	<1	<1	<1	<1	<1	<1 UJ	<1 UJ
Carbon disulfide	µg/L	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	6.7	4.45	167	26.8	27.1	<1	2.22
Chlorobenzene	µg/L	<0.5	<0.5	0.297 J	0.342 J	0.375 J	<0.5	<0.5
Chloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	1.04	0.835	66.2	7.64	7.82	<0.3	0.324
Chloromethane	µg/L	<1	<1	<1	<1	<1	<1 UJ	<1 UJ
cis-1,2-Dichloroethene	µg/L	1.19	0.412 J	87.4	48.3	50.5	2.27	<1
cis-1,3-Dichloropropene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Hexachlorobutadiene	µg/L	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Isopropylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
m-,p-Xylene	µg/L	<2	<2	<2	<2	<2	<2	<2
MEK (2-Butanone)	µg/L	<10	<10	<10	<10	<10	<10	<10
Methyl t-butyl ether (MTBE)	µg/L	<5	<5	<5	<5	<5	<5	0.555 J
Methylene chloride	µg/L	<1	<1	<1	<1	<1	<1	<1
MBK (methyl isobutyl ketone)	µg/L	<10	<10	<10	<10	<10	<10	<10
Naphthalene	µg/L	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
n-Propylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
o-Xylene	µg/L	<1	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Styrene	µg/L	<1	<1	<1	<1	<1	<1	<1
tert-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	33.5	13.7	86.5	32.3	32.7	80	6.94
Toluene	µg/L	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	0.396 J	<1	<1	<1	<1
trans-1,3-Dichloropropene	µg/L	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	2.38	1.58	37.8	11.4	11.7	5.3	0.335 J
Trichlorofluoromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	µg/L	<1	<1	<1	0.292 J	0.302 J	<1	<1

VOC samples analyzed using method 8260B

µg/L : micrograms per liter

RL: reporting limit

<: Not detected above RL

DQE FLAGS:

J: Estimated concentration

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UJ: Not-Detected, RL estimated

TABLE A-2
ANALYTICAL RESULTS - OCTOBER 2011 GROUNDWATER SAMPLES
ANNUAL LONG-TERM MONITORING REPORT – 2011
Main Installation - Defense Depot Memphis, Tennessee

Analyte	Well ID Lab ID Date Units	MW-26 L11100105-23 10/3/2011	MW-34 L11100336-01 10/9/2011	MW-38 L11100105-33 10/3/2011	MW-39 L11100282-01 10/6/2011	MW-39A L11100191-07 10/5/2011	MW-52 L11100282-19 10/7/2011	MW-62 L11100336-06 10/8/2011
1,1,1,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	0.851 J
1,1-Dichloropropene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	µg/L	<2	<2	<2	<2	<2	<2	<2
1,2-Dibromoethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	µg/L	<1	<1	<1	<1	<1	<1	0.433 J
1,3,5-Trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3-Dichloropropane	µg/L	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,4-Dichlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1-Chlorohexane	µg/L	<1	<1	<1	<1	<1	<1	<1
2,2-Dichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1
2-Chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
2-Hexanone	µg/L	<10	<10	<10	<10	<10	<10	<10
4-Chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
Acetone	µg/L	<10	<10	<10	<10	<10	<10	<10
Benzene	µg/L	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Bromobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromomethane	µg/L	<1	<1	<1	<1	<1	<1 UJ	<1
Carbon disulfide	µg/L	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	8.97	0.783 J	<1	<1	<1	<1	0.563 J
Chlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	1.4	0.406	<0.3	<0.3	<0.3	0.794	0.315
Chloromethane	µg/L	<1	<1	<1	<1	<1	<1 UJ	<1
cis-1,2-Dichloroethene	µg/L	1.01	<1	<1	9.96	30.9	0.632 J	<1
cis-1,3-Dichloropropene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Hexachlorobutadiene	µg/L	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Isopropylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
m-,p-Xylene	µg/L	<2	<2	<2	<2	<2	<2	<2
MEK (2-Butanone)	µg/L	<10	<10	<10	<10	<10	<10	<10
Methyl t-butyl ether (MTBE)	µg/L	<5	<5	<5	<5	<5	<5	<5
Methylene chloride	µg/L	<1	<1	<1	<1	<1	<1	<1
MBK (methyl isobutyl ketone)	µg/L	<10	<10	<10	<10	<10	<10	<10
Naphthalene	µg/L	<1	<1	<1	<1	<1	<1	0.598 J
n-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
n-Propylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
o-Xylene	µg/L	<1	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Styrene	µg/L	<1	<1	<1	<1	<1	<1	<1
tert-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	52.5	0.341 J	<1	29	30.9	6.19	0.504 J
Toluene	µg/L	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	0.465 J	<1	<1
trans-1,3-Dichloropropene	µg/L	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	1.92	1.48	0.291 J	10.9	8.74	0.98 J	157
Trichlorofluoromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	µg/L	<1	<1	<1	0.914 J	1.06	<1	<1

VOC samples analyzed using method 8260B

µg/L : micrograms per liter

RL: reporting limit

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DQE FLAGS:

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TABLE A-2
ANALYTICAL RESULTS - OCTOBER 2011 GROUNDWATER SAMPLES
ANNUAL LONG-TERM MONITORING REPORT – 2011
Main Installation - Defense Depot Memphis, Tennessee

	Well ID	MW-63A	MW-63A DUP-1	MW-63B	MW-64	MW-85	MW-88	MW-89
	Lab ID	L11100282-02	L11100282-08	L11100282-20	L11100105-24	L11100336-02	L11100105-08	L11100105-01
Analyte	Date	10/6/2011	10/6/2011	10/7/2011	10/3/2011	10/9/2011	10/2/2011	10/1/2011
	Units							
1,1,1,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	0.546	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	<1	<1	0.445 J	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloropropene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	µg/L	<1	<1	<1	<1	10.9	<1	<1
1,2,4-Trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	µg/L	<2	<2	<2	<2	<2	<2	<2
1,2-Dibromoethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	<0.5	<0.5	<0.5	0.502	<0.5	<0.5	<0.5
1,2-Dichloropropane	µg/L	<1	<1	<1	<1	0.29 J	<1	<1
1,3,5-Trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3-Dichloropropane	µg/L	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,4-Dichlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	0.191 B	<0.5
1-Chlorohexane	µg/L	<1	<1	<1	<1	<1	<1	<1
2,2-Dichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1
2-Chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
2-Hexanone	µg/L	<10	<10	<10	<10	<10	<10	<10
4-Chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
Acetone	µg/L	<10	<10	<10	<10	<10	10.9	<10
Benzene	µg/L	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Bromobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromomethane	µg/L	<1	<1 UJ	<1 UJ	<1	<1	<1	<1
Carbon disulfide	µg/L	<1	<1	<1	<1	<1	1.51	<1
Carbon tetrachloride	µg/L	<1	<1	<1	2.52	55.9	7.56	0.38 J
Chlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	<0.3	<0.3	0.759	1.41	16.4	1.34	0.278 J
Chloromethane	µg/L	<1	<1	<1 UJ	<1	<1	<1	<1
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	0.544 J	21.2	1.68	<1
cis-1,3-Dichloropropene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Hexachlorobutadiene	µg/L	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Isopropylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
m-,p-Xylene	µg/L	<2	<2	<2	<2	<2	<2	<2
MEK (2-Butanone)	µg/L	<10	<10	<10	<10	<10	<10	<10
Methyl t-butyl ether (MTBE)	µg/L	<5	<5	<5	<5	<5	<5	<5
Methylene chloride	µg/L	<1	<1	<1	<1	<1	<1	<1
MBK (methyl isobutyl ketone)	µg/L	<10	<10	<10	<10	<10	<10	<10
Naphthalene	µg/L	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
n-Propylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
o-Xylene	µg/L	<1	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Styrene	µg/L	<1	<1	<1	<1	<1	<1	<1
tert-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	0.466 J	0.477 J	5.11	16.2	29.4	35.2	3.68
Toluene	µg/L	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	µg/L	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	0.432 J	0.428 J	2.76	26.1	9.96	2.92	1.95
Trichlorofluoromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1	<1

VOC samples analyzed using method 8260B

µg/L : micrograms per liter

RL: reporting limit

<: Not detected above RL

DQE FLAGS:

J: Estimated concentration

B: Blank Contamination

UJ: Not-Detected, RL estimated

TABLE A-2
ANALYTICAL RESULTS - OCTOBER 2011 GROUNDWATER SAMPLES
ANNUAL LONG-TERM MONITORING REPORT – 2011
Main Installation - Defense Depot Memphis, Tennessee

	Well ID	MW-90	MW-92	MW-94A	MW-96	MW-97	MW-97 DUP-2	MW-98
	Lab ID	L11100105-04	L11100105-25	L11100191-15	L11100282-21	L11100191-01	L11100191-06	L11100191-23
Analyte	Date Units	10/1/2011	10/3/2011	10/4/2011	10/7/2011	10/5/2011	10/5/2011	10/4/2011
1,1,1,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	0.822 J	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	0.617 J	<1	<1	<1	<1	<1	<1
1,1-Dichloropropene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	µg/L	<2	<2	<2	<2	<2	<2	<2
1,2-Dibromoethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	<0.5	<0.5	<0.5	0.339 J	<0.5	<0.5	<0.5
1,2-Dichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3-Dichloropropane	µg/L	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,4-Dichlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1-Chlorohexane	µg/L	<1	<1	<1	<1	<1	<1	<1
2,2-Dichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1
2-Chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
2-Hexanone	µg/L	<10	<10	<10	<10	<10	<10	<10
4-Chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
Acetone	µg/L	<10	<10	<10	<10	<10	<10	<10
Benzene	µg/L	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Bromobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromomethane	µg/L	<1	<1	<1	<1 UJ	<1	<1	<1
Carbon disulfide	µg/L	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	4.64	<1	<1	<1
Chlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	3.07	<0.3	<0.3	0.972	0.238 J	0.248 J	<0.3
Chloromethane	µg/L	<1	<1	<1	<1 UJ	<1	<1	<1
cis-1,2-Dichloroethene	µg/L	0.322 J	64.2	3.41	0.631 J	<1	<1	0.374 J
cis-1,3-Dichloropropene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Hexachlorobutadiene	µg/L	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Isopropylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
m-,p-Xylene	µg/L	<2	<2	<2	<2	<2	<2	<2
MEK (2-Butanone)	µg/L	<10	<10	<10	<10	<10	<10	<10
Methyl t-butyl ether (MTBE)	µg/L	<5	<5	<5	<5	<5	<5	<5
Methylene chloride	µg/L	<1	<1	<1	<1	<1	<1	<1
MBK (methyl isobutyl ketone)	µg/L	<10	<10	<10	<10	<10	<10	<10
Naphthalene	µg/L	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
n-Propylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
o-Xylene	µg/L	<1	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Styrene	µg/L	<1	<1	<1	<1	<1	<1	<1
tert-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	29.2	78.4	24.9	2.42	<1	<1	41.7
Toluene	µg/L	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	µg/L	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	5.64	13.6	6.29	<1	53.8	55.8	3.05
Trichlorofluoromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	µg/L	<1	3.02	<1	<1	<1	<1	<1

VOC samples analyzed using method 8260B

µg/L : micrograms per liter

RL: reporting limit

<: Not detected above RL

DQE FLAGS:

J: Estimated concentration

B: Blank Contamination

UJ: Not-Detected, RL estimated

TABLE A-2
ANALYTICAL RESULTS - OCTOBER 2011 GROUNDWATER SAMPLES
ANNUAL LONG-TERM MONITORING REPORT – 2011
Main Installation - Defense Depot Memphis, Tennessee

	Well ID	MW-100B	MW-101T	MW-101B	MW-103	MW-104	MW-107T	MW-107B
	Lab ID	L11100282-25	L11100282-26	L11100282-27	L11100282-22	L11100336-03	L11100336-11	L11100336-12
Analyte	Date Units	10/7/2011	10/7/2011	10/7/2011	10/7/2011	10/9/2011	10/8/2011	10/8/2011
1,1,1,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	<1	<1	<1	2.61	1.13	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	2.3	2.31	<1	<1
1,1-Dichloropropene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	µg/L	<2	<2	<2	<2	<2	<2	<2
1,2-Dibromoethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3-Dichloropropane	µg/L	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,4-Dichlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1-Chlorohexane	µg/L	<1	<1	<1	<1	<1	<1	<1
2,2-Dichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1
2-Chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
2-Hexanone	µg/L	<10	<10	<10	<10	<10	<10	<10
4-Chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
Acetone	µg/L	<10	<10	<10	<10	<10	<10	<10
Benzene	µg/L	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Bromobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromomethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Carbon disulfide	µg/L	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	0.704 J	0.655 J
Chlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	<0.3	<0.3	<0.3	9.61	8.78	0.3 J	0.308
Chloromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	µg/L	9.9	<1	<1	0.439 J	0.574 J	<1	<1
cis-1,3-Dichloropropene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Hexachlorobutadiene	µg/L	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Isopropylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
m-,p-Xylene	µg/L	<2	<2	<2	<2	<2	<2	<2
MEK (2-Butanone)	µg/L	<10	<10	<10	<10	<10	<10	<10
Methyl t-butyl ether (MTBE)	µg/L	61.6	2.69 J	3.13 J	<5	<5	<5	<5
Methylene chloride	µg/L	<1	<1	<1	<1	<1	<1	<1
MBK (methyl isobutyl ketone)	µg/L	<10	<10	<10	<10	<10	<10	<10
Naphthalene	µg/L	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
n-Propylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
o-Xylene	µg/L	<1	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Styrene	µg/L	<1	<1	<1	<1	<1	<1	<1
tert-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	28.7	53.1	72.3	<1	<1	31.7	32.1
Toluene	µg/L	0.324 J	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	0.845 J	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	µg/L	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	0.521 J	<1	<1	7.2	17.3	2.84	2.86
Trichlorofluoromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	µg/L	181 J	<1	<1	<1	<1	<1	<1

VOC samples analyzed using method 8260B

µg/L : micrograms per liter

RL: reporting limit

<: Not detected above RL

DQE FLAGS:

J: Estimated concentration

B: Blank Contamination

UJ: Not-Detected, RL estimated

TABLE A-2
ANALYTICAL RESULTS - OCTOBER 2011 GROUNDWATER SAMPLES
ANNUAL LONG-TERM MONITORING REPORT – 2011
Main Installation - Defense Depot Memphis, Tennessee

	Well ID	MW-108	MW-113	MW-113 DUP-3	MW-140	MW-141	MW-142	MW-143
	Lab ID	L11100282-03	L11100105-26	L11100105-30	L11100105-34	L11100105-16	L11100336-04	L11100282-28
Analyte	Date Units	10/6/2011	10/3/2011	10/3/2011	10/3/2011	10/2/2011	10/9/2011	10/7/2011
1,1,1,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	0.988 J	<1	<1	<1	0.334 J	<1	<1
1,1-Dichloroethene	µg/L	1.19	<1	<1	<1	<1	<1	<1
1,1-Dichloropropene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	µg/L	<1	4.7	4.8	<1	<1	<1	<1
1,2,4-Trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	µg/L	<2	<2	<2	<2	<2	<2	<2
1,2-Dibromoethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	µg/L	<1	<1	0.212 J	<1	<1	<1	<1
1,3,5-Trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3-Dichloropropane	µg/L	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,4-Dichlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1-Chlorohexane	µg/L	<1	<1	<1	<1	<1	<1	<1
2,2-Dichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1
2-Chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
2-Hexanone	µg/L	<10	<10	<10	<10	<10	<10	<10
4-Chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
Acetone	µg/L	<10	<10	<10	<10	<10	<10	<10
Benzene	µg/L	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Bromobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromomethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Carbon disulfide	µg/L	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	65.8	63.3	0.27 J	<1	<1	<1
Chlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	11.6	16.2	15.7	<0.3	2.68	<0.3	<0.3
Chloromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	µg/L	0.619 J	26.2	25.5	<1	<1	<1	<1
cis-1,3-Dichloropropene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Hexachlorobutadiene	µg/L	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Isopropylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
m-,p-Xylene	µg/L	<2	<2	<2	<2	<2	<2	<2
MEK (2-Butanone)	µg/L	<10	<10	<10	<10	<10	<10	<10
Methyl t-butyl ether (MTBE)	µg/L	<5	<5	<5	<5	<5	8.32	3.98 J
Methylene chloride	µg/L	<1	<1	<1	<1	<1	<1	<1
MBK (methyl isobutyl ketone)	µg/L	<10	<10	<10	<10	<10	<10	<10
Naphthalene	µg/L	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
n-Propylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
o-Xylene	µg/L	<1	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Styrene	µg/L	<1	<1	<1	<1	<1	<1	<1
tert-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	6.06	189	178	1.19	23.7	<1	<1
Toluene	µg/L	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	µg/L	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	26	18	17.8	1.43	3.6	11	12.6
Trichlorofluoromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1	<1

VOC samples analyzed using method 8260B

µg/L : micrograms per liter

RL: reporting limit

<: Not detected above RL

DQE FLAGS:

J: Estimated concentration

B: Blank Contamination

UJ: Not-Detected, RL estimated

TABLE A-2
ANALYTICAL RESULTS - OCTOBER 2011 GROUNDWATER SAMPLES
ANNUAL LONG-TERM MONITORING REPORT – 2011
Main Installation - Defense Depot Memphis, Tennessee

	Well ID	MW-197A	MW-197B	MW-198	MW-199A	MW-199B	MW-200	MW-200 DUP-4
	Lab ID	L11100191-08	L11100191-11	L11100336-13	L11100105-35	L11100105-36	L11100191-16	L11100191-21
Analyte	Date Units	10/5/2011	10/5/2011	10/8/2011	10/3/2011	10/3/2011	10/4/2011	10/4/2011
1,1,1,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloropropene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	µg/L	<2	<2	<2	<2	<2	<2	<2
1,2-Dibromoethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3-Dichloropropane	µg/L	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,4-Dichlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1-Chlorohexane	µg/L	<1	<1	<1	<1	<1	<1	<1
2,2-Dichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1
2-Chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
2-Hexanone	µg/L	<10	<10	<10	<10	<10	<10	<10
4-Chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
Acetone	µg/L	<10	<10	<10	<10	<10	<10	<10
Benzene	µg/L	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Bromobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromomethane	µg/L	<1 UJ	<1	<1	<1	<1	<1	<1
Carbon disulfide	µg/L	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	0.324 J	<1	<1
Chlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	0.126 J	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chloromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	µg/L	1.26	5.27	<1	<1	<1	15.3	11.7
cis-1,3-Dichloropropene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Hexachlorobutadiene	µg/L	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Isopropylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
m-,p-Xylene	µg/L	<2	<2	<2	<2	<2	<2	<2
MEK (2-Butanone)	µg/L	<10	<10	<10	<10	<10	<10	<10
Methyl t-butyl ether (MTBE)	µg/L	<5	0.771 J	<5	3.26 J	<5	<5	<5
Methylene chloride	µg/L	<1	<1	<1	<1	<1	<1	<1
MBK (methyl isobutyl ketone)	µg/L	<10	<10	<10	<10	<10	<10	<10
Naphthalene	µg/L	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
n-Propylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
o-Xylene	µg/L	<1	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Styrene	µg/L	<1	<1	<1	<1	<1	<1	<1
tert-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	32.2 J	29.7	<1	<1	0.881 J	25.6	25
Toluene	µg/L	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	µg/L	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	1.51	9.4	0.44 J	0.963 J	59.7	5.05	5.01
Trichlorofluoromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	µg/L	<1	1.86	<1	<1	<1	<1	<1

VOC samples analyzed using method 8260B

µg/L : micrograms per liter

RL: reporting limit

<: Not detected above RL

DQE FLAGS:

J: Estimated concentration

B: Blank Contamination

UJ: Not-Detected, RL estimated

TABLE A-2
ANALYTICAL RESULTS - OCTOBER 2011 GROUNDWATER SAMPLES
ANNUAL LONG-TERM MONITORING REPORT – 2011
Main Installation - Defense Depot Memphis, Tennessee

	Well ID	MW-202A	MW-202B	MW-203A	MW-203B	MW-204A	MW-204B	MW-205A
	Lab ID	L11100105-05	L11100105-06	L11100191-12	L11100191-13	L11100191-24	L11100191-25	L11100191-26
Analyte	Date	10/1/2011	10/1/2011	10/5/2011	10/5/2011	10/4/2011	10/4/2011	10/4/2011
	Units							
1,1,1,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	0.529	<0.5
1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	<1	0.255 J	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloropropene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	µg/L	<2	<2	<2	<2	<2	<2	<2
1,2-Dibromoethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3-Dichloropropane	µg/L	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,4-Dichlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1-Chlorohexane	µg/L	<1	<1	<1	<1	<1	<1	<1
2,2-Dichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1
2-Chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
2-Hexanone	µg/L	<10	<10	<10	<10	<10	<10	<10
4-Chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
Acetone	µg/L	<10	<10	<10	<10	<10	<10	<10
Benzene	µg/L	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Bromobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromomethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Carbon disulfide	µg/L	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	0.265 J	0.31 J	<1	<1	<1	<1	<1
Chlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	0.222 J	0.712	<0.3	<0.3	<0.3	<0.3	<0.3
Chloromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	µg/L	<1	0.411 J	5.75	4.81	1.53	0.793 J	13.4
cis-1,3-Dichloropropene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Hexachlorobutadiene	µg/L	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Isopropylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
m-,p-Xylene	µg/L	<2	<2	<2	<2	<2	<2	<2
MEK (2-Butanone)	µg/L	<10	<10	<10	<10	<10	<10	<10
Methyl t-butyl ether (MTBE)	µg/L	<5	<5	<5	1.42 J	<5	<5	<5
Methylene chloride	µg/L	<1	<1	<1	<1	<1	<1	<1
MIBK (methyl isobutyl ketone)	µg/L	<10	<10	<10	<10	<10	<10	<10
Naphthalene	µg/L	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
n-Propylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
o-Xylene	µg/L	<1	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Styrene	µg/L	<1	<1	<1	<1	<1	<1	<1
tert-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	1.56	27.1	147	23.2	50.2	27.8	30.9
Toluene	µg/L	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	µg/L	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	1.5	5.13	2.72	8.72	0.91 J	2.99	8.03
Trichlorofluoromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	µg/L	<1	<1	<1	2.74	<1	<1	1.83

VOC samples analyzed using method 8260B

µg/L : micrograms per liter

RL: reporting limit

<: Not detected above RL

DQE FLAGS:

J: Estimated concentration

B: Blank Contamination

UJ: Not-Detected, RL estimated

TABLE A-2
ANALYTICAL RESULTS - OCTOBER 2011 GROUNDWATER SAMPLES
ANNUAL LONG-TERM MONITORING REPORT – 2011
Main Installation - Defense Depot Memphis, Tennessee

	Well ID	MW-205B	MW-206A	MW-206B	MW-206B DUP-5	MW-207A	MW-207B	MW-208A
	Lab ID	L11100191-27	L11100191-17	L11100191-18	L11100191-22	L11100105-17	L11100282-04	L11100282-05
Analyte	Date Units	10/4/2011	10/4/2011	10/4/2011	10/4/2011	10/2/2011	10/6/2011	10/6/2011
1,1,1,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	<1	<1	<1	<1	1.28	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	1.31	<1	<1
1,1-Dichloropropene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	µg/L	<2	<2	<2	<2	<2	<2	<2
1,2-Dibromoethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	2.01	<0.5
1,2-Dichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3-Dichloropropane	µg/L	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,4-Dichlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1-Chlorohexane	µg/L	<1	<1	<1	<1	<1	<1	<1
2,2-Dichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1
2-Chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
2-Hexanone	µg/L	<10	<10	<10	<10	<10	<10	<10
4-Chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
Acetone	µg/L	<10	<10	<10	<10	<10	<10	<10
Benzene	µg/L	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Bromobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromomethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Carbon disulfide	µg/L	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	2.08	<1
Chlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	<0.3	<0.3	<0.3	<0.3	11.8	4.01	<0.3
Chloromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	µg/L	6.46	7.81	2.38	2.26	0.592 J	0.544 J	39.7
cis-1,3-Dichloropropene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Hexachlorobutadiene	µg/L	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Isopropylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
m-,p-Xylene	µg/L	<2	<2	<2	<2	<2	<2	<2
MEK (2-Butanone)	µg/L	<10	<10	<10	<10	<10	<10	<10
Methyl t-butyl ether (MTBE)	µg/L	<5	<5	<5	<5	<5	<5	<5
Methylene chloride	µg/L	<1	<1	<1	<1	<1	<1	<1
MBK (methyl isobutyl ketone)	µg/L	<10	<10	<10	<10	<10	<10	<10
Naphthalene	µg/L	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
n-Propylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
o-Xylene	µg/L	<1	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Styrene	µg/L	<1	<1	<1	<1	<1	<1	<1
tert-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	28.9	14	15.4	14.2	14.4	55	10.5
Toluene	µg/L	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	µg/L	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	8.38	12.5	8.08	7.65	21.3	16.2	19.1
Trichlorofluoromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	µg/L	1.73	<1	<1	<1	<1	<1	<1

VOC samples analyzed using method 8260B

µg/L : micrograms per liter

RL: reporting limit

<: Not detected above RL

DQE FLAGS:

J: Estimated concentration

B: Blank Contamination

UJ: Not-Detected, RL estimated

TABLE A-2
ANALYTICAL RESULTS - OCTOBER 2011 GROUNDWATER SAMPLES
ANNUAL LONG-TERM MONITORING REPORT – 2011
Main Installation - Defense Depot Memphis, Tennessee

	Well ID	MW-208B	MW-209A	MW-209B	MW-210A	MW-210B	MW-211	MW-212
	Lab ID	L11100282-06	L11100105-37	L11100105-40	L11100191-28	L11100191-29	L11100105-41	L11100336-07
Analyte	Date Units	10/6/2011	10/3/2011	10/3/2011	10/4/2011	10/4/2011	10/3/2011	10/8/2011
1,1,1,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloropropene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	µg/L	<2	<2	<2	<2	<2	<2	<2
1,2-Dibromoethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3-Dichloropropane	µg/L	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,4-Dichlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1-Chlorohexane	µg/L	<1	<1	<1	<1	<1	<1	<1
2,2-Dichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1
2-Chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
2-Hexanone	µg/L	<10	<10	<10	<10	<10	<10	<10
4-Chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
Acetone	µg/L	<10	<10	<10	<10	<10	<10	<10
Benzene	µg/L	<0.4	<0.4	<0.4	0.154 J	<0.4	<0.4	<0.4
Bromobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromomethane	µg/L	<1 UJ	<1 UJ	<1	<1	<1	<1	<1
Carbon disulfide	µg/L	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	0.563 J	<1	<1	<1	<1
Chlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	0.384	<0.3	0.173 J	<0.3	<0.3	0.152 J	<0.3
Chloromethane	µg/L	<1	<1 UJ	<1	<1	<1	<1 UJ	<1
cis-1,2-Dichloroethene	µg/L	1.67	<1	<1	1.81	0.781 J	<1	<1
cis-1,3-Dichloropropene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane	µg/L	<1	<1 UJ	<1	<1	<1	<1 UJ	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Hexachlorobutadiene	µg/L	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Isopropylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
m-,p-Xylene	µg/L	<2	<2	<2	<2	<2	<2	<2
MEK (2-Butanone)	µg/L	<10	<10	<10	<10	<10	<10	<10
Methyl t-butyl ether (MTBE)	µg/L	<5	2.76 J	<5	0.639 J	<5	<5	<5
Methylene chloride	µg/L	<1	<1	<1	<1	<1	<1	<1
MIBK (methyl isobutyl ketone)	µg/L	<10	<10	<10	<10	<10	<10	<10
Naphthalene	µg/L	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
n-Propylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
o-Xylene	µg/L	<1	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Styrene	µg/L	<1	<1	<1	<1	<1	<1	<1
tert-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	19.8	<1	0.492 J	12.6	7.24	0.275 J	<1
Toluene	µg/L	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	µg/L	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	34.8	1.04	30.6	5.4	9.73	0.512 J	16.5
Trichlorofluoromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1	<1

VOC samples analyzed using method 8260B

µg/L : micrograms per liter

RL: reporting limit

<: Not detected above RL

DQE FLAGS:

J: Estimated concentration

B: Blank Contamination

UJ: Not-Detected, RL estimated

TABLE A-2
ANALYTICAL RESULTS - OCTOBER 2011 GROUNDWATER SAMPLES
ANNUAL LONG-TERM MONITORING REPORT – 2011
Main Installation - Defense Depot Memphis, Tennessee

	Well ID	MW-212 DUP-6	MW-214A	MW-214B	MW-215A	MW-215B	MW-216	MW-217
	Lab ID	L11100336-09	L11100105-18	L11100105-19	L11100282-29	L11100191-19	L11100191-02	L11100191-20
Analyte	Date	10/8/2011	10/2/2011	10/2/2011	10/7/2011	10/4/2011	10/5/2011	10/4/2011
	Units							
1,1,1,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	µg/L	<0.5	0.384 J	0.393 J	0.289 J	<0.5	<0.5	0.232 J
1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloropropene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	µg/L	<2	<2	<2	<2	<2	<2	<2
1,2-Dibromoethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.291 J
1,2-Dichloropropane	µg/L	<1	<1	<1	<1	<1	<1	0.401 J
1,3,5-Trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3-Dichloropropane	µg/L	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,4-Dichlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1-Chlorohexane	µg/L	<1	<1	<1	<1	<1	<1	<1
2,2-Dichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1
2-Chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
2-Hexanone	µg/L	<10	<10	<10	<10	<10	<10	<10
4-Chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
Acetone	µg/L	<10	4.42 J	3.66 J	<10	<10	<10	<10
Benzene	µg/L	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Bromobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromomethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Carbon disulfide	µg/L	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	1.18	1.27	0.596 J	1.12	<1	32.1
Chlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	<0.3	4.34	3.94	0.908	0.589	<0.3	3.77
Chloromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	0.581 J
cis-1,3-Dichloropropene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane	µg/L	<1	0.284 J	0.269 J	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Hexachlorobutadiene	µg/L	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Isopropylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
m-,p-Xylene	µg/L	<2	<2	<2	<2	<2	<2	<2
MEK (2-Butanone)	µg/L	<10	<10	<10	<10	<10	<10	<10
Methyl t-butyl ether (MTBE)	µg/L	<5	2.6 J	2.22 J	0.865 J	0.995 J	<5	<5
Methylene chloride	µg/L	<1	<1	<1	<1	<1	<1	<1
MBK (methyl isobutyl ketone)	µg/L	<10	<10	<10	<10	<10	<10	<10
Naphthalene	µg/L	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
n-Propylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
o-Xylene	µg/L	<1	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Styrene	µg/L	<1	<1	<1	<1	<1	<1	<1
tert-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	11.1	9.24	3.51	4.82	<1	24.6
Toluene	µg/L	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	µg/L	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	16.9	6.71	5.16	2.08	1.42	<1	44.1
Trichlorofluoromethane	µg/L	<1	<1	<1	<1	<1	<1	1.01
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1	<1

VOC samples analyzed using method 8260B

µg/L : micrograms per liter

RL: reporting limit

<: Not detected above RL

DQE FLAGS:

J: Estimated concentration

B: Blank Contamination

UJ: Not-Detected, RL estimated

TABLE A-2
ANALYTICAL RESULTS - OCTOBER 2011 GROUNDWATER SAMPLES
ANNUAL LONG-TERM MONITORING REPORT – 2011
Main Installation - Defense Depot Memphis, Tennessee

	Well ID	MW-218	MW-219	MW-229	MW-229 DUP-7	MW-252	MW-253	MW-254
	Lab ID	L11100282-23	L11100282-11	L11100105-20	L11100105-21	L11100282-07	L11100105-42	L11100105-43
Analyte	Date	10/7/2011	10/6/2011	10/2/2011	10/2/2011	10/6/2011	9/30/2011	9/30/2011
Units								
1,1,1,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	µg/L	2.21	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	1.22	<1	<1	<1	<1	<1	<1
1,1-Dichloropropene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	µg/L	<2	<2	<2	<2	<2	<2	<2
1,2-Dibromoethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	0.764	0.541	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	µg/L	0.501 J	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3-Dichloropropane	µg/L	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,4-Dichlorobenzene	µg/L	<0.5	<0.5	0.127 B	<0.5	<0.5	<0.5	<0.5
1-Chlorohexane	µg/L	<1	<1	<1	<1	<1	<1	<1
2,2-Dichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1
2-Chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
2-Hexanone	µg/L	<10	<10	<10	<10	<10	<10	<10
4-Chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
Acetone	µg/L	<10	<10	<10	<10	<10	<10	<10
Benzene	µg/L	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Bromobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromomethane	µg/L	<1	<1 UJ	<1	<1	<1 UJ	<1	<1
Carbon disulfide	µg/L	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	9.75	<1	<1	<1	<1	<1	0.869 J
Chlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	2.52	<0.3	<0.3	<0.3	<0.3	<0.3	0.205 J
Chloromethane	µg/L	<1	<1 UJ	<1	<1	<1	<1 UJ	<1 UJ
cis-1,2-Dichloroethene	µg/L	0.436 J	<1	<1	<1	<1	<1	0.303 J
cis-1,3-Dichloropropene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane	µg/L	<1	<1	<1	<1	<1	<1 UJ	<1 UJ
Ethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Hexachlorobutadiene	µg/L	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Isopropylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
m-,p-Xylene	µg/L	<2	<2	<2	<2	<2	<2	<2
MEK (2-Butanone)	µg/L	<10	<10	<10	<10	<10	<10	<10
Methyl t-butyl ether (MTBE)	µg/L	<5	<5	<5	<5	<5	6.63	<5
Methylene chloride	µg/L	<1	<1	<1	<1	<1	<1	<1
MBK (methyl isobutyl ketone)	µg/L	<10	<10	<10	<10	<10	<10	<10
Naphthalene	µg/L	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
n-Propylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
o-Xylene	µg/L	<1	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Styrene	µg/L	<1	<1	<1	<1	<1	<1	<1
tert-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	19.5	6.51	<1	<1	<1	<1	0.578 J
Toluene	µg/L	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	µg/L	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	49.2	0.614 J	<1	<1	<1	9.81	2.28
Trichlorofluoromethane	µg/L	1.64	<1	<1	<1	<1	<1	<1
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1	<1

VOC samples analyzed using method 8260B

µg/L : micrograms per liter

RL: reporting limit

<: Not detected above RL

DQE FLAGS:

J: Estimated concentration

B: Blank Contamination

UJ: Not-Detected, RL estimated

TABLE A-2
ANALYTICAL RESULTS - OCTOBER 2011 GROUNDWATER SAMPLES
ANNUAL LONG-TERM MONITORING REPORT – 2011
Main Installation - Defense Depot Memphis, Tennessee

	Well ID	MW-255	MW-256	PMW21-03	PMW21-05	PMW92-03	PMW92-06	PMW101-04A
	Lab ID	L11100105-44	L11100105-45	L11100191-03	L11100191-04	L11100105-27	L11100105-28	L11100282-12
Analyte	Date Units	9/30/2011	9/30/2011	10/5/2011	10/5/2011	10/3/2011	10/3/2011	10/6/2011
1,1,1,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	<1	0.212 J	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloropropene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	µg/L	<1	<1	<1	<1	<1	85.5	<1
1,2,4-Trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	µg/L	<2	<2	<2	<2	<2	<2	<2
1,2-Dibromoethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	µg/L	<1	<1	<1	<1	<1	0.311 J	<1
1,2-Dichloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	0.412 J	<0.5
1,2-Dichloropropane	µg/L	<1	<1	<1	<1	<1	0.572 J	<1
1,3,5-Trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,3-Dichloropropane	µg/L	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,4-Dichlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1-Chlorohexane	µg/L	<1	<1	<1	<1	<1	<1	<1
2,2-Dichloropropane	µg/L	<1	<1	<1	<1	<1	<1	<1
2-Chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
2-Hexanone	µg/L	<10	<10	<10	<10	<10	<10	<10
4-Chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
Acetone	µg/L	<10	<10	<10	<10	3.07 J	<10	<10
Benzene	µg/L	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Bromobenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	µg/L	<1	<1	<1	<1	<1	<1	<1
Bromomethane	µg/L	<1	<1	<1	<1	<1	<1	<1 UJ
Carbon disulfide	µg/L	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	0.268 J	<1	<1	<1	106	<1
Chlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	0.22 J	<0.5
Chloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	<0.3	2.27	<0.3	<0.3	<0.3	36.3	<0.3
Chloromethane	µg/L	<1 UJ	<1 UJ	<1	<1	<1	<1	<1 UJ
cis-1,2-Dichloroethene	µg/L	<1	<1	1.11	0.298 J	51.9	58	3.12
cis-1,3-Dichloropropene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane	µg/L	<1 UJ	<1 UJ	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Hexachlorobutadiene	µg/L	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Isopropylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
m-,p-Xylene	µg/L	<2	<2	<2	<2	<2	<2	<2
MEK (2-Butanone)	µg/L	<10	<10	<10	<10	<10	<10	<10
Methyl t-butyl ether (MTBE)	µg/L	<5	<5	14.6	<5	<5	<5	1.57 J
Methylene chloride	µg/L	<1	<1	<1	<1	<1	<1	<1
MIBK (methyl isobutyl ketone)	µg/L	<10	<10	<10	<10	<10	<10	<10
Naphthalene	µg/L	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
n-Propylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
o-Xylene	µg/L	<1	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene	µg/L	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Styrene	µg/L	<1	<1	<1	<1	<1	<1	<1
tert-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	20	55	19.5	147	135	59.6
Toluene	µg/L	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	µg/L	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	0.298 J	4.68	14.4	1.46	15.1	29.8	2.11
Trichlorofluoromethane	µg/L	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1	<1

VOC samples analyzed using method 8260B

µg/L : micrograms per liter

RL: reporting limit

<: Not detected above RL

DQE FLAGS:

J: Estimated concentration

B: Blank Contamination

UJ: Not-Detected, RL estimated

TABLE A-2
ANALYTICAL RESULTS - OCTOBER 2011 GROUNDWATER SAMPLES
ANNUAL LONG-TERM MONITORING REPORT – 2011
Main Installation - Defense Depot Memphis, Tennessee

	Well ID	PMW101-04A DUP-8	PMW101-04B	PZ-03
	Lab ID	L111100282-17	L111100282-13	L111100336-08
	Date	10/6/2011	10/6/2011	10/8/2011
Analyte	Units			
1,1,1,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	µg/L	<1	<1	<1
1,1,2,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	µg/L	<1	<1	<1
1,1-Dichloroethane	µg/L	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1
1,1-Dichloropropene	µg/L	<1	<1	<1
1,2,3-Trichlorobenzene	µg/L	<1	<1	<1
1,2,3-Trichloropropane	µg/L	<1	<1	<1
1,2,4-Trichlorobenzene	µg/L	<1	<1	<1
1,2,4-Trimethylbenzene	µg/L	<1	<1	<1
1,2-Dibromo-3-chloropropane	µg/L	<2	<2	<2
1,2-Dibromoethane	µg/L	<1	<1	<1
1,2-Dichlorobenzene	µg/L	<1	<1	<1
1,2-Dichloroethane	µg/L	<0.5	<0.5	<0.5
1,2-Dichloropropane	µg/L	<1	<1	<1
1,3,5-Trimethylbenzene	µg/L	<1	<1	<1
1,3-Dichlorobenzene	µg/L	<1	<1	<1
1,3-Dichloropropane	µg/L	<0.4	<0.4	<0.4
1,4-Dichlorobenzene	µg/L	<0.5	<0.5	<0.5
1-Chlorohexane	µg/L	<1	<1	<1
2,2-Dichloropropane	µg/L	<1	<1	<1
2-Chlorotoluene	µg/L	<1	<1	<1
2-Hexanone	µg/L	<10	<10	<10
4-Chlorotoluene	µg/L	<1	<1	<1
Acetone	µg/L	<10	<10	<10
Benzene	µg/L	<0.4	<0.4	<0.4
Bromobenzene	µg/L	<1	<1	<1
Bromochloromethane	µg/L	<1	<1	<1
Bromodichloromethane	µg/L	<0.5	<0.5	<0.5
Bromoform	µg/L	<1	<1	<1
Bromomethane	µg/L	<1 UJ	<1 UJ	<1
Carbon disulfide	µg/L	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1
Chlorobenzene	µg/L	<0.5	<0.5	<0.5
Chloroethane	µg/L	<1	<1	<1
Chloroform	µg/L	<0.3	<0.3	0.235 J
Chloromethane	µg/L	<1 UJ	<1 UJ	<1
cis-1,2-Dichloroethene	µg/L	3.22	<1	<1
cis-1,3-Dichloropropene	µg/L	<0.5	<0.5	<0.5
Dibromochloromethane	µg/L	<0.5	<0.5	<0.5
Dibromomethane	µg/L	<1	<1	<1
Dichlorodifluoromethane	µg/L	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1
Hexachlorobutadiene	µg/L	<0.6	<0.6	<0.6
Isopropylbenzene	µg/L	<1	<1	<1
m-,p-Xylene	µg/L	<2	<2	<2
MEK (2-Butanone)	µg/L	<10	<10	<10
Methyl t-butyl ether (MTBE)	µg/L	1.51 J	2.75 J	<5
Methylene chloride	µg/L	<1	<1	<1
MIBK (methyl isobutyl ketone)	µg/L	<10	<10	<10
Naphthalene	µg/L	<1	<1	<1
n-Butylbenzene	µg/L	<1	<1	<1
n-Propylbenzene	µg/L	<1	<1	<1
o-Xylene	µg/L	<1	<1	<1
p-Isopropyltoluene	µg/L	<1	<1	<1
sec-Butylbenzene	µg/L	<1	<1	<1
Styrene	µg/L	<1	<1	<1
tert-Butylbenzene	µg/L	<1	<1	<1
Tetrachloroethene	µg/L	57.7	31.2	3.39
Toluene	µg/L	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1
trans-1,3-Dichloropropene	µg/L	<1	<1	<1
Trichloroethene	µg/L	2.22	3.23	2.64
Trichlorofluoromethane	µg/L	<1	<1	0.26 J
Vinyl chloride	µg/L	<1	<1	<1

VOC samples analyzed using method 8260B

µg/L : micrograms per liter

RL: reporting limit

<: Not detected above RL

DQE FLAGS:

J: Estimated concentration

B: Blank Contamination

UJ: Not-Detected, RL estimated

TABLE A-3
QUALITY CONTROL SAMPLE ANALYTICAL RESULTS - 2011 GROUNDWATER SAMPLES
ANNUAL LONG-TERM MONITORING REPORT – 2011
Main Installation - Defense Depot Memphis, Tennessee

Sample ID	TB-1-LS-13	TB-2-LS-13	TB-3-LS-13	TB-4-LS-13	TB-5-LS-13	TB-452011	LTM-RB1-LS-13
Lab ID	L11040062-10	L11040060-08	L11040178-13	L11040173-11	L11040146-05	L11040234-05	L11040234-01
Date	3/31/2011	4/1/2011	4/2/2011	4/3/2011	4/4/2011	4/5/2011	4/5/2011
Analyte	Units						
1,1,1,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloropropene	µg/L	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	µg/L	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	µg/L	<2	<2	<2	<2	<2	<2
1,2-Dibromoethane	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	µg/L	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1
1,3-Dichloropropane	µg/L	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,4-Dichlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1-Chlorohexane	µg/L	<1	<1	<1	<1	<1	<1
2,2-Dichloropropane	µg/L	<1	<1	<1	<1	<1	<1
2-Chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1
2-Hexanone	µg/L	<10	<10	<10	<10	<10	<10
4-Chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1
Acetone	µg/L	<10	<10	<10	3.08 J	<10	<10
Benzene	µg/L	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Bromobenzene	µg/L	<1	<1	<1	<1	<1	<1
Bromochloromethane	µg/L	<1	<1	<1	<1	<1	<1
Bromodichloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	µg/L	<1	<1	<1	<1	<1	<1
Bromomethane	µg/L	<1	<1	<1	<1	<1	<1
Carbon disulfide	µg/L	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroethane	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chloromethane	µg/L	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	µg/L	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane	µg/L	<1	<1	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1	<1
Hexachlorobutadiene	µg/L	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Isopropylbenzene	µg/L	<1	<1	<1	<1	<1	<1
m-,p-Xylene	µg/L	<2	<2	<2	<2	<2	<2
MEK (2-Butanone)	µg/L	<10	<10	<10	<10	<10	<10
Methyl t-butyl ether (MTBE)	µg/L	<5	<5	<5	<5	<5	<5
Methylene chloride	µg/L	<1	<1	<1	0.316 J	0.538 J	<1
MIBK (methyl isobutyl ketone)	µg/L	<10	<10	<10	<10	<10	<10
Naphthalene	µg/L	<1	<1	<1	<1	<1	<1
n-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1
n-Propylbenzene	µg/L	<1	<1	<1	<1	<1	<1
o-Xylene	µg/L	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene	µg/L	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1
Styrene	µg/L	<1	<1	<1	<1	<1	<1
tert-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	µg/L	<1	<1	<1	<1	<1	<1
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

VOC analysis by method 8260B

µg/L : micrograms per liter

RL: reporting limit

<: Not detected above RL

DQE FLAGS:

J: Estimated concentration

B: Blank Contamination

UJ: Not-Detected, RL estimated

TABLE A-3
QUALITY CONTROL SAMPLE ANALYTICAL RESULTS - 2011 GROUNDWATER SAMPLES
ANNUAL LONG-TERM MONITORING REPORT – 2011
Main Installation - Defense Depot Memphis, Tennessee

Sample ID	LTM-RB1	TB-1-LA-14	TB-2-LA-14	TB-3-LA-14	TB-4-LA-14	TB-5-LA-14	TB-6-LA-14
Lab ID	L11100336-14	L11100105-48	L11100105-07	L11100105-22	L11100105-32	L11100191-38	L11100191-14
Date	10/8/2011	9/30/2011	10/1/2011	10/2/2011	10/3/2011	10/4/2011	10/5/2011
Analyte	Units						
1,1,1,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloropropene	µg/L	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	µg/L	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	µg/L	<2	<2	<2	<2	<2	<2
1,2-Dibromoethane	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	µg/L	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	µg/L	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	µg/L	<1	0.267 J	<1	<1	<1	<1
1,3-Dichloropropane	µg/L	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,4-Dichlorobenzene	µg/L	<0.5	0.26 J	<0.5	<0.5	<0.5	<0.5
1-Chlorohexane	µg/L	<1	<1	<1	<1	<1	<1
2,2-Dichloropropane	µg/L	<1	<1	<1	<1	<1	<1
2-Chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1
2-Hexanone	µg/L	<10	<10	<10	<10	<10	<10
4-Chlorotoluene	µg/L	<1	<1	<1	<1	<1	<1
Acetone	µg/L	<10	<10	<10	<10	<10	<10
Benzene	µg/L	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Bromobenzene	µg/L	<1	<1	<1	<1	<1	<1
Bromochloromethane	µg/L	<1	<1	<1	<1	<1	<1
Bromodichloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	µg/L	<1	<1	<1	<1	<1	<1
Bromomethane	µg/L	<1	<1	<1	<1	<1 UJ	<1
Carbon disulfide	µg/L	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroethane	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chloromethane	µg/L	<1	<1 UJ	<1	<1	<1	<1
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	µg/L	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane	µg/L	<1	<1 UJ	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1	<1	<1
Hexachlorobutadiene	µg/L	<0.6	<0.6	0.517 J	<0.6	<0.6	<0.6
Isopropylbenzene	µg/L	<1	<1	<1	<1	<1	<1
m-,p-Xylene	µg/L	<2	<2	<2	<2	<2	<2
MEK (2-Butanone)	µg/L	<10	<10	<10	<10	<10	<10
Methyl t-butyl ether (MTBE)	µg/L	<5	<5	<5	<5	<5	<5
Methylene chloride	µg/L	<1	0.263 B	0.354 B	<1	<1	0.452 J
MIBK (methyl isobutyl ketone)	µg/L	<10	<10	<10	<10	<10	<10
Naphthalene	µg/L	<1	<1	<1	<1	<1	<1
n-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1
n-Propylbenzene	µg/L	<1	<1	<1	<1	<1	<1
o-Xylene	µg/L	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene	µg/L	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1
Styrene	µg/L	<1	<1	<1	<1	<1	<1
tert-Butylbenzene	µg/L	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1	<1	<1	<1
Toluene	µg/L	<1	0.37 J	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	µg/L	<1	<1	<1	<1	<1	<1
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

VOC analysis by method 8260B

µg/L : micrograms per liter

RL: reporting limit

<: Not detected above RL

DQE FLAGS:

J: Estimated concentration

B: Blank Contamination

UJ: Not-Detected, RL estimated

TABLE A-3
QUALITY CONTROL SAMPLE ANALYTICAL RESULTS - 2011 GROUNDWATER SAMPLES
ANNUAL LONG-TERM MONITORING REPORT – 2011
Main Installation - Defense Depot Memphis, Tennessee

	Sample ID	TB-7-LA-14	TB-8-LA-14	TB-9-LA-14	TB-10-LA-14
	Lab ID	L11100282-09	L11100282-24	L11100336-10	L11100336-05
Analyte	Date	10/6/2011	10/7/2011	10/8/2011	10/9/2011
	Units				
1,1,1,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	µg/L	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	µg/L	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1
1,1-Dichloropropene	µg/L	<1	<1	<1	<1
1,2,3-Trichlorobenzene	µg/L	<1	<1	<1	<1
1,2,3-Trichloropropane	µg/L	<1	<1	<1	<1
1,2,4-Trichlorobenzene	µg/L	<1	<1	<1	<1
1,2,4-Trimethylbenzene	µg/L	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	µg/L	<2	<2	<2	<2
1,2-Dibromoethane	µg/L	<1	<1	<1	<1
1,2-Dichlorobenzene	µg/L	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	<0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	µg/L	<1	<1	<1	<1
1,3,5-Trimethylbenzene	µg/L	<1	<1	<1	<1
1,3-Dichlorobenzene	µg/L	<1	<1	<1	<1
1,3-Dichloropropane	µg/L	<0.4	<0.4	<0.4	<0.4
1,4-Dichlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5
1-Chlorohexane	µg/L	<1	<1	<1	<1
2,2-Dichloropropane	µg/L	<1	<1	<1	<1
2-Chlorotoluene	µg/L	<1	<1	<1	<1
2-Hexanone	µg/L	<10	<10	<10	<10
4-Chlorotoluene	µg/L	<1	<1	<1	<1
Acetone	µg/L	<10	<10	<10	<10
Benzene	µg/L	<0.4	<0.4	<0.4	<0.4
Bromobenzene	µg/L	<1	<1	<1	<1
Bromochloromethane	µg/L	<1	<1	<1	<1
Bromodichloromethane	µg/L	<0.5	<0.5	<0.5	<0.5
Bromoform	µg/L	<1	<1	<1	<1
Bromomethane	µg/L	<1 UJ	<1	<1	<1
Carbon disulfide	µg/L	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1
Chlorobenzene	µg/L	<0.5	<0.5	<0.5	<0.5
Chloroethane	µg/L	<1	<1	<1	<1
Chloroform	µg/L	<0.3	<0.3	<0.3	<0.3
Chloromethane	µg/L	<1	<1	<1	<1
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1
cis-1,3-Dichloropropene	µg/L	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane	µg/L	<0.5	<0.5	<0.5	<0.5
Dibromomethane	µg/L	<1	<1	<1	<1
Dichlorodifluoromethane	µg/L	<1	<1	<1	<1
Ethylbenzene	µg/L	<1	<1	<1	<1
Hexachlorobutadiene	µg/L	<0.6	<0.6	<0.6	<0.6
Isopropylbenzene	µg/L	<1	<1	<1	<1
m-,p-Xylene	µg/L	<2	<2	<2	<2
MEK (2-Butanone)	µg/L	<10	<10	<10	<10
Methyl t-butyl ether (MTBE)	µg/L	<5	<5	<5	<5
Methylene chloride	µg/L	0.308 J	0.548 J	0.277 J	0.335 J
MIBK (methyl isobutyl ketone)	µg/L	<10	<10	<10	<10
Naphthalene	µg/L	<1	<1	<1	<1
n-Butylbenzene	µg/L	<1	<1	<1	<1
n-Propylbenzene	µg/L	<1	<1	<1	<1
o-Xylene	µg/L	<1	<1	<1	<1
p-Isopropyltoluene	µg/L	<1	<1	<1	<1
sec-Butylbenzene	µg/L	<1	<1	<1	<1
Styrene	µg/L	<1	<1	<1	<1
tert-Butylbenzene	µg/L	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1
trans-1,3-Dichloropropene	µg/L	<1	<1	<1	<1
Trichloroethene	µg/L	<1	<1	<1	<1
Trichlorofluoromethane	µg/L	<1	<1	<1	<1
Vinyl chloride	µg/L	<1	<1	<1	<1

VOC analysis by method 8260B

µg/L : micrograms per liter

RL: reporting limit

<: Not detected above RL

DQE FLAGS:

J: Estimated concentration

B: Blank Contamination

UJ: Not-Detected, RL estimated

APPENDIX B
DATA QUALITY EVALUATION

DATA QUALITY EVALUATION

Long-Term Monitoring (LTM) at the Main Installation was conducted by HDR during two sample events in 2011. Wells were selected for sampling in accordance with the *Long-Term Groundwater Monitoring Plan (LTM Plan)* (CH2M Hill, 2004). Groundwater samples were submitted to Microbac Laboratories in Marietta, Ohio for analysis. The field and laboratory procedures were performed in accordance with the *Remedial Action Sampling and Analysis Plan, Rev. 0 (RA SAP)* (MACTEC, 2005).

The data quality evaluation (DQE) process involves assessment of all field and laboratory procedures, including data validation in accordance with the RA SAP completed by Diane Short and Associates, Inc (DSA). The data validation reports are included in this appendix. This assessment is designed to evaluate problems with the quality assurance (QA)/quality control (QC) associated with the laboratory data and potential impact to the data quality objectives (DQOs). The DQE findings are summarized in the following sections.

FIELD ACTIVITIES AND FIELD QUALITY CONTROL

The field effort included the collection of groundwater samples from designated wells and piezometers during the semi-annual and annual LTM events in March-April and September-October 2011, respectively. The LTM well locations are shown on Figure 2 of the report. Field QC samples were collected at selected wells to evaluate sampling technique and decontamination procedures. These samples included field duplicates, trip blanks and field equipment (rinsate) blanks. Additional samples were collected at selected locations for matrix spike/matrix spike duplicate (MS/MSD) analyses in the laboratory. Sample bottles were provided by the laboratory and met U.S. Environmental Protection Agency (USEPA) requirements for environmentally clean containers. Sample labels were pre-printed to facilitate sample tracking from the field through the laboratory. Documentation of the sampling was performed in the field to ensure that the samples collected, sample labels, chain-of-custody (COC) records, which were generated electronically using a personal digital assistant (PDA) supplied by the laboratory, and request for analysis were consistent. Where necessary, COC forms were filled out manually. Custody seals were placed on each sample cooler prior to shipment by common carrier.

ANALYTICAL METHODS

The groundwater samples were analyzed for Target Compound List (TCL) volatile organic compounds (VOCs) by method SW 8260B.

LABORATORY QUALITY CONTROL

The laboratory QC program, including sample handling, laboratory control, and reporting, is documented in the RA SAP. 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 DQE could be performed in a timely manner.

DQE SUMMARY

The objective of the DQE was to provide a review of the chemical data reports submitted by the laboratory and to assess the data in relation to the data quality objectives stated in the RA SAP. 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 in accordance with the DQE standard operating procedures (SOPs) using the criteria stated in the RA SAP for each analytical method performed. The following information was reviewed:

- Sample Integrity (Deliverables)
- Sample Completeness
- Sample Holding Times
- Laboratory Methods for Extraction and Analysis (Calibration, Internal Standards)
- Method Accuracy (bias) and Precision (Surrogates, MS/MSD, LCS Recoveries)
- Laboratory Performance Criteria (Blanks, Instrument Performance Checks)

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

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

The following sections provide summary discussions of the required data qualifications for each sampling event. A Level III DQE was performed and the data quality indicators (DQIs), expressed in terms of precision, accuracy, representativeness, comparability, completeness, and sensitivity, were assessed. This

included the evaluation of sample integrity, holding times, trip blanks, rinsate blanks, method blanks, internal standards, surrogate recoveries, MS/MSD recoveries, LCSs, and field duplicate precision. The results of the DQI assessment are provided below.

Precision

Field duplicates were collected to assess sampling precision. They consisted of replicate grab samples collected concurrently with the associated field samples. Precision is best expressed in terms of relative percent difference (RPD). Field precision goals were met for the duplicate sample pairs collected during the two LTM sampling events. Laboratory precision is discussed in more detail in the attached narratives.

Accuracy

Accuracy or bias was measured through the analyses of LCSs and MS/MSDs. Sample specific accuracy is measured through surrogate recovery. Accuracy is expressed as percent recovery (%R).

Although there were a number of elevated LCS recoveries and low MS/MSD recoveries observed in the two events, all associated data are qualified J or UJ and as such are valid. Accuracy goals based upon LCS were met. Further discussion of the LCS and MS/MSD recoveries is provided in the attached DQE narratives.

Representativeness

Representativeness refers to the degree sample data accurately and precisely describes the population of samples at a sampling point or under certain environmental conditions. Samples that are not properly preserved or are analyzed beyond holding times may not be considered representative. Review of sampling procedures, laboratory preparation, analysis holding times, trip blank and rinsate blank analysis help in providing this assessment.

Sampling procedures followed the RA SAP and were considered representative of the matrices collected. Laboratory preparation and analysis followed method guidelines.

Comparability

The selection of standardized methods and consistent laboratory practices facilitates the comparison of data between LTM events. Past LTM data are comparable to recent events. Consistent methodology has been maintained throughout the LTM sampling events.

Completeness

Completeness is determined for both field and analytical objectives. Field completeness is calculated from the number of samples proposed versus the actual number of samples collected. Analytical completeness is expressed in terms of usable data. The project completeness goal for DDMT is 90% as stated in the RA SAP.

Data from the two LTM events in March-April and September-October 2011 were 100% complete and therefore met the completeness DQO.

Sensitivity

Analytical sensitivity is the concentration at which the measurement system can quantitate target analytes in the environmental matrices of concern. Analytical sensitivity is expressed in terms of the reporting limit (RL), which is provided by the respective laboratories as their reasonable and defensible quantitation limit for environmental samples above the method detection limit (MDL), which is established by each laboratory using pure water or clean matrix. The analytical method RLs and MDLs were compared to groundwater protection standards as listed in the RA QAPP and were determined to meet the overall project objectives. [The MDLs for six VOCs (1,1,2,2-tetrachloroethane, 1,1,2-trichloroethane, 1,2-dichloroethane, bromodichloromethane, carbon tetrachloride, and dibromochloromethane) were above the standards; however, as noted in the QAPP...”MDLs for these VOC ... compounds are higher than their corresponding screening levels because current VOC ... analytical method technology can not achieve MDLs lower than those listed.”]

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

Semi-Annual Event – March-April 2011

A total of 87 water samples including 65 groundwater field samples and 22 QA/QC samples (duplicates, MS/MSD, trip blanks, rinsate blanks) were collected from 64 LTM wells in March and April 2011. Samples were collected from two screened intervals in MW-101. The data are usable with qualifications as described below:

- Cis-1,2-dichloroethene was qualified as estimated J in one sample (PMW92-03-LS-13) due to low MS/MSD recoveries and a high RPD. The result could be biased low approximately proportional to the recoveries.

- When a high LCS recovery is associated with a non-detect in samples, no qualifier is added since the indicated bias is high. When the analyte is detected, the result is qualified as J and data could be biased high proportional to the LCS %R. All results associated with low recoveries are qualified J. Carbon tetrachloride in three samples (DR2-5-LS-13, MW-209B-LS-13 and MW-218-LS-13) and vinyl chloride in four samples (MW-92-LS-13, MW-197B-LS-13, MW-205A-LS-13 and MW-205B-LS-13) were qualified J due to high LCS recoveries. With the exception of vinyl chloride and carbon tetrachloride, the analytes with high LCS recoveries were not contaminants of concern and will not impact the use of the data.
- Any result reported below the reporting limit (RL) but above the method detection limit (MDL) was qualified J and considered an estimated result (unless overridden by other QC flags).

Annual Event – September and October 2011

A total of 129 water samples including 98 groundwater field samples and 31 QA/QC samples (duplicates, MS/MSD, trip blanks, rinsate blanks) were collected from 96 LTM wells in October 2010. Samples were collected from two screened intervals in MW101 and MW107. Samples were analyzed for TCL VOCs. The data are usable with qualifications as described below:

- Several COC issues were reviewed and determined not to have impacted data quality.
- Tetrachloroethene (PCE) in two samples (DR2-2-LA-14 and MW-197A-LA-14) was qualified as estimated J and bromomethane in one sample (MW-209A-LA-14) was qualified as non-detect estimated UJ based on MS/MSD recovery. The results could be biased low approximately proportional to the recoveries.
- When a high LCS recovery is associated with a non-detect in samples, no qualifier is added since the indicated bias is high. When the analyte is detected, the result is qualified as J. All results associated with low recoveries are qualified. Acetone and MTBE in two samples (MW-214A-LA-14 and MW-214B-LA-14) and vinyl chloride in one sample (MW-100B-LA-14) were qualified J based on elevated LCS recoveries, and data could be biased high proportional to the LCS %R. With the exception of vinyl chloride, the analytes with high LCS recoveries were not contaminants of concern and will not impact the use of the data.
- Bromomethane, chloromethane, dichlorofluoromethane and chloroethane were non-detect and qualified UJ in several samples due to high %D with low response in continuing calibration standards.

- 1,4-Dichlorobenzene was qualified B in two samples (MW-88-LA-14 and MW-229-LA-14) because this analyte was also detected in the associated trip blank; these sample results may be biased high.
- Any result reported below the RL but above the MDL was qualified J and considered an estimated result (unless overridden by other QC flags).

SUMMARY

The sample data from the March-April and September-October 2011 LTM events at the Main Installation met the data quality objectives and are of sufficient quality to support the evaluation of remedial actions.

TABLE B-1
SDG SUMMARY TABLE
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

SDG	Groundwater Samples			Quality Control Samples
<u>Semi-Annual Sampling Event - March-April 2011</u>				
L11040060	MW-39-LS-13	MW-108-LS-13	MW-207A-LS-13	TB-2-LS-13
	MW-39A-LS-13	MW-141-LS-13	MW-207B-LS-13	
	MW-90-LS-13			
L11040061	DR1-3-LS-13	MW-21-LS-13	MW-97-LS-13	DUP-1-LS-13
	DR1-6-LS-13	MW-26-LS-13	MW-98-LS-13	DUP-6-LS-13
	DR1-6A-LS-13	MW-64-LS-13	MW-200-LS-13	
	DR2-3-LS-13	MW-88-LS-13	MW-217-LS-13	
	DR2-6-LS-13			
L11040062	DR1-5-LS-13	MW-253-LS-13	MW-255-LS-13	DR1-5-LS-13-MS
	DR1-5A-LS-13	MW-254-LS-13	MW-256-LS-13	DR1-5-LS-13-MSD
	MW-252-LS-13			TB-1-LS-13
L11040146	MW-100B-LS-13	PMW21-03-LS-13	PMW21-05-LS-13	DUP-7-LS-13
				TB-5-LS-13
L11040172	DR2-1-LS-13	MW-94A-LS-13	MW-218-LS-13	DUP-2-LS-13
	DR2-2-LS-13	MW-113-LS-13	PMW92-03-LS-13	MW-202B-LS-13-MS
	DR2-5-LS-13	MW-199B-LS-13	PMW92-06-LS-13	MW-202B-LS-13-MSD
	MW-85-LS-13	MW-202B-LS-13	PMW101-04A-LS-13	PMW92-03-LS-13-MS
	MW-92-LS-13	MW-209B-LS-13	PMW101-04B-LS-13	PMW92-03-LS-13-MSD
L11040173	MW-62-LS-13	MW-210A-LS-13	MW-212-LS-13	DUP-5-LS-13
	MW-203A-LS-13	MW-210B-LS-13	MW-219-LS-13	MW-62-LS-13-MS
	MW-203B-LS-13			MW-62-LS-13-MSD
L11040178				TB-4-LS-13
	MW-197A-LS-13	MW-205A-LS-13	MW-206B-LS-13	DUP-3-LS-13
	MW-197B-LS-13	MW-205B-LS-13	MW-208A-LS-13	DUP-4-LS-13
	MW-204A-LS-13	MW-206A-LS-13	MW-208B-LS-13	TB-3-LS-13
L11040234	MW-204B-LS-13			
	MW-101B-LS-13	MW-101T-LS-13	MW-143-LS-13	TB-452011
				LTM-RB1-LS-13

TABLE B-1
SDG SUMMARY TABLE
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

SDG	Groundwater Samples			Quality Control Samples
Annual Sampling Event - September-October 2011				
L11100105	DR2-1-LA-14	MW-90-LA-14	MW-209B-LA-14	DUP-3-LA-14
	DR2-2-LA-14	MW-92-LA-14	MW-211-LA-14	DUP-7-LA-14
	DR2-3-LA-14	MW-113-LA-14	MW-214A-LA-14	DUP-10-LA-14
	DR2-4-LA-14	MW-140-LA-14	MW-214B-LA-14	DR2-2-LA-14-MS
	DR2-5-LA-14	MW-141-LA-14	MW-229-LA-14	DR2-2-LA-14-MSD
	DR2-6-LA-14	MW-199A-LA-14	MW-253-LA-14	MW-89-LA-14-MS
	MW-26-LA-14	MW-199B-LA-14	MW-254-LA-14	MW-89-LA-14-MSD
	MW-38-LA-14	MW-202A-LA-14	MW-255-LA-14	MW-209A-LA-14-MS
	MW-64-LA-14	MW-202B-LA-14	MW-256-LA-14	MW-209A-LA-14-MSD
	MW-88-LA-14	MW-207A-LA-14	PMW92-03-LA-14	MW-256-LA-14-MS
	MW-89-LA-14	MW-209A-LA-14	PMW92-06-LA-14	MW-256-LA-14-MSD
				TB-1-LA-14
				TB-2-LA-14
				TB-3-LA-14
				TB-4-LA-14
L11100191	DR1-2-LA-14	MW-97-LA-14	MW-205B-LA-14	DUP-2-LA-14
	DR1-3-LA-14	MW-98-LA-14	MW-206A-LA-14	DUP-4-LA-14
	DR1-4-LA-14	MW-197A-LA-14	MW-206B-LA-14	DUP-5-LA-14
	DR1-5-LA-14	MW-197B-LA-14	MW-210A-LA-14	DUP-9-LA-14
	DR1-5A-LA-14	MW-200-LA-14	MW-210B-LA-14	MW-197A-LA-14-MS
	DR1-6-LA-14	MW-203A-LA-14	MW-215B-LA-14	MW-197A-LA-14-MSD
	DR1-6A-LA-14	MW-203B-LA-14	MW-216-LA-14	TB-5-LA-14
	DR1-7-LA-14	MW-204A-LA-14	MW-217-LA-14	TB-6-LA-14
	MW-39A-LA-14	MW-204B-LA-14	PMW21-03-LA-14	
	MW-94A-LA-14	MW-205A-LA-14	PMW21-05-LA-14	
L11100282	DR1-1-LA-14	MW-96-LA-14	MW-208B-LA-14	DUP-1-LA-14
	DR1-1A-LA-14	MW-100B-LA-14	MW-215A-LA-14	DUP-8-LA-14
	DR1-8-LA-14	MW-101T-LA-14	MW-218-LA-14	TB-7-LA-14
	MW-21-LA-14	MW-101B-LA-14	MW-219-LA-14	TB-8-LA-14
	MW-25A-LA-14	MW-103-LA-14	MW-252-LA-14	
	MW-39-LA-14	MW-108-LA-14	PMW101-04A-LA-14	
	MW-52-LA-14	MW-143-LA-14	PMW101-04B-LA-14	
	MW-63A-LA-14	MW-207B-LA-14		
	MW-63B-LA-14	MW-208A-LA-14		
L11100336	MW-34-LA-14	MW-107T-LA-14	MW-198-LA-14	DUP-6-LA-14
	MW-62-LA-14	MW-107B-LA-14	MW-212-LA-14	TB-9-LA-14
	MW-85-LA-14	MW-142-LA-14	PZ-03-LA-14	TB-10-LA-14
	MW-104-LA-14			LTM-RB1-LA-14

ORGANIC DATA QUALITY REVIEW REPORT

Volatile Organics by SW-846 Method 8260B (GC/MS)

SDG	L11040060, L11040061, L11040062, L11040146, L11040172, L11040173, L11040178, and L11040234	
PROJECT	Memphis Defense Depot, LS-13 Sampling for HDR, Denver	
LABORATORY	Microbac Laboratories, Inc., Marietta, OH	
SAMPLE MATRIX	Water	SAMPLING DATE 03/2011 & 04/2011
NUMBER OF SAMPLES	77, including 6 trip blanks, 1 rinse blank, and 7 field duplicates	
ANALYSES REQUESTED	SW-846 8260B (VOA by GC/MS)	
SAMPLE NUMBER	See result forms attached and associated EDD	

DATA REVIEWER: Becky NicholsQA REVIEWER: Diane Short & Associates, Inc. INITIALS/DATE: _____ 05/04/2011Telephone Logs included Yes____ No XContractual Violations Yes____ No X

The project QAPP (11/05), the EPA Contract Laboratory Program National Functional Guidelines for Organic Review, 1999 and 2001, and the SW-846 Method 8260B have been referenced by the reviewer to perform this data validation review. The EPA qualifiers have been expanded to include a descriptor code and value to define QC violations and their values, per the approval of the Project Manager. Per the Scope of Work, the review of these samples includes Level III validation of all chains of custody, calibrations and QC forms referencing the QC limits in the above documents.

I. DELIVERABLES

A. All deliverables were present as specified in the Statement of Work (SOW), SW-846, or in the project contract.

Yes ☒ No ☐

This report has been requested to include the following review: QC, hold times, sample integrity (Chains of Custody, sample login), and summary calibrations.

B. Chain of Custody documentation was complete and accurate.

Yes ☒ No ☐

No qualifiers have been added for Chain of Custody (COC) issues, and the Project Manager will update COC per the following notes to complete the project record. These chains were complete.

C. Samples were received at the required temperature, preservation and intact with no bubbles.

Yes ☒ No ☐

EPA regulations (see Federal Register, March 12, 2007, 40CFR Part 122) require only that the temperature of samples delivered to the laboratory be equal to or less than 6 °C. The sample temperature conditions are fully compliant with applicable regulations.

SDG L11040146: The laboratory notes that TB-5-LS-13 samples had headspace > 6 mm.

SDG L11040173: The laboratory notes that TB-4-LS-13 samples had headspace > 6 mm.

Analyses were performed on samples without headspace. As these are trip blanks, the client data are not considered to be impacted.

II. ANALYTICAL REPORT FORMS

A. The Analytical Report or Data Sheets are present and complete for all requested analyses.

Yes ☒ No ☐

B. Holding Times

1. The contract holding times were met for all analyses [time of sample receipt to time of analysis (VOA) or time of extraction to time of analysis].

Yes ☒ No ☐

2. The Clean Water Act (40 CFR 136) or method holding times were met for all analyses (14 days from time of sample collection to analysis or extraction).

Yes ☒ No ☐

III. INSTRUMENT CALIBRATION – GC/MS

A. Initial Calibration

1. The Response (RF) and Relative Response Factors (RRF) and average RRF for all compounds for all analyses met the contract criteria of > 0.05 or > 0.01 for poor responding volatiles.

Yes ☒ No ☐ NA ☐

Method 8260: Per the Project Manager, the 2001 EPA CLP validation guidance has been applied to the common “poor responders.” Calibration response factors below 0.05 have historically been observed for Acetone, 2-Butanone, and 4-Methyl-2-pentanone. The validation guidance used for this project allows for a response of 0.01 for these compounds if spectral integrity can be verified at low concentrations. These spectra are not commonly provided and are not part of the deliverable for this data set. The laboratory has been tasked with providing to the client verification that the 0.01 RF is valid. If the spectral verification is available, data are not qualified for response factors greater than 0.01 and less than 0.05 for “poor responders.” No data have been qualified.

Most of the low-responding compounds are highly water-soluble and capable of hydrogen bonding with water. This decreases their purge efficiency and results in the relatively low response. The implication of this low

purge efficiency is that a relatively low absolute recovery of such compounds is achieved in the purge step of the analysis. If this recovery is consistent, reasonable accuracy and precision can be achieved in a given matrix, which is indicated for the lab matrix by acceptable recoveries in LCS and calibration checks. However, this causes these targets to be more sensitive to matrix variations that impact purge efficiency (such as ionic strength or the presence of varying levels of soluble non-target organic material) than are the more hydrophobic compounds typically analyzed by this method, and as a result they are more likely to exhibit matrix bias.

2a. The relative standard deviation (RSD) for the five point calibration was within the 30% limit for the CCCs.

Yes ☒ No ☐ NA ☐

This is a method requirement and indicates that the analytical system is in control.

2b. The relative standard deviation (RSD) for the five point calibration was within the 30% limit for all other compounds, the average % RSD was < 15%, or a linear curve was used.

Yes ☒ No ☐ NA ☐

3. The 12 hour system Performance Check was performed as required in SW-846.

Yes ☒ No ☐ NA ☐

B. Continuing Calibrations

1. The midpoint standard was analyzed for each analysis at the required frequency, and the QC criterion of > 0.05 (> 0.01 for CLP 2001 VOA) was met.

Yes ☒ No ☐ NA ☐

2. The percent difference (% D) limits of $\pm 25\%$ were met. The 2001 NFG also allow for 40% D for the “poor responders.” For other compounds, the QAPP notes rejection of detected compounds with % D > 40%.

Yes ☐ No ☒ NA ☐

See the table below. When there are no detections, no qualification is required unless the % D is biased low and so large as to indicate a significant probability of false negatives. Qualification is required for a % D biased high for detected compounds only. This requires that the RF is acceptable to verify the non-detect status, which is the case here. Data are qualified “JC#”, where # is the % D. There could be variability to the data as there is variability to the response.

The QAPP indicates that compounds in a run should be rejected if the % D is > 40%. We interpret this to mean that non-detects should be rejected and that detected compounds should be “J” qualified, which is the normal validation process for rejection. Professional judgment is that high bias CCVs with a % D greater than 40% should not be rejected for non-detects if the response factors are sufficient to ensure verification of the non-detect. Non-detects with % D values > 40% are qualified “RC#”, where # is the % D.

The table below shows the outliers observed in CCVs for this report.

SDG	Batch	Analyte	% D	Bias	Qualifier
L11040061	WG361083	Bromomethane	27.5	high	None, ND
	WG361233	Bromomethane	33.6	high	None, ND
L11040062	WG360914	Bromomethane	28.9	high	None, ND
L11040172	WG361233	Bromomethane	33.6	high	None, ND
L11040172/ L11040173/ L11040178	WG361237	2,2-Dichloropropane	27.0	high	None, ND

IV. GC/MS INSTRUMENT PERFORMANCE CHECK

The BFB (VOA) performance check was injected once at the beginning of each 12-hour period and relative abundance criteria for the ions were met.

Yes ☒ No ☐ NA ☐

V. INTERNAL STANDARDS

The Internal Standards met the 100% upper and -50% lower limits criteria, and the Retention times were within the required windows.

Yes ☒ No ☐ NA ☐

VI. SURROGATE STANDARDS

Surrogate spikes were analyzed with every sample.

Yes ☒ No ☐

And met the recovery limits defined in the QAPP of 70 – 130% for VOA water or 75 – 125% for soil samples.

Yes ☒ No ☐

VII. MATRIX SPIKE/MATRIX SPIKE DUPLICATE

A. Matrix Spike (MS) and Matrix Spike Duplicate (MSD) were analyzed for every analysis performed and for every 20 samples or for every matrix whichever is more frequent.

Yes ☒ No ☐

There are eight MS/MSD samples associated with the 77 non-QC client samples. This meets the recommendation of 1 per 20 field samples. As this is an ongoing project an overall adherence to the 1:20 frequency is monitored by the Project Manager.

B. The MS and MSD percent recoveries were within the limits defined in the QAPP of VOA at 70 – 130% with five compounds allowed to be within 60 – 140%.

Yes ☐ No ☒ NA ☐

The full target list has been spiked. Qualifiers are added for all outliers as described here. Please refer to the project EDD for a detailed list of qualifiers added.

The table below shows the outliers observed in MS/MSD samples for this report. Results have been qualified per the QAPP as “JMS#”, where # is the % recovery. Data could be biased high or low in approximate proportion to the spike recovery. Only detected data are qualified for high recovery. Data are not qualified if four times (4x noted in table) the spike amount is less than the amount in the parent sample. Only the parent sample is qualified.

SDG	Parent Sample	Analyte	MS	MSD	Bias	Qualifier
L11040062	DR1-5-LS-13	Carbon disulfide	124	132	high	None, ND
L11040172	PMW92-03-LS-13	cis-1,2-Dichloroethene	54.5	56.3	low	JMS55
		Tetrachloroethene	-40.8	-56.4	N/A	None, 4 ×
L11040173	MS-62-LS-13	Trichloroethene	4.38	43.3	low	None, 4 ×

C. The MSD relative percent differences (RPD) were within the defined contract limits for VOA of 30% water or 40% soil, with five compounds allowed to be > 40% RPD.

Yes ☒ No ☐ NA ☐

Qualifiers are added only when the MS or MSD recovery is also out of limits. Data are qualified “JD#”, where # is the RPD. As the RPD increases, the matrix precision decreases.

D. The MS/MSD were client samples.

Yes ☒ No ☐ NA ☐

VIII. LABORATORY CONTROL SAMPLE

A. Laboratory Control Sample (LCS) was analyzed for every analysis performed and for every 20 samples.

Yes ☒ No ☐

B. The LCS percent recoveries were within the limits defined in the QAPP for VOA of 80 – 120% for water or 75 – 125% for soil. Five compounds are allowed to be 60 – 140%. If an LCS and LCSD are analyzed, both samples must have the same compounds out for data to be qualified.

Yes ☐ No ☒

The full target list has been spiked. When a high LCS recovery is associated with a non-detect in samples, no qualifier is added since the indicated bias is high. When the target is detected, data are qualified “JL#”, where # is the recovery. Data could be biased high proportional to the LCS percent recovery. All results associated with low recoveries are qualified, and data could be biased low.

The table below shows the outliers and the limits applied per the QAPP. The limits are specified based on the matrix. Qualifiers are added for all outliers as described here, but the Project Manager may consider reversing some of these when the limits fall within the marginal exceedance limits (60 – 140%). Please refer to the project EDD for a detailed list of qualifiers added.

SDG	Batch	Analyte	% Recovery (LCS/LCSD)	Bias	Qualifier
L11040060/ L11040172	WG361080	Dichlorodifluoromethane	129	high	None, ND
L11040061/ L11040062	WG361083	1,1,1-Trichloroethane	121/115	high	None, ND
		Bromomethane	128/125	high	None, ND
		Carbon tetrachloride	123/116	high	None, only LCS out (LCSD within limit)
		Chloroethane	124/113	high	None, ND
		Dichlorodifluoromethane	131/120	high	None, ND
		Vinyl chloride	129/122	high	None, ND
L11040061/ L11040172	WG361233	1,1,1-Trichloroethane	122	high	None, ND
		Bromomethane	131	high	None, ND
		Carbon tetrachloride	123	high	JL123 (for detected data only)
		Chloroethane	123	high	None, ND
		Dichlorodifluoromethane	132	high	None, ND
		Vinyl chloride	129	high	JL129 (for detected data only)
L11040172/ L11040173/ L11040178	WG361303	Carbon tetrachloride	121	high	JL121 (for detected data only)
		Dichlorodifluoromethane	124	high	None, ND
		Vinyl chloride	122	high	JL122 (for detected data only)

SDG	Batch	Analyte	% Recovery (LCS/LCSD)	Bias	Qualifier
L11040146/ L11040172	WG361349	1,1,1-Trichloroethane	121/119	high	None, ND
		Bromomethane	120/121	high	None, ND
		Carbon tetrachloride	126/123	high	None, ND
		Chloroethane	121/117	high	None, ND
		Dichlorodifluoromethane	129/123	high	None, ND
		Tetrachloroethene	121/115	high	None, only LCS out
		Vinyl chloride	119/125	high	None, only LCSD out (LCS within limit)
L11040172/ L11040234	WG361474	Acetone	121/119	high	None, only LCS out
		Dichlorodifluoromethane	132/134	high	None, ND
		Vinyl chloride	129/129	high	None, ND

IX. BLANKS

A. Method Blanks were analyzed at the required frequency and for each matrix and analysis.

Yes ☒ No ☐

B. No blank contamination was found in the Method Blank.

Yes ☒ No ☐

C. If Field Blanks were identified, no blank contamination was found.

Yes ☐ No ☒ NA ☐

When analytes are present in both the Field Blank and the associated samples, the results in the samples are qualified in the same manner as for Method Blanks. For clarity, the qualifiers used in this case are “UTB#” for Trip Blanks or “UFB#” for Rinse Blanks, where # is the associated blank value. Results added are shown in the table below. No qualifiers have been applied.

SDG	Sample	Analyte	Result	Qualifier
L11040146	TB-5-LS-13	Methylene Chloride	0.538	None, ND
L11040173	TB-4-LS-13	Acetone	3.08	None, ND
		Methylene Chloride	0.316	None, ND

X. FIELD QC

If Field Duplicates were identified, they met guidance for VOA of RPD of < 30% for water or < 50% for soil.

For values reported at $< 5 \times$ the reporting limit (RL), a difference of $2 \times$ RL for water or $3.5 \times$ RL for soil samples is used as guidance. This is referred to as the CRDL Rule. Data are not qualified for Field Duplicates as these are evaluated for the total project by the Project Manager.

Yes ☐ No ☒ NA ☐

There are seven identified field duplicates as described in the following table.

SDG	Parent Sample	Field Duplicate	Observations
L11040061	MW-21-LS-13	DUP-1-LS-13	OK
L11040172	MW-94A-LS-13	DUP-2-LS-13	OK

SDG	Parent Sample	Field Duplicate	Observations
L11040178	MW-197A-LS-13	DUP-3-LS-13	OK
L11040178	MW-205B-LS-13	DUP-4-LS-13	One RPD value was outside the limit, but would not require qualification based on the CRDL Rule.
L11040173	MS-212-LS-13	DUP-5-LS-13	One RPD value was outside the limit, but would not require qualification based on the CRDL Rule.
L11040061	DR1-3-LS-13	DUP-6-LS-13	OK
L11040146	PMW21-03-LS-13	DUP-7-LS-13	OK

XI. SYSTEM PERFORMANCE

A. The RICs, chromatograms, tunes and general system performance were acceptable for all instruments and analytical systems.

Yes _____ No _____ NA X

Not part of this review level.

B. The suggested EQLs for the sample matrices in this set were met.

Yes X No _____ NA _____

XII. TCL COMPOUNDS

A. The identification is accurate and all retention times, library spectra and reconstructed ion chromatograms (RIC) were evaluated for all detected compounds.

Yes _____ No _____ NA X

Not part of this review level.

B. Quantitation was checked to determine the accuracy of calculations for representative compounds in each internal standards quantitation set.

Yes _____ No _____ NA X

Not part of this review level.

XIII. TENTATIVELY IDENTIFIED COMPOUNDS

TICs were properly identified and met the library identification criteria.

Yes _____ No _____ NA X

Not part of this review level.

XIV. OVERALL ASSESSMENT OF THE CASE

The laboratory has complied with the requested method. Data are fully usable after consideration of qualifiers. The following is noted:

Sample Preservation

EPA regulations (see Federal Register, March 12, 2007, 40CFR Part 122) require only that the temperature of samples delivered to the laboratory be equal to or less than 6 °C. The sample temperature conditions are fully compliant with applicable regulations.

SDG L11040146: The laboratory notes that TB-5-LS-13 samples had headspace > 6 mm.

SDG L11040173: The laboratory notes that TB-4-LS-13 samples had headspace > 6 mm.

Analyses were performed on samples without headspace. As these are trip blanks, the client data are not considered to be impacted.

Continuing Calibrations

See the table within the body of this report. When there are no detections, no qualification is required unless the % D is biased low and so large as to indicate a significant probability of false negatives. Qualification is required for a % D biased high for detected compounds only. This requires that the RF is acceptable to verify the non-detect status, which is the case here. No qualifiers have been applied.

Matrix Spikes

There are eight MS/MSD samples associated with the 77 non-QC client samples.

See the table within the body of this report. Results have been qualified per the QAPP as “JMS#”, where # is the % recovery. Data could be biased high or low in approximate proportion to the spike recovery. Only detected data are qualified for high recovery. Data are not qualified if four times the spike amount is less than the amount in the parent sample. Only the parent sample is qualified. Data have been qualified with a low bias only for cis-1,2-dichloroethene in samples PMW92-03-LS-13.

Laboratory Control Samples

See the table within the body of this report. When a high LCS recovery is associated with a non-detect in samples, no qualifier is added since the indicated bias is high. When the target is detected, data are qualified “JL#”, where # is the recovery. Data could be biased high proportional to the LCS percent recovery. Data for vinyl chloride and carbon tetrachloride have been qualified for slightly high recoveries.

Field Blanks

See the table within the body of this report. When analytes are present in both the Field Blank and the associated samples, the results in the samples are qualified in the same manner as for Method Blanks. For clarity, the qualifiers used in this case are “UTB#” for Trip Blanks or “UFB#” for Rinse Blanks, where # is the associated blank value. No data have required qualification.

Field QC

There are seven identified Field Duplicates. See the table within the body of this report. No data have been qualified.

Final Data Qualification and Usability Report

Project: Defense Depot Memphis, TN (DDMT)
Long Term Monitoring
Sampling Event: LS-13
Project / Task Number: 145803-005
Sample Data Package(s): L11040060, L11040061, L11040062, L11040146,
L11040172, L11040173, L11040178, L11040234
Data Validation Performed by: Diane Short & Associates (DSA)
Final Data Qualification and Usability
Report Prepared by: Lynn K. Lutz, HDR Inc.

Data Validation Report Review and Comments

The data validation report was acceptable.

Final Data Qualifiers

The cis-1,2-dichloroethene recoveries in the MS/MSD analysis of PMW92-03-LS-13 were below control limits and the detected result in the parent sample has been qualified J where DSA had qualified as JMS55.

Final qualifiers for detected carbon tetrachloride and vinyl chloride results with LCS recoveries above control limits were J where DSA had qualified as JL121, JL122, JL123 or JL129.

Final qualifiers were J where detected results were between the MDL and RL.

Data Usability

There were no rejected sample results. All results are usable as qualified.



22 December 2011

Lynn K. Lutz, HDR Inc.

Date

DIANE SHORT & ASSOCIATES, INC. _____

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ORGANIC DATA QUALITY REVIEW REPORT

Volatile Organics by SW-846 Method 8260B (GC/MS)

SDG	L11100105, L11100191, L11100282, L11100336		
PROJECT	Memphis Defense Depot, LA-14 Sampling for HDR, Denver		
LABORATORY	Microbac Laboratories, Inc., Marietta, OH		
SAMPLE MATRIX	Water	SAMPLING DATE	10/2011
NUMBER OF SAMPLES	129, including 8 field duplicates, 10 trip blanks		
ANALYSES REQUESTED	SW-846 8260B (VOA by GC/MS)		
SAMPLE NUMBER	See result forms attached and associated EDD		

DATA REVIEWER: Diane Short

QA REVIEWER: Diane Short & Associates, Inc. INITIALS/DATE: DLS 11/15/2011

Telephone Logs included Yes___ No __X_

Contractual Violations Yes___ No __X_

The project QAPP (09/11), the EPA Contract Laboratory Program National Functional Guidelines for Organic Review, 1999 and 2001, and the SW-846 Method 8260B have been referenced by the reviewer to perform this data validation review. The EPA qualifiers have been expanded to include a descriptor code and value to define QC violations and their values, per the approval of the Project Manager. Per the Scope of Work, the review of these samples includes Level III validation of all chains of custody, calibrations and QC forms referencing the QC limits in the above documents.

I. DELIVERABLES

A. All deliverables were present as specified in the Statement of Work (SOW), SW-846, or in the project contract.

Yes ☒ No ☐

This report has been requested to include the following review: QC, hold times, sample integrity (Chains of Custody, sample login), and summary calibrations. Note that there are 18 QC sets (days of analysis per instrument) and 3 instruments for the 129 samples.

The 2011 QAPP has been used for all review with the exception of the CCAL limits where the 25% NFG limits were applied as Method 8026B was used, not 8260C or the CLP method. Final application of these limits is being considered by project management.

B. Chain of Custody documentation was complete and accurate.

Yes ☒ No ☐

No qualifiers have been added for Chain of Custody (COC) issues, and the Project Manager will update COC per the following notes to complete the project record.

L11100282: Only the 1st of 4 pages of the Chain of Custody documents were signed and dated by the laboratory. The laboratory has signed and affixed a receipt label on only 1 page.

L11100336: Only page 1 of 4 pages of the Chain of Custody documents were signed (labeled) and dated by the laboratory.

The relinquishment date and time are part of the electronically-generated COC.

These are electronically generated Chain of Custody documents, and there may be electronic signatures which are not currently reviewable. In addition, there are sample receipt acknowledgements from the laboratory.

However, the hardcopy documents should be properly signed and dated by the laboratory on each page. The log in forms contain the courier identification and air bill number.

C. Samples were received at the required temperature, preservation and intact with no bubbles.

Yes ☒ No ☐

EPA regulations (See Federal Register, March 12, 2007, 40CFR Part 122) require only that the temperature of samples delivered to the laboratory be equal to or less than 6 °C. The sample temperature conditions are fully compliant with applicable regulations.

II. ANALYTICAL REPORT FORMS

A. The Analytical Report or Data Sheets are present and complete for all requested analyses.

Yes ☒ No ☐

B. Holding Times

1. The contract holding times were met for all analyses [time of sample receipt to time of analysis (VOA) or time of extraction to time of analysis].

Yes ☒ No ☐

2. The Clean Water Act (40 CFR 136) or method holding times were met for all analyses (14 days from time of sample collection to analysis or extraction).

Yes ☒ No ☐

III. INSTRUMENT CALIBRATION – GC/MS

A. Initial Calibration

1. The Response (RF) and Relative Response Factors (RRF) and average RRF for all compounds for all analyses met the contract criteria of > 0.05 or > 0.01 for poor responding volatiles.

Yes ☒ No ☐ NA ☐

Method 8260: Per the Project Manager, the 2001 EPA CLP validation guidance has been applied to the common “poor responders.” Calibration response factors below 0.05 have historically been observed for Acetone. The validation guidance used for this project allows for a response of 0.01 for these compounds if

spectral integrity can be verified at low concentrations. These spectra are not commonly provided and are not part of the deliverable for this data set. The laboratory has been tasked with providing to the client verification that the 0.01 RF is valid. If the spectral verification is available, data are not qualified for response factors greater than 0.01 and less than 0.05 for “poor responders.” No data have been qualified.

Most of the low-responding compounds are highly water-soluble and capable of hydrogen bonding with water. This decreases their purge efficiency and results in the relatively low response. The implication of this low purge efficiency is that a relatively low absolute recovery of such compounds is achieved in the purge step of the analysis. If this recovery is consistent, reasonable accuracy and precision can be achieved in a given matrix, which is indicated for the lab matrix by acceptable recoveries in LCS and calibration checks. However, this causes these targets to be more sensitive to matrix variations that impact purge efficiency (such as ionic strength or the presence of varying levels of soluble non-target organic material) than are the more hydrophobic compounds typically analyzed by this method, and as a result they are more likely to exhibit matrix bias.

2a. The relative standard deviation (RSD) for the five point calibration was within the 30% limit for the CCCs.
Yes ☒ No ☐ NA ☐

This is a method requirement and indicates that the analytical system is in control.

2b. The relative standard deviation (RSD) for the five point calibration was within the 30% limit for all other compounds, the average % RSD was < 15%, or a linear curve was used.
Yes ☒ No ☐ NA ☐

3. The 12 hour system Performance Check was performed as required in SW-846 and met the QC limits of 80 – 120%.

Yes ☐ No ☒ NA ☐

Dichlorodifluoromethane is high (29%) for the 10/3/2011 ICV for Instrument 8. It is also high in the LCS's for that instrument. The compound is not detected in client samples and no qualification is required.

B. Continuing Calibrations

1. The midpoint standard was analyzed for each analysis at the required frequency, and the QC criterion of > 0.05 (> 0.01 for CLP 2001 VOA) was met.

Yes ☒ No ☐ NA ☐

2. The percent difference (% D) limits of $\pm 25\%$ were met. The EPA NFG and the project QAPP also allow for 40% D for the “poor responders.” For other compounds, the QAPP notes rejection of detected compounds with % D > 40%.

Yes ☐ No ☒ NA ☐

When there are no detections, no qualification is required unless the % D is biased low and so large as to indicate a significant probability of false negatives. Qualification is required for a % D biased high for detected compounds only. This requires that the RF is acceptable to verify the non-detect status, which is the case here. Data would be qualified “JC#”, where # is the % D. There could be variability to the data as there is variability to the response. No qualifiers have been required.

The QAPP indicates that compounds in a run should be rejected if the % D is > 40%. We interpret this to mean that non-detects should be rejected and that detected compounds should be “J” qualified, which is the normal validation process for rejection. Professional judgment is that high bias CCVs with a % D greater than 40% should not be rejected for non-detects if the response factors are sufficient to ensure verification of the non-detect. Non-detects with % D values > 40% (low bias) are qualified “RC#”, where # is the % D.

Chloromethane, acetone, MTBE and 4-methyl-2-pentanone and 2 butanone were slightly high in some calibrations, but these are all poor responders and they met the 40% limit of the NFG.

The table below shows the outliers observed in CCVs for this report.

SDG	Batch	Analyte	% D	Bias	Qualifier
L11100105	WG378392	Hexachlorobutadiene	37.5	high	None, ND
L11100191	WG379126	Bromomethane	29.3	Low	None, ND and RF is OK
L11100282	WG379136	Bromomethane	26.4	Low	None, ND and RF is OK
	WG379424	Bromomethane	27.5	High	None, ND and RF is OK
L11100336	WG379484	Hexachlorobutadiene	52.8	High	None, ND
	WG379592	Bromomethane	29.6	High	None, ND
	WG379783	Hexachlorobutadiene	43.1	High	None, ND
		n-butylbenzene	30.4	High	None, ND

IV. GC/MS INSTRUMENT PERFORMANCE CHECK

The BFB (VOA) performance check was injected once at the beginning of each 12-hour period and relative abundance criteria for the ions were met.

Yes ☒ No ☐ NA ☐

V. INTERNAL STANDARDS

The Internal Standards met the 100% upper and -50% lower limits criteria, and the Retention times were within the required windows.

Yes ☒ No ☐ NA ☐

VI. SURROGATE STANDARDS

Surrogate spikes were analyzed with every sample.

Yes ☒ No ☐

And met the recovery limits defined in the QAPP, which is the laboratory limits.

Yes ☐ No ☒

There was one surrogate slightly above the laboratory limit of 115% for dibromofluoromethane at 122% for sample L11100191-016 (MW-200). There are 4 surrogates and only 3 are required of the method, and all compounds with a chemical conformation similar to the surrogate were non-detect. No qualifier has been applied.

VII. MATRIX SPIKE/MATRIX SPIKE DUPLICATE

A. Matrix Spike (MS) and Matrix Spike Duplicate (MSD) were analyzed for every analysis performed and for every 20 samples or for every matrix whichever is more frequent.

Yes ☐ No ☒

There are 5 MS/MSD samples associated with the 111 non-field QC client samples, all ending in LA14: MW-89, MW-209A, DR2-2, MW-197, MS-256 and one MS in L1110105 that was not a client sample. This does not meet the recommendation of 1 per 20 field samples. As this is an ongoing project an overall adherence to the 1:20 frequency is monitored by the Project Manager.

B. The MS and MSD percent recoveries were within the limits defined in the updated 2011 QAPP, which now references the laboratory limits.

Yes ☐ No ☒ NA ☐

The full target list has been spiked.

For MW-89-LA14, 1,2 dibromomethane was reported at 123/ 124% (limit 121%); 1,2,3-trichloropropane at 129/ 127% (limit 124%). No data are qualified as all client results are non-detect.

For DR2-2-LA14 tetrachloroethene was reported at 49.8 and 45.4%. The spike is 20 and the client result is 35.4, so the spike should have been recovered. Data are qualified JMS45.

For MW209A, bromomethane is reported at 103% and 48.1% with an RPD of 72.5. Data are qualified JMS49D72. Dichlorodifluoromethane at 100 and 81.1% (both in %R limits) with an RPD of 20.9 (limit 20). As recoveries are acceptable, data are not required to be qualified for precision alone.

For MW197-LA14, tetrachloroethene was reported at 58.4 and 60.2%. Data are qualified JMS58 and results could be biased low.

Data have been qualified JMS#, where # is the lowest recovery for data biased low.

C. The MSD relative percent differences (RPD) were within the defined contract limits, which are 30% RPD.

Yes ☐ No ☒ NA ☐

Qualifiers are added only when the MS or MSD recovery is also out of limits. Data are qualified "JD#", where # is the RPD. As the RPD increases, the matrix precision decreases. All RPD limits are met.

For MW209A, bromomethane is reported at 103% and 48.1% with an RPD of 72.5. Data are qualified JMS49D72.

Dichlorodifluoromethane at 100 and 81.1% (both in %R limits) with an RPD of 20.9 (laboratory limit 20). As recoveries are acceptable, data are not required to be qualified for precision alone.

D. The MS/MSD were client samples.

Yes ☒ No ☐ NA ☐

VIII. LABORATORY CONTROL SAMPLE

A. Laboratory Control Sample (LCS) was analyzed for every analysis performed and for every 20 samples.

Yes ☒ No ☐

B. The LCS percent recoveries were within the limits defined in the updated 2011 QAPP, which are the laboratory limits. If an LCS and LCSD are analyzed, both samples must have the same compounds out for data to be qualified.

Yes ☐ No ☒

The full target list has been spiked. When a high LCS recovery is associated with a non-detect in samples, no qualifier is added since the indicated bias is high. When the target is detected, data are qualified "JL#", where # is the recovery. Data could be biased high proportional to the LCS percent recovery. All results associated with low recoveries are qualified and data could be biased low. There were a number of high recoveries on Instruments 6 and 8. The laboratory uses the same control limits on all 3 instruments used for analysis even though the responses are different on each instrument. The control limits should be instrument specific. When there is an LCS/ LCSD pair, the outlier recovery is in bold as appropriate.

Laboratory Control Sample Recovery								
Instrument	6	6	6	6	6	6	6	6
WG: 37:	8381	8430	9018	9115	9097	9136	9424	9592
Date 2011	10/8	10/10	10/14	10/15	10/15	10/16	10/18	10/20
Compound								Ok
Chloromethane	134/ 128		152	136	142	149/143		
Methyl t-butyl ether (MTBE)	123/ 124							
Acetone	132/ 139							
1,2 Dibromomethane			128	123		129/132		
1,1,2,2 tetrachloroethane		137						
1,2,3-trichloropropane		142				128/126	126/ 116	

naphthalene		139						

Laboratory Control Sample Recovery						
Instrument	8	8	8	8	8	11
WG: 37:	8386	9235	9138	9484	9783	All OK
date	10/9	10/17	10/ 16	10/20	10/21	
Compound						
Chloromethane		138/ 137	143/ 146			
Methyl t-butyl ether (MTBE)	129/ 129					
Acetone	149/150	145/ 149				
Hexachlorobutadiene				147/ 143	146/ 138	
Vinyl chloride		140/ 136	141/ 145			
Methyl isobutyl ketone (MIBK)	135/ 130					

The table below shows data that were qualified for the LCS outliers .

Lab ID	Client Id	Compound	Result ug/L	MDL	Qualifier
L11100282-01	MW-39-LA-14	Vinyl chloride	0.914	0.25	JL145
L11100282-25	MW-100B-LA-14	Vinyl chloride	181	0.25	JL140
L11100105-18	MW-214A-LA-14	Acetone	4.42	2.5	JL150
L11100105-18	MW-214A-LA-14	Methyl t-butyl ether (MTBE)	2.6	0.5	JL129
L11100105-19	MW-214B-LA-14	Acetone	3.66	2.5	JL150
L11100105-19	MW-214B-LA-14	Methyl t-butyl ether (MTBE)	2.22	0.5	JL129

IX. BLANKS

A. Method Blanks were analyzed at the required frequency and for each matrix and analysis.

Yes ☒ No ☐

B. No blank contamination was found in the Method Blank.

Yes ☐ No ☒

Whenever Methylene Chloride, Acetone, 2-Butanone are detected in associated samples at a level less than 10 × the Method Blank (corrected for dilution), data are qualified “BMB#”, where # is the corrected Method Blank level. Results are usable as non-detect. Only the method blank for WG 378386 reported methylene chloride at 0.397 ug/L. The only detected data were the trip blanks.

Lab ID	Client Id	Compound	Result ug/L	MDL	Qualifier
L11100105-07	TB-2-LA-14	Methylene chloride	0.354	0.25	BMB.397
L11100105-48	TB-1-LA-14	Methylene chloride	0.263	0.25	BMB.397

C. If Field Blanks were identified, no blank contamination was found.

Yes ☐ No ☒ NA ☐

The trip blanks contained the following compounds (TB3 and TB 4 were clean)

Trip blank all ending in LA-14	Compound	Result ug/L	Qualification
TB-2	Hexachlorobutadiene	0.517	None, ND
	Methylene chloride	0.354	None, ND
TB-1	Methylene chloride	.263	None, ND
	1,3 dichlorobenzene	0.267	None, ND
	1,4 dichlorobenzene	0.26	BTB.26
	Toluene	0.37	None, ND
TB-6	Methylene chloride	0.48	None, ND
TB-5	Methylene chloride	.452	None, ND
TB-7	Methylene chloride	0.308	None, ND
TB-8	Methylene chloride	0.548	None, ND
TB-9	Methylene chloride	0.277	None, ND
TB-10	Methylene chloride	0.335	None, ND

Data Qualified for blank contamination.

Lab ID	Client Id	Compound	Result ug/L	MDL	Qualifier
L11100105-08	MW-88-LA-14	1,4-Dichlorobenzene	0.191	0.125	BTB.26
L11100105-20	MW-229-LA-14	1,4-Dichlorobenzene	0.127	0.125	BTB.26

X. FIELD QC

If Field Duplicates were identified, they met guidance for VOA of RPD of < 30% for water or < 50% for soil. For values reported at < 5 × the reporting limit (RL), a difference of 2 × RL or 3.5 × RL for soil is used as guidance. This is referred to as the CRDL Rule. Data are not qualified for Field Duplicates as these are evaluated for the total project by the Project Manager.

Yes ☒ No ☐ NA ☐

There are ten identified field duplicates as described in the following table. If data were qualified they would be J, FD#, where # is the difference between the two values as both values are less than 5 x RL. All pairs were within precision limits.

Parent	Duplicate
MW-63A-LA-14	DUP-1
MW-97-LA-14	DUP-2
MW-113-LA-14	DUP-3
MW-200-LA-14	DUP-4
MW-206B-LA-14	DUP-5
MW-212-LA-14	DUP-6
MW-229-LA-14	DUP-7
PMW101-04A-LA-14	DUP-8
DR1-6-LA-14	DUP-9
DR2-6-LA-14	DUP-10

XI. SYSTEM PERFORMANCE

A. The RICs, chromatograms, tunes and general system performance were acceptable for all instruments and analytical systems.

Yes _____ No _____ NA ☒X__

Not part of this review level.

B. The suggested EQLs for the sample matrices in this set were met.

Yes ☒X__ No _____ NA _____

XII. TCL COMPOUNDS

A. The identification is accurate and all retention times, library spectra and reconstructed ion chromatograms (RIC) were evaluated for all detected compounds.

Yes _____ No _____ NA ☒X__

Not part of this review level.

B. Quantitation was checked to determine the accuracy of calculations for representative compounds in each internal standards quantitation set.

Yes _____ No _____ NA ☒X__

Not part of this review level.

XIII. TENTATIVELY IDENTIFIED COMPOUNDS

TICs were properly identified and met the library identification criteria.

Yes _____ No _____ NA ☒X__

Not part of this review level.

XIV. OVERALL ASSESSMENT OF THE CASE

The laboratory has complied with the requested method. Data are fully usable after consideration of qualifiers. The following is noted:

This report has been requested to include the following review: QC, hold times, sample integrity (Chains of Custody, sample login), and summary calibrations.

Note that there are 18 QC sets (days of analysis per instrument) and 3 instruments for the 129 samples.

The 2011 QAPP has been used for all review with the exception of the CCAL limits where the 25% NFG limits were applied as Method 8026B was used, not 8260C or the CLP method. Final application of these limits is being considered by project management.

Chain of Custody

No qualifiers have been added for Chain of Custody issues, and the Project Manager will update documentation per the notes in the text to complete the project record.

Sample Preservation

EPA regulations (See Federal Register, March 12, 2007, 40CFR Part 122) require only that the temperature of samples delivered to the laboratory be equal to or less than 6 °C. The sample temperature conditions are fully compliant with applicable regulations.

Initial Calibrations

ICV

Dichlorodifluoromethane is high (29%) in the 10/3/11 ICV for Instrument 8. It is also high in the LCS's for that instrument. The compound is not detected in client samples and no qualification is required.

Continuing Calibrations

No data have been qualified as all %D recoveries are high and data are non-detect. No qualification is required for high bias when the response factor is acceptable to verify the non-detect as is the case here.

Chloromethane, acetone, MTBE and 4-methyl-2-pentanone and 2 butanone were slightly high in some calibrations, but these are all poor responders and they met the 40% limit of the NFG.

The table below shows the outliers observed in CCVs for this report.

SDG	Batch	Analyte	% D	Bias	Qualifier
L11100105	WG378392	Hexachlorobutadiene	37.5	high	None, ND
L11100191	WG379126	Bromomethane	29.3	Low	None, ND and RF is OK
L11100282	WG379136	Bromomethane	26.4	Low	None, ND and RF is OK
	WG379424	Bromomethane	27.5	High	None, ND and RF is OK
L11100336	WG379484	Hexachlorobutadiene	52.8	High	None, ND
	WG379592	Bromomethane	29.6	High	None, ND
	WG379783	Hexachlorobutadiene	43.1	High	None, ND
		n-butylbenzene	30.4	High	None, ND

Surrogates

There was one surrogate slightly above the laboratory limit of 115% for dibromofluoromethane at 122% for sample L11100191-016 (MW-200). There are 4 surrogates and only 3 are required of the method, and all compounds with a chemical conformation similar to the surrogate were non-detect. No qualifier has been applied.

Matrix Spikes

There are 5 MS/MSD samples associated with the 111 non-field QC client samples, all ending in LA14: MW-89, MW-209A, DR2-2, MW-197, MS-256 and one MS in L1110105 that was not a client sample. This does not meet the recommendation of 1 per 20 field samples. As this is an ongoing project an overall adherence to the 1:20 frequency is monitored by the Project Manager. The full target list has been spiked.

For MW-89-LA14, 1,2 dibromomethane was reported at 123/ 124% (limit 121%); 1,2,3-trichloropropane at 129/ 127% (limit 124%). No data are qualified as all client results are non-detect.

For DR2-2-LA14 tetrachloroethene was reported at 49.8 and 45.4%. The spike is 20 and the client result is 35.4, so the spike should have been recovered. Data are qualified JMS45.

For MW209A, bromomethane is reported at 103% and 48.1% with an RPD of 72.5. Data are qualified JMS49D72. Dichlorodifluoromethane at 100 and 81.1% (both in %R limits) with an RPD of 20.9 (limit 20). As recoveries are acceptable, data are not required to be qualified for precision alone.

For MW197-LA14, tetrachloroethene was reported at 58.4 and 60.2%. Data are qualified JMS58 and results could be biased low.

Data have been qualified JMS#, where # is the lowest recovery for data biased low.

Laboratory Control Samples

The full target list has been spiked. When a high LCS recovery is associated with a non-detect in samples, no qualifier is added since the indicated bias is high. When the target is detected, data are qualified "JL#", where # is the recovery. Data could be biased high proportional to the LCS percent recovery. All results associated with low recoveries are qualified and data could be biased low. There were a number of high recoveries on Instruments 6 and 8. The laboratory uses the same control limits on all 3 instruments used for analysis even though the responses are different on each instrument. The control limits should be instrument specific. When there is an LCS/ LCSD pair, the outlier recovery is in bold as appropriate in the table in the text.

The table below shows data that were qualified for the LCS outliers .

Lab ID	Client Id	Compound	Result ug/L	MDL	Qualifier
L11100282-01	MW-39-LA-14	Vinyl chloride	0.914	0.25	JL145
L11100282-25	MW-100B-LA-14	Vinyl chloride	181	0.25	JL140
L11100105-18	MW-214A-LA-14	Acetone	4.42	2.5	JL150
L11100105-18	MW-214A-LA-14	Methyl t-butyl ether (MTBE)	2.6	0.5	JL129
L11100105-19	MW-214B-LA-14	Acetone	3.66	2.5	JL150
L11100105-19	MW-214B-LA-14	Methyl t-butyl ether (MTBE)	2.22	0.5	JL129

Method Blanks

Whenever Methylene Chloride, Acetone, 2-Butanone are detected in associated samples at a level less than 10 × the Method Blank (corrected for dilution), data are qualified “BMB#”, where # is the corrected Method Blank level. Results are usable as non-detect. Only the method blank for WG 378386 reported methylene chloride at 0.397 ug/L. The only detected data were the trip blanks.

Lab ID	Client Id	Compound	Result ug/L	MDL	Qualifier
L11100105-07	TB-2-LA-14	Methylene chloride	0.354	0.25	BMB.397
L11100105-48	TB-1-LA-14	Methylene chloride	0.263	0.25	BMB.397

Field Blanks

The trip blanks contained the following compounds (TB3 and TB 4 were clean)

Trip blank all ending in LA-14	Compound	Result ug/L	Qualification
TB-2	Hexachlorobutadiene	0.517	None, ND
	Methylene chloride	0.354	None, ND
TB-1	Methylene chloride	.263	None, ND
	1,3 dichlorobenzene	0.267	None, ND
	1,4 dichlorobenzene	0.26	BTB.26
	Toluene	0.37	None, ND
TB-6	Methylene chloride	0.48	None, ND
TB-5	Methylene chloride	.452	None, ND
TB-7	Methylene chloride	0.308	None, ND
TB-8	Methylene chloride	0.548	None, ND
TB-9	Methylene chloride	0.277	None, ND
TB-10	Methylene chloride	0.335	None, ND

Data Qualified for blank contamination.

Lab ID	Client Id	Compound	Result ug/L	MDL	Qualifier
L11100105-08	MW-88-LA-14	1,4-Dichlorobenzene	0.191	0.125	BTB.26
L11100105-20	MW-229-LA-14	1,4-Dichlorobenzene	0.127	0.125	BTB.26

Field QC

There are ten identified field duplicates as described in the following table. If data were qualified they would be J, FD#, where # is the difference between the two values as both values are less than 5 x RL. All pairs were within precision limits.

Parent	Duplicate
MW-63A-LA-14	DUP-1
MW-97-LA-14	DUP-2
MW-113-LA-14	DUP-3
MW-200-LA-14	DUP-4
MW-206B-LA-14	DUP-5
MW-212-LA-14	DUP-6
MW-229-LA-14	DUP-7
PMW101-04A-LA-14	DUP-8
DR1-6-LA-14	DUP-9
DR2-6-LA-14	DUP-10

TABLE OF QUALIFIED DATA

Lab ID	Client Id	Compound	Result ug/L	MDL	Qualifier
L11100282-01	MW-39-LA-14	Vinyl chloride	0.914	0.25	JL145
L11100282-25	MW-100B-LA-14	Vinyl chloride	181	0.25	JL140
L11100191-08	MW-197A-LA-14	Tetrachloroethene	32.2	0.25	JMS58
L11100105-07	TB-2-LA-14	Methylene chloride	0.354	0.25	BMB.397
L11100105-08	MW-88-LA-14	1,4-Dichlorobenzene	0.191	0.125	BTB.26
L11100105-10	DR2-2-LA-14	Tetrachloroethene	35.9	0.25	JMS45
L11100105-18	MW-214A-LA-14	Acetone	4.42	2.5	JL150
L11100105-18	MW-214A-LA-14	Methyl t-butyl ether (MTBE)	2.6	0.5	JL129
L11100105-19	MW-214B-LA-14	Acetone	3.66	2.5	JL150
L11100105-19	MW-214B-LA-14	Methyl t-butyl ether (MTBE)	2.22	0.5	JL129
L11100105-20	MW-229-LA-14	1,4-Dichlorobenzene	0.127	0.125	BTB.26
L11100105-48	TB-1-LA-14	Methylene chloride	0.263	0.25	BMB.397
L11100105-37	MW-209A-LA-14	Bromomethane	0.5U	0.5	JMS48D72

Final Data Qualification and Usability Report

Project: Defense Depot Memphis, TN (DDMT)
 Long Term Monitoring
 Sampling Event: LA-14
 Project / Task Number: 145803-005
 Sample Data Package(s): L11100105, L11100191, L11100282, L11100336
 Data Validation Performed by: Diane Short & Associates (DSA)
 Final Data Qualification and Usability
 Report Prepared by: Lynn K. Lutz, HDR Inc.

Data Validation Report Review and Comments

The data validation report used continuing calibration verification (CCV) percent difference/drift (%D) limits of 25%D for most analytes and 40%D for “poor responders”. The QAPP limit of 30%D as listed in Worksheet #12 was incorrect and should be 20%D as listed in Worksheet #24. Final qualifiers were added based on CCV results outside the QAPP limit of 20%D as noted below:

CCV ID	Analyte	%D	Qualifiers
WG378381	Chloromethane	+28.1% (high)	None (all ND)
	Acetone	+24.5% (high)	
	2-Butanone	+20.1% (high)	
WG378386	Acetone	+29.2% (high)	Detections – J ND – no qualifier
	MTBE	+21.3% (high)	
	4-Methyl-2-pentanone	+21.2% (high)	
	2-Butanone	+25.3% (high)	
WG378392	Hexachlorobutadiene	+37.5% (high)	None (all ND)
WG378430	Bromomethane	+23.5% (high)	
WG378844	Chloromethane	-29.5% (low)	UJ (all ND)
	Dichlorodifluoromethane	-26.2% (low)	
WG379018	Bromoform	+24.7% (high)	None (all ND)
	Chloromethane	+34.1% (high)	
WG379095	Bromomethane	-22.5% (low)	UJ (all ND)
WG379097	Chloromethane	+31.3% (high)	None (all ND)
WG379126	Bromomethane	-29.3% (low)	UJ (all ND)
WG379136	Chloromethane	+21.8% (high)	None (all ND)
	Bromomethane	-26.4% (low)	UJ (all ND)
WG379424	Bromomethane	+27.5% (high)	None (all ND)
WG379484	Hexachlorobutadiene	+52.8% (high)	
	n-Butylbenzene	+30.4% (high)	
	p-Isopropyltoluene	+21.6% (high)	
	sec-Butylbenzene	+21.3% (high)	
WG379592	Chloromethane	+33.9% (high)	
	Bromomethane	+29.6% (high)	
	Dichlorodifluoromethane	+21.7% (high)	
WG379783	1-Chlorohexane	+20.1 (high)	
	Hexachlorobutadiene	+43.1% (high)	
	n-Butylbenzene	+30.4% (high)	
	p-Isopropyltoluene	+20.6% (high)	
	sec-Butylbenzene	+20.5% (high)	

Final Data Qualifiers

Tetrachloroethene recoveries in the MS/MSD analyses of DR2-2-LA14 and MW-197-LA14 were below control limits and results in the parent samples have been qualified J where DSA had qualified as JMS45 and JMS58. Bromomethane recovery in the MS/MSD analysis of MW209A was below control limits and the RPD was above control limits, and the result in the parent sample has been qualified UJ where DSA had qualified JMS49D72.

Samples were qualified for CCV results as shown in the table above.

Final qualifiers for detected acetone, vinyl chloride and MTBE results with LCS recoveries above control limits were J where DSA had qualified as JL129, JL140, JL145 or JL150.

Final qualifiers for methylene chloride in TB1 and TB2 were B where DSA had qualified as BMB.397 for method blank results.

Final qualifiers for 1,4-dichlorobenzene in two samples were B where DSA had qualified as BTB.26 for trip blank results.

Final qualifiers were J where detected results were between the MDL and RL.

Data Usability

There were no rejected sample results. All results are usable as qualified.



22 December 2011

Lynn K. Lutz, HDR Inc.

Date

APPENDIX C
HISTORICAL CVOC RESULTS

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

DR1-1

Analyte	Sample Name Sample Date	DR1-1 5/21/2004	DR1-1 11/12/2004	DR1-1 2/17/2005	DR1-1 5/18/2005	DR1-1-LB-1 10/23/2006	DR1-1-LA-5 10/1/2007
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	0.8 J	--	--	--	--	--
Carbon tetrachloride	µg/L	<1 J	<1	<1	<1	<1	<1
Chloroform	µg/L	0.24 J	<1	<1	<1	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	0.8 J	1.2	1	1.1	1.02	0.969 J
Tetrachloroethene	µg/L	2.8	3.3	3.3 J	3	2.46	2.49
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	<1	0.3 J	0.29 J	0.3J	0.255 J	<1
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

UJ Undetected, reporting limit is inaccurate or imprecise

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

DR1-1

Analyte	Sample Name	DR1-1-LB-8	DR1-1-LA-10	DR1-1-LB-12	DR1-1-LA-14
	Sample Date	10/8/2008	10/6/2009	10/9/2010	10/6/2011
	UNIT				
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1 UJ
Chloroform	µg/L	0.126 J	<0.3	<0.3	<0.3 UJ
cis-1,2-Dichloroethene	µg/L	<1	1.08	1.26	1.31
Tetrachloroethene	µg/L	2.69	2.12	2.56	3
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1
Trichloroethene	µg/L	0.399 J	0.328 J	0.304 J	0.326 J
Vinyl chloride	µg/L	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

UJ Undetected, reporting limit is inaccurate or imprecise

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

DR1-1A

Analyte	Sample Name Sample Date	DR1 CLUSTER A 5/27/04	DR1-1A 11/13/04	DR1-1A 2/16/05	DR1-1A 5/18/05	DR1-1A-LB-1 10/2/06	DR1-1A-LS-3 4/13/07
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	0.72 J	--	--	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	0.66 J	0.18 J	0.21 B	0.16 B	0.324	0.313
cis-1,2-Dichloroethene	µg/L	0.72 J	0.85 J	1	0.75 J	0.634	0.416 J
Tetrachloroethene	µg/L	1.5	1.8	1.8	1.6	1.18	0.959 J
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	3.5	4	6.9	5.2	6.28	4.57
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240, SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

- J Estimated results based on QC data or reported below RL
- B Estimated results possibly biased high or false positive based on blank data
- < Not detected at sample reporting limit
- UJ Undetected, reporting limit is inaccurate or imprecise

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

DR1-1A

Analyte	Sample Name Sample Date	DR1-1A-LA-5	DR1-1A-LS-7	DR1-1A-LB-8	DR1-1A-LQ-9	DR1-1A-LA-10	DR1-1A-LB-12
		10/1/2007	4/8/2008	10/8/2008	4/8/2009	10/6/2009	10/9/2010
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	0.307	0.274 J	0.372 J	0.424	0.518	0.348
cis-1,2-Dichloroethene	µg/L	0.312 J	0.273 J	0.262 J	0.295 J	<1	0.42 J
Tetrachloroethene	µg/L	0.813 J	0.776 J	0.747 J	0.838 J	0.749 J	1.33
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	3.61	3.21	3.03 J	3.85	2.33	3.6
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240, SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

- J Estimated results based on QC data or reported below RL
- B Estimated results possibly biased high or false positive based on blank data
- < Not detected at sample reporting limit
- UJ Undetected, reporting limit is inaccurate or imprecise

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

DR1-1A

Analyte	Sample Name	DR1-1A-LA-14
	Sample Date	10/6/2011
	UNIT	
1,1,1-Trichloroethane	µg/L	<1
1,1-Dichloroethene	µg/L	<1
1,2-Dichloroethene (Total)	µg/L	
Carbon tetrachloride	µg/L	<1 UJ
Chloroform	µg/L	0.288 J
cis-1,2-Dichloroethene	µg/L	0.356 J
Tetrachloroethene	µg/L	1.08
trans-1,2-Dichloroethene	µg/L	<1
Trichloroethene	µg/L	2.35
Vinyl chloride	µg/L	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240, SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

- J Estimated results based on QC data or reported below RL
- B Estimated results possibly biased high or false positive based on blank data
- < Not detected at sample reporting limit
- UJ Undetected, reporting limit is inaccurate or imprecise

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

DR1-2

Analyte	Sample Name Sample Date	DR1-2 5/17/2004	DR1-2 11/11/2004	DR1-2 2/16/2005	DR1-2 5/19/2005	DR1-2-LB-1 10/24/2006	DR1-2-LA-5 10/1/2007
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	0.68 J	--	--	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	<1	<1	<1	<1	0.163	<0.3
cis-1,2-Dichloroethene	µg/L	0.68 J	0.77 J	0.67 J	0.75 J	0.602	0.48 J
Tetrachloroethene	µg/L	1.8	2.5 J	2.3	2.1	1.82	1.52
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

DR1-2

Analyte	Sample Name Sample Date	DR1-2-LB-8 10/7/2008	DR1-2-LA-10 10/6/2009	DR1-2-LB-12 10/5/2010	DR1-2-LA-14 10/5/2011
	UNIT				
1,1,1-Trichloroethane	µg/L	<1 J	<1	<1	<1
1,1-Dichloroethene	µg/L	<1 J	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--
Carbon tetrachloride	µg/L	<1 J	<1	<1	<1
Chloroform	µg/L	0.131 J	0.17 J	0.179 J	<0.3
cis-1,2-Dichloroethene	µg/L	0.595 J	0.607 J	0.805 J	0.791 J
Tetrachloroethene	µg/L	1.5 J	1.47	2.1	1.92
trans-1,2-Dichloroethene	µg/L	<1 J	<1	<1	<1
Trichloroethene	µg/L	1.83 J	<1	<1	<1
Vinyl chloride	µg/L	<1 J	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

DR1-3

Analyte	Sample Name Sample Date	DR1-3 5/10/2004	DR1-3 11/11/2004	DR1-3 2/15/2005	DR1-3 5/17/2005	DR1-3-BL 8/25/2006	DR1-3-EBT-1 12/5/2006	DR1-3-EBT-2 3/7/2007
	UNIT							
1,1,1-Trichloroethane	µg/L	<1	<1.2	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1.2	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	<2	--	--	--	--	--	--
Carbon tetrachloride	µg/L	<1	<1.2	<1	<1	<1	<1	<1
Chloroform	µg/L	<1	<1.2	<1	<1	<0.3	<1	<0.3
cis-1,2-Dichloroethene	µg/L	<1	<1.2	<1	0.22 J	<1	<1	27.6
Tetrachloroethene	µg/L	34	43 J	46	47	45.7	54.7	8.31
trans-1,2-Dichloroethene	µg/L	<1	<1.2	<1	<1	<1	<1	<1
Trichloroethene	µg/L	2.6	3.2	3.7	4.1	4.18	5.13	2.74
Vinyl chloride	µg/L	<1	<1.2	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

DR1-3

Analyte	Sample Name	DR1-3-EBT-3	DR1-3-EBT-4	DR1-3-EBT-5	DR1-3-EBT-6	DR1-3-EBT-7	DR1-3-EBT-8
	Sample Date	6/1/2007	9/19/2007	12/13/2007	3/14/2008	6/13/2008	12/11/2008
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	<0.3	<1	<1	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	32.9	30.7	22.6	17	19.5	16.5
Tetrachloroethene	µg/L	2.18	0.45 J	0.904 J	2.12	2.95	2.59
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	0.572 J	<1	0.303 J	1.28	2.02	1.32
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240, SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
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Main Installation - Defense Depot Memphis, Tennessee

DR1-3

Analyte	Sample Name Sample Date	DR1-3-EBT-9 3/12/2009	DR1-3-LA-10 10/6/2009	DR1-3-LS-11 4/5/2010	DR1-3-LB-12 10/6/2010	DR1-3-LS-13 4/1/2011	DR1-3-LA-14 10/4/2011
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	13.3	1.5	0.29 J	<1	<1	<1
Tetrachloroethene	µg/L	2.43	10	13.9	9.13	13.2	13.9
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	1.26	2.15	2.47	1.75	2.1	1.81
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

DR1-4

Analyte	Sample Name Sample Date	DR1-4 5/21/2004	DR1-4 11/11/2004	DR1-4 2/15/2005	DR1-4 5/17/2005	DR1-4 10/25/2006	DR1-4 4/13/2007	DR1-4 10/1/2007
	UNIT							
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	<2	--	--	--	--	--	--
Carbon tetrachloride	µg/L	<1 J	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	<1	<1	<1	<1	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	8.09	5.29
Tetrachloroethene	µg/L	4.8	8.3 J	9.3	8.9	12.4	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	0.72 J	1.1	1.1	1	1.33	<1	<1
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

DR1-4

Analyte	Sample Name Sample Date	DR1-4 4/7/2008	DR1-4 10/7/2008	DR1-4 4/8/2009	DR1-4 10/6/2009	DR1-4 10/6/2010	DR1-4-LA-14 10/4/2011
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	0.582 J	0.987 J	0.755 J	<1	<1	<1
Tetrachloroethene	µg/L	2.74	1.22	0.947 J	0.844 J	0.435 J	0.831 J
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	0.573 J	1.69	0.393 J	0.64 J	0.543 J	0.252 J
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

DR1-5

Analyte	Sample Name Sample Date	DR1-5 5/22/2004	DR1-5 11/12/2004	DR1-5 2/18/2005	DR1-5 5/19/2005	DR1-5-LB-1 10/24/2006	DR1-5-LS-3 4/16/2007
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1J	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	<2	--	--	--	--	--
Carbon tetrachloride	µg/L	<1J	<1	<1	<1	<1	<1
Chloroform	µg/L	<1	<1	<1	<1	0.129	<0.3
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	4.3	11	17	15	57	69.2
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

DR1-5

Analyte	Sample Name Sample Date	DR1-5-LA-5 10/1/2007	DR1-5 4/7/2008	DR1-5 10/9/2008	DR1-5 4/8/2009	DR1-5 10/5/2009	DR1-5 3/30/2010
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	0.148 J	0.165 J	0.181 J	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	<1	<1	0.295 J	<1	<1	<1
Tetrachloroethene	µg/L	69.9	95.8	69.2 J	53.2	37.3	22.2
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	<1	<1	4.28 J	<1	<1	<1
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

DR1-5

Analyte	Sample Name Sample Date	DR1-5 10/5/2010	DR1-5 3/31/2011	DR1-5 10/4/2011
	UNIT			
1,1,1-Trichloroethane	µg/L	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1
Chloroform	µg/L	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	<1	<1	<1
Tetrachloroethene	µg/L	18.3	18.2	29
trans-1,2-Dichloroethene	µg/L	<1	<1	<1
Trichloroethene	µg/L	<1	<1	<1
Vinyl chloride	µg/L	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

DR1-5A

Analyte	Sample Name Sample Date	DR1 CLUSTER B 5/27/2004	DR1-5A 11/12/2004	DR1-5A 2/21/2005	DR1-5A 5/19/2005	DR1-5A-LB-1 10/23/2006	DR1-5A-LS-3 4/13/2007
	UNIT						
1,1,1-Trichloroethane	µg/L	<1.7	<5	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1.7	<5	0.25 J	0.19 J	<1	<1
1,2-Dichloroethene (Total)	µg/L	1.7 J	--	--	--	--	--
Carbon tetrachloride	µg/L	<1.7	<5	<1	<1	<1	<1
Chloroform	µg/L	0.71 J	<5	0.4 B	0.29 B	0.306	0.274 J
cis-1,2-Dichloroethene	µg/L	1.7	5.2	4.6	4.1	3.46	3.19
Tetrachloroethene	µg/L	24	47	55	47	50.9	49.6
trans-1,2-Dichloroethene	µg/L	<1.7	<5	<1	<1	<1	<1
Trichloroethene	µg/L	47	110	110	100	98.1	84
Vinyl chloride	µg/L	<1.7	<5	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

B Estimated results possibly biased high or false positive based on
blank data

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

DR1-5A

Analyte	Sample Name Sample Date	DR1-5A-LA-5 10/1/2007	DR1-5A 4/8/2008	DR1-5A 10/9/2008	DR1-5A 4/8/2009	DR1-5A 10/5/2009	DR1-5A 3/30/2010
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	0.655 J	1.09 J	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	0.252 J	0.187 J	0.343 J	0.217 J	0.204 J	0.205 J
cis-1,2-Dichloroethene	µg/L	3.16	1.82	4.75 J	3.19	3.39	3.58
Tetrachloroethene	µg/L	46.8	34.9	59.7 J	56.3	54.9	59.4
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	78.6	58.7	114 J	95.7	92.8	96.6
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

- J Estimated results based on QC data or reported below RL
- B Estimated results possibly biased high or false positive based on blank data
- < Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

DR1-5A

Analyte	Sample Name Sample Date	DR1-5A 10/5/2010	DR1-5A 3/31/2011	DR1-5A 10/4/2011
	UNIT			
1,1,1-Trichloroethane	µg/L	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1
Chloroform	µg/L	0.197 J	0.197 J	0.191 J
cis-1,2-Dichloroethene	µg/L	3.88	2.9	2.76
Tetrachloroethene	µg/L	70.4	50.4	49.7
trans-1,2-Dichloroethene	µg/L	<1	<1	<1
Trichloroethene	µg/L	110	86.3	77.6
Vinyl chloride	µg/L	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

- J Estimated results based on QC data or reported below RL
- B Estimated results possibly biased high or false positive based on blank data
- < Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

DR1-6

Analyte	Sample Name Sample Date	DR1-6 6/26/2004	DR1-6 11/10/2004	DR1-6 2/17/2005	DR1-6 5/18/2005	DR1-6-LB-1 10/24/2006	DR1-6-LS-3 4/13/2007
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	3.3	--	--	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	<1	<1	<1	<1	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	3.3	6.2	4.1	3.8	1.59	1.91
Tetrachloroethene	µg/L	13	21	20	26	184	173
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	1.6	2.4	2.2	2.1	1.85	1.83
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE FLAGS:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

DR1-6

Analyte	Sample Name Sample Date	DR1-6-LA-5 10/1/2007	DR1-6 4/8/2008	DR1-6 10/7/2008	DR1-6 4/8/2009	DR1-6 10/6/2009	DR1-6 4/1/2010
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	1.42	1.09	1.38	1.31	1.49	1.37
Tetrachloroethene	µg/L	191 J	195	122	197	183	225
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	1.58	1.27	4.61	1.44	1.59	1.56
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE FLAGS:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

DR1-6

Analyte	Sample Name Sample Date	DR1-6 10/5/2010	DR1-6 4/1/2011	DR1-6 10/4/2011
	UNIT			
1,1,1-Trichloroethane	µg/L	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1
Chloroform	µg/L	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	1.69	1.56	1.31
Tetrachloroethene	µg/L	239	193	168
trans-1,2-Dichloroethene	µg/L	<1	<1	<1
Trichloroethene	µg/L	1.89	1.7	1.28
Vinyl chloride	µg/L	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE FLAGS:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

DR1-6A

Analyte	Sample Name Sample Date	DR1-6A 6/26/2004	DR1-6A 11/10/2004	DR1-6A 2/17/2005	DR1-6A 5/18/2005	DR1-6A-LB-1 10/24/2006	DR1-6A-LS-3 4/13/2007
	UNIT						
1,1,1-Trichloroethane	µg/L	<3.3	<3.3	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	0.32 B	<3.3	0.4J	0.21 J	<1	<1
1,2-Dichloroethene (Total)	µg/L	<6.7	--	--	--	--	--
Carbon tetrachloride	µg/L	<1	<3.3	<1	<1	<1	<1
Chloroform	µg/L	<1	<3.3	0.17 J	<1	0.18	0.236 J
cis-1,2-Dichloroethene	µg/L	--	3 J	4.1	3.5	4.81	5.98
Tetrachloroethene	µg/L	--	17	28	21	28.4	34.4
trans-1,2-Dichloroethene	µg/L	--	<3.3	<1	<1	<1	<1
Trichloroethene	µg/L	9.1	88	140	97	118	139
Vinyl chloride	µg/L	--	<3.3	<1	<2	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

B Estimated results possibly biased high or false positive based on
blank data

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

DR1-6A

Analyte	Sample Name Sample Date	DR1-6A-LA-5 10/1/2007	DR1-6A 4/8/2008	DR1-6A 10/7/2008	DR1-6A 4/8/2009	DR1-6A 10/6/2009	DR1-6A 4/1/2010
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	0.781 J	1.08	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	0.183 J	0.215 J	0.238 J	0.214 J	0.245 J	0.193 J
cis-1,2-Dichloroethene	µg/L	4.24	2.99	3.81	4.33	4.89	4.05
Tetrachloroethene	µg/L	30.2	30.8	39.6	32.5	43	43.5
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	107	110	142	125	163	122
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

- J Estimated results based on QC data or reported below RL
- B Estimated results possibly biased high or false positive based on blank data
- < Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

DR1-6A

Analyte	Sample Name Sample Date	DR1-6A 10/5/2010	DR1-6A 4/1/2011	DR1-6A 10/4/2011
	UNIT			
1,1,1-Trichloroethane	µg/L	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1
Chloroform	µg/L	0.271 J	0.32	0.248 J
cis-1,2-Dichloroethene	µg/L	5.08	7.83	9.24
Tetrachloroethene	µg/L	60.1	57.8	60.3
trans-1,2-Dichloroethene	µg/L	<1	<1	<1
Trichloroethene	µg/L	149	166	166
Vinyl chloride	µg/L	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

- J Estimated results based on QC data or reported below RL
- B Estimated results possibly biased high or false positive based on blank data
- < Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

DR1-7

Analyte	Sample Name Sample Date	DR1-7 6/24/2004	DR1-7 11/12/2004	DR1-7 2/21/2005	DR1-7 5/17/2005	DR1-7 10/25/2006	DR1-7 10/1/2007
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	0.46 J	--	--	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	0.18 J	0.19 J	<1	<1	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	0.46 J	0.58 J	0.45 J	0.48 J	0.374 J	0.344 J
Tetrachloroethene	µg/L	30	26	27	27	5.68	5.15
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	1.6	1.8	2.2	2	0.76 J	0.812 J
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

DR1-7

Analyte	Sample Name Sample Date	DR1-7 10/7/2008	DR1-7 10/6/2009	DR1-7 10/5/2010	DR1-7 10/4/2011
	UNIT				
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1
Chloroform	µg/L	0.163 J	<0.3	0.169 J	0.174 J
cis-1,2-Dichloroethene	µg/L	0.787 J	0.449 J	0.525 J	0.532 J
Tetrachloroethene	µg/L	4.35	4.75	3.81	2.62
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1
Trichloroethene	µg/L	1.6	0.622 J	0.549 J	0.441 J
Vinyl chloride	µg/L	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

DR1-8

Analyte	Sample Name Sample Date	DR1-8 6/24/2004	DR1-8 11/11/2004	DR1-8 2/18/2005	DR1-8 5/19/2005	DR1-8 10/18/2006	DR1-8 10/1/2007
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	<2	--	--	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	<1	<1	<1	<1	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1 J	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	<1	<1	<1	<1	<1	0.341 J
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

UJ Undetected, reporting limit is inaccurate or imprecise

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

DR1-8

Analyte	Sample Name Sample Date	DR1-8 10/7/2008	DR1-8 10/5/2009	DR1-8 10/6/2010	DR1-8 10/6/2011
	UNIT				
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1 UJ
Chloroform	µg/L	<0.3	<0.3	<0.3	<0.3 UJ
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1
Trichloroethene	µg/L	1.03	<1	<1	<1
Vinyl chloride	µg/L	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

UJ Undetected, reporting limit is inaccurate or imprecise

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

DR2-1

Analyte	Sample Name Sample Date	DR2-1 6/23/2004	DR2-1 11/14/2004	DR2-1 2/22/2005	DR2-1 5/19/2005	DR2-1-BL 8/31/2006	DR2-1-EBT-1 12/6/2006
	UNIT						
1,1,1-Trichloroethane	µg/L	<5.3	<8.3	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<5.3	<8.3	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	16	--	--	--	--	--
Carbon tetrachloride	µg/L	25	35	24	32	32.3	29 J
Chloroform	µg/L	16	16	12	13	9.91	13.3
cis-1,2-Dichloroethene	µg/L	16	24	21	22	17	34.7
Tetrachloroethene	µg/L	180	280	190	250	176	191
trans-1,2-Dichloroethene	µg/L	<5.3	<8.3	<1	<1	0.319 J	<1
Trichloroethene	µg/L	7.3	9.8	7.8	9.1	8.51	8.49
Vinyl chloride	µg/L	<5.3	<8.3	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

DR2-1

Analyte	Sample Name Sample Date	DR2-1-EBT-2 3/8/2007	DR2-1-EBT-3 5/29/2007	DR2-1-EBT-4 9/12/2007	DR2-1-EBT-5 12/10/2007	DR2-1 3/10/2008	DR2-1 6/9/2008
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1 J	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	22.6	25.7 J	13.4	15.5	1.26	2.8
Chloroform	µg/L	10	8.76	8.58	11.3	4.19	5.75
cis-1,2-Dichloroethene	µg/L	19.3	15.2	50.4	7.71	86.4	38.1
Tetrachloroethene	µg/L	194	160	138	192	33.7	50.7
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	7.91	7.21	4.54	5.72	12.7	5.36
Vinyl chloride	µg/L	<1	<1	1.25	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
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Main Installation - Defense Depot Memphis, Tennessee

DR2-1

Analyte	Sample Name Sample Date	DR2-1	DR2-1	DR2-1	DR2-1	DR2-1	DR2-1	DR2-1
		12/12/2008	3/12/2009	10/10/2009	3/30/2010	10/14/2010	4/2/2011	10/2/2011
	UNIT							
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--	--
Carbon tetrachloride	µg/L	20.4	22.7	7.39	10.1	13.2	19.2	23.3
Chloroform	µg/L	9.18	7.53	3.76	5.25	6.9	6.75	7.87
cis-1,2-Dichloroethene	µg/L	9.14	7.59	4.89	9.88	14.3	15.3	17.8
Tetrachloroethene	µg/L	137	150	66.2	98.5	106	152	151
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	5.46	5.09	2.61	4.21	5.23	6.02	7.07
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
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DR2-2

Analyte	Sample Name Sample Date	DR2-2 6/9/2004	DR2-2 11/13/2004	DR2-2 2/23/2005	DR2-2 5/19/2005	DR2-2-LB-1 10/3/2006	DR2-2-LS-3 4/13/2007
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	<2	--	--	--	--	--
Carbon tetrachloride	µg/L	1.8	5	4.2	4.7	4.19	6.78
Chloroform	µg/L	0.64 J	1.5	1.5	1.2 B	1.05	1.76
cis-1,2-Dichloroethene	µg/L	<1	2.7	2.5	2.4	1.9	3.47
Tetrachloroethene	µg/L	10	36	16	40	23.2	49.2
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	2.6	4.1	2.8	3.8	3.13	3.49
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

B Estimated results possibly biased high or false positive based on
blank data

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

DR2-2

Analyte	Sample Name Sample Date	DR2-2-LA-5 10/1/2007	DR2-2 4/8/2008	DR2-2 10/9/2008	DR2-2 4/10/2009	DR2-2 10/11/2009	DR2-2 4/7/2010
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	10.8	13.4	13.8	16.2	7.75	7.46
Chloroform	µg/L	2.86	3.65	3.87	4.23	1.91	1.44
cis-1,2-Dichloroethene	µg/L	5.7	7.04	6.86	7.39	4.79	3.3
Tetrachloroethene	µg/L	76.7	124	120	159	97.3	69.2
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	4.04	4.25	3.96	3.82	4.02	3.63
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

- J Estimated results based on QC data or reported below RL
- B Estimated results possibly biased high or false positive based on blank data
- < Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
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DR2-2

Analyte	Sample Name Sample Date	DR2-2 10/12/2010	DR2-2 4/3/2011	DR2-2 10/2/2011
	UNIT			
1,1,1-Trichloroethane	µg/L	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--
Carbon tetrachloride	µg/L	4.87	4.56	4.37
Chloroform	µg/L	0.63	0.563	0.714
cis-1,2-Dichloroethene	µg/L	1.06	1.14	1.31
Tetrachloroethene	µg/L	25.6	38.9	35.9 J
trans-1,2-Dichloroethene	µg/L	<1	<1	<1
Trichloroethene	µg/L	2.45 U	3.27	2.92
Vinyl chloride	µg/L	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

- J Estimated results based on QC data or reported below RL
- B Estimated results possibly biased high or false positive based on blank data
- < Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
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DR2-3

Analyte	Sample Name Sample Date	DR2-3 5/23/2004	DR2-3 11/14/2004	DR2-3 2/24/2005	DR2-3 5/20/2005	DR2-3-LB-1 10/3/2006	DR2-3-LS-3 4/15/2007
	UNIT						
1,1,1-Trichloroethane	µg/L	<1.7	<1.4	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1.7	<1.4	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	1.4 J	--	--	--	--	--
Carbon tetrachloride	µg/L	4.1 J	5.6	6.1	4.7	4.2	4.29
Chloroform	µg/L	1.8	1.9	1.8 B	1.2 B	0.939	0.913
cis-1,2-Dichloroethene	µg/L	1.4 J	1.8	1.8	1.2	0.601 J	0.673 J
Tetrachloroethene	µg/L	47	43	33	33	22.8	23.9
trans-1,2-Dichloroethene	µg/L	<1.7	<1.4	<1	<1	<1	<1
Trichloroethene	µg/L	2	2.7	2.7	2.6	2.47	2.28
Vinyl chloride	µg/L	<1.7	<1.4	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

B Estimated results possibly biased high or false positive based on
blank data

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
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DR2-3

Analyte	Sample Name Sample Date	DR2-3-LA-5 10/1/2007	DR2-3 4/8/2008	DR2-3 10/10/2008	DR2-3 4/8/2009	DR2-3 10/10/2009	DR2-3 4/7/2010
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	4.12	4.72	4.97 J	6.66	4.62	5.88
Chloroform	µg/L	0.76	0.933	0.978 J	1.19	0.861	0.925
cis-1,2-Dichloroethene	µg/L	0.549 J	0.683 J	0.594 J	1.41	0.816 J	0.888 J
Tetrachloroethene	µg/L	20.6	28.3	22.1 J	38.9	33.3	34.2
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	2.15	2.15	2.03 J	2.47	2.09	2.03
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

- J Estimated results based on QC data or reported below RL
- B Estimated results possibly biased high or false positive based on blank data
- < Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
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DR2-3

Analyte	Sample Name Sample Date	DR2-3 10/6/2010	DR2-3 4/1/2011	DR2-3 10/2/2011
	UNIT			
1,1,1-Trichloroethane	µg/L	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--
Carbon tetrachloride	µg/L	5.81	7.38	6.7
Chloroform	µg/L	0.828	1.3	1.04
cis-1,2-Dichloroethene	µg/L	0.674 J	1.7	1.19
Tetrachloroethene	µg/L	31.6	50.3	33.5
trans-1,2-Dichloroethene	µg/L	<1	<1	<1
Trichloroethene	µg/L	2.07	2.41	2.38
Vinyl chloride	µg/L	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

- J Estimated results based on QC data or reported below RL
- B Estimated results possibly biased high or false positive based on blank data
- < Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
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DR2-4

Analyte	Sample Name Sample Date	DR2-4 5/24/2004	DR2-4 11/14/2004	DR2-4 2/22/2005	DR2-4 5/20/2005	DR2-4 10/5/2006	DR2-4 10/1/2007
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	<2	--	--	--	--	--
Carbon tetrachloride	µg/L	2.2	3.8	3.7	3.6	4.06	3.96
Chloroform	µg/L	1	0.94 J	0.84 J	0.77 B	1.06	0.973
cis-1,2-Dichloroethene	µg/L	<1	0.27 J	0.22 J	0.22 J	<1	<1
Tetrachloroethene	µg/L	12	14	12	10	7.15	9.28
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	1.9	2.2	1.9	1.7	1.61	1.54
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

- J Estimated results based on QC data or reported below RL
- B Estimated results possibly biased high or false positive based on blank data
- < Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
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DR2-4

Analyte	Sample Name Sample Date	DR2-4 10/8/2008	DR2-4 10/11/2009	DR2-4 10/13/2010	DR2-4 10/2/2011
	UNIT				
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--
Carbon tetrachloride	µg/L	3.55	3.34	4.56	4.45
Chloroform	µg/L	0.715	0.575	0.716	0.835
cis-1,2-Dichloroethene	µg/L	0.304 J	0.414 J	0.373 J	0.412 J
Tetrachloroethene	µg/L	14.5	18	19.8	13.7
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1
Trichloroethene	µg/L	1.74	1.7	1.7	1.58
Vinyl chloride	µg/L	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

- J Estimated results based on QC data or reported below RL
- B Estimated results possibly biased high or false positive based on blank data
- < Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

DR2-5

Analyte	Sample Name Sample Date	DR2-5 6/23/2004	DR2-5 11/14/2004	DR2-5 2/23/2005	DR2-5 5/23/2005	DR2-5-BL 8/31/2006	DR2-5-EBT-1 12/7/2006
	UNIT						
1,1,1-Trichloroethane	µg/L	<6.7	<5.7	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<6.7	<5.7	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	44	--	--	--	--	--
Carbon tetrachloride	µg/L	240	200	200	260	142	100
Chloroform	µg/L	82	68	64	79	46.7	35.8
cis-1,2-Dichloroethene	µg/L	44	39	41	35 J	31	27.7
Tetrachloroethene	µg/L	88	71	75	88	54.2	45.3
trans-1,2-Dichloroethene	µg/L	<6.7	<5.7	<1	<1	0.506 J	0.287 J
Trichloroethene	µg/L	29	25	32	21 J	18.3	15.4
Vinyl chloride	µg/L	<6.7	<5.7	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
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DR2-5

Analyte	Sample Name Sample Date	DR2-5-EBT-2 3/13/2007	DR2-5-EBT-3 5/29/2007	DR2-5-EBT-4 9/13/2007	DR2-5-EBT-5 12/10/2007	DR2-5 3/12/2008	DR2-5 6/18/2008
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1 J	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	130	132 J	123	138	114	103
Chloroform	µg/L	43	37.6	42.2	43.6	40.9	37.2
cis-1,2-Dichloroethene	µg/L	32.9	25.9	30.5	33.7	32	29.2
Tetrachloroethene	µg/L	48.4	41.1	46.8	57.3	49.5	41.7
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	1.62
Trichloroethene	µg/L	18.5	14.4	16	18.9	17.5	13.7
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

DR2-5

Analyte	Sample Name Sample Date	DR2-5 12/17/2008	DR2-5 3/13/2009	DR2-5 10/10/2009	DR2-5 4/7/2010	DR2-5 10/13/2010	DR2-5 4/2/2011	DR2-5 10/2/2011
	UNIT							
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--	--
Carbon tetrachloride	µg/L	112 J	206	94.4	217	25	175 J	167
Chloroform	µg/L	37.9	68.8	52	69.3	21.5	67	66.2
cis-1,2-Dichloroethene	µg/L	34.5	62	47.2	71.7	105	87.1	87.4
Tetrachloroethene	µg/L	48.9	114	47.7	98.7	21.1	68.3	86.5
trans-1,2-Dichloroethene	µg/L	1.07	<1	<1	<1	<1	<1	0.396 J
Trichloroethene	µg/L	17	35	20.7	33.2	12.1	32.3	37.8
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
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DR2-6

Analyte	Sample Name Sample Date	DR2-6 6/22/2004	DR2-6 11/13/2004	DR2-6 2/24/2005	DR2-6 5/23/2005	DR2-6-LB-1 10/17/2006	DR2-6-LS-3 4/15/2007
	UNIT						
1,1,1-Trichloroethane	µg/L	<1.7	<2	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1.7	<2	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	7.3	--	--	--	--	--
Carbon tetrachloride	µg/L	34	66	7.2	68	82.7	92
Chloroform	µg/L	16	25	1.5 B	29	27.3	33.1
cis-1,2-Dichloroethene	µg/L	7.3	13	0.69 J	16	9.97	14.1
Tetrachloroethene	µg/L	44	75	36	78	77.2	90.8
trans-1,2-Dichloroethene	µg/L	<1.7	<2	<1	<1	<1	<1
Trichloroethene	µg/L	11	13	2.2	16	15.5	16.4
Vinyl chloride	µg/L	<1.7	<2	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

- J Estimated results based on QC data or reported below RL
- B Estimated results possibly biased high or false positive based on blank data
- < Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

DR2-6

Analyte	Sample Name Sample Date	DR2-6-LA-5 10/1/2007	DR2-6 4/8/2008	DR2-6 10/8/2008	DR2-6 4/7/2009	DR2-6 10/8/2009	DR2-6 3/31/2010
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	0.862 J	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	82.8	29.2	39.6	12.9	26.4	8.59
Chloroform	µg/L	43.1	16.3	18.4	7.83	10.3	3.31
cis-1,2-Dichloroethene	µg/L	31.6	36	33	29	23.8	24.9
Tetrachloroethene	µg/L	115	48.3	70.5	24.5	44.5	20.9
trans-1,2-Dichloroethene	µg/L	<1	<1	0.552 J	<1	<1	<1
Trichloroethene	µg/L	19.7	7.55	12.4	5.33	8.79	3.81
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240, SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

B Estimated results possibly biased high or false positive based on blank data

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

DR2-6

Analyte	Sample Name Sample Date	DR2-6 10/7/2010	DR2-6 4/1/2011	DR2-6 10/3/2011
	UNIT			
1,1,1-Trichloroethane	µg/L	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--
Carbon tetrachloride	µg/L	74.4	14.9	27.1
Chloroform	µg/L	16.1	5.76	7.82
cis-1,2-Dichloroethene	µg/L	18.5	43.7	50.5
Tetrachloroethene	µg/L	52.9	22.3	32.7
trans-1,2-Dichloroethene	µg/L	<1	<1	<1
Trichloroethene	µg/L	10.1	4.09	11.7
Vinyl chloride	µg/L	<1	<1	0.302 J

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

- J Estimated results based on QC data or reported below RL
- B Estimated results possibly biased high or false positive based on
blank data
- < Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
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MW-16

Analyte	Sample Name Sample Date	MW162 6/19/1997	MW163 9/23/1997	MW164 3/24/1998	MW364 3/24/1998	MW165 10/16/1998	MW16-63-68BL 3/20/2002
	UNIT						
1,1,1-Trichloroethane	µg/L	<10	<10	<10	<10	<10	<1
1,1-Dichloroethene	µg/L	<10	<10	<10	<10	<10	<1
1,2-Dichloroethene (Total)	µg/L	<10	<10	<10	<10	<10	--
Carbon tetrachloride	µg/L	<10	<10	<10	<10	<10	<1
Chloroform	µg/L	<10	<10	<10	<10	<10	<1
cis-1,2-Dichloroethene	µg/L	--	--	--	--	--	<1
Tetrachloroethene	µg/L	<10	<10	<10	<10	<10	<1
trans-1,2-Dichloroethene	µg/L	--	--	--	--	--	<1
Trichloroethene	µg/L	<10	<10	<10	<10	<10	<1
Vinyl chloride	µg/L	<10	<10	<10	<10	<10	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

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MW-16

Analyte	Sample Name Sample Date	MW-16 5/18/2004	MW-16-LB-1 10/16/2006	MW-16 10/10/2008	MW-16 10/13/2010
	UNIT				
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	<2	--	--	--
Carbon tetrachloride	µg/L	<1 J	<1	<1	<1
Chloroform	µg/L	<1	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1
Trichloroethene	µg/L	<1	<1	<1	<1
Vinyl chloride	µg/L	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
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MW-19

Analyte	Sample Name Sample Date	MW192 6/18/1997	MW193 9/24/1997	MW194 3/26/1998	MW195 10/17/1998	MW19-90-92BL 3/18/2002	MW-19 5/5/2004
	UNIT						
1,1,1-Trichloroethane	µg/L	<10	<10	<10	<10	<1	<1
1,1-Dichloroethene	µg/L	<10	<10	<10	<10	<1	<1
1,2-Dichloroethene (Total)	µg/L	<10	<10	<10	<10	--	<2
Carbon tetrachloride	µg/L	<10	<10	<10	<10	<1	<1
Chloroform	µg/L	<10	<10	<10	<10	<1	<1
cis-1,2-Dichloroethene	µg/L	--	--	--	--	<1	<1
Tetrachloroethene	µg/L	<10	<10	<10	<10	<1	<1
trans-1,2-Dichloroethene	µg/L	--	--	--	--	<1	<1 J
Trichloroethene	µg/L	<10	<10	<10	<10	<1	<1
Vinyl chloride	µg/L	<10	<10	<10	<10	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
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MW-19

Analyte	Sample Name Sample Date	MW-19-LB-1 10/17/2006	MW-19 10/9/2008	MW-19 10/11/2010
	UNIT			
1,1,1-Trichloroethane	µg/L	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1
Chloroform	µg/L	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1
Trichloroethene	µg/L	<1	<1	<1
Vinyl chloride	µg/L	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
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MW-21

Analyte	Sample Name Sample Date	MW212 6/20/1997	MW213 9/27/1997	MW214 3/27/1998	MW215 10/19/1998	MW21NA 3/24/2000	MW21-98-103BL 3/20/2002
	UNIT						
1,1,1-Trichloroethane	µg/L	<10	<10	<10	<10	<1	<1
1,1-Dichloroethene	µg/L	<10	<10	<10	<10	0.2 J	<1
1,2-Dichloroethene (Total)	µg/L	<10	<10	<10	2 J	--	--
Carbon tetrachloride	µg/L	<10	<10	<10	<10	0.4 J	<1
Chloroform	µg/L	<10	<10	<10	<10	6	<1
cis-1,2-Dichloroethene	µg/L	--	--	--	--	1	1.9
Tetrachloroethene	µg/L	63	62	76	120	78	90
trans-1,2-Dichloroethene	µg/L	--	--	--	--	0.2 J	<1
Trichloroethene	µg/L	14	12	16	31	39	76
Vinyl chloride	µg/L	<10	<10	<10	<10	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
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MW-21

Analyte	Sample Name Sample Date	MW21-EBT- TS1-98.5-103.5 7/8/2002	MW21-EBT- TS2-98.5-103.5 7/29/2002	MW21-EBT- TS3-98.5-103.5 9/3/2002	MW21-EBT- TS4-98.5-103.5 10/7/2002	MW21-EBT- TS5-98.5-103.5 11/11/2002
	UNIT					
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1
Chloroform	µg/L	<1	<1	0.132 J	0.18 J	<1
cis-1,2-Dichloroethene	µg/L	1.7	1.27	1.02	1.63	1.32
Tetrachloroethene	µg/L	110	125	178	152	188
trans-1,2-Dichloroethene	µg/L	0.25 J	0.4 J	0.516 J	0.518 J	0.481 J
Trichloroethene	µg/L	66	53.6	38.1	49.2	37.6
Vinyl chloride	µg/L	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

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MW-21

Analyte	Sample Name Sample Date	MW21-EBT- TS6-98.5-103.5 12/16/2002	MW21-EBT- TS7-98.5-103.5 1/20/2003	MW21-EBT- TS8-98.5-103.5 2/24/2003	MW21-EBT- TS9-98.5-103.5 3/24/2003	MW21-EBT-TS10- 98.5-103.5 4/21/2003
	UNIT					
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1
Chloroform	µg/L	0.171 J	<1	<1	0.14 J	<1
cis-1,2-Dichloroethene	µg/L	1.22	0.985 J	1.68	1.28	1.12
Tetrachloroethene	µg/L	195	194	200	190	171
trans-1,2-Dichloroethene	µg/L	0.416 J	0.403 J	0.331 J	0.342 J	0.304 J
Trichloroethene	µg/L	38.3	32.4	50.7	38.6	33.8
Vinyl chloride	µg/L	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

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MW-21

Analyte	Sample Name Sample Date	MW21-EBT-TS11- 98.5-103.5 5/19/2003	MW21-EBT-TS12- 98.5-103.5 6/23/2003	MW21-EBT-TS13- 98.5-103.5 7/21/2003	MW-21 3/31/2004	MW-21 11/12/2004
	UNIT					
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<2.5	<2.5
1,1-Dichloroethene	µg/L	<1	<1	<1	<2.5	<2.5
1,2-Dichloroethene (Total)	µg/L	--	--	--	1.5 J	--
Carbon tetrachloride	µg/L	<1	<1	<1	<2.5	<2.5
Chloroform	µg/L	<1	<1	<1	<2.5	<2.5
cis-1,2-Dichloroethene	µg/L	1.25	1.36	1.25	1.5 J	1.6 J
Tetrachloroethene	µg/L	172	159	120	75	71
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<2.5	<2.5
Trichloroethene	µg/L	38.6	34	33.6	20	17
Vinyl chloride	µg/L	<1	<1	<1	<2.5	<2.5

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

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MW-21

Analyte	Sample Name Sample Date	MW-21 2/21/2005	MW-21 5/19/2005	MW-21-BL 8/8/2006	MW-21-EBT-1 12/6/2006	MW-21-EBT-2 3/7/2007	MW-21-EBT-3 6/4/2007
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	<1	<1	<0.3	0.129 J	0.126 J	<0.3
cis-1,2-Dichloroethene	µg/L	1.1	0.99 J	1.33	1.17	1.66	1.53
Tetrachloroethene	µg/L	61	53	106	129	130 J	134
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	14	13	16.3	19.8	25	28.3
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
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MW-21

Analyte	Sample Name Sample Date	MW-21-EBT-4 9/18/2007	MW-21-EBT-5 12/18/2007	MW-21 3/14/2008	MW-21 6/16/2008	MW-21 12/11/2008	MW-21 3/13/2009
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	<0.3	0.137 J	0.184 J	0.157 J	0.183 J	<0.3
cis-1,2-Dichloroethene	µg/L	1.95	2.12	1.83	2.26	2.44	2.3
Tetrachloroethene	µg/L	132	178	173	154	192	179
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	0.252 J	0.274 J	<1
Trichloroethene	µg/L	27.5	32.5	28.9	26.1	20.4	16.6
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

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MW-21

Analyte	Sample Name Sample Date	MW-21 10/5/2009	MW-21 3/30/2010	MW-21 10/6/2010	MW-21 4/1/2011	MW-21 10/6/2011
	UNIT					
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1
Chloroform	µg/L	<0.3	<0.3	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	2.3	2.27	2.39	2.75	2.27
Tetrachloroethene	µg/L	187	146	83.5	74	80
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Trichloroethene	µg/L	12.9	8.59	5.67	5.89	5.3
Vinyl chloride	µg/L	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
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MW-22

Analyte	Sample Name Sample Date	MW222 6/19/1997	MW223 9/25/1997	MW224 3/28/1998	MW225 10/19/1998	MW22NA 3/23/2000	MW22-99-104BL 3/18/2002
	UNIT						
1,1,1-Trichloroethane	µg/L	<10	<10	<10	<10	<1	<1
1,1-Dichloroethene	µg/L	<10	<10	<10	<10	<1	<1
1,2-Dichloroethene (Total)	µg/L	<10	<10	<10	<10	--	--
Carbon tetrachloride	µg/L	<10	<10	<10	<10	<1	<1
Chloroform	µg/L	<10	<10	<10	<10	<1	<1
cis-1,2-Dichloroethene	µg/L	--	--	--	--	0.5 J	<1
Tetrachloroethene	µg/L	<10	2 J	<10	<10	0.9 J	0.27 J
trans-1,2-Dichloroethene	µg/L	--	--	--	--	<1	<1
Trichloroethene	µg/L	2 J	4 J	1 J	<10	1	<1
Vinyl chloride	µg/L	<10	<10	<10	<10	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
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MW-22

Analyte	Sample Name Sample Date	MW-022 3/30/2004	MW-22-LB-1 10/18/2006	MW-22 10/9/2008	MW-22 10/12/2010
	UNIT				
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	<2	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1
Chloroform	µg/L	<1	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	<1	0.527 J	<1	<1
Tetrachloroethene	µg/L	<1	0.79 J	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1
Trichloroethene	µg/L	<1	0.531 J	0.329 J	<1
Vinyl chloride	µg/L	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

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MW-23

Analyte	Sample Name Sample Date	MW232 6/18/1997	MW233 9/26/1997	MW234 3/26/1998	MW235 10/19/1998	MW23NA 3/23/2000	MW23-95-100BL 3/18/2002
	UNIT						
1,1,1-Trichloroethane	µg/L	<10	<10	<10	<10	<1	<1
1,1-Dichloroethene	µg/L	<10	<10	<10	<10	<1	<1
1,2-Dichloroethene (Total)	µg/L	<10	<10	<10	<10	--	--
Carbon tetrachloride	µg/L	<10	<10	<10	<10	<1	<1
Chloroform	µg/L	<10	<10	<10	<10	<1	<1
cis-1,2-Dichloroethene	µg/L	--	--	--	--	<1	<1
Tetrachloroethene	µg/L	<10	<10	<10	<10	<1	<1
trans-1,2-Dichloroethene	µg/L	--	--	--	--	<1	<1
Trichloroethene	µg/L	<10	<10	<10	<10	<1	<1
Vinyl chloride	µg/L	<10	<10	<10	<10	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
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MW-23

Analyte	Sample Name Sample Date	MW-23 5/19/2004	MW-23-LB-1 10/18/2006	MW-23 10/14/2008	MW-23 10/12/2010
	UNIT				
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	<2	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1
Chloroform	µg/L	<1	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1
Trichloroethene	µg/L	<1	<1	<1	<1
Vinyl chloride	µg/L	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

< Not detected at sample reporting limit

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MW-24

Analyte	Sample Name Sample Date	MW242 6/19/1997	MW243 9/24/1997	MW244 4/2/1998	MW245 10/19/1998	MW24NA 3/22/2000	MW24-109-111BL 3/18/2002
	UNIT						
1,1,1-Trichloroethane	µg/L	<10	<10	<10	<10	<1	<1
1,1-Dichloroethene	µg/L	<10	<10	<10	<10	<1	<1
1,2-Dichloroethene (Total)	µg/L	<10	<10	<10	<10	--	--
Carbon tetrachloride	µg/L	<10	<10	<10	<10	<1	<1
Chloroform	µg/L	<10	<10	<10	<10	<1	<1
cis-1,2-Dichloroethene	µg/L	--	--	--	--	<1	<1
Tetrachloroethene	µg/L	<10	<10	<10	<10	<1	<1
trans-1,2-Dichloroethene	µg/L	--	--	--	--	<1	<1
Trichloroethene	µg/L	<10	<10	<10	<10	<1	<1
Vinyl chloride	µg/L	<10	<10	<10	<10	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
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MW-24

Analyte	Sample Name Sample Date	MW-24 5/19/2004	MW-24-LB-1 10/18/2006	MW-24 10/14/2008
	UNIT			
1,1,1-Trichloroethane	µg/L	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	<2	--	--
Carbon tetrachloride	µg/L	<1	<1	<1
Chloroform	µg/L	<1	<0.3	0.181 J
cis-1,2-Dichloroethene	µg/L	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1
Trichloroethene	µg/L	<1	<1	<1
Vinyl chloride	µg/L	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
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MW-25A

Analyte	Sample Name Sample Date	MW25A-111102 11/11/2002	MW-25A 5/12/2004	MW-25A 2/21/2005	MW-25A-LB-1 10/2/2006	MW-25A-LS-3 4/13/2007	MW-25A-LA-5 10/3/2007
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	<2	--	--	--	--
Carbon tetrachloride	µg/L	2.01	2.3	2.4	2.66	2.54	2.38
Chloroform	µg/L	0.517 J	0.57 J	0.59 B	0.608	0.507	0.531
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	5.64	8	9.3	8.61	10.3	9.24
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	0.453 J	0.6 J	0.57 J	0.352 J	0.525 J	0.433 J
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240, SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

- J Estimated results based on QC data or reported below RL
- B Estimated results possibly biased high or false positive based on blank data
- < Not detected at sample reporting limit
- UJ Undetected, reporting limit is inaccurate or imprecise

HISTORICAL CVOC RESULTS
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MW-25A

Analyte	Sample Name Sample Date	MW-25A 4/8/2008	MW-25A 10/10/2008	MW-25A 4/6/2009	MW-25A 10/7/2010	MW-25A 10/7/2011
	UNIT					
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--
Carbon tetrachloride	µg/L	2.15	1.67	1.54	2.74	2.22 UJ
Chloroform	µg/L	0.399	0.377	0.449	0.411	0.324 UJ
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	6.64	4.91	7.84	13.6	6.94
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Trichloroethene	µg/L	0.352 J	0.45 J	0.644 J	0.386 J	0.335 J
Vinyl chloride	µg/L	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

- J Estimated results based on QC data or reported below RL
- B Estimated results possibly biased high or false positive based on blank data
- < Not detected at sample reporting limit
- UJ Undetected, reporting limit is inaccurate or imprecise

HISTORICAL CVOC RESULTS
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MW-26

Analyte	Sample Name Sample Date	MW262 6/20/1997	MW263 9/26/1997	MW264 3/28/1998	MW265 10/20/1998	MW-26-106-BL 3/21/2002	MW26-EBT-TS13 7/24/2003
	UNIT						
1,1,1-Trichloroethane	µg/L	<10	<10	<10	<10	<5	<1
1,1-Dichloroethene	µg/L	<10	<10	<10	<10	<5	<1
1,2-Dichloroethene (Total)	µg/L	<10	<10	<10	<10	--	--
Carbon tetrachloride	µg/L	4 J	4 J	4 J	4 J	3.7 J	3.29
Chloroform	µg/L	1 J	<10	2 J	1 J	<5	1.11
cis-1,2-Dichloroethene	µg/L	--	--	--	--	<5	<1
Tetrachloroethene	µg/L	12	11	14	16	8.1	7.92
trans-1,2-Dichloroethene	µg/L	--	--	--	--	<5	<1
Trichloroethene	µg/L	2 J	2 J	2 J	2 J	1.6 J	1.72
Vinyl chloride	µg/L	<10	<10	<10	<10	<10	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL
B Estimated results possibly biased high or false positive based on blank data
< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
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MW-26

Analyte	Sample Name Sample Date	MW26-EBT-TS14 8/18/2003	MW-26 4/2/2004	MW-26 11/13/2004	MW-26 2/22/2005	MW-26 5/24/2005	MW-26-LB-1 10/2/2006
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<2.5	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<2.5	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	<5	--	--	--	--
Carbon tetrachloride	µg/L	5.17 J	5.3	7.2	7.5	7.2	5.24
Chloroform	µg/L	1.28	1.4 B	1.6	1.7	1.8 B	0.935
cis-1,2-Dichloroethene	µg/L	<1	0.76 J	0.64 J	0.71 J	0.57 J	0.45 J
Tetrachloroethene	µg/L	13.8	25	40	40	35	25.5
trans-1,2-Dichloroethene	µg/L	<1	<2.5	<1	<1	<1	<1
Trichloroethene	µg/L	1.9	2.1 J	2.3	2.2	2.5	1.77
Vinyl chloride	µg/L	<1	<2.5	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

B Estimated results possibly biased high or false positive based on bl

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
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MW-26

Analyte	Sample Name Sample Date	MW-26-LS-3 4/16/2007	MW-26-LA-5 10/1/2007	MW-26 4/7/2008	MW-26 10/8/2008	MW-26 4/7/2009	MW-26 10/8/2009
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	5.23	6.52	4.38	5.31	5.91	4.81
Chloroform	µg/L	1.05	1.29	0.976	1.14	1.16	0.871
cis-1,2-Dichloroethene	µg/L	0.313 J	0.41 J	<1	0.295 J	0.332 J	0.411 J
Tetrachloroethene	µg/L	20.1	29	13.7	21.1	25.3	27.3
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	1.56	1.75	1.3	1.54	1.33	1.59
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

B Estimated results possibly biased high or false positive based on bl

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-26

Analyte	Sample Name Sample Date	MW-26 3/31/2010	MW-26 10/7/2010	MW-26 3/31/2011	MW-26 10/3/2011
	UNIT				
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--
Carbon tetrachloride	µg/L	7.09	9.18	9.99	8.97
Chloroform	µg/L	1.14	1.79	1.33	1.4
cis-1,2-Dichloroethene	µg/L	0.466 J	0.606 J	1.23	1.01
Tetrachloroethene	µg/L	38.9	46.4	50.4	52.5
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1
Trichloroethene	µg/L	1.63	1.98	2.33	1.92
Vinyl chloride	µg/L	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL
B Estimated results possibly biased high or false positive based on bl
< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
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MW-34

Analyte	Sample Name Sample Date	MW342 6/19/1997	MW343 9/26/1997	MW344 3/27/1998	MW-34-Y1Q1 2/4/1999	MW-34-Y1Q2 5/25/1999
	UNIT					
1,1,1-Trichloroethane	µg/L	<10	<10	<10	<1	<1
1,1-Dichloroethene	µg/L	<10	<10	<10	<1	<1
1,2-Dichloroethene (Total)	µg/L	<10	<10	<10	--	--
Carbon tetrachloride	µg/L	<10	<10	<10	1.01	1.23
Chloroform	µg/L	2 J	1 J	<10	4.34	<1
cis-1,2-Dichloroethene	µg/L	--	--	--	1.03	<1
Tetrachloroethene	µg/L	<10	<10	<10	<1	<1
trans-1,2-Dichloroethene	µg/L	--	--	--	<1	<1
Trichloroethene	µg/L	<10	<10	<10	4.39	<1
Vinyl chloride	µg/L	<10	<10	<10	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-34

Analyte	Sample Name Sample Date	MW-34-Y1Q3 8/27/1999	MW-34-Y1Q4 11/3/1999	MW-34-Y2Q1 2/16/2000	MW-34 5/18/2000	MW-34-Y2Q3 8/24/2000
	UNIT					
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--
Carbon tetrachloride	µg/L	0.51 J	<1	1.04	1.03	0.86 J
Chloroform	µg/L	0.66 J	<1	1.98	3.49	<1
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Trichloroethene	µg/L	0.64 J	<1	0.85 J	2.15	2.55
Vinyl chloride	µg/L	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
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Main Installation - Defense Depot Memphis, Tennessee

MW-34

Analyte	Sample Name Sample Date	MW-34-Y2Q4 11/7/2000	MW-34 2/20/2001	MW-34-Y3S2-A 10/3/2001	MW-34-Y3S2-B 10/3/2001	MW-34-Y3S2-C 10/3/2001
	UNIT					
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--
Carbon tetrachloride	µg/L	<1	0.82 J	<1	<1	0.96 J
Chloroform	µg/L	<1	4.24	1.46	<1	<1
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Trichloroethene	µg/L	1.43	1.62	<1	1.48	2
Vinyl chloride	µg/L	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
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MW-34

Analyte	Sample Name	MW34-147-152BL	MW-34-3_020410	MW-34-2_020410	MW-34-1_020410
	Sample Date	3/18/2002	4/10/2002	4/10/2002	4/10/2002
	UNIT				
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--
Carbon tetrachloride	µg/L	0.7 J	<1	<1	<1
Chloroform	µg/L	3	<1	7.78	10.5
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1
Trichloroethene	µg/L	0.93 J	0.9 J	0.97 J	1.16
Vinyl chloride	µg/L	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
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MW-34

Analyte	Sample Name Sample Date	MW-34-3_021001 10/1/2002	MW-34-1_021001 10/1/2002	MW-34-2_021001 10/1/2002	MW-34-3 4/8/2003	MW-34-2 4/8/2003
	UNIT					
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1
Chloroform	µg/L	<1	2.56	1.26	4.45	7.66
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Trichloroethene	µg/L	<1	<1	<1	0.74	120
Vinyl chloride	µg/L	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
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MW-34

Analyte	Sample Name Sample Date	MW-34-1 4/8/2003	MW34-EBT-TS13 7/24/2003	MW-34-1 10/28/2003	MW-34-2 10/28/2003	MW-34-3 10/28/2003
	UNIT					
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--		--	--	--
Carbon tetrachloride	µg/L	1.08	<1	<1	<1	<1
Chloroform	µg/L	13.9	<1	3	<1	<1
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	<0.5	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Trichloroethene	µg/L	1.75	0.476 J	<1	<1	<1
Vinyl chloride	µg/L	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
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MW-34

Analyte	Sample Name Sample Date	MW-34,152 4/28/2004	MW-34,147 4/28/2004	MW-34,142 4/28/2004	MW-34,138 4/28/2004	MW-34 5/23/2004
	UNIT					
1,1,1-Trichloroethane	µg/L	<1	<1	<4	<4	<1
1,1-Dichloroethene	µg/L	<1	<1	<4	<4	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	<2
Carbon tetrachloride	µg/L	<1	0.19 J	<4	<4	0.4 J
Chloroform	µg/L	1.2	1.2	1.2 J	1.1 J	0.29 J
cis-1,2-Dichloroethene	µg/L	<1	<1	<4	<4	<1
Tetrachloroethene	µg/L	<1	<1	<4	<4	0.55 J
trans-1,2-Dichloroethene	µg/L	<1 J	<1 J	<4 J	<4 J	<1
Trichloroethene	µg/L	0.29 J	0.39 J	<4	<4	0.5 J
Vinyl chloride	µg/L	<1	<1	<4	<4	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
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MW-34

Analyte	Sample Name Sample Date	MW34,152 10/20/2004	MW34,147.3 10/20/2004	MW34,142.3 10/20/2004	MW-34 11/11/2004	MW-34 2/23/2005
	UNIT					
1,1,1-Trichloroethane	µg/L	<1 J	<1 J	<1J	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--
Carbon tetrachloride	µg/L	0.35 J	0.64 J	0.62J	0.55J	0.41J
Chloroform	µg/L	1.7	2.4	3.8	0.51B	1.1
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1	0.52J	0.37J
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Trichloroethene	µg/L	0.54 J	0.83 J	0.98J	0.49J	0.4J
Vinyl chloride	µg/L	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-34

Analyte	Sample Name Sample Date	MW-34 5/23/2005	MW-34-LB-1 10/16/2006	MW-34 10/1/2007	MW-34 11/7/2007	MW-34 10/13/2008
	UNIT					
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1 J
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1 J
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--
Carbon tetrachloride	µg/L	0.44J	0.381 J	1.05	0.479	0.826 J
Chloroform	µg/L	0.31B	0.531	0.434	0.371	0.345 J
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1 J
Tetrachloroethene	µg/L	0.46J	0.336 J	0.753 J	0.34	0.451 J
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1 J
Trichloroethene	µg/L	0.67J	1.06	1.38	1.39	0.885 J
Vinyl chloride	µg/L	<1	<1	<1	<1	<1 J

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-34

Analyte	Sample Name Sample Date	MW-34 10/8/2009	MW-34 10/6/2010	MW-34 10/9/2011
	UNIT			
1,1,1-Trichloroethane	µg/L	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--
Carbon tetrachloride	µg/L	0.978 J	0.572	0.783 J
Chloroform	µg/L	0.236 J	0.325	0.406
cis-1,2-Dichloroethene	µg/L	<1	<1	<1
Tetrachloroethene	µg/L	0.358 J	0.269 J	0.341 J
trans-1,2-Dichloroethene	µg/L	<1	<1	<1
Trichloroethene	µg/L	1.11	0.756 J	1.48
Vinyl chloride	µg/L	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
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MW-38

Analyte	Sample Name Sample Date	MW382 6/19/1997	MW383 9/25/1997	MW384 3/26/1998	MW385 10/17/1998	MW38-145-150BL 3/18/2002	MW-38 5/20/2004
	UNIT						
1,1,1-Trichloroethane	µg/L	<10	<10	<10	<10	<1	<9.1
1,1-Dichloroethene	µg/L	<10	<10	<10	<10	<1	<9.1
1,2-Dichloroethene (Total)	µg/L	<10	<10	<10	<10	--	<18
Carbon tetrachloride	µg/L	<10	<10	<10	<10	<1	<9.1
Chloroform	µg/L	<10	<10	<10	<10	<1	<9.1
cis-1,2-Dichloroethene	µg/L	--	--	--	--	<1	<9.1
Tetrachloroethene	µg/L	<10	<10	<10	<10	<1	<9.1
trans-1,2-Dichloroethene	µg/L	--	--	--	--	<1	<9.1
Trichloroethene	µg/L	<10	1 J	1 J	<10	<1	<9.1
Vinyl chloride	µg/L	<10	<10	<10	<10	<1	<9.1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-38

Analyte	Sample Name Sample Date	MW-38-LB-1 10/17/2006	MW-38-LA-5 10/1/2007	MW-38 10/8/2008	MW-38 10/5/2009	MW-38 10/9/2010	MW-38 10/3/2011
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	1.24	1.37	<1	<1	<1	<1
Chloroform	µg/L	0.513	0.646	<0.3	<0.3	0.141 J	<0.3
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	0.446 J	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	4.63	4.37	<1	<1	0.717 J	0.291 J
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
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MW-39

Analyte	Sample Name Sample Date	MW392 6/20/1997	MW393 9/26/1997	MW394 3/27/1998	MW395 10/19/1998	MW39NA 3/23/2000	MW39-107-112BL 3/18/2002
	UNIT						
1,1,1-Trichloroethane	µg/L	<10	<10	<10	<10	<1	<1
1,1-Dichloroethene	µg/L	<10	<10	<10	<10	<1	<1
1,2-Dichloroethene (Total)	µg/L	<10	<10	<10	<10	--	--
Carbon tetrachloride	µg/L	<10	<10	<10	<10	<1	<1
Chloroform	µg/L	<10	<10	<10	<10	<1	0.18 J
cis-1,2-Dichloroethene	µg/L	--	--	--	--	0.4 J	0.48 J
Tetrachloroethene	µg/L	6 J	9 J	8 J	8 J	12	8.2
trans-1,2-Dichloroethene	µg/L	--	--	--	--	<1	<1
Trichloroethene	µg/L	5 J	8 J	7 J	7 J	5	3.8
Vinyl chloride	µg/L	<10	<10	<10	<10	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

B Estimated results possibly biased high or false positive based on
blank data

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-39

Analyte	Sample Name Sample Date	MW-39 4/1/2004	MW-39 5/23/2004	MW-39 11/9/2004	MW-39 2/15/2005	MW-39 5/16/2005	MW-39-LB-1 10/17/2006
	UNIT						
1,1,1-Trichloroethane	µg/L	<3.3	<2.5	<4	<1	<1	<1
1,1-Dichloroethene	µg/L	<3.3	<2.5	<4	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	<6.7	<5	--	--	--	--
Carbon tetrachloride	µg/L	<3.3	<2.5	<4	<1	<1	<1
Chloroform	µg/L	<3.3	<2.5	<4	0.17 J	0.17 B	<0.3
cis-1,2-Dichloroethene	µg/L	<3.3	<2.5	<4	0.52 J	0.68 J	0.622 J
Tetrachloroethene	µg/L	120	95	130	79	110	149
trans-1,2-Dichloroethene	µg/L	<3.3	<2.5	<4	<1	<1	<1
Trichloroethene	µg/L	10	7.2	10	7.6	11	8.94
Vinyl chloride	µg/L	<3.3	<2.5	<4	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

B Estimated results possibly biased high or false positive based on
blank data

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-39

Analyte	Sample Name Sample Date	MW-39-LS-3 4/13/2007	MW-39-LA-5 10/1/2007	MW-39 4/9/2008	MW-39 10/9/2008	MW-39 4/9/2009	MW-39 10/10/2009
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	0.155 J	0.225 J	0.161 J	0.237 J	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	0.462 J	0.435 J	0.525 J	1.26 J	17.5	21.3
Tetrachloroethene	µg/L	106	111	100	158 J	62.9 J	50.9
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	8.17	8.81	9.3	6.15 J	11.6	13.9
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240, SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

- J Estimated results based on QC data or reported below RL
- B Estimated results possibly biased high or false positive based on blank data
- < Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-39

Analyte	Sample Name Sample Date	MW-39 3/31/2010	MW-39 10/9/2010	MW-39 4/1/2011	MW-39 10/6/2011
	UNIT				
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1
Chloroform	µg/L	<0.3	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	17.7	18.3	13.5	9.96
Tetrachloroethene	µg/L	37.4	29.1	33.8	29
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1
Trichloroethene	µg/L	12.3	13.6	12.4	10.9
Vinyl chloride	µg/L	<1	0.414 J	0.6 J	0.914 J

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

- J Estimated results based on QC data or reported below RL
- B Estimated results possibly biased high or false positive based on blank data
- < Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-39A

Analyte	Sample Name Sample Date	MW-39A 5/23/2004	MW-39A 11/9/2004	MW-39A 2/15/2005	MW-39A 5/16/2005	MW-39A-LB-1 10/17/2006	MW-39A-LS-3 4/13/2007
	UNIT						
1,1,1-Trichloroethane	µg/L	<5	<6.7	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<5	<6.7	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	<10	--	--	--	--	--
Carbon tetrachloride	µg/L	<5 J	<6.7	<1	<1	<1	<1
Chloroform	µg/L	<5	<6.7	0.22 J	0.23 B	0.251 J	0.215 J
cis-1,2-Dichloroethene	µg/L	<5	<6.7	0.59 J	0.51 J	0.418 J	0.4 J
Tetrachloroethene	µg/L	140	150	190	150	196	176
trans-1,2-Dichloroethene	µg/L	<5	<6.7	<1	<1	<1	<1
Trichloroethene	µg/L	5.8	8.3	8.7	7.9	4.68	4.04
Vinyl chloride	µg/L	<5	<6.7	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

- J Estimated results based on QC data or reported below RL
- B Estimated results possibly biased high or false positive based on blank data
- < Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-39A

Analyte	Sample Name Sample Date	MW-39A-LA-5 10/2/2007	MW-39A 4/7/2008	MW-39A 10/9/2008	MW-39A 4/9/2009	MW-39A 10/5/2009	MW-39A 4/2/2010
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	0.866 J	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	0.215 J	0.257 J	0.16 J	0.145 J	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	0.362 J	0.499 J	12.2	7.61	24.4	35.4
Tetrachloroethene	µg/L	162	234	95.7	156	79.9	43.8
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	4.4	4.63	11.8	7.21	9.49	11.4
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240, SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

B Estimated results possibly biased high or false positive based on blank data

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
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MW-39A

Analyte	Sample Name Sample Date	MW-39A 10/9/2010	MW-39A 4/1/2011	MW-39A 10/5/2011
	UNIT			
1,1,1-Trichloroethane	µg/L	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1
Chloroform	µg/L	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	36	40.8	30.9
Tetrachloroethene	µg/L	25.6	29.5	30.9
trans-1,2-Dichloroethene	µg/L	<1	<1	0.465 J
Trichloroethene	µg/L	10.9	11.4	8.74
Vinyl chloride	µg/L	<1	<1	1.06

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

- J Estimated results based on QC data or reported below RL
- B Estimated results possibly biased high or false positive based on blank data
- < Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
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MW-50

Analyte	Sample Name Sample Date	MW502 6/19/1997	MW503 9/24/1997	MW504 3/25/1998	MW505 10/16/1998	MW50-117.5-122.5BL 3/19/2002	MW-50 5/17/2004
	UNIT						
1,1,1-Trichloroethane	µg/L	<10	<10	<10	<10	<1	<1 J
1,1-Dichloroethene	µg/L	<10	<10	<10	<10	<1	<1
1,2-Dichloroethene (Total)	µg/L	<10	<10	<10	<10	--	0.52 J
Carbon tetrachloride	µg/L	<10	<10	<10	<10	<1	<1
Chloroform	µg/L	<10	<10	<10	<10	0.25 J	0.23 J
cis-1,2-Dichloroethene	µg/L	--	--	--	--	0.48 J	0.52 J
Tetrachloroethene	µg/L	<10	<10	<10	<10	<1	<1
trans-1,2-Dichloroethene	µg/L	--	--	--	--	<1	<1
Trichloroethene	µg/L	<10	<10	<10	<10	1.2	1.1
Vinyl chloride	µg/L	<10	<10	<10	<10	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-50

Analyte	Sample Name Sample Date	MW-50-LB-1 10/18/2006	MW-50 10/13/2008	MW-50 10/13/2010
	UNIT			
1,1,1-Trichloroethane	µg/L	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1
Chloroform	µg/L	0.746	0.469	0.281 J
cis-1,2-Dichloroethene	µg/L	0.483 J	0.321 J	0.297 J
Tetrachloroethene	µg/L	0.263 J	0.335 J	0.46 J
trans-1,2-Dichloroethene	µg/L	<1	<1	<1
Trichloroethene	µg/L	1.5	1.12	1.24 U
Vinyl chloride	µg/L	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
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MW-52

Analyte	Sample Name Sample Date	MW522 6/18/1997	MW523 9/24/1997	MW524 3/25/1998	MW525 10/16/1998	MW52-96.5-101.5BL 3/19/2002	MW-52 5/6/2004
	UNIT						
1,1,1-Trichloroethane	µg/L	<10	<10	<10	<10	<1	<1
1,1-Dichloroethene	µg/L	<10	<10	<10	<10	<1	<1
1,2-Dichloroethene (Total)	µg/L	1 J	<10	1 J	<10	--	0.58 J
Carbon tetrachloride	µg/L	<10	<10	<10	<10	<1	<1
Chloroform	µg/L	<10	<10	<10	<10	0.35 J	0.68 J
cis-1,2-Dichloroethene	µg/L	--	--	--	--	0.53 J	0.58 J
Tetrachloroethene	µg/L	4 J	2 J	4 J	<10	6.4	4.7
trans-1,2-Dichloroethene	µg/L	--	--	--	--	<1	<1 J
Trichloroethene	µg/L	<10	<10	1 J	<10	0.59 J	0.34 J
Vinyl chloride	µg/L	<10	<10	<10	<10	<1	<1 J

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

- J Estimated results based on QC data or reported below RL
- B Estimated results possibly biased high or false positive based on blank data
- < Not detected at sample reporting limit
- UJ Undetected, reporting limit is inaccurate or imprecise

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-52

Analyte	Sample Name Sample Date	MW-52 2/21/2005	MW-52 10/2/2006	MW-52 4/16/2007	MW-52 10/3/2007	MW-52 4/8/2008	MW-52 10/10/2008
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	0.77 B	0.899	0.828	0.75	0.861	1.12 J
cis-1,2-Dichloroethene	µg/L	0.6 J	0.639 J	0.938 J	0.993 J	0.805 J	0.866 J
Tetrachloroethene	µg/L	6.2	10.2	10.8	9.62	9.4	6.86 J
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	0.67 J	1.04	1.4	1.17	1.16	1.17 J
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240, SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

- J Estimated results based on QC data or reported below RL
- B Estimated results possibly biased high or false positive based on blank data
- < Not detected at sample reporting limit
- UJ Undetected, reporting limit is inaccurate or imprecise

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-52

Analyte	Sample Name Sample Date	MW-52 4/6/2009	MW-52 10/12/2009	MW-52 10/7/2010	MW-52 10/7/2011
	UNIT				
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1 UJ
Chloroform	µg/L	0.891	0.842	0.893	0.794 UJ
cis-1,2-Dichloroethene	µg/L	0.81 J	0.831 J	0.608 J	0.632 J
Tetrachloroethene	µg/L	5.85	6.07	5.25	6.19
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1
Trichloroethene	µg/L	1.12	1.06	0.838 J	0.98 J
Vinyl chloride	µg/L	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

- J Estimated results based on QC data or reported below RL
- B Estimated results possibly biased high or false positive based on blank data
- < Not detected at sample reporting limit
- UJ Undetected, reporting limit is inaccurate or imprecise

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-53

Analyte	Sample Name Sample Date	MW532 6/19/1997	MW533 9/26/1997	MW534 3/26/1998	MW535 10/19/1998	MW53-75-80BL 3/18/2002	MW-53 5/10/2004
	UNIT						
1,1,1-Trichloroethane	µg/L	<10	<10	<10	<10	<1	<1
1,1-Dichloroethene	µg/L	<10	<10	<10	<10	<1	<1
1,2-Dichloroethene (Total)	µg/L	<10	<10	<10	<10	--	<2
Carbon tetrachloride	µg/L	<10	<10	<10	<10	<1	<1
Chloroform	µg/L	<10	<10	<10	<10	<1	<1
cis-1,2-Dichloroethene	µg/L	--	--	--	--	<1	<1
Tetrachloroethene	µg/L	<10	<10	<10	<10	0.6 J	0.59 J
trans-1,2-Dichloroethene	µg/L	--	--	--	--	<1	<1
Trichloroethene	µg/L	<10	<10	<10	<10	<1	<1
Vinyl chloride	µg/L	<10	<10	<10	<10	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
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MW-53

Analyte	Sample Name Sample Date	MW-53-LB-1 10/17/2006	MW-53 10/13/2008	MW-53 10/13/2010
	UNIT			
1,1,1-Trichloroethane	µg/L	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1
Chloroform	µg/L	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	<1	<1	<1
Tetrachloroethene	µg/L	2.26	2.25	1.39
trans-1,2-Dichloroethene	µg/L	<1	<1	<1
Trichloroethene	µg/L	<1	<1	<1
Vinyl chloride	µg/L	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
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MW-55

Analyte	Sample Name Sample Date	MW552 6/18/1997	MW553 9/26/1997	MW554 3/25/1998	MW555 10/16/1998	MW55-71-73BL 3/18/2002	MW-55 5/20/2004
	UNIT						
1,1,1-Trichloroethane	µg/L	<10	<10	<10	<10	<1	<1
1,1-Dichloroethene	µg/L	<10	<10	<10	<10	<1	<1
1,2-Dichloroethene (Total)	µg/L	<10	<10	<10	<10	--	<2
Carbon tetrachloride	µg/L	<10	<10	<10	<10	<1	<1
Chloroform	µg/L	<10	<10	<10	<10	<1	<1
cis-1,2-Dichloroethene	µg/L	--	--	--	--	<1	<1
Tetrachloroethene	µg/L	<10	<10	<10	<10	<1	<1
trans-1,2-Dichloroethene	µg/L	--	--	--	--	<1	<1
Trichloroethene	µg/L	<10	<10	<10	<10	<1	<1
Vinyl chloride	µg/L	<10	<10	<10	<10	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
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MW-55

Analyte	Sample Name Sample Date	MW-55-LB-1 10/16/2006	MW-55 10/13/2008	MW-55 10/11/2010
	UNIT			
1,1,1-Trichloroethane	µg/L	<1	<1 J	<1
1,1-Dichloroethene	µg/L	<1	<1 J	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--
Carbon tetrachloride	µg/L	<1	<1 J	<1
Chloroform	µg/L	<0.3	<0.3 J	<0.3
cis-1,2-Dichloroethene	µg/L	<1	<1 J	<1
Tetrachloroethene	µg/L	<1	<1 J	<1
trans-1,2-Dichloroethene	µg/L	<1	<1 J	<1
Trichloroethene	µg/L	<1	<1 J	<1
Vinyl chloride	µg/L	<1	<1 J	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
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MW-62

Analyte	Sample Name Sample Date	MW625 10/26/1998	MW62NA 3/23/2000	MW62-94-95BL 3/18/2002	MW-62 2/4/2004	MW-62 4/7/2004	MW-62 5/11/2004
	UNIT						
1,1,1-Trichloroethane	µg/L	<10	<1	<1	<1	<1	<3.3
1,1-Dichloroethene	µg/L	<10	<1	1.3	<0.5	<0.5	<3.3
1,2-Dichloroethene (Total)	µg/L	<10	--	--	--	--	<6.7
Carbon tetrachloride	µg/L	<10	<1	<1	1.38	1.19	<3.3
Chloroform	µg/L	<10	0.2 J	0.18 J	0.368 J	0.431 J	<3.3
cis-1,2-Dichloroethene	µg/L	--	<1	190	0.418 J	<1	<3.3
Tetrachloroethene	µg/L	<10	<1	<1	0.318 J	0.853	<3.3
trans-1,2-Dichloroethene	µg/L	--	<1	<1	<1	<1	<3.3
Trichloroethene	µg/L	37	32	6.5	134	183	100
Vinyl chloride	µg/L	<10	<1	28	1.27	<1	<3.3

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL
B Estimated results possibly biased high or false positive based on blank data
< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
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Main Installation - Defense Depot Memphis, Tennessee

MW-62

Analyte	Sample Name Sample Date	MW-62 2/18/2005	MW-62 5/16/2005	MW-62-LB-1 10/4/2006	MW-62-LS-3 4/17/2007	MW-62-LA-5 10/3/2007	MW-62 4/9/2008
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	0.23 J	0.35 J	<1	<1	<1	0.72 J
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	0.56 J	0.84 J	0.279 J	0.703 J	0.744 J	0.525 J
Chloroform	µg/L	0.46 J	0.23 B	0.25 J	0.311	0.476	0.416
cis-1,2-Dichloroethene	µg/L	<1	1.3	0.26 J	1.16	0.33 J	<1
Tetrachloroethene	µg/L	1.1	0.34 J	<1	0.362 J	0.8 J	0.413 J
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	150	92	77.7 J	102	184	152
Vinyl chloride	µg/L	<1	1.2 J	<1	2.71	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL
B Estimated results possibly biased high or false positive based on bl
< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
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MW-62

Analyte	Sample Name Sample Date	MW-62 10/14/2008	MW-62 4/10/2009	MW-62 10/10/2009	MW-62 4/7/2010	MW-62 10/14/2010	MW-62 4/3/2011	MW-62 10/8/2011
	UNIT							
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	1.02 J	<1	<1	<1	0.557 J	0.89 J	0.851 J
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--	--
Carbon tetrachloride	µg/L	0.634 J	0.369 J	<1	0.485 J	0.577 J	0.732 J	0.563 J
Chloroform	µg/L	0.394 J	0.361	0.154 J	0.296 J	0.291 J	0.356	0.315
cis-1,2-Dichloroethene	µg/L	<1	0.424 J	0.308 J	<1	<1	<1	<1
Tetrachloroethene	µg/L	0.39 J	0.33 J	<1	0.474 J	0.447 J	0.584 J	0.504 J
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	157 J	169	59.2	178	119	153	157
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

B Estimated results possibly biased high or false positive based on bl

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
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MW-63A

Analyte	Sample Name Sample Date	MW-63A 11/11/2002	MW-63A 5/7/2004	MW-63A 2/22/2005	MW-63A 10/23/2006	MW-63A 10/2/2007	MW-63A 10/8/2008
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	<2	--	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	5.03	<1	<1	<0.3	<0.3	0.471 J
cis-1,2-Dichloroethene	µg/L	0.42 J	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	0.466 J	0.32 J	0.64 J	1.24	1.23	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	1.67	0.68 J	0.63 J	0.765 J	1.09	1.66 J
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
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MW-63A

Analyte	Sample Name Sample Date	MW-63A 10/10/2009	MW-63A 10/7/2010	MW-63A 10/6/2011
	UNIT			
1,1,1-Trichloroethane	µg/L	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1
Chloroform	µg/L	0.194 J	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	<1	<1	<1
Tetrachloroethene	µg/L	0.674 J	1.69	0.466 J
trans-1,2-Dichloroethene	µg/L	<1	<1	<1
Trichloroethene	µg/L	1.81	1.37	0.432 J
Vinyl chloride	µg/L	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
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MW-63B

Analyte	Sample Name Sample Date	MW-63B 11/11/2002	MW-63B 5/7/2004	MW-63B 2/22/2005	MW-63B-LB-1 10/23/2006	MW-63B-LA-5 10/2/2007	MW-63B 10/7/2008
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	0.709 J	<1	<1	<1	<1	1.45
1,2-Dichloroethene (Total)	µg/L	--	<2	--	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	11.1	1.8	1.5	0.604	1.44	2.9
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	0.401 J
Tetrachloroethene	µg/L	6.78	2.3	2.8	3.71	2.95	4.6
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	7.9	0.92 J	1.1	1.12	2.1	4.56
Vinyl chloride	µg/L	<0.25	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE FlagsL

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

UJ Undetected, reporting limit is inaccurate or imprecise

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
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MW-63B

Analyte	Sample Name Sample Date	MW-63B 10/10/2009	MW-63B 10/7/2010	MW-63B 10/7/2011
	UNIT			
1,1,1-Trichloroethane	µg/L	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	0.628 J	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1 UJ
Chloroform	µg/L	1.23	1.71	0.759 UJ
cis-1,2-Dichloroethene	µg/L	0.253 J	0.372 J	<1
Tetrachloroethene	µg/L	1.58	7.47	5.11
trans-1,2-Dichloroethene	µg/L	<1	<1	<1
Trichloroethene	µg/L	3.1	3.55	2.76
Vinyl chloride	µg/L	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE FlagsL

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

UJ Undetected, reporting limit is inaccurate or imprecise

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-64

Analyte	Sample Name Sample Date	MW645 10/25/1998	110BL 3/18/2002	MW-64 4/1/2004	MW-64 2/21/2005	MW-64-LB-1 10/23/2006	MW-64-LS-3 4/17/2007
	UNIT						
1,1,1-Trichloroethane	µg/L	<10	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<10	<1	0.55 J	0.35 J	<1	<1
1,2-Dichloroethene (Total)	µg/L	<10	--	<2	--	--	--
Carbon tetrachloride	µg/L	2 J	3.3	3.3	3	2.9	3.26
Chloroform	µg/L	1 J	0.85 J	0.86 B	0.92 B	1.01	0.818
cis-1,2-Dichloroethene	µg/L	--	0.45 J	0.41 J	0.31 J	0.397	0.345 J
Tetrachloroethene	µg/L	10	10	16	18	18.2	18.1
trans-1,2-Dichloroethene	µg/L	--	<1	<1	<1	<1	<1
Trichloroethene	µg/L	28	45	39	34	28.9	30.6
Vinyl chloride	µg/L	<10	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

- J Estimated results based on QC data or reported below RL
- B Estimated results possibly biased high or false positive based on blank data
- < Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-64

Analyte	Sample Name Sample Date	MW-64-LA-5 10/3/2007	MW-64 4/7/2008	MW-64 10/8/2008	MW-64 4/9/2009	MW-64 10/8/2009	MW-64 3/29/2010
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	0.934 J	1.22	0.648 J	0.527 J	0.584 J
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	2.82	3.68	3.3	3.37	2.78	3.56
Chloroform	µg/L	0.891	1.16	0.989	1.08	0.926	1.34
cis-1,2-Dichloroethene	µg/L	0.363 J	0.401 J	0.439 J	0.481 J	0.519 J	0.482 J
Tetrachloroethene	µg/L	17.1	22.5	22.3	23	23.8	23
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	30.2	35.7	36.4	38.1	41.5	38.8
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240, SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

B Estimated results possibly biased high or false positive based on blank data

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-64

Analyte	Sample Name Sample Date	MW-64 10/7/2010	MW-64 3/31/2011	MW-64 10/3/2011
	UNIT			
1,1,1-Trichloroethane	µg/L	<1	<1	<1
1,1-Dichloroethene	µg/L	0.682 J	0.637 J	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--
Carbon tetrachloride	µg/L	3.08	3.61	2.52
Chloroform	µg/L	1.17	1.45	1.41
cis-1,2-Dichloroethene	µg/L	0.423 J	0.514 J	0.544 J
Tetrachloroethene	µg/L	20.8	21.4	16.2
trans-1,2-Dichloroethene	µg/L	<1	<1	<1
Trichloroethene	µg/L	34.1	38.8	26.1
Vinyl chloride	µg/L	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

- J Estimated results based on QC data or reported below RL
- B Estimated results possibly biased high or false positive based on blank data
- < Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
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MW-66A

Analyte	Sample Name Sample Date	MW-66A 6/23/2004	MW-66A 11/13/2004	MW-66A 2/22/2005	MW-66A 5/23/2005	MW-66A-LB-1 10/18/2006	MW-66A 10/10/2008	MW-66A 10/12/2010
	UNIT							
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	<2	--	--	--	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	<1	<1	<1	<1	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	1.7	2.2	1.8	2	1.79	1.78	3.31
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-85

Analyte	Sample Name Sample Date	MW-85-1 11/30/2001	MW-85-2 11/30/2001	MW-85-3 11/30/2001	MW-85-4 11/30/2001	MW-85-5 11/30/2001	MW-85-6 11/30/2001
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	77	110	140	130	120	110
Chloroform	µg/L	27	61	66	67	63	64
cis-1,2-Dichloroethene	µg/L	10	25	30	30	28	28
Tetrachloroethene	µg/L	34	45	67	54	49	31
trans-1,2-Dichloroethene	µg/L	<1	0.49 J	0.74 J	0.62 J	0.96 J	0.58 J
Trichloroethene	µg/L	20	21	26	23	25	21
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-85

Analyte	Sample Name Sample Date	MW-85 4/2/2004	MW-85 11/14/2004	MW-85 2/22/2005	MW-85 5/20/2005	MW-85-BL 8/30/2006	MW-85-EBT-1 12/8/2006
	UNIT						
1,1,1-Trichloroethane	µg/L	<4	<3.3	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<4	<3.3	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	17	--	--	--	--	--
Carbon tetrachloride	µg/L	110	120	110	110	188	179
Chloroform	µg/L	30	36	35	38	43.8	49.5
cis-1,2-Dichloroethene	µg/L	17	21	21	24	26.1	32.2
Tetrachloroethene	µg/L	46	57	51	48	74.8	73.4
trans-1,2-Dichloroethene	µg/L	<4	<3.3	<1	<1	<1	<1
Trichloroethene	µg/L	18	22	22	24	25.1	24.4
Vinyl chloride	µg/L	<4	<3.3	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-85

Analyte	Sample Name Sample Date	MW-85-EBT-2 3/12/2007	MW-85-EBT-3 5/29/2007	MW-85-EBT-4 9/11/2007	MW-85-EBT-5 12/10/2007	MW-85 3/12/2008	MW-85 6/16/2008
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1 J	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	123	106 J	75.1	34.3	22.5	47.2
Chloroform	µg/L	36.2	34.6	44.2	51.5	38.6	8.03
cis-1,2-Dichloroethene	µg/L	23.8	18.6	37.4	51	59.2	39.1
Tetrachloroethene	µg/L	58.6	37.8	32.5	21	14.4	22
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	20.3	15.5	14.3	9.15	7	10.4
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-85

Analyte	Sample Name Sample Date	MW-85 12/17/2008	MW-85 3/17/2009	MW-85 10/12/2009	MW-85 3/30/2010	MW-85 10/14/2010	MW-85 4/3/2011	MW-85 10/9/2011
	UNIT							
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--	--
Carbon tetrachloride	µg/L	76.2	69.9	108	116 J	121	119	55.9
Chloroform	µg/L	9.84	8.51	10.4	14.9	27.1	27	16.4
cis-1,2-Dichloroethene	µg/L	7.45	7.29	1.3	1.69	9.47	17.3	21.2
Tetrachloroethene	µg/L	36.4	33.9	41	38.1	39.2	46.2	29.4
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	14.4	11.6	15.1	12.1	12.3	13.5	9.96
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-88

Analyte	Sample Name Sample Date	MW-88-1 11/30/2001	MW-88-2 11/30/2001	MW-88-3 11/30/2001	MW-88-4 11/30/2001	MW-88-5 11/30/2001	MW-88-6 11/30/2001
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	3.2	2.9	1.8	1.3	1	3.1
Chloroform	µg/L	1.1	1	0.64 J	0.51 J	0.42 J	1.2
cis-1,2-Dichloroethene	µg/L	2.1	1.8	1.1	0.81 J	0.63 J	0.94 J
Tetrachloroethene	µg/L	8.1	5.3	2.5	2.3	2.2	8.8
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	1.1	0.97 J	0.71 J	0.58 J	0.52 J	3.8
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-88

Analyte	Sample Name Sample Date	MW-88-7 11/30/2001	MW-88-8 11/30/2001	MW-88 7/8/2002	MW-88 7/29/2002	MW-88 9/3/2002	MW-88 10/7/2002
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	5.2	5.6	4.7	5.54	6.61	5.3
Chloroform	µg/L	1.9	1.9	1.9	2.1	1.86	1.81
cis-1,2-Dichloroethene	µg/L	1.4	1.5	1.5	1.37	0.93 J	1.23
Tetrachloroethene	µg/L	29	27	17	17.2	21.8	16.1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	5.6	6.1	7.1	7.55	7.72	6.9
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-88

Analyte	Sample Name Sample Date	MW-88 11/11/2002	MW-88 12/16/2002	MW-88 1/20/2003	MW-88 3/24/2003	MW-88 4/21/2003	MW-88 5/19/2003
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	5.79	6.76 J	6.98	4.63	5.61 J	5.08
Chloroform	µg/L	1.89	1.88	1.64	1.23	1.43	1.71
cis-1,2-Dichloroethene	µg/L	1.66	1.22	0.99 J	0.793 J	0.869 J	1.1
Tetrachloroethene	µg/L	23.8	22.2	19.8	13.4	18.2	14.5
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	7.66	7.41	7.24	6.49	6.65	5.34
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-88

Analyte	Sample Name Sample Date	MW-88 6/23/2003	MW-88 7/21/2003	MW-88 8/18/2003	MW-88 4/1/2004	MW-88 11/13/2004	MW-88 2/22/2005
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	1.5 J	--	--
Carbon tetrachloride	µg/L	6.17 J	8.17	7.3	7.9	6	6.2
Chloroform	µg/L	1.93	2.08	1.51	1.9 B	2.5	1.6
cis-1,2-Dichloroethene	µg/L	1.32	1.41 J	1.34	1.5	1.8	1.2
Tetrachloroethene	µg/L	19.9	21.8	21	22	22	20
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	5.98	6.26	5.37	4.8	3.6	3.8
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-88

Analyte	Sample Name Sample Date	MW-88 5/23/2005	MW-88-LB-1 10/3/2006	MW-88-LS-3 4/13/2007	MW-88-LA-5 10/4/2007	MW-88 4/7/2008	MW-88 10/6/2008
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	3.5	8.59	3.88	4.83	2.66	3.69
Chloroform	µg/L	1.1 B	1.78	0.671	0.827	0.406	0.878
cis-1,2-Dichloroethene	µg/L	0.87 J	1.3	0.588 J	0.751 J	0.325 J	1.21
Tetrachloroethene	µg/L	14	26.4	18.5	21.3	16.6	32.8
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	2.7	3.5	2.94	3.42	3.11	3.65
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-88

Analyte	Sample Name Sample Date	MW-88 4/9/2009	MW-88 10/11/2009	MW-88 3/30/2010	MW-88 10/4/2010	MW-88 3/31/2011	MW-88 10/2/2011
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	4.87	7.12	10.4	10.5	12.2	7.56
Chloroform	µg/L	0.825	1.32	1.74	1.85	1.93	1.34
cis-1,2-Dichloroethene	µg/L	0.732 J	1.53	2.15	2.54	2.34	1.68
Tetrachloroethene	µg/L	31.7	39.4	46.2	56.1	47.2	35.2
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	3.26	3.83	3.83	4.11	4.15	2.92
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-89

Analyte	Sample Name Sample Date	MW-89 3/19/2002	MW-89 3/19/2002	MW-89 5/22/2004	MW-89 2/16/2005	MW-89-LB-1 10/24/2006	MW-89-LA-5 10/1/2007
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	<2	--	--	--
Carbon tetrachloride	µg/L	<1	<1	0.49 J	0.44 J	0.7 J	0.56 J
Chloroform	µg/L	<1	<1	0.32 J	0.3 B	0.348	0.224 J
cis-1,2-Dichloroethene	µg/L	<1	<1	0.27 J	0.37 J	0.404 J	0.279 J
Tetrachloroethene	µg/L	<1	<1	0.3 J	0.29 J	0.363 J	0.644 J
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	0.89 J	<1	2	2.1	2.13	1.55
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

- J Estimated results based on QC data or reported below RL
- B Estimated results possibly biased high or false positive based on blank data
- < Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-89

Analyte	Sample Name Sample Date	MW-89 10/6/2008	MW-89 10/5/2009	MW-89 10/8/2010	MW-89 10/1/2011
	UNIT				
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--
Carbon tetrachloride	µg/L	0.252 J	<1	0.261 J	0.38 J
Chloroform	µg/L	0.156 J	0.145 J	0.212 J	0.278 J
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	0.251 J	1.43	3.68
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1
Trichloroethene	µg/L	1.1	1.27	1.63	1.95
Vinyl chloride	µg/L	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

- J Estimated results based on QC data or reported below RL
- B Estimated results possibly biased high or false positive based on blank data
- < Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-90

Analyte	Sample Name	--	--	MW-90	MW-90	MW-90-LB-1	MW-90-LS-3
	Sample Date	3/19/2002	3/19/2002	5/22/2004	2/16/2005	10/24/2006	4/16/2007
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	0.49 J	0.46 J	<1	0.526 J
1,2-Dichloroethene (Total)	µg/L	--	--	<2	--	--	--
Carbon tetrachloride	µg/L	0.65 J	0.32 J	0.3 J	0.33 J	0.466 J	0.401 J
Chloroform	µg/L	8.9	3.5	7.4	6.1	3.11	3.18
cis-1,2-Dichloroethene	µg/L	0.44 J	<1	0.29 J	0.29 J	0.294 J	0.313 J
Tetrachloroethene	µg/L	58	8.8	19	19	26.7	26.7
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	10	2.7	7.2	4.3	2.53	2.4
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-90

Analyte	Sample Name Sample Date	MW-90-LA-5 10/1/2007	MW-90 4/7/2008	MW-90 10/6/2008	MW-90 4/7/2009	MW-90 10/10/2009	MW-90 4/2/2010
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	0.579 J	1.3	0.605 J	0.931 J	<1	0.651 J
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	0.462 J	<1	0.288 J	0.268 J	<1	<1
Chloroform	µg/L	3.64	4.66	4.65	4.91	0.817	3.94
cis-1,2-Dichloroethene	µg/L	0.36 J	0.484 J	0.335 J	0.481 J	<1	0.424 J
Tetrachloroethene	µg/L	50.7	77.7	79.3	80.8	35	58.3
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	3.69	5.9	6.08	8.47	2.41	8.55
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-90

Analyte	Sample Name Sample Date	MW-90 10/8/2010	MW-90 4/1/2011	MW-90 10/1/2011
	UNIT			
1,1,1-Trichloroethane	µg/L	<1	<1	<1
1,1-Dichloroethene	µg/L	0.834 J	0.52 J	0.617 J
1,2-Dichloroethene (Total)	µg/L	--	--	--
Carbon tetrachloride	µg/L	<1	0.355 J	<1
Chloroform	µg/L	4.07	2.77	3.07
cis-1,2-Dichloroethene	µg/L	0.483 J	0.303 J	0.322 J
Tetrachloroethene	µg/L	47.9	31.1	29.2
trans-1,2-Dichloroethene	µg/L	<1	<1	<1
Trichloroethene	µg/L	8.17	5.25	5.64
Vinyl chloride	µg/L	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-92

Analyte	Sample Name Sample Date	MW-92 11/30/2001	MW-92 11/30/2001	MW-92 11/30/2001	MW-92 11/30/2001	MW-92 11/30/2001	MW-92 11/30/2001
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	18	19	18	20	20	18
Chloroform	µg/L	6.2	6.5	6.1	6.7	6.9	7.7
cis-1,2-Dichloroethene	µg/L	6.1	6.6	6.2	7	7	3.2
Tetrachloroethene	µg/L	130	160	150	160	150	110
trans-1,2-Dichloroethene	µg/L	0.21 J	0.19 J	<1	<1	<1	<1
Trichloroethene	µg/L	4.3	4.5	4.2	4.5	4.5	3
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE FLAGS:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-92

Analyte	Sample Name Sample Date	MW-92 4/1/2004	MW-92 11/14/2004	MW-92 2/24/2005	MW-92 5/20/2005	MW-92-LB-1 10/5/2006	MW-92-LS-3 4/16/2007
	UNIT						
1,1,1-Trichloroethane	µg/L	<5	<6.7	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<5	<6.7	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	12	--	--	--	--	--
Carbon tetrachloride	µg/L	24	23	25	21	27.2	7.67
Chloroform	µg/L	9 B	9.4	8.6	7.6	8.02	13.2
cis-1,2-Dichloroethene	µg/L	12	12	11	11	10.8	7.32
Tetrachloroethene	µg/L	170	180	140	160	193	159
trans-1,2-Dichloroethene	µg/L	<5	<6.7	<1	<1	<1	<1
Trichloroethene	µg/L	5.2	5.7 J	5.8	5.5	6.14	5.01
Vinyl chloride	µg/L	<5	<6.7	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE FLAGS:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-92

Analyte	Sample Name Sample Date	MW-92-LA-5 10/4/2007	MW-92 4/8/2008	MW-92 10/9/2008	MW-92 4/10/2009	MW-92 10/10/2009	MW-92 4/7/2010
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	0.984 J	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	6.45	6.3	<1	<1	<1	<1
Chloroform	µg/L	11	8.91	<0.3	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	67.5	66.2	119	119	120	123
Tetrachloroethene	µg/L	55	65.9	0.499 J	<1	1.3	4.76
trans-1,2-Dichloroethene	µg/L	<1	0.727 J	<1	<1	<1	<1
Trichloroethene	µg/L	3.12	4.22	<1	<1	1.72	1.99
Vinyl chloride	µg/L	<1	<1	<1	1.64	<1	0.791 J

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE FLAGS:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-92

Analyte	Sample Name Sample Date	MW-92 10/9/2010	MW-92 4/2/2011	MW-92 10/3/2011
	UNIT			
1,1,1-Trichloroethane	µg/L	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1
Chloroform	µg/L	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	119	86.7	64.2
Tetrachloroethene	µg/L	20.7	50.9	78.4
trans-1,2-Dichloroethene	µg/L	<1	<1	<1
Trichloroethene	µg/L	8.64	13.8	13.6
Vinyl chloride	µg/L	0.314 J	13.6 J	3.02

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE FLAGS:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-93

Analyte	Sample Name Sample Date	MW-93 11/30/2001	MW-93 11/30/2001	MW-93 11/30/2001	MW-93 11/30/2001	MW-93 11/30/2001	MW-93 11/30/2001	MW-93 11/30/2001
	UNIT							
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	0.69 J	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	2.4	7	7.5	7.1	7.3
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	<1	<1	0.19 J	0.64 J	0.84 J	0.77 J	0.86 J
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-93

Analyte	Sample Name Sample Date	MW-93 5/7/2004	MW-93-LB-1 10/18/2006	MW-93 10/4/2007	MW-93 10/13/2008	MW-93 10/11/2009	MW-93 10/14/2010
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1 J	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1 J	<1	<1
1,2-Dichloroethene (Total)	µg/L	<2	--	--	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1 J	<1	<1
Chloroform	µg/L	<1	<0.3	<0.3	<0.3 J	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1 J	<1	<1
Tetrachloroethene	µg/L	0.16 J	<1	<1	<1 J	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1 J	<1	<1
Trichloroethene	µg/L	<1	<1	<1	<1 J	<1	<1
Vinyl chloride	µg/L	<1	<1	<1	<1 J	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-94A

Analyte	Sample Name Sample Date	MW-94A 5/23/2004	MW-94A 11/10/2004	MW-94A 2/20/2005	MW-94A 5/17/2005	MW-94A-LB-1 10/24/2006	MW-94A-LS-3 4/16/2007
	UNIT						
1,1,1-Trichloroethane	µg/L	<1.4	<2	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1.4	<2	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	<2.9	--	--	--	--	--
Carbon tetrachloride	µg/L	<1.4 J	<2	<1	<1	<1	<1
Chloroform	µg/L	<1.4	<2	0.19 J	<1	0.139 J	0.196 J
cis-1,2-Dichloroethene	µg/L	0.52 J	0.71 J	0.82 J	0.68 J	0.624 J	0.532 J
Tetrachloroethene	µg/L	37	47	42	47	52.2	48
trans-1,2-Dichloroethene	µg/L	<1.4	<2	<1	<1	<1	<1
Trichloroethene	µg/L	4.2	6	6.5	5.8	5.58	6.08
Vinyl chloride	µg/L	<1.4	<2	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-94A

Analyte	Sample Name Sample Date	MW-94A-LA-5 10/4/2007	MW-94A 4/8/2008	MW-94A 10/13/2008	MW-94A 4/9/2009	MW-94A 10/12/2009	MW-94A 3/29/2010
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	0.129 J	0.138 J	0.147 J	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	0.61 J	0.42 J	1.93	3.06	2.74	3.15
Tetrachloroethene	µg/L	43.5	27.3	32.8	30	27.7	27.7
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	7.44	9.49	6.89	6.78	7.46	7.83
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-94A

Analyte	Sample Name Sample Date	MW-94A 10/11/2010	MW-94A 4/2/2011	MW-94A 10/4/2011
	UNIT			
1,1,1-Trichloroethane	µg/L	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1
Chloroform	µg/L	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	3.17	3.29	3.41
Tetrachloroethene	µg/L	30	28.8	24.9
trans-1,2-Dichloroethene	µg/L	<1	<1	<1
Trichloroethene	µg/L	6.89	6.59	6.29
Vinyl chloride	µg/L	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-96

Analyte	Sample Name Sample Date	MW-96-1 11/30/2001	MW-96-2 11/30/2001	MW-96-3 11/30/2001	MW-96-4 11/30/2001	MW-96-5 11/30/2001	MW-96-6 11/30/2001
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	1.8	<1	<1	<1	<1	<1
Chloroform	µg/L	2	2.7	3.8	5.6	6.3	5.9
cis-1,2-Dichloroethene	µg/L	0.23 J	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	19	0.88 J	0.21 J	0.3 J	0.13 J	0.14 J
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	0.19 J	<1	<1	<1	<1	<1
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

- J Estimated results based on QC data or reported below RL
- B Estimated results possibly biased high or false positive based on blank data
- < Not detected at sample reporting limit
- UJ Undetected, reporting limit is inaccurate or imprecise

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-96

Analyte	Sample Name Sample Date	MW-96 3/31/2004	MW-96 11/15/2004	MW-96 2/21/2005	MW-96 5/20/2005	MW-96 5/20/2005	MW-96-LS-3 4/16/2007
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	0.67 J	--	--	--	--	--
Carbon tetrachloride	µg/L	3.6	2.9	1.5	3.4	3.4	3.47
Chloroform	µg/L	0.69 B	0.6 J	0.5 B	0.64 B	0.64 B	0.901
cis-1,2-Dichloroethene	µg/L	0.67 J	0.52 J	0.34 J	19	0.6 J	0.814 J
Tetrachloroethene	µg/L	8.9	6.1	3.4	6.5	6.5	4.35
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	0.22 J	<1	<1	<1	<1	0.419 J
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

- J Estimated results based on QC data or reported below RL
- B Estimated results possibly biased high or false positive based on blank data
- < Not detected at sample reporting limit
- UJ Undetected, reporting limit is inaccurate or imprecise

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-96

Analyte	Sample Name Sample Date	MW-96-LA-5 10/4/2007	MW-96 10/10/2008	MW-96 4/6/2009	MW-96 10/8/2009	MW-96 10/7/2010	MW-96 10/7/2011
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	3.4	1.03 J	0.69 J	2	2.45	4.64 UJ
Chloroform	µg/L	0.739	0.663 J	0.73	0.58	0.557	0.972 UJ
cis-1,2-Dichloroethene	µg/L	0.836 J	<1	<1	<1	0.34 J	0.631 J
Tetrachloroethene	µg/L	4.33	1.46 J	3	7.78	3.99	2.42
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240, SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

- J Estimated results based on QC data or reported below RL
- B Estimated results possibly biased high or false positive based on blank data
- < Not detected at sample reporting limit
- UJ Undetected, reporting limit is inaccurate or imprecise

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-97

Analyte	Sample Name Sample Date	MW-97 11/30/2001	MW-97 11/30/2001	MW-97 11/30/2001	MW-97 11/30/2001	MW-97 11/30/2001	MW-97 11/30/2001
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

- J Estimated results based on QC data or reported below RL
- B Estimated results possibly biased high or false positive based on blank data
- < Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-97

Analyte	Sample Name Sample Date	MW-97 11/30/2001	MW-97 11/30/2001	MW-97 3/31/2004	MW-97 2/21/2005	MW-97-LB-1 10/25/2006	MW-97-LS-3 4/16/2007
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	<2	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	<1	<1	<1	0.16 B	0.228 J	0.292 J
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	<1	0.14 J	2.2	5.8	14.7	18.8
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

B Estimated results possibly biased high or false positive based on
blank data

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-97

Analyte	Sample Name Sample Date	MW-97-LA-5 10/2/2007	MW-97 4/8/2008	MW-97 10/13/2008	MW-97 4/10/2009	MW-97 10/7/2009	MW-97 3/31/2010
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	0.255 J	0.164 J	0.267 J	0.316	0.277 J	0.249 J
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	25.7	21.8	29.6	31.3	37.4	36.8
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240, SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

B Estimated results possibly biased high or false positive based on blank data

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-97

Analyte	Sample Name Sample Date	MW-97 10/9/2010	MW-97 3/31/2011	MW-97 10/5/2011
	UNIT			
1,1,1-Trichloroethane	µg/L	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1
Chloroform	µg/L	0.368	0.235 J	0.238 J
cis-1,2-Dichloroethene	µg/L	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1
Trichloroethene	µg/L	49.8	40.7	53.8
Vinyl chloride	µg/L	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

- J Estimated results based on QC data or reported below RL
- B Estimated results possibly biased high or false positive based on blank data
- < Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-98

Analyte	Sample Name Sample Date	MW-98 11/30/2001	MW-98 11/30/2001	MW-98 11/30/2001	MW-98 11/30/2001	MW-98 11/30/2001	MW-98 4/1/2004
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	<2
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	0.23 J	0.26 J	0.24 J	0.26 J	0.24 J	<1
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	1.5	3.7	7.7	5.5	4.4	17
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	0.46 J	0.9 J	0.88 J	0.89 J	0.83 J	1.2
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL
B Estimated results possibly biased high or false positive based on blank data
< Not detected at sample reporting limit
R Unusable
UJ Undetected, reporting limit is inaccurate or imprecise

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-98

Analyte	Sample Name Sample Date	MW-98 11/10/2004	MW-98 2/16/2005	MW-98 5/19/2005	MW-98 10/25/2006	MW-98 4/13/2007	MW-98 10/3/2007
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	0.17 B	<1	<1	0.133 J	0.147 J	<0.3
cis-1,2-Dichloroethene	µg/L	0.22 J	<1	<1	0.252 J	<1	<1
Tetrachloroethene	µg/L	31	33	28	33.1	35.2	36.9
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	2.2	2.1	2	2.37	2.63	2.69
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL
B Estimated results possibly biased high or false positive based on bl
< Not detected at sample reporting limit
R Unusable
UJ Undetected, reporting limit is inaccurate or imprecise

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-98

Analyte	Sample Name Sample Date	MW-98 4/7/2008	MW-98 10/10/2008	MW-98 4/10/2009	MW-98 10/7/2009	MW-98 4/5/2010	MW-98 10/9/2010
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	<0.3	<0.3	<0.3	<0.3	0.128 J	0.127 J
cis-1,2-Dichloroethene	µg/L	<1	8.6 J	0.346 J	0.304 J	0.367 J	0.502 J
Tetrachloroethene	µg/L	34.8	25.5 J	30.1	38.8	40.1	35.4
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	1.93	2.34 J	2.18	2.79	2.99	2.85
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL
B Estimated results possibly biased high or false positive based on bl
< Not detected at sample reporting limit
R Unusable
UJ Undetected, reporting limit is inaccurate or imprecise

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-98

Analyte	Sample Name Sample Date	MW-98 4/1/2011	MW-98 10/4/2011
	UNIT		
1,1,1-Trichloroethane	µg/L	<1	<1
1,1-Dichloroethene	µg/L	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--
Carbon tetrachloride	µg/L	<1	<1
Chloroform	µg/L	0.125 J	<0.3
cis-1,2-Dichloroethene	µg/L	0.448 J	0.374 J
Tetrachloroethene	µg/L	38	41.7
trans-1,2-Dichloroethene	µg/L	<1	<1
Trichloroethene	µg/L	3.44	3.05
Vinyl chloride	µg/L	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL
B Estimated results possibly biased high or false positive based on bl
< Not detected at sample reporting limit
R Unusable
UJ Undetected, reporting limit is inaccurate or imprecise

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-99

Analyte	Sample Name Sample Date	MW-99 11/30/2001	MW-99 11/30/2001	MW-99 11/30/2001	MW-99 11/30/2001	MW-99 11/30/2001	MW-99 11/30/2001
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	0.14 J	0.14 J	0.13 J	0.15 J	<1	0.15 J
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	<1	<1	<1	<1	<1	0.14 J
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-99

Analyte	Sample Name Sample Date	MW-99 11/30/2001	MW-99 11/30/2001	MW-99 11/30/2001	MW-99 11/30/2001	MW-99 5/18/2004	MW-99-LB-1 10/18/2006
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	<2	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1 J	<1
Chloroform	µg/L	0.13 J	<1	<1	<1	<1	0.22 J
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	<1	0.28 J	0.38 J	0.58 J	0.28 J	<1
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-99

Analyte	Sample Name Sample Date	MW-99-LA-5 10/3/2007	MW-99 10/9/2008	MW-99 10/7/2009	MW-99 10/12/2010
	UNIT				
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1
Chloroform	µg/L	0.2 J	0.265 J	0.238 J	0.252 J
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1
Trichloroethene	µg/L	<1	<1	<1	<1
Vinyl chloride	µg/L	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-100B

Analyte	Sample Name Sample Date	MW100B-EBT- TS1-110-115 7/8/2002	MW100B-EBT- TS2-110-115 7/29/2002	MW100B-EBT- TS3-110-115 9/3/2002	MW100B-EBT- TS4-110-115 10/7/2002	MW100B-EBT- TS5-110-115 11/11/2002
	UNIT					
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1
Chloroform	µg/L	0.19 J	<1	<1	<1	<1
cis-1,2-Dichloroethene	µg/L	1.3	0.509 J	17.7	33.4	31.4
Tetrachloroethene	µg/L	49	1.56	25.3	14.5	1.77
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	0.269 J	<1
Trichloroethene	µg/L	72	22.8	33.1	11.6	2.27
Vinyl chloride	µg/L	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-100B

Analyte	Sample Name Sample Date	MW100B-EBT- TS6-100-115 12/16/2002	MW100B-EBT- TS7 1/20/2003	MW100B-EBT- TS8-110-115 2/24/2003	MW100B-EBT- TS9-100-115 3/24/2003	MW100B-EBT- TS10-110-115 4/21/2003
	UNIT					
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1
Chloroform	µg/L	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	µg/L	24.1	26.4	28.7	59.4	61.3
Tetrachloroethene	µg/L	2.35	0.395 J	0.53	0.341 J	<0.5
trans-1,2-Dichloroethene	µg/L	0.321 J	<1	<1	0.274 J	0.323 J
Trichloroethene	µg/L	2.06	0.4 J	0.407 J	<1	<1
Vinyl chloride	µg/L	<1	2.57	0.436 J	0.968 J	0.797 J

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-100B

Analyte	Sample Name Sample Date	MW100B-EBT- TS11-110-115 5/19/2003	MW100B-EBT- TS12-110-115 6/23/2003	MW100B-EBT- TS13-110-115 7/21/2003	MW-100B 3/30/2004	MW-100B 11/12/2004	MW-100B 2/18/2005
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<5	<5	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<5	<5	0.41 J
1,2-Dichloroethene (Total)	µg/L	--	--	--	140	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<5	<5	<1
Chloroform	µg/L	<1	<1	<1	<5	<5	<1
cis-1,2-Dichloroethene	µg/L	75.2	88.2	89	140	160	120
Tetrachloroethene	µg/L	<0.5	<0.5	<0.5	<5	<5	2.8
trans-1,2-Dichloroethene	µg/L	0.333 J	0.356 J	0.312 J	<5	<5	<1
Trichloroethene	µg/L	<1	<1	<1	<5	<5	3.4
Vinyl chloride	µg/L	0.819 J	0.646 J	0.66 J	<5	<5	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-100B

Analyte	Sample Name Sample Date	MW-100B 5/18/2005	MW-100B 10/23/2006	MW-100B 4/13/2007	MW-100B 10/2/2007	MW-100B 4/7/2008	MW-100B 10/8/2008
	UNIT						
1,1,1-Trichloroethane	µg/L	<3.3	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	0.3 J	<1	<1	<1	0.746 J	0.973 J
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	<1	<0.3	<0.3	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	100	112	94.4	143	89.3	158
Tetrachloroethene	µg/L	5.8	101	98.9	29.6	64.2	0.706 J
trans-1,2-Dichloroethene	µg/L	<1	0.39 J	0.432 J	0.605 J	0.92 J	0.783 J
Trichloroethene	µg/L	6.2	43.1	39.4	12.6	31.4	0.309 J
Vinyl chloride	µg/L	0.29 J	0.716 J	0.595 J	1.02	0.836 J	1.75

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-100B

Analyte	Sample Name	MW-100B	MW-100B	MW-100B	MW-100B	MW-100B	MW-100B
	Sample Date	4/8/2009	10/7/2009	3/30/2010	10/6/2010	4/4/2011	10/7/2011
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	22.3	21.5	8.8	11	23.6	9.9
Tetrachloroethene	µg/L	<1	<1	<1	<1	3.87	28.7
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	0.269 J	0.845 J
Trichloroethene	µg/L	<1	<1	<1	<1	0.62 J	0.521 J
Vinyl chloride	µg/L	94.6	85.2 J	131 J	132	153	181 J

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-101

Analyte	Sample Name Sample Date	MW-101-89 12/21/2001	MW-101-109 12/21/2001	MW-101-124 12/21/2001	MW-101 3/30/2004	MW-101 11/11/2004	MW-101,97.5 2/18/2005
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<20	<17	<1.4
1,1-Dichloroethene	µg/L	<1	<1	<1	<20	<17	<1.4
1,2-Dichloroethene (Total)	µg/L	--	--	--	<40	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<20	<17	<1.4
Chloroform	µg/L	0.38 J	<1	0.42 J	<20	<17	0.27 B
cis-1,2-Dichloroethene	µg/L	0.34 J	0.27 J	0.39 J	<20	<17	<1.4
Tetrachloroethene	µg/L	530	450	460	450	450 J	470
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<20	<17	<1.4
Trichloroethene	µg/L	0.95 J	0.87 J	0.84 J	<20	<17	0.47 J
Vinyl chloride	µg/L	<1	<1	<1	<20	<17	<1.4

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

- J Estimated results based on QC data or reported below RL
- B Estimated results possibly biased high or false positive based on blank data
- < Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-101

Analyte	Sample Name Sample Date	MW-101,129 2/18/2005	MW-101,97.5 5/20/2005	MW-101,129 5/20/2005	MW-101T 8/25/2006	MW-101B 8/25/2006	MW-101T 12/7/2006
	UNIT						
1,1,1-Trichloroethane	µg/L	<1.3	<1.2	<1.2	<1	<1	<1
1,1-Dichloroethene	µg/L	<1.3	<1.2	<1.2	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	<1.3	<1.2	<1.2	<1	<1	<1
Chloroform	µg/L	0.31 B	0.24 B	0.23 B	0.261 J	0.233 J	0.155 J
cis-1,2-Dichloroethene	µg/L	0.3 J	0.32 J	<1.2	0.266 J	0.279 J	<1
Tetrachloroethene	µg/L	460	350	340	251	239	196
trans-1,2-Dichloroethene	µg/L	<1.3	<1.2	<1.2	<1	<1	<1
Trichloroethene	µg/L	0.43 J	<1.2	0.35 J	0.298 J	0.293 J	<1
Vinyl chloride	µg/L	<1.3	<1.2	<1.2	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

- J Estimated results based on QC data or reported below RL
- B Estimated results possibly biased high or false positive based on blank data
- < Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-101

Analyte	Sample Name Sample Date	MW-101B 12/7/2006	MW-101T 3/6/2007	MW-101B 3/6/2007	MW-101T 5/30/2007	MW-101B 5/30/2007	MW-101T 9/11/2007
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1 J	<1 J	<1
Chloroform	µg/L	0.156 J	0.164 J	0.129 J	0.148 J	0.206 J	0.162 J
cis-1,2-Dichloroethene	µg/L	<1	0.621 J	9.4	0.428 J	1.01	0.609 J
Tetrachloroethene	µg/L	192	192	193	123	135	134
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	<1	<1	0.358 J	0.364 J	0.311 J	0.46 J
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240, SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

B Estimated results possibly biased high or false positive based on blank data

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-101

Analyte	Sample Name Sample Date	MW-101B 9/11/2007	MW-101T 12/11/2007	MW-101B 12/11/2007	MW-101T 3/14/2008	MW-101B 3/14/2008	MW-101T 6/10/2008
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	0.164 J	<0.3	<0.3	0.149 J	<0.3	0.137 J
cis-1,2-Dichloroethene	µg/L	7.35	0.578	5.26	10.1	35.6	3.22
Tetrachloroethene	µg/L	147	125	120	113	81.3	101
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	0.646 J	0.305	0.843	1.37	2.17	1.09
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

- J Estimated results based on QC data or reported below RL
- B Estimated results possibly biased high or false positive based on blank data
- < Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
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MW-101

Analyte	Sample Name Sample Date	MW-101B 6/10/2008	MW-101T 12/10/2008	MW-101B 12/10/2008	MW-101T 3/11/2009	MW-101B 3/11/2009	MW-101T 10/7/2009
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	23.3	51.2	29.1	35.2	31.2	1.85
Tetrachloroethene	µg/L	78.9	16.5	47	46.9	55.6	76.5
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	4.15	1.63	0.923 J	2.16	3.53	0.746 J
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240, SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

B Estimated results possibly biased high or false positive based on blank data

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-101

Analyte	Sample Name Sample Date	MW-101B 10/7/2009	MW-101T 4/5/2010	MW-101B 4/5/2010	MW-101T 10/13/2010	MW-101B 10/13/2010	MW-101T 4/5/2011
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	2.03	0.512 J	0.498 J	<1	0.264 J	0.342 J
Tetrachloroethene	µg/L	96.2	82.9	99.6	75.6	66.4	80
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	0.809 J	0.307 J	0.325 J	<1	<1	<1
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240, SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

B Estimated results possibly biased high or false positive based on blank data

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-101

Analyte	Sample Name Sample Date	MW-101B 4/5/2011	MW-101T 10/7/2011	MW-101B 10/7/2011
	UNIT			
1,1,1-Trichloroethane	µg/L	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1
Chloroform	µg/L	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	0.253 J	<1	<1
Tetrachloroethene	µg/L	76.3	53.1	72.3
trans-1,2-Dichloroethene	µg/L	<1	<1	<1
Trichloroethene	µg/L	<1	<1	<1
Vinyl chloride	µg/L	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

- J Estimated results based on QC data or reported below RL
- B Estimated results possibly biased high or false positive based on blank data
- < Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
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MW-102B

Analyte	Sample Name Sample Date	MW-102B 5/8/2004	MW-102B 10/19/2006	MW-102B 10/3/2007	MW-102B 10/13/2008	MW-102B 10/8/2009	MW-102B 10/11/2010
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1 J	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1 J	<1	<1
1,2-Dichloroethene (Total)	µg/L	<2	--	--	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1 J	<1	<1
Chloroform	µg/L	<1	<0.3	<0.3	<0.3 J	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1 J	<1	<1
Tetrachloroethene	µg/L	<1	<1	0.308 J	<1 J	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1 J	<1	<1
Trichloroethene	µg/L	<1	<1	<1	<1 J	<1	<1
Vinyl chloride	µg/L	<1	<1	<1	<1 J	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-103

Analyte	Sample Name Sample Date	MW-103-10 11/30/2001	MW-103-9 11/30/2001	MW-103-8 11/30/2001	MW-103-7 11/30/2001	MW-103-6 11/30/2001	MW-103-5 11/30/2001
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	1.1	1.1	1.2	1.4	1.2	1.5
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	16	17	16	17	16	15
cis-1,2-Dichloroethene	µg/L	0.39 J	0.37 J	0.36 J	0.39 J	0.36 J	0.34 J
Tetrachloroethene	µg/L	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	5.8	5.6	4.9	4.9	4.6	4.4
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-103

Analyte	Sample Name Sample Date	MW-103-4 11/30/2001	MW-103-3 11/30/2001	MW-103-2 11/30/2001	MW-103-1 11/30/2001	MW-103 5/11/2004	MW-103 2/20/2005
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	1.1	1.4	<1	<1	1.3	1.6
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	0.44 J	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	14	16	4.3	1.9	12	13
cis-1,2-Dichloroethene	µg/L	0.33 J	0.39 J	<1	<1	0.44 J	0.43 J
Tetrachloroethene	µg/L	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	3.9	4.8	0.69 J	0.3 J	4	4.4
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
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MW-103

Analyte	Sample Name Sample Date	MW-103-LB-1 10/3/2006	MW-103-LA-5 10/4/2007	MW-103 10/6/2008	MW-103 10/11/2009	MW-103 10/7/2010	MW-103 10/7/2011
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	1.7	1.94	1.18	1.56	1.98	2.3
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	12.2	11.7	11.1	8.02	7.78	9.61
cis-1,2-Dichloroethene	µg/L	0.322 J	0.35 J	<1	0.314 J	0.386 J	0.439 J
Tetrachloroethene	µg/L	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	5.04	6.63	5.27	5.44	3.98	7.2
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
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MW-104

Analyte	Sample Name Sample Date	MW-104-10 11/30/2001	MW-104-9 11/30/2001	MW-104-8 11/30/2001	MW-104-7 11/30/2001	MW-104-6 11/30/2001	MW-104-5 11/30/2001
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	1.3	1.3	1.2	1.4	1.1	0.48 J
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	20	19	14	18	17	10
cis-1,2-Dichloroethene	µg/L	0.46 J	0.45 J	0.36 J	0.47 J	0.4 J	0.22 J
Tetrachloroethene	µg/L	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	24	20	19	19	16	6.4
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-104

Analyte	Sample Name Sample Date	MW-104-4 11/30/2001	MW-104-3 11/30/2001	MW-104-2 11/30/2001	MW-104-1 11/30/2001	MW-104 5/11/2004	MW-104 2/21/2005
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	1.3	1.6
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	<2	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	5	4.8	4.6	4	13	16
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	0.36 J	0.38 J
Tetrachloroethene	µg/L	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	1.3	1.1	1.1	0.89 J	11	14
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-104

Analyte	Sample Name Sample Date	MW-104 10/3/2006	MW-104 4/13/2007	MW-104 10/4/2007	MW-104 4/8/2008	MW-104 10/6/2008	MW-104 10/11/2009
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	1.68	1.83	1.98	2.57	1.24	1.54
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	15.9	13.7	12.8	13.6	11.2	8.45
cis-1,2-Dichloroethene	µg/L	0.446 J	0.589 J	0.554 J	0.63 J	0.305 J	0.473 J
Tetrachloroethene	µg/L	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	17.6	17	17.8	18.2	12.6	14.1
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-104

Analyte	Sample Name Sample Date	MW-104 10/7/2010	MW-104 10/9/2011
	UNIT		
1,1,1-Trichloroethane	µg/L	<1	<1
1,1-Dichloroethene	µg/L	1.96	2.31
1,2-Dichloroethene (Total)	µg/L	--	--
Carbon tetrachloride	µg/L	<1	<1
Chloroform	µg/L	10.2	8.78
cis-1,2-Dichloroethene	µg/L	0.477 J	0.574 J
Tetrachloroethene	µg/L	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1
Trichloroethene	µg/L	14.4	17.3
Vinyl chloride	µg/L	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-107

Analyte	Sample Name Sample Date	MW-107-147 12/21/2001	MW-107-125B 12/21/2001	MW-107 5/26/2004	MW-107,153 2/20/2005	MW-107,135.5 2/20/2005	MW-107T-LB-1 10/17/2006
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	<2	--	--	--
Carbon tetrachloride	µg/L	0.6 J	0.52 J	0.28 J	0.31 J	0.34 J	<1
Chloroform	µg/L	0.16 J	0.14 J	<1	<1	<1	<0.3
cis-1,2-Dichloroethene	µg/L	0.29 J	0.34 J	0.25 J	<1	<1	<1
Tetrachloroethene	µg/L	0.67 J	0.95 J	<1	0.21 J	0.32 J	0.564 J
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	2.6	2.8	0.7 J	0.57 J	0.63 J	0.999 J
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-107

Analyte	Sample Name Sample Date	MW-107B-LB-1 10/17/2006	MW-107B-LA-5 10/2/2007	MW-107T 4/9/2008	MW-107B 4/9/2008	MW-107T 10/10/2008	MW-107B 10/10/2008
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	<1	0.415 J	0.616 J	0.574 J	<1	<1
Chloroform	µg/L	<0.3	<0.3	0.324	0.262 J	0.287 J	0.32 J
cis-1,2-Dichloroethene	µg/L	<1	<1	0.283 J	0.265 J	0.385 J	0.449 J
Tetrachloroethene	µg/L	0.377 J	0.476 J	0.411 J	0.291 J	1.93	0.965 J
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	0.585 J	0.95 J	1.67	1.56	2.11	1.8 J
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-107

Analyte	Sample Name Sample Date	MW-107T 10/7/2009	MW-107B 10/7/2009	MW-107T 10/13/2010	MW-107B 10/13/2010	MW-107T 10/8/2011	MW-107B 10/8/2011
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	0.787 J	0.773 J	0.6	0.629	0.704 J	0.655 J
Chloroform	µg/L	0.239 J	0.238 J	0.357	0.375	0.3 J	0.308
cis-1,2-Dichloroethene	µg/L	0.257 J	<1	<1	0.252 J	<1	<1
Tetrachloroethene	µg/L	5.05	3.36	4.26	4.22	31.7	32.1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	2.51	2.12	2.17 U	2.2	2.84	2.86
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
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MW-108

Analyte	Sample Name Sample Date	MW-108 12/21/2001	MW-108 5/25/2004	MW-108 2/22/2005	MW-108-LB-1 10/24/2006	MW-108-LS-3 4/16/2007	MW-108 10/1/2007
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	0.19 J	0.618 J	0.553 J	0.657 J
1,2-Dichloroethene (Total)	µg/L	--	0.46 J	--	--	--	--
Carbon tetrachloride	µg/L	<1	0.19 J	0.26 J	<1	<1	0.461 J
Chloroform	µg/L	6.4	8.2	6.9	11.7	10.8	12.1
cis-1,2-Dichloroethene	µg/L	0.18 J	0.46 J	0.33 J	0.75 J	0.634 J	0.71 J
Tetrachloroethene	µg/L	2.6	3.3	3.3	5.41	6.03	5.03
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	6.4	15	28	32	33.5	38.4 J
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-108

Analyte	Sample Name Sample Date	MW-108 4/7/2008	MW-108 10/10/2008	MW-108 4/7/2009	MW-108 10/5/2009	MW-108 4/1/2010	MW-108 10/12/2010
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	1.1	1.13 J	<1	<1	<1	0.779 J
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	0.477 J	0.272 J	<1	<1	<1	<1
Chloroform	µg/L	11.7	12.3 J	10.1	9.44	9.62	11.9
cis-1,2-Dichloroethene	µg/L	0.647 J	0.598 J	0.674 J	0.584 J	0.627 J	0.744 J
Tetrachloroethene	µg/L	3.93	3.72 J	4.49	4.39	4.29	5.23
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	32.7	28.5 J	28.1	29.1	34.7	37.7
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-108

Analyte	Sample Name Sample Date	MW-108 4/1/2011	MW-108 10/6/2011
	UNIT		
1,1,1-Trichloroethane	µg/L	<1	<1
1,1-Dichloroethene	µg/L	0.926 J	1.19
1,2-Dichloroethene (Total)	µg/L	--	--
Carbon tetrachloride	µg/L	<1	<1
Chloroform	µg/L	11.9	11.6
cis-1,2-Dichloroethene	µg/L	0.677 J	0.619 J
Tetrachloroethene	µg/L	7.25	6.06
trans-1,2-Dichloroethene	µg/L	<1	<1
Trichloroethene	µg/L	33.1	26
Vinyl chloride	µg/L	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-113

Analyte	Sample Name Sample Date	MW-113-EBT- B-99.5-104.5 5/20/2002	MW113-EBT- TS1-99.5-104.5 7/8/2002	MW113-EBT- TS2-99.5-104.5 7/29/2002	MW113-EBT- TS3-99.5-104.5 9/3/2002	MW113-EBT- TS4-99.5-104.5 10/7/2002
	UNIT					
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--
Carbon tetrachloride	µg/L	30	50	69.1	60.7	64.5
Chloroform	µg/L	76	79	98	90.6	83.2
cis-1,2-Dichloroethene	µg/L	44	48	55.5	59.9	92.4
Tetrachloroethene	µg/L	30	45	59.3	112	80.4
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Trichloroethene	µg/L	15	20	26.7	29.4	28
Vinyl chloride	µg/L	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-113

Analyte	Sample Name Sample Date	MW113-EBT- TS5-99.5-104.5 11/11/2002	MW113-EBT- TS6-99.5-104.5 12/16/2002	MW113-EBT- TS7-99.5-104.5 1/20/2003	MW113-EBT- TS9-99.5-104.5 3/24/2003	MW113-EBT- TS10-99.5-104.5 4/21/2003
		UNIT				
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--
Carbon tetrachloride	µg/L	59	69.6 J	71.6	50.8	53.2 J
Chloroform	µg/L	78.2	87.6	93.8	70.8	81
cis-1,2-Dichloroethene	µg/L	77.3	83.4	94.1	69.7	71.2
Tetrachloroethene	µg/L	97	96.9	91.1	48.7	49.4
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	0.266 J
Trichloroethene	µg/L	31.6	32.7	30.4	23.3	21.1
Vinyl chloride	µg/L	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-113

Analyte	Sample Name Sample Date	MW113-EBT- TS11-99.5-104.5 5/19/2003	MW113-EBT- TS12-99.5-104.5 6/23/2003	MW113-EBT- TS13-99.5-104.5 7/21/2003	MW113-EBT- TS14-99.5-104.5 8/18/2003	MW-113 5/24/2004
	UNIT					
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<5
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<5
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	100
Carbon tetrachloride	µg/L	26	43.6 J	38	42.7	20
Chloroform	µg/L	84.4	89.8	89.7	80.4	27
cis-1,2-Dichloroethene	µg/L	71.6	93.9	102 J	109	100
Tetrachloroethene	µg/L	27.5	54.5	56.1	63.6	64
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<5
Trichloroethene	µg/L	15.3	19.7	19.3	18.5	8.8
Vinyl chloride	µg/L	<1	<1	<1	<1	<5

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-113

Analyte	Sample Name	MW-113	MW-113	MW-113	MW-113-LB-1	MW-113-LS-3	MW-113
	Sample Date	11/14/2004	2/24/2005	5/20/2005	10/23/2006	4/16/2007	10/4/2007
	UNIT						
1,1,1-Trichloroethane	µg/L	<5	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<5	<1 J	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	44	49	47	75.6	89.1	96.9
Chloroform	µg/L	34	39	36	33.8	35.9	36.4
cis-1,2-Dichloroethene	µg/L	110	87	78	54.9	46.3	50.2
Tetrachloroethene	µg/L	100	130	130	182	163	151
trans-1,2-Dichloroethene	µg/L	<5	<1	<1	<1	<1	<1
Trichloroethene	µg/L	15	21	22	25.9	24.1	26
Vinyl chloride	µg/L	<5	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-113

Analyte	Sample Name Sample Date	MW-113 4/7/2008	MW-113 10/8/2008	MW-113 4/9/2009	MW-113 10/10/2009	MW-113 3/30/2010	MW-113 10/14/2010
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	0.892 J	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	75.1	110	101	67.4	72.2	77.3
Chloroform	µg/L	30.9	45.3	39	29.5	26.5	24.3
cis-1,2-Dichloroethene	µg/L	37.8	59.6	57.1	49.5	37.1	29.7
Tetrachloroethene	µg/L	170	156 J	192	200	191	149
trans-1,2-Dichloroethene	µg/L	0.354 J	<1	<1	<1	<1	0.358 J
Trichloroethene	µg/L	20.2	28.9	29.5	26.7	23.2	19.9
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-113

Analyte	Sample Name	MW-113	MW-113
	Sample Date	4/3/2011	10/3/2011
	UNIT		
1,1,1-Trichloroethane	µg/L	<1	<1
1,1-Dichloroethene	µg/L	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--
Carbon tetrachloride	µg/L	63.5	65.8
Chloroform	µg/L	16.9	16.2
cis-1,2-Dichloroethene	µg/L	25.1	26.2
Tetrachloroethene	µg/L	157	189
trans-1,2-Dichloroethene	µg/L	<1	<1
Trichloroethene	µg/L	17.6	18
Vinyl chloride	µg/L	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-140

Analyte	Sample Name Sample Date	MW-140 5/27/2004	MW-140 11/10/2004	MW-140 2/17/2005	MW-140 5/17/2005	MW-140-LB-1 10/23/2006	MW-140-LA-5 10/2/2007
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	<2	--	--	--	--	--
Carbon tetrachloride	µg/L	<1	0.48 J	0.44 J	0.92 J	0.313 J	<1
Chloroform	µg/L	0.42 J	0.21 B	0.18 J	0.16 B	0.162 J	0.16 J
cis-1,2-Dichloroethene	µg/L	<1	0.28 J	0.22 J	0.22 J	<1	<1
Tetrachloroethene	µg/L	<1	0.38 J	0.42 J	0.42 J	0.424 J	0.59 J
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	0.54 J	1.4	1.4	1.3	1.49	1.19
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240, SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

B Estimated results possibly biased high or false positive based on blank data

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-140

Analyte	Sample Name Sample Date	MW-140 10/9/2008	MW-140 10/12/2009	MW-140 10/13/2010	MW-140 10/3/2011
	UNIT				
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--
Carbon tetrachloride	µg/L	<1	0.558 J	<1	0.27 J
Chloroform	µg/L	0.259 J	0.205 J	0.242 J	<0.3
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1
Tetrachloroethene	µg/L	0.933 J	0.806 J	1.18	1.19
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1
Trichloroethene	µg/L	1.41	1.25	0.971 J	1.43
Vinyl chloride	µg/L	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

- J Estimated results based on QC data or reported below RL
- B Estimated results possibly biased high or false positive based on blank data
- < Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-141

Analyte	Sample Name Sample Date	MW-141 6/24/2004	MW-141 11/9/2004	MW-141 2/15/2005	MW-141 5/17/2005	MW-141-LB-1 10/23/2006	MW-141-LS-3 4/17/2007
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	<2	--	--	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	0.82 J	<1	<1
Chloroform	µg/L	1.4	1.5 B	1.8	2 B	2.37	2.46
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	5.9	19	26	31	27.6	21.3
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	1.2	2.1	2.2	2.8	3.56	3.02
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

- J Estimated results based on QC data or reported below RL
- B Estimated results possibly biased high or false positive based on blank data
- < Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-141

Analyte	Sample Name Sample Date	MW-141 10/2/2007	MW-141 4/8/2008	MW-141 10/10/2008	MW-141 4/9/2009	MW-141 10/5/2009	MW-141 4/2/2010
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--	--	--
Carbon tetrachloride	µg/L	<1	0.418 J	<1	<1	<1	<1
Chloroform	µg/L	2.09	2.31	2.48 J	1.85	1.78	1.54
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	18	16.9	19.7 J	15.7	17.1	16.6
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	2.52	2.47	3.24 J	2.48	3.02	2.58
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240, SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

- J Estimated results based on QC data or reported below RL
- B Estimated results possibly biased high or false positive based on blank data
- < Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-141

Analyte	Sample Name Sample Date	MW-141 10/8/2010	MW-141 4/1/2011	MW-141 10/2/2011
	UNIT			
1,1,1-Trichloroethane	µg/L	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1
Chloroform	µg/L	2.06	2.67	2.68
cis-1,2-Dichloroethene	µg/L	<1	<1	<1
Tetrachloroethene	µg/L	19.6	30.4	23.7
trans-1,2-Dichloroethene	µg/L	<1	<1	<1
Trichloroethene	µg/L	3.18	3.86	3.6
Vinyl chloride	µg/L	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

- J Estimated results based on QC data or reported below RL
- B Estimated results possibly biased high or false positive based on blank data
- < Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-142

Analyte	Sample Name Sample Date	MW 142 5/26/2004	MW-142 11/9/2004	MW-142 2/16/2005	MW-142 5/17/2005	MW-142-LB-1 10/2/2006	MW-142-LA-5 10/3/2007
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	0.3 J	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	<2	--	--	--	--	--
Carbon tetrachloride	µg/L	<1	0.36 J	<1	0.77 J	<1	<1
Chloroform	µg/L	<1	0.25 B	0.17 B	<1	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	0.3 J	1.4	0.65 J	0.39 J	0.371 J	0.709 J
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

- J Estimated results based on QC data or reported below RL
- B Estimated results possibly biased high or false positive based on blank data
- < Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-142

Analyte	Sample Name Sample Date	MW-142 10/8/2008	MW-142 10/8/2009	MW-142 10/9/2010	MW-142 10/9/2011
	UNIT				
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1
Chloroform	µg/L	<0.3	0.128 J	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1
Trichloroethene	µg/L	1.61	2.74	6.71	11
Vinyl chloride	µg/L	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

- J Estimated results based on QC data or reported below RL
- B Estimated results possibly biased high or false positive based on blank data
- < Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-143

Analyte	Sample Name Sample Date	MW-143 5/5/2004	MW-143 11/11/2004	MW-143 2/17/2005	MW-143 5/17/2005	MW-143 10/19/2006	MW-143 10/13/2008
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1 J
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1 J
1,2-Dichloroethene (Total)	µg/L	<2	--	--	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1 J
Chloroform	µg/L	<1	<1	<1	<1	<0.3	<0.3 J
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1 J
Tetrachloroethene	µg/L	<1	<1 J	<1	<1	<1	<1 J
trans-1,2-Dichloroethene	µg/L	<1 J	<1	<1	<1	<1	<1 J
Trichloroethene	µg/L	<1	<1	<1	0.31 J	0.7 J	1.19 J
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1 J

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-143

Analyte	Sample Name Sample Date	MW-143 10/12/2010	MW-143 4/5/2011	MW-143 10/7/2011
	UNIT			
1,1,1-Trichloroethane	µg/L	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1
Chloroform	µg/L	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1
Trichloroethene	µg/L	8.83	10.1	12.6
Vinyl chloride	µg/L	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
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MW-197A

Analyte	Sample Name Sample Date	MW-197A-LB-1 10/24/2006	MW-197A-RW-2 1/24/2007	MW-197A-LS-3 4/13/2007	MW-197A-LQ-4 7/9/2007	MW-197A-LA-5 10/3/2007
	UNIT					
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1
Chloroform	µg/L	0.237 J	0.226 J	0.212 J	0.208 J	0.179 J
cis-1,2-Dichloroethene	µg/L	0.447 J	0.345 J	0.432 J	0.419 J	0.445 J
Tetrachloroethene	µg/L	130	125	114	103	87.3
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Trichloroethene	µg/L	2.04	2.04	2.28	2.31	2.42
Vinyl chloride	µg/L	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-197A

Analyte	Sample Name Sample Date	MW-197A 4/8/2008	MW-197A 10/6/2008	MW-197A 4/6/2009	MW-197A 10/6/2009	MW-197A 4/2/2010	MW-197A 10/11/2010
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	0.185 J	0.174 J	0.13 J	0.187 J	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	1.48	3.13	3.69	2.57	2.22	1.84
Tetrachloroethene	µg/L	82.8	54.8	42.1	33.8	34	35
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	2.42	2.4	2.09	2.04	1.81	1.72
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-197A

Analyte	Sample Name Sample Date	MW-197A 4/2/2011	MW-197A 10/5/2011
	UNIT		
1,1,1-Trichloroethane	µg/L	<1	<1
1,1-Dichloroethene	µg/L	<1	<1
Carbon tetrachloride	µg/L	<1	<1
Chloroform	µg/L	<0.3	0.126 J
cis-1,2-Dichloroethene	µg/L	1.64	1.26
Tetrachloroethene	µg/L	32.8	32.2 J
trans-1,2-Dichloroethene	µg/L	<1	<1
Trichloroethene	µg/L	1.51	1.51
Vinyl chloride	µg/L	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-197B

Analyte	Sample Name	MW-197B-LB-1	MW-197B-RW-2	MW-197B-LS-3	MW-197B-LQ-4	MW-197B-LA-5
	Sample Date	10/2/2006	1/24/2007	4/13/2007	7/9/2007	10/3/2007
	UNIT					
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1
Chloroform	µg/L	<0.3	0.227 J	0.208 J	<0.3	0.166 J
cis-1,2-Dichloroethene	µg/L	0.625 J	0.484 J	0.792 J	5.29	10.7
Tetrachloroethene	µg/L	179	166	138	134	105 J
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Trichloroethene	µg/L	8.51	8.76	9.11	10.2	10.3
Vinyl chloride	µg/L	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-197B

Analyte	Sample Name Sample Date	MW-197B 4/8/2008	MW-197B 10/6/2008	MW-197B 4/6/2009	MW-197B 10/6/2009	MW-197B 4/2/2010	MW-197B 10/11/2010
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	47.6	48.7	38.2	25.9	16.6	9.66
Tetrachloroethene	µg/L	38.6	16.7	20.2	24.1	26.8	34.1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	9.01	9.77	12.6	12.3	10.9	10.2
Vinyl chloride	µg/L	<1	<1	0.684 J	3.09	7.24	3.99 J

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-197B

Analyte	Sample Name	MW-197B	MW-197B
	Sample Date	4/2/2011	10/5/2011
	UNIT		
1,1,1-Trichloroethane	µg/L	<1	<1
1,1-Dichloroethene	µg/L	<1	<1
Carbon tetrachloride	µg/L	<1	<1
Chloroform	µg/L	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	8.85	5.27
Tetrachloroethene	µg/L	31.5	29.7
trans-1,2-Dichloroethene	µg/L	<1	<1
Trichloroethene	µg/L	10	9.4
Vinyl chloride	µg/L	3.25 J	1.86

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-198

Analyte	Sample Name Sample Date	MW-198-LB-1 10/2/2006	MW-198-RW-2 1/24/2007	MW-198-LS-3 4/15/2007	MW-198-LQ-4 7/10/2007	MW-198-LA-5 10/2/2007	MW-198 4/9/2008
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	0.657 J	<1	<1	<1	0.679 J
Carbon tetrachloride	µg/L	<1	0.915 J	0.32 J	0.267 J	0.438 J	0.326 J
Chloroform	µg/L	<0.3	0.2 J	0.146 J	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	3.28	25.8	20.2	15.1	6.53	8.36
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-198

Analyte	Sample Name Sample Date	MW-198 10/8/2008	MW-198 4/9/2009	MW-198 10/12/2009	MW-198 10/8/2010	MW-198 10/8/2011
	UNIT					
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	0.524 J	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1
Chloroform	µg/L	0.171 J	<0.3	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Trichloroethene	µg/L	10.4 J	3.73	8.39	3.14	0.44 J
Vinyl chloride	µg/L	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-199A

Analyte	Sample Name Sample Date	MW-199A-LB-1 10/23/2006	MW-199A-RW-2 1/24/2007	MW-199A-LS-3 4/13/2007	MW-199A-LQ-4 7/12/2007	MW-199A-LA-5 10/2/2007
	UNIT					
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1
Chloroform	µg/L	0.126 J	<0.3	<0.3	0.132 J	<0.3
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1	0.361 J	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Trichloroethene	µg/L	<1	<1	<1	<1	<1
Vinyl chloride	µg/L	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-199A

Analyte	Sample Name Sample Date	MW-199A 10/9/2008	MW-199A 10/5/2009	MW-199A 10/7/2010	MW-199A 10/3/2011
	UNIT				
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1
Chloroform	µg/L	0.137 J	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1
Trichloroethene	µg/L	<1	0.419 J	0.968 J	0.963 J
Vinyl chloride	µg/L	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-199B

Analyte	Sample Name Sample Date	MW-199B-LB-1 10/23/2006	MW-199B-RW-2 1/24/2007	MW-199B-LS-3 4/13/2007	MW-199B-LQ-4 7/11/2007	MW-199B-LA-5 10/2/2007
	UNIT					
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	0.581 J	<1
Carbon tetrachloride	µg/L	0.719 J	0.949 J	0.555 J	1.05	0.376 J
Chloroform	µg/L	0.197 J	0.179 J	0.232 J	0.279 J	0.146 J
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	0.632 J	0.497 J	0.715 J	0.517 J	0.393 J
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Trichloroethene	µg/L	99.2 J	115	115	136	78.6
Vinyl chloride	µg/L	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-199B

Analyte	Sample Name Sample Date	MW-199B 4/8/2008	MW-199B 10/9/2008	MW-199B 4/9/2009	MW-199B 10/7/2009	MW-199B 4/2/2010	MW-199B 10/8/2010
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	0.773 J	0.996 J	<1	<1	<1	<1
Carbon tetrachloride	µg/L	0.6 J	<1	0.476 J	0.324 J	0.378 J	0.287 J
Chloroform	µg/L	0.177 J	0.24 J	0.217 J	0.158 J	0.154 J	<0.3
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	23.4	0.612 J	0.494 J	0.694 J	0.511 J	0.707 J
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	56.5	124	115	93.2	87.5	53.8
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-199B

Analyte	Sample Name Sample Date	MW-199B 4/2/2011	MW-199B 10/3/2011
	UNIT		
1,1,1-Trichloroethane	µg/L	<1	<1
1,1-Dichloroethene	µg/L	<1	<1
Carbon tetrachloride	µg/L	0.545 J	0.324 J
Chloroform	µg/L	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	<1	<1
Tetrachloroethene	µg/L	0.567 J	0.881 J
trans-1,2-Dichloroethene	µg/L	<1	<1
Trichloroethene	µg/L	71.5	59.7
Vinyl chloride	µg/L	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-200

Analyte	Sample Name Sample Date	MW-200A-LB-1 10/25/2006	MW-200-RW-2 1/24/2007	MW-200-LS-3 4/15/2007	MW-200-LQ-4 7/10/2007	MW-200-LA-5 10/3/2007	MW-200-LQ-6 4/8/2008
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	<0.3	<0.3	0.146 J	<0.3	<0.3	0.206 J
cis-1,2-Dichloroethene	µg/L	0.466 J	0.303 J	0.532 J	0.543 J	0.419 J	0.345 J
Tetrachloroethene	µg/L	72	81.9	70.2	62.9	73.9	132
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	5.47	5.94	7.49	7.49	6.88	4.13
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-200

Analyte	Sample Name Sample Date	MW-200-LB-8 10/6/2008	MW-200 4/7/2009	MW-200 10/10/2009	MW-200 3/29/2010	MW-200 10/11/2010	MW-200 4/1/2011	MW-200 10/4/2011
	UNIT							
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	0.175 J	<0.3	<0.3	0.157 J	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	0.531 J	5.68	11.6	8.57	16.7	13	15.3
Tetrachloroethene	µg/L	125	74.7	25.6	23.8	31.5	31.8	25.6
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	3.42	4.82	8.04	7.99	7.24	6.66	5.05
Vinyl chloride	µg/L	<1	<1	<1	<1	<1 J	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-202A

Analyte	Sample Name Sample Date	MW-202A-LB-1 10/23/2006	MW-202A-RW-2 1/24/2007	MW-202A-LS-3 4/16/2007	MW-202A-LQ-4 7/11/2007	MW-202A-LA-5 10/1/2007
	UNIT					
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	0.365 J	0.749 J	0.382 J	0.904 J	0.552 J
Chloroform	µg/L	0.232 J	0.198 J	0.213 J	0.249 J	0.238 J
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	0.251 J	<1
Tetrachloroethene	µg/L	0.257 J	0.326 J	0.316 J	0.371 J	0.672 J
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Trichloroethene	µg/L	1.85	1.59	1.88	2.22	1.66
Vinyl chloride	µg/L	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-202A

Analyte	Sample Name Sample Date	MW-202A 4/7/2008	MW-202A 10/7/2008	MW-202A 4/7/2009	MW-202A 10/6/2009	MW-202A 10/9/2010	MW-202A 10/1/2011
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	0.695 J	<1	<1	0.466 J	<1	0.265 J
Chloroform	µg/L	0.225 J	0.17 J	0.171 J	<0.3	0.21 J	0.222 J
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	0.443 J	0.262 J	0.399 J	0.294 J	1	1.56
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	1.77	1.21	1.35	1.45	1.43	1.5
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-202B

Analyte	Sample Name	MW-202B-LB-1	MW-202B-RW-2	MW-202B-LS-3	MW-202B-LQ-4	MW-202B-LA-5
	Sample Date	10/24/2006	1/24/2007	4/16/2007	7/11/2007	10/2/2007
	UNIT					
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1
Chloroform	µg/L	0.778	0.857	0.752	1.05	0.907
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	5.51	8.42	8.6	8.16	3.82
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Trichloroethene	µg/L	0.811 J	1.27	1.46	2.2	1.36
Vinyl chloride	µg/L	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-202B

Analyte	Sample Name Sample Date	MW-202B 4/9/2008	MW-202B 10/7/2008	MW-202B 4/7/2009	MW-202B 10/6/2009	MW-202B 4/6/2010	MW-202B 10/9/2010
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	0.263 J	<1	<1	0.506 J	<1	<1
Chloroform	µg/L	1.46	1.92	1.96	1.92	1.81	1.46
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	0.299 J
Tetrachloroethene	µg/L	16.3	21.3	19.5	18.6	21.4	23.1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	2.21	2.57	3.3	3.79	3.78	3.43
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-202B

Analyte	Sample Name Sample Date	MW-202B 4/2/2011	MW-202B 10/1/2011
	UNIT		
1,1,1-Trichloroethane	µg/L	<1	<1
1,1-Dichloroethene	µg/L	<1	<1
Carbon tetrachloride	µg/L	0.45 J	0.31 J
Chloroform	µg/L	1.24	0.712
cis-1,2-Dichloroethene	µg/L	0.477 J	0.411 J
Tetrachloroethene	µg/L	26.6	27.1
trans-1,2-Dichloroethene	µg/L	<1	<1
Trichloroethene	µg/L	4.98	5.13
Vinyl chloride	µg/L	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-203A

Analyte	Sample Name	MW-203A	MW-203A-LQ-4	MW-203A-LA-5	MW-203A-LQ-6	MW-203A	MW-203A
	Sample Date	4/17/2007	7/9/2007	10/3/2007	1/8/2008	4/8/2008	10/6/2008
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1 J	<1	<1	<1	<1
Chloroform	µg/L	<0.3	<0.3	0.128 J	0.172 J	0.206 J	0.201 J
cis-1,2-Dichloroethene	µg/L	<1	<1	0.294 J	0.972 J	1.14	1.2
Tetrachloroethene	µg/L	62.6	69.1 J	86.8	108	144	143
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	1.27	1.46	1.69	1.93	2.03	2.11
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240, SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-203A

Analyte	Sample Name Sample Date	MW-203A 4/9/2009	MW-203A 10/6/2009	MW-203A 4/2/2010	MW-203A 10/9/2010	MW-203A 4/3/2011	MW-203A 10/5/2011
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	0.203 J	0.158 J	0.185 J	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	1.68	3.38	4.11	5.32	5.27	5.75
Tetrachloroethene	µg/L	170	149	162	143	147	147
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	2.23	2.34	2.43	2.55	2.8	2.72
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-203B

Analyte	Sample Name	MW-203B	MW-203B-LQ-4	MW-203B-LA-5	MW-203B-LQ-6	MW-203B	MW-203B
	Sample Date	4/27/2007	7/9/2007	10/3/2007	1/8/2008	4/8/2008	10/6/2008
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1 J	<1	<1	<1	<1	<1
Chloroform	µg/L	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	50.1	63.5	55	58.6	59.7	39.2
Tetrachloroethene	µg/L	38.4	21.1	13.9	9.39	10.8	19
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	8.97	7.68	7.92	6.31	6.25	11.3
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	0.358 J

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240, SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-203B

Analyte	Sample Name Sample Date	MW-203B 4/9/2009	MW-203B 10/6/2009	MW-203B 4/2/2010	MW-203B 10/11/2010	MW-203B 4/3/2011	MW-203B 10/5/2011
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	26.6	14.4	9.53	6.65	6.15	4.81
Tetrachloroethene	µg/L	21.1	24.8	31.8	31.9	30.6	23.2
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	9.15	9.16	6.74	6.76	7.64	8.72
Vinyl chloride	µg/L	7.12	5.14	5.51	5.11 J	3.01	2.74

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-204A

Analyte	Sample Name	MW-204A	MW-204A-LQ-4	MW-204A-LA-5	MW-204A-LQ-6	MW-204A	MW-204A
	Sample Date	4/23/2007	7/10/2007	10/2/2007	1/8/2008	4/7/2008	10/6/2008
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	0.763 J	0.785 J	0.846 J	0.922 J	1.05	0.769 J
Tetrachloroethene	µg/L	38.8	36.2	37	42.7	44.6 J	42
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	1.19	1.17	1.06	1.12	1.04	0.852 J
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-204A

Analyte	Sample Name Sample Date	MW-204A 4/7/2009	MW-204A 10/7/2009	MW-204A 4/6/2010	MW-204A 10/8/2010	MW-204A 4/2/2011	MW-204A 10/4/2011
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	1.21	6.45	6.88	4.36	2.7	1.53
Tetrachloroethene	µg/L	47.4	39.2 J	37.3	47.2	46.8	50.2
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	0.981 J	1.21	1.79	1.83	1.48	0.91 J
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-204B

Analyte	Sample Name	MW-204B	MW-204B-LQ-4	MW-204B-LA-5	MW-204B-LQ-6	MW-204B	MW-204B
	Sample Date	4/23/2007	7/11/2007	10/2/2007	1/8/2008	4/9/2008	10/6/2008
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	<0.3	0.125 J	<0.3	<0.3	0.13	<0.3
cis-1,2-Dichloroethene	µg/L	0.906 J	0.916 J	1.05	2.3	1.39	1.26
Tetrachloroethene	µg/L	26.3	17.2	19	24.5	20.2	29.4
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	2.37	4.88	4.7	3.2	4.27	2.53
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240, SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-204B

Analyte	Sample Name Sample Date	MW-204B 4/8/2009	MW-204B 10/6/2009	MW-204B 4/6/2010	MW-204B 10/11/2010	MW-204B 4/2/2011	MW-204B 10/4/2011
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	<0.3	0.177 J	<0.3	<0.3	0.166 J	<0.3
cis-1,2-Dichloroethene	µg/L	1.29	6.13	2.33	1.11	1.25	0.793 J
Tetrachloroethene	µg/L	16.3	14.9	23.5	15.7	13.9	27.8
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	4.98	4.95	3.71	5.35	5.92	2.99
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-205A

Analyte	Sample Name	MW-205A	MW-205A-LQ-4	MW-205A-LA-5	MW-205A-LQ-6	MW-205A	MW-205A
	Sample Date	4/23/2007	7/10/2007	10/3/2007	1/8/2008	4/7/2008	10/9/2008
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	0.238 J	0.222 J	0.185 J	0.165 J	0.212 J	0.223 J
cis-1,2-Dichloroethene	µg/L	0.337 J	0.465 J	0.538 J	3.12	1.14	9.58 J
Tetrachloroethene	µg/L	102	180	145	153	141	126 J
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	3.69	5.84	6.25	6.14	6.02	7.56 J
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-205A

Analyte	Sample Name Sample Date	MW-205A 4/10/2009	MW-205A 10/5/2009	MW-205A 4/6/2010	MW-205A 10/8/2010	MW-205A 4/2/2011	MW-205A 10/4/2011
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	0.132 J	<0.3	<0.3	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	16.8	23.5	31.8	25.2	24.6	13.4
Tetrachloroethene	µg/L	82.6	53.1	32.3	39.1	30.1	30.9
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	7.12	7.28	7.77	9.03	9.18	8.03
Vinyl chloride	µg/L	<1	<1	<1	1.2	2.34 J	1.83

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-205B

Analyte	Sample Name Sample Date	MW-205B 4/23/2007	MW-205B-LQ-4 7/10/2007	MW-205B-LA-5 10/4/2007	MW-205B-LQ-6 1/8/2008	MW-205B 4/9/2008	MW-205B 10/9/2008
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	0.891 J
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	0.206 J	<0.3	0.15 J	0.146 J	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	0.546 J	0.616 J	4.41	26.4	22.4	43
Tetrachloroethene	µg/L	129	149	100	82.3	31.2	24.9
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	7.2	9.22	8.74	9.75	5.15	8.48
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-205B

Analyte	Sample Name Sample Date	MW-205B 4/7/2009	MW-205B 10/7/2009	MW-205B 4/6/2010	MW-205B 10/11/2010	MW-205B 4/2/2011	MW-205B 10/4/2011
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	38.8	29.5	19.8	13.5	10.4	6.46
Tetrachloroethene	µg/L	19.7	24.4	24	30.8	31.3	28.9
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	9.36	11.8	10.9	10.7	9.9	8.38
Vinyl chloride	µg/L	<1	2.06 J	5.05	4.59 J	2.6 J	1.73

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-206A

Analyte	Sample Name	MW-206A	MW-206A-LQ-4	MW-206A-LA-5	MW-206A-LQ-6	MW-206A	MW-206A
	Sample Date	4/15/2007	7/11/2007	10/3/2007	1/8/2008	4/9/2008	10/13/2008
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	0.155 J	<0.3	0.166 J	0.174 J	0.173 J	0.134 J
cis-1,2-Dichloroethene	µg/L	0.607 J	0.765 J	0.762 J	0.717 J	0.78 J	5.2
Tetrachloroethene	µg/L	76.6	99.2	76.4	114	96.5	80.5
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	9.81	10.1	12.4	12	13.9	13.2
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
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MW-206A

Analyte	Sample Name Sample Date	MW-206A 4/7/2009	MW-206A 10/7/2009	MW-206A 4/6/2010	MW-206A 10/8/2010	MW-206A 4/2/2011	MW-206A 10/4/2011
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	14.2	18.6	14.8	13.5	15.6	7.81
Tetrachloroethene	µg/L	46.5	25.6	22.3	15.6	18.1	14
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	12.6	12.3	11.5	12.2	13.9	12.5
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
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MW-206B

Analyte	Sample Name	MW-206B	MW-206B-LQ-4	MW-206B-LA-5	MW-206B-LQ-6	MW-206B	MW-206B
	Sample Date	4/15/2007	7/11/2007	10/3/2007	1/9/2008	4/9/2008	10/13/2008
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	0.139 J	0.14 J	0.148 J	0.147 J	0.136 J	<0.3
cis-1,2-Dichloroethene	µg/L	0.582 J	0.722 J	0.698 J	0.688 J	2.51	7.85
Tetrachloroethene	µg/L	57.2	77.5	64.9	69.5	69.1	36.4
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	8.94	11	11	11.7	11.5	9.91
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240, SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
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MW-206B

Analyte	Sample Name Sample Date	MW-206B 4/7/2009	MW-206B 10/7/2009	MW-206B 4/6/2010	MW-206B 10/8/2010	MW-206B 4/2/2011	MW-206B 10/4/2011
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	9.78	11	6.56	6.68	5	2.38
Tetrachloroethene	µg/L	22.8	17.3	12.3	12.3	13.7	15.4
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	9.31	9.57	7.5	8.81	9.57	8.08
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
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MW-207A

Analyte	Sample Name	MW-207A	MW-207A-LQ-4	MW-207A-LA-5	MW-207A-LQ-6	MW-207A	MW-207A
	Sample Date	4/16/2007	7/10/2007	10/3/2007	1/9/2008	4/9/2008	10/7/2008
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	0.867 J	<1
Carbon tetrachloride	µg/L	<1	<1	<1	0.44 J	<1	<1
Chloroform	µg/L	5.86	9.99	8.28	10.6	9.12	9.13
cis-1,2-Dichloroethene	µg/L	0.468 J	0.387 J	0.479 J	0.382 J	0.475 J	0.476 J
Tetrachloroethene	µg/L	7.92	8.32	10.3	10.5	12.1	13.7
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	21.4	18.6	21.6	24.3	24.2	26.9
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
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MW-207A

Analyte	Sample Name Sample Date	MW-207A 4/10/2009	MW-207A 10/5/2009	MW-207A 4/1/2010	MW-207A 10/14/2010	MW-207A 4/1/2011	MW-207A 10/2/2011
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	0.527 J	0.849 J	0.885 J	1.31
Carbon tetrachloride	µg/L	<1	<1	<1	<1	0.307 J	<1
Chloroform	µg/L	10.3	9.72	9.02	12.1	11	11.8
cis-1,2-Dichloroethene	µg/L	0.561 J	0.974 J	0.893 J	0.768 J	0.627 J	0.592 J
Tetrachloroethene	µg/L	9.75	11	10.7	18.1	18.6	14.4
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	47.4	52.7	46.4	36.2	27.9	21.3
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
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MW-207B

Analyte	Sample Name	MW-207B	MW-207B-LQ-4	MW-207B-LA-5	MW-207B-LQ-6	MW-207B	MW-207B
	Sample Date	4/16/2007	7/11/2007	10/3/2007	1/9/2008	4/9/2008	10/7/2008
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	0.935 J	<1
Carbon tetrachloride	µg/L	1.36	1.91	1.37	1.13	1.22	0.916 J
Chloroform	µg/L	3.09	2.54	1.9	1.26	1.27	1.41
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	35.7	32.5	23.7	13	13.1	18
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	12.1	17.6	62	109	96.2	75.3
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
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MW-207B

Analyte	Sample Name Sample Date	MW-207B 4/10/2009	MW-207B 10/6/2009	MW-207B 4/2/2010	MW-207B 10/12/2010	MW-207B 4/1/2011	MW-207B 10/6/2011
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	0.851 J	1.23	0.752 J	1.85 J	1.89	2.08
Chloroform	µg/L	1.6	3.64	1.35	6.99	7.34	4.01
cis-1,2-Dichloroethene	µg/L	<1	0.558 J	<1	0.9 J	0.777 J	0.544 J
Tetrachloroethene	µg/L	25.5	63.1	15.3	113	99.4	55
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	102	67.5	92.1	53.6	38.4	16.2
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
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MW-208A

Analyte	Sample Name	MW-208A	MW-208A-LQ-4	MW-208A-LA-5	MW-208A-LQ-6	MW-208A	MW-208A
	Sample Date	4/16/2007	7/10/2007	10/4/2007	1/8/2008	4/8/2008	10/13/2008
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	0.216 J	0.228 J	0.214 J	0.221 J	0.217 J	0.21 J
cis-1,2-Dichloroethene	µg/L	0.554 J	0.541 J	0.557 J	0.56 J	0.538 J	0.517 J
Tetrachloroethene	µg/L	174 J	193	163	198	189	182
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	8.12	8.26	8.44	8.45	7.64	9.8
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-208A

Analyte	Sample Name Sample Date	MW-208A 4/7/2009	MW-208A 10/8/2009	MW-208A 4/5/2010	MW-208A 10/8/2010	MW-208A 4/2/2011	MW-208A 10/6/2011
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	0.18 J	<0.3	<0.3	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	3.61	23.5	20.9	25.7	41	39.7
Tetrachloroethene	µg/L	163	92.8	24.4	38	3.94	10.5
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	9.8	10.9	6.48	12.2	16.5	19.1
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
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MW-208B

Analyte	Sample Name	MW-208B	MW-208B-LQ-4	MW-208B-LA-5	MW-208B-LQ-6	MW-208B	MW-208B
	Sample Date	4/16/2007	7/11/2007	10/4/2007	1/9/2008	4/8/2008	10/13/2008
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	<0.3	0.131 J	<0.3	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	1.12	1.3	1.08	0.932 J	1.51	1.4
Tetrachloroethene	µg/L	3.42	2.8	3.02	1.68	2.22	2.94
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	18.4	15.7	15	13.2	17.1	21.3
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240, SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
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MW-208B

Analyte	Sample Name Sample Date	MW-208B 4/7/2009	MW-208B 10/8/2009	MW-208B 4/5/2010	MW-208B 10/8/2010	MW-208B 4/2/2011	MW-208B 10/6/2011
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	0.165 J	0.136 J	0.184 J	0.262 J	0.328	0.384
cis-1,2-Dichloroethene	µg/L	2.14	2.06	1.81	1.45	1.91	1.67
Tetrachloroethene	µg/L	3.81	5.39	9.29	16.5	16.9	19.8
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	28	37.8	45.1	42.9	41.2	34.8
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-209A

Analyte	Sample Name	MW-209A	MW-209A-LQ-4	MW-209A-LA-5	MW-209A-LQ-6	MW-209A	MW-209A
	Sample Date	4/23/2007	7/10/2007	10/4/2007	1/9/2008	4/9/2008	10/9/2008
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	<0.3	0.165 J	0.136 J	0.131 J	0.159 J	0.175 J
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	0.326 J	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	0.576 J	0.487 J	0.404 J	0.467 J	0.523 J	0.611 J
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
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MW-209A

Analyte	Sample Name Sample Date	MW-209A 4/9/2009	MW-209A 10/5/2009	MW-209A 10/9/2010	MW-209A 10/3/2011
	UNIT				
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1
Chloroform	µg/L	<0.3	0.132 J	0.134 J	<0.3
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1
Tetrachloroethene	µg/L	0.323 J	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1
Trichloroethene	µg/L	0.495 J	0.568 J	0.659 J	1.04
Vinyl chloride	µg/L	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-209B

Analyte	Sample Name Sample Date	MW-209B 4/23/2007	MW-209B-LQ-4 7/11/2007	MW-209B-LA-5 10/5/2007	MW-209B-LQ-6 1/8/2008	MW-209B 4/9/2008	MW-209B 10/9/2008
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1 J
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1 J
Carbon tetrachloride	µg/L	0.327 J	0.962 J	1.86	0.474 J	0.681 J	0.611 J
Chloroform	µg/L	0.251 J	0.56	0.215 J	0.198 J	0.22 J	0.183 J
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1 J
Tetrachloroethene	µg/L	<1	<1	<1	0.357 J	<1	0.33 J
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1 J
Trichloroethene	µg/L	6.4	7.2	14.8	11.7	13	20 J
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1 J

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-209B

Analyte	Sample Name Sample Date	MW-209B 4/9/2009	MW-209B 10/10/2009	MW-209B 4/6/2010	MW-209B 10/8/2010	MW-209B 4/2/2011	MW-209B 10/3/2011
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	0.668 J	0.725 J	0.658 J	0.659 J	0.932 J	0.563 J
Chloroform	µg/L	0.272 J	0.194 J	0.243 J	0.217 J	0.353	0.173 J
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	0.278 J	0.278 J	<1	0.479 J	0.342 J	0.492 J
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	22.4	30.8	21.2	31.8	29.5	30.6
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-210A

Analyte	Sample Name Sample Date	MW-210A 4/27/2007	MW-210A-LQ-4 7/9/2007	MW-210A-LA-5 10/4/2007	MW-210A-LQ-6 1/8/2008	MW-210A 4/8/2008	MW-210A 10/6/2008
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1 J	<1	<1	<1	<1	<1
Chloroform	µg/L	0.201 J	0.199 J	<0.3	0.149 J	0.183 J	<0.3
cis-1,2-Dichloroethene	µg/L	0.828 J	0.813 J	0.727 J	0.757 J	0.887 J	1.02
Tetrachloroethene	µg/L	38.2	36.1	28.8	23.3	28.2	19.4
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	5.85	6.05	5.63	5.55	6.2	6.09
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-210A

Analyte	Sample Name Sample Date	MW-210A 4/6/2009	MW-210A 10/6/2009	MW-210A 4/2/2010	MW-210A 10/11/2010	MW-210A 4/3/2011	MW-210A 10/4/2011
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	<0.3	<0.3	0.156 J	0.13 J	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	1.47	1.63	2.18	2.25	2.11	1.81
Tetrachloroethene	µg/L	16.9	8.48	14.7	13.6	13.3	12.6
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	6.28	4.92	6.37	6.16	5.54	5.4
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-210B

Analyte	Sample Name	MW-210B	MW-210B-LQ-4	MW-210B-LA-5	MW-210B-LQ-6	MW-210B	MW-210B
	Sample Date	4/27/2007	7/9/2007	10/5/2007	1/8/2008	4/8/2008	10/6/2008
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1 J	<1	<1	<1	<1	<1
Chloroform	µg/L	0.15 J	<0.3	0.143 J	0.14 J	0.155 J	<0.3
cis-1,2-Dichloroethene	µg/L	0.646 J	0.57 J	0.433 J	0.529 J	0.613 J	0.462 J
Tetrachloroethene	µg/L	32.4	24.4	21	19.8	20	12.6
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	7.29	8.42	10.7	8.46	7.84	7.49
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240, SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-210B

Analyte	Sample Name Sample Date	MW-210B 4/6/2009	MW-210B 10/6/2009	MW-210B 4/2/2010	MW-210B 10/11/2010	MW-210B 4/3/2011	MW-210B 10/4/2011
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	0.889 J	0.995 J	1.3	1.1	1.1	0.781 J
Tetrachloroethene	µg/L	12.2	9.39	10.3	9.27	8.64	7.24
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	7.2	7.78	7.06	7.77	8.21	9.73
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-211

Analyte	Sample Name Sample Date	MW-211 4/16/2007	MW-211-LQ-4 7/10/2007	MW-211-LA-5 10/2/2007	MW-211-LQ-6 1/9/2008	MW-211 10/10/2008	MW-211 4/10/2009
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	0.995 J	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	0.139 J	<0.3	<0.3	0.214 J	2.24 J	2.71
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1	0.502 J	0.431 J	0.469 J
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	0.536 J	0.576 J	0.436 J	0.602 J	1.18 J	1.38
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-211

Analyte	Sample Name	MW-211	MW-211	MW-211
	Sample Date	10/7/2009	10/13/2010	10/3/2011
	UNIT			
1,1,1-Trichloroethane	µg/L	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1
Carbon tetrachloride	µg/L	<1	0.344	<1
Chloroform	µg/L	1.24	0.218 J	0.152 J
cis-1,2-Dichloroethene	µg/L	<1	<1	<1
Tetrachloroethene	µg/L	0.811 J	0.745 J	0.275 J
trans-1,2-Dichloroethene	µg/L	<1	<1	<1
Trichloroethene	µg/L	1.2	1.3	0.512 J
Vinyl chloride	µg/L	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-212

Analyte	Sample Name Sample Date	MW-212 4/27/2007	MW-212-LQ-4 7/9/2007	MW-212-LA-5 10/3/2007	MW-212-LQ-6 1/9/2008	MW-212 4/8/2008	MW-212 10/8/2008
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	0.761 J	<1
Carbon tetrachloride	µg/L	0.257 J	0.479 J	0.568 J	0.635 J	0.519 J	<1
Chloroform	µg/L	0.289 J	0.135 J	0.13 J	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	0.516 J	<1	0.477 J	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	34.4	47.9	41.7	43.9	45.1	37.9 J
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-212

Analyte	Sample Name Sample Date	MW-212 4/10/2009	MW-212 10/10/2009	MW-212 4/7/2010	MW-212 10/15/2010	MW-212 4/3/2011	MW-212 10/8/2011
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	0.29 J	0.271 J	0.277 J	0.323 J	0.319 J	<1
Chloroform	µg/L	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1	0.407 J	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	38	38.4	31.5	23.8	20.1	16.5
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-214A

Analyte	Sample Name Sample Date	MW-214A 4/16/2007	MW-214A 7/10/2007	MW-214A 10/3/2007	MW-214A 1/9/2008	MW-214A 4/7/2008	MW-214A 10/7/2008
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	0.601 J	0.476 J	0.725 J	0.575 J	0.709 J	0.647 J
Chloroform	µg/L	2.63	2.32	2.26	2.02	2.06	1.58
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	8.83	6.81	6.99	7.29	6.22	4.81
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	5.59	4.49	4.11	3.65	3.02	1.95
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-214A

Analyte	Sample Name Sample Date	MW-214A 4/10/2009	MW-214A 10/11/2009	MW-214A 10/7/2010	MW-214A 10/2/2011
	UNIT				
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1
Carbon tetrachloride	µg/L	0.752 J	0.891 J	1.12 J	1.18
Chloroform	µg/L	2.22	2.21	5.01 J	4.34
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1
Tetrachloroethene	µg/L	4.51	4.64	10.5 J	11.1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1
Trichloroethene	µg/L	2.31	2.6	7.88 J	6.71
Vinyl chloride	µg/L	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-214B

Analyte	Sample Name	MW-214B	MW-214B-LQ-4	MW-214B-LA-5	MW-214B-LQ-6	MW-214B	MW-214B
	Sample Date	4/17/2007	7/11/2007	10/3/2007	1/9/2008	4/7/2008	10/21/2008
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	0.645 J	1.05	0.76 J	0.959 J	0.843 J	0.772 J
Chloroform	µg/L	2.06	1.85	1.47	1.44	1.22	1.27
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	6.4	6	4.89	5.44	4.55	4.39
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	4.24	3.83	3.06	2.88	2.36	2.28
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240, SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-214B

Analyte	Sample Name Sample Date	MW-214B 4/10/2009	MW-214B 10/11/2009	MW-214B 10/12/2010	MW-214B 10/2/2011
	UNIT				
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1
Carbon tetrachloride	µg/L	0.797 J	0.92 J	1.08	1.27
Chloroform	µg/L	1.47	1.8	3.79	3.94
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1
Tetrachloroethene	µg/L	4	4.14	10	9.24
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1
Trichloroethene	µg/L	1.93	2.25	5.65 U	5.16
Vinyl chloride	µg/L	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-215A

Analyte	Sample Name	MW-215A	MW-215A-LQ-4	MW-215A-LA-5	MW-215A-LQ-6	MW-215A	MW-215A
	Sample Date	4/16/2007	7/10/2007	10/4/2007	1/9/2008	4/9/2008	10/7/2008
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	0.679 J	0.538 J	0.671 J	0.552 J	0.651 J	0.382 J
Chloroform	µg/L	1.66	1.67	1.76	1.68	1.66	1.44
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	5.81	5.58	6.95	7.01	6.27	5.85
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	7.82	8.12	7.79	10.2	8.96	7.99
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240, SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-215A

Analyte	Sample Name Sample Date	MW-215A 4/10/2009	MW-215A 10/12/2009	MW-215A 10/6/2010	MW-215A 10/7/2011
	UNIT				
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1
Carbon tetrachloride	µg/L	0.591 J	0.579 J	0.747 J	0.596 J
Chloroform	µg/L	1.52	1.43	1.03	0.908
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1
Tetrachloroethene	µg/L	4.91	4.91	4.19	3.51
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1
Trichloroethene	µg/L	6.2	4.88	2.72	2.08
Vinyl chloride	µg/L	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-215B

Analyte	Sample Name	MW-215B	MW-215B-LQ-4	MW-215B-LA-5	MW-215B-LQ-6	MW-215B	MW-215B
	Sample Date	4/16/2007	7/9/2007	10/4/2007	1/9/2008	4/9/2008	10/7/2008
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	0.956 J	1.01	0.894 J	0.856 J	0.988 J	0.271 J
Chloroform	µg/L	0.68	0.71	0.651	0.61	0.663	0.474
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	4.36	4.39	4.49	4.71	4.7	2.1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	1.52	1.53	1.47	1.36	1.46	1.25
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240, SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-215B

Analyte	Sample Name Sample Date	MW-215B 4/9/2009	MW-215B 10/12/2009	MW-215B 10/12/2010	MW-215B 10/4/2011
	UNIT				
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1
Carbon tetrachloride	µg/L	0.97 J	1.17	1.23 J	1.12
Chloroform	µg/L	0.767	0.686	0.63	0.589
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1
Tetrachloroethene	µg/L	4.99	5.66	5.81	4.82
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1
Trichloroethene	µg/L	1.66	1.76	1.5	1.42
Vinyl chloride	µg/L	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-216

Analyte	Sample Name	MW-216	MW-216-LQ-4	MW-216-LA-5	MW-216-LQ-6	MW-216	MW-216
	Sample Date	4/27/2007	7/10/2007	10/2/2007	1/8/2008	10/6/2008	4/6/2009
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1 J	<1	<1	<1	<1	<1
Chloroform	µg/L	<0.3	0.169 J	0.183 J	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	0.288 J	<1
Tetrachloroethene	µg/L	<1	<1	<1	<1	34.2	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	<1	<1	<1	<1	1.5	<1
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-216

Analyte	Sample Name Sample Date	MW-216 10/12/2009	MW-216 10/9/2010	MW-216 10/5/2011
	UNIT			
1,1,1-Trichloroethane	µg/L	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1
Chloroform	µg/L	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	<1	<1	<1
Tetrachloroethene	µg/L	<1	0.285 J	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1
Trichloroethene	µg/L	<1	<1	<1
Vinyl chloride	µg/L	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
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MW-217

Analyte	Sample Name Sample Date	MW-217 4/27/2007	MW-217-LQ-4 7/9/2007	MW-217-LA-5 10/2/2007	MW-217-LQ-6 1/9/2008	MW-217 4/7/2008	MW-217 10/8/2008
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	0.736 J	<1
Carbon tetrachloride	µg/L	34.8	42.3 J	53.4	57.3	72.1	96.3 J
Chloroform	µg/L	5.05	5.33	5.18	7.43	8.56	13.4 J
cis-1,2-Dichloroethene	µg/L	1.34	1.45	1.89	2.43	2.88	4.8 J
Tetrachloroethene	µg/L	18.4	25.4 J	31.3	31.7	34.7	26.5 J
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	29.5	40.6 J	39.4	35.9	34.4	25.6 J
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-217

Analyte	Sample Name Sample Date	MW-217 4/8/2009	MW-217 10/8/2009	MW-217 3/31/2010	MW-217 10/7/2010	MW-217 3/31/2011	MW-217 10/4/2011
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	92.4	55.6	65.6	48.8	47.7	32.1
Chloroform	µg/L	9.43	5.24	4.4	3.73	4.25	3.77
cis-1,2-Dichloroethene	µg/L	3.58	1.8	1.33	0.819 J	0.871 J	0.581 J
Tetrachloroethene	µg/L	31.2	29.9	29.7	27.4	27.7	24.6
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	28.7	32.9	34.6	37.9	46.1	44.1
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
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MW-218

Analyte	Sample Name Sample Date	MW-218 4/17/2007	MW-218-LQ-4 7/9/2007	MW-218-LA-5 10/2/2007	MW-218-LQ-6 1/9/2008	MW-218 4/7/2008	MW-218 10/8/2008
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	0.626 J	0.652 J	0.651 J	<1	0.886 J	0.691 J
Carbon tetrachloride	µg/L	15.1	13.3	17.6	15	17.7	15.6 J
Chloroform	µg/L	3.15	2.79	2.45	2.58	2.62	2.78 J
cis-1,2-Dichloroethene	µg/L	0.459 J	0.468 J	0.508 J	0.352 J	0.392 J	0.373 J
Tetrachloroethene	µg/L	17.7	16.7	18.5	17.2	17.4	12.2 J
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	44.2	47.6	42.8	42.5	40.7	35.9 J
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
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MW-218

Analyte	Sample Name Sample Date	MW-218 4/8/2009	MW-218 10/8/2009	MW-218 3/31/2010	MW-218 10/14/2010	MW-218 4/3/2011	MW-218 10/7/2011
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	0.787 J	1.22
Carbon tetrachloride	µg/L	15.7	10.1	7.56	8.81	9.84 J	9.75
Chloroform	µg/L	2.75	2.49	2.42	2.98	2.79	2.52
cis-1,2-Dichloroethene	µg/L	0.426 J	0.404 J	0.303 J	0.373 J	0.419 J	0.436 J
Tetrachloroethene	µg/L	15.2	16.3	11.2	13.7	16.8	19.5
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	37.1	42.5	32.8	37.6	46.2	49.2
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
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MW-219

Analyte	Sample Name	MW-219	MW-219-LQ-4	MW-219-LA-5	MW-219-LQ-6	MW-219	MW-219
	Sample Date	4/27/2007	7/10/2007	10/3/2007	1/9/2008	4/7/2008	10/10/2008
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	0.643 J	1.06	1.01	0.875 J	0.928 J	1.14 J
Tetrachloroethene	µg/L	16.3	27.6	33.9	48	41.4	47 J
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	1.72	2.79	3.37	3.74	3.26	3.53 J
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-219

Analyte	Sample Name Sample Date	MW-219 4/6/2009	MW-219 10/8/2009	MW-219 4/1/2010	MW-219 10/6/2010	MW-219 4/3/2011	MW-219 10/6/2011
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	1.15	0.935 J	0.393 J	<1	<1	<1
Tetrachloroethene	µg/L	39.4	26.9	10.6	5.57	4.55	6.51
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	2.84	2.09	0.868 J	0.575 J	0.439 J	0.614 J
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
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MW-229

Analyte	Sample Name Sample Date	MW-229 10/5/2007	MW-229 1/9/2008	MW-229 10/8/2008	MW-229 4/8/2009	MW-229 10/8/2009	MW-229 10/6/2010	MW-229 10/2/2011
	UNIT							
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-252

Analyte	Sample Name Sample Date	MW-252 6/18/2010	MW-252 10/6/2010	MW-252 12/9/2010	MW-252 3/31/2011	MW-252 10/6/2011
	UNIT					
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1
Chloroform	µg/L	<0.3	<0.3	0.332	1.07	<0.3
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	2.75	5.64	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Trichloroethene	µg/L	<1	<1	1.62	3.73	<1
Vinyl chloride	µg/L	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
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MW-253

Analyte	Sample Name Sample Date	MW-253 6/18/2010	MW-253 10/6/2010	MW-253 12/9/2010	MW-253 3/31/2011	MW-253 10/3/2011
	UNIT					
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1
Chloroform	µg/L	0.156	<0.3	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Trichloroethene	µg/L	0.344	2.99	4.87	7.75	9.81
Vinyl chloride	µg/L	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

MW-254

Analyte	Sample Name	MW-254	MW-254	MW-254	MW-254	MW-254
	Sample Date	8/16/2010	10/5/2010	12/8/2010	3/31/2011	10/3/2011
	UNIT					
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	0.695	0.872 J	1.18	1.06	0.869 J
Chloroform	µg/L	0.241	0.223 J	0.29	0.249 J	0.205 J
cis-1,2-Dichloroethene	µg/L	<1	<1	0.299	<1	0.303 J
Tetrachloroethene	µg/L	0.814	0.623 J	0.854	<1	0.578 J
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Trichloroethene	µg/L	2.28	2.07	2.58	1.8	2.28
Vinyl chloride	µg/L	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
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MW-255

Analyte	Sample Name Sample Date	MW-255 8/9/2010	MW-255 10/5/2010	MW-255 12/8/2010	MW-255 3/31/2011	MW-255 10/3/2011
	UNIT					
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1
Chloroform	µg/L	<0.3	<0.3	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Trichloroethene	µg/L	<1	0.297 J	0.269	0.345 J	0.298 J
Vinyl chloride	µg/L	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
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MW-256

Analyte	Sample Name Sample Date	MW-256 8/9/2010	MW-256 10/5/2010	MW-256 12/9/2010	MW-256 3/31/2011	MW-256 10/3/2011
	UNIT					
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	0.302	0.32	0.613 J	0.36	0.268 J
Chloroform	µg/L	1.74	2.01	1.95	2.35	2.27
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	8.71	9.44	8.64	12.1	20
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1
Trichloroethene	µg/L	2.43	2.77	2.9	3.51	4.68
Vinyl chloride	µg/L	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
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PMW21-03

Analyte	Sample Name Sample Date	PMW21-03 8/10/2006	PMW21-03 12/6/2006	PMW21-03 3/7/2007	PMW21-03 6/4/2007	PMW21-03 9/19/2007	PMW21-03 12/18/2007
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	J	<1	<1	<1	<1
Chloroform	µg/L	0.173 J	<0.3	<0.3	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	2.55	0.527 J	0.485 J	0.355 J	0.636 J	0.403 J
Tetrachloroethene	µg/L	185	46.3	32.5	25.6	49	28.5
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	58	14.6	9.78	6.73	15.9	9.84
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

PMW21-03

Analyte	Sample Name Sample Date	PMW21-03 3/17/2008	PMW21-03 6/13/2008	PMW21-03 12/12/2008	PMW21-03 3/12/2009	PMW21-03 3/30/2010	PMW21-03 10/5/2010
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	0.407 J	0.504 J	19.2	57.4	1.11	0.687 J
Tetrachloroethene	µg/L	36.9	30.8	22.2	18.7	59.7	45.9
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	8.96	9.73	9.79	8.01	16.2	11.4
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
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PMW21-03

Analyte	Sample Name	PMW21-03	PMW21-03
	Sample Date	4/4/2011	10/5/2011
	UNIT		
1,1,1-Trichloroethane	µg/L	<1	<1
1,1-Dichloroethene	µg/L	<1	<1
Carbon tetrachloride	µg/L	<1	<1
Chloroform	µg/L	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	1.07	1.11
Tetrachloroethene	µg/L	39.5	55
trans-1,2-Dichloroethene	µg/L	<1	<1
Trichloroethene	µg/L	11.6	14.4
Vinyl chloride	µg/L	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

PMW21-05

Analyte	Sample Name Sample Date	PMW21-05 8/10/2006	PMW21-05 12/5/2006	PMW21-05 3/7/2007	PMW21-05 6/5/2007	PMW21-05 9/18/2007	PMW21-05 12/18/2007
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	0.525 J	0.278 J	0.346 J	0.442 J	0.52 J	0.527 J
Tetrachloroethene	µg/L	6.37	8.66	18.7	27.9	36.3	50.3
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	34.4	18.3	14	17.1	30.2	18.2
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

PMW21-05

Analyte	Sample Name Sample Date	PMW21-05 3/14/2008	PMW21-05 6/16/2008	PMW21-05 12/11/2008	PMW21-05 3/12/2009	PMW21-05 4/1/2010	PMW21-05 10/6/2010
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	0.29 J	<1	0.865 J	1.47	0.851 J	0.798 J
Tetrachloroethene	µg/L	43.2	36.9	40.3	61.2	57.7	43.1
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	34.6	10.3	10.4	13	5.71	4.24
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

PMW21-05

Analyte	Sample Name Sample Date	PMW21-05 4/4/2011	PMW21-05 10/5/2011
	UNIT		
1,1,1-Trichloroethane	µg/L	<1	<1
1,1-Dichloroethene	µg/L	<1	<1
Carbon tetrachloride	µg/L	<1	<1
Chloroform	µg/L	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	0.939 J	0.298 J
Tetrachloroethene	µg/L	40.6	19.5
trans-1,2-Dichloroethene	µg/L	<1	<1
Trichloroethene	µg/L	3.78	1.46
Vinyl chloride	µg/L	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

PMW92-03

Analyte	Sample Name Sample Date	PMW92-03 8/30/2006	PMW92-03 12/7/2006	PMW92-03 3/8/2007	PMW92-03 5/30/2007	PMW92-03 9/12/2007	PMW92-03 12/12/2007
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	58.1	41.9	19.3	7.59	2.32	0.969 J
Chloroform	µg/L	19.2	18.9	27.4	31	25.7	3.12
cis-1,2-Dichloroethene	µg/L	19.9	21.3	70.7	166	182	159
Tetrachloroethene	µg/L	252	252	170	54.4	31.8	30.9
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	11.5	12	9.92	7.03	5.09	6.91
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

PMW92-03

Analyte	Sample Name Sample Date	PMW92-03 3/11/2008	PMW92-03 6/11/2008	PMW92-03 12/11/2008	PMW92-03 3/16/2009	PMW92-03 4/7/2010	PMW92-03 10/4/2010
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	0.622 J	<1	<1	<1	<1
Carbon tetrachloride	µg/L	0.586 J	<1	<1	<1	<1	<1
Chloroform	µg/L	0.994	0.49	0.151 J	<0.3	<0.3	0.26 J
cis-1,2-Dichloroethene	µg/L	161	159	159	139	112	83
Tetrachloroethene	µg/L	30.8	27.1	33.3	15.6	66.6	104
trans-1,2-Dichloroethene	µg/L	<1	<1	0.339 J	<1	<1	<1
Trichloroethene	µg/L	4.66	8.79	12.7	5.99	18.2	19
Vinyl chloride	µg/L	0.262 J	<1	<1	<1	<1	0.528 J

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

PMW92-03

Analyte	Sample Name	PMW92-03	PMW92-03
	Sample Date	4/3/2011	10/3/2011
	UNIT		
1,1,1-Trichloroethane	µg/L	<1	<1
1,1-Dichloroethene	µg/L	<1	<1
Carbon tetrachloride	µg/L	<1	<1
Chloroform	µg/L	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	73.4 J	51.9
Tetrachloroethene	µg/L	136	147
trans-1,2-Dichloroethene	µg/L	<1	<1
Trichloroethene	µg/L	21.1	15.1
Vinyl chloride	µg/L	0.286 J	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

PMW92-06

Analyte	Sample Name Sample Date	PMW92-06 8/30/2006	PMW92-06 12/7/2006	PMW92-06 3/12/2007	PMW92-06 5/31/2007	PMW92-06 9/11/2007	PMW92-06 12/11/2007
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	182	132	114	117	53.2	1.53
Chloroform	µg/L	82.7	68.9	79.4	85.8	114	78.7
cis-1,2-Dichloroethene	µg/L	91.4	81.1	74.5	91.5	149	150
Tetrachloroethene	µg/L	179	173	155	153	69.7	6.76
trans-1,2-Dichloroethene	µg/L	0.443 J	0.31 J	<1	<1	<1	<1
Trichloroethene	µg/L	39.7	37.8	34	36.4	21.5	2.31
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

PMW92-06

Analyte	Sample Name Sample Date	PMW92-06 3/11/2008	PMW92-06 6/16/2008	PMW92-06 12/8/2008	PMW92-06 3/12/2009	PMW92-06 4/7/2010	PMW92-06 10/4/2010
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	98.3	110
Chloroform	µg/L	22.9	1.11	<0.3	<0.3	48	41.1
cis-1,2-Dichloroethene	µg/L	179	178	193	200	85.4	68.5 J
Tetrachloroethene	µg/L	2.01	0.785 J	0.67 J	3.88	148	141
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	0.747 J	<1	<1	2.98	33.5	33 J
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	0.379 J

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

PMW92-06

Analyte	Sample Name	PMW92-06	PMW92-06
	Sample Date	4/2/2011	10/3/2011
	UNIT		
1,1,1-Trichloroethane	µg/L	<1	<1
1,1-Dichloroethene	µg/L	<1	<1
Carbon tetrachloride	µg/L	110	106
Chloroform	µg/L	41.5	36.3
cis-1,2-Dichloroethene	µg/L	67.1	58
Tetrachloroethene	µg/L	133	135
trans-1,2-Dichloroethene	µg/L	<1	<1
Trichloroethene	µg/L	33.1	29.8
Vinyl chloride	µg/L	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

PMW101-04A

Analyte	Sample Name	PMW101-04A	PMW101-04A	PMW101-04A	PMW101-04A	PMW101-04A	PMW101-04A
	Sample Date	8/22/2006	12/5/2006	3/6/2007	5/31/2007	9/17/2007	12/14/2007
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1 J	<1	<1
Chloroform	µg/L	0.199 J	0.163 J	0.144 J	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	<1	<1	<1	20.9	86.9	72.6
Tetrachloroethene	µg/L	199	176	177	138	12.2	5.89
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	0.26 J	<1	<1	1.2	1.31	0.294 J
Vinyl chloride	µg/L	<1	<1	<1	<1	0.277 J	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

PMW101-04A

Analyte	Sample Name Sample Date	PMW101-04A 3/11/2008	PMW101-04A 6/11/2008	PMW101-04A 12/8/2008	PMW101-04A 3/10/2009	PMW101-04A 4/1/2010	PMW101-04A 10/14/2010
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	81.3	42.6	60.7	47	29	13.5 J
Tetrachloroethene	µg/L	5.7	4.64	13.9	22.6	33	44.6 J
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	0.559 J	1.65	2.65	6.83	6.93	7.89 J
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

PMW101-04A

Analyte	Sample Name	PMW101-04A	PMW101-04A
	Sample Date	4/4/2011	10/6/2011
	UNIT		
1,1,1-Trichloroethane	µg/L	<1	<1
1,1-Dichloroethene	µg/L	<1	<1
Carbon tetrachloride	µg/L	<1	<1
Chloroform	µg/L	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	7.76	3.12
Tetrachloroethene	µg/L	57.3	59.6
trans-1,2-Dichloroethene	µg/L	<1	<1
Trichloroethene	µg/L	6.1	2.11
Vinyl chloride	µg/L	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

PMW101-04B

Analyte	Sample Name	PMW101-04B	PMW101-04B	PMW101-04B	PMW101-04B	PMW101-04B	PMW101-04B
	Sample Date	8/29/2006	12/5/2006	3/6/2007	5/31/2007	9/17/2007	12/14/2007
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1 J	<1	<1
Chloroform	µg/L	<0.3	0.172 J	<0.3	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	0.971 J	0.394 J	18.8	86.3	72.1	48.1
Tetrachloroethene	µg/L	90.4	109	104	19.1	14.1	29.3
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	23.2	9.06	3.04	1.24	1.65	2.91
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

UJ Undetected, reporting limit is inaccurate or imprecise

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

PMW101-04B

Analyte	Sample Name	PMW101-04B	PMW101-04B	PMW101-04B	PMW101-04B	PMW101-04B	PMW101-04B
	Sample Date	3/11/2008	6/10/2008	12/10/2008	3/10/2009	4/1/2010	10/5/2010
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
cis-1,2-Dichloroethene	µg/L	69.3	52.2	26	37.2	0.708 J	<1
Tetrachloroethene	µg/L	5.33	12.8	37	22.4	35.7	28.7
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	1.6	4.85	5.02	2.39	3.87	3.09
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

UJ Undetected, reporting limit is inaccurate or imprecise

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

PMW101-04B

Analyte	Sample Name	PMW101-04B	PMW101-04B
	Sample Date	4/4/2011	10/6/2011
	UNIT		
1,1,1-Trichloroethane	µg/L	<1	<1
1,1-Dichloroethene	µg/L	<1	<1
Carbon tetrachloride	µg/L	<1	<1 UJ
Chloroform	µg/L	<0.3	<0.3 UJ
cis-1,2-Dichloroethene	µg/L	<1	<1
Tetrachloroethene	µg/L	26.1	31.2
trans-1,2-Dichloroethene	µg/L	<1	<1
Trichloroethene	µg/L	2.79	3.23
Vinyl chloride	µg/L	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

UJ Undetected, reporting limit is inaccurate or imprecise

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

PZ-03

Analyte	Sample Name Sample Date	PZ-03 3/20/2002	PZ-03 5/26/2004	PZ-03 2/23/2005	PZ-03 10/5/2006	PZ-03 10/5/2007	PZ-03 10/14/2008
	UNIT						
1,1,1-Trichloroethane	µg/L	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	<2	--	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1	<1	<1	<1
Chloroform	µg/L	<1	<1	0.2 J	0.198 J	0.139 J	0.29 J
cis-1,2-Dichloroethene	µg/L	0.55 J	<1	0.26 J	<1	<1	<1
Tetrachloroethene	µg/L	7.1	4.4	5	3.89	0.523 J	4.38
trans-1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	0.86 J	0.6 J	0.85 J	0.917 J	0.321 J	1.07
Vinyl chloride	µg/L	<1	<1	<1	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

HISTORICAL CVOC RESULTS
ANNUAL LONG-TERM MONITORING REPORT - 2011
Main Installation - Defense Depot Memphis, Tennessee

PZ-03

Analyte	Sample Name Sample Date	PZ-03 10/11/2009	PZ-03 10/15/2010	PZ-03 10/8/2011
	UNIT			
1,1,1-Trichloroethane	µg/L	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1
1,2-Dichloroethene (Total)	µg/L	--	--	--
Carbon tetrachloride	µg/L	<1	<1	<1
Chloroform	µg/L	0.192 J	0.203 J	0.235 J
cis-1,2-Dichloroethene	µg/L	<1	0.287 J	<1
Tetrachloroethene	µg/L	3.99	2.04	3.39
trans-1,2-Dichloroethene	µg/L	<1	<1	<1
Trichloroethene	µg/L	1.23	1.23	2.64
Vinyl chloride	µg/L	<1	<1	<1

Notes:

VOC samples analyzed using methods SW8010/8020, SW8240,
SW8260, SW8260A, SW8260B, or CV3990

-- not analyzed

µg/L micrograms per liter

DQE Flags:

J Estimated results based on QC data or reported below RL

< Not detected at sample reporting limit

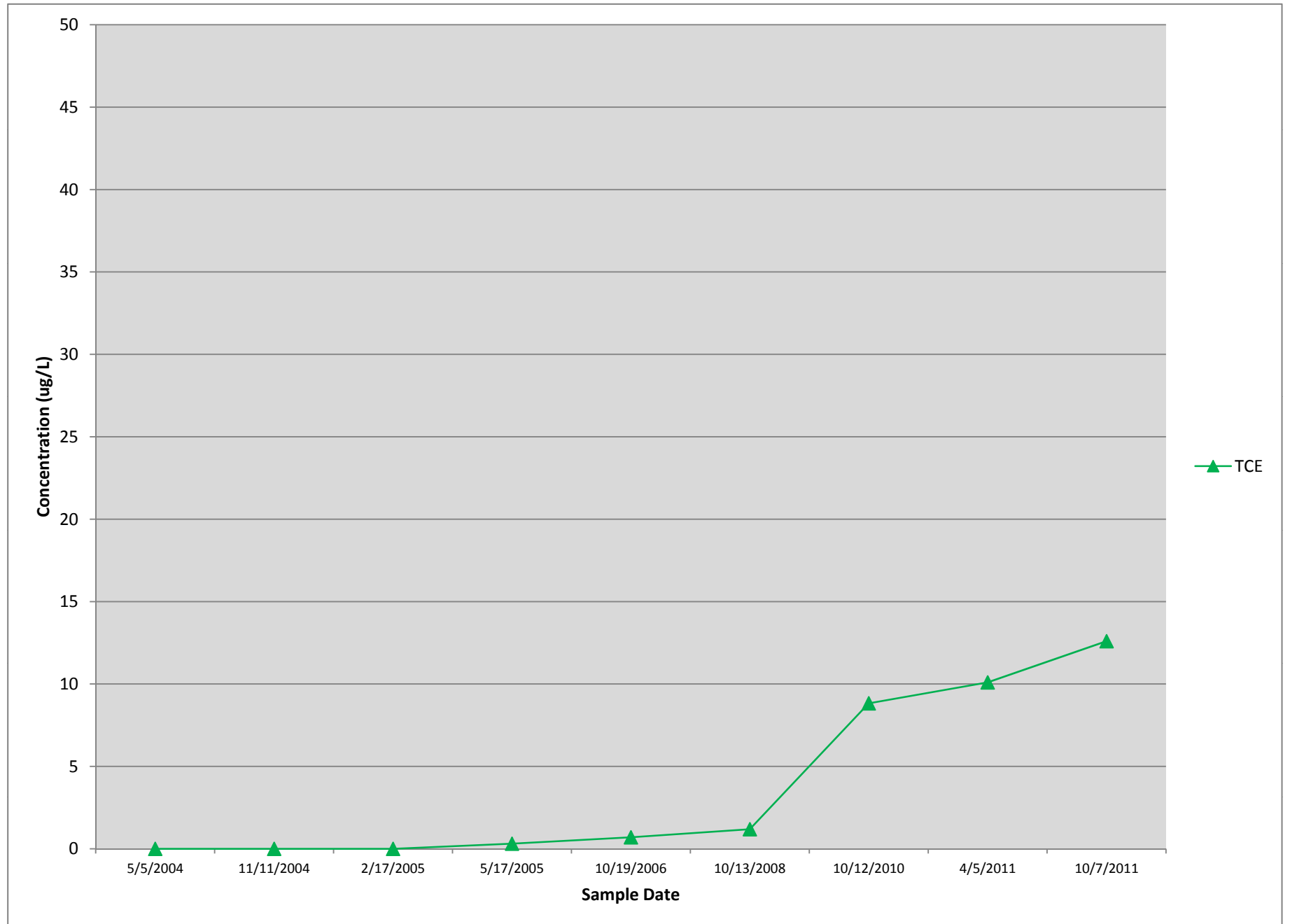
APPENDIX D
CVOC TIME-TREND PLOTS

APPENDIX D-1
CVOC TIME-TREND PLOTS

Background Wells

MW-143

MW-143

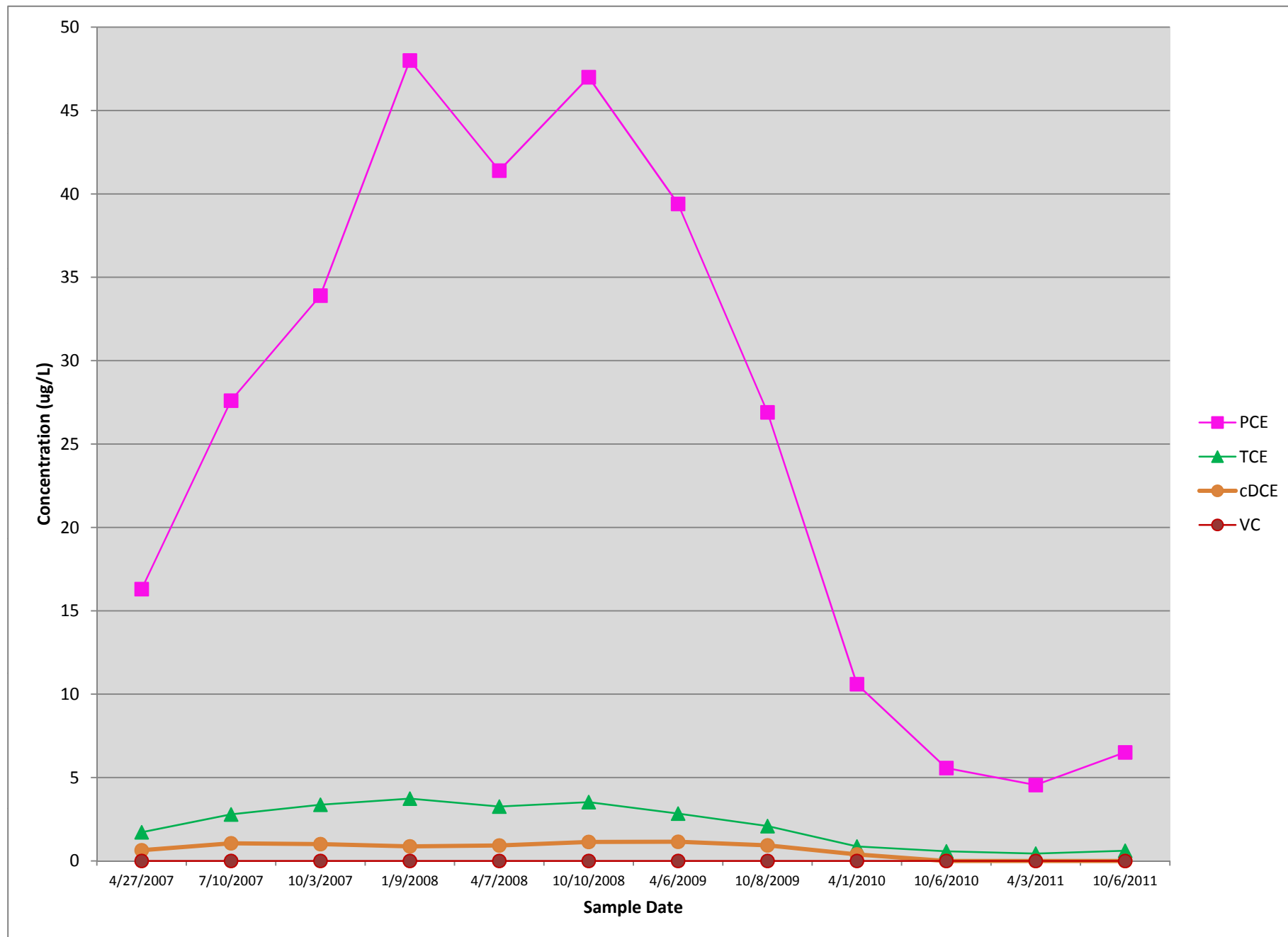


APPENDIX D-2
CVOC TIME-TREND PLOTS

Boundary Wells

MW-219

MW-219



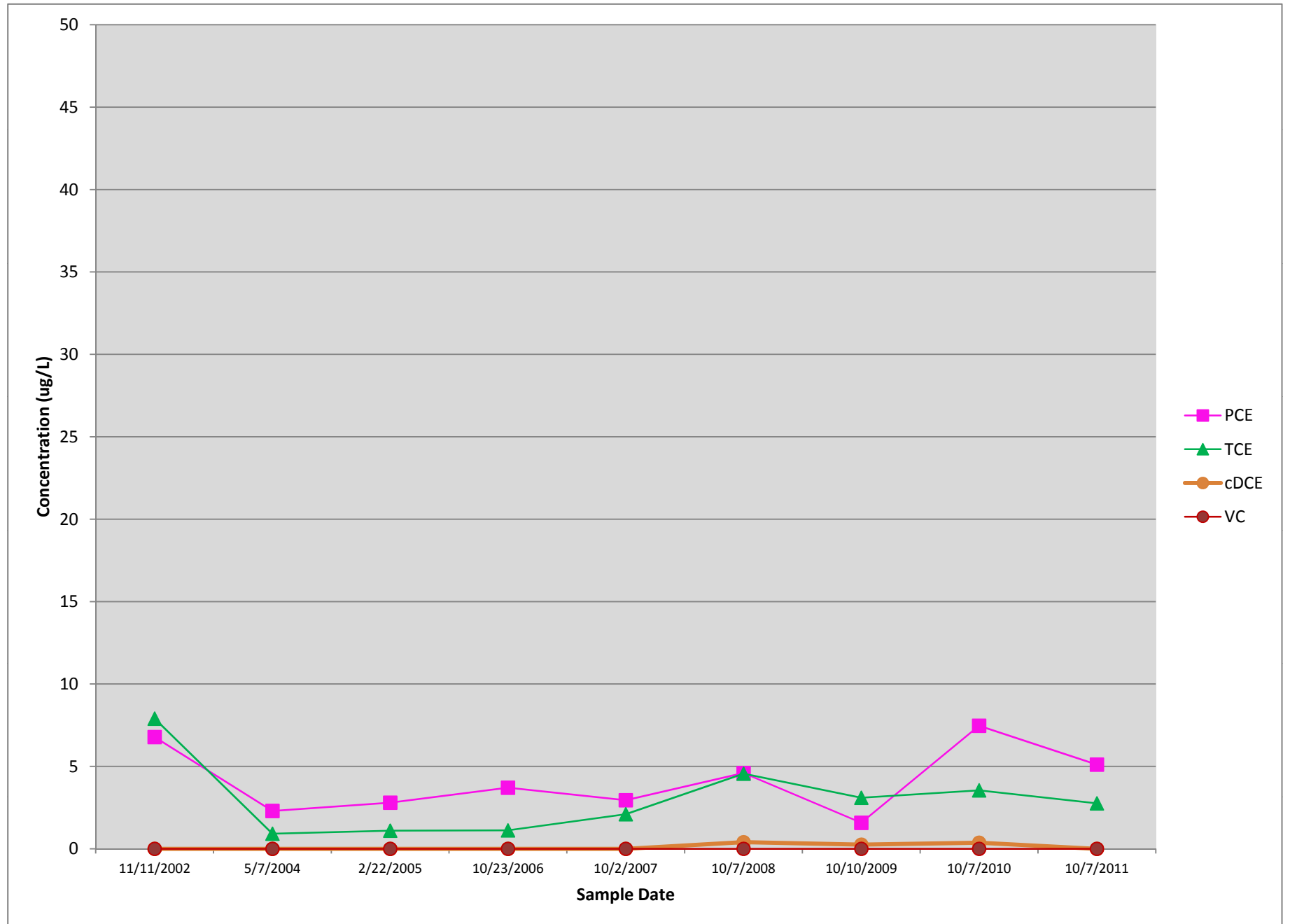
APPENDIX D-3

CVOC TIME-TREND PLOTS

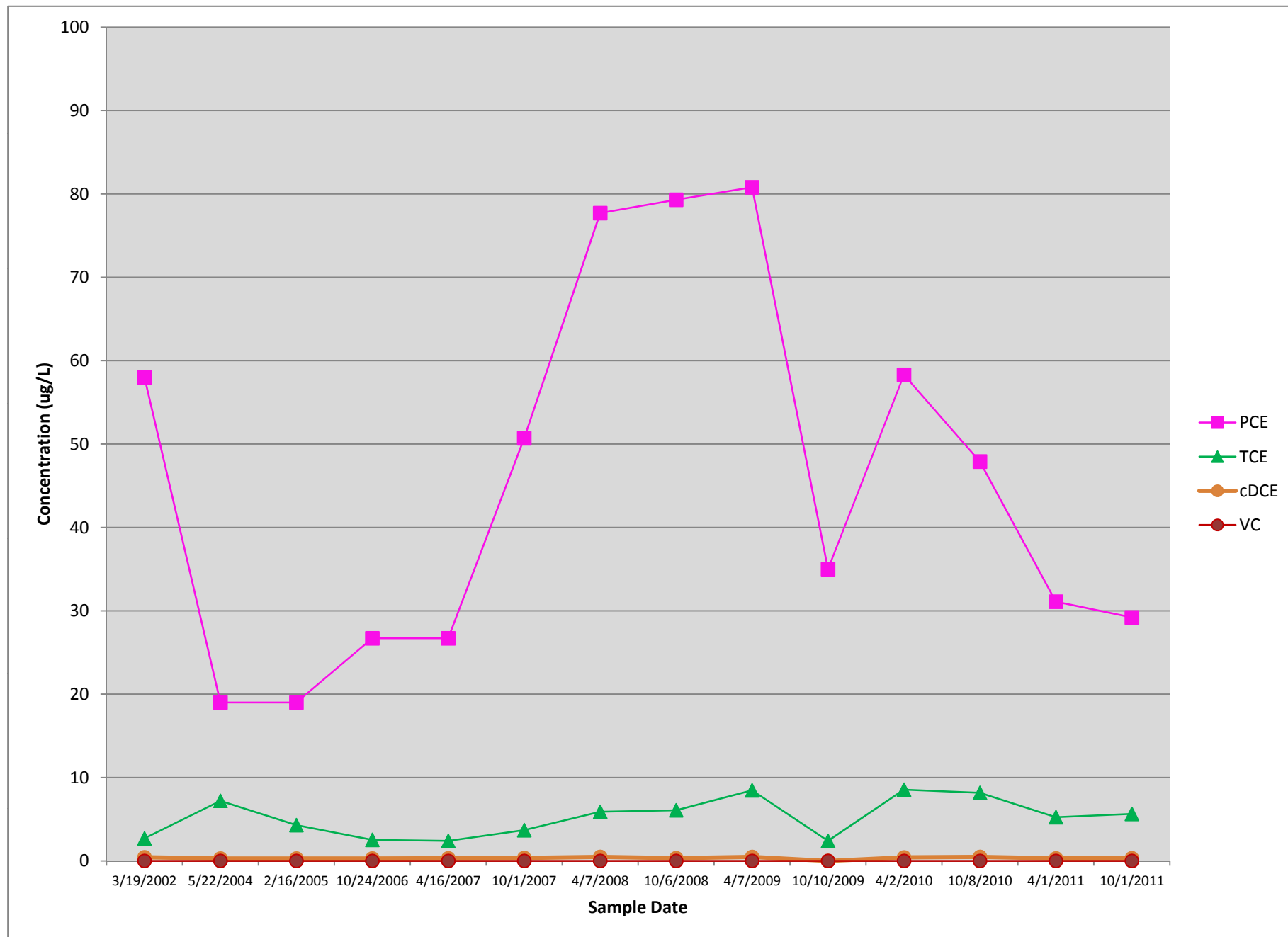
Sentinel Wells

**MW-63B, MW-90, MW-107, MW-108, MW-141, MW-202B,
MW-207A, MW-207B, MW-210A, MW-252, MW-253, MW-256**

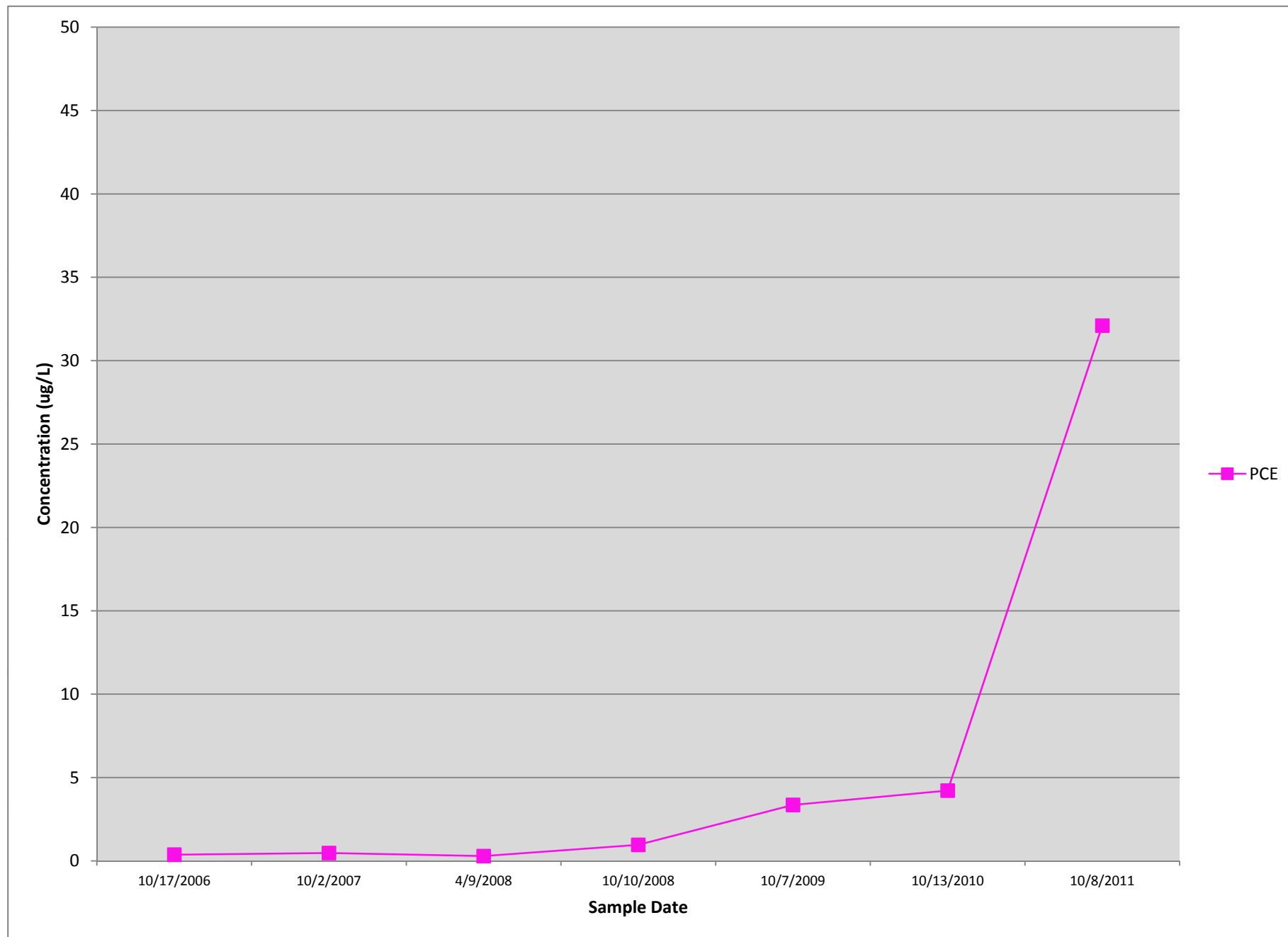
MW-63B



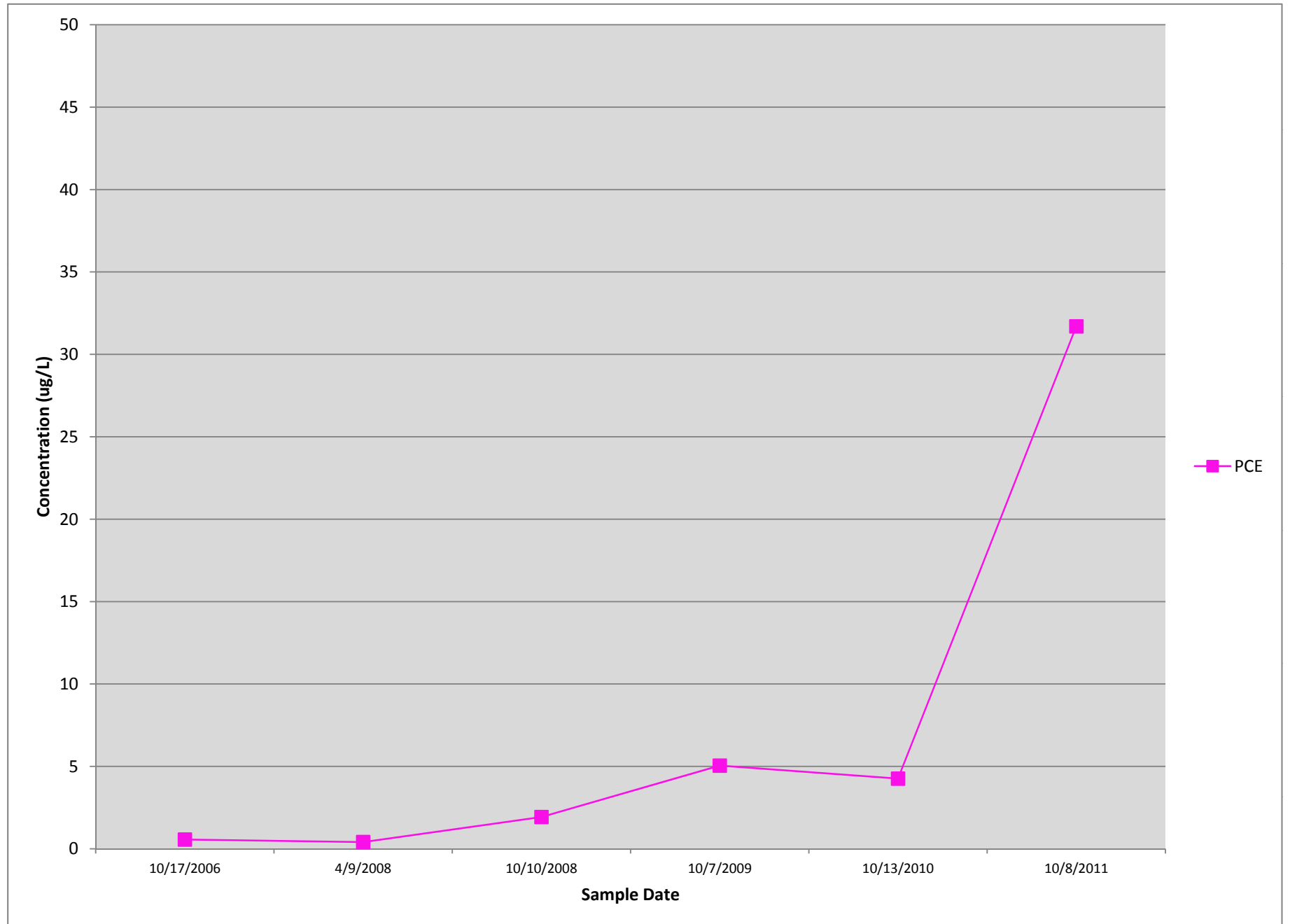
MW-90



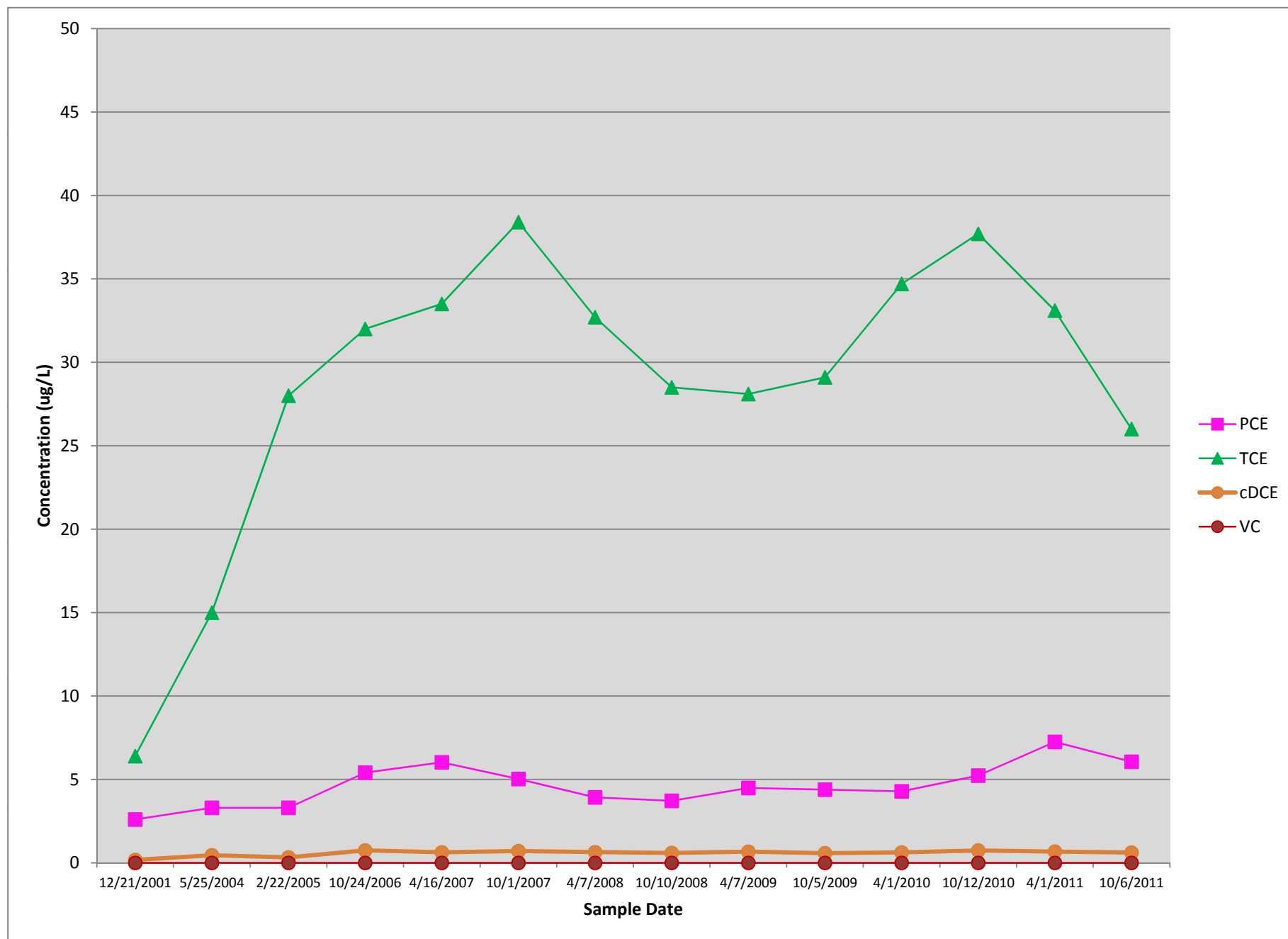
MW-107 Bottom



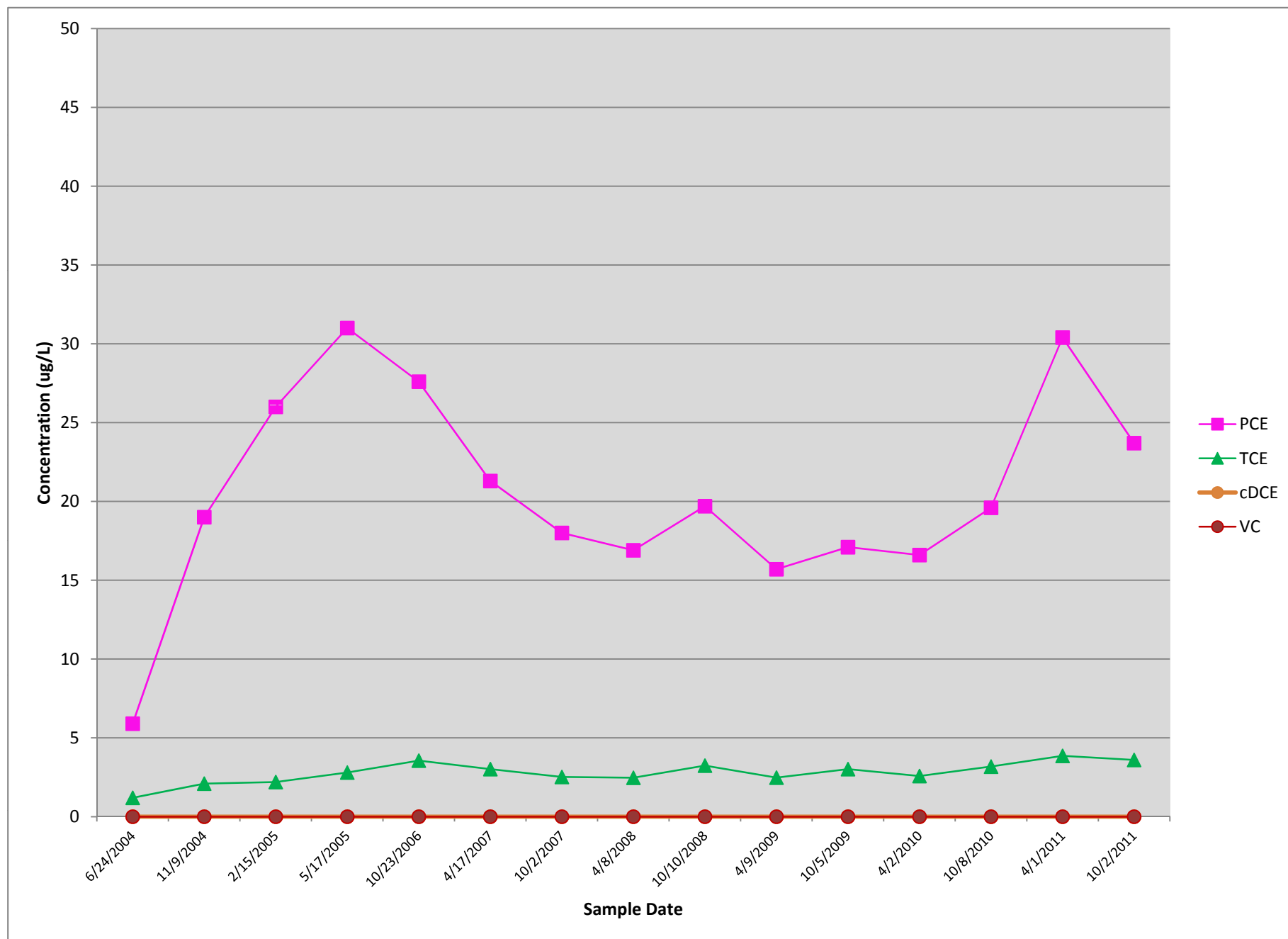
MW-107Top



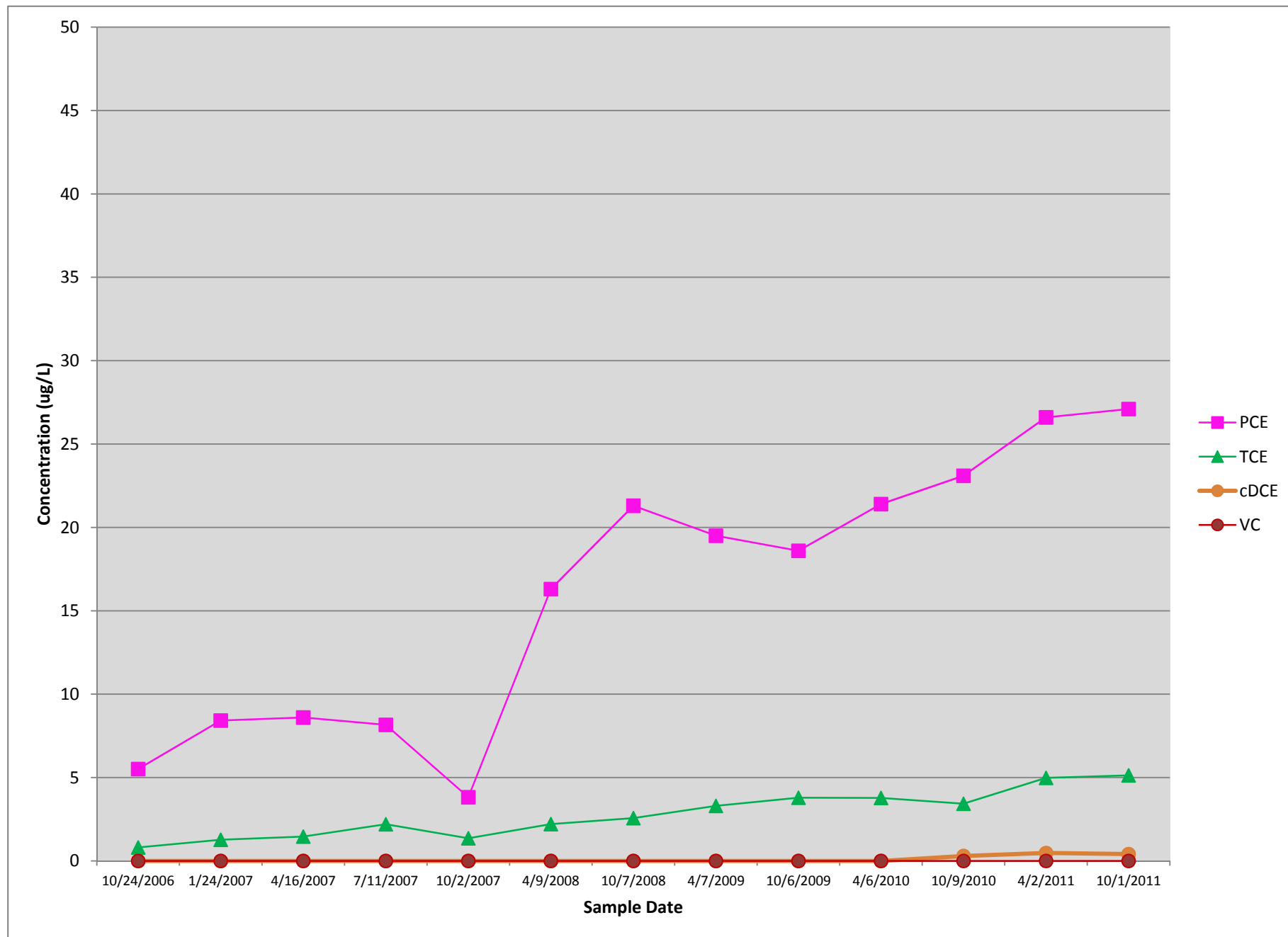
MW-108



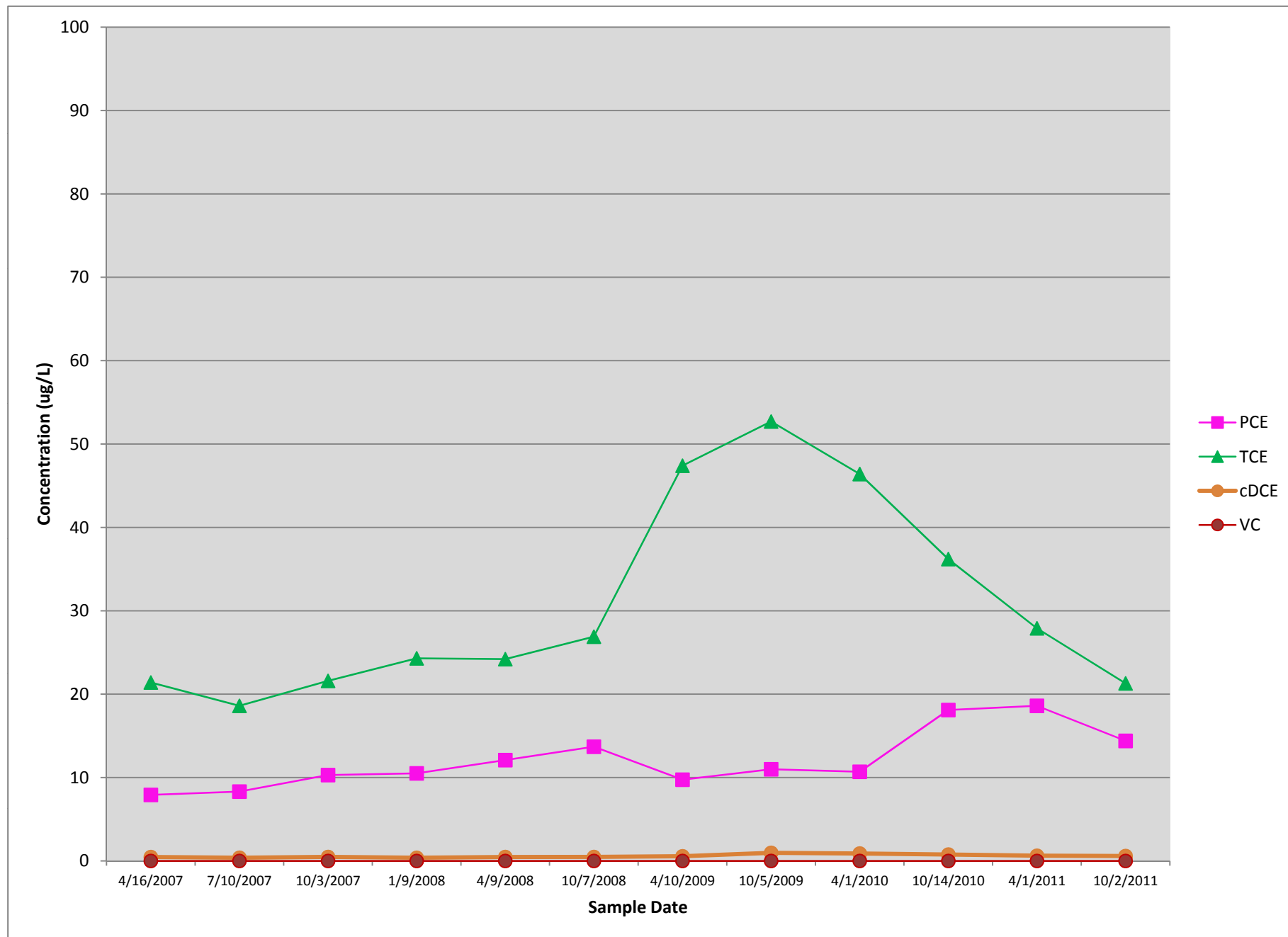
MW-141



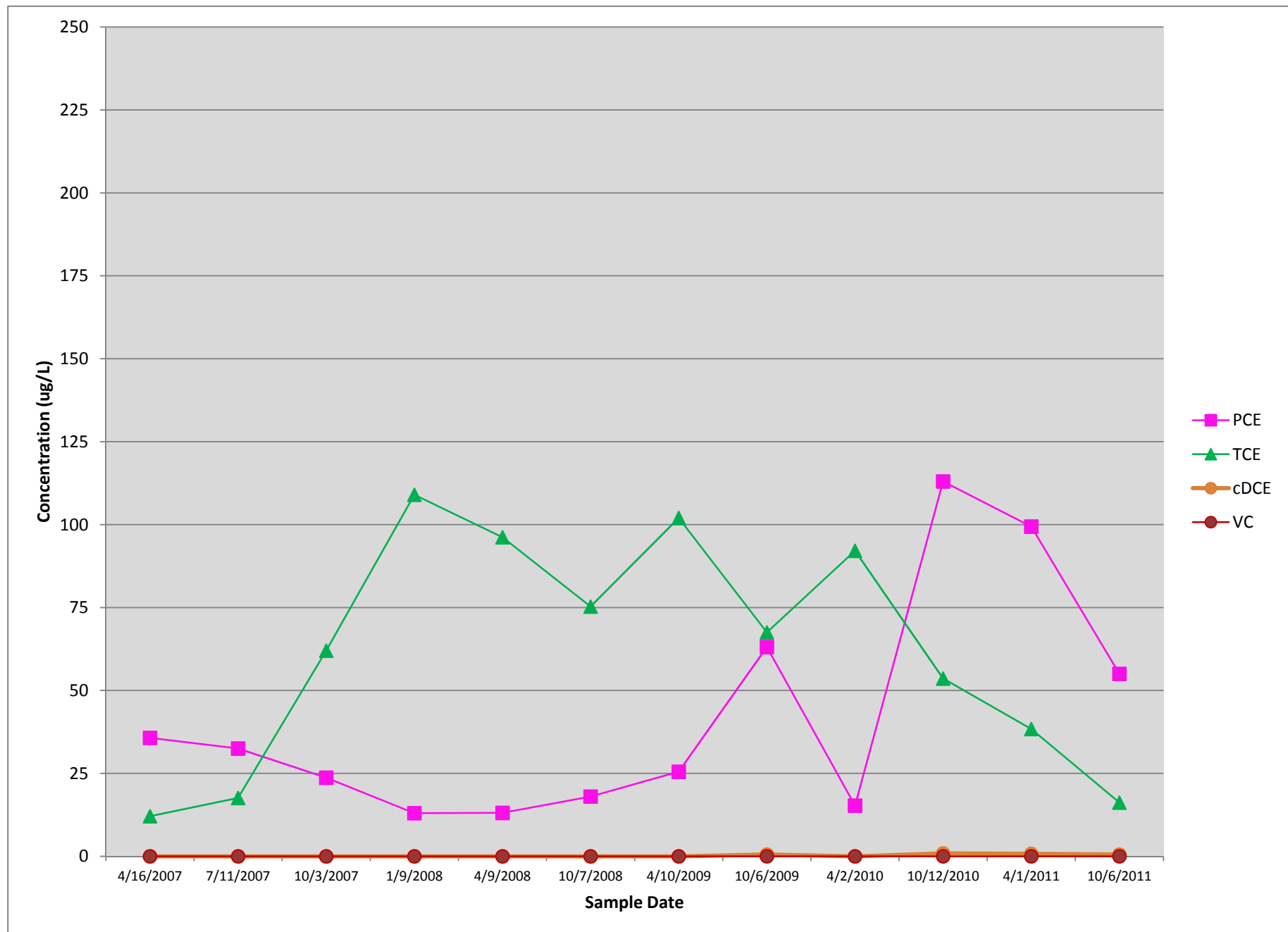
MW-202B



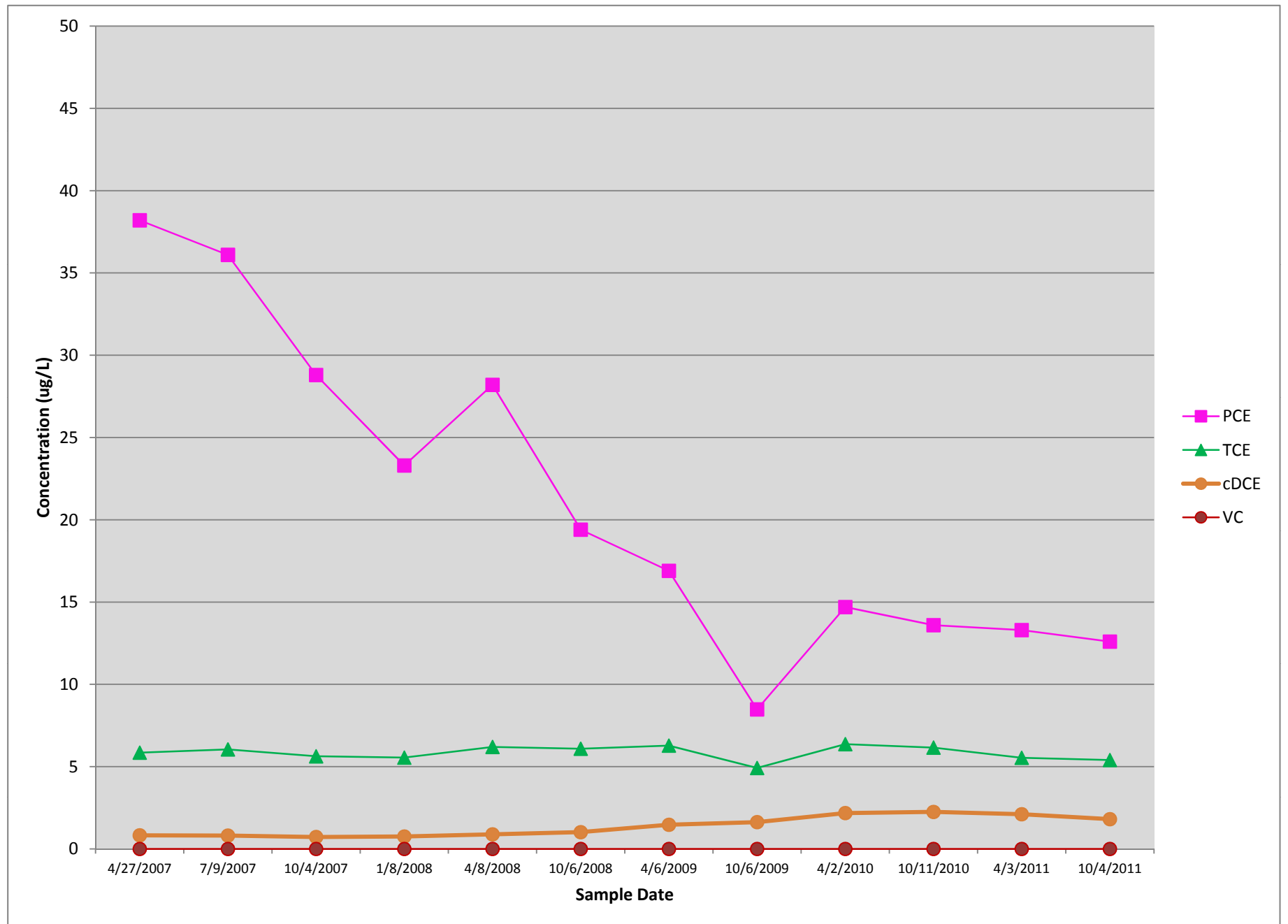
MW-207A



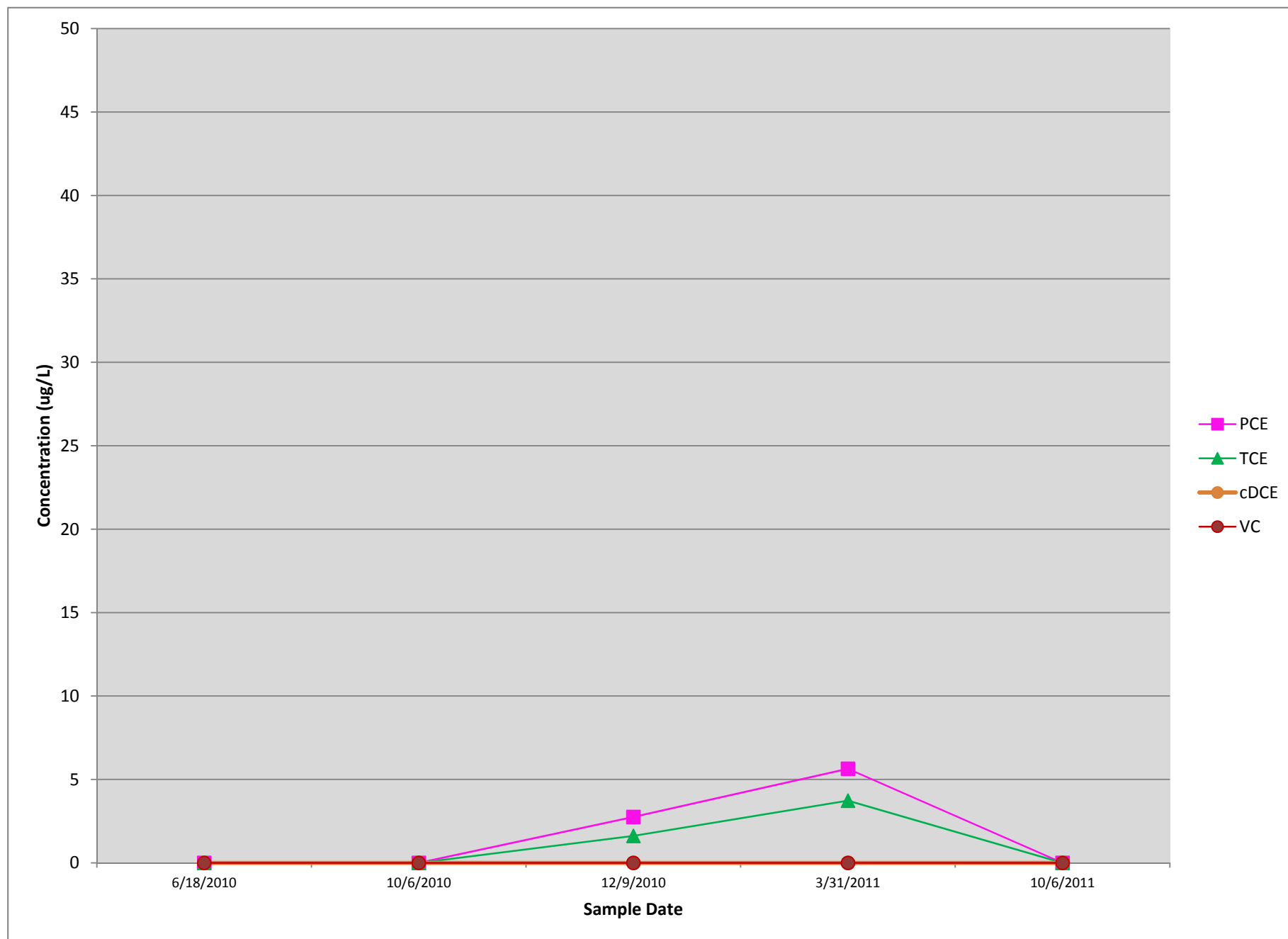
MW-207B



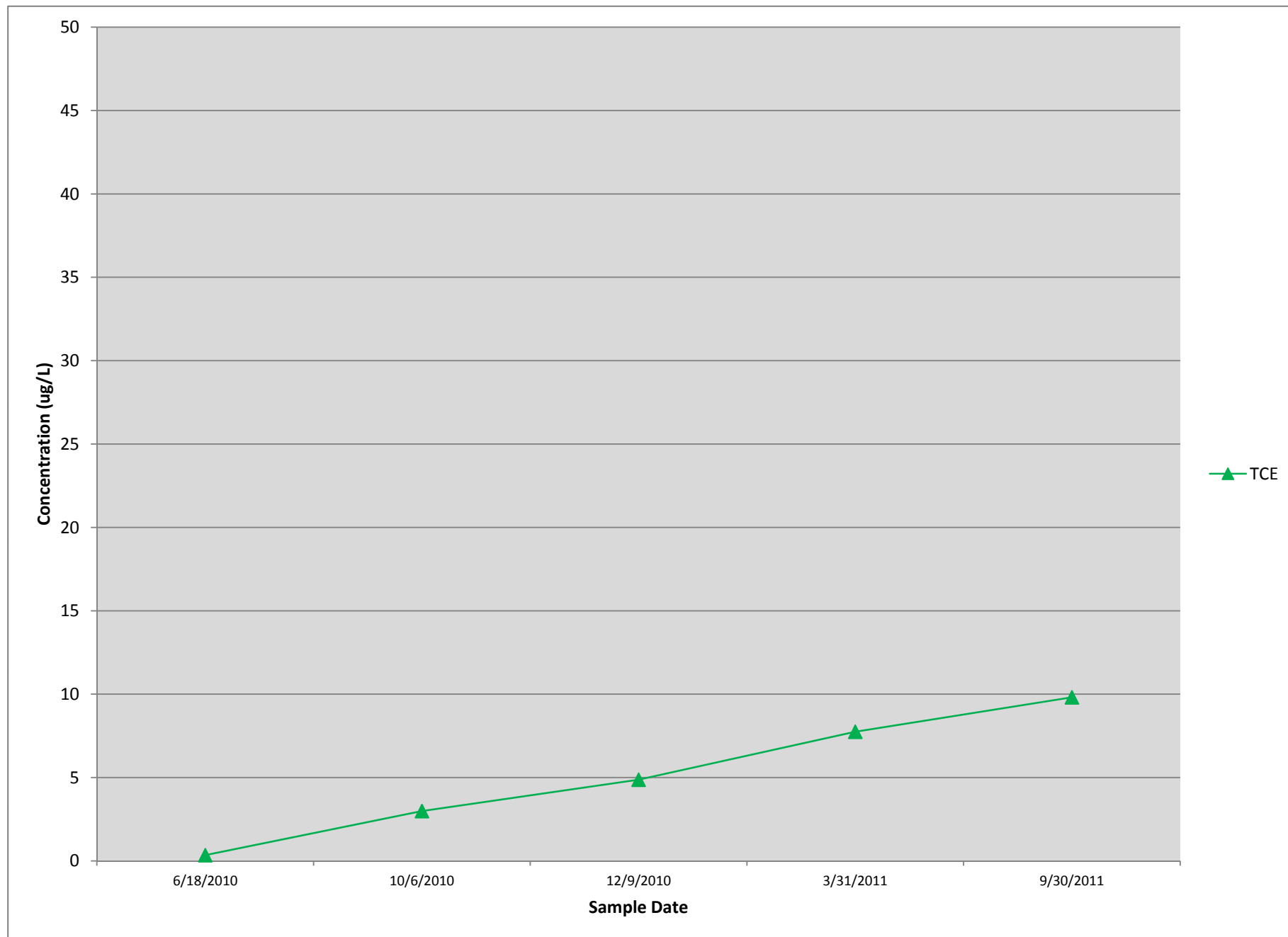
MW-210A



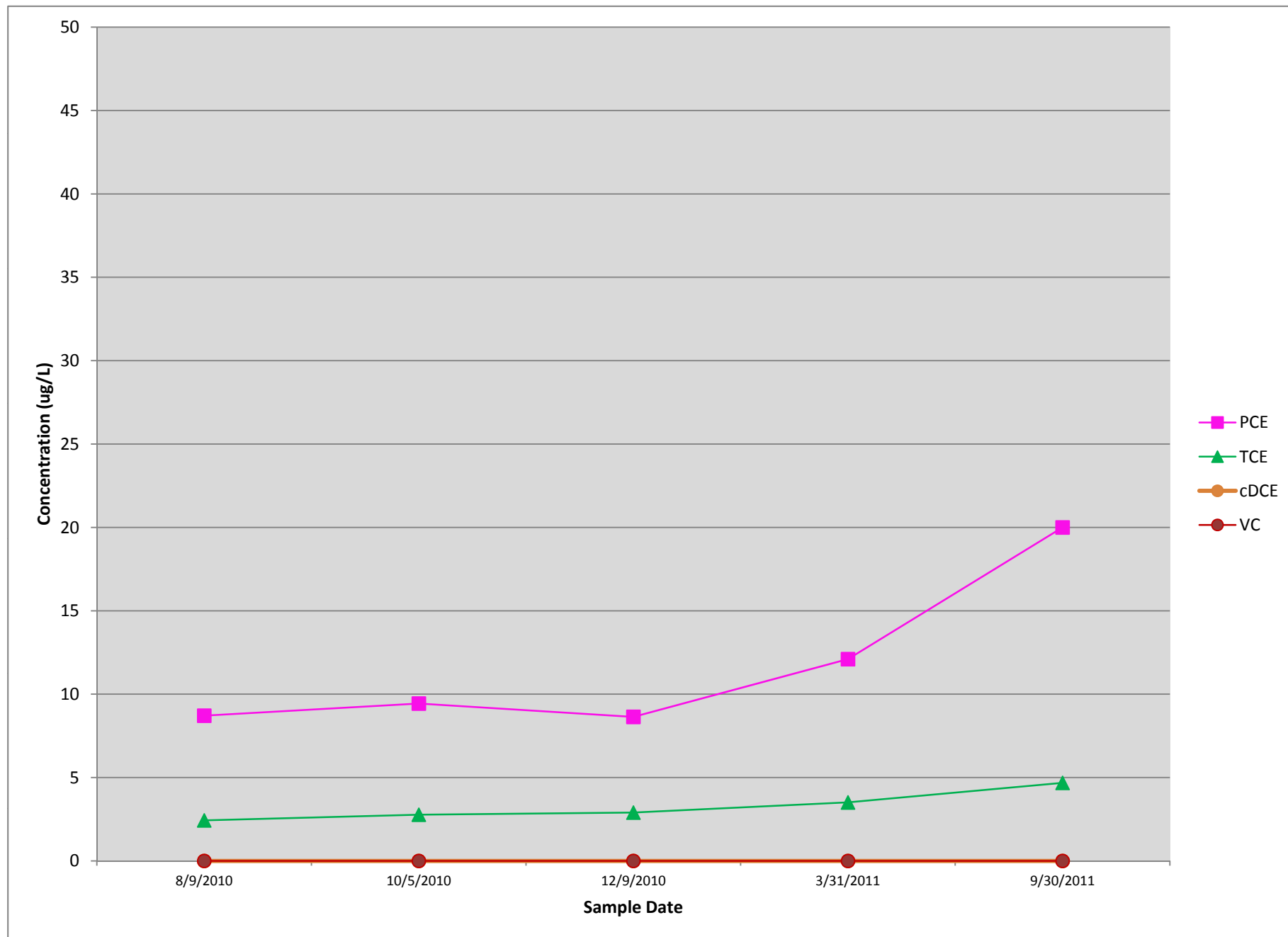
MW-252



MW-253



MW-256



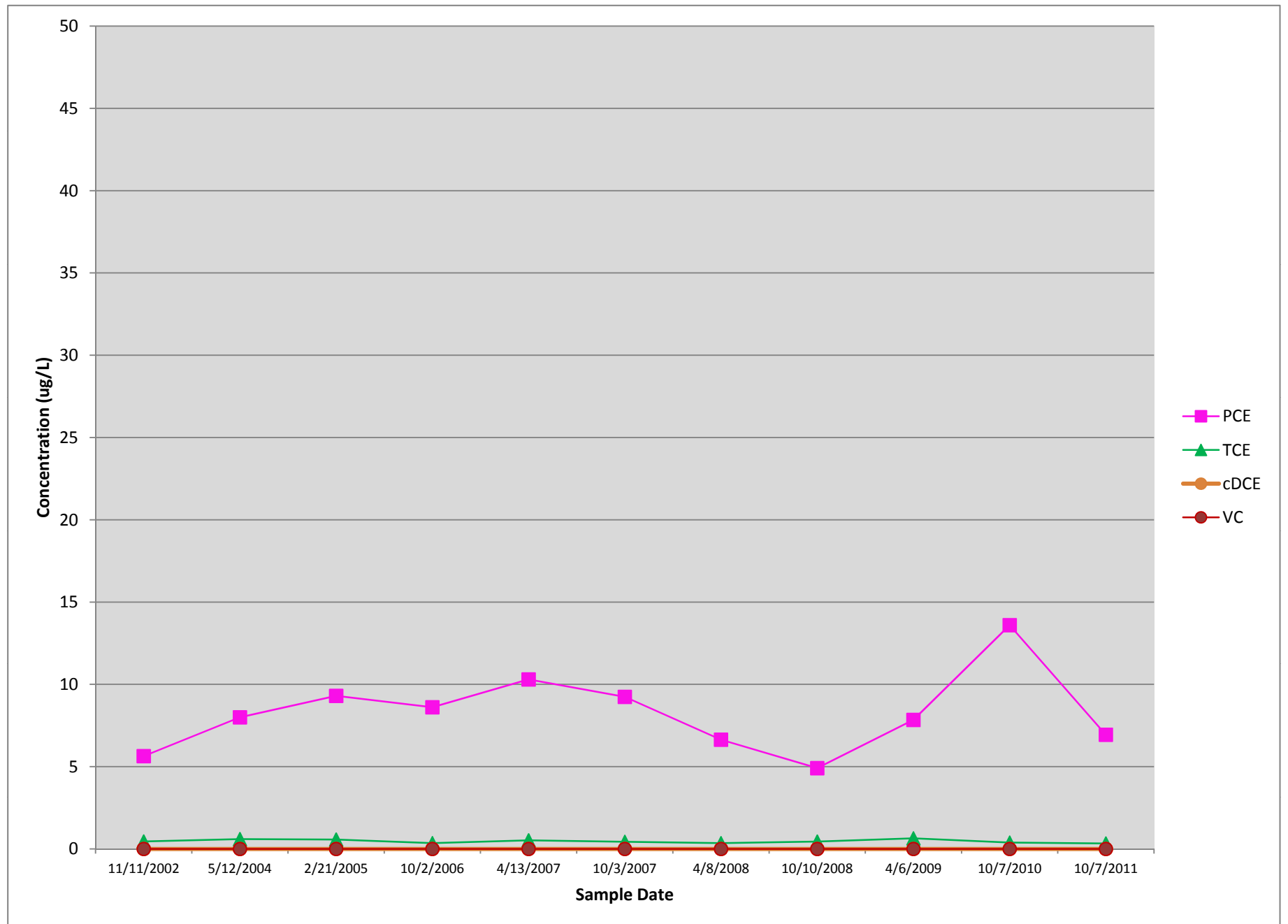
APPENDIX D-4

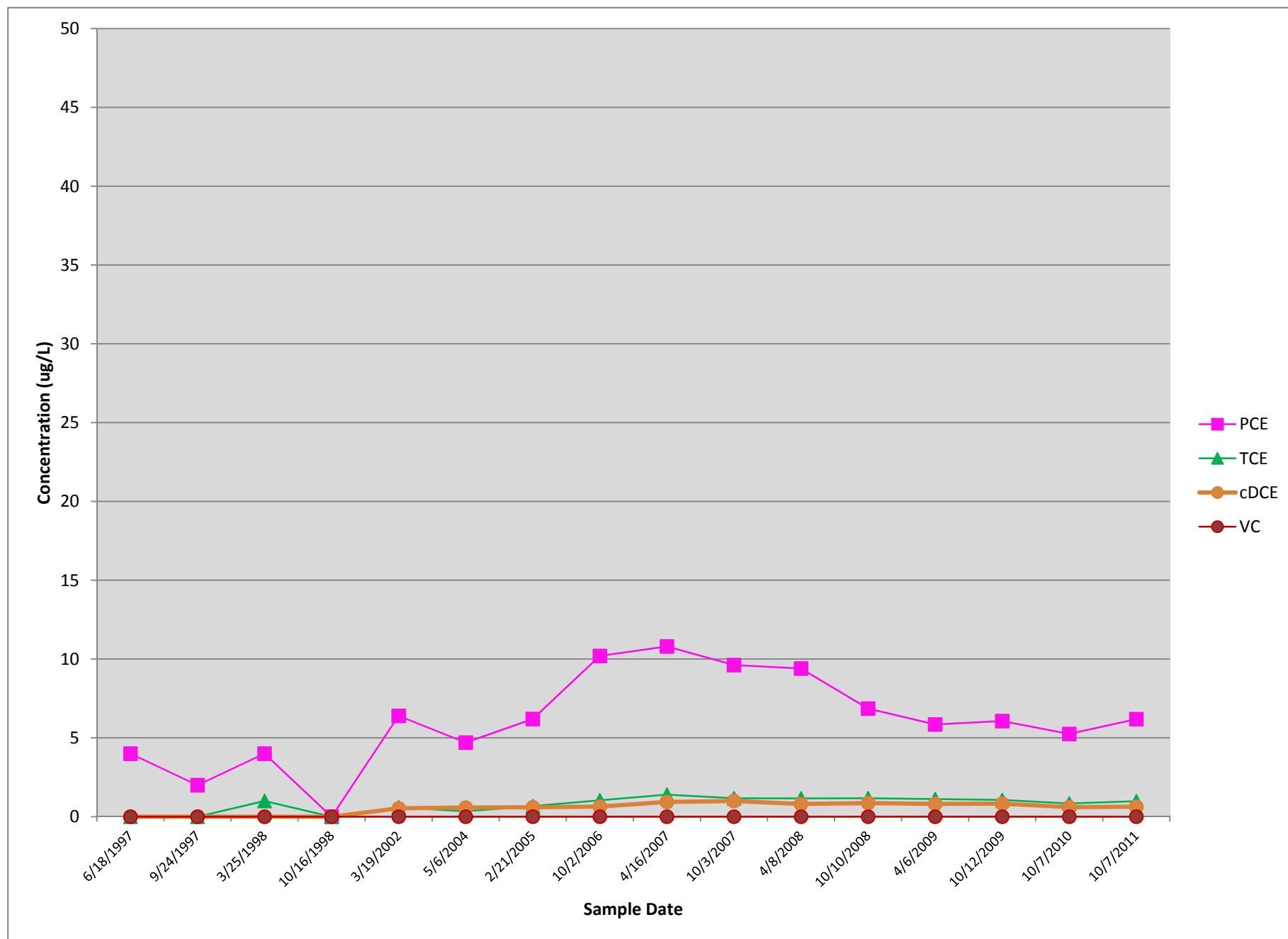
CVOC TIME-TREND PLOTS

Isolated Wells

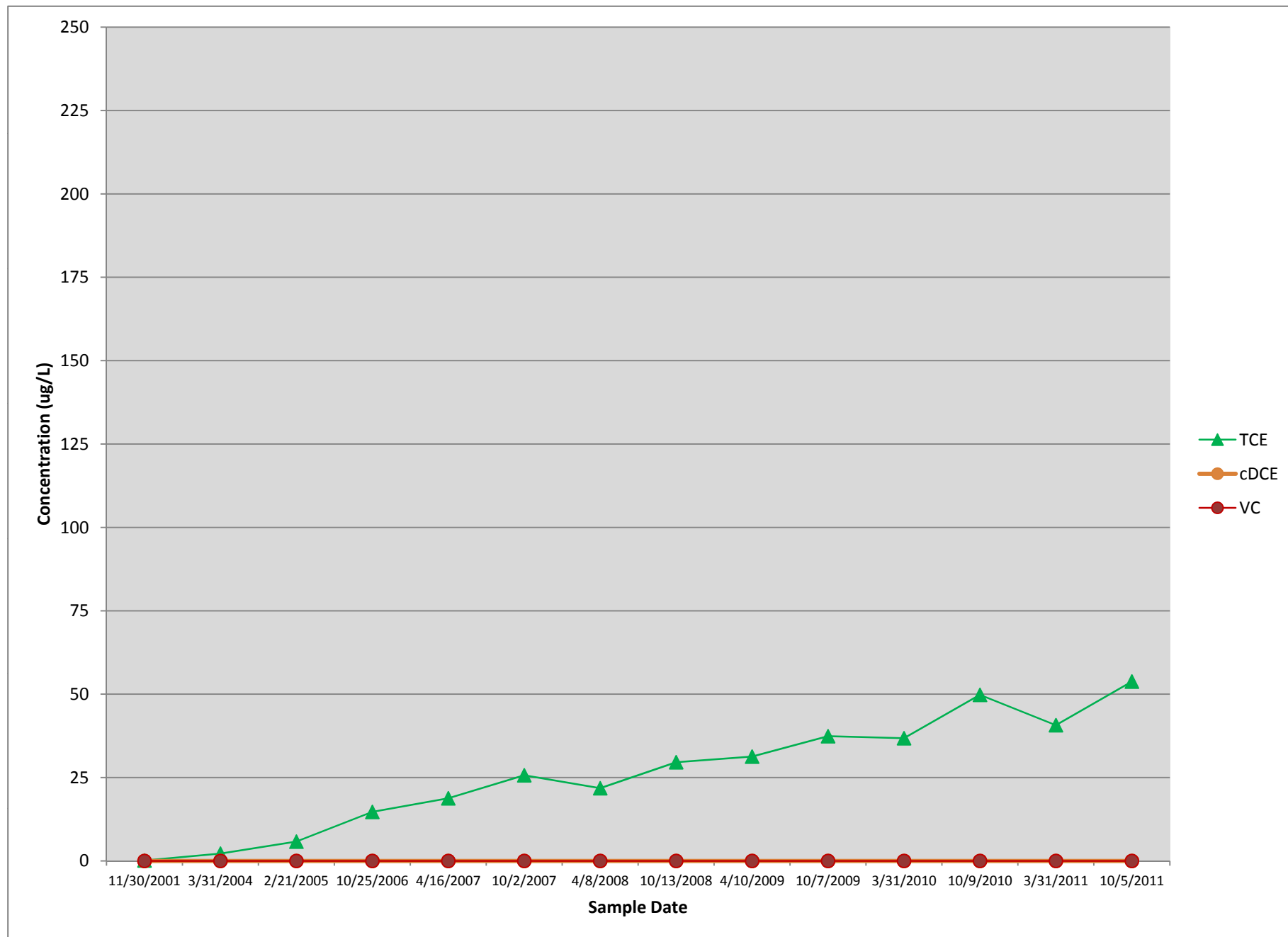
MW-25A, MW-52, MW-97

MW-25A





MW-97



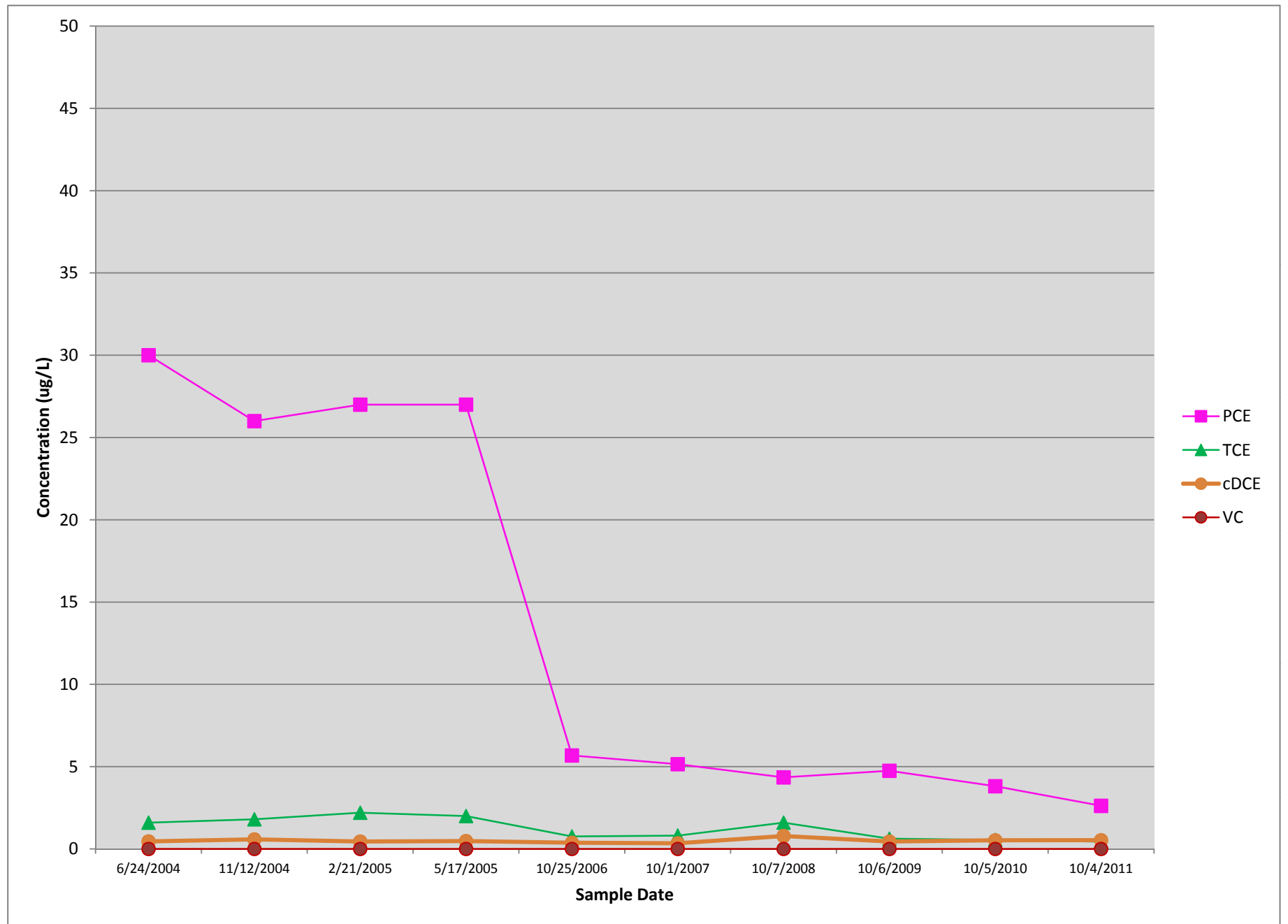
APPENDIX D-5

CVOC TIME-TREND PLOTS

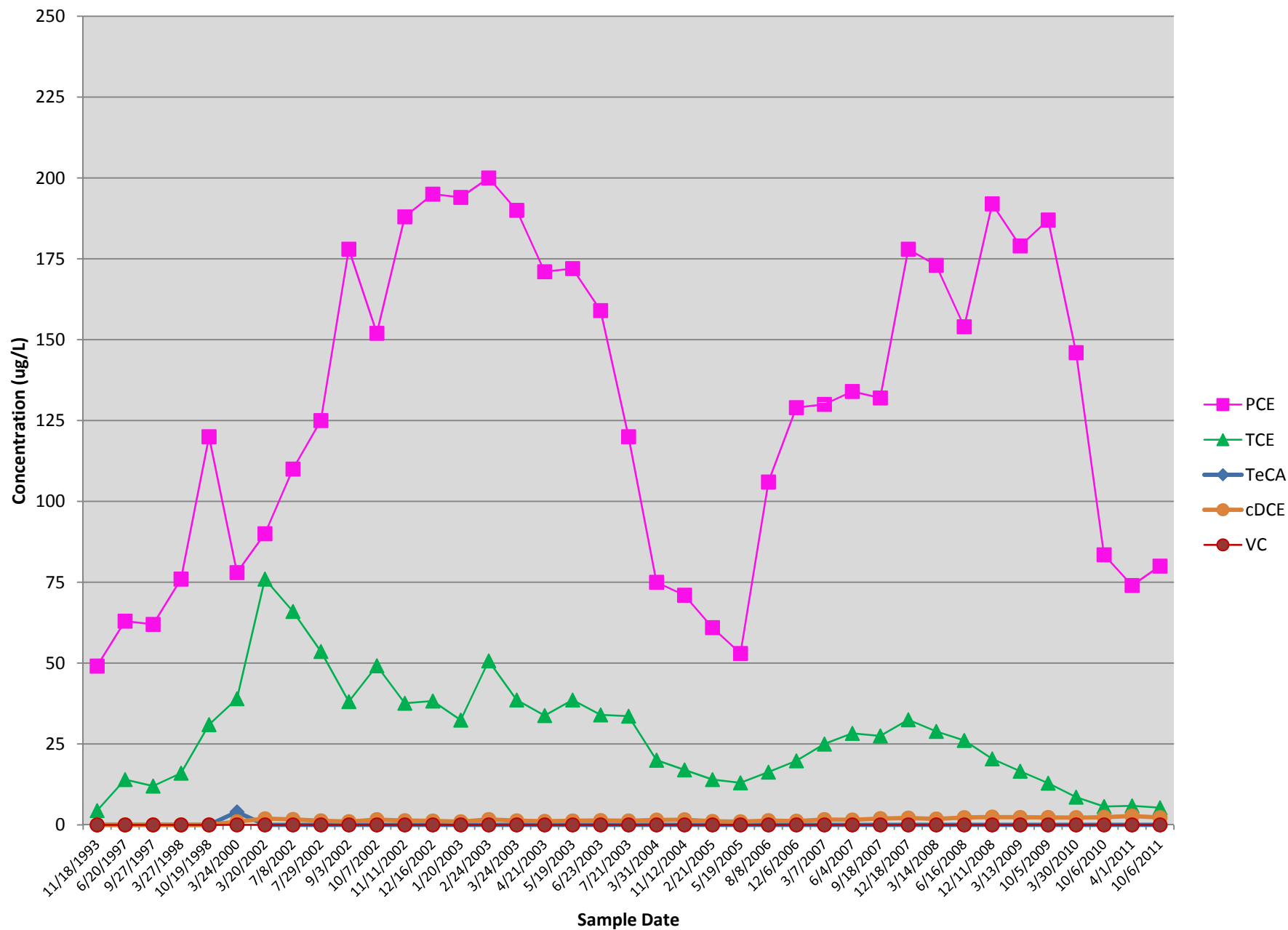
TTA-1 North

DR1-7, MW-21, MW-100B, PMW21-03, PMW-21-05

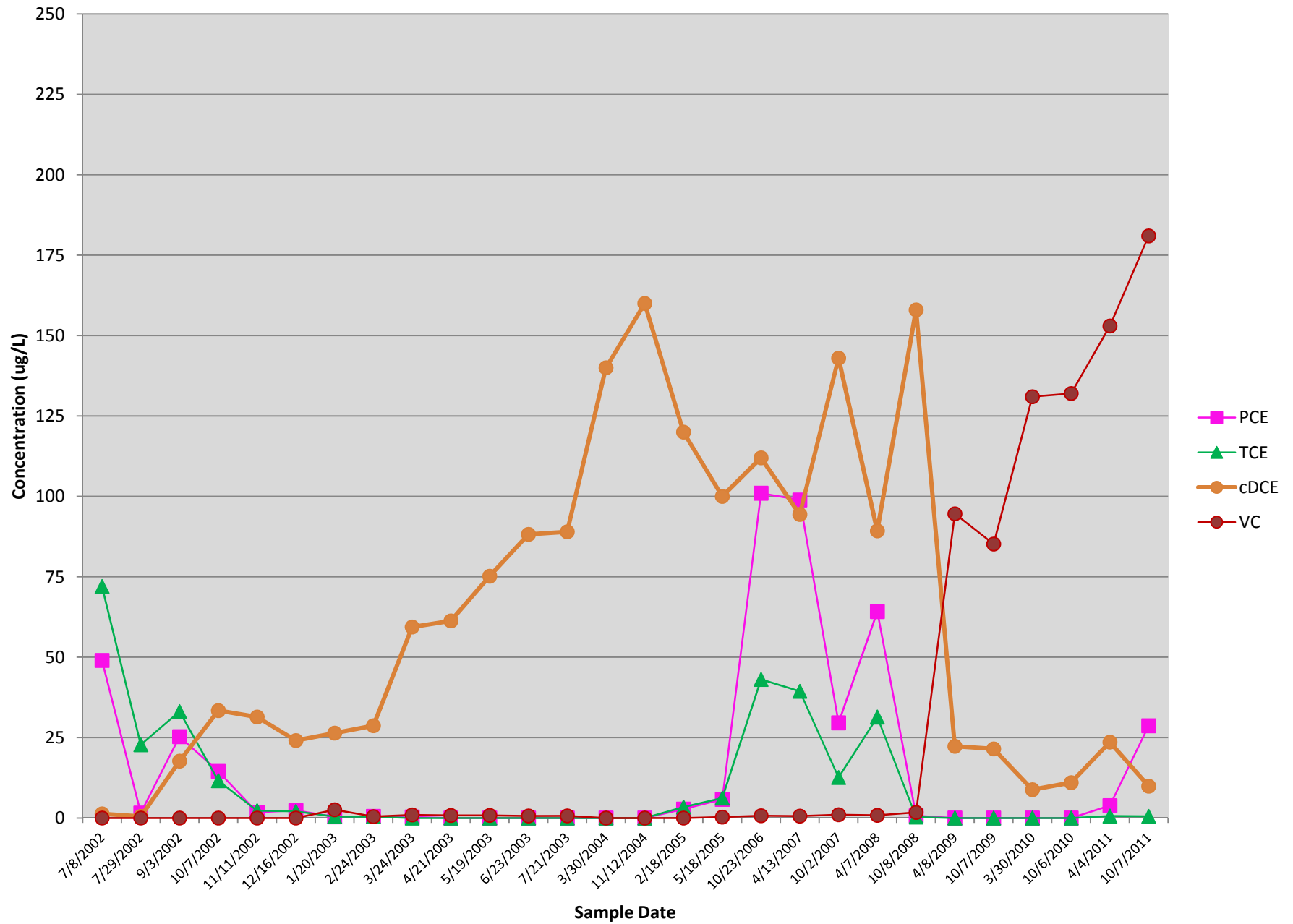
DR1-7



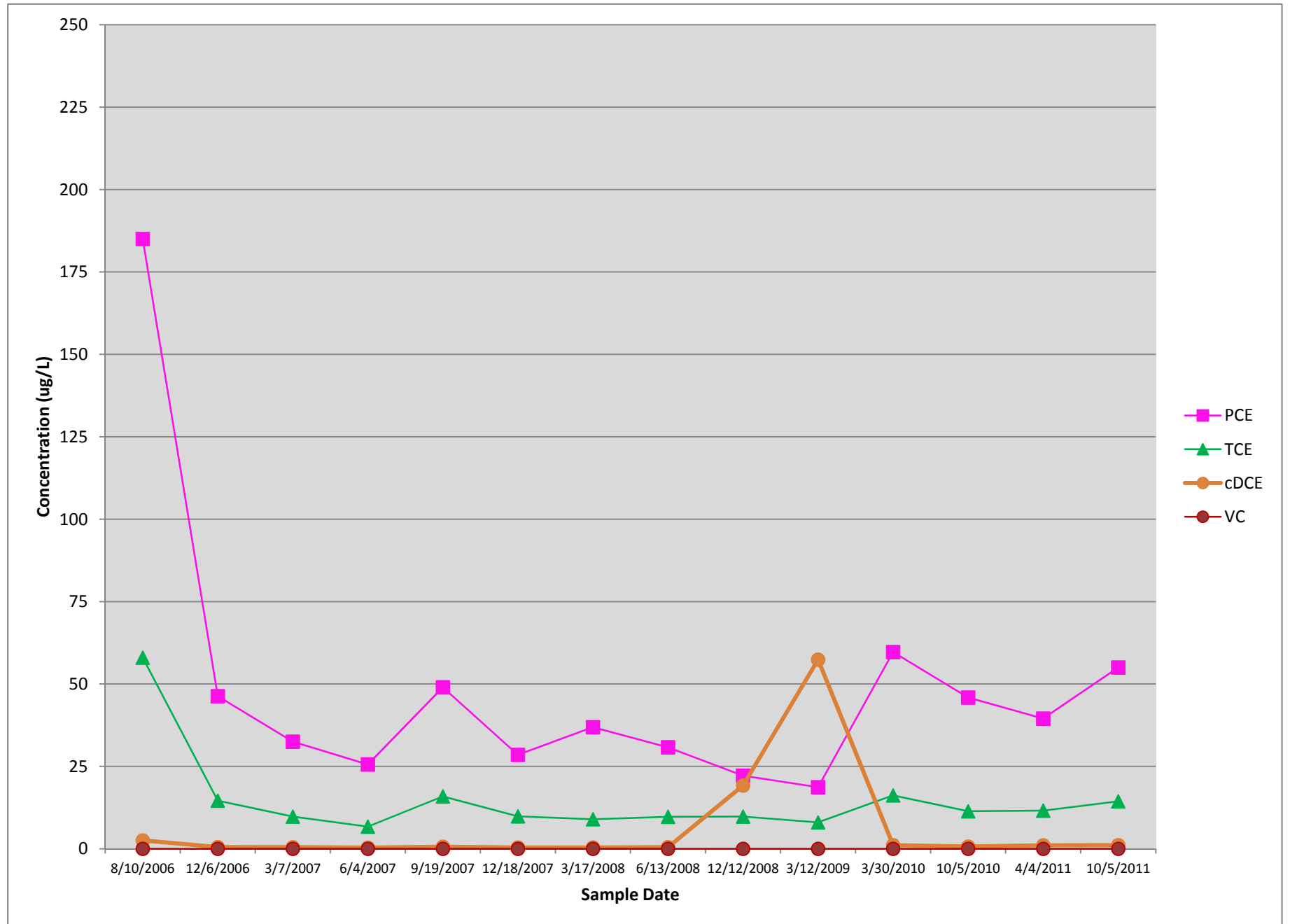
MW-21



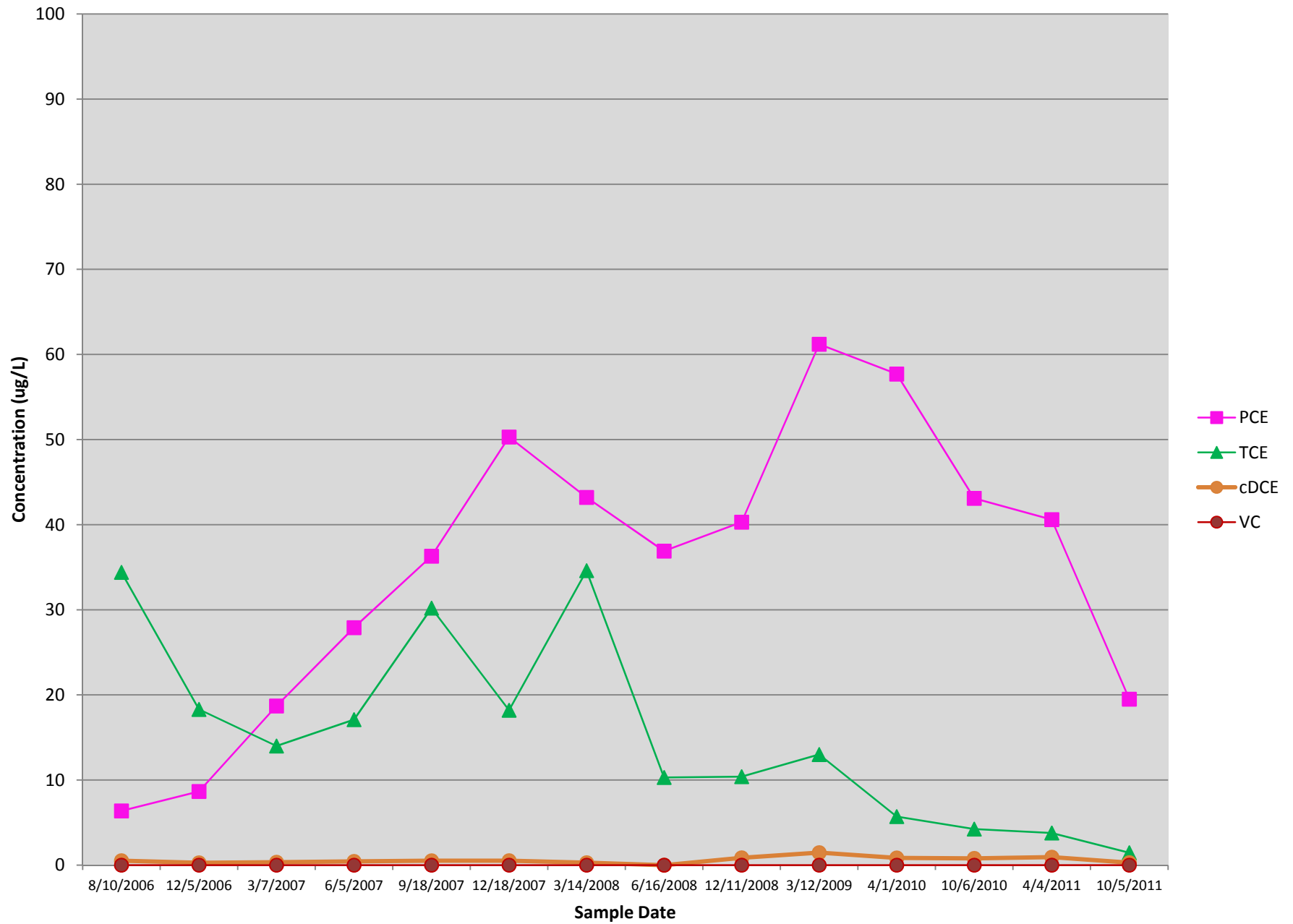
MW-100B



PMW21-03



PMW21-05



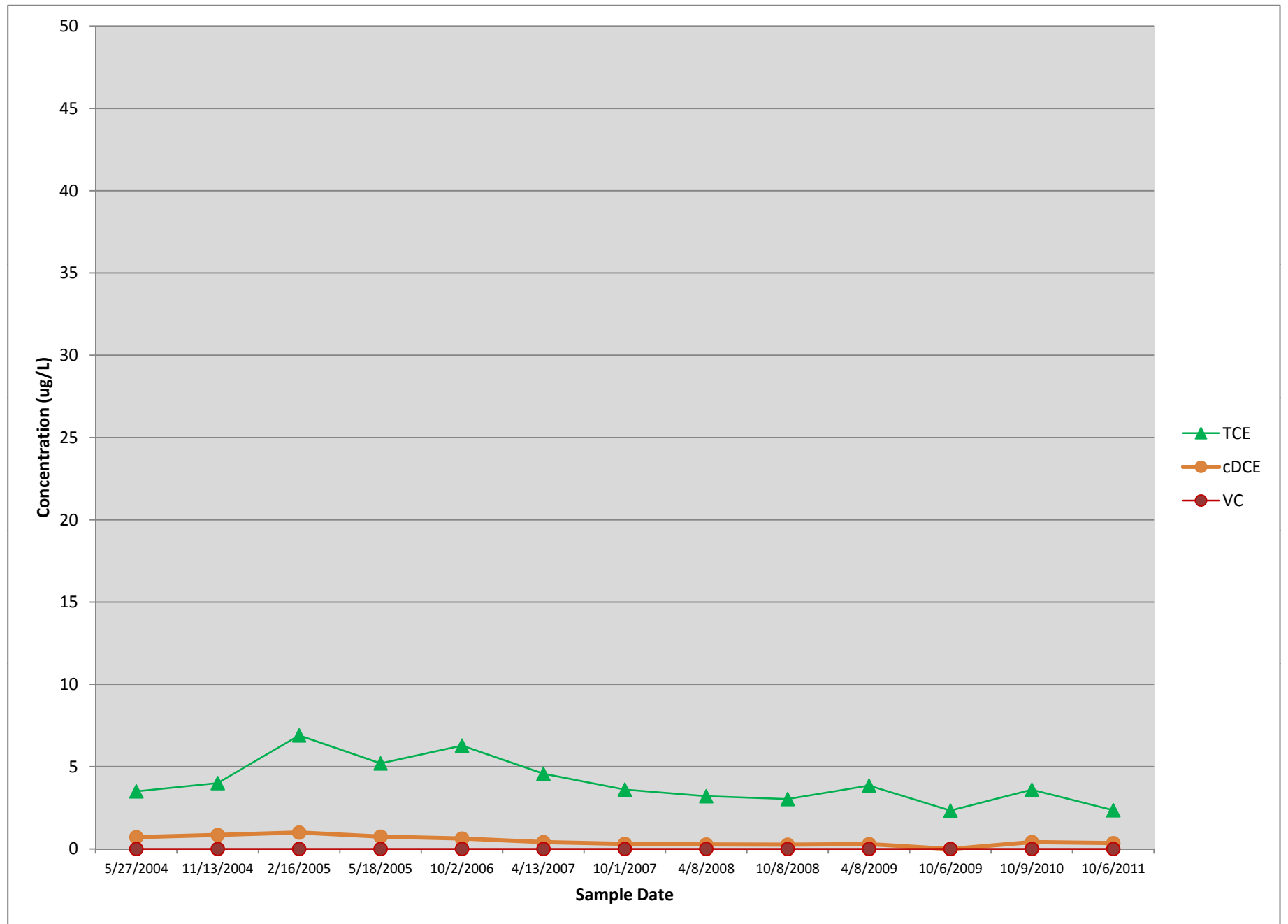
APPENDIX D-6

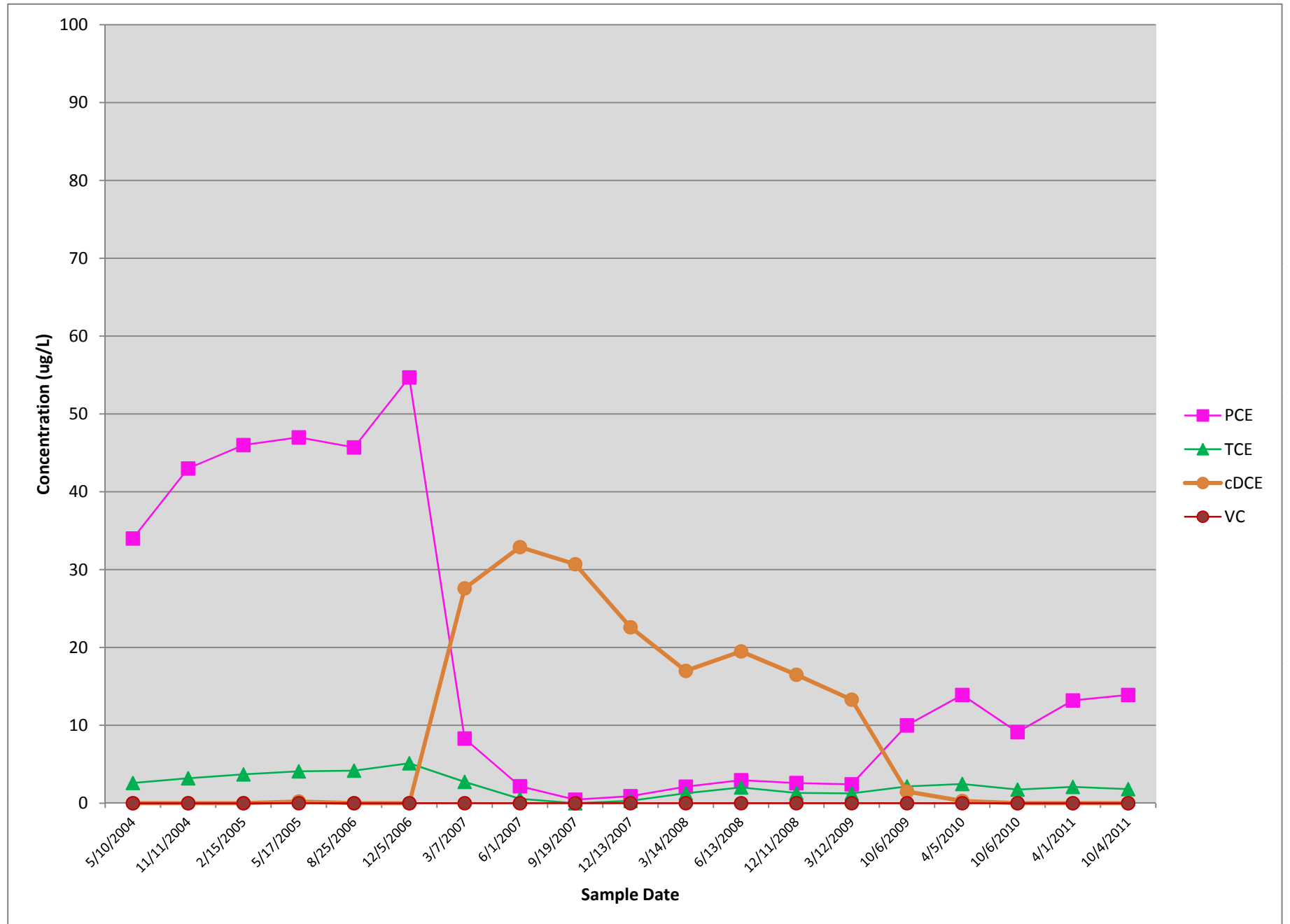
CVOC TIME-TREND PLOTS

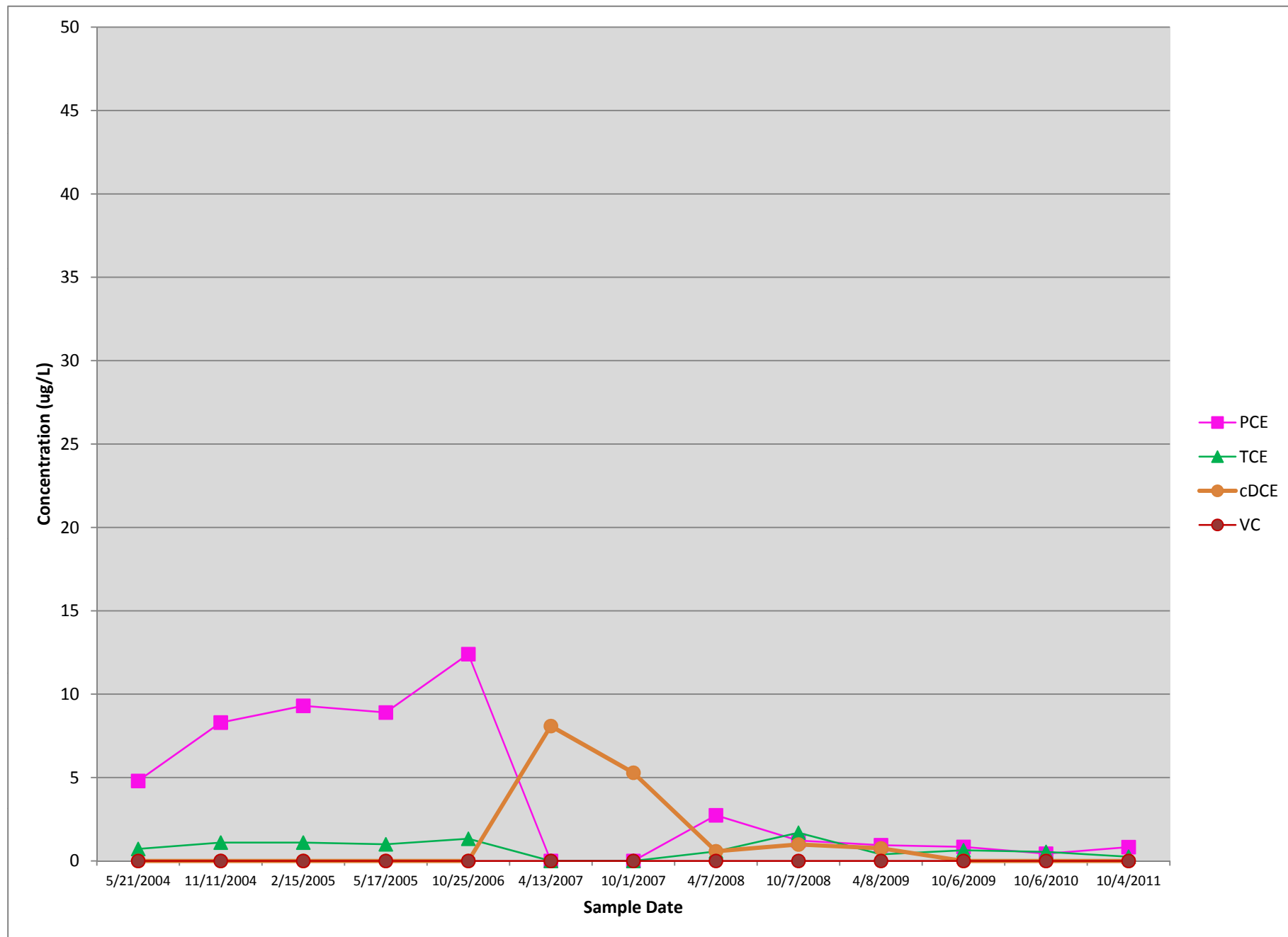
TTA-1 South

**DR1-1A, DR1-3, DR1-4, DR1-5, DR1-5A, DR1-6, DR1-6A,
MW-101, PMW101-04A, PMW101-04B**

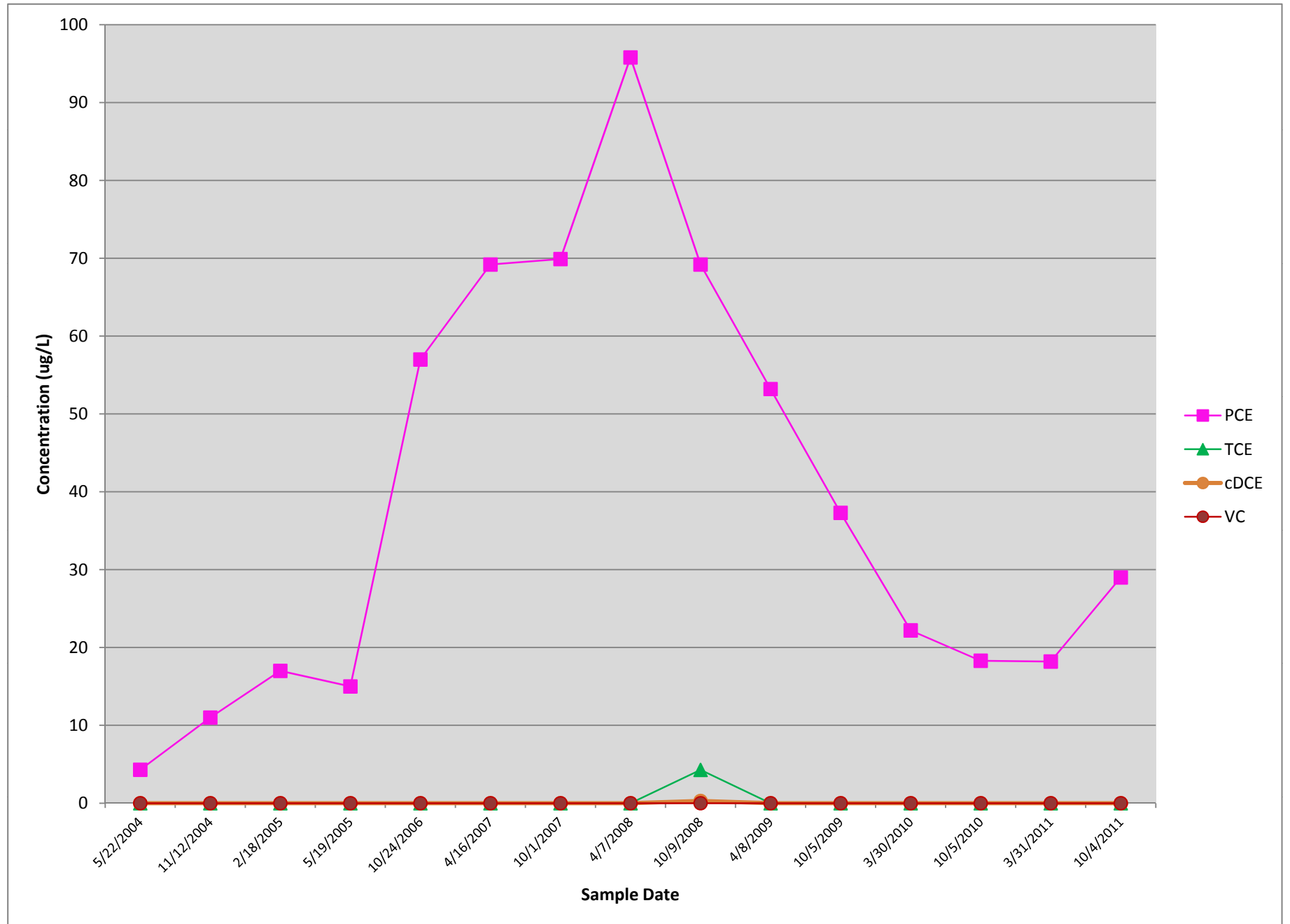
DR1-1A



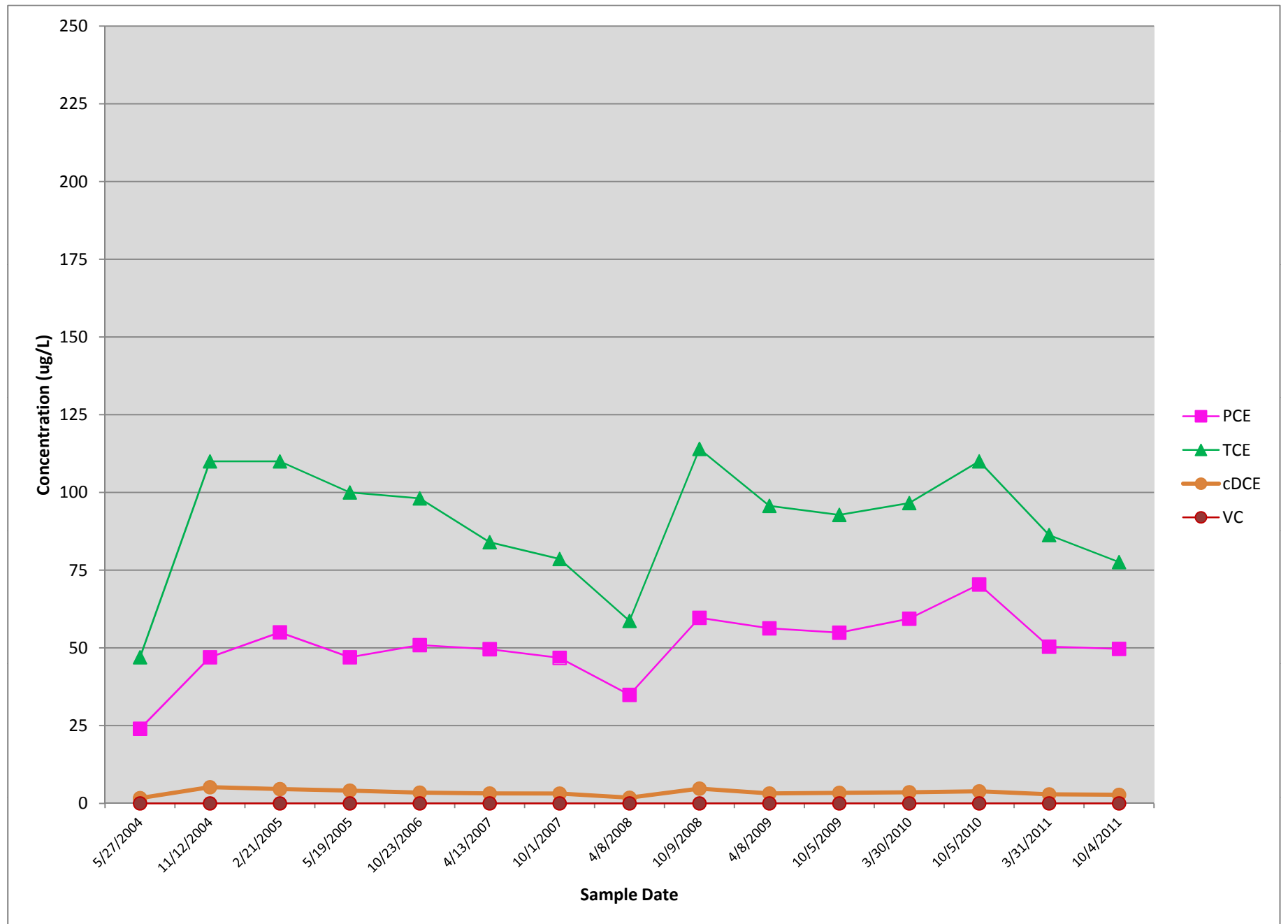




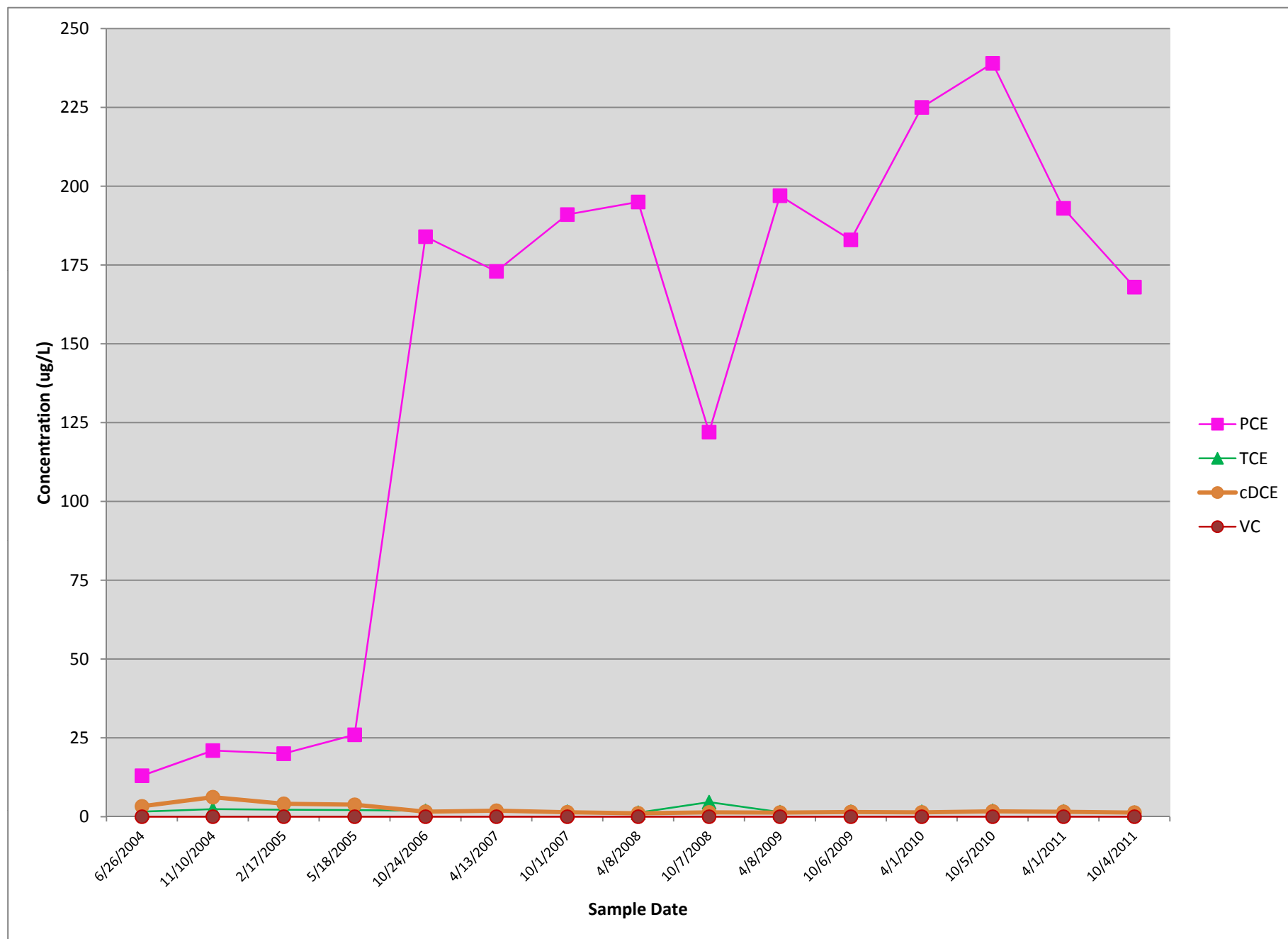
DR1-5



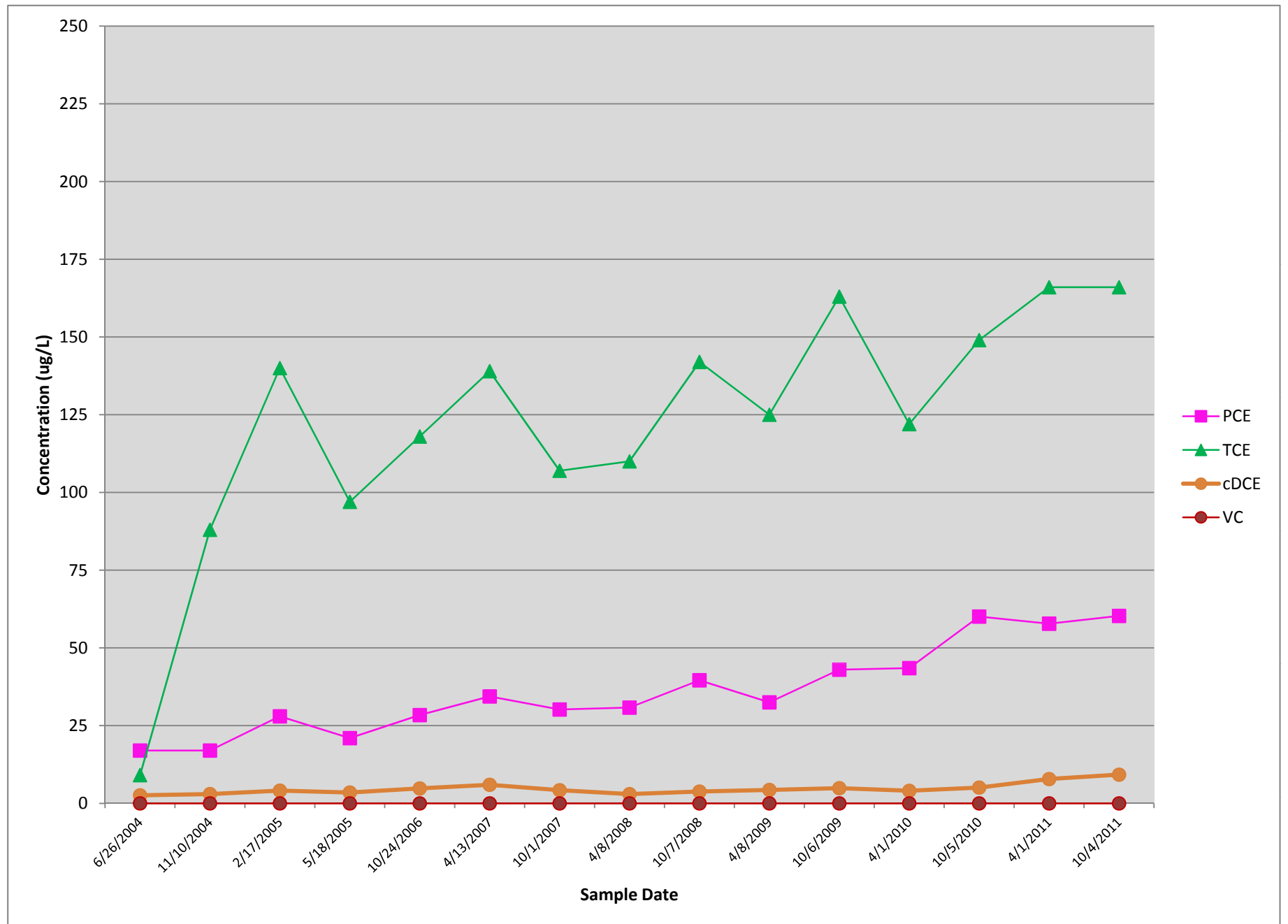
DR1-5A



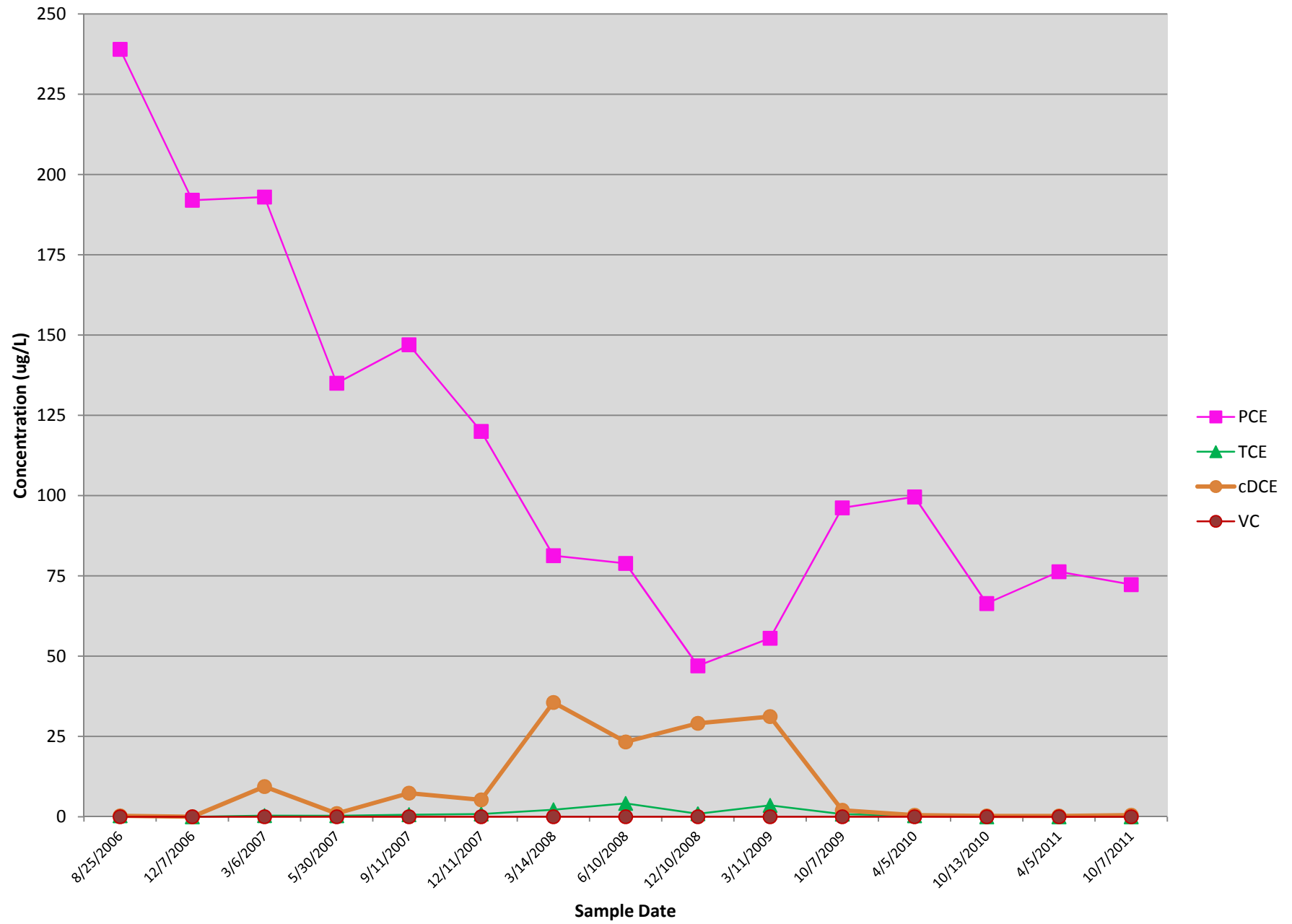
DR1-6



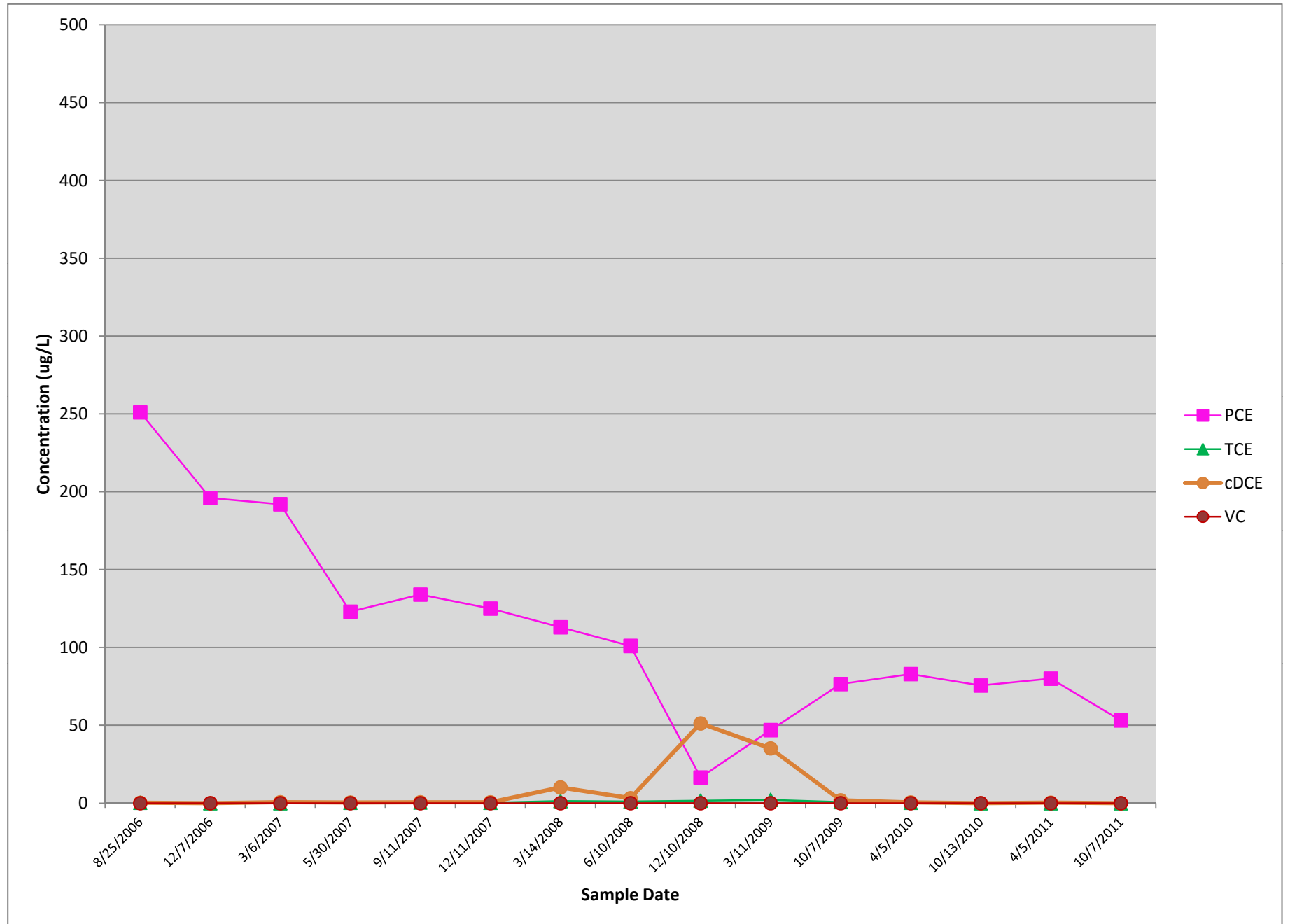
DR1-6A



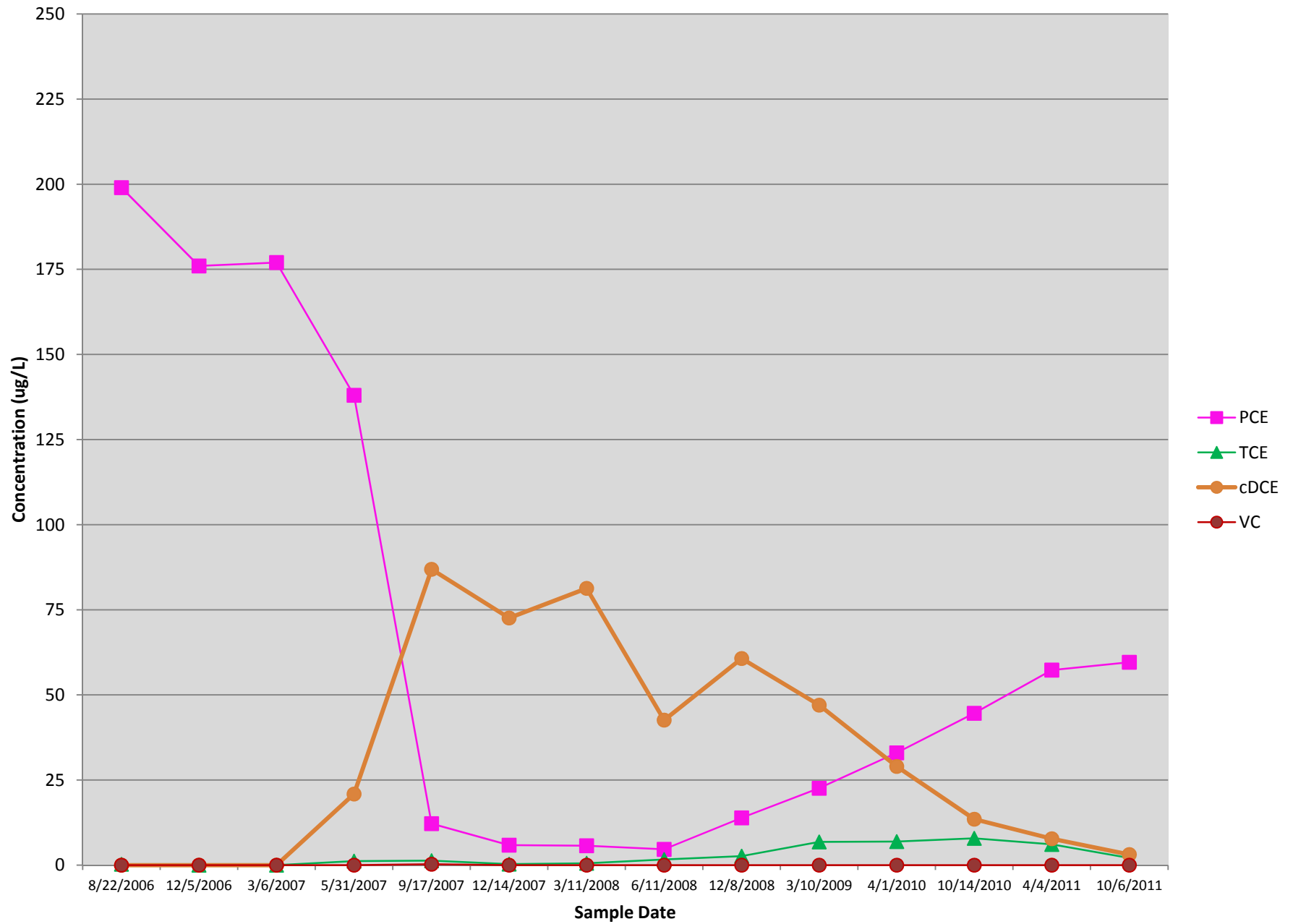
MW-101 BOTTOM



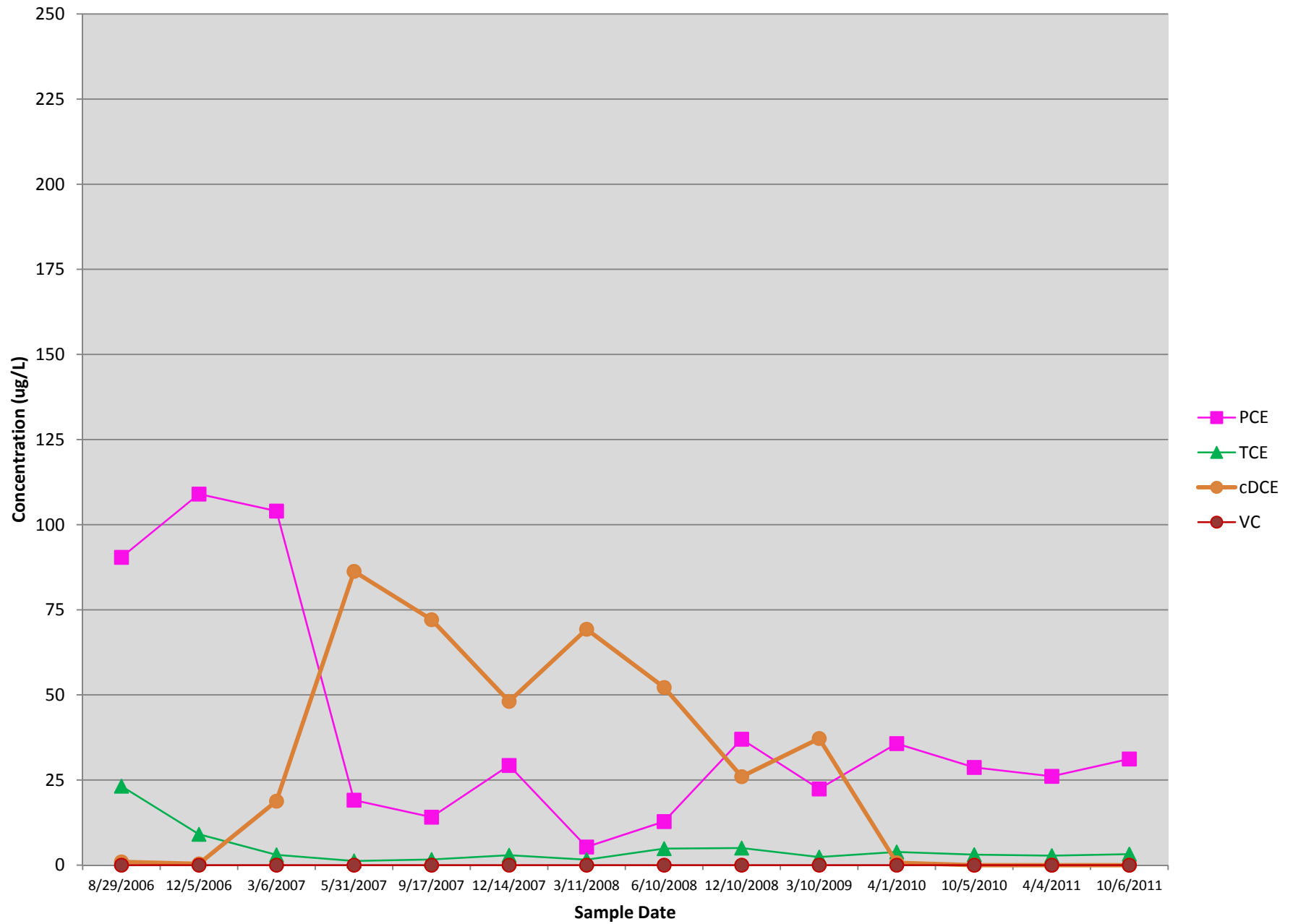
MW-101 TOP



PMW101-04A



PMW101-04B

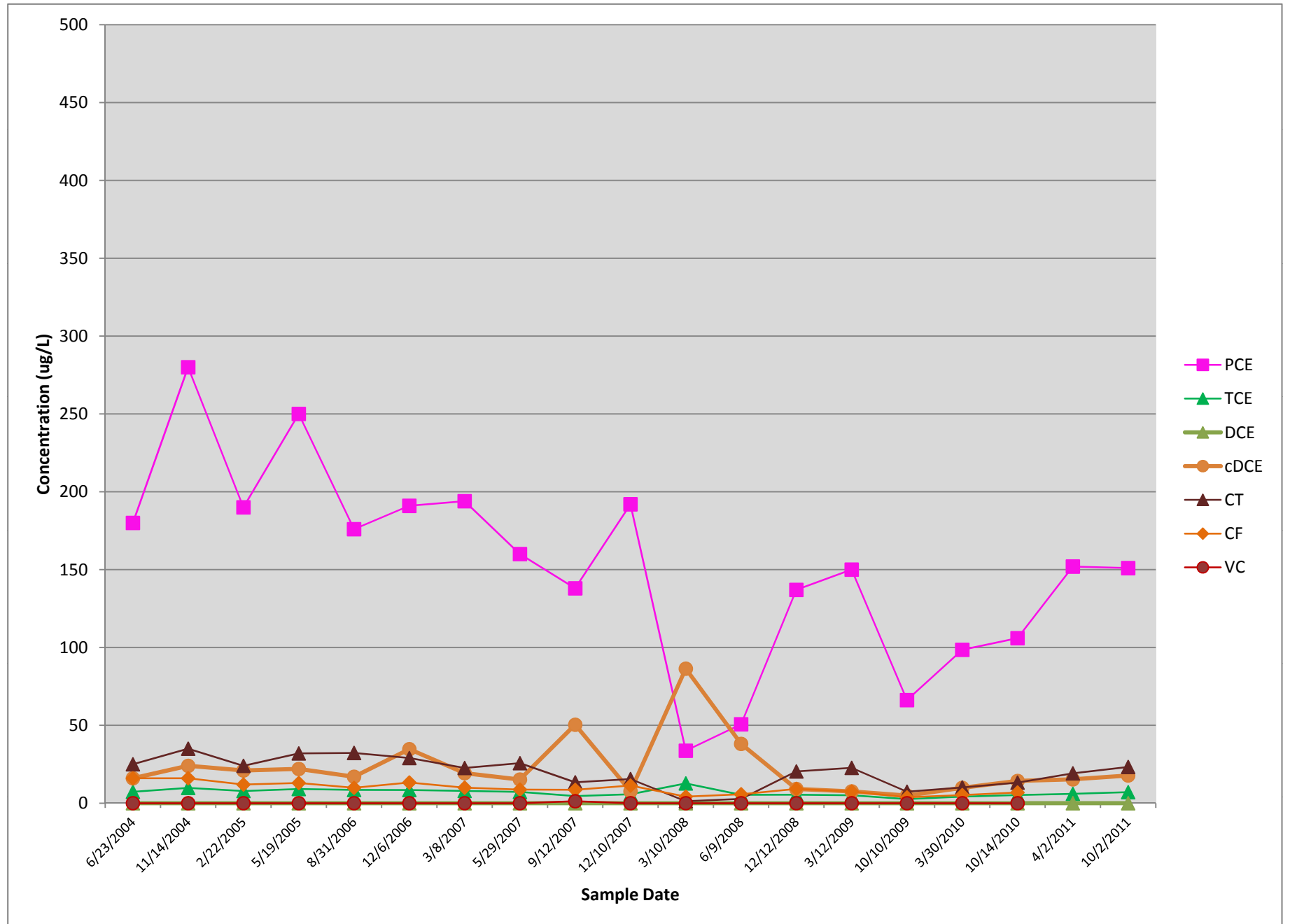


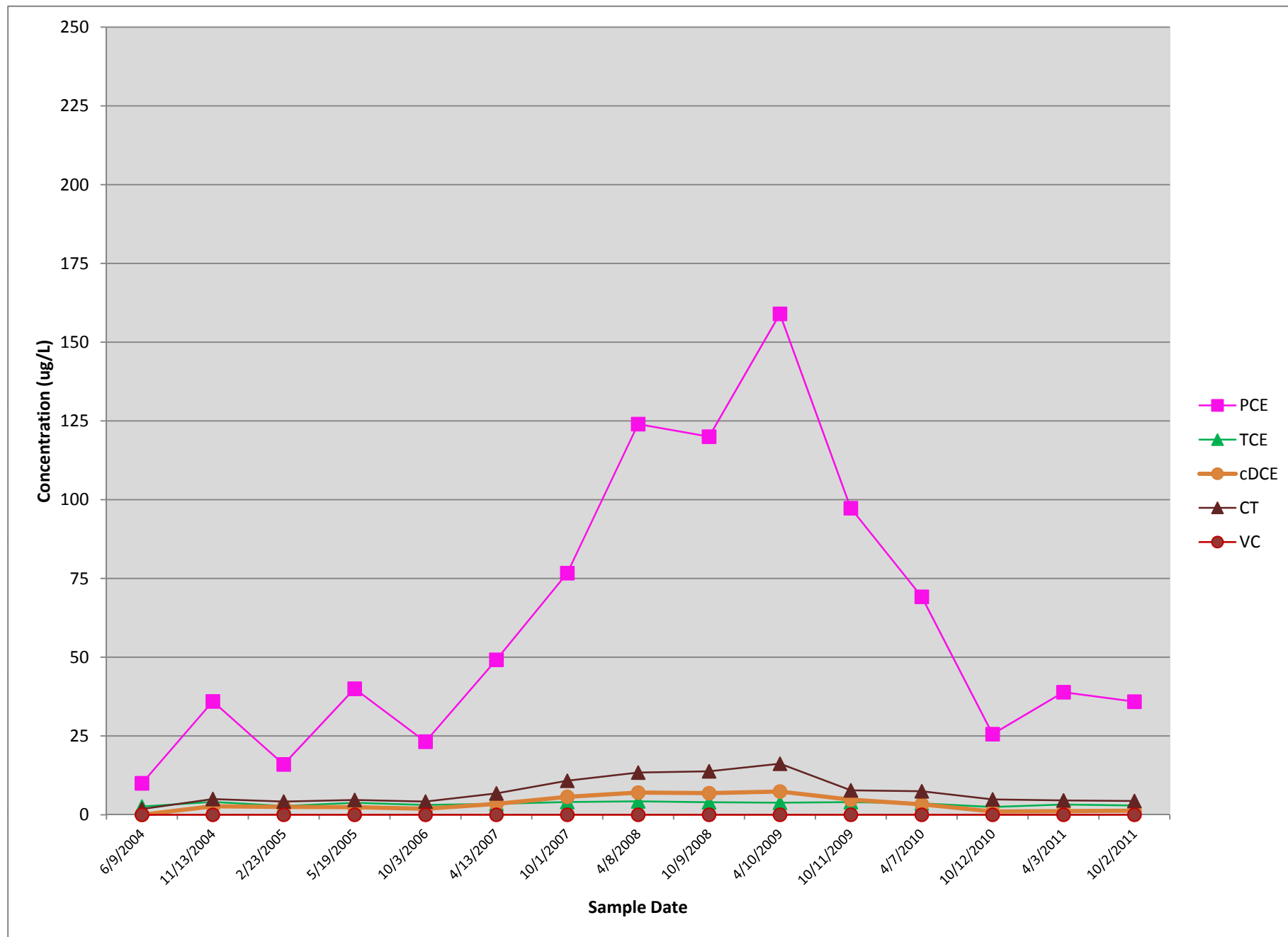
APPENDIX D-7

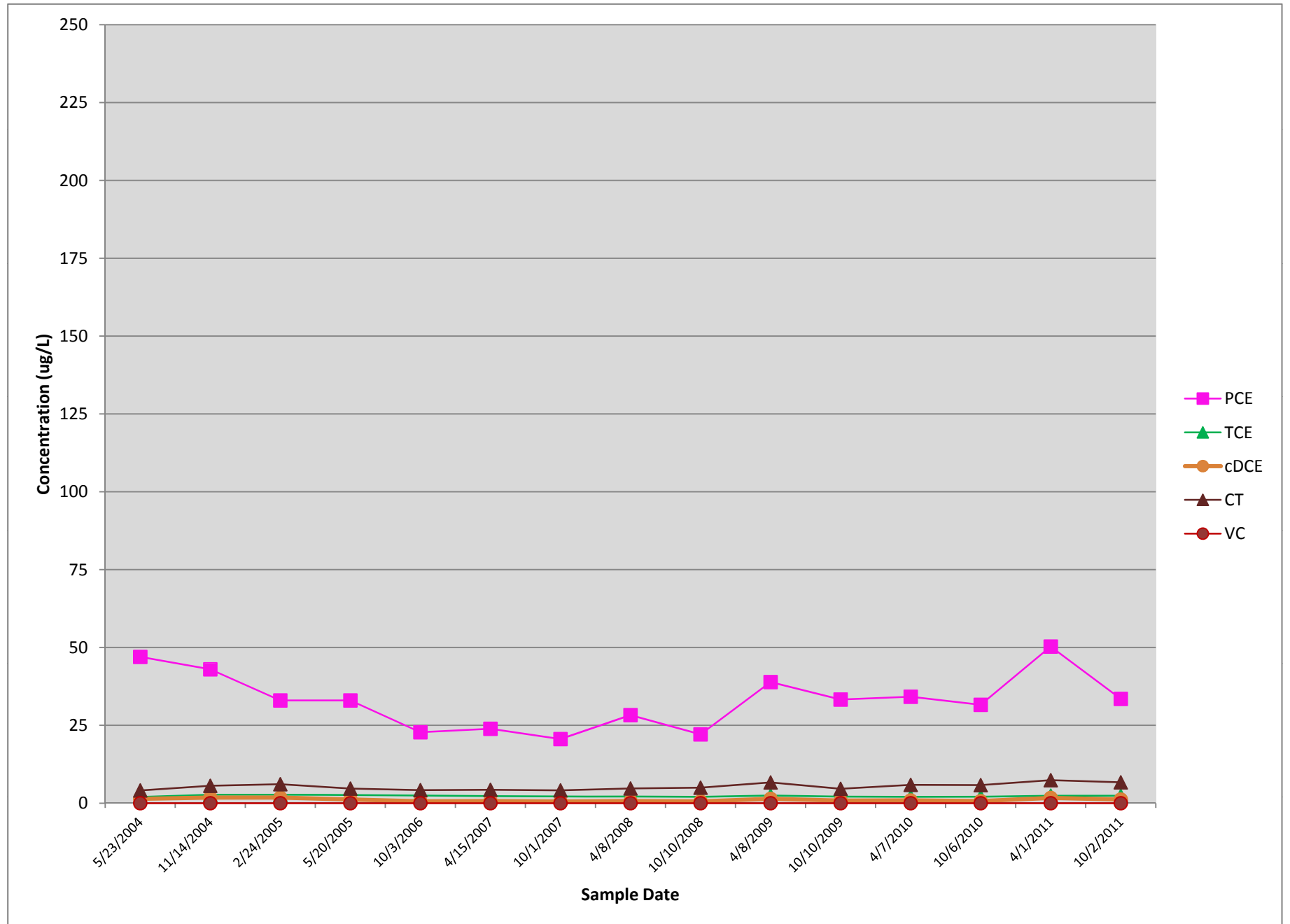
CVOC TIME-TREND PLOTS

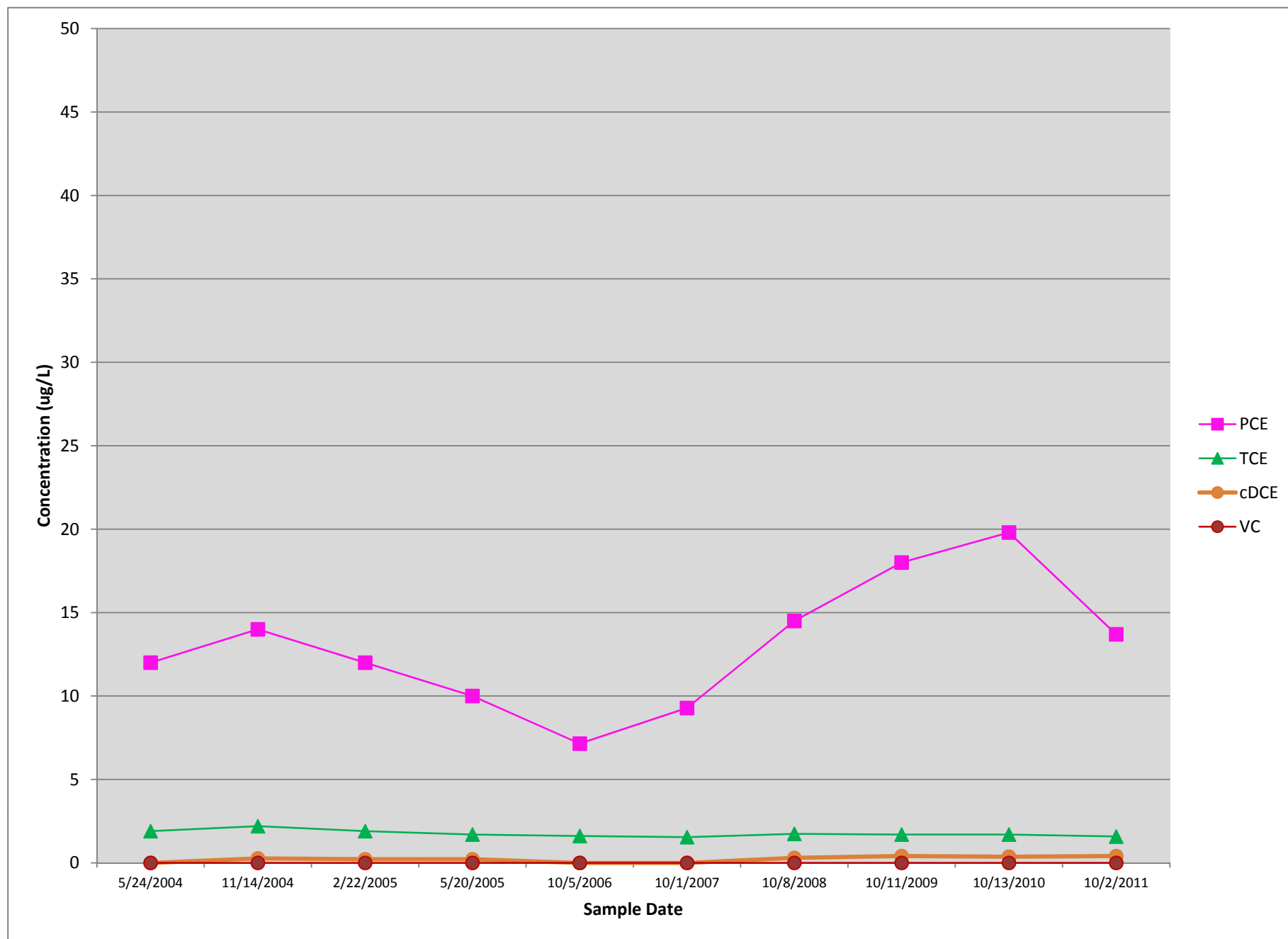
TTA-2

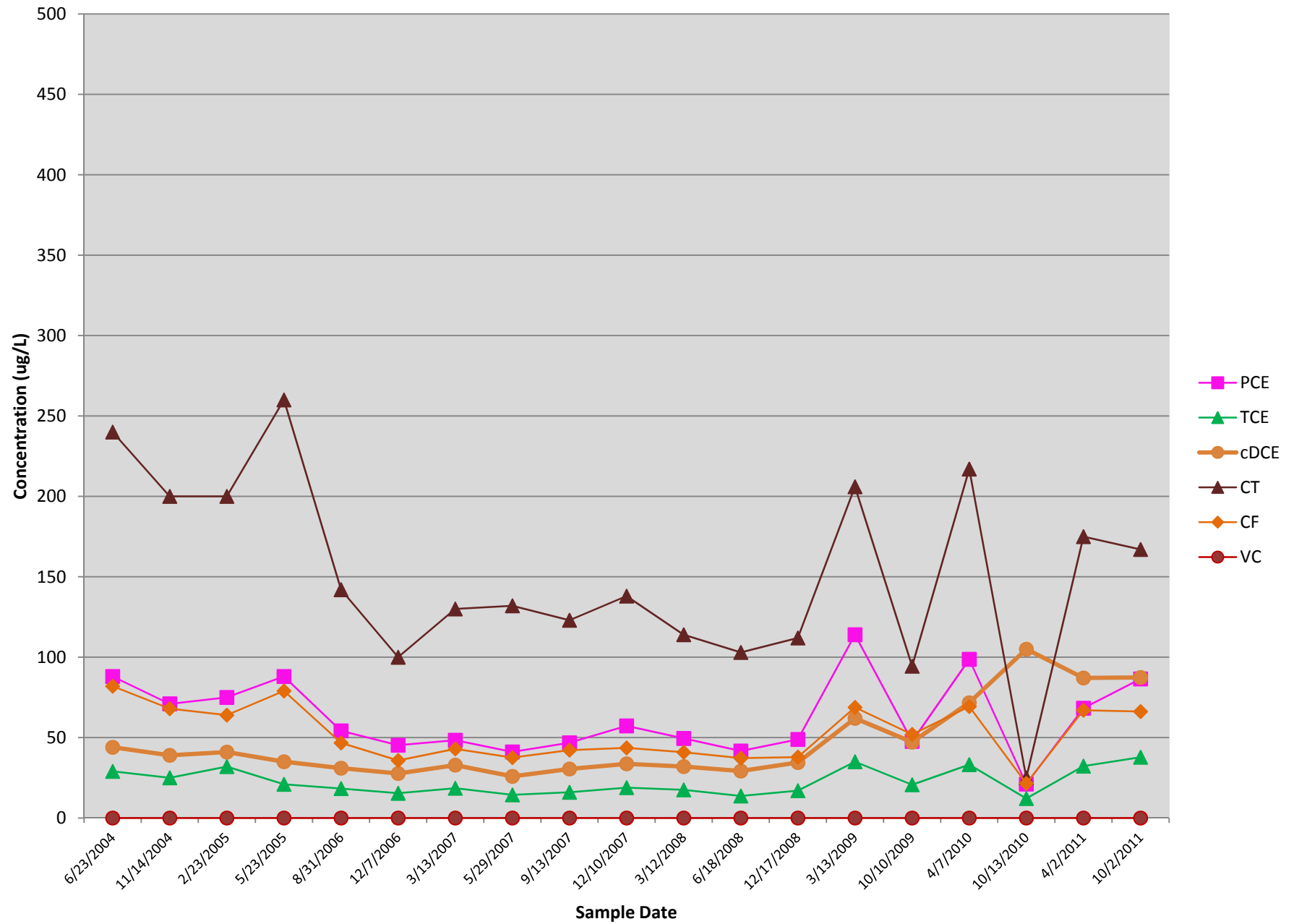
**DR2-1, DR2-2, DR2-3, DR2-4, DR2-5, DR2-6, MW-26, MW-64,
MW-85, MW-88, MW-92, MW-96, MW-113, MW-217, MW-218,
PMW92-03, PMW92-06**

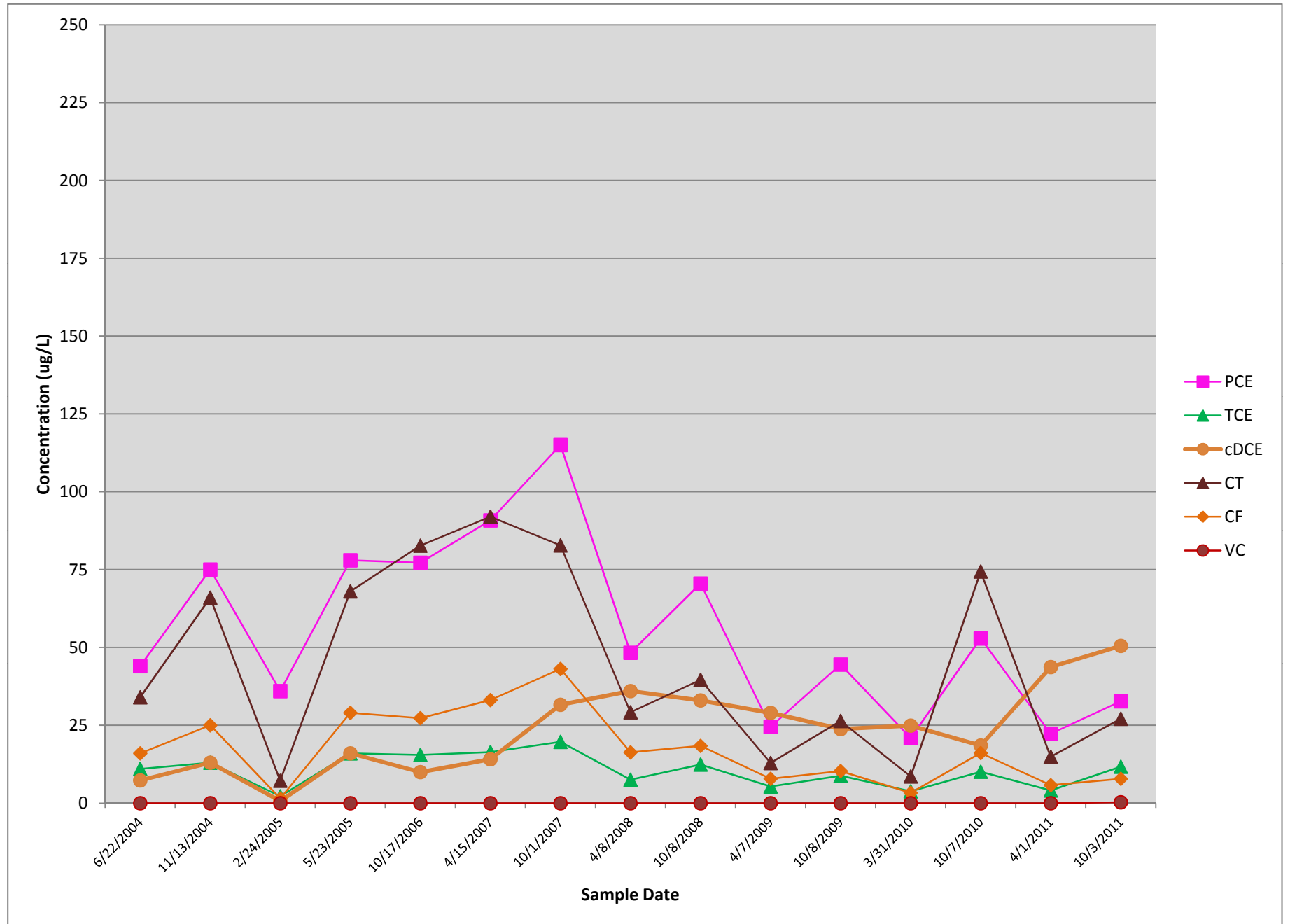


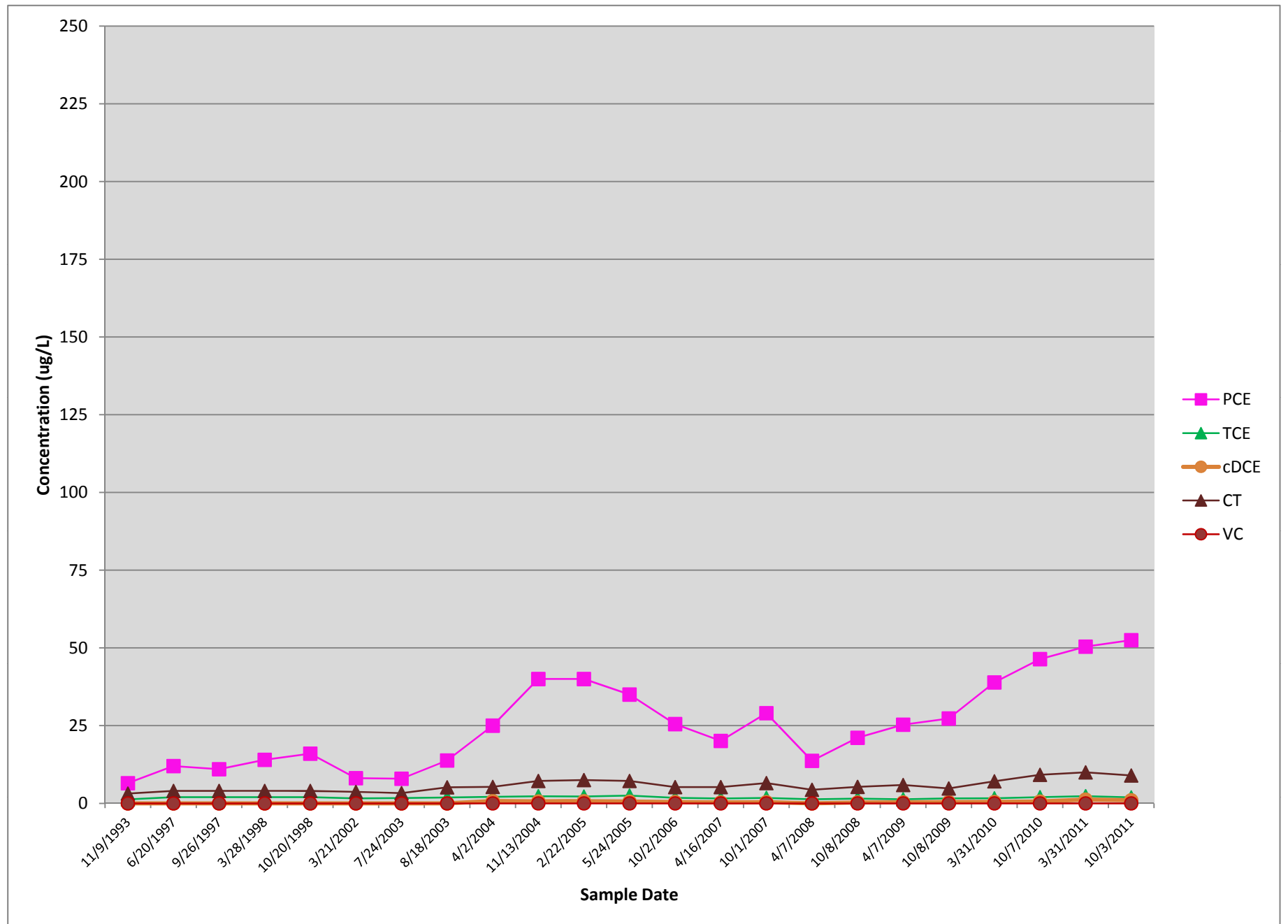




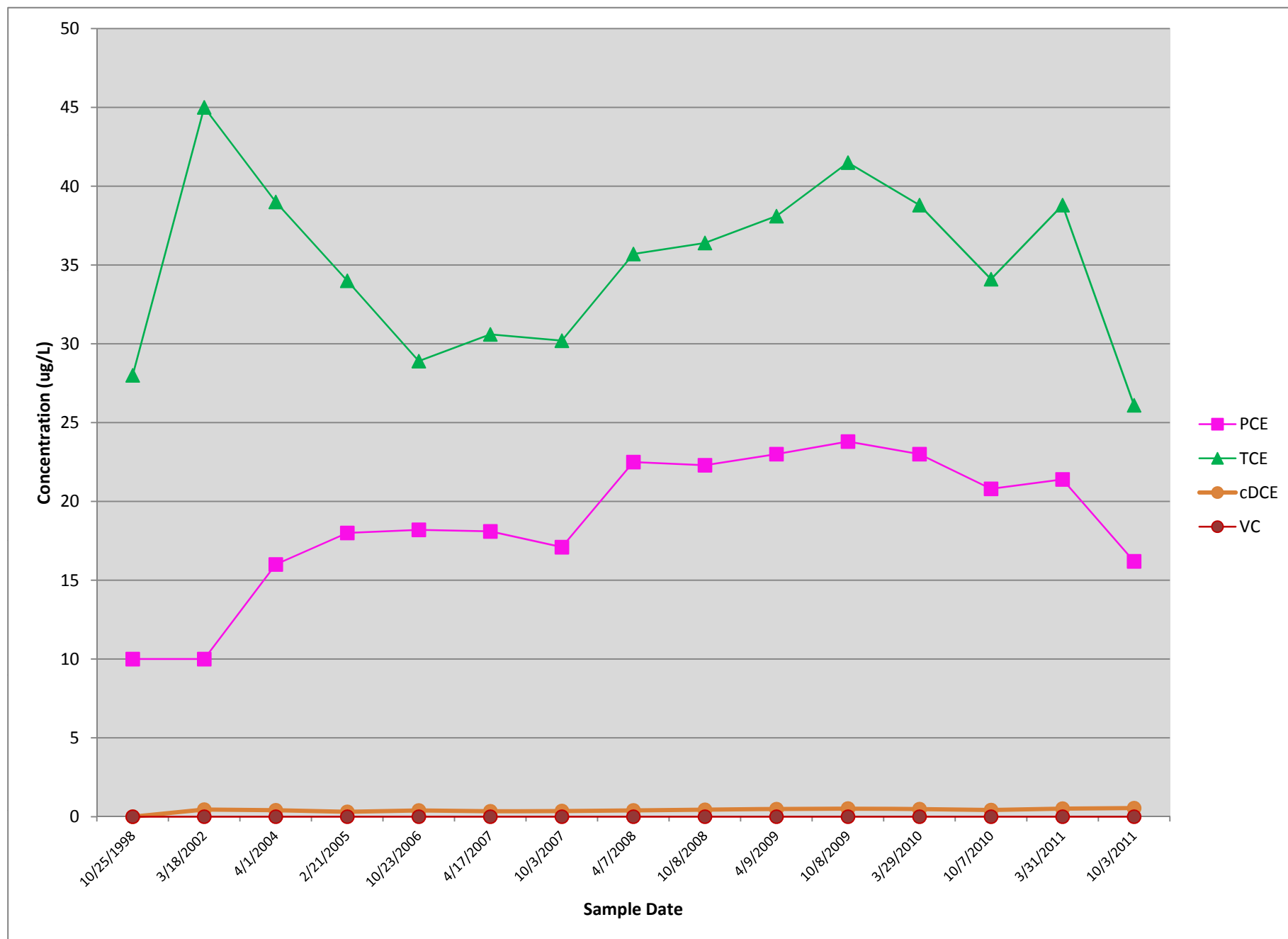


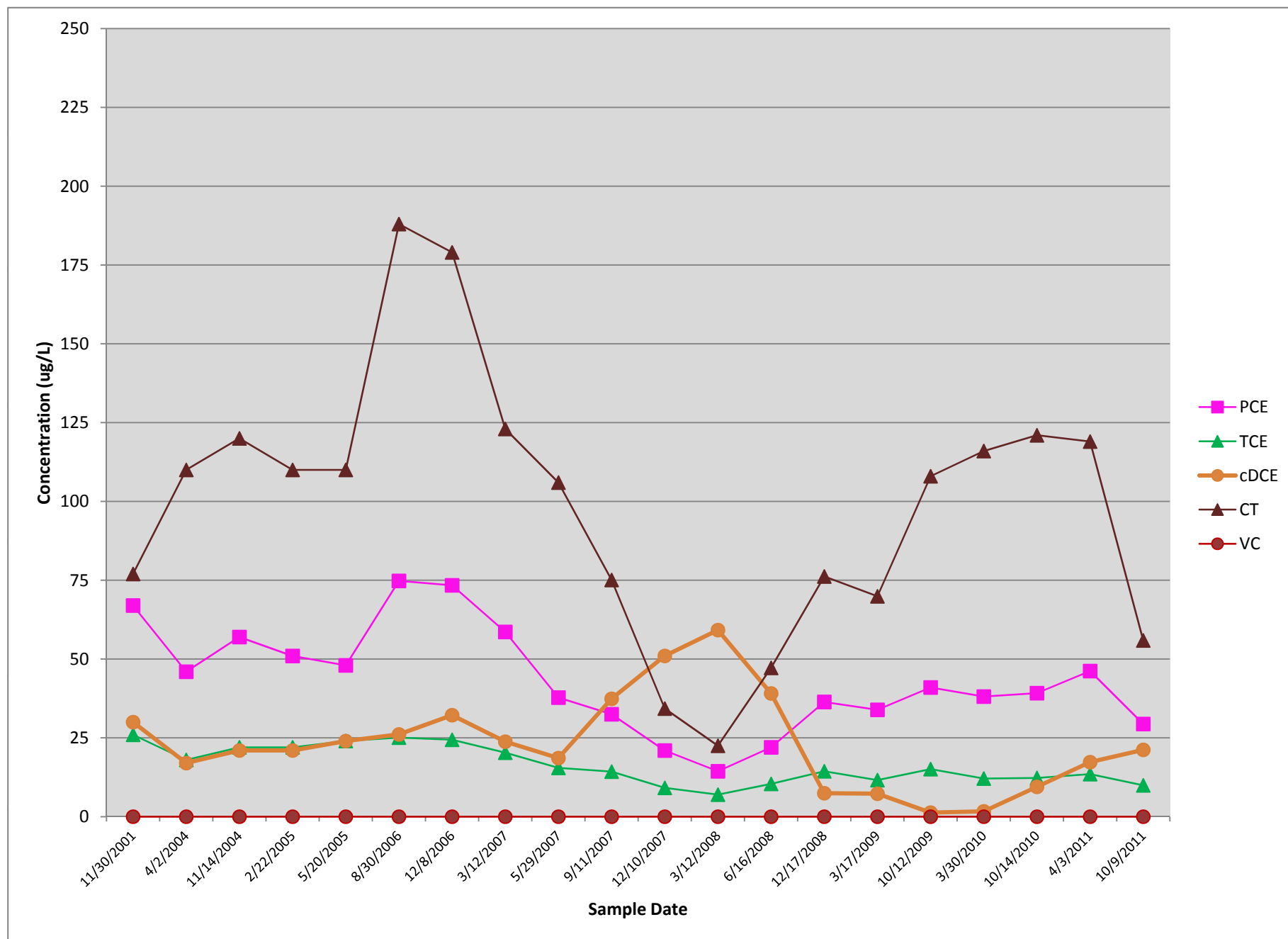


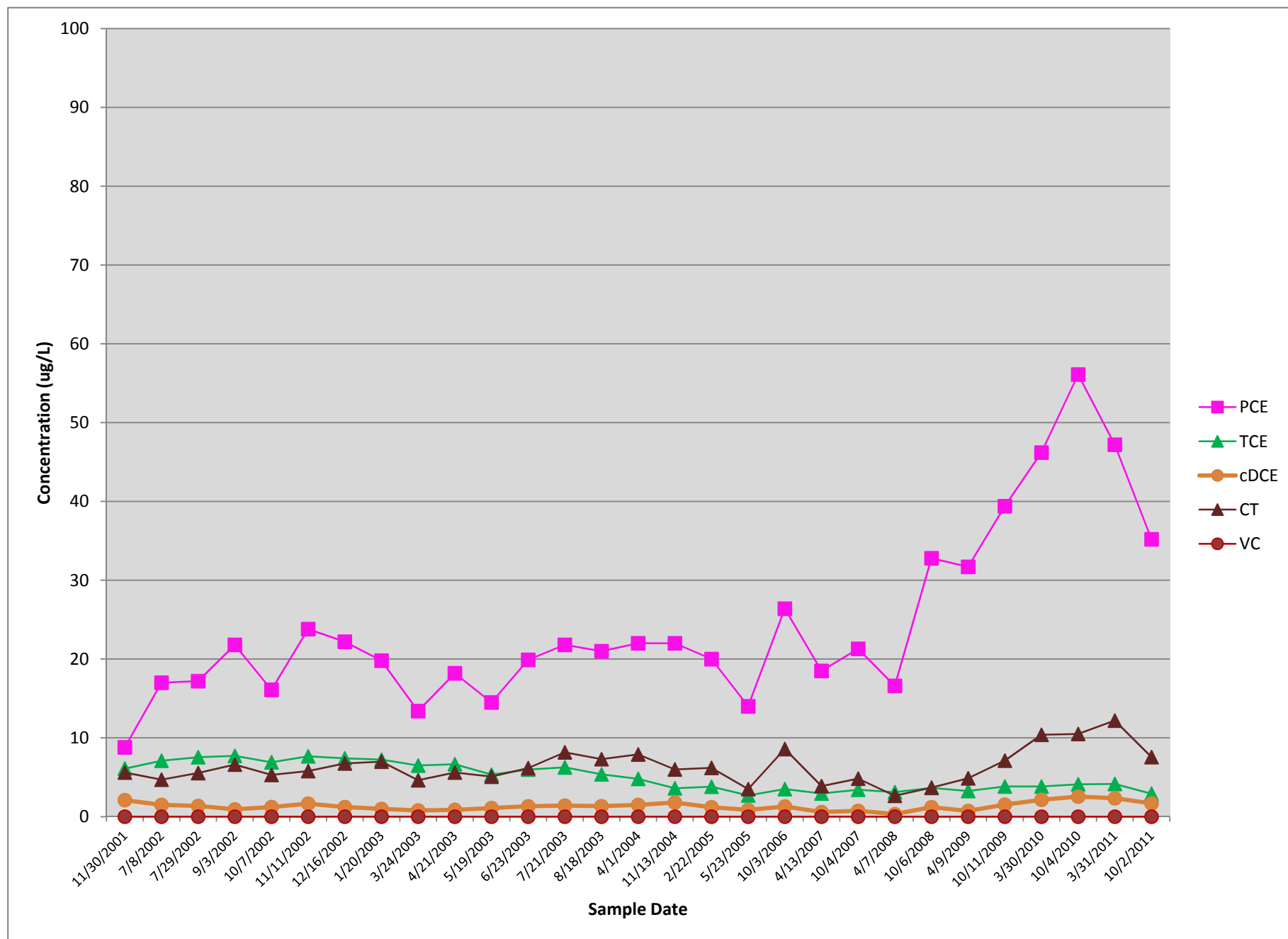


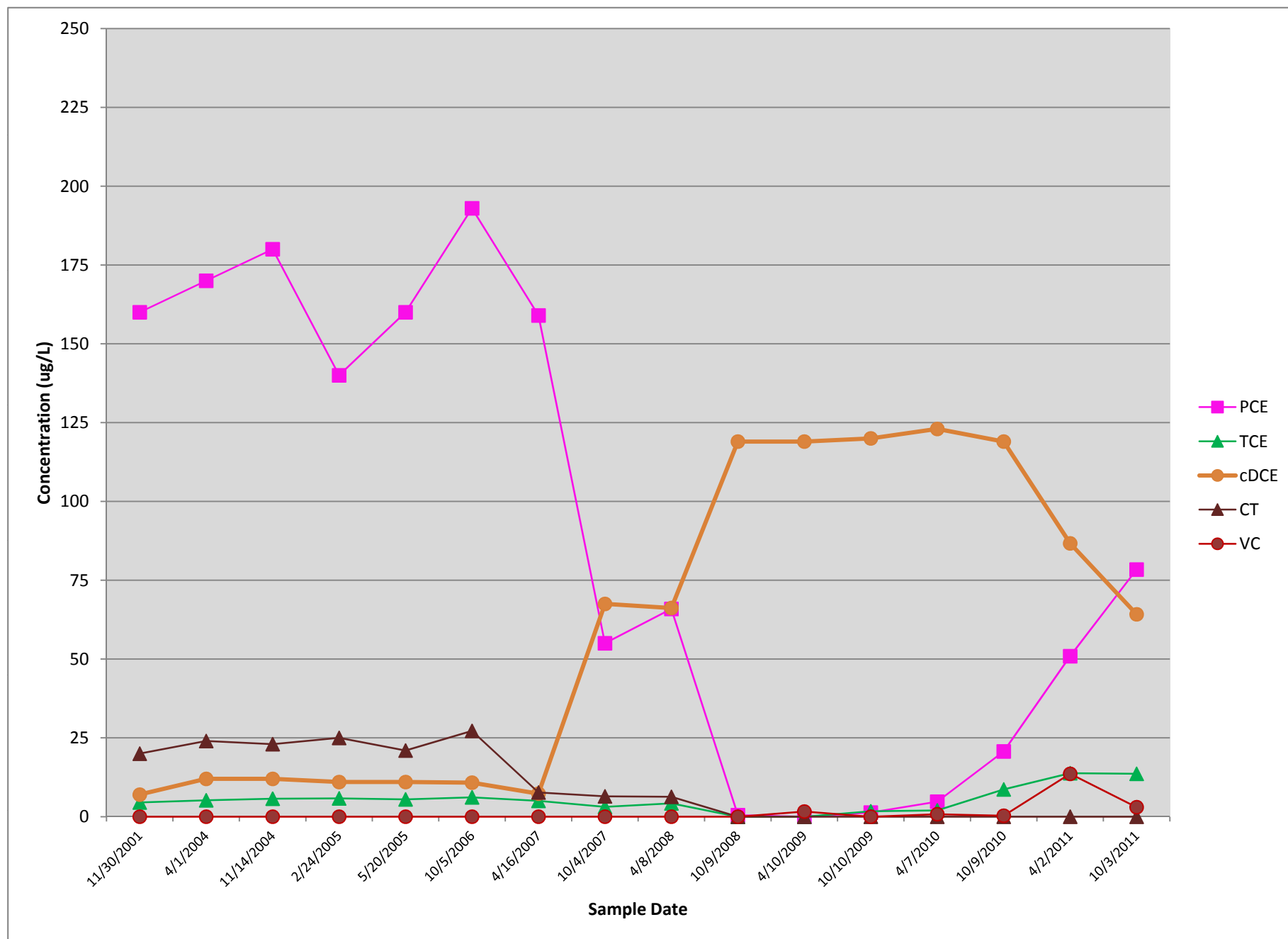


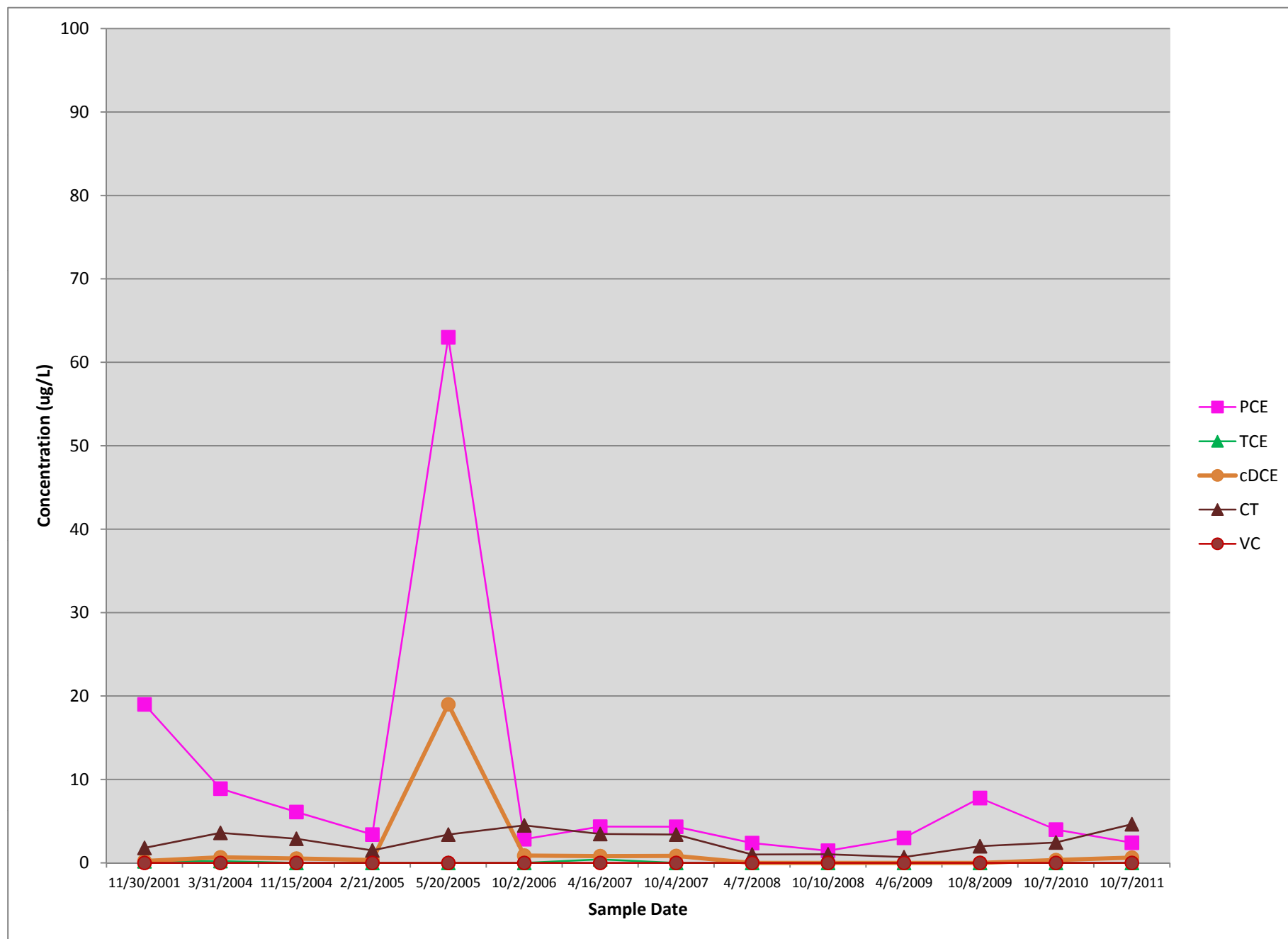
MW-64



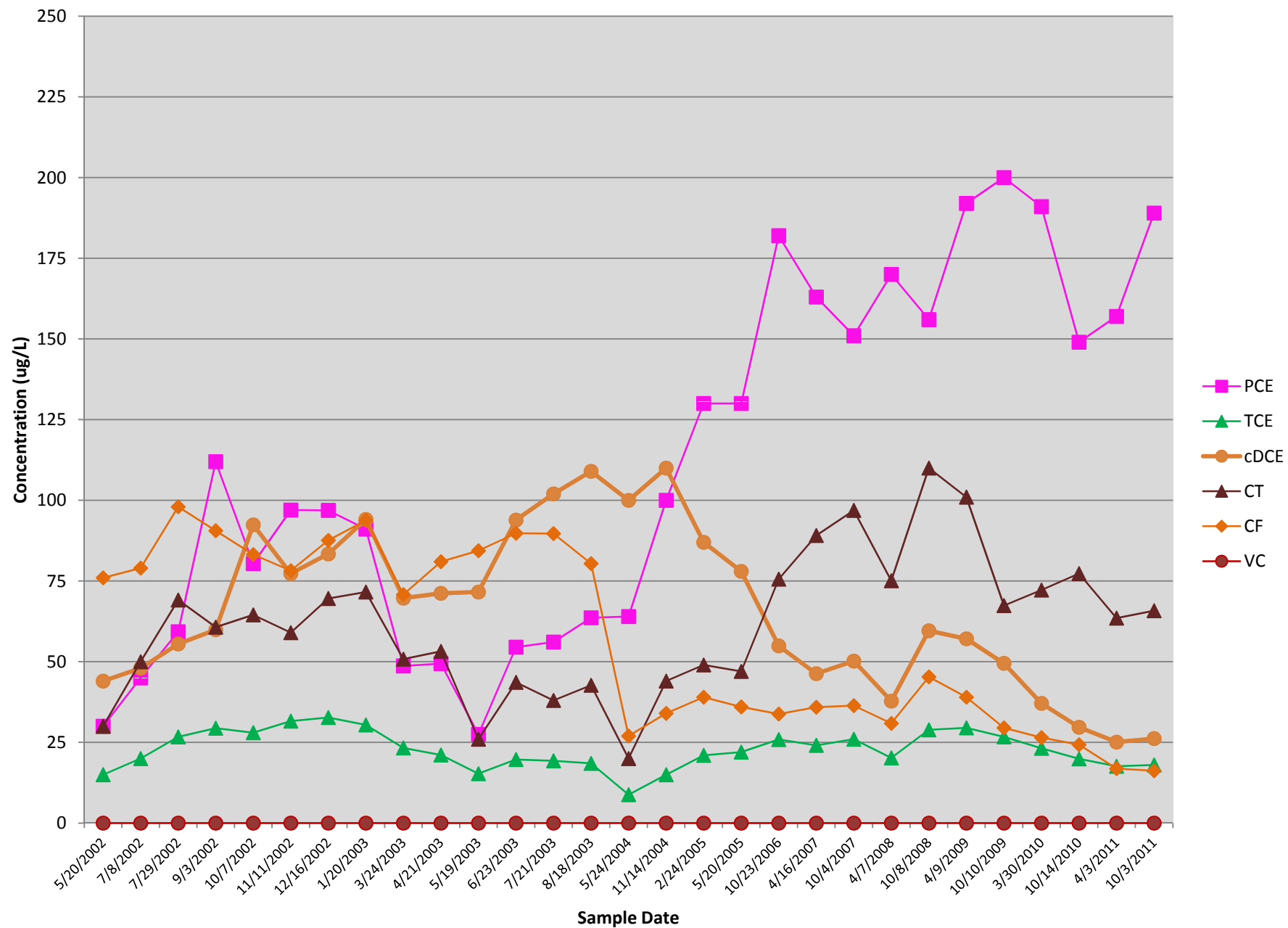




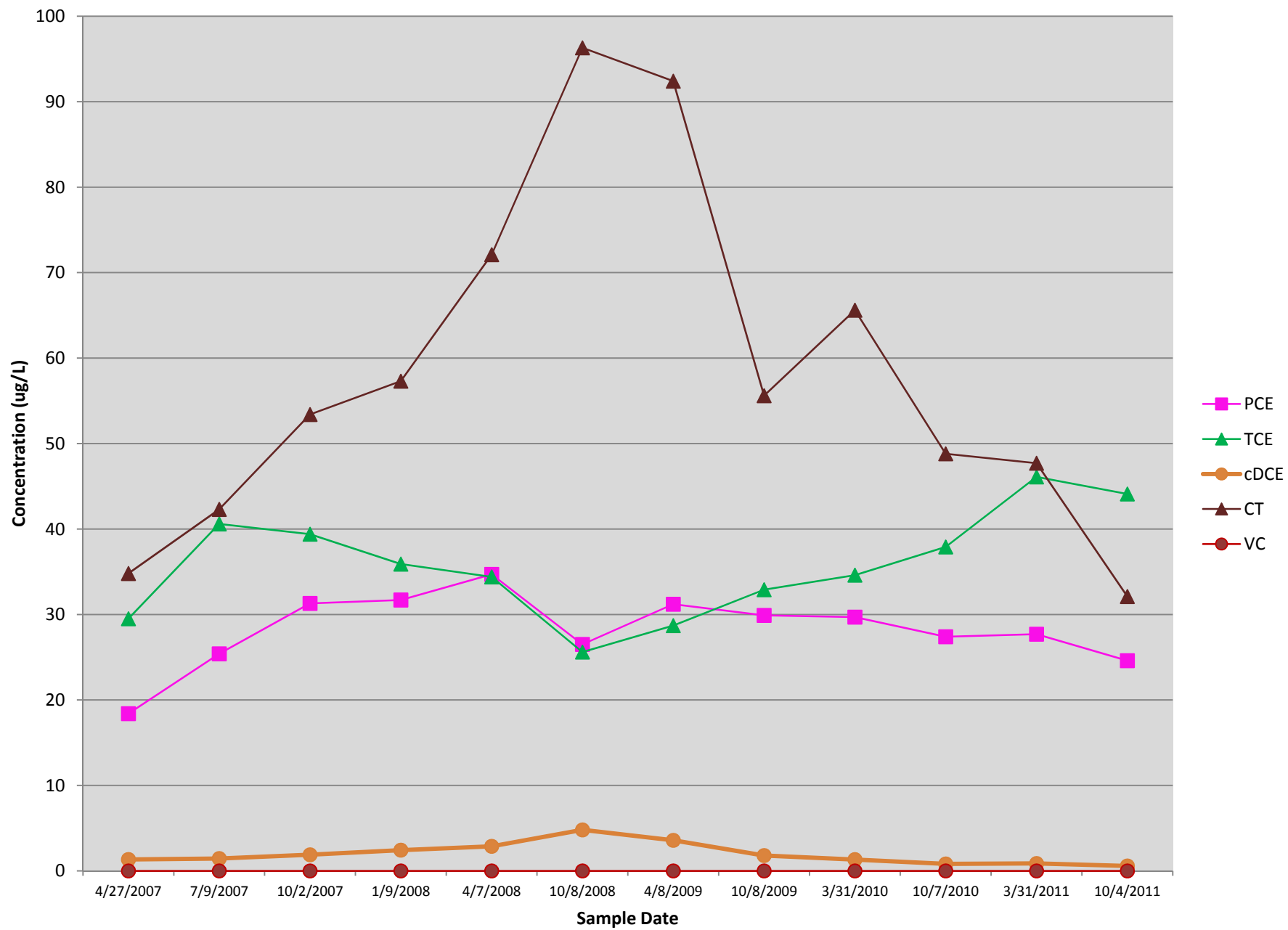




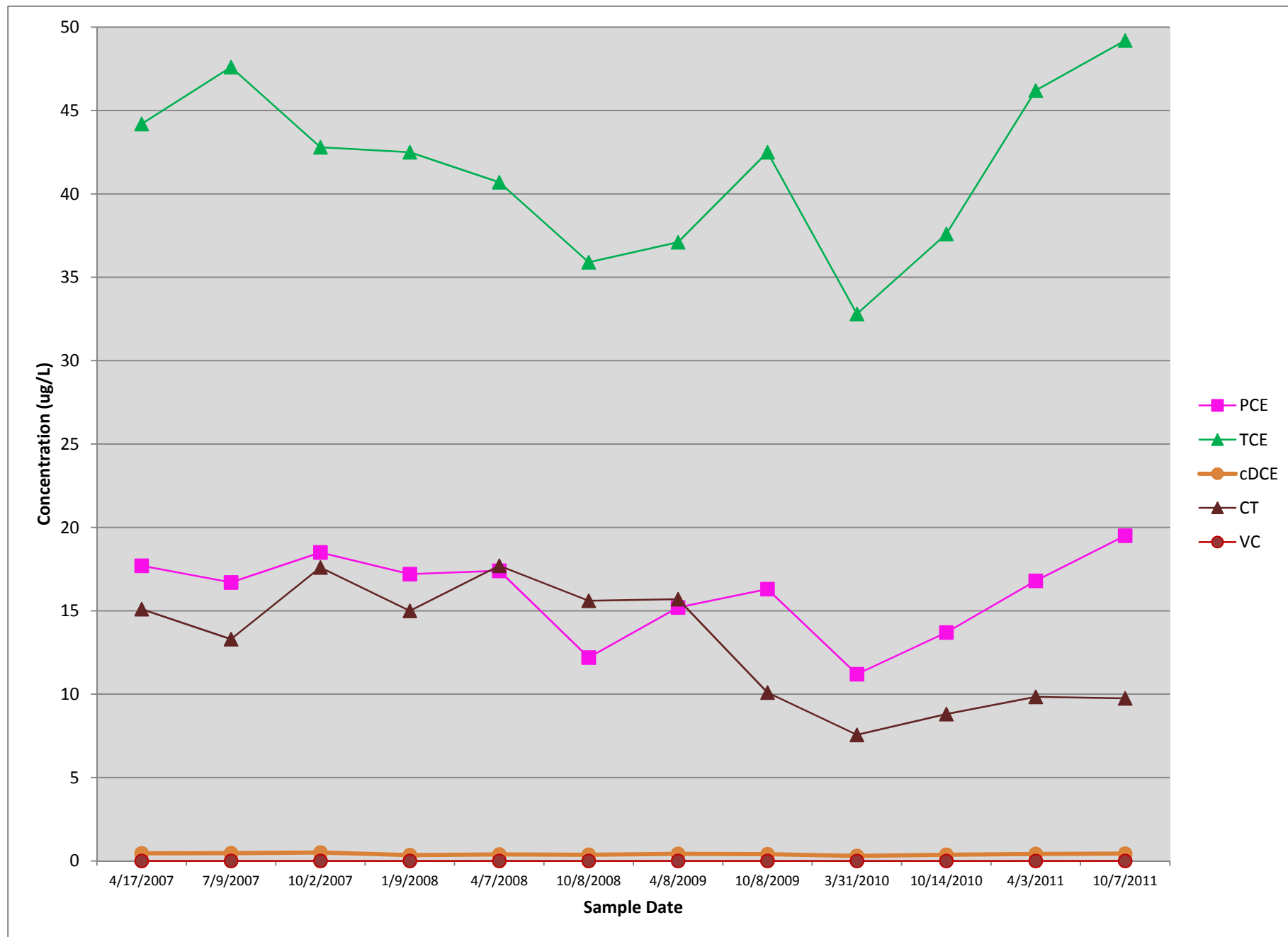
MW-113



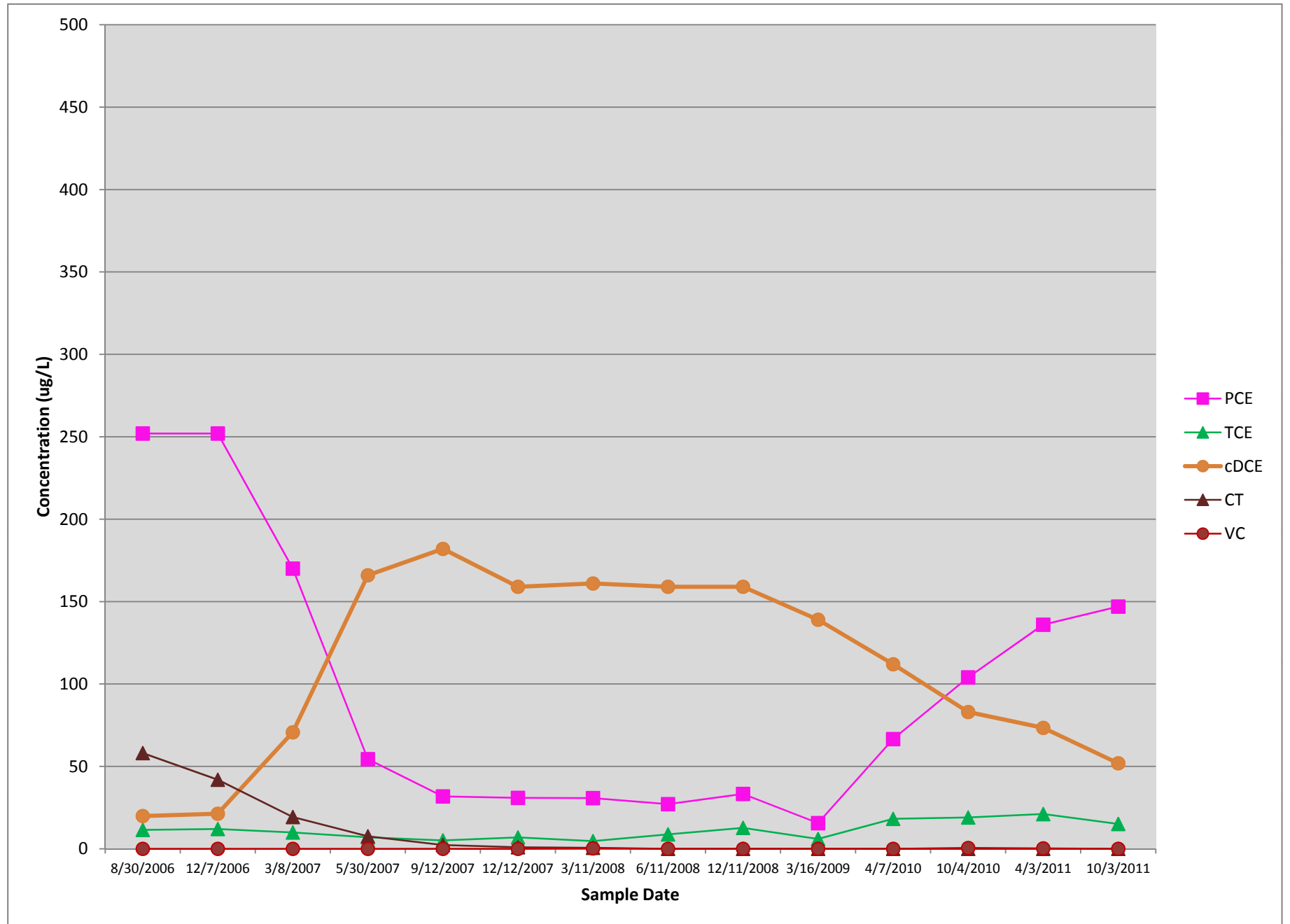
MW-217



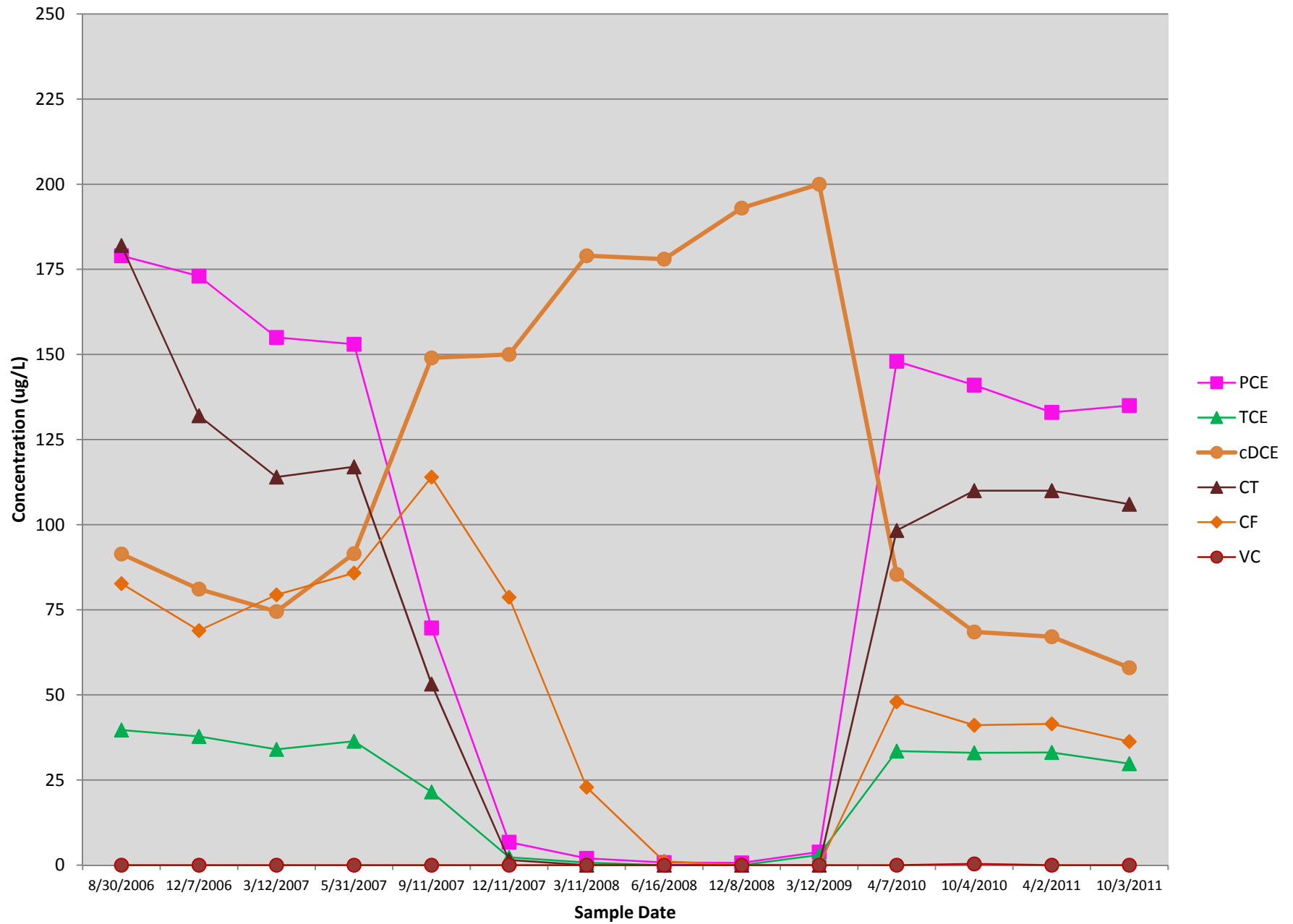
MW-218



PMW92-03



PMW92-06

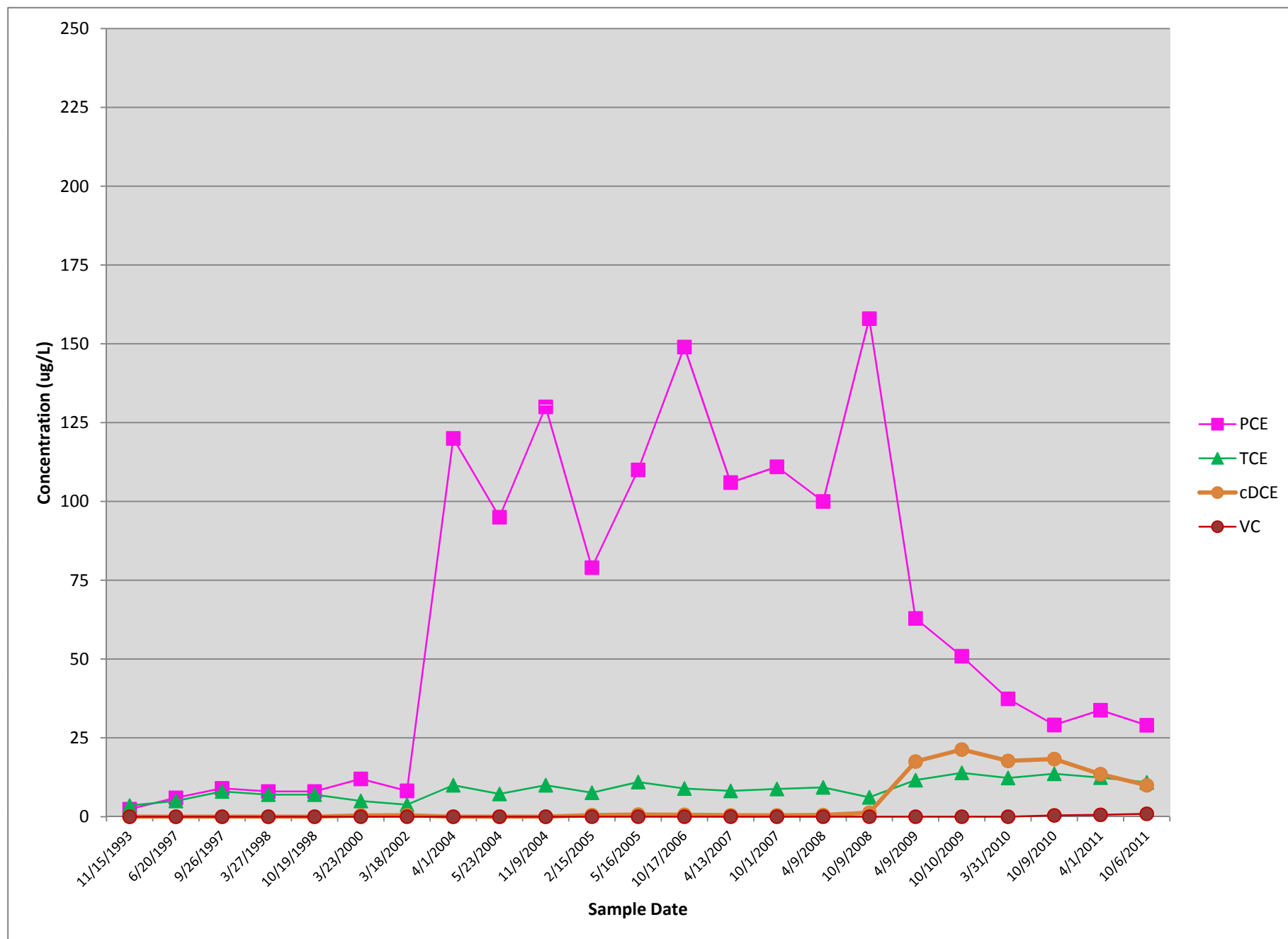


APPENDIX D-8

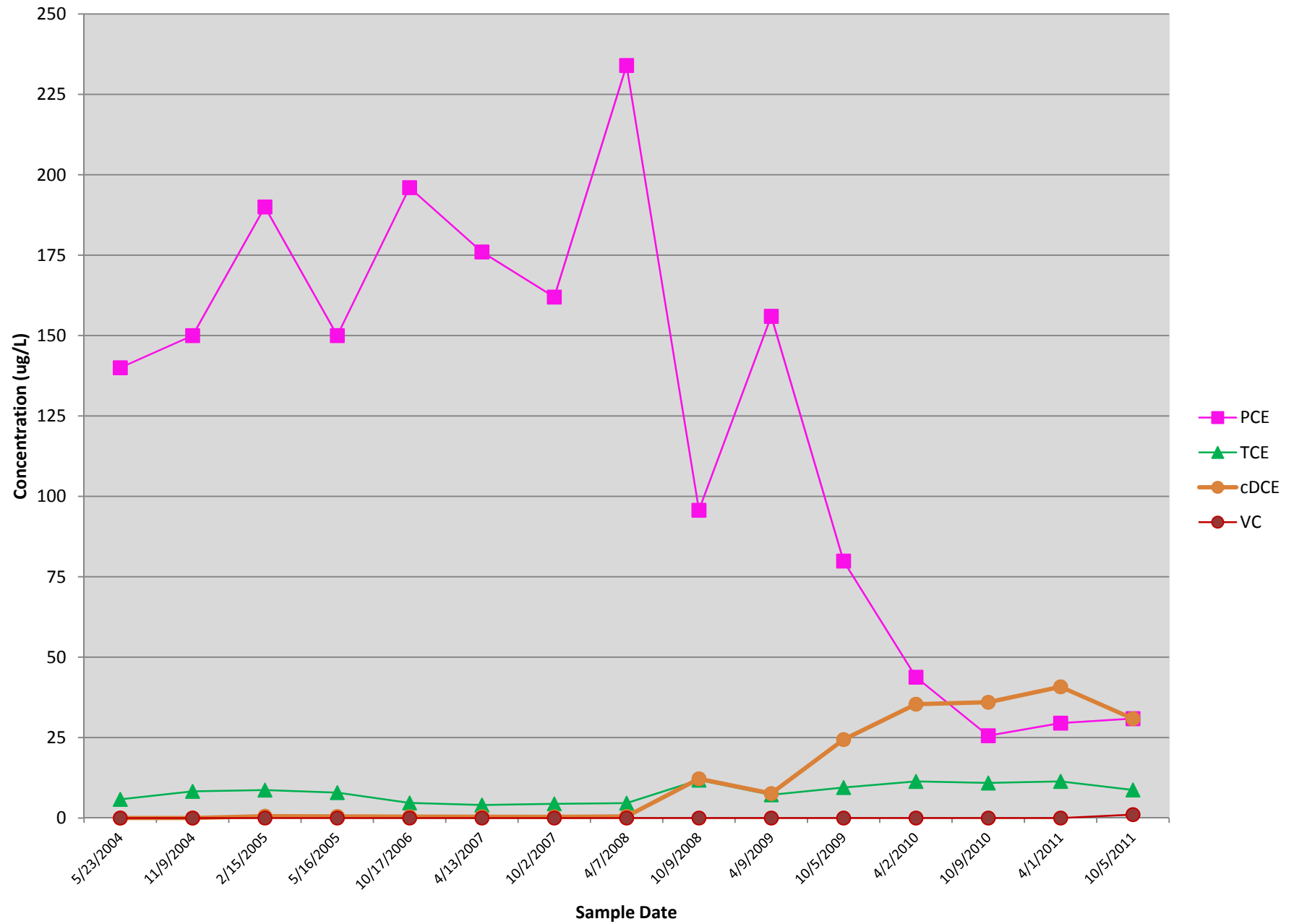
CVOC TIME-TREND PLOTS

West Central Plume

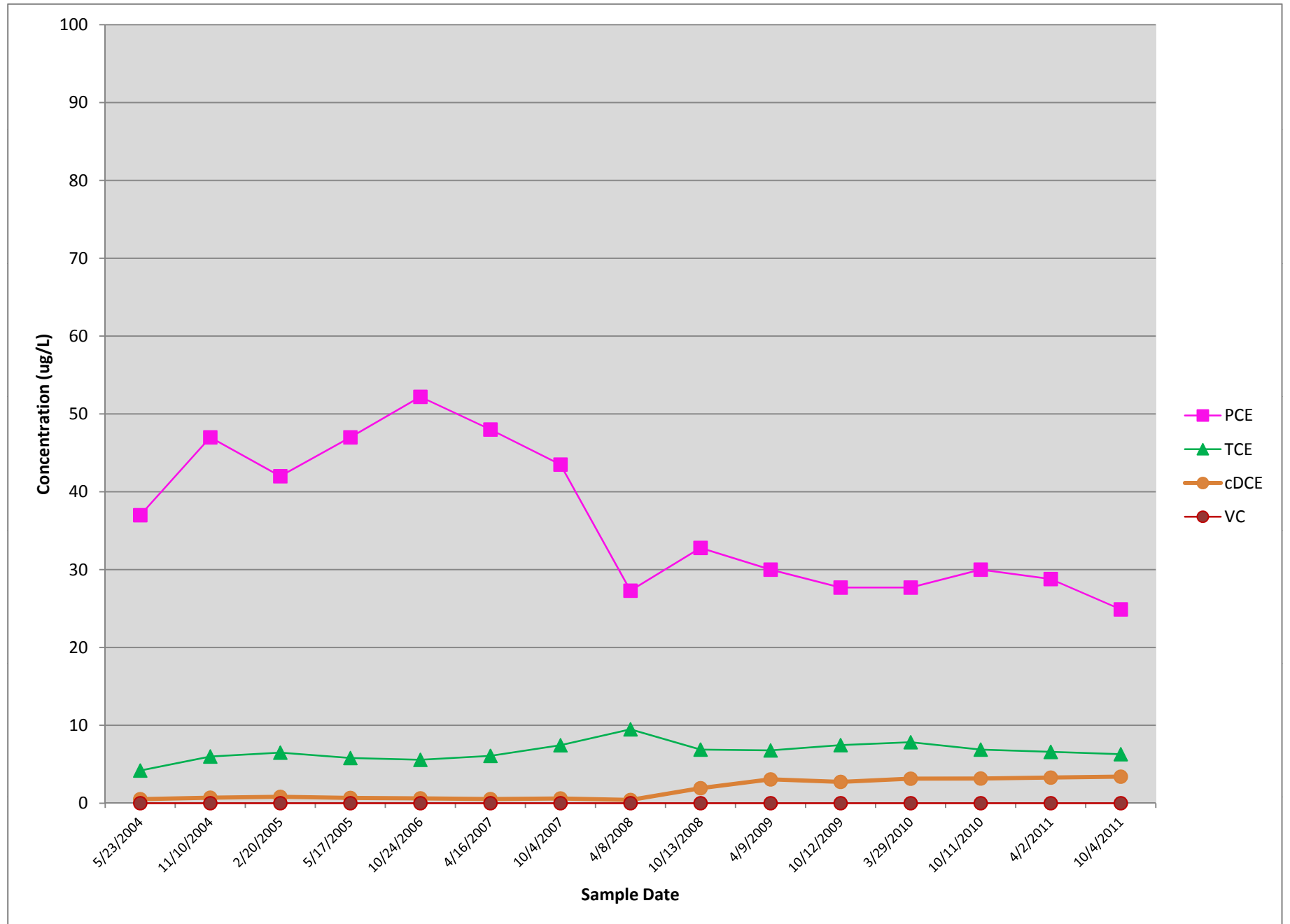
**MW-39, MW-39A, MW-94A, MW-98, MW-197A, MW-197B, MW-200,
MW-203A, MW-203B, MW-204A, MW-204B, MW-205A, MW-205B,
MW-206A, MW-206B, MW-208A, MW-208B, MW-210B, MW-214A, MW-214B,
MW-215A, MW-215B, PZ-03**



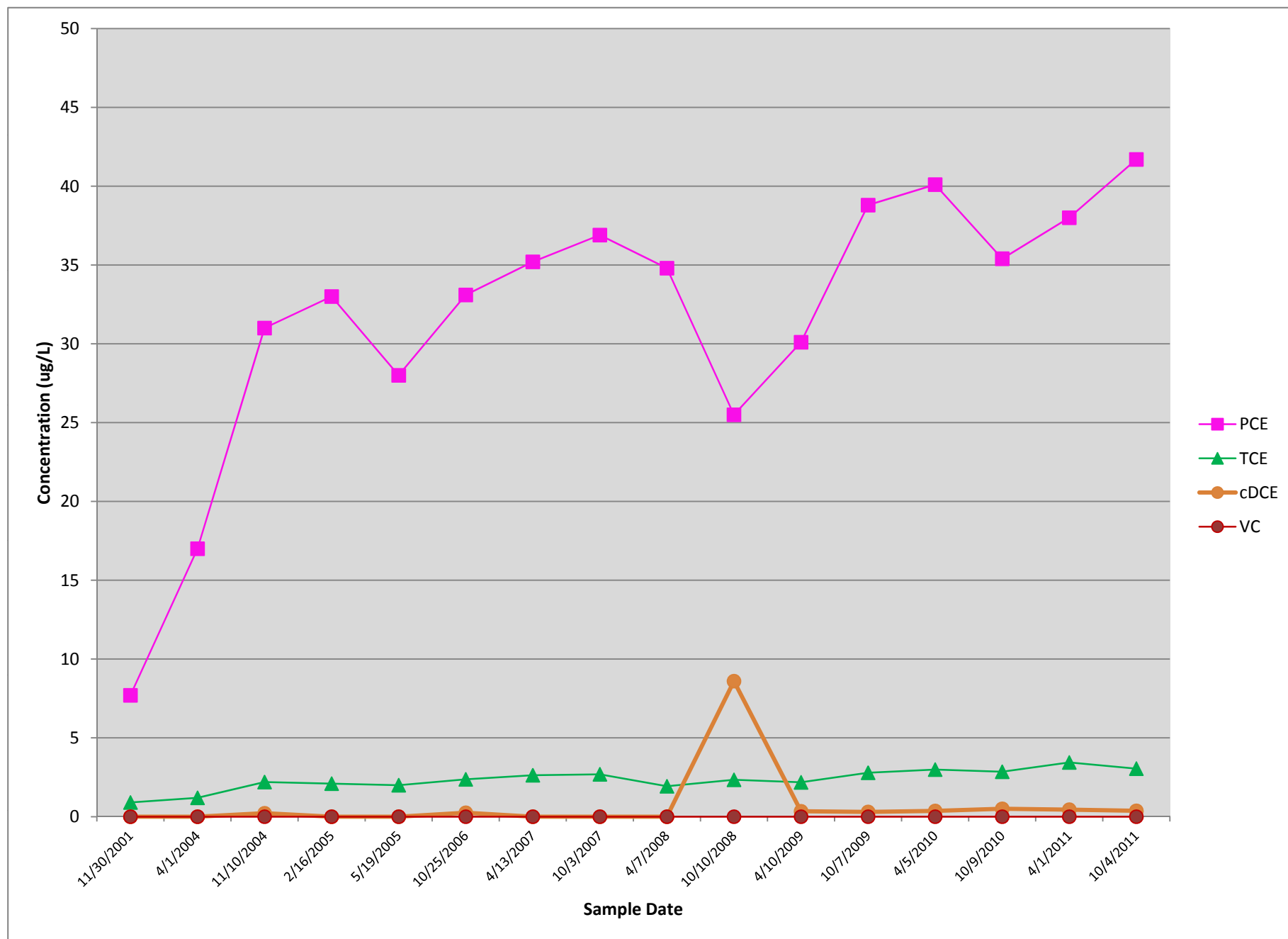
MW-39A



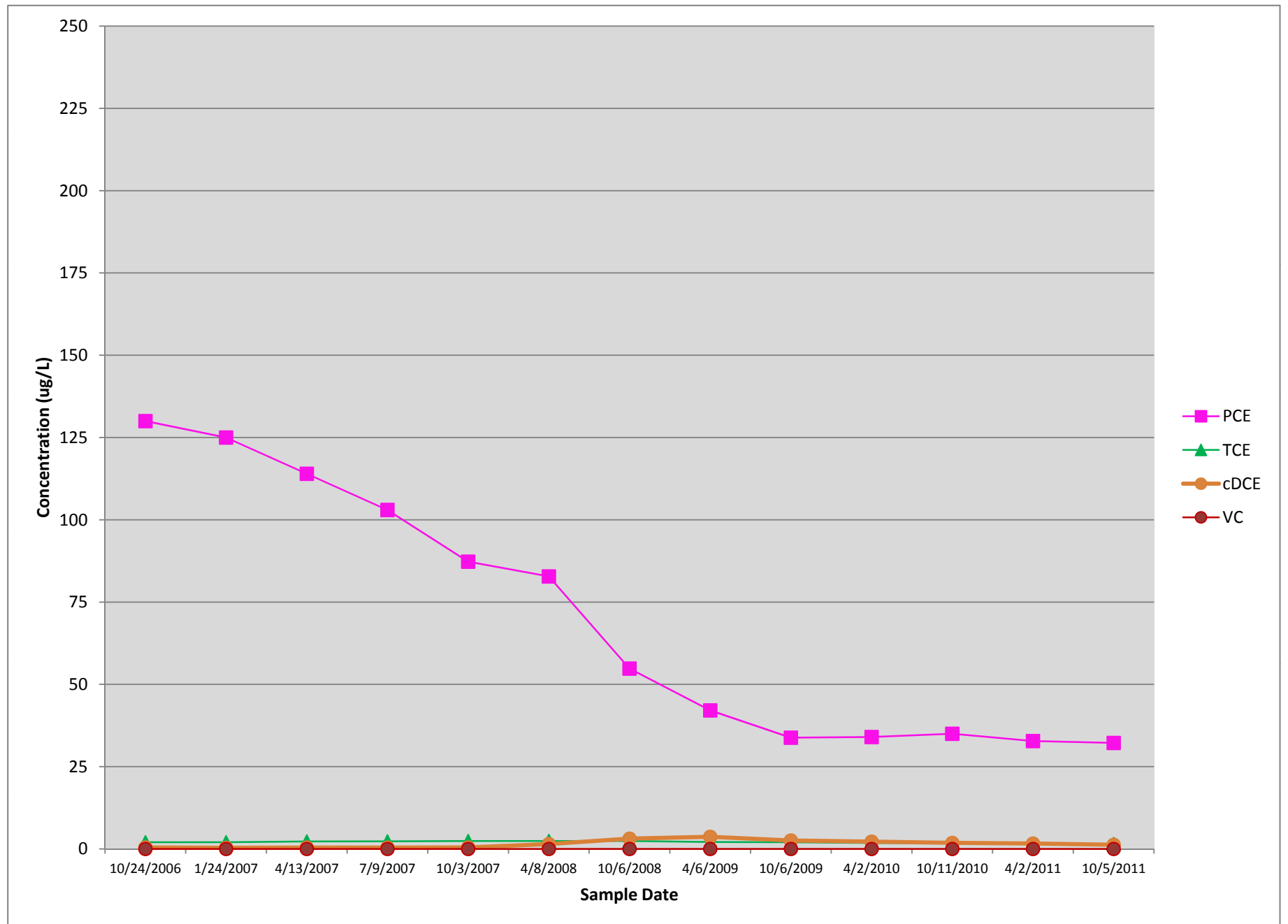
MW-94A



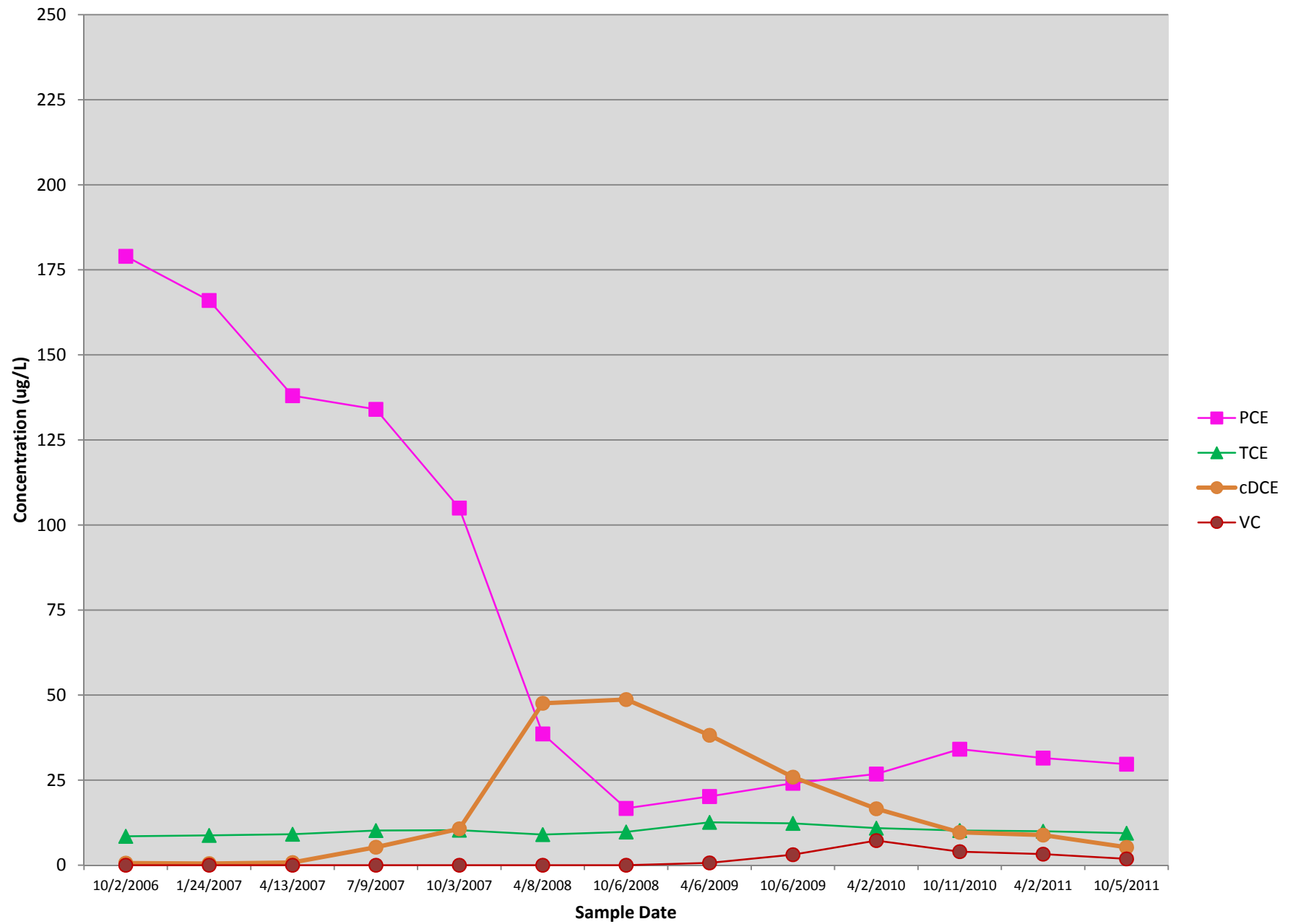
MW-98



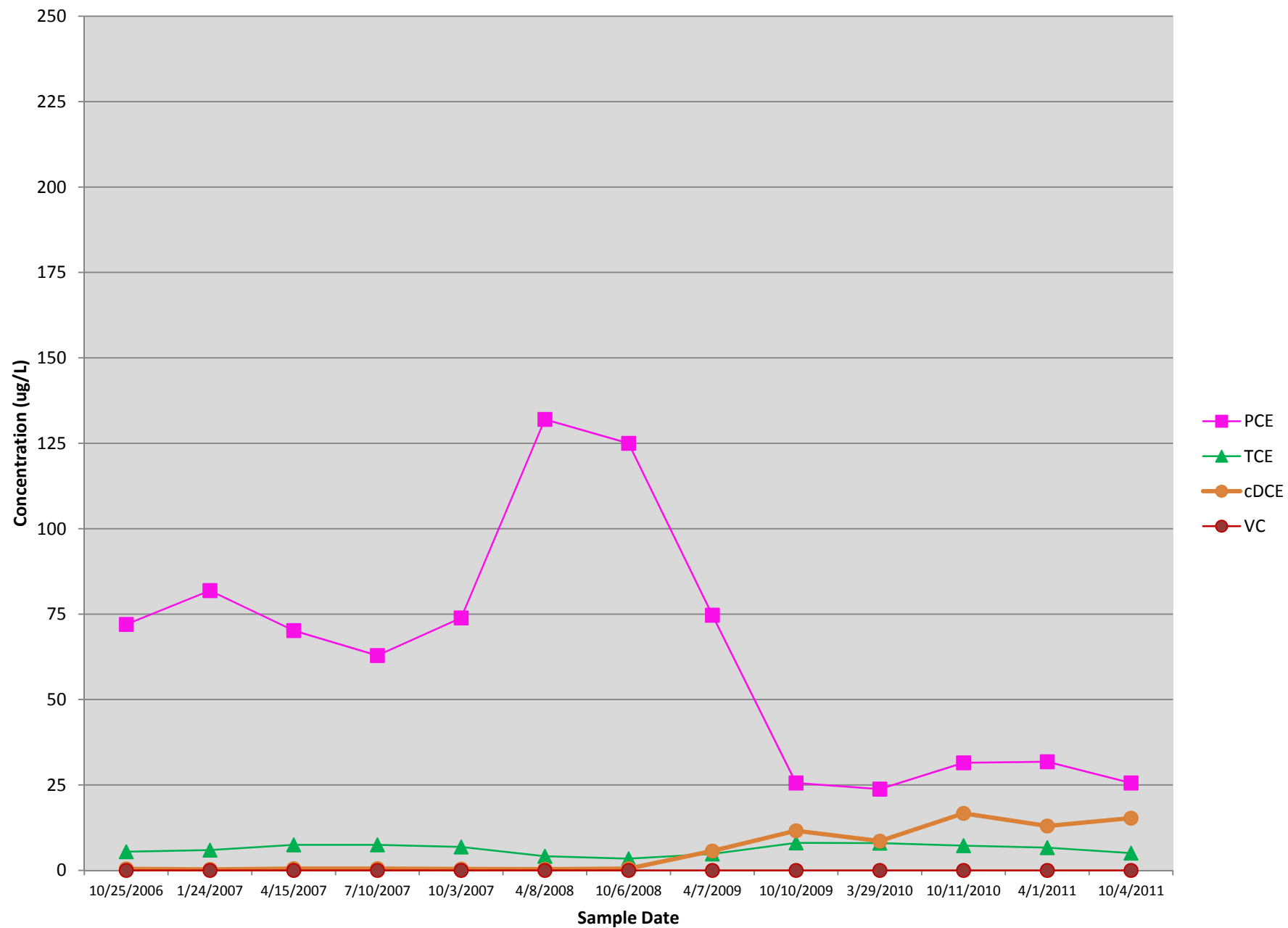
MW-197A



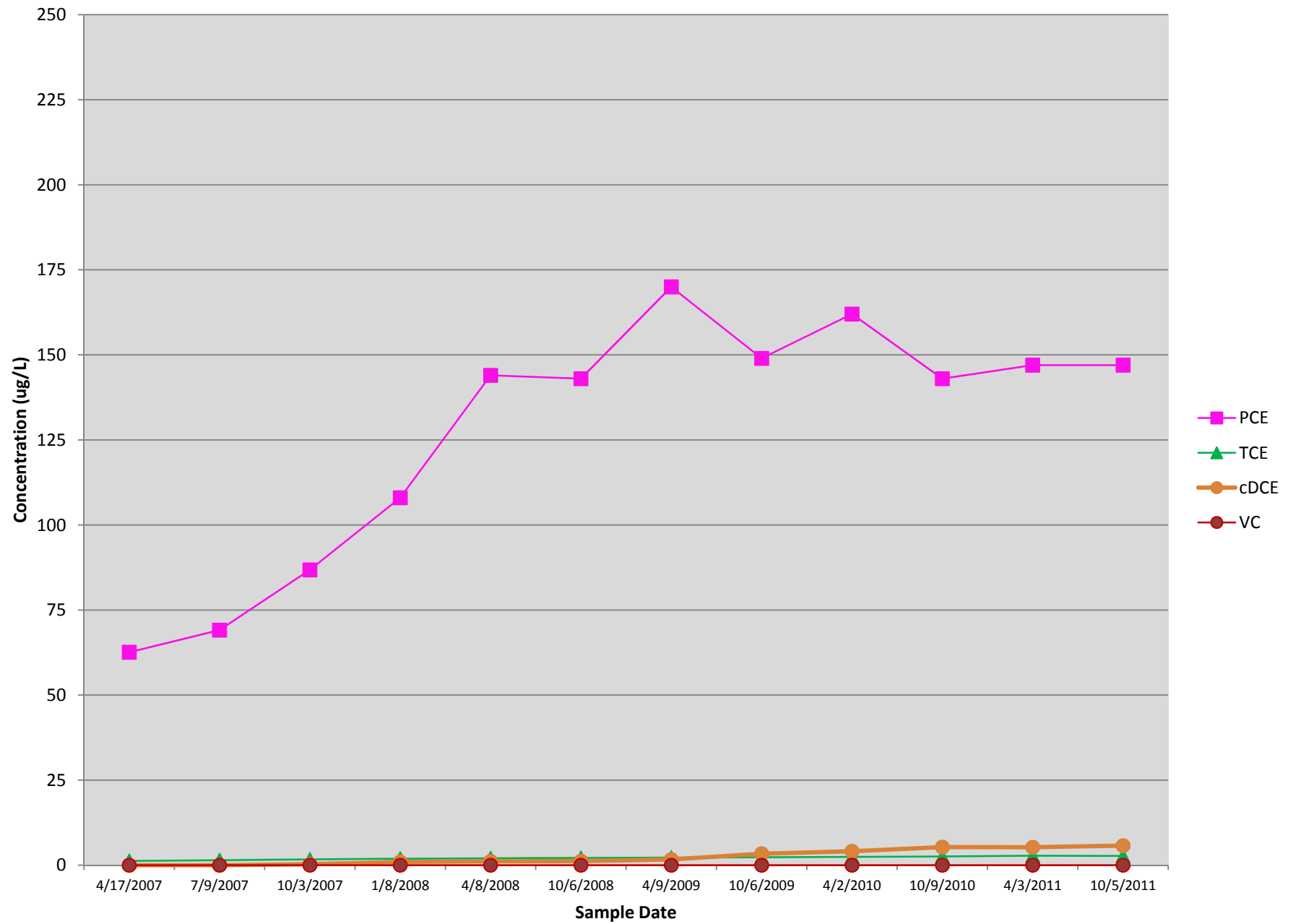
MW-197B



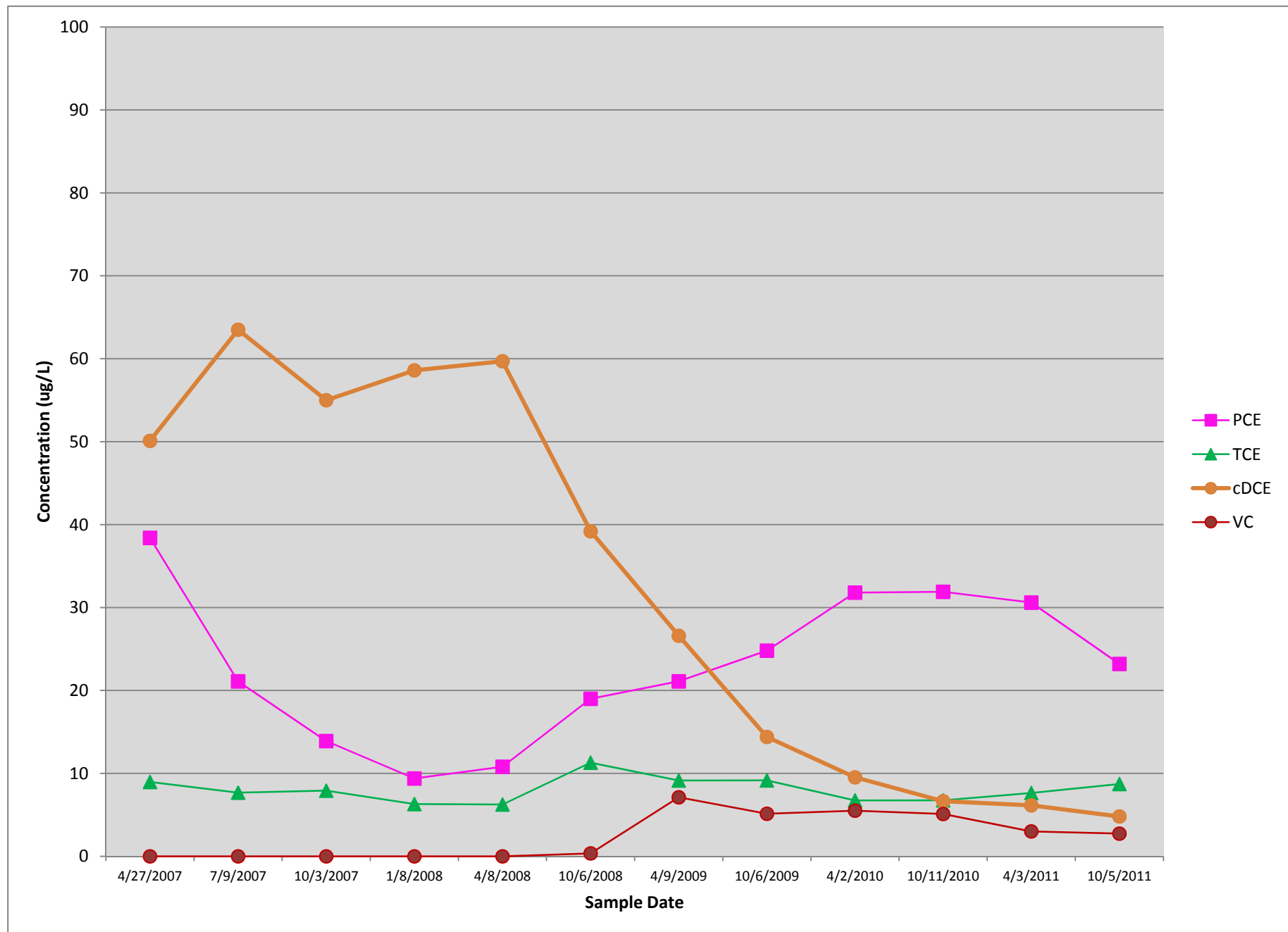
MW-200



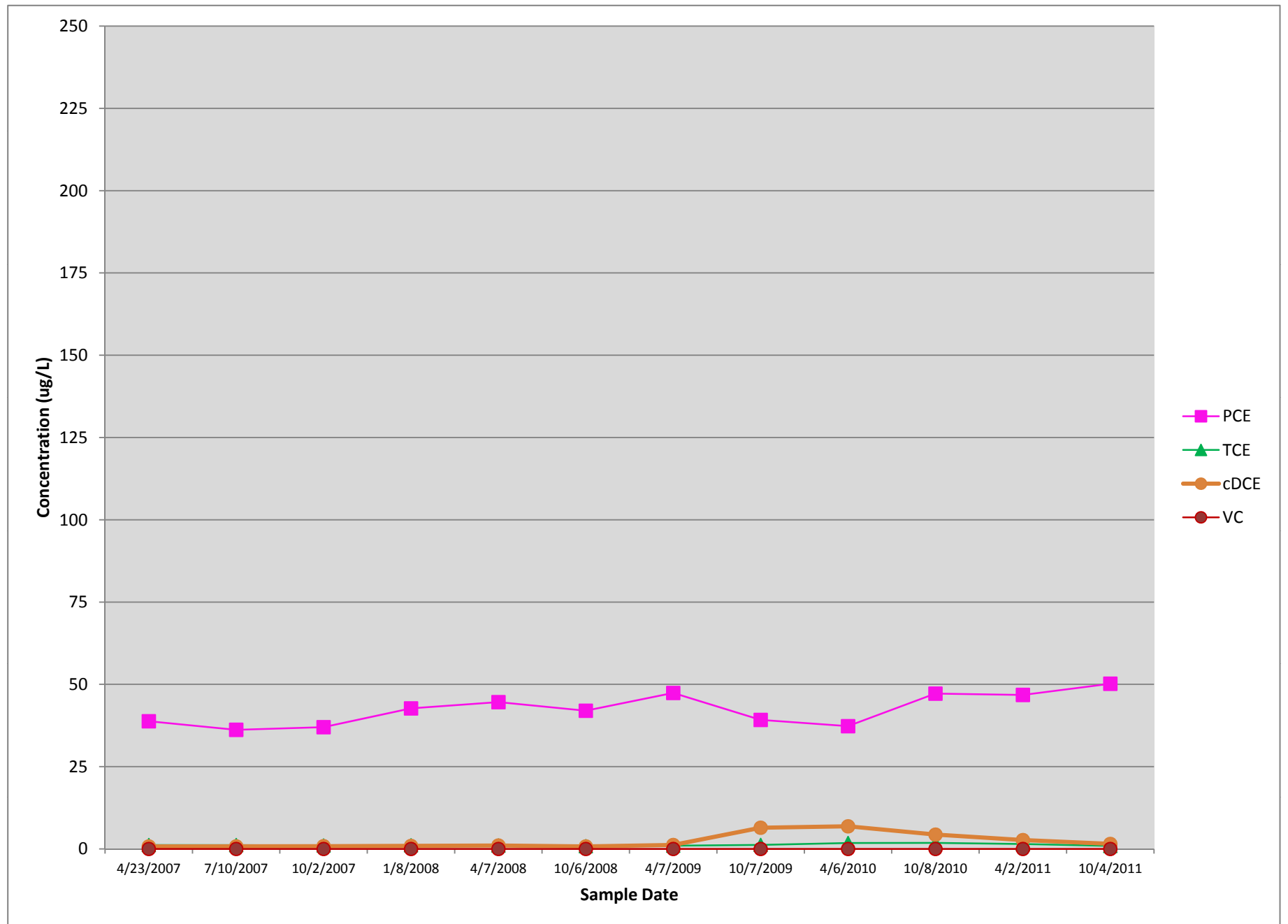
MW-203A



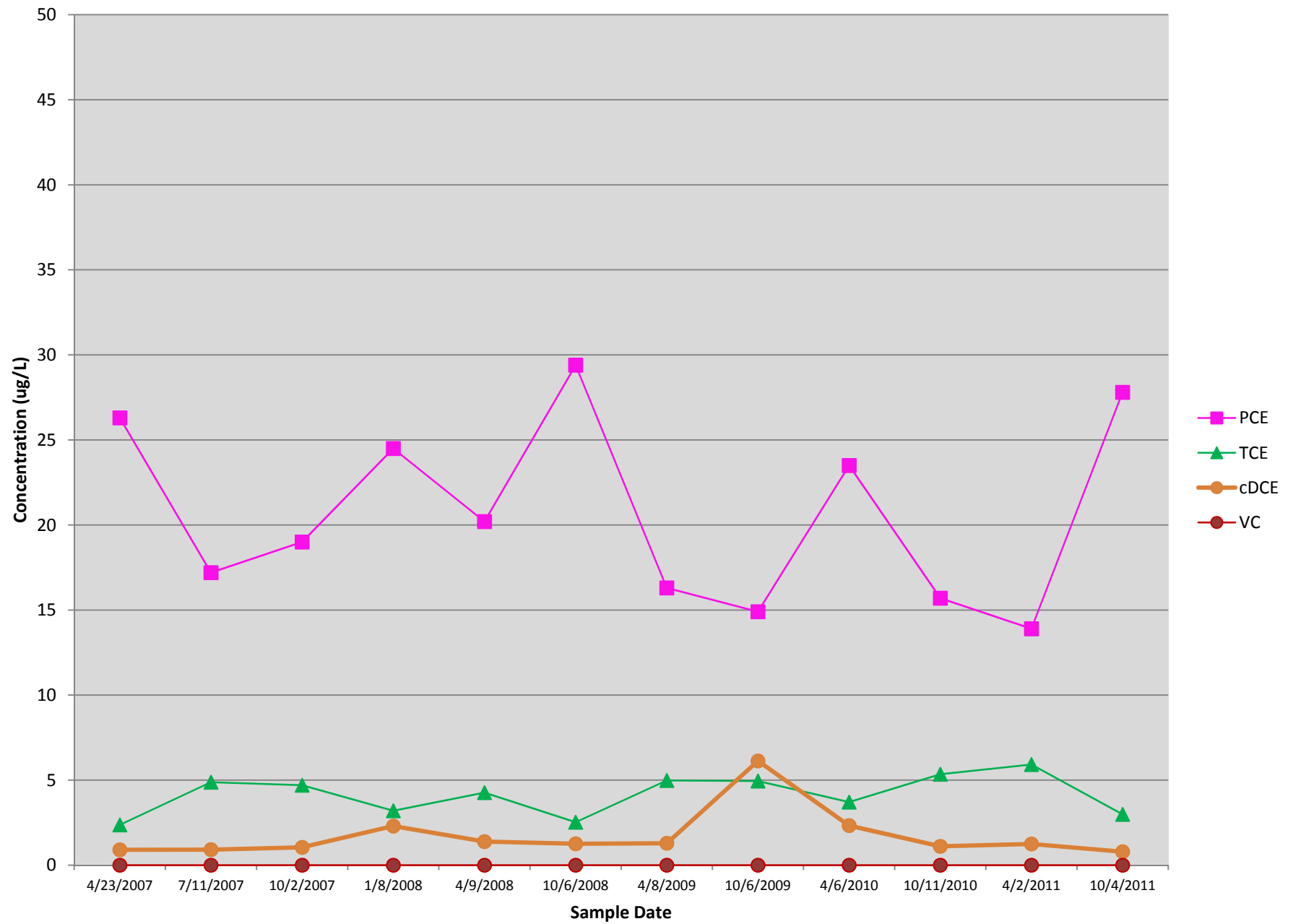
MW-203B



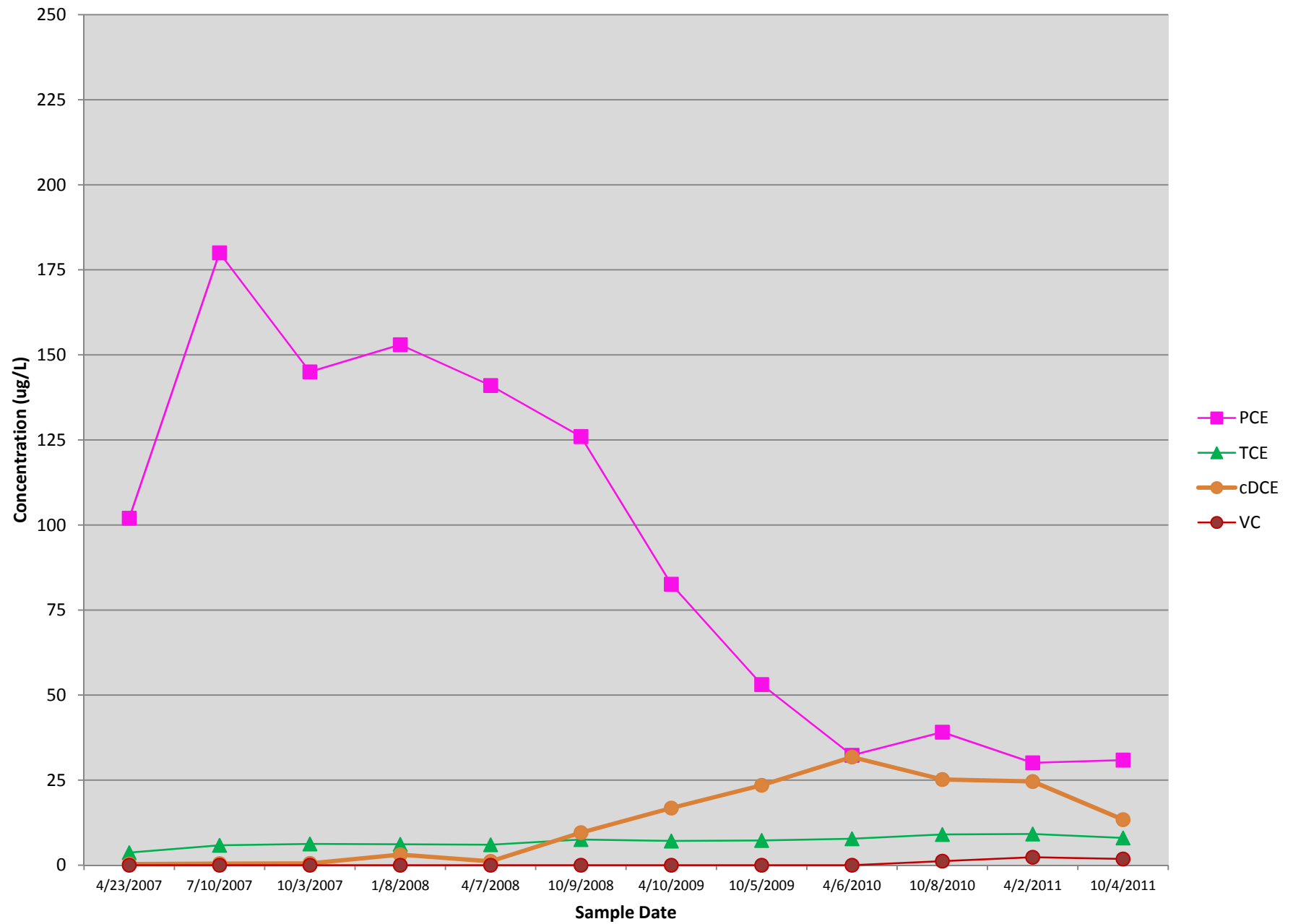
MW-204A



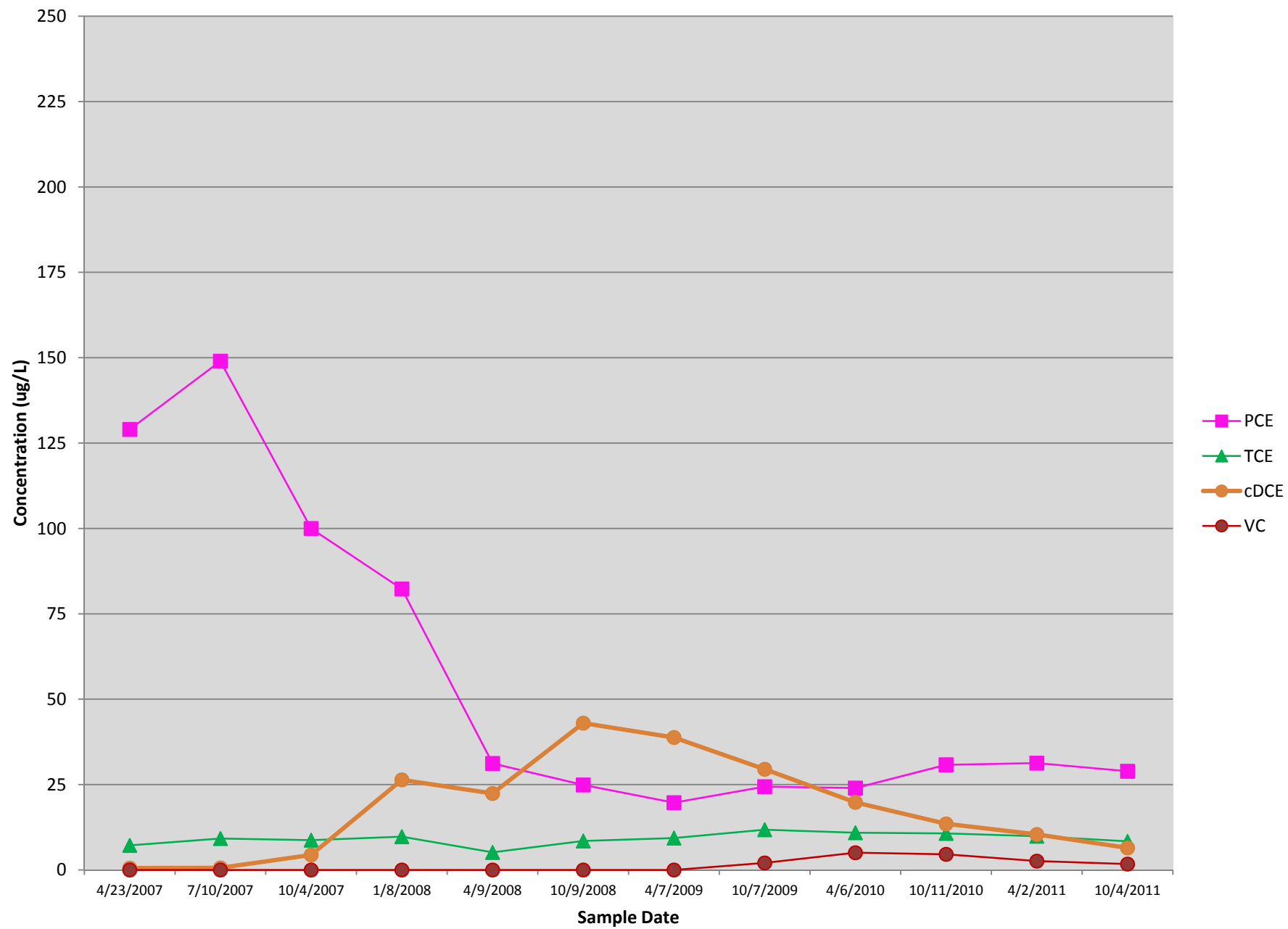
MW-204B



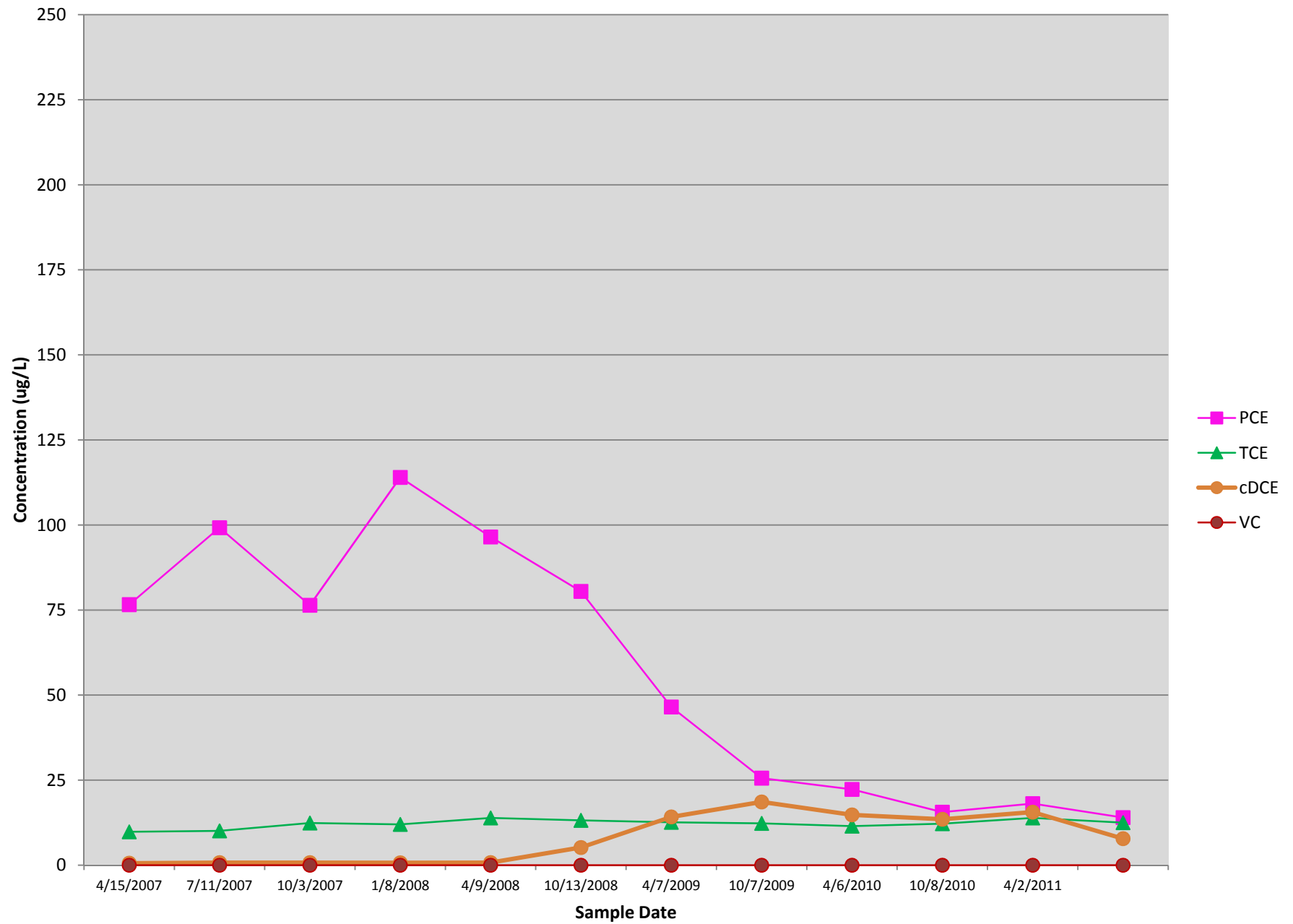
MW-205A



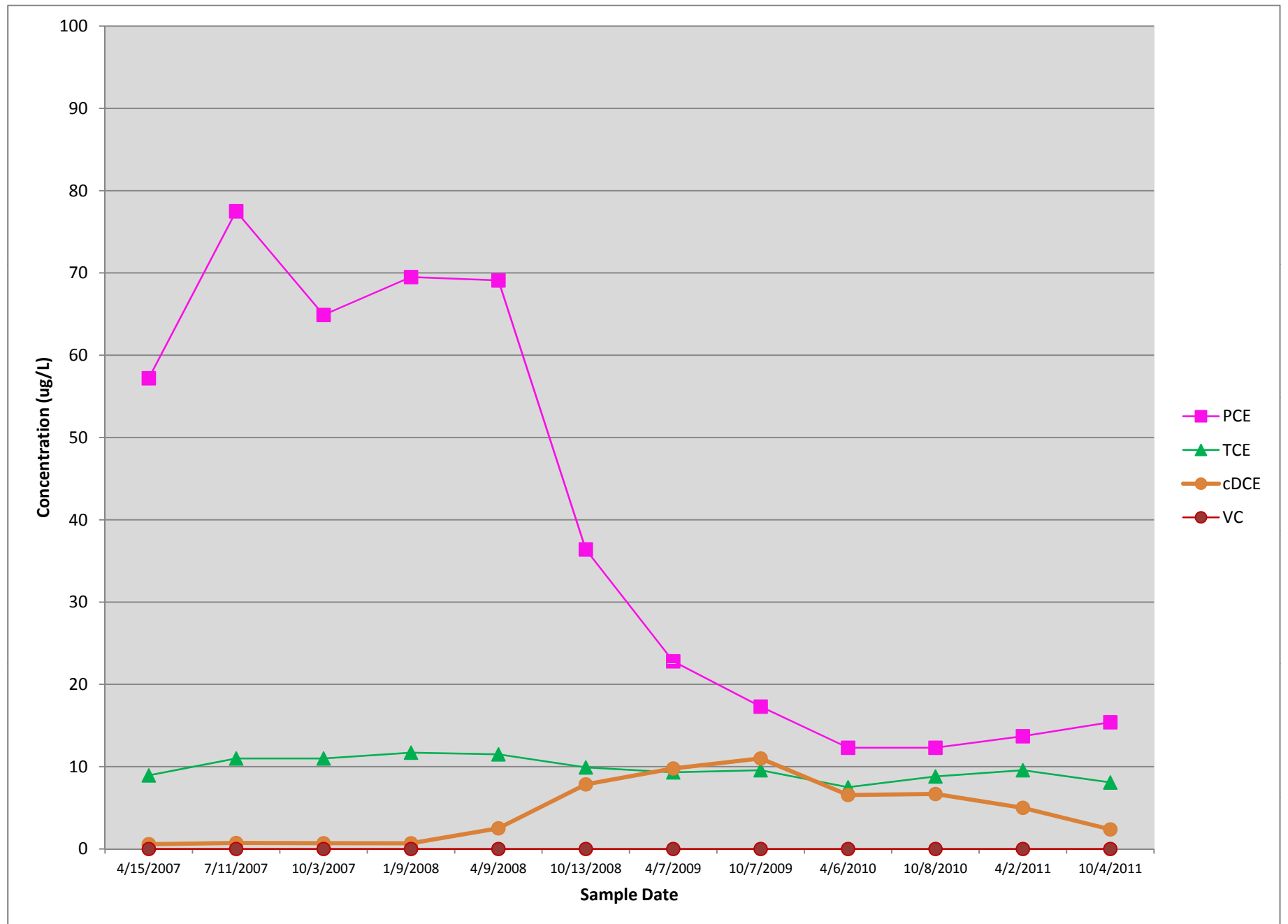
MW-205B



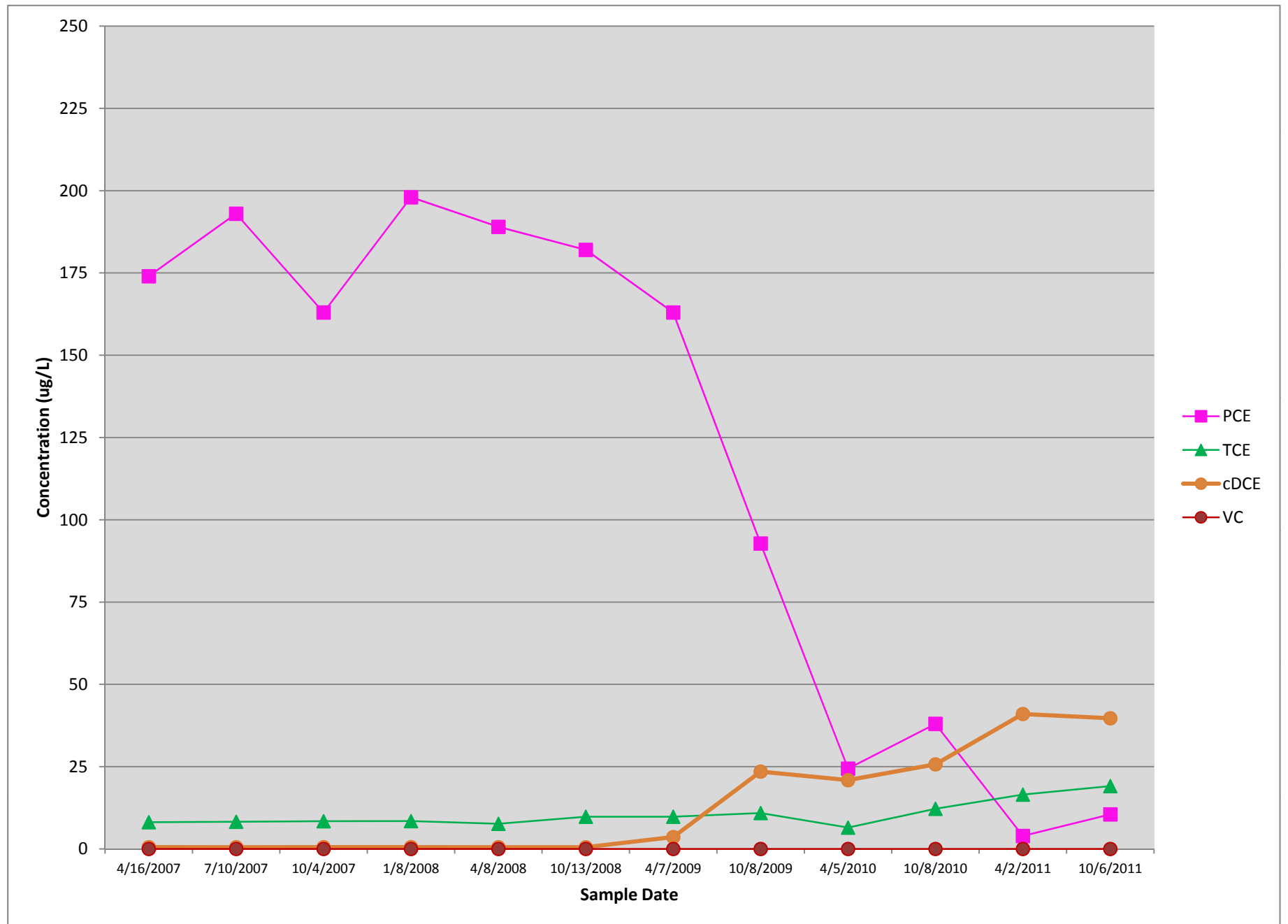
MW-206A



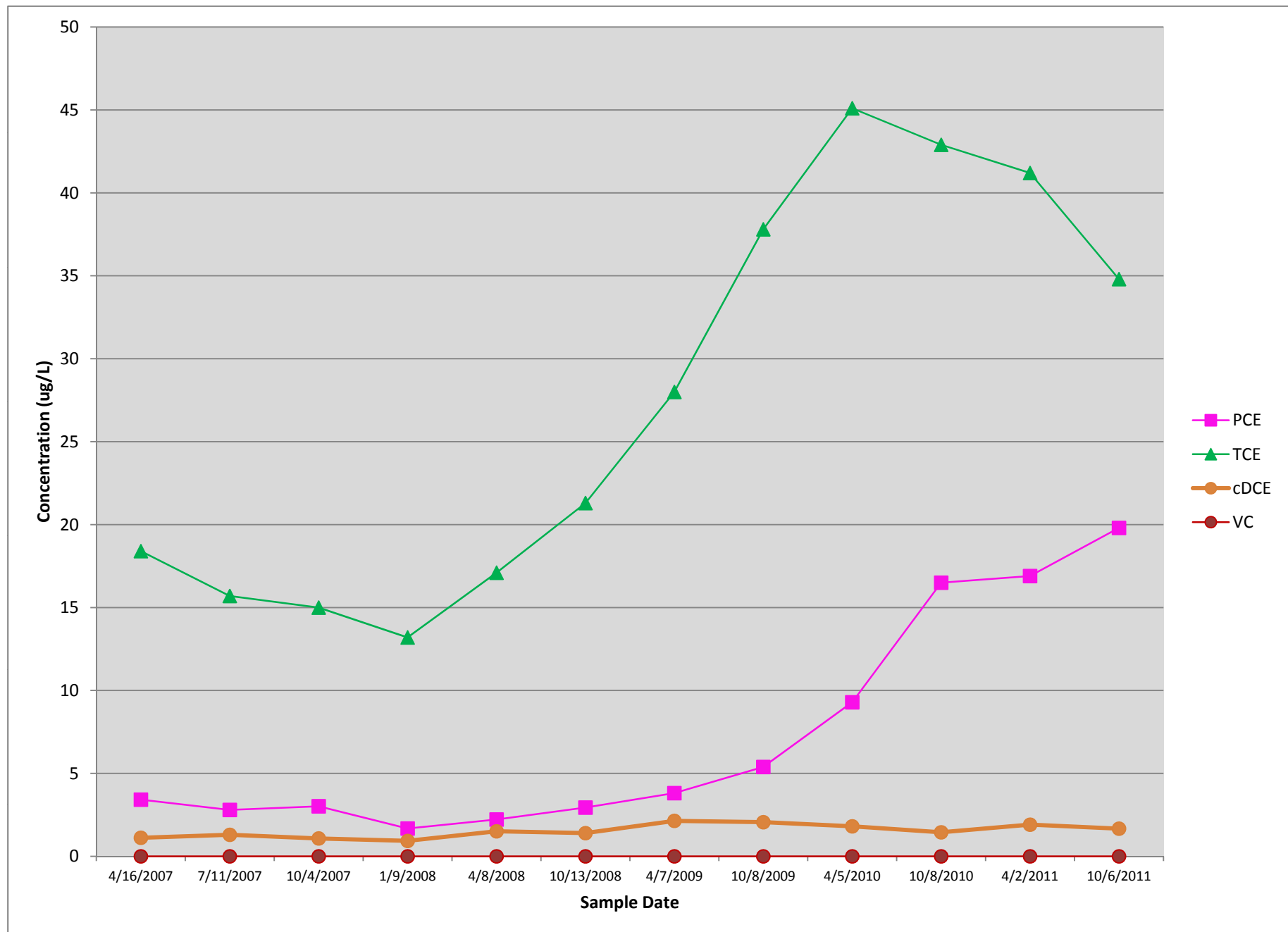
MW-206B



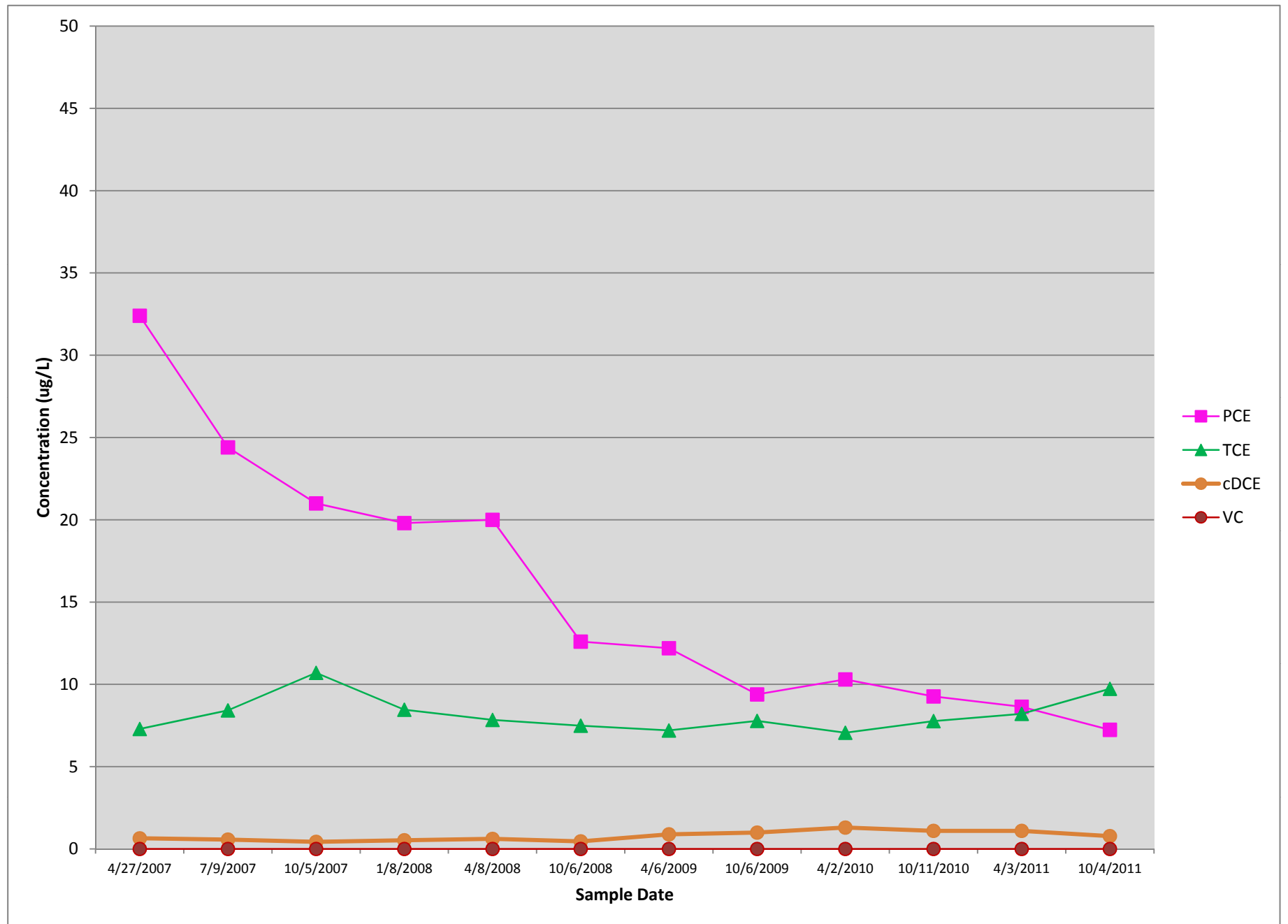
MW-208A



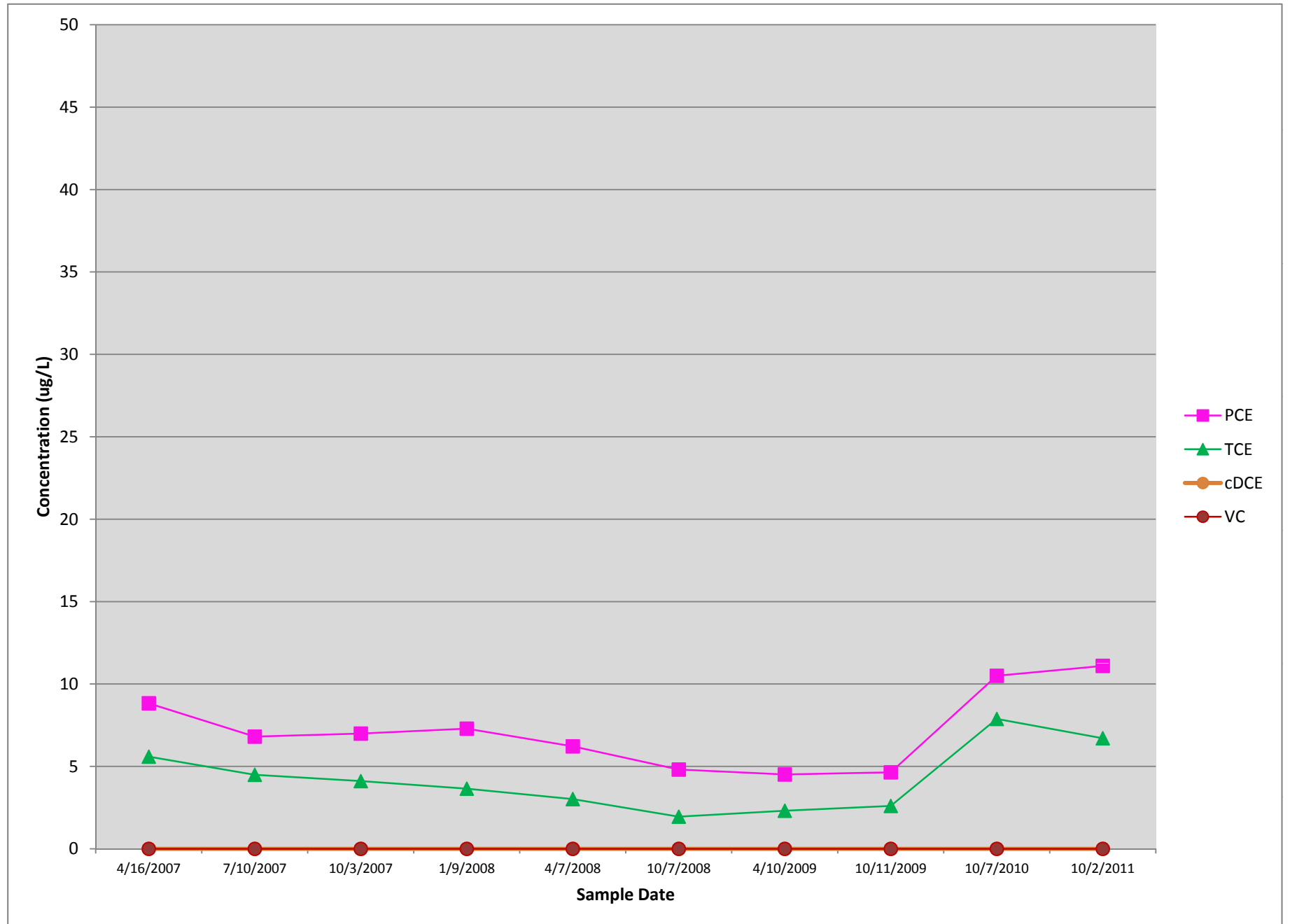
MW-208B



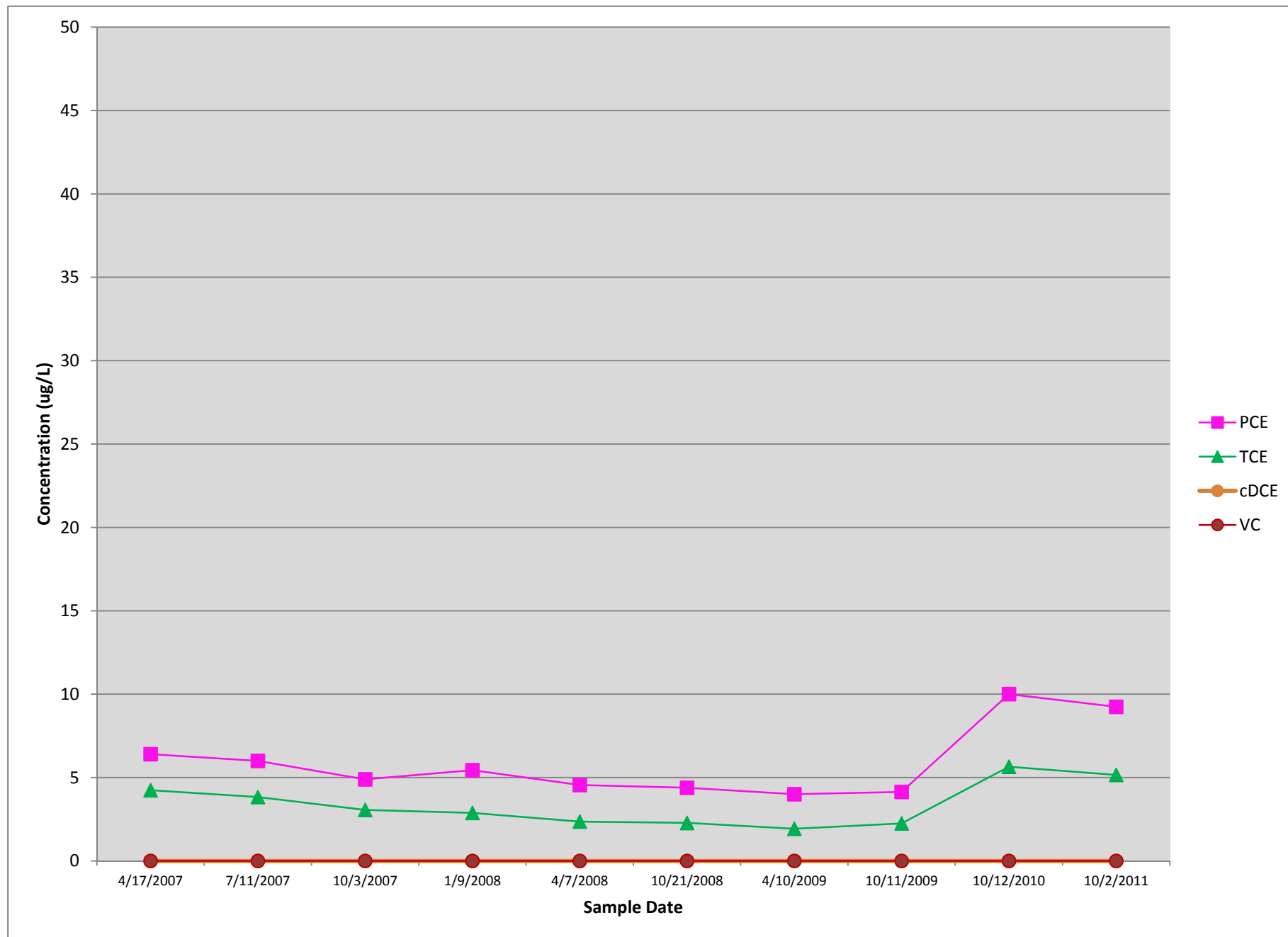
MW-210B



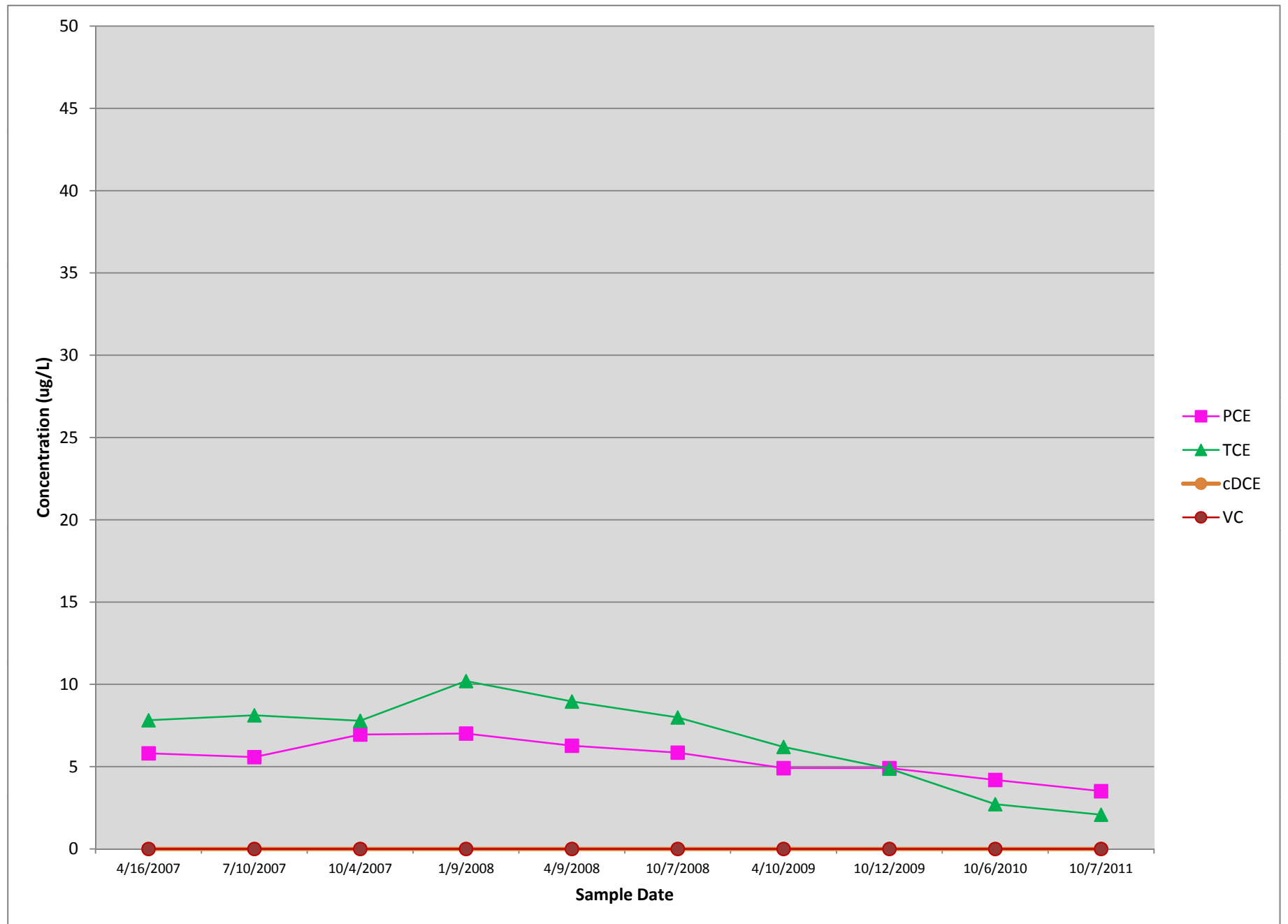
MW-214A



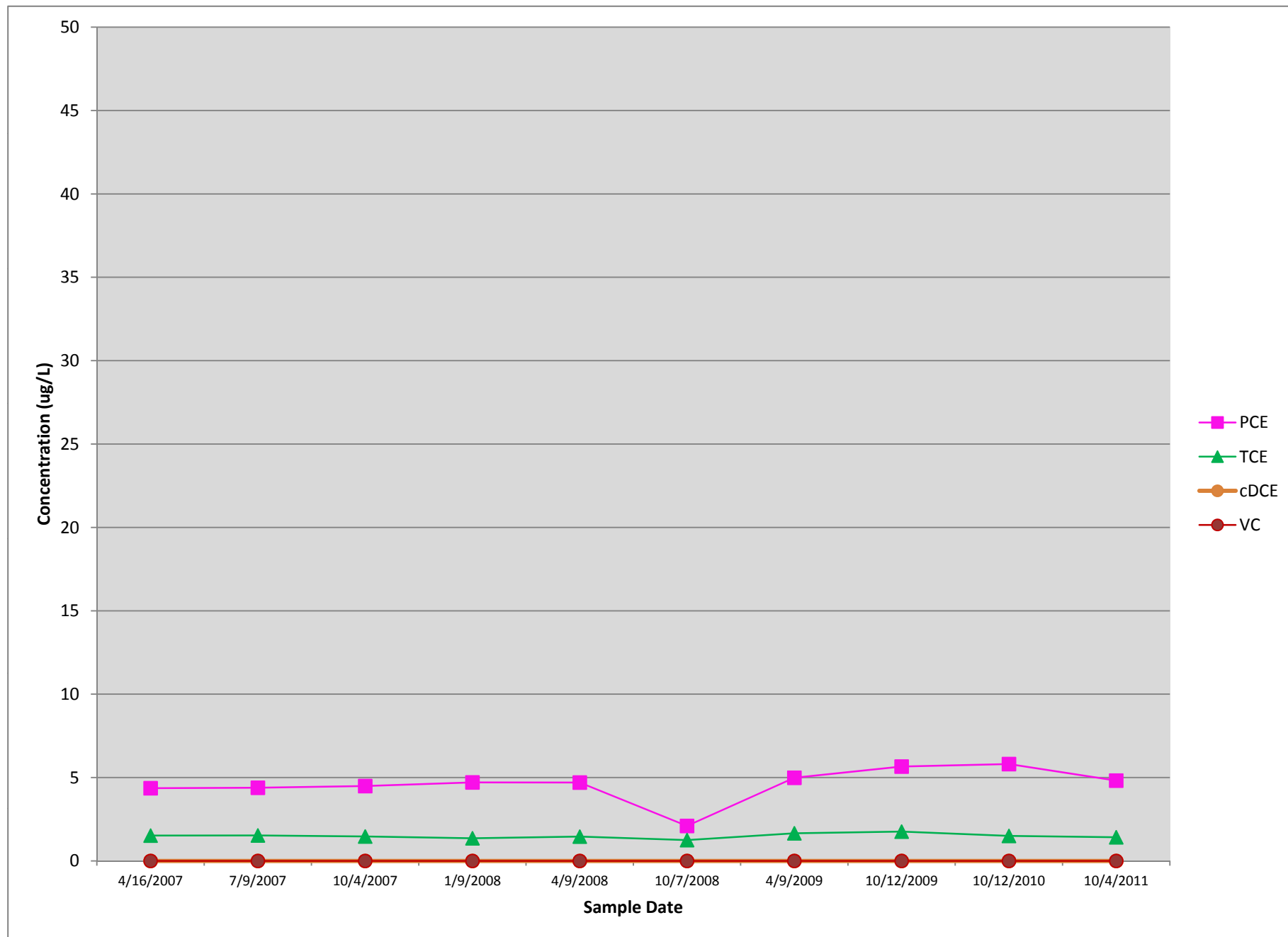
MW-214B

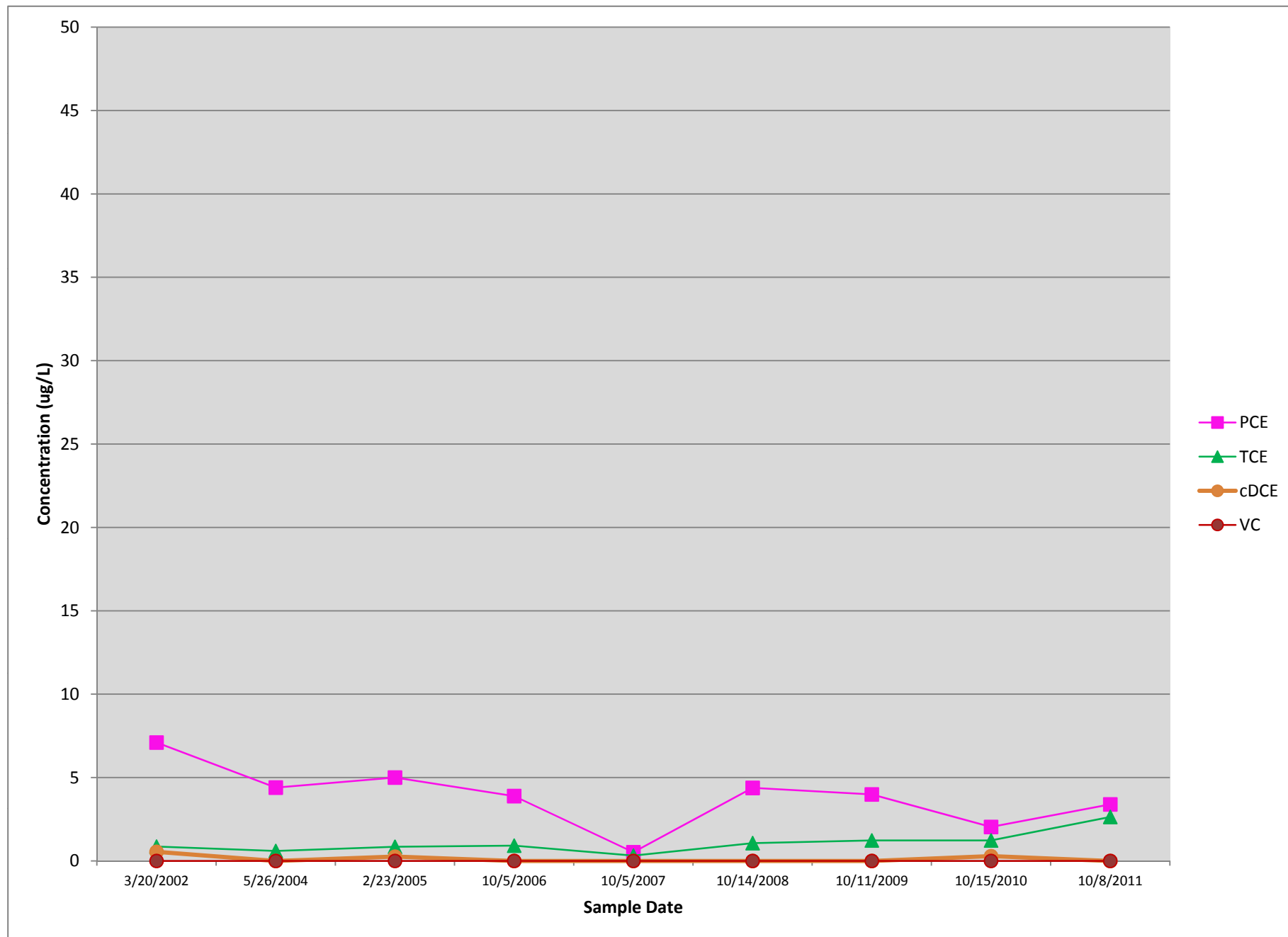


MW-215A



MW-215B





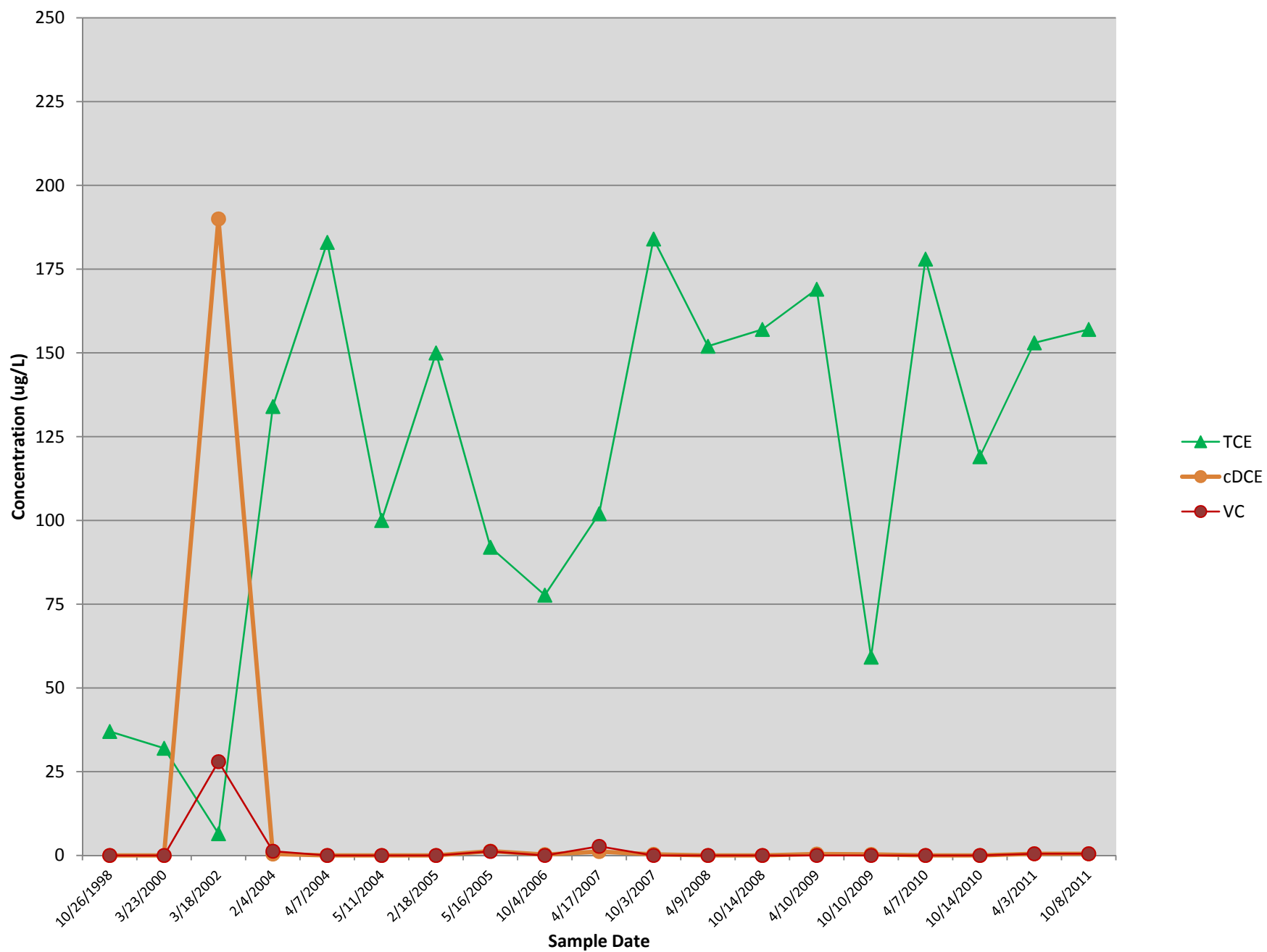
APPENDIX D-9

CVOC TIME-TREND PLOTS

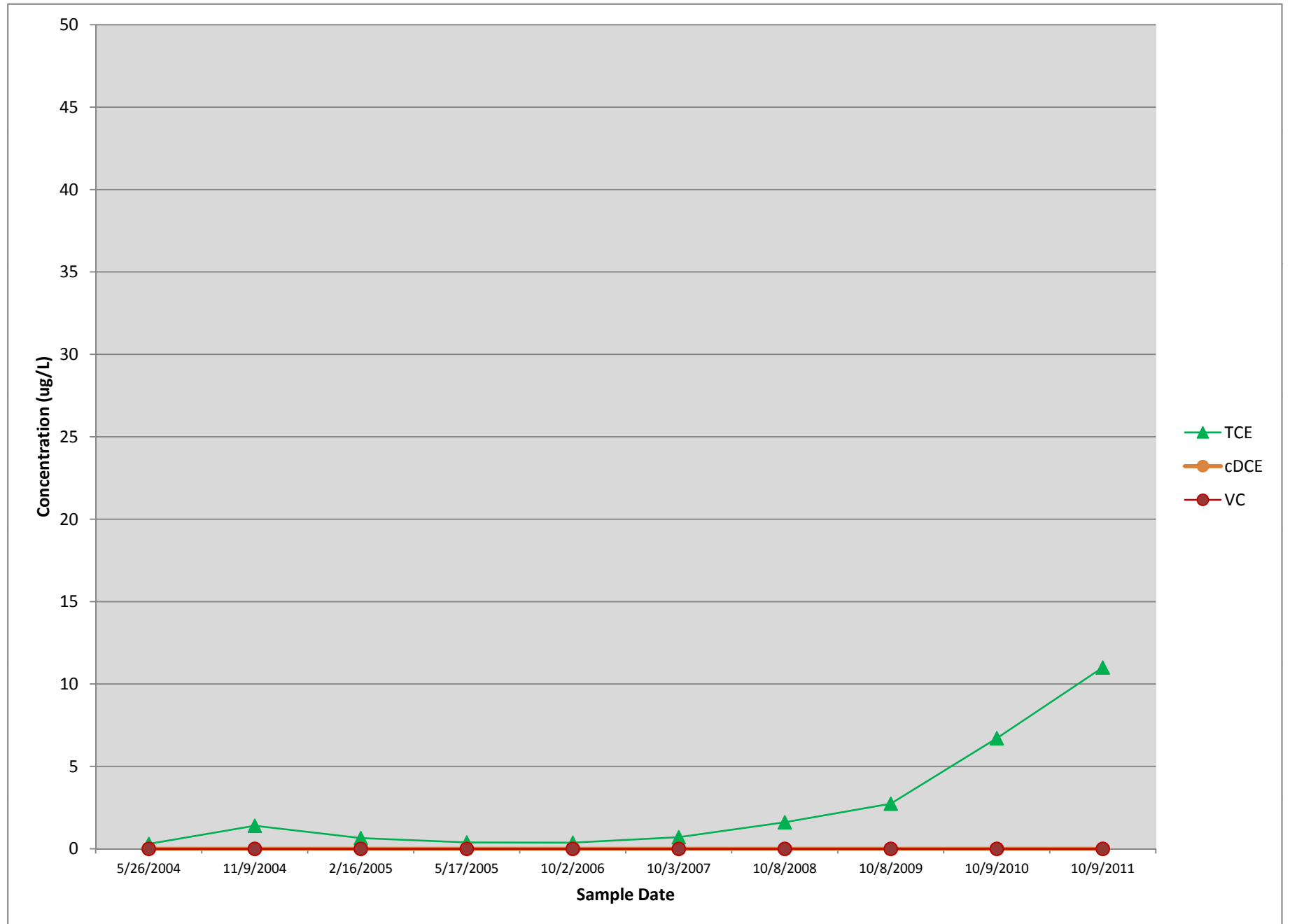
Building 835 Plume

MW-62, MW-142, MW-198, MW-199B, MW-209B, MW-212

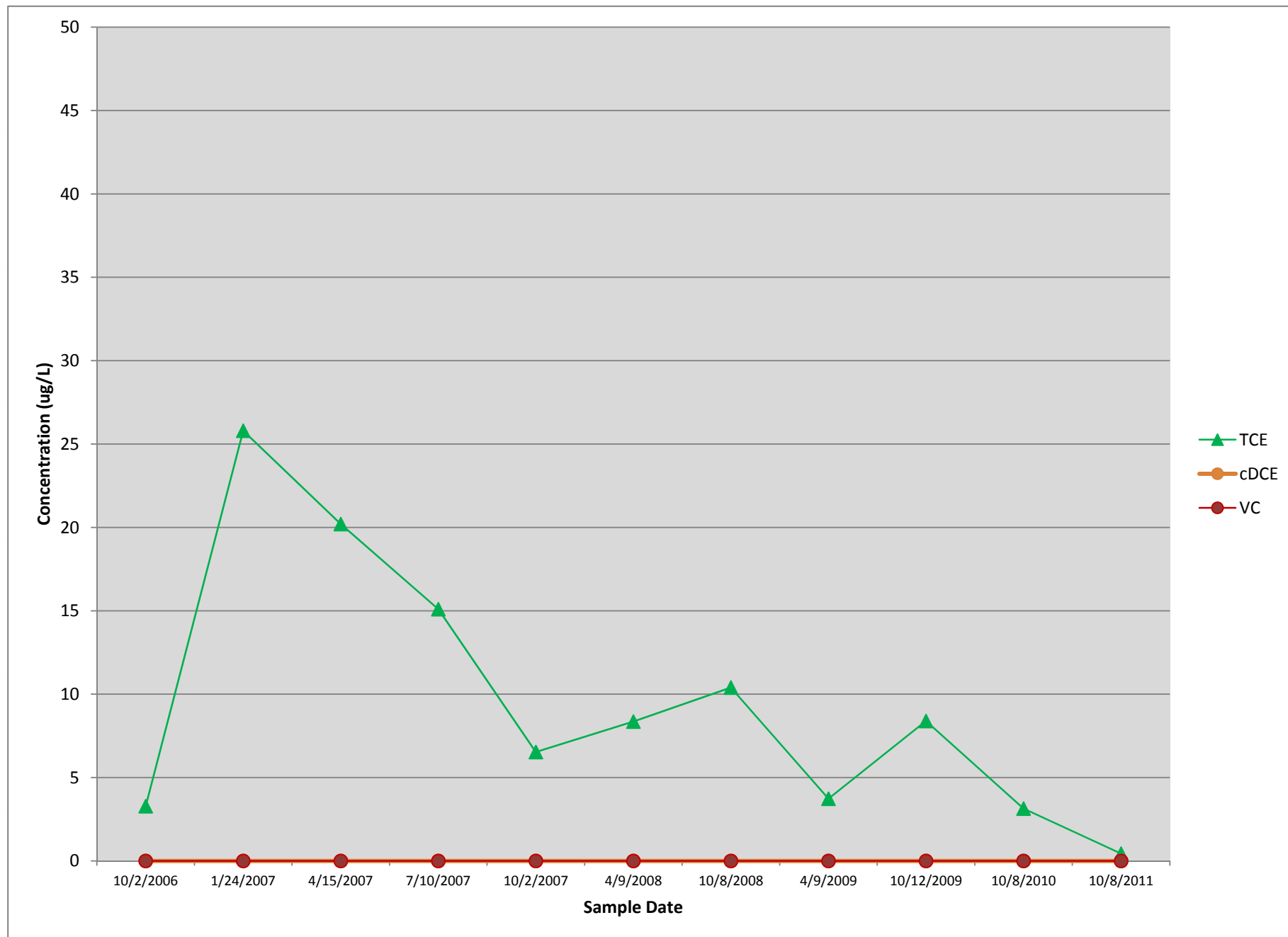
MW-62



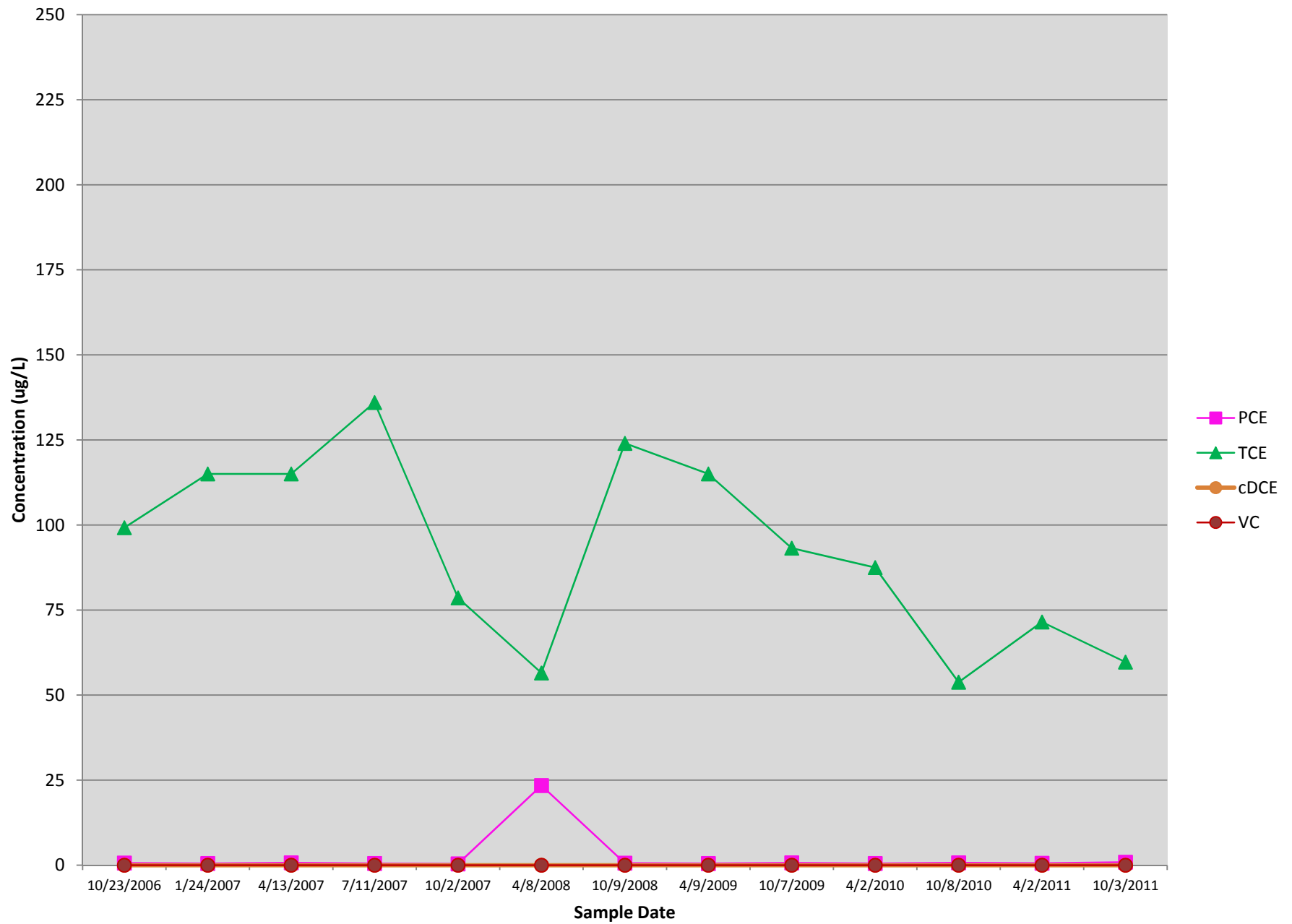
MW-142



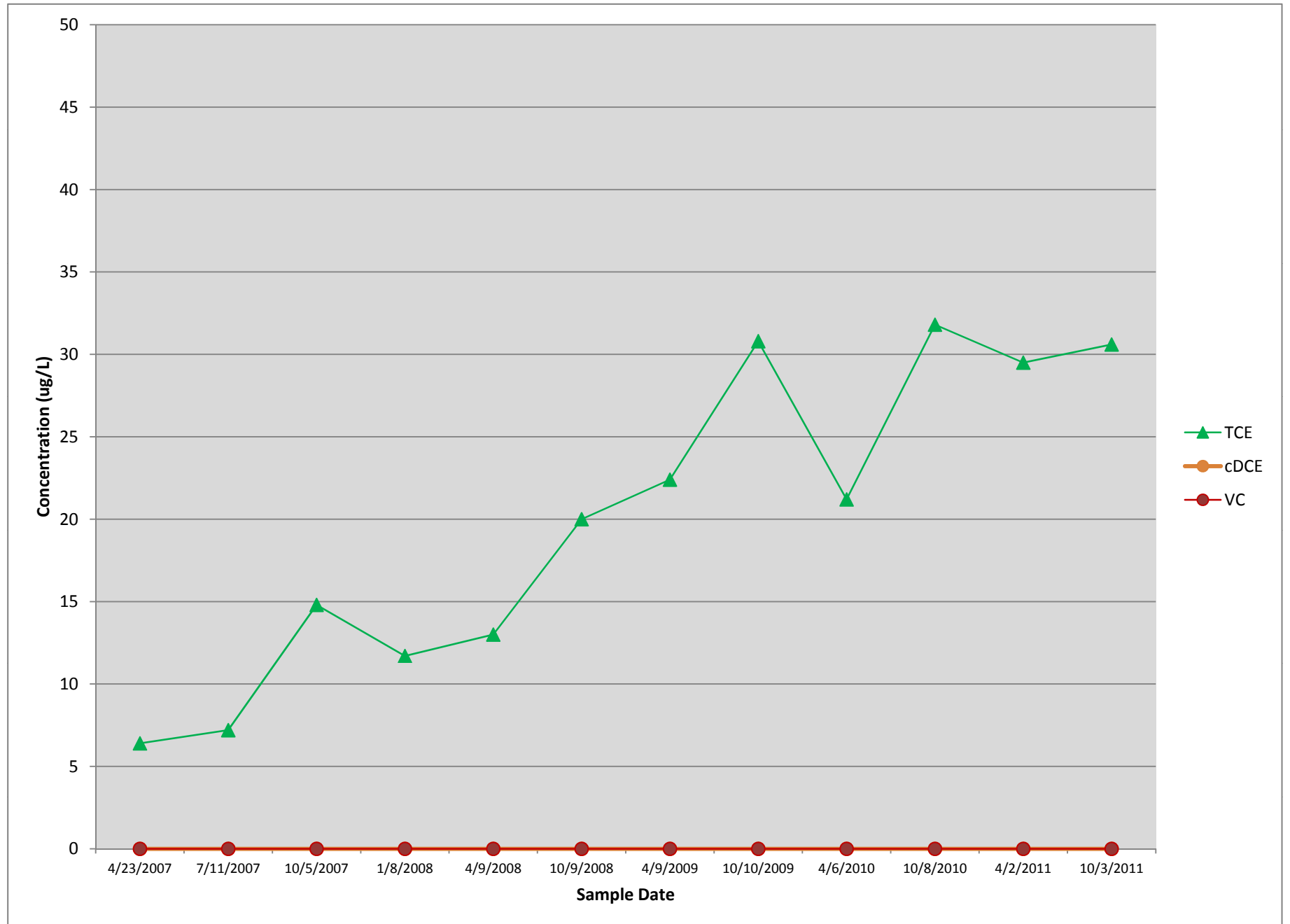
MW-198



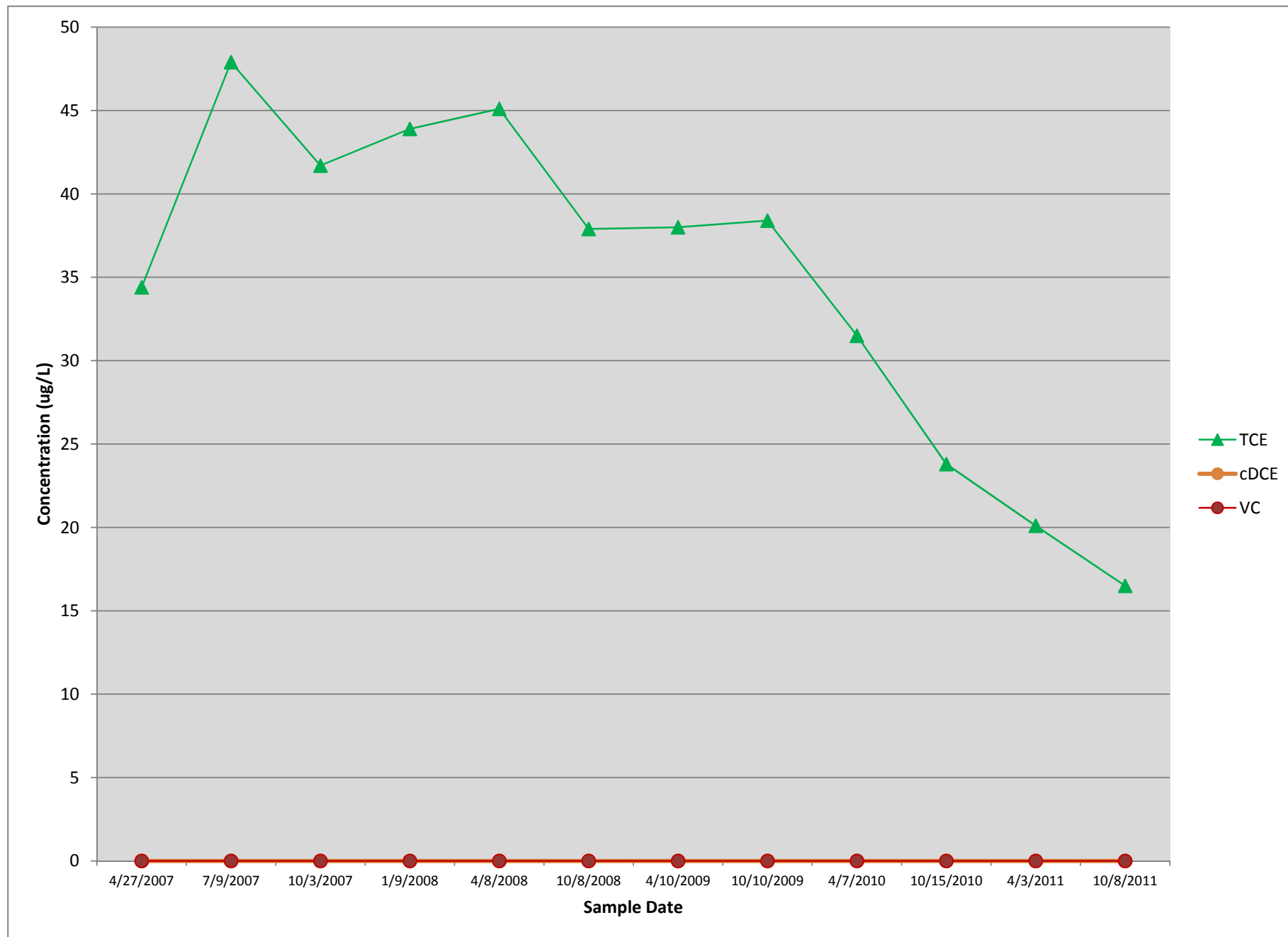
MW-199B



MW-209B



MW-212



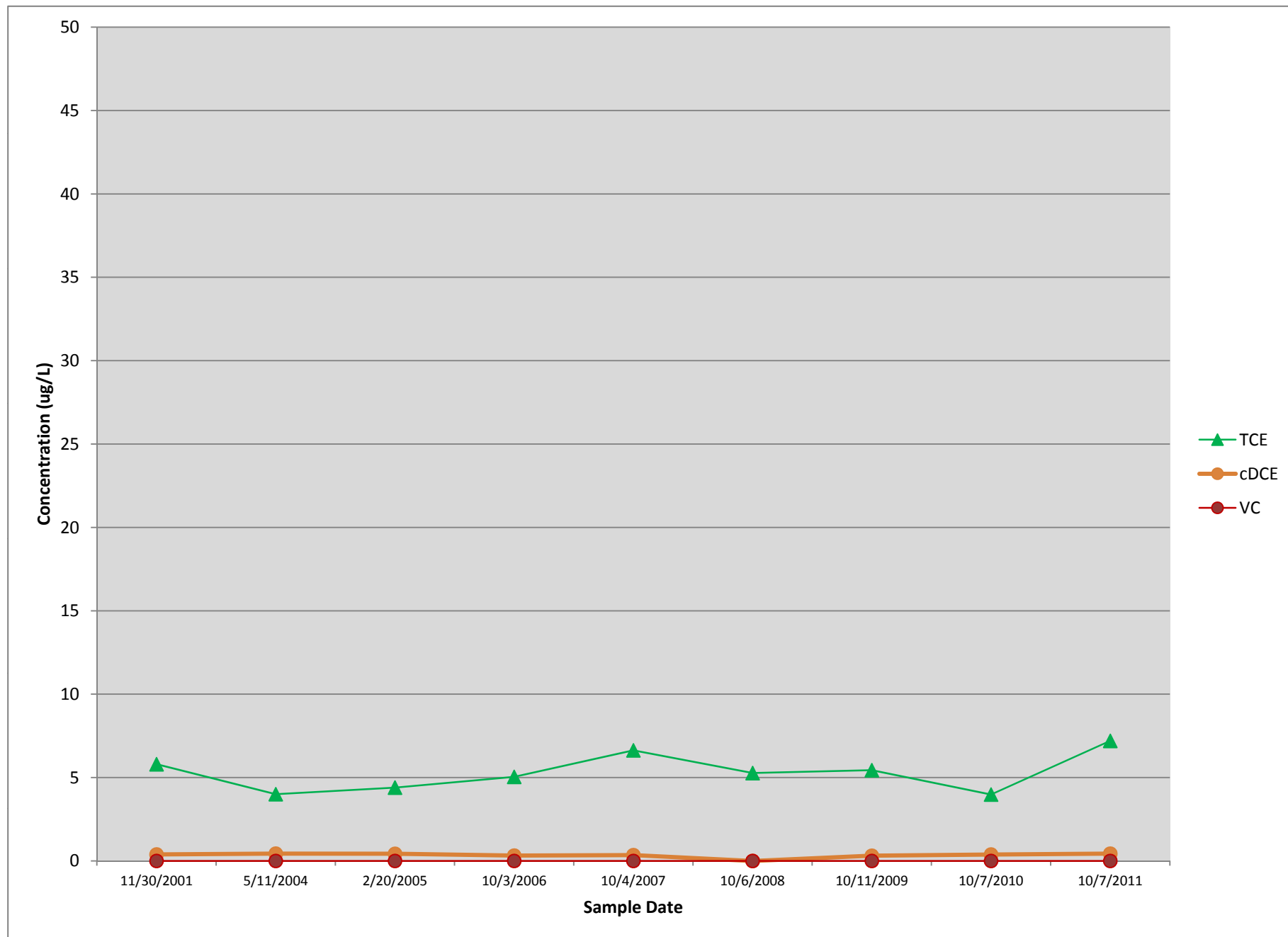
APPENDIX D-10

CVOC TIME-TREND PLOTS

North Central Plume

MW-103, MW-104

MW-103



MW-104

