URS

May 13, 2011

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SUBJECT: Contract No. W91238-07-D-0006, Task Order 0004, Modesto Groundwater Superfund Site, Modesto, California Quarterly Operations and Monitoring Report, First Quarter 2011

Dear Mr. Mackenzie:

Enclosed is the Quarterly Operations and Monitoring Report, First Quarter 2011. Appendices are provided on a compact disk included at the end of the report.

If you have any questions or comments, please call me at (916) 679-2279.

Sincerely,

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QUARTERLY OPERATIONS AND MONITORING REPORT
GROUNDWATER TREATMENT AND SOIL VAPOR EXTRACTION REMEDIATION SYSTEMS
FIRST QUARTER 2011

MODESTO GROUNDWATER SUPERFUND SITE
MODESTO, CALIFORNIA

May 2011

Contract W91238-07-D-0006
Delivery Order No. 0004

Prepared for:
U.S. Army Corps of Engineers
Sacramento District

Prepared by:

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MODESTO GROUNDWATER SUPERFUND SITE
QUARTERLY OPERATIONS AND MONITORING REPORT
GROUNDWATER TREATMENT AND SOIL VAPOR
EXTRACTION REMEDIATION SYSTEMS
FIRST QUARTER 2011

This report was prepared by URS staff under our supervision. Interpretations, conclusions, and recommendations in the report are based on background information, design basis, and other data furnished to URS by the U.S. Environmental Protection Agency, U.S. Army Corps of Engineers, and/or third parties. URS has relied on this information as furnished and is neither responsible for nor has confirmed the accuracy of this information. Our experience and professional judgment governed the data interpretation, conclusions, and recommendations presented in the report.

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LIST OF ACRONYMS AND ABBREVIATIONS

ASTM	American Society for Testing and Materials
bgs	below ground surface
BOD	biochemical oxygen demand
City	City of Modesto
DQO	data quality objectives
EPA	U.S. Environmental Protection Agency
GAC	granular activated carbon
gpm	gallons per minute
GWT	groundwater treatment
lb/day	pound per day
LCS	laboratory control sample
LDC	Laboratory Data Consultants
MCL	maximum contaminant level
MDL	method detection limit
msl	mean sea level
MS/MSD	matrix spike/matrix spike duplicate
MWH	MHW Americas, Inc.
O&M	operation and maintenance
PARCC	precision, accuracy, representativeness, completeness, and comparability
PCE	tretrachloroethene
ppbv	parts per billion by volume
PQL	practical quantitation limit
P&ID	process and instrumentation diagram
QA	quality assurance
QC	quality control
RPD	relative percent difference
SAP	sampling and analysis plan
scfm	standard cubic feet per minute
SM	standard method
SVE	soil vapor extraction
TDS	total dissolved solid
TSS	total suspended solid
URS	URS Group, Inc.

LIST OF ACRONYMS AND ABBREVIATIONS (Continued)

VOC	volatile organic compound
µg/L	micrograms per liter
1Q11	first quarter 2011

1.0 INTRODUCTION

This is the first quarter 2011 (1Q11) Quarterly Operations and Monitoring (O&M) Report for the Modesto Groundwater Superfund Site. The reporting period is from January 1 through March 31, 2011. This report describes the monitoring and sampling program, summarizes the performance of the systems, and provides results of routine system operations. This section provides an overview of the site history and report organization.

1.1 Site History

The City of Modesto (City) is located approximately 80 miles southeast of Sacramento, in Stanislaus County, California (Figure 1-1). The Modesto Groundwater Superfund Site is located in a commercial area on McHenry Avenue, south of Orangeburg Avenue, behind Halford's Cleaners (941 McHenry Avenue).

In 1984, through routine sampling of water supply wells, the City discovered contamination in Municipal Well 11 at the corner of Magnolia and Mensinger Avenues (Figure 1-2). Laboratory analysis of the Municipal Well 11 sample collected in 1984 indicated tetrachloroethene (PCE) in excess of the federal and state maximum contaminant level (MCL) of 5 micrograms per liter (µg/L). PCE is an industrial solvent commonly used in dry cleaning and was found to have originated at Halford's Cleaners, approximately 1,000 feet away from Municipal Well 11.

Municipal Well 11 was taken out of service by the City in 1984 and reactivated in April 1987 when levels of PCE and other chlorinated solvents were not detected at concentrations above MCLs. In February 1989, Municipal Well 11 was again taken out of service after PCE concentrations exceeded the MCL a second time. The well remained out of service until the City installed a wellhead granular activated carbon (GAC) treatment system in May 1991. The GAC system reduced the PCE concentration to below the MCL before the water entered the public supply system. Municipal Well 11 was returned to service in June 1991 and operated until October 1995, when the City indefinitely deactivated the well because naturally occurring uranium was detected above the MCL of 20 picoCuries per liter.

The Modesto Groundwater Superfund Site was placed on the U.S. Environmental Protection Agency's (EPA's) National Priorities List on March 31, 1989. In December 1989, the EPA's Emergency Response Section collected soil and soil vapor samples in the vicinity of Halford's Cleaners. Fifteen monitoring wells were installed and began being sampled from 1992 to 1998. Based on the data obtained, the EPA selected the technology for treatment and removal of the contamination. The selected treatment technologies for the Modesto Groundwater Superfund Site include a soil vapor extraction (SVE) system and a groundwater treatment (GWT) system. The objectives of the SVE and GWT systems are to remediate the source area and contain the groundwater contamination plume. Installation of the SVE and GWT systems was completed on May 16, 2000, and June 12, 2000, respectively.

The groundwater monitoring well network and the SVE system were expanded in 2008. Sixteen additional groundwater monitoring wells were installed to evaluate the lateral and vertical extents of the groundwater plume. All fieldwork was performed in accordance with the *Addendum to Work Plan for Supplemental Site Investigation and Remedial Optimization: Well Installation* (MWH, 2008a). Section 2.2 of the *Quarterly Operations and Monitoring Report, Fourth Quarter 2008* (MWH, 2009) provides a more detailed description of the groundwater monitoring well installations. Section 2.3 of the 4Q08 report describes a dense non-aqueous-phase liquid investigation and the installation of three new SVE wells and two new dual-screened soil vapor monitoring wells.

Two other PCE groundwater plumes, herein referred to as the Elwood's and McHenry Village plumes, have been identified within 1 mile of the Halford's Cleaners Site. The Elwood's plume is the more significant because of a close proximity to the Halford's plume and the potential for commingling of the groundwater plumes. The source area of the Elwood's plume is about 2,100 feet (0.4 mile) south of Halford's Cleaners near the intersection of Morris and McHenry Avenues. PCE has been detected at concentrations as high as 11,000 µg/L in samples from nine shallow monitoring wells at this location. The wells were originally installed to monitor a fuels release from a nearby 7-11 convenience store, which has subsequently been closed with regard to fuels cleanup. Elwood's Dry Cleaners was identified as a responsible party for PCE contamination discovered in groundwater samples from the fuels site. The wells were last sampled in the fall of 2005 and several have subsequently been destroyed. PCE was detected in the southern-most well at 8,100 µg/L in September 2005. In efforts to characterize downgradient portions of the plume, grab groundwater samples were also collected from exploratory direct-push borings installed in 2002 or 2003. The borings were located at distances up to approximately 2,100 feet (0.4 mile) from Elwood's plume (MWH, 2010a).

The McHenry Village PCE plume is about 4,650 feet (0.9 mile) north of Halford's Cleaners, at the intersection of McHenry and Briggsmore Avenues. PCE from the McHenry Village site has impacted nearby Municipal Well 21. PCE is being actively remediated at this site and has been monitored in groundwater since about 1998 in several monitoring wells, including more recently in seven deeper wells screened in the equivalent to the B zone hydrostratigraphic interval. The most recent groundwater monitoring data from September 2008 show that PCE is present at concentrations as high as 64 µg/L in the deepest monitoring wells screened about 120 feet below ground surface (bgs). Thus, the vertical extent of the McHenry Village plume is not defined. Water levels from shallow monitoring wells at other cleanup sites in the region confirm the overall southeastern flow direction observed in the A and B zones at Halford's Cleaners. As such, it appears unlikely that PCE from the McHenry Village plume is affecting areas of the aquifer impacted by the Halford's release a mile south (MWH, 2010a).

1.2 Report Organization

This report is organized as follows:

Section 1.0 provides a brief history of the Modesto Groundwater Superfund Site.

Section 2.0 describes the remedial systems.

Section 3.0 describes the sampling programs.

Section 4.0 provides performance evaluations for the GWT and SVE systems, including a groundwater capture zone analysis.

Section 5.0 summarizes results and provides recommendations for the GWT and SVE system O&M programs.

Section 6.0 provides an analytical data quality review.

Section 7.0 lists reference information for documents cited in this report.

The report is supported with the following appendices; the appendices are provided on a compact disc at the end of the report:

Appendix A is process and instrumentation diagrams (P&IDs) for the GWT and SVE systems.

Appendix B is laboratory analytical data tables.

Appendix C is a laboratory data validation report.

Appendix D is system uptime logs.

Appendix E is O&M process logs.

Appendix F provides operational history, including a brief discussion of the routine and non-routine O&M performed on the GWT and SVE systems.

Appendix G provides historical data, as follows

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2.0 DESCRIPTION OF REMEDIAL SYSTEM

The Modesto Groundwater Superfund Site GWT and SVE systems are located behind Halford's Cleaners and between an auto repair shop and Season's Lodge (Figure 2-1). All SVE and GWT process equipment is contained within two metal storage containers in a fenced and locked compound in the parking lot behind Season's Lodge.

2.1 Groundwater Treatment System

The GWT system includes a single operating extraction well (EW-01 failed in 2004 and was replaced with EW-01R in 2006), an equalization tank, particulate filters, an air stripper, two liquid-phase GAC vessels, one vapor-phase GAC vessel, and two ion exchange units, as well as piping and control systems. The GWT system P&ID is included in Appendix A.

The liquid-phase GAC vessels act as polishing vessels treating the water from the air stripper. The vapor-phase GAC vessel treats the air stream from the air stripper. The ion exchange units are installed in series after the polishing carbon vessels and treat a slip stream of the total system flow to remove low levels of naturally occurring uranium from the groundwater before discharge to the City of Modesto Sewer Collection System. The design flow rate of the system is 50 gallons per minute (gpm).

The aboveground components of the system except the vapor GAC vessel are contained in an 8.5- by 8.5- by 20-foot metal storage container. The vapor GAC vessel is located next to the container within the fenced compound. A secondary containment unit is located underneath the storage container. If a leak occurs, water from the sump is pumped to the equalization tank and treated before it is discharged to the sewer. Additional information about the GWT system can be found in the *Groundwater Treatment System and Soil Vapor Extraction System Operation and Maintenance Manual, Modesto Groundwater Superfund Site* (O&M Manual) (URS Group, Inc. [URS], 2010a), which includes details on the operating equipment (manufacturers, models, standard settings, inspection frequency, troubleshooting, etc.).

The groundwater monitoring network consists of 31 wells located throughout the site in residential and business communities (Figure 2-2). Well construction details are provided in Appendix G1.

2.2 Soil Vapor Extraction System

The SVE system includes three on-line (SVE-02, SVE-03, and SVE-04) extraction wells, a blower, a condensate collection drum, filters, silencers, one 2,000-pound GAC vessel used for vapor treatment, piping, control systems, and an air conditioning unit. The SVE system P&ID is included in Appendix A.

The SVE system is operated by the local programmable logic controller on site. Its designed flow rate is 180 standard cubic feet per minute (scfm). Liquid that accumulates in the condensate collection drum is pumped to the equalization tank in the GWT system for treatment before discharge to the sewer.

The aboveground system except the vapor GAC vessel components are contained in an 8- by 8.5- by 12.75-foot metal storage container. The vapor GAC vessel is located next to the container within the fenced compound. Additional information about the SVE system can be found in the O&M Manual (URS, 2010a), which includes details on the operating equipment in the SVE trailer (manufacturers, models, standard settings, inspection frequency, troubleshooting, etc.).

The three extraction wells currently in operation (SVE-02, SVE-03, and SVE-04) are located approximately 3 to 5 feet from the northwestern corner of Halford's Cleaners in the alley north of the building, within what is considered to be the source area. Nine monitoring points surround the SVE

wells. Figure 2-3 shows the locations of the SVE wells, the vapor monitoring wells, and the conveyance piping configuration.

3.0 SAMPLING AND MONITORING PROGRAM

Sampling and monitoring at the Modesto Groundwater Superfund Site is performed in accordance with the *Sampling and Analysis Plan, Modesto Groundwater Superfund Site* (SAP) (URS, 2010b). Appendix B provides the schedule for samples collected during 1Q11, including sample locations and associated analytical test methods, phase (water, vapor, etc.), frequency, and date of sampling activity.

The quarterly sampling program consists of two types of sampling: site sampling and system sampling. Site sampling to monitor groundwater includes collecting groundwater samples from the network of 31 groundwater monitoring wells and one groundwater extraction well for analysis by EPA Method 524.2. Site sampling to monitor the vadose zone includes collecting vapor samples from the three operating SVE wells, three off-line SVE wells, and six vapor monitoring locations for analysis by EPA Method TO15. System sampling includes collecting influent and effluent samples for analysis by EPA Methods 524.2, 2540C, 2540D, 5210B, TO-15, and American Society for Testing and Materials (ASTM) Method D 5174. System samples are collected to demonstrate compliance with discharge limits, to evaluate the effectiveness of the treatment processes, and to monitor status of treatment media of both the SVE and GWT systems.

3.1 Site Sampling and Monitoring

Sampling of groundwater and vapor wells during 1Q11 is described below.

3.1.1 Groundwater Sampling and Monitoring

Depth-to-water measurements and groundwater samples were collected from all 31 groundwater monitoring wells during the quarter to evaluate the GWT system's influence on the PCE plume and estimate the extent of contamination, horizontal flow directions, and groundwater capture (groundwater that flows into the extraction well). Groundwater elevations are also used to evaluate potential vertical groundwater flow directions and to develop groundwater elevation contour maps. Depth to groundwater was measured from the top of casing using an electronic water level meter.

Based on historical data and previous quarterly data results, groundwater samples were collected starting with the least contaminated groundwater monitoring well and continuing in order to the most contaminated groundwater monitoring well. Groundwater samples were collected using low-flow purge methods in 14 monitoring wells and using three-volume purge-and-sample methods in MW-3A and the 16 most recently installed groundwater wells. The samples from the extraction well were collected from sample port number 1 (SP-01) located at the GWT system influent. The samples were analyzed for volatile organic compounds (VOCs) using EPA Method 524.2.

At the end of the sampling event, water purged from the groundwater monitoring wells was transferred into the equalization tank located inside the GWT system. The SAP describes the sampling procedure.

URS measured depths to groundwater on March 7 and 8, 2011, and collected groundwater samples from March 7 through 11, 2011.

3.1.2 Soil Vapor Sampling and Monitoring

Soil vapor samples were collected from SVE and vapor monitoring points on March 9 and 10, 2011, using Summa canisters. Samples were analyzed using EPA Method TO15.

3.2 System Sampling and Monitoring

Sampling and monitoring of the GWT and SVE systems at the Modesto Groundwater Superfund Site were performed in accordance with the City of Modesto Conditional and Revocable Groundwater Discharge Permit Number GW 98-3 (City of Modesto, 2010) and the SAP (URS, 2010b). Generally, two categories of samples are collected from the remedial systems: compliance monitoring and performance monitoring. Compliance monitoring samples are collected to satisfy regulatory requirements; performance monitoring samples are collected to assess the performance of the remedial systems.

Compliance monitoring samples for the GWT system, as identified by the City, are collected monthly from the extraction well and system effluent during periods when the system is operating. Performance monitoring samples are collected from the various treatment system units to monitor the performance and efficiency of the individual units. The GWT system performance monitoring samples are collected from the carbon influent, carbon mid-bed, post carbon/pre-ion exchange, and ion exchange mid-bed. System effluent samples are analyzed for VOCs monthly, total dissolved solids (TDS) monthly, total suspended solids (TSS) monthly, biochemical oxygen demand (BOD) monthly and total uranium quarterly. Figures A-1 and A-2 in Appendix A illustrate the locations of the sampling ports for the GWT system.

The SVE system performance samples are collected at the pre-GAC and stack sample ports. Influent and effluent samples are collected monthly for analysis by EPA Method TO15. Figure A-3 in Appendix A illustrates the locations of the sampling ports for the SVE system.

4.0 PERFORMANCE EVALUATION

This section provides a performance evaluation based on current and historical site sampling and system sampling results. The site performance evaluation assesses 1Q11 sampling results from groundwater and vadose zone monitoring points to estimate the extent of contamination. The system sampling helps evaluate the remedial progress of the GWT and SVE systems. Both of these evaluations are based on analytical laboratory results and subsequent data evaluations. A complete set of validated analytical data for groundwater and soil vapor samples collected during this reporting period is provided in Appendix B. Appendix C is the laboratory data validation report for this reporting period's analytical data. Section 6.0 provides a summary of the quality assurance (QA) and quality control (QC) results for the samples collected during 1Q11.

4.1 Site Performance

This section provides results of the groundwater and soil vapor well sampling events for 1Q11 (Sections 4.1.1 and 4.1.2, respectively). A stratigraphic conceptual model is shown on Figure 4-1. An analysis of vertical gradients is presented in Section 4.1.3, and a capture zone analysis is provided in Section 4.1.4.

4.1.1 Groundwater Monitoring and Sampling Results

Based on water levels measured on March 7 and 8, 2011, groundwater elevations ranged from 46.54 feet mean sea level (msl) (MW-03A) to 49.34 feet msl (MW-11A) in the A zone; 47.22 feet msl (MW-16B) to 48.29 feet msl (MW-9B) in the B zone; and 46.91 feet msl (MW-16C) to 48.39 feet msl (MW-04C) in the C zone. Comparing 1Q11 and 4Q10 water levels, water elevations increased an average of about 2.4 feet in A and B zone wells across the site; water elevations in C zone wells increased an average of approximately 2.6 feet across the site. A complete list of historical (starting in 2000) and current water level measurements is presented in Appendix G, Tables G-2(a) and G-2(b).

Potentiometric surface data, groundwater flow directions, and PCE concentration data in the A, B, and C zones are shown on Figures 4-2, 4-3, and 4-4, respectively. Groundwater contours indicate that groundwater in the A zone flows southeast, consistent with previous quarters (Figure 4-2). It also shows a cone of depression induced by pumping of EW-1R, which was operating at an average of approximately 46 gpm during 1Q11. The average hydraulic gradient along the direction of regional groundwater flow for the A zone was approximately 0.0010, or approximately 5.1 feet per mile. Groundwater in the B zone was flowing southeast (Figure 4-3), and its horizontal gradient is approximately 0.0005 (approximately 2.8 feet per mile). Groundwater in the C zone was flowing south-southeast (Figure 4-4) with a horizontal gradient of approximately 0.0008 or 4.2 feet per mile.

The flow direction in the A zone has been consistently southeast. However, the B and C zone flow directions are more variable. The flow direction in the B zone remained southeast during 1Q11. It had shifted to the southeast in 4Q10 and the east-southeast during 3Q10. The flow direction in the C zone remained south-southeast in 1Q11, which was the same as in 4Q10; however, it changes almost every quarter. During 4Q08 and 1Q09, the flow direction in the C zone was southeast. It shifted to the west during 2Q09, southwest during 3Q09, and southeast in 4Q09 and 1Q10. In 2Q10, groundwater in the C zone flowed south-southwest in the northern portion of the site and southeast in the southern portion of the site, and in 3Q10 it flowed south-southwest. The direction of groundwater flow in the C zone has been observed to be more westerly during the second and third quarters and more easterly during the fourth and first quarters. As discussed in previous reports, the gradients in this deeper zone are strongly influenced by regional supply well pumping that increases during the spring and summer months (MWH, 2010b). Pumping histories from January 2000 through August 2009 for City supply wells surrounding the site are

compiled in *Groundwater Remediation Optimization Methods*, *Modesto Groundwater Superfund Sites* (MWH, 2010a, Appendix B).

4.1.1.1 PCE

In 1Q11, PCE was detected at concentrations exceeding the MCL of 5 µg/L. The distribution of PCE concentrations in groundwater is illustrated with isoconcentration contour lines (lines of equal concentration) on Figures 4-2 and 4-3 for the A and B zones, respectively. There are no isoconcentration contours in the C zone on Figure 4-4 because concentrations are less than detection limits. Appendix G, Tables G-3(a) and G-3(b), includes historical and current quarterly groundwater monitoring well analytical results and pH levels from water samples. Figures G-4(a) through G-4(ae) (Appendix G-4) present time-series plots for PCE for each monitoring well for the period from February 1992 through 1Q11.

A Zone

As depicted on Figure 4-2, the portion of the PCE plume greater than 50 µg/L extends southeast parallel to the general direction of the groundwater gradients; however, the portion of the plume between 5 µg/L and 50 µg/L has a less obvious orientation relative to groundwater gradient. Time series plots in Appendix G, Figures G-4a-ae, indicate that 1Q11 PCE data for most wells are consistent with previously established trends. However, the PCE concentration at MW-10A, which decreased in 4Q10 to less than 100 µg/L for the first time since 1Q02, increased to 130 µg/L in 1Q11.

At MW-19A, the PCE concentration increased from no detection in 2Q10 to the highest ever reported at that well of 21 µg/L in 3Q10. It was speculated that this could have been due to an increase in municipal pumping occurring to the east/southeast that is drawing the groundwater from the site in a more easterly direction; however, the PCE concentration at MW-19A was 0.5 µg/L and 0.2 µg/L in 4Q10 and 1Q11, respectively. These concentrations that are lower than the 2Q10 concentration do not support the suggestion of easterly migration of the PCE plume.

PCE concentrations fluctuate seasonally at many of the wells, such as MW-5A, MW-4A, and MW-10A, as shown on the time series plots in Appendix G, Figures G-4(d, g, and l). Concentrations at MW-13A and MW-14A have also fluctuated seasonally (Figures G-4[q and r]) to just above and below the PCE MCL resulting in changes in the shape of the A zone plume several times annually; plumes encompass these wells during winter months and do not during summer months. The PCE concentration at MW-13A increased from 2.8 µg/L in 4Q10 to 16 µg/L in 1Q11. The concentration at MW-14A increased from 9.1 µg/L in 4Q10 to 16 µg/L in 1Q11, which is the highest PCE detection at that well since it was first sampled in 1997. Therefore, the extent of the plume exceeding 5 µg/L was expanded to the west and its boundary is undefined west of both MW-13A and MW-14A (Figure 4-2).

In previous reports, these concentration fluctuations at the western perimeter wells (MW-13A and MW-14A) have been attributed to potential influences from pumping of municipal supply wells to the west or northwest, perhaps from Municipal Well 14 or 17 (Figure 1-2). However, Municipal Well 14 has been offline since September 2006 (MWH, 2010a). Municipal Well 17, which has remained in consistent operation, has a four-foot-long perforated interval about 25 feet lower than the screened zones of MW-13A and MW-14A, but it is located more than 3,500 feet northwest of the monitoring wells (MWH, 2010b). Data are insufficient to determine if the hydraulic influence of pumping at Municipal Well 17 is affecting the PCE plume. However, Municipal Well 7, located closer to the plume and operating consistently, may be affecting the A zone plume even though it is screened below the A zone.

The PCE concentration at EW-1R decreased slightly from 130 µg/L in 4Q10 to 120 µg/L in 1Q11.

B Zone

Figure 4-3 depicts the B zone PCE plume and potentiometric surface contours. The seven wells screened in the B zone are well MW-9B and the six more recently installed B zone monitoring wells: MW-04B, MW-10B, MW-16B, MW-17B, MW-19B, and MW-20B. PCE was detected above the MCL at only three of the wells (MW-10B, MW-17B, and MW-20B). The PCE plume in the B zone is undefined in the western, southwestern, and southern (cross-gradient) directions (Figure 4-3).

The concentration of PCE at MW-17B, which had an increasing trend from 1Q09 to 3Q10, decreased from 90 µg/L in 3Q10 to 32 µg/L in 4Q10; however, the PCE concentration increased at that well to 51 µg/L in 1Q11 (see time series plot Figure G-4[x]). The migration of PCE to MW-17B is believed to be the result of pumping at Municipal Well 7, located 1,000 feet southwest; the fluctuations in the concentrations at MW-17B may be due to fluctuations in horizontal gradients caused by changes in pumping at Municipal Well 7. The City provided historical flow and water quality data for this municipal supply well through August 2009 (MWH, 2010a). The perforated interval for this well is from about 160 to 210 feet bgs (-70 to -120 feet msl); the well is screened across the lower portion of the B zone sands and through the B/C aquitard. This is an active well in continuous use by the City and has been sampled regularly since 1986 at intervals ranging from one to two years. The City's records show that PCE has never been detected in Municipal Well 7, and MWH confirmed with the City that there is not a carbon treatment unit on this well (MWH, 2010b). Water quality data from Municipal Well 7 should be closely monitored in the future, and this well should be recommended for shutdown.

The PCE concentration at MW-4B decreased to 2.0 µg/L, which is less than the MCL. Therefore, the size of the B zone plume was decreased

C Zone

Groundwater elevation contours for the C zone and PCE concentration data are shown on Figure 4-4. There were no detections of PCE in 1Q11 at any of the five wells screened in the C zone. Consequently, no PCE plume is shown on Figure 4-4. The last detections were in 1Q10, and the last detection exceeding the MCL was 8.7 µg/L in 4Q08, which was the highest detection of PCE in the C zone.

4.1.1.2 Benzene

Benzene concentrations exceeding the MCL of 1 µg/L were reported during the 1Q10 sampling event for the first time since well sampling began. There were no detections during the 2Q10 or 4Q10 events. However, benzene concentrations exceeded the California MCL (1.0 µg/L) during the 3Q10 and 1Q11 sampling events. A maximum of 4.8 µg/L benzene was reported during 3Q10. In 1Q11, benzene exceeding the California MCL was reported in samples from MW-16A and MW-19A at 1.1 µg/L and 1.2 µg/L, respectively.

Benzene has not been detected at MW-01A, MW-08A, or EW-01R, the three wells located nearest to Halford's Cleaners; therefore, Halford's is not likely to be the source of the benzene concentrations in groundwater. For that reason, no further speculation about the source of benzene in the monitoring wells at this site is provided, because this report is an evaluation of the contamination from Halford's Cleaners.

4.1.2 Soil Vapor Sample Results

Samples were collected from the three operating SVE wells on March 9, 2011. The analytical results are listed in Appendix G, Tables G-5(a) and G-5(b); they are summarized below and posted on Figure 4-5:

- SVE-02 (screened interval 7 to 12 bgs): PCE concentration increased from 7.5 parts per billion by volume (ppbv) in 4Q10 to 210 ppbv in 1Q11.
- SVE-03 (screened interval 13 to 23 bgs): PCE concentration increased from 22 ppbv in 4Q10 to 91 ppbv in 1Q11.
- SVE-04 (screened interval 28 to 38 bgs): PCE concentration increased from < 2.3 ppbv in 4Q10 to 26 in 1Q11.

The soil vapor monitoring and extraction wellfield consists of six dual-completed borings for shallow and deep zone monitoring, four vapor extraction wells connected to the SVE system that can be operated independently or combined, and two vapor extraction wells located within Halford's Cleaners, which are currently not connected to the SVE system.

Because the 3Q10 and 4Q10 analytical results were non-detect at the DP-05 shallow and deep monitoring location, samples were collected in 1Q11 at the DP-04 shallow and deep monitoring locations to evaluate the extent of any PCE mass to the south of the source area. The 1Q11 results show concentrations of 29 ppbv present in the shallow zone of 23 to 24 feet bgs to the south of Halford's Cleaners (Figure 4-5).

Comparison of 1Q11 to 4Q10 sample results generally shows a continued decreasing trend in PCE concentrations at all soil vapor monitoring wells. However, concentrations at the three operating extraction wells increased to levels that are more representative of historical concentrations at the site. (Figure 4-5).

4.1.3 Analysis of Vertical Groundwater Gradients

Vertical gradients were calculated using 1Q11 data at seven well pairs between the A and B zones and at five well pairs between the B and C zones (Table 4-1). There was a potential for a downward gradient at three well pairs between the A and B zones and between one of the well pairs between the B and C zones. The remaining well pairs indicated a potential for an upward gradient. The potential directions of vertical gradients for some of these well pairs are shown on Figure 4-7.

4.1.4 Extraction Well EW-1R Capture Zone Analysis

Estimates of groundwater plume capture from extraction well EW-1R are shown on Figures 4-6 and 4-7. Two lines of evidence (groundwater elevation contours developed based on 1Q11 data and particle tracks developed with the site's groundwater model [MWH, 2010a]) were used to estimate the extent of capture presented on Figure 4-6 and projected onto Figure 4-7.

Groundwater elevations from water levels measured at A, B, and C zone wells during 1Q11 were contoured using the Natural Neighbor function in ArcGIS 9.3.1 and augmented with professional hydrogeologic judgment. Groundwater stagnation points based on the potentiometric contours were identified based on A zone data, separating areas wherein groundwater flow is interpreted to be moving either toward or away from a pumping well. A curved line consisting of the estimated stagnation points is the "empirical" capture zone illustrated in purple on Figure 4-6. A new and expanded transient groundwater flow model for the site and surrounding region was developed to support of the *Groundwater Remediation Optimization Methods, Modesto Groundwater Superfund Site* (MWH, 2010a, Appendix B). The A zone capture zone estimated with the model's simulation of EW-1R pumping at 50 gpm is illustrated on Figure 4-6 as the sweep of groundwater flow lines toward the well based on backward particle tracking (i.e., particles released at the well and modeled backwards to determine their starting points). The actual average flow rate at this well in 1Q11 was 46 gpm.

The horizontal estimates of capture for EW-1R, based on the two lines of evidence, are in good agreement. The downgradient extent of capture is interpreted to be within 100 feet of MW-4A (Figure-4-6).

An estimate of the vertical extent of capture by EW-1R is illustrated on Figure 4-7. The downgradient extent of capture depicted in profile view (downgradient from MW-4A) is based on the empirical and modeled lines of evidence. The vertical capture zone extent below the screen of EW-1R is an estimate based on modeling, water level data, and vertical gradients. The groundwater model results suggest (1) there is an upward vertical gradient beneath the extraction well and (2) groundwater entering the bottom portions of the well's screen may originate from the B zone sands (MWH, 2010b). Vertical gradients calculated using 1Q11 groundwater elevation data from wells near EW-1R (MW-4A, MW-4B well pair [Figure 4-7] and MW-8A, MW-9B well pair [not shown on figure]) were upward from the B to the A zone as described in Section 4.1.3. There was also an upward gradient between MW-4B and MW-4C. These upward gradients corroborate the model's prediction of upward vertical groundwater captured at EW-1R.

4.2 System Performance

System compliance and performance samples were collected to evaluate the effectiveness of the remedial systems. Water, vapor, and media samples were collected according to requirements in the SAP (URS, 2010b) and the City of Modesto Conditional and Revocable Groundwater Discharge Permit (Permit Number GW98 3) (City of Modesto, 2010). Treatment system effluent samples collected during the reporting period for vapor emissions and sewer discharge were below maximum allowable discharge limits.

4.2.1 Groundwater Treatment System Results

During 1Q11, the GWT system operated for approximately 2,151 hours (out of 2,160 hours possible during the quarter), which represents an uptime of approximately 99.6 percent. System uptime logs and graphical representation of the GWT system operation time are presented in Appendix D, Tables D-1 through D-3.

The GWT system treated a total of approximately 5.87 million gallons of water and removed approximately 5.7 pounds of PCE during this reporting period. To date (since August 2001), the system has treated approximately 165 million gallons of water and removed approximately 478 pounds of PCE. Figure 4-8 illustrates the cumulative PCE mass removed.

The influent PCE concentrations ranged from 110 µg/L to 120 µg/L during the quarter. Samples were also analyzed for uranium and TDS. A summary of treatment system analytical results is provided in Appendix G-6, Tables G-6(a) and G-6(b); PCE results for this reporting period are summarized in Table 4-2.

4.2.2 Soil Vapor Extraction System Results

During 1Q11, the SVE system operated for approximately 2,155 hours (out of 2,160 hours possible during the quarter), which represents an uptime of approximately 99.8 percent. Monthly system uptime logs and graphical representation of the SVE system operation time are presented in Appendix D, Tables D-4 through D-6.

The SVE system operated at an average flow rate of 154 scfm and removed approximately 0.84 pound of VOC contamination during this quarter. The total cumulative VOC mass removed through March 9, 2011, is approximately 3,459 pounds. Figure 4-9 illustrates the cumulative PCE mass removed.

The influent PCE concentrations ranged from 73 ppbv to 140 ppbv during the reporting period. Monthly SVE system samples were collected in SUMMA canisters and sent to the EPA Region 9 laboratory in Richmond, California, for VOC analysis. A summary of SVE treatment system analytical results is provided in Appendix G-7, Tables G-7(a) and G-7(b); PCE results for this reporting period are summarized in Table 4-3.

5.0 RECOMMENDATIONS

A summary of observations and recommendations for the GWT and SVE systems are provided in this section.

5.1 GWT System – Summary Observations and Recommendations

Figures 4-6 and 4-7 show that the PCE plume is only partially captured in the A zone. Based on 1Q11 data, the plume is approximately 1,700 feet wide and 1,875 feet long in the A zone (Figure 4-2) and approximately 1,750 feet wide by 1,500 feet long in the B zone (Figure 4-3).

The current GWT system (extraction well EW-1R) was designed as an interim measure with an objective of source control and mass removal within the northern portion of the groundwater plume where PCE concentrations in shallow zones have historically been the highest (MWH, 2010a). Concentrations of PCE in groundwater have migrated from the source horizontally and downward into the A, B, and C zones. The *HydroPunch Investigation Work Plan*, submitted March 7, 2011, outlines a groundwater investigation to identify the optimal location for an A zone extraction well near the highest PCE concentrations identified on site at MW-04A (URS, 2011).

Data collected in 1Q11 indicate that PCE concentrations are defined in the A zone except to the south between MW-16A and MW-17A and the west beyond MW-13A and MW-14A. PCE concentrations at these wells fluctuate seasonally and usually peaking annually (to a maximum of 17 µg/L during 1Q10) in the first or second quarter; however, concentrations have decreased to less than the MCL usually during the third quarter of each year since the well was installed in 1997.

Additional data collection points may be needed between MW-16A and MW-17A to define the southern A zone plume boundary and to ensure that the Halford plume is not commingling with the Elwood's plume to the south. Fluctuations of concentrations at MW-13A and MW-14A indicate that the plume is still dynamic.

Concentrations in the B zone are undefined to the south, southwest, and west. Until 4Q10, PCE concentrations at MW-17B had been increasing since 1Q09. The PCE concentration at MW-17B decreased from 90 µg/L in 3Q10 to 32 µg/L in 4Q10; however, the PCE concentration increased to 51 µg/L in 1Q11. Under the 1Q11 groundwater gradient (Figure 4-3), the well was located cross-gradient from the center of the plume at MW-20B. The concentrations at MW-17B, which had been increasing until 3Q10 and increased again in 1Q11, may indicate a preferential pathway exists that allows the plume to migrate in a direction approximately 90 degrees from the apparent horizontal gradient and potentially under the influence of pumping of municipal supply wells, most likely Municipal Well 7.

Monitoring wells are recommended to the west, southwest, and south of the B zone plume to define the lateral extent in the B zone and hydraulic gradients. One additional well may be needed to monitor hydraulic influences in the B zone plume between MW-20B and MW-17B.

PCE was not detected at any well screened in the C zone in 1Q11. Concentrations have been less than the MCL since 1Q09, and there has been no PCE detected in any C zone well since 1Q10. Therefore, no additional wells are recommended in the C zone.

Because of the changes in groundwater flow directions seen in the C zone and the increase in PCE concentrations at MW-17B, which is cross-gradient from the direction of flow in the B zone, the effect of municipal well operations on plume migration should be evaluated. The installation of water level transducers is recommended in plume perimeter wells to monitor water levels between quarterly

measurements. If there were changes in horizontal and vertical gradients identified that were similar to the times that municipal wells are pumped, it may be possible to determine if operations of one or more of the municipal wells are causing the changes in flow directions and thereby spreading PCE concentrations in groundwater.

5.2 Soil Vapor Extraction – Summary Observations and Recommendations

Results from a site investigation conducted in 2007 and from a soil vapor rebound test conducted from late November 2006 through January 2007 identified significant vapor mass at the northwestern corner of the Halford's Cleaners building and possibly extending underneath the building (see *Soil Vapor Extraction System Optimization and Enhancement Methods, Modesto Groundwater Superfund Site* [MWH, 2008b] for summary results). Initial sub-slab vapor sampling in buildings at and near the source area in February 2008 confirmed that high concentrations of PCE in vapor (up to 20,000 ppbv) were present under the concrete slab foundation of the Halford's Cleaners building (MWH, 2010b). An SVE optimization plan was implemented in November 2008, which included stopping extraction from SVE-01 and continued monitoring of PCE concentrations. Three new SVE wells (SVE-02, SVE-03, and SVE-04) were installed within what is considered to be the source area and connected to the SVE system for extraction.

1Q11 SVE treatment system average influent sample results were lower than the average in 4Q10. Monthly samples at the treatment system had PCE concentrations of 73, 92, and 140 ppbv in January, February, and March, respectively. Although, concentrations at operating extraction wells were higher in 1Q11 than in 4Q10, overall PCE mass removed was down from 2.3 pounds.in 4Q10 to 0.8 pounds in 1Q11. The decrease in mass removed is because the majority of vapor flow (59.5 scfm) to the treatment system is coming from the deepest screened (28 to 38 feet bgs.) extraction well, SVE-04. SVE-04 concentrations were the lowest of operating extraction wells at 26 ppbv. Concentrations at SVE-02 and SVE-03 increased in 1Q11 compared to 4Q10 results; these wells have flow rates of 34.0 and 34.2 scfm, respectively.

Individual extraction well mass removal rates indicate that the system may be capable of removing mass more efficiently if SVE-04 was shut off. SVE-04 has a mass removal rate of 0.003 pound per day (lb/day); the mass removal rate at SVE-03 is 0.009 lb/day and at SVE-02, 0.02 lb/day. By shutting off SVE-04 and operating the SVE system on SVE-02 and SVE-03 only, flows from the wells with greater concentrations may increase. To optimize mass removal and to focus extraction from the shallow source area with the existing extraction system, it is recommended that SVE-04 be shut off and extraction be focused at SVE-02, with SVE-03 serving the purpose of supplying vapor flow only to keep the regenerative blower within operating parameters. Currently, the SVE system uses no dilution or ambient air for normal operations. The system has operated at a vacuum of negative 55 to 67 inches of water and a maximum temperature of 93°C or less. The AMETEK Rotron Industrial regenerative blower is rated for 120 inches of water and a maximum temperature of 140°C.

6.0 QUALITY CONTROL SUMMARY REPORT

6.1 Introduction

This section summarizes QA and QC results for the samples collected and data generated during the period of January 2011 through March 2011 at the Modesto Groundwater Superfund Site, Modesto, California. Sampling activity protocols are provided in the SAP (URS, 2010b). Based on this evaluation, all data collected during this period are of known and acceptable quality in relation to the data quality objectives (DQOs) of this project. All data are considered usable as qualified for the intended purposes.

Between January 13 and March 11, 2011, 40 groundwater samples, 20 air samples, six field duplicates, six matrix spike and matrix spike duplicate (MS/MSD) pairs, one MS/laboratory duplicate pair, eight laboratory duplicates, four trip blanks, and two field blanks were collected. Water samples were collected from the GWT system and existing monitoring wells. Air samples were collected from the GWT and SVE systems. Contaminants of concern at the Modesto Groundwater Superfund Site are indicated in Table B-1 of Appendix B. Samples were submitted for chemical analyses as presented in Table B-2 of Appendix B. Analyses performed include the following:

- TDS by Standard Method (SM) 2540C
- TSS by SM2540D
- BOD by SM5210B
- VOCs in water by EPA Method 524.2
- Total uranium by ASTM D5174
- VOCs in air by EPA Method TO15

Analytical chemistry services for groundwater and air samples were provided by the EPA Region 9 laboratory in Richmond, California. Analytical chemistry services for uranium analysis were provided by GEL Laboratories, LLC, in South Carolina. All laboratories are certified by the California Department of Health Services through the Environmental Laboratory Accreditation Program to perform hazardous waste analyses. Sample results are summarized in Appendix B, Table B-3.

The URS project chemist reviewed ASTM Method D5174 data. Laboratory Data Consultants (LDC) performed data validation of all other sample results using the criteria established in the SAP, analytical methods, and EPA Region 9 laboratory standard operating procedures. The sample results validated by LDC were validated electronically. Data validation reports and qualified data tables are provided in Appendix C. Several data validation flags were used in the validation process. The definitions of these qualifier flags are as follows:

U Indicates the compound or analyte was analyzed for but not detected at or above the reported quantitation limit.

UJ Indicates the compound or analyte was analyzed for but not detected at or above the stated limit. The sample detection limit is an estimated value.

J Indicates the analyte was positively identified; the associated numerical value is an approximate concentration of the analyte in the sample.

R Quality control indicates that the result is not usable. The presence or absence of the compound or analyte cannot be verified or the reported result is compromised as to be unusable.

6.2 Data Quality Objectives

DQOs are qualitative and quantitative statements that specify the quality of the data required to meet the goals of site investigations and support decisions made in remedial response activities. Data quality was assessed in terms of its precision, accuracy, representativeness, completeness, and comparability (PARCC). These criteria are briefly defined in the following sections. The results of the field and laboratory QC checks are evaluated against the DQOs, and the quality of the data is assessed according to the PARCC parameters. QC sample results that fall outside of these criteria serve to signal the production of unacceptable or biased data that could result in the implementation of corrective action or the qualification of data.

6.2.1 Precision

Precision is a measurement of mutual agreement among individual measurements of the same property, usually under prescribed conditions. Data evaluated to assess precision consist of results from the analysis of field duplicate pairs and MS/MSD samples. The precision measurement is established using the relative percent difference (RPD) between the duplicate sample results, and is expressed as follows:

$$\text{RPD} = \frac{\lfloor X_1 - X_2 \rfloor}{\left[\left(X_1 + X_2 / 2\right)\right]} \times 100$$

where:

X1 and X2 represent the individual concentrations of the target analyte in the two replicate analyses.

6.2.2 Accuracy

Accuracy is defined as the proximity of the mean of a set of results to the true value. Accuracy is assessed through the evaluation of initial and continuing calibration data, as well as laboratory control sample (LCS) recoveries, surrogate standard recoveries, and MS recoveries, which are expressed as a percent recovery according to the following equation:

$$\text{percent recovery} = \frac{(\text{spiked sample conc.} - \text{sample conc.})}{\text{known conc. of spike}} \times 100$$

6.2.3 Representativeness

Representativeness is defined as the degree to which sample data accurately and precisely represent the characteristics of the site, parameter variations at a sampling point, or environmental conditions. Representativeness, in terms of sample integrity for this investigation, was qualitatively evaluated based on the analysis of trip blanks, field blanks, and method blank samples. In addition, sample collection and handling methods and the cooler receipt forms were reviewed to confirm that samples were received under proper storage conditions.

6.2.4 Completeness

Two types of completeness have been evaluated for this project. Analytical completeness is the number of unqualified results related to the total number of results reported, expressed as a percentage. The analytical completeness goal is 90 percent. Technical completeness is the number of valid results related to the total number of results reported, expressed as a percentage. The technical completeness goal for this project is 95 percent.

6.2.5 Comparability

Data comparability is achieved by using standard analytical methods and reporting limits, and by using standard units of measurements, as specified in the methods. Comparability is a qualitative parameter.

6.3 Quality Control Results

The following sections summarize the data review process and results in terms of PARCC criteria, as defined in Section 2.2.5 of the SAP. Qualified data based on this review process are provided in Appendix C.

6.3.1 Precision and Accuracy

Precision and accuracy were evaluated based on the results of QC samples collected by the field team and QC samples that originated in the laboratory. The calculated RPD for MS/MSDs and field duplicate pairs provided information on the precision of sampling and analytical procedures. MS/MSD analyses were associated with all samples for this sampling event. All data were reviewed for accuracy based on the surrogate spike, MS/MSD, and LCS percent recoveries. In addition, initial and continuing calibration data were reviewed for analytical accuracy. The criteria used for the evaluation are provided in the quality assurance project plan in the SAP (URS, 2010b). Data validation findings are provided in Appendix C. Field duplicate results are included in the results summary table (Table B-3 in Appendix B); LCS recovery outliers are summarized in Table B-4 and MS/MSD recovery and RPD outliers are summarized in Table B-5.

6.3.2 Representativeness

Representativeness was evaluated through the analysis of field blank, trip blank, and method blank samples. Additionally, sample collection and handling methods and the cooler receipt forms were reviewed. All sample bottles were received in good condition and the chain-of-custody documents agreed with the sample labels.

Trip blanks are required to accompany each cooler of aqueous samples sent to the laboratory for analysis of VOCs. One trip blank accompanied each cooler for each of the sampling dates. Trip blank detections can be found in Table B-3 (Appendix B).

Field blanks are used to determine if potential sample contamination has occurred during the sample collection process. Field blank samples were collected at monitoring well MW-10C (identified as MW-402-1Q11) and at the groundwater treatment system (identified as MW-401-1Q11). Field blanks are analyzed using the same analytical procedures as the associated samples. Field blank detections are provided in Table B-3 (Appendix B).

Method blanks are processed through the same analytical procedures as the associated samples. Method blanks are analyzed with each batch of samples to provide information on contamination originating in the analytical process. Method blank detections are indicated in the data validation report in Appendix C.

6.3.3 Completeness

Completeness of data was evaluated by assuring that all analytical requests were met, samples were received in proper condition, and all analyses were performed within the appropriate holding times. Overall analytical completeness (92.7 percent) exceeded the project goal of 90 percent. Overall technical completeness for this data set (100 percent) exceeded the project goal of 95 percent. Refer to Appendix C for a breakdown of completeness by method and analyte for all methods except ASTM D5174. Table B-6 (Appendix B) provides a breakdown of completeness for ASTM D5174.

6.3.4 Comparability

Comparability was evaluated for this sampling event by analyzing all samples according to the specified EPA analytical methods, which use standard units of measurement. Necessary sample dilutions, due to the presence of elevated target compound concentrations, did not affect data usability and comparability. Results for some analytes are reported below the practical quantitation limit (PQL) but above the method detection limit (MDL). The “J” flag has been applied to results reported between the MDL and the PQL.

6.4 Summary of Data Reliability

Based on this evaluation, all data collected during this period are of known and acceptable quality in relation to the DQOs of this project. All data are considered usable as qualified for the intended purposes.

7.0 REFERENCES

City of Modesto, 2010. City of Modesto Conditional and Revocable Groundwater Discharge Permit Number GW 98-3. January.

MHW Americas, Inc. (MWH), 2008a. *Addendum to Work Plan for Supplemental Site Investigation and Remedial Optimization: Well Installation, Modesto Groundwater Superfund Site.* June.

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MWH, 2010a. *Groundwater Remediation Optimization Methods, Modesto Groundwater Superfund Site.* Final. March.

MWH, 2010b. *Quarterly Operations and Monitoring Report, Fourth Quarter 2009, Modesto Groundwater Superfund Site.* February.

URS Group, Inc. (URS), 2010a. *Groundwater Treatment System and Soil Vapor Extraction System Operation and Maintenance Manual, Modesto Groundwater Superfund Site.* Final. March.

URS, 2010b. *Sampling and Analysis Plan, Modesto Groundwater Superfund Site.* March.

URS, 2011. *Final Letter Work Plan, HydroPunch Investigation, Modesto Groundwater Superfund Site.* March.

TABLES

Table 4-1. Vertical Gradients, First Quarter 2011

Well Pair	Monitoring Zone	Groundwater Elevation (feet msl)	Vertical Gradient
MW-4A	A	47.62	0.0062
MW-4B	B	48.03	
MW-8A	A	47.75	0.0073
MW-9B	B	48.29	
MW-10A	A	47.63	0.0025
MW-10B	B	47.84	
MW-16A	A	47.27	-0.0009
MW-16B	B	47.22	
MW-17A	A	47.13	0.0027
MW-17B	B	47.27	
MW-19A	A	47.57	-0.0071
MW-19B	B	47.24	
MW-20A	A	47.3	-0.0004
MW-20B	B	47.27	
MW-4B	B	48.03	0.0043
MW-4C	C	48.39	
MW-10B	B	47.84	0.0028
MW-10C	C	48.03	
MW-16B	B	47.22	-0.0032
MW-16C	C	46.91	
MW-17B	B	47.27	0.0014
MW-17C	C	47.4	
MW-20B	B	47.27	0.0052
MW-20C	C	47.65	

msl = mean sea level

positive gradient = upward

negative gradient = downward

Table 4-2. GWT System Sample Results: January - March 2011

Sample Port	Location	Sample Date	Sample Code	pH	PCE (µg/L)
SP-01	Extraction Well 1R	1/13/2011		7.28	110
		2/10/2011		7.11	120
		3/9/2011		7.11	120
SP-03	Carbon Influent	1/13/2011		8.25	< 0.5
SP-04	Carbon Mid Bed	1/13/2011		8.20	0.2 J
SP-05	Post Carbon Pre-Ion Exchange	1/13/2011		8.21	< 0.5
SP-07	GWT Effluent	1/13/2011		8.16	< 0.5
		2/10/2011		8.10	0.3 J
		3/9/2011	FD	7.82	0.2 J
		3/9/2011		7.82	0.2 J

FD = field duplicate
GWT = groundwater treatment system
J = estimated value
PCE = tetrachloroethene
µg/L = milligrams per liter

Table 4-3. SVE Sytem Sample Results: January - March 2011

Sample Port	Location	Sample Date	Sample Code	PCE (ppbv)
SP-11	SVE Pre-GAC	1/13/2011		73
		2/10/2011		92
		3/9/2011		140
SP-12	SVE Stack	1/13/2011		2.1 J
		2/10/2011		4.9
		3/9/2011		2.2

GAC = granular activated carbon
PCE = tetrachloroethene
ppbv = part per billion by volume
SVE = soil vapor extraction
J = estimated value

FIGURES

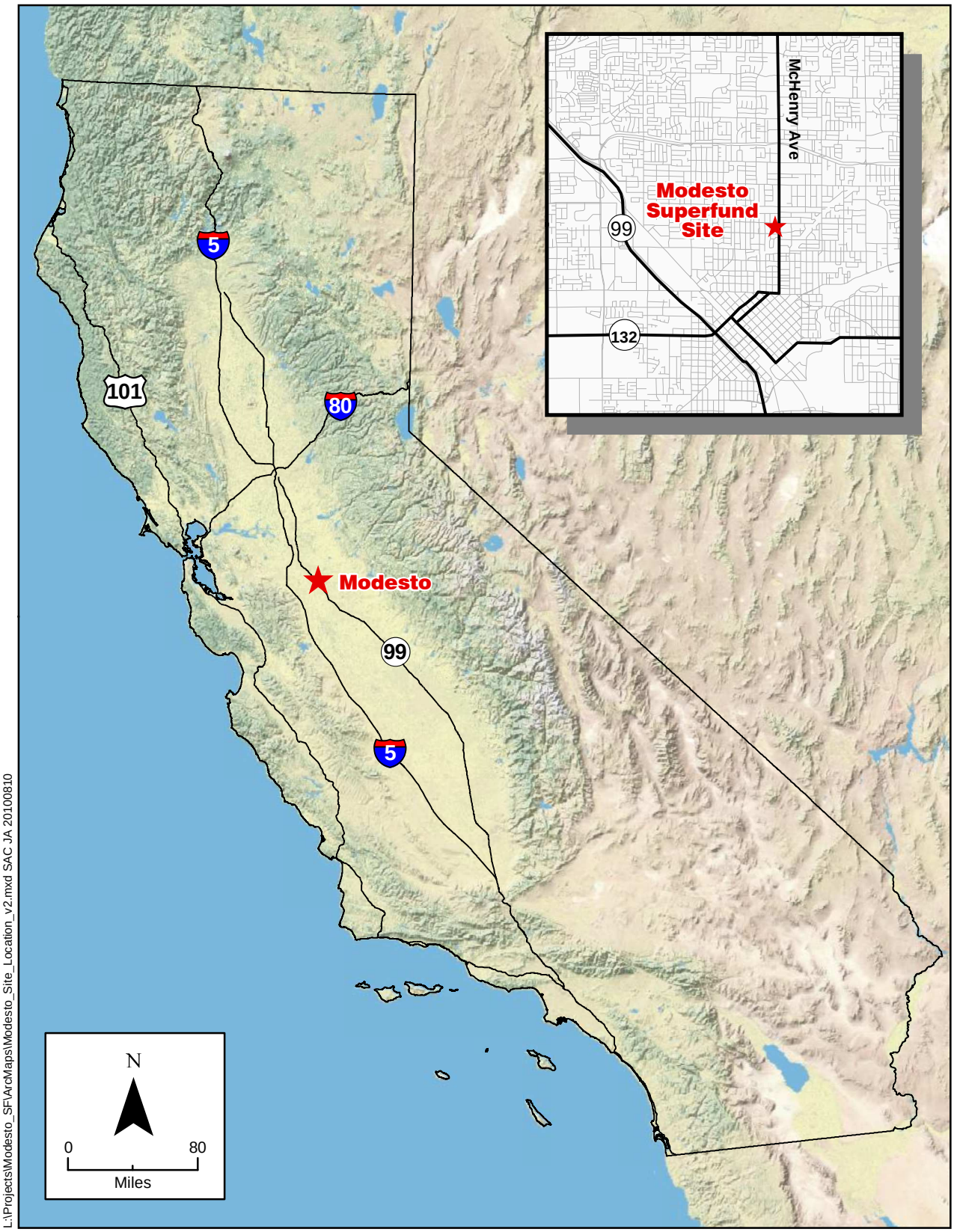


Figure 1-1. Site Location, Modesto Groundwater Superfund Site, Modesto, California

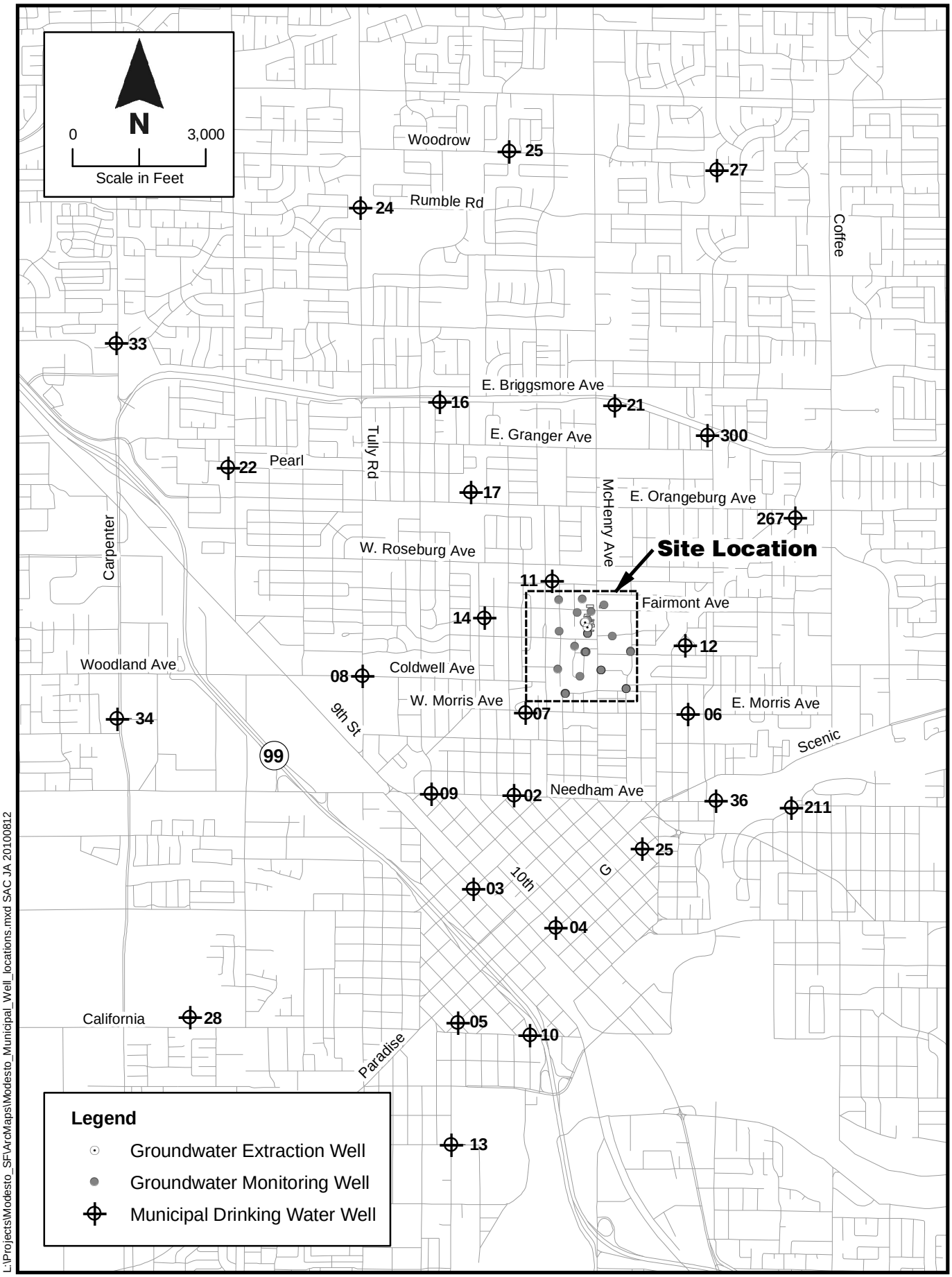


Figure 1-2. Municipal Well Locations, Modesto Groundwater Superfund Site

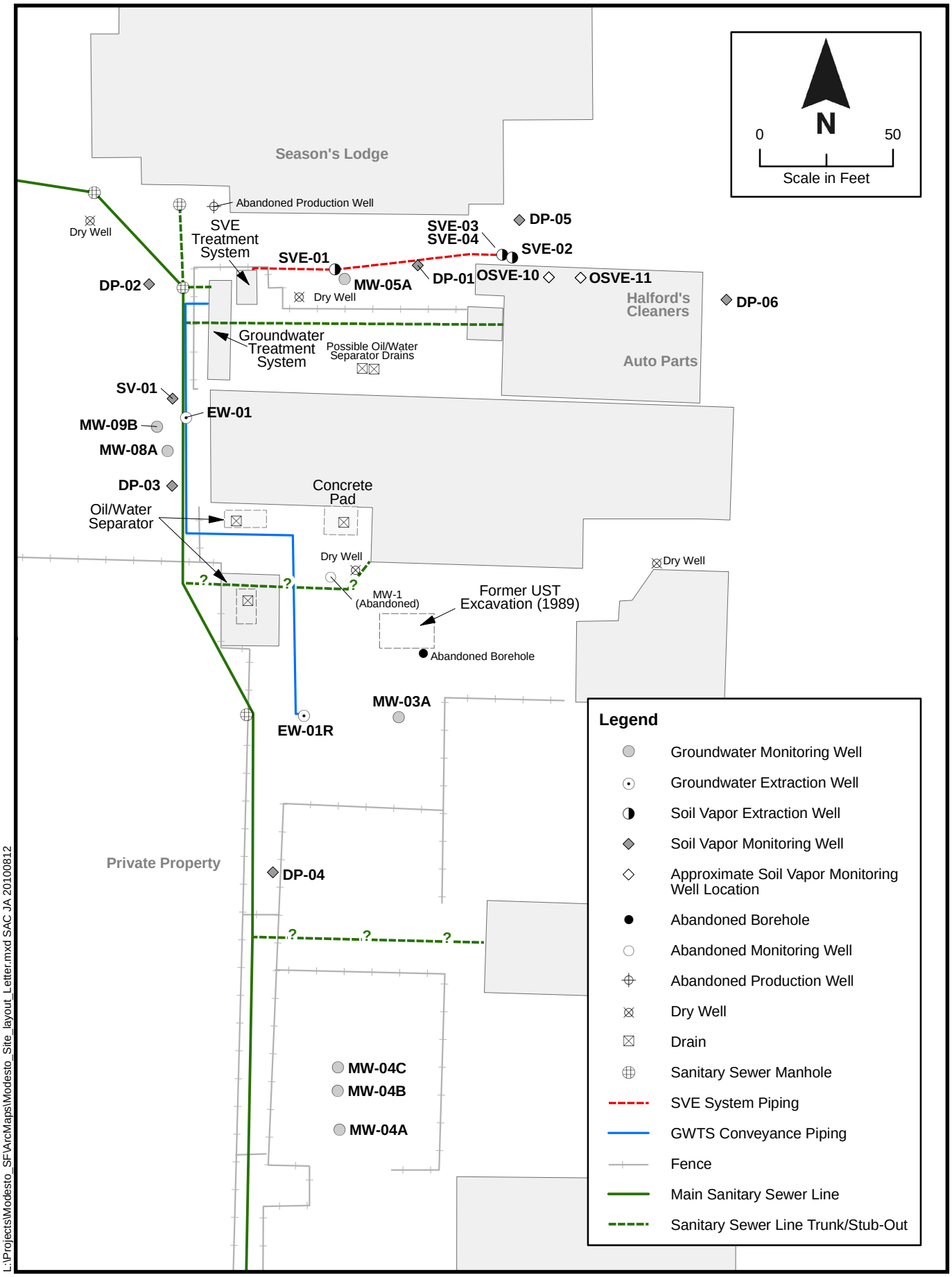


Figure 2-1. Site Layout
Modesto Groundwater Superfund Site

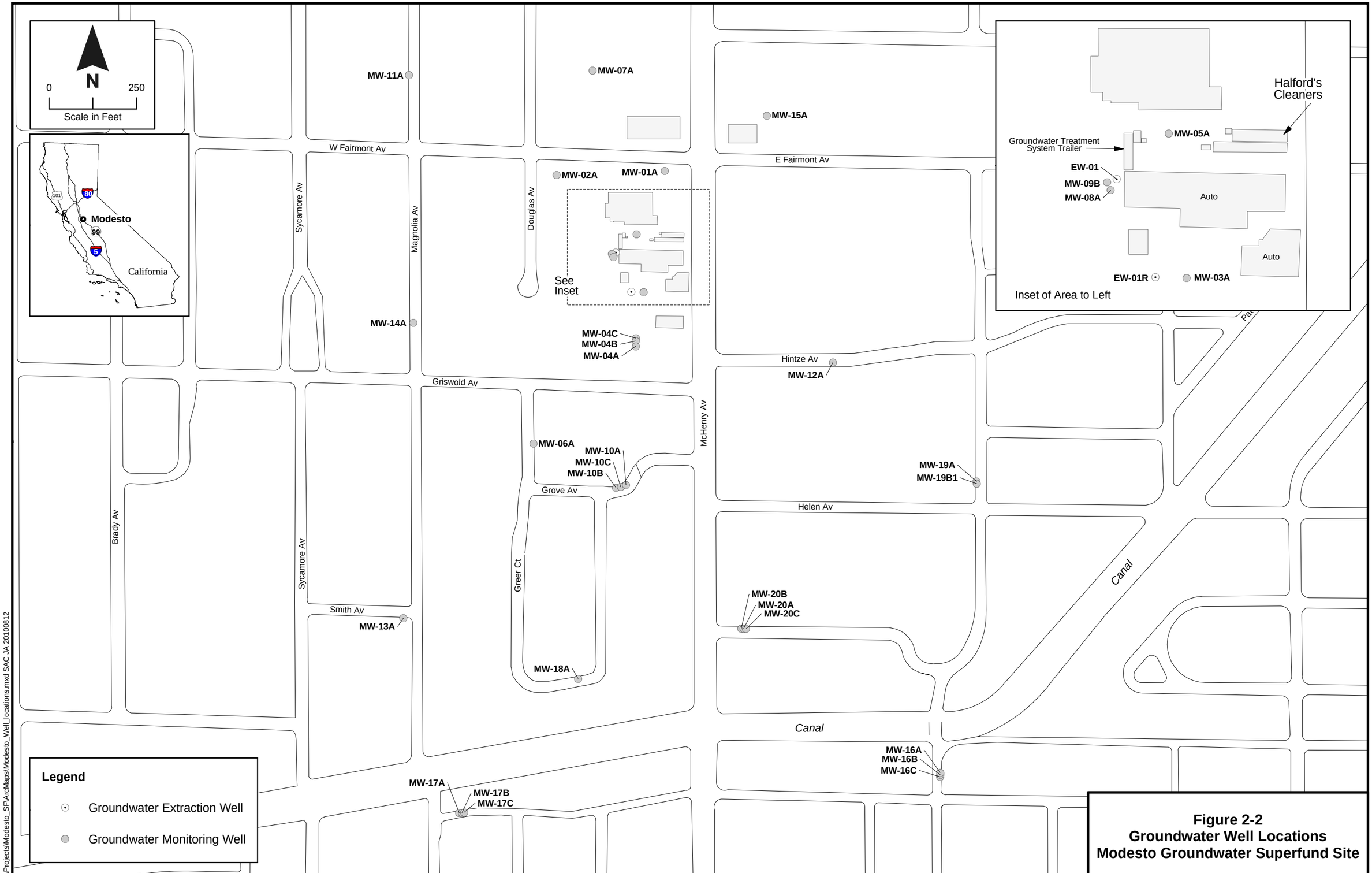


Figure 2-2
Groundwater Well Locations
Modesto Groundwater Superfund Site

L:\Projects\Modesto_SF\ArcMaps\Modesto_Soil_Vapor_Well_locations.mxd AVS 05/10/2011 SAC

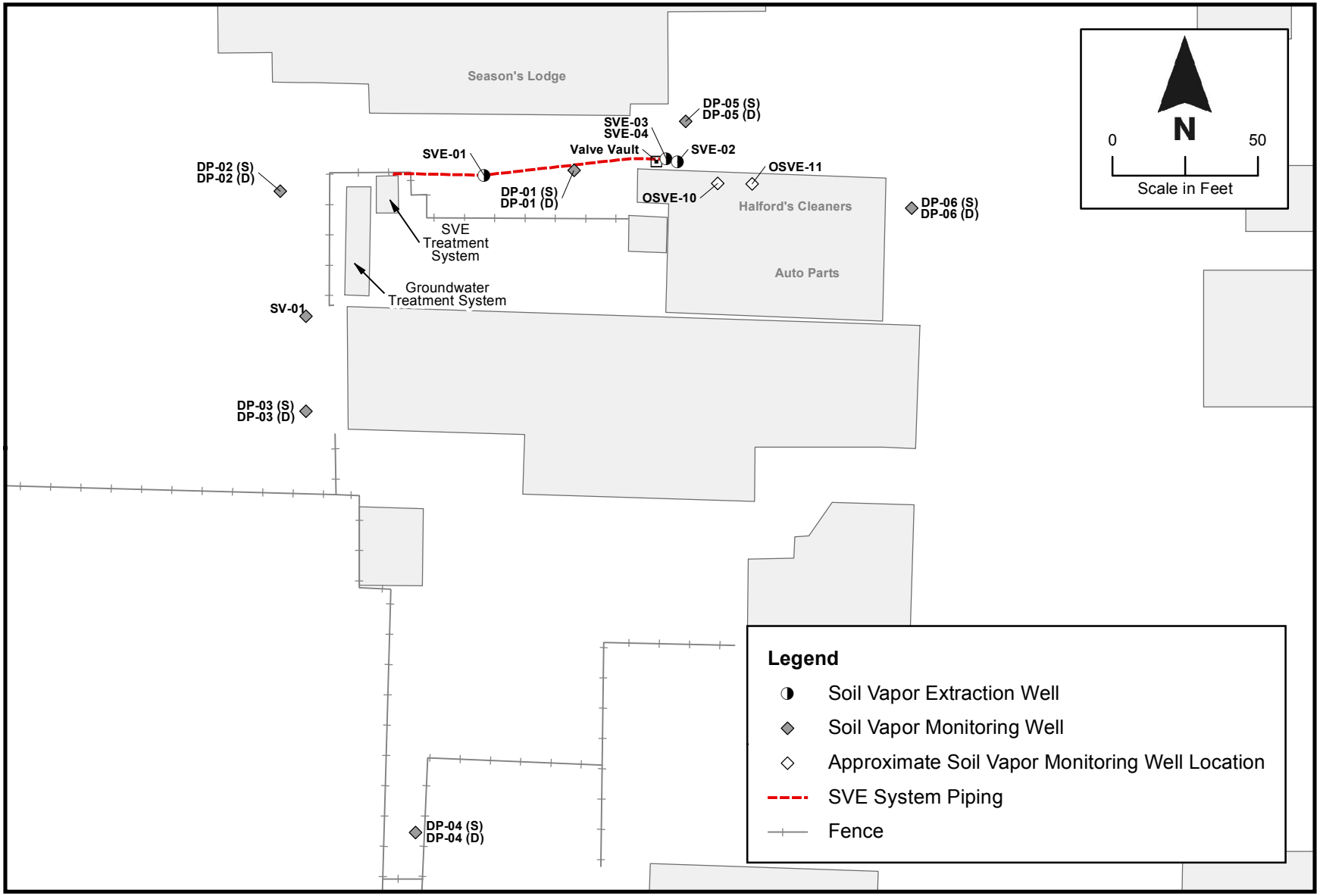
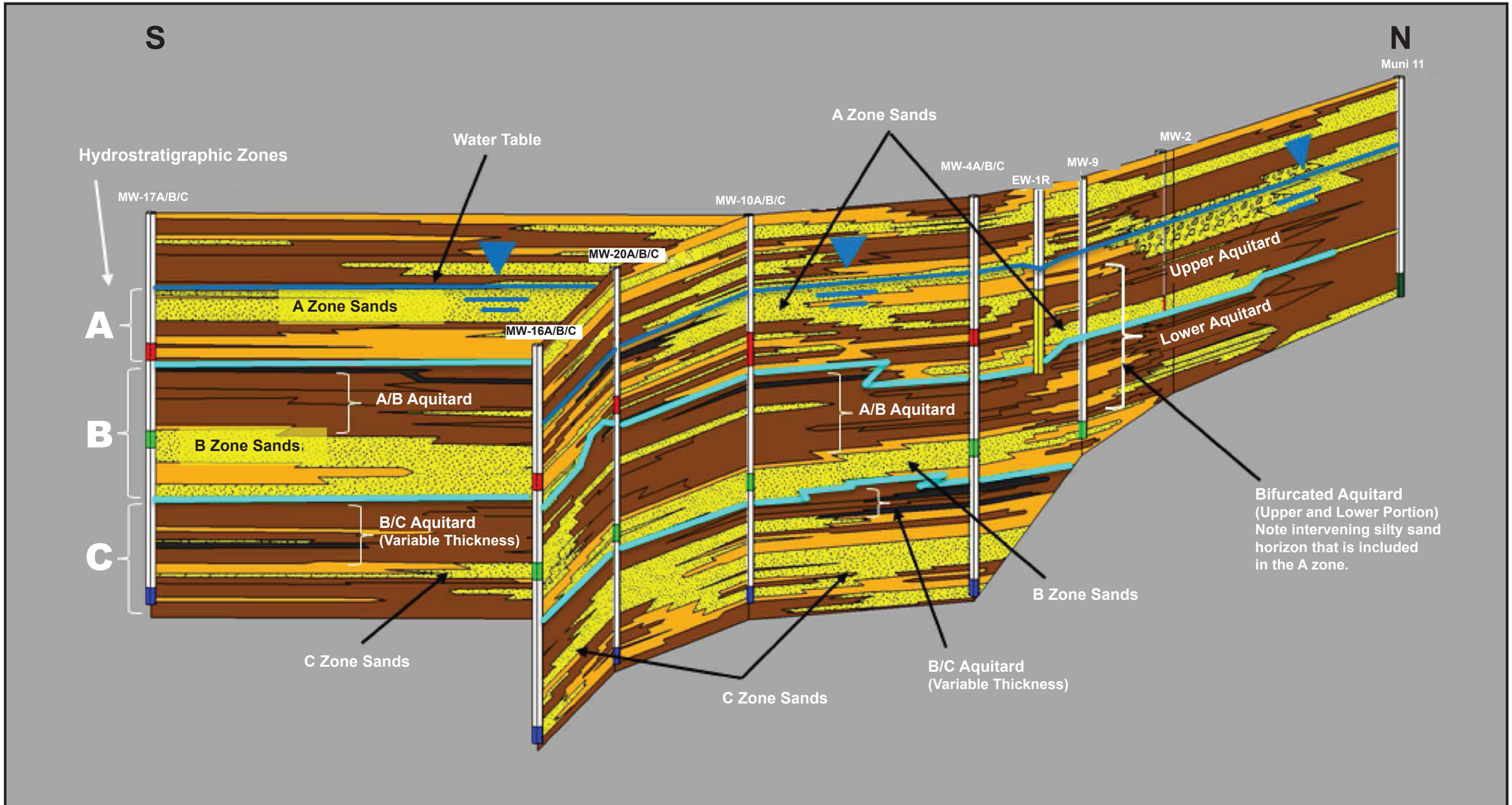
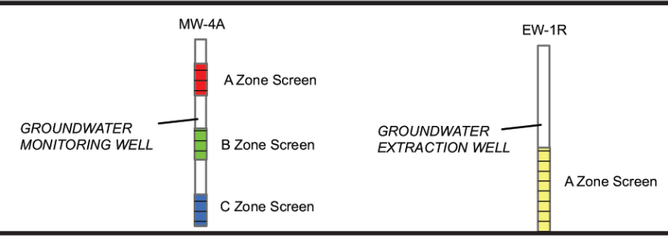


Figure 2-3. Soil Vapor Well Locations, Halford's Cleaners Area, Modesto Groundwater Superfund Site



LEGEND:

- SAND
- SILTY SAND
- SILT
- CLAY
- WATER TABLE SURFACE (A Zone)



URS

Adapted from:
MWH source file

Figure 4-1
Stratigraphic Conceptual Model
Modesto Groundwater Superfund Site

H:\Graphics\Modesto GW\08-10-Modesto-GW-QtrlyStratigraphic-Model.indd - VMG 08/10/10 SAC

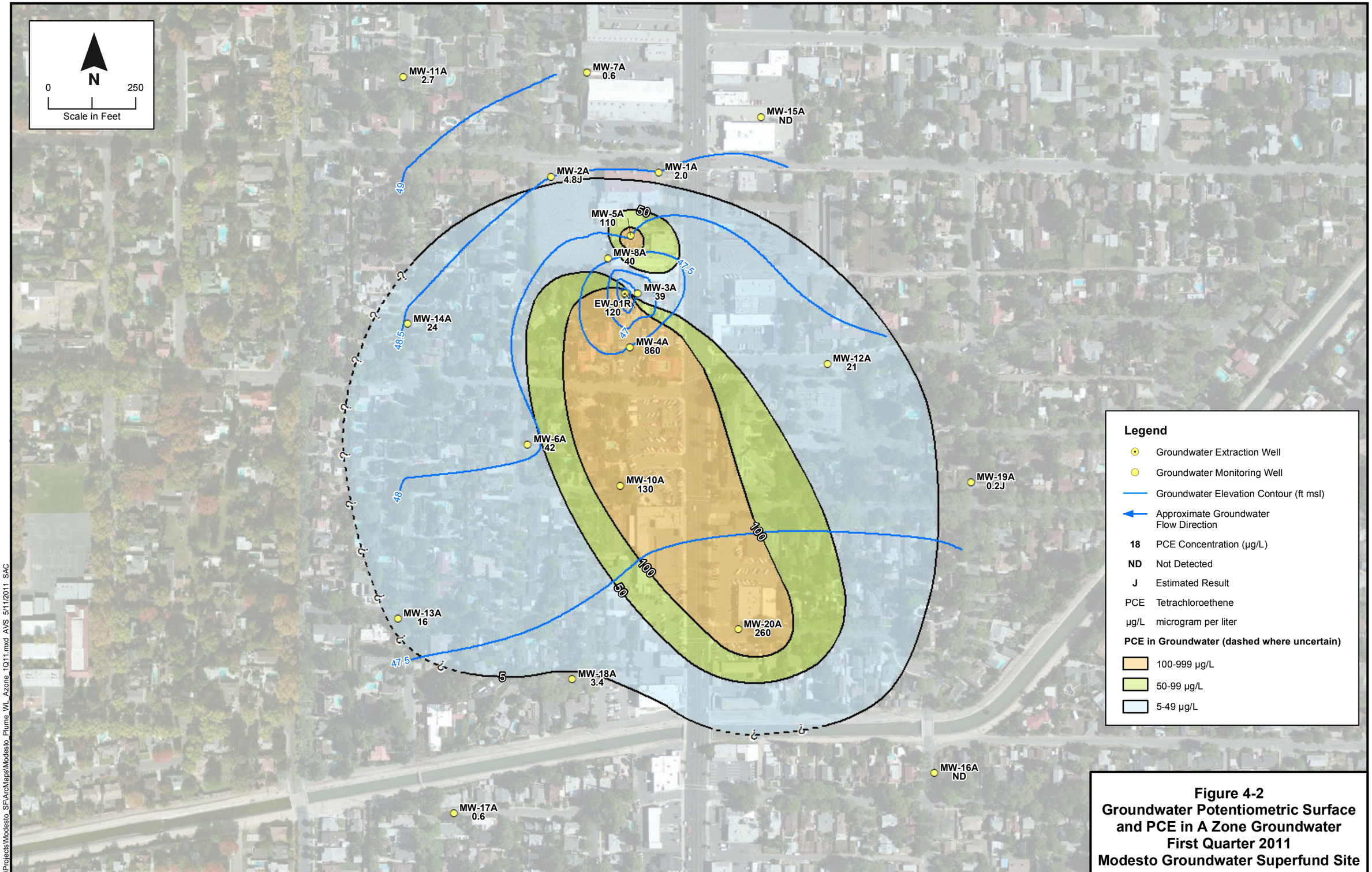


Figure 4-2
Groundwater Potentiometric Surface and PCE in A Zone Groundwater
First Quarter 2011
Modesto Groundwater Superfund Site

L:\Projects\Modesto_SF\ArcMaps\Modesto_Plume_WL_Azone_1Q11.mxd AVS 5/11/2011 SAC

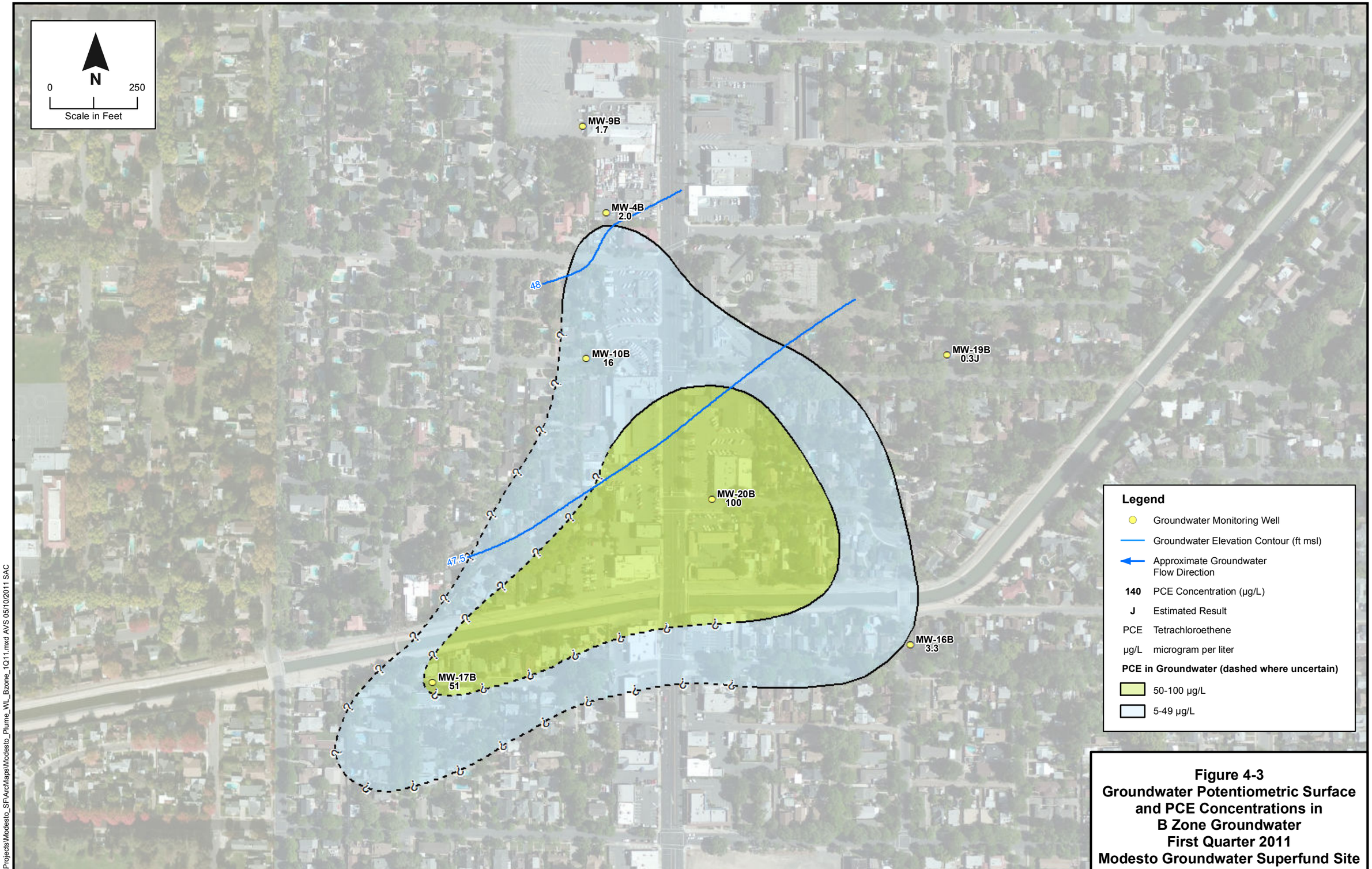


Figure 4-3
Groundwater Potentiometric Surface and PCE Concentrations in B Zone Groundwater
First Quarter 2011
Modesto Groundwater Superfund Site

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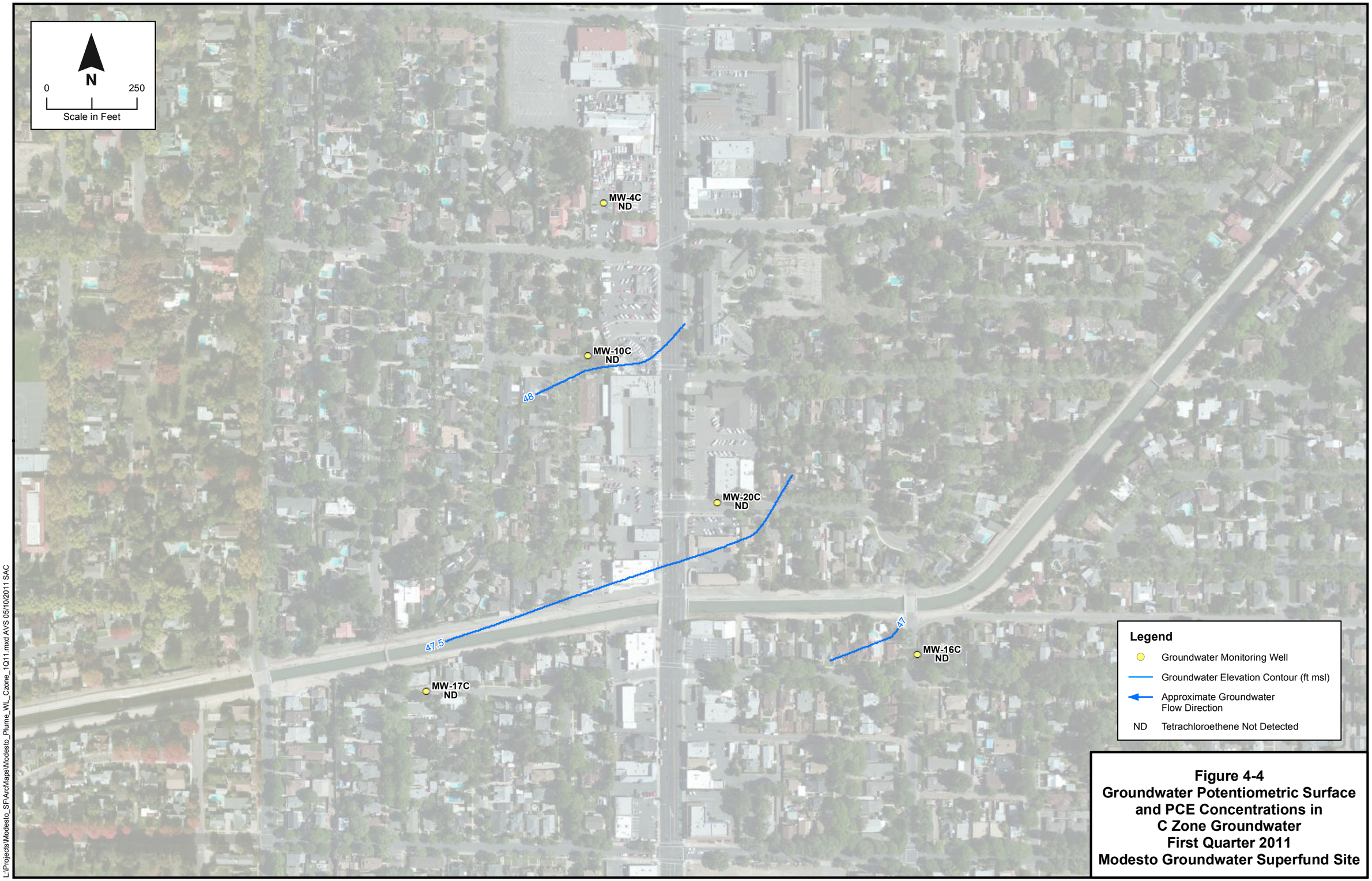

Figure 4-4
Groundwater Potentiometric Surface and PCE Concentrations in C Zone Groundwater
First Quarter 2011
Modesto Groundwater Superfund Site

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L:\Projects\Modesto_SF\ArcMaps\Modesto_Soil_Vapor_results.mxd AVS 05/10/2011 SAC

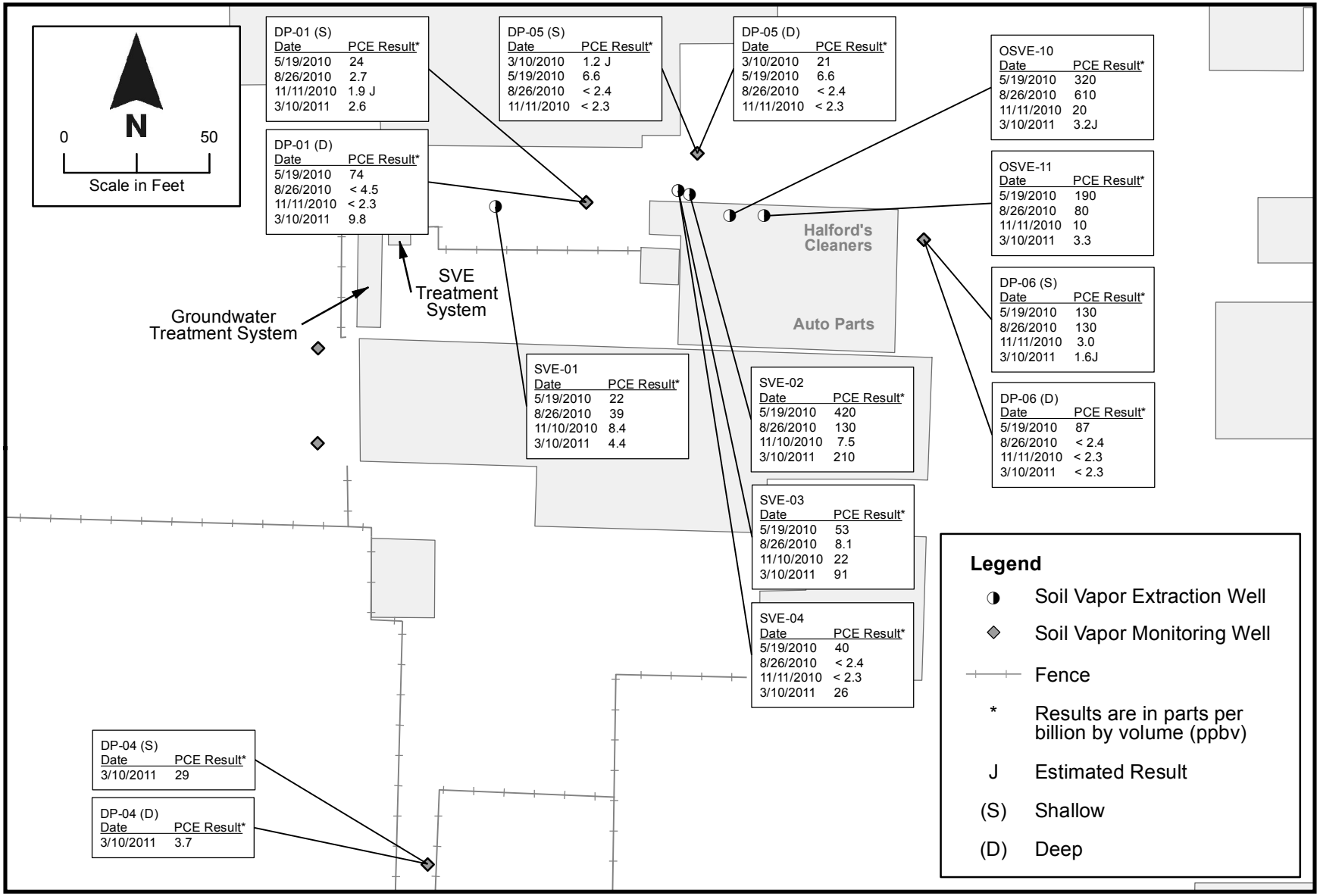

Figure 4-5. Soil Vapor Analytical Results, Modesto Groundwater Superfund Site

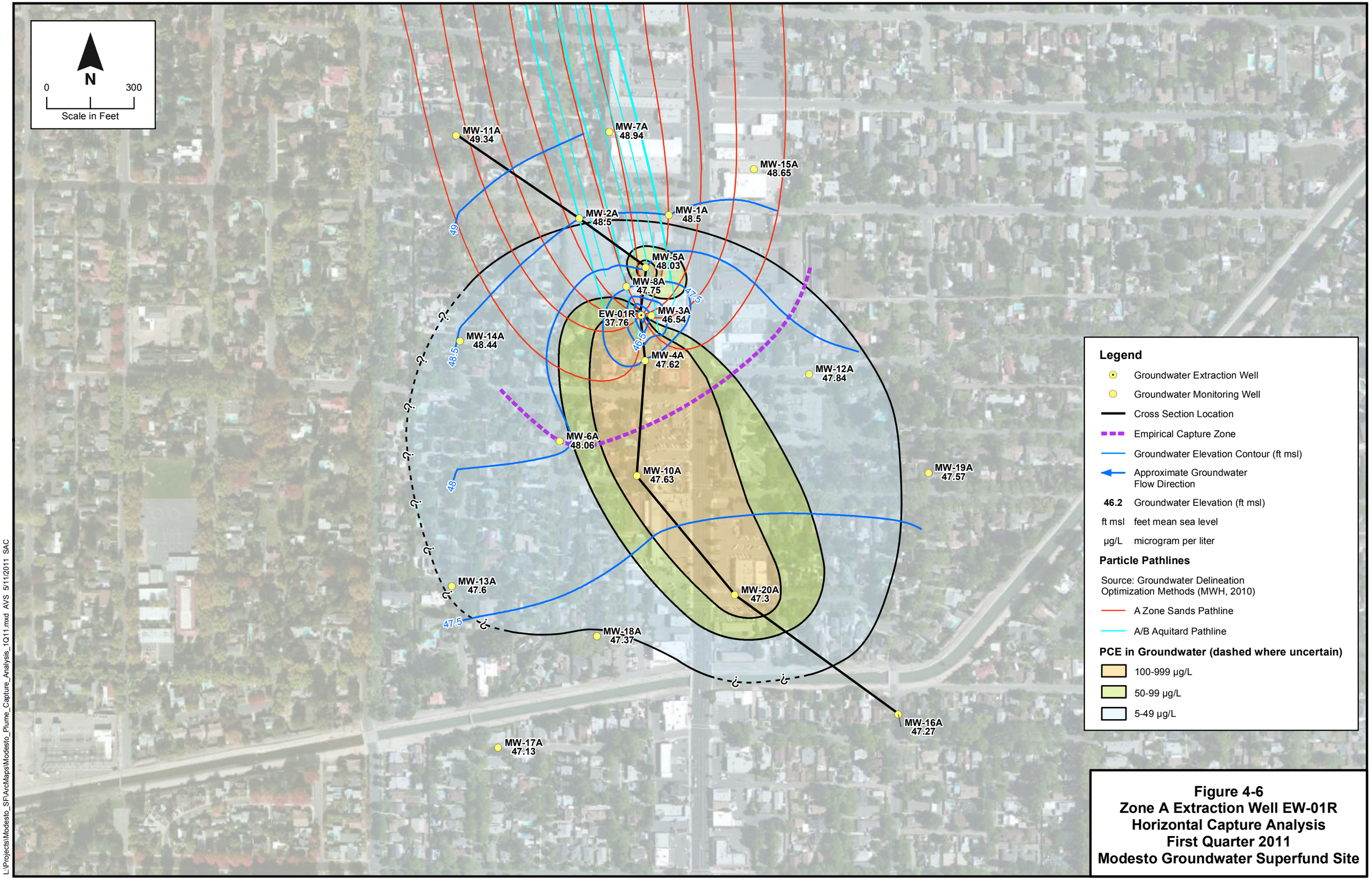

Figure 4-6
Zone A Extraction Well EW-01R
Horizontal Capture Analysis
First Quarter 2011
Modesto Groundwater Superfund Site

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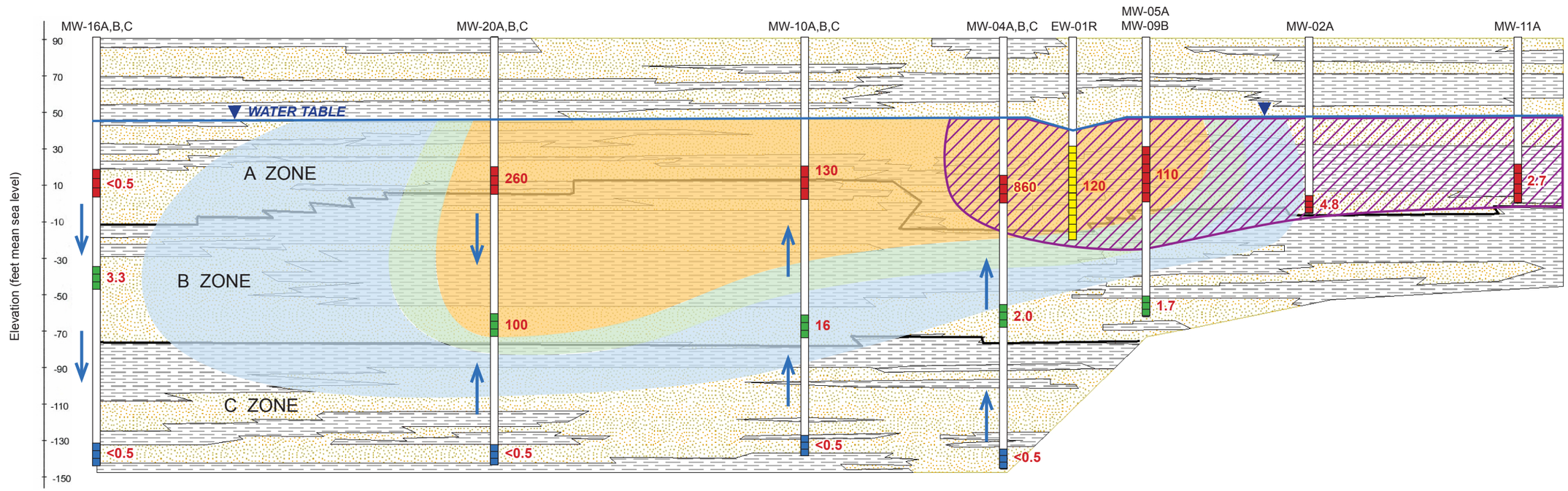
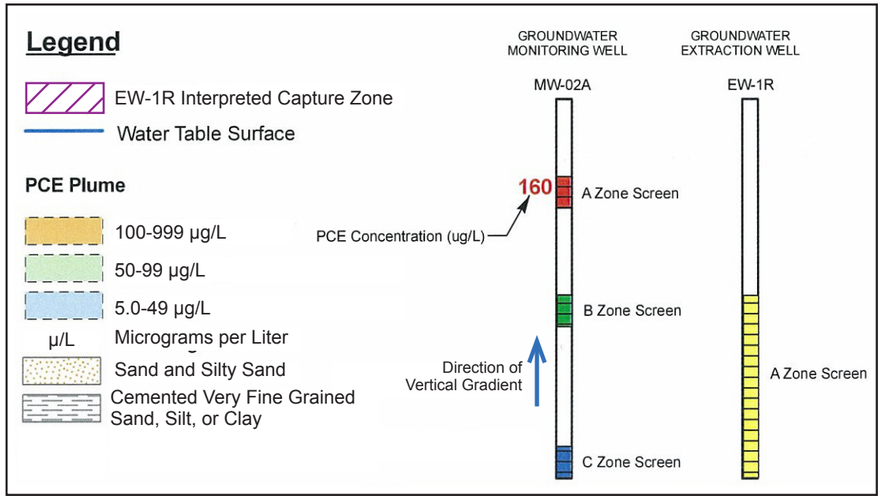




0 200
SCALE IN FEET

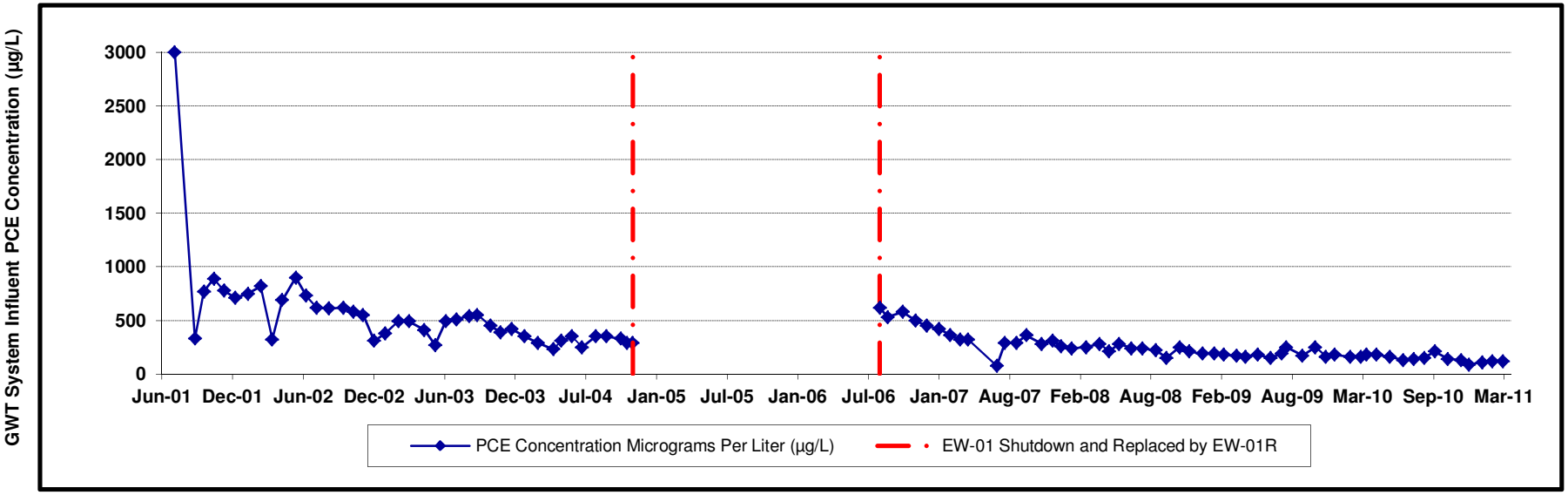
URS

Adapted from:
MWH source file

Figure 4-7
Extraction Well EW-1R
Estimated Capture Zone
First Quarter 2011
Modesto Groundwater Superfund Site

H:\Graphics\Modesto GW\Qtrly\05-11-Modesto-GW-1Q11-Capture-Zone-Xsec.indd - VMG 05/06/11 SAC

FIGURE 4-8
CUMULATIVE PCE MASS REMOVED BY THE GROUNDWATER TREATMENT SYSTEM
MODESTO GROUNDWATER SUPERFUND SITE



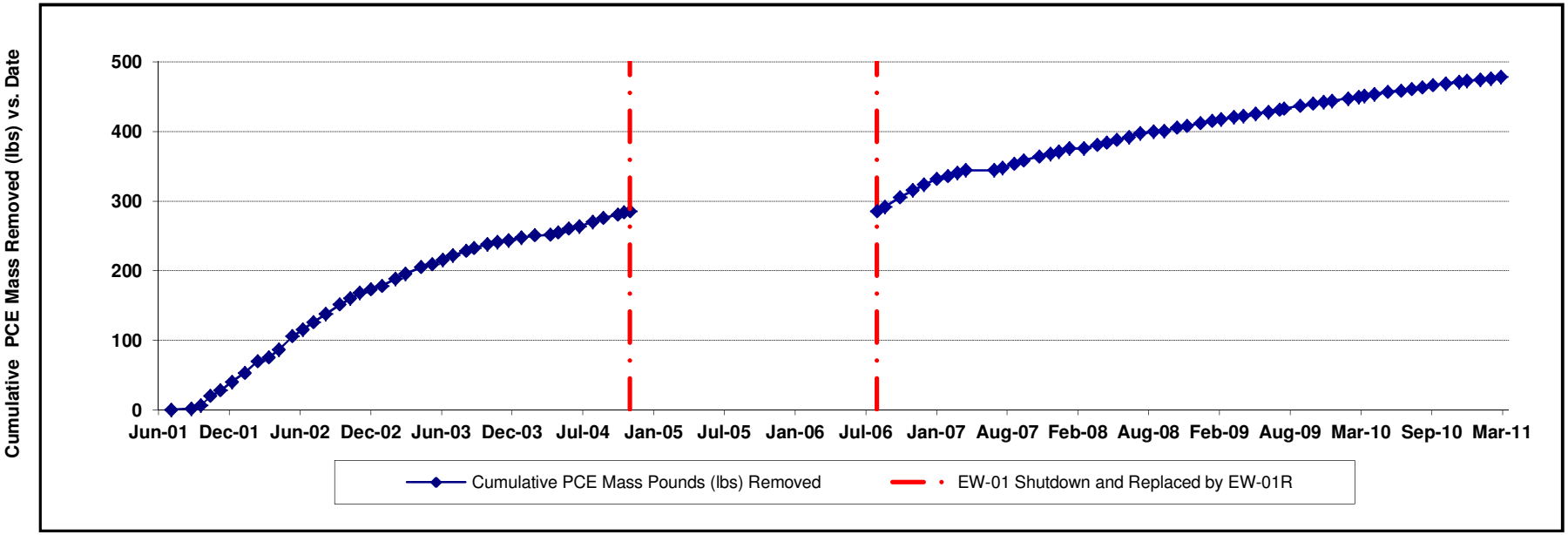
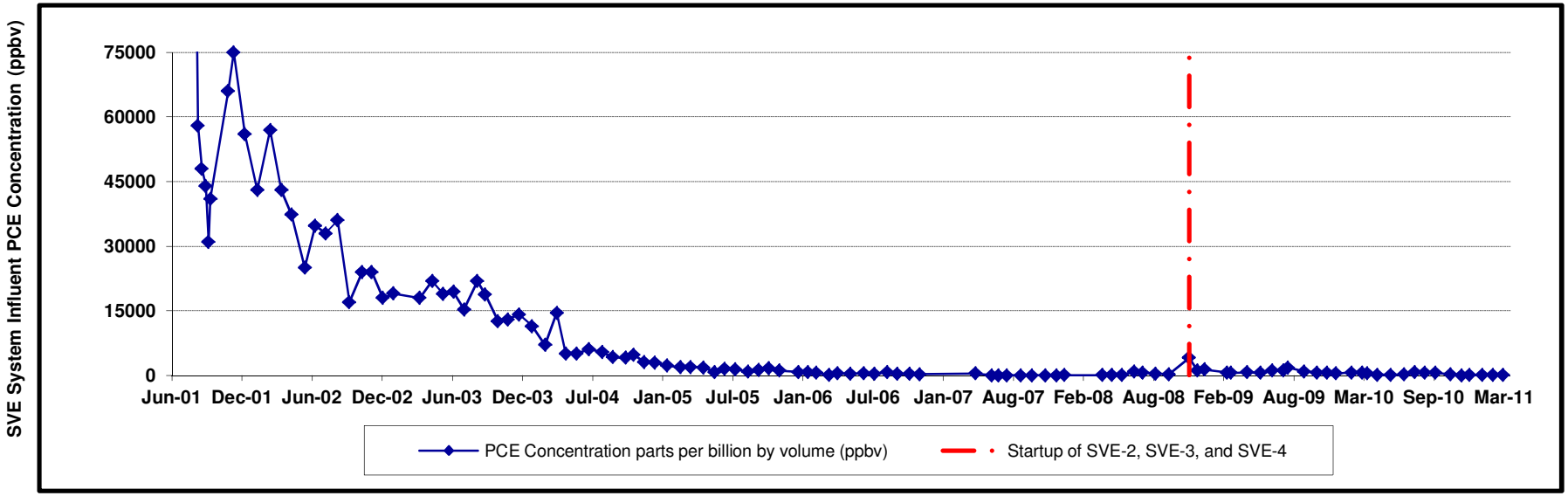
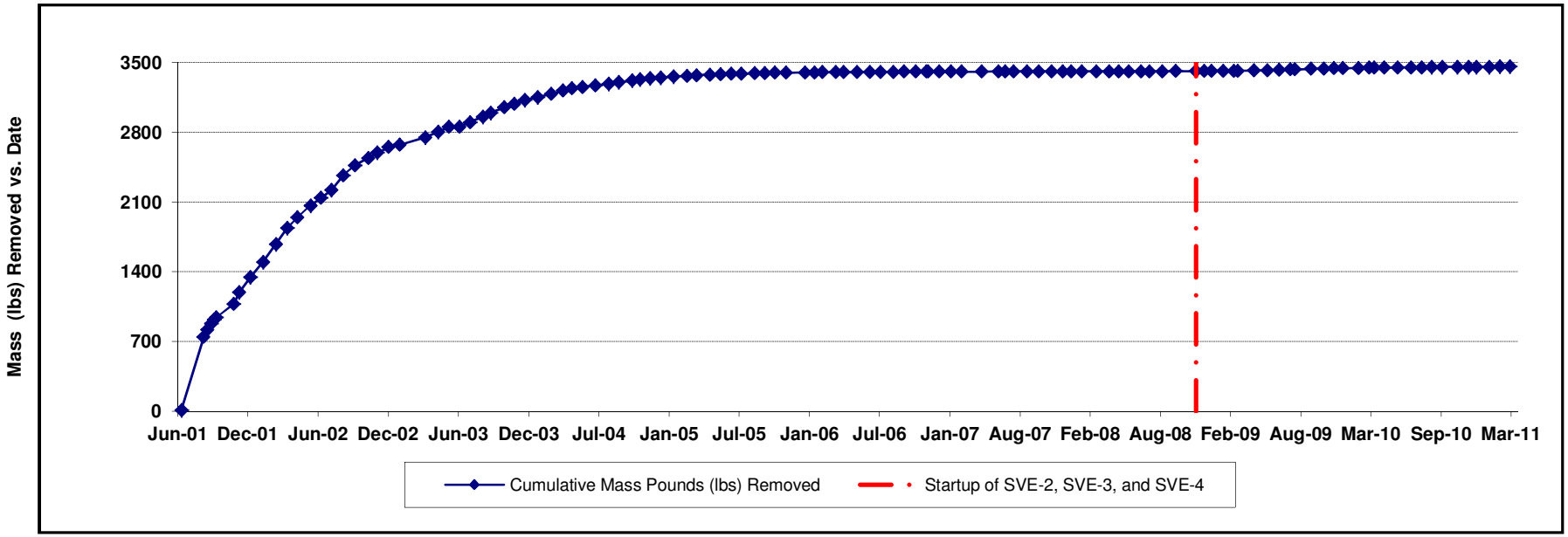


FIGURE 4-9
CUMULATIVE MASS REMOVED BY THE SOIL VAPOR EXTRACTION SYSTEM
MODESTO GROUNDWATER SUPERFUND SITE

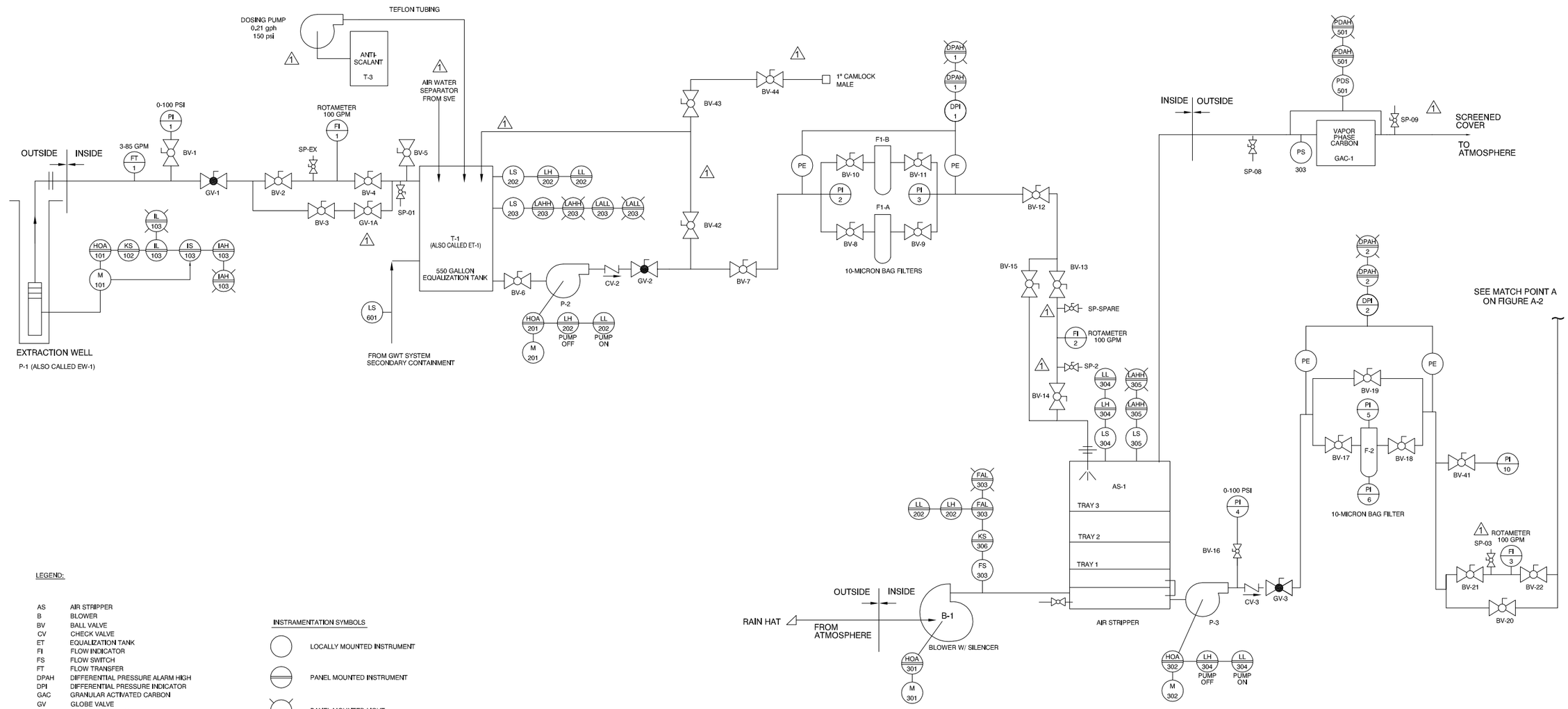




APPENDICES

(provided on CD)

Appendix A
Treatment System Process and Instrumentation Diagrams



LEGEND:

AS	AIR STRIPPER
B	BLOWER
BV	BALL VALVE
CV	CHECK VALVE
ET	EQUALIZATION TANK
FI	FLOW INDICATOR
FS	FLOW SWITCH
FT	FLOW TRANSFER
DPAH	DIFFERENTIAL PRESSURE ALARM HIGH
DPI	DIFFERENTIAL PRESSURE INDICATOR
GAC	GRANULAR ACTIVATED CARBON
GV	GLOBE VALVE
HOA	HAND - OFF - AUTO
IAH	ELECTRICAL CURRENT ALARM HIGH
IEX	ION EXCHANGE
IL	ELECTRICAL CURRENT LOW
IS	ELECTRICAL CURRENT SWITCH
KS	TIME SWITCH
LAHH	LEVEL ALARM HIGH HIGH
LH	LEVEL HIGH
LL	LEVEL LOW
LS	LEVEL SWITCHES
M	MOTOR
P	PUMP
PDAH	PRESSURE DIFFERENTIAL ALARM HIGH
PDS	PRESSURE DIFFERENTIAL SWITCHES
PE	PRESSURE ELEMENT
PI	PRESSURE INDICATOR
SP	SAMPLE PORT
T	TANKS

INSTRAMENTATION SYMBOLS

- LOCALLY MOUNTED INSTRUMENT
- PANEL MOUNTED INSTRUMENT
- PANEL MOUNTED LIGHT
- FLANGED GLOBE VALVE
- UNION
- BALL VALVE
- FLANGE
- SAMPLE PORT
- CHECK VALVE

REFERENCES
TITLE

NOTE: REFERENCE
DESIGN BY
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ORIGINAL DRAWING REFERENCED FROM
MONTGOMERY WATSON HARZA

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MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

GROUNDWATER TREATMENT P&ID

JOB NO.
PROJECT
SHEET NO. **1-1**

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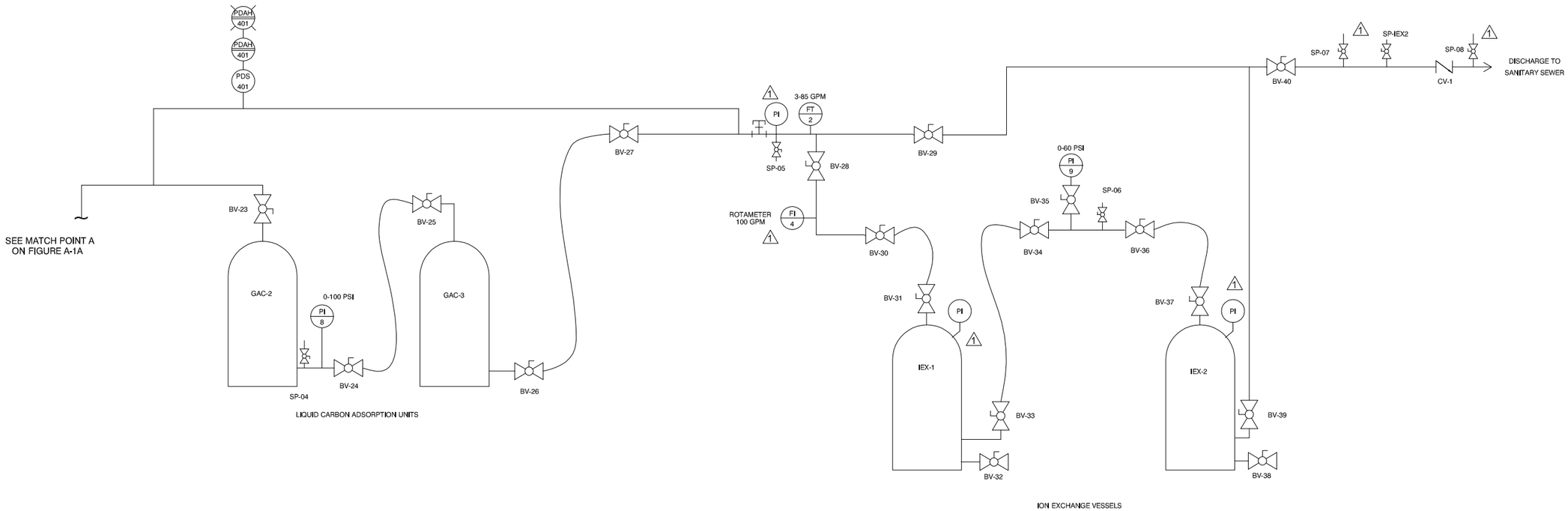

LEGEND:

AS	AIR STRIPPER
B	BLOWER
BV	BALL VALVE
CV	CHECK VALVE
ET	EQUALIZATION TANK
FI	FLOW INDICATOR
FS	FLOW SWITCH
FT	FLOW TRANSFER
DPAH	DIFFERENTIAL PRESSURE ALARM HIGH
DPI	DIFFERENTIAL PRESSURE INDICATOR
GAC	GRANULAR ACTIVATED CARBON
GV	GLOBE VALVE
HOA	HAND - OFF - AUTO
IAH	ELECTRICAL CURRENT ALARM HIGH
IEX	ION EXCHANGE
IL	ELECTRICAL CURRENT LOW
IS	ELECTRICAL CURRENT SWITCH
KS	TIME SWITCH
LAHH	LEVEL ALARM HIGH HIGH
LH	LEVEL HIGH
LL	LEVEL LOW
LS	LEVEL SWITCHES
M	MOTOR
P	PUMP
PDAH	PRESSURE DIFFERENTIAL ALARM HIGH
PDS	PRESSURE DIFFERENTIAL SWITCHES
PE	PRESSURE ELEMENT
PI	PRESSURE INDICATOR
SP	SAMPLE PORT
T	TANKS

INSTRAMENTATION SYBOLS

- LOCALLY MOUNTED INSTRUMENT
- PANEL MOUNTED INSTRUMENT
- PANEL MOUNTED LIGHT
- BALL VALVE
- SAMPLE PORT
- CHECK VALVE

REFERENCES
TITLE

NOTE: REFERENCE
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Sacramento, CA 95833-3200
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MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

GROUNDWATER TREATMENT P&ID

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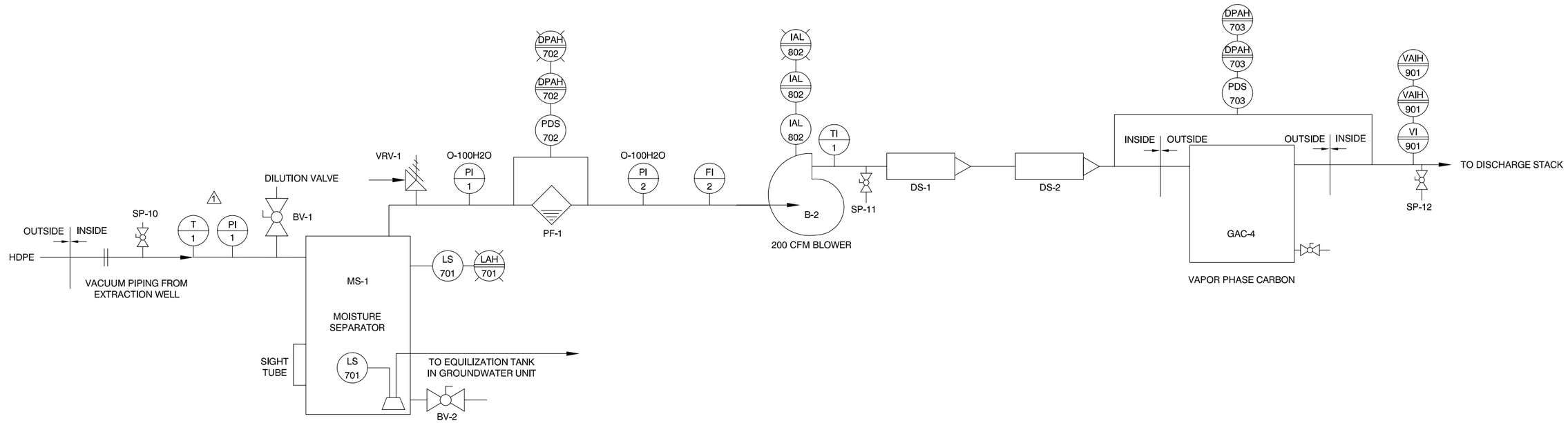

KEY

A ALARM, ACTIVATED
B BALL, BLOWER
C CARBON, CONTROL
D DISCHARGE, DIFFERENTIAL
F FILTER, FLOW
G GRANULAR
E ELECTRIC CURRENT,
I INDICATOR
L LEVEL, LIGHTING, LOW
M MOTOR, MOISTURE
P PANEL, PARTICULATE, PORT, POWER, PRESSURE R RELIEF
S SAMPLING, SENSOR, SEPARATOR, SILENCER, SWITCH
T TEMPERATURE, TRANSFORMER
V VALVE, VACUUM, VOLATILE ORGANIC COMPOUND

REFERENCES
TITLE

NOTE: REFERENCE
DESIGN BY
DIVERSIFIED REMEDIATION AND CONTROLS, INC.
ORIGINAL DRAWING REFERENCED FROM
MONTGOMERY WATSON HARZA

NOTES:
1. ALL VACUUM PROCESS PIPING IS 4" Ø SCH80 PVC
2. DISCHARGE STACK IS 8" Ø SCH80 PVC

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APPROVED BY:		

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Sacramento, CA 95833-3200
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FAX: (916) 679-2900

MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

SOIL VAPOR EXTRACTION P&ID

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PROJECT
SHEET NO. **1-3**

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Appendix B
Laboratory Analytical Data Tables

Table B1	**Site Contaminants of Concern**
Table B2	**Sample Cross Reference**
Table B3	**Results Summary, First Quarter 2011, Modesto Superfund Site**
Table B4	**Laboratory Control Sample Recovery Outliers Summary**
Table B5	**Matrix Spike and Matrix Spike Duplicate Recovery Outliers Summary**
Table B6	**Completeness Summary**

TABLE B1

SITE CONTAMINANTS OF CONCERN
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

Contaminant of Concern	Discharge Limit
Tetrachloroethene (PCE)	0.5 μg/L
Toluene	15 μg/L
Uranium, total	20 pCi/L
pH	5-12

Notes:
μg/L - micrograms per liter
pCi/L - picoCuries per liter

TABLE B2

SAMPLE CROSS REFERENCE
MODESTO GROUNDWATER SUPERFUND SITE
MODESTO, CALIFORNIA

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Analytical Method
01/13/11	EFF-0103	270377001	N	ASTM D 5174
01/13/11	EW-1-0103	270377002	N	ASTM D 5174
01/13/11	IEX Mid-0103	270377003	N	ASTM D 5174
01/13/11	MW-105-0103	270377004	N	ASTM D 5174
01/13/11	Pre IEX-0103	270377005	N	ASTM D 5174
01/13/11	EFF-0103	1202305936	DUP	ASTM D 5174
01/13/11	EFF-0103	1202305937	MS	ASTM D 5174
01/13/11	GWTP Pr GAC-0103	1101014-01	N	TO-15
01/13/11	GWTP Stack-0103	1101014-02	N	TO-15
01/13/11	SVE Pre GAC-0103	1101014-03	N	TO-15
01/13/11	SVE Stack-0103	1101014-04	N	TO-15
01/13/11	CRB EFF-0103	1101015-01	N	524.2
01/13/11	CRB INF-0103	1101015-02	N	524.2
01/13/11	CRB Mid-0103	1101015-03	N	524.2
01/13/11	EFF-0103	1101015-04	N	2540C
01/13/11	EFF-0103	1101015-04	N	2540D
01/13/11	EFF-0103	1101015-04	N	5210B
01/13/11	EFF-0103	1101015-04	N	524.2
01/13/11	EW-1-0103	1101015-05	N	524.2
01/13/11	MW-301-1Q11	1101015-06	TB	524.2
01/13/11	MW-401-1Q11	1101015-07	FB	524.2
01/13/11	GWTP Pr GAC-0103DUP	B1A0046-DUP1	DUP	TO-15
01/13/11	CRB INF-0103MS	B1A0056-MS1	MS	524.2
01/13/11	CRB INF-0103MSD	B1A0056-MSD1	MSD	524.2
01/13/11	EFF-0103DUP	B1A0058-DUP1	DUP	2540C
01/13/11	EFF-0103DUP	B1A0058-DUP2	DUP	2540D
02/10/11	EFF-0202	1102014-01	N	2540C
02/10/11	EFF-0202	1102014-01	N	2540D
02/10/11	EFF-0202	1102014-01	N	5210B
02/10/11	EFF-0202	1102014-01	N	524.2
02/10/11	EW-1-0202	1102014-02	N	524.2
02/10/11	MW-302-1Q11	1102014-03	TB	524.2
02/10/11	GWTP Pr GAC-0202	1102015-01	N	TO-15
02/10/11	GWTP Stack-0202	1102015-02	N	TO-15
02/10/11	SVE Pre GAC-0202	1102015-03	N	TO-15
02/10/11	SVE Stack-0202	1102015-04	N	TO-15
02/10/11	GWTP Pr GAC-0202DUP	B1B0030-DUP1	DUP	TO-15
02/10/11	MW-302-1Q11MS	B1B0031-MS1	MS	524.2
02/10/11	MW-302-1Q11MSD	B1B0031-MSD1	MSD	524.2
02/10/11	EFF-0202DUP	B1B0035-DUP1	DUP	2540C
02/10/11	EFF-0202DUP	B1B0035-DUP2	DUP	2540D
03/07/11	MW-15A-1Q11	1103023-01	N	524.2
03/08/11	MW-7A-1Q11	1103023-02	N	524.2
03/08/11	MW-11A-1Q11	1103023-03	N	524.2

TABLE B2

SAMPLE CROSS REFERENCE
MODESTO GROUNDWATER SUPERFUND SITE
MODESTO, CALIFORNIA

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Analytical Method
03/08/11	MW-13A-1Q11	1103023-04	N	524.2
03/08/11	MW-1A-1Q11	1103023-05	N	524.2
03/08/11	MW-2A-1Q11	1103023-06	N	524.2
03/08/11	MW-98A-1Q11	1103023-07	FD	524.2
03/08/11	MW-6A-1Q11	1103023-08	N	524.2
03/08/11	MW-14A-1Q11	1103023-09	N	524.2
03/08/11	MW-9B-1Q11	1103023-10	N	524.2
03/08/11	MW-16A-1Q11	1103023-11	N	524.2
03/08/11	MW-16B-1Q11	1103023-12	N	524.2
03/08/11	MW-16C-1Q11	1103023-13	N	524.2
03/08/11	MW-19A-1Q11	1103023-14	N	524.2
03/08/11	MW-19B-1Q11	1103023-15	N	524.2
03/08/11	MW-303-1Q11	1103023-16	TB	524.2
03/08/11	MW-98A-1Q11MS	B1C0054-MS2	MS	524.2
03/08/11	MW-98A-1Q11MSD	B1C0054-MSD2	MSD	524.2
03/09/11	EFF-0302	1103022-01	N	2540C
03/09/11	EFF-0302	1103022-01	N	2540D
03/09/11	EFF-0302	1103022-01	N	5210B
03/09/11	EFF-0302	1103022-01	N	524.2
03/09/11	EW-1-0302	1103022-02	N	524.2
03/09/11	MW-107-0302	1103022-03	FD	524.2
03/09/11	MW-304-1Q11	1103022-04	TB	524.2
03/09/11	MW-4A-1Q11	1103034-02	N	524.2
03/09/11	MW-4B-1Q11	1103034-03	N	524.2
03/09/11	MW-4C-1Q11	1103034-04	N	524.2
03/09/11	MW-5A-1Q11	1103034-05	N	524.2
03/09/11	MW-8A-1Q11	1103034-07	N	524.2
03/09/11	MW-90B-1Q11	1103034-08	FD	524.2
03/09/11	MW-10A-1Q11	1103034-09	N	524.2
03/09/11	MW-10B-1Q11	1103034-10	N	524.2
03/09/11	MW-10C-1Q11	1103034-11	N	524.2
03/09/11	MW-12A-1Q11	1103034-12	N	524.2
03/09/11	MW-402-1Q11	1103034-13	FB	524.2
03/09/11	MW-17A-1Q11	1103034-14	N	524.2
03/09/11	GWTP Pr GAC-0302	1103035-01	N	TO-15
03/09/11	GWTP Stack-0302	1103035-02	N	TO-15
03/09/11	SVE Pre GAC-0302	1103035-03	N	TO-15
03/09/11	SVE Stack-0302	1103035-04	N	TO-15
03/09/11	SVE-2-1Q11	1103036-10	N	TO-15
03/09/11	SVE-3-1Q11	1103036-11	N	TO-15
03/09/11	SVE-4-1Q11	1103036-12	N	TO-15
03/09/11	SVE-97-1Q11	1103036-13	FD	TO-15
03/09/11	EFF-0302DUP	B1C0046-DUP1	DUP	2540C
03/09/11	EFF-0302DUP	B1C0046-DUP2	DUP	2540D
03/09/11	EW-1-0302MS	B1C0050-MS1	MS	524.2

TABLE B2

SAMPLE CROSS REFERENCE
MODESTO GROUNDWATER SUPERFUND SITE
MODESTO, CALIFORNIA

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Analytical Method
03/09/11	EW-1-0302MSD	B1C0050-MSD1	MSD	524.2
03/09/11	GWTP Pr GAC-0302DUP	B1C0061-DUP1	DUP	TO-15
03/09/11	MW-5A-1Q11MS	B1C0065-MS1	MS	524.2
03/09/11	MW-5A-1Q11MSD	B1C0065-MSD1	MSD	524.2
03/09/11	SVE-97-1Q11DUP	B1C0066-DUP2	DUP	TO-15
03/10/11	MW-80C-1Q11	1103034-06	FD	524.2
03/10/11	MW-17B-1Q11	1103034-15	N	524.2
03/10/11	MW-17C-1Q11	1103034-16	N	524.2
03/10/11	MW-20A-1Q11	1103034-18	N	524.2
03/10/11	MW-20B-1Q11	1103034-19	N	524.2
03/10/11	MW-20C-1Q11	1103034-20	N	524.2
03/10/11	DP-1A-1Q11	1103036-01	N	TO-15
03/10/11	DP-1B-1Q11	1103036-02	N	TO-15
03/10/11	DP-4A-1Q11	1103036-03	N	TO-15
03/10/11	DP-4B-1Q11	1103036-04	N	TO-15
03/10/11	DP-6A-1Q11	1103036-05	N	TO-15
03/10/11	DP-6B-1Q11	1103036-06	N	TO-15
03/10/11	OSVE-10-1Q11	1103036-07	N	TO-15
03/10/11	OSVE-11-1Q11	1103036-08	N	TO-15
03/10/11	SVE-1-1Q11	1103036-09	N	TO-15
03/10/11	OSVE-10-1Q11DUP	B1C0066-DUP1	DUP	TO-15
03/10/11	MW-17C-1Q11MS	B1C0070-MS1	MS	524.2
03/10/11	MW-17C-1Q11MSD	B1C0070-MSD1	MSD	524.2
03/11/11	MW-3A-1Q11	1103034-01	N	524.2
03/11/11	MW-18A-1Q11	1103034-17	N	524.2

1Q11 = first quarter, 2011
BS = blank spike
DUP = laboratory duplicate
EFF = effluent
EW = extraction well
FB = field blank
FD = field duplicate
GWT = groundwater treatment
MS = matrix spike
MSD = matrix spike duplicate
MW = monitoring well
N = normal sample
SVE = soil vapor extraction
TB = trip blank

TABLE B3. RESULTS SUMMARY
FIRST QUARTER 2011, MODESTO GROUNDWATER SUPERFUND SITE

Location	Field Sample Identification	Matrix	Method	Sample Type	Date Sampled	Analyte	Result	Reporting Limit	Units	Qualified Result
0000BLANK	MW-301-1Q11	WQ	E524.2	TB	1/13/2011	Chloroform	1	0.500	µg/L	
	MW-302-1Q11				2/10/2011	Chloroform	0.900	0.500	µg/L	
	MW-303-1Q11				3/8/2011	Acetone	4.70	4	µg/L	J
						Chloroform	0.800	0.500	µg/L	
	MW-304-1Q11				3/9/2011	Chloroform	1.10	0.500	µg/L	
	MW-401-1Q11	WQ	E524.2	FB	1/13/2011	No Analytes Detected				
	MW-402-1Q11				3/9/2011	Acetone	4.70	4	µg/L	
						Chloroform	0.700	0.500	µg/L	
						Toluene	0.300	0.500	µg/L	J
DP-1A	DP-1A-1Q11	GS	TO15	N	3/10/2011	Tetrachloroethene	2.60	2.30	ppbv	
DP-1B	DP-1B-1Q11	GS	TO15	N	3/10/2011	Tetrachloroethene	9.80	2.30	ppbv	
DP-4A	DP-4A-1Q11	GS	TO15	N	3/10/2011	Chloroform	35	2.20	ppbv	
						Methylene Chloride	1.40	2.20	ppbv	J
						Tetrachloroethene	29	2.20	ppbv	
DP-4B	DP-4B-1Q11	GS	TO15	N	3/10/2011	Chloroform	1.50	2.10	ppbv	J
						Tetrachloroethene	3.70	2.10	ppbv	
DP-6A	DP-6A-1Q11	GS	TO15	N	3/10/2011	Tetrachloroethene	1.60	2.30	ppbv	J
DP-6B	DP-6B-1Q11	GS	TO15	N	3/10/2011	No Analytes Detected				
MW-01A	MW-1A-1Q11	WG	E524.2	N	3/8/2011	Tetrachloroethene	2	0.500	µg/L	
MW-02A	MW-2A-1Q11	WG	E524.2	N	3/8/2011	Tetrachloroethene	4.80	0.500	µg/L	
	MW-98A-1Q11	WG	E524.2	FD	3/8/2011	Tetrachloroethene	4.90	0.500	µg/L	J
MW-03A	MW-3A-1Q11	WG	E524.2	N	3/11/2011	Chloroform	2	0.500	µg/L	
						m,p-Xylenes	0.600	1	µg/L	J
						Tetrachloroethene	39	2.50	µg/L	
MW-04A	MW-4A-1Q11	WG	E524.2	N	3/9/2011	Tetrachloroethene	860	50	µg/L	
MW-04B	MW-4B-1Q11	WG	E524.2	N	3/9/2011	1,2,4-Trimethylbenzene	4.10	0.500	µg/L	
						1,3,5-Trimethylbenzene	1	0.500	µg/L	
						Benzene	1	0.500	µg/L	
						Ethylbenzene	3.10	0.500	µg/L	

TABLE B3 (Continued)

Location	Field Sample Identification	Matrix	Method	Sample Type	Date Sampled	Analyte	Result	Reporting Limit	Units	Qualified Result
MW-04B continued . . .										
						Isopropylbenzene	0.200	0.500	µg/L	J
						m,p-Xylenes	9.10	1	µg/L	
						Naphthalene	0.400	0.500	µg/L	J
						n-Propylbenzene	0.800	0.500	µg/L	
						o-Xylene	2	0.500	µg/L	
						Tetrachloroethene	2	0.500	µg/L	
						Toluene	0.700	0.500	µg/L	
MW-04C	MW-4C-1Q11	WG	E524.2	N	3/9/2011	1,2,4-Trimethylbenzene	0.300	0.500	µg/L	J
						1,3,5-Trimethylbenzene	0.500	0.500	µg/L	
						Benzene	0.700	0.500	µg/L	
						Ethylbenzene	0.500	0.500	µg/L	
						m,p-Xylenes	1.70	1	µg/L	
						Naphthalene	0.300	0.500	µg/L	J
						o-Xylene	2.30	0.500	µg/L	
						Toluene	0.500	0.500	µg/L	
MW-05A	MW-5A-1Q11	WG	E524.2	N	3/9/2011	Tetrachloroethene	110	5	µg/L	
MW-06A	MW-6A-1Q11	WG	E524.2	N	3/8/2011	Bromodichloromethane	0.300	0.500	µg/L	J
						Chloroform	6.50	0.500	µg/L	
						Tetrachloroethene	42	1	µg/L	
MW-07A	MW-7A-1Q11	WG	E524.2	N	3/8/2011	Tetrachloroethene	0.600	0.500	µg/L	
MW-08A	MW-8A-1Q11	WG	E524.2	N	3/9/2011	Chloroform	2.10	0.500	µg/L	
						Tetrachloroethene	40	1	µg/L	
MW-09B	MW-9B-1Q11	WG	E524.2	N	3/8/2011	Tetrachloroethene	1.70	0.500	µg/L	
MW-10A	MW-10A-1Q11	WG	E524.2	N	3/9/2011	Chloroform	2.80	0.500	µg/L	
						Tetrachloroethene	130	5	µg/L	
						Trichloroethylene	0.200	0.500	µg/L	J
MW-10B	MW-10B-1Q11	WG	E524.2	N	3/9/2011	1,2,4-Trimethylbenzene	0.700	0.500	µg/L	
						Benzene	0.800	0.500	µg/L	
						Ethylbenzene	0.900	0.500	µg/L	

TABLE B3 (Continued)

Location	Field Sample Identification	Matrix	Method	Sample Type	Date Sampled	Analyte	Result	Reporting Limit	Units	Qualified Result
MW-10B continued . . .										
						m,p-Xylenes	2.50	1	µg/L	
						o-Xylene	0.500	0.500	µg/L	
						Tetrachloroethene	16	0.500	µg/L	
						Toluene	0.400	0.500	µg/L	J
	MW-90B-1Q11	WG	E524.2	FD	3/9/2011	1,2,4-Trimethylbenzene	0.700	0.500	µg/L	
						Benzene	0.800	0.500	µg/L	
						Ethylbenzene	0.800	0.500	µg/L	
						m,p-Xylenes	2.50	1	µg/L	
						o-Xylene	0.500	0.500	µg/L	
						Tetrachloroethene	16	0.500	µg/L	
						Toluene	0.400	0.500	µg/L	J
MW-10C	MW-10C-1Q11	WG	E524.2	N	3/9/2011	1,2,4-Trimethylbenzene	0.300	0.500	µg/L	J
						1,3,5-Trimethylbenzene	0.400	0.500	µg/L	J
						Benzene	0.500	0.500	µg/L	
						Ethylbenzene	0.400	0.500	µg/L	J
						m,p-Xylenes	1.40	1	µg/L	
						Naphthalene	0.200	0.500	µg/L	J
						o-Xylene	1.80	0.500	µg/L	
MW-11A	MW-11A-1Q11	WG	E524.2	N	3/8/2011	Tetrachloroethene	2.70	0.500	µg/L	
MW-12A	MW-12A-1Q11	WG	E524.2	N	3/9/2011	Bromodichloromethane	0.200	0.500	µg/L	J
						Chloroform	5.50	0.500	µg/L	
						Tetrachloroethene	21	0.500	µg/L	
						Trichlorofluoromethane	0.400	0.500	µg/L	J
MW-13A	MW-13A-1Q11	WG	E524.2	N	3/8/2011	Tetrachloroethene	16	0.500	µg/L	
MW-14A	MW-14A-1Q11	WG	E524.2	N	3/8/2011	Tetrachloroethene	24	0.500	µg/L	
MW-15A	MW-15A-1Q11	WG	E524.2	N	3/7/2011	No Analytes Detected				
MW-16A	MW-16A-1Q11	WG	E524.2	N	3/8/2011	1,2,4-Trimethylbenzene	0.400	0.500	µg/L	J
						1,3,5-Trimethylbenzene	0.600	0.500	µg/L	
						Benzene	1.10	0.500	µg/L	

TABLE B3 (Continued)

Location	Field Sample Identification	Matrix	Method	Sample Type	Date Sampled	Analyte	Result	Reporting Limit	Units	Qualified Result
MW-16A continued . . .										
						Ethylbenzene	0.600	0.500	µg/L	
						m,p-Xylenes	2.30	1	µg/L	
						Naphthalene	0.300	0.500	µg/L	J
						o-Xylene	3.40	0.500	µg/L	
						Toluene	0.600	0.500	µg/L	
MW-16B	MW-16B-1Q11	WG	E524.2	N	3/8/2011	1,2,4-Trimethylbenzene	1.30	0.500	µg/L	
						1,3,5-Trimethylbenzene	0.300	0.500	µg/L	J
						Benzene	1	0.500	µg/L	
						Ethylbenzene	1.30	0.500	µg/L	
						m,p-Xylenes	3.60	1	µg/L	
						n-Propylbenzene	0.200	0.500	µg/L	J
						o-Xylene	0.800	0.500	µg/L	
						Tetrachloroethene	3.30	0.500	µg/L	
						Toluene	0.400	0.500	µg/L	J
MW-16C	MW-16C-1Q11	WG	E524.2	N	3/8/2011	1,3,5-Trimethylbenzene	0.200	0.500	µg/L	J
						Benzene	0.400	0.500	µg/L	J
						Ethylbenzene	0.200	0.500	µg/L	J
						m,p-Xylenes	0.800	1	µg/L	J
						o-Xylene	1	0.500	µg/L	
						Toluene	0.300	0.500	µg/L	J
MW-17A	MW-17A-1Q11	WG	E524.2	N	3/9/2011	Benzene	0.300	0.500	µg/L	J
						Bromodichloromethane	0.500	0.500	µg/L	
						Chloroform	7.70	0.500	µg/L	
						Ethylbenzene	0.200	0.500	µg/L	J
						m,p-Xylenes	0.800	1	µg/L	J
						o-Xylene	0.900	0.500	µg/L	
						Tetrachloroethene	0.600	0.500	µg/L	
						Toluene	0.200	0.500	µg/L	J
MW-17B	MW-17B-1Q11	WG	E524.2	N	3/10/2011	1,2,4-Trimethylbenzene	1	0.500	µg/L	

TABLE B3 (Continued)

Location	Field Sample Identification	Matrix	Method	Sample Type	Date Sampled	Analyte	Result	Reporting Limit	Units	Qualified Result
MW-17B continued . . .										
						1,3,5-Trimethylbenzene	0.200	0.500	µg/L	J
						Benzene	0.500	0.500	µg/L	
						Chloroform	0.200	0.500	µg/L	J
						Ethylbenzene	0.900	0.500	µg/L	
						m,p-Xylenes	2.70	1	µg/L	
						o-Xylene	0.500	0.500	µg/L	
						Tetrachloroethene	51	2.50	µg/L	
						Toluene	0.300	0.500	µg/L	J
MW-17C	MW-17C-1Q11	WG	E524.2	N	3/10/2011	Benzene	0.200	0.500	µg/L	J
						o-Xylene	0.600	0.500	µg/L	
MW-18A	MW-18A-1Q11	WG	E524.2	N	3/11/2011	1,2,4-Trimethylbenzene	0.300	0.500	µg/L	J
						1,3,5-Trimethylbenzene	0.400	0.500	µg/L	J
						Benzene	0.500	0.500	µg/L	J+
						Chloroform	3.20	0.500	µg/L	J+
						Ethylbenzene	0.400	0.500	µg/L	J
						m,p-Xylenes	1.40	1	µg/L	J+
						Naphthalene	0.300	0.500	µg/L	J
						o-Xylene	1.80	0.500	µg/L	J+
						Tetrachloroethene	3.40	0.500	µg/L	J+
						Toluene	0.400	0.500	µg/L	J
MW-19A	MW-19A-1Q11	WG	E524.2	N	3/8/2011	1,2,4-Trimethylbenzene	0.300	0.500	µg/L	J
						1,3,5-Trimethylbenzene	0.400	0.500	µg/L	J
						Benzene	1.20	0.500	µg/L	
						Ethylbenzene	0.500	0.500	µg/L	
						m,p-Xylenes	2	1	µg/L	
						Naphthalene	0.300	0.500	µg/L	J
						o-Xylene	3	0.500	µg/L	
						Tetrachloroethene	0.200	0.500	µg/L	J
						Toluene	0.700	0.500	µg/L	

TABLE B3 (Continued)

Location	Field Sample Identification	Matrix	Method	Sample Type	Date Sampled	Analyte	Result	Reporting Limit	Units	Qualified Result
MW-19B1	MW-19B-1Q11	WG	E524.2	N	3/8/2011	1,2,4-Trimethylbenzene	0.200	0.500	µg/L	J
						1,3,5-Trimethylbenzene	0.300	0.500	µg/L	J
						Benzene	0.600	0.500	µg/L	
						Ethylbenzene	0.300	0.500	µg/L	J
						m,p-Xylenes	1.20	1	µg/L	
						o-Xylene	1.40	0.500	µg/L	
						Tetrachloroethene	0.300	0.500	µg/L	J
						Toluene	0.300	0.500	µg/L	J
MW-20A	MW-20A-1Q11	WG	E524.2	N	3/10/2011	1,2,4-Trimethylbenzene	2.90	1	µg/L	
						1,3,5-Trimethylbenzene	0.800	1	µg/L	J
						Benzene	0.500	1	µg/L	J
						Chloroform	5.60	1	µg/L	
						Dichlorodifluoromethane	3	1	µg/L	
						Ethylbenzene	1.90	1	µg/L	
						m,p-Xylenes	6.30	2	µg/L	
						n-Propylbenzene	0.600	1	µg/L	J
						o-Xylene	1.30	1	µg/L	
						Tetrachloroethene	260	10	µg/L	
MW-20B	MW-20B-1Q11	WG	E524.2	N	3/10/2011	1,2,4-Trimethylbenzene	0.600	1	µg/L	J
						Benzene	0.600	1	µg/L	J
						Ethylbenzene	1.70	1	µg/L	
						m,p-Xylenes	4.60	2	µg/L	
						n-Propylbenzene	0.500	1	µg/L	J
						o-Xylene	1	1	µg/L	
						Tetrachloroethene	100	10	µg/L	
MW-20C	MW-20C-1Q11	WG	E524.2	N	3/10/2011	1,3,5-Trimethylbenzene	0.200	0.500	µg/L	J
						Benzene	0.200	0.500	µg/L	J
						Ethylbenzene	0.200	0.500	µg/L	J
						m,p-Xylenes	0.700	1	µg/L	J

TABLE B3 (Continued)

Location	Field Sample Identification	Matrix	Method	Sample Type	Date Sampled	Analyte	Result	Reporting Limit	Units	Qualified Result
MW-20C continued . . .										
						o-Xylene	1	0.500	µg/L	
						Toluene	0.200	0.500	µg/L	J
	MW-80C-1Q11	WG	E524.2	FD	3/10/2011	1,3,5-Trimethylbenzene	0.200	0.500	µg/L	J
						Benzene	0.200	0.500	µg/L	J
						Ethylbenzene	0.200	0.500	µg/L	J
						m,p-Xylenes	0.800	1	µg/L	J
						o-Xylene	1.10	0.500	µg/L	
						Toluene	0.200	0.500	µg/L	J
OSVE-10	OSVE-10-1Q11	GS	TO15	N	3/10/2011	Tetrachloroethene	3.20	3.90	ppbv	J
OSVE-11	OSVE-11-1Q11	GS	TO15	N	3/10/2011	Tetrachloroethene	3.30	2.30	ppbv	
SP-01	EW-1-0103	WG	E524.2	N	1/13/2011	Tetrachloroethene	110	5	µg/L	
	EW-1-0103	WG	ASTM D 5174	N	1/13/2011	Uranium	49	1	pci/L	
	EW-1-0202	WG	E524.2	N	2/10/2011	Tetrachloroethene	120	5	µg/L	
	EW-1-0302				3/9/2011	Tetrachloroethene	120	5	µg/L	
SP-03	CRB INF-0103	WG	E524.2	N	1/13/2011	No Analytes Detected				
SP-04	CRB Mid-0103	WG	E524.2	N	1/13/2011	Tetrachloroethene	0.200	0.500	µg/L	J
SP-05	CRB EFF-0103	WG	E524.2	N	1/13/2011	No Analytes Detected				
	MW-105-0103	WG	ASTM D 5174	N	1/13/2011	Uranium	69.9	1	pci/L	
	Pre IEX-0103					Uranium	71.5	1	pci/L	
SP-06	IEX Mid-0103	WG	ASTM D 5174	N	1/13/2011	Uranium	40	1	pci/L	
SP-07	EFF-0103	WG	5210B	N	1/13/2011	Biochemical Oxygen Demand	2	2	mg/L	
	EFF-0103	WG	E524.2	N	1/13/2011	No Analytes Detected				
	EFF-0103	WG	2540D	N	1/13/2011	No Analytes Detected				
	EFF-0103	WG	2540C	N	1/13/2011	Total dissolved solids	650	20	mg/L	
	EFF-0103	WG	ASTM D 5174	N	1/13/2011	Uranium	8.73	1	pci/L	
	EFF-0202	WG	5210B	N	2/10/2011	Biochemical Oxygen Demand	2	2	mg/L	J
	EFF-0202	WG	2540D	N	2/10/2011	No Analytes Detected				

TABLE B3 (Continued)

Location	Field Sample Identification	Matrix	Method	Sample Type	Date Sampled	Analyte	Result	Reporting Limit	Units	Qualified Result
SP-07 continued . . .										
	EFF-0202	WG	E524.2	N	2/10/2011	Tetrachloroethene	0.300	0.500	µg/L	J
	EFF-0202	WG	2540C	N	2/10/2011	Total dissolved solids	650	20	mg/L	
	EFF-0302	WG	5210B	N	3/9/2011	Biochemical Oxygen Demand	2	2	mg/L	J
	EFF-0302	WG	2540D	N	3/9/2011	No Analytes Detected				
	EFF-0302	WG	E524.2	N	3/9/2011	Tetrachloroethene	0.200	0.500	µg/L	J
	EFF-0302	WG	2540C	N	3/9/2011	Total dissolved solids	640	20	mg/L	
	MW-107-0302	WG	E524.2	FD	3/9/2011	Tetrachloroethene	0.200	0.500	µg/L	J
SP-08	GWTP Pr GAC-0103	GS	TO15	N	1/13/2011	Chloroform	6.60	4.50	ppbv	
						Tetrachloroethene	250	22	ppbv	
	GWTP Pr GAC-0202				2/10/2011	Chloroform	6.70	4.30	ppbv	
						Tetrachloroethene	280	22	ppbv	J
	GWTP Pr GAC-0302				3/9/2011	Chloroform	1.60	2	ppbv	J
						Tetrachloroethene	62	20	ppbv	J
SP-09	GWTP Stack-0103	GS	TO15	N	1/13/2011	Chloroform	7.40	2.20	ppbv	
						Tetrachloroethene	8.70	2.20	ppbv	
	GWTP Stack-0202				2/10/2011	Chloroform	7	2.30	ppbv	
						Tetrachloroethene	22	2.30	ppbv	
	GWTP Stack-0302				3/9/2011	1,2,4-Trimethylbenzene	15	2.30	ppbv	
						1,3,5-Trimethylbenzene	4.20	2.30	ppbv	
						Chloroform	6.60	2.30	ppbv	
						m,p-Xylenes	9.30	4.60	ppbv	
						o-Xylene	4.40	2.30	ppbv	
						Tetrachloroethene	60	23	ppbv	
						Toluene	5.60	2.30	ppbv	
SP-11	SVE Pre GAC-0103	GS	TO15	N	1/13/2011	Chloroform	7.60	2.30	ppbv	
						Tetrachloroethene	73	23	ppbv	
	SVE Pre GAC-0202				2/10/2011	Chloroform	8.20	2.40	ppbv	
						Tetrachloroethene	92	24	ppbv	

TABLE B3 (Continued)

Location	Field Sample Identification	Matrix	Method	Sample Type	Date Sampled	Analyte	Result	Reporting Limit	Units	Qualified Result
SP-11 continued . . .										
	SVE Pre GAC-0302				3/9/2011	Chloroform	15	2.30	ppbv	
						Tetrachloroethene	140	23	ppbv	
SP-12	SVE Stack-0103	GS	TO15	N	1/13/2011	Chloroform	10	2.30	ppbv	
						Tetrachloroethene	2.10	2.30	ppbv	J
	SVE Stack-0202				2/10/2011	Chloroform	16	2.30	ppbv	
						Tetrachloroethene	4.90	2.30	ppbv	
	SVE Stack-0302				3/9/2011	Chloroform	12	2.20	ppbv	
SVE-01	SVE-1-1Q11	GS	TO15	N	3/10/2011	Tetrachloroethene	4.40	2.30	ppbv	
SVE-02	SVE-2-1Q11	GS	TO15	N	3/9/2011	1,2,4-Trichlorobenzene	1.20	2.10	ppbv	J
						1,2-Dichlorobenzene	26	2.10	ppbv	
						1,3-Dichlorobenzene	1.10	2.10	ppbv	J
						1,4-Dichlorobenzene	2.60	2.10	ppbv	
						cis-1,2-Dichloroethene	1.20	2.10	ppbv	J
						Tetrachloroethene	210	21	ppbv	
						Trichloroethylene	1.20	2.10	ppbv	J
SVE-03	SVE-3-1Q11	GS	TO15	N	3/9/2011	Tetrachloroethene	91	23	ppbv	
	SVE-97-1Q11	GS	TO15	FD	3/9/2011	Tetrachloroethene	97	23	ppbv	
SVE-04	SVE-4-1Q11	GS	TO15	N	3/9/2011	1,2-Dichlorobenzene	22	2.10	ppbv	
						1,3-Dichlorobenzene	1.60	2.10	ppbv	J
						1,4-Dichlorobenzene	5.30	2.10	ppbv	
						Chloroform	29	2.10	ppbv	
						Methylene Chloride	1.20	2.10	ppbv	J
						Tetrachloroethene	26	2.10	ppbv	
						Trichloroethylene	1.60	2.10	ppbv	J

TABLE B3 (Continued)

Location	Field Sample Identification	Matrix	Method	Sample Type	Date Sampled	Analyte	Result	Reporting Limit	Units	Qualified Result

Matrix
GS = soil gas
WG = groundwater
WQ = water quality

Sample Type
FD = Field Duplicate
FB = Field Blank
N = Normal Sample
TB = Trip Blank

Units
mg/L = milligrams/Liter
ppbv = parts per billion volume
pci/L = picoCuries/Liter
µg/L = micrograms/Liter

Qualified Results
J = Analyte concentration considered an estimated value because one or more quality control specifications were not met.
J+ = Analyte concentration considered an estimated value because one or more quality control specifications were not met, potential high bias.

TABLE B4

LABORATORY CONTROL SAMPLE RECOVERY OUTLIERS SUMMARY
MODESTO GROUNDWATER SUPERFUND SITE
MODESTO, CALIFORNIA

Analytical Method	Laboratory Batch	Analyte	Expected Concentration	LCS Recovery (%)	Control Limits	Accuracy Acceptance
TO-15	B1B0030	Styrene	100	18	69-122	no
	B1C0061	Styrene	100	11	69-122	no
	B1C0066	Styrene	100	11	69-122	no
SM5210B	B1B0087	Biological Oxygen Demand	100	75	81.5-118.5	no
	B1C0068	Biological Oxygen Demand	100	71	81.5-118.5	no

Notes:
% - Percent
LCS - Laboratory Control Sample

TABLE B5

MATRIX SPIKE AND MATRIX SPIKE DUPLICATE RECOVERY OUTLIERS SUMMARY
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

Analytical Method	Laboratory Batch	Field Sample Identification	Analyte	MS Recovery (%)	MSD Recovery (%)	Control Limits (%)	Accuracy Acceptance	RPD (%)	RPD Control Limits (%)	Precision Acceptance
E524.2	B1B0031	MW-302-1Q11	Napthalene	146	103	52-160	yes	34.0	20	no
E524.2										no

Notes:
% - Percent
MS - Matrix Spike
MSD - Matrix Spike Duplicate
RPD - Relative Percent Difference

TABLE B6

COMPLETENESS SUMMARY
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

Analytical Method	Analyte	Possible Results	Analytical Completeness: Qualified Results	Analytical Completeness: Percent (%)	Technical Completeness: Rejected Results	Technical Completeness: Percent (%)
Water						
D5174						
	Uranium, total	4	0	100.0%	0	100.0%
	Total:	4	0	100.0%	0	100.0%

Appendix C
Laboratory Data Validation Report

LABORATORY DATA CONSULTANTS, INC.
601 University Ave., Suite 105, Sacramento, CA 95825 Bus: 916/649-8740 Fax: 916/649-0508

URS Corporation
2870 Gateway Oaks Drive, Suite 300
Sacramento, CA 95833
ATTN: Ms. Debbie Casagrande

May 4, 2011

SUBJECT: Modesto Superfund Site Quality Control Summary Report (QCSR) for Quarterly and Monthly Sampling Events, Staged Electronic Data Deliverables (SEDD) and Automated Data Review (ADR) deliverables

Dear Ms. Casagrande,

Enclosed are the Quality Control Summary Report (QCSR), validation worksheets, Staged Electronic Data Deliverables (SEDD) and Automated Data Review (ADR) electronic deliverables for the nine EPA Region 9 Laboratory's sample delivery groups (SDG) listed below. The SDGs are associated with the sampling period of January 13 to March 11, 2011. Not all of the analytical methods may have been required in each of the laboratory SDGs.

LDC Project #: 22732	
SDG #	**Analytical Methods**
11014A 11014B 11042D 11042E 11069A 11069C 11074A 11074C	EPA Method 524.2 (EPA Region 9 SOP 354, revison 9) EPA TO-15 (EPA Region 9 SOP 311, revison 1) SM 2540C (EPA Region 9 SOP 461, revison 6) SM 2540D (EPA Region 9 SOP 462, revison 6) SM 5210B (EPA Region 9 SOP 1133, revison 4)

The data validation was performed in accordance with the criteria specified in the EPA Region 9 Standard Operating Procedures (SOP). Where specific guidance was not available, the data have been evaluated in a conservative manner consistent with industry standards using professional experience.

The following QCSR deliverables and supporting documents are contained in this report:

- Sample ID Cross Reference and Data Review Level
- Primary and Field QC Samples by Method
- Detected Target Analytes
- Overall Qualified Results Summary
- Completeness Reports
- Reasons for Qualified Results
- Data Qualification Summary Reports
- Manual Data Validation Review Worksheets and ADR reports

Please feel free to contact us at (916) 649-8740, if you have any questions.

Sincerely,

Kendra DeSantolo

Kendra DeSantolo
Senior Chemist

Laboratory Data Consultants'
Quality Control Summary Report (QCSR)
Modesto Superfund Site
Analytical Data for Samples Collected by URS
During the Period of
January 13, 2011 to March 11, 2011

Prepared for:

URS Corporation
Crown Corporate Center
2870 Gateway Oaks Drive
Suite 300
Sacramento, CA 95833

Prepared by:

Laboratory Data Consultants, Inc. (LDC)
601 University Avenue, Suite 105
Sacramento, CA 95825

Reported: May 4, 2011

Kendra DeSantolo

Kendra DeSantolo, Senior Chemist
Laboratory Data Consultants, Inc.

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APPENDICES

Appendix A DATA QUALIFICATION SUMMARY REPORTS
Appendix B MANUAL VALIDATION LEVEL III & IV WORKSHEETS AND ADR REPORTS

LIST OF ACRONYMS

ADR	**Automated Data Review**
CA	**California**
EPA	**US Environmental Protection Agency**
LCS	**Laboratory Control Sample**
LDC	**Laboratory Data Consultants, Inc.**
MDL	**Method Detection Limit**
MS	**Matrix Spike**
MSD	**Matrix Spike Duplicate**
RL	**Reporting Limit**
ND	**Nondetected**
QCSR	**Quality Control Summary Report**
RL	**Reporting Limit**
RPD	**Relative Percent Difference**
SAP	**Sampling and Analysis Plan**
SDG	**Sample Delivery Group**
SEDD	**Staged Electronic Data Deliverables**
SM	**Standard Methods**
SOP	**Standard Operating Procedure**
URS	**URS Corporation**
VOCs	**Volatile Organic Compounds**

EXECUTIVE SUMMARY

This Quality Control Summary Report (QCSR) has been prepared by Laboratory Data Consultants, Inc. (LDC) for URS Corporation (URS) for the Modesto Superfund Site in Modesto, California (CA). The purpose of this report is to provide the data user with an independent evaluation of the results generated by the laboratory. The data reviewed in this report were analyzed by US Environmental Protection Agency (EPA) Region 9 Laboratory located in Richmond, CA. The laboratory is certified in the State of California by the Department of Health Services. URS Corporation located in Sacramento, CA, collected the samples analyzed for this report.

The data validation was performed in accordance with the EPA Region 9 Laboratory's internal control limits specified in the EPA Region 9 Laboratory's Standard Operating Procedures (SOPs), "Sampling and Analysis Plan, Modesto Superfund Site, Modesto, California", June 2010, the US Army Corps. of Engineers, and URS.

Seventy-three field samples, five field duplicates, and six field Quality Control (QC) samples were reported in eight EPA Region 9 Laboratory's sample delivery groups (SDGs) for the R11S34 Modesto GW Treatment System Winter 2011 Sampling and the R11S50 Modesto Groundwater March 2011 Quarterly Monitoring sampling efforts.

The laboratory provided electronic data in Staged Electronic Data Deliverables (SEDD) files. The SEDD deliverable was processed through the Automated Data Review (ADR) program in order to produce SEDD and ADR deliverable formats, as requested by URS. The laboratory submitted SEDD files, which were used in the data review and reflect any data validation qualifiers.

Data review was primarily based on the EPA Region 9 Laboratory's internal control limits specified in the EPA Region 9 Laboratory's SOPs and the "Modesto Groundwater Superfund Site, Sampling and Analysis Plan, Modesto, California" (SAP), June 2010. In the case where no QC acceptance criteria were specified for this analysis, data were evaluated against the appropriate method references and Standard Methods. Where additional guidance was needed, data were evaluated against QC and data validation criteria provided in the "National Functional Guidelines for Inorganic Data Review" (USEPA 2004), and "National Functional Guidelines for Organic Data Review" (USEPA 2008), using biased qualifiers. Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

For this review, approximately ten percent of project data were subjected to USEPA Level IV equivalent validation with raw data recalculations, and the remaining 90 percent were subjected to USEPA Level III equivalent validation. All sample results from the sampling period were subjected to automated and manual review through an evaluation of QC results, sample holding times, cooler temperatures, sample preservation, initial and continuing calibration, surrogate recoveries, matrix spikes/matrix spike duplicates, laboratory duplicates, laboratory control samples, method blanks, and reporting limits. Level IV equivalent validation was designated to

the following: SDG 11014A (one sample for volatile organic compounds (VOCs) by EPA TO-15); SDG 11014B (one sample for Total Dissolved Solids by Standard Methods (SM) 2450C, Total Suspended Solids by SM 2450D, Biochemical Oxygen Demand by SM 5210B and one sample for VOCs by EPA 524.2); 10069C (three samples for VOCs by EPA 524.2); and 11074A (two samples for VOCs by EPA TO-15). There were no significant findings in the Level IV equivalent validation. However, some sample data were qualified based upon the review of the instrument calibration data.

The following items were evaluated by automated review:

- Holding Times
- Cooler Temperatures
- Blanks
- Surrogates (organics)
- Matrix Spike/Matrix Spike Duplicates (MS/MSD)
- Laboratory Control Samples (LCS)
- Reporting Limits (RL)
- Field QC Samples

The evaluation of the associated initial and continuing instrument calibrations and Level IV recalculations from the raw data packages were performed by manual review.

The ADR was performed using bias indicators and reason codes for data qualification, where applicable. Appendix A contains a summary of data qualifications and the reasons for qualified results. The results of the ADR are included in Appendix B of this report, along with manual validation worksheets.

Data Qualifier Definitions

Through the data review process, the data were assigned validation qualifiers. The qualifiers assigned by LDC are based on a technical assessment of the data and represent outliers from each of the data review components (blank contamination, holding time, etc.). The following are definitions of the data qualifiers that may appear in this report:

Data Qualifier	Definition
U	Indicates the compound or analyte was analyzed for, but not detected at or above the reported sample quantitation limit. The result is considered nondetected (ND) at the reported value. This qualifier is added before any additional qualifiers for all ND results.
UJ	Indicates the compound or analyte was analyzed for, but not detected. The sample detection limit is an estimated value due to QC failure or data limitations.
J	Indicates the compound or analyte is positively identified, but the reported concentration is an estimate due to QC failure or data limitations.
J+	Indicates the compound or analyte is positively identified, but the reported concentration is an estimate due to QC failure or data limitations. A high quantitative bias exists in the data.
J-	Indicates the compound or analyte is positively identified, but the reported concentration is an estimate due to QC failure or data limitations. A low quantitative bias exists in the data.
R	Quality control indicates the data is not usable. The presence or absence of the compound or analyte cannot be verified or the reported result is compromised as to be unusable.

Data qualified with the "R" qualifier are considered unusable or rejected. Data qualified with the "J" qualifier are considered as estimated. The data user must determine the appropriate use of estimated data.

The data quality assessment is summarized by reporting analytical completeness. The following equations were used to calculate completeness.

%Analytical Completeness = (Number of unqualified results/Number of reported results) X 100

The analytical completeness, which included all QC parameters, attained for the field samples in the sampling effort is presented in Table 5.

%Contract Compliance Completeness = (Number of contract compliant results/Number of reported results) X 100

The contract compliance completeness, which included all QC parameters, attained for the field samples in the sampling effort is presented in Table 6.

%Technical Completeness = (Number of results not rejected/Number of reported results) X 100

The technical completeness, which included all QC parameters, attained for the field samples in the sampling effort is presented in Table 7.

Based on review of the analytical data and associated QC results, the sample data were assessed to be valid with minor qualifications. A summary of the overall quality of data is as follows:

2.0 Quarterly and Monthly Sampling Events

Based on review of the analytical data and associated QC results, the overall analytical completeness (number of unqualified results divided by the number of reported results) for the sampling effort was 92.7%.

- VOCs by EPA Method 524.2 had analytical completeness of 91.7 %,
- VOCs by EPA Method TO-15 had analytical completeness of 96.2%,
- Total Dissolved Solids by Standard Methods (SM) 2450C had analytical completeness of 100.0%,
- Total Suspended Solids by SM 2450D had analytical completeness of 100.0%,
- Biochemical Oxygen Demand by SM 5210B had analytical completeness of 33.3%

If data qualifiers due to trace values were excluded from this calculation, the analytical completeness would be 94.0% for VOCs by EPA Method 524.2 and 97.6% for VOCs by EPA Method TO-15.

The overall contract compliance completeness (number of contract compliant results divided by the number of reported results) for the sampling effort was 93.0%.

- VOCs by EPA Method 524.2 had contract completeness of 92.1%,
- VOCs by EPA Method TO-15 had contract completeness of 96.4%,
- Total Dissolved Solids by SM 2450C had contract completeness of 100.0%,
- Total Suspended Solids by SM 2450D had contract completeness of 100.0%,
- Biochemical Oxygen Demand by SM 5210B had contract completeness of 33.3%

If data qualifiers due to trace values were excluded from this calculation, the contract completeness would be 94.4% for VOCs by EPA Method 524.2 and 97.8% for VOCs by EPA Method TO-15.

The overall technical completeness (number of non-rejected results divided by the number of reported results) for the sampling effort was 100.0%.

- VOCs by EPA Method 524.2 had technical completeness of 100.0%,
- VOCs by EPA Method TO-15 had technical completeness of 100.0%,
- Total Dissolved Solids by SM 2450C had technical completeness of 100.0%,
- Total Suspended Solids by SM 2450D had technical completeness of 100.0%,
- Biochemical Oxygen Demand by SM 5210B had technical completeness of 100.0%

The analytical, contract compliance and technical completeness reports are in Tables 5, 6, and 7. Appendix A presents a detailed description of the qualified sample results by analytical method. The overall quality of data by analytical method is summarized below:

Volatile Organics by EPA 524.2 (EPA Region 9 SOP 354, revision 9)

The analytical completeness for Volatile Organics by EPA 524.2 was 91.7%. Seventy-two of the 3150 sample results were qualified as estimated due to trace values reported between the method detection limit (MDL) and the RL. One hundred and seventy-seven of the reported results were qualified as estimated due to initial calibration non-conformances. Three of the reported results were qualified as estimated due to continuing calibration non-conformances. Ten of the detected reported results were qualified as estimated with a positive bias due to surrogate recoveries above the control limit. One of the reported results was qualified as estimated due to MS/MSD recovery below the control limit. Five of the reported results were qualified as non-detected due to trip/field blank contamination. Table 8 lists specific samples and reasons for all qualified results with the exception of results that are not assessed by ADR (internal standards, professional judgment, etc.).

Sample MW-107-0302 was identified as a field duplicate of sample EFF-0302 (SDG 11069A). Positive detections for chloroform and trichloroethene were reported for both samples. No data were qualified as the differences between the results were within the criteria in Table 2-10 of the SAP.

Sample MW-98A-1Q11 was identified as a field duplicate of sample MW-2A-1Q11 (SDG 11069C). Positive detections of chloroform and tetrachloroethene were reported for both samples. No data were qualified as the differences between the results were within the criteria in Table 2-10 of the SAP.

Sample MW-80C-1Q11 was identified as a field duplicate of sample MW-20C-1Q11 (SDG 11074A). Positive detections of o-xylene were reported for both samples. Estimated detections of benzene, toluene, ethylbenzene, m&p-xylene, and 1,3,5-trimethylbenzene in both samples were qualified as estimated (J) due to the detection between the MDL and the RL. No data were qualified the analytes were either not detected or below the RL in one or both samples.

Sample MW-90B-1Q11 was identified as a field duplicate of sample MW-10B-1Q11 (SDG 11074A). Positive detections of benzene, tetrachloroethene, ethylbenzene, m&p-xylene, o-xylene, and 1,2,4-trimethylbenzene were reported for both samples. Estimated detections of toluene in both samples were qualified as estimated (J) due to the detection between the MDL and the RL. No data were qualified the analytes were either not detected or below the RL in one or both samples.

Volatile Organics by EPA TO-15 (EPA Region 9 SOP 311, revision 1)

The analytical completeness for Volatile Organics by EPA TO-15 was 96.2%. Thirteen of the 937 sample results were qualified as estimated due to trace values reported between the MDL and the RL. Twenty-one of the reported results were qualified as estimated due to LCS recoveries below the control limit, and four of the reported results were qualified as estimated due to lab duplicate precision above the control limit. Table 8 lists specific samples and reasons for all qualified results.

Sample SVE-97-1Q11 was identified as a field duplicate of sample SVE-3-1Q11 (SDG 11074A). Positive detections of tetrachloroethene were reported for both samples. No data were qualified as the differences between the results were within the criteria in Table 2-10 of the SAP.

It was noted that the laboratory analyzed some samples with historically high concentrations of tetrachloroethene at a higher dilution prior to the undiluted (or less diluted) run. These diluted analytical results were labeled as "RE1" in the laboratory's summary report. However, in raw data and electronic deliverables, the diluted results were labeled as "initial" results due to the earlier date/time sequence, and the later undiluted results were labeled as reinjections. Reported results were verified to be correct.

Total Dissolved Solids by SM 2540C (EPA Region 9 SOP 461, revision 6)

The analytical completeness for Total Dissolved Solids by SM 2540C was 100.0%.

Total Suspended Solids by SM 2540D (EPA Region 9 SOP 462, revision 6)

The analytical completeness for Total Suspended Solids by SM 2540D was 100.0%.

Biochemical Oxygen Demand by SM 5210B (EPA Region 9 SOP 1133, revision 4)

The analytical completeness for Biochemical Oxygen Demand by SM 5210B was 33.3%. Two sample results were qualified as estimated due to the LCS recovery below the lower control limit. Table 8 lists specific samples and reasons for the qualified results.

Table 1

Sample ID Cross Reference

Table 1: Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
13-Jan-2011	MW-301-1Q11	1101015-06	TB		524.2	III
13-Jan-2011	MW-401-1Q11	1101015-07	FB		524.2	III
13-Jan-2011	EFF-0103	1101015-04	N		2540C	IV
13-Jan-2011	EFF-0103	1101015-04	N		2540D	IV
13-Jan-2011	EFF-0103	1101015-04	N		5210B	IV
13-Jan-2011	EFF-0103	1101015-04	N		524.2	III
13-Jan-2011	EFF-0103DUP	B1A0058-DUP1	DUP		2540C	III
13-Jan-2011	EFF-0103DUP	B1A0058-DUP2	DUP		2540D	III
13-Jan-2011	CRB EFF-0103	1101015-01	N		524.2	III
13-Jan-2011	CRB Mid-0103	1101015-03	N		524.2	III
13-Jan-2011	CRB INF-0103	1101015-02	N		524.2	III
13-Jan-2011	CRB INF-0103MS	B1A0056-MS1	MS		524.2	III
13-Jan-2011	CRB INF-0103MSD	B1A0056-MSD1	MSD		524.2	III
13-Jan-2011	EW-1-0103	1101015-05	N		524.2	IV
13-Jan-2011	GWTP Stack-0103	1101014-02	N		TO-15	III
13-Jan-2011	GWTP Pr GAC-0103	1101014-01	N		TO-15	III
13-Jan-2011	GWTP Pr GAC-0103DUP	B1A0046-DUP1	DUP		TO-15	III
13-Jan-2011	SVE Stack-0103	1101014-04	N		TO-15	III
13-Jan-2011	SVE Pre GAC-0103	1101014-03	N		TO-15	III
10-Feb-2011	MW-302-1Q11	1102014-03	TB		524.2	III
10-Feb-2011	MW-302-1Q11MS	B1B0031-MS1	MS		524.2	III
10-Feb-2011	MW-302-1Q11MSD	B1B0031-MSD1	MSD		524.2	III
10-Feb-2011	EFF-0202	1102014-01	N		2540C	III
10-Feb-2011	EFF-0202	1102014-01	N		2540D	III
10-Feb-2011	EFF-0202	1102014-01	N		5210B	III
10-Feb-2011	EFF-0202	1102014-01	N		524.2	III

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Table 1: Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
10-Feb-2011	EFF-0202DUP	B1B0035-DUP1	DUP		2540C	III
10-Feb-2011	EFF-0202DUP	B1B0035-DUP2	DUP		2540D	III
10-Feb-2011	EW-1-0202	1102014-02	N		524.2	III
10-Feb-2011	GWTP Stack-0202	1102015-02	N		TO-15	III
10-Feb-2011	GWTP Pr GAC-0202	1102015-01	N		TO-15	III
10-Feb-2011	GWTP Pr GAC-0202DUP	B1B0030-DUP1	DUP		TO-15	III
10-Feb-2011	SVE Stack-0202	1102015-04	N		TO-15	III
10-Feb-2011	SVE Pre GAC-0202	1102015-03	N		TO-15	III
07-Mar-2011	MW-15A-1Q11	1103023-01	N		524.2	III
08-Mar-2011	MW-303-1Q11	1103023-16	TB		524.2	III
08-Mar-2011	MW-7A-1Q11	1103023-02	N		524.2	III
08-Mar-2011	MW-11A-1Q11	1103023-03	N		524.2	III
08-Mar-2011	MW-19A-1Q11	1103023-14	N		524.2	III
08-Mar-2011	MW-13A-1Q11	1103023-04	N		524.2	III
08-Mar-2011	MW-19B-1Q11	1103023-15	N		524.2	III
08-Mar-2011	MW-1A-1Q11	1103023-05	N		524.2	III
08-Mar-2011	MW-16A-1Q11	1103023-11	N		524.2	IV
08-Mar-2011	MW-9B-1Q11	1103023-10	N		524.2	III
08-Mar-2011	MW-98A-1Q11	1103023-07	FD		524.2	III
08-Mar-2011	MW-98A-1Q11MS	B1C0054-MS2	MS		524.2	III
08-Mar-2011	MW-98A-1Q11MSD	B1C0054-MSD2	MSD		524.2	III
08-Mar-2011	MW-16C-1Q11	1103023-13	N		524.2	III
08-Mar-2011	MW-2A-1Q11	1103023-06	N		524.2	III
08-Mar-2011	MW-16B-1Q11	1103023-12	N		524.2	III
08-Mar-2011	MW-6A-1Q11	1103023-08	N		524.2	IV
08-Mar-2011	MW-14A-1Q11	1103023-09	N		524.2	IV

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Table 1: Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
09-Mar-2011	MW-12A-1Q11	1103034-12	N		524.2	III
09-Mar-2011	MW-4C-1Q11	1103034-04	N		524.2	III
09-Mar-2011	MW-8A-1Q11	1103034-07	N		524.2	III
09-Mar-2011	MW-4B-1Q11	1103034-03	N		524.2	III
09-Mar-2011	MW-10A-1Q11	1103034-09	N		524.2	III
09-Mar-2011	MW-5A-1Q11	1103034-05	N		524.2	III
09-Mar-2011	MW-5A-1Q11MS	B1C0065-MS1	MS		524.2	III
09-Mar-2011	MW-5A-1Q11MSD	B1C0065-MSD1	MSD		524.2	III
09-Mar-2011	MW-4A-1Q11	1103034-02	N		524.2	III
09-Mar-2011	MW-10C-1Q11	1103034-11	N		524.2	III
09-Mar-2011	MW-402-1Q11	1103034-13	FB		524.2	III
09-Mar-2011	MW-90B-1Q11	1103034-08	FD		524.2	III
09-Mar-2011	MW-10B-1Q11	1103034-10	N		524.2	III
09-Mar-2011	MW-304-1Q11	1103022-04	TB		524.2	III
09-Mar-2011	SVE-2-1Q11	1103036-10	N		TO-15	III
09-Mar-2011	EFF-0302	1103022-01	N		2540C	III
09-Mar-2011	EFF-0302	1103022-01	N		2540D	III
09-Mar-2011	EFF-0302	1103022-01	N		5210B	III
09-Mar-2011	EFF-0302	1103022-01	N		524.2	III
09-Mar-2011	EFF-0302DUP	B1C0046-DUP1	DUP		2540C	III
09-Mar-2011	EFF-0302DUP	B1C0046-DUP2	DUP		2540D	III
09-Mar-2011	SVE-3-1Q11	1103036-11	N		TO-15	III
09-Mar-2011	SVE-97-1Q11	1103036-13	FD		TO-15	III
09-Mar-2011	SVE-97-1Q11DUP	B1C0066-DUP2	DUP		TO-15	III
09-Mar-2011	MW-107-0302	1103022-03	FD		524.2	III
09-Mar-2011	SVE-4-1Q11	1103036-12	N		TO-15	III

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Table 1: Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
09-Mar-2011	EW-1-0302	1103022-02	N		524.2	III
09-Mar-2011	EW-1-0302MS	B1C0050-MS1	MS		524.2	III
09-Mar-2011	EW-1-0302MSD	B1C0050-MSD1	MSD		524.2	III
09-Mar-2011	GWTP Stack-0302	1103035-02	N		TO-15	III
09-Mar-2011	GWTP Pr GAC-0302	1103035-01	N		TO-15	III
09-Mar-2011	GWTP Pr GAC-0302DUP	B1C0061-DUP1	DUP		TO-15	III
09-Mar-2011	MW-17A-1Q11	1103034-14	N		524.2	III
09-Mar-2011	SVE Stack-0302	1103035-04	N		TO-15	III
09-Mar-2011	SVE Pre GAC-0302	1103035-03	N		TO-15	III
10-Mar-2011	DP-4A-1Q11	1103036-03	N		TO-15	IV
10-Mar-2011	DP-4B-1Q11	1103036-04	N		TO-15	IV
10-Mar-2011	SVE-1-1Q11	1103036-09	N		TO-15	III
10-Mar-2011	MW-17C-1Q11	1103034-16	N		524.2	III
10-Mar-2011	MW-17C-1Q11MS	B1C0070-MS1	MS		524.2	III
10-Mar-2011	MW-17C-1Q11MSD	B1C0070-MSD1	MSD		524.2	III
10-Mar-2011	DP-1A-1Q11	1103036-01	N		TO-15	III
10-Mar-2011	MW-17B-1Q11	1103034-15	N		524.2	III
10-Mar-2011	DP-1B-1Q11	1103036-02	N		TO-15	III
10-Mar-2011	MW-20C-1Q11	1103034-20	N		524.2	III
10-Mar-2011	OSVE-11-1Q11	1103036-08	N		TO-15	III
10-Mar-2011	OSVE-10-1Q11	1103036-07	N		TO-15	III
10-Mar-2011	OSVE-10-1Q11DUP	B1C0066-DUP1	DUP		TO-15	III
10-Mar-2011	MW-20B-1Q11	1103034-19	N		524.2	III
10-Mar-2011	DP-6A-1Q11	1103036-05	N		TO-15	III
10-Mar-2011	MW-80C-1Q11	1103034-06	FD		524.2	III
10-Mar-2011	DP-6B-1Q11	1103036-06	N		TO-15	III

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Table 1: Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
10-Mar-2011	MW-20A-1Q11	1103034-18	N		524.2	III
11-Mar-2011	MW-3A-1Q11	1103034-01	N		524.2	III
11-Mar-2011	MW-18A-1Q11	1103034-17	N		524.2	III

III = EPA Level 3 Data Review *N = Normal Sample* *TB = Trip Blank* *MS = Matrix Spike*
IV = EPA Level 4 Data Validation *FD = Field Duplicate* *FB = Field Blank* *MSD = Matrix Spike Duplicate*

Table 2

Primary and Field QC Samples by Method

Table 2: Primary and Field QC Samples by Method

Analytical Method	Matrix	Primary Samples	Field Duplicates	Trip Blanks	Equipment Blanks	Field Blanks
2540C	Water	3	None	None	None	None
2540D	Water	3	None	None	None	None
5210B	Water	3	None	None	None	None
524.2	Water	40	4	4	None	2
TO-15	Air	24	1	None	None	None

Table 3

Detected Target Analytes

Table 3: Detected Target Analytes

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Units
SDG: 11014A								
TO-15	GWTP Pr GAC-0103	Air	N					
				CHLOROFORM	4.5	6.6		ppbv
				TETRACHLOROETHENE	22	250		ppbv
TO-15	GWTP Stack-0103	Air	N					
				CHLOROFORM	2.2	7.4		ppbv
				TETRACHLOROETHENE	2.2	8.7		ppbv
TO-15	SVE Pre GAC-0103	Air	N					
				CHLOROFORM	2.3	7.6		ppbv
				TETRACHLOROETHENE	23	73		ppbv
TO-15	SVE Stack-0103	Air	N					
				CHLOROFORM	2.3	10		ppbv
				TETRACHLOROETHENE	2.3	2.1J		ppbv
SDG: 11014B								
2540C	EFF-0103	Water	N					
				TOTAL DISSOLVED SOLIDS	20	650		mg/L
5210B	EFF-0103	Water	N					
				Biological Oxygen Demand	2.0	2.0		mg/L
524.2	CRB Mid-0103	Water	N					
				TETRACHLOROETHENE	0.5	0.2J		ug/L
524.2	EW-1-0103	Water	N					
				TETRACHLOROETHENE	5.0	110		ug/L
524.2	MW-301-1Q11	Water	TB					
				CHLOROFORM	0.5	1.0		ug/L
SDG: 11042D								
2540C	EFF-0202	Water	N					
				TOTAL DISSOLVED SOLIDS	20	650		mg/L
5210B	EFF-0202	Water	N					
				Biochemical Oxygen Demand	2.0	2.0J		mg/L
524.2	EFF-0202	Water	N					
				TETRACHLOROETHENE	0.5	0.3J		ug/L
524.2	EW-1-0202	Water	N					
				TETRACHLOROETHENE	5.0	120		ug/L
524.2	MW-302-1Q11	Water	TB					
				CHLOROFORM	0.5	0.9		ug/L

**Note: This report excludes laboratory detects that were qualified as ND due to Blank Contamination*

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Table 3: Detected Target Analytes

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Units
SDG: 11042E								
TO-15	GWTP Pr GAC-0202	Air	N					
				CHLOROFORM	4.3	6.7		ppbv
				TETRACHLOROETHENE	22	280J		ppbv
TO-15	GWTP Stack-0202	Air	N					
				CHLOROFORM	2.3	7.0		ppbv
				TETRACHLOROETHENE	2.3	22		ppbv
TO-15	SVE Pre GAC-0202	Air	N					
				CHLOROFORM	2.4	8.2		ppbv
				TETRACHLOROETHENE	24	92		ppbv
TO-15	SVE Stack-0202	Air	N					
				CHLOROFORM	2.3	16		ppbv
				TETRACHLOROETHENE	2.3	4.9		ppbv
SDG: 11069A								
2540C	EFF-0302	Water	N					
				TOTAL DISSOLVED SOLIDS	20	640		mg/L
5210B	EFF-0302	Water	N					
				Biochemical Oxygen Demand	2.0	2.0J		mg/L
524.2	EFF-0302	Water	N					
				TETRACHLOROETHENE	0.5	0.2J		ug/L
524.2	EW-1-0302	Water	N					
				TETRACHLOROETHENE	5.0	120		ug/L
524.2	MW-107-0302	Water	FD					
				TETRACHLOROETHENE	0.5	0.2J		ug/L
524.2	MW-304-1Q11	Water	TB					
				CHLOROFORM	0.5	1.1		ug/L

**Note: This report excludes laboratory detects that were qualified as ND due to Blank Contamination*

N = Normal Sample *TB = Trip Blank*
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Table 3: Detected Target Analytes

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Units
SDG: 11069C								
524.2	MW-11A-1Q11	Water	N					
				CHLOROFORM	0.5	2.7		ug/L
				TETRACHLOROETHENE	0.5	2.7		ug/L
524.2	MW-13A-1Q11	Water	N					
				CHLOROFORM	0.5	1.5		ug/L
				TETRACHLOROETHENE	0.5	16		ug/L
524.2	MW-14A-1Q11	Water	N					
				CHLOROFORM	0.5	0.3J		ug/L
				TETRACHLOROETHENE	0.5	24		ug/L
524.2	MW-15A-1Q11	Water	N					
				CHLOROFORM	0.5	0.3J		ug/L
524.2	MW-16A-1Q11	Water	N					
				1,2,4-TRIMETHYLBENZENE	0.5	0.4J		ug/L
				1,3,5-TRIMETHYLBENZENE	0.5	0.6		ug/L
				BENZENE	0.5	1.1		ug/L
				CHLOROFORM	0.5	0.7		ug/L
				ETHYLBENZENE	0.5	0.6		ug/L
				m&p-Xylene	1.0	2.3		ug/L
				NAPHTHALENE	0.5	0.3J		ug/L
				O-XYLENE	0.5	3.4		ug/L
				TOLUENE	0.5	0.6		ug/L
524.2	MW-16B-1Q11	Water	N					
				1,2,4-TRIMETHYLBENZENE	0.5	1.3		ug/L
				1,3,5-TRIMETHYLBENZENE	0.5	0.3J		ug/L
				BENZENE	0.5	1.0		ug/L
				CHLOROFORM	0.5	0.3J		ug/L
				ETHYLBENZENE	0.5	1.3		ug/L
				m&p-Xylene	1.0	3.6		ug/L
				N-PROPYLBENZENE	0.5	0.2J		ug/L
				O-XYLENE	0.5	0.8		ug/L
				TETRACHLOROETHENE	0.5	3.3		ug/L
				TOLUENE	0.5	0.4J		ug/L
524.2	MW-16C-1Q11	Water	N					
				1,3,5-TRIMETHYLBENZENE	0.5	0.2J		ug/L
				BENZENE	0.5	0.4J		ug/L
				ETHYLBENZENE	0.5	0.2J		ug/L
				m&p-Xylene	1.0	0.8J		ug/L
				O-XYLENE	0.5	1.0		ug/L
				TOLUENE	0.5	0.3J		ug/L

**Note: This report excludes laboratory detects that were qualified as ND due to Blank Contamination*

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Table 3: Detected Target Analytes

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Units
SDG: 11069C								
524.2	MW-19A-1Q11	Water	N					
				1,2,4-TRIMETHYLBENZENE	0.5	0.3J		ug/L
				1,3,5-TRIMETHYLBENZENE	0.5	0.4J		ug/L
				BENZENE	0.5	1.2		ug/L
				CHLOROFORM	0.5	1.6		ug/L
				ETHYLBENZENE	0.5	0.5		ug/L
				m&p-Xylene	1.0	2.0		ug/L
				NAPHTHALENE	0.5	0.3J		ug/L
				O-XYLENE	0.5	3.0		ug/L
				TETRACHLOROETHENE	0.5	0.2J		ug/L
				TOLUENE	0.5	0.7		ug/L
524.2	MW-19B-1Q11	Water	N					
				1,2,4-TRIMETHYLBENZENE	0.5	0.2J		ug/L
				1,3,5-TRIMETHYLBENZENE	0.5	0.3J		ug/L
				BENZENE	0.5	0.6		ug/L
				ETHYLBENZENE	0.5	0.3J		ug/L
				m&p-Xylene	1.0	1.2		ug/L
				O-XYLENE	0.5	1.4		ug/L
				TETRACHLOROETHENE	0.5	0.3J		ug/L
				TOLUENE	0.5	0.3J		ug/L
524.2	MW-1A-1Q11	Water	N					
				CHLOROFORM	0.5	0.2J		ug/L
				TETRACHLOROETHENE	0.5	2.0		ug/L
524.2	MW-2A-1Q11	Water	N					
				CHLOROFORM	0.5	2.3		ug/L
				TETRACHLOROETHENE	0.5	4.8		ug/L
524.2	MW-303-1Q11	Water	N					
				ACETONE	4.0	4.7J		ug/L
				CHLOROFORM	0.5	0.8		ug/L
524.2	MW-6A-1Q11	Water	N					
				BROMODICHLOROMETHANE	0.5	0.3J		ug/L
				CHLOROFORM	0.5	6.5		ug/L
				TETRACHLOROETHENE	1.0	42		ug/L
524.2	MW-7A-1Q11	Water	N					
				CHLOROFORM	0.5	0.8		ug/L
				TETRACHLOROETHENE	0.5	0.6		ug/L
524.2	MW-98A-1Q11	Water	N					
				CHLOROFORM	0.5	2.4		ug/L
				TETRACHLOROETHENE	0.5	4.9J		ug/L
524.2	MW-9B-1Q11	Water	N					
				TETRACHLOROETHENE	0.5	1.7		ug/L

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Table 3: Detected Target Analytes

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Units
SDG: 11074A								
524.2	MW-10A-1Q11	Water	N					
				CHLOROFORM	0.5	2.8		ug/L
				TETRACHLOROETHENE	5.0	130		ug/L
				TRICHLOROETHENE	0.5	0.2J		ug/L
524.2	MW-10B-1Q11	Water	N					
				1,2,4-TRIMETHYLBENZENE	0.5	0.7		ug/L
				BENZENE	0.5	0.8		ug/L
				ETHYLBENZENE	0.5	0.9		ug/L
				m&p-Xylene	1.0	2.5		ug/L
				O-XYLENE	0.5	0.5		ug/L
				TETRACHLOROETHENE	0.5	16		ug/L
				TOLUENE	0.5	0.4J		ug/L
524.2	MW-10C-1Q11	Water	N					
				1,2,4-TRIMETHYLBENZENE	0.5	0.3J		ug/L
				1,3,5-TRIMETHYLBENZENE	0.5	0.4J		ug/L
				BENZENE	0.5	0.5		ug/L
				ETHYLBENZENE	0.5	0.4J		ug/L
				m&p-Xylene	1.0	1.4		ug/L
				NAPHTHALENE	0.5	0.2J		ug/L
				O-XYLENE	0.5	1.8		ug/L
524.2	MW-12A-1Q11	Water	N					
				BROMODICHLOROMETHANE	0.5	0.2J		ug/L
				CHLOROFORM	0.5	5.5		ug/L
				TETRACHLOROETHENE	0.5	21		ug/L
				TRICHLOROFLUOROMETHANE	0.5	0.4J		ug/L
524.2	MW-17A-1Q11	Water	N					
				BENZENE	0.5	0.3J		ug/L
				BROMODICHLOROMETHANE	0.5	0.5		ug/L
				CHLOROFORM	0.5	7.7		ug/L
				ETHYLBENZENE	0.5	0.2J		ug/L
				m&p-Xylene	1.0	0.8J		ug/L
				O-XYLENE	0.5	0.9		ug/L
				TETRACHLOROETHENE	0.5	0.6		ug/L
				TOLUENE	0.5	0.2J		ug/L
524.2	MW-17B-1Q11	Water	N					
				1,2,4-TRIMETHYLBENZENE	0.5	1.0		ug/L
				1,3,5-TRIMETHYLBENZENE	0.5	0.2J		ug/L
				BENZENE	0.5	0.5		ug/L
				CHLOROFORM	0.5	0.2J		ug/L
				ETHYLBENZENE	0.5	0.9		ug/L
				m&p-Xylene	1.0	2.7		ug/L
				O-XYLENE	0.5	0.5		ug/L
				TETRACHLOROETHENE	2.5	51		ug/L
				TOLUENE	0.5	0.3J		ug/L

**Note: This report excludes laboratory detects that were qualified as ND due to Blank Contamination*

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Table 3: Detected Target Analytes

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Units
SDG: 11074A								
524.2	MW-17C-1Q11	Water	N					
				BENZENE	0.5	0.2J		ug/L
				O-XYLENE	0.5	0.6		ug/L
524.2	MW-18A-1Q11	Water	N					
				1,2,4-TRIMETHYLBENZENE	0.5	0.3J		ug/L
				1,3,5-TRIMETHYLBENZENE	0.5	0.4J		ug/L
				BENZENE	0.5	0.5J+		ug/L
				CHLOROFORM	0.5	3.2J+		ug/L
				ETHYLBENZENE	0.5	0.4J		ug/L
				m&p-Xylene	1.0	1.4J+		ug/L
				NAPHTHALENE	0.5	0.3J		ug/L
				O-XYLENE	0.5	1.8J+		ug/L
				TETRACHLOROETHENE	0.5	3.4J+		ug/L
				TOLUENE	0.5	0.4J		ug/L
524.2	MW-20A-1Q11	Water	N					
				1,2,4-TRIMETHYLBENZENE	1.0	2.9		ug/L
				1,3,5-TRIMETHYLBENZENE	1.0	0.8J		ug/L
				BENZENE	1.0	0.5J		ug/L
				CHLOROFORM	1.0	5.6		ug/L
				DICHLORODIFLUOROMETHANE	1.0	3.0		ug/L
				ETHYLBENZENE	1.0	1.9		ug/L
				m&p-Xylene	2.0	6.3		ug/L
				N-PROPYLBENZENE	1.0	0.6J		ug/L
				O-XYLENE	1.0	1.3		ug/L
				TETRACHLOROETHENE	10	260		ug/L
524.2	MW-20B-1Q11	Water	N					
				1,2,4-TRIMETHYLBENZENE	1.0	0.6J		ug/L
				BENZENE	1.0	0.6J		ug/L
				ETHYLBENZENE	1.0	1.7		ug/L
				m&p-Xylene	2.0	4.6		ug/L
				N-PROPYLBENZENE	1.0	0.5J		ug/L
				O-XYLENE	1.0	1.0		ug/L
				TETRACHLOROETHENE	10	100		ug/L
524.2	MW-20C-1Q11	Water	N					
				1,3,5-TRIMETHYLBENZENE	0.5	0.2J		ug/L
				BENZENE	0.5	0.2J		ug/L
				ETHYLBENZENE	0.5	0.2J		ug/L
				m&p-Xylene	1.0	0.7J		ug/L
				O-XYLENE	0.5	1.0		ug/L
				TOLUENE	0.5	0.2J		ug/L
524.2	MW-3A-1Q11	Water	N					
				CHLOROFORM	0.5	2.0		ug/L
				m&p-Xylene	1.0	0.6J		ug/L
				TETRACHLOROETHENE	2.5	39		ug/L

**Note: This report excludes laboratory detects that were qualified as ND due to Blank Contamination*

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Table 3: Detected Target Analytes

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Units
SDG: 11074A								
524.2	MW-402-1Q11	Water	FB					
				ACETONE	4.0	4.7		ug/L
				CHLOROFORM	0.5	0.7		ug/L
				TOLUENE	0.5	0.3J		ug/L
524.2	MW-4A-1Q11	Water	N					
				TETRACHLOROETHENE	50	860		ug/L
524.2	MW-4B-1Q11	Water	N					
				1,2,4-TRIMETHYLBENZENE	0.5	4.1		ug/L
				1,3,5-TRIMETHYLBENZENE	0.5	1.0		ug/L
				BENZENE	0.5	1.0		ug/L
				ETHYLBENZENE	0.5	3.1		ug/L
				ISOPROPYLBENZENE	0.5	0.2J		ug/L
				m&p-Xylene	1.0	9.1		ug/L
				NAPHTHALENE	0.5	0.4J		ug/L
				N-PROPYLBENZENE	0.5	0.8		ug/L
				O-XYLENE	0.5	2.0		ug/L
				TETRACHLOROETHENE	0.5	2.0		ug/L
				TOLUENE	0.5	0.7		ug/L
524.2	MW-4C-1Q11	Water	N					
				1,2,4-TRIMETHYLBENZENE	0.5	0.3J		ug/L
				1,3,5-TRIMETHYLBENZENE	0.5	0.5		ug/L
				BENZENE	0.5	0.7		ug/L
				ETHYLBENZENE	0.5	0.5		ug/L
				m&p-Xylene	1.0	1.7		ug/L
				NAPHTHALENE	0.5	0.3J		ug/L
				O-XYLENE	0.5	2.3		ug/L
				TOLUENE	0.5	0.5		ug/L
524.2	MW-5A-1Q11	Water	N					
				TETRACHLOROETHENE	5.0	110		ug/L
524.2	MW-80C-1Q11	Water	FD					
				1,3,5-TRIMETHYLBENZENE	0.5	0.2J		ug/L
				BENZENE	0.5	0.2J		ug/L
				ETHYLBENZENE	0.5	0.2J		ug/L
				m&p-Xylene	1.0	0.8J		ug/L
				O-XYLENE	0.5	1.1		ug/L
				TOLUENE	0.5	0.2J		ug/L
524.2	MW-8A-1Q11	Water	N					
				CHLOROFORM	0.5	2.1		ug/L
				TETRACHLOROETHENE	1.0	40		ug/L

**Note: This report excludes laboratory detects that were qualified as ND due to Blank Contamination*

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Table 3: Detected Target Analytes

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Units
SDG: 11074A								
524.2	MW-90B-1Q11	Water	FD					
				1,2,4-TRIMETHYLBENZENE	0.5	0.7		ug/L
				BENZENE	0.5	0.8		ug/L
				ETHYLBENZENE	0.5	0.8		ug/L
				m&p-Xylene	1.0	2.5		ug/L
				O-XYLENE	0.5	0.5		ug/L
				TETRACHLOROETHENE	0.5	16		ug/L
				TOLUENE	0.5	0.4J		ug/L
TO-15	DP-1A-1Q11	Air	N					
				TETRACHLOROETHENE	2.3	2.6		ppbv
TO-15	DP-1B-1Q11	Air	N					
				TETRACHLOROETHENE	2.3	9.8		ppbv
TO-15	DP-4A-1Q11	Air	N					
				CHLOROFORM	2.2	35		ppbv
				METHYLENE CHLORIDE	2.2	1.4J		ppbv
				TETRACHLOROETHENE	2.2	29		ppbv
TO-15	DP-4B-1Q11	Air	N					
				CHLOROFORM	2.1	1.5J		ppbv
				TETRACHLOROETHENE	2.1	3.7		ppbv
TO-15	DP-6A-1Q11	Air	N					
				TETRACHLOROETHENE	2.3	1.6J		ppbv
TO-15	OSVE-10-1Q11	Air	N					
				TETRACHLOROETHENE	3.9	3.2J		ppbv
TO-15	OSVE-11-1Q11	Air	N					
				TETRACHLOROETHENE	2.3	3.3		ppbv
TO-15	SVE-1-1Q11	Air	N					
				TETRACHLOROETHENE	2.3	4.4		ppbv
TO-15	SVE-2-1Q11	Air	N					
				1,2,4-TRICHLOROBENZENE	2.1	1.2J		ppbv
				1,2-DICHLOROBENZENE	2.1	26		ppbv
				1,3-DICHLOROBENZENE	2.1	1.1J		ppbv
				1,4-DICHLOROBENZENE	2.1	2.6		ppbv
				CIS-1,2-DICHLOROETHENE	2.1	1.2J		ppbv
				TETRACHLOROETHENE	21	210		ppbv
				TRICHLOROETHENE	2.1	1.2J		ppbv
TO-15	SVE-3-1Q11	Air	N					
				TETRACHLOROETHENE	23	91		ppbv

**Note: This report excludes laboratory detects that were qualified as ND due to Blank Contamination*

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Table 3: Detected Target Analytes

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Units
SDG: 11074A								
TO-15	SVE-4-1Q11	Air	N					
				1,2-DICHLOROBENZENE	2.1	22		ppbv
				1,3-DICHLOROBENZENE	2.1	1.6J		ppbv
				1,4-DICHLOROBENZENE	2.1	5.3		ppbv
				CHLOROFORM	2.1	29		ppbv
				METHYLENE CHLORIDE	2.1	1.2J		ppbv
				TETRACHLOROETHENE	2.1	26		ppbv
				TRICHLOROETHENE	2.1	1.6J		ppbv
TO-15	SVE-97-1Q11	Air	FD					
				TETRACHLOROETHENE	23	97		ppbv
SDG: 11074C								
TO-15	GWTP Pr GAC-0302	Air	N					
				CHLOROFORM	2.0	1.6J		ppbv
				TETRACHLOROETHENE	20	62J		ppbv
TO-15	GWTP Stack-0302	Air	N					
				1,2,4-TRIMETHYLBENZENE	2.3	15		ppbv
				1,3,5-TRIMETHYLBENZENE	2.3	4.2		ppbv
				CHLOROFORM	2.3	6.6		ppbv
				m&p-Xylene	4.6	9.3		ppbv
				O-XYLENE	2.3	4.4		ppbv
				TETRACHLOROETHENE	23	60		ppbv
				TOLUENE	2.3	5.6		ppbv
TO-15	SVE Pre GAC-0302	Air	N					
				CHLOROFORM	2.3	15		ppbv
				TETRACHLOROETHENE	23	140		ppbv
TO-15	SVE Stack-0302	Air	N					
				CHLOROFORM	2.2	12		ppbv

**Note: This report excludes laboratory detects that were qualified as ND due to Blank Contamination*

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Table 4

Overall Qualified Results

Table 4: Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 11014A										
TO-15	SVE Stack-0103	Air	N							
				TETRACHLOROETHENE	2.3	2.1J,C1		J	ppbv	Rl
SDG: 11014B										
524.2	CRB EFF-0103	Water	N							
				BROMOFORM	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
524.2	CRB INF-0103	Water	N							
				BROMOFORM	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
524.2	CRB Mid-0103	Water	N							
				BROMOFORM	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				TETRACHLOROETHENE	0.5	0.2J,C1		J	ug/L	Rl
524.2	EFF-0103	Water	N							
				BROMOFORM	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
524.2	EW-1-0103	Water	N							
				BROMOFORM	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				CHLOROFORM	0.5	3.5		U	ug/L	Tb
524.2	MW-301-1Q11	Water	TB							
				BROMOFORM	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
524.2	MW-401-1Q11	Water	FB							
				BROMOFORM	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				CHLOROFORM	0.5	1.0		U	ug/L	Tb

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Table 4: Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 11042D										
5210B	EFF-0202	Water	N							
				Biochemical Oxygen Demand	2.0	2.0J,<,Q2		J-	mg/L	Lcs
524.2	EFF-0202	Water	N							
				1,2-DIBROMO-3-CHLOROPROPANE	2.0	2.0J,U,C3		UJ	ug/L	IcRsd
				2,2-DICHLOROPROPANE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				ACETONE	4.0	4.0J,U,C3,		UJ	ug/L	IcRsd, Ccv
				BROMOFORM	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				TETRACHLOROETHENE	0.5	0.3J,C1		J	ug/L	Rl
524.2	EW-1-0202	Water	N							
				1,2-DIBROMO-3-CHLOROPROPANE	2.0	2.0J,U,C3		UJ	ug/L	IcRsd
				2,2-DICHLOROPROPANE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				ACETONE	4.0	4.0J,U,C3,		UJ	ug/L	IcRsd, Ccv
				BROMOFORM	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				CHLOROFORM	0.5	2.3		U	ug/L	Tb
524.2	MW-302-1Q11	Water	TB							
				1,2-DIBROMO-3-CHLOROPROPANE	2.0	2.0J,U,C3		UJ	ug/L	IcRsd
				2,2-DICHLOROPROPANE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				ACETONE	4.0	4.0J,U,C3,		UJ	ug/L	IcRsd, Ccv
				BROMOFORM	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				NAPHTHALENE	0.5	0.5J,U,Q6		UJ	ug/L	Ms

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Table 4: Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 11042E										
TO-15	GWTP Pr GAC-0202	Air	N							
				STYRENE	4.3	4.3J,U,C3,		UJ	ppbv	Lcs
				TETRACHLOROETHENE	22	280J,Q5		J	ppbv	Ld
TO-15	GWTP Stack-0202	Air	N							
				STYRENE	2.3	2.3J,U,C3,		UJ	ppbv	Lcs
TO-15	SVE Pre GAC-0202	Air	N							
				STYRENE	2.4	2.4J,U,C3,		UJ	ppbv	Lcs
TO-15	SVE Stack-0202	Air	N							
				STYRENE	2.3	2.3J,U,C3,		UJ	ppbv	Lcs

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Table 4: Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 11069A										
5210B	EFF-0302	Water	N							
				Biochemical Oxygen Demand	2.0	2.0J,<,Q2		J-	mg/L	Lcs
524.2	EFF-0302	Water	N							
				1,2-DIBROMO-3-CHLOROPROPANE	2.0	2.0J,U,C3		UJ	ug/L	IcRsd
				BROMOFORM	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				DIBROMOCHLOROMETHANE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				TETRACHLOROETHENE	0.5	0.2J,C1		J	ug/L	Rl
				TRANS-1,3-DICHLOROPROPENE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
524.2	EW-1-0302	Water	N							
				1,2-DIBROMO-3-CHLOROPROPANE	2.0	2.0J,U,C3		UJ	ug/L	IcRsd
				BROMOFORM	0.5	0.5J,U,C3,		UJ	ug/L	IcRsd
				CHLOROFORM	0.5	2.8		U	ug/L	Tb
				DIBROMOCHLOROMETHANE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				TRANS-1,3-DICHLOROPROPENE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
524.2	MW-107-0302	Water	FD							
				1,2-DIBROMO-3-CHLOROPROPANE	2.0	2.0J,U,C3		UJ	ug/L	IcRsd
				BROMOFORM	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				DIBROMOCHLOROMETHANE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				TETRACHLOROETHENE	0.5	0.2J,C1		J	ug/L	Rl
				TRANS-1,3-DICHLOROPROPENE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Table 4: Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 11069A										
524.2	MW-304-1Q11	Water	TB							
				1,2-DIBROMO-3-CHLOROPROPANE	2.0	2.0J,U,C3		UJ	ug/L	IcRsd
				BROMOFORM	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				DIBROMOCHLOROMETHANE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				TRANS-1,3-DICHLOROPROPENE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Table 4: Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 11069C										
524.2	MW-11A-1Q11	Water	N							
				1,2-DIBROMO-3-CHLOROPROPANE	2.0	2.0J,U,C3		UJ	ug/L	IcRsd
				BROMOFORM	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				DIBROMOCHLOROMETHANE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				TRANS-1,3-DICHLOROPROPENE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
524.2	MW-13A-1Q11	Water	N							
				1,2-DIBROMO-3-CHLOROPROPANE	2.0	2.0J,U,C3		UJ	ug/L	IcRsd
				BROMOFORM	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				DIBROMOCHLOROMETHANE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				TRANS-1,3-DICHLOROPROPENE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
524.2	MW-14A-1Q11	Water	N							
				1,2-DIBROMO-3-CHLOROPROPANE	2.0	2.0J,U,C3		UJ	ug/L	IcRsd
				BROMOFORM	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				CHLOROFORM	0.5	0.3J,C1		J	ug/L	RI
				DIBROMOCHLOROMETHANE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				TRANS-1,3-DICHLOROPROPENE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd

N = Normal Sample *TB = Trip Blank*
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Table 4: Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 11069C										
524.2	MW-15A-1Q11	Water	N							
				1,2-DIBROMO-3-CHLOROPROPANE	2.0	2.0J,U,C3		UJ	ug/L	IcRsd
				BROMOFORM	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				CHLOROFORM	0.5	0.3J,C1		J	ug/L	Rl
				DIBROMOCHLOROMETHANE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				TRANS-1,3-DICHLOROPROPENE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
524.2	MW-16A-1Q11	Water	N							
				1,2,4-TRIMETHYLBENZENE	0.5	0.4J,C1		J	ug/L	Rl
				1,2-DIBROMO-3-CHLOROPROPANE	2.0	2.0J,U,C3		UJ	ug/L	IcRsd
				BROMOFORM	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				DIBROMOCHLOROMETHANE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				NAPHTHALENE	0.5	0.3J,C1		J	ug/L	Rl
				TRANS-1,3-DICHLOROPROPENE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
524.2	MW-16B-1Q11	Water	N							
				1,2-DIBROMO-3-CHLOROPROPANE	2.0	2.0J,U,C3		UJ	ug/L	IcRsd
				1,3,5-TRIMETHYLBENZENE	0.5	0.3J,C1		J	ug/L	Rl
				BROMOFORM	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				CHLOROFORM	0.5	0.3J,C1		J	ug/L	Rl
				DIBROMOCHLOROMETHANE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				N-PROPYLBENZENE	0.5	0.2J,C1		J	ug/L	Rl
				TOLUENE	0.5	0.4J,C1		J	ug/L	Rl
				TRANS-1,3-DICHLOROPROPENE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd

N = Normal Sample *TB = Trip Blank*
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Table 4: Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 11069C										
524.2	MW-16C-1Q11	Water	N							
				1,2-DIBROMO-3-CHLOROPROPANE	2.0	2.0J,U,C3		UJ	ug/L	IcRsd
				1,3,5-TRIMETHYLBENZENE	0.5	0.2J,C1		J	ug/L	Rl
				BENZENE	0.5	0.4J,C1		J	ug/L	Rl
				BROMOFORM	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				DIBROMOCHLOROMETHANE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				ETHYLBENZENE	0.5	0.2J,C1		J	ug/L	Rl
				m&p-Xylene	1.0	0.8J,C1		J	ug/L	Rl
				TOLUENE	0.5	0.3J,C1		J	ug/L	Rl
				TRANS-1,3-DICHLOROPROPENE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
524.2	MW-19A-1Q11	Water	N							
				1,2,4-TRIMETHYLBENZENE	0.5	0.3J,C1		J	ug/L	Rl
				1,2-DIBROMO-3-CHLOROPROPANE	2.0	2.0J,U,C3		UJ	ug/L	IcRsd
				1,3,5-TRIMETHYLBENZENE	0.5	0.4J,C1		J	ug/L	Rl
				BROMOFORM	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				DIBROMOCHLOROMETHANE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				NAPHTHALENE	0.5	0.3J,C1		J	ug/L	Rl
				TETRACHLOROETHENE	0.5	0.2J,C1		J	ug/L	Rl
				TRANS-1,3-DICHLOROPROPENE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Table 4: Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 11069C										
524.2	MW-19B-1Q11	Water	N							
				1,2,4-TRIMETHYLBENZENE	0.5	0.2J,C1		J	ug/L	Rl
				1,2-DIBROMO-3-CHLOROPROPANE	2.0	2.0J,U,C3		UJ	ug/L	IcRsd
				1,3,5-TRIMETHYLBENZENE	0.5	0.3J,C1		J	ug/L	Rl
				BROMOFORM	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				DIBROMOCHLOROMETHANE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				ETHYLBENZENE	0.5	0.3J,C1		J	ug/L	Rl
				TETRACHLOROETHENE	0.5	0.3J,C1		J	ug/L	Rl
				TOLUENE	0.5	0.3J,C1		J	ug/L	Rl
				TRANS-1,3-DICHLOROPROPENE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
524.2	MW-1A-1Q11	Water	N							
				1,2-DIBROMO-3-CHLOROPROPANE	2.0	2.0J,U,C3		UJ	ug/L	IcRsd
				BROMOFORM	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				CHLOROFORM	0.5	0.2J,C1		J	ug/L	Rl
				DIBROMOCHLOROMETHANE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				TRANS-1,3-DICHLOROPROPENE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
524.2	MW-2A-1Q11	Water	N							
				1,2-DIBROMO-3-CHLOROPROPANE	2.0	2.0J,U,C3		UJ	ug/L	IcRsd
				BROMOFORM	0.5	0.5J,U,C3,		UJ	ug/L	IcRsd
				DIBROMOCHLOROMETHANE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				TRANS-1,3-DICHLOROPROPENE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Table 4: Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 11069C										
524.2	MW-303-1Q11	Water	N							
				1,2-DIBROMO-3-CHLOROPROPANE	2.0	2.0J,U,C3		UJ	ug/L	IcRsd
				BROMOFORM	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				DIBROMOCHLOROMETHANE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				TRANS-1,3-DICHLOROPROPENE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
524.2	MW-6A-1Q11	Water	N							
				1,2-DIBROMO-3-CHLOROPROPANE	2.0	2.0J,U,C3		UJ	ug/L	IcRsd
				BROMODICHLOROMETHANE	0.5	0.3J,C1		J	ug/L	RI
				BROMOFORM	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				DIBROMOCHLOROMETHANE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				TRANS-1,3-DICHLOROPROPENE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
524.2	MW-7A-1Q11	Water	N							
				1,2-DIBROMO-3-CHLOROPROPANE	2.0	2.0J,U,C3		UJ	ug/L	IcRsd
				BROMOFORM	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				DIBROMOCHLOROMETHANE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				TRANS-1,3-DICHLOROPROPENE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
524.2	MW-98A-1Q11	Water	N							
				1,2-DIBROMO-3-CHLOROPROPANE	2.0	2.0J,U,C3		UJ	ug/L	IcRsd
				BROMOFORM	0.5	0.5J,U,C3,		UJ	ug/L	IcRsd
				DIBROMOCHLOROMETHANE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				TRANS-1,3-DICHLOROPROPENE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Table 4: Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 11069C										
524.2	MW-9B-1Q11	Water	N							
				1,2-DIBROMO-3-CHLOROPROPANE	2.0	2.0J,U,C 3		UJ	ug/L	IcRsd
				BROMOFORM	0.5	0.5J,U,C 3		UJ	ug/L	IcRsd
				DIBROMOCHLOROMETHANE	0.5	0.5J,U,C 3		UJ	ug/L	IcRsd
				TRANS-1,3-DICHLOROPROPENE	0.5	0.5J,U,C 3		UJ	ug/L	IcRsd

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Table 4: Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 11074A										
524.2	MW-10A-1Q11	Water	N							
				1,2-DIBROMO-3-CHLOROPROPANE	2.0	2.0J,U,C3		UJ	ug/L	IcRsd
				BROMOFORM	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				DIBROMOCHLOROMETHANE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				TRANS-1,3-DICHLOROPROPENE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				TRICHLOROETHENE	0.5	0.2J,C1		J	ug/L	Rl
524.2	MW-10B-1Q11	Water	N							
				1,2-DIBROMO-3-CHLOROPROPANE	2.0	2.0J,U,C3		UJ	ug/L	IcRsd
				BROMOFORM	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				DIBROMOCHLOROMETHANE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				TOLUENE	0.5	0.4J,C1		J	ug/L	Rl
				TRANS-1,3-DICHLOROPROPENE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
524.2	MW-10C-1Q11	Water	N							
				1,2,4-TRIMETHYLBENZENE	0.5	0.3J,C1		J	ug/L	Rl
				1,2-DIBROMO-3-CHLOROPROPANE	2.0	2.0J,U,C3		UJ	ug/L	IcRsd
				1,3,5-TRIMETHYLBENZENE	0.5	0.4J,C1		J	ug/L	Rl
				BROMOFORM	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				DIBROMOCHLOROMETHANE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				ETHYLBENZENE	0.5	0.4J,C1		J	ug/L	Rl
				NAPHTHALENE	0.5	0.2J,C1		J	ug/L	Rl
				TOLUENE	0.5	0.4J,C1		UJ	ug/L	Fb, Rl
				TRANS-1,3-DICHLOROPROPENE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Table 4: Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 11074A										
524.2	MW-12A-1Q11	Water	N							
				1,2-DIBROMO-3-CHLOROPROPANE	2.0	2.0J,U,C3		UJ	ug/L	IcRsd
				BROMODICHLOROMETHANE	0.5	0.2J,C1		J	ug/L	RI
				BROMOFORM	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				DIBROMOCHLOROMETHANE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				TRANS-1,3-DICHLOROPROPENE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				TRICHLOROFLUOROMETHANE	0.5	0.4J,C1		J	ug/L	RI
524.2	MW-17A-1Q11	Water	N							
				1,2-DIBROMO-3-CHLOROPROPANE	2.0	2.0J,U,C3		UJ	ug/L	IcRsd
				BENZENE	0.5	0.3J,C1		J	ug/L	RI
				BROMOFORM	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				DIBROMOCHLOROMETHANE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				ETHYLBENZENE	0.5	0.2J,C1		J	ug/L	RI
				m&p-Xylene	1.0	0.8J,C1		J	ug/L	RI
				TOLUENE	0.5	0.2J,C1		J	ug/L	RI
				TRANS-1,3-DICHLOROPROPENE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
524.2	MW-17B-1Q11	Water	N							
				1,2-DIBROMO-3-CHLOROPROPANE	2.0	2.0J,U,C3		UJ	ug/L	IcRsd
				1,3,5-TRIMETHYLBENZENE	0.5	0.2J,C1		J	ug/L	RI
				BROMOFORM	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				CHLOROFORM	0.5	0.2J,C1		J	ug/L	RI
				DIBROMOCHLOROMETHANE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				TOLUENE	0.5	0.3J,C1		J	ug/L	RI
				TRANS-1,3-DICHLOROPROPENE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Table 4: Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 11074A										
524.2	MW-17C-1Q11	Water	N							
				1,2-DIBROMO-3-CHLOROPROPANE	2.0	2.0J,U,C3		UJ	ug/L	IcRsd
				BENZENE	0.5	0.2J,C1		J	ug/L	Rl
				BROMOFORM	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				DIBROMOCHLOROMETHANE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				TRANS-1,3-DICHLOROPROPENE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
524.2	MW-18A-1Q11	Water	N							
				1,2,4-TRIMETHYLBENZENE	0.5	0.3J,C1		J	ug/L	Surr, Rl
				1,2-DIBROMO-3-CHLOROPROPANE	2.0	2.0J,U,C3		UJ	ug/L	IcRsd
				1,3,5-TRIMETHYLBENZENE	0.5	0.4J,C1		J	ug/L	Surr, Rl
				BENZENE	0.5	0.5		J+	ug/L	Surr
				BROMOFORM	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				CHLOROFORM	0.5	3.2		J+	ug/L	Surr
				DIBROMOCHLOROMETHANE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				ETHYLBENZENE	0.5	0.4J,C1		J	ug/L	Surr, Rl
				m&p-Xylene	1.0	1.4		J+	ug/L	Surr
				NAPHTHALENE	0.5	0.3J,C1		J	ug/L	Surr, Rl
				O-XYLENE	0.5	1.8		J+	ug/L	Surr
				TETRACHLOROETHENE	0.5	3.4		J+	ug/L	Surr
				TOLUENE	0.5	0.4J,C1		J	ug/L	Surr, Rl
				TRANS-1,3-DICHLOROPROPENE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Table 4: Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 11074A										
524.2	MW-20A-1Q11	Water	N							
				1,2-DIBROMO-3-CHLOROPROPANE	4.0	4.0J,U,C3		UJ	ug/L	IcRsd
				1,3,5-TRIMETHYLBENZENE	1.0	0.8J,C1		J	ug/L	Rl
				BENZENE	1.0	0.5J,C1		J	ug/L	Rl
				BROMOFORM	1.0	1.0J,U,C3		UJ	ug/L	IcRsd
				DIBROMOCHLOROMETHANE	1.0	1.0J,U,C3		UJ	ug/L	IcRsd
				N-PROPYLBENZENE	1.0	0.6J,C1		J	ug/L	Rl
				TRANS-1,3-DICHLOROPROPENE	1.0	1.0J,U,C3		UJ	ug/L	IcRsd
524.2	MW-20B-1Q11	Water	N							
				1,2,4-TRIMETHYLBENZENE	1.0	0.6J,C1		J	ug/L	Rl
				1,2-DIBROMO-3-CHLOROPROPANE	4.0	4.0J,U,C3		UJ	ug/L	IcRsd
				BENZENE	1.0	0.6J,C1		J	ug/L	Rl
				BROMOFORM	1.0	1.0J,U,C3		UJ	ug/L	IcRsd
				DIBROMOCHLOROMETHANE	1.0	1.0J,U,C3		UJ	ug/L	IcRsd
				N-PROPYLBENZENE	1.0	0.5J,C1		J	ug/L	Rl
				TRANS-1,3-DICHLOROPROPENE	1.0	1.0J,U,C3		UJ	ug/L	IcRsd
524.2	MW-20C-1Q11	Water	N							
				1,2-DIBROMO-3-CHLOROPROPANE	2.0	2.0J,U,C3		UJ	ug/L	IcRsd
				1,3,5-TRIMETHYLBENZENE	0.5	0.2J,C1		J	ug/L	Rl
				BENZENE	0.5	0.2J,C1		J	ug/L	Rl
				BROMOFORM	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				DIBROMOCHLOROMETHANE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				ETHYLBENZENE	0.5	0.2J,C1		J	ug/L	Rl
				m&p-Xylene	1.0	0.7J,C1		J	ug/L	Rl
				TOLUENE	0.5	0.2J,C1		J	ug/L	Rl

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Table 4: Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 11074A										
524.2	MW-3A-1Q11	Water	N							
				1,2-DIBROMO-3-CHLOROPROPANE	2.0	2.0J,U,C3		UJ	ug/L	IcRsd
				BROMOFORM	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				DIBROMOCHLOROMETHANE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				m&p-Xylene	1.0	0.6J,C1		J	ug/L	RI
				TRANS-1,3-DICHLOROPROPENE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
524.2	MW-402-1Q11	Water	FB							
				BROMOFORM	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				DIBROMOCHLOROMETHANE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				TOLUENE	0.5	0.3J,C1		J	ug/L	RI
				TRANS-1,3-DICHLOROPROPENE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
524.2	MW-4A-1Q11	Water	N							
				1,2-DIBROMO-3-CHLOROPROPANE	20	20J,U,C3		UJ	ug/L	IcRsd
				BROMOFORM	5.0	5.0J,U,C3		UJ	ug/L	IcRsd
				DIBROMOCHLOROMETHANE	5.0	5.0J,U,C3		UJ	ug/L	IcRsd
				TRANS-1,3-DICHLOROPROPENE	5.0	5.0J,U,C3		UJ	ug/L	IcRsd

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Table 4: Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 11074A										
524.2	MW-4B-1Q11	Water	N							
				1,2-DIBROMO-3-CHLOROPROPANE	2.0	2.0J,U,C3		UJ	ug/L	IcRsd
				BROMOFORM	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				DIBROMOCHLOROMETHANE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				ISOPROPYLBENZENE	0.5	0.2J,C1		J	ug/L	Rl
				NAPHTHALENE	0.5	0.4J,C1		J	ug/L	Rl
				TRANS-1,3-DICHLOROPROPENE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
524.2	MW-4C-1Q11	Water	N							
				1,2,4-TRIMETHYLBENZENE	0.5	0.3J,C1		J	ug/L	Rl
				1,2-DIBROMO-3-CHLOROPROPANE	2.0	2.0J,U,C3		UJ	ug/L	IcRsd
				BROMOFORM	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				DIBROMOCHLOROMETHANE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				NAPHTHALENE	0.5	0.3J,C1		J	ug/L	Rl
				TRANS-1,3-DICHLOROPROPENE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
524.2	MW-5A-1Q11	Water	N							
				1,2-DIBROMO-3-CHLOROPROPANE	2.0	2.0J,U,C3		UJ	ug/L	IcRsd
				BROMOFORM	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				DIBROMOCHLOROMETHANE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				TRANS-1,3-DICHLOROPROPENE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Table 4: Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 11074A										
524.2	MW-80C-1Q11	Water	FD							
				1,2-DIBROMO-3-CHLOROPROPANE	2.0	2.0J,U,C3		UJ	ug/L	IcRsd
				1,3,5-TRIMETHYLBENZENE	0.5	0.2J,C1		J	ug/L	Rl
				BENZENE	0.5	0.2J,C1		J	ug/L	Rl
				BROMOFORM	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				DIBROMOCHLOROMETHANE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				ETHYLBENZENE	0.5	0.2J,C1		J	ug/L	Rl
				m&p-Xylene	1.0	0.8J,C1		J	ug/L	Rl
				TOLUENE	0.5	0.2J,C1		J	ug/L	Rl
				TRANS-1,3-DICHLOROPROPENE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
524.2	MW-8A-1Q11	Water	N							
				1,2-DIBROMO-3-CHLOROPROPANE	2.0	2.0J,U,C3		UJ	ug/L	IcRsd
				BROMOFORM	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				DIBROMOCHLOROMETHANE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				TRANS-1,3-DICHLOROPROPENE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
524.2	MW-90B-1Q11	Water	FD							
				1,2-DIBROMO-3-CHLOROPROPANE	2.0	2.0J,U,C3		UJ	ug/L	IcRsd
				BROMOFORM	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				DIBROMOCHLOROMETHANE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
				TOLUENE	0.5	0.4J,C1		J	ug/L	Rl
				TRANS-1,3-DICHLOROPROPENE	0.5	0.5J,U,C3		UJ	ug/L	IcRsd
TO-15	DP-1A-1Q11	Air	N							
				STYRENE	2.3	2.3J,U,C3,		UJ	ppbv	Lcs

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Table 4: Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 11074A										
TO-15	DP-1B-1Q11	Air	N							
				STYRENE	2.3	2.3J,U,C3,		UJ	ppbv	Lcs
TO-15	DP-4A-1Q11	Air	N							
				METHYLENE CHLORIDE	2.2	1.4J,C1		J	ppbv	Rl
				STYRENE	2.2	2.2J,U,C3,		UJ	ppbv	Lcs
TO-15	DP-4B-1Q11	Air	N							
				CHLOROFORM	2.1	1.5J,C1		J	ppbv	Rl
				STYRENE	2.1	2.1J,U,C3,		UJ	ppbv	Lcs
TO-15	DP-6A-1Q11	Air	N							
				STYRENE	2.3	2.3J,U,C3,		UJ	ppbv	Lcs
				TETRACHLOROETHENE	2.3	1.6J,C1		J	ppbv	Rl
TO-15	DP-6B-1Q11	Air	N							
				STYRENE	2.3	2.3J,U,C3,		UJ	ppbv	Lcs
TO-15	OSVE-10-1Q11	Air	N							
				STYRENE	3.9	3.9J,U,C3,		UJ	ppbv	Lcs
				TETRACHLOROETHENE	3.9	3.2J,C1		J	ppbv	Rl
TO-15	OSVE-11-1Q11	Air	N							
				STYRENE	2.3	2.3J,U,C3,		UJ	ppbv	Lcs
TO-15	SVE-1-1Q11	Air	N							
				STYRENE	2.3	2.3J,U,C3,		UJ	ppbv	Lcs

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Table 4: Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 11074A										
TO-15	SVE-2-1Q11	Air	N							
				1,2,4-TRICHLOROBENZENE	2.1	1.2J,C1		J	ppbv	Rl
				1,3-DICHLOROBENZENE	2.1	1.1J,C1		J	ppbv	Rl
				CIS-1,2-DICHLOROETHENE	2.1	1.2J,C1		J	ppbv	Rl
				STYRENE	2.1	2.1J,U,C3,		UJ	ppbv	Lcs
				TRICHLOROETHENE	2.1	1.2J,C1		J	ppbv	Rl
TO-15	SVE-3-1Q11	Air	N							
				STYRENE	2.3	2.3J,U,C3,		UJ	ppbv	Lcs
TO-15	SVE-4-1Q11	Air	N							
				1,3-DICHLOROBENZENE	2.1	1.6J,C1		J	ppbv	Rl
				METHYLENE CHLORIDE	2.1	1.2J,C1		J	ppbv	Rl
				STYRENE	2.1	2.1J,U,C3,		UJ	ppbv	Lcs
				TRICHLOROETHENE	2.1	1.6J,C1		J	ppbv	Rl
TO-15	SVE-97-1Q11	Air	FD							
				STYRENE	2.3	2.3J,U,C3,		UJ	ppbv	Lcs

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Table 4: Overall Qualified Results

Analytical Method	Field Sample ID	Matrix	Sample Type	Analyte	RL	Lab Result	Unc / Error	Overall Qualifier	Units	Reason Code
SDG: 11074C										
TO-15	GWTP Pr GAC-0302	Air	N							
				CHLOROFORM	2.0	1.6J,C1		J	ppbv	Rl
				STYRENE	2.0	2.0J,U,C3,		UJ	ppbv	Lcs
				TETRACHLOROETHENE	20	62J,Q5		J	ppbv	Ld
TO-15	GWTP Stack-0302	Air	N							
				STYRENE	2.3	2.3J,U,C3,		UJ	ppbv	Lcs
TO-15	SVE Pre GAC-0302	Air	N							
				STYRENE	2.3	2.3J,U,C3,		UJ	ppbv	Lcs
TO-15	SVE Stack-0302	Air	N							
				STYRENE	2.2	2.2J,U,C3,		UJ	ppbv	Lcs

N = Normal Sample *TB = Trip Blank*
FD = Field Duplicate *FB = Field Blank*

Table 5

Analytical Completeness

Analytical Completeness Report

Project No. / Name : *R11S34 / Modesto GW Treatment System Winter 2011 Sampling ; R11S50 / Modesto Groundwater March 2011 Qtrly Monitoring*

Analytical Method	Total Number of Analytes	Number of Qualified	Percent Completeness
2540C	3	0	100.0
2540D	3	0	100.0
5210B	3	2	33.3
524.2	3150	260	91.7
TO-15	937	36	96.2
Total	***4096***	***298***	***92.7***

Note:

$$\text{Percent Completeness} = \frac{\text{Number of Unqualified Results}}{\text{Number of Reported Results}} * 100\ \%$$

Table 6

Contract Compliance Completeness

Contract Compliance Completeness Report

Project No. / Name : *R11S34 / Modesto GW Treatment System Winter 2011 Sampling ; R11S50 / Modesto Groundwater March 2011 Qtrly Monitoring*

Analytical Method	Total Number of Analytes	Number of Qualified	Percent Completeness
2540C	3	0	100.0
2540D	3	0	100.0
5210B	3	2	33.3
524.2	3150	249	92.1
TO-15	937	34	96.4
Total	***4096***	***285***	***93.0***

Table 7

Technical Completeness

Technical Completeness Report

Project No. / Name : *R11S34 / Modesto GW Treatment System Winter 2011 Sampling ; R11S50 / Modesto Groundwater March 2011 Qtrly Monitoring*

Analytical Method	Total Number of Analytes	Number of Rejects	Percent Completeness
2540C	3	0	100.0
2540D	3	0	100.0
5210B	3	0	100.0
524.2	3150	0	100.0
TO-15	937	0	100.0
Total	***4096***	***0***	***100.0***

Note:

$$\text{Percent Completeness} = \frac{\text{Number of Useable Results}}{\text{Number of Reported Results}} * 100\ \%$$

[Useable results are qualified but not Rejected data]

Table 8

Reasons for Qualified Results

URS, Inc.

Reason for Qualified Results

SDG Nos. : 11014A,11014B,11042D,11042E,11069A,11069C,11074A,11074C

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
11014B	CRB EFF-0103	524.2	75-25-2		J	BROMOFORM	Initial calibration %RSD
11014B	CRB INF-0103	524.2	75-25-2		J	BROMOFORM	Initial calibration %RSD
11014B	CRB Mid-0103	524.2	75-25-2		J	BROMOFORM	Initial calibration %RSD
11014B	EFF-0103	524.2	75-25-2		J	BROMOFORM	Initial calibration %RSD
11014B	EW-1-0103	524.2	75-25-2		J	BROMOFORM	Initial calibration %RSD
11014B	EW-1-0103	524.2	67-66-3	U		CHLOROFORM	Present in trip blank
11014B	MW-301-1Q11	524.2	75-25-2		J	BROMOFORM	Initial calibration %RSD
11014B	MW-401-1Q11	524.2	75-25-2		J	BROMOFORM	Initial calibration %RSD
11014B	MW-401-1Q11	524.2	67-66-3	U		CHLOROFORM	Present in trip blank
11042D	EFF-0202	5210B	BOD	J-		Biochemical Oxygen Demand	LCS spike recovery
11042D	EFF-0202	524.2	96-12-8		J	1,2-DIBROMO-3-CHLOROPROPANE	Initial calibration %RSD
11042D	EFF-0202	524.2	594-20-7		J	2,2-DICHLOROPROPANE	Initial calibration %RSD
11042D	EFF-0202	524.2	67-64-1		J	ACETONE	Continuing calibration percent difference
11042D	EFF-0202	524.2	67-64-1		J	ACETONE	Initial calibration %RSD
11042D	EFF-0202	524.2	75-25-2		J	BROMOFORM	Initial calibration %RSD
11042D	EW-1-0202	524.2	96-12-8		J	1,2-DIBROMO-3-CHLOROPROPANE	Initial calibration %RSD
11042D	EW-1-0202	524.2	594-20-7		J	2,2-DICHLOROPROPANE	Initial calibration %RSD
11042D	EW-1-0202	524.2	67-64-1		J	ACETONE	Continuing calibration percent difference
11042D	EW-1-0202	524.2	67-64-1		J	ACETONE	Initial calibration %RSD
11042D	EW-1-0202	524.2	75-25-2		J	BROMOFORM	Initial calibration %RSD
11042D	EW-1-0202	524.2	67-66-3	U		CHLOROFORM	Present in trip blank
11042D	MW-302-1Q11	524.2	96-12-8		J	1,2-DIBROMO-3-CHLOROPROPANE	Initial calibration %RSD
11042D	MW-302-1Q11	524.2	594-20-7		J	2,2-DICHLOROPROPANE	Initial calibration %RSD
11042D	MW-302-1Q11	524.2	67-64-1		J	ACETONE	Continuing calibration percent difference
11042D	MW-302-1Q11	524.2	67-64-1		J	ACETONE	Initial calibration %RSD
11042D	MW-302-1Q11	524.2	75-25-2		J	BROMOFORM	Initial calibration %RSD
11042D	MW-302-1Q11	524.2	91-20-3		J	NAPHTHALENE	Matrix spike RPD
11042E	GWTP Pr GAC-0202	TO-15	100-42-5		J	STYRENE	LCS spike recovery
11042E	GWTP Pr GAC-0202	TO-15	127-18-4	J		TETRACHLOROETHENE	Lab Duplicate RPD
11042E	GWTP Pr GAC-0202DUP	TO-15	127-18-4	J		TETRACHLOROETHENE	Lab Duplicate RPD

URS, Inc.

Reason for Qualified Results

SDG Nos. : 11014A,11014B,11042D,11042E,11069A,11069C,11074A,11074C

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
11042E	GWTP Stack-0202	TO-15	100-42-5		J	STYRENE	LCS spike recovery
11042E	SVE Pre GAC-0202	TO-15	100-42-5		J	STYRENE	LCS spike recovery
11042E	SVE Stack-0202	TO-15	100-42-5		J	STYRENE	LCS spike recovery
11069A	EFF-0302	5210B	BOD	J-		Biochemical Oxygen Demand	LCS spike recovery
11069A	EFF-0302	524.2	96-12-8		J	1,2-DIBROMO-3-CHLOROPROPANE	Initial calibration %RSD
11069A	EFF-0302	524.2	75-25-2		J	BROMOFORM	Initial calibration %RSD
11069A	EFF-0302	524.2	124-48-1		J	DIBROMOCHLOROMETHANE	Initial calibration %RSD
11069A	EFF-0302	524.2	10061-02-6		J	TRANS-1,3-DICHLOROPROPENE	Initial calibration %RSD
11069A	EW-1-0302	524.2	96-12-8		J	1,2-DIBROMO-3-CHLOROPROPANE	Initial calibration %RSD
11069A	EW-1-0302	524.2	75-25-2		J	BROMOFORM	Initial calibration %RSD
11069A	EW-1-0302	524.2	67-66-3	U		CHLOROFORM	Present in trip blank
11069A	EW-1-0302	524.2	124-48-1		J	DIBROMOCHLOROMETHANE	Initial calibration %RSD
11069A	EW-1-0302	524.2	10061-02-6		J	TRANS-1,3-DICHLOROPROPENE	Initial calibration %RSD
11069A	MW-107-0302	524.2	96-12-8		J	1,2-DIBROMO-3-CHLOROPROPANE	Initial calibration %RSD
11069A	MW-107-0302	524.2	75-25-2		J	BROMOFORM	Initial calibration %RSD
11069A	MW-107-0302	524.2	124-48-1		J	DIBROMOCHLOROMETHANE	Initial calibration %RSD
11069A	MW-107-0302	524.2	10061-02-6		J	TRANS-1,3-DICHLOROPROPENE	Initial calibration %RSD
11069A	MW-304-1Q11	524.2	96-12-8		J	1,2-DIBROMO-3-CHLOROPROPANE	Initial calibration %RSD
11069A	MW-304-1Q11	524.2	75-25-2		J	BROMOFORM	Initial calibration %RSD
11069A	MW-304-1Q11	524.2	124-48-1		J	DIBROMOCHLOROMETHANE	Initial calibration %RSD
11069A	MW-304-1Q11	524.2	10061-02-6		J	TRANS-1,3-DICHLOROPROPENE	Initial calibration %RSD
11069C	MW-11A-1Q11	524.2	96-12-8		J	1,2-DIBROMO-3-CHLOROPROPANE	Initial calibration %RSD
11069C	MW-11A-1Q11	524.2	75-25-2		J	BROMOFORM	Initial calibration %RSD
11069C	MW-11A-1Q11	524.2	124-48-1		J	DIBROMOCHLOROMETHANE	Initial calibration %RSD
11069C	MW-11A-1Q11	524.2	10061-02-6		J	TRANS-1,3-DICHLOROPROPENE	Initial calibration %RSD
11069C	MW-13A-1Q11	524.2	96-12-8		J	1,2-DIBROMO-3-CHLOROPROPANE	Initial calibration %RSD
11069C	MW-13A-1Q11	524.2	75-25-2		J	BROMOFORM	Initial calibration %RSD
11069C	MW-13A-1Q11	524.2	124-48-1		J	DIBROMOCHLOROMETHANE	Initial calibration %RSD
11069C	MW-13A-1Q11	524.2	10061-02-6		J	TRANS-1,3-DICHLOROPROPENE	Initial calibration %RSD
11069C	MW-14A-1Q11	524.2	96-12-8		J	1,2-DIBROMO-3-CHLOROPROPANE	Initial calibration %RSD

URS, Inc.

Reason for Qualified Results

SDG Nos. : 11014A,11014B,11042D,11042E,11069A,11069C,11074A,11074C

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
11069C	MW-14A-1Q11	524.2	75-25-2		J	BROMOFORM	Initial calibration %RSD
11069C	MW-14A-1Q11	524.2	124-48-1		J	DIBROMOCHLOROMETHANE	Initial calibration %RSD
11069C	MW-14A-1Q11	524.2	10061-02-6		J	TRANS-1,3-DICHLOROPROPENE	Initial calibration %RSD
11069C	MW-15A-1Q11	524.2	96-12-8		J	1,2-DIBROMO-3-CHLOROPROPANE	Initial calibration %RSD
11069C	MW-15A-1Q11	524.2	75-25-2		J	BROMOFORM	Initial calibration %RSD
11069C	MW-15A-1Q11	524.2	124-48-1		J	DIBROMOCHLOROMETHANE	Initial calibration %RSD
11069C	MW-15A-1Q11	524.2	10061-02-6		J	TRANS-1,3-DICHLOROPROPENE	Initial calibration %RSD
11069C	MW-16A-1Q11	524.2	96-12-8		J	1,2-DIBROMO-3-CHLOROPROPANE	Initial calibration %RSD
11069C	MW-16A-1Q11	524.2	75-25-2		J	BROMOFORM	Initial calibration %RSD
11069C	MW-16A-1Q11	524.2	124-48-1		J	DIBROMOCHLOROMETHANE	Initial calibration %RSD
11069C	MW-16A-1Q11	524.2	10061-02-6		J	TRANS-1,3-DICHLOROPROPENE	Initial calibration %RSD
11069C	MW-16B-1Q11	524.2	96-12-8		J	1,2-DIBROMO-3-CHLOROPROPANE	Initial calibration %RSD
11069C	MW-16B-1Q11	524.2	75-25-2		J	BROMOFORM	Initial calibration %RSD
11069C	MW-16B-1Q11	524.2	124-48-1		J	DIBROMOCHLOROMETHANE	Initial calibration %RSD
11069C	MW-16B-1Q11	524.2	10061-02-6		J	TRANS-1,3-DICHLOROPROPENE	Initial calibration %RSD
11069C	MW-16C-1Q11	524.2	96-12-8		J	1,2-DIBROMO-3-CHLOROPROPANE	Initial calibration %RSD
11069C	MW-16C-1Q11	524.2	75-25-2		J	BROMOFORM	Initial calibration %RSD
11069C	MW-16C-1Q11	524.2	124-48-1		J	DIBROMOCHLOROMETHANE	Initial calibration %RSD
11069C	MW-16C-1Q11	524.2	10061-02-6		J	TRANS-1,3-DICHLOROPROPENE	Initial calibration %RSD
11069C	MW-19A-1Q11	524.2	96-12-8		J	1,2-DIBROMO-3-CHLOROPROPANE	Initial calibration %RSD
11069C	MW-19A-1Q11	524.2	75-25-2		J	BROMOFORM	Initial calibration %RSD
11069C	MW-19A-1Q11	524.2	124-48-1		J	DIBROMOCHLOROMETHANE	Initial calibration %RSD
11069C	MW-19A-1Q11	524.2	10061-02-6		J	TRANS-1,3-DICHLOROPROPENE	Initial calibration %RSD
11069C	MW-19B-1Q11	524.2	96-12-8		J	1,2-DIBROMO-3-CHLOROPROPANE	Initial calibration %RSD
11069C	MW-19B-1Q11	524.2	75-25-2		J	BROMOFORM	Initial calibration %RSD
11069C	MW-19B-1Q11	524.2	124-48-1		J	DIBROMOCHLOROMETHANE	Initial calibration %RSD
11069C	MW-19B-1Q11	524.2	10061-02-6		J	TRANS-1,3-DICHLOROPROPENE	Initial calibration %RSD
11069C	MW-1A-1Q11	524.2	96-12-8		J	1,2-DIBROMO-3-CHLOROPROPANE	Initial calibration %RSD
11069C	MW-1A-1Q11	524.2	75-25-2		J	BROMOFORM	Initial calibration %RSD
11069C	MW-1A-1Q11	524.2	124-48-1		J	DIBROMOCHLOROMETHANE	Initial calibration %RSD

URS, Inc.

Reason for Qualified Results

SDG Nos. : 11014A,11014B,11042D,11042E,11069A,11069C,11074A,11074C

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
11069C	MW-1A-1Q11	524.2	10061-02-6		J	TRANS-1,3-DICHLOROPROPENE	Initial calibration %RSD
11069C	MW-2A-1Q11	524.2	96-12-8		J	1,2-DIBROMO-3-CHLOROPROPANE	Initial calibration %RSD
11069C	MW-2A-1Q11	524.2	75-25-2		J	BROMOFORM	Initial calibration %RSD
11069C	MW-2A-1Q11	524.2	124-48-1		J	DIBROMOCHLOROMETHANE	Initial calibration %RSD
11069C	MW-2A-1Q11	524.2	10061-02-6		J	TRANS-1,3-DICHLOROPROPENE	Initial calibration %RSD
11069C	MW-303-1Q11	524.2	96-12-8		J	1,2-DIBROMO-3-CHLOROPROPANE	Initial calibration %RSD
11069C	MW-303-1Q11	524.2	75-25-2		J	BROMOFORM	Initial calibration %RSD
11069C	MW-303-1Q11	524.2	124-48-1		J	DIBROMOCHLOROMETHANE	Initial calibration %RSD
11069C	MW-303-1Q11	524.2	10061-02-6		J	TRANS-1,3-DICHLOROPROPENE	Initial calibration %RSD
11069C	MW-6A-1Q11	524.2	96-12-8		J	1,2-DIBROMO-3-CHLOROPROPANE	Initial calibration %RSD
11069C	MW-6A-1Q11	524.2	75-25-2		J	BROMOFORM	Initial calibration %RSD
11069C	MW-6A-1Q11	524.2	124-48-1		J	DIBROMOCHLOROMETHANE	Initial calibration %RSD
11069C	MW-6A-1Q11	524.2	10061-02-6		J	TRANS-1,3-DICHLOROPROPENE	Initial calibration %RSD
11069C	MW-7A-1Q11	524.2	96-12-8		J	1,2-DIBROMO-3-CHLOROPROPANE	Initial calibration %RSD
11069C	MW-7A-1Q11	524.2	75-25-2		J	BROMOFORM	Initial calibration %RSD
11069C	MW-7A-1Q11	524.2	124-48-1		J	DIBROMOCHLOROMETHANE	Initial calibration %RSD
11069C	MW-7A-1Q11	524.2	10061-02-6		J	TRANS-1,3-DICHLOROPROPENE	Initial calibration %RSD
11069C	MW-98A-1Q11	524.2	96-12-8		J	1,2-DIBROMO-3-CHLOROPROPANE	Initial calibration %RSD
11069C	MW-98A-1Q11	524.2	75-25-2		J	BROMOFORM	Initial calibration %RSD
11069C	MW-98A-1Q11	524.2	124-48-1		J	DIBROMOCHLOROMETHANE	Initial calibration %RSD
11069C	MW-98A-1Q11	524.2	10061-02-6		J	TRANS-1,3-DICHLOROPROPENE	Initial calibration %RSD
11069C	MW-9B-1Q11	524.2	96-12-8		J	1,2-DIBROMO-3-CHLOROPROPANE	Initial calibration %RSD
11069C	MW-9B-1Q11	524.2	75-25-2		J	BROMOFORM	Initial calibration %RSD
11069C	MW-9B-1Q11	524.2	124-48-1		J	DIBROMOCHLOROMETHANE	Initial calibration %RSD
11069C	MW-9B-1Q11	524.2	10061-02-6		J	TRANS-1,3-DICHLOROPROPENE	Initial calibration %RSD
11074A	DP-1A-1Q11	TO-15	100-42-5		J	STYRENE	LCS spike recovery
11074A	DP-1B-1Q11	TO-15	100-42-5		J	STYRENE	LCS spike recovery
11074A	DP-4A-1Q11	TO-15	100-42-5		J	STYRENE	LCS spike recovery
11074A	DP-4B-1Q11	TO-15	100-42-5		J	STYRENE	LCS spike recovery
11074A	DP-6A-1Q11	TO-15	100-42-5		J	STYRENE	LCS spike recovery

URS, Inc.

Reason for Qualified Results

SDG Nos. : 11014A,11014B,11042D,11042E,11069A,11069C,11074A,11074C

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
11074A	DP-6B-1Q11	TO-15	100-42-5		J	STYRENE	LCS spike recovery
11074A	MW-10A-1Q11	524.2	96-12-8		J	1,2-DIBROMO-3-CHLOROPROPANE	Initial calibration %RSD
11074A	MW-10A-1Q11	524.2	75-25-2		J	BROMOFORM	Initial calibration %RSD
11074A	MW-10A-1Q11	524.2	124-48-1		J	DIBROMOCHLOROMETHANE	Initial calibration %RSD
11074A	MW-10A-1Q11	524.2	10061-02-6		J	TRANS-1,3-DICHLOROPROPENE	Initial calibration %RSD
11074A	MW-10B-1Q11	524.2	96-12-8		J	1,2-DIBROMO-3-CHLOROPROPANE	Initial calibration %RSD
11074A	MW-10B-1Q11	524.2	75-25-2		J	BROMOFORM	Initial calibration %RSD
11074A	MW-10B-1Q11	524.2	124-48-1		J	DIBROMOCHLOROMETHANE	Initial calibration %RSD
11074A	MW-10B-1Q11	524.2	10061-02-6		J	TRANS-1,3-DICHLOROPROPENE	Initial calibration %RSD
11074A	MW-10C-1Q11	524.2	96-12-8		J	1,2-DIBROMO-3-CHLOROPROPANE	Initial calibration %RSD
11074A	MW-10C-1Q11	524.2	75-25-2		J	BROMOFORM	Initial calibration %RSD
11074A	MW-10C-1Q11	524.2	124-48-1		J	DIBROMOCHLOROMETHANE	Initial calibration %RSD
11074A	MW-10C-1Q11	524.2	108-88-3	U		TOLUENE	Present in field blank
11074A	MW-10C-1Q11	524.2	10061-02-6		J	TRANS-1,3-DICHLOROPROPENE	Initial calibration %RSD
11074A	MW-12A-1Q11	524.2	96-12-8		J	1,2-DIBROMO-3-CHLOROPROPANE	Initial calibration %RSD
11074A	MW-12A-1Q11	524.2	75-25-2		J	BROMOFORM	Initial calibration %RSD
11074A	MW-12A-1Q11	524.2	124-48-1		J	DIBROMOCHLOROMETHANE	Initial calibration %RSD
11074A	MW-12A-1Q11	524.2	10061-02-6		J	TRANS-1,3-DICHLOROPROPENE	Initial calibration %RSD
11074A	MW-17A-1Q11	524.2	96-12-8		J	1,2-DIBROMO-3-CHLOROPROPANE	Initial calibration %RSD
11074A	MW-17A-1Q11	524.2	75-25-2		J	BROMOFORM	Initial calibration %RSD
11074A	MW-17A-1Q11	524.2	124-48-1		J	DIBROMOCHLOROMETHANE	Initial calibration %RSD
11074A	MW-17A-1Q11	524.2	10061-02-6		J	TRANS-1,3-DICHLOROPROPENE	Initial calibration %RSD
11074A	MW-17B-1Q11	524.2	96-12-8		J	1,2-DIBROMO-3-CHLOROPROPANE	Initial calibration %RSD
11074A	MW-17B-1Q11	524.2	75-25-2		J	BROMOFORM	Initial calibration %RSD
11074A	MW-17B-1Q11	524.2	124-48-1		J	DIBROMOCHLOROMETHANE	Initial calibration %RSD
11074A	MW-17B-1Q11	524.2	10061-02-6		J	TRANS-1,3-DICHLOROPROPENE	Initial calibration %RSD
11074A	MW-17C-1Q11	524.2	96-12-8		J	1,2-DIBROMO-3-CHLOROPROPANE	Initial calibration %RSD
11074A	MW-17C-1Q11	524.2	75-25-2		J	BROMOFORM	Initial calibration %RSD
11074A	MW-17C-1Q11	524.2	124-48-1		J	DIBROMOCHLOROMETHANE	Initial calibration %RSD
11074A	MW-17C-1Q11	524.2	10061-02-6		J	TRANS-1,3-DICHLOROPROPENE	Initial calibration %RSD

URS, Inc.

Reason for Qualified Results

SDG Nos. : 11014A,11014B,11042D,11042E,11069A,11069C,11074A,11074C

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
11074A	MW-18A-1Q11	524.2	95-63-6	J+		1,2,4-TRIMETHYLBENZENE	Surrogate recovery
11074A	MW-18A-1Q11	524.2	96-12-8		J	1,2-DIBROMO-3-CHLOROPROPANE	Initial calibration %RSD
11074A	MW-18A-1Q11	524.2	108-67-8	J+		1,3,5-TRIMETHYLBENZENE	Surrogate recovery
11074A	MW-18A-1Q11	524.2	71-43-2	J+		BENZENE	Surrogate recovery
11074A	MW-18A-1Q11	524.2	75-25-2		J	BROMOFORM	Initial calibration %RSD
11074A	MW-18A-1Q11	524.2	67-66-3	J+		CHLOROFORM	Surrogate recovery
11074A	MW-18A-1Q11	524.2	124-48-1		J	DIBROMOCHLOROMETHANE	Initial calibration %RSD
11074A	MW-18A-1Q11	524.2	100-41-4	J+		ETHYLBENZENE	Surrogate recovery
11074A	MW-18A-1Q11	524.2	106-42-3	J+		m&p-Xylene	Surrogate recovery
11074A	MW-18A-1Q11	524.2	91-20-3	J+		NAPHTHALENE	Surrogate recovery
11074A	MW-18A-1Q11	524.2	95-47-6	J+		O-XYLENE	Surrogate recovery
11074A	MW-18A-1Q11	524.2	127-18-4	J+		TETRACHLOROETHENE	Surrogate recovery
11074A	MW-18A-1Q11	524.2	108-88-3	J+		TOLUENE	Surrogate recovery
11074A	MW-18A-1Q11	524.2	10061-02-6		J	TRANS-1,3-DICHLOROPROPENE	Initial calibration %RSD
11074A	MW-20A-1Q11	524.2	96-12-8		J	1,2-DIBROMO-3-CHLOROPROPANE	Initial calibration %RSD
11074A	MW-20A-1Q11	524.2	75-25-2		J	BROMOFORM	Initial calibration %RSD
11074A	MW-20A-1Q11	524.2	124-48-1		J	DIBROMOCHLOROMETHANE	Initial calibration %RSD
11074A	MW-20A-1Q11	524.2	10061-02-6		J	TRANS-1,3-DICHLOROPROPENE	Initial calibration %RSD
11074A	MW-20B-1Q11	524.2	96-12-8		J	1,2-DIBROMO-3-CHLOROPROPANE	Initial calibration %RSD
11074A	MW-20B-1Q11	524.2	75-25-2		J	BROMOFORM	Initial calibration %RSD
11074A	MW-20B-1Q11	524.2	124-48-1		J	DIBROMOCHLOROMETHANE	Initial calibration %RSD
11074A	MW-20B-1Q11	524.2	10061-02-6		J	TRANS-1,3-DICHLOROPROPENE	Initial calibration %RSD
11074A	MW-20C-1Q11	524.2	96-12-8		J	1,2-DIBROMO-3-CHLOROPROPANE	Initial calibration %RSD
11074A	MW-20C-1Q11	524.2	75-25-2		J	BROMOFORM	Initial calibration %RSD
11074A	MW-20C-1Q11	524.2	124-48-1		J	DIBROMOCHLOROMETHANE	Initial calibration %RSD
11074A	MW-3A-1Q11	524.2	96-12-8		J	1,2-DIBROMO-3-CHLOROPROPANE	Initial calibration %RSD
11074A	MW-3A-1Q11	524.2	75-25-2		J	BROMOFORM	Initial calibration %RSD
11074A	MW-3A-1Q11	524.2	124-48-1		J	DIBROMOCHLOROMETHANE	Initial calibration %RSD
11074A	MW-3A-1Q11	524.2	10061-02-6		J	TRANS-1,3-DICHLOROPROPENE	Initial calibration %RSD
11074A	MW-402-1Q11	524.2	75-25-2		J	BROMOFORM	Initial calibration %RSD

URS, Inc.

Reason for Qualified Results

SDG Nos. : 11014A,11014B,11042D,11042E,11069A,11069C,11074A,11074C

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
11074A	MW-402-1Q11	524.2	124-48-1		J	DIBROMOCHLOROMETHANE	Initial calibration %RSD
11074A	MW-402-1Q11	524.2	10061-02-6		J	TRANS-1,3-DICHLOROPROPENE	Initial calibration %RSD
11074A	MW-4A-1Q11	524.2	96-12-8		J	1,2-DIBROMO-3-CHLOROPROPANE	Initial calibration %RSD
11074A	MW-4A-1Q11	524.2	75-25-2		J	BROMOFORM	Initial calibration %RSD
11074A	MW-4A-1Q11	524.2	124-48-1		J	DIBROMOCHLOROMETHANE	Initial calibration %RSD
11074A	MW-4A-1Q11	524.2	10061-02-6		J	TRANS-1,3-DICHLOROPROPENE	Initial calibration %RSD
11074A	MW-4B-1Q11	524.2	96-12-8		J	1,2-DIBROMO-3-CHLOROPROPANE	Initial calibration %RSD
11074A	MW-4B-1Q11	524.2	75-25-2		J	BROMOFORM	Initial calibration %RSD
11074A	MW-4B-1Q11	524.2	124-48-1		J	DIBROMOCHLOROMETHANE	Initial calibration %RSD
11074A	MW-4B-1Q11	524.2	10061-02-6		J	TRANS-1,3-DICHLOROPROPENE	Initial calibration %RSD
11074A	MW-4C-1Q11	524.2	96-12-8		J	1,2-DIBROMO-3-CHLOROPROPANE	Initial calibration %RSD
11074A	MW-4C-1Q11	524.2	75-25-2		J	BROMOFORM	Initial calibration %RSD
11074A	MW-4C-1Q11	524.2	124-48-1		J	DIBROMOCHLOROMETHANE	Initial calibration %RSD
11074A	MW-4C-1Q11	524.2	10061-02-6		J	TRANS-1,3-DICHLOROPROPENE	Initial calibration %RSD
11074A	MW-5A-1Q11	524.2	96-12-8		J	1,2-DIBROMO-3-CHLOROPROPANE	Initial calibration %RSD
11074A	MW-5A-1Q11	524.2	75-25-2		J	BROMOFORM	Initial calibration %RSD
11074A	MW-5A-1Q11	524.2	124-48-1		J	DIBROMOCHLOROMETHANE	Initial calibration %RSD
11074A	MW-5A-1Q11	524.2	10061-02-6		J	TRANS-1,3-DICHLOROPROPENE	Initial calibration %RSD
11074A	MW-80C-1Q11	524.2	96-12-8		J	1,2-DIBROMO-3-CHLOROPROPANE	Initial calibration %RSD
11074A	MW-80C-1Q11	524.2	75-25-2		J	BROMOFORM	Initial calibration %RSD
11074A	MW-80C-1Q11	524.2	124-48-1		J	DIBROMOCHLOROMETHANE	Initial calibration %RSD
11074A	MW-80C-1Q11	524.2	10061-02-6		J	TRANS-1,3-DICHLOROPROPENE	Initial calibration %RSD
11074A	MW-8A-1Q11	524.2	96-12-8		J	1,2-DIBROMO-3-CHLOROPROPANE	Initial calibration %RSD
11074A	MW-8A-1Q11	524.2	75-25-2		J	BROMOFORM	Initial calibration %RSD
11074A	MW-8A-1Q11	524.2	124-48-1		J	DIBROMOCHLOROMETHANE	Initial calibration %RSD
11074A	MW-8A-1Q11	524.2	10061-02-6		J	TRANS-1,3-DICHLOROPROPENE	Initial calibration %RSD
11074A	MW-90B-1Q11	524.2	96-12-8		J	1,2-DIBROMO-3-CHLOROPROPANE	Initial calibration %RSD
11074A	MW-90B-1Q11	524.2	75-25-2		J	BROMOFORM	Initial calibration %RSD
11074A	MW-90B-1Q11	524.2	124-48-1		J	DIBROMOCHLOROMETHANE	Initial calibration %RSD
11074A	MW-90B-1Q11	524.2	10061-02-6		J	TRANS-1,3-DICHLOROPROPENE	Initial calibration %RSD

URS, Inc.

Reason for Qualified Results

SDG Nos. : 11014A,11014B,11042D,11042E,11069A,11069C,11074A,11074C

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
11074A	OSVE-10-1Q11	TO-15	100-42-5		J	STYRENE	LCS spike recovery
11074A	OSVE-11-1Q11	TO-15	100-42-5		J	STYRENE	LCS spike recovery
11074A	SVE-1-1Q11	TO-15	100-42-5		J	STYRENE	LCS spike recovery
11074A	SVE-2-1Q11	TO-15	100-42-5		J	STYRENE	LCS spike recovery
11074A	SVE-3-1Q11	TO-15	100-42-5		J	STYRENE	LCS spike recovery
11074A	SVE-4-1Q11	TO-15	100-42-5		J	STYRENE	LCS spike recovery
11074A	SVE-97-1Q11	TO-15	100-42-5		J	STYRENE	LCS spike recovery
11074C	GWTP Pr GAC-0302	TO-15	100-42-5		J	STYRENE	LCS spike recovery
11074C	GWTP Pr GAC-0302	TO-15	127-18-4	J		TETRACHLOROETHENE	Lab Duplicate RPD
11074C	GWTP Pr GAC-0302DUP	TO-15	127-18-4	J		TETRACHLOROETHENE	Lab Duplicate RPD
11074C	GWTP Stack-0302	TO-15	100-42-5		J	STYRENE	LCS spike recovery
11074C	SVE Pre GAC-0302	TO-15	100-42-5		J	STYRENE	LCS spike recovery
11074C	SVE Stack-0302	TO-15	100-42-5		J	STYRENE	LCS spike recovery

Appendix A

Data Qualification Summary Report

SDG 11014A

Data Qualifier Summary

Lab Reporting Batch ID: 11014A **Laboratory: R9LAB**

EDD Filename: 11014A_VOC.xml **eQAPP Name: Modesto_Site_042811**

Method Category: **VOA**

Method: **TO-15** ***Matrix:*** **Air**

Sample ID: **SVE Stack-0103** ***Collected:*** **1/13/2011 12:15:00** ***Analysis Type:*** **Initial** ***Dilution:*** **2.27**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
TETRACHLOROETHENE	2.1	J,C1	1.1	MDL	2.3	MRL	ppbv	J	RI

Data Qualifier Summary

Lab Reporting Batch ID: 11014A **Laboratory: R9LAB**

EDD Filename: 11014A_VOC.xml **eQAPP Name: Modesto_Site_042811**

Reason Code Legend

Reason Code	*Description*
Cb	Calibration Blank Contamination
Ccv	Continuing Calibration Verification Percent Difference Lower Estimation
Ccv	Continuing Calibration Verification Percent Difference Lower Rejection
Ccv	Continuing Calibration Verification Percent Difference Upper Estimation
Ccv	Continuing Calibration Verification Percent Difference Upper Rejection
Ccv	Continuing Calibration Verification Percent Recovery Lower Estimation
Ccv	Continuing Calibration Verification Percent Recovery Lower Rejection
Ccv	Continuing Calibration Verification Percent Recovery Upper Estimation
Ccv	Continuing Calibration Verification Percent Recovery Upper Rejection
CcvCC	Continuing Calibration Verification Correlation Coefficient
CcvRrf	Continuing Calibration Verification Relative Response Factor
ContTune	Continuing Tune
Dup=0	Duplicate Sample Count = 0
Dup>1	Duplicate Sample Count > 1
Eb	Equipment Blank Contamination
EtoA	Extraction to Analysis Estimation
EtoA	Extraction to Analysis Rejection
Fb	Field Blank Contamination
Fd	Field Duplicate Precision
IcCC	Initial Calibration Correlation Coefficient
IcRrf	Initial Calibration Relative Response Factor
IcRsd	Initial Calibration Percent Relative Standard Deviation
Icv	Initial Calibration Verification Percent Difference Lower Estimation
Icv	Initial Calibration Verification Percent Difference Lower Rejection
Icv	Initial Calibration Verification Percent Difference Upper Estimation
Icv	Initial Calibration Verification Percent Difference Upper Rejection
Icv	Initial Calibration Verification Percent Recovery Lower Estimation
Icv	Initial Calibration Verification Percent Recovery Lower Rejection
Icv	Initial Calibration Verification Percent Recovery Upper Estimation
Icv	Initial Calibration Verification Percent Recovery Upper Rejection
IcvCC	Initial Calibration Verification Correlation Coefficient

Data Qualifier Summary

Lab Reporting Batch ID: 11014A **Laboratory: R9LAB**

EDD Filename: 11014A_VOC.xml **eQAPP Name: Modesto_Site_042811**

IcvRrf	Initial Calibration Verification Relative Response Factor
IllogicalFraction	Illogical Fraction
InitTune	Initial Tune
Is	Internal Standard Estimation
Is	Internal Standard Rejection
Lcs	Laboratory Control Precision
Lcs	Laboratory Control Spike Lower Estimation
Lcs	Laboratory Control Spike Lower Rejection
Lcs	Laboratory Control Spike Upper Estimation
Lcs	Laboratory Control Spike Upper Rejection
Lcs=0	Laboratory Control Sample Count = 0
Lcs>1	Laboratory Control Sample Count > 1
Ld	Laboratory Duplicate Precision
Mb	Method Blank Contamination
Mb=0	Method Blank Sample Count = 0
Mb>1	Method Blank Sample Count > 1
Moist	Percent Moisture
Ms	Matrix Spike Lower Estimation
Ms	Matrix Spike Lower Rejection
Ms	Matrix Spike Precision
Ms	Matrix Spike Upper Estimation
Ms	Matrix Spike Upper Rejection
Ms=0	Matrix Spike Sample Count = 0
Ms>1	Matrix Spike Sample Count > 1
PEM	Performance Evaluation Mixture
Preservation	Preservation
ProfJudg	Professional Judgment
REM	Resolution Check Mixture
RI	Reporting Limit
RI	Reporting Limit > Project Maximum Contamination Limit
RI	Reporting Limit Trace Value
StoA	Sampling to Analysis Estimation
StoA	Sampling to Analysis Rejection

Data Qualifier Summary

Lab Reporting Batch ID: 11014A **Laboratory: R9LAB**

EDD Filename: 11014A_VOC.xml **eQAPP Name: Modesto_Site_042811**

StoE	Sampling to Extraction Estimation
StoE	Sampling to Extraction Rejection
StoL	Sampling to Leaching Estimation
StoL	Sampling to Leaching Rejection
Surr	Surrogate/Tracer Recovery Lower Estimation
Surr	Surrogate/Tracer Recovery Lower Rejection
Surr	Surrogate/Tracer Recovery Upper Estimation
Surr	Surrogate/Tracer Recovery Upper Rejection
Tb	Trip Blank Contamination
TempEst	Temperature Estimation
TempRej	Temperature Rejection

SDG 11014B

Data Qualifier Summary

Lab Reporting Batch ID: 11014B **Laboratory: R9LAB**

EDD Filename: 11014B.xml **eQAPP Name: Modesto_Site_070810a**

Method Category: **VOA**

Method: **524.2** ***Matrix:*** **Water**

Sample ID: **CRB EFF-0103** ***Collected:*** **1/13/2011 10:35:00** ***Analysis Type:*** **Initial** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BROMOFORM	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd

Sample ID: **CRB INF-0103** ***Collected:*** **1/13/2011 10:50:00** ***Analysis Type:*** **Initial** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BROMOFORM	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd

Sample ID: **CRB Mid-0103** ***Collected:*** **1/13/2011 10:40:00** ***Analysis Type:*** **Initial** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BROMOFORM	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
TETRACHLOROETHENE	0.2	J,C1	0.2	MDL	0.5	MRL	ug/L	J	Rl

Sample ID: **EFF-0103** ***Collected:*** **1/13/2011 10:05:00** ***Analysis Type:*** **Initial** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BROMOFORM	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd

Sample ID: **EW-1-0103** ***Collected:*** **1/13/2011 11:00:00** ***Analysis Type:*** **Reinjection-01** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BROMOFORM	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
CHLOROFORM	3.5		0.2	MDL	0.5	MRL	ug/L	U	Tb

Sample ID: **MW-301-1Q11** ***Collected:*** **1/13/2011 9:30:00** ***Analysis Type:*** **Initial** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BROMOFORM	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd

Sample ID: **MW-401-1Q11** ***Collected:*** **1/13/2011 9:40:00** ***Analysis Type:*** **Initial** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BROMOFORM	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
CHLOROFORM	1.0		0.2	MDL	0.5	MRL	ug/L	U	Tb

Data Qualifier Summary

Lab Reporting Batch ID: 11014B **Laboratory: R9LAB**

EDD Filename: 11014B.xml **eQAPP Name: Modesto_Site_070810a**

Data Qualifier Summary

Lab Reporting Batch ID: 11014B **Laboratory: R9LAB**

EDD Filename: 11014B.xml **eQAPP Name: Modesto_Site_070810a**

Reason Code Legend

Reason Code	*Description*
Cb	Calibration Blank Contamination
Ccv	Continuing Calibration Verification Percent Difference Lower Estimation
Ccv	Continuing Calibration Verification Percent Difference Lower Rejection
Ccv	Continuing Calibration Verification Percent Difference Upper Estimation
Ccv	Continuing Calibration Verification Percent Difference Upper Rejection
Ccv	Continuing Calibration Verification Percent Recovery Lower Estimation
Ccv	Continuing Calibration Verification Percent Recovery Lower Rejection
Ccv	Continuing Calibration Verification Percent Recovery Upper Estimation
Ccv	Continuing Calibration Verification Percent Recovery Upper Rejection
CcvCC	Continuing Calibration Verification Correlation Coefficient
CcvRrf	Continuing Calibration Verification Relative Response Factor
ContTune	Continuing Tune
Dup=0	Duplicate Sample Count = 0
Dup>1	Duplicate Sample Count > 1
Eb	Equipment Blank Contamination
EtoA	Extraction to Analysis Estimation
EtoA	Extraction to Analysis Rejection
Fb	Field Blank Contamination
Fd	Field Duplicate Precision
IcCC	Initial Calibration Correlation Coefficient
IcRrf	Initial Calibration Relative Response Factor
IcRsd	Initial Calibration Percent Relative Standard Deviation
Icv	Initial Calibration Verification Percent Difference Lower Estimation
Icv	Initial Calibration Verification Percent Difference Lower Rejection
Icv	Initial Calibration Verification Percent Difference Upper Estimation
Icv	Initial Calibration Verification Percent Difference Upper Rejection
Icv	Initial Calibration Verification Percent Recovery Lower Estimation
Icv	Initial Calibration Verification Percent Recovery Lower Rejection
Icv	Initial Calibration Verification Percent Recovery Upper Estimation
Icv	Initial Calibration Verification Percent Recovery Upper Rejection
IcvCC	Initial Calibration Verification Correlation Coefficient

Data Qualifier Summary

Lab Reporting Batch ID: 11014B **Laboratory: R9LAB**

EDD Filename: 11014B.xml **eQAPP Name: Modesto_Site_070810a**

IcvRrf	Initial Calibration Verification Relative Response Factor
IllogicalFraction	Illogical Fraction
InitTune	Initial Tune
Is	Internal Standard Estimation
Is	Internal Standard Rejection
Lcs	Laboratory Control Precision
Lcs	Laboratory Control Spike Lower Estimation
Lcs	Laboratory Control Spike Lower Rejection
Lcs	Laboratory Control Spike Upper Estimation
Lcs	Laboratory Control Spike Upper Rejection
Lcs=0	Laboratory Control Sample Count = 0
Lcs>1	Laboratory Control Sample Count > 1
Ld	Laboratory Duplicate Precision
Mb	Method Blank Contamination
Mb=0	Method Blank Sample Count = 0
Mb>1	Method Blank Sample Count > 1
Moist	Percent Moisture
Ms	Matrix Spike Lower Estimation
Ms	Matrix Spike Lower Rejection
Ms	Matrix Spike Precision
Ms	Matrix Spike Upper Estimation
Ms	Matrix Spike Upper Rejection
Ms=0	Matrix Spike Sample Count = 0
Ms>1	Matrix Spike Sample Count > 1
PEM	Performance Evaluation Mixture
Preservation	Preservation
ProfJudg	Professional Judgment
REM	Resolution Check Mixture
Rl	Reporting Limit
Rl	Reporting Limit > Project Maximum Contamination Limit
Rl	Reporting Limit Trace Value
StoA	Sampling to Analysis Estimation
StoA	Sampling to Analysis Rejection

Data Qualifier Summary

Lab Reporting Batch ID: 11014B **Laboratory: R9LAB**

EDD Filename: 11014B.xml **eQAPP Name: Modesto_Site_070810a**

StoE	Sampling to Extraction Estimation
StoE	Sampling to Extraction Rejection
StoL	Sampling to Leaching Estimation
StoL	Sampling to Leaching Rejection
Surr	Surrogate/Tracer Recovery Lower Estimation
Surr	Surrogate/Tracer Recovery Lower Rejection
Surr	Surrogate/Tracer Recovery Upper Estimation
Surr	Surrogate/Tracer Recovery Upper Rejection
Tb	Trip Blank Contamination
TempEst	Temperature Estimation
TempRej	Temperature Rejection

Data Qualifier Summary

Lab Reporting Batch ID: 11014B **Laboratory: R9LAB**

EDD Filename: 11014B_Solids_Reviewed_KD.xml **eQAPP Name: Modesto_Site_070810s**

No Data Review Qualifiers Applied.

Data Qualifier Summary

Lab Reporting Batch ID: 11014B **Laboratory: R9LAB**

EDD Filename: 11014B_BOD_reviewed_kd.xml **eQAPP Name: Modesto_Site_070810s**

No Data Review Qualifiers Applied.

SDG 11042D

Data Qualifier Summary

Lab Reporting Batch ID: 11042D **Laboratory: R9LAB**

EDD Filename: 11042D.xml **eQAPP Name: Modesto_Site_070810s**

Method Category: **VOA**

Method: **524.2** ***Matrix:*** **Water**

Sample ID: **EFF-0202** ***Collected:*** **2/10/2011 10:55:00** ***Analysis Type:*** **Initial-** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DIBROMO-3-CHLOROPROPANE	2.0	J,U,C3	1.0	MDL	2.0	MRL	ug/L	UJ	IcRsd
2,2-DICHLOROPROPANE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
ACETONE	4.0	J,U,C3,C4	2.0	MDL	4.0	MRL	ug/L	UJ	IcRsd, Ccv
BROMOFORM	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
TETRACHLOROETHENE	0.3	J,C1	0.2	MDL	0.5	MRL	ug/L	J	Rl

Sample ID: **EW-1-0202** ***Collected:*** **2/10/2011 11:05:00** ***Analysis Type:*** **Reinjection-01-** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DIBROMO-3-CHLOROPROPANE	2.0	J,U,C3	1.0	MDL	2.0	MRL	ug/L	UJ	IcRsd
2,2-DICHLOROPROPANE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
ACETONE	4.0	J,U,C3,C4	2.0	MDL	4.0	MRL	ug/L	UJ	IcRsd, Ccv
BROMOFORM	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
CHLOROFORM	2.3		0.2	MDL	0.5	MRL	ug/L	U	Tb

Sample ID: **MW-302-1Q11** ***Collected:*** **2/10/2011 10:00:00** ***Analysis Type:*** **Initial-** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DIBROMO-3-CHLOROPROPANE	2.0	J,U,C3	1.0	MDL	2.0	MRL	ug/L	UJ	IcRsd
2,2-DICHLOROPROPANE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
ACETONE	4.0	J,U,C3,C4	2.0	MDL	4.0	MRL	ug/L	UJ	IcRsd, Ccv
BROMOFORM	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
NAPHTHALENE	0.5	J,U,Q6	0.2	MDL	0.5	MRL	ug/L	UJ	Ms

Data Qualifier Summary

Lab Reporting Batch ID: 11042D **Laboratory: R9LAB**

EDD Filename: 11042D.xml **eQAPP Name: Modesto_Site_070810s**

Reason Code Legend

Reason Code	*Description*
Cb	Calibration Blank Contamination
Ccv	Continuing Calibration Verification Percent Difference Lower Estimation
Ccv	Continuing Calibration Verification Percent Difference Lower Rejection
Ccv	Continuing Calibration Verification Percent Difference Upper Estimation
Ccv	Continuing Calibration Verification Percent Difference Upper Rejection
Ccv	Continuing Calibration Verification Percent Recovery Lower Estimation
Ccv	Continuing Calibration Verification Percent Recovery Lower Rejection
Ccv	Continuing Calibration Verification Percent Recovery Upper Estimation
Ccv	Continuing Calibration Verification Percent Recovery Upper Rejection
CcvCC	Continuing Calibration Verification Correlation Coefficient
CcvRrf	Continuing Calibration Verification Relative Response Factor
ContTune	Continuing Tune
Dup=0	Duplicate Sample Count = 0
Dup>1	Duplicate Sample Count > 1
Eb	Equipment Blank Contamination
EtoA	Extraction to Analysis Estimation
EtoA	Extraction to Analysis Rejection
Fb	Field Blank Contamination
Fd	Field Duplicate Precision
IcCC	Initial Calibration Correlation Coefficient
IcRrf	Initial Calibration Relative Response Factor
IcRsd	Initial Calibration Percent Relative Standard Deviation
Icv	Initial Calibration Verification Percent Difference Lower Estimation
Icv	Initial Calibration Verification Percent Difference Lower Rejection
Icv	Initial Calibration Verification Percent Difference Upper Estimation
Icv	Initial Calibration Verification Percent Difference Upper Rejection
Icv	Initial Calibration Verification Percent Recovery Lower Estimation
Icv	Initial Calibration Verification Percent Recovery Lower Rejection
Icv	Initial Calibration Verification Percent Recovery Upper Estimation
Icv	Initial Calibration Verification Percent Recovery Upper Rejection
IcvCC	Initial Calibration Verification Correlation Coefficient

Data Qualifier Summary

Lab Reporting Batch ID: 11042D **Laboratory: R9LAB**

EDD Filename: 11042D.xml **eQAPP Name: Modesto_Site_070810s**

IcvRrf	Initial Calibration Verification Relative Response Factor
IllogicalFraction	Illogical Fraction
InitTune	Initial Tune
Is	Internal Standard Estimation
Is	Internal Standard Rejection
Lcs	Laboratory Control Precision
Lcs	Laboratory Control Spike Lower Estimation
Lcs	Laboratory Control Spike Lower Rejection
Lcs	Laboratory Control Spike Upper Estimation
Lcs	Laboratory Control Spike Upper Rejection
Lcs=0	Laboratory Control Sample Count = 0
Lcs>1	Laboratory Control Sample Count > 1
Ld	Laboratory Duplicate Precision
Mb	Method Blank Contamination
Mb=0	Method Blank Sample Count = 0
Mb>1	Method Blank Sample Count > 1
Moist	Percent Moisture
Ms	Matrix Spike Lower Estimation
Ms	Matrix Spike Lower Rejection
Ms	Matrix Spike Precision
Ms	Matrix Spike Upper Estimation
Ms	Matrix Spike Upper Rejection
Ms=0	Matrix Spike Sample Count = 0
Ms>1	Matrix Spike Sample Count > 1
PEM	Performance Evaluation Mixture
Preservation	Preservation
ProfJudg	Professional Judgment
REM	Resolution Check Mixture
Rl	Reporting Limit
Rl	Reporting Limit > Project Maximum Contamination Limit
Rl	Reporting Limit Trace Value
StoA	Sampling to Analysis Estimation
StoA	Sampling to Analysis Rejection

Data Qualifier Summary

Lab Reporting Batch ID: 11042D **Laboratory: R9LAB**

EDD Filename: 11042D.xml **eQAPP Name: Modesto_Site_070810s**

StoE	Sampling to Extraction Estimation
StoE	Sampling to Extraction Rejection
StoL	Sampling to Leaching Estimation
StoL	Sampling to Leaching Rejection
Surr	Surrogate/Tracer Recovery Lower Estimation
Surr	Surrogate/Tracer Recovery Lower Rejection
Surr	Surrogate/Tracer Recovery Upper Estimation
Surr	Surrogate/Tracer Recovery Upper Rejection
Tb	Trip Blank Contamination
TempEst	Temperature Estimation
TempRej	Temperature Rejection

Data Qualifier Summary

Lab Reporting Batch ID: 11042D **Laboratory: R9LAB**

EDD Filename: 1102014 FINAL.XML **eQAPP Name: Modesto_Site_070810a**

No Data Review Qualifiers Applied.

Data Qualifier Summary

Lab Reporting Batch ID: 11042D **Laboratory: R9LAB**

EDD Filename: 11042D_bod_Reviewed_nb.xml **eQAPP Name: Modesto_Site_070810s**

Method Category: **GENCHEM**

Method: **5210B** ***Matrix:*** **Water**

Sample ID: **EFF-0202** ***Collected:*** **2/10/2011 10:55:00** ***Analysis Type:*** **Initial** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
Biochemical Oxygen Demand	2.0	J,<,Q2	2.0	MDL	2.0	MRL	mg/L	J-	Lcs

Data Qualifier Summary

Lab Reporting Batch ID: 11042D **Laboratory: R9LAB**

EDD Filename: 11042D_bod_Reviewed_nb.xml **eQAPP Name: Modesto_Site_070810s**

Reason Code Legend

Reason Code	*Description*
Cb	Calibration Blank Contamination
Ccv	Continuing Calibration Verification Percent Difference Lower Estimation
Ccv	Continuing Calibration Verification Percent Difference Lower Rejection
Ccv	Continuing Calibration Verification Percent Difference Upper Estimation
Ccv	Continuing Calibration Verification Percent Difference Upper Rejection
Ccv	Continuing Calibration Verification Percent Recovery Lower Estimation
Ccv	Continuing Calibration Verification Percent Recovery Lower Rejection
Ccv	Continuing Calibration Verification Percent Recovery Upper Estimation
Ccv	Continuing Calibration Verification Percent Recovery Upper Rejection
CcvCC	Continuing Calibration Verification Correlation Coefficient
CcvRrf	Continuing Calibration Verification Relative Response Factor
ContTune	Continuing Tune
Dup=0	Duplicate Sample Count = 0
Dup>1	Duplicate Sample Count > 1
Eb	Equipment Blank Contamination
EtoA	Extraction to Analysis Estimation
EtoA	Extraction to Analysis Rejection
Fb	Field Blank Contamination
Fd	Field Duplicate Precision
IcCC	Initial Calibration Correlation Coefficient
IcRrf	Initial Calibration Relative Response Factor
IcRsd	Initial Calibration Percent Relative Standard Deviation
Icv	Initial Calibration Verification Percent Difference Lower Estimation
Icv	Initial Calibration Verification Percent Difference Lower Rejection
Icv	Initial Calibration Verification Percent Difference Upper Estimation
Icv	Initial Calibration Verification Percent Difference Upper Rejection
Icv	Initial Calibration Verification Percent Recovery Lower Estimation
Icv	Initial Calibration Verification Percent Recovery Lower Rejection
Icv	Initial Calibration Verification Percent Recovery Upper Estimation
Icv	Initial Calibration Verification Percent Recovery Upper Rejection
IcvCC	Initial Calibration Verification Correlation Coefficient

Data Qualifier Summary

Lab Reporting Batch ID: 11042D **Laboratory: R9LAB**

EDD Filename: 11042D_bod_Reviewed_nb.xml **eQAPP Name: Modesto_Site_070810s**

IcvRrf	Initial Calibration Verification Relative Response Factor
IllogicalFraction	Illogical Fraction
InitTune	Initial Tune
Is	Internal Standard Estimation
Is	Internal Standard Rejection
Lcs	Laboratory Control Precision
Lcs	Laboratory Control Spike Lower Estimation
Lcs	Laboratory Control Spike Lower Rejection
Lcs	Laboratory Control Spike Upper Estimation
Lcs	Laboratory Control Spike Upper Rejection
Lcs=0	Laboratory Control Sample Count = 0
Lcs>1	Laboratory Control Sample Count > 1
Ld	Laboratory Duplicate Precision
Mb	Method Blank Contamination
Mb=0	Method Blank Sample Count = 0
Mb>1	Method Blank Sample Count > 1
Moist	Percent Moisture
Ms	Matrix Spike Lower Estimation
Ms	Matrix Spike Lower Rejection
Ms	Matrix Spike Precision
Ms	Matrix Spike Upper Estimation
Ms	Matrix Spike Upper Rejection
Ms=0	Matrix Spike Sample Count = 0
Ms>1	Matrix Spike Sample Count > 1
PEM	Performance Evaluation Mixture
Preservation	Preservation
ProfJudg	Professional Judgment
REM	Resolution Check Mixture
Rl	Reporting Limit
Rl	Reporting Limit > Project Maximum Contamination Limit
Rl	Reporting Limit Trace Value
StoA	Sampling to Analysis Estimation
StoA	Sampling to Analysis Rejection

Data Qualifier Summary

Lab Reporting Batch ID: 11042D **Laboratory: R9LAB**

EDD Filename: 11042D_bod_Reviewed_nb.xml **eQAPP Name: Modesto_Site_070810s**

StoE	Sampling to Extraction Estimation
StoE	Sampling to Extraction Rejection
StoL	Sampling to Leaching Estimation
StoL	Sampling to Leaching Rejection
Surr	Surrogate/Tracer Recovery Lower Estimation
Surr	Surrogate/Tracer Recovery Lower Rejection
Surr	Surrogate/Tracer Recovery Upper Estimation
Surr	Surrogate/Tracer Recovery Upper Rejection
Tb	Trip Blank Contamination
TempEst	Temperature Estimation
TempRej	Temperature Rejection

SDG 11042E

Data Qualifier Summary

Lab Reporting Batch ID: 11042E **Laboratory: R9LAB**

EDD Filename: 11042E_TO-15_reviewed_kd.xml **eQAPP Name: Modesto_Site_042811**

Method Category: **VOA**

Method: **TO-15** ***Matrix:*** **Air**

Sample ID: **GWTP Pr GAC-0202** ***Collected:*** **2/10/2011 11:30:00** ***Analysis Type:*** **Initial** ***Dilution:*** **2.16**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
TETRACHLOROETHENE	280	J,Q5	11	MDL	22	MRL	ppbv	J	Ld

Sample ID: **GWTP Pr GAC-0202** ***Collected:*** **2/10/2011 11:30:00** ***Analysis Type:*** **Reinjection-01** ***Dilution:*** **2.16**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
STYRENE	4.3	J,U,C3,Q2	2.2	MDL	4.3	MRL	ppbv	UJ	Lcs

Sample ID: **GWTP Stack-0202** ***Collected:*** **2/10/2011 11:20:00** ***Analysis Type:*** **Initial** ***Dilution:*** **2.31**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
STYRENE	2.3	J,U,C3,Q2	1.2	MDL	2.3	MRL	ppbv	UJ	Lcs

Sample ID: **SVE Pre GAC-0202** ***Collected:*** **2/10/2011 11:55:00** ***Analysis Type:*** **Reinjection-01** ***Dilution:*** **2.35**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
STYRENE	2.4	J,U,C3,Q2	1.2	MDL	2.4	MRL	ppbv	UJ	Lcs

Sample ID: **SVE Stack-0202** ***Collected:*** **2/10/2011 11:50:00** ***Analysis Type:*** **Initial** ***Dilution:*** **2.32**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
STYRENE	2.3	J,U,C3,Q2	1.2	MDL	2.3	MRL	ppbv	UJ	Lcs

Data Qualifier Summary

Lab Reporting Batch ID: 11042E **Laboratory: R9LAB**

EDD Filename: 11042E_TO-15_reviewed_kd.xml **eQAPP Name: Modesto_Site_042811**

Reason Code Legend

Reason Code	*Description*
Cb	Calibration Blank Contamination
Ccv	Continuing Calibration Verification Percent Difference Lower Estimation
Ccv	Continuing Calibration Verification Percent Difference Lower Rejection
Ccv	Continuing Calibration Verification Percent Difference Upper Estimation
Ccv	Continuing Calibration Verification Percent Difference Upper Rejection
Ccv	Continuing Calibration Verification Percent Recovery Lower Estimation
Ccv	Continuing Calibration Verification Percent Recovery Lower Rejection
Ccv	Continuing Calibration Verification Percent Recovery Upper Estimation
Ccv	Continuing Calibration Verification Percent Recovery Upper Rejection
CcvCC	Continuing Calibration Verification Correlation Coefficient
CcvRrf	Continuing Calibration Verification Relative Response Factor
ContTune	Continuing Tune
Dup=0	Duplicate Sample Count = 0
Dup>1	Duplicate Sample Count > 1
Eb	Equipment Blank Contamination
EtoA	Extraction to Analysis Estimation
EtoA	Extraction to Analysis Rejection
Fb	Field Blank Contamination
Fd	Field Duplicate Precision
IcCC	Initial Calibration Correlation Coefficient
IcRrf	Initial Calibration Relative Response Factor
IcRsd	Initial Calibration Percent Relative Standard Deviation
Icv	Initial Calibration Verification Percent Difference Lower Estimation
Icv	Initial Calibration Verification Percent Difference Lower Rejection
Icv	Initial Calibration Verification Percent Difference Upper Estimation
Icv	Initial Calibration Verification Percent Difference Upper Rejection
Icv	Initial Calibration Verification Percent Recovery Lower Estimation
Icv	Initial Calibration Verification Percent Recovery Lower Rejection
Icv	Initial Calibration Verification Percent Recovery Upper Estimation
Icv	Initial Calibration Verification Percent Recovery Upper Rejection
IcvCC	Initial Calibration Verification Correlation Coefficient

Data Qualifier Summary

Lab Reporting Batch ID: 11042E **Laboratory: R9LAB**

EDD Filename: 11042E_TO-15_reviewed_kd.xml **eQAPP Name: Modesto_Site_042811**

IcvRrf	Initial Calibration Verification Relative Response Factor
IllogicalFraction	Illogical Fraction
InitTune	Initial Tune
Is	Internal Standard Estimation
Is	Internal Standard Rejection
Lcs	Laboratory Control Precision
Lcs	Laboratory Control Spike Lower Estimation
Lcs	Laboratory Control Spike Lower Rejection
Lcs	Laboratory Control Spike Upper Estimation
Lcs	Laboratory Control Spike Upper Rejection
Lcs=0	Laboratory Control Sample Count = 0
Lcs>1	Laboratory Control Sample Count > 1
Ld	Laboratory Duplicate Precision
Mb	Method Blank Contamination
Mb=0	Method Blank Sample Count = 0
Mb>1	Method Blank Sample Count > 1
Moist	Percent Moisture
Ms	Matrix Spike Lower Estimation
Ms	Matrix Spike Lower Rejection
Ms	Matrix Spike Precision
Ms	Matrix Spike Upper Estimation
Ms	Matrix Spike Upper Rejection
Ms=0	Matrix Spike Sample Count = 0
Ms>1	Matrix Spike Sample Count > 1
PEM	Performance Evaluation Mixture
Preservation	Preservation
ProfJudg	Professional Judgment
REM	Resolution Check Mixture
Rl	Reporting Limit
Rl	Reporting Limit > Project Maximum Contamination Limit
Rl	Reporting Limit Trace Value
StoA	Sampling to Analysis Estimation
StoA	Sampling to Analysis Rejection

Data Qualifier Summary

Lab Reporting Batch ID: 11042E **Laboratory: R9LAB**

EDD Filename: 11042E_TO-15_reviewed_kd.xml **eQAPP Name: Modesto_Site_042811**

StoE	Sampling to Extraction Estimation
StoE	Sampling to Extraction Rejection
StoL	Sampling to Leaching Estimation
StoL	Sampling to Leaching Rejection
Surr	Surrogate/Tracer Recovery Lower Estimation
Surr	Surrogate/Tracer Recovery Lower Rejection
Surr	Surrogate/Tracer Recovery Upper Estimation
Surr	Surrogate/Tracer Recovery Upper Rejection
Tb	Trip Blank Contamination
TempEst	Temperature Estimation
TempRej	Temperature Rejection

SDG 11069A

Data Qualifier Summary

Lab Reporting Batch ID: 11069A **Laboratory: R9LAB**

EDD Filename: 11069a_voc_Reviewed_nb.XML **eQAPP Name: Modesto_Site_070810s**

Method Category: **VOA**

Method: **524.2** ***Matrix:*** **Water**

Sample ID: **EFF-0302** ***Collected:*** **3/9/2011 1:30:00 PM** ***Analysis Type:*** **Initial-** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DIBROMO-3-CHLOROPROPANE	2.0	J,U,C3	1.0	MDL	2.0	MRL	ug/L	UJ	IcRsd
BROMOFORM	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
DIBROMOCHLOROMETHANE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
TETRACHLOROETHENE	0.2	J,C1	0.2	MDL	0.5	MRL	ug/L	J	Rl
TRANS-1,3-DICHLOROPROPENE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd

Sample ID: **EW-1-0302** ***Collected:*** **3/9/2011 1:50:00 PM** ***Analysis Type:*** **Initial-** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DIBROMO-3-CHLOROPROPANE	2.0	J,U,C3	1.0	MDL	2.0	MRL	ug/L	UJ	IcRsd
BROMOFORM	0.5	J,U,C3,Q3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
CHLOROFORM	2.8		0.2	MDL	0.5	MRL	ug/L	U	Tb
DIBROMOCHLOROMETHANE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
TRANS-1,3-DICHLOROPROPENE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd

Sample ID: **MW-107-0302** ***Collected:*** **3/9/2011 1:35:00 PM** ***Analysis Type:*** **Initial-** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DIBROMO-3-CHLOROPROPANE	2.0	J,U,C3	1.0	MDL	2.0	MRL	ug/L	UJ	IcRsd
BROMOFORM	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
DIBROMOCHLOROMETHANE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
TETRACHLOROETHENE	0.2	J,C1	0.2	MDL	0.5	MRL	ug/L	J	Rl
TRANS-1,3-DICHLOROPROPENE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd

Sample ID: **MW-304-1Q11** ***Collected:*** **3/9/2011 12:30:00** ***Analysis Type:*** **Initial-** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DIBROMO-3-CHLOROPROPANE	2.0	J,U,C3	1.0	MDL	2.0	MRL	ug/L	UJ	IcRsd
BROMOFORM	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
DIBROMOCHLOROMETHANE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
TRANS-1,3-DICHLOROPROPENE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd

Data Qualifier Summary

Lab Reporting Batch ID: 11069A **Laboratory: R9LAB**

EDD Filename: 11069a_voc_Reviewed_nb.XML **eQAPP Name: Modesto_Site_070810s**

Reason Code Legend

Reason Code	*Description*
Cb	Calibration Blank Contamination
Ccv	Continuing Calibration Verification Percent Difference Lower Estimation
Ccv	Continuing Calibration Verification Percent Difference Lower Rejection
Ccv	Continuing Calibration Verification Percent Difference Upper Estimation
Ccv	Continuing Calibration Verification Percent Difference Upper Rejection
Ccv	Continuing Calibration Verification Percent Recovery Lower Estimation
Ccv	Continuing Calibration Verification Percent Recovery Lower Rejection
Ccv	Continuing Calibration Verification Percent Recovery Upper Estimation
Ccv	Continuing Calibration Verification Percent Recovery Upper Rejection
CcvCC	Continuing Calibration Verification Correlation Coefficient
CcvRrf	Continuing Calibration Verification Relative Response Factor
ContTune	Continuing Tune
Dup=0	Duplicate Sample Count = 0
Dup>1	Duplicate Sample Count > 1
Eb	Equipment Blank Contamination
EtoA	Extraction to Analysis Estimation
EtoA	Extraction to Analysis Rejection
Fb	Field Blank Contamination
Fd	Field Duplicate Precision
IcCC	Initial Calibration Correlation Coefficient
IcRrf	Initial Calibration Relative Response Factor
IcRsd	Initial Calibration Percent Relative Standard Deviation
Icv	Initial Calibration Verification Percent Difference Lower Estimation
Icv	Initial Calibration Verification Percent Difference Lower Rejection
Icv	Initial Calibration Verification Percent Difference Upper Estimation
Icv	Initial Calibration Verification Percent Difference Upper Rejection
Icv	Initial Calibration Verification Percent Recovery Lower Estimation
Icv	Initial Calibration Verification Percent Recovery Lower Rejection
Icv	Initial Calibration Verification Percent Recovery Upper Estimation
Icv	Initial Calibration Verification Percent Recovery Upper Rejection
IcvCC	Initial Calibration Verification Correlation Coefficient

Data Qualifier Summary

Lab Reporting Batch ID: 11069A **Laboratory: R9LAB**

EDD Filename: 11069a_voc_Reviewed_nb.XML **eQAPP Name: Modesto_Site_070810s**

IcvRrf	Initial Calibration Verification Relative Response Factor
IllogicalFraction	Illogical Fraction
InitTune	Initial Tune
Is	Internal Standard Estimation
Is	Internal Standard Rejection
Lcs	Laboratory Control Precision
Lcs	Laboratory Control Spike Lower Estimation
Lcs	Laboratory Control Spike Lower Rejection
Lcs	Laboratory Control Spike Upper Estimation
Lcs	Laboratory Control Spike Upper Rejection
Lcs=0	Laboratory Control Sample Count = 0
Lcs>1	Laboratory Control Sample Count > 1
Ld	Laboratory Duplicate Precision
Mb	Method Blank Contamination
Mb=0	Method Blank Sample Count = 0
Mb>1	Method Blank Sample Count > 1
Moist	Percent Moisture
Ms	Matrix Spike Lower Estimation
Ms	Matrix Spike Lower Rejection
Ms	Matrix Spike Precision
Ms	Matrix Spike Upper Estimation
Ms	Matrix Spike Upper Rejection
Ms=0	Matrix Spike Sample Count = 0
Ms>1	Matrix Spike Sample Count > 1
PEM	Performance Evaluation Mixture
Preservation	Preservation
ProfJudg	Professional Judgment
REM	Resolution Check Mixture
Rl	Reporting Limit
Rl	Reporting Limit > Project Maximum Contamination Limit
Rl	Reporting Limit Trace Value
StoA	Sampling to Analysis Estimation
StoA	Sampling to Analysis Rejection

Data Qualifier Summary

Lab Reporting Batch ID: 11069A **Laboratory: R9LAB**

EDD Filename: 11069a_voc_Reviewed_nb.XML **eQAPP Name: Modesto_Site_070810s**

StoE	Sampling to Extraction Estimation
StoE	Sampling to Extraction Rejection
StoL	Sampling to Leaching Estimation
StoL	Sampling to Leaching Rejection
Surr	Surrogate/Tracer Recovery Lower Estimation
Surr	Surrogate/Tracer Recovery Lower Rejection
Surr	Surrogate/Tracer Recovery Upper Estimation
Surr	Surrogate/Tracer Recovery Upper Rejection
Tb	Trip Blank Contamination
TempEst	Temperature Estimation
TempRej	Temperature Rejection

Data Qualifier Summary

Lab Reporting Batch ID: 11069A **Laboratory: R9LAB**

EDD Filename: 1103022 FINAL.XML **eQAPP Name: Modesto_Site_070810s**

No Data Review Qualifiers Applied.

Data Qualifier Summary

Lab Reporting Batch ID: 11069A **Laboratory: R9LAB**

EDD Filename: 11069A_BOD_CCS.XML **eQAPP Name: Modesto_Site_070810s**

Method Category: **GENCHEM**

Method: **5210B** ***Matrix:*** **Water**

Sample ID: **EFF-0302** ***Collected:*** **3/9/2011 1:30:00 PM** ***Analysis Type:*** **Initial** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
Biochemical Oxygen Demand	2.0	J,<,Q2	2.0	MDL	2.0	MRL	mg/L	J-	Lcs

Data Qualifier Summary

Lab Reporting Batch ID: 11069A **Laboratory: R9LAB**

EDD Filename: 11069A_BOD_CCS.XML **eQAPP Name: Modesto_Site_070810s**

Reason Code Legend

Reason Code	*Description*
Cb	Calibration Blank Contamination
Ccv	Continuing Calibration Verification Percent Difference Lower Estimation
Ccv	Continuing Calibration Verification Percent Difference Lower Rejection
Ccv	Continuing Calibration Verification Percent Difference Upper Estimation
Ccv	Continuing Calibration Verification Percent Difference Upper Rejection
Ccv	Continuing Calibration Verification Percent Recovery Lower Estimation
Ccv	Continuing Calibration Verification Percent Recovery Lower Rejection
Ccv	Continuing Calibration Verification Percent Recovery Upper Estimation
Ccv	Continuing Calibration Verification Percent Recovery Upper Rejection
CcvCC	Continuing Calibration Verification Correlation Coefficient
CcvRrf	Continuing Calibration Verification Relative Response Factor
ContTune	Continuing Tune
Dup=0	Duplicate Sample Count = 0
Dup>1	Duplicate Sample Count > 1
Eb	Equipment Blank Contamination
EtoA	Extraction to Analysis Estimation
EtoA	Extraction to Analysis Rejection
Fb	Field Blank Contamination
Fd	Field Duplicate Precision
IcCC	Initial Calibration Correlation Coefficient
IcRrf	Initial Calibration Relative Response Factor
IcRsd	Initial Calibration Percent Relative Standard Deviation
Icv	Initial Calibration Verification Percent Difference Lower Estimation
Icv	Initial Calibration Verification Percent Difference Lower Rejection
Icv	Initial Calibration Verification Percent Difference Upper Estimation
Icv	Initial Calibration Verification Percent Difference Upper Rejection
Icv	Initial Calibration Verification Percent Recovery Lower Estimation
Icv	Initial Calibration Verification Percent Recovery Lower Rejection
Icv	Initial Calibration Verification Percent Recovery Upper Estimation
Icv	Initial Calibration Verification Percent Recovery Upper Rejection
IcvCC	Initial Calibration Verification Correlation Coefficient

Data Qualifier Summary

Lab Reporting Batch ID: 11069A **Laboratory: R9LAB**

EDD Filename: 11069A_BOD_CCS.XML **eQAPP Name: Modesto_Site_070810s**

IcvRrf	Initial Calibration Verification Relative Response Factor
IllogicalFraction	Illogical Fraction
InitTune	Initial Tune
Is	Internal Standard Estimation
Is	Internal Standard Rejection
Lcs	Laboratory Control Precision
Lcs	Laboratory Control Spike Lower Estimation
Lcs	Laboratory Control Spike Lower Rejection
Lcs	Laboratory Control Spike Upper Estimation
Lcs	Laboratory Control Spike Upper Rejection
Lcs=0	Laboratory Control Sample Count = 0
Lcs>1	Laboratory Control Sample Count > 1
Ld	Laboratory Duplicate Precision
Mb	Method Blank Contamination
Mb=0	Method Blank Sample Count = 0
Mb>1	Method Blank Sample Count > 1
Moist	Percent Moisture
Ms	Matrix Spike Lower Estimation
Ms	Matrix Spike Lower Rejection
Ms	Matrix Spike Precision
Ms	Matrix Spike Upper Estimation
Ms	Matrix Spike Upper Rejection
Ms=0	Matrix Spike Sample Count = 0
Ms>1	Matrix Spike Sample Count > 1
PEM	Performance Evaluation Mixture
Preservation	Preservation
ProfJudg	Professional Judgment
REM	Resolution Check Mixture
Rl	Reporting Limit
Rl	Reporting Limit > Project Maximum Contamination Limit
Rl	Reporting Limit Trace Value
StoA	Sampling to Analysis Estimation
StoA	Sampling to Analysis Rejection

Data Qualifier Summary

Lab Reporting Batch ID: 11069A **Laboratory: R9LAB**

EDD Filename: 11069A_BOD_CCS.XML **eQAPP Name: Modesto_Site_070810s**

StoE	Sampling to Extraction Estimation
StoE	Sampling to Extraction Rejection
StoL	Sampling to Leaching Estimation
StoL	Sampling to Leaching Rejection
Surr	Surrogate/Tracer Recovery Lower Estimation
Surr	Surrogate/Tracer Recovery Lower Rejection
Surr	Surrogate/Tracer Recovery Upper Estimation
Surr	Surrogate/Tracer Recovery Upper Rejection
Tb	Trip Blank Contamination
TempEst	Temperature Estimation
TempRej	Temperature Rejection

SDG 11069C

Data Qualifier Summary

Lab Reporting Batch ID: 11069C **Laboratory: R9LAB**

EDD Filename: 11069C_524_Final.xml **eQAPP Name: Modesto_Site_070810s**

Method Category: **VOA**

Method: **524.2** ***Matrix:*** **Water**

Sample ID: **MW-11A-1Q11** ***Collected:*** **3/8/2011 9:12:00 AM** ***Analysis Type:*** **Initial-** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DIBROMO-3-CHLOROPROPANE	2.0	J,U,C3	1.0	MDL	2.0	MRL	ug/L	UJ	IcRsd
BROMOFORM	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
CHLOROFORM	2.7		0.2	MDL	0.5	MRL	ug/L	U	Tb
DIBROMOCHLOROMETHANE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
TRANS-1,3-DICHLOROPROPENE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd

Sample ID: **MW-13A-1Q11** ***Collected:*** **3/8/2011 9:50:00 AM** ***Analysis Type:*** **Initial-** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DIBROMO-3-CHLOROPROPANE	2.0	J,U,C3	1.0	MDL	2.0	MRL	ug/L	UJ	IcRsd
BROMOFORM	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
CHLOROFORM	1.5		0.2	MDL	0.5	MRL	ug/L	U	Tb
DIBROMOCHLOROMETHANE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
TRANS-1,3-DICHLOROPROPENE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd

Sample ID: **MW-14A-1Q11** ***Collected:*** **3/8/2011 2:28:00 PM** ***Analysis Type:*** **Initial-** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DIBROMO-3-CHLOROPROPANE	2.0	J,U,C3	1.0	MDL	2.0	MRL	ug/L	UJ	IcRsd
BROMOFORM	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
CHLOROFORM	0.3	J,C1	0.2	MDL	0.5	MRL	ug/L	UJ	Rl, Tb
DIBROMOCHLOROMETHANE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
TRANS-1,3-DICHLOROPROPENE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd

Sample ID: **MW-15A-1Q11** ***Collected:*** **3/7/2011 2:14:00 PM** ***Analysis Type:*** **Initial-** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DIBROMO-3-CHLOROPROPANE	2.0	J,U,C3	1.0	MDL	2.0	MRL	ug/L	UJ	IcRsd
BROMOFORM	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
CHLOROFORM	0.3	J,C1	0.2	MDL	0.5	MRL	ug/L	UJ	Rl, Tb
DIBROMOCHLOROMETHANE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
TRANS-1,3-DICHLOROPROPENE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd

Data Qualifier Summary

Lab Reporting Batch ID: 11069C **Laboratory: R9LAB**

EDD Filename: 11069C_524_Final.xml **eQAPP Name: Modesto_Site_070810s**

Method Category: **VOA**

Method: **524.2** ***Matrix:*** **Water**

Sample ID: **MW-16A-1Q11** ***Collected:*** **3/8/2011 11:18:00** ***Analysis Type:*** **Initial** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,4-TRIMETHYLBENZENE	0.4	J,C1	0.2	MDL	0.5	MRL	ug/L	J	Rl
1,2-DIBROMO-3-CHLOROPROPANE	2.0	J,U,C3	1.0	MDL	2.0	MRL	ug/L	UJ	IcRsd
BROMOFORM	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
CHLOROFORM	0.7		0.2	MDL	0.5	MRL	ug/L	U	Tb
DIBROMOCHLOROMETHANE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
NAPHTHALENE	0.3	J,C1	0.2	MDL	0.5	MRL	ug/L	J	Rl
TRANS-1,3-DICHLOROPROPENE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd

Sample ID: **MW-16B-1Q11** ***Collected:*** **3/8/2011 1:21:00 PM** ***Analysis Type:*** **Initial-** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DIBROMO-3-CHLOROPROPANE	2.0	J,U,C3	1.0	MDL	2.0	MRL	ug/L	UJ	IcRsd
1,3,5-TRIMETHYLBENZENE	0.3	J,C1	0.2	MDL	0.5	MRL	ug/L	J	Rl
BROMOFORM	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
CHLOROFORM	0.3	J,C1	0.2	MDL	0.5	MRL	ug/L	UJ	Rl, Tb
DIBROMOCHLOROMETHANE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
N-PROPYLBENZENE	0.2	J,C1	0.2	MDL	0.5	MRL	ug/L	J	Rl
TOLUENE	0.4	J,C1	0.2	MDL	0.5	MRL	ug/L	J	Rl
TRANS-1,3-DICHLOROPROPENE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd

Sample ID: **MW-16C-1Q11** ***Collected:*** **3/8/2011 12:13:00** ***Analysis Type:*** **Initial-** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DIBROMO-3-CHLOROPROPANE	2.0	J,U,C3	1.0	MDL	2.0	MRL	ug/L	UJ	IcRsd
1,3,5-TRIMETHYLBENZENE	0.2	J,C1	0.2	MDL	0.5	MRL	ug/L	J	Rl
BENZENE	0.4	J,C1	0.2	MDL	0.5	MRL	ug/L	J	Rl
BROMOFORM	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
DIBROMOCHLOROMETHANE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
ETHYLBENZENE	0.2	J,C1	0.2	MDL	0.5	MRL	ug/L	J	Rl
m&p-Xylene	0.8	J,C1	0.5	MDL	1.0	MRL	ug/L	J	Rl
TOLUENE	0.3	J,C1	0.2	MDL	0.5	MRL	ug/L	J	Rl
TRANS-1,3-DICHLOROPROPENE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd

Data Qualifier Summary

Lab Reporting Batch ID: 11069C **Laboratory: R9LAB**

EDD Filename: 11069C_524_Final.xml **eQAPP Name: Modesto_Site_070810s**

Method Category: **VOA**

Method: **524.2** ***Matrix:*** **Water**

Sample ID: **MW-19A-1Q11** ***Collected:*** **3/8/2011 9:20:00 AM** ***Analysis Type:*** **Initial** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,4-TRIMETHYLBENZENE	0.3	J,C1	0.2	MDL	0.5	MRL	ug/L	J	Rl
1,2-DIBROMO-3-CHLOROPROPANE	2.0	J,U,C3	1.0	MDL	2.0	MRL	ug/L	UJ	IcRsd
1,3,5-TRIMETHYLBENZENE	0.4	J,C1	0.2	MDL	0.5	MRL	ug/L	J	Rl
BROMOFORM	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
CHLOROFORM	1.6		0.2	MDL	0.5	MRL	ug/L	U	Tb
DIBROMOCHLOROMETHANE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
NAPHTHALENE	0.3	J,C1	0.2	MDL	0.5	MRL	ug/L	J	Rl
TETRACHLOROETHENE	0.2	J,C1	0.2	MDL	0.5	MRL	ug/L	J	Rl
TRANS-1,3-DICHLOROPROPENE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd

Sample ID: **MW-19B-1Q11** ***Collected:*** **3/8/2011 10:12:00** ***Analysis Type:*** **Initial** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,4-TRIMETHYLBENZENE	0.2	J,C1	0.2	MDL	0.5	MRL	ug/L	J	Rl
1,2-DIBROMO-3-CHLOROPROPANE	2.0	J,U,C3	1.0	MDL	2.0	MRL	ug/L	UJ	IcRsd
1,3,5-TRIMETHYLBENZENE	0.3	J,C1	0.2	MDL	0.5	MRL	ug/L	J	Rl
BROMOFORM	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
DIBROMOCHLOROMETHANE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
ETHYLBENZENE	0.3	J,C1	0.2	MDL	0.5	MRL	ug/L	J	Rl
TETRACHLOROETHENE	0.3	J,C1	0.2	MDL	0.5	MRL	ug/L	J	Rl
TOLUENE	0.3	J,C1	0.2	MDL	0.5	MRL	ug/L	J	Rl
TRANS-1,3-DICHLOROPROPENE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd

Sample ID: **MW-1A-1Q11** ***Collected:*** **3/8/2011 10:46:00** ***Analysis Type:*** **Initial-** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DIBROMO-3-CHLOROPROPANE	2.0	J,U,C3	1.0	MDL	2.0	MRL	ug/L	UJ	IcRsd
BROMOFORM	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
CHLOROFORM	0.2	J,C1	0.2	MDL	0.5	MRL	ug/L	UJ	Rl, Tb
DIBROMOCHLOROMETHANE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
TRANS-1,3-DICHLOROPROPENE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd

Sample ID: **MW-2A-1Q11** ***Collected:*** **3/8/2011 12:38:00** ***Analysis Type:*** **Initial-** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DIBROMO-3-CHLOROPROPANE	2.0	J,U,C3	1.0	MDL	2.0	MRL	ug/L	UJ	IcRsd

Data Qualifier Summary

Lab Reporting Batch ID: 11069C **Laboratory: R9LAB**

EDD Filename: 11069C_524_Final.xml **eQAPP Name: Modesto_Site_070810s**

Method Category: **VOA**

Method: **524.2** ***Matrix:*** **Water**

Sample ID: **MW-2A-1Q11** ***Collected:*** **3/8/2011 12:38:00** ***Analysis Type:*** **Initial** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BROMOFORM	0.5	J,U,C3,Q3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
CHLOROFORM	2.3		0.2	MDL	0.5	MRL	ug/L	U	Tb
DIBROMOCHLOROMETHANE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
TRANS-1,3-DICHLOROPROPENE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd

Sample ID: **MW-303-1Q11** ***Collected:*** **3/8/2011 7:00:00 AM** ***Analysis Type:*** **Initial-** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DIBROMO-3-CHLOROPROPANE	2.0	J,U,C3	1.0	MDL	2.0	MRL	ug/L	UJ	IcRsd
BROMOFORM	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
DIBROMOCHLOROMETHANE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
TRANS-1,3-DICHLOROPROPENE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd

Sample ID: **MW-6A-1Q11** ***Collected:*** **3/8/2011 1:36:00 PM** ***Analysis Type:*** **Initial-** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DIBROMO-3-CHLOROPROPANE	2.0	J,U,C3	1.0	MDL	2.0	MRL	ug/L	UJ	IcRsd
BROMODICHLOROMETHANE	0.3	J,C1	0.2	MDL	0.5	MRL	ug/L	J	Rl
BROMOFORM	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
DIBROMOCHLOROMETHANE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
TRANS-1,3-DICHLOROPROPENE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd

Sample ID: **MW-7A-1Q11** ***Collected:*** **3/8/2011 8:38:00 AM** ***Analysis Type:*** **Initial-** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DIBROMO-3-CHLOROPROPANE	2.0	J,U,C3	1.0	MDL	2.0	MRL	ug/L	UJ	IcRsd
BROMOFORM	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
CHLOROFORM	0.8		0.2	MDL	0.5	MRL	ug/L	U	Tb
DIBROMOCHLOROMETHANE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
TRANS-1,3-DICHLOROPROPENE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd

Sample ID: **MW-98A-1Q11** ***Collected:*** **3/8/2011 12:00:00** ***Analysis Type:*** **Initial-** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DIBROMO-3-CHLOROPROPANE	2.0	J,U,C3	1.0	MDL	2.0	MRL	ug/L	UJ	IcRsd
BROMOFORM	0.5	J,U,C3,Q3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd

Data Qualifier Summary

Lab Reporting Batch ID: 11069C **Laboratory: R9LAB**

EDD Filename: 11069C_524_Final.xml **eQAPP Name: Modesto_Site_070810s**

Method Category: **VOA**

Method: **524.2** ***Matrix:*** **Water**

Sample ID: **MW-98A-1Q11** ***Collected:*** **3/8/2011 12:00:00** ***Analysis Type:*** **Initial** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CHLOROFORM	2.4		0.2	MDL	0.5	MRL	ug/L	U	Tb
DIBROMOCHLOROMETHANE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
TRANS-1,3-DICHLOROPROPENE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd

Sample ID: **MW-9B-1Q11** ***Collected:*** **3/8/2011 11:31:00** ***Analysis Type:*** **Initial-** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DIBROMO-3-CHLOROPROPANE	2.0	J,U,C3	1.0	MDL	2.0	MRL	ug/L	UJ	IcRsd
BROMOFORM	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
DIBROMOCHLOROMETHANE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
TRANS-1,3-DICHLOROPROPENE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd

Data Qualifier Summary

Lab Reporting Batch ID: 11069C **Laboratory: R9LAB**

EDD Filename: 11069C_524_Final.xml **eQAPP Name: Modesto_Site_070810s**

Reason Code Legend

Reason Code	*Description*
Cb	Calibration Blank Contamination
Ccv	Continuing Calibration Verification Percent Difference Lower Estimation
Ccv	Continuing Calibration Verification Percent Difference Lower Rejection
Ccv	Continuing Calibration Verification Percent Difference Upper Estimation
Ccv	Continuing Calibration Verification Percent Difference Upper Rejection
Ccv	Continuing Calibration Verification Percent Recovery Lower Estimation
Ccv	Continuing Calibration Verification Percent Recovery Lower Rejection
Ccv	Continuing Calibration Verification Percent Recovery Upper Estimation
Ccv	Continuing Calibration Verification Percent Recovery Upper Rejection
CcvCC	Continuing Calibration Verification Correlation Coefficient
CcvRrf	Continuing Calibration Verification Relative Response Factor
ContTune	Continuing Tune
Dup=0	Duplicate Sample Count = 0
Dup>1	Duplicate Sample Count > 1
Eb	Equipment Blank Contamination
EtoA	Extraction to Analysis Estimation
EtoA	Extraction to Analysis Rejection
Fb	Field Blank Contamination
Fd	Field Duplicate Precision
IcCC	Initial Calibration Correlation Coefficient
IcRrf	Initial Calibration Relative Response Factor
IcRsd	Initial Calibration Percent Relative Standard Deviation
Icv	Initial Calibration Verification Percent Difference Lower Estimation
Icv	Initial Calibration Verification Percent Difference Lower Rejection
Icv	Initial Calibration Verification Percent Difference Upper Estimation
Icv	Initial Calibration Verification Percent Difference Upper Rejection
Icv	Initial Calibration Verification Percent Recovery Lower Estimation
Icv	Initial Calibration Verification Percent Recovery Lower Rejection
Icv	Initial Calibration Verification Percent Recovery Upper Estimation
Icv	Initial Calibration Verification Percent Recovery Upper Rejection
IcvCC	Initial Calibration Verification Correlation Coefficient

Data Qualifier Summary

Lab Reporting Batch ID: 11069C **Laboratory: R9LAB**

EDD Filename: 11069C_524_Final.xml **eQAPP Name: Modesto_Site_070810s**

IcvRrf	Initial Calibration Verification Relative Response Factor
IllogicalFraction	Illogical Fraction
InitTune	Initial Tune
Is	Internal Standard Estimation
Is	Internal Standard Rejection
Lcs	Laboratory Control Precision
Lcs	Laboratory Control Spike Lower Estimation
Lcs	Laboratory Control Spike Lower Rejection
Lcs	Laboratory Control Spike Upper Estimation
Lcs	Laboratory Control Spike Upper Rejection
Lcs=0	Laboratory Control Sample Count = 0
Lcs>1	Laboratory Control Sample Count > 1
Ld	Laboratory Duplicate Precision
Mb	Method Blank Contamination
Mb=0	Method Blank Sample Count = 0
Mb>1	Method Blank Sample Count > 1
Moist	Percent Moisture
Ms	Matrix Spike Lower Estimation
Ms	Matrix Spike Lower Rejection
Ms	Matrix Spike Precision
Ms	Matrix Spike Upper Estimation
Ms	Matrix Spike Upper Rejection
Ms=0	Matrix Spike Sample Count = 0
Ms>1	Matrix Spike Sample Count > 1
PEM	Performance Evaluation Mixture
Preservation	Preservation
ProfJudg	Professional Judgment
REM	Resolution Check Mixture
Rl	Reporting Limit
Rl	Reporting Limit > Project Maximum Contamination Limit
Rl	Reporting Limit Trace Value
StoA	Sampling to Analysis Estimation
StoA	Sampling to Analysis Rejection

Data Qualifier Summary

Lab Reporting Batch ID: 11069C **Laboratory: R9LAB**

EDD Filename: 11069C_524_Final.xml **eQAPP Name: Modesto_Site_070810s**

StoE	Sampling to Extraction Estimation
StoE	Sampling to Extraction Rejection
StoL	Sampling to Leaching Estimation
StoL	Sampling to Leaching Rejection
Surr	Surrogate/Tracer Recovery Lower Estimation
Surr	Surrogate/Tracer Recovery Lower Rejection
Surr	Surrogate/Tracer Recovery Upper Estimation
Surr	Surrogate/Tracer Recovery Upper Rejection
Tb	Trip Blank Contamination
TempEst	Temperature Estimation
TempRej	Temperature Rejection

SDG 11074A

Data Qualifier Summary

Lab Reporting Batch ID: 11074A **Laboratory: R9LAB**

EDD Filename: 11074A.xml **eQAPP Name: Modesto_Site_070810s**

Method Category: **VOA**

Method: **524.2** ***Matrix:*** **Water**

Sample ID: **MW-10A-1Q11** ***Collected:*** **3/9/2011 9:51:00 AM** ***Analysis Type:*** **Reinjection-01-** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DIBROMO-3-CHLOROPROPANE	2.0	J,U,C3	1.0	MDL	2.0	MRL	ug/L	UJ	IcRsd
BROMOFORM	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
DIBROMOCHLOROMETHANE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
TRANS-1,3-DICHLOROPROPENE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
TRICHLOROETHENE	0.2	J,C1	0.2	MDL	0.5	MRL	ug/L	J	RI

Sample ID: **MW-10B-1Q11** ***Collected:*** **3/9/2011 12:27:00** ***Analysis Type:*** **Initial-** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DIBROMO-3-CHLOROPROPANE	2.0	J,U,C3	1.0	MDL	2.0	MRL	ug/L	UJ	IcRsd
BROMOFORM	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
DIBROMOCHLOROMETHANE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
TOLUENE	0.4	J,C1	0.2	MDL	0.5	MRL	ug/L	J	RI
TRANS-1,3-DICHLOROPROPENE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd

Sample ID: **MW-10C-1Q11** ***Collected:*** **3/9/2011 11:43:00** ***Analysis Type:*** **Initial** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,4-TRIMETHYLBENZENE	0.3	J,C1	0.2	MDL	0.5	MRL	ug/L	J	RI
1,2-DIBROMO-3-CHLOROPROPANE	2.0	J,U,C3	1.0	MDL	2.0	MRL	ug/L	UJ	IcRsd
1,3,5-TRIMETHYLBENZENE	0.4	J,C1	0.2	MDL	0.5	MRL	ug/L	J	RI
BROMOFORM	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
DIBROMOCHLOROMETHANE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
ETHYLBENZENE	0.4	J,C1	0.2	MDL	0.5	MRL	ug/L	J	RI
NAPHTHALENE	0.2	J,C1	0.2	MDL	0.5	MRL	ug/L	J	RI
TOLUENE	0.4	J,C1	0.2	MDL	0.5	MRL	ug/L	UJ	RI, Fb
TRANS-1,3-DICHLOROPROPENE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd

Sample ID: **MW-12A-1Q11** ***Collected:*** **3/9/2011 8:28:00 AM** ***Analysis Type:*** **Initial-** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DIBROMO-3-CHLOROPROPANE	2.0	J,U,C3	1.0	MDL	2.0	MRL	ug/L	UJ	IcRsd
BROMODICHLOROMETHANE	0.2	J,C1	0.2	MDL	0.5	MRL	ug/L	J	RI
BROMOFORM	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
DIBROMOCHLOROMETHANE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
TRANS-1,3-DICHLOROPROPENE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd

Data Qualifier Summary

Lab Reporting Batch ID: 11074A **Laboratory: R9LAB**

EDD Filename: 11074A.xml **eQAPP Name: Modesto_Site_070810s**

Method Category: **VOA**

Method: **524.2** ***Matrix:*** **Water**

Sample ID: **MW-12A-1Q11** ***Collected:*** **3/9/2011 8:28:00 AM** ***Analysis Type:*** **Initial** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
TRICHLOROFLUOROMETHANE	0.4	J,C1	0.2	MDL	0.5	MRL	ug/L	J	RI

Sample ID: **MW-17A-1Q11** ***Collected:*** **3/9/2011 2:40:00 PM** ***Analysis Type:*** **Initial-** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DIBROMO-3-CHLOROPROPANE	2.0	J,U,C3	1.0	MDL	2.0	MRL	ug/L	UJ	IcRsd
BENZENE	0.3	J,C1	0.2	MDL	0.5	MRL	ug/L	J	RI
BROMOFORM	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
DIBROMOCHLOROMETHANE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
ETHYLBENZENE	0.2	J,C1	0.2	MDL	0.5	MRL	ug/L	J	RI
m&p-Xylene	0.8	J,C1	0.5	MDL	1.0	MRL	ug/L	J	RI
TOLUENE	0.2	J,C1	0.2	MDL	0.5	MRL	ug/L	J	RI
TRANS-1,3-DICHLOROPROPENE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd

Sample ID: **MW-17B-1Q11** ***Collected:*** **3/10/2011 9:29:00** ***Analysis Type:*** **Reinjection-01-** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DIBROMO-3-CHLOROPROPANE	2.0	J,U,C3	1.0	MDL	2.0	MRL	ug/L	UJ	IcRsd
1,3,5-TRIMETHYLBENZENE	0.2	J,C1	0.2	MDL	0.5	MRL	ug/L	J	RI
BROMOFORM	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
CHLOROFORM	0.2	J,C1	0.2	MDL	0.5	MRL	ug/L	J	RI
DIBROMOCHLOROMETHANE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
TOLUENE	0.3	J,C1	0.2	MDL	0.5	MRL	ug/L	J	RI
TRANS-1,3-DICHLOROPROPENE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd

Sample ID: **MW-17C-1Q11** ***Collected:*** **3/10/2011 8:55:00** ***Analysis Type:*** **Initial-** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DIBROMO-3-CHLOROPROPANE	2.0	J,U,C3	1.0	MDL	2.0	MRL	ug/L	UJ	IcRsd
BENZENE	0.2	J,C1	0.2	MDL	0.5	MRL	ug/L	J	RI
BROMOFORM	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
DIBROMOCHLOROMETHANE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
TRANS-1,3-DICHLOROPROPENE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd

Data Qualifier Summary

Lab Reporting Batch ID: 11074A **Laboratory: R9LAB**

EDD Filename: 11074A.xml **eQAPP Name: Modesto_Site_070810s**

Method Category: **VOA**

Method: **524.2** ***Matrix:*** **Water**

Sample ID: **MW-18A-1Q11** ***Collected:*** **3/11/2011 8:10:00** ***Analysis Type:*** **Initial** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,4-TRIMETHYLBENZENE	0.3	J,C1	0.2	MDL	0.5	MRL	ug/L	J	RI, Surr
1,2-DIBROMO-3-CHLOROPROPANE	2.0	J,U,C3	1.0	MDL	2.0	MRL	ug/L	UJ	IcRsd
1,3,5-TRIMETHYLBENZENE	0.4	J,C1	0.2	MDL	0.5	MRL	ug/L	J	RI, Surr
BENZENE	0.5		0.2	MDL	0.5	MRL	ug/L	J+	Surr
BROMOFORM	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
CHLOROFORM	3.2		0.2	MDL	0.5	MRL	ug/L	J+	Surr
DIBROMOCHLOROMETHANE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
ETHYLBENZENE	0.4	J,C1	0.2	MDL	0.5	MRL	ug/L	J	RI, Surr
m&p-Xylene	1.4		0.5	MDL	1.0	MRL	ug/L	J+	Surr
NAPHTHALENE	0.3	J,C1	0.2	MDL	0.5	MRL	ug/L	J	RI, Surr
O-XYLENE	1.8		0.2	MDL	0.5	MRL	ug/L	J+	Surr
TETRACHLOROETHENE	3.4		0.2	MDL	0.5	MRL	ug/L	J+	Surr
TOLUENE	0.4	J,C1	0.2	MDL	0.5	MRL	ug/L	J	RI, Surr
TRANS-1,3-DICHLOROPROPENE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd

Sample ID: **MW-20A-1Q11** ***Collected:*** **3/10/2011 12:23:00** ***Analysis Type:*** **Reinjection-01-** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DIBROMO-3-CHLOROPROPANE	4.0	J,U,C3	2.0	MDL	4.0	MRL	ug/L	UJ	IcRsd
1,3,5-TRIMETHYLBENZENE	0.8	J,C1	0.5	MDL	1.0	MRL	ug/L	J	RI
BENZENE	0.5	J,C1	0.5	MDL	1.0	MRL	ug/L	J	RI
BROMOFORM	1.0	J,U,C3	0.5	MDL	1.0	MRL	ug/L	UJ	IcRsd
DIBROMOCHLOROMETHANE	1.0	J,U,C3	0.5	MDL	1.0	MRL	ug/L	UJ	IcRsd
N-PROPYLBENZENE	0.6	J,C1	0.5	MDL	1.0	MRL	ug/L	J	RI
TRANS-1,3-DICHLOROPROPENE	1.0	J,U,C3	0.5	MDL	1.0	MRL	ug/L	UJ	IcRsd

Sample ID: **MW-20B-1Q11** ***Collected:*** **3/10/2011 11:49:00** ***Analysis Type:*** **Reinjection-01** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,4-TRIMETHYLBENZENE	0.6	J,C1	0.5	MDL	1.0	MRL	ug/L	J	RI
1,2-DIBROMO-3-CHLOROPROPANE	4.0	J,U,C3	2.0	MDL	4.0	MRL	ug/L	UJ	IcRsd
BENZENE	0.6	J,C1	0.5	MDL	1.0	MRL	ug/L	J	RI
BROMOFORM	1.0	J,U,C3	0.5	MDL	1.0	MRL	ug/L	UJ	IcRsd
DIBROMOCHLOROMETHANE	1.0	J,U,C3	0.5	MDL	1.0	MRL	ug/L	UJ	IcRsd
N-PROPYLBENZENE	0.5	J,C1	0.5	MDL	1.0	MRL	ug/L	J	RI

Data Qualifier Summary

Lab Reporting Batch ID: 11074A **Laboratory: R9LAB**

EDD Filename: 11074A.xml **eQAPP Name: Modesto_Site_070810s**

Method Category: **VOA**

Method: **524.2** ***Matrix:*** **Water**

Sample ID: **MW-20B-1Q11** ***Collected:*** **3/10/2011 11:49:00** ***Analysis Type:*** **Reinjection-01** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
TRANS-1,3-DICHLOROPROPENE	1.0	J,U,C3	0.5	MDL	1.0	MRL	ug/L	UJ	IcRsd

Sample ID: **MW-20C-1Q11** ***Collected:*** **3/10/2011 11:07:00** ***Analysis Type:*** **Initial-** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DIBROMO-3-CHLOROPROPANE	2.0	J,U,C3	1.0	MDL	2.0	MRL	ug/L	UJ	IcRsd
1,3,5-TRIMETHYLBENZENE	0.2	J,C1	0.2	MDL	0.5	MRL	ug/L	J	RI
BENZENE	0.2	J,C1	0.2	MDL	0.5	MRL	ug/L	J	RI
BROMOFORM	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
DIBROMOCHLOROMETHANE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
ETHYLBENZENE	0.2	J,C1	0.2	MDL	0.5	MRL	ug/L	J	RI
m&p-Xylene	0.7	J,C1	0.5	MDL	1.0	MRL	ug/L	J	RI
TOLUENE	0.2	J,C1	0.2	MDL	0.5	MRL	ug/L	J	RI

Sample ID: **MW-3A-1Q11** ***Collected:*** **3/11/2011 7:51:00** ***Analysis Type:*** **Initial-** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DIBROMO-3-CHLOROPROPANE	2.0	J,U,C3	1.0	MDL	2.0	MRL	ug/L	UJ	IcRsd
BROMOFORM	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
DIBROMOCHLOROMETHANE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
m&p-Xylene	0.6	J,C1	0.5	MDL	1.0	MRL	ug/L	J	RI
TRANS-1,3-DICHLOROPROPENE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd

Sample ID: **MW-402-1Q11** ***Collected:*** **3/9/2011 11:45:00** ***Analysis Type:*** **Initial** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BROMOFORM	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
DIBROMOCHLOROMETHANE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
TOLUENE	0.3	J,C1	0.2	MDL	0.5	MRL	ug/L	J	RI
TRANS-1,3-DICHLOROPROPENE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd

Sample ID: **MW-4A-1Q11** ***Collected:*** **3/9/2011 11:27:00** ***Analysis Type:*** **Initial-** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DIBROMO-3-CHLOROPROPANE	20	J,U,C3	10	MDL	20	MRL	ug/L	UJ	IcRsd
BROMOFORM	5.0	J,U,C3	2.5	MDL	5.0	MRL	ug/L	UJ	IcRsd

Data Qualifier Summary

Lab Reporting Batch ID: 11074A **Laboratory: R9LAB**

EDD Filename: 11074A.xml **eQAPP Name: Modesto_Site_070810s**

Method Category: **VOA**

Method: **524.2** ***Matrix:*** **Water**

Sample ID: **MW-4A-1Q11** ***Collected:*** **3/9/2011 11:27:00** ***Analysis Type:*** **Initial** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
DIBROMOCHLOROMETHANE	5.0	J,U,C3	2.5	MDL	5.0	MRL	ug/L	UJ	IcRsd
TRANS-1,3-DICHLOROPROPENE	5.0	J,U,C3	2.5	MDL	5.0	MRL	ug/L	UJ	IcRsd

Sample ID: **MW-4B-1Q11** ***Collected:*** **3/9/2011 9:47:00 AM** ***Analysis Type:*** **Initial-** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DIBROMO-3-CHLOROPROPANE	2.0	J,U,C3	1.0	MDL	2.0	MRL	ug/L	UJ	IcRsd
BROMOFORM	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
DIBROMOCHLOROMETHANE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
ISOPROPYLBENZENE	0.2	J,C1	0.2	MDL	0.5	MRL	ug/L	J	RI
NAPHTHALENE	0.4	J,C1	0.2	MDL	0.5	MRL	ug/L	J	RI
TRANS-1,3-DICHLOROPROPENE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd

Sample ID: **MW-4C-1Q11** ***Collected:*** **3/9/2011 9:01:00 AM** ***Analysis Type:*** **Initial** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,4-TRIMETHYLBENZENE	0.3	J,C1	0.2	MDL	0.5	MRL	ug/L	J	RI
1,2-DIBROMO-3-CHLOROPROPANE	2.0	J,U,C3	1.0	MDL	2.0	MRL	ug/L	UJ	IcRsd
BROMOFORM	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
DIBROMOCHLOROMETHANE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
NAPHTHALENE	0.3	J,C1	0.2	MDL	0.5	MRL	ug/L	J	RI
TRANS-1,3-DICHLOROPROPENE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd

Sample ID: **MW-5A-1Q11** ***Collected:*** **3/9/2011 10:51:00** ***Analysis Type:*** **Reinjection-01-** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DIBROMO-3-CHLOROPROPANE	2.0	J,U,C3	1.0	MDL	2.0	MRL	ug/L	UJ	IcRsd
BROMOFORM	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
DIBROMOCHLOROMETHANE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
TRANS-1,3-DICHLOROPROPENE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd

Sample ID: **MW-80C-1Q11** ***Collected:*** **3/10/2011 12:00:00** ***Analysis Type:*** **Initial-** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DIBROMO-3-CHLOROPROPANE	2.0	J,U,C3	1.0	MDL	2.0	MRL	ug/L	UJ	IcRsd
1,3,5-TRIMETHYLBENZENE	0.2	J,C1	0.2	MDL	0.5	MRL	ug/L	J	RI

Data Qualifier Summary

Lab Reporting Batch ID: 11074A **Laboratory: R9LAB**

EDD Filename: 11074A.xml **eQAPP Name: Modesto_Site_070810s**

Method Category: **VOA**

Method: **524.2** ***Matrix:*** **Water**

Sample ID: **MW-80C-1Q11** ***Collected:*** **3/10/2011 12:00:00** ***Analysis Type:*** **Initial** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BENZENE	0.2	J,C1	0.2	MDL	0.5	MRL	ug/L	J	RI
BROMOFORM	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
DIBROMOCHLOROMETHANE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
ETHYLBENZENE	0.2	J,C1	0.2	MDL	0.5	MRL	ug/L	J	RI
m&p-Xylene	0.8	J,C1	0.5	MDL	1.0	MRL	ug/L	J	RI
TOLUENE	0.2	J,C1	0.2	MDL	0.5	MRL	ug/L	J	RI
TRANS-1,3-DICHLOROPROPENE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd

Sample ID: **MW-8A-1Q11** ***Collected:*** **3/9/2011 9:08:00 AM** ***Analysis Type:*** **Reinjection-01-** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DIBROMO-3-CHLOROPROPANE	2.0	J,U,C3	1.0	MDL	2.0	MRL	ug/L	UJ	IcRsd
BROMOFORM	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
DIBROMOCHLOROMETHANE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
TRANS-1,3-DICHLOROPROPENE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd

Sample ID: **MW-90B-1Q11** ***Collected:*** **3/9/2011 12:00:00** ***Analysis Type:*** **Initial-** ***Dilution:*** **1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DIBROMO-3-CHLOROPROPANE	2.0	J,U,C3	1.0	MDL	2.0	MRL	ug/L	UJ	IcRsd
BROMOFORM	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
DIBROMOCHLOROMETHANE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd
TOLUENE	0.4	J,C1	0.2	MDL	0.5	MRL	ug/L	J	RI
TRANS-1,3-DICHLOROPROPENE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd

Data Qualifier Summary

Lab Reporting Batch ID: 11074A **Laboratory: R9LAB**

EDD Filename: 11074A.xml **eQAPP Name: Modesto_Site_070810s**

Reason Code Legend

Reason Code	*Description*
Cb	Calibration Blank Contamination
Ccv	Continuing Calibration Verification Percent Difference Lower Estimation
Ccv	Continuing Calibration Verification Percent Difference Lower Rejection
Ccv	Continuing Calibration Verification Percent Difference Upper Estimation
Ccv	Continuing Calibration Verification Percent Difference Upper Rejection
Ccv	Continuing Calibration Verification Percent Recovery Lower Estimation
Ccv	Continuing Calibration Verification Percent Recovery Lower Rejection
Ccv	Continuing Calibration Verification Percent Recovery Upper Estimation
Ccv	Continuing Calibration Verification Percent Recovery Upper Rejection
CcvCC	Continuing Calibration Verification Correlation Coefficient
CcvRrf	Continuing Calibration Verification Relative Response Factor
ContTune	Continuing Tune
Dup=0	Duplicate Sample Count = 0
Dup>1	Duplicate Sample Count > 1
Eb	Equipment Blank Contamination
EtoA	Extraction to Analysis Estimation
EtoA	Extraction to Analysis Rejection
Fb	Field Blank Contamination
Fd	Field Duplicate Precision
IcCC	Initial Calibration Correlation Coefficient
IcRrf	Initial Calibration Relative Response Factor
IcRsd	Initial Calibration Percent Relative Standard Deviation
Icv	Initial Calibration Verification Percent Difference Lower Estimation
Icv	Initial Calibration Verification Percent Difference Lower Rejection
Icv	Initial Calibration Verification Percent Difference Upper Estimation
Icv	Initial Calibration Verification Percent Difference Upper Rejection
Icv	Initial Calibration Verification Percent Recovery Lower Estimation
Icv	Initial Calibration Verification Percent Recovery Lower Rejection
Icv	Initial Calibration Verification Percent Recovery Upper Estimation
Icv	Initial Calibration Verification Percent Recovery Upper Rejection
IcvCC	Initial Calibration Verification Correlation Coefficient

IcvRrf	Initial Calibration Verification Relative Response Factor
IllogicalFraction	Illogical Fraction
InitTune	Initial Tune
Is	Internal Standard Estimation
Is	Internal Standard Rejection
Lcs	Laboratory Control Precision
Lcs	Laboratory Control Spike Lower Estimation
Lcs	Laboratory Control Spike Lower Rejection
Lcs	Laboratory Control Spike Upper Estimation
Lcs	Laboratory Control Spike Upper Rejection
Lcs=0	Laboratory Control Sample Count = 0
Lcs>1	Laboratory Control Sample Count > 1
Ld	Laboratory Duplicate Precision
Mb	Method Blank Contamination
Mb=0	Method Blank Sample Count = 0
Mb>1	Method Blank Sample Count > 1
Moist	Percent Moisture
Ms	Matrix Spike Lower Estimation
Ms	Matrix Spike Lower Rejection
Ms	Matrix Spike Precision
Ms	Matrix Spike Upper Estimation
Ms	Matrix Spike Upper Rejection
Ms=0	Matrix Spike Sample Count = 0
Ms>1	Matrix Spike Sample Count > 1
PEM	Performance Evaluation Mixture
Preservation	Preservation
ProfJudg	Professional Judgment
REM	Resolution Check Mixture
RI	Reporting Limit
RI	Reporting Limit > Project Maximum Contamination Limit
RI	Reporting Limit Trace Value
StoA	Sampling to Analysis Estimation
StoA	Sampling to Analysis Rejection

Data Qualifier Summary

Lab Reporting Batch ID: 11074A **Laboratory: R9LAB**

EDD Filename: 11074A.xml **eQAPP Name: Modesto_Site_070810s**

StoE	Sampling to Extraction Estimation
StoE	Sampling to Extraction Rejection
StoL	Sampling to Leaching Estimation
StoL	Sampling to Leaching Rejection
Surr	Surrogate/Tracer Recovery Lower Estimation
Surr	Surrogate/Tracer Recovery Lower Rejection
Surr	Surrogate/Tracer Recovery Upper Estimation
Surr	Surrogate/Tracer Recovery Upper Rejection
Tb	Trip Blank Contamination
TempEst	Temperature Estimation
TempRej	Temperature Rejection

Data Qualifier Summary

Lab Reporting Batch ID: 11074A **Laboratory: R9LAB**

EDD Filename: 11074A_VOCs Soil Gas_edit_RPD.XML **eQAPP Name: Modesto_Site_042811**

Method Category: **VOA**

Method: **TO-15** ***Matrix:*** **Air**

Sample ID: **DP-1A-1Q11** ***Collected:*** **3/10/2011 9:24:00** ***Analysis Type:*** **Initial** ***Dilution:*** **2.31**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
STYRENE	2.3	J,U,C3,Q2	1.2	MDL	2.3	MRL	ppbv	UJ	Lcs

Sample ID: **DP-1B-1Q11** ***Collected:*** **3/10/2011 9:42:00** ***Analysis Type:*** **Initial** ***Dilution:*** **2.31**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
STYRENE	2.3	J,U,C3,Q2	1.2	MDL	2.3	MRL	ppbv	UJ	Lcs

Sample ID: **DP-4A-1Q11** ***Collected:*** **3/10/2011 8:08:00** ***Analysis Type:*** **Initial** ***Dilution:*** **2.25**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
METHYLENE CHLORIDE	1.4	J,C1	1.1	MDL	2.2	MRL	ppbv	J	RI
STYRENE	2.2	J,U,C3,Q2	1.1	MDL	2.2	MRL	ppbv	UJ	Lcs

Sample ID: **DP-4B-1Q11** ***Collected:*** **3/10/2011 8:22:00** ***Analysis Type:*** **Initial** ***Dilution:*** **2.11**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CHLOROFORM	1.5	J,C1	1.1	MDL	2.1	MRL	ppbv	J	RI
STYRENE	2.1	J,U,C3,Q2	1.1	MDL	2.1	MRL	ppbv	UJ	Lcs

Sample ID: **DP-6A-1Q11** ***Collected:*** **3/10/2011 11:56:00** ***Analysis Type:*** **Initial** ***Dilution:*** **2.31**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
STYRENE	2.3	J,U,C3,Q2	1.2	MDL	2.3	MRL	ppbv	UJ	Lcs
TETRACHLOROETHENE	1.6	J,C1	1.2	MDL	2.3	MRL	ppbv	J	RI

Sample ID: **DP-6B-1Q11** ***Collected:*** **3/10/2011 12:09:00** ***Analysis Type:*** **Initial** ***Dilution:*** **2.33**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
STYRENE	2.3	J,U,C3,Q2	1.2	MDL	2.3	MRL	ppbv	UJ	Lcs

Sample ID: **OSVE-10-1Q11** ***Collected:*** **3/10/2011 11:27:00** ***Analysis Type:*** **Initial** ***Dilution:*** **1.96**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
STYRENE	3.9	J,U,C3,Q2	2.0	MDL	3.9	MRL	ppbv	UJ	Lcs
TETRACHLOROETHENE	3.2	J,C1	2.0	MDL	3.9	MRL	ppbv	J	RI

Data Qualifier Summary

Lab Reporting Batch ID: 11074A **Laboratory: R9LAB**

EDD Filename: 11074A_VOCs Soil Gas_edit_RPD.XML **eQAPP Name: Modesto_Site_042811**

Method Category: **VOA**

Method: **TO-15** ***Matrix:*** **Air**

Sample ID: **OSVE-11-1Q11** ***Collected:*** **3/10/2011 11:14:00** ***Analysis Type:*** **Initial** ***Dilution:*** **2.34**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
STYRENE	2.3	J,U,C3,Q2	1.2	MDL	2.3	MRL	ppbv	UJ	Lcs

Sample ID: **SVE-1-1Q11** ***Collected:*** **3/10/2011 8:50:00** ***Analysis Type:*** **Initial** ***Dilution:*** **2.33**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
STYRENE	2.3	J,U,C3,Q2	1.2	MDL	2.3	MRL	ppbv	UJ	Lcs

Sample ID: **SVE-2-1Q11** ***Collected:*** **3/9/2011 1:27:00 PM** ***Analysis Type:*** **Initial-** ***Dilution:*** **2.1**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2,4-TRICHLOROBENZENE	1.2	J,C1	1.0	MDL	2.1	MRL	ppbv	J	RI
1,3-DICHLOROBENZENE	1.1	J,C1	1.0	MDL	2.1	MRL	ppbv	J	RI
CIS-1,2-DICHLOROETHENE	1.2	J,C1	1.0	MDL	2.1	MRL	ppbv	J	RI
STYRENE	2.1	J,U,C3,Q2	1.0	MDL	2.1	MRL	ppbv	UJ	Lcs
TRICHLOROETHENE	1.2	J,C1	1.0	MDL	2.1	MRL	ppbv	J	RI

Sample ID: **SVE-3-1Q11** ***Collected:*** **3/9/2011 1:32:00 PM** ***Analysis Type:*** **Initial** ***Dilution:*** **2.3**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
STYRENE	2.3	J,U,C3,Q2	1.2	MDL	2.3	MRL	ppbv	UJ	Lcs

Sample ID: **SVE-4-1Q11** ***Collected:*** **3/9/2011 1:39:00 PM** ***Analysis Type:*** **Initial-** ***Dilution:*** **2.11**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,3-DICHLOROBENZENE	1.6	J,C1	1.1	MDL	2.1	MRL	ppbv	J	RI
METHYLENE CHLORIDE	1.2	J,C1	1.1	MDL	2.1	MRL	ppbv	J	RI
STYRENE	2.1	J,U,C3,Q2	1.1	MDL	2.1	MRL	ppbv	UJ	Lcs
TRICHLOROETHENE	1.6	J,C1	1.1	MDL	2.1	MRL	ppbv	J	RI

Sample ID: **SVE-97-1Q11** ***Collected:*** **3/9/2011 1:34:00 PM** ***Analysis Type:*** **Initial** ***Dilution:*** **2.3**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
STYRENE	2.3	J,U,C3,Q2	1.2	MDL	2.3	MRL	ppbv	UJ	Lcs

Data Qualifier Summary

Lab Reporting Batch ID: 11074A **Laboratory: R9LAB**

EDD Filename: 11074A_VOCs Soil Gas_edit_RPD.XML **eQAPP Name: Modesto_Site_042811**

Reason Code Legend

Reason Code	*Description*
Cb	Calibration Blank Contamination
Ccv	Continuing Calibration Verification Percent Difference Lower Estimation
Ccv	Continuing Calibration Verification Percent Difference Lower Rejection
Ccv	Continuing Calibration Verification Percent Difference Upper Estimation
Ccv	Continuing Calibration Verification Percent Difference Upper Rejection
Ccv	Continuing Calibration Verification Percent Recovery Lower Estimation
Ccv	Continuing Calibration Verification Percent Recovery Lower Rejection
Ccv	Continuing Calibration Verification Percent Recovery Upper Estimation
Ccv	Continuing Calibration Verification Percent Recovery Upper Rejection
CcvCC	Continuing Calibration Verification Correlation Coefficient
CcvRrf	Continuing Calibration Verification Relative Response Factor
ContTune	Continuing Tune
Dup=0	Duplicate Sample Count = 0
Dup>1	Duplicate Sample Count > 1
Eb	Equipment Blank Contamination
EtoA	Extraction to Analysis Estimation
EtoA	Extraction to Analysis Rejection
Fb	Field Blank Contamination
Fd	Field Duplicate Precision
IcCC	Initial Calibration Correlation Coefficient
IcRrf	Initial Calibration Relative Response Factor
IcRsd	Initial Calibration Percent Relative Standard Deviation
Icv	Initial Calibration Verification Percent Difference Lower Estimation
Icv	Initial Calibration Verification Percent Difference Lower Rejection
Icv	Initial Calibration Verification Percent Difference Upper Estimation
Icv	Initial Calibration Verification Percent Difference Upper Rejection
Icv	Initial Calibration Verification Percent Recovery Lower Estimation
Icv	Initial Calibration Verification Percent Recovery Lower Rejection
Icv	Initial Calibration Verification Percent Recovery Upper Estimation
Icv	Initial Calibration Verification Percent Recovery Upper Rejection
IcvCC	Initial Calibration Verification Correlation Coefficient

Data Qualifier Summary

Lab Reporting Batch ID: 11074A **Laboratory: R9LAB**

EDD Filename: 11074A_VOCs Soil Gas_edit_RPD.XML **eQAPP Name: Modesto_Site_042811**

IcvRrf	Initial Calibration Verification Relative Response Factor
IllogicalFraction	Illogical Fraction
InitTune	Initial Tune
Is	Internal Standard Estimation
Is	Internal Standard Rejection
Lcs	Laboratory Control Precision
Lcs	Laboratory Control Spike Lower Estimation
Lcs	Laboratory Control Spike Lower Rejection
Lcs	Laboratory Control Spike Upper Estimation
Lcs	Laboratory Control Spike Upper Rejection
Lcs=0	Laboratory Control Sample Count = 0
Lcs>1	Laboratory Control Sample Count > 1
Ld	Laboratory Duplicate Precision
Mb	Method Blank Contamination
Mb=0	Method Blank Sample Count = 0
Mb>1	Method Blank Sample Count > 1
Moist	Percent Moisture
Ms	Matrix Spike Lower Estimation
Ms	Matrix Spike Lower Rejection
Ms	Matrix Spike Precision
Ms	Matrix Spike Upper Estimation
Ms	Matrix Spike Upper Rejection
Ms=0	Matrix Spike Sample Count = 0
Ms>1	Matrix Spike Sample Count > 1
PEM	Performance Evaluation Mixture
Preservation	Preservation
ProfJudg	Professional Judgment
REM	Resolution Check Mixture
RI	Reporting Limit
RI	Reporting Limit > Project Maximum Contamination Limit
RI	Reporting Limit Trace Value
StoA	Sampling to Analysis Estimation
StoA	Sampling to Analysis Rejection

Data Qualifier Summary

Lab Reporting Batch ID: 11074A **Laboratory: R9LAB**

EDD Filename: 11074A_VOCs Soil Gas_edit_RPD.XML **eQAPP Name: Modesto_Site_042811**

StoE	Sampling to Extraction Estimation
StoE	Sampling to Extraction Rejection
StoL	Sampling to Leaching Estimation
StoL	Sampling to Leaching Rejection
Surr	Surrogate/Tracer Recovery Lower Estimation
Surr	Surrogate/Tracer Recovery Lower Rejection
Surr	Surrogate/Tracer Recovery Upper Estimation
Surr	Surrogate/Tracer Recovery Upper Rejection
Tb	Trip Blank Contamination
TempEst	Temperature Estimation
TempRej	Temperature Rejection

SDG 11074C

Data Qualifier Summary

Lab Reporting Batch ID: 11074C **Laboratory: R9LAB**

EDD Filename: 11074C_reviewed_kd.xml **eQAPP Name: Modesto_Site_042811**

Method Category: **VOA**

Method: **TO-15** ***Matrix:*** **Air**

Sample ID: **GWTP Pr GAC-0302** ***Collected:*** **3/9/2011 2:30:00 PM** ***Analysis Type:*** **Initial** ***Dilution:*** **2.05**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
TETRACHLOROETHENE	62	J,Q5	10	MDL	20	MRL	ppbv	J	Ld

Sample ID: **GWTP Pr GAC-0302** ***Collected:*** **3/9/2011 2:30:00 PM** ***Analysis Type:*** **Reinjection-01** ***Dilution:*** **2.05**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CHLOROFORM	1.6	J,C1	1.0	MDL	2.0	MRL	ppbv	J	Rl
STYRENE	2.0	J,U,C3,Q2	1.0	MDL	2.0	MRL	ppbv	UJ	Lcs

Sample ID: **GWTP Stack-0302** ***Collected:*** **3/9/2011 2:20:00 PM** ***Analysis Type:*** **Reinjection-01** ***Dilution:*** **2.29**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
STYRENE	2.3	J,U,C3,Q2	1.1	MDL	2.3	MRL	ppbv	UJ	Lcs

Sample ID: **SVE Pre GAC-0302** ***Collected:*** **3/9/2011 3:05:00 PM** ***Analysis Type:*** **Reinjection-01** ***Dilution:*** **2.33**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
STYRENE	2.3	J,U,C3,Q2	1.2	MDL	2.3	MRL	ppbv	UJ	Lcs

Sample ID: **SVE Stack-0302** ***Collected:*** **3/9/2011 2:55:00 PM** ***Analysis Type:*** **Initial** ***Dilution:*** **2.24**

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
STYRENE	2.2	J,U,C3,Q2	1.1	MDL	2.2	MRL	ppbv	UJ	Lcs

Data Qualifier Summary

Lab Reporting Batch ID: 11074C **Laboratory: R9LAB**

EDD Filename: 11074C_reviewed_kd.xml **eQAPP Name: Modesto_Site_042811**

Reason Code Legend

Reason Code	*Description*
Cb	Calibration Blank Contamination
Ccv	Continuing Calibration Verification Percent Difference Lower Estimation
Ccv	Continuing Calibration Verification Percent Difference Lower Rejection
Ccv	Continuing Calibration Verification Percent Difference Upper Estimation
Ccv	Continuing Calibration Verification Percent Difference Upper Rejection
Ccv	Continuing Calibration Verification Percent Recovery Lower Estimation
Ccv	Continuing Calibration Verification Percent Recovery Lower Rejection
Ccv	Continuing Calibration Verification Percent Recovery Upper Estimation
Ccv	Continuing Calibration Verification Percent Recovery Upper Rejection
CcvCC	Continuing Calibration Verification Correlation Coefficient
CcvRrf	Continuing Calibration Verification Relative Response Factor
ContTune	Continuing Tune
Dup=0	Duplicate Sample Count = 0
Dup>1	Duplicate Sample Count > 1
Eb	Equipment Blank Contamination
EtoA	Extraction to Analysis Estimation
EtoA	Extraction to Analysis Rejection
Fb	Field Blank Contamination
Fd	Field Duplicate Precision
IcCC	Initial Calibration Correlation Coefficient
IcRrf	Initial Calibration Relative Response Factor
IcRsd	Initial Calibration Percent Relative Standard Deviation
Icv	Initial Calibration Verification Percent Difference Lower Estimation
Icv	Initial Calibration Verification Percent Difference Lower Rejection
Icv	Initial Calibration Verification Percent Difference Upper Estimation
Icv	Initial Calibration Verification Percent Difference Upper Rejection
Icv	Initial Calibration Verification Percent Recovery Lower Estimation
Icv	Initial Calibration Verification Percent Recovery Lower Rejection
Icv	Initial Calibration Verification Percent Recovery Upper Estimation
Icv	Initial Calibration Verification Percent Recovery Upper Rejection
IcvCC	Initial Calibration Verification Correlation Coefficient

Data Qualifier Summary

Lab Reporting Batch ID: 11074C **Laboratory: R9LAB**

EDD Filename: 11074C_reviewed_kd.xml **eQAPP Name: Modesto_Site_042811**

IcvRrf	Initial Calibration Verification Relative Response Factor
IllogicalFraction	Illogical Fraction
InitTune	Initial Tune
Is	Internal Standard Estimation
Is	Internal Standard Rejection
Lcs	Laboratory Control Precision
Lcs	Laboratory Control Spike Lower Estimation
Lcs	Laboratory Control Spike Lower Rejection
Lcs	Laboratory Control Spike Upper Estimation
Lcs	Laboratory Control Spike Upper Rejection
Lcs=0	Laboratory Control Sample Count = 0
Lcs>1	Laboratory Control Sample Count > 1
Ld	Laboratory Duplicate Precision
Mb	Method Blank Contamination
Mb=0	Method Blank Sample Count = 0
Mb>1	Method Blank Sample Count > 1
Moist	Percent Moisture
Ms	Matrix Spike Lower Estimation
Ms	Matrix Spike Lower Rejection
Ms	Matrix Spike Precision
Ms	Matrix Spike Upper Estimation
Ms	Matrix Spike Upper Rejection
Ms=0	Matrix Spike Sample Count = 0
Ms>1	Matrix Spike Sample Count > 1
PEM	Performance Evaluation Mixture
Preservation	Preservation
ProfJudg	Professional Judgment
REM	Resolution Check Mixture
Rl	Reporting Limit
Rl	Reporting Limit > Project Maximum Contamination Limit
Rl	Reporting Limit Trace Value
StoA	Sampling to Analysis Estimation
StoA	Sampling to Analysis Rejection

Data Qualifier Summary

Lab Reporting Batch ID: 11074C **Laboratory: R9LAB**

EDD Filename: 11074C_reviewed_kd.xml **eQAPP Name: Modesto_Site_042811**

StoE	Sampling to Extraction Estimation
StoE	Sampling to Extraction Rejection
StoL	Sampling to Leaching Estimation
StoL	Sampling to Leaching Rejection
Surr	Surrogate/Tracer Recovery Lower Estimation
Surr	Surrogate/Tracer Recovery Lower Rejection
Surr	Surrogate/Tracer Recovery Upper Estimation
Surr	Surrogate/Tracer Recovery Upper Rejection
Tb	Trip Blank Contamination
TempEst	Temperature Estimation
TempRej	Temperature Rejection

Appendix B

Manual Validation Level III and IV Worksheets
and
ADR Reports

SDG 11014A

LDC #: 1102-08A4
SDG #: 11014A
Laboratory: EPA Region 9

VALIDATION COMPLETENESS WORKSHEET
Level III/IV

Date: 03/30/10
Page: 1 of 1
Reviewer: MB for CT
2nd Reviewer: KJD

METHOD: GC/MS VOA (EPA TO-15)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 01/13/2011
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	A	
IV.	Continuing calibration	A	
V.	Blanks	A	
VI.	Surrogate spikes	N	
VII.	Sample duplicates	A	
VIII.	Laboratory control samples	A	
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	A	Not reviewed for Level III validation samples.
XII.	Compound quantitation/CRQLs	A	Not reviewed for Level III validation samples.
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	A	Not reviewed for Level III validation samples.
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: ** Indicates sample underwent Level IV validation

1	GWTP Pr GAC-0103 **	11		21		31	
2	GWTP Stack-0103	12		22		32	
3	SVE Pre GAC-0103	13		23		33	
4	SVE Stack-0103	14		24		34	
5	GWTP Pr GAC-0103 DUP (perc only)	15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

LDC #: 1102-~~01A48a~~ 0844 KTD
SDG #: 11014A

VALIDATION FINDINGS CHECKLIST

Reviewer: MB for CT
2nd Reviewer: KTD

Method: Volatiles (EPA Method TO-15)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	X			
Canister pressure criteria was met.	X			
II. GC/MS Instrument performance check				
Were the BFB performance results reviewed and found to be within the specified criteria?	X			
Were all samples analyzed within the 12 hour clock criteria?	X			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	X			
Were all percent relative standard deviations (%RSD) ≤ 30% and relative response factors (RRF) ≥ 0.05?	X			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	X			
Were all percent differences (%D) ≤ 30% and relative response factors (RRF) ≥ 0.05?	X			
V. Blanks				
Was a method blank associated with every sample in this SDG?	X			
Was a method blank analyzed at least once every 12 hours for each matrix and concentration?	X			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.	X			
VI. Surrogate spikes				
Were all surrogate %R within QC limits?			X	
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			X	
VII. Sample Duplicate				
Was a sample duplicate analyzed for this SDG?	X			
Were the relative percent differences (RPD) within the QC limits (<20%)?	X			
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	X			
Was an LCS analyzed per analytical batch?	X			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	X			

LDC #: 1102-~~01A48a~~ 08A4 KD
SDG #: 11014A

VALIDATION FINDINGS CHECKLIST

Reviewer: NB for CT
2nd Reviewer: KD

Validation Area	Yes	No	NA	Findings/Comments
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		X		
Were the performance evaluation (PE) samples within the acceptance limits?			X	
X. Internal standards				
Were internal standard area counts within +/-40% from the associated calibration standard?	X			
Were retention times within +/- 20.0 seconds from the associated calibration standard?	X			
XI. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	X			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	X			
Were chromatogram peaks verified and accounted for?	X			
XII. Compound quantitation/CRQLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	X			
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	X			
XIII. Tentatively identified compounds (TICs)				
Were the major ions (> 10 percent relative intensity) in the reference spectrum evaluated in sample spectrum?			X	
Were relative intensities of the major ions within ± 20% between the sample and the reference spectra?			X	
Did the raw data indicate that the laboratory performed a library search for all required peaks in the chromatograms (samples and blanks)?			X	
XIV. System performance				
System performance was found to be acceptable.	X			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	X			
XVI. Field duplicates				
Field duplicate pairs were identified in this SDG.		X		
Target compounds were detected in the field duplicates.			X	
XVII. Field blanks				
Field blanks were identified in this SDG.		X		
Target compounds were detected in the field blanks.			X	

LDC #: _____
SDG #: 11014A

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: NB
2nd Reviewer: JBH

METHOD: GC/MS Volatile Organics (EPA Method TO-15)

The calibration factors (CF) and relative standard deviation (%RSD) were calculated for the compounds listed below using the following calculations:

CF = (Std Resp * IStd Conc) / (Std Conc * IS Resp)

%RSD = 100 * (S/X)

Where:
S = Standard deviation of calibration factors
X = Mean of calibration factors

Calibration Date		Compound	Standard	Standard Concentration (ppb)	Standard Response (A/H)	Internal Standard Concentration (ppb)	Internal Standard Response (A/H)	Recalculated Calibration Factor (CF)	Recalculated %RSD	Reported Calibration Factor (CF)	Reported %RSD
1/15/2011	HP5973N	Chloroform (vs Bromochloromethane)	Point 1	1.01	100330	20.60	596048	3.433		3.433	
			Point 2	2.02	175486	20.60	599230	2.987		2.987	
			Point 3	5.05	406781	20.60	585966	2.832		2.832	
			Point 4	10.10	854868	20.60	590048	2.955		2.955	
			Point 5	15.15	1273914	20.60	594689	2.913		2.913	
			Point 6	20.20	1671606	20.60	595235	2.864		2.864	
			Mean calibration factor					2.997	7.37	2.997	7.37
1/15/2011		Trichloroethene (vs 1,4-Difluorobenzene)	Point 1	1.01	76563	21.00	3204611	0.497		0.497	
			Point 2	2.02	135892	21.00	3210021	0.440		0.440	
			Point 3	5.05	313752	21.00	3206048	0.407		0.407	
			Point 4	10.10	739006	21.00	3224219	0.477		0.477	
			Point 5	15.15	1092187	21.00	3253541	0.465		0.465	
			Point 6	20.20	1434185	21.00	3273310	0.455		0.455	
			Mean calibration factor					0.457	6.80	0.457	6.80
1/15/2011		Tetrachloroethene (vs Chlorobenzene-d5)	Point 1	1.02	116488	21.00	2824448	0.849		0.849	
			Point 2	2.04	210396	21.00	2854795	0.759		0.759	
			Point 3	5.10	493264	21.00	2828046	0.718		0.718	
			Point 4	10.20	1043080	21.00	2846761	0.754		0.754	
			Point 5	15.30	1544777	21.00	2880627	0.736		0.736	
			Point 6	20.40	2017767	21.00	2895983	0.717		0.717	
			Mean calibration factor					0.756	6.49	0.756	6.49

LDC #: _____
SDG #: 11014A

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Reviewer: NB
2nd Reviewer: JBH

METHOD: GC/MS Volatiles (EPA TO-15)

The relative response factors (RRF) and percent difference (%D) were calculated for the compounds listed below using the following calculations:

RRF = (Std Resp * IStd Conc) / (Std Conc * IS Resp)
%D = 100 * (CC-IC)/(IC)

Where:
CC = Continuing calibration RRF
IC = Initial calibration RRF

Calibration Date	Compound	Standard Concentration (ppb)	Standard Response (A/H)	Internal Standard Concentration (ppb)	Internal Standard Response (A/H)	Recalculated (RRF)	Reported (RRF)	Initial Calibration (RRF)	Recalculated %D	Reported %D
1/15/2011 (4:11)	Chloroform	10.1	853206	20.60	619314	2.810	2.810	2.997	6.2	6.2
	Trichloroethene	10.1	734985	21.00	3387924	0.451	0.451	0.457	1.3	1.3
	Tetrachloroethene	10.2	1040816	21.00	3059007	0.701	0.701	0.756	7.3	7.3

Calibration Date	Compound	Standard Concentration (ppb)	Standard Response (A/H)	Internal Standard Concentration (ppb)	Internal Standard Response (A/H)	Recalculated (RRF)	Reported (RRF)	Initial Calibration (RRF)	Recalculated %D	Reported %D

LDC #: 1102-08A

SDG #: 1D14A

VALIDATION FINDING WORKSHEET

Laboratory Duplicates

Reviewer: KTD

METHOD: GC/MS Volatile Organics (EPA Method TO-15)

Y N NA Were laboratory duplicate pairs identified in this SDG?

Y N NA Were target analytes detected in the laboratory duplicate pairs?

Analyte	Concentration (ppbv)		Reported RPD	Recalculated RPD
	GWTP Pr GAC-0103	GWTP Pr GAC-0103DUP		
Tetrachloroethane	251	247	2	2

Relative percent differences (RPDs) are not calculated when an analyte is nondetected in one duplicate sample or is detected below the CRQL in one or both duplicate samples

LDC #: _____
SDG #: 11014A

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Result Verification

Page: 1 of 1
Reviewer: MB
2nd Reviewer: JBH

METHOD: GC/MS Volatile Organics (EPA Method TO-15)

The percent recoveries (%R) and percent differences (%D) of the laboratory control sample and recalculated laboratory control sample were recalculated for the compounds indentified below using the following calculation:

%Recovery = 100 * (SSC - SC)/SA

Where: SSC = Spiked concentration
SA = Spike added
SC = Sample concentration

%D = | LCS - LCS recalc | *100/(LCS)

LCS = Laboratory control spike recovery
LCS recalc = Laboratory control spike recovery recalculated

LCS sample: ~~B0K0080-BS1~~ B1A0046-BS1

Compound	Spike Added (ppbv)	Sample Concentration (ppbv)	Spiked Sample Concentration (ppbv)	LCS Percent Recovery		LCS %D
	LCS	---	LCS	Reported	Recalc.	Calculated
Vinyl chloride	10.20	0	9.73	95	95	0.4
Chloroform	10.20	0	9.52	93	93	0.4
1,2-Dichloroethane	10.30	0	9.67	94	94	0.1
Trichloroethene	10.40	0	9.135	88	88	0.2
1,2-Dichloropropane	10.30	0	9.71	94	94	0.3
1,1,2-Trichloroethane	10.30	0	9.65	94	94	0.3
Tetrachloroethene	10.40	0	9.63	93	93	0.4
1,1,2,2-Tetrachloroethane	10.50	0	10.83	103	103	0.1
Hexachlorobutadiene	10.40	0	8.69	84	84	0.5

Reporting Limit Outliers

Lab Reporting Batch ID: 11014A **Laboratory: R9LAB**

EDD Filename: 11014a_voc.XML **eQAPP Name: Modesto_Site_070810a**

Method: **TO-15**

Matrix: **Air**

SampleID	*Analyte*	*Lab Qual*	*Result*	*Reporting Limit*	*RL Type*	*Units*	*Flag*
SVE Stack-0103	TETRACHLOROETHENE	J,C1	2.1	2.3	MRL	ppbv	J (all detects)

LDC #: _____
SDG #: 11014A

VALIDATION FINDINGS WORKSHEET

Sample Calculation Verification

Reviewer: MB
2nd Reviewer: JBH

METHOD: GC/MS Volatile Organics (EPA Method TO-15)

Compound results for the Level 4 samples reported with a positive detect were recalculated and verified using the following equation:

$$\text{Concentration} = \frac{(Ax)(Vt)(Df)(Ci)}{(CF)(Vo)(Ai)}$$

Where:
- Ax = Area or height of the peak for the compound to be measured
- Vt = Volume injected in milliliters (mL)
- DF = Dilution factor
- Ci = Concentration of internal standard
- CF = Mean calibration factor from initial calibration curve
- Vo = Volume of sample in milliliters (mL)
- Ai = Area or height of internal standard

#	Sample I.D.	Compound		Response (A/H)	Volume Injected (mL)	Dilution Factor	Int. Std. (ppbv)	CF	Sample volume (mL)	Int. Std. (A/H)	Reported Concentration (ppbv)	Calculated Concentration (ppbv)	% Diff	Accept? (Y/N)
1	1	Chloroform		114159	200	2.24	20.60	2.997	100	530301	6.6	6.6	0.4	Y
		Tetrachloroethene		1104637	200	2.24	21.00	0.756	20	2739176	250	251	0.4	Y
2	2	Chloroform		252966	200	2.25	20.60	2.997	200	528401	7.4	7.4	0.1	Y
		Tetrachloroethene		354291	200	2.25	21.00	0.756	200	2550142	8.7	8.7	-0.2	Y
3	3	Chloroform		248048	200	2.28	20.60	2.997	200	512682	7.6	7.6	-0.2	Y
		Tetrachloroethene		285160	200	2.28	21.00	0.756	20	2463330	73	73	0.4	Y
4	4	Chloroform		390490	200	2.27	20.60	2.997	200	597629	10	10	1.9	Y
		Tetrachloroethene		95609	200	2.27	21.00	0.756	200	2935904	2.1	2.1	-2.2	Y

SDG 11014B

LDC #: 1102-~~01A1~~ 08B1 KD
SDG #: 11014B
Laboratory: EPA Region 9

VALIDATION COMPLETENESS WORKSHEET
Level III/IV

Date: 03/31/11
Page: 1 of 1
Reviewer: KD for CT
2nd Reviewer: JJH

METHOD: GC/MS Volatiles (EPA Method 524.2)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 01/13/2011
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	SW	
IV.	Continuing calibration/ICV	SW	
V.	Blanks	SW	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	MS/MSD = 8/9
VIII.	Laboratory control samples	SW	
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	A	Not reviewed for Level III validation samples.
XII.	Compound quantitation/CRQLs	A	Not reviewed for Level III validation samples.
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	A	Not reviewed for Level III validation samples.
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	SW	TB = 6, FB = 7

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ** Indicates sample underwent Level IV validation

1	CRB EFF-0103	11		21		31	
2	CRB INF-0103	12		22		32	
3	CRB MID-0103	13		23		33	
4	EFF-0103	14		24		34	
5	EW-1-0103 **	15		25		35	
6	MW-301-1Q11	16		26		36	
7	MW-401-1Q11	17		27		37	
8	CRB INF-0103 MS	18		28		38	
9	CRB INF-0103 MSD	19		29		39	
10		20		30		40	

LDC #: 1102-~~01A1~~ 08B1 KD
SDG #: 11014B

VALIDATION FINDINGS CHECKLIST

Reviewer: KD for CT
2nd Reviewer: JBH

Method: Volatiles (EPA Method 524.2)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	X			
Cooler temperature criteria was met.	X			
II. GC/MS Instrument performance check				
Were the BFB performance results reviewed and found to be within the specified criteria?	X			
Were all samples analyzed within the 12 hour clock criteria?	X			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	X			
Were all percent relative standard deviations (%RSD) ≤ 20% for all target compounds ?		X		
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	X			
Were all percent differences (%D) ≤30% for all target compounds ?		X		
V. Blanks				
Was a method blank associated with every sample in this SDG?	X			
Was a method blank analyzed at least once every 12 hours for each matrix and concentration?	X			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.	X			
VI. Surrogate spikes				
Were all surrogate %R within QC limits?	X			
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			X	
VII. Matrix spike/Matrix spike duplicates				
Was a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for this SDG?	X			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	X			
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	X			
Was an LCS analyzed per analytical batch?	X			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?		X		

LDC #: 1102-01A1
SDG #: 11014B

VALIDATION FINDINGS CHECKLIST

Reviewer: KD for CT
2nd Reviewer: JBH

Validation Area	Yes	No	NA	Findings/Comments
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		X		
Were the performance evaluation (PE) samples within the acceptance limits?			X	
X. Internal standards				
Were retention times within +/- 30% of the last continuing calibration or +/- 50% of the initial calibration?	X			
Were retention times (RTs) within ± 30 seconds of RT of the associated calibration standard?	X			
XI. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	X			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	X			
Were chromatogram peaks verified and accounted for?	X			
XII. Compound quantitation/CRQLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	X			
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	X			
XIII. Tentatively identified compounds (TICs)				
Were the major ions (> 25 percent relative intensity) in the reference spectrum evaluated in sample spectrum?			X	
Were relative intensities of the major ions within ± 20% between the sample and the reference spectra?			X	
Did the raw data indicate that the laboratory performed a library search for all required peaks in the chromatograms (samples and blanks)?			X	
XIV. System performance				
System performance was found to be acceptable.	X			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	X			
XVI. Field duplicates				
Field duplicate pairs were identified in this SDG.		X		
Target compounds were detected in the field duplicates.			X	
XVII. Field blanks				
Field blanks were identified in this SDG.	X			
Target compounds were detected in the field blanks.	X			

LDC #: 1102-01A1
SDG #: 11014B

VALIDATION FINDINGS WORKSHEET
Initial Calibration

Page: 1 of 1
Reviewer: CT
2nd Reviewer: KD

METHOD: GC/MS VOA (EPA Method 524.2)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Did the laboratory perform a 5 point calibration prior to sample analysis?

Y N N/A Were all %RSDs within the validation criteria of ≤20 %RSD? **70-130%R for ICV**

#	Date	Standard ID	Compound	Finding %RSD (Limit: ≤20.0%)	Associated Samples	Qualifications
1	1/04/11	010411F1C	Bromoform	20.62	All	J/UJ
	HP5973F					

Reporting Limit Outliers

Lab Reporting Batch ID: 11014B **Laboratory: R9LAB**

EDD Filename: 11014b_voc.XML **eQAPP Name: Modesto_Site_070810a**

Method: **524.2**

Matrix: **Water**

SampleID	*Analyte*	*Lab Qual*	*Result*	*Reporting Limit*	*RL Type*	*Units*	*Flag*
CRB Mid-0103	TETRACHLOROETHENE	J,C1	0.2	0.5	MRL	ug/L	J (all detects)

LDC #: _____
SDG #: 11014B

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: KTD for CT
2nd Reviewer: JBH

METHOD: GC/MS Volatiles (EPA SW 846 Method 524.2)

The relative response factors (RRF) and relative standard deviation (%RSD) were calculated for the compounds identified below using the following calculations:

RRF = (Std Resp * IStd Conc) / (Std Conc * IS Resp)
%RSD = 100 * (S/X)

Where:
S = Standard deviation of calibration factors
X = Mean of calibration factors

Calibration Date	Inst	Compound	Standard	Standard Concentration (ppb)	Standard Response (A/H)	Internal Standard Concentration (ppb)	Internal Standard Response (A/H)	Recalculated Calibration Factor (CF)	Recalculated %RSD	Reported Calibration Factor (CF)	Reported %RSD
1/4/2011	HP5973F	Vinyl Chloride (vs Dichloromethane-d2)	Point 1	0.50	26688	5	59419	4.491		4.491	
			Point 2	1.00	48837	5	55671	4.386		4.386	
			Point 3	2.00	84227	5	55061	3.824		3.824	
			Point 4	5.00	226561	5	55270	4.099		4.099	
			Point 5	10.00	436629	5	53751	4.062		4.062	
			Point 6	25.00	1118123	5	56095	3.987		3.987	
			Mean calibration factor					4.142	6.06	4.142	6.06
1/4/2011	HP5973F	Trichloroethene (vs Fluorobenzene)	Point 1	0.50	34784	5	960714	0.362		0.362	
			Point 2	1.00	64678	5	925657	0.349		0.349	
			Point 3	2.00	114603	5	915669	0.313		0.313	
			Point 4	5.00	306131	5	921192	0.332		0.332	
			Point 5	10.00	602517	5	924901	0.326		0.326	
			Point 6	25.00	1532644	5	946129	0.324		0.324	
			Mean calibration factor					0.334	5.42	0.334	5.42
1/4/2011	HP5973F	Tetrachloroethene (vs Chlorobenzene-d5)	Point 1	0.50	46414	5	589778	0.787		0.787	
			Point 2	1.00	84337	5	573395	0.735		0.735	
			Point 3	2.00	150040	5	572635	0.655		0.655	
			Point 4	5.00	401742	5	574729	0.699		0.699	
			Point 5	10.00	792221	5	589022	0.672		0.672	
			Point 6	25.00	2009227	5	592166	0.679		0.679	
			Mean calibration factor					0.705	6.93	0.705	6.93

LDC #: 1102-01A1
SDG #: 11014B

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: CT
2nd Reviewer: KD

METHOD: GC/MS VOA (EPA Method 524.2)
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Y N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?
Y N N/A Were all percent differences (%D) ≤ 30% ?

#	Date	Standard ID	Compound	Finding %D (Limit: ≤30.0%)	Associated Samples	Qualifications
1	1/14/11	011411FC2	Bromomethane	30.2	All	J+ Detects (samples ND)
			Acetone	80.1		J+ Detects
			MTBE	31.3		J+ Detects
			2-Butanone	44.8		J+ Detects

LDC #: _____
SDG #: 11014B

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Reviewer: 19D for CT
2nd Reviewer: JBH

METHOD: GC/MS Volatiles (EPA 524.2)

The relative response factors (RRF) and percent difference (%D) were calculated for the compounds listed below using the following calculations:

RRF = (Std Resp * IStd Conc) / (Std Conc * IS Resp)
%D = 100 * (CC-IC)/(IC)

Where:
CC = Continuing calibration RRF
IC = Initial calibration RRF

Calibration Date	Compound	Standard Concentration (ppb)	Standard Response (A/H)	Internal Standard Concentration (ppb)	Internal Standard Response (A/H)	Recalculated (RRF)	Reported (RRF)	Initial Calibration (RRF)	Recalculated %D	Reported %D
1/14/2011 HP5973F	Chloroform	5.0	650739	5.0	78895	8.248	8.248	7.153	15.3	15.3
	Trichloroethene	5.0	471348	5.0	1434638	0.329	0.329	0.334	-1.6	-1.5
	Tetrachloroethene	5.0	630064	5.0	1017453	0.619	0.619	0.705	-12.2	-12.2

Calibration Date	Compound	Standard Concentration (ppb)	Standard Response (A/H)	Internal Standard Concentration (ppb)	Internal Standard Response (A/H)	Recalculated (RRF)	Reported (RRF)	Initial Calibration (RRF)	Recalculated %D	Reported %D

Method Blank Outlier Report

Lab Reporting Batch ID: 11014B **Laboratory: R9LAB**

EDD Filename: 11014b_voc.XML **eQAPP Name: Modesto_Site_070810a**

Method: **524.2**
Matrix: **Water**

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
B1A0056-BLK1	1/14/2011 6:53:00 PM	ACETONE	14 ug/L	CRB EFF-0103 CRB INF-0103 CRB Mid-0103 EFF-0103 EW-1-0103 MW-301-1Q11 MW-401-1Q11

LDC #: _____
SDG #: 11014B

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample
Result Verification

Reviewer: KD for CT
2nd Reviewer: JBH

METHOD: GC/MS Volatiles (EPA SW 846 Method 524.2)

The percent recoveries (%R) of the laboratory control sample were recalculated for the compounds identified below using the following calculation:

%Recovery = 100 * (SSC - SC)/SA

SSC = Spiked concentration
SA = Spike added

SC = Sample concentration

LCS Batch: B1A0056-BS1

Compound	Spike Added (ug/L)	Sample Concentration (ug/L)	Spiked Sample Concentration (ug/L)	LCS Percent Recovery	
	LCS		LCS	Reported	Recalc.
Trichlorofluoromethane	5.00	0.0	5.13	103	103
1,1-Dichloroethene	5.00	0.0	5.46	109	109
c-1,2-Dichloroethene	5.00	0.0	5.98	120	120
Chloroform	5.00	0.0	5.86	117	117
Carbon tetrachloride	5.00	0.0	5.16	103	103
Benzene	5.00	0.0	5.36	107	107
Toluene	5.00	0.0	4.67	93	93
Tetrachloroethene	5.00	0.0	4.51	90	90
Ethylbenzene	5.00	0.0	4.61	92	92
Bromobenzene	5.00	0.0	5.33	107	107

LDC #: _____
SDG #: 110145

VALIDATION FINDINGS WORKSHEET
Surrogate Compounds
Results Verification

Reviewer: KTD
2nd Reviewer: JBH

METHOD: GC/MS Volatile Organic Compounds (EPA Method 524.2)

The percent recoveries (%R) of surrogate compounds were recalculated for the compounds identified below using the following calculation:

%Recovery: SURRF/SURRS * 100

Where: SURRF = Surrogate Found
SURRS = Surrogate Spiked

Sample ID: EW-1-0103

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
1,2-Dichloroethane-d4	5	5.447	109	109	0
Toluene-d8	5	4.463	89	89	0
4-Bromofluorobenzene	5	4.774	95	95	1
1,2-Dichlorobenzene-d4	5	5.302	106	106	0

Sample ID: EW-1-0103 RE1

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
1,2-Dichloroethane-d4	5	5.345	107	107	0
Toluene-d8	5	4.522	90	90	0
4-Bromofluorobenzene	5	4.869	97	97	0
1,2-Dichlorobenzene-d4	5	5.262	105	105	0

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference

LDC #: _____
SDG #: 11014B

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Result Verification

Reviewer: KTD for CF
2nd Reviewer: JBH

METHOD: GC/MS Volatiles (EPA Method 524.2)

The percent recoveries (%R) and relative percent differences (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = 100 * (SSC - SC)/SA

Where: SSC = Spiked concentration SC = Sample concentration
SA = Spike added

RPD = | MS - MSD | * 2/(MS + MSD)

MS = Matrix spike recovery MSD = Matrix spike duplicate recovery

MS/MSD samples: CRB INF-0103 MS/CRB INF-0103 MSD

Compound	Spike Added (ug/L)		Sample Concentration (ug/L)	Spiked Sample Concentration (ug/L)		MS Percent Recovery		MSD Percent Recovery		MS/MSD RPD	
	MS	MSD		MS	MSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
1,1-Dichloroethene	5.00	5.00	0.00	4.50	4.46	90	90	89	89	0.9	0.9
Benzene	5.00	5.00	0.00	4.58	4.54	92	92	91	91	0.9	0.9
Trichloroethene	5.00	5.00	0.00	4.27	4.18	85	85	84	84	2	2
Toluene	5.00	5.00	0.00	4.00	3.95	80	80	79	79	1	1
Chlorobenzene	5.00	5.00	0.00	4.39	4.29	88	88	86	86	2	2

Lab Control Spike/Lab Control Spike Duplicate Outlier Report

Lab Reporting Batch ID: 11014B **Laboratory: R9LAB**

EDD Filename: 11014b_voc.XML **eQAPP Name: Modesto_Site_070810a**

Method: **524.2**
Matrix: **Water**

QC Sample ID (Associated Samples)	Compound	LCS %R	LCSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
B1A0056-BS1 (CRB EFF-0103 CRB INF-0103 CRB Mid-0103 EFF-0103 EW-1-0103 MW-301-1Q11 MW-401-1Q11)	DIBROMOMETHANE	127	-	80.00-120.00	-	DIBROMOMETHANE	J+ (all detects)

LDC #: _____
SDG #: 11014B

VALIDATION FINDINGS WORKSHEET

Sample Calculation Verification

Page: 1 of 1
Reviewer: ICT for CT
2nd Reviewer: JBH

METHOD: GC/MS Volatiles (EPA Method 524.2)

Compound results for all Level IV samples reported with a positive detect were recalculated and verified using the following equation:

$$\text{Concentration} = \frac{(Ax)(Df)(Ci)}{(CF)(Vo)(Ai)(\%S)}$$

Where:

Ax = Area or height of the peak for the compound to be measured
DF = Dilution factor
Ci = Concentration of internal standard
CF = Calibration factor from continuing calibration curve
Vo = Volume or weight of sample extracted in milliters (mL) or grams (g)
Ai = Area or height of internal standard

#	Sample I.D.	Compound		Response (A/H)	Dilution Factor	Int. Std. (ug/L)	CF	Sample wt/vol (g)		Int. Std. (A/H)	Reported Concentration (ug/L)	Calculated Concentration (ug/L)	% Diff	Accept? (Y/N)
1	EW-1-0103	Chloroform		365359	1	5.0	7.153	1		72193	3.5	3.5	1.1	Y
1	EW-1-0103 RE1	Tetrachloroethene		1528506	10	5.0	0.705	1		976248	110	111	0.9	Y

Trip Blank Outlier Report

Lab Reporting Batch ID: 11014B **Laboratory: R9LAB**

EDD Filename: 11014b_voc.XML **eQAPP Name: Modesto_Site_070810a**

Method: **524.2**
Matrix: **Water**

Trip Blank Sample ID	Collected Date	Analyte	Result	Associated Samples
MW-301-1Q11(Initial)	1/13/2011 9:30:00 AM	CHLOROFORM	1 ug/L	CRB EFF-0103 CRB INF-0103 CRB Mid-0103 EFF-0103 EW-1-0103 MW-401-1Q11

The following samples and their listed target analytes were qualified due to contamination reported in this blank

Sample ID	Analyte	Reported Result	Modified Final Result
EW-1-0103(Reinjection-01)	CHLOROFORM	3.5 ug/L	3.5U ug/L
MW-401-1Q11(Initial)	CHLOROFORM	1.0 ug/L	1.0U ug/L

History of Manual Changes to Automated Data Review Qualifiers

Changed by:

Analyte	Method	Analysis Type	Result	Unit	Reason Code	Original Value	New Value	Edit Time
Field Sample ID: CRB EFF-0103								
BROMOFORM	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	3/16/2011 11:16
Reason for change:	ICAL RSD: 20.62%							
Field Sample ID: CRB INF-0103								
BROMOFORM	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	3/16/2011 11:16
Reason for change:	ICAL RSD: 20.62%							
Field Sample ID: CRB Mid-0103								
BROMOFORM	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	3/16/2011 11:17
Reason for change:	ICAL RSD: 20.62%							
Field Sample ID: EFF-0103								
BROMOFORM	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	3/16/2011 11:17
Reason for change:	ICAL RSD: 20.62%							
Field Sample ID: EW-1-0103								
BROMOFORM	524.2	Reinjection-	0.5	ug/L	Initial Calibration Percent		UJ	3/16/2011 11:17
Reason for change:	ICAL RSD: 20.62%							
Field Sample ID: MW-301-1Q11								
BROMOFORM	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	3/16/2011 11:17
Reason for change:	ICAL RSD: 20.62%							

Analyte	Method	Analysis Type	Result	Unit	Reason Code	Original Value	New Value	Edit Time
Field Sample ID: MW-401-1Q11								
BROMOFORM	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	3/16/2011 11:18
Reason for change:	ICAL RSD: 20.62%							

LDC #: 1102-08B6b ~~1102-01A6b~~ KD
SDG #: 11014B
Laboratory: EPA Region 9

VALIDATION COMPLETENESS WORKSHEET
EPA Level IV

Date: 03/31/11
Page: 1 of 1
Reviewer: MB for CT
2nd Reviewer: KD

METHOD: Total Suspended Solids by SM 2540D

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 01/13/2011
II.	Calibration verification	A	
III.	Blanks	A	
IV	Matrix Spike/(Matrix Spike) Duplicates	N	
V.	Duplicates	A/ND	Dup = 2
VI	Laboratory control samples	A	
VII.	Sample result verification	A	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: ** Indicates sample underwent Level IV validation

1	EFF-0103 **	11		21		31	
2	EFF-0103 DUP	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 1101-01A6b
SDG #: 11014B

VALIDATION FINDINGS CHECKLIST

Reviewer: CJ
2nd Reviewer: KD

Validation Area	Yes	No	NA	Findings/Comments
VII. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?			X	Not reviewed for Level III validation.
Were detection limits < RL?			X	Not reviewed for Level III validation.
VIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	X			
IX. Field duplicates				
Field duplicate pairs were identified in this SDG.		X		
Target analytes were detected in the field duplicates.			X	
X. Field blanks				
Field blanks were identified in this SDG.		X		
Target analytes were detected in the field blanks.			X	

LDC #: 1101-01A6b
SDG #: 11014B

VALIDATION FINDINGS CHECKLIST

Reviewer: G
2nd Reviewer: [illegible]

Method: Total Suspended Solids (Standard Method 2540D)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	X			
Cooler temperature criteria was met.	X			
II. Calibration				
Were all instruments calibrated daily, each set-up time?	X			
Were the proper number of standards used?			X	
Were all initial calibration correlation coefficients ≥ 0.995?			X	
Were all initial and continuing calibration verification %Rs within the 95-105% QC limits?			X	
Were titrant checks performed as required? (Level IV only)			X	Not reviewed for Level III validation.
Were balance checks performed as required? (Level IV only)			X	Not reviewed for Level III validation.
III. Blanks				
Was a method blank associated with every sample in this SDG?	X			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		X		
IV. Matrix spike/Matrix spike duplicates and Duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.	X			Lab Dup
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 85-115 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.			X	
Were the MS/MSD or duplicate relative percent differences (RPD) ≤ 5% for waters?	X			
V. Laboratory control samples				
Was an LCS anaylzed for this SDG?	X			
Was an LCS analyzed per extraction batch?	X			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 85-115% QC limits?	X			
VI. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		X		
Were the performance evaluation (PE) samples within the acceptance limits?			X	

LDC #: _____ VALIDATION FINDING WORKSHEET Page: 1 of 1

SDG #: 110146 **Laboratory Duplicates** Reviewer: KTD

METHOD: Total Suspended Solids (Standard Method 2540D)

Y N NA Were laboratory duplicate pairs identified in this SDG?

Y N NA Were target analytes detected in the laboratory duplicate pairs?

Analyte	Concentration (mg/L)		Reported RPD	Recalculated RPD
	EFF-0103	EFF-0103 DUP		
Total Suspended Solids	ND	ND	NR	NC

Relative percent differences (RPDs) are not calculated when an analyte is nondetected in one duplicate sample or is detected below the CRQL in one or both duplicate samples

LDC #: ~~1102-01A6a~~ 1102-08B6a
SDG #: 11014B
Laboratory: EPA Region 9

VALIDATION COMPLETENESS WORKSHEET
EPA Level IV

Date: 03/31/11
Page: 1 of 1
Reviewer: MB for CT
2nd Reviewer: CTD

METHOD: Total Dissolved Solids by SM 2540C

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 01/13/2011
II.	Calibration verification	A	
III.	Blanks	A	
IV	Matrix Spike/(Matrix Spike) Duplicates	N	
V.	Duplicates	A	Dup = 2
VI	Laboratory control samples	A	
VII.	Sample result verification	A	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: ** Indicates sample underwent Level IV validation

1	EFF-0103 **	11		21		31	
2	EFF-0103 DUP	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 1101-01A6a
SDG #: 11014B

VALIDATION FINDINGS CHECKLIST

Reviewer: CJ
2nd Reviewer: KD

Method: Total Dissolved Solids (Standard Method 2540C)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	X			
Cooler temperature criteria was met.	X			
II. Calibration				
Were all instruments calibrated daily, each set-up time?	X			
Were the proper number of standards used?			X	
Were all initial calibration correlation coefficients ≥ 0.995?			X	
Were all initial and continuing calibration verification %Rs within the 95-105% QC limits?			X	
Were titrant checks performed as required? (Level IV only)			X	Not reviewed for Level III validation.
Were balance checks performed as required? (Level IV only)			X	Not reviewed for Level III validation.
III. Blanks				
Was a method blank associated with every sample in this SDG?	X			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		X		
IV. Matrix spike/Matrix spike duplicates and Duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.	X			Lab Dup
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 85-115 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.			X	
Were the MS/MSD or duplicate relative percent differences (RPD) ≤ 5% for waters?	X			
V. Laboratory control samples				
Was an LCS anaylzed for this SDG?	X			Reference sample
Was an LCS analyzed per extraction batch?	X			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 85-115% QC limits?	X			
VI. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		X		
Were the performance evaluation (PE) samples within the acceptance limits?			X	

LDC #: 1101-01A6a
SDG #: 11014B

VALIDATION FINDINGS CHECKLIST

Reviewer: CJ
2nd Reviewer: KJ

Validation Area	Yes	No	NA	Findings/Comments
VII. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?			X	Not reviewed for Level III validation.
Were detection limits < RL?			X	Not reviewed for Level III validation.
VIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	X			
IX. Field duplicates				
Field duplicate pairs were identified in this SDG.		X		
Target analytes were detected in the field duplicates.			X	
X. Field blanks				
Field blanks were identified in this SDG.		X		
Target analytes were detected in the field blanks.			X	

LDC #: _____ VALIDATION FINDING WORKSHEET Page: 1 of 1

SDG #: 110148 **Laboratory Duplicates** Reviewer: KD

METHOD: Total Dissolved Solids (Standard Method 2540C)

Y N NA Were laboratory duplicate pairs identified in this SDG?

Y N NA Were target analytes detected in the laboratory duplicate pairs?

Analyte	Concentration (mg/L)		Reported RPD	Recalculated RPD
	EFF-0103	EFF-0103 DUP		
Total Dissolved Solids	650	650	0.3	0.0

Relative percent differences (RPDs) are not calculated when an analyte is nondetected in one duplicate sample or is detected below the CRQL in one or both duplicate samples

LDC #: 11020886
SDG #: 11014B

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: KTD
2nd Reviewer: NB

METHOD: Total Dissolved Solids (SM2540C)

Results for 10% of all level IV samples reported with a positive detect were recalculated and verified using the following equation:

$$\text{Concentration} = \frac{(\text{Final Weight}) - (\text{Tare Weight})}{\text{Volume}}$$

Sample: 1101015-04

Analyte	Tare Weight (g)	Final Weight (g)	Volume (ml)	Reported (mg/L)	Recalculated (mg/L)
TDS	80.3825	80.4479	100	654	654

Sample:

Analyte	Tare Weight (g)	Final Weight (g)	Volume (ml)	Reported (mg/L)	Recalculated (mg/L)

Sample:

Analyte	Tare Weight (g)	Final Weight (g)	Volume (ml)	Reported (mg/L)	Recalculated (mg/L)

LDC #: 1102-~~01A66KD~~ 08B6c
SDG #: 11014B
Laboratory: EPA Region 9

VALIDATION COMPLETENESS WORKSHEET
EPA Level IV

Date: 03/31/11
Page: 1 of 1
Reviewer: NB for CT
2nd Reviewer: KTP

METHOD: Biochemical Oxygen Demand by SM 5210B

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 01/13/2011
II.	Calibration verification	N	
III.	Blanks	A	
IV	Matrix Spike/(Matrix Spike) Duplicates	N	
V.	Duplicates	N	
VI	Laboratory control samples	A	
VII.	Sample result verification	A	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: ** Indicates sample underwent Level IV validation

1	EFF-0103 **	11		21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 1102-01A6c
SDG #: 11014B

VALIDATION FINDINGS CHECKLIST

Reviewer: NB for CT
2nd Reviewer: KTD

Method: Biochemical Oxygen Demand (SM 5210B)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	X			
Cooler temperature criteria was met.	X			
II. Calibration				
Were all instruments calibrated daily, each set-up time?	X			
Were the proper number of standards used?			X	
Were all initial calibration correlation coefficients ≥ 0.995?			X	
Were all initial and continuing calibration verification %Rs within the 95-105% QC limits?			X	
Were titrant checks performed as required? (Level IV only)			X	
Were balance checks performed as required? (Level IV only)			X	
III. Blanks				
Was a method blank associated with every sample in this SDG?	X			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		X		
IV. Matrix spike/Matrix spike duplicates and Duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.			X	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 85-115 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.			X	
Were the MS/MSD or duplicate relative percent differences (RPD) ≤ 5% for waters?			X	
V. Laboratory control samples				
Was an LCS anaylzed for this SDG?	X			
Was an LCS analyzed per extraction batch?	X			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 81.5-118.5% QC limits?	X			
VI. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		X		
Were the performance evaluation (PE) samples within the acceptance limits?			X	

LDC #: 1102-01A6c
SDG #: 11014B

VALIDATION FINDINGS CHECKLIST

Reviewer: NB for CT
2nd Reviewer: KTD

Validation Area	Yes	No	NA	Findings/Comments
VII. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	X			Raw data reviewed for proper transcription of results.
Were detection limits < RL?	X			
VIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	X			
IX. Field duplicates				
Field duplicate pairs were identified in this SDG.		X		
Target analytes were detected in the field duplicates.			X	
X. Field blanks				
Field blanks were identified in this SDG.		X		
Target analytes were detected in the field blanks.			X	

SDG 11042D

LDC #: 1102-~~01B1~~ -08C1 KD
SDG #: 11042D
Laboratory: EPA Region 9

VALIDATION COMPLETENESS WORKSHEET
Level III

Date: 03/14/11
Page: 1 of 1
Reviewer: NB for LS
2nd Reviewer: KD

METHOD: GC/MS Volatiles (EPA Method 524.2)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 02/10/2011
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	SW	
IV.	Continuing calibration	SW	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	SW	MS/MSD = 4/5
VIII.	Laboratory control samples	A	
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	N	Not reviewed for Level III validation.
XII.	Compound quantitation/CRQLs	N	Not reviewed for Level III validation.
XIII.	Tentatively identified compounds (TICs)	N	Not reviewed for Level III validation.
XIV.	System performance	N	Not reviewed for Level III validation.
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	A/SW	TB = 3

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

1	EFF-0202	11		21		31	
2	EW-1-0202	12		22		32	
3	MW-302-1Q11	13		23		33	
4	MW-302-1Q11MS	14		24		34	
5	MW-302-1Q11MSD	15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

LDC #: 1102-~~01B1~~ 08C1 KTD
SDG #: 11042D

VALIDATION FINDINGS CHECKLIST

Reviewer: NB for LS
2nd Reviewer: KTD

Method: Volatiles (EPA Method 524.2)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	X			
Cooler temperature criteria was met.	X			
II. GC/MS Instrument performance check				
Were the BFB performance results reviewed and found to be within the specified criteria?	X			
Were all samples analyzed within the 12 hour clock criteria?	X			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	X			
Were all percent relative standard deviations (%RSD) ≤ 20% for all target compounds ?		X		
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	X			
Were all percent differences (%D) ≤30% for all target compounds ?		X		
V. Blanks				
Was a method blank associated with every sample in this SDG?	X			
Was a method blank analyzed at least once every 12 hours for each matrix and concentration?	X			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.	X			
VI. Surrogate spikes				
Were all surrogate %R within QC limits?	X			
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			X	
VII. Matrix spike/Matrix spike duplicates				
Was a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for this SDG?	X			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?		X		
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	X			
Was an LCS analyzed per analytical batch?	X			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?		X		

LDC #: 1102-01~~B1~~ 08C1 (KTD)
SDG #: 11042D

VALIDATION FINDINGS CHECKLIST

Reviewer: NB for LS
2nd Reviewer: KTD

Validation Area	Yes	No	NA	Findings/Comments
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		X		
Were the performance evaluation (PE) samples within the acceptance limits?			X	
X. Internal standards				
Were retention times within +/- 30% of the last continuing calibration or +/- 50% of the initial calibration?	X			
Were retention times (RTs) within ± 30 seconds of RT of the associated calibration standard?	X			
XI. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?			X	Not reviewed for Level III validation
Did compound spectra meet specified EPA "Functional Guidelines" criteria?			X	Not reviewed for Level III validation
Were chromatogram peaks verified and accounted for?			X	Not reviewed for Level III validation
XII. Compound quantitation/CRQLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?			X	Not reviewed for Level III validation
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?			X	Not reviewed for Level III validation
XIII. Tentatively identified compounds (TICs)				
Were the major ions (> 25 percent relative intensity) in the reference spectrum evaluated in sample spectrum?			X	Not reviewed for Level III validation
Were relative intensities of the major ions within ± 20% between the sample and the reference spectra?			X	Not reviewed for Level III validation
Did the raw data indicate that the laboratory performed a library search for all required peaks in the chromatograms (samples and blanks)?			X	Not reviewed for Level III validation
XIV. System performance				
System performance was found to be acceptable.			X	Not reviewed for Level III validation
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	X			
XVI. Field duplicates				
Field duplicate pairs were identified in this SDG.		X		
Target compounds were detected in the field duplicates.			X	
XVII. Field blanks				
Field blanks were identified in this SDG.	X			
Target compounds were detected in the field blanks.	X			

LDC #: 1102-~~01B1~~ 08C / KD
SDG #: 11042D

VALIDATION FINDINGS WORKSHEET
Initial Calibration

Page: 1 of 1
Reviewer: LS
2nd Reviewer: KD

METHOD: GC/MS VOA (EPA Method 524.2)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Did the laboratory perform a ~~5~~ 6 point calibration prior to sample analysis?

Y N N/A Were all %RSDs within the validation criteria of ≤20 %RSD? **70-130%R for ICV**

#	Date	Standard ID	Compound	Finding %RSD (Limit: ≤20.0%)	Associated Samples	Qualifications
1	2/07/11	020711JIC	Acetone	29.8	All	J/UJ
	HP5973J		2,2-Dichloropropane	23.65		J/UJ
			t-1,3-Dichloropropene	27.84		J/UJ
			Bromoform	23.09		J/UJ
			1,2-Dibromo-3-chloropropane	22.01		J/UJ

LDC #: 1102-~~01B1~~ 08C1 KD
SDG #: 11042D

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: LS
2nd Reviewer: KD

METHOD: GC/MS VOA (EPA Method 524.2)
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Y N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?
Y N N/A Were all percent differences (%D) ≤ 30% ?

#	Date	Standard ID	Compound	Finding %D (Limit: ≤30.0%)	Associated Samples	Qualifications
1	2/13/11	021311JC1	Acetone	-43.8	All	J-/UJ

Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: 11042D **Laboratory: R9LAB**

EDD Filename: 11042d_voc_CCS.XML **eQAPP Name: Modesto_Site_070810s**

Method: **524.2**
Matrix: **Water**

QC Sample ID (Associated Samples)	Compound	MS %R	MSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
MW-302-1Q11MSD (MW-302-1Q11)	NAPHTHALENE	-	-	52.00-160.00	34 (20.00)	NAPHTHALENE	J (all detects) UJ (all non-detects)

Reporting Limit Outliers

Lab Reporting Batch ID: 11042D **Laboratory: R9LAB**

EDD Filename: 11042d_voc_CCS.XML **eQAPP Name: Modesto_Site_070810s**

Method: **524.2**

Matrix: **Water**

SampleID	*Analyte*	*Lab Qual*	*Result*	*Reporting Limit*	*RL Type*	*Units*	*Flag*
EFF-0202	TETRACHLOROETHENE	J,C1	0.3	0.5	MRL	ug/L	J (all detects)

Trip Blank Outlier Report

Lab Reporting Batch ID: 11042D **Laboratory: R9LAB**

EDD Filename: 11042d_voc_CCS.XML **eQAPP Name: Modesto_Site_070810s**

Method: **524.2**
Matrix: **Water**

Trip Blank Sample ID	Collected Date	Analyte	Result	Associated Samples
MW-302-1Q11(Initial)	2/10/2011 10:00:00 AM	CHLOROFORM	0.9 ug/L	EFF-0202 EW-1-0202

The following samples and their listed target analytes were qualified due to contamination reported in this blank

Sample ID	Analyte	Reported Result	Modified Final Result
EW-1-0202(Reinjection-01)	CHLOROFORM	2.3 ug/L	2.3U ug/L

Field QC Assignments and Associated Samples

EDD File Name: 11042D
eQapp Name: Modesto_Site_070810s

	Associated Samples	Sample Collection Date
Field QC Sample: MW-302-1Q11 **QC Type:** Trip_Blank		
	EW-1-0202	2/10/2011 11:05:00
	EFF-0202	2/10/2011 10:55:00

History of Manual Changes to Automated Data Review Qualifiers

Changed by: Nanny Bosch

Analyte	Method	Analysis Type	Result	Unit	Reason Code	Original Value	New Value	Edit Time
Field Sample ID: EFF-0202								
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Initial	2.0	ug/L	Initial Calibration Percent		UJ	4/30/2011 12:21
Reason for change: %RSD>20								
2,2-DICHLOROPROPANE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 12:20
Reason for change: %RSD>20								
ACETONE	524.2	Initial	4.0	ug/L	Initial Calibration Percent		UJ	4/30/2011 12:18
Reason for change: %RSD>20								
ACETONE	524.2	Initial	4.0	ug/L	Continuing Calibration		UJ	4/30/2011 12:23
Reason for change: %D>-30%								
BROMOFORM	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 12:21
Reason for change: %RSD>20								
TRANS-1,3-DICHLOROPROPENE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 12:20
Reason for change: %RSD>20								
Field Sample ID: EW-1-0202								
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Reinjection-	2.0	ug/L	Initial Calibration Percent		UJ	4/30/2011 12:22
Reason for change: %RSD>20								
2,2-DICHLOROPROPANE	524.2	Reinjection-	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 12:20
Reason for change: %RSD>20								
ACETONE	524.2	Reinjection-	4.0	ug/L	Initial Calibration Percent		UJ	4/30/2011 12:19
Reason for change: %RSD>20								

Analyte	Method	Analysis Type	Result	Unit	Reason Code	Original Value	New Value	Edit Time	
Field Sample ID: EW-1-0202									
ACETONE	524.2	Reinjection-	4.0	ug/L	Continuing Calibration		UJ	4/30/2011	12:23
Reason for change: %D>-30%									
BROMOFORM	524.2	Reinjection-	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	12:21
Reason for change: %RSD>20									
TRANS-1,3-DICHLOROPROPENE	524.2	Reinjection-	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	12:20
Reason for change: %RSD>20									
Field Sample ID: MW-302-1Q11									
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Initial	2.0	ug/L	Initial Calibration Percent		UJ	4/30/2011	12:21
Reason for change: %RSD>20									
2,2-DICHLOROPROPANE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	12:20
Reason for change: %RSD>20									
ACETONE	524.2	Initial	4.0	ug/L	Initial Calibration Percent		UJ	4/30/2011	12:19
Reason for change: %RSD>20									
ACETONE	524.2	Initial	4.0	ug/L	Continuing Calibration		UJ	4/30/2011	12:24
Reason for change: %D>-30%									
BROMOFORM	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	12:21
Reason for change: %RSD>20									
TRANS-1,3-DICHLOROPROPENE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	12:20
Reason for change: %RSD>20									

LDC #: 1102-~~01B6a~~ -08 c6a 19D

SDG #: 11042D

Laboratory: EPA Region 9

VALIDATION COMPLETENESS WORKSHEET

EPA Level III

Date: 02/17/11

Page: 1 of 1

Reviewer: LS

2nd Reviewer: 19D

METHOD: Total Dissolved Solids by SM 2540C

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 02/10/2011
II.	Calibration verification	A	
III.	Blanks	A	
IV	Matrix Spike/(Matrix Spike) Duplicates	N	
V.	Duplicates	A	Dup = 2
VI	Laboratory control samples	A	
VII.	Sample result verification	N	Not reviewed for Level III validation.
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

1	EFF-0202	11		21		31	
2	EFF-0202 DUP	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 1102-01B6a (8C)
SDG #: 11042D

VALIDATION FINDINGS CHECKLIST

Reviewer: LS
2nd Reviewer: KTD

Method: Total Dissolved Solids (Standard Method 2540C)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	X			
Cooler temperature criteria was met.	X			
II. Calibration				
Were all instruments calibrated daily, each set-up time?	X			
Were the proper number of standards used?			X	
Were all initial calibration correlation coefficients ≥ 0.995?			X	
Were all initial and continuing calibration verification %Rs within the 95-105% QC limits?			X	
Were titrant checks performed as required? (Level IV only)			X	
Were balance checks performed as required? (Level IV only)			X	Not reviewed for Level III validation.
III. Blanks				
Was a method blank associated with every sample in this SDG?	X			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		X		
IV. Matrix spike/Matrix spike duplicates and Duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.	X			Lab Dup
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 85-115 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.			X	
Were the MS/MSD or duplicate relative percent differences (RPD) ≤ 5% for waters?	X			
V. Laboratory control samples				
Was an LCS anaylzed for this SDG?	X			Reference sample
Was an LCS analyzed per extraction batch?	X			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 85-115% QC limits?	X			
VI. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		X		
Were the performance evaluation (PE) samples within the acceptance limits?			X	

LDC #: 1102-01~~B~~8c6a (KD)
SDG #: 11042D

VALIDATION FINDINGS CHECKLIST

Reviewer: LS
2nd Reviewer: KD

Validation Area	Yes	No	NA	Findings/Comments
VII. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?			X	Not reviewed for Level III validation.
Were detection limits < RL?			X	Not reviewed for Level III validation.
VIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	X			
IX. Field duplicates				
Field duplicate pairs were identified in this SDG.		X		
Target analytes were detected in the field duplicates.			X	
X. Field blanks				
Field blanks were identified in this SDG.		X		
Target analytes were detected in the field blanks.			X	

LDC #: 1102-01~~36b~~ 8c KAD
SDG #: 11042D
Laboratory: EPA Region 9

VALIDATION COMPLETENESS WORKSHEET
EPA Level III

Date: 02/17/11
Page: 1 of 1
Reviewer: LS
2nd Reviewer: KID

METHOD: Total Suspended Solids by SM 2540D

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 02/10/2011
II.	Calibration verification	A	
III.	Blanks	A	
IV	Matrix Spike/(Matrix Spike) Duplicates	N	
V.	Duplicates	A/ND	Dup = 2
VI	Laboratory control samples	A	
VII.	Sample result verification	N	Not reviewed for Level III validation.
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

1	EFF-0202	11		21		31	
2	EFF-0202 DUP	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 1102-01~~B~~6b KD
SDG #: 11042D

VALIDATION FINDINGS CHECKLIST

Reviewer: LS
2nd Reviewer: KD

Method: Total Suspended Solids (Standard Method 2540D)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	X			
Cooler temperature criteria was met.	X			
II. Calibration				
Were all instruments calibrated daily, each set-up time?	X			
Were the proper number of standards used?			X	
Were all initial calibration correlation coefficients ≥ 0.995?			X	
Were all initial and continuing calibration verification %Rs within the 95-105% QC limits?			X	
Were titrant checks performed as required? (Level IV only)			X	
Were balance checks performed as required? (Level IV only)			X	Not reviewed for Level III validation.
III. Blanks				
Was a method blank associated with every sample in this SDG?	X			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		X		
IV. Matrix spike/Matrix spike duplicates and Duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.	X			Lab Dup
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 85-115 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.			X	
Were the MS/MSD or duplicate relative percent differences (RPD) ≤ 5% for waters?	X			
V. Laboratory control samples				
Was an LCS anaylzed for this SDG?	X			
Was an LCS analyzed per extraction batch?	X			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 85-115% QC limits?	X			
VI. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		X		
Were the performance evaluation (PE) samples within the acceptance limits?			X	

LDC #: 1102-01~~B6b~~ 8c KD
SDG #: 11042D

VALIDATION FINDINGS CHECKLIST

Reviewer: LS
2nd Reviewer: KD

Validation Area	Yes	No	NA	Findings/Comments
VII. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?			X	Not reviewed for Level III validation.
Were detection limits < RL?			X	Not reviewed for Level III validation.
VIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	X			
IX. Field duplicates				
Field duplicate pairs were identified in this SDG.		X		
Target analytes were detected in the field duplicates.			X	
X. Field blanks				
Field blanks were identified in this SDG.		X		
Target analytes were detected in the field blanks.			X	

LDC #: 1102-~~01B6c~~ 08C6c KD
SDG #: 11042D
Laboratory: EPA Region 9

VALIDATION COMPLETENESS WORKSHEET
EPA Level III

Date: 02/24/11
Page: 1 of 1
Reviewer: LS
2nd Reviewer: KD

METHOD: Biochemical Oxygen Demand by SM 5210B

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 02/10/2011
II.	Calibration verification	N	
III.	Blanks	A	
IV	Matrix Spike/(Matrix Spike) Duplicates	N	
V.	Duplicates	N	
VI	Laboratory control samples	SW	
VII.	Sample result verification	N	Not reviewed for Level III validation.
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

1	EFF-0202	11		21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 1102-01~~B6c~~ 8C6c
SDG #: 11042D

VALIDATION FINDINGS CHECKLIST

Reviewer: LS
2nd Reviewer: KP

Method: Biochemical Oxygen Demand (SM 5210B)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	X			
Cooler temperature criteria was met.	X			
II. Calibration				
Were all instruments calibrated daily, each set-up time?	X			
Were the proper number of standards used?			X	
Were all initial calibration correlation coefficients ≥ 0.995?			X	
Were all initial and continuing calibration verification %Rs within the 95-105% QC limits?			X	
Were titrant checks performed as required? (Level IV only)			X	Not reviewed for Level III validation.
Were balance checks performed as required? (Level IV only)			X	Not reviewed for Level III validation.
III. Blanks				
Was a method blank associated with every sample in this SDG?	X			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		X		
IV. Matrix spike/Matrix spike duplicates and Duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.			X	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 85-115 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.			X	
Were the MS/MSD or duplicate relative percent differences (RPD) ≤ 5% for waters?			X	
V. Laboratory control samples				
Was an LCS anaylzed for this SDG?	X			
Was an LCS analyzed per extraction batch?	X			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 81.5-118.5% QC limits?		X		
VI. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		X		
Were the performance evaluation (PE) samples within the acceptance limits?			X	

LDC #: 1102-01~~B6c~~ 8C6c ~~KD~~
SDG #: 11042D

VALIDATION FINDINGS CHECKLIST

Reviewer: LS
2nd Reviewer: KD

Validation Area	Yes	No	NA	Findings/Comments
VII. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?			X	Not reviewed for Level III validation.
Were detection limits < RL?			X	Not reviewed for Level III validation.
VIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	X			
IX. Field duplicates				
Field duplicate pairs were identified in this SDG.		X		
Target analytes were detected in the field duplicates.			X	
X. Field blanks				
Field blanks were identified in this SDG.		X		
Target analytes were detected in the field blanks.			X	

Lab Control Spike/Lab Control Spike Duplicate Outlier Report

Lab Reporting Batch ID: 11042D **Laboratory: R9LAB**

EDD Filename: 11042d_bod.XML **eQAPP Name: Modesto_Site_070810a**

Method: **5210B**
Matrix: **Water**

QC Sample ID (Associated Samples)	*Compound*	*LCS %R*	*LCSD %R*	*%R Limits*	*RPD (Limits)*	*Affected Compounds*	*Flag*
B1B0087-SRM1 (EFF-0202)	Biological Oxygen Demand	75	-	81.50-118.50	-	Biological Oxygen Demand	J- (all detects) UJ (all non-detects)

SDG 11042E

LDC #: 1102-08D

SDG #: 11042E

Laboratory: EPA Region 9

VALIDATION COMPLETENESS WORKSHEET

Level III/~~IV~~ JBH

Date: 04/29/11

Page: 1 of 1

Reviewer: GS

2nd Reviewer: JBH

METHOD: GC/MS VOA (EPA TO-15)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 02/10/2011
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	A	
IV.	Continuing calibration	A	
V.	Blanks	A	
VI.	Surrogate spikes	N	
VII.	Sample duplicates	SW	
VIII.	Laboratory control samples	SW	
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	N	Not reviewed for Level III validation samples.
XII.	Compound quantitation/CRQLs	N	Not reviewed for Level III validation samples.
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	Not reviewed for Level III validation samples.
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ** Indicates sample underwent Level IV validation

1	GWTP Pr GAC-0202	11		21		31	
2	GWTP Stack-0202	12		22		32	
3	SVE Pre GAC-0202	13		23		33	
4	SVE Stack-0202	14		24		34	
5	GWTP Pr GAC-0202 Dup	15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

LDC #:_____
SDG #: 11042E

VALIDATION FINDINGS CHECKLIST

Reviewer: LS
2nd Reviewer: JBH

Method: Volatiles (EPA Method TO-15)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	X			
Canister pressure criteria was met.	X			
II. GC/MS Instrument performance check				
Were the BFB performance results reviewed and found to be within the specified criteria?	X			
Were all samples analyzed within the 12 hour clock criteria?	X			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	X			
Were all percent relative standard deviations (%RSD) ≤ 30% and relative response factors (RRF) ≥ 0.05?	X			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	X			
Were all percent differences (%D) ≤ 30% and relative response factors (RRF) ≥ 0.05?	X			
V. Blanks				
Was a method blank associated with every sample in this SDG?	X			
Was a method blank analyzed at least once every 12 hours for each matrix and concentration?	X			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		X		
VI. Surrogate spikes				
Were all surrogate %R within QC limits?			X	
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			X	
VII. Sample Duplicate				
Was a sample duplicate analyzed for this SDG?	X			
Were the relative percent differences (RPD) within the QC limits (≤20%)?		X		
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	X			
Was an LCS analyzed per analytical batch?	X			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?		X		

LDC #:_____
SDG #: 11042E

VALIDATION FINDINGS CHECKLIST

Reviewer: LS
2nd Reviewer: JBH

Validation Area	Yes	No	NA	Findings/Comments
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		X		
Were the performance evaluation (PE) samples within the acceptance limits?			X	
X. Internal standards				
Were internal standard area counts within +/-40% from the associated calibration standard?	X			
Were retention times within +/- 20.0 seconds from the associated calibration standard?	X			
XI. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?			X	Not reviewed for Level III validation samples.
Did compound spectra meet specified EPA "Functional Guidelines" criteria?			X	
Were chromatogram peaks verified and accounted for?			X	
XII. Compound quantitation/CRQLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?			X	Not reviewed for Level III validation samples.
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?			X	
XIII. Tentatively identified compounds (TICs)				
Were the major ions (> 10 percent relative intensity) in the reference spectrum evaluated in sample spectrum?			X	
Were relative intensities of the major ions within ± 20% between the sample and the reference spectra?			X	
Did the raw data indicate that the laboratory performed a library search for all required peaks in the chromatograms (samples and blanks)?			X	
XIV. System performance				
System performance was found to be acceptable.			X	Not reviewed for Level III validation samples.
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	X			
XVI. Field duplicates				
Field duplicate pairs were identified in this SDG.		X		
Target compounds were detected in the field duplicates.			X	
XVII. Field blanks				
Field blanks were identified in this SDG.		X		
Target compounds were detected in the field blanks.			X	

LDC #: _____ VALIDATION FINDING WORKSHEET Page: 1 of 1

SDG #: _11042E_ **Laboratory Duplicates** Reviewer: LS

METHOD: GC/MS Volatile Organics (EPA Method TO-15)

Y N NA Were laboratory duplicate pairs identified in this SDG?

Y N NA Were target analytes detected in the laboratory duplicate pairs?

Analyte	Concentration (ppbv)		Reported RPD	Recalculated RPD
	GWTP Pr GAC-0202	GWTP Pr GAC-0202 Dup		
Tetrachloroethene SBH	280	223	24	23

Relative percent differences (RPDs) are not calculated when an analyte is nondetected in one duplicate sample or is detected below the CRQL in one or both duplicate samples

Lab Duplicate Outlier Report

Lab Reporting Batch ID: 11042E **Laboratory: R9LAB**

EDD Filename: 11042E_TO15_edited RPD.xml **eQAPP Name: Modesto_Site_042811**

Method: TO-15
Matrix: Air

QC Sample ID (Associated Sample ID)	Analyte	Sample RPD	eQAPP RPD	Flag
GWTP Pr GAC-0202DUP (GWTP Pr GAC-0202 GWTP Stack-0202 SVE Pre GAC-0202 SVE Stack-0202)	TETRACHLOROETHENE	24	20.00	J (all detects) UJ (all non-detects)

Project Name and Number: R11S34 - Modesto GW Treatment System Winter 2011 Sampling

Lab Control Spike/Lab Control Spike Duplicate Outlier Report

Lab Reporting Batch ID: 11042E **Laboratory: R9LAB**

EDD Filename: 11042e_TO15_edited_RPD.XML **eQAPP Name: Modesto_Site_042811**

Method: **TO-15**
Matrix: **Air**

QC Sample ID (Associated Samples)	Compound	LCS %R	LCSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
B1B0030-BS1 (GWTP Pr GAC-0202 GWTP Stack-0202 SVE Pre GAC-0202 SVE Stack-0202)	STYRENE	18	-	69.00-122.00	-	STYRENE	J- (all detects) UJ (all non-detects)

Reporting Limit Outliers

Lab Reporting Batch ID: 11042E **Laboratory: R9LAB**

EDD Filename: 11042e_TO15_edited_RPD.XML **eQAPP Name: Modesto_Site_042811**

No Data Review Qualifiers Applied.

SDG 11069A

LDC #: 1102-08E
SDG #: 11069A
Laboratory: EPA Region 9

VALIDATION COMPLETENESS WORKSHEET
Level III/IV

Date: 04/29/11
Page: 1 of 1
Reviewer: LS
2nd Reviewer: KD

METHOD: GC/MS Volatiles (EPA Method 524.2)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 03/09/2011
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	SW	
IV.	Continuing calibration/ICV	A	
V.	Blanks	SW	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	SW/~~A~~ ND	MS/MSD = 5/6 4x PCE
VIII.	Laboratory control samples	A	
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	N	Not reviewed for Level III validation.
XII.	Compound quantitation/CRQLs	N	Not reviewed for Level III validation.
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	Not reviewed for Level III validation.
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	FD = 3 and 1
XVII.	Field blanks	SW	TB = 4

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: ** Indicates sample underwent Level IV validation

1	EFF-0302	11		21		31	
2	EW-1-0302	12		22		32	
3	MW-107-0302	13		23		33	
4	MW-304-1Q11	14		24		34	
5	EW-1-0302 MS	15		25		35	
6	EW-1-0302 MSD	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

LDC #:_____
SDG #: 11069A

VALIDATION FINDINGS CHECKLIST

Reviewer: LS
2nd Reviewer: KD

Method: Volatiles (EPA Method 524.2)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	X			
Cooler temperature criteria was met.	X			
II. GC/MS Instrument performance check				
Were the BFB performance results reviewed and found to be within the specified criteria?	X			
Were all samples analyzed within the 12 hour clock criteria?	X			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	X			
Were all percent relative standard deviations (%RSD) ≤ 20% for all target compounds ?		X		
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	X			
Were all percent differences (%D) ≤30% for all target compounds ?	X			
V. Blanks				
Was a method blank associated with every sample in this SDG?	X			
Was a method blank analyzed at least once every 12 hours for each matrix and concentration?	X			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.	X			
VI. Surrogate spikes				
Were all surrogate %R within QC limits?	X			
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			X	
VII. Matrix spike/Matrix spike duplicates				
Was a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for this SDG?	X			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	X	(X)		PCE = 4x
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	X			
Was an LCS analyzed per analytical batch?	X			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	X			

LDC #:_____
SDG #: 11069A

VALIDATION FINDINGS CHECKLIST

Reviewer: LS
2nd Reviewer: KH

Validation Area	Yes	No	NA	Findings/Comments
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		X		
Were the performance evaluation (PE) samples within the acceptance limits?			X	
X. Internal standards				
Were retention times within +/- 30% of the last continuing calibration or +/- 50% of the initial calibration?	X			
Were retention times (RTs) within ± 30 seconds of RT of the associated calibration standard?	X			
XI. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?			X	Not reviewed for Level III validation
Did compound spectra meet specified EPA "Functional Guidelines" criteria?			X	Not reviewed for Level III validation
Were chromatogram peaks verified and accounted for?			X	Not reviewed for Level III validation
XII. Compound quantitation/CRQLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?			X	Not reviewed for Level III validation
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?			X	Not reviewed for Level III validation
XIII. Tentatively identified compounds (TICs)				
Were the major ions (> 25 percent relative intensity) in the reference spectrum evaluated in sample spectrum?			X	
Were relative intensities of the major ions within ± 20% between the sample and the reference spectra?			X	
Did the raw data indicate that the laboratory performed a library search for all required peaks in the chromatograms (samples and blanks)?			X	
XIV. System performance				
System performance was found to be acceptable.			X	Not reviewed for Level III validation
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	X			
XVI. Field duplicates				
Field duplicate pairs were identified in this SDG.	X			
Target compounds were detected in the field duplicates.				
XVII. Field blanks				
Field blanks were identified in this SDG.	X			
Target compounds were detected in the field blanks.	X			

LDC #:_____
SDG #: 11069A

VALIDATION FINDINGS WORKSHEET
Initial Calibration

Reviewer: LS
2nd Reviewer: KP

METHOD: GC/MS VOA (EPA Method 524.2)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Y N N/A Did the laboratory perform a 5 point calibration prior to sample analysis?
Y N N/A Were all %RSDs within the validation criteria of ≤20 %RSD? **70-130%R for ICV**

#	Date	Standard ID	Compound	Finding %RSD (Limit: ≤20.0%)	Associated Samples	Qualifications
1	3/11/11	031111J1C1A	Chlorodibromomethane	23.58	All	J/UJ
	HP5973J		t-1,3-Dichloropropene	21.20		J/UJ
			Bromoform	34.57		J/UJ
			1,2-Dibromo-3-chloropropane	29.41		J/UJ

Method Blank Outlier Report

Lab Reporting Batch ID: 11069A **Laboratory: R9LAB**

EDD Filename: 11069a_voc_CCS.XML **eQAPP Name: Modesto_Site_070810s**

Method: **524.2**
Matrix: **Water**

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
B1C0049-BLK1	3/11/2011 8:08:00 PM	ACETONE	2.7 ug/L	EFF-0302 EW-1-0302 MW-107-0302 MW-304-1Q11

Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: 11069A **Laboratory: R9LAB**

EDD Filename: 11069a_voc_CCS.XML **eQAPP Name: Modesto_Site_070810s**

Method: **524.2**
Matrix: **Water**

QC Sample ID (Associated Samples)	Compound	MS %R	MSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
EW-1-0302MS **EW-1-0302MSD** (EW-1-0302)	TETRACHLOROETHENE	-476	-518	41.00-150.00	-	TETRACHLOROETHENE	J- (all detects) R (all non-detects)

N/A due to 4x
Sample conc > 4x spike

Project Name and Number: R11S34 - Modesto GW Treatment System Winter 2011 Sampling

Reporting Limit Outliers

Lab Reporting Batch ID: 11069A **Laboratory: R9LAB**

EDD Filename: 11069a_voc_CCS.XML **eQAPP Name: Modesto_Site_070810s**

Method: **524.2**

Matrix: **Water**

SampleID	*Analyte*	*Lab Qual*	*Result*	*Reporting Limit*	*RL Type*	*Units*	*Flag*
EFF-0302	TETRACHLOROETHENE	J,C1	0.2	0.5	MRL	ug/L	J (all detects)
MW-107-0302	TETRACHLOROETHENE	J,C1	0.2	0.5	MRL	ug/L	J (all detects)

Field QC Assignments and Associated Samples

EDD File Name: 11069A
eQapp Name: Modesto_Site_070810s

	Associated Samples	Sample Collection Date
Field QC Sample: MW-107-0302 **QC Type:** Field_Duplicate		
	EW-1-0302	3/9/2011 1:50:00
Field QC Sample: MW-304-1Q11 **QC Type:** Trip_Blank		
	EFF-0302	3/9/2011 1:30:00
	MW-107-0302	3/9/2011 1:35:00
	EW-1-0302	3/9/2011 1:50:00

History of Manual Changes to Automated Data Review Qualifiers

Changed by: Nanny Bosch

Analyte	Method	Analysis Type	Result	Unit	Reason Code	Original Value	New Value	Edit Time
Field Sample ID: EFF-0302								
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Initial	2.0	ug/L	Initial Calibration Percent		UJ	4/30/2011 13:16
Reason for change: %RSD>20								
BROMOFORM	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 13:16
Reason for change: %RSD>20								
DIBROMOCHLOROMETHANE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 13:14
Reason for change: %RSD>20								
TRANS-1,3-DICHLOROPROPENE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 13:15
Reason for change: %RSD>20								
Field Sample ID: EW-1-0302								
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Initial	2.0	ug/L	Initial Calibration Percent		UJ	4/30/2011 13:16
Reason for change: %RSD>20								
BROMOFORM	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 13:16
Reason for change: %RSD>20								
DIBROMOCHLOROMETHANE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 13:14
Reason for change: %RSD>20								
TRANS-1,3-DICHLOROPROPENE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 13:15
Reason for change: %RSD>20								

Analyte	Method	Analysis Type	Result	Unit	Reason Code	Original Value	New Value	Edit Time
Field Sample ID: MW-107-0302								
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Initial	2.0	ug/L	Initial Calibration Percent		UJ	4/30/2011 13:17
Reason for change: %RSD>20								
BROMOFORM	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 13:16
Reason for change: %RSD>20								
DIBROMOCHLOROMETHANE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 13:14
Reason for change: %RSD>20								
TRANS-1,3-DICHLOROPROPENE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 13:15
Reason for change: %RSD>20								
Field Sample ID: MW-304-1Q11								
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Initial	2.0	ug/L	Initial Calibration Percent		UJ	4/30/2011 13:16
Reason for change: %RSD>20								
BROMOFORM	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 13:15
Reason for change: %RSD>20								
DIBROMOCHLOROMETHANE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 13:14
Reason for change: %RSD>20								
TRANS-1,3-DICHLOROPROPENE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 13:15
Reason for change: %RSD>20								

LDC #: 1102-08E6
SDG #: 11069A
Laboratory: EPA Region 9

VALIDATION COMPLETENESS WORKSHEET
EPA Level III

Date: 02/17/11
Page: 1 of 1
Reviewer: NB for CT
2nd Reviewer: KTD

METHOD: Total Dissolved Solids by SM 2540C

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 02/10/2011
II.	Calibration verification	A	
III.	Blanks	A	
IV	Matrix Spike/(Matrix Spike) Duplicates	N	
V.	Duplicates	A	Dup = 2
VI	Laboratory control samples	A	
VII.	Sample result verification	N	Not reviewed for Level III validation.
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

1	EFF-0202	11		21		31	
2	EFF-0202 DUP	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 1102-08E6
SDG #: 11069A

VALIDATION FINDINGS CHECKLIST

Reviewer: NB for CT
2nd Reviewer: KJD

Method: Total Dissolved Solids (Standard Method 2540C)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	X			
Cooler temperature criteria was met.	X			
II. Calibration				
Were all instruments calibrated daily, each set-up time?	X			
Were the proper number of standards used?			X	
Were all initial calibration correlation coefficients ≥ 0.995?			X	
Were all initial and continuing calibration verification %Rs within the 95-105% QC limits?			X	
Were titrant checks performed as required? (Level IV only)			X	
Were balance checks performed as required? (Level IV only)			X	Not reviewed for Level III validation.
III. Blanks				
Was a method blank associated with every sample in this SDG?	X			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		X		
IV. Matrix spike/Matrix spike duplicates and Duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.	X			Lab Dup
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 85-115 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.			X	
Were the MS/MSD or duplicate relative percent differences (RPD) ≤ 5% for waters?	X			
V. Laboratory control samples				
Was an LCS anaylzed for this SDG?	X			Reference sample
Was an LCS analyzed per extraction batch?	X			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 85-115% QC limits?	X			
VI. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		X		
Were the performance evaluation (PE) samples within the acceptance limits?			X	

LDC #: 1102-08E6
SDG #: 11069A

VALIDATION FINDINGS CHECKLIST

Reviewer: NB for CT
2nd Reviewer: KPD

Validation Area	Yes	No	NA	Findings/Comments
VII. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?			X	Not reviewed for Level III validation.
Were detection limits < RL?			X	Not reviewed for Level III validation.
VIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	X			
IX. Field duplicates				
Field duplicate pairs were identified in this SDG.		X		
Target analytes were detected in the field duplicates.			X	
X. Field blanks				
Field blanks were identified in this SDG.		X		
Target analytes were detected in the field blanks.			X	

LDC #: 1102-08E6 ~~1102-01C6b~~ 1-97

SDG #: 11069A

Laboratory: EPA Region 9

VALIDATION COMPLETENESS WORKSHEET

EPA Level III

Date: 02/17/11

Page: 1 of 1

Reviewer: MB for CT

2nd Reviewer: KD

METHOD: Total Suspended Solids by SM 2540D

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 02/10/2011
II.	Calibration verification	A	
III.	Blanks	A	
IV	Matrix Spike/(Matrix Spike) Duplicates	N	
V.	Duplicates	A/ND	Dup = 2
VI	Laboratory control samples	A	
VII.	Sample result verification	N	Not reviewed for Level III validation.
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

1	EFF-0202	11		21		31	
2	EFF-0202 DUP	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #: 1102-08E6
SDG #: 11069A

VALIDATION FINDINGS CHECKLIST

Reviewer: NB for CT
2nd Reviewer: KG

Method: Total Suspended Solids (Standard Method 2540D)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	X			
Cooler temperature criteria was met.	X			
II. Calibration				
Were all instruments calibrated daily, each set-up time?	X			
Were the proper number of standards used?			X	
Were all initial calibration correlation coefficients ≥ 0.995?			X	
Were all initial and continuing calibration verification %Rs within the 95-105% QC limits?			X	
Were titrant checks performed as required? (Level IV only)			X	
Were balance checks performed as required? (Level IV only)			X	Not reviewed for Level III validation.
III. Blanks				
Was a method blank associated with every sample in this SDG?	X			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		X		
IV. Matrix spike/Matrix spike duplicates and Duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.	X			Lab Dup
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 85-115 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.			X	
Were the MS/MSD or duplicate relative percent differences (RPD) ≤ 5% for waters?	X			
V. Laboratory control samples				
Was an LCS anaylzed for this SDG?	X			
Was an LCS analyzed per extraction batch?	X			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 85-115% QC limits?	X			
VI. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		X		
Were the performance evaluation (PE) samples within the acceptance limits?			X	

LDC #: 1102-08E6
SDG #: 11069A

VALIDATION FINDINGS CHECKLIST

Reviewer: NB for CT
2nd Reviewer: KTD

Validation Area	Yes	No	NA	Findings/Comments
VII. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?			X	Not reviewed for Level III validation.
Were detection limits < RL?			X	Not reviewed for Level III validation.
VIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	X			
IX. Field duplicates				
Field duplicate pairs were identified in this SDG.		X		
Target analytes were detected in the field duplicates.			X	
X. Field blanks				
Field blanks were identified in this SDG.		X		
Target analytes were detected in the field blanks.			X	

LDC #: 1102-08E

SDG #: 11069A

Laboratory: EPA Region 9

VALIDATION COMPLETENESS WORKSHEET

EPA Level III

Date: 04/29/11

Page: 1 of 1

Reviewer: CS

2nd Reviewer: KD

METHOD: Biochemical Oxygen Demand by SM 5210B

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 03/09/2011
II.	Calibration verification	N	
III.	Blanks		
IV	Matrix Spike/(Matrix Spike) Duplicates	N	
V.	Duplicates	N	
VI	Laboratory control samples	SW	
VII.	Sample result verification	N	Not reviewed for Level III validation.
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

1	EFF-0302	11		21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC #:_____
SDG #: 11069A

VALIDATION FINDINGS CHECKLIST

Reviewer: LS
2nd Reviewer: KD

Method: Biochemical Oxygen Demand (SM 5210B)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	X			
Cooler temperature criteria was met.	X			
II. Calibration				
Were all instruments calibrated daily, each set-up time?	X			
Were the proper number of standards used?			X	
Were all initial calibration correlation coefficients ≥ 0.995?			X	
Were all initial and continuing calibration verification %Rs within the 95-105% QC limits?			X	
Were titrant checks performed as required? (Level IV only)			X	
Were balance checks performed as required? (Level IV only)			X	
III. Blanks				
Was a method blank associated with every sample in this SDG?				
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.				
IV. Matrix spike/Matrix spike duplicates and Duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.			X	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 85-115 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.			X	
Were the MS/MSD or duplicate relative percent differences (RPD) ≤ 5% for waters?			X	
V. Laboratory control samples				
Was an LCS anaylzed for this SDG?				Reference sample
Was an LCS analyzed per extraction batch?				
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 81.5-118.5% QC limits?				
VI. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		X		
Were the performance evaluation (PE) samples within the acceptance limits?			X	

LDC #:_____
SDG #: 11069A

VALIDATION FINDINGS CHECKLIST

Reviewer: LS
2nd Reviewer: KTP

Validation Area	Yes	No	NA	Findings/Comments
VII. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?			X	Not reviewed for Level III validation.
Were detection limits < RL?			X	Not reviewed for Level III validation.
VIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	X			
IX. Field duplicates				
Field duplicate pairs were identified in this SDG.		X		
Target analytes were detected in the field duplicates.			X	
X. Field blanks				
Field blanks were identified in this SDG.		X		
Target analytes were detected in the field blanks.			X	

Lab Control Spike/Lab Control Spike Duplicate Outlier Report

Lab Reporting Batch ID: 11069A **Laboratory: R9LAB**

EDD Filename: 11069A_BOD_CCS.XML **eQAPP Name: Modesto_Site_070810s**

Method: **5210B**
Matrix: **Water**

QC Sample ID (Associated Samples)	*Compound*	*LCS %R*	*LCSD %R*	*%R Limits*	*RPD (Limits)*	*Affected Compounds*	*Flag*
B1C0068-SRM1 (EFF-0302)	Biochemical Oxygen Demand	71	-	81.50-118.50	-	Biochemical Oxygen Demand	J- (all detects) UJ (all non-detects)

SDG 11069C

LDC #: 1102-08F
SDG #: 11069C
Laboratory: EPA Region 9

VALIDATION COMPLETENESS WORKSHEET
Level III/IV

Date: 04/18/11
Page: 1 of 1
Reviewer: LS
2nd Reviewer: KD

METHOD: GC/MS Volatiles (EPA Method 524.2)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 03/07-08/2011
II.	GC/MS Instrument performance check	A	2 failed Tune reports
III.	Initial calibration	SW	
IV.	Continuing calibration/ICV	A	
V.	Blanks	SW	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	SW	MS/MSD = 8/9
VIII.	Laboratory control samples	A	
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	A ~~N~~ KD	Not reviewed for Level III validation.
XII.	Compound quantitation/CRQLs	A ~~N~~ KD	Not reviewed for Level III validation.
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	A ~~N~~ KD	Not reviewed for Level III validation.
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	FD = 6/7
XVII.	Field blanks	SW	TB = 18

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ** Indicates sample underwent Level IV validation

1	MW-15A-1Q11	11	MW-14A-1Q11 **	21		31	
2	MW-7A-1Q11	12	MW- 9B-1Q11	22		32	
3	MW-11A-1Q11	13	MW-16A-1Q11	23		33	
4	MW-13A-1Q11	14	MW-16B-1Q11 **	24		34	
5	MW-1A-1Q11	15	MW-16C-1Q11	25		35	
6	MW-2A-1Q11	16	MW-19A-1Q11	26		36	
7	MW-98A-1Q11	17	MW-19B-1Q11	27		37	
8	MW-98A-1Q11MS	18	MW-303-1Q11	28		38	
9	MW-98A-1Q11MSD	19		29		39	
10	MW-6A-1Q11 **	20		30		40	

LDC #: 1102-08F
SDG #: 11069C

VALIDATION FINDINGS CHECKLIST

Reviewer: LS
2nd Reviewer: KJD

Method: Volatiles (EPA Method 524.2)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	X			
Cooler temperature criteria was met.	X			
II. GC/MS Instrument performance check				
Were the BFB performance results reviewed and found to be within the specified criteria?	X			
Were all samples analyzed within the 12 hour clock criteria?	X			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	X			
Were all percent relative standard deviations (%RSD) ≤ 20% for all target compounds ?		X		
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	X			
Were all percent differences (%D) ≤30% for all target compounds ?	X			
V. Blanks				
Was a method blank associated with every sample in this SDG?	X			
Was a method blank analyzed at least once every 12 hours for each matrix and concentration?	X			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.	X			
VI. Surrogate spikes				
Were all surrogate %R within QC limits?	X			
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			X	
VII. Matrix spike/Matrix spike duplicates				
Was a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for this SDG?	X			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?		X		
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	X			
Was an LCS analyzed per analytical batch?	X			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	X			

LDC #: 1102-08F
SDG #: 11069C

VALIDATION FINDINGS CHECKLIST

Reviewer: CS
2nd Reviewer: KD

Validation Area	Yes	No	NA	Findings/Comments
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		X		
Were the performance evaluation (PE) samples within the acceptance limits?			X	
X. Internal standards				
Were retention times within +/- 30% of the last continuing calibration or +/- 50% of the initial calibration?	X			
Were retention times (RTs) within ± 30 seconds of RT of the associated calibration standard?	X			
XI. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	X		X KD	
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	X		X	
Were chromatogram peaks verified and accounted for?	X		X	
XII. Compound quantitation/CRQLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	X			
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	x			
XIII. Tentatively identified compounds (TICs)				
Were the major ions (> 25 percent relative intensity) in the reference spectrum evaluated in sample spectrum?			X	
Were relative intensities of the major ions within ± 20% between the sample and the reference spectra?			X	
Did the raw data indicate that the laboratory performed a library search for all required peaks in the chromatograms (samples and blanks)?			X	
XIV. System performance				
System performance was found to be acceptable.	x			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	X			
XVI. Field duplicates				
Field duplicate pairs were identified in this SDG.	X			
Target compounds were detected in the field duplicates.	X			
XVII. Field blanks				
Field blanks were identified in this SDG.	X			
Target compounds were detected in the field blanks.	X			

LDC #: 1102-08F
SDG #: 11069C

VALIDATION FINDINGS WORKSHEET
Initial Calibration

Page: 1 of 1
Reviewer: LS
2nd Reviewer: KTD

METHOD: GC/MS VOA (EPA Method 524.2)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Did the laboratory perform a 5 point calibration prior to sample analysis?
Y N N/A Were all %RSDs within the validation criteria of ≤20 %RSD? **70-130%R for ICV**

#	Date	Standard ID	Compound	Finding %RSD (Limit: ≤20.0%)	Associated Samples	Qualifications
1	3/11/11	031111J1C1A	Chlorodibromomethane	23.58	All	J/UJ
	HP5973J		t-1,3-Dichloropropene	21.20		J/UJ
			Bromoform	34.57		J/UJ
			1,2-Dibromo-3-chloropropane	29.41		J/UJ

LDC #: 1162-08F
SDG #: 11069C

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: LS
2nd Reviewer: KTD

METHOD: GC/MS Volatiles (EPA SW 846 Method 524.2)

The relative response factors (RRF) and relative standard deviation (%RSD) were calculated for the compounds identified below using the following calculations:

RRF = (Std Resp * IStd Conc) / (Std Conc * IS Resp)
%RSD = 100 * (S/X)

Where:
S = Standard deviation of calibration factors
X = Mean of calibration factors

Calibration Date	Inst	Compound	Standard	Standard Concentration (ppb)	Standard Response (A/H)	Internal Standard Concentration (ppb)	Internal Standard Response (A/H)	Recalculated Calibration Factor (CF)	Recalculated %RSD	Reported Calibration Factor (CF)	Reported %RSD
3/11/2011	HP5973J	Chloroform (vs Dichloromethane-d2)	Point 1	0.50	88781	5.00	112744	7.875		7.875	
			Point 2	1.00	134412	5.00	115194	5.834		5.834	
			Point 3	2.00	260340	5.00	120270	5.412		5.412	
			Point 4	5.00	680102	5.00	120247	5.656		5.656	
			Point 5	10.00	1291156	5.00	117178	5.509		5.509	
			Point 6	25.00	3217610	5.00	120828	5.326		5.326	
			Mean calibration factor					5.935	16.29	5.935	16.29
3/11/2011	HP5973J	Trichloroethene (vs Fluorobenzene)	Point 1	0.50	46276	5.00	1375924	0.336		0.336	
			Point 2	1.00	88654	5.00	1373590	0.323		0.323	
			Point 3	2.00	170146	5.00	1423421	0.299		0.299	
			Point 4	5.00	440750	5.00	1458992	0.302		0.302	
			Point 5	10.00	828721	5.00	1355466	0.306		0.306	
			Point 6	25.00	2018619	5.00	1416477	0.285		0.285	
			Mean calibration factor					0.308	5.92	0.308	5.92
3/11/2011	HP5973J	Tetrachloroethene (vs Chlorobenzene-d5)	Point 1	0.50	46792	5.00	828795	0.565		0.565	
			Point 2	1.00	87121	5.00	833553	0.523		0.523	
			Point 3	2.00	169572	5.00	876817	0.483		0.483	
			Point 4	5.00	451802	5.00	906604	0.498		0.498	
			Point 5	10.00	811591	5.00	830942	0.488		0.488	
			Point 6	25.00	1962999	5.00	875490	0.448		0.448	
			Mean calibration factor					0.501	7.86	0.501	7.86

LDC #: 1102-08F
SDG #: 11069C

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: LS
2nd Reviewer: KD

METHOD: GC/MS VOA (EPA Method 524.2)
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Y N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?
Y N N/A Were all percent differences (%D) ≤ 30% ?

#	Date	Standard ID	Compound	Finding %D (Limit: ≤30.0%)	Associated Samples	Qualifications
1	3/14/11	031411JC1	tert-Butyl alcohol	-33.3	All -08 thru -16	KD ~~J+ Detects~~ Not a target
			Ethyl-tert-butyl-ether	-36.8		KD ~~J+ Detects~~
2	3/11/11	031311JC1	TBA	-36.1	-06, -07	None, not a target cpd.

LDC #: 11028-08F
SDG #: 11069C

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Reviewer: LS
2nd Reviewer: KTD

METHOD: GC/MS Volatiles (EPA 524.2)

The relative response factors (RRF) and percent difference (%D) were calculated for the compounds listed below using the following calculations:

RRF = (Std Resp * IStd Conc) / (Std Conc * IS Resp)
%D = 100 * (CC-IC)/(IC)

Where:
CC = Continuing calibration RRF
IC = Initial calibration RRF

Calibration Date	Compound	Standard Concentration (ppb)	Standard Response (A/H)	Internal Standard Concentration (ppb)	Internal Standard Response (A/H)	Recalculated (RRF)	Reported (RRF)	Initial Calibration (RRF)	Recalculated %D	Reported %D
3/11/2011	Chloroform	5.0	680102	5.0	120247	5.656	5.656	5.935	-4.7	-4.7
3:22	Trichloroethene	5.0	440750	5.0	1458992	0.302	0.302	0.308	-1.9	-1.9
HP5973J	Tetrachloroethene	5.0	451802	5.0	906604	0.498	0.498	0.501	-0.5	-0.6

Method Blank Outlier Report

Lab Reporting Batch ID: 11069C **Laboratory: R9LAB**

EDD Filename: 11069C_voc_LDC_dn.XML **eQAPP Name: Modesto_Site_070810a**

Method: **524.2**
Matrix: **Water**

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
B1C0049-BLK1	3/11/2011 8:08:00 PM	ACETONE	2.7 ug/L	MW-11A-1Q11 MW-13A-1Q11 MW-15A-1Q11 MW-1A-1Q11 MW-7A-1Q11

LDC #: 1102-08F
SDG #: 11069C

VALIDATION FINDINGS WORKSHEET
Surrogate Compounds
Results Verification

Reviewer: LS
2nd Reviewer: KTD

METHOD: GC/MS Volatile Organic Compounds (EPA Method 524.2)

The percent recoveries (%R) of surrogate compounds were recalculated for the compounds identified below using the following calculation:

%Recovery: SURRF/SURRS * 100

Where: SURRF = Surrogate Found
SURRS = Surrogate Spiked

-01 **Sample ID: MW-15A-1Q11**

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
1,2-Dichloroethane-d4	5	4.755	95	95	0
Toluene-d8	5	5.028	101	101	0
4-Bromofluorobenzene	5	4.974	99	99	0
1,2-Dichlorobenzene-d4	5	5.049	101	101	0

Sample ID: MW-6A-1Q11

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
1,2-Dichloroethane-d4	5	5.479	110	110	0
Toluene-d8	5	5.002	100	100	0
4-Bromofluorobenzene	5	5.059	101	101	0
1,2-Dichlorobenzene-d4	5	5.047	101	101	0

Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: 11069C **Laboratory: R9LAB**

EDD Filename: 11069C_voc_LDC_dn.XML **eQAPP Name: Modesto_Site_070810a**

Method: **524.2**
Matrix: **Water**

QC Sample ID (Associated Samples)	Compound	MS %R	MSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
MW-98A-1Q11MSD (MW-98A-1Q11)	1,1,2-TRICHLORO-1,2,2-TRIFLU	-	-	38.00-140.00	29 (20.00)	1,1,2-TRICHLORO-1,2,2-TRIFL	J (all detects) UJ (all non-detects)
	1,1-DICHLOROETHENE	-	-	33.00-160.00	29 (20.00)	1,1-DICHLOROETHENE	
	1,2,4-TRIMETHYLBENZENE	-	-	67.00-140.00	23 (20.00)	1,2,4-TRIMETHYLBENZENE	
	STYRENE	-	-	20.00-170.00	38 (20.00)	STYRENE	
	TETRACHLOROETHENE	-	-	41.00-150.00	27 (20.00)	TETRACHLOROETHENE	

LDC #: 1102-08F
SDG #: 11069C

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Result Verification

Reviewer: LS
2nd Reviewer: KTD

METHOD: GC/MS Volatiles (EPA Method 524.2)

The percent recoveries (%R) and relative percent differences (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = 100 * (SSC - SC)/SA

Where: SSC = Spiked concentration SC = Sample concentration
SA = Spike added

RPD = | MS - MSD | * 2/(MS + MSD)

MS = Matrix spike recovery MSD = Matrix spike duplicate recovery

MS/MSD samples: MW-98A-1Q11 MS/MW-98A-1Q11 MSD

Compound	Spike Added (ug/L)		Sample Concentration (ug/L)	Spiked Sample Concentration (ug/L)		MS Percent Recovery		MSD Percent Recovery		MS/MSD RPD	
	MS	MSD		MS	MSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
1,1-Dichloroethene	5.00	5.00	0.00	2.61	3.51	52	52	70	70	29	29
Benzene	5.00	5.00	0.00	4.80	4.87	96	96	97	97	2	1
Trichloroethene	5.00	5.00	0.00	4.52	4.62	90	90	92	92	2	2
Toluene	5.00	5.00	0.00	4.66	4.76	93	93	95	95	2	2
Chlorobenzene	5.00	5.00	0.00	4.79	4.85	96	96	97	97	1	1

LDC #: 11102-08F
SDG #: 11069C

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample
Result Verification

Reviewer: LS
2nd Reviewer: LD

METHOD: GC/MS Volatiles (EPA SW 846 Method 524.2)

The percent recoveries (%R) of the laboratory control sample were recalculated for the compounds identified below using the following calculation:

%Recovery = 100 * (SSC - SC)/SA

SSC = Spiked concentration
SA = Spike added

SC = Sample concentration

LCS Batch: 1030028-SCV1

Compound	Spike Added (ug/L)	Sample Concentration (ug/L)	Spiked Sample Concentration (ug/L)	LCS Percent Recovery	
	LCS		LCS	Reported	Recalc.
Vinyl chloride	5.0	0.0	5.3	106	106
Chloroform	5.0	0.0	5.1	103	102
1,2-Dichloroethane	5.0	0.0	5.2	103	104
Trichloroethene	5.0	0.0	5.3	107	106
1,2-Dichloropropane	5.0	0.0	5.3	105	106
1,1,2-Trichloroethane	5.0	0.0	5.2	103	104
Tetrachloroethene	5.0	0.0	5.7	115	114
1,1,2,2-Tetrachloroethane	5.0	0.0	5.4	108	108
Hexachlorobutadiene	5.0	0.0	5.7	114	114

Reporting Limit Outliers

Lab Reporting Batch ID: 11069C **Laboratory: R9LAB**

EDD Filename: 11069C_voc_LDC_dn.XML **eQAPP Name: Modesto_Site_070810a**

Method: **524.2**

Matrix: **Water**

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
MW-14A-1Q11	CHLOROFORM	J,C1	0.3	0.5	MRL	ug/L	J (all detects)
MW-15A-1Q11	CHLOROFORM	J,C1	0.3	0.5	MRL	ug/L	J (all detects)
MW-16A-1Q11	1,2,4-TRIMETHYLBENZENE	J,C1	0.4	0.5	MRL	ug/L	J (all detects)
	NAPHTHALENE	J,C1	0.3	0.5	MRL	ug/L	
MW-16B-1Q11	1,3,5-TRIMETHYLBENZENE	J,C1	0.3	0.5	MRL	ug/L	J (all detects)
	CHLOROFORM	J,C1	0.3	0.5	MRL	ug/L	
	N-PROPYLBENZENE	J,C1	0.2	0.5	MRL	ug/L	
	TOLUENE	J,C1	0.4	0.5	MRL	ug/L	
MW-16C-1Q11	1,3,5-TRIMETHYLBENZENE	J,C1	0.2	0.5	MRL	ug/L	J (all detects)
	BENZENE	J,C1	0.4	0.5	MRL	ug/L	
	ETHYLBENZENE	J,C1	0.2	0.5	MRL	ug/L	
	m&p-Xylene	J,C1	0.8	1.0	MRL	ug/L	
	TOLUENE	J,C1	0.3	0.5	MRL	ug/L	
MW-19A-1Q11	1,2,4-TRIMETHYLBENZENE	J,C1	0.3	0.5	MRL	ug/L	J (all detects)
	1,3,5-TRIMETHYLBENZENE	J,C1	0.4	0.5	MRL	ug/L	
	NAPHTHALENE	J,C1	0.3	0.5	MRL	ug/L	
	TETRACHLOROETHENE	J,C1	0.2	0.5	MRL	ug/L	
MW-19B-1Q11	1,2,4-TRIMETHYLBENZENE	J,C1	0.2	0.5	MRL	ug/L	J (all detects)
	1,3,5-TRIMETHYLBENZENE	J,C1	0.3	0.5	MRL	ug/L	
	ETHYLBENZENE	J,C1	0.3	0.5	MRL	ug/L	
	TETRACHLOROETHENE	J,C1	0.3	0.5	MRL	ug/L	
	TOLUENE	J,C1	0.3	0.5	MRL	ug/L	
MW-1A-1Q11	CHLOROFORM	J,C1	0.2	0.5	MRL	ug/L	J (all detects)
MW-6A-1Q11	BROMODICHLOROMETHANE	J,C1	0.3	0.5	MRL	ug/L	J (all detects)

LDC #: 1102-08F
SDG #: 11069C

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: LS
2nd Reviewer: KTD

METHOD: GC/MS Volatiles (EPA Method 524.2)

Compound results for all Level IV samples reported with a positive detect were recalculated and verified using the following equation:

$$\text{Concentration} = \frac{(Ax)(Df)(Ci)}{(CF)(Vo)(Ai)(\%S)}$$

Where:
- Ax = Area or height of the peak for the compound to be measured
- DF = Dilution factor
- Ci = Concentration of internal standard
- CF = Calibration factor from continuing calibration curve
- Vo = Volume or weight of sample extracted in milliters (mL) or grams (g)
- Ai = Area or height of internal standard

#	Sample I.D.	Compound		Response (A/H)	Dilution Factor	Int. Std. (ug/L)	CF	Sample wt/vol (g)		Int. Std. (A/H)	Reported Concentration (ug/L)	Calculated Concentration (ug/L)	% Diff	Accept? (Y/N)
1	MW-6A-1Q11	Chloroform		886332	1	5.0	5.935	1		114602	6.52	6.5	0.0	Y
		Bromodichloromethane		14931	1	5.0	0.225	1		1209016	0.274	0.3	0.2	Y
	2x dilution	Tetrachloroethene		1530355	2	5.0	0.501	1		719652	42.4	42	0.0	Y
2	MW-14A-1Q11	Chloroform		41247	1	5.0	5.935	1		115195	0.300	0.3	0.6	Y
		Tetrachloroethene		1777379	1	5.0	0.50	1		735541	24	24	0.5	Y
3	MW-16B-1Q11	Chloroform		45362	1	5.0	5.935	1		114167	0.335	0.3	-0.1	Y
		Benzene		277434	1	5.0	1.206	1		1185129	0.97	1.0	0.0	Y
		Toluene		76910	1	5.0	1.222	1		725414	0.434	0.4	0.0	Y
		Tetrachloroethene		239438	1	5.0	0.501	1		725414	3.29	3.3	0.0	Y
		Ethylbenzene		432946	1	5.0	2.377	1		725414	1.26	1.3	0.0	Y
		m&p-Xylenes		457706	1	5.0	0.874	1		725414	3.60	3.6	0.3	Y
		o-Xylene		97009	1	5.0	0.804	1		725414	0.832	0.8	0.0	Y
		Propylbenzene		96750	1	5.0	2.742	1		725414	0.243	0.2	0.1	Y
		1,3,5-Trimethylbenzene		84978	1	5.0	1.914	1		725414	0.306	0.3	0.0	Y
		1,2,4-Trimethylbenzene		348780	1	5.0	1.902	1		725414	1.26	1.3	0.0	Y

LDC #: 1102-08F

SDG #: 11069C

VALIDATION FINDING WORKSHEET

Field Duplicates

Reviewer: LS

2nd Reviewer: KD

METHOD: GC/MS Volatile Organics (EPA Method 524.2)

Y N NA Were field duplicate pairs identified in this SDG?

Y N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (ug/L)		Difference	Difference (Limits)	Qualifications
	MW-98A-1Q11	MW-2A-1Q11			
Chloroform	2.4	2.3	1.0	*	None
Tetrachloroethene	4.9	4.8	1.0	*	None

Analyte	Concentration (ug/L)		Difference	Difference (Limits)	Qualifications

* = See Table 2-17 of SAP

Trip Blank Outlier Report

Lab Reporting Batch ID: 11069C **Laboratory: R9LAB**

EDD Filename: 11069C_voc_LDC_dn.XML **eQAPP Name: Modesto_Site_070810a**

Method: **524.2**
Matrix: **Water**

Trip Blank Sample ID	Collected Date	Analyte	Result	Associated Samples
MW-303-1Q11(Initial)	3/8/2011 7:00:00 AM	ACETONE CHLOROFORM	4.7 ug/L 0.8 ug/L	MW-11A-1Q11 MW-13A-1Q11 MW-14A-1Q11 MW-15A-1Q11 MW-16A-1Q11 MW-16B-1Q11 MW-16C-1Q11 MW-19A-1Q11 MW-19B-1Q11 MW-1A-1Q11 MW-2A-1Q11 MW-6A-1Q11 MW-7A-1Q11 MW-98A-1Q11 MW-9B-1Q11

The following samples and their listed target analytes were qualified due to contamination reported in this blank

Sample ID	Analyte	Reported Result	Modified Final Result
MW-11A-1Q11(Initial)	CHLOROFORM	2.7 ug/L	2.7U ug/L
MW-13A-1Q11(Initial)	CHLOROFORM	1.5 ug/L	1.5U ug/L
MW-14A-1Q11(Initial)	CHLOROFORM	0.3 ug/L	0.5U ug/L
MW-15A-1Q11(Initial)	CHLOROFORM	0.3 ug/L	0.5U ug/L
MW-16A-1Q11(Initial)	CHLOROFORM	0.7 ug/L	0.7U ug/L
MW-16B-1Q11(Initial)	CHLOROFORM	0.3 ug/L	0.5U ug/L
MW-19A-1Q11(Initial)	CHLOROFORM	1.6 ug/L	1.6U ug/L
MW-1A-1Q11(Initial)	CHLOROFORM	0.2 ug/L	0.5U ug/L
MW-2A-1Q11(Initial)	CHLOROFORM	2.3 ug/L	2.3U ug/L
MW-7A-1Q11(Initial)	CHLOROFORM	0.8 ug/L	0.8U ug/L
MW-98A-1Q11(Initial)	CHLOROFORM	2.4 ug/L	2.4U ug/L

History of Manual Changes to Automated Data Review Qualifiers

Changed by: Nanny Bosch

Analyte	Method	Analysis Type	Result	Unit	Reason Code	Original Value	New Value	Edit Time
Field Sample ID: MW-11A-1Q11								
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Initial	2.0	ug/L	Initial Calibration Percent		UJ	4/30/2011 13:38
Reason for change: %RSD>20								
BROMOFORM	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 13:37
Reason for change: %RSD>20								
DIBROMOCHLOROMETHANE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 13:32
Reason for change: %RSD>20								
TRANS-1,3-DICHLOROPROPENE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 13:35
Reason for change: %RSD>20								
Field Sample ID: MW-13A-1Q11								
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Initial	2.0	ug/L	Initial Calibration Percent		UJ	4/30/2011 13:39
Reason for change: %RSD>20								
BROMOFORM	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 13:37
Reason for change: %RSD>20								
DIBROMOCHLOROMETHANE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 13:32
Reason for change: %RSD>20								
TRANS-1,3-DICHLOROPROPENE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 13:35
Reason for change: %RSD>20								

Analyte	Method	Analysis Type	Result	Unit	Reason Code	Original Value	New Value	Edit Time	
Field Sample ID: MW-14A-1Q11									
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Initial	2.0	ug/L	Initial Calibration Percent		UJ	4/30/2011	13:39
Reason for change: %RSD>20									
BROMOFORM	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	13:37
Reason for change: %RSD>20									
DIBROMOCHLOROMETHANE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	13:32
Reason for change: %RSD>20									
TRANS-1,3-DICHLOROPROPENE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	13:35
Reason for change: %RSD>20									
Field Sample ID: MW-15A-1Q11									
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Initial	2.0	ug/L	Initial Calibration Percent		UJ	4/30/2011	13:39
Reason for change: %RSD>20									
BROMOFORM	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	13:37
Reason for change: %RSD>20									
DIBROMOCHLOROMETHANE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	13:33
Reason for change: %RSD>20									
TRANS-1,3-DICHLOROPROPENE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	13:35
Reason for change: %RSD>20									
Field Sample ID: MW-16A-1Q11									
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Initial	2.0	ug/L	Initial Calibration Percent		UJ	4/30/2011	13:39
Reason for change: %RSD>20									
BROMOFORM	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	13:37
Reason for change: %RSD>20									

Analyte	Method	Analysis Type	Result	Unit	Reason Code	Original Value	New Value	Edit Time	
Field Sample ID: MW-16A-1Q11									
DIBROMOCHLOROMETHANE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	13:33
Reason for change: %RSD>20									
TRANS-1,3-DICHLOROPROPENE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	13:35
Reason for change: %RSD>20									
Field Sample ID: MW-16B-1Q11									
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Initial	2.0	ug/L	Initial Calibration Percent		UJ	4/30/2011	13:39
Reason for change: %RSD>20									
BROMOFORM	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	13:37
Reason for change: %RSD>20									
DIBROMOCHLOROMETHANE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	13:33
Reason for change: %RSD>20									
TRANS-1,3-DICHLOROPROPENE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	13:35
Reason for change: %RSD>20									
Field Sample ID: MW-16C-1Q11									
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Initial	2.0	ug/L	Initial Calibration Percent		UJ	4/30/2011	13:39
Reason for change: %RSD>20									
BROMOFORM	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	13:37
Reason for change: %RSD>20									
DIBROMOCHLOROMETHANE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	13:33
Reason for change: %RSD>20									
TRANS-1,3-DICHLOROPROPENE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	13:35
Reason for change: %RSD>20									

Analyte	Method	Analysis Type	Result	Unit	Reason Code	Original Value	New Value	Edit Time
Field Sample ID: MW-19A-1Q11								
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Initial	2.0	ug/L	Initial Calibration Percent		UJ	4/30/2011 13:39
Reason for change: %RSD>20								
BROMOFORM	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 13:37
Reason for change: %RSD>20								
DIBROMOCHLOROMETHANE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 13:33
Reason for change: %RSD>20								
TRANS-1,3-DICHLOROPROPENE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 13:36
Reason for change: %RSD>20								
Field Sample ID: MW-19B-1Q11								
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Initial	2.0	ug/L	Initial Calibration Percent		UJ	4/30/2011 13:39
Reason for change: %RSD>20								
BROMOFORM	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 13:37
Reason for change: %RSD>20								
DIBROMOCHLOROMETHANE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 13:33
Reason for change: %RSD>20								
TRANS-1,3-DICHLOROPROPENE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 13:36
Reason for change: %RSD>20								
Field Sample ID: MW-1A-1Q11								
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Initial	2.0	ug/L	Initial Calibration Percent		UJ	4/30/2011 13:39
Reason for change: %RSD>20								
BROMOFORM	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 13:37
Reason for change: %RSD>20								

Analyte	Method	Analysis Type	Result	Unit	Reason Code	Original Value	New Value	Edit Time
Field Sample ID: MW-1A-1Q11								
DIBROMOCHLOROMETHANE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 13:33
Reason for change: %RSD>20								
TRANS-1,3-DICHLOROPROPENE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 13:36
Reason for change: %RSD>20								
Field Sample ID: MW-2A-1Q11								
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Initial	2.0	ug/L	Initial Calibration Percent		UJ	4/30/2011 13:39
Reason for change: %RSD>20								
BROMOFORM	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 13:38
Reason for change: %RSD>20								
DIBROMOCHLOROMETHANE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 13:33
Reason for change: %RSD>20								
TRANS-1,3-DICHLOROPROPENE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 13:36
Reason for change: %RSD>20								
Field Sample ID: MW-303-1Q11								
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Initial	2.0	ug/L	Initial Calibration Percent		UJ	4/30/2011 13:40
Reason for change: %RSD>20								
BROMOFORM	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 13:38
Reason for change: %RSD>20								
DIBROMOCHLOROMETHANE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 13:34
Reason for change: %RSD>20								
TRANS-1,3-DICHLOROPROPENE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 13:36
Reason for change: %RSD>20								

Analyte	Method	Analysis Type	Result	Unit	Reason Code	Original Value	New Value	Edit Time	
Field Sample ID: MW-6A-1Q11									
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Initial	2.0	ug/L	Initial Calibration Percent		UJ	4/30/2011	13:40
Reason for change: %RSD>20									
BROMOFORM	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	13:38
Reason for change: %RSD>20									
DIBROMOCHLOROMETHANE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	13:34
Reason for change: %RSD>20									
TRANS-1,3-DICHLOROPROPENE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	13:36
Reason for change: %RSD>20									
Field Sample ID: MW-7A-1Q11									
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Initial	2.0	ug/L	Initial Calibration Percent		UJ	4/30/2011	13:40
Reason for change: %RSD>20									
BROMOFORM	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	13:38
Reason for change: %RSD>20									
DIBROMOCHLOROMETHANE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	13:34
Reason for change: %RSD>20									
TRANS-1,3-DICHLOROPROPENE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	13:36
Reason for change: %RSD>20									
Field Sample ID: MW-98A-1Q11									
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Initial	2.0	ug/L	Initial Calibration Percent		UJ	4/30/2011	13:40
Reason for change: %RSD>20									
BROMOFORM	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	13:38
Reason for change: %RSD>20									

Analyte	Method	Analysis Type	Result	Unit	Reason Code	Original Value	New Value	Edit Time	
Field Sample ID: MW-98A-1Q11									
DIBROMOCHLOROMETHANE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	13:34
Reason for change: %RSD>20									
TRANS-1,3-DICHLOROPROPENE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	13:36
Reason for change: %RSD>20									
Field Sample ID: MW-9B-1Q11									
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Initial	2.0	ug/L	Initial Calibration Percent		UJ	4/30/2011	13:40
Reason for change: %RSD>20									
BROMOFORM	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	13:37
Reason for change: %RSD>20									
DIBROMOCHLOROMETHANE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	13:34
Reason for change: %RSD>20									
TRANS-1,3-DICHLOROPROPENE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	13:35
Reason for change: %RSD>20									

SDG 11074A

LDC #: 1102-084
SDG #: 11074A
Laboratory: EPA Region 9

VALIDATION COMPLETENESS WORKSHEET
Level III/IV

Date: 04/26/11
Page: 1 of 1
Reviewer: LS
2nd Reviewer: JBH

METHOD: GC/MS Volatiles (EPA Method 524.2)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 03/09, 10, 11/2011
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	SW	
IV.	Continuing calibration/ICV	SW	
V.	Blanks	A	
VI.	Surrogate spikes	SW	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	SW	
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	N	Not reviewed for Level III validation.
XII.	Compound quantitation/CRQLs	N	Not reviewed for Level III validation.
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	Not reviewed for Level III validation.
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	FD = 6/20, 8/10
XVII.	Field blanks	SW	FB = 13

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ** Indicates sample underwent Level IV validation

1	MW-3A-1Q11	11	MW-10C-1Q11	21	MW-5A-1Q11 MS	31	
2	MW-4A-1Q11	12	MW- 12A-1Q11	22	MW-5A-1Q11 MSD	32	
3	MW-4B-1Q11	13	MW-402-1Q11	23	MW-17C-1Q11 MS	33	
4	MW-4C-1Q11	14	MW-17A-1Q11	24	MW-17C-1Q11 MSD	34	
5	MW-5A-1Q11	15	MW-17B-1Q11	25		35	
6	MW-80C-1Q11	16	MW-17C-1Q11	26		36	
7	MW-8A-1Q11	17	MW-18A-1Q11	27		37	
8	MW-90B-1Q11	18	MW-20A-1Q11	28		38	
9	MW-10A-1Q11	19	MW-20B-1Q11	29		39	
10	MW-10B-1Q11	20	MW-20C-1Q11	30		40	

LDC #:_____
SDG #: 11074A

VALIDATION FINDINGS CHECKLIST

Reviewer: CS
2nd Reviewer: JBH

Method: Volatiles (EPA Method 524.2)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	X			
Cooler temperature criteria was met.	X			
II. GC/MS Instrument performance check				
Were the BFB performance results reviewed and found to be within the specified criteria?	X			
Were all samples analyzed within the 12 hour clock criteria?	X			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	X			
Were all percent relative standard deviations (%RSD) ≤ 20% for all target compounds ?		X		
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	X			
Were all percent differences (%D) ≤30% for all target compounds ?		X		
V. Blanks				
Was a method blank associated with every sample in this SDG?	X			
Was a method blank analyzed at least once every 12 hours for each matrix and concentration?	X			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.				
VI. Surrogate spikes				
Were all surrogate %R within QC limits?	~~X~~	X	~~X~~	JBH
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			X	
VII. Matrix spike/Matrix spike duplicates				
Was a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for this SDG?	X			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?		X		
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	X			
Was an LCS analyzed per analytical batch?	X			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?		X		

LDC #:_____
SDG #: 11074A

VALIDATION FINDINGS CHECKLIST

Reviewer: LS
2nd Reviewer: JBH

Validation Area	Yes	No	NA	Findings/Comments
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		X		
Were the performance evaluation (PE) samples within the acceptance limits?			X	
X. Internal standards				
Were retention times within +/- 30% of the last continuing calibration or +/- 50% of the initial calibration?	X			
Were retention times (RTs) within ± 30 seconds of RT of the associated calibration standard?	X			
XI. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?			X	
Did compound spectra meet specified EPA "Functional Guidelines" criteria?			X	
Were chromatogram peaks verified and accounted for?			X	
XII. Compound quantitation/CRQLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?				
XIII. Tentatively identified compounds (TICs)				
Were the major ions (> 25 percent relative intensity) in the reference spectrum evaluated in sample spectrum?			X	
Were relative intensities of the major ions within ± 20% between the sample and the reference spectra?			X	
Did the raw data indicate that the laboratory performed a library search for all required peaks in the chromatograms (samples and blanks)?			X	
XIV. System performance				
System performance was found to be acceptable.	X			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	X			
XVI. Field duplicates				
Field duplicate pairs were identified in this SDG.	X			
Target compounds were detected in the field duplicates.	X			
XVII. Field blanks				
Field blanks were identified in this SDG.	X			
Target compounds were detected in the field blanks.	X			

LDC #:_____
SDG #: 11074A

VALIDATION FINDINGS WORKSHEET
Initial Calibration

Reviewer: LS
2nd Reviewer: JBH

METHOD: GC/MS VOA (EPA Method 524.2)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Y N N/A Did the laboratory perform a 5 point calibration prior to sample analysis?
Y N N/A Were all %RSDs within the validation criteria of ≤20 %RSD? **70-130%R for ICV**

#	Date	Standard ID	Compound	Finding %RSD (Limit: ≤20.0%)	Associated Samples	Qualifications
1	3/11/11	031111J1C1A	Chlorodibromomethane	23.58	All	J/UJ
	HP5973J		t-1,3-Dichloropropene	21.20		J/UJ
			Bromoform	34.57		J/UJ
			1,2-Dibromo-3-chloropropane	29.41		J/UJ

LDC #:_____
SDG #: 11074A

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Reviewer: LS
2nd Reviewer: SBH

METHOD: GC/MS VOA (EPA Method 524.2)
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Y N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?
Y N N/A Were all percent differences (%D) ≤ 30% ?

#	Date	Standard ID	Compound	Finding %D (Limit: ≤30.0%)	Associated Samples	Qualifications
1	3/17/11	031711JC1	Ethyl-tert-butyl-ether	-32.7	7, 8, 9, 13, 16	J- Detects UJ Non-detects
			Carbon tetrachloride	37.3		J+ Detects All ND
			Chlorodibromomethane	34.2		J+ Detects
			Bromoform	43.4		J+ Detects
			1,2-Dibromo-3-chloropropane	31.3		J+ Detects
2	3/16/11	031611JC1	tert-Butyl alcohol	-38.9	2, 5, 6,14,15, 17, 18, 19, 20	J- Detects UJ Non-detects Non-
			Ethyl-tert-butyl-ether	-32.4		J- Detects UJ Non-detects Target

Surrogate Outlier Report

Lab Reporting Batch ID: 11074A **Laboratory: R9LAB**

EDD Filename: 11074A_VOCs_CCS.XML **eQAPP Name: Modesto_Site_070810s**

Method: **524.2**
Matrix: **Water**

Sample ID	Surrogate	Sample % Recovery	% Recovery Limits	Affected Compounds	Flag
MW-18A-1Q11	1,2-DICHLOROBENZENE-D4	132	69.00-120.00	All Target Analytes	J+ (all detects)

Lab Control Spike/Lab Control Spike Duplicate Outlier Report

Lab Reporting Batch ID: 11074A **Laboratory: R9LAB**

EDD Filename: 11074A_VOCs_CCS.XML **eQAPP Name: Modesto_Site_070810s**

Method: **524.2**
Matrix: **Water**

QC Sample ID (Associated Samples)	*Compound*	*LCS %R*	*LCSD %R*	*%R Limits*	*RPD (Limits)*	*Affected Compounds*	*Flag*
B1C0065-BS1 (MW-17A-1Q11 MW-17B-1Q11 MW-18A-1Q11 MW-20A-1Q11 MW-20B-1Q11 MW-20C-1Q11 MW-3A-1Q11 MW-4A-1Q11 MW-5A-1Q11 MW-80C-1Q11)	1,2-DIBROMO-3-CHLOROPROP BROMOFORM CARBON TETRACHLORIDE	133 135 133	- - -	64.00-131.00 70.00-130.00 70.00-130.00	- - -	1,2-DIBROMO-3-CHLOROPRO BROMOFORM CARBON TETRACHLORIDE	J+ (all detects)
B1C0070-BS1 (MW-10A-1Q11 MW-17C-1Q11 MW-402-1Q11 MW-8A-1Q11 MW-90B-1Q11)	BROMOFORM CARBON TETRACHLORIDE DIBROMOCHLOROMETHANE	139 131 132	- - -	70.00-130.00 70.00-130.00 70.00-130.00	- - -	BROMOFORM CARBON TETRACHLORIDE DIBROMOCHLOROMETHANE	J+(all detects)

Reporting Limit Outliers

Lab Reporting Batch ID: 11074A **Laboratory: R9LAB**

EDD Filename: 11074A_VOCs_CCS.XML **eQAPP Name: Modesto_Site_070810s**

Method: **524.2**

Matrix: **Water**

SampleID	*Analyte*	*Lab Qual*	*Result*	*Reporting Limit*	*RL Type*	*Units*	*Flag*
MW-10A-1Q11	TRICHLOROETHENE	J,C1	0.2	0.5	MRL	ug/L	J (all detects)
MW-10B-1Q11	TOLUENE	J,C1	0.4	0.5	MRL	ug/L	J (all detects)
MW-10C-1Q11	1,2,4-TRIMETHYLBENZENE	J,C1	0.3	0.5	MRL	ug/L	J (all detects)
	1,3,5-TRIMETHYLBENZENE	J,C1	0.4	0.5	MRL	ug/L	
	ETHYLBENZENE	J,C1	0.4	0.5	MRL	ug/L	
	NAPHTHALENE	J,C1	0.2	0.5	MRL	ug/L	
	TOLUENE	J,C1	0.4	0.5	MRL	ug/L	
MW-12A-1Q11	BROMODICHLOROMETHANE	J,C1	0.2	0.5	MRL	ug/L	J (all detects)
	TRICHLOROFLUOROMETHANE	J,C1	0.4	0.5	MRL	ug/L	
MW-17A-1Q11	BENZENE	J,C1	0.3	0.5	MRL	ug/L	J (all detects)
	ETHYLBENZENE	J,C1	0.2	0.5	MRL	ug/L	
	m&p-Xylene	J,C1	0.8	1.0	MRL	ug/L	
	TOLUENE	J,C1	0.2	0.5	MRL	ug/L	
MW-17B-1Q11	1,3,5-TRIMETHYLBENZENE	J,C1	0.2	0.5	MRL	ug/L	J (all detects)
	CHLOROFORM	J,C1	0.2	0.5	MRL	ug/L	
	TOLUENE	J,C1	0.3	0.5	MRL	ug/L	
MW-17C-1Q11	BENZENE	J,C1	0.2	0.5	MRL	ug/L	J (all detects)
MW-18A-1Q11	1,2,4-TRIMETHYLBENZENE	J,C1	0.3	0.5	MRL	ug/L	J (all detects)
	1,3,5-TRIMETHYLBENZENE	J,C1	0.4	0.5	MRL	ug/L	
	ETHYLBENZENE	J,C1	0.4	0.5	MRL	ug/L	
	NAPHTHALENE	J,C1	0.3	0.5	MRL	ug/L	
	TOLUENE	J,C1	0.4	0.5	MRL	ug/L	
MW-20A-1Q11	1,3,5-TRIMETHYLBENZENE	J,C1	0.8	1.0	MRL	ug/L	J (all detects)
	BENZENE	J,C1	0.5	1.0	MRL	ug/L	
	N-PROPYLBENZENE	J,C1	0.6	1.0	MRL	ug/L	
MW-20B-1Q11	1,2,4-TRIMETHYLBENZENE	J,C1	0.6	1.0	MRL	ug/L	J (all detects)
	BENZENE	J,C1	0.6	1.0	MRL	ug/L	
	N-PROPYLBENZENE	J,C1	0.5	1.0	MRL	ug/L	
MW-20C-1Q11	1,3,5-TRIMETHYLBENZENE	J,C1	0.2	0.5	MRL	ug/L	J (all detects)
	BENZENE	J,C1	0.2	0.5	MRL	ug/L	
	ETHYLBENZENE	J,C1	0.2	0.5	MRL	ug/L	
	m&p-Xylene	J,C1	0.7	1.0	MRL	ug/L	
	TOLUENE	J,C1	0.2	0.5	MRL	ug/L	
MW-3A-1Q11	m&p-Xylene	J,C1	0.6	1.0	MRL	ug/L	J (all detects)
MW-402-1Q11	TOLUENE	J,C1	0.3	0.5	MRL	ug/L	J (all detects)
MW-4B-1Q11	ISOPROPYLBENZENE	J,C1	0.2	0.5	MRL	ug/L	J (all detects)
	NAPHTHALENE	J,C1	0.4	0.5	MRL	ug/L	
MW-4C-1Q11	1,2,4-TRIMETHYLBENZENE	J,C1	0.3	0.5	MRL	ug/L	J (all detects)
	NAPHTHALENE	J,C1	0.3	0.5	MRL	ug/L	
MW-80C-1Q11	1,3,5-TRIMETHYLBENZENE	J,C1	0.2	0.5	MRL	ug/L	J (all detects)
	BENZENE	J,C1	0.2	0.5	MRL	ug/L	
	ETHYLBENZENE	J,C1	0.2	0.5	MRL	ug/L	
	m&p-Xylene	J,C1	0.8	1.0	MRL	ug/L	
	TOLUENE	J,C1	0.2	0.5	MRL	ug/L	
MW-90B-1Q11	TOLUENE	J,C1	0.4	0.5	MRL	ug/L	J (all detects)

LDC #: _____

SDG #: _11074A_____

VALIDATION FINDING WORKSHEET

Field Duplicates

Reviewer: LS

2nd Reviewer: JBH

METHOD: GC/MS Volatile Organics (EPA Method 524.2)

Y N NA Were field duplicate pairs identified in this SDG?

Y N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (ug/L)		Difference	Difference (Limits)	Qualifications
	MW-80C-1Q11	MW-20C-1Q11			
Benzene	0.2 J	0.2 J	1.0	*	None
Toluene	0.2 J	0.2 J	1.0	*	None
Ethylbenzene	0.2 J	0.2 J	1.0	*	None
m&p-Xylene	0.8	0.7	1.1	*	None
o-Xylene	1.1	1.0	1.1	*	None
1,3,5-Trimethylbenzene	0.2	0.2	1.0	*	None

Analyte	Concentration (ug/L)		Difference	Difference (Limits)	Qualifications
	MW-90B-1Q11	MW-10B-1Q11			
Benzene	0.8	0.8	1.0	*	None
Toluene	0.4 J	0.4 J	1.0	*	None
Tetrachloroethene	16	16	1.0	*	None
Ethylbenzene	0.8	0.9	0.9	*	None
m&p-Xylene	2.5	2.5	1.0	*	None
o-Xylene	0.5	0.5	1.0	*	None
1,2,4-Trimethylbenzene	0.7	0.7	1.0	*	None

* = See Table 2-17 of SAP

Field Blank Outlier Report

Lab Reporting Batch ID: 11074A **Laboratory: R9LAB**

EDD Filename: 11074A_VOCs_Reviewed_nb.xml **eQAPP Name: Modesto_Site_070810s**

Method: **524.2**
Matrix: **Water**

Field Blank Sample ID	Collected Date	Analyte	Result	Associated Samples
MW-402-1Q11(Initial)	3/9/2011 11:45:00 AM	ACETONE CHLOROFORM TOLUENE	4.7 ug/L 0.7 ug/L 0.3 ug/L	MW-10C-1Q11

The following samples and their listed target analytes were qualified due to contamination reported in this blank

Sample ID	Analyte	Reported Result	Modified Final Result
MW-10C-1Q11(Initial)	TOLUENE	0.4 ug/L	0.5U ug/L

Field QC Assignments and Associated Samples

EDD File Name: 11074A
eQapp Name: Modesto_Site_070810s

	Associated Samples	Sample Collection Date
Field QC Sample: MW-402-1Q11 **QC Type:** Field_Blank		
	MW-10C-1Q11	3/9/2011 11:43:00
Field QC Sample: MW-80C-1Q11 **QC Type:** Field_Duplicate		
	MW-20C-1Q11	3/10/2011 11:07:00
Field QC Sample: MW-90B-1Q11 **QC Type:** Field_Duplicate		
	MW-10B-1Q11	3/9/2011 12:27:00

History of Manual Changes to Automated Data Review Qualifiers

Changed by:

Analyte	Method	Analysis Type	Result	Unit	Reason Code	Original Value	New Value	Edit Time
Field Sample ID: MW-10A-1Q11								
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Reinjection-	2.0	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:46
Reason for change: %RSD>20								
BROMOFORM	524.2	Reinjection-	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:39
Reason for change: %RSD>20								
DIBROMOCHLOROMETHANE	524.2	Reinjection-	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:30
Reason for change: %RSD>20								
TRANS-1,3-DICHLOROPROPENE	524.2	Reinjection-	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:34
Reason for change: %RSD>20								
Field Sample ID: MW-10B-1Q11								
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Initial	2.0	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:46
Reason for change: %RSD>20								
BROMOFORM	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:39
Reason for change: %RSD>20								
DIBROMOCHLOROMETHANE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:31
Reason for change: %RSD>20								
TRANS-1,3-DICHLOROPROPENE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:34
Reason for change: %RSD>20								

Analyte	Method	Analysis Type	Result	Unit	Reason Code	Original Value	New Value	Edit Time
Field Sample ID: MW-10C-1Q11								
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Initial	2.0	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:46
Reason for change: %RSD>20								
BROMOFORM	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:39
Reason for change: %RSD>20								
DIBROMOCHLOROMETHANE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:31
Reason for change: %RSD>20								
TRANS-1,3-DICHLOROPROPENE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:34
Reason for change: %RSD>20								
Field Sample ID: MW-12A-1Q11								
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Initial	2.0	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:46
Reason for change: %RSD>20								
BROMOFORM	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:39
Reason for change: %RSD>20								
DIBROMOCHLOROMETHANE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:31
Reason for change: %RSD>20								
TRANS-1,3-DICHLOROPROPENE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:34
Reason for change: %RSD>20								
Field Sample ID: MW-17A-1Q11								
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Initial	2.0	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:46
Reason for change: %RSD>20								
BROMOFORM	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:39
Reason for change: %RSD>20								

Analyte	Method	Analysis Type	Result	Unit	Reason Code	Original Value	New Value	Edit Time
Field Sample ID: MW-17A-1Q11								
DIBROMOCHLOROMETHANE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:31
Reason for change: %RSD>20								
TRANS-1,3-DICHLOROPROPENE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:34
Reason for change: %RSD>20								
Field Sample ID: MW-17B-1Q11								
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Reinjection-	2.0	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:46
Reason for change: %RSD>20								
BROMOFORM	524.2	Reinjection-	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:39
Reason for change: %RSD>20								
DIBROMOCHLOROMETHANE	524.2	Reinjection-	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:31
Reason for change: %RSD>20								
TRANS-1,3-DICHLOROPROPENE	524.2	Reinjection-	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:34
Reason for change: %RSD>20								
Field Sample ID: MW-17C-1Q11								
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Initial	2.0	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:46
Reason for change: %RSD>20								
BROMOFORM	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:39
Reason for change: %RSD>20								
DIBROMOCHLOROMETHANE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:31
Reason for change: %RSD>20								
TRANS-1,3-DICHLOROPROPENE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:34
Reason for change: %RSD>20								

Analyte	Method	Analysis Type	Result	Unit	Reason Code	Original Value	New Value	Edit Time	
Field Sample ID: MW-18A-1Q11									
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Initial	2.0	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:46
Reason for change: %RSD>20									
BROMOFORM	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:39
Reason for change: %RSD>20									
DIBROMOCHLOROMETHANE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:31
Reason for change: %RSD>20									
TRANS-1,3-DICHLOROPROPENE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:34
Reason for change: %RSD>20									
Field Sample ID: MW-20A-1Q11									
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Reinjection-	4.0	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:46
Reason for change: %RSD>20									
BROMOFORM	524.2	Reinjection-	1.0	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:39
Reason for change: %RSD>20									
DIBROMOCHLOROMETHANE	524.2	Reinjection-	1.0	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:31
Reason for change: %RSD>20									
TRANS-1,3-DICHLOROPROPENE	524.2	Reinjection-	1.0	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:34
Reason for change: %RSD>20									
Field Sample ID: MW-20B-1Q11									
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Reinjection-	4.0	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:47
Reason for change: %RSD>20									
BROMOFORM	524.2	Reinjection-	1.0	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:40
Reason for change: %RSD>20									

Analyte	Method	Analysis Type	Result	Unit	Reason Code	Original Value	New Value	Edit Time	
Field Sample ID: MW-20B-1Q11									
DIBROMOCHLOROMETHANE	524.2	Reinjection-	1.0	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:32
Reason for change: %RSD>20									
TRANS-1,3-DICHLOROPROPENE	524.2	Reinjection-	1.0	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:35
Reason for change: %RSD>20									
Field Sample ID: MW-20C-1Q11									
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Initial	2.0	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:47
Reason for change: %RSD>20									
BROMOFORM	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:40
Reason for change: %RSD>20									
DIBROMOCHLOROMETHANE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:32
Reason for change: %RSD>20									
Field Sample ID: MW-3A-1Q11									
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Initial	2.0	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:47
Reason for change: %RSD>20									
BROMOFORM	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:40
Reason for change: %RSD>20									
DIBROMOCHLOROMETHANE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:32
Reason for change: %RSD>20									
TRANS-1,3-DICHLOROPROPENE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:35
Reason for change: %RSD>20									

Analyte	Method	Analysis Type	Result	Unit	Reason Code	Original Value	New Value	Edit Time	
Field Sample ID: MW-402-1Q11									
BROMOFORM	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:40
Reason for change: %RSD>20									
DIBROMOCHLOROMETHANE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:32
Reason for change: %RSD>20									
TRANS-1,3-DICHLOROPROPENE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:36
Reason for change: %RSD>20									
Field Sample ID: MW-4A-1Q11									
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Initial	20	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:47
Reason for change: %RSD>20									
BROMOFORM	524.2	Initial	5.0	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:40
Reason for change: %RSD>20									
DIBROMOCHLOROMETHANE	524.2	Initial	5.0	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:32
Reason for change: %RSD>20									
TRANS-1,3-DICHLOROPROPENE	524.2	Initial	5.0	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:36
Reason for change: %RSD>20									
Field Sample ID: MW-4B-1Q11									
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Initial	2.0	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:47
Reason for change: %RSD>20									
BROMOFORM	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:40
Reason for change: %RSD>20									
DIBROMOCHLOROMETHANE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:32
Reason for change: %RSD>20									

Analyte	Method	Analysis Type	Result	Unit	Reason Code	Original Value	New Value	Edit Time	
Field Sample ID: MW-4B-1Q11									
TRANS-1,3-DICHLOROPROPENE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:36
Reason for change: %RSD>20									
Field Sample ID: MW-4C-1Q11									
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Initial	2.0	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:48
Reason for change: %RSD>20									
BROMOFORM	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:40
Reason for change: %RSD>20									
DIBROMOCHLOROMETHANE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:32
Reason for change: %RSD>20									
TRANS-1,3-DICHLOROPROPENE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:36
Reason for change: %RSD>20									
Field Sample ID: MW-5A-1Q11									
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Reinjection-	2.0	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:48
Reason for change: %RSD>20									
BROMOFORM	524.2	Reinjection-	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:41
Reason for change: %RSD>20									
DIBROMOCHLOROMETHANE	524.2	Reinjection-	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:33
Reason for change: %RSD>20									
TRANS-1,3-DICHLOROPROPENE	524.2	Reinjection-	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:36
Reason for change: %RSD>20									

Analyte	Method	Analysis Type	Result	Unit	Reason Code	Original Value	New Value	Edit Time	
Field Sample ID: MW-80C-1Q11									
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Initial	2.0	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:48
Reason for change: %RSD>20									
BROMOFORM	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:41
Reason for change: %RSD>20									
DIBROMOCHLOROMETHANE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:33
Reason for change: %RSD>20									
TRANS-1,3-DICHLOROPROPENE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:38
Reason for change: %RSD>20									
Field Sample ID: MW-8A-1Q11									
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Reinjection-	2.0	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:48
Reason for change: %RSD>20									
BROMOFORM	524.2	Reinjection-	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:41
Reason for change: %RSD>20									
CARBON TETRACHLORIDE	524.2	Reinjection-	0.5	ug/L	Continuing Calibration		UJ	4/30/2011	14:54
Reason for change: %D>-30%									
CARBON TETRACHLORIDE	524.2	Reinjection-	0.5	ug/L	Continuing Calibration	UJ		4/30/2011	14:54
Reason for change: wrong analyte									
DIBROMOCHLOROMETHANE	524.2	Reinjection-	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:33
Reason for change: %RSD>20									
TRANS-1,3-DICHLOROPROPENE	524.2	Reinjection-	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:38
Reason for change: %RSD>20									

Analyte	Method	Analysis Type	Result	Unit	Reason Code	Original Value	New Value	Edit Time
Field Sample ID: MW-90B-1Q11								
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Initial	2.0	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:44
Reason for change: %RSD>20								
BROMOFORM	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:38
Reason for change: %RSD>20								
DIBROMOCHLOROMETHANE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:33
Reason for change: %RSD>20								
TRANS-1,3-DICHLOROPROPENE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:38
Reason for change: %RSD>20								

LDC #: 1102-08I

SDG #: 11074A

Laboratory: EPA Region 9

VALIDATION COMPLETENESS WORKSHEET

Level III/IV

Date: 04/22/11

Page: 1 of 1

Reviewer: LS

2nd Reviewer: VBH

METHOD: GC/MS VOA (EPA TO-15)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 03/9,10/2011
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	A/SW	
IV.	Continuing calibration	A/SW	
V.	Blanks	A	
VI.	Surrogate spikes	N	
VII.	Sample duplicates	A	
VIII.	Laboratory control samples	~~A~~ SW	
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	A	Not reviewed for Level III validation samples.
XII.	Compound quantitation/CRQLs	A	Not reviewed for Level III validation samples.
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	A	Not reviewed for Level III validation samples.
XV.	Overall assessment of data	A	
XVI.	Field duplicates	A ~~N~~ SW	11+13
XVII.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ** Indicates sample underwent Level IV validation

1	DP-1A-1Q11	11	SVE-3-1Q11	21		31	
2	DP-1B-1Q11	12	SVE-4-1Q11	22		32	
3	DP-4A-1Q11**	13	SVE-97-1Q11	23		33	
4	DP-4B-1Q11**	14	OSVE-10-1Q11 Dup	24		34	
5	DP-6A-1Q11	15	SVE-97-1Q11 Dup	25		35	
6	DP-6B-1Q11	16		26		36	
7	OSVE-10-1Q11	17		27		37	
8	OSVE-11-1Q11	18		28		38	
9	SVE-1-1Q11	19		29		39	
10	SVE-2-1Q11	20		30		40	

LDC #:_____
SDG #: 11074A

VALIDATION FINDINGS CHECKLIST

Reviewer: CS
2nd Reviewer: JBH

Method: Volatiles (EPA Method TO-15)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	X			
Canister pressure criteria was met.	X			
II. GC/MS Instrument performance check				
Were the BFB performance results reviewed and found to be within the specified criteria?	X			
Were all samples analyzed within the 12 hour clock criteria?	X			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	X			
Were all percent relative standard deviations (%RSD) ≤ 30% and relative response factors (RRF) ≥ 0.05?		X		yes for targets
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	X			
Were all percent differences (%D) ≤ 30% and relative response factors (RRF) ≥ 0.05?		X		yes for targets
V. Blanks				
Was a method blank associated with every sample in this SDG?	X			
Was a method blank analyzed at least once every 12 hours for each matrix and concentration?	X			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		X		
VI. Surrogate spikes				
Were all surrogate %R within QC limits?			X	
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			X	
VII. Sample Duplicate				
Was a sample duplicate analyzed for this SDG?	X			
Were the relative percent differences (RPD) within the QC limits (≤20%)?	X			
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	X			
Was an LCS analyzed per analytical batch?	X			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	~~X~~	X		

LDC #:_____
SDG #: 11074A

VALIDATION FINDINGS CHECKLIST

Reviewer: LS
2nd Reviewer: JBH

Validation Area	Yes	No	NA	Findings/Comments
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		X		
Were the performance evaluation (PE) samples within the acceptance limits?			X	
X. Internal standards				
Were internal standard area counts within +/-40% from the associated calibration standard?	X			
Were retention times within +/- 20.0 seconds from the associated calibration standard?	X			
XI. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	X			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	X			
Were chromatogram peaks verified and accounted for?	X			
XII. Compound quantitation/CRQLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	X			
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	X			
XIII. Tentatively identified compounds (TICs)				
Were the major ions (> 10 percent relative intensity) in the reference spectrum evaluated in sample spectrum?			X	
Were relative intensities of the major ions within ± 20% between the sample and the reference spectra?			X	
Did the raw data indicate that the laboratory performed a library search for all required peaks in the chromatograms (samples and blanks)?			X	
XIV. System performance				
System performance was found to be acceptable.	X			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	X			
XVI. Field duplicates				
Field duplicate pairs were identified in this SDG.	X	*		
Target compounds were detected in the field duplicates.	X	JBH	*	
XVII. Field blanks				
Field blanks were identified in this SDG.		X		
Target compounds were detected in the field blanks.			X	

LDC #:_____
SDG #: 11074A

VALIDATION FINDINGS WORKSHEET
Initial Calibration

Page: 1 of 1
Reviewer: CS
2nd Reviewer: JBH

METHOD: GC/MS VOA (EPA Method TO-15)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Did the laboratory perform a 5 point calibration prior to sample analysis?

Y N N/A Were all percent relative standard deviations (%RSD) ≤ 30% and relative response factors (RRF) ≥ 0.05?

#	Date	Standard ID	Compound	Finding %RSD (Limit: ≤30.0%)	Finding RRF (Limit: ≥0.05)	Associated Samples	Qualifications
1	3/9/11	030911NC05	Vinyl Acetate	33.74	---	All samples in the SDG	~~JUJ~~ Not reported

LDC #: _____
SDG #: 11074A

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: LS
2nd Reviewer: JBH

METHOD: GC/MS Volatile Organics (EPA Method TO-15)

The calibration factors (CF) and relative standard deviation (%RSD) were calculated for the compounds listed below using the following calculations:

CF = (Std Resp * IStd Conc) / (Std Conc * IS Resp) %RSD = 100 * (S/X)

Where:
S = Standard deviation of calibration factors
X = Mean of calibration factors

Calibration Date		Compound	Standard	Standard Concentration (ppb)	Standard Response (A/H)	Internal Standard Concentration (ppb)	Internal Standard Response (A/H)	Recalculated Calibration Factor (CF)	Recalculated %RSD	Reported Calibration Factor (CF)	Reported %RSD
3/9/2011	HP5973N	Chloroform (vs Bromochloromethane)	Point 1	1.01	130308	20.00	963432	2.678		2.678	
			Point 2	2.02	187263	20.00	1004308	1.846		1.846	
			Point 3	5.05	474551	20.00	1006594	1.867		1.867	
			Point 4	10.10	1003250	20.00	1026210	1.936		1.936	
			Point 5	15.15	1476986	20.00	1000395	1.949		1.949	
			Point 6	20.20	1931821	20.00	979517	1.953		1.953	
			Mean calibration factor					2.038	15.54	2.038	15.54
3/9/2011	HP5973N	Trichloroethene (vs 1,4-Difluorobenzene)	Point 1	1.01	57266	20.60	2940868	0.397		0.397	
			Point 2	2.02	80590	20.60	3076731	0.267		0.267	
			Point 3	5.05	241689	20.60	3105981	0.317		0.317	
			Point 4	10.10	579370	20.60	3154523	0.375		0.375	
			Point 5	15.15	894575	20.60	3078381	0.395		0.395	
			Point 6	20.20	1207861	20.60	3032136	0.406		0.406	
			Mean calibration factor					0.360	15.44	0.360	15.44
3/9/2011	HP5973N	Tetrachloroethene (vs Chlorobenzene-d5)	Point 1	1.02	87902	21.00	2602534	0.695		0.695	
			Point 2	2.04	128816	21.00	2810329	0.472		0.472	
			Point 3	5.10	381666	21.00	2806265	0.560		0.560	
			Point 4	10.20	856358	21.00	2888760	0.610		0.610	
			Point 5	15.30	1301997	21.00	2804703	0.637		0.637	
			Point 6	20.40	1751690	21.00	2779810	0.649		0.649	
			Mean calibration factor					0.604	13.01	0.604	13.01

LDC #:_____
SDG #: 11074A

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: LS
2nd Reviewer: KD for JBH

METHOD: GC/MS VOA (EPA Method TO-15)
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Y N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?
Y N N/A Were all percent differences (%D) ≤ 30% ?

#	Date	Standard ID	Compound	Finding %D (Limit: ≤30.0%)	Associated Samples	Qualifications
1	3/15/11	031511NC01	Tert-Butyl Methyl Ether	-37.2	~~All~~ Samples 1 to 5	J- Detects ~~/UJ~~ Not reported

LDC #: _____
SDG #: 11074A

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Reviewer: LS
2nd Reviewer: JBH

METHOD: GC/MS Volatiles (EPA TO-15)

The relative response factors (RRF) and percent difference (%D) were calculated for the compounds listed below using the following calculations:

RRF = (Std Resp * IStd Conc) / (Std Conc * IS Resp)
%D = 100 * (CC-IC)/(IC)

Where:
CC = Continuing calibration RRF
IC = Initial calibration RRF

Calibration Date	Compound	Standard Concentration (ppb)	Standard Response (A/H)	Internal Standard Concentration (ppb)	Internal Standard Response (A/H)	Recalculated (RRF)	Reported (RRF)	Initial Calibration (RRF)	Recalculated %D	Reported %D
3/15/2011 (13:01)	Chloroform	10.1	1176903	20.00	1101194	2.116	2.116	2.038	-3.8	-3.8
	Trichloroethene	10.1	858517	20.60	4311312	0.406	0.406	0.360	-12.8	-12.8
	Tetrachloroethene	10.2	1163609	21.00	3925114	0.610	0.610	0.604	-1.0	-1.0

LDC #: _____ VALIDATION FINDING WORKSHEET Page: 1 of 1

SDG #: _11074A_ **Laboratory Duplicates** Reviewer: LS

JBH

METHOD: GC/MS Volatile Organics (EPA Method TO-15)

Y N NA Were laboratory duplicate pairs identified in this SDG?

Y N NA Were target analytes detected in the laboratory duplicate pairs?

Analyte	Concentration (ppbv)		Reported RPD	Recalculated RPD
	OSVE-10-1Q11	OSVE-10-1Q11 Dup		
Tetrachloroethane JBH	3.2	3.34	5	4

Analyte	Concentration (ppbv)		Reported RPD	Recalculated RPD
	SVE-97-1Q11 RE1	SVE-97-1Q11 RE1 Dup		
Tetrachloroethane JBH	97	94.2	2	3

Relative percent differences (RPDs) are not calculated when an analyte is nondetected in one duplicate sample or is detected below the CRQL in one or both duplicate samples

Lab Control Spike/Lab Control Spike Duplicate Outlier Report

Lab Reporting Batch ID: 11074A **Laboratory: R9LAB**

EDD Filename: 11074A_VOCs Soil Gas_edit_RPD.XML **eQAPP Name: Modesto_Site_042811**

Method: **TO-15**
Matrix: **Air**

QC Sample ID (Associated Samples)	Compound	LCS %R	LCSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
B1C0061-BS1 (DP-1A-1Q11 DP-1B-1Q11 DP-4A-1Q11 DP-4B-1Q11 DP-6A-1Q11)	STYRENE	11	-	69.00-122.00	-	STYRENE	J- (all detects) UJ (all non-detects)
B1C0066-BS1 (DP-6B-1Q11 OSVE-10-1Q11 OSVE-11-1Q11 SVE-1-1Q11 SVE-2-1Q11 SVE-3-1Q11 SVE-4-1Q11 SVE-97-1Q11)	STYRENE	11	-	69.00-122.00	-	STYRENE	J-(all detects) UJ(all non-detects)

LDC #: _____
SDG #: 11074A

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Result Verification

Reviewer: LS
2nd Reviewer: BH

METHOD: GC/MS Volatile Organics (EPA Method TO-15)

The percent recoveries (%R) and percent differences (%D) of the laboratory control sample and recalculated laboratory control sample were recalculated for the compounds indentified below using the following calculation:

%Recovery = 100 * (SSC - SC)/SA

Where: SSC = Spiked concentration
SA = Spike added
SC = Sample concentration

%D = | LCS - LCS recalc | *100/(LCS)

LCS = Laboratory control spike recovery
LCS recalc = Laboratory control spike recovery recalculated

LCS sample: B1C0061-BS1

Compound	Spike Added (ppbv)	Sample Concentration (ppbv)	Spiked Sample Concentration (ppbv)	LCS Percent Recovery		LCS %D
	LCS	---	LCS	Reported	Recalc.	Calculated
Vinyl chloride	10.7	0.0	9.95	93	93	0.0
Chloroform	10.5	0.0	10.4	99	99	0.0
1,2-Dichloroethane	10.5	0.0	8.39	80	80	0.1
Trichloroethene	10.6	0.0	10.7	101	101	0.1
1,2-Dichloropropane	10.6	0.0	9.92	94	94	0.4
1,1,2-Trichloroethane	10.6	0.0	10.4	98	98	0.1
Tetrachloroethene	10.6	0.0	10.8	102	102	0.1
1,1,2,2-Tetrachloroethane	10.5	0.0	10.2	97	97	0.1
Hexachlorobutadiene	9.20	0.0	7.97	87	87	0.4

Reporting Limit Outliers

Lab Reporting Batch ID: 11074A **Laboratory: R9LAB**

EDD Filename: 11074A_VOCs Soil Gas_edit_RPD.XML **eQAPP Name: Modesto_Site_042811**

Method: **TO-15**

Matrix: **Air**

SampleID	*Analyte*	*Lab Qual*	*Result*	*Reporting Limit*	*RL Type*	*Units*	*Flag*
DP-4A-1Q11	METHYLENE CHLORIDE	J,C1	1.4	2.2	MRL	ppbv	J (all detects)
DP-4B-1Q11	CHLOROFORM	J,C1	1.5	2.1	MRL	ppbv	J (all detects)
DP-6A-1Q11	TETRACHLOROETHENE	J,C1	1.6	2.3	MRL	ppbv	J (all detects)
OSVE-10-1Q11	TETRACHLOROETHENE	J,C1	3.2	3.9	MRL	ppbv	J (all detects)
SVE-2-1Q11	1,2,4-TRICHLOROBENZENE	J,C1	1.2	2.1	MRL	ppbv	J (all detects)
	1,3-DICHLOROBENZENE	J,C1	1.1	2.1	MRL	ppbv	
	CIS-1,2-DICHLOROETHENE	J,C1	1.2	2.1	MRL	ppbv	
	TRICHLOROETHENE	J,C1	1.2	2.1	MRL	ppbv	
SVE-4-1Q11	1,3-DICHLOROBENZENE	J,C1	1.6	2.1	MRL	ppbv	J (all detects)
	METHYLENE CHLORIDE	J,C1	1.2	2.1	MRL	ppbv	
	TRICHLOROETHENE	J,C1	1.6	2.1	MRL	ppbv	

LDC #: _____
SDG #: 11074A

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: LS
2nd Reviewer: JBH

METHOD: GC/MS Volatile Organics (EPA Method TO-15)

Compound results for the Level 4 samples reported with a positive detect were recalculated and verified using the following equation:

$$\text{Concentration} = \frac{(Ax)(Vt)(Df)(Ci)}{(CF)(Vo)(Ai)}$$

Where:
- Ax = Area or height of the peak for the compound to be measured
- Vt = Volume injected in milliliters (mL)
- DF = Dilution factor
- Ci = Concentration of internal standard
- CF = Mean calibration factor from initial calibration curve
- Vo = Volume of sample in milliliters (mL)
- Ai = Area or height of internal standard

#	Sample I.D.	Compound		Response (A/H)	Volume Injected (mL)	Dilution Factor	Int. Std. (ppbv)	CF	Sample volume (mL)	Int. Std. (A/H)	Reported Concentration (ppbv)	Calculated Concentration (ppbv)	% Diff	Accept? (Y/N)
1	DP-4A-1Q11	Dichloromethane		26891	200	2.25	20.00	1.021	200	858908	1.4	1.4	-1.4	Y
		Chloroform		1372264	200	2.25	20.00	2.038	200	858908	35	35	0.8	Y
		Tetrachloroethene		1198574	200	2.25	21.00	0.604	200	3229052	29	29	0.1	Y
2	DP-4B-1Q11	Chloroform		69258	200	2.11	20.00	2.038	200	932304	1.5	1.5	2.5	Y
		Tetrachloroethene		167887	200	2.11	21.00	0.604	200	3321458	3.7	3.7	0.2	Y

Field Duplicate RPD Report

Lab Reporting Batch ID: 11074A **Laboratory: R9LAB**

EDD Filename: 11074A_VOCs Soil Gas_edit_RPD.XML **eQAPP Name: Modesto_Site_042811**

Method: TO-15
Matrix: Air

Analyte	Concentration (ppbv)		Sample RPD	eQAPP RPD	Flag
	SVE-3-1Q11	SVE-97-1Q11			
TETRACHLOROETHENE	91	97	6	1.00	No Qualifiers Applied

LDC #: _____ **VALIDATION FINDING WORKSHEET** Page: 1 of 1

11074A **Field Duplicates** Reviewer: KW

2nd Reviewer: JBH

METHOD: GC/MS Volatile Organics (EPA Method TO-15)

Y N NA Were field duplicate pairs identified in this SDG?

Y N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (ppbv)		Difference	Difference (Limits)	Qualifications
	SVE-3-1Q11	SVE-~~973~~-1Q11 170			
Tetrachloroethene	94.0	97.0	1.0	*	None

Analyte	Concentration (ppbv)		Difference	Difference (Limits)	Qualifications

* = See Table 2-17 of SAP

a) Differences are not calculated when an analyte is nondetected in one field duplicate sample or is detected below the PQL in one or both field duplicate samples

Field QC Assignments and Associated Samples

EDD File Name: 11074A
eQapp Name: Modesto_Site_042811

	Associated Samples	Sample Collection Date
Field QC Sample: SVE-97-1Q11 **QC Type:** Field_Duplicate		
	SVE-3-1Q11	3/9/2011 1:32:00

History of Manual Changes to Automated Data Review Qualifiers

Changed by: Nanny Bosch

Analyte	Method	Analysis Type	Result	Unit	Reason Code	Original Value	New Value	Edit Time
Field Sample ID: MW-10A-1Q11								
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Reinjection-	2.0	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:46
Reason for change: %RSD>20								
BROMOFORM	524.2	Reinjection-	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:39
Reason for change: %RSD>20								
DIBROMOCHLOROMETHANE	524.2	Reinjection-	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:30
Reason for change: %RSD>20								
TRANS-1,3-DICHLOROPROPENE	524.2	Reinjection-	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:34
Reason for change: %RSD>20								
Field Sample ID: MW-10B-1Q11								
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Initial	2.0	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:46
Reason for change: %RSD>20								
BROMOFORM	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:39
Reason for change: %RSD>20								
DIBROMOCHLOROMETHANE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:31
Reason for change: %RSD>20								
TRANS-1,3-DICHLOROPROPENE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:34
Reason for change: %RSD>20								

Analyte	Method	Analysis Type	Result	Unit	Reason Code	Original Value	New Value	Edit Time
Field Sample ID: MW-10C-1Q11								
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Initial	2.0	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:46
Reason for change: %RSD>20								
BROMOFORM	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:39
Reason for change: %RSD>20								
DIBROMOCHLOROMETHANE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:31
Reason for change: %RSD>20								
TRANS-1,3-DICHLOROPROPENE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:34
Reason for change: %RSD>20								
Field Sample ID: MW-12A-1Q11								
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Initial	2.0	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:46
Reason for change: %RSD>20								
BROMOFORM	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:39
Reason for change: %RSD>20								
DIBROMOCHLOROMETHANE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:31
Reason for change: %RSD>20								
TRANS-1,3-DICHLOROPROPENE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:34
Reason for change: %RSD>20								
Field Sample ID: MW-17A-1Q11								
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Initial	2.0	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:46
Reason for change: %RSD>20								
BROMOFORM	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:39
Reason for change: %RSD>20								

Analyte	Method	Analysis Type	Result	Unit	Reason Code	Original Value	New Value	Edit Time
Field Sample ID: MW-17A-1Q11								
DIBROMOCHLOROMETHANE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:31
Reason for change: %RSD>20								
TRANS-1,3-DICHLOROPROPENE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:34
Reason for change: %RSD>20								
Field Sample ID: MW-17B-1Q11								
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Reinjection-	2.0	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:46
Reason for change: %RSD>20								
BROMOFORM	524.2	Reinjection-	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:39
Reason for change: %RSD>20								
DIBROMOCHLOROMETHANE	524.2	Reinjection-	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:31
Reason for change: %RSD>20								
TRANS-1,3-DICHLOROPROPENE	524.2	Reinjection-	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:34
Reason for change: %RSD>20								
Field Sample ID: MW-17C-1Q11								
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Initial	2.0	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:46
Reason for change: %RSD>20								
BROMOFORM	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:39
Reason for change: %RSD>20								
DIBROMOCHLOROMETHANE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:31
Reason for change: %RSD>20								
TRANS-1,3-DICHLOROPROPENE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:34
Reason for change: %RSD>20								

Analyte	Method	Analysis Type	Result	Unit	Reason Code	Original Value	New Value	Edit Time
Field Sample ID: MW-18A-1Q11								
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Initial	2.0	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:46
Reason for change: %RSD>20								
BROMOFORM	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:39
Reason for change: %RSD>20								
DIBROMOCHLOROMETHANE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:31
Reason for change: %RSD>20								
TRANS-1,3-DICHLOROPROPENE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:34
Reason for change: %RSD>20								
Field Sample ID: MW-20A-1Q11								
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Reinjection-	4.0	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:46
Reason for change: %RSD>20								
BROMOFORM	524.2	Reinjection-	1.0	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:39
Reason for change: %RSD>20								
DIBROMOCHLOROMETHANE	524.2	Reinjection-	1.0	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:31
Reason for change: %RSD>20								
TRANS-1,3-DICHLOROPROPENE	524.2	Reinjection-	1.0	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:34
Reason for change: %RSD>20								
Field Sample ID: MW-20B-1Q11								
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Reinjection-	4.0	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:47
Reason for change: %RSD>20								
BROMOFORM	524.2	Reinjection-	1.0	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:40
Reason for change: %RSD>20								

Analyte	Method	Analysis Type	Result	Unit	Reason Code	Original Value	New Value	Edit Time	
Field Sample ID: MW-20B-1Q11									
DIBROMOCHLOROMETHANE	524.2	Reinjection-	1.0	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:32
Reason for change: %RSD>20									
TRANS-1,3-DICHLOROPROPENE	524.2	Reinjection-	1.0	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:35
Reason for change: %RSD>20									
Field Sample ID: MW-20C-1Q11									
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Initial	2.0	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:47
Reason for change: %RSD>20									
BROMOFORM	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:40
Reason for change: %RSD>20									
DIBROMOCHLOROMETHANE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:32
Reason for change: %RSD>20									
Field Sample ID: MW-3A-1Q11									
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Initial	2.0	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:47
Reason for change: %RSD>20									
BROMOFORM	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:40
Reason for change: %RSD>20									
DIBROMOCHLOROMETHANE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:32
Reason for change: %RSD>20									
TRANS-1,3-DICHLOROPROPENE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:35
Reason for change: %RSD>20									

Analyte	Method	Analysis Type	Result	Unit	Reason Code	Original Value	New Value	Edit Time
Field Sample ID: MW-402-1Q11								
BROMOFORM	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:40
Reason for change: %RSD>20								
DIBROMOCHLOROMETHANE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:32
Reason for change: %RSD>20								
TRANS-1,3-DICHLOROPROPENE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:36
Reason for change: %RSD>20								
Field Sample ID: MW-4A-1Q11								
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Initial	20	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:47
Reason for change: %RSD>20								
BROMOFORM	524.2	Initial	5.0	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:40
Reason for change: %RSD>20								
DIBROMOCHLOROMETHANE	524.2	Initial	5.0	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:32
Reason for change: %RSD>20								
TRANS-1,3-DICHLOROPROPENE	524.2	Initial	5.0	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:36
Reason for change: %RSD>20								
Field Sample ID: MW-4B-1Q11								
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Initial	2.0	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:47
Reason for change: %RSD>20								
BROMOFORM	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:40
Reason for change: %RSD>20								
DIBROMOCHLOROMETHANE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:32
Reason for change: %RSD>20								

Analyte	Method	Analysis Type	Result	Unit	Reason Code	Original Value	New Value	Edit Time	
Field Sample ID: MW-4B-1Q11									
TRANS-1,3-DICHLOROPROPENE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:36
Reason for change: %RSD>20									
Field Sample ID: MW-4C-1Q11									
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Initial	2.0	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:48
Reason for change: %RSD>20									
BROMOFORM	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:40
Reason for change: %RSD>20									
DIBROMOCHLOROMETHANE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:32
Reason for change: %RSD>20									
TRANS-1,3-DICHLOROPROPENE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:36
Reason for change: %RSD>20									
Field Sample ID: MW-5A-1Q11									
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Reinjection-	2.0	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:48
Reason for change: %RSD>20									
BROMOFORM	524.2	Reinjection-	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:41
Reason for change: %RSD>20									
DIBROMOCHLOROMETHANE	524.2	Reinjection-	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:33
Reason for change: %RSD>20									
TRANS-1,3-DICHLOROPROPENE	524.2	Reinjection-	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:36
Reason for change: %RSD>20									

Analyte	Method	Analysis Type	Result	Unit	Reason Code	Original Value	New Value	Edit Time
Field Sample ID: MW-80C-1Q11								
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Initial	2.0	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:48
Reason for change: %RSD>20								
BROMOFORM	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:41
Reason for change: %RSD>20								
DIBROMOCHLOROMETHANE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:33
Reason for change: %RSD>20								
TRANS-1,3-DICHLOROPROPENE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:38
Reason for change: %RSD>20								
Field Sample ID: MW-8A-1Q11								
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Reinjection-	2.0	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:48
Reason for change: %RSD>20								
BROMOFORM	524.2	Reinjection-	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:41
Reason for change: %RSD>20								
CARBON TETRACHLORIDE	524.2	Reinjection-	0.5	ug/L	Continuing Calibration		UJ	4/30/2011 14:54
Reason for change: %D>-30%								
CARBON TETRACHLORIDE	524.2	Reinjection-	0.5	ug/L	Continuing Calibration	UJ		4/30/2011 14:54
Reason for change: wrong analyte								
DIBROMOCHLOROMETHANE	524.2	Reinjection-	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:33
Reason for change: %RSD>20								
TRANS-1,3-DICHLOROPROPENE	524.2	Reinjection-	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011 14:38
Reason for change: %RSD>20								

Analyte	Method	Analysis Type	Result	Unit	Reason Code	Original Value	New Value	Edit Time	
Field Sample ID: MW-90B-1Q11									
1,2-DIBROMO-3-CHLOROPROPANE	524.2	Initial	2.0	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:44
Reason for change: %RSD>20									
BROMOFORM	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:38
Reason for change: %RSD>20									
DIBROMOCHLOROMETHANE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:33
Reason for change: %RSD>20									
TRANS-1,3-DICHLOROPROPENE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	4/30/2011	14:38
Reason for change: %RSD>20									

SDG 11074C

LDC #: 1102-08H

SDG #: 11074C

Laboratory: EPA Region 9

VALIDATION COMPLETENESS WORKSHEET

Level III/~~IV~~ JBH

Date: 04/27/11

Page: 1 of 1

Reviewer: LS

2nd Reviewer: JBH

METHOD: GC/MS VOA (EPA TO-15)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 03/9/2011
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	SW/A	
IV.	Continuing calibration	SW/A	
V.	Blanks	A	
VI.	Surrogate spikes	N	
VII.	Sample duplicates	SW	
VIII.	Laboratory control samples	A	
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	N	Not reviewed for Level III validation samples.
XII.	Compound quantitation/CRQLs	N	Not reviewed for Level III validation samples.
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	Not reviewed for Level III validation samples.
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ** Indicates sample underwent Level IV validation

1	GWTP Pr GAC-0302	11		21		31	
2	GWTP Stack-0302	12		22		32	
3	SVE Pre GAC-0302	13		23		33	
4	SVE Stack-0302	14		24		34	
5	GWTP Pr GAC-0302 Dup	15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

LDC #:_____
SDG #: 11074C

VALIDATION FINDINGS CHECKLIST

Reviewer: CS
2nd Reviewer: JBH

Method: Volatiles (EPA Method TO-15)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	X			
Canister pressure criteria was met.	X			
II. GC/MS Instrument performance check				
Were the BFB performance results reviewed and found to be within the specified criteria?	X			
Were all samples analyzed within the 12 hour clock criteria?	X			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	X			
Were all percent relative standard deviations (%RSD) ≤ 30% and relative response factors (RRF) ≥ 0.05?		X		yes for target cpds
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	X			
Were all percent differences (%D) ≤ 30% and relative response factors (RRF) ≥ 0.05?		X		yes for target cpds
V. Blanks				
Was a method blank associated with every sample in this SDG?	X			
Was a method blank analyzed at least once every 12 hours for each matrix and concentration?	X			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		X		
VI. Surrogate spikes				
Were all surrogate %R within QC limits?			X	
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			X	
VII. Sample Duplicate				
Was a sample duplicate analyzed for this SDG?	X			
Were the relative percent differences (RPD) within the QC limits (<20%)?		X		
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	X			
Was an LCS analyzed per analytical batch?	X			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	X			

LDC #:_____
SDG #: 11074C

VALIDATION FINDINGS CHECKLIST

Reviewer: LS
2nd Reviewer: JBH

Validation Area	Yes	No	NA	Findings/Comments
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		X		
Were the performance evaluation (PE) samples within the acceptance limits?			X	
X. Internal standards				
Were internal standard area counts within +/-40% from the associated calibration standard?	X			
Were retention times within +/- 20.0 seconds from the associated calibration standard?	X			
XI. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?			X	Not reviewed for Level III validation samples.
Did compound spectra meet specified EPA "Functional Guidelines" criteria?			X	
Were chromatogram peaks verified and accounted for?			X	
XII. Compound quantitation/CRQLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?			X	Not reviewed for Level III validation samples.
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?			X	
XIII. Tentatively identified compounds (TICs)				
Were the major ions (> 10 percent relative intensity) in the reference spectrum evaluated in sample spectrum?			X	
Were relative intensities of the major ions within ± 20% between the sample and the reference spectra?			X	
Did the raw data indicate that the laboratory performed a library search for all required peaks in the chromatograms (samples and blanks)?			X	
XIV. System performance				
System performance was found to be acceptable.			X	Not reviewed for Level III validation samples.
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	X			
XVI. Field duplicates				
Field duplicate pairs were identified in this SDG.		X		
Target compounds were detected in the field duplicates.			X	
XVII. Field blanks				
Field blanks were identified in this SDG.		X		
Target compounds were detected in the field blanks.			X	

LDC #:_____
SDG #: 11074C

VALIDATION FINDINGS WORKSHEET
Initial Calibration

Reviewer: ZS
2nd Reviewer: JPH

METHOD: GC/MS VOA (EPA Method TO-15)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Did the laboratory perform a 5 point calibration prior to sample analysis?

Y N N/A Were all percent relative standard deviations (%RSD) ≤ 30% and relative response factors (RRF) ≥ 0.05?

#	Date	Standard ID	Compound	Finding %RSD (Limit: ≤30.0%)	Finding RRF (Limit: ≥0.05)	Associated Samples	Qualifications
1	3/9/11	030911NC05	Vinyl Acetate	33.74	---	All samples in the SDG	~~UJ~~ Not reported ND

LDC #:_____
SDG #: 11074C

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Reviewer: CS
2nd Reviewer: JBH

METHOD: GC/MS VOA (EPA Method TO-15)
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Y N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?
Y N N/A Were all percent differences (%D) ≤ 30% ?

#	Date	Standard ID	Compound	Finding %D (Limit: <30.0%)	Associated Samples	Qualifications
1	3/15/11	031511NC01	Tert-Butyl Methyl Ether	-37.2	All	J- Detects ~~/US~~ Not reported

Lab Duplicate Outlier Report

Lab Reporting Batch ID: 11074C **Laboratory: R9LAB**

EDD Filename: 11074C_soil gas voc_edit_RPD.XML **eQAPP Name: Modesto_Site_042811**

Method: TO-15
Matrix: Air

QC Sample ID (Associated Sample ID)	Analyte	Sample RPD	eQAPP RPD	Flag
GWTP Pr GAC-0302DUP (GWTP Pr GAC-0302 GWTP Stack-0302 SVE Pre GAC-0302 SVE Stack-0302)	TETRACHLOROETHENE	27	20.00	J (all detects) UJ (all non-detects)

Project Name and Number: R11S34 - Modesto GW Treatment System Winter 2011 Sampling

Lab Control Spike/Lab Control Spike Duplicate Outlier Report

Lab Reporting Batch ID: 11074C **Laboratory: R9LAB**

EDD Filename: 11074C_soil gas voc_edit_RPD.XML **eQAPP Name: Modesto_Site_042811**

Method: **TO-15**
Matrix: **Air**

QC Sample ID (Associated Samples)	Compound	LCS %R	LCSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
B1C0061-BS1 (GWTP Pr GAC-0302 GWTP Stack-0302 SVE Pre GAC-0302 SVE Stack-0302)	STYRENE	11	-	69.00-122.00	-	STYRENE	J- (all detects) UJ (all non-detects)

LDC #: _____ VALIDATION FINDING WORKSHEET Page: 1 of 1

SDG #: _11074C_ **Laboratory Duplicates** Reviewer: LS

JBH

METHOD: GC/MS Volatile Organics (EPA Method TO-15)

Y N NA Were laboratory duplicate pairs identified in this SDG?

Y N NA Were target analytes detected in the laboratory duplicate pairs?

Analyte	Concentration (ppbv)		Reported RPD	Recalculated RPD
	GWTP Pr GAC-0302	GWTP Pr GAC-0302 Dup		
Tetrachloroethane JBH	62	47.5	27	26

Relative percent differences (RPDs) are not calculated when an analyte is nondetected in one duplicate sample or is detected below the CRQL in one or both duplicate samples

Reporting Limit Outliers

Lab Reporting Batch ID: 11074C **Laboratory: R9LAB**

EDD Filename: 11074C_soil gas voc_edit_RPD.XML **eQAPP Name: Modesto_Site_042811**

Method: **TO-15**

Matrix: **Air**

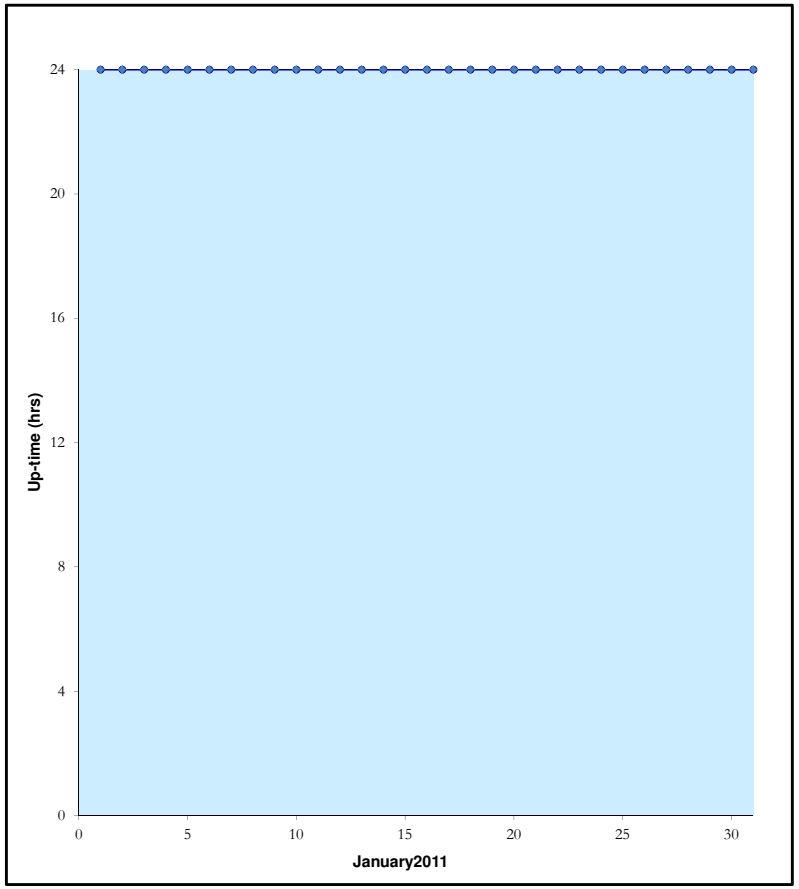
SampleID	*Analyte*	*Lab Qual*	*Result*	*Reporting Limit*	*RL Type*	*Units*	*Flag*
GWTP Pr GAC-0302	CHLOROFORM	J,C1	1.6	2.0	MRL	ppbv	J (all detects)

Appendix D
System Uptime Logs

FIGURE D-1

UPTIME LOG
GROUNDWATER TREATMENT SYSTEM
MODESTO SUPERFUND SITE

Month	Day	Uptime (hrs)	Description of Activity Performed
January	1	24	
	2	24	
	3	24	
	4	24	
	5	24	
	6	24	
	7	24	
	8	24	
	9	24	
	10	24	
	11	24	
	12	24	
	13	24	
	14	24	
	15	24	
	16	24	
	17	24	
	18	24	
	19	24	
	20	24	
	21	24	
	22	24	
	23	24	
	24	24	
	25	24	
	26	24	
	27	24	
	28	24	
	29	24	
	30	24	
	31	24	



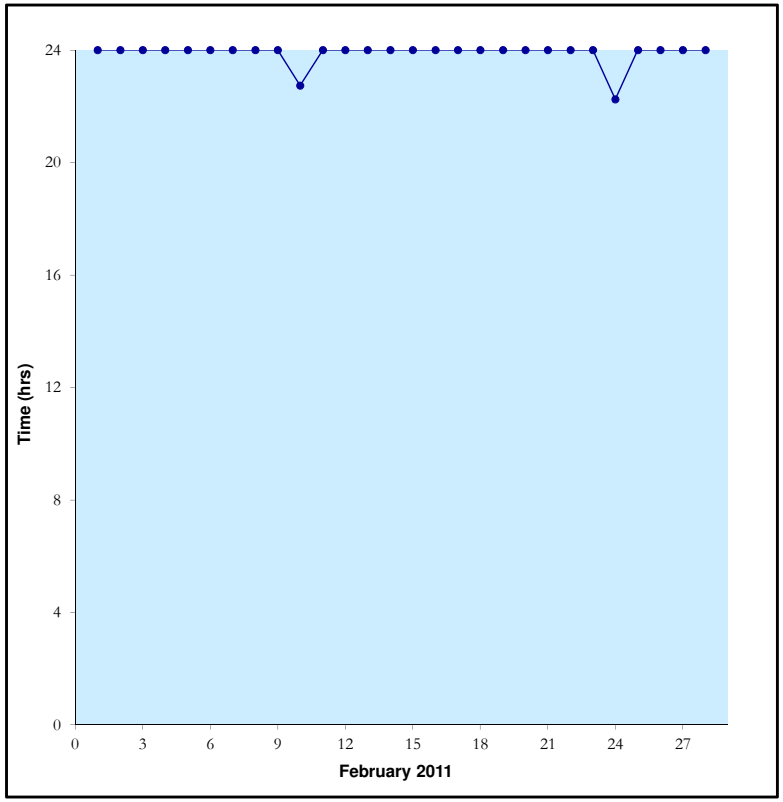
Uptime hours:	744
Uptime %:	100.0%

Notes:

FIGURE D-2

UPTIME LOG
GROUNDWATER TREATMENT SYSTEM
MODESTO SUPERFUND SITE

Month	Day	Uptime (hrs)	Description of Activity Performed
February	1	**24**	
	2	**24**	
	3	**24**	
	4	**24**	
	5	**24**	
	6	**24**	
	7	**24**	
	8	**24**	
	9	**24**	
	10	**22.74**	The system shutdown due to high delta pressure at the Air Stripper influent bag filters.
	11	**24**	
	12	**24**	
	13	**24**	
	14	**24**	
	15	**24**	
	16	**24**	
	17	**24**	
	18	**24**	
	19	**24**	
	20	**24**	
	21	**24**	
	22	**24**	
	23	**24**	
	24	**22.25**	The system was shutdown for a changeout of the ion exchange system resin.
	25	**24**	
	26	**24**	
	27	**24**	
	28	**24**	



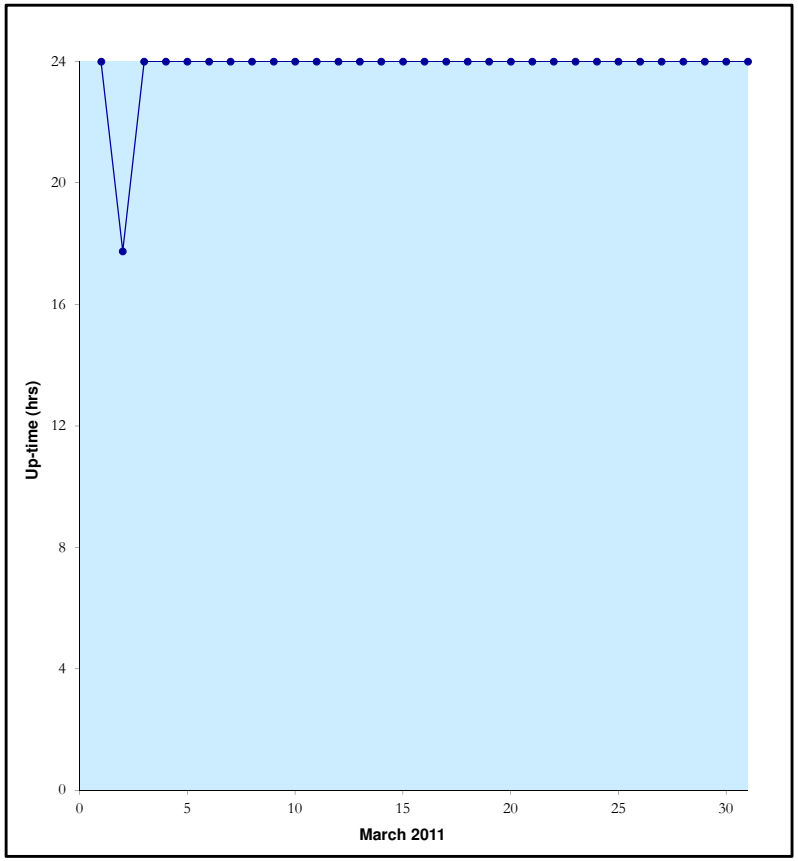
Uptime hours:	**668.99**
Uptime %:	**99.6%**

Notes:

FIGURE D-3

UPTIME LOG
GROUNDWATER TREATMENT SYSTEM
MODESTO SUPERFUND SITE

Month	Day	Uptime (hrs)	Description of Activity Performed
March	1	**24**	
	2	**17.75**	The system shutdown due to high delta pressure at the Air Stripper influent bag filters.
	3	**24**	
	4	**24**	
	5	**24**	
	6	**24**	
	7	**24**	
	8	**24**	
	9	**24**	
	10	**24**	
	11	**24**	
	12	**24**	
	13	**24**	
	14	**24**	
	15	**24**	
	16	**24**	
	17	**24**	
	18	**24**	
	19	**24**	
	20	**24**	
	21	**24**	
	22	**24**	
	23	**24**	
	24	**24**	
	25	**24**	
	26	**24**	
	27	**24**	
	28	**24**	
	29	**24**	
	30	**24**	
	31	**24**	



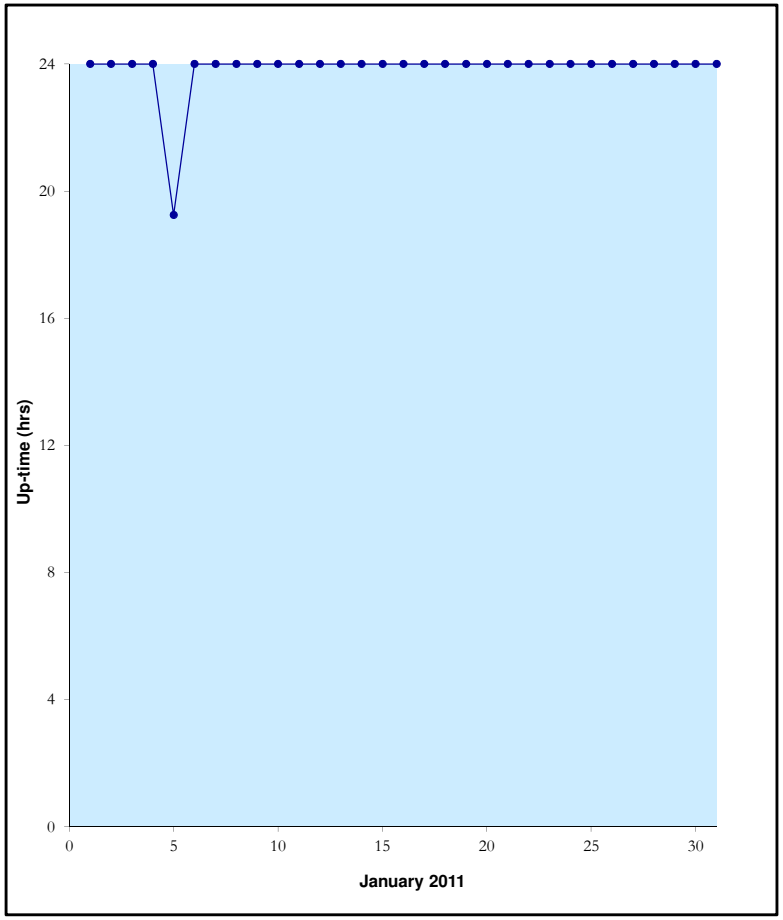
Uptime hours:	**737.75**
Uptime %:	**99.2%**

Notes:

FIGURE D-4

UPTIME LOG
SVE TREATMENT SYSTEM
MODESTO SUPERFUND SITE

Month	Day	Uptime (hrs)	Description of Activity Performed
January	1	**24**	
	2	**24**	
	3	**24**	
	4	**24**	
	5	**19.25**	SVE shutdown due to high Air Water Seperator (AWS) level.
	6	**24**	
	7	**24**	
	8	**24**	
	9	**24**	
	10	**24**	
	11	**24**	
	12	**24**	
	13	**24**	
	14	**24**	
	15	**24**	
	16	**24**	
	17	**24**	
	18	**24**	
	19	**24**	
	20	**24**	
	21	**24**	
	22	**24**	
	23	**24**	
	24	**24**	
	25	**24**	
	26	**24**	
	27	**24**	
	28	**24**	
	29	**24**	
	30	**24**	
	31	**24**	



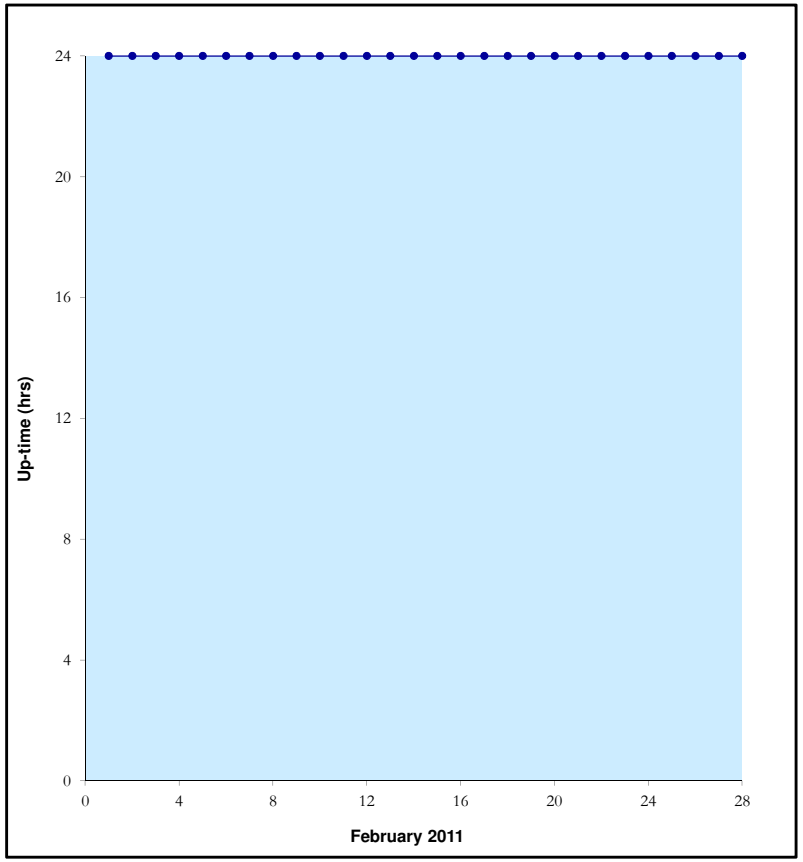
Uptime hours:	**739.25**
Uptime %:	**99.4%**

Notes:

FIGURE D-5

UPTIME LOG
SVE TREATMENT SYSTEM
MODESTO SUPERFUND SITE

Month	Day	Uptime (hrs)	Description of Activity Performed
February	1	**24**	
	2	**24**	
	3	**24**	
	4	**24**	
	5	**24**	
	6	**24**	
	7	**24**	
	8	**24**	
	9	**24**	
	10	**24**	
	11	**24**	
	12	**24**	
	13	**24**	
	14	**24**	
	15	**24**	
	16	**24**	
	17	**24**	
	18	**24**	
	19	**24**	
	20	**24**	
	21	**24**	
	22	**24**	
	23	**24**	
	24	**24**	
	25	**24**	
	26	**24**	
	27	**24**	
	28	**24**	



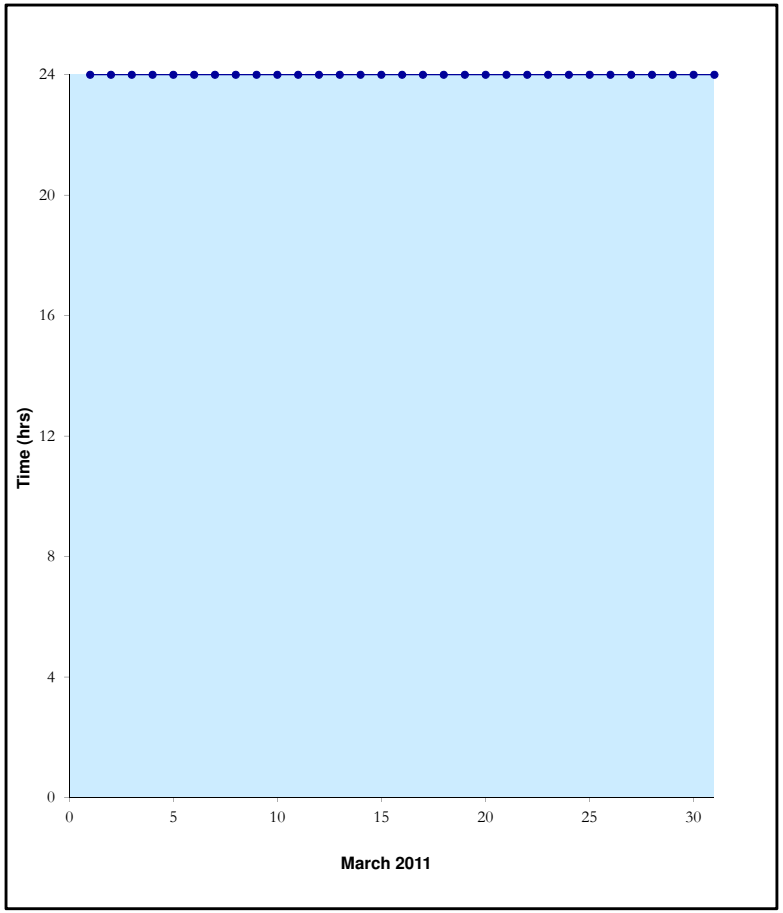
Uptime hours:	**672**
Uptime %:	**100.0%**

Notes:

FIGURE D-6

UPTIME LOG
SVE TREATMENT SYSTEM
MODESTO SUPERFUND SITE

Month	Day	Uptime (hrs)	Description of Activity Performed
March	1	24	
	2	24	
	3	24	
	4	24	
	5	24	
	6	24	
	7	24	
	8	24	
	9	24	
	10	24	
	11	24	
	12	24	
	13	24	
	14	24	
	15	24	
	16	24	
	17	24	
	18	24	
	19	24	
	20	24	
	21	24	
	22	24	
	23	24	
	24	24	
	25	24	
	26	24	
	27	24	
	28	24	
	29	24	
	30	24	
	31	24	



Uptime hours:	744
Uptime %:	100.0%

Notes:

Appendix E
Operation and Maintenance Process Logs

APPENDIX E
PROCESS AND MONITORING LOGS

This section presents process and monitoring logs recorded during weekly routine and non-routine visits during this reporting period (01 January through 31 March 2011) for both soil vapor extraction (SVE) and groundwater treatment (GWT) systems. Process readings, (flow rates, pressures, and vapor concentrations) pertaining to individual treatment units (air stripper, liquid granular activated carbon (GAC), and ion exchange) are recorded to document trends in each treatment process and establish typical operating ranges. These process and monitoring logs are working documents that will be updated as necessary to accommodate changes and modifications to the treatment systems.

URS Corporation
Modesto, Superfund Site
Process Data Sheet

Groundwater Treatment System

			Hour Meter	Utility Power		System Influent				Anti-Scalent Sequestrant	Air Stripper Water						
						Flow	Pressure	Total Flow ×100	pH		Influent Pressure	Efffluent Pressure	Flow	Pressure	Influent Pressure	Effluent Pressure	Flow
											Bag Filter F-1			Pump P-3	Bag Filter F-2		
Initials	Date	Time	Hrs.	kW	kWh	GPM	PSI	Gallons	pH	T-3 Gallons	PSI	PSI	GPM	PSI	PSI	PSI	GPM
GB	1/5/11	1000	40011	22.681	NREG	46	34	69894	7.20	25	37	34	64	31	40	34	52
GB	1/13/11	0920	40201	22.681	NREG	46	34	75027	7.29	20	38	35.5	65	32	38	36	54
GB	1/21/11	0826	40393	22.681	NREG	46	34	80171	7.21	27.7	39.5	33	63	30.5	40	34	54
GB	1/27/10	0845	40537	22.681	NREG	47	32	84116	7.23	28	38	36	67	33	38	36	55
Design Range or Target Value				10.0-30	N/A	3.0-85	30-50	n/a	5.0-12.0	3.0-25	30-50	30-50	40-70	30-50	30-50	30-50	40-70

GroundWater Treatment System

Air Stripper Vapor						Liquid Carbon			Ion Exchange			System Effluent				Radiation Meter	
Sump Pressure	Effluent Pressure	Influent P.I.D.	Effluent P.I.D.	Temp	Flow	Influent Pressure	Mid-Bed Pressure	Effluent Pressure	Influent Pressure	Mid-Bed Pressure	Flow	Flow	Pressure	pH	Effluent Total Flow	Outside GWTS	Inside GWTS
Air Stripper Trays		VGAC Vessel		Stack													
in. H2O	in. H20	ppm	ppm	°F	CFM	PSI	PSI	PSI	PSI	PSI	GPM	Gpm	~~PSI~~ H20	pH	~~Gallons~~ ×100	mR/hr Peak	mR/hr Peak
16	16	0	0	69.5	725	27	24	18	9.5	6	38	49	15.5	8.11	53971	Ø	Ø
16	16	0	0	69.1	690	28	24.5	19	10	8	39	49	18.0	8.13	59159	Ø	Ø
16	16	0	0	68.8	690	27	23	18	10	8	38	48	15.5	8.12	64341	0	0
16	16	0	0	68.3	685	29	25	19	10	8	39	49	16.5	8.15	68314	0	0
5.0-25	5.0-25	0-100	0-10	65-75	550-650	25-70	25-60	25-50	1.0-10	1.0-10	3.0-60	3.0-50	1.0-5	5.0-12	N/A	0-1	0-1

Soil Vapor Extraction System

		SVE Influent				Blower				Filter		Vapor				Radiation Meter	
		Pressure	Temp	Flow	Dilution	Hour Meter	Effluent Pressure	Temp	Flow	Influent Pressure	Effluent Pressure	Influent P.I.D.	Effluent P.I.D.	Temp	Flow	Outside SVE	Inside SVE
												VGAC Vessel		Stack			
Date	Time	In. H2O	°F	CFM	Yes/No	Hrs.	in. H2O	°F	CFM	in. H2O	in. H2O	ppm	ppm	°F	CFM	mR/hr Peak	mR/hr Peak
1/5/11	1012	-62	61.5	165	~~Yes~~ No	33341	3.0	183	165	-68	-72	Ø	Ø	183	165	Ø	Ø
1/13/11	1155	-60	61.2	163	No	33535	3.0	179	163	-68	-72	Ø	Ø	179	163	Ø	Ø
1/21/11	0957	-62	61.4	156	No	33725	3.0	183	159	-67	-71	Ø	Ø	183	159	Ø	Ø
1/27/11	0906	-65	60.5	147	No	33868	3.0	178	156	-69	-73	0	0	178	157	0	0
		25-70	65-75	100-200	NO	N/A	2.0-10	65-75	100-200	N/A	N/A	0-100	0-10	65-75	100-200	0-1	0-1

Note: For pressures measured relative to atmospheric (barometric) pressure, use (-) for vacuum.

Reviewed By: KF Date: 2/2/11

URS Corporation
Modesto Superfund Site
Site Inspections

Task Description	1/5/11	1/13/11	1/21/11	1/27/11	/ /
WEEKLY	Task Performed (Technician Initials or Value)				
Groundwater TreatmentSystem					
Record Process Logs	✓	✓	✓	✓	
Check Blowers and motors for heat, noise, and vibration	✓	✓	✓	✓	
Check Air Stripper Feed pump/motor (P-2) for heat, noise, and vibration.	✓	✓	✓	✓	
Inspect all process piping for leaks	✓	✓	✓	✓	
Inspect all process hoses/fittings for leaks	✓	✓	✓	✓	
Check Air Stripper Effluent pump/motor (P-3) for heat, noise, and vibration.	✓	✓	✓	✓	
Inspect Sump (Pump as Necessary).	✓	✓	✓	✓	
Check Air Stripper sump level site glass. Clean as necessary	✓	✓	✓	✓	
Inspect IX system influent vacuum break for leaks	✓	✓	✓	✓	
Clean up compound area	✓	✓	✓	✓	
Drain VGAC condensate	✓	✓	✓	✓	
Perform autodialer operational check	✓	✓	✓	✓	
Autodialer battery check	✓	✓	✓	✓	
Perform inspection of EW-1R pipeline	✓	✓	✓	✓	
Inspection of Spill Response Kit	✓	✓	✓	✓	
Inspection of Emergency Response Plan/MSDS Binder	✓	✓	✓	✓	
Record Process Logs	✓	✓	✓	✓	
Check Blowers and motors for heat, noise, and vibration	✓	✓	✓	✓	
Inspect all process piping for leaks	✓	✓	✓	✓	
Clean up compound area	✓	✓	✓	✓	
Drain VGAC condensate	✓	✓	✓	✓	
Perform autodialer operational check	✓	✓	✓	✓	
Inspection of Spill Response Kit	✓	✓	✓	✓	
Inspection of Emergency Response Plan/MSDS Binder	✓	✓	✓	✓	

Task Description	Performed		
MONTHLY	Date	Initials	Reading
Record electric kW hour meter	~~daily~~ Weekly	GS	Weekly
Record system effluent totalizer		→	→
Check fire extinguisher			
Replace Auto Dialer Batteries (if necessary)	1/13/11	GS	
Quarterly			
Interlock Checks			
Soil Vapor Extraction System Extraction Well Flow Reads (CFM)	SVE-02	SVE-03	SVE-04
ANNUAL		not done yet	
Collect Amp radings			
Instrument Calibration			
System Effluent Flow Meter	12/9/10	GS	

Notes:

Reviewed by: KF Date: 2/2/11

URS Group
Preventative and Corrective Maintenance Log
Modesto Superfund Site

Site Name: Modesto SF
Period: 1/1/11 (month/day/year) to 1/31/11 (month\day\year)

Date	Initials	Hour Meter	Maintenance Performed	LOTO Required	LOTO Description (Where?Why?)	LOCK ON (Date/Time)	Zero Energy Check	LOCK OFF (Date/Time)	LOCK ID (Lock No.)
1/21/11	GB	40393	Lubed Pumps/Fans	(Y) N	Breaker	1015	(Y) N	1100	GB
				Y / N			Y / N		
				Y / N			Y / N		
				Y / N			Y / N		
				Y / N			Y / N		
				Y / N			Y / N		

URS Group
Preventative and Corrective Maintenance Log
Modesto Superfund Site

Site Name: Modesto SF

Shutdown Date: 1/5/11 **Startup Date:** 1/5/11
Shutdown Time: 0519 **Startup Time:** 0957
Shutdown Purpose or Cause: SVE Shutdown on High/High AWS liquid level. DOWN: 4 hours 38 minutes.
Corrective Actions Taken (if shutdown was unplanned): Arrived that morning to drain liquids
Performed By: GB

Shutdown Date: _____ **Startup Date:** _____
Shutdown Time: _____ **Startup Time:** _____
Shutdown Purpose or Cause:
Corrective Actions Taken (if shutdown was unplanned):
Performed By: _____

Shutdown Date: _____ **Startup Date:** _____
Shutdown Time: _____ **Startup Time:** _____
Shutdown Purpose or Cause:
Corrective Actions Taken (if shutdown was unplanned):
Performed By: _____

Shutdown Date: _____ **Startup Date:** _____
Shutdown Time: _____ **Startup Time:** _____
Shutdown Purpose or Cause:
Corrective Actions Taken (if shutdown was unplanned):
Performed By: _____

Reviewed by: KF Date: 2/2/11

Date: 1/13/11
Weather: Cold
Sampler: George Bradshaw

SAMPLE COLLECTION RECORD
MODESTO SUPERFUND SITE

Time	Description	Totalizer Reading (gallons)	Flow (gpm)
0920	GWTS Effluent	5915900	49

Time	Sample Location - Test Method	Sample Description	LOCID	No. of Containers	Container Type	Preservative	pH	Cond	Temp
1005	EFF-0103 E524.2	Effluent-NS	SP-07	3	40 ml VOA	HCL	8.16	971	18.7
1005	EFF-0103 SM2540C	Effluent-NS	SP-07	1	250 ml Poly	None	8.16	971	18.7
0955	EFF-0103 SM5210B	Effluent-NS	SP-07	1	500 ml Poly	None	8.38	958	5.6
0955	EFF-0103 SM2540D	Effluent-NS	SP-07	1	500 ml Poly	None	8.38	958	5.6
1005	EFF-0103 D5174	Effluent-NS	SP-07	1	1 L Poly	HNO3	8.16	971	18.7
1015	IEX Mid-0103 D5174	Ion Exchange Mid-NS	SP-06	1	1 L Poly	HNO3	8.14	974	19.6
1020	Pre IEX-0103 D5174	Ion Exchange Pre-NS	SP-05	1	1 L Poly	HNO3	8.21	971	19.4
1025	MW-105-0103	Field Duplicate	SP-05	1	1 L Poly	HNO3	8.21	971	19.4
1035	CRB EFF-0103 E524.2	LGAC Effluent-NS	SP-05	3	40 ml VOA	HCL	8.15	974	20.1
1040	CRB Mid-0103 E524.2	LGAC Mid-NS	SP-04	3	40 ml VOA	HCL	8.20	970	20.0
1050	CRB INF-0103 E524.2	LGAC Influent-NS	SP-03	5	40 ml VOA	HCL	8.25	964	20.3
1100	EW-1-0103 E524.2	Influent-NS	SP-01	3	40 ml VOA	HCL	7.28	988	20.4
1100	EW-1-0103 D5174	Influent-NS	SP-01	1	1 L Poly	HNO3	7.28	988	20.4
1140	GWTP Stack-0103 TO15	GWTP VGAC Effluent-NS	SP-09	1	400ml Summa	None	#1136	Start -30	End -5
1150	GWTP Pre GAC-0103 TO15	GWTP VGAC Influent-NS	SP-08	1	400ml Summa	None	#1979	Start -30	End -5
1215	SVE Stack-0103 TO15	SVE VGAC Effluey-NS	SP-12	1	400ml Summa	None	#1997	Start -30	End -5
1225	SVE Pre GAC-0103 TO15	SVE VGAC Influent-NS	SP-11	1	400ml Summa	None	#2002	Start -30	End -5
0930	MW-301-1Q11 E524.2	Trip Blank	Blank	3	40 ml VOA	HCL	—	—	—
0940	MW-401-1Q11 E524.2	Field Blank	Blank	3	40 ml VOA	HCL	—	—	—

Sampler Signature	Date
[signature]	1/13/11

Notes:

FD = Field Duplicate
FB = Field Blank (ambient)
NS = Normal Sample
TB = Trip Blank

Fax COCs to:
URS Attn: Kevin Ford (916) 923-0114

URS Corporation
Modesto, Superfund Site
Process Data Sheet

Groundwater Treatment System

Initials	Date	Time	Hour Meter Hrs.	Utility Power 05 kW	Utility Power 04 kWh	System Influent Flow GPM	System Influent Pressure PSI	System Influent Total Flow ~~X100~~ Gallons	System Influent pH pH	Anti-Scalent Sequestrant T-3 Gallons	Air Stripper Water Influent Pressure PSI	Air Stripper Water Efffluent Pressure (Bag Filter F-1) PSI	Air Stripper Water Flow GPM	Air Stripper Water Pressure (Pump P-3) PSI	Air Stripper Water Influent Pressure (Bag Filter F-2) PSI	Air Stripper Water Effluent Pressure (Bag Filter F-2) PSI	Air Stripper Water Flow GPM
GB	2/3/11	0920	40706	22.681	66277	47	32.5	88729	7.20	28	38	35.5	67	31.5	41	35	55
GB	2/10/11	0945	40873	22.681	n.c.	46	34.0	93396	7.17	28	38.5	36.0	67	33.5	38	36	57
GB	2/16/11	1500	41022	22.681	72749	46	35.0	97468	7.13	31 (44)	38.0	36.0	68	31.0	38	34	58
GB	2/24/11	1056	41208	22.681	76541	47	32.0	02475	7.08	31 (44)	38.0	36.0	68	34.0	40	37	57
Design Range or Target Value				10.0-30	N/A	3.0-85	30-50	n/a	5.0-12.0	3.0-25	30-50	30-50	40-70	30-50	30-50	30-50	40-70

GroundWater Treatment System

Sump Pressure (Air Stripper Trays) in. H2O	Effluent Pressure (Air Stripper Trays) in. H20	Influent P.I.D. (VGAC Vessel) ppm	Effluent P.I.D. (VGAC Vessel) ppm	Temp (Stack) °F	Flow (Stack) CFM	Liquid Carbon Influent Pressure PSI	Liquid Carbon Mid-Bed Pressure PSI	Liquid Carbon Effluent Pressure PSI	Ion Exchange Influent Pressure PSI	Ion Exchange Mid-Bed Pressure PSI	Ion Exchange Flow GPM	System Effluent Flow Gpm	System Effluent Pressure PSI	System Effluent pH pH	System Effluent Effluent Total Flow ~~X100~~ Gallons	Radiation Meter Outside GWTS mR/hr Peak	Radiation Meter Inside GWTS mR/hr Peak
16	16	0	0	68.8	650	27.5	23.5	18	10	8	38	48	16	8.15	72962	0	0
16	16	0	0	67.5	665	29.5	25.0	19	10	8	39	49	17	8.07	77665	0	0
16	16	0	0	67.0	660	28.0	24.0	18	10	8	38	48	16	8.12	81753	0	0
16	16	0	0	69.5	715	30.0	25.0	20	12	11	35	48	15.5	8.15	86754	0	0
5.0-25	5.0-25	0-100	0-10	65-75	550-650	25-70	25-60	25-50	1.0-10	1.0-10	3.0-60	3.0-50	1.0-5	5.0-12	N/A	0-1	0-1

Soil Vapor Extraction System

Date	Time	SVE Influent Pressure In. H2O	SVE Influent Temp °F	SVE Influent Flow CFM	SVE Influent Dilution Yes/No	Blower Hour Meter Hrs.	Blower Effluent Pressure in. H2O	Blower Temp °F	Blower Flow CFM	Filter Influent Pressure in. H2O	Filter Effluent Pressure in. H2O	Vapor Influent P.I.D. (VGAC Vessel) ppm	Vapor Effluent P.I.D. (VGAC Vessel) ppm	Vapor Temp (Stack) °F	Vapor Flow (Stack) CFM	Radiation Meter Outside SVE mR/hr Peak	Radiation Meter Inside SVE mR/hr Peak
2/3/11	0935	-64	~~60.0~~ ~~154~~	154	No	34036	~~3.0~~ ~~178~~	~~178~~ ~~154~~	154	-69	-72	0	0	178	154	0	0
2/10/11	1135	-62	~~63.2~~ ~~155~~	155	No	34205	~~3.0~~ ~~182~~	~~182~~	168	-67	-71	0	0	182	168	0	0
2/16/11	1520	-63	~~62.0~~ ~~155~~	155	No	34353	~~3.0~~ ~~180~~	~~180~~	157	-69	-72	0	0	180	157	0	0
2/24/11	1117	-64	61.7	153	No	34541	3.0	184	155	-68	-72	0	0	184	155	0	0
		25-70	65-75	100-200	NO	N/A	2.0-10	65-75	100-200	N/A	N/A	0-100	0-10	65-75	100-200	0-1	0-1

Note: For pressures measured relative to atmospheric (barometric) pressure, use (-) for vacuum.

Reviewed By: KF Date: 3/2/11

60.0
63.2
62.0

(3.0) all

178
182
180
184

URS Corporation
Modesto Superfund Site
Site Inspections

Task Description	2/3/11	2/10/11	2/16/11	2/24/11	/ /
WEEKLY	Task Performed (Technician Initials or Value)				
Groundwater TreatmentSystem					
Record Process Logs	✓	✓	✓	✓	
Check Blowers and motors for heat, noise, and vibration	✓	✓	✓	✓	
Check Air Stripper Feed pump/motor (P-2) for heat, noise, and vibration.	✓	✓	✓	✓	
Inspect all process piping for leaks	✓	✓	✓	✓	
Inspect all process hoses/fittings for leaks	✓	✓	✓	✓	
Check Air Stripper Effluent pump/motor (P-3) for heat, noise, and vibration.	✓	✓	✓	✓	
Inspect Sump (Pump as Necessary).	✓	✓	✓	✓	
Check Air Stripper sump level site glass. Clean as necessary	✓	✓	✓	✓	
Inspect IX system influent vacuum break for leaks	✓	✓	✓	✓	
Clean up compound area	✓	✓	✓	✓	
Drain VGAC condensate	✓	✓	✓	✓	
Perform autodialer operational check	✓	✓	✓	✓	
Autodialer battery check	✓	✓	✓	✓	
Perform inspection of EW-1R pipeline	✓	✓	✓	✓	
Inspection of Spill Response Kit	✓	✓	✓	✓	
Inspection of Emergency Response Plan/MSDS Binder	✓	✓	✓	✓	
Soil Vapor Extraction System					
Record Process Logs	✓	✓	✓	✓	
Check Blowers and motors for heat, noise, and vibration	✓	✓	✓	✓	
Inspect all process piping for leaks	✓	✓	✓	✓	
Clean up compound area	✓	✓	✓	✓	
Drain VGAC condensate	✓	✓	✓	✓	
Perform autodialer operational check	✓	✓	✓	✓	
Inspection of Spill Response Kit	✓	✓	✓	✓	
Inspection of Emergency Response Plan/MSDS Binder	✓	✓	✓	✓	

Task Description	Performed			
MONTHLY	Date	Initials	Reading	
Check fire extinguisher	2/3/11	GB		
Inspect EW-1R vault	2/16/11	GB		
Inspect VI Mitigation operations - "Part House"	2/24/11	GB		
Replace Auto Dialer Batteries (if necessary)	2/24/11	GB		
Quarterly				
Interlock Checks Groundwater	2/10/11	GB		
Interlock Checks SVE	2/10/11	GB		
Collect Well Flow read at SVE-02	2/24/11	GB	34.0	59.8°F
Collect Well Flow read at SVE-03	2/24/11	GB	34.2	65.0°F
Collect Well Flow read at SVE-04	2/24/11	GB	59.5	66.6°F
ANNUAL				
Collect Amp radings				
Instrument Calibration				
System Effluent Flow Meter (Performed in June and December)				

Notes:

Reviewed by: KF Date: 3/2/11

URS Group
Preventative and Corrective Maintenance Log
Modesto Superfund Site

Site Name: Modesto
Period: 2/1/11 to 2/24/11
(month/day/year) (month\day\year)

Date	Initials	Hour Meter	Maintenance Performed	LOTO Required	LOTO Description (Where?Why?)	LOCK ON (Date/Time)	Zero Energy Check	LOCK OFF (Date/Time)	LOCK ID (Lock No.)
2/24	GB	34541	SVE Hour Meter Change Out	Y / N			Y / N		
2/24	GB	41208	IX Change Out	Y / N			Y / N		
				Y / N			Y / N		
				Y / N			Y / N		
				Y / N			Y / N		
				Y / N			Y / N		

URS Group
Preventative and Corrective Maintenance Log
Modesto Superfund Site

Site Name: Modesto

Shutdown Date: 2/10/11 Startup Date: 2/10/11
Shutdown Time: 0812 GWTP Startup Time: 0930
Shutdown Purpose or Cause:
Bag filter high pressure.
Corrective Actions Taken (if shutdown was unplanned):
Arrived onsite and changed out bag filters
Performed By: GB

Shutdown Date: 2/24/10 Startup Date: 2/24/11
Shutdown Time: 0800 Startup Time: 0940
Shutdown Purpose or Cause:
Shutdown System to change out both IX Vessels.
Corrective Actions Taken (if shutdown was unplanned):
(Baker Filtration onsite)
Performed By: GB

Shutdown Date: Startup Date:
Shutdown Time: Startup Time:
Shutdown Purpose or Cause:
Corrective Actions Taken (if shutdown was unplanned):
Performed By:

Shutdown Date: Startup Date:
Shutdown Time: Startup Time:
Shutdown Purpose or Cause:
Corrective Actions Taken (if shutdown was unplanned):
Performed By:

Reviewed by: KF Date: 3/2/11

Date: 2/10/11
Weather: Cool, Calm
Sampler: George Bradshaw

SAMPLE COLLECTION RECORD
MODESTO SUPERFUND SITE

Time	Description	Totalizer Reading (gallons)	Flow (gpm)
0945	GWTS Effluent	7766500	49

Time	Sample Location - Test Method	Sample Description	LOCID	No. of Containers	Container Type	pH	Cond	Temp
1055	EFF-0202 E524.2	Effluent-NS	SP-07	3	40 ml VOA	8.10	1059	20.5
1055	EFF-0202 SM2540C	Effluent-NS	SP-07	1	250 ml Poly	8.10	1059	20.5
1055	EFF-0202 SW5210B	Effluent-NS	SP-07	1	500 ml Poly	8.28	1039	5
1055	EFF-0202 SW2540D	Effluent-NS	SP-07	1	500 ml Poly	8.28	1039	5
1105	EW-1-0202 E524.2	Influent-NS	SP-01	3	40 ml VOA	7.11	1079	19.9
1000	MW-302-1Q11 E524.2	Trip Blank	Blank	3	40 ml VOA	—	—	—
1120	GWTP Stack-0202 TO15	GWTP VGAC Effluent-NS	SP-09	1	400ml Summa	#629	Start -30 End -5	
1130	GWTP Pre GAC-0202 TO15	GWTP VGAC Influent-NS	SP-08	1	400ml Summa	632 #632	Start -30 End -5	
1150	SVE Stack-0202 TO15	SVE VGAC Effluey-NS	SP-12	1	400ml Summa	#856	Start -30	End -5
1155	SVE Pre GAC-0202 TO15	SVE VGAC Influent-NS	SP-11	1	400ml Summa	#651	Start -30	End -5

Sampler Signature	Date

Notes:

FD = Field Duplicate
FB = Field Blank (ambient)
NS = Normal Sample
TB = Trip Blank

COCs to:

S Attn: Kevin Ford (916) 923-0114

3/2
Down 3:30 - 9:45

URS Corporation
Modesto, Superfund Site
Process Data Sheet

Groundwater Treatment System

Needs cleaned

Initials	Date	Time	Hour Meter Hrs.	Utility Power kW	Utility Power kWh	System Influent Flow GPM	System Influent Pressure PSI	System Influent Total Flow ~~x100~~ Gallons	System Influent pH pH	Anti-Scalent Sequestrant T-3 Gallons	Air Stripper Water Influent Pressure (Bag Filter F-1) PSI	Air Stripper Water Efffluent Pressure (Bag Filter F-1) PSI	Air Stripper Water Flow (Bag Filter F-1) GPM	Air Stripper Water Pressure (Pump P-3) PSI	Air Stripper Water Influent Pressure (Bag Filter F-2) PSI	Air Stripper Water Effluent Pressure (Bag Filter F-2) PSI	Air Stripper Water Flow (Bag Filter F-2) GPM
GB	3/2/11	0945	41345	22.681	79453	46	36	6244	~~7.73~~ 7.13	27	39	36	69	33	37	39	60
	3/9/11	1238	41516	22.681	82989	46	36	10838	~~7.82~~	23	40	38	70	32	40	38	60
	3/16/11	0857	41679	22.681	86351	46	35	15201	7.11 7.15	17	37	34	68	31	41	35	59
	3/21/11	0915	41796	22.681	88822	46	35	18345	7.04	23	39	37	70	33	38	36	60
	3/31/11	1115	42038	22.681	93820	46	33	24894	7.17	17	40	37.5	70	32.5	40	38	60
Design Range or Target Value				10.0-30	N/A	3.0-85	30-50	n/a	5.0-12.0	3.0-25	30-50	30-50	40-70	30-50	30-50	30-50	40-70

GroundWater Treatment System

Air Stripper Vapor Sump Pressure (Air Stripper Trays) in. H2O	Air Stripper Vapor Effluent Pressure (Air Stripper Trays) in. H20	Air Stripper Vapor Influent P.I.D. (VGAC Vessel) ppm	Air Stripper Vapor Effluent P.I.D. (VGAC Vessel) ppm	Air Stripper Vapor Temp (Stack) °F	Air Stripper Vapor Flow (Stack) CFM	Liquid Carbon Influent Pressure PSI	Liquid Carbon Mid-Bed Pressure PSI	Liquid Carbon Effluent Pressure PSI	Ion Exchange Influent Pressure PSI	Ion Exchange Mid-Bed Pressure PSI	Ion Exchange Flow GPM	System Effluent Flow Gpm	System Effluent Pressure ~~PSI~~ " H2O	System Effluent pH pH	System Effluent Effluent Total Flow ~~x100~~ Gallons	Radiation Meter Outside GWTS mR/hr Peak	Radiation Meter Inside GWTS mR/hr Peak
16	16	0	0	67.7	670	29	25	19	10	8.5	35	50	17	7.73	90508	0	0
16	16	0	0	70.8	690	28	24	18	10	8.5	35	50	16	7.82	95139	0	0
16	16	0	0	69.2	675	27	23	18	10	8	34	49	17	7.65	99569	0	0
16	16	0	0	69.1	675	29	25	19	10	8	35	50	16	7.78	02815	0	0
16	17	0	0	70.7	695	28	24	18	10	8	35	50	16	7.75	09515	0	0
5.0-25	5.0-25	0-100	0-10	65-75	550-650	25-70	25-60	25-50	1.0-10	1.0-10	3.0-60	3.0-50	1.0-5	5.0-12	N/A	0-1	0-1

Soil Vapor Extraction System

Date	Time	SVE Influent Pressure In. H2O	SVE Influent Temp °F	SVE Influent Flow CFM	SVE Influent Dilution Yes/No	Blower Hour Meter Hrs.	Blower Effluent Pressure in. H2O	Blower Temp °F	Blower Flow CFM	Filter Influent Pressure in. H2O	Filter Effluent Pressure in. H2O	Vapor Influent P.I.D. (VGAC Vessel) ppm	Vapor Effluent P.I.D. (VGAC Vessel) ppm	Vapor Temp (Stack) °F	Vapor Flow (Stack) CFM	Radiation Meter Outside SVE mR/hr Peak	Radiation Meter Inside SVE mR/hr Peak
GB	1100	-64	64.5	147	~~Y~~ No	143	3.0	180	140	-69	-73	0	0	180	~~180~~ 140	0	0
GB	1445	-64	65.5	158	No	315	3.0	192	158	-69	-72	0	0	192	158	0	0
GB	0952	-65	645	~~477~~ 155	No	477	3.0	185	155	-70	-73	0	0	185	155	0	0
GB	1039	-65	61.2	145	No	597	3.0	182	150	~~-70~~	-73	0	0	182	150	0	0
GB	1221	-63	67.5	148	No	839	3.0	196	154	-67	-71	0	0			0	0
		25-70	65-75	100-200	NO	N/A	2.0-10	65-75	100-200	N/A	N/A	0-100	0-10	65-75	100-200	0-1	0-1

Note: For pressures measured relative to atmospheric (barometric) pressure, use (-) for vacuum.

Reviewed By: KF Date: 4/4/11

3/31/11 Sewer Outfall 101224820

URS Corporation
Modesto Superfund Site
Site Inspections

Task Description	3/2/11	3/9/11	3/16/11	3/21/11	3/31/11
WEEKLY	**Task Performed (Technician Initials or Value)**				
Groundwater TreatmentSystem					
Record Process Logs	✓	✓	✓	✓	✓
Check Blowers and motors for heat, noise, and vibration	✓	✓	✓	✓	✓
Check Air Stripper Feed pump/motor (P-2) for heat, noise, and vibration.	✓	✓	✓	✓	✓
Inspect all process piping for leaks	✓	✓	✓	✓	✓
Inspect all process hoses/fittings for leaks	✓	✓	✓	✓	✓
Check Air Stripper Effluent pump/motor (P-3) for heat, noise, and vibration.	✓	✓	✓	✓	✓
Inspect Sump (Pump as Necessary).	✓	✓	✓	✓	✓
Check Air Stripper sump level site glass. Clean as necessary	✓	✓	✓	✓	✓
Inspect IX system influent vacuum break for leaks	✓	✓	✓	✓	✓
Clean up compound area	✓	✓	✓	✓	✓
Drain VGAC condensate	✓	✓	✓	✓	✓
Perform autodialer operational check	✓	✓	✓	✓	✓
Autodialer battery check	✓	✓	✓	✓	✓
Perform inspection of EW-1R pipeline	✓	✓	✓	✓	✓
Inspection of Spill Response Kit	✓	✓	✓	✓	✓
Inspection of Emergency Response Plan/MSDS Binder	✓	✓	✓	✓	✓
Soil Vapor Extraction System					
Record Process Logs	✓	✓	✓	✓	✓
Check Blowers and motors for heat, noise, and vibration	✓	✓	✓	✓	✓
Inspect all process piping for leaks	✓	✓	✓	✓	✓
Clean up compound area	✓	✓	✓	✓	✓
Drain VGAC condensate	✓	✓	✓	✓	✓
Perform autodialer operational check	✓	✓	✓	✓	✓
Inspection of Spill Response Kit	✓	✓	✓	✓	✓
Inspection of Emergency Response Plan/MSDS Binder	✓	✓	✓	✓	✓

Task Description	Performed		
MONTHLY	**Date**	**Initials**	**Reading**
Check fire extinguisher	3/16	GB	
Inspect EW-1R vault	3/16	GB	
Inspect VI Mitigation operations - "Part House"	3/31	GB	
Replace Auto Dialer Batteries (if necessary)	3/16	GB	
Quarterly			
Interlock Checks Groundwater	3/2	GB	
Interlock Checks SVE	3/2	GB	
Collect Well Flow read at SVE-02	FEB	GB	
Collect Well Flow read at SVE-03	FEB	GB	
Collect Well Flow read at SVE-04	FEB	GB	
ANNUAL			
Collect Amp radings			
Instrument Calibration			
System Effluent Flow Meter (Performed in June and December)			

Notes: Plan on cleaning rotometers & batch tank soon.

Reviewed by: KF Date: 4/4/11

URS Group
Preventative and Corrective Maintenance Log
Modesto Superfund Site

Site Name: Modesto SF Site
Period: 3/1/11 (month/day/year) to 3/31/11 (month/day/year)

Date	Initials	Hour Meter	Maintenance Performed	LOTO Required	LOTO Description (Where?Why?)	LOCK ON (Date/Time)	Zero Energy Check	LOCK OFF (Date/Time)	LOCK ID (Lock No.)
3/2/11	GB	41345	Calibrated filter	Y / N			Y / N		
			Day dP xmtrs, Checked interlocks	Y / N			Y / N		
3/2/11	GB	41796	Installed repaired Auto Sampler	Y / N			Y / N		
				Y / N			Y / N		
				Y / N			Y / N		
				Y / N			Y / N		

URS Group
Preventative and Corrective Maintenance Log
Modesto Superfund Site

Site Name: Modesto SF Site

Shutdown Date: 3/2/11 Startup Date: 3/2/11
Shutdown Time: 0330 Startup Time: 0945
Shutdown Purpose or Cause:
Unexpected bag filter impaction. High dP across filters.
Corrective Actions Taken (if shutdown was unplanned):
Changed filters and re-calibrated dp sensers.
Performed By: GB

Shutdown Date: Startup Date:
Shutdown Time: Startup Time:
Shutdown Purpose or Cause:
Corrective Actions Taken (if shutdown was unplanned):
Performed By:

Shutdown Date: Startup Date:
Shutdown Time: Startup Time:
Shutdown Purpose or Cause:
Corrective Actions Taken (if shutdown was unplanned):
Performed By:

Shutdown Date: Startup Date:
Shutdown Time: Startup Time:
Shutdown Purpose or Cause:
Corrective Actions Taken (if shutdown was unplanned):
Performed By:

Reviewed by: KF Date: 4/4/11

SAMPLE COLLECTION RECORD
MODESTO SUPERFUND SITE

Date: 3/9/11
Weather: Sunny
Sampler: George Bradshaw

Time	Description	Totalizer Reading (gallons)	Flow (gpm)
1238	GWTS Effluent	9513900	50

Time	Sample Location - Test Method	Sample Description	LOCID	No. of Containers	Container Type	pH	Cond	Temp
1330	EFF-0302 E524.2	Effluent-NS	SP-07	3	40 ml VOA	7.82	1085	21.4
1335	MW-107-0302 E524.2	Effluent-FD	SP-07	3	40 ml VOA	7.82	1085	21.4
1340	EFF-0302 SM2540C	Effluent-NS	SP-07	1	250 ml Poly	7.82	1085	21.4
1340	EFF-0302 SW5210B	Effluent-NS (composite)	SP-07	1	500 ml Poly	7.95	1079	4.0
1340	EFF-0302 SW2540D	Effluent-NS (composite)	SP-07	1	500 ml Poly	7.95	1079	4.0
1350	EW-1-0302 E524.2	Influent-NS	SP-01	3	40 ml VOA	7.11	1098	21.1
1230	MW-304-1Q11 E524.2	Trip Blank	Blank	3	40 ml VOA	—	—	—
1420	GWTP Stack-0302 TO15	GWTP VGAC Effluent-NS	SP-09	1	400ml Summa	Start -30	End -5	#649
1430	GWTP Pre GAC-0302 TO15	GWTP VGAC Influent-NS	SP-08	1	400ml Summa	Start -30	End -5	#885
1455	SVE Stack-0302 TO15	SVE VGAC Effluenty-NS	SP-12	1	400ml Summa	Start -30	End -5	#1998
1505	SVE Pre GAC-0302 TO15	SVE VGAC Influent-NS	SP-11	1	400ml Summa	Start -30	End -6	#1111

Sampler Signature	Date

Notes:

FD = Field Duplicate
FB = Field Blank (ambient)
NS = Normal Sample
TB = Trip Blank

Fax COCs to:
URS **Attn: Kevin Ford** **(916) 923-0114**

Appendix F
Operational History

APPENDIX F
OPERATIONAL HISTORY

This section presents a summary of routine and non-routine operation and maintenance events performed on the remedial treatment systems 01 July 2001 through 31 March 2011. Table F-1(a) and F-1(b) lists the event, start and end dates and the type of maintenance (Routine, Nonroutine, Reimbursable, or Optimization) that was performed.

TABLE F-1(a)

OPERATIONAL HISTORY
GROUNDWATER TREATMENT AND SOIL VAPOR EXTRACTION SYSTEM
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

No.	Event	Start Date	End Date	Type of Maintenance
1	Start up of groundwater treatment and soil vapor extraction system	05-Jul-01		Routine
2	Replaced motor starter in 7.5 horsepower transfer pump	07-Jul-01	16-Jul-01	Reimbursable
3	Installed hour meter in SVE system	17-Jul-01	17-Jul-01	Reimbursable
4	Replaced equalization tank float assembly	26-Jul-01	31-Jul-01	Reimbursable
5	Moved vacuum breaker to location after ion exchange vessels	31-Jul-01	31-Jul-01	Reimbursable
6	Repaired faulty pipe joint in SVE system	08-Aug-01	09-Aug-01	Reimbursable
7	Installed duplex bag filters	11-Aug-01	27-Aug-01	Reimbursable
8	Switched 5.0 horsepower and 7.5 horsepower transfer pump	11-Aug-01	27-Aug-01	Reimbursable
9	Replaced ruptured 1/4 inch hose on the liquid GAC vessels	29-Aug-01	30-Aug-01	Reimbursable
10	Programmed duplex bag filters into PLC logic	06-Sep-01	06-Sep-01	Reimbursable
11	Backflushed lead ion exchange vessel	11-Sep-01	11-Sep-01	Routine
12	Carbon change out for SVE vapor GAC	18-Sep-01	27-Sep-01	Routine
13	Bypassed lead ion exchange vessel	20-Sep-01	20-Sep-01	Routine
14	Water chemistry data collected from GWT system	25-Sep-01	25-Sep-01	Reimbursable
15	Repair of PID meter in SVE system	09-Oct-01	26-Oct-01	Reimbursable
16	Cabon change out for GWT vapor GAC	23-Oct-01	23-Oct-01	Routine
17	Replaced anti-scalant with Redux-300	02-Nov-01	02-Nov-01	Routine
18	Installed pulsation damper after filter #2	07-Nov-01	07-Nov-01	Reimbursable
19	Carbon change out for SVE vapor GAC	05-Dec-01	19-Dec-01	Routine
20	Installed polishing ion exchange vessel using virgin resin. Sixty (60) percent of flow through ion exchange and 40 percent bypassed.	13-Dec-01	13-Dec-01	Routine
21	Cabon change out for GWT vapor GAC	19-Dec-01	19-Dec-01	Routine
22	SVE Vapor Carbon Changeout	06-Feb-02	06-Feb-02	Routine
23	Air Stripper Annual Inspection. No abnormal conditions were reported	28-Mar-02	28-Mar-02	Routine
24	Installed air conditioning unit inside SVE treatment system trailer.	04-Jun-02	04-Jun-02	Optimization
25	Optimization of GWT system 1) Switched location of vapor GAC and liquid GAC vessel. 2) Replace filter unit with 10-micron bag filter after air stripper. 3) Insulated vapor GAC vessel. 4) Added two additional phone lines. 5) Addition of floor drains. 6) Installed cooling/air conditioning unit in GWT and SVE control panel.	11-Jun-02	14-Jun-02	Optimization
26	Carbon change out for GWT vapor GAC	14-Jun-02	14-Jun-02	Routine
27	Removed and replaced leaking hoses in GWT system. Bag Filter 2 to GAC-2 manifold and GAC-3 to effluent manifold.	26-Jun-02	26-Jun-02	Reimbursable
29	SVE Vapor Carbon Changeout	17-Jul-02	17-Jul-02	Routine
30	GWT Liquid Carbon Changeouts (Lead and Lag Vessels)	12-Oct-02	12-Oct-02	Routine
31	SVE Vapor Carbon Changeout	13-Dec-02	13-Dec-02	Routine
32	Cabon Changeout for GWT Vapor GAC	23-Apr-03	23-Apr-03	Routine
33	GWT Ion Exchange Changeout	23-Apr-03	23-Apr-03	Routine
34	Replaced P-2 Motor Starter. Fixed EQ Tank Level Indicators	07-May-03	07-May-03	Non Routine
35	Calibrated pH meter and repaired MiniRAE PID	07-Jul-03	07-Jul-03	Non Routine
36	Emptied and cleaned chemical dry tank, and cleaned CMI pump.	17-Jul-03	17-Jul-03	Non Routine

TABLE F-1(a)

OPERATIONAL HISTORY
GROUNDWATER TREATMENT AND SOIL VAPOR EXTRACTION SYSTEM
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

No.	Event	Start Date	End Date	Type of Maintenance
37	SVE Vapor Carbon changeout.	13-Aug-03	13-Aug-03	Routine
38	Exhaust fan not working. Fan was removed and replaced.	04-Sep-03	25-Sep-03	Non Routine
39	Disassembled, inspected and cleaned P-2.	11-Sep-03	11-Sep-03	Non Routine
40	Redeveloped EW-1 and replaced the EW-1 submersible pump	17-Mar-04	06-Apr-04	Non Routine
41	Replaced influent and effluent totalizers.	07-Apr-04	07-Apr-04	Non Routine
42	Replaced broken lead GAC vessel camlock fitting	16-May-04	17-May-04	Non Routine
43	Removed lag GAC vessel from service due to leak in vessel	17-May-04	17-May-04	Non Routine
44	GWT Liquid Carbon Changeouts (Lead Vessel)	03-Jun-04	03-Jun-04	Routine
45	GWT Ion Exchange Changeout (Lead Vessel)	18-Jun-04	18-Jun-04	Routine
46	Installed refurbished lag GAC vessel with fresh carbon	08-Oct-04	08-Oct-04	Non Routine
47	GWT system shutdown because of a high current alarm. The system was left off line and not repaired as requested by USACE	04-Nov-04	04-Nov-04	Non Routine
48	Replaced GWT system effluent flow meter (new baseline - 870 gallons), calibrated digital display meter.	09-Jun-05	09-Jun-05	Non Routine
49	Repaired air conditioning unit in SVE trailer	02-Jun-05	28-Jun-05	Non Routine
50	Repaired vent fan unit in GWTS trailer.	21-Jul-05	28-Jul-05	Non Routine
51	SVE System GAC changeout.	03-Nov-05	03-Nov-05	Routine
52	Drill and developed extraction well EW-1R, located adjacent to MW-3. This well replaces failed extraction well EW-1	21-Jun-06	28-Jun-06	Non Routine
53	Start up of groundwater treatment system with replacement well EW-1R	24-Aug-06	24-Aug-06	Non Routine
54	Installed new digital display for effluent flow totalizer on GWTS.	22-Sep-06	22-Sep-06	Non Routine
55	Replaced effluent sample port on the GWTS.	20-Oct-06	20-Oct-06	Non Routine
56	Replaced Filters F1 and F2 on the GWTS.	24-Oct-06	24-Oct-06	Routine
57	Replaced bag filters on GWTS	13-Jan-07	13-Jan-07	Routine
58	Replaced hoses mid-GAC on GWTS	22-Jan-07	22-Jan-07	Non Routine
59	Replaced piping on SVE (post-stack)	12-Mar-07	16-Apr-07	Non Routine
60	Changed ion exchange resin filters on GWTS	25-Jun-07	02-Jul-07	Non Routine
61	Repaired SVE control system	19-Jul-07	31-Jul-07	Non Routine
62	Replaced hour meter	27-Aug-07	27-Aug-07	Non Routine
63	Replaced detective float switch	05-Sep-07	05-Sep-07	Non Routine
64	Replaced Influent bag filters for GWTS	22-Oct-07	22-Oct-07	Routine
65	Pressure sensors cleaned and replaced on GWTS	23-Oct-07	23-Oct-07	Non Routine
66	GWTS Carbon change out (water and vapor phase)	19-Nov-07	19-Nov-07	Routine
67	Replaced filter socks on 3 filter vessels	14-Mar-08	14-Mar-08	Routine
68	Replaced the broken effluent valve	05-Apr-08	07-Apr-08	Non Routine
69	Replaced gasket on GAC vessel #1	16-Aug-08	16-Aug-08	Routine
70	Replaced gasket on GAC vessel #1	21-Aug-08	21-Aug-08	Routine
71	SVE System Carbon change-out	05-Oct-08	5-Oct-08	Routine
72	Replaced filter bags in 3 canisters on the GWTS.	24-Feb-09	24-Feb-09	Routine
73	Replaced air stripper sump pump flow meter on GWTS.	13-Mar-09	13-Mar-09	Non-routine
74	Replace PVC pipe with iron pipe on SVE effluent/blower.	19-Mar-09	19-Mar-09	Non-routine
75	Changed out carbon in the GAC filter vessels (GWTS).	25-Jun-09	26-Jun-09	Routine
76	Replace 2" ball valve at groundwater treatment system (GWTS).	25-Sep-09	02-Oct-09	Non-routine

TABLE F-1(a)

OPERATIONAL HISTORY
GROUNDWATER TREATMENT AND SOIL VAPOR EXTRACTION SYSTEM
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

No.	Event	Start Date	End Date	Type of Maintenance
77	Replace broken 2" ball valve, re-piped effluent piping system, added piping reinforcement (GWTS).	15-Oct-09	16-Oct-09	Non-routine
78	Replace broken one-way ball check valve (GWTS).	17-Nov-09	19-Nov-09	Non-routine
79	Repaired a loose wire at the GWTS secondary containment alarm system.	20-Jan-10	20-Jan-10	Non-routine

Notes:

GAC - Granular Activate Carbon

GWTS - Groundwater Treatment System

PID - Photoionization Detector

PLC - Programmable Logic Controller

SVE - Soil Vapor Extraction

TABLE F-1(b)

OPERATIONAL HISTORY
GROUNDWATER TREATMENT AND SOIL VAPOR EXTRACTION SYSTEM
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

No.	Event	Start Date	End Date	Type of Maintenance
1	URS Corporation Inc. begins operation and maintenance activities	01-Mar-10		
2	Reprogrammed Emergency call-out system with URS contact information	01-Mar-10	01-Mar-10	Routine
3	Installed a vacuum break anti-syphon valve at effluent of the LGAC vessels.	18-Mar-10	18-Mar-10	Routine
4	Performed a backwash of the primary LGAC vessel	01-Apr-10	01-Apr-10	Routine
5	Performed a backwash of the secondary LGAC vessel	29-Apr-10	29-Apr-10	Routine
6	Replaced a dry disconnect coupling at the effluent of the primary IX vessel.	27-May-10	27-May-10	Routine
7	Calibrated and certified the sewer outfall flow meter	09-Jun-10	09-Jun-10	Reimbursable
8	Installed a automatic composite sampler at GWTS effluent.	20-Jul-10	20-Jul-10	Reimbursable
9	Performed a change-out of the GWTS Air Stripper and SVE system VGAC.	19-Aug-10	19-Aug-10	Routine
10	Performed a backwash of the primary LGAC vessel	21-Oct-10	21-Oct-10	Routine
11	Tested GWTS interlock controls.	03-Nov-10	03-Nov-10	Routine
12	Tested SVE system interlock controls	03-Nov-10	03-Nov-10	Routine
13	Performed a change-out of the resin in the primary IX system vessel.	09-Dec-10	09-Dec-10	Routine
14	Calibrated and certified the sewer outfall flow meter	09-Dec-10	09-Dec-10	Reimbursable
15	Performed a change-out of the resin in the primary and secondary IX system vessel.	24-Feb-11	24-Feb-11	Routine
16	Calibrated the pressure sensors on the groundwater treatment system bag filters.	24-Feb-11	24-Feb-11	Routine

Notes:

LGAC - Liquid Phase Granular Activated Carbon

VGAC - Vapor Phase Granular Activated Carbon

SVE - Soil Vapor Extraction

GWTS - Groundwater Treatment System

IX - Ion Exchange

Appendix G
Historical Well Construction, Analytical, and Mass Removed Data

Appendix G-1
Well Construction Details

Table G-1. Well Construction Details				
Well No.	Casing Diameter (inches)	Boring Depth (ft bgs)	Screen Interval (ft bgs)	Top of Casing Elevation[a] (ft msl)
Groundwater Monitoring Wells				
MW-1A	4	101	91-101	91.61
MW-2A	4	96	86-96	90.88[b]
MW-3A	4	94	84-94	91.49[b]
MW-4A	4	89	78-88	91.13
MW-4B	2	154	144-154	91.11
MW-4C	2	237	227-237	91.25
MW-5A	2	90	60-90	90.74
MW-6A	2	90	60-90	89.72[b]
MW-7A	2	90	60-90	91.24
MW-8A	2	90	60-90	91.44
MW-9A	2	155	144-154	91.20[b]
MW-10A	2	91	60-89	90.48
MW-10B	2	160	153-163	90.21
MW-10C	2	230	220-230	90.5
MW-11A	2	92	70-90	89.91
MW-12A	2	99	87-97	91.15[b]
MW-13A	2	99	77-97	89.27
MW-14A	2	92	70-90	89.79
MW-15A	2	102	80-100	91.76
MW-16A	2	86	76-86	91.89
MW-16B	2	139	129-139	91.82
MW-16C	2	236	226-236	91.64
MW-17A	2	88	77-87	89.64
MW-17B	2	140	129-139	89.69
MW-17C	2	232	222-232	89.76
MW-18	2	66	56-66	90.14
MW-19A	2	101	91-101	91.22
MW-19B	2	147	137-147	91.08
MW-20A	2	86	76-86	90.7
MW-20B		162	152-162	90.65
MW-20C		235	225-235	90.79
EW-1	5	115	65-95	89.542
EW-1R	6	120	59-109	90.65[b]
Soil Vapor Wells				
SVE-1	2	40	18-38	89.84
SVE-2	2	13	7-12	91.36
SVE-3	2	39	13-23	91.38
SVE-4	2	39	28-38	91.38
DP-1				91.44
DP-1A	1	40	28-29	—
DP-1B	1	40	38-39	—
DP-2				91.27
DP-2A	1	40	15-16	—
DP-2B	1	40	34-35	—
DP-3				91.86
DP-3A	1	40	19-20	—
DP-3B	1	40	29-30	—

Table G-1. (Continued)				
Well No.	Casing Diameter (inches)	Boring Depth (ft bgs)	Screen Interval (ft bgs)	Top of Casing Elevation[a] (ft msl)
Soil Vapor Wells (cont'd)				
DP-4				91.92
DP-4A	1	40	23-24	—
DP-4B	1	40	38.5-39.5	—
DP-5				91.27
DP-5A	2	37	15-16	—
DP-5B	2	37	34-35	—
DP-6				91.69
DP-6A	2	36	15-16	—
DP-6B	2	36	34-35	—

[a] Wells resurveyed in February 2003.
[b] Wells resurveyed in September 2006.

bgs = below ground surface
ft = feet
msl = mean sea level

Appendix G-2
Groundwater Monitoring Well Water Table Elevation

TABLE G-2(a)

GROUNDWATER MONITORING WELL WATER TABLE ELEVATION
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

Monitoring Well Number	Well Depth (ft bgs)	Screened Interval (ft bgs)	Top of Casing Elevation (ft bgs)	Date	Depth to Water (feet from TOC)	Water Table Elevation (feet above MSL)
MW-1A	101	91 - 101	89.14	Apr-00[a]	NA	50.62
			89.14	Aug-00[a]	NA	50.34
			89.14	Nov-00[a]	NA	48.92
			89.14	Feb-01[a]	NA	50.28
			89.14	Aug-01	42.71	46.43
			89.14	Oct-01	44.55	44.59
			89.14	Nov-01	44.41	44.73
			89.14	Feb-02	43.17	45.97
			89.14	May-02	42.44	46.70
			89.14	Aug-02	45.60	43.54
			89.14	Nov-02	46.00	43.14
			89.14	Feb-03	44.95	44.19
			91.611	May-03	44.15	47.46
			91.61	Aug-03	45.55	46.06
			91.61	Nov-03	46.15	45.46
			91.61	Feb-04	44.70	46.91
			91.61	May-04	43.95	47.66
			91.61	Aug-04	46.20	45.41
			91.61	Nov-04	45.70	45.91
			91.61	Feb-05	44.30	47.31
			91.61	May-05	42.60	49.01
			91.61	Aug-05	43.40	48.21
			91.61	Nov-05	44.40	47.21
			91.61	Feb-06	43.04	48.57
			91.61	May-06	41.65	49.96
			91.61	Aug-06	42.53	49.08
			91.61	Aug-06[b]	43.07	48.54
			91.61	Nov-06	43.66	47.95
			91.61	Feb-07	42.34	49.27
			91.61	May-07	40.94	50.67
			91.61	Aug-07	43.25	48.36
			91.61	Nov-07	43.85	47.76
			91.61	Feb-08	42.73	48.88
			91.61	May-08	42.10	49.51
			91.61	Aug-08	43.45	48.16
			91.61	Dec-08	44.28	47.33
			91.61	Feb-09	43.71	47.90
			91.61	Jun-09	43.88	47.73
			91.61	Aug-09	49.45	42.16
			91.61	Nov-09	46.45	45.16
MW-2A	96	86 - 96	88.63	Apr-00[a]	NA	50.48
			88.63	Aug-00[a]	NA	50.19
			88.63	Nov-00[a]	NA	48.80
			88.63	Feb-01[a]	NA	50.32
			88.63	Aug-01	42.00	46.63
			88.63	Oct-01	44.30	44.33
			88.63	Nov-01	44.20	44.43
			88.63	Feb-02	42.77	45.86
			88.63	May-02	42.10	46.53
			88.63	Aug-02	45.50	43.13
			88.63	Nov-02	45.70	42.93
			88.63	Feb-03	44.60	44.03
			90.911	May-03	43.75	47.16
			90.91	Aug-03	45.10	45.81
			90.91	Nov-03	45.65	45.26
			90.91	Feb-04	44.13	46.78

TABLE G-2(a)

GROUNDWATER MONITORING WELL WATER TABLE ELEVATION
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

Monitoring Well Number	Well Depth (ft bgs)	Screened Interval (ft bgs)	Top of Casing Elevation (ft bgs)	Date	Depth to Water (feet from TOC)	Water Table Elevation (feet above MSL)
			90.91	May-04	43.10	47.81
			90.91	Aug-04	45.81	45.10
			90.91	Nov-04	45.14	45.77
			90.91	Feb-05	43.43	47.48
			90.91	May-05	41.93	48.98
			90.91	Aug-05	42.90	48.01
			90.91	Nov-05	43.75	47.16
			90.91	Feb-06	42.25	48.66
			90.91	May-06	40.97	49.94
			90.882	Aug-06	41.52	49.36
			90.88	Aug-06[b]	44.20	46.68
			90.88	Nov-06	42.90	47.98
			90.88	Feb-07	41.61	49.27
			90.88	May-07	40.20	50.68
			90.88	Aug-07	42.52	48.36
			90.88	Nov-07	43.10	47.78
			90.88	Feb-08	42.01	48.87
			90.88	May-08	41.35	49.53
			90.88	Aug-08	42.65	48.23
			90.88	Dec-08	43.48	47.40
			90.88	Feb-09	42.94	47.94
			90.88	Jun-09	43.25	47.63
			90.88	Aug-09	44.63	46.25
			90.88	Nov-09	45.57	45.31
MW-3A	94	84 - 94	89.42	Apr-00[a]	NA	50.75
			88.42	Aug-00[a]	NA	50.12
			89.42	Nov-00[a]	NA	48.62
			88.42	Feb-01[a]	NA	50.22
			89.42	Aug-01	43.00	46.42
			88.42	Oct-01	45.35	44.07
			89.42	Nov-01	44.09	45.33
			88.42	Feb-02	43.98	45.44
			89.42	May-02	43.14	46.28
			88.42	Aug-02	46.55	42.87
			89.42	Nov-02	46.70	42.72
			88.42	Feb-03	45.80	43.62
			91.591	May-03	44.10	47.49
			91.59	Aug-03	46.25	45.34
			91.59	Nov-03	47.95	43.64
			91.59	Feb-04	45.25	46.34
			91.59	May-04	44.35	47.24
			91.59	Aug-04	47.05	44.54
			91.59	Nov-04	46.52	45.07
			91.59	Feb-05	44.85	46.74
			91.59	May-05	43.20	48.39
			91.59	Aug-05	44.27	47.32
			91.59	Nov-05	46.25	45.34
			91.59	Feb-06	44.65	46.94
			91.59	May-06	43.25	48.34
			91.492	Aug-06	43.82	47.67
			91.49	Aug-06[b]	45.64	45.85
			91.49	Nov-06	46.61	44.88
			91.49	Feb-07	45.91	45.58
			91.49	May-07	41.19	50.30
			91.49	Aug-07	46.53	44.96
			91.49	Nov-07	47.2	44.29
			91.49	Feb-08	46.1	45.39
			91.49	May-08	45.25	46.24
			91.49	Aug-08	46.6	44.89

TABLE G-2(a)

GROUNDWATER MONITORING WELL WATER TABLE ELEVATION
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

Monitoring Well Number	Well Depth (ft bgs)	Screened Interval (ft bgs)	Top of Casing Elevation (ft bgs)	Date	Depth to Water (feet from TOC)	Water Table Elevation (feet above MSL)
			91.49	Dec-08	46.36	45.13
			91.49	Feb-09	46.18	45.31
			91.49	Jun-09	46.28	45.21
			91.49	Aug-09	47.73	43.76
			91.49	Nov-09	48.5	42.99
MW-4A	89	78 - 88	88.66	Apr-00[a]	NA	50.15
			88.66	Aug-00[a]	NA	50.01
			88.66	Nov-00[a]	NA	48.11
			88.66	Feb-01[a]	NA	49.74
			88.66	Aug-01	43.50	45.16
			88.66	Oct-01	44.11	44.55
			88.66	Nov-01	44.46	44.20
			88.66	Feb-02	43.21	45.45
			88.66	May-02	42.13	46.53
			88.66	Aug-02	44.80	43.86
			88.66	Nov-02	45.50	43.16
			88.66	Feb-03	44.35	44.31
			91.131	May-03	44.05	47.08
			91.13	Aug-03	45.10	46.03
			91.13	Nov-03	46.25	44.88
			91.13	Feb-04	44.85	46.28
			91.13	May-04	44.25	46.88
			91.13	Aug-04	45.90	45.23
			91.13	Nov-04	46.32	44.81
			91.13	Feb-05	44.68	46.45
			91.13	May-05	42.90	48.23
			91.13	Aug-05	43.75	47.38
			91.13	Nov-05	44.80	46.33
			91.13	Feb-06	43.36	47.77
			91.13	May-06	41.80	49.33
			91.13	Aug-06	42.34	48.79
			91.13	Aug-06[b]	43.17	47.96
			91.13	Nov-06	44.05	47.08
			91.13	Feb-07	43.03	48.10
			91.13	May-07	40.83	50.30
			91.13	Aug-07	43.53	47.60
			91.13	Nov-07	44.39	46.74
			91.13	Feb-08	43.30	47.83
			91.13	May-08	42.36	48.77
			91.13	Aug-08	43.64	47.49
			91.13	Dec-08	44.79	46.34
			91.13	Feb-09	44.21	46.92
			91.13	Jun-09	44.18	46.95
			91.13	Aug-09	45.62	45.51
			91.13	Nov-09	46.89	44.24
MW-4B	154	144-154	91.11	Dec-08	44.73	46.38
			91.11	Feb-09	43.78	47.33
			91.11	Jun-09	44.80	46.31
			91.11	Aug-09	46.72	44.39
			91.11	Nov-09	46.73	44.38
MW-4C	237	227-237	91.25	Dec-08	44.35	46.90
			91.25	Feb-09	42.76	48.49
			91.25	Jun-09	49.75	41.50
			91.25	Aug-09	53.94	37.31
			91.25	Nov-09	46.00	45.25

TABLE G-2(a)

GROUNDWATER MONITORING WELL WATER TABLE ELEVATION
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

Monitoring Well Number	Well Depth (ft bgs)	Screened Interval (ft bgs)	Top of Casing Elevation (ft bgs)	Date	Depth to Water (feet from TOC)	Water Table Elevation (feet above MSL)
MW-5A	90	60 - 90	90.61	Apr-00[a]	NA	50.39
			90.61	Aug-00[a]	NA	50.45
			90.61	Nov-00[a]	NA	48.41
			90.61	Feb-01[a]	NA	50.11
			90.61	Aug-01	42.44	48.17
			90.61	Oct-01	43.75	46.86
			90.61	Nov-01	43.86	46.75
			90.61	Feb-02	42.65	47.96
			90.61	May-02	41.62	48.99
			90.61	Aug-02	44.60	46.01
			90.61	Nov-02	45.60	45.01
			90.61	Feb-03	44.35	46.26
			90.741	May-03	43.30	47.44
			90.74	Aug-03	44.45	46.29
			90.74	Nov-03	45.55	45.19
			90.74	Feb-04	44.13	46.61
			90.74	May-04	43.10	47.64
			90.74	Aug-04	45.12	45.62
			90.74	Nov-04	45.25	45.49
			90.74	Feb-05	43.55	47.19
			90.74	May-05	41.93	48.81
			90.74	Aug-05	42.70	48.04
			90.74	Nov-05	43.75	46.99
			90.74	Feb-06	42.36	48.38
			90.74	May-06	40.90	49.84
			90.74	Aug-06	41.47	49.27
			90.74	Aug-06[b]	42.07	48.67
			90.74	Nov-06	43.15	47.59
			90.74	Feb-07	41.95	48.79
			90.74	May-07	40.21	50.53
			90.74	Aug-07	42.55	48.19
			90.74	Nov-07	43.35	47.39
			90.74	Feb-08	42.34	48.40
			90.74	May-08	41.50	49.24
			90.74	Aug-08	42.68	48.06
			90.74	Dec-08	43.81	46.93
			90.74	Feb-09	43.33	47.41
			90.74	Jun-09	43.19	47.55
			90.74	Aug-09	44.68	46.06
			90.74	Nov-09	45.97	44.77
MW-6A	90	60 - 90	89.98	Apr-00[a]	NA	50.23
			89.98	Aug-00[a]	NA	50.21
			89.98	Nov-00[a]	NA	47.96
			89.98	Feb-01[a]	NA	49.78
			89.98	Aug-01	41.30	48.68
			89.98	Oct-01	42.90	47.08
			89.98	Nov-01	43.48	46.50
			89.98	Feb-02	41.98	48.00
			89.98	May-02	40.87	49.11
			89.98	Aug-02	44.20	45.78
			89.98	Nov-02	44.50	45.48
			89.98	Feb-03	43.65	46.33
			89.481	May-03	42.60	46.88
			89.48	Aug-03	44.10	45.38
			89.48	Nov-03	45.22	44.26

TABLE G-2(a)

GROUNDWATER MONITORING WELL WATER TABLE ELEVATION
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

Monitoring Well Number	Well Depth (ft bgs)	Screened Interval (ft bgs)	Top of Casing Elevation (ft bgs)	Date	Depth to Water (feet from TOC)	Water Table Elevation (feet above MSL)
			89.48	Feb-04	43.45	46.03
			89.48	May-04	42.85	46.63
			89.48	Aug-04	44.62	44.86
			89.48	Nov-04	45.25	44.23
			89.48	Feb-05	43.60	45.88
			89.48	May-05	41.81	47.67
			89.48	Aug-05	42.65	46.83
			89.48	Nov-05	43.78	45.70
			89.48	Feb-06	42.35	47.13
			89.48	May-06	40.71	48.77
			89.722	Aug-06	40.86	48.86
			89.72	Aug-06[b]	41.16	48.56
			89.72	Nov-06	42.20	47.52
			89.72	Feb-07	40.94	48.78
			89.72	May-07	39.52	50.20
			89.72	Aug-07	41.61	48.11
			89.72	Nov-07	42.56	47.16
			89.72	Feb-08	41.42	48.30
			89.72	May-08	40.44	49.28
			89.72	Aug-08	41.75	47.97
			89.72	Dec-08	42.98	46.74
			89.72	Feb-09	42.32	47.40
			89.72	Jun-09	42.23	47.49
			89.72	Aug-09	43.61	46.11
			89.72	Nov-09	44.89	44.83
MW-7A	90	60 - 90	91.23	Apr-00[a]	NA	50.86
			91.23	Aug-00[a]	NA	51.06
			91.23	Nov-00[a]	NA	49.24
			91.23	Feb-01[a]	NA	50.73
			91.23	Aug-01	41.33	49.90
			91.23	Oct-01	42.72	48.51
			91.23	Nov-01	43.07	48.16
			91.23	Feb-02	41.96	49.27
			91.23	May-02	40.67	50.56
			91.23	Aug-02	43.70	47.53
			91.23	Nov-02	44.60	46.63
			91.23	Feb-03	43.60	47.63
			91.241	May-03	42.65	48.59
			91.24	Aug-03	43.85	47.39
			91.24	Nov-03	45.05	46.19
			91.24	Feb-04	43.70	47.54
			91.24	May-04	42.80	48.44
			91.24	Aug-04	44.30	46.94
			91.24	Nov-04	44.98	46.26
			91.24	Feb-05	43.38	47.86
			91.24	May-05	41.82	49.42
			91.24	Aug-05	42.35	48.89
			91.24	Nov-05	43.40	47.84
			91.24	Feb-06	42.17	49.07
			91.24	May-06	40.82	50.42
			91.24	Aug-06	41.31	49.93
			91.24	Aug-06[b]	41.50	49.74
			91.24	Nov-06	42.53	48.71
			91.24	Feb-07	41.46	49.78
			91.24	May-07	40.21	51.03
			91.24	Aug-07	41.77	49.47

TABLE G-2(a)

GROUNDWATER MONITORING WELL WATER TABLE ELEVATION
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

Monitoring Well Number	Well Depth (ft bgs)	Screened Interval (ft bgs)	Top of Casing Elevation (ft bgs)	Date	Depth to Water (feet from TOC)	Water Table Elevation (feet above MSL)
			91.24	Nov-07	42.63	48.61
			91.24	Feb-08	41.82	49.42
			91.24	May-08	40.96	50.28
			91.24	Aug-08	41.98	49.26
			91.24	Dec-08	43.15	48.09
			91.24	Feb-09	NA	NA
			91.24	Jun-09	42.65	48.59
			91.24	Aug-09	43.92	47.32
			91.24	Nov-09	45.29	45.95
MW-8A	90	60 - 90	91.53	Apr-00	NA	50.52
			91.53	Aug-00	NA	50.42
			91.53	Nov-00	NA	48.54
			91.53	Feb-01	NA	50.25
			91.53	Aug-01	42.41	49.12
			91.53	Oct-01	45.60	45.93
			91.53	Nov-01	45.68	45.85
			91.53	Feb-02	44.36	47.17
			91.53	May-02	43.31	48.22
			91.53	Aug-02	46.20	45.33
			91.53	Nov-02	47.50	44.03
			91.53	Feb-03	45.65	45.88
			91.441	May-03	44.40	47.04
			91.44	Aug-03	45.40	46.04
			91.44	Nov-03	46.57	44.87
			91.44	Feb-04	45.22	46.22
			91.44	May-04	43.85	47.59
			91.44	Aug-04	46.15	45.29
			91.44	Nov-04	45.97	45.47
			91.44	Feb-05	44.35	47.09
			91.44	May-05	42.75	48.69
			91.44	Aug-05	43.39	48.05
			91.44	Nov-05	44.47	46.97
			91.44	Feb-06	43.14	48.30
			91.44	May-06	41.61	49.83
			91.44	Aug-06	42.21	49.23
			91.44	Aug-06	42.94	48.50
			91.44	Nov-06	44.03	47.41
			91.44	Feb-07	42.88	48.56
			91.44	May-07	40.96	50.48
			91.44	Aug-07	43.43	48.01
			91.44	Nov-07	44.28	47.16
			91.44	Feb-08	43.32	48.12
			91.44	May-08	42.41	49.03
			91.44	Aug-08	43.53	47.91
			91.44	Dec-08	44.73	46.71
			91.44	Feb-09	44.28	47.16
			91.44	Jun-09	44.08	47.36
			91.44	Aug-09	45.55	45.89
			91.44	Nov-09	46.91	44.53
MW-9B	155	144 - 154	91.19	Apr-00[a]	NA	50.24
			91.19	Aug-00[a]	NA	48.38
			91.19	Nov-00[a]	NA	47.72
			91.19	Feb-01[a]	NA	50.05
			91.19	Aug-01	44.04	47.15
			91.19	Oct-01	45.17	46.02

TABLE G-2(a)

GROUNDWATER MONITORING WELL WATER TABLE ELEVATION
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

Monitoring Well Number	Well Depth (ft bgs)	Screened Interval (ft bgs)	Top of Casing Elevation (ft bgs)	Date	Depth to Water (feet from TOC)	Water Table Elevation (feet above MSL)
			91.19	Nov-01	44.76	46.43
			91.19	Feb-02	42.64	48.55
			91.19	May-02	42.72	48.47
			91.19	Aug-02	47.05	44.14
			91.19	Nov-02	45.90	45.29
			91.19	Feb-03	44.45	46.74
			91.181	May-03	44.20	46.98
			91.18	Aug-03	47.00	44.18
			91.18	Nov-03	46.55	44.63
			91.18	Feb-04	44.37	46.81
			91.18	May-04	44.55	46.63
			91.18	Aug-04	47.25	43.93
			91.18	Nov-04	46.42	44.76
			91.18	Feb-05	44.45	46.73
			91.18	May-05	43.15	48.03
			91.18	Aug-05	45.25	45.93
			91.18	Nov-05	45.40	45.78
			91.18	Feb-06	43.31	47.87
			91.18	May-06	42.30	48.88
			91.202	Aug-06	43.51	47.69
			91.2	Aug-06[b]	43.98	47.22
			91.20	Nov-06	43.80	47.40
			91.20	Feb-07	42.14	49.06
			91.20	May-07	40.52	50.68
			91.20	Aug-07	44.37	46.83
			91.20	Nov-07	44.05	47.15
			91.20	Feb-08	42.45	48.75
			91.20	May-08	42.54	48.66
			91.20	Aug-08	44.50	46.70
			91.20	Dec-08	44.47	46.73
			91.20	Feb-09	43.62	47.58
			91.20	Jun-09	44.52	46.68
			91.20	Aug-09	46.54	44.66
			91.20	Nov-09	46.52	44.68
MW-10A	91	60 - 89	90.47	Apr-00[a]	NA	49.66
			90.47	Aug-00[a]	NA	50.67
			90.47	Nov-00[a]	NA	46.94
			90.47	Feb-01[a]	NA	49.03
			90.47	Aug-01	42.54	47.93
			90.47	Oct-01	44.19	46.28
			90.47	Nov-01	44.51	45.96
			90.47	Feb-02	42.93	47.54
			90.47	May-02	41.86	48.61
			90.47	Aug-02	45.20	45.27
			90.47	Nov-02	46.00	44.47
			90.47	Feb-03	44.70	45.77
			90.481	May-03	43.55	46.93
			90.48	Aug-03	45.20	45.28
			90.48	Nov-03	46.35	44.13
			90.48	Feb-04	44.70	45.78
			90.48	May-04	43.85	46.63
			90.48	Aug-04	45.81	44.67
			90.48	Nov-04	46.48	44.00
			90.48	Feb-05	44.74	45.74
			90.48	May-05	42.87	47.61
			90.48	Aug-05	43.90	46.58

TABLE G-2(a)

GROUNDWATER MONITORING WELL WATER TABLE ELEVATION
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

Monitoring Well Number	Well Depth (ft bgs)	Screened Interval (ft bgs)	Top of Casing Elevation (ft bgs)	Date	Depth to Water (feet from TOC)	Water Table Elevation (feet above MSL)
			90.48	Nov-05	45.07	45.41
			90.48	Feb-06	43.45	47.03
			90.48	May-06	41.70	48.78
			90.48	Aug-06	42.33	48.15
			90.48	Aug-06[b]	42.59	47.89
			90.48	Nov-06	43.51	46.97
			90.48	Feb-07	42.21	48.27
			90.48	May-07	40.81	49.67
			90.48	Aug-07	43.03	47.45
			90.48	Nov-07	43.96	46.52
			90.48	Feb-08	42.70	47.78
			90.48	May-08	41.77	48.71
			90.48	Aug-08	43.24	47.24
			90.48	Dec-08	44.40	46.08
			90.48	Feb-09	43.69	46.79
			90.48	Jun-09	43.55	46.93
			90.48	Aug-09	45.02	45.46
			90.48	Nov-09	46.34	44.14
MW-10B	163	153-163	90.21	Dec-08	44.12	46.09
			90.21	Feb-09	43.18	47.03
			90.21	Jun-09	43.90	46.31
			90.21	Aug-09	45.81	44.40
			90.21	Nov-09	46.07	44.14
			90.21	Mar-10	44.01	46.20
MW-10C	230	220-230	90.5	Dec-08	44.13	46.37
			90.5	Feb-09	42.50	48.00
			90.5	Jun-09	48.50	42.00
			90.5	Aug-09	53.44	37.06
			90.5	Nov-09	45.75	44.75
MW-11A	92	70 - 90	89.91	Apr-00[a]	NA	50.83
			89.91	Aug-00[a]	NA	50.64
			89.91	Nov-00[a]	NA	49.38
			89.91	Feb-01[a]	NA	50.93
			89.91	Aug-01	40.32	49.59
			89.91	Oct-01	41.50	48.41
			89.91	Nov-01	43.12	46.79
			89.91	Feb-02	40.15	49.76
			89.91	May-02	39.56	50.35
			89.91	Aug-02	42.60	47.31
			89.91	Nov-02	43.90	46.01
			89.91	Feb-03	41.90	48.01
			89.911	May-03	41.15	48.76
			89.91	Aug-03	42.65	47.26
			89.91	Nov-03	43.52	46.39
			89.91	Feb-04	42.00	47.91
			89.91	May-04	41.35	48.56
			89.91	Aug-04	42.86	47.05
			89.91	Nov-04	43.35	46.56
			89.91	Feb-05	41.75	48.16
			89.91	May-05	40.22	49.69
			89.91	Aug-05	40.85	49.06
			89.91	Nov-05	41.80	48.11
			89.91	Feb-06	40.53	49.38
			89.91	May-06	39.27	50.64

TABLE G-2(a)

GROUNDWATER MONITORING WELL WATER TABLE ELEVATION
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

Monitoring Well Number	Well Depth (ft bgs)	Screened Interval (ft bgs)	Top of Casing Elevation (ft bgs)	Date	Depth to Water (feet from TOC)	Water Table Elevation (feet above MSL)
			89.91	Aug-06	39.86	50.05
			89.91	Aug-06[b]	40.05	49.86
			89.91	Nov-06	40.90	49.01
			89.91	Feb-07	39.79	50.12
			89.91	May-07	38.74	51.17
			89.91	Aug-07	40.34	49.57
			89.91	Nov-07	41.07	48.84
			89.91	Feb-08	40.11	49.80
			89.91	May-08	39.38	50.53
			89.91	Aug-08	40.47	49.44
			89.91	Dec-08	41.47	48.44
			89.91	Feb-09	41.01	48.90
			89.91	Jun-09	41.12	48.79
			89.91	Aug-09	42.44	47.47
			89.91	Nov-09	43.52	46.39
MW-12A	99	87 - 97	91.17	Apr-00[a]	NA	50.01
			91.17	Aug-00[a]	NA	49.45
			91.17	Nov-00[a]	NA	47.28
			91.17	Feb-01[a]	NA	49.51
			91.17	Aug-01	43.18	47.99
			91.17	Oct-01	44.63	46.54
			91.17	Nov-01	44.86	46.31
			91.17	Feb-02	43.21	47.96
			91.17	May-02	42.04	49.13
			91.17	Aug-02	46.10	45.07
			91.17	Nov-02	46.30	44.87
			91.17	Feb-03	45.05	46.12
			91.151	May-03	44.50	46.65
			91.15	Aug-03	46.20	44.95
			91.15	Nov-03	46.88	44.27
			91.15	Feb-04	44.95	46.20
			91.15	May-04	44.50	46.65
			91.15	Aug-04	46.75	44.40
			91.15	Nov-04	47.02	44.13
			91.15	Feb-05	45.10	46.05
			91.15	May-05	43.52	47.63
			91.15	Aug-05	44.95	46.20
			91.15	Nov-05	45.80	45.35
			91.15	Feb-06	44.01	47.14
			91.15	May-06	42.41	48.74
			91.152	Aug-06	43.22	47.93
			91.15	Aug-06[b]	43.51	47.64
			91.15	Nov-06	44.05	47.10
			91.15	Feb-07	42.61	48.54
			91.15	May-07	41.44	49.71
			91.15	Aug-07	43.91	47.24
			91.15	Nov-07	44.43	46.72
			91.15	Feb-08	43.02	48.13
			91.15	May-08	42.45	48.70
			91.15	Aug-08	44.15	47.00
			91.15	Dec-08	44.90	46.25
			91.15	Feb-09	44.14	47.01
			91.15	Jun-09	44.27	46.88
			91.15	Aug-09	46.04	45.11
			91.15	Nov-09	47.02	44.13

TABLE G-2(a)

GROUNDWATER MONITORING WELL WATER TABLE ELEVATION
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

Monitoring Well Number	Well Depth (ft bgs)	Screened Interval (ft bgs)	Top of Casing Elevation (ft bgs)	Date	Depth to Water (feet from TOC)	Water Table Elevation (feet above MSL)
MW-13A	99	77 - 97	89.33	Apr-00[a]	NA	49.21
			89.33	Aug-00[a]	NA	49.30
			89.33	Nov-00[a]	NA	46.88
			89.33	Feb-01[a]	NA	48.67
			89.33	Aug-01	41.68	47.65
			89.33	Oct-01	43.23	46.10
			89.33	Nov-01	43.64	45.69
			89.33	Feb-02	41.99	47.34
			89.33	May-02	40.82	48.51
			89.33	Aug-02	44.10	45.23
			89.33	Nov-02	44.70	44.63
			89.33	Feb-03	43.60	45.73
			89.271	May-03	42.35	46.92
			89.27	Aug-03	43.80	45.47
			89.27	Nov-03	45.25	44.02
			89.27	Feb-04	43.72	45.55
			89.27	May-04	42.65	46.62
			89.27	Aug-04	42.65	46.62
			89.27	Nov-04	45.30	43.97
			89.27	Feb-05	43.63	45.64
			89.27	May-05	41.75	47.52
			89.27	Aug-05	42.45	46.82
			89.27	Nov-05	43.70	45.57
			89.27	Feb-06	42.31	46.96
			89.27	May-06	40.52	48.75
			89.27	Aug-06	40.92	48.35
			89.27	Aug-06[b]	41.08	48.19
			89.27	Nov-06	42.15	47.12
			89.27	Feb-07	40.99	48.28
			89.27	May-07	39.68	49.59
			89.27	Aug-07	41.80	47.47
			89.27	Nov-07	42.64	46.63
			89.27	Feb-08	41.48	47.79
			89.27	May-08	40.38	48.89
			89.27	Aug-08	41.66	47.61
			89.27	Dec-08	43.01	46.26
			89.27	Feb-09	42.40	46.87
			89.27	Jun-09	42.25	47.02
			89.27	Aug-09	43.40	45.87
			89.27	Nov-09	44.84	44.43
MW-14A	92	70 - 90	89.81	Apr-00[a]	NA	50.19
			89.81	Aug-00[a]	NA	49.93
			89.81	Nov-00[a]	NA	48.39
			89.81	Feb-01[a]	NA	49.95
			89.81	Aug-01	41.21	48.60
			89.81	Oct-01	42.57	47.24
			89.81	Nov-01	42.89	46.92
			89.81	Feb-02	41.35	48.46
			89.81	May-02	40.60	49.21
			89.81	Aug-02	43.80	46.01
			89.81	Nov-02	44.00	45.81
			89.81	Feb-03	43.10	46.71
			89.791	May-03	42.15	47.64
			89.79	Aug-03	43.30	46.49
			89.79	Nov-03	44.60	45.19
			89.79	Feb-04	43.03	46.76

TABLE G-2(a)

GROUNDWATER MONITORING WELL WATER TABLE ELEVATION
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

Monitoring Well Number	Well Depth (ft bgs)	Screened Interval (ft bgs)	Top of Casing Elevation (ft bgs)	Date	Depth to Water (feet from TOC)	Water Table Elevation (feet above MSL)
			89.79	May-04	42.33	47.46
			89.79	Aug-04	43.85	45.94
			89.79	Nov-04	44.40	45.39
			89.79	Feb-05	42.87	46.92
			89.79	May-05	41.20	48.59
			89.79	Aug-05	41.85	47.94
			89.79	Nov-05	42.90	46.89
			89.79	Feb-06	41.60	48.19
			89.79	May-06	40.15	49.64
			89.79	Aug-06	40.49	49.30
			89.79	Aug-06[b]	40.72	49.07
			89.79	Nov-06	41.72	48.07
			89.79	Feb-07	40.60	49.19
			89.79	May-07	39.31	50.48
			89.79	Aug-07	41.18	48.61
			89.79	Nov-07	42.03	47.76
			89.79	Feb-08	41.05	48.74
			89.79	May-08	40.15	49.64
			89.79	Aug-08	41.35	48.44
			89.79	Dec-08	42.45	47.34
			89.79	Feb-09	41.92	47.87
			89.79	Jun-09	41.95	47.84
			89.79	Aug-09	43.18	46.61
			89.79	Nov-09	44.40	45.39
MW-15A	102	80 - 100	91.75	Apr-00[a]	NA	50.80
			91.75	Aug-00[a]	NA	50.40
			91.75	Nov-00[a]	NA	48.76
			91.75	Feb-01[a]	NA	50.55
			91.75	Aug-01	42.48	49.27
			91.75	Oct-01	43.88	47.87
			91.75	Nov-01	44.05	47.70
			91.75	Feb-02	42.73	49.02
			91.75	May-02	41.92	49.83
			91.75	Aug-02	45.10	46.65
			91.75	Nov-02	45.60	46.15
			91.75	Feb-03	44.45	47.30
			91.761	May-03	44.05	47.71
			91.76	Aug-03	45.25	46.51
			91.76	Nov-03	46.05	45.71
			91.76	Feb-04	44.46	47.30
			91.76	May-04	43.85	47.91
			91.76	Aug-04	45.82	45.94
			91.76	Nov-04	46.05	45.71
			91.76	Feb-05	44.30	47.46
			91.76	May-05	42.85	48.91
			91.76	Aug-05	43.95	47.81
			91.76	Nov-05	44.80	46.96
			91.76	Feb-06	43.26	48.50
			91.76	May-06	41.92	49.84
			91.76	Aug-06	42.66	49.10
			91.76	Aug-06[b]	42.90	48.86
			91.76	Nov-06	43.55	48.21
			91.76	Feb-07	42.30	49.46
			91.76	May-07	41.09	50.67
			91.76	Aug-07	43.20	48.56
			91.76	Nov-07	43.80	47.96
			91.76	Feb-08	42.65	49.11

TABLE G-2(a)

GROUNDWATER MONITORING WELL WATER TABLE ELEVATION
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

Monitoring Well Number	Well Depth (ft bgs)	Screened Interval (ft bgs)	Top of Casing Elevation (ft bgs)	Date	Depth to Water (feet from TOC)	Water Table Elevation (feet above MSL)
			91.76	May-08	42.05	49.71
			91.76	Aug-08	43.40	48.36
			91.76	Dec-08	44.25	47.51
			91.76	Feb-09	43.68	48.08
			91.76	Jun-09	43.86	47.90
			91.76	Aug-09	45.47	46.29
			91.76	Nov-09	46.46	45.30
MW-16A	86	76-86	91.89	Dec-08	47.01	44.88
			91.89	Feb-09	45.81	46.08
			91.89	Jun-09	46.43	45.46
			91.89	Aug-09	48.65	43.24
			91.89	Nov-09	48.95	42.94
MW-16B	139	129-139	91.82	Dec-08	46.98	44.84
			91.82	Feb-09	45.75	46.07
			91.82	Jun-09	46.40	45.42
			91.82	Aug-09	48.67	43.15
			91.82	Nov-09	48.90	42.92
MW-16C	236	226-236	91.64	Dec-08	46.70	44.94
			91.64	Feb-09	45.01	46.63
			91.64	Jun-09	50.05	41.59
			91.64	Aug-09	54.46	37.18
			91.64	Nov-09	48.52	43.12
MW-17A	88	77-87	89.64	Dec-08	44.20	45.44
			89.64	Feb-09	43.45	46.19
			89.64	Jun-09	43.25	46.39
			89.64	Aug-09	44.43	45.21
			89.64	Nov-09	46.03	43.61
MW-17B	140	129-139	89.69	Dec-08	44.39	45.30
			89.69	Feb-09	43.41	46.28
			89.69	Jun-09	43.60	46.09
			89.69	Aug-09	45.29	44.40
			89.69	Nov-09	46.20	43.49
MW-17C	232	222-232	89.76	Dec-08	44.33	45.43
			89.76	Feb-09	42.55	47.21
			89.76	Jun-09	48.68	41.08
			89.76	Aug-09	52.98	36.78
			89.76	Nov-09	45.91	43.85
MW-18A	66	56-66	90.14	Dec-08	44.47	45.67
			90.14	Feb-09	43.70	46.44
			90.14	Jun-09	43.57	46.57
			90.14	Aug-09	45.03	45.11
			90.14	Nov-09	46.35	43.79
MW-19A	101	91-101	91.22	Dec-08	45.51	45.71
			91.22	Feb-09	44.55	46.67
			91.22	Jun-09	45.45	45.77
			91.22	Aug-09	47.14	44.08
			91.22	Nov-09	47.50	43.72
MW-19B	147	137-147	91.08	Dec-08	45.89	45.19
			91.08	Feb-09	44.76	46.32
			91.08	Jun-09	46.07	45.01
			91.08	Aug-09	48.26	42.82
			91.08	Nov-09	47.92	43.16

TABLE G-2(a)

GROUNDWATER MONITORING WELL WATER TABLE ELEVATION
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

Monitoring Well Number	Well Depth (ft bgs)	Screened Interval (ft bgs)	Top of Casing Elevation (ft bgs)	Date	Depth to Water (feet from TOC)	Water Table Elevation (feet above MSL)
MW-20A	86	76-86	90.70	Dec-08	45.27	45.43
			90.70	Feb-09	44.31	46.39
			90.70	Jun-09	44.56	46.14
			90.70	Aug-09	47.12	43.58
			90.70	Nov-09	47.26	43.44
MW-20B	162	152-162	90.65	Dec-08	45.45	45.20
			90.65	Feb-09	44.36	46.29
			90.65	Jun-09	45.08	45.57
			90.65	Aug-09	48.22	42.43
			90.65	Nov-09	47.40	43.25
MW-20C	235	225-235	90.79	Dec-08	45.01	45.78
			90.79	Feb-09	43.53	47.26
			90.79	Jun-09	48.60	42.19
			90.79	Aug-09	53.44	37.35
			90.79	Nov-09	46.73	44.06
EW-1			89.54	Nov-06	43.40	46.14
			89.54	Feb-07	42.21	47.33
			89.54	May-07	40.28	49.26
			89.54	Aug-07	42.90	46.64
			89.54	Feb-08	42.48	47.06
			89.54	May-08	41.75	47.79
			89.54	Aug-08	42.99	47.66
			89.54	Feb-09	43.55	45.99
			89.54	Jun-09	43.34	46.20
			89.54	Aug-09	44.99	44.55
			89.54	Nov-09	46.16	43.38
EW-1R[3]	114	59-109	90.65	Aug-06	41.80	48.85
			90.65	Aug-06[b]	48.70	41.95
			90.65	Nov-06	49.40	41.25
			90.65	Feb-07	48.24	42.41
			90.65	May-07	40.33	50.32
			90.65	Aug-07	48.60	42.05
			90.65	Nov-07	49.50	41.15
			90.65	Feb-08	49.98	40.67
			90.65	May-08	49.50	41.15
			90.65	Aug-08	51.51	39.14
			90.65	Dec-08	52.16	38.49
			90.65	Feb-09	53.88	36.77
			90.65	Jun-09	52.04	38.61
			90.65	Aug-09	54.86	35.79
			90.65	Nov-09	55.82	34.83

Notes:
[1]Wells re-surveyed in May 2003.
[2]Wells re-surveyed in September 2006
[3]EW-1R is the replacement extraction well. It was installed in August 2006 and started on August 24,

[a]Historical data from Ecology and Environment
[b]Second round of Aug. 2006 water levels recorded after the start of EW-1R

ft bgs - feet below ground surface
MSL - Mean Sea Level
MW- Monitoring Well
NA - Not Applicable
TOC - Top of Casing

TABLE G-2(b)

GROUNDWATER MONITORING WELL WATER TABLE ELEVATION
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

Monitoring Well Number	Well Depth (ft bgs)	Screened Interval (ft bgs)	Casing Elevation (ft bgs)	Date	Depth To Water (feet from TOC)	Water Table Elevation (feet above MSL)
MW-01A	101.00	91 - 101	91.61	Mar-10	44.81	46.80
				May-10	43.78	47.83
				Aug-10	44.41	47.20
				Nov-10	44.98	46.63
				Mar-11	43.11	48.50
MW-02A	96.00	86 - 96	90.88	Mar-10	44.02	46.86
				May-10	43.03	47.85
				Aug-10	43.52	47.36
				Nov-10	44.21	46.67
				Mar-11	42.38	48.50
MW-03A	94	84 - 94	91.49	Mar-10	46.77	44.72
				May-10	45.76	45.73
				Aug-10	46.38	45.11
				Nov-10	46.89	44.60
				Mar-11	44.95	46.54
MW-04A	89.00	78 - 88	91.13	Mar-10	45.39	45.74
				May-10	44.23	46.90
				Aug-10	44.58	46.55
				Nov-10	45.47	45.66
				Mar-11	43.51	47.62
MW-04B	154.00	144 - 154	91.11	Mar-10	44.7	46.41
				May-10	43.82	47.29
				Aug-10	45.31	45.80
				Nov-10	45.24	45.87
				Mar-11	43.08	48.03
MW-04C	237.00	227 - 237	91.25	Mar-10	43.15	48.10
				May-10	44.64	46.61
				Aug-10	50.22	41.03
				Nov-10	45.22	46.03
				Mar-11	42.86	48.39
MW-05A	90.00	60 - 90	90.74	Mar-10	44.43	46.31
				May-10	43.39	47.35
				Aug-10	43.72	47.02
				Nov-10	44.6	46.14
				Mar-11	42.71	48.03
MW-06A	90.00	60 - 90	89.72	Mar-10	43.49	46.23
				May-10	42.24	47.48
				Aug-10	42.53	47.19
				Nov-10	43.54	46.18
				Mar-11	41.66	48.06
MW-07A	90.00	60 - 90	91.24	Mar-10	43.89	47.35
				May-10	42.89	48.35
				Aug-10	43.00	48.24
				Nov-10	43.97	47.27
				Mar-11	42.3	48.94

TABLE G-2(b)

GROUNDWATER MONITORING WELL WATER TABLE ELEVATION
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

Monitoring Well Number	Well Depth (ft bgs)	Screened Interval (ft bgs)	Casing Elevation (ft bgs)	Date	Depth To Water (feet from TOC)	Water Table Elevation (feet above MSL)
MW-08A	90.00	60 - 90	91.44	Mar-10	45.39	46.05
				May-10	44.33	47.11
				Aug-10	44.64	46.80
				Nov-10	45.53	45.91
				Mar-11	43.69	47.75
MW-09B	155.00	144 - 154	91.2	Mar-10	44.47	46.73
				May-10	43.68	47.52
				Aug-10	45.13	46.07
				Nov-10	45.16	46.04
				Mar-11	42.91	48.29
MW-10A	91.00	60 - 89	90.48	Mar-10	44.68	45.80
				May-10	43.52	46.96
				Aug-10	43.94	46.54
				Nov-10	44.93	45.55
				Mar-11	42.85	47.63
MW-10B	160.00	153 - 163	90.21	Mar-10	44.01	46.20
				May-10	43.08	47.13
				Aug-10	44.44	45.77
				Nov-10	44.55	45.66
				Mar-11	42.37	47.84
MW-10C	230.00	220 - 230	90.5	Mar-10	42.87	47.63
				May-10	44.22	46.28
				Aug-10	49.92	40.58
				Nov-10	44.88	45.62
				Mar-11	42.47	48.03
MW-11A	92.00	70 - 90	89.91	Mar-10	42.15	47.76
				May-10	41.12	48.79
				Aug-10	41.42	48.49
				Nov-10	42.19	47.72
				Mar-11	40.57	49.34
MW-12A	99.00	87 - 97	91.15	Mar-10	45.17	45.98
				May-10	44.07	47.08
				Aug-10	44.86	46.29
				Nov-10	45.56	45.59
				Mar-11	43.31	47.84
MW-13A	99.00	77 - 97	89.27	Mar-10	43.44	45.83
				May-10	42.17	47.10
				Aug-10	42.35	46.92
				Nov-10	43.44	45.83
				Mar-11	41.67	47.60
MW-14A	92.00	70 - 90	89.79	Mar-10	43.04	46.75
				May-10	41.93	47.86
				Aug-10	42.17	47.62
				Nov-10	43	46.79
				Mar-11	41.35	48.44

TABLE G-2(b)

GROUNDWATER MONITORING WELL WATER TABLE ELEVATION
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

Monitoring Well Number	Well Depth (ft bgs)	Screened Interval (ft bgs)	Casing Elevation (ft bgs)	Date	Depth To Water (feet from TOC)	Water Table Elevation (feet above MSL)
MW-15A	102.00	80 - 100	91.76	Mar-10	44.82	46.94
				May-10	43.8	47.96
				Aug-10	44.4	47.36
				Nov-10	45.03	46.73
				Mar-11	43.11	48.65
MW-16A	86.00	76 - 86	91.89	Mar-10	46.55	45.34
				May-10	45.41	46.48
				Aug-10	47.34	44.55
				Nov-10	47.4	44.49
				Mar-11	44.62	47.27
MW-16B	139.00	129 - 139	91.82	Mar-10	46.48	45.34
				May-10	45.33	46.49
				Aug-10	47.32	44.50
				Nov-10	47.34	44.48
				Mar-11	44.6	47.22
MW-16C	236.00	226 - 236	91.64	Mar-10	45.51	46.13
				May-10	46.22	45.42
				Aug-10	52.77	38.87
				Nov-10	47.4	44.24
				Mar-11	44.73	46.91
MW-17A	88.00	77 - 87	89.64	Mar-10	44.36	45.28
				May-10	43.01	46.63
				Aug-10	43.42	46.22
				Nov-10	44.48	45.16
				Mar-11	42.51	47.13
MW-17B	140.00	129 - 139	89.69	Mar-10	44.21	45.48
				May-10	43.02	46.67
				Aug-10	43.98	45.71
				Nov-10	44.6	45.09
				Mar-11	42.42	47.27
MW-17C	232.00	222 - 232	89.76	Mar-10	43.06	46.70
				May-10	44.1	45.66
				Aug-10	51.62	38.14
				Nov-10	45.08	44.68
				Mar-11	42.36	47.40
MW-18A	66.00	56 - 66	90.14	Mar-10	44.58	45.56
				May-10	43.39	46.75
				Aug-10	43.89	46.25
				Nov-10	44.00	46.14
				Mar-11	42.77	47.37
MW-19A	101.00	91 - 101	91.22	Mar-10	45.43	45.79
				May-10	44.37	46.85
				Aug-10	45.83	45.39
				Nov-10	46.02	45.20
				Mar-11	43.65	47.57

TABLE G-2(b)

GROUNDWATER MONITORING WELL WATER TABLE ELEVATION
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

Monitoring Well Number	Well Depth (ft bgs)	Screened Interval (ft bgs)	Casing Elevation (ft bgs)	Date	Depth To Water (feet from TOC)	Water Table Elevation (feet above MSL)
MW-19B	147.00	137 - 147	91.08	Mar-10	45.55	45.53
				May-10	44.68	46.40
				Aug-10	46.78	44.30
				Nov-10	46.42	44.66
				Mar-11	43.84	47.24
MW-20A	86.00	76 - 86	90.7	Mar-10	45.28	45.42
				May-10	44.08	46.62
				Aug-10	44.97	45.73
				Nov-10	45.79	44.91
				Mar-11	43.4	47.30
MW-20B	162.00	152 - 162	90.65	Mar-10	45.19	45.46
				May-10	44.11	46.54
				Aug-10	45.74	44.91
				Nov-10	45.96	44.69
				Mar-11	43.38	47.27
MW-20C	235.00	225 - 235	90.79	Mar-10	43.84	46.95
				May-10	44.42	46.37
				Aug-10	50.67	40.12
				Nov-10	45.78	45.01
				Mar-11	43.14	47.65

ft bgs - feet below ground surface
MSL - Mean Sea Level
MW - Monitoring Well
NA - Not Applicable
TOC - Top of Casing

Appendix G-3
Groundwater Monitoring Well Analytical Summary Results

TABLE G-3(a)

GROUNDWATER MONITORING WELL ANALYTICAL SUMMARY RESULTS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

Well Identification	Date	pH	PCE (µg/L)	TCE (µg/L)	1,2 - Dichloroethene (µg/L)	Chloroform (µg/L)	Comments:
MW-1A	8/21/2001	7.60	**5.0**	< 5.0	< 5.0	< 5.0	
	11/15/2001	7.60	**9.0**	< 5.0	< 5.0	< 5.0	
	2/18/2002	7.20	**9.0**	< 5.0	< 5.0	< 5.0	
	5/23/2002	7.10	**8.0**	< 5.0	< 5.0	< 5.0	
	8/19/2002	7.60	**11.0**	< 5.0	< 5.0	< 5.0	
	11/19/2002	8.20	**25.0**	< 5.0	< 5.0	< 5.0	Napthalene (1 BJ)
	2/18/2003	8.20	**16.0**	< 5.0	< 5.0	< 5.0	
	5/28/2003	7.30	**10.0**	< 5.0	< 5.0	< 5.0	
	8/26/2003	7.50	**11.0**	< 5.0	< 5.0	< 5.0	
	11/19/2003	7.40	**8.0**	<5.0	<5.0	<5.0	
	2/5/2004	7.50	**9.4**	< 5.0	< 5.0	< 5.0	
	5/18/2004	7.40	**8.3**	<5.0	<5.0	<5.0	
	8/24/2004	7.00	**14.0**	< 5.0	< 5.0	< 5.0	
	11/16/2004	7.10	**13.0**	<5.0	<5.0	<5.0	
	3/1/2005	7.40	**12.0**	< 5.0	< 5.0	< 5.0	
	5/24/2005	7.40	**8.3**	< 5.0	< 5.0	< 5.0	
	8/23/2005	7.60	**6.7**	< 5.0	< 5.0	< 5.0	
	11/15/2005	7.50	**5.2**	< 5.0	< 5.0	< 5.0	
	2/21/2006	7.50	**7.0**	< 5.0	< 5.0	< 5.0	
	5/23/2006	7.40	**4.1 J**	< 5.0	< 5.0	< 5.0	
	8/22/2006	7.30	**3.8**	< 5.0	< 5.0	< 5.0	
	11/15/2006	7.30	**3.8 J+**	<0.5	< 0.5[a]	**0.4**	
	2/13/2007	7.20	**3.3**	<0.5	< 0.5[a]	**0.4 J**	
	5/22/2007	7.70	**3.1**	<0.5	< 0.5[a]	**0.4**	
	8/21/2007	7.40	**3.4**	<0.5	< 0.5[a]	**0.4 J**	
	11/27/2007	7.16	**2.5**	<0.5	< 0.5[a]	**0.4 J**	
	2/27/2008	7.30	**2.2**	<0.5	< 0.5[a]	**0.3 J**	
	5/20/2008	7.32	**2.1**	<0.5	< 0.5[a]	**0.3 UJ**	
	8/19/2008	7.40	**3.0**	<0.5	< 0.5[a]	**0.3 J**	
	12/10/2008	6.30	**2 J+**	<0.5	< 0.5[a]	<0.5	
	2/17/2009	7.20	**2.3**	<0.5	< 0.5[a]	<0.5	
	6/3/2009	7.39	**2.3**	< 0.5	< 0.5[a]	**0.5**	
	8/11/2009	7.15	**1.4**	< 0.5	< 0.5[a]	< 0.5	
	11/11/2009	7.57	**1.7**	< 0.5	< 0.5[a]	**0.2**	
MW-2A	8/21/2001	7.70	**12.0**	< 5.0	< 5.0	< 5.0	
	11/12/2010	7.50	**10.0**	< 5.0	< 5.0	< 5.0	
	2/18/2002	7.20	**13.0**	< 5.0	< 5.0	< 5.0	
	5/23/2002	7.00	**14.0**	< 5.0	< 5.0	< 5.0	
	8/19/2002	7.80	**2.0 J**	< 5.0	< 5.0	< 5.0	
	11/19/2002	7.80	**12.0**	< 5.0	< 5.0	< 5.0	
	2/18/2003	7.80	**12.0**	< 5.0	< 5.0	< 5.0	
	5/28/2003	7.60	**10.0**	< 5.0	< 5.0	< 5.0	
	8/26/2003	8.00	**11.0**	< 5.0	< 5.0	**1.0J**	
	11/19/2003	7.40	**10.0**	<5.0	<5.0	**2.0J**	
	2/5/2004	7.50	**9.2**	< 5.0	< 5.0	< 5.0	
	5/18/2004	7.40	**8.2**	<5.0	<5.0	<5.0	
	8/24/2004	7.10	**9.1**	< 5.0	< 5.0	< 5.0	
	11/16/2004	7.10	**6.9**	<5.0	<5.0	**2.7 J**	
	3/1/2005	7.50	**8.4**	< 5.0	< 5.0	**2.8 J**	
	5/24/2005	7.50	**8.6**	< 5.0	< 5.0	< 5.0	
	8/23/2005	7.60	**11.0**	< 5.0	< 5.0	< 5.0	
	11/15/2005	7.50	**9.8**	< 5.0	< 5.0	< 5.0	
	2/21/2006	7.60	**13.0**	< 5.0	< 5.0	< 5.0	
	5/23/2006	7.40	**10.0**	< 5.0	< 5.0	< 5.0	
	8/22/2006	7.40	**10.0**	< 5.0	< 5.0	**1.3**	
	11/15/2006	7.50	**8.1**	<0.5	< 0.5[a]	**2.6**	
	2/13/2007	7.40	**8.7**	<0.5	< 0.5[a]	**3.0**	

TABLE G-3(a)

GROUNDWATER MONITORING WELL ANALYTICAL SUMMARY RESULTS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

Well Identification	Date	pH	PCE (µg/L)	TCE (µg/L)	1,2 - Dichloroethene (µg/L)	Chloroform (µg/L)	Comments:
	5/22/2007	7.70	**8.3**	<0.5	< 0.5[a]	**2.7**	
	8/21/2007	7.60	**9.0**	<0.5	< 0.5[a]	**3.2**	
	11/27/2007	7.31	**9.2**	<0.5	< 0.5[a]	**2.6**	
	2/27/2008	7.41	**6.1**	<0.5	< 0.5[a]	**3.0**	
	5/20/2008	7.45	**6.9**	<0.5	< 0.5[a]	**2.2**	
	8/19/2008	7.45	**7.4**	<0.5	< 0.5[a]	**3.0**	
	12/10/2008	7.80	**5.8**	<0.5	< 0.5[a]	**2.7**	
	2/18/2009	7.47	**5.3**	<0.5	< 0.5[a]	**3.0**	
	6/3/2009	7.42	**5.7**	< 0.5	< 0.5[a]	**3.1**	
	8/12/2009	7.30	**4.8**	< 0.5	< 0.5[a]	**2.5**	
	11/11/2009	7.47	**5.9**	< 0.5	< 0.5[a]	**2.7**	
MW-3A	8/22/2001	7.50	**3,100 D**	**9.0**	**2.0 J**	< 5.0	
	11/15/2001	7.40	**3,500 D**	**7.0**	**2.0 J**	< 5.0	
	2/19/2002	7.50	**4,300 D**	**8.0**	< 5.0	< 5.0	cis - 1,2 - Dichloroethane (3J)
	5/23/2002	7.30	**1,500 D**	< 5.0	< 5.0	< 5.0	
	8/19/2002	8.00	**1,700 D**	< 5.0	< 5.0	**2.0 J**	
	11/19/2002	7.70	**980 D**	< 5.0	< 5.0	**1.0 J**	
	2/18/2003	7.70	**580 D**	< 50.0	< 50.0	< 50.0	Methylene Chloride (7 J)
	5/29/2003	7.50	**690 D**	**2.0 J**	< 5.0	**1.0 J**	
	8/26/2003	7.80	**900D**	<5.0	<5.0	**2.0 J**	
	11/20/2003	7.40	**600D**	**2.0 J**	<5.0	**2.0J**	
	2/6/2004	7.40	**870 D**	**2.9 J**	<5.0	<5.0	
	5/19/2004	7.40	**520 D**	< 5.0	< 5.0	< 5.0	
	8/25/2004	7.20	**1,000 D**	**3.2 J**	<5.0	<5.0	
	11/16/2004	7.30	**780 D**	**3.2 J**	< 5.0	< 5.0	
	3/1/2005	7.60	**1,100 D**	**4.6 J**	<5.0	<5.0	
	5/24/2005	7.50	**810 J**	**4.4 J**	< 5.0	< 5.0	
	8/23/2005	8.60	**910 J**	**4.9 J**	<5.0	<5.0	
	11/15/2005	7.60	**880**	**5.0**	< 5.0	< 5.0	
	2/21/2006	7.50	**1,300 J**	**5.6**	<5.0	<5.0	
	5/23/2006	7.60	**1,100 E**	**5.3**	<5.0	<5.0	
	8/22/2006	7.48	**1,200**	**5.0**	**0.7**	**0.9**	
	11/15/2006	7.60	**690 J+**	**1.8**	< 0.5[a]	**0.8 J**	
	2/13/2007	7.30	**610**	**1.4**	< 0.5[a]	**0.8**	
	5/22/2007	7.60	**230**	**0.7**	< 0.5[a]	**0.6**	
	8/21/2007	7.60	**270**	**0.7**	< 0.5[a]	**1**	
	11/27/2007	7.22	**280**	**0.5**	< 0.5[a]	**0.7**	
	2/27/2008	7.42	**230**	**0.5**	< 0.5[a]	**0.6**	
	5/20/2008	7.56	**180**	**0.4 J**	< 0.5[a]	**0.8 U**	
	8/19/2008	7.60	**130**	**0.5**	< 0.5[a]	**1.6**	
	12/10/2008	7.70	**87**	< 0.5 U	< 0.5[a] U	**1.7**	
	2/19/2009	7.56	**57**	<0.5	< 0.5[a]	**1.3**	
	6/10/2009	7.34	**75**	< 0.5	< 0.5[a]	**1.3**	
	8/14/2009	7.72	**45**	< 0.5	< 0.5[a]	**1.1**	
	11/12/2009	7.31	**40**	< 0.5	< 0.5[a]	**1.4**	
MW-4A	8/22/2001	7.40	**1,200 D**	< 5.0	< 5.0	< 5.0	
	11/13/2001	7.40	**8**	< 5.0	< 5.0	< 5.0	
	12/13/01[a]	7.20	**900 D**	**3.0 DJ**	< 10.0	< 10.0	
	2/19/2002	7.30	**1,200 D**	**37 DJ**	< 5.0	< 5.0	
	5/23/2002	7.30	**700 D**	< 5.0	< 5.0	< 5.0	
	8/19/2002	7.60	**1,000 D**	< 5.0	< 5.0	< 5.0	

TABLE G-3(a)

GROUNDWATER MONITORING WELL ANALYTICAL SUMMARY RESULTS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

Well Identification	Date	pH	PCE (µg/L)	TCE (µg/L)	1,2 - Dichloroethene (µg/L)	Chloroform (µg/L)	Comments:
	11/19/2002	7.50	**880 D**	**2.0 J**	< 5.0	**2.0 J**	cis-1,2-Dichloroethene (1 J) Napthalene (1 BJ) 1,2,3-Trichlorobenzene (1 J)
	2/18/2003	7.50	**710**	< 50.0	< 50.0	< 50.0	Methylene Chloride (9 J)
	5/29/2003	7.50	**880 D**	**1.0 J**	< 5.0	**3.0 J**	
	8/26/2003	8.40	**1,300 D**	**1.0 J**	<5.0	**3.0 J**	
	11/20/2003	7.40	**770 D**	**0.7J**	<5.0	**4.0J**	
	2/6/2004	7.40	**560 D**	<5.0	<5.0	**3.5 J**	
	5/19/2004	7.30	**580 D**	< 5.0	< 5.0	**3.3 J**	
	8/25/2004	7.10	**690 D**	<5.0	<5.0	**4.1 J**	
	11/17/2004	7.10	**800 D**	< 5.0	< 5.0	**4.7 J**	
	3/2/2005	7.40	**830 D**	<5.0	<5.0	**4.5 J**	
	5/25/2005	7.40	**1,100 J**	< 5.0	< 5.0	**3.6 J**	
	8/24/2005	7.60	**1,900 J**	<5.0	<5.0	**3.3 J**	
	11/16/2005	7.40	**1,200 J**	< 5.0 UJ	< 5.0 UJ	**2.9 UJ**	
	2/22/2006	7.40	**2,100**	**3.0**	<5.0	**3.0 J**	
	5/24/2006	7.40	**2,000 E**	<5.0	<5.0	**2.5 J**	
	8/23/2006	7.30	**1,500**	**0.9**	<5.0	**1.2**	1,1,1,2-Tetrachloroethane (0.5)
	11/16/2006	7.40	**1,600**	**1.3**	< 0.5[a]	**1.6 U**	
	2/14/2007	7.20	**2,400**	**1.6**	< 0.5[a]	**2.9**	
	5/23/2007	7.70	**1,700**	**1.0**	**0.7**	**1.7**	1,1,1,2-Tetrachloroethane (0.6)
	8/22/2007	7.30	**2,400**	**1.7**	**1.0[a]**	**2.4**	1,1,1,2-Tetrachloroethane (0.8)
	11/28/2007	7.14	**2,300**	**1.5**	**0.9**	**2.1**	
	2/27/2008	7.32	**1,700**	<2.5	<2.5[s]	**1.9**	
	5/21/2008	7.37	**2,200**	**1.7**	< 0.5[a]	**2**	cis-1,2-Dichloroethene (1.4 J) 1,1,1,2-Tetrachloroethane (1) Dichloro- difluoromethane (0.6 J+)
	8/20/2008	7.37	**1,100**	**1.9**	<2.5[s]	**2.1**	
	12/9/2008	7.80	**2,200**	**1.6**	< 0.5[a]	**1.8 U**	
	2/18/2009	7.36	**1,100**	**1.5**	< 0.5[a]	**1.5**	cis-1,2-Dichloroethene (1.4 J) 1,1,1,2-Tetrachloroethane (0.7)
	6/3/2009	7.34	**3,000**	**1.8**	< 0.5[a]	**1.9**	cis-1,2-Dichloroethene (1.8) 1,1,1,2-Tetrachloroethane (1.0)
	8/12/2009	7.18	**1,300**	**1.5**	< 0.5[a]	**1.6**	cis-1,2-Dichloroethene (1.4) 1,1,1,2-Tetrachloroethane (0.8)
	11/10/2009	7.52	**1,900**	**1.7**	< 0.5[a]	**1.8**	cis-1,2-Dichloroethene (2) 1,1,1,2-Tetrachloroethane (0.9)
MW-4B	12/9/2008	7.56	**9.6 J-**	<0.5	< 0.5[a]	<0.5	
	2/20/2009	7.68	**4.4**	<0.5	< 0.5[a]	**0.3**	
	6/10/2009	7.64	**7.2 J-**	< 0.5	< 0.5[a]	**0.4 J**	
	8/13/2009	7.46	**19**	< 0.5	**0.5[a]**	< 0.5	
	11/12/2009	7.51	**24**	< 0.5	< 0.5[a]	< 0.5	
MW-4C	12/9/2008	7.96	**8.7**	<0.5	< 0.5[a]	**0.9**	
	2/20/2009	8.03	**1.4**	<0.5	< 0.5[a]	**0.4**	
	6/10/2009	7.96	**0.5**	< 0.5	< 0.5[a]	**0.3 J**	
	8/13/2009	7.82	< 0.5	< 0.5	< 0.5[a]	< 0.5	
	11/12/2009	7.89	**0.9**	< 0.5	< 0.5[a]	< 0.5	
MW-5A	8/22/2001	7.30	**960 D**	< 5.0	< 5.0	< 5.0	
	11/15/2001	7.40	**930**	< 5.0	< 5.0	< 5.0	
	2/19/2002	7.20	**740 D**	**5 DJ**	< 5.0	< 5.0	
	5/23/2002	7.10	**580 D**	< 5.0	< 5.0	< 5.0	
	8/19/2002	7.40	**580 D**	< 5.0	< 5.0	< 5.0	Naphthalene (4 BJ)
	11/19/2002	7.20	**390 D**	< 5.0	< 5.0	< 5.0	Napthalene (1 BJ)

TABLE G-3(a)

GROUNDWATER MONITORING WELL ANALYTICAL SUMMARY RESULTS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

Well Identification	Date	pH	PCE (µg/L)	TCE (µg/L)	1,2 - Dichloroethene (µg/L)	Chloroform (µg/L)	Comments:
	2/18/2003	7.20	**220**	< 25.0	< 25.0	< 25.0	Methylene Chloride (6 J)
	5/29/2003	7.30	**170 D**	< 5.0	< 5.0	< 5.0	
	8/26/2003	7.60	**320D**	<5.0	<5.0	<5.0	
	11/20/2003	7.40	**250**	< 5.0	< 5.0	< 5.0	
	2/6/2004	7.40	**300 D**	<5.0	<5.0	<5.0	
	5/19/2004	7.40	**380 D**	< 5.0	< 5.0	< 5.0	
	8/25/2004	7.10	**170 D**	<5.0	<5.0	<5.0	
	11/17/2004	7.10	**780 D**	< 5.0	< 5.0	< 5.0	
	3/2/2005	7.60	**330 D**	<5.0	<5.0	<5.0	
	5/25/2005	7.60	**330 J**	< 5.0	< 5.0	< 5.0	
	8/24/2005	7.50	**310 J**	<5.0	<5.0	<5.0	
	11/16/2005	7.40	**220 J**	< 5.0	< 5.0	**2.1 UJ**	
	2/22/2006	7.60	**560**	<5.0	<5.0	<5.0	
	5/24/2006	7.30	**300 E**	< 5.0	< 5.0	< 5.0	
	8/23/2006	7.20	**440**	<5.0	<5.0	**1.5**	
	11/16/2006	7.20	**270**	**0.2**	< 0.5[a]	**1.6 U**	
	2/14/2007	7.20	**430**	**0.2**	< 0.5[a]	**0.6**	
	5/23/2007	7.60	**280**	<0.5	< 0.5[a]	**0.4 J**	
	8/21/2007	7.30	**310**	<5.0	< 0.5[a]	**0.5**	
	11/28/2007	6.86	**190**	<0.5	< 0.5[a]	**0.8**	
	2/27/2008	7.39	**400**	<2.5	<2.5	<2.5	
	5/20/2008	7.16	**210**	<0.5	< 0.5[a]	**0.5 U**	
	8/20/2008	7.30	**190**	<0.5	< 0.5[a]	**0.6**	
	12/2/2008	6.86	**97**	< 0.5 U	< 0.5[a] U	**2.5 U**	
	2/18/2009	7.35	**260**	<0.5	< 0.5[a]	**0.3**	
	6/2/2009	7.21	**120**	< 0.5	< 0.5[a]	**1**	
	8/12/2009	7.20	**79**	< 0.5	< 0.5[a]	**0.6**	
	11/10/2009	7.59	**300**	< 0.5	< 0.5[a]	< 0.5	
MW-6A	8/22/2001	7.70	**280 D**	**5.0 DJ**	< 5.0	< 5.0	
	11/13/2001	7.20	**300 D**	< 5.0	< 5.0	< 5.0	
	2/19/2002	7.30	**450 D**	< 5.0	< 5.0	< 5.0	
	5/23/2002	6.90	**180 D**	< 5.0	< 5.0	< 5.0	
	8/19/2002	7.40	**140**	< 5.0	< 5.0	< 5.0	
	11/19/2002	7.30	**290 D**	**1.0 J**	< 5.0	< 5.0	cis-1,2-Dichloroethene (1 J) Napthalene (1 BJ)
	2/18/2003	7.30	**190**	< 25.0	< 25.0	< 25.0	Methylene Chloride (5 J)
	5/29/2003	7.20	**170 D**	< 5.0	< 5.0	**1.0 J**	
	8/26/2003	7.50	**210 D**	< 5.0	< 5.0	**1.0 J**	
	11/20/2003	7.40	**150**	< 5.0	< 5.0	**3.0J**	
	2/6/2004	7.40	**110 D**	< 5.0	< 5.0	**3.2 J**	
	5/19/2004	7.40	**67**	< 5.0	< 5.0	**5.9**	
	8/24/2004	7.40	**70**	< 5.0	< 5.0	**6**	
	11/17/2004	7.10	**42**	< 5.0	< 5.0	**6.7**	
	3/1/2005	7.40	**92**	< 5.0	< 5.0	**5.5**	
	5/25/2005	7.80	**19**	< 5.0	< 5.0	**6.5**	
	8/23/2005	7.60	**25**	< 5.0	< 5.0	**7.5**	
	11/15/2005	7.50	**15**	< 5.0	< 5.0	**7.3**	
	2/21/2006	7.60	**40**	< 5.0	< 5.0	**8.3**	
	5/24/2006	7.60	**11**	< 5.0	< 5.0	**11**	
	8/23/2006	7.80	**12**	< 5.0	< 5.0	**9.7**	
	11/16/2006	7.80	**10**	<0.5	< 0.5[a]	**13**	
	2/14/2007	7.30	**42**	<0.5	< 0.5[a]	**9.5**	
	5/23/2007	7.90	**8.9**	<0.5	< 0.5[a]	**11**	Bromodichloromethane (0.5)
	8/22/2007	7.50	**14**	<0.5	< 0.5[a]	**13**	Bromodichloromethane (0.5 J)
	11/27/2007	7.36	**8.5**	<0.5	< 0.5[a]	**15**	Bromodichloromethane (0.6)
	2/27/2008	-	**28**	<0.5	< 0.5	**9.6**	
	5/20/2008	7.68	**5.7**	<0.5	< 0.5[a]	**11**	Bromodichloromethane (0.4 J)
	8/19/2008	7.56	**11**	<0.5	< 0.5[a]	**12**	
	12/10/2008	7.10	**5.4 J+**	< 0.5 U	< 0.5[a] U	**12**	
	2/17/2009	7.48	**5.3**	<0.5	< 0.5[a]	**11**	Bromodichloromethane (0.4 J)
	6/2/2009	7.61	**3.8**	< 0.5	< 0.5[a]	**12**	Bromodichloromethane (0.4 J)
	8/11/2009	7.40	**4.2**	< 0.5	< 0.5[a]	**9.5**	Bromodichloromethane (0.4 J)
	11/11/2009	7.59	**6.4**	< 0.5	< 0.5[a]	**11**	Bromodichloromethane (0.4 J)
MW-7A	8/20/2001	7.10	**1.0 J**	< 5.0	< 5.0	< 5.0	
	11/13/2001	7.10	< 5.0	< 5.0	< 5.0	< 5.0	

TABLE G-3(a)

GROUNDWATER MONITORING WELL ANALYTICAL SUMMARY RESULTS
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Well Identification	Date	pH	PCE (µg/L)	TCE (µg/L)	1,2 - Dichloroethene (µg/L)	Chloroform (µg/L)	Comments:
	2/19/2002	7.10	< 5.0	< 5.0	< 5.0	< 5.0	
	5/23/2002	7.20	< 5.0	< 5.0	< 5.0	< 5.0	
	8/19/2002	7.10	**4.0 J**	< 5.0	< 5.0	**5.0 J**	
	11/19/2002	7.20	**2.0 J**	< 5.0	< 5.0	< 5.0	Napthalene (2 BJ)
	2/18/2003	7.20	< 5.0	< 5.0	< 5.0	< 5.0	Napthalene (1 BJ)
	5/28/2003	7.10	< 5.0	< 5.0	< 5.0	< 5.0	Napthalene (4 BJ)
	8/26/2003	7.80	< 5.0	< 5.0	< 5.0	< 5.0	
	11/19/2003	7.40	< 5.0	< 5.0	< 5.0	< 5.0	
	2/5/2004	7.40	< 5.0	< 5.0	< 5.0	< 5.0	
	5/18/2004	7.50	< 5.0	< 5.0	< 5.0	< 5.0	
	8/24/2004	6.90	< 5.0	< 5.0	< 5.0	< 5.0	
	11/16/2004	6.90	< 5.0	< 5.0	< 5.0	< 5.0	
	3/1/2005	7.20	< 5.0	< 5.0	< 5.0	< 5.0	
	5/24/2005	7.30	< 5.0	< 5.0	< 5.0	< 5.0	
	8/23/2005	7.40	< 5.0 UJ	< 5.0	< 5.0	< 5.0	
	11/15/2005	7.30	< 5.0	< 5.0	< 5.0	< 5.0	
	2/21/2006	7.20	< 5.0	< 5.0	< 5.0	< 5.0	
	5/23/2006	7.20	< 5.0	< 5.0	< 5.0	< 5.0	
	8/22/2006	7.10	**0.4 J**	< 5.0	< 5.0	< 5.0	
	11/15/2006	7.20	**0.4 J+**	<0.5	< 0.5[a]	**0.2**	
	2/13/2007	7.00	<0.5	<0.5	< 0.5[a]	**0.2**	
	5/22/2007	7.56	<0.5	<0.5	< 0.5[a]	< 0.5	
	8/21/2007	7.20	<0.5	<0.5	< 0.5[a]	**0.3 J**	
	11/27/2007	6.96	<0.5	<0.5	< 0.5[a]	**0.4**	
	2/27/2008	7.12	<0.5	<0.5	< 0.5[a]	**0.5**	
	5/20/2008	7.15	<0.5	<0.5	< 0.5[a]	**0.4 UJ**	
	8/19/2008	7.20	<0.5	<0.5	< 0.5[a]	**0.5**	
	12/2/2008	7.00	<0.5	<0.5	< 0.5[a]	**0.7 U**	
	2/18/2009	7.14	**0.4**	<0.5	< 0.5[a]	**0.7**	Dichloromethane (8.8)
	6/2/2009	7.29	< 0.5	< 0.5	< 0.5[a]	**0.7 J**	
	8/11/2009	7.11	< 0.5	< 0.5	< 0.5[a]	**0.5**	
	11/10/2009	7.43	< 0.5	< 0.5	< 0.5[a]	**0.7**	
MW-8A	8/22/2001	7.40	**2,300 D**	**4.0 J**	**2.0 J**	**1.0 J**	
	11/15/2001	7.40	**1,900**	< 5.0	< 5.0	< 5.0	
	2/19/2002	7.50	**1,500 D**	< 5.0	**2.0 J**	**1.0 J**	
	5/23/2002	7.10	**1,700 D**	< 5.0	< 5.0	< 5.0	
	8/19/2002	7.40	**2,100 D**	< 5.0	< 5.0	**3.0 J**	
	11/19/2002	7.40	**1,700 D**	**2.0 J**	< 5.0	**3.0 J**	cis-1,2-Dichloroethene (1 J) Napthalene (1 BJ)
	2/18/2003	7.40	**1,300 D**	< 50.0	< 50.0	< 50.0	Methylene Chloride (7 J)
	5/29/2003	7.20	**1,900 D**	**1.0 J**	< 5.0	**3.0 J**	cis-1,2-Dichloroethene (1 J)
	8/26/2003	8.30	**1,700 D**	<5.0	<5.0	**2**	
	11/20/2003	7.40	**400 D**	< 5.0	< 5.0	**1.0J**	
	2/6/2004	7.30	**320 D**	<5.0	<5.0	<5.0	
	5/18/2004	7.30	**230 D**	< 5.0	< 5.0	< 5.0	
	8/25/2004	7.10	**480 D**	<5.0	<5.0	**3.1 J**	
	11/17/2004	7.10	**280 D**	< 5.0	< 5.0	< 5.0	
	3/2/2005	7.40	**210 D**	<5.0	<5.0	< 5.0	
	5/25/2005	7.50	**200 J**	< 5.0	< 5.0	< 5.0	
	8/24/2005	7.50	**61**	<5.0	<5.0	< 5.0	
	11/16/2005	7.40	**81**	< 5.0	< 5.0	**9.5 U**	
	2/22/2006	7.50	**140**	<5.0	<5.0	**3.1 J**	
	5/24/2006	7.40	**74**	< 5.0	< 5.0	**7.1**	
	8/23/2006	7.20	**33**	<5.0	<5.0	**6.0**	
	11/16/2006	7.30	**25**	<0.5	< 0.5[a]	**7.2**	
	2/14/2007	7.20	**44**	<0.5	< 0.5[a]	**10**	
	5/23/2007	7.60	**38**	<0.5	< 0.5[a]	**8.5**	Bromodichloromethane (0.4)
	8/22/2007	7.40	**24**	<0.5	< 0.5[a]	**11**	Bromodichloromethane (0.6)
	11/28/2007	7.05	**23**	<0.5	< 0.5[a]	**11**	Bromodichloromethane (0.6J)

TABLE G-3(a)

GROUNDWATER MONITORING WELL ANALYTICAL SUMMARY RESULTS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

Well Identification	Date	pH	PCE (µg/L)	TCE (µg/L)	1,2 - Dichloroethene (µg/L)	Chloroform (µg/L)	Comments:
	2/27/2008	7.20	**37**	<0.5	< 0.5	**7.8**	Bromodichloromethane (0.3J); 1,2,3-Trichlorobenzene(0.3J)
	5/21/2008	7.23	**23**	<0.5	< 0.5[a]	**9.4**	Bromodichloromethane (0.5)
	8/20/2008	7.28	**17**	<0.5	< 0.5[a]	**11**	Bromodichloromethane (0.6)
	12/2/2008	6.91	**14 J-**	<0.5	<0.5[a]J	**9.8 J-**	
	2/18/2009	7.20	**34**	<0.5	< 0.5[a]	**5.3**	
	6/3/2009	7.19	**14**	< 0.5	< 0.5[a]	**11**	Bromodichloromethane (0.6)
	8/12/2009	7.21	**9.8 J-**	< 0.5	< 0.5[a]	**10**	Bromodichloromethane (0.5)
	11/11/2009	7.25	**15**	< 0.5	< 0.5[a]	**8.1**	Bromodichloromethane (0.3J)
MW-9B	8/22/2001	7.50	**39.0**	< 5.0	< 5.0	< 5.0	
	11/15/2001	7.30	< 5.0	< 5.0	< 5.0	< 5.0	
	2/18/2002	7.50	**10.0**	< 5.0	< 5.0	< 5.0	
	5/23/2002	7.40	**5.0**	< 5.0	< 5.0	< 5.0	
	8/19/2002	7.60	**8.0**	< 5.0	< 5.0	< 5.0	
	11/19/2002	8.00	**12.0**	< 5.0	< 5.0	< 5.0	Napthalene (1BJ)
	2/18/2003	8.00	**6.0**	< 5.0	< 5.0	< 5.0	
	5/28/2003	8.20	**3.0 J**	< 5.0	< 5.0	< 5.0	
	8/26/2003	7.60	**55.0**	< 5.0	< 5.0	< 5.0	
	11/19/2003	7.90	**33.0**	< 5.0	< 5.0	< 5.0	
	2/5/2004	7.90	**4.0 J**	< 5.0	< 5.0	< 5.0	
	5/18/2004	7.80	**37**	< 5.0	< 5.0	< 5.0	
	8/24/2004	7.30	**68**	< 5.0	< 5.0	< 5.0	
	11/17/2004	7.50	**89**	< 5.0	< 5.0	< 5.0	
	3/1/2005	7.80	**51**	< 5.0	< 5.0	< 5.0	
	5/24/2005	7.80	**61**	< 5.0	< 5.0	< 5.0	
	8/24/2005	8.10	**44**	< 5.0	< 5.0	< 5.0	
	11/16/2005	7.90	**30**	< 5.0	< 5.0	< 5.0	
	2/22/2006	7.80	**18**	< 5.0	< 5.0	< 5.0	
	5/23/2006	7.80	**20**	< 5.0	< 5.0	< 5.0	
	8/22/2006	7.70	**24**	< 5.0	< 5.0	< 5.0	
	11/15/2006	7.90	**5.2**	<0.5	< 0.5[a]	<0.5	
	2/13/2007	7.70	**2.7**	<0.5	< 0.5[a]	<0.5	
	5/22/2007	NS	NS	NS	NS	NS	Broken Pump
	8/21/2007	7.70	**14**	<0.5	< 0.5[a]	<0.5	Chloromethane (4.0), Acetone (4.9)
	11/27/2007	7.65	**6.5**	<0.5	< 0.5[a]	<0.5	
	2/27/2008	7.80	**0.7**	<0.5	< 0.5	<0.5	
	5/21/2008	7.98	**16**	<0.5	< 0.5[a]	<0.5	
	8/20/2008	7.77	**26**	<0.5	< 0.5[a]	<0.5	
	12/2/2008	7.34	**5.2**	<0.5	< 0.5[a]	<0.5	
	2/18/2009	7.19	**8.5**	<0.5	< 0.5[a]	<0.5	
	6/3/2009	7.66	**19**	< 0.5	< 0.5[a]	< 0.5	
	8/12/2009	7.67	**17**	< 0.5	< 0.5[a]	< 0.5	
	11/11/2009	7.86	**3.7**	< 0.5	< 0.5[a]	< 0.5	
MW-10A	8/20/2001	7.40	**91.0**	< 5.0	< 5.0	**8.0**	
	11/12/2001	7.50	**45.0**	< 5.0	< 5.0	**10.0**	
	2/19/2002	7.70	**27.0**	< 5.0	< 5.0	**25.0**	
	5/23/2002	7.20	**260 D**	< 5.0	< 5.0	**8.0**	
	8/19/2002	7.40	**300 D**	< 5.0	< 5.0	**7.0**	
	11/20/2002	7.40	**200**	< 5.0	< 5.0	**16.0**	Methylene Chloride (2BJ) Naphthalene (3 BJ)
	2/18/2003	7.40	**200**	< 25.0	< 25.0	**17 J**	Methylene Chloride (4 J)
	5/29/2003	7.40	**340 D**	**1.0 J**	< 5.0	**5.0**	
	8/26/2003	7.70	**820 D**	<5.0	< 5.0	<5.0	
	11/20/2003	7.30	**500 D**	**0.9 J**	<5.0	**7.0**	
	2/6/2004	7.40	**510 D**	<5.0	< 5.0	**7.8**	
	5/19/2004	7.10	**390 D**	< 5.0	< 5.0	**3.8 J**	
	8/25/2004	7.10	**460 D**	<5.0	< 5.0	**2.7 J**	
	11/17/2004	7.10	**890 D**	< 5.0	< 5.0	**4.7 J**	
	3/2/2005	7.40	**910 D**	<5.0	< 5.0	**5.1**	
	5/25/2005	7.50	**820 J**	< 5.0	< 5.0	**3.9 J**	
	8/24/2005	7.40	**490 J**	<5.0	< 5.0		

TABLE G-3(a)

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MODESTO SUPERFUND SITE
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Well Identification	Date	pH	PCE (µg/L)	TCE (µg/L)	1,2 - Dichloroethene (µg/L)	Chloroform (µg/L)	Comments:
	11/16/2005	7.40	**940 J**	< 5.0	< 5.0	**3.2 UJ**	
	2/22/2006	7.40	**970**	<5.0	< 5.0	**3.8 J**	
	5/24/2006	7.20	**560 E**	< 5.0	< 5.0	**3.1 J**	
	8/23/2006	7.20	**410**	**0.5**	< 5.0	**1.8**	tert-Butyl methyl ether (MTBE) (1.5)
	11/16/2006	7.30	**320**	**0.5**	< 0.5[a]	**1.3 U**	
	2/14/2007	7.10	**550**	**0.7**	< 0.5[a]	**3.3**	
	5/23/2007	7.50	**350**	**0.5**	**0.3[a]**	**2.0**	
	8/22/2007	7.10	**480**	**0.7**	**0.3 J[a]**	**2.3**	
	11/28/2007	7.89	**330**	**0.4**	< 0.5[a]	**4.2**	
	2/27/2008	7.17	**430**	<2.5	<2.5[a]	**2.4**	
	5/21/2008	7.17	**280**	**0.4 J**	< 0.5[a]	**2.1**	
	8/20/2008	7.25	**220**	**0.4 J**	<0.5[a]	**2.9**	
	12/2/2008	6.84	**240**	<0.5	< 0.5[a]	**4.6**	
	2/17/2009	7.15	**210**	**0.3**	<0.5[a]	**3.8**	
	6/2/2009	7.30	**120**	< 0.5	< 0.5[a]	**5.1**	
	8/11/2009	6.90	**140**	< 0.5	<0.5[a]	**2.8**	
	11/10/2009	7.42	**110**	< 0.5	< 0.5[a]	**4.7**	
MW-10B	12/3/2008	7.54	**25 J-**	<0.5,J	<0.5[a]J	**0.4 U,J-**	
	2/23/2009	7.70	**13**	<0.5	< 0.5[a]	**4.6**	
	6/10/2009	7.72	**12**	< 0.5	<0.5[a]	**0.3**	
	8/13/2009	7.64	**13**	< 0.5	< 0.5[a]	< 0.5	
	11/10/2009	7.65	**21**	< 0.5	<0.5[a]	< 0.5	
MW-10C	12/3/2008	7.81	<0.5	<0.5	< 0.5[a]	**1 U**	
	2/17/2009	8.06	**0.4**	<0.5	< 0.5[a]	**0.3 J**	
	6/8/2009	7.89	< 0.5	< 0.5	< 0.5[a]	< 0.5	
	8/11/2009	7.72	< 0.5	< 0.5	< 0.5[a]	< 0.5	
	11/10/2009	7.94	**1.0**	< 0.5	< 0.5[a]	< 0.5	
MW-11A	8/20/2001	7.20	**3.0 J**	< 5.0	< 5.0	**4.0 J**	
	11/13/2001	7.10	< 5.0	< 5.0	< 5.0	**5.0 J**	
	2/19/2002	7.20	**2.0 J**	< 5.0	< 5.0	**5.0 J**	
	5/23/2002	7.00	< 5.0	< 5.0	< 5.0	**2.0 J**	
	8/19/2002	7.10	**3.0 J**	< 5.0	< 5.0	**7**	
	11/20/2002	7.30	< 5.0	< 5.0	< 5.0	**6.0**	Methylene Chloride (1 BJ) Napthalene (2 BJ)
	2/18/2003	7.30	**3.0 J**	< 5.0	< 5.0	**5**	Napthalene (2 BJ) 1,2,3-Trichlorobenzene (1 J)
	5/28/2003	7.30	**5.0**	< 5.0	< 5.0	**2.0 JB**	Napthalene (7 B)
	8/26/2003	7.60	**2.0 J**	< 5.0	< 5.0	<5.0	
	11/19/2003	7.40	**3.0J**	< 5.0	< 5.0	**3.0 J**	
	2/5/2004	7.20	<5.0	< 5.0	< 5.0	**3.7 J**	
	5/18/2004	7.40	**3.7 J**	< 5.0	< 5.0	<5.0	
	8/24/2004	7.00	**3.1 J**	< 5.0	< 5.0	**4.8 J**	
	11/16/2004	7.10	**3.5 J**	< 5.0	< 5.0	<5.0	
	3/1/2005	7.30	**3.8 J**	< 5.0	< 5.0	**3.1 J**	
	5/24/2005	7.40	**6.0**	< 5.0	< 5.0	<5.0	
	8/23/2005	7.40	<5.0	< 5.0	< 5.0	<5.0	
	11/15/2005	7.40	<5.0	< 5.0	< 5.0	<5.0	
	2/21/2006	7.40	**2.7 J**	< 5.0	< 5.0	<5.0	
	5/23/2006	7.20	<5.0	< 5.0	< 5.0	<5.0	
	8/22/2006	7.20	**1.6**	< 5.0	< 5.0	**1.5**	
	11/15/2006	7.20	**2.4 J+**	<0.5	< 0.5[a]	**2.4 J+**	
	2/13/2007	7.10	**1.7**	<0.5	< 0.5[a]	**2.0**	
	5/22/2007	7.50	**1.7**	<0.5	< 0.5[a]	**2.9**	
	8/21/2007	7.30	**1.5**	<0.5	< 0.5[a]	**3.0**	

TABLE G-3(a)

GROUNDWATER MONITORING WELL ANALYTICAL SUMMARY RESULTS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

Well Identification	Date	pH	PCE (µg/L)	TCE (µg/L)	1,2 - Dichloroethene (µg/L)	Chloroform (µg/L)	Comments:
	11/27/2007	6.97	**2.2**	<0.5	< 0.5[a]	**2.3**	
	2/27/2008	7.17	**1.3**	<0.5	< 0.5[a]	**2.2**	
	5/20/2008	7.19	**1.6**	<0.5	< 0.5[a]	**2.1**	
	8/19/2008	7.17	**1.4**	<0.5	< 0.5[a]	**3.7**	
	12/2/2008	6.94	**1.8**	<0.5	< 0.5[a]	**2.6**	
	2/17/2009	7.18	**1.3**	<0.5	< 0.5[a]	**3.2**	
	6/2/2009	7.33	**1.4 J-**	< 0.5	< 0.5[a]	**3.3**	
	8/11/2009	7.10	**0.6**	< 0.5	< 0.5[a]	**5.3**	
	11/10/2009	7.46	**1.2**	< 0.5	< 0.5[a]	**4**	
MW-12A	8/21/2001	7.60	**26**	< 5.0	< 5.0	< 5.0	
	11/13/2001	7.30	**23**	< 5.0	< 5.0	< 5.0	
	2/18/2002	7.20	**17**	< 5.0	< 5.0	< 5.0	
	5/23/2002	7.10	**23**	< 5.0	< 5.0	< 5.0	
	8/19/2002	7.60	**22**	< 5.0	< 5.0	< 5.0	
	11/20/2002	7.50	**17**	< 5.0	< 5.0	< 5.0	Methylene Chloride (1 BJ) Napthalene (2 BJ)
	2/18/2003	7.50	**15**	< 5.0	< 5.0	< 5.0	
	5/28/2003	7.50	**17**	< 5.0	< 5.0	< 5.0	
	8/26/2003	7.60	**31**	< 5.0	< 5.0	< 5.0	
	11/19/2003	7.50	**28**	< 5.0	< 5.0	< 5.0	
	2/5/2004	7.40	**21**	< 5.0	< 5.0	< 5.0	
	5/18/2004	7.40	**21**	< 5.0	< 5.0	< 5.0	
	8/24/2004	7.10	**25**	< 5.0	< 5.0	< 5.0	
	11/16/2004	7.20	**26**	< 5.0	< 5.0	< 5.0	
	3/1/2005	7.50	**23**	< 5.0	< 5.0	< 5.0	
	5/24/2005	7.50	**17**	< 5.0	< 5.0	< 5.0	
	8/23/2005	7.50	**26**	< 5.0	< 5.0	< 5.0	
	11/15/2005	7.50	**23**	< 5.0	< 5.0	< 5.0	
	2/21/2006	7.60	**30**	< 5.0	< 5.0	< 5.0	
	5/23/2006	7.40	**28**	< 5.0	< 5.0	< 5.0	
	8/22/2006	7.60	**31**	< 5.0	< 5.0	< 5.0	
	11/15/2006	7.50	**28**	<0.5	< 0.5[a]	**0.4 J**	
	2/13/2007	7.40	**23**	<0.5	< 0.5[a]	**0.6**	
	5/23/2007	7.50	**24**	<0.5	< 0.5[a]	**0.4 J**	Trichlorofluoromethane (0.5)
	8/21/2007	7.50	**38**	<0.5	< 0.5[a]	**0.5**	Trichlorofluoromethane (0.6)
	11/28/2007	7.19	**33**	<0.5	< 0.5[a]	**1.0**	Trichlorofluoromethane (0.8)
	2/27/2008	7.43	**26**	<0.5	< 0.5[a]	**0.4**	Trichlorofluoromethane (0.4)
	5/21/2008	7.49	**30**	<0.5	< 0.5[a]	**0.9 U**	Trichlorofluoromethane (0.6) Acetone (3.6 UJ)
	8/19/2008	7.56	**32**	<0.5	< 0.5[a]	**1.2**	
	12/2/2008	7.10	**29**	<0.5	< 0.5[a]	**1.8 U**	
	2/17/2009	7.37	**24**	<0.5	< 0.5[a]	**1.9**	Trichlorofluoromethane (0.4)
	6/2/2009	7.52	**28**	< 0.5	< 0.5[a]	**2.1**	Trichlorofluoromethane (0.4)
	8/12/2009	7.02	**23**	< 0.5	< 0.5[a]	**2**	Trichlorofluoromethane (0.3)
	11/10/2009	7.68	**26**	< 0.5	< 0.5[a]	**2.8**	Trichlorofluoromethane (0.4)
MW-13A	8/21/2001	7.50	**6.0**	< 5.0	< 5.0	< 5.0	
	11/12/2001	7.40	< 5.0	< 5.0	< 5.0	< 5.0	
	2/18/2002	7.00	**12.0**	< 5.0	< 5.0	< 5.0	
	5/23/2002	7.10	**4.0 J**	< 5.0	< 5.0	< 5.0	
	8/19/2002	7.60	**6.0**	< 5.0	< 5.0	< 5.0	
	11/20/2002	7.30	**5.0**	< 5.0	< 5.0	< 5.0	Methylene Chloride (2 BJ) Napthalene (2 BJ)
	2/18/2003	7.30	**11.0**	< 5.0	< 5.0	< 5.0	
	5/28/2003	7.30	**4.0**	< 5.0	< 5.0	< 5.0	
	8/26/2003	7.70	**3.0 J**	< 5.0	< 5.0	< 5.0	
	11/19/2003	7.40	**3.0 J**	< 5.0	< 5.0	**3.0 J**	
	2/5/2004	7.40	**9.3**	< 5.0	< 5.0	< 5.0	
	5/18/2004	7.30	**3.7 J**	< 5.0	< 5.0	< 5.0	

TABLE G-3(a)

GROUNDWATER MONITORING WELL ANALYTICAL SUMMARY RESULTS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

Well Identification	Date	pH	PCE (µg/L)	TCE (µg/L)	1,2 - Dichloroethene (µg/L)	Chloroform (µg/L)	Comments:
	8/24/2004	7.00	**3.8 J**	< 5.0	< 5.0	**3.1 J**	
	11/16/2004	7.10	**6.2**	< 5.0	< 5.0	**3.0 J**	
	3/1/2005	7.30	**20.0**	< 5.0	< 5.0	< 5.0	
	5/24/2005	7.20	**16.0**	< 5.0	< 5.0	< 5.0	
	8/23/2005	7.40	**7.3 J**	< 5.0	< 5.0	**3.8**	
	11/15/2005	7.30	**7.2 J**	< 5.0 UJ	< 5.0 UJ	**3.8 J**	
	2/21/2006	7.40	**28.0**	< 5.0	< 5.0	< 5.0	
	5/23/2006	7.20	**14.0**	< 5.0	< 5.0	**3.0 J**	
	8/22/2006	7.30	**8.4**	< 5.0	< 5.0	**3.5**	
	11/15/2006	7.30	**8.2**	<0.5	< 0.5[a]	**5.5**	
	2/13/2007	7.10	**19**	<0.5	< 0.5[a]	**2.0**	
	5/23/2007	7.60	**8.8**	<0.5	< 0.5[a]	**3.7**	
	8/22/2007	7.20	**7.9**	<0.5	< 0.5[a]	**5.7**	Bromodichloromethane (0.3 J)
	11/27/2007	7.09	**7.8**	<0.5	< 0.5[a]	**6.7**	Bromodichloromethane (0.3 J)
	2/27/2008	7.21	**17**	<0.5	< 0.5[a]	**1.7**	
	5/20/2008	7.27	**7.1**	<0.5	< 0.5[a]	**4.4**	
	8/19/2008	7.30	**5.5**	<0.5	< 0.5[a]	**5.2**	
	12/2/2008	6.92	**4.6**	<0.5	< 0.5[a]	**5.5**	
	2/17/2009	7.18	**12**	<0.5	< 0.5[a]	**2.3**	
	6/2/2009	7.37	**3.7**	< 0.5	< 0.5[a]	**4.5**	Bromodichloromethane (0.3 J)
	8/11/2009	7.10	**2.1**	< 0.5	< 0.5[a]	**3.2**	
	11/11/2009	7.29	**2.5**	< 0.5	< 0.5[a]	**3.3**	
MW-14A	8/20/2001	7.10	**2.0 J**	< 5.0	< 5.0	< 5.0	
	11/13/2001	7.00	< 5.0	< 5.0	< 5.0	< 5.0	
	2/18/2002	6.90	< 5.0	< 5.0	< 5.0	< 5.0	
	5/23/2002	7.00	< 5.0	< 5.0	< 5.0	< 5.0	
	8/19/2002	7.10	**1.0 J**	< 5.0	< 5.0	< 5.0	
	11/20/2002	7.30	< 5.0	< 5.0	< 5.0	< 5.0	Methylene Chloride (1BJ)
	2/18/2003	7.30	**8**	< 5.0	< 5.0	**1.0 J**	1,2,4-Trichlorobenzene (1 J) 1,2,3-Trichlorobenzene (2 J) Napthalene (3 BJ)
	5/28/2003	7.10	< 5.0	< 5.0	< 5.0	< 5.0	Napthalene (9 B)
	8/26/2003	7.90	< 5.0	< 5.0	< 5.0	< 5.0	
	11/19/2003	7.60	< 5.0	< 5.0	< 5.0	< 5.0	
	2/5/2004	7.30	< 5.0	< 5.0	< 5.0	< 5.0	
	5/18/2004	7.30	< 5.0	< 5.0	< 5.0	< 5.0	
	8/24/2004	6.80	< 5.0	< 5.0	< 5.0	< 5.0	
	11/16/2004	6.90	< 5.0	< 5.0	< 5.0	< 5.0	
	3/1/2005	7.30	**16**	< 5.0	< 5.0	< 5.0	
	5/24/2005	7.10	< 5.0	< 5.0	< 5.0	< 5.0	
	8/23/2005	7.30	< 5.0	< 5.0	< 5.0	< 5.0	
	11/15/2005	7.30	< 5.0 UJ	< 5.0 UJ	< 5.0 UJ	< 5.0 UJ	
	2/21/2006	7.20	< 5.0	< 5.0	< 5.0	< 5.0	
	5/23/2006	7.10	< 5.0	< 5.0	< 5.0	< 5.0	
	8/22/2006	7.10	**1.2**	< 5.0	< 5.0	**0.5**	
	11/15/2006	7.20	**1.6 J+**	<0.5	< 0.5[a]	**0.7 J+**	
	2/13/2007	7.10	**11**	<0.5	< 0.5[a]	**0.4**	
	5/22/2007	7.60	**1.8**	<0.5	< 0.5[a]	**0.6**	
	8/21/2007	7.30	**2.0**	<0.5	< 0.5[a]	**0.6**	
	11/27/2007	6.90	**1.7**	<0.5	< 0.5[a]	**0.4**	
	2/27/2008	7.26	**11**	<0.5	< 0.5	**0.4**	
	5/20/2008	7.11	**1.8**	<0.5	< 0.5[a]	**0.5 U**	
	8/19/2008	7.18	**2**	<0.5	< 0.5[a]	**0.7**	
	12/2/2008	6.80	**1.6**	<0.5	< 0.5[a]	**0.5 U**	
	2/17/2009	7.18	**12**	<0.5	< 0.5[a]	**0.3**	
	6/2/2009	7.25	**1.9**	< 0.5	< 0.5[a]	**1.3**	
	8/11/2009	7.00	**1.3**	< 0.5	< 0.5[a]	**1**	
	11/11/2009	7.23	**2.8**	< 0.5	< 0.5[a]	**0.4**	

TABLE G-3(a)

GROUNDWATER MONITORING WELL ANALYTICAL SUMMARY RESULTS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

Well Identification	Date	pH	PCE (µg/L)	TCE (µg/L)	1,2 - Dichloroethene (µg/L)	Chloroform (µg/L)	Comments:
MW-15A	8/21/2001	7.60	< 5.0	< 5.0	< 5.0	< 5.0	
	11/15/2001	7.40	< 5.0	< 5.0	< 5.0	< 5.0	
	2/18/2002	7.20	< 5.0	< 5.0	< 5.0	< 5.0	
	5/23/2002	7.00	< 5.0	< 5.0	< 5.0	< 5.0	
	8/19/2002	7.60	< 5.0	< 5.0	< 5.0	< 5.0	
	11/20/2002	7.50	< 5.0	< 5.0	< 5.0	< 5.0	Methylene Chloride (2 BJ)
	2/18/2003	7.50	**0.9 J**	< 5.0	< 5.0	< 5.0	1,2,4-Trichlorobenzene (1 J) 1,2,3-Trichlorobenzene (1 J) Napthalene (3 BJ)
	5/28/2003	7.50	< 5.0	< 5.0	< 5.0	< 5.0	
	8/26/2003	7.60	< 5.0	< 5.0	< 5.0	< 5.0	
	11/19/2003	7.50	< 5.0	< 5.0	< 5.0	< 5.0	
	2/5/2004	7.40	< 5.0	< 5.0	< 5.0	< 5.0	
	5/18/2004	7.80	< 5.0	< 5.0	< 5.0	< 5.0	
	8/24/2004	7.10	< 5.0	< 5.0	< 5.0	< 5.0	
	11/16/2004	7.10	< 5.0	< 5.0	< 5.0	< 5.0	
	3/1/2005	7.40	< 5.0	< 5.0	< 5.0	< 5.0	
	5/24/2005	7.50	< 5.0	< 5.0	< 5.0	< 5.0	
	8/23/2005	7.50	< 5.0	< 5.0	< 5.0	< 5.0	
	11/15/2005	7.30	< 5.0	< 5.0	< 5.0	< 5.0	
	2/21/2006	7.40	< 5.0	< 5.0	< 5.0	< 5.0	
	5/23/2006	7.40	< 5.0	< 5.0	< 5.0	< 5.0	
	8/22/2006	7.19	**0.4 J**	< 5.0	< 5.0	**0.7**	
	11/15/2006	7.40	**0.4 J**	<0.5	< 0.5[a]	**1.3**	
	2/13/2007	7.20	**0.3 J**	<0.5	< 0.5[a]	**0.4**	
	5/22/2007	7.70	**0.3 J**	<0.5	< 0.5[a]	**1.5**	
	8/21/2007	7.30	**0.5 J**	<0.5	< 0.5[a]	**1.9**	1,2-Dichloroethane (0.4 J)
	11/27/2007	7.09	**0.5 J**	<0.5	< 0.5[a]	**2.2**	1,2-Dichloroethane (0.6 J)
	2/27/2008	7.28	**0.5**	< 0.5	< 0.5[a]	**0.5**	
	5/20/2008	7.30	**0.3 J**	<0.5	< 0.5[a]	**1.6**	1,2-Dichloroethane (0.5)
	8/19/2008	7.31	**0.3 J-**	< 0.5	< 0.5[a]	**2.3 J+**	
	12/2/2008	7.01	<0.5	<0.5	**1.0[a]**	**2.1 U**	
	2/17/2009	7.15	< 0.5	< 0.5	< 0.5[a]	**0.5**	
	6/2/2009	7.37	< 0.5	< 0.5	< 0.5[a]	**1.8**	1,2-Dichloroethane (0.7 J)
	8/11/2009	7.15	< 0.5	< 0.5	< 0.5[a]	**1.6**	1,2-Dichloroethane (0.9)
	11/10/2009	7.44	< 0.5	< 0.5	< 0.5[a]	**1.5**	1,2-Dichloroethane (0.6)
MW-16A	12/4/2008	7.12	<0.5	<0.5	< 0.5[a]	**0.6 U**	
	2/18/2009	7.13	**0.5**	<0.5	< 0.5[a]	**0.6**	
	6/9/2009	7.10	**0.2 J**	< 0.5	< 0.5[a]	**0.5**	
	8/12/2009	7.03	< 0.5	< 0.5	< 0.5[a]	**0.3**	
	11/11/2009	7.08	**1.6**	< 0.5	< 0.5[a]	**0.3 J**	
MW-16B	12/4/2008	7.15	**2.3**	<0.5	< 0.5[a]	**0.5 U**	
	2/18/2009	7.41	**3.8**	<0.5	< 0.5[a]	**0.6**	
	6/9/2009	7.13	**0.5**	< 0.5	< 0.5[a]	**1.3**	
	8/13/2009	7.25	**1.2**	< 0.5	< 0.5[a]	**0.4**	
	11/11/2009	7.32	**13**	< 0.5	< 0.5[a]	**0.8**	
MW-16C	12/4/2008	7.73	<0.5	<0.5	< 0.5[a]	<0.5	
	2/18/2009	7.93	**4.9**	<0.5	< 0.5[a]	**0.3**	
	6/9/2009	7.90	< 0.5	< 0.5	< 0.5[a]	**0.3 J**	
	8/12/2009	7.76	< 0.5	< 0.5	< 0.5[a]	< 0.5	
	11/11/2009	7.86	**0.8**	< 0.5	< 0.5[a]	< 0.5	
MW-17A	12/4/2008	6.99	**0.3 J**	<0.5	< 0.5[a]	**5.8**	
	2/19/2009	8.14	**2.9**	<0.5	< 0.5[a]	**11**	
	6/10/2009	7.05	**1.0**	< 0.5	< 0.5[a]	**8.4**	Bromodichloromethane (0.5 J)
	8/13/2009	7.02	**0.3**	< 0.5	< 0.5[a]	**3.6**	
	11/12/2009	6.96	**4.0**	< 0.5	< 0.5[a]	**4.4**	
MW-17B	12/4/2008	7.34	**40**	<0.5	< 0.5[a]	**0.6 U**	
	2/23/2009	7.45	**31**	<0.5	< 0.5[a]	**11**	
	6/10/2009	7.38	**41**	< 0.5	< 0.5[a]	**0.5**	

TABLE G-3(a)

GROUNDWATER MONITORING WELL ANALYTICAL SUMMARY RESULTS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

Well Identification	Date	pH	PCE (µg/L)	TCE (µg/L)	1,2 - Dichloroethene (µg/L)	Chloroform (µg/L)	Comments:
	8/14/2009	7.35	**40**	< 0.5	< 0.5[a]	< 0.5	
	11/9/2009	7.32	**51**	< 0.5	< 0.5[a]	< 0.5	
MW-17C	12/4/2008	7.93	**0.3 J**	<0.5	< 0.5[a]	**1.7 U**	
	2/19/2009	8.14	**1.8**	<0.5	< 0.5[a]	**0.5**	
	6/10/2009	7.97	**0.5**	< 0.5	< 0.5[a]	**0.3 J**	
	8/13/2009	7.66	< 0.5	< 0.5	< 0.5[a]	< 0.5	
	11/12/2009	7.89	**1.6**	<0.5	< 0.5[a]	<0.5	
MW-18A	12/3/2008	6.91	**4.6**	<0.5	< 0.5[a]	**4.9**	
	2/18/2009	7.06	**3.6**	<0.5	< 0.5[a]	**4.1**	
	6/9/2009	7.02	**3.3**	< 0.5	< 0.5[a]	**4.1**	
	8/13/2009	7.20	**2.4**	< 0.5	< 0.5[a]	**3.2**	
	11/11/2009	7.36	**4.8**	< 0.5	< 0.5[a]	**3.3**	
MW-19A	12/8/2008	7.36	<0.5	<0.5	< 0.5[a]	**1.4**	
	2/17/2009	7.31	**0.4**	<0.5	< 0.5[a]	**1.2**	
	6/8/2009	7.24	< 0.5	< 0.5	< 0.5[a]	**0.9**	
	8/11/2009	7.17	< 0.5	< 0.5	< 0.5[a]	**0.7**	
	11/10/2009	7.27	**3.3**	< 0.5	< 0.5[a]	**1.2**	
MW-19B	12/8/2008	7.52	<0.5	<0.5	< 0.5[a]	**0.5**	
	2/17/2009	7.56	**0.5**	<0.5	< 0.5[a]	**1.2**	
	6/8/2009	7.57	**0.4 J**	< 0.5	< 0.5[a]	< 0.5	
	8/11/2009	7.43	< 0.5	< 0.5	< 0.5[a]	< 0.5	
	11/10/2009	7.47	**2.2**	< 0.5	< 0.5[a]	< 0.5	
MW-20A	12/8/2008	7.24	**120**	<0.5	< 0.5[a]	**11**	
	2/24/2009	7.34	**180**	<0.5	< 0.5[a]	**11**	Dichlorofluoromethane (17) Bromodichloromethane (0.6)
	6/11/2009	7.25	**170**	< 0.5	< 0.5[a]	**11**	Dichlorofluoromethane (11 J-) Bromodichloromethane (0.5)
	8/14/2009	7.21	**130**	< 0.5	< 0.5[a]	**7.5**	Dichlorofluoromethane (12 J-) Bromodichloromethane (0.4 J-)
	11/9/2009	7.21	**180**	< 0.5	< 0.5[a]	**8.6**	Dichlorofluoromethane (8.1 J) Bromodichloromethane (0.5)
MW-20B	12/9/2008	7.78	**160**	<0.5	< 0.5[a]	**0.4 J**	
	2/24/2009	7.78	**140**	<0.5	< 0.5[a]	<0.5	
	6/11/2009	7.70	**150**	< 0.5	< 0.5[a]	< 0.5	
	8/14/2009	7.69	**150**	< 0.5	< 0.5[a]	< 0.5	
	11/9/2009	7.69	**160**	< 0.5	< 0.5[a]	< 0.5	
MW-20C	12/8/2008	7.90	**<0.5**	<0.5	< 0.5[a]	**<0.5**	
	2/17/2009	8.00	**0.3**	<0.5	< 0.5[a]	**<0.5**	
	6/8/2009	7.86	< 0.5	< 0.5	< 0.5[a]	< 0.5	
	8/12/2009	7.28	< 0.5	< 0.5	< 0.5[a]	< 0.5	
	11/10/2009	7.96	**1.3**	< 0.5	< 0.5[a]	< 0.5	

Notes:
[a] 1,2-Dichloroethene was not analyzed for in the 524.2 analysis. The value shown is the additive of cis-1,2-Dichloroethene and trans-1,2-Dichloroethene.

µg/L - micrograms per liter
D - Diluted reanalysis
E - The reported value exceeds linear range
J - Estimated value
J+ - Estimated value, High Bias
J- - Estimated value, Low Bias
MW - Monitoring Well
PCE - Tetrachloroethene
TCE - Trichloroethene
UJ - The analyte was analyzed for, but not detected. The sample detection limit is an estimated value.
NA - Not analyzed

TABLE G-3(b)

GROUNDWATER MONITORING WELL ANALYTICAL SUMMARY RESULTS
MODESTO GROUNDWATER SUPERFUND SITE
MODESTO, CALIFORNIA

Well Identification	Date	Sample Code	pH	PCE	TCE
MW-01A	03/10/2010 11:51		7.53	1.9	< 0.5
	05/18/2010 9:16		6.90	2.6	< 0.5
	08/24/2010 12:10		6.92	2.2	< 0.5
	11/09/2010 12:30		7.14	2.0	< 0.5
	03/08/2011 10:46		7.01	2.0	< 0.5
MW-02A	03/09/2010 10:20		7.13	5.8	< 0.5
	05/18/2010 9:52		7.05	4.6	< 0.5
	08/24/2010 13:12		7.22	5.2	< 0.5
	11/09/2010 14:30		7.24	4.6	< 0.5
	03/08/2011 12:00	FD	7.06	4.9 J	< 0.5
	03/08/2011 12:38		7.06	4.8	< 0.5
MW-03A	03/11/2010 16:15		7.06	42	< 0.5
	05/19/2010 16:10		7.00	42	< 0.5
	08/26/2010 12:00	FD	6.58	120	< 0.5
	08/26/2010 13:34		6.58	150	< 0.5
	11/11/2010 10:40		7.07	37	< 0.5
	03/11/2011 7:51		6.83	39	< 0.5
MW-04A	03/10/2010 11:19		7.82	510	0.4 J
	05/19/2010 9:43		6.85	1900	< 10
	08/25/2010 11:31		6.96	2100	< 12
	11/10/2010 13:26		7.2	1500	2.5
	03/09/2011 11:27		7.11	860	< 0.5
MW-04B	03/11/2010 9:00	FD	7.41	5.2	< 0.5
	03/11/2010 13:25		7.41	5.2	< 0.5
	05/19/2010 10:45		7.31	6.5	< 0.5
	08/25/2010 14:21		7.65	4.5	< 0.5
	11/09/2010 11:00		7.26	14	< 0.5
	03/09/2011 9:47		6.96	2.0	< 0.5
MW-04C	03/11/2010 12:30		7.68	0.4 J	< 0.5
	05/18/2010 14:50		7.66	< 0.5	< 0.5
	08/24/2010 12:20		7.76	< 0.5	< 0.5
	11/09/2010 9:58		7.3	< 0.5	< 0.5
	03/09/2011 9:01		7.07	< 0.5	< 0.5
MW-05A	03/09/2010 12:20		7.60	210	< 0.5
	05/18/2010 14:40		7.14	150	< 0.5
	08/25/2010 10:42		6.68	110	< 0.5
	11/10/2010 12:02		7.22	150	< 0.5
	03/09/2011 10:51		7.07	110	< 0.5
MW-06A	03/09/2010 13:29		7.21	48	< 0.5
	05/18/2010 14:00		7.31	7.9	< 0.5
	08/24/2010 14:07		7.35	6.0	< 0.5
	11/10/2010 12:00	FD	7.35	6.5	< 0.5
	11/10/2010 8:27		7.35	6.5	< 0.5
	03/08/2011 13:36		7.17	42	< 0.5

TABLE G-3(b)

GROUNDWATER MONITORING WELL ANALYTICAL SUMMARY RESULTS
MODESTO GROUNDWATER SUPERFUND SITE
MODESTO, CALIFORNIA

Well Identification	Date	Sample Code	pH	PCE	TCE
MW-07A	03/08/2010 15:00		6.91	0.3 J	< 0.5
	05/17/2010 13:31		6.95	< 0.5	< 0.5
	08/24/2010 10:52		6.66	< 0.5	< 0.5
	11/09/2010 10:16		7.01	< 0.5	< 0.5
	03/08/2011 8:38		6.87	0.6	< 0.5
MW-08A	03/09/2010 14:12		6.72	46	< 0.5
	05/18/2010 12:59		7.08	39	< 0.5
	05/18/2010 13:05	FD	7.08	36	< 0.5
	08/25/2010 9:26		6.7	20	< 0.5
	11/10/2010 10:51		7.14	29	< 0.5
	03/09/2011 9:08		7.06	40	< 0.5
MW-09B	03/09/2010 13:40		6.96	1.0	< 0.5
	05/17/2010 14:15		7.41	3.6	< 0.5
	08/24/2010 12:00	FD	7.42	17	< 0.5
	08/24/2010 12:43		7.42	17	< 0.5
	11/10/2010 9:04		7.51	4.4	< 0.5
	03/08/2011 11:31		7.52	1.7	< 0.5
MW-10A	03/09/2010 14:10		7.05	210	< 0.5
	05/19/2010 8:59		6.54	110	< 0.5
	08/25/2010 10:14		6.69	130	< 0.5
	11/10/2010 12:56		7.10	44	< 0.5
	03/09/2011 9:51		6.96	130	0.2 J
MW-10B	03/11/2010 11:00		7.48	18	< 0.5
	05/19/2010 11:35		7.38	18	< 0.5
	08/25/2010 15:37		7.63	9.4	< 0.5
	11/11/2010 12:28		7.26	25	< 0.5
	03/09/2011 12:00		7.02	16	< 0.5
	03/09/2011 12:27		7.02	16	< 0.5
MW-10C	03/11/2010 10:15		7.72	0.3 J	< 0.5
	03/11/2010 13:00	FD	7.72	0.4 J	< 0.5
	05/18/2010 13:55		7.72	< 0.5	< 0.5
	08/24/2010 16:55		7.79	< 0.5	< 0.5
	11/12/2010 12:00	FD	7.56	< 0.5	< 0.5
	11/12/2010 9:22		7.56	< 0.5	< 0.5
	03/09/2011 11:43		7.2	< 0.5	< 0.5
MW-11A	03/09/2010 11:40		7.33	1.3	< 0.5
	05/18/2010 8:40		6.67	2.3	< 0.5
	08/24/2010 11:28		6.85	1.2	< 0.5
	11/09/2010 10:48		7.10	1.3	< 0.5
	03/08/2011 9:12		6.94	2.7	< 0.5
MW-12A	03/10/2010 10:14		7.67	20	< 0.5
	05/18/2010 12:00		7.24	18	< 0.5
	08/25/2010 8:22		6.68	24	< 0.5
	11/10/2010 11:30		7.32	23	< 0.5
	03/09/2011 8:28		7.11	21	< 0.5

TABLE G-3(b)

GROUNDWATER MONITORING WELL ANALYTICAL SUMMARY RESULTS
MODESTO GROUNDWATER SUPERFUND SITE
MODESTO, CALIFORNIA

Well Identification	Date	Sample Code	pH	PCE	TCE
MW-13A	03/09/2010 12:40		7.02	16	< 0.5
	05/18/2010 10:18		6.91	18	< 0.5
	05/18/2010 12:00	FD	6.91	16	< 0.5
	08/25/2010 8:58		6.75	2.9	< 0.5
	11/09/2010 14:02		7.13	2.8	< 0.5
	03/08/2011 9:50		6.97	16	< 0.5
MW-14A	03/09/2010 11:20		7.11	17	< 0.5
	05/18/2010 10:48		6.99	16	< 0.5
	08/24/2010 15:20		6.84	2.0	< 0.5
	11/09/2010 11:21		7.02	9.1	< 0.5
	03/08/2011 14:28		7.01	24	< 0.5
MW-15A	03/08/2010 14:40		6.98	< 0.5	< 0.5
	05/17/2010 12:57		6.92	< 0.5	< 0.5
	08/24/2010 10:27		6.65	0.2 J	< 0.5
	11/08/2010 14:51		6.96	< 0.5	< 0.5
	03/07/2011 14:14		6.99	< 0.5	< 0.5
MW-16A	03/10/2010 11:25		6.99	< 0.5	< 0.5
	05/17/2010 13:50		6.85	< 0.5	< 0.5
	08/26/2010 8:46		6.60	< 0.5	< 0.5
	11/10/2010 11:45		6.66	< 0.5	< 0.5
	03/08/2011 11:18		6.95	< 0.5	< 0.5
MW-16B	03/10/2010 12:20		7.30	4.9	< 0.5
	05/19/2010 9:50		6.94	1.4	< 0.5
	08/26/2010 10:33		6.78	1.8	< 0.5
	11/10/2010 12:50		6.85	4.7	< 0.5
	03/08/2011 13:21		7.14	3.3	< 0.5
MW-16C	03/10/2010 11:40		7.71	< 0.5	< 0.5
	05/17/2010 13:06		7.62	< 0.5	< 0.5
	08/26/2010 9:43		7.37	< 0.5	< 0.5
	11/10/2010 13:58		7.18	< 0.5	< 0.5
	03/08/2011 12:13		7.64	< 0.5	< 0.5
MW-17A	03/10/2010 14:45		7.50	0.3 J	< 0.5
	05/18/2010 10:35		6.73	0.3 J	< 0.5
	08/24/2010 17:29		6.81	< 0.5	< 0.5
	11/10/2010 9:12		6.63	< 0.5	< 0.5
	03/09/2011 14:40		6.73	0.6	< 0.5
MW-17B	03/10/2010 14:40		7.30	63	< 0.5
	05/19/2010 13:55		7.21	72	< 0.5
	08/24/2010 19:00		7.13	90	< 0.5
	11/12/2010 10:44		6.79	32 J	< 0.5
	03/10/2011 9:29		6.77	51	< 0.5
MW-17C	03/10/2010 14:05		7.66	< 0.5	< 0.5
	05/18/2010 10:10		7.54	< 0.5	< 0.5
	08/24/2010 12:00		7.59	< 0.5	< 0.5
	08/24/2010 18:23		7.59	< 0.5	< 0.5
	11/10/2010 10:30		7.16	< 0.5	< 0.5
	03/10/2011 8:55		7.01	< 0.5	< 0.5

TABLE G-3(b)

GROUNDWATER MONITORING WELL ANALYTICAL SUMMARY RESULTS
MODESTO GROUNDWATER SUPERFUND SITE
MODESTO, CALIFORNIA

Well Identification	Date	Sample Code	pH	PCE	TCE
MW-18A	03/10/2010 13:40		7.50	4.0	< 0.5
	05/19/2010 9:05		6.69	2.9	< 0.5
	08/25/2010 13:22		7.27	3.4	< 0.5
	11/10/2010 16:10		6.74	3.3	< 0.5
	03/11/2011 8:10		6.57	3.4	< 0.5
MW-19A	03/11/2010 12:34		7.56	0.8	< 0.5
	05/18/2010 12:35		7.00	< 0.5	< 0.5
	08/25/2010 9:52		7.03	21	< 0.5
	11/11/2010 13:09		7.05	< 0.5	< 0.5
	03/08/2011 9:20		7.05	0.2 J	< 0.5
MW-19B	03/11/2010 10:35		7.62	0.3 J	< 0.5
	05/18/2010 11:57		7.24	0.2 J	< 0.5
	05/18/2010 12:00	FD	7.24	0.6	< 0.5
	08/25/2010 10:53		7.29	0.4 J	< 0.5
	11/09/2010 12:00	FD	7.22	< 0.5	< 0.5
	11/09/2010 13:00		7.22	< 0.5	< 0.5
	03/08/2011 10:12		7.23	0.3 J	< 0.5
MW-20A	03/11/2010 12:00	FD	7.40	130	< 0.5
	03/11/2010 14:11		7.40	120	< 0.5
	05/19/2010 15:15		7.09	310 J	< 0.5
	08/26/2010 12:15		6.74	28	< 0.5
	11/11/2010 14:00		7.13	180 J	< 0.5
	03/10/2011 12:23		6.74	260	1.0
MW-20B	03/11/2010 15:10		7.80	73	< 0.5
	05/19/2010 14:50		7.53	120 J+	< 0.5
	08/26/2010 11:32		7.38	140	< 0.5
	11/11/2010 14:50		7.40	96	< 0.5
	03/10/2011 11:49		7.10	100	1.0
MW-20C	03/11/2010 15:59		8.04	< 0.5	< 0.5
	05/18/2010 9:00		7.56	< 0.5	< 0.5
	08/25/2010 8:48		7.51	< 0.5	< 0.5
	11/09/2010 15:10		7.38	< 0.5	< 0.5
	03/10/2011 11:07		7.27	< 0.5	< 0.5
	03/10/2011 12:00	FD	7.27	< 0.5	< 0.5

FD - field duplicate
J - Estimated value
J+ - Estimated value, High Bias
PCE - Tetrachloroethene
TCE - Trichloroethene
µg/L - micrograms per liter

Appendix G-4
Historical PCE Concentration Trends in Groundwater Monitoring Wells

FIGURE G-4(a)

HISTORICAL PCE CONCENTRATIONS IN GROUNDWATER MONITORING WELLS MODESTO SUPERFUND SITE MODESTO, CALIFORNIA

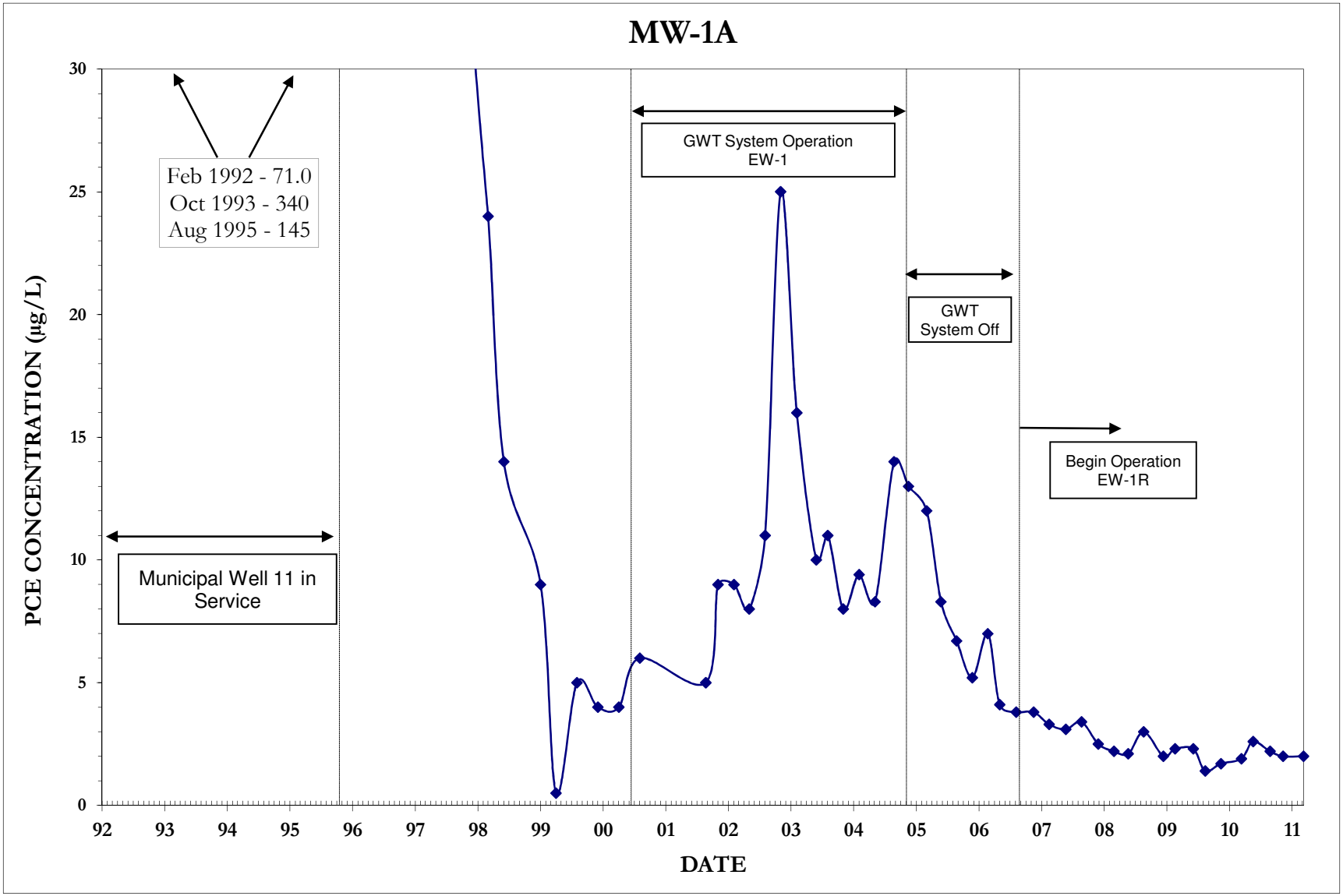


FIGURE G-4(b)

HISTORICAL PCE CONCENTRATIONS IN GROUNDWATER MONITORING WELLS MODESTO SUPERFUND SITE MODESTO, CALIFORNIA

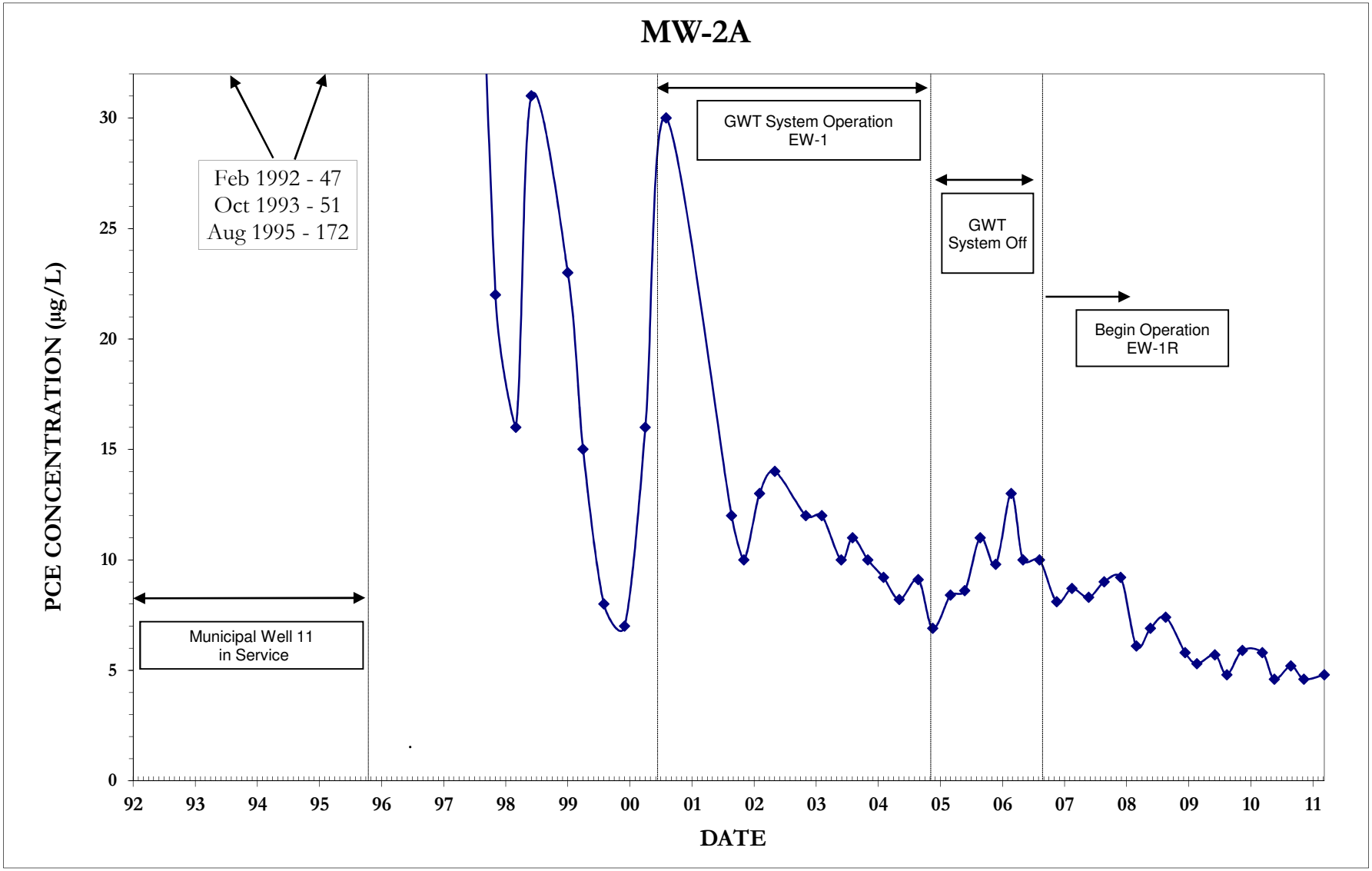


FIGURE G-4(c)

HISTORICAL PCE CONCENTRATIONS IN GROUNDWATER MONITORING WELLS MODESTO SUPERFUND SITE MODESTO, CALIFORNIA

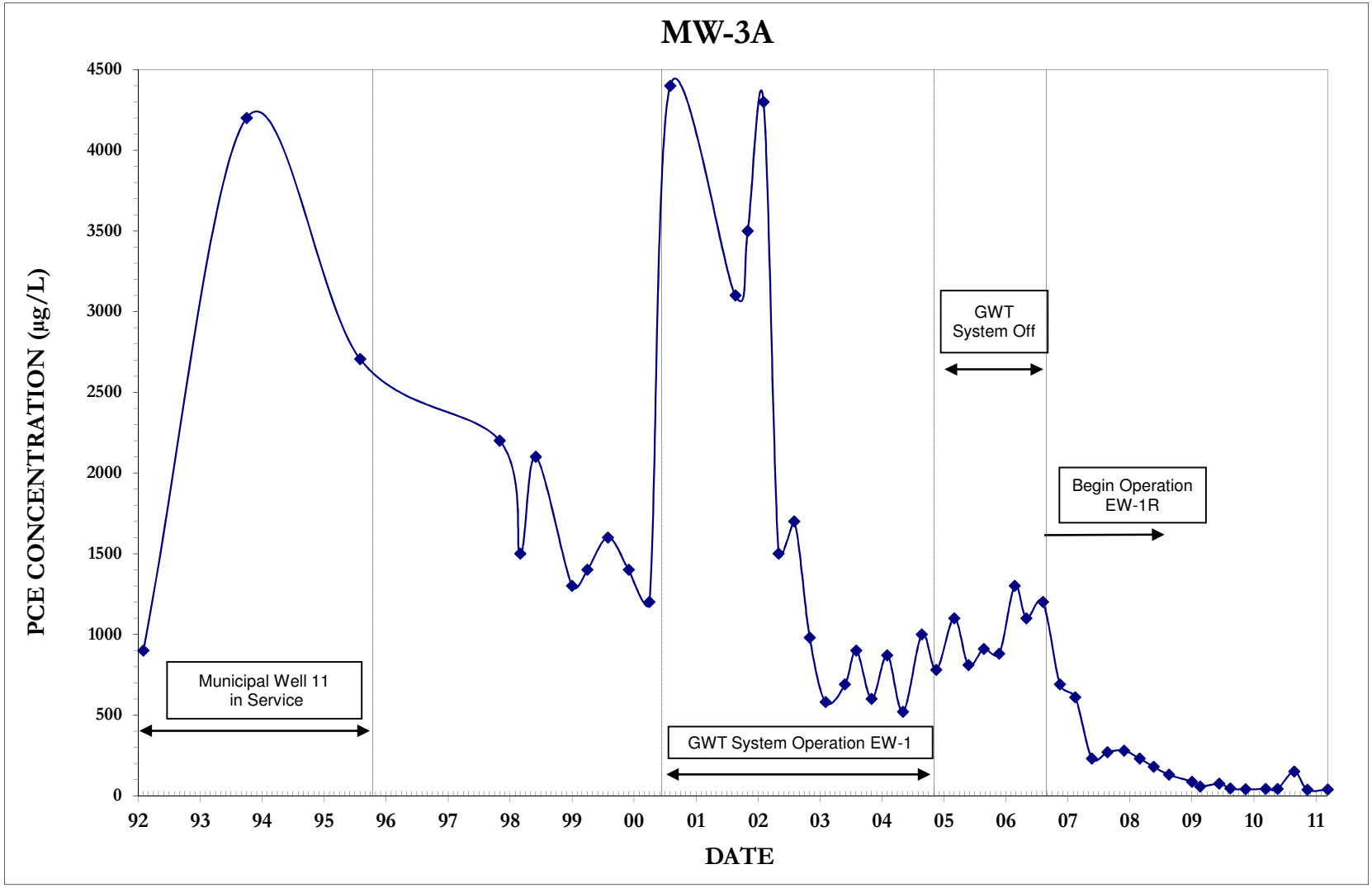


FIGURE G-4(d)

HISTORICAL PCE CONCENTRATIONS IN GROUNDWATER MONITORING WELLS MODESTO SUPERFUND SITE MODESTO, CALIFORNIA

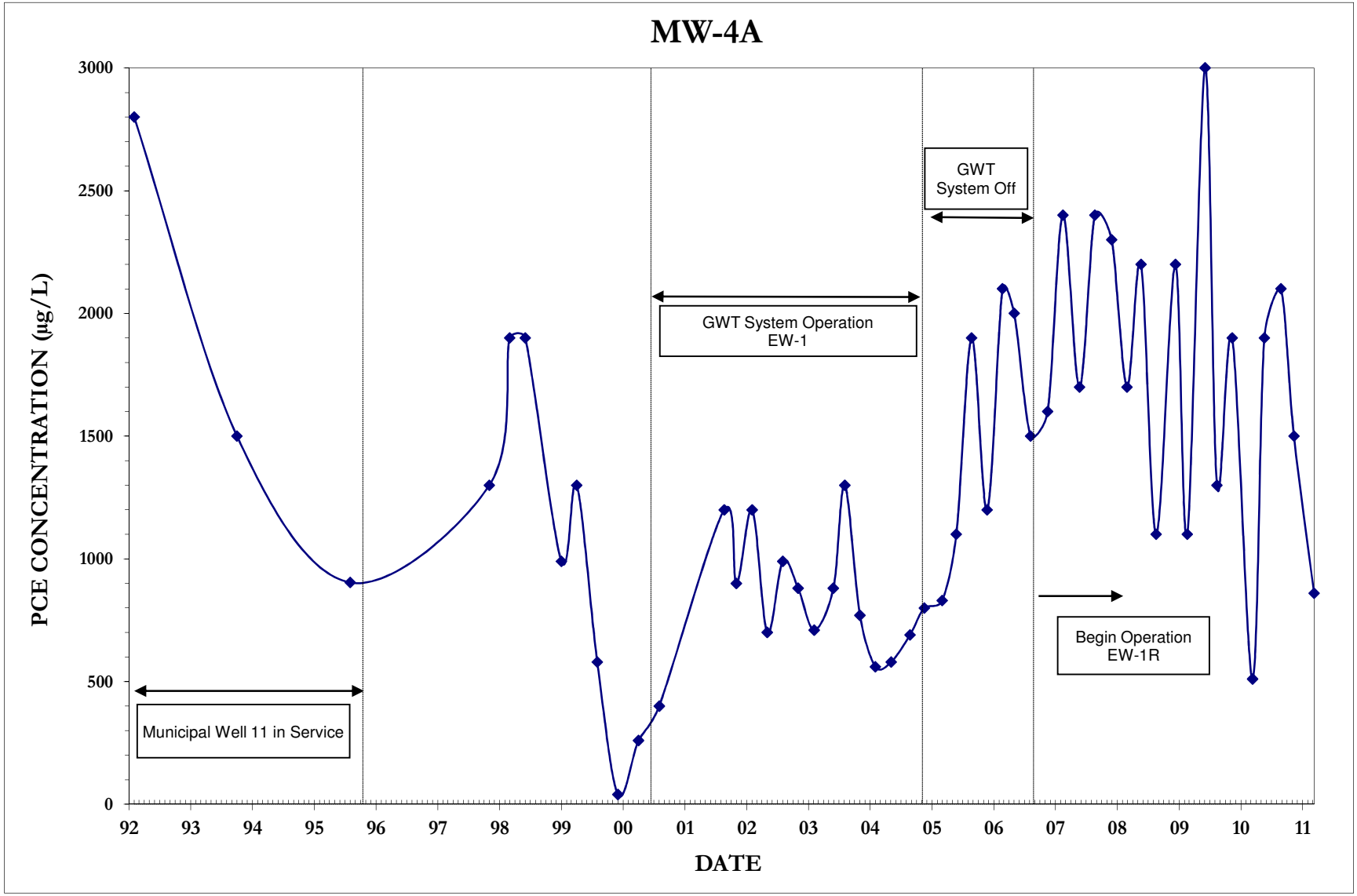


FIGURE G-4(e)

HISTORICAL PCE CONCENTRATIONS IN GROUNDWATER MONITORING WELLS MODESTO SUPERFUND SITE MODESTO, CALIFORNIA

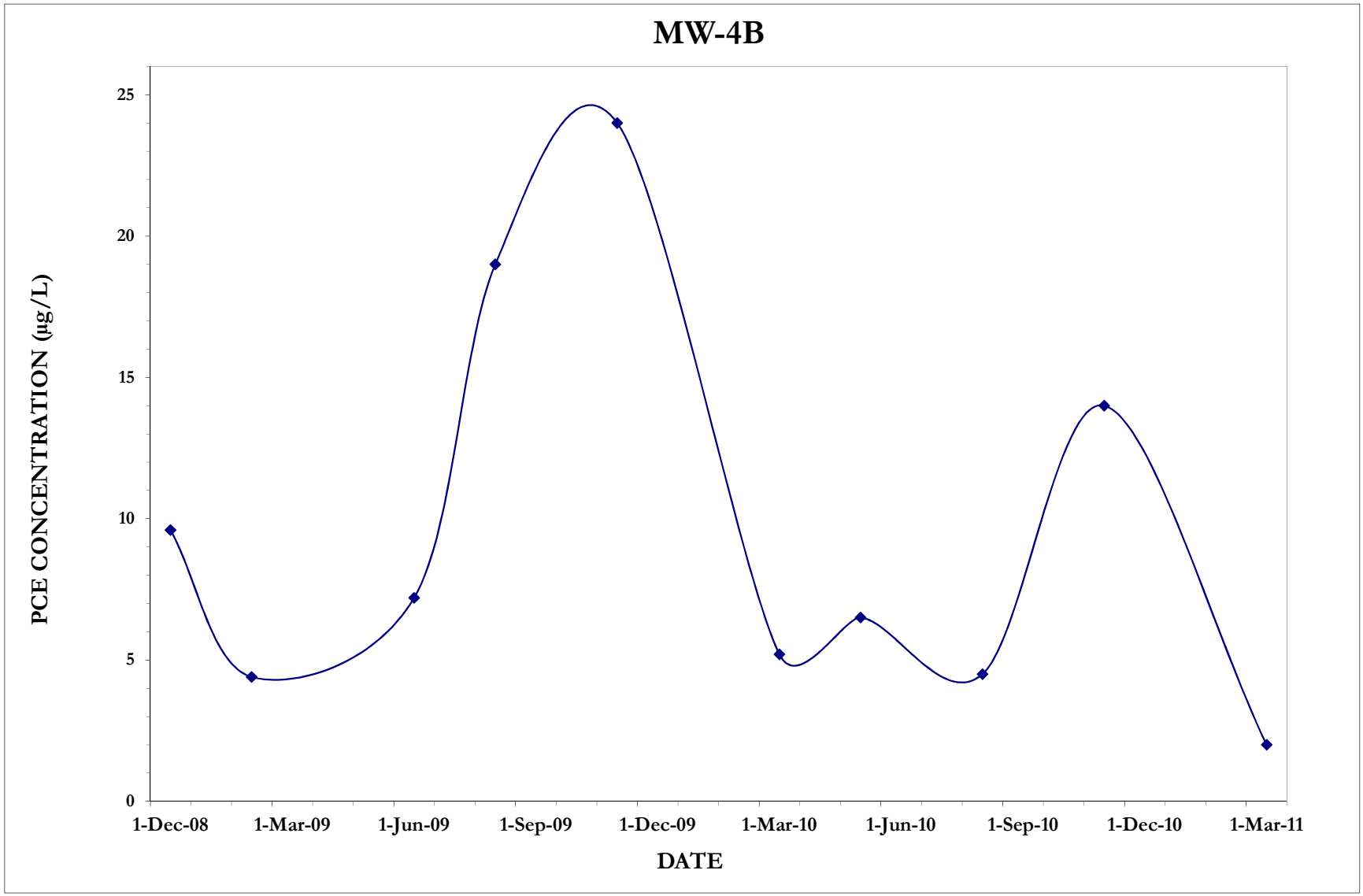


FIGURE G-4(f)

HISTORICAL PCE CONCENTRATIONS IN GROUNDWATER MONITORING WELLS MODESTO SUPERFUND SITE MODESTO, CALIFORNIA

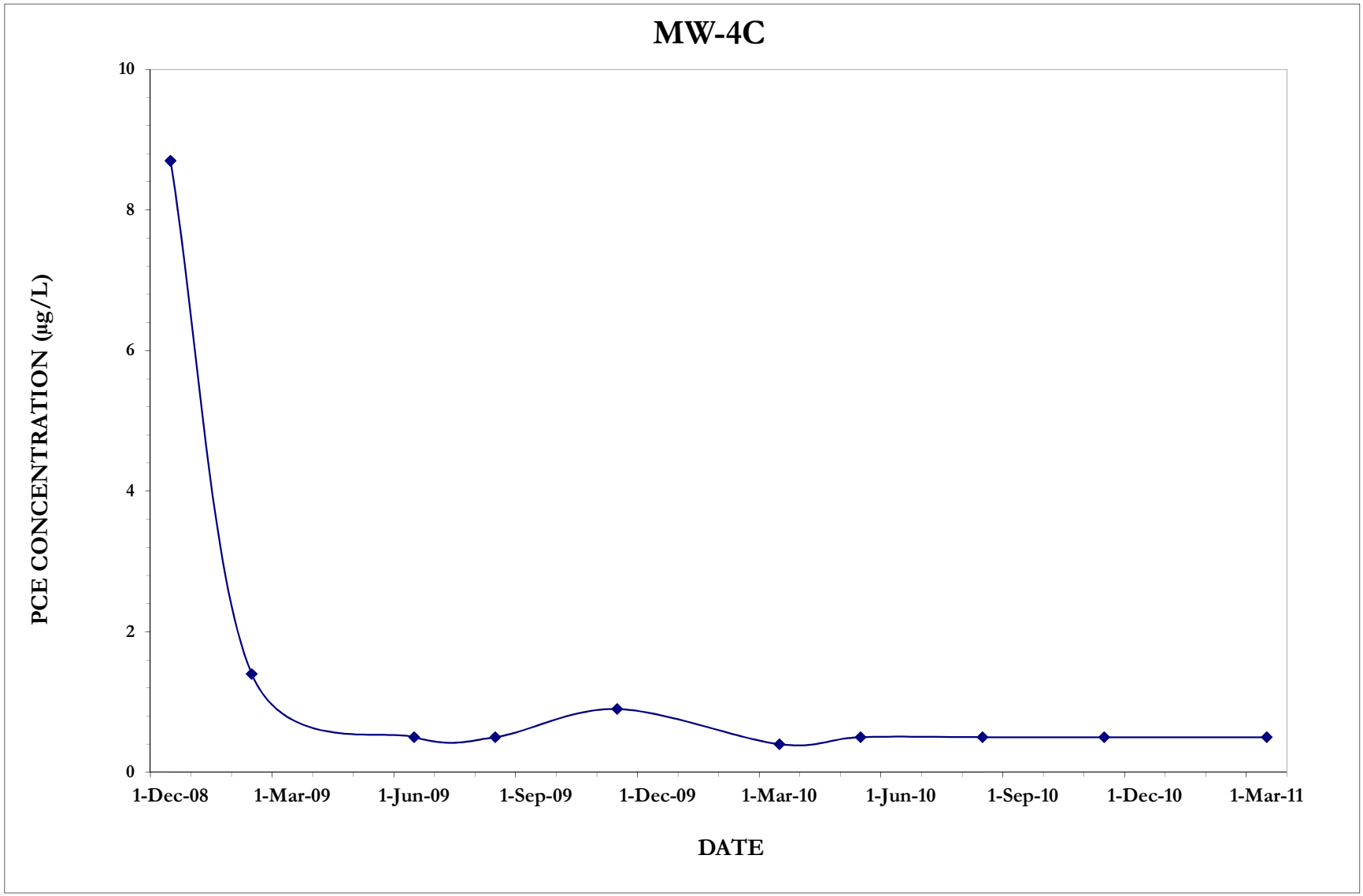


FIGURE G-4(g)

HISTORICAL PCE CONCENTRATIONS IN GROUNDWATER MONITORING WELLS MODESTO SUPERFUND SITE MODESTO, CALIFORNIA

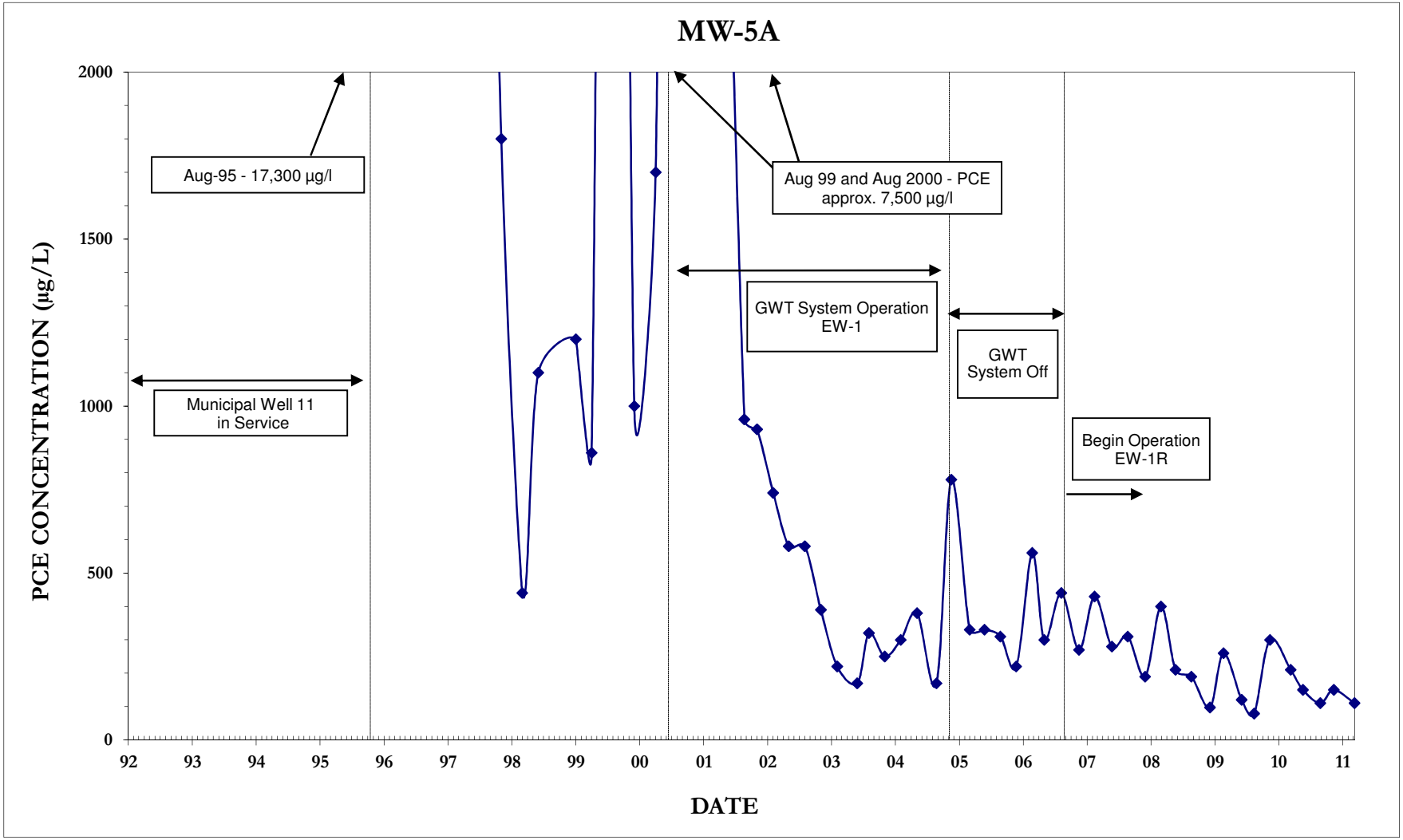


FIGURE G-4(h)

HISTORICAL PCE CONCENTRATION IN GROUNDWATER MONITORING WELLS MODESTO SUPERFUND SITE MODESTO, CALIFORNIA

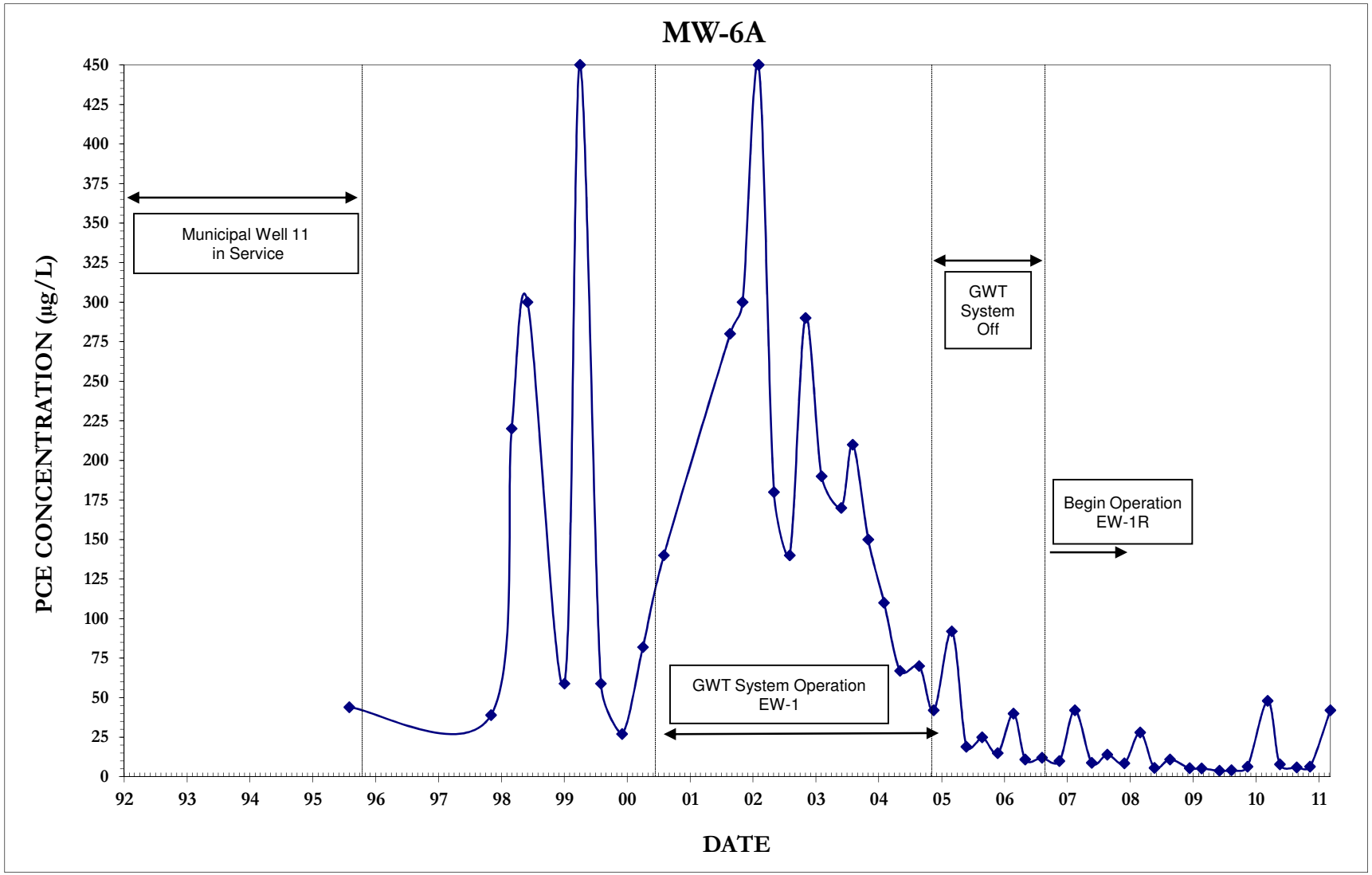


FIGURE G-4(i)

HISTORICAL PCE CONCENTRATIONS IN GROUNDWATER MONITORING WELLS MODESTO SUPERFUND SITE MODESTO, CALIFORNIA

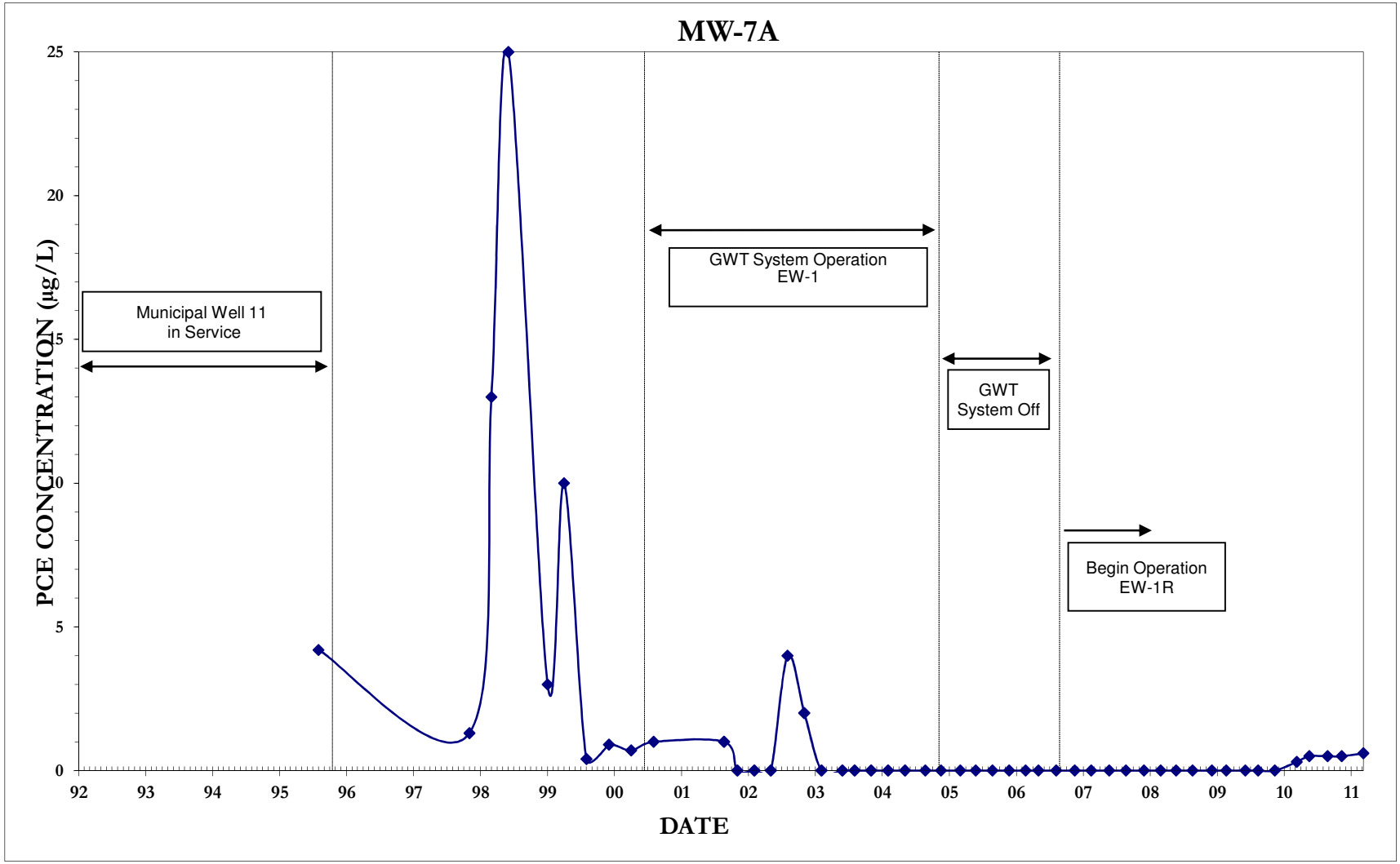


FIGURE G-4(j)

HISTORICAL PCE CONCENTRATIONS IN GROUNDWATER MONITORING WELLS MODESTO SUPERFUND SITE MODESTO, CALIFORNIA

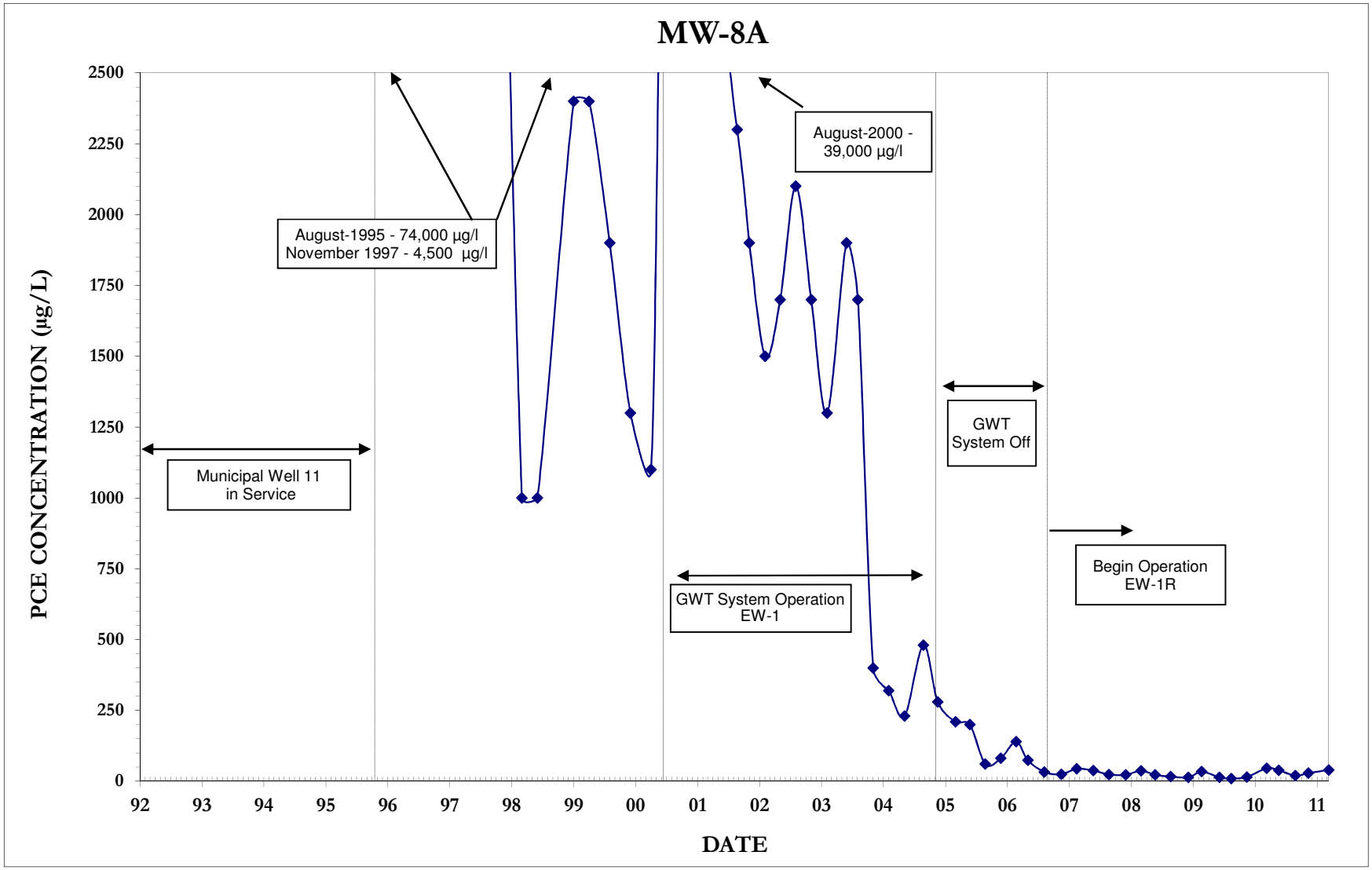


FIGURE G-4(k)

HISTORICAL PCE CONCENTRATIONS IN GROUDNWATER MONITORING WELLS MODESTO SUPERFUND SITE MODESTO, CALIFORNIA

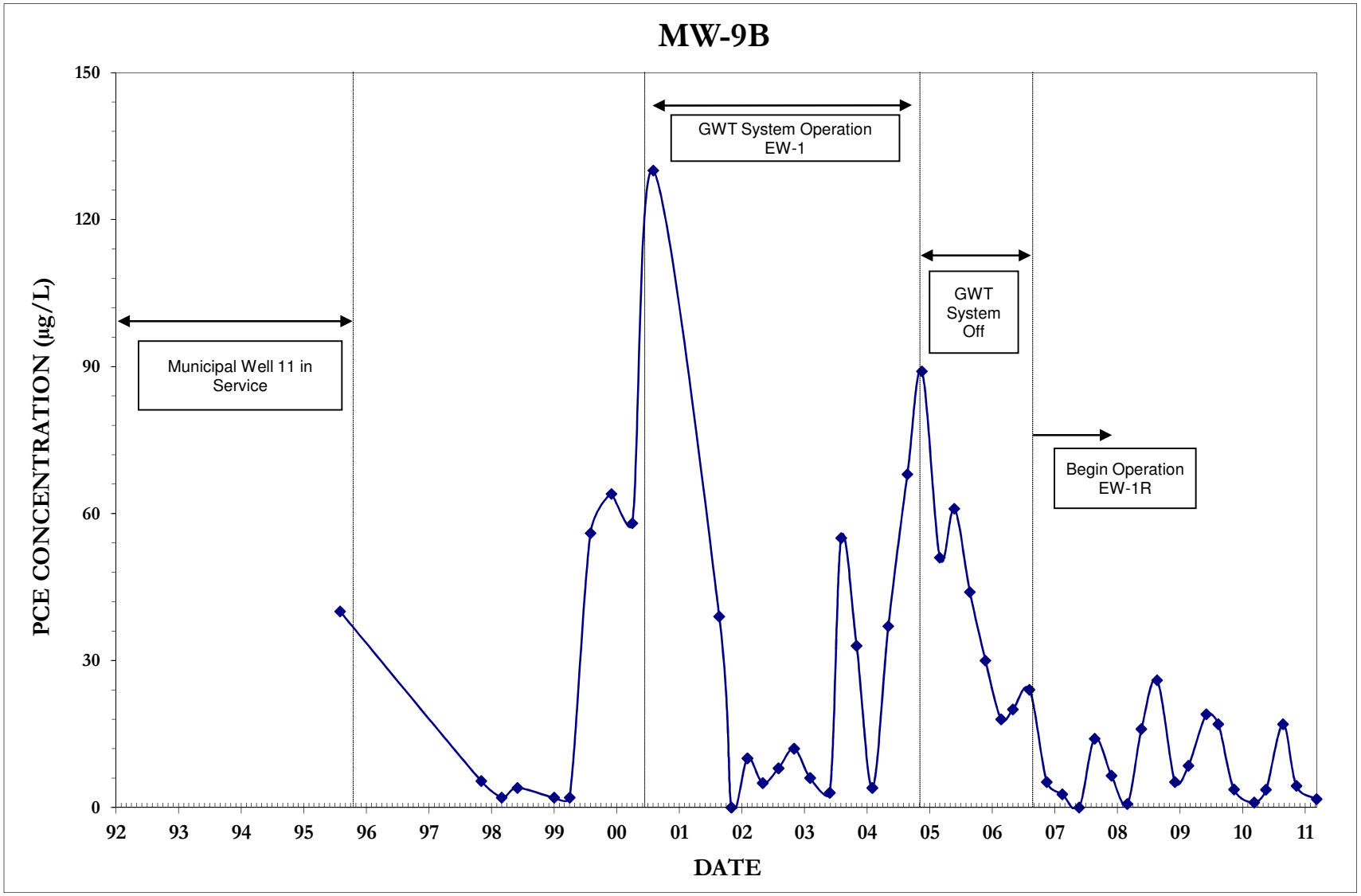


FIGURE G-4(I)

HISTORICAL PCE CONCENTRATIONS IN GROUNDWATER MONITORING WELLS MODESTO SUPERFUND SITE MODESTO, CALIFORNIA

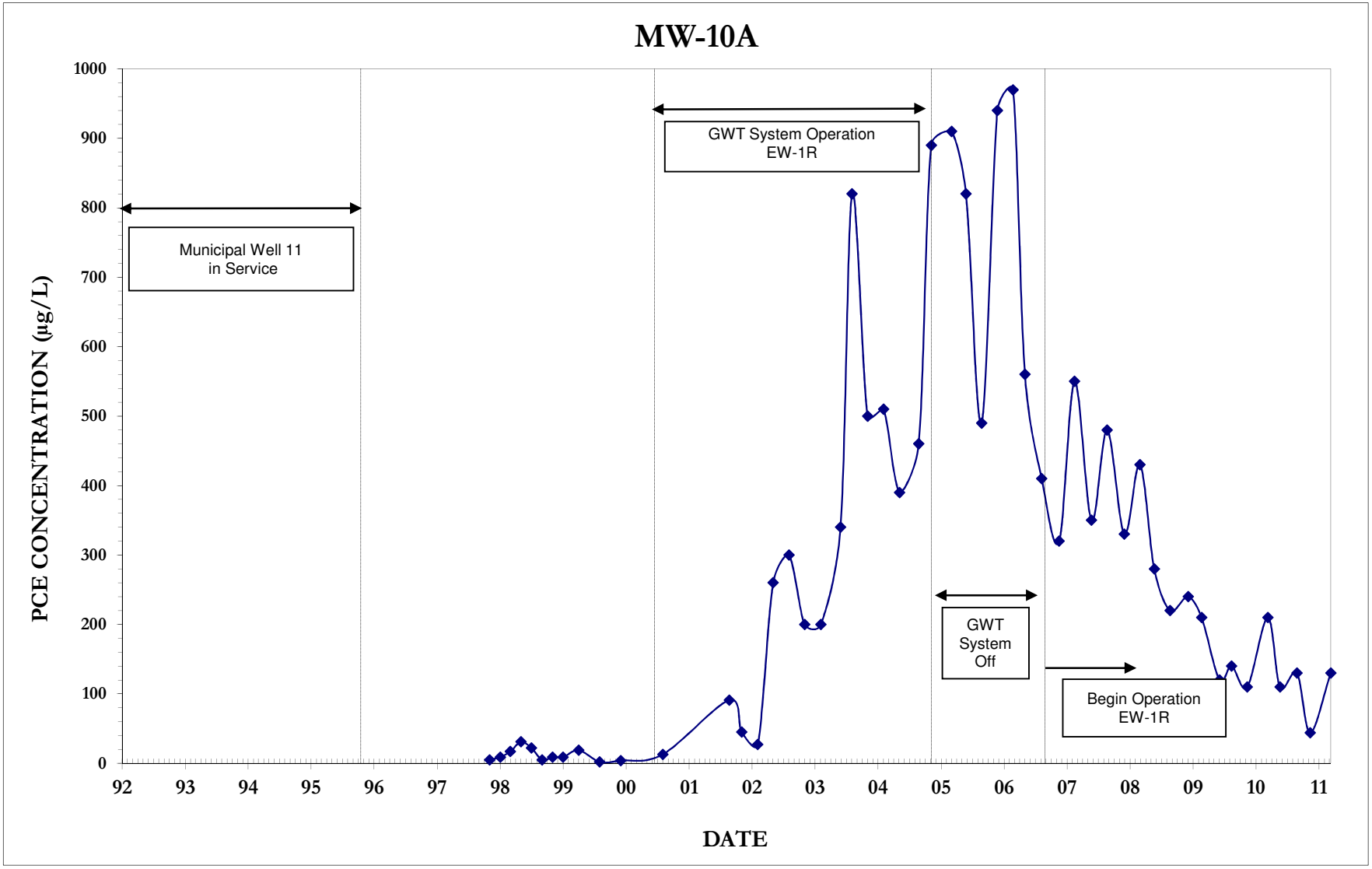


FIGURE G-4(m)

HISTORICAL PCE CONCENTRATIONS IN GROUNDWATER MONITORING WELLS MODESTO SUPERFUND SITE MODESTO, CALIFORNIA

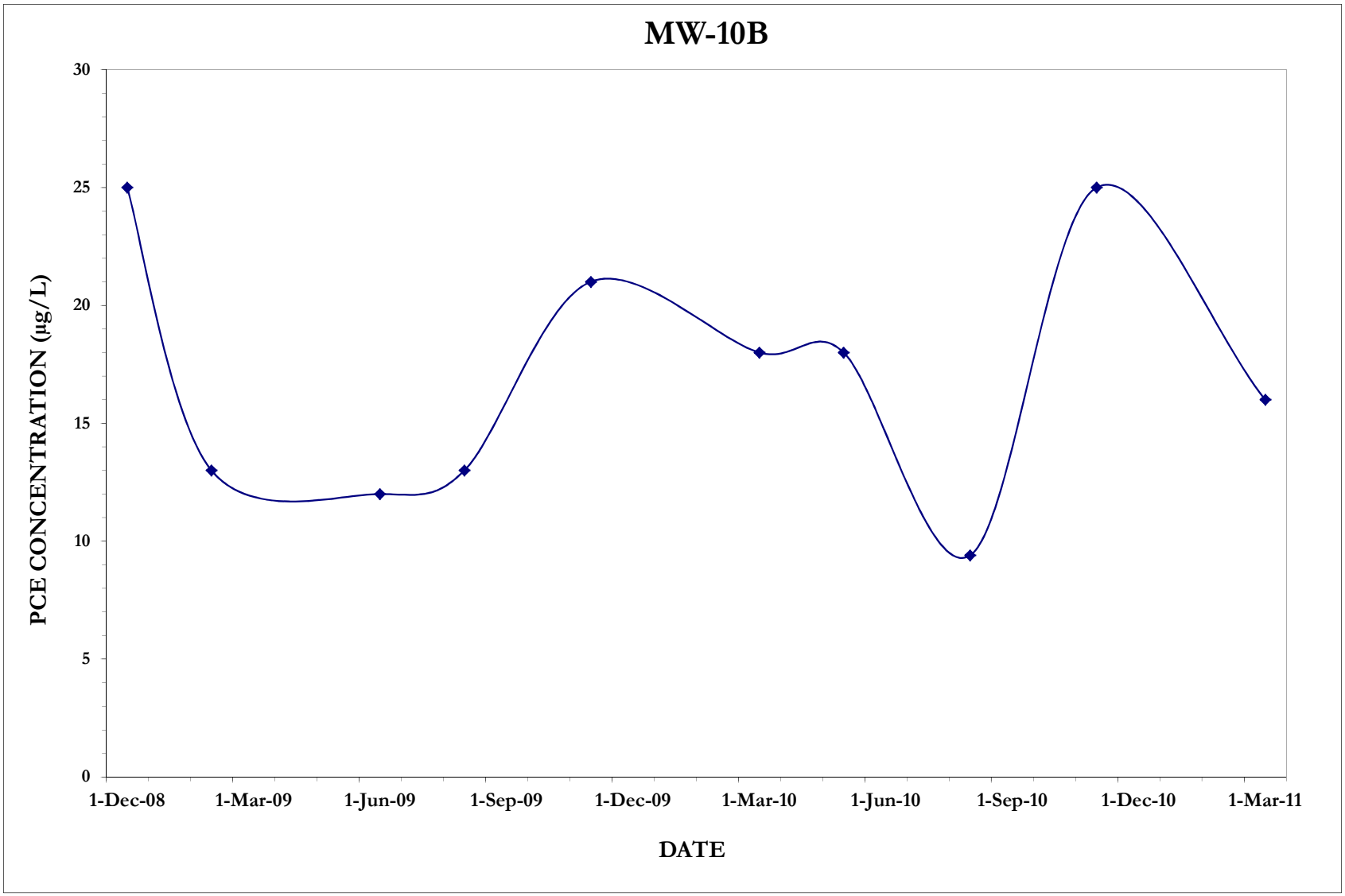


FIGURE G-4(n)

HISTORICAL PCE CONCENTRATIONS IN
GROUNDWATER MONITORING WELLS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

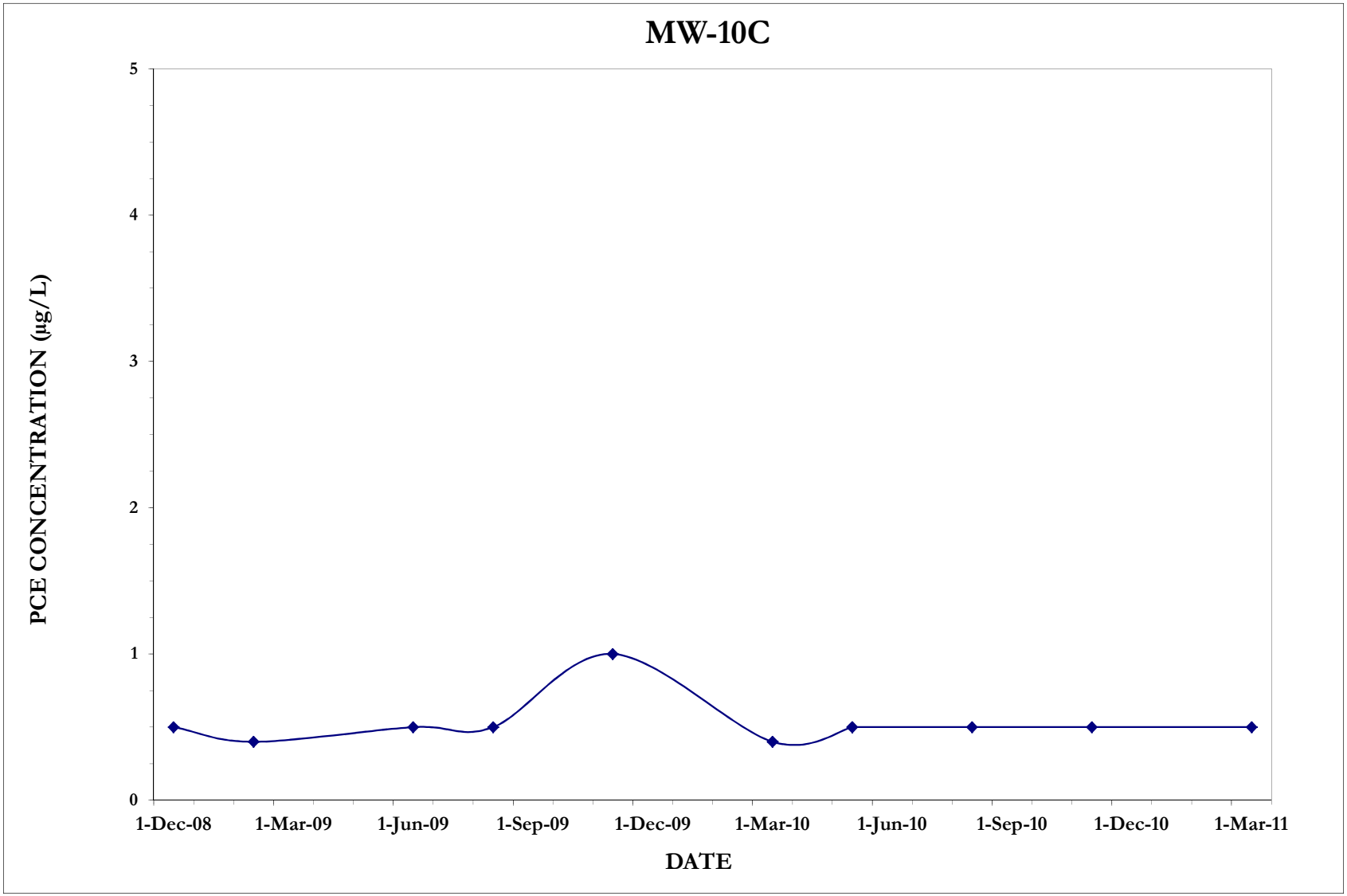


FIGURE G-4(o)

HISTORICAL PCE CONCENTRATIONS IN GROUNDWATER MONITORING WELLS MODESTO SUPERFUND SITE MODESTO, CALIFORNIA

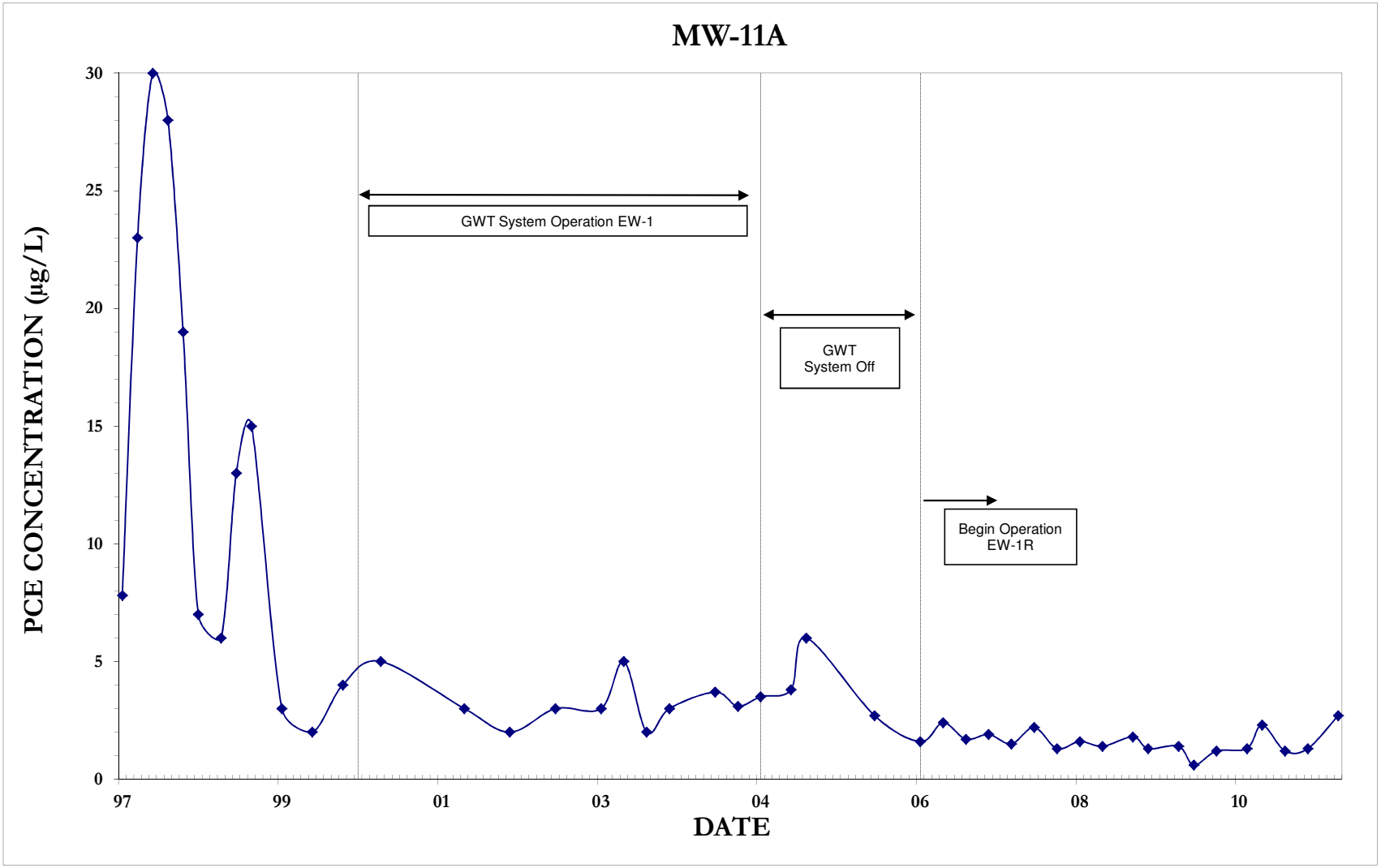


FIGURE G-4(p)

HISTORICAL PCE CONCENTRATIONS IN GROUNDWATER MONITORING WELLS MODESTO SUPERFUND SITE MODESTO, CALIFORNIA

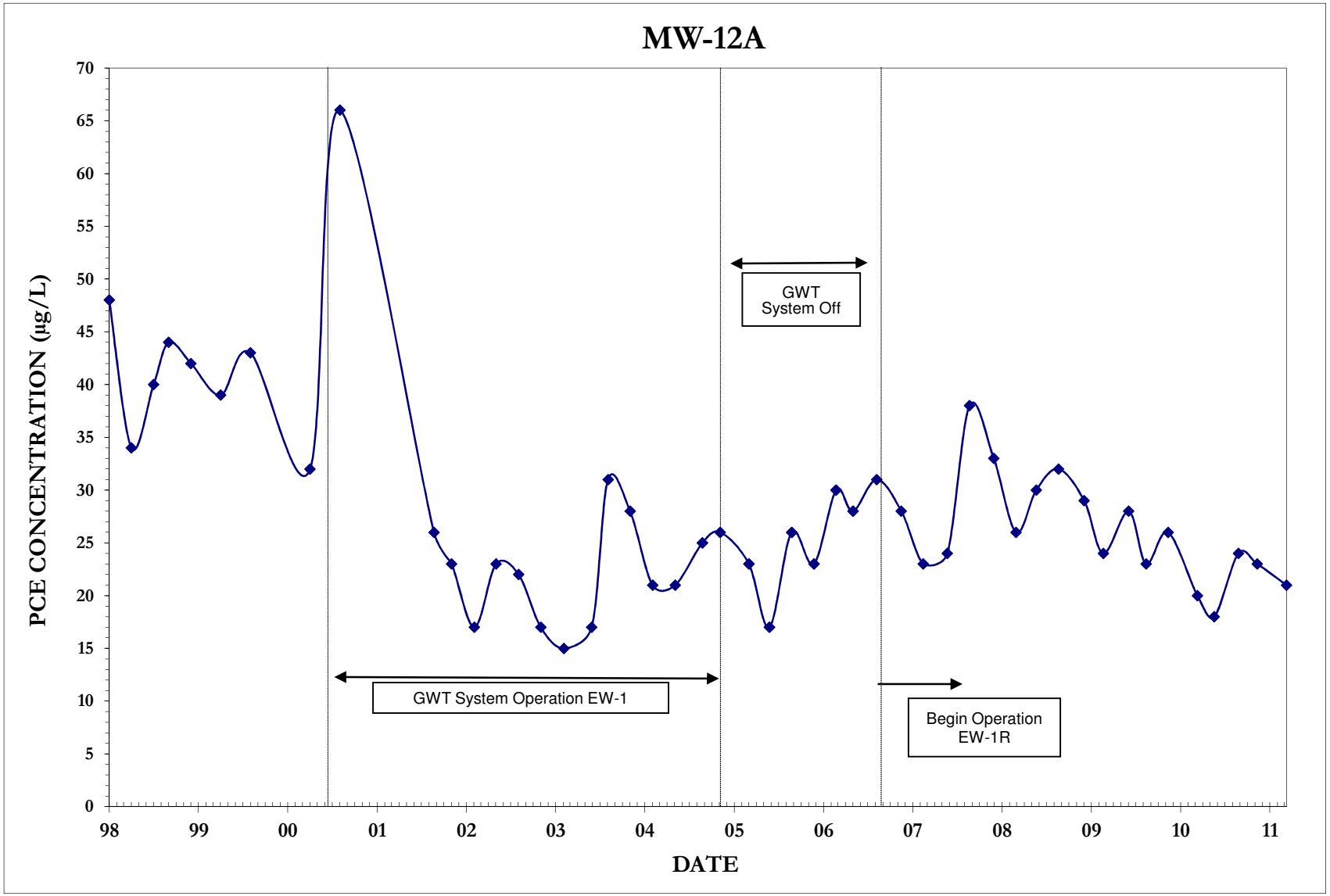


FIGURE G-4(q)

HISTORICAL PCE CONCENTRATIONS IN GROUNDWATER MONITORING WELLS MODESTO SUPERFUND SITE MODESTO, CALIFORNIA

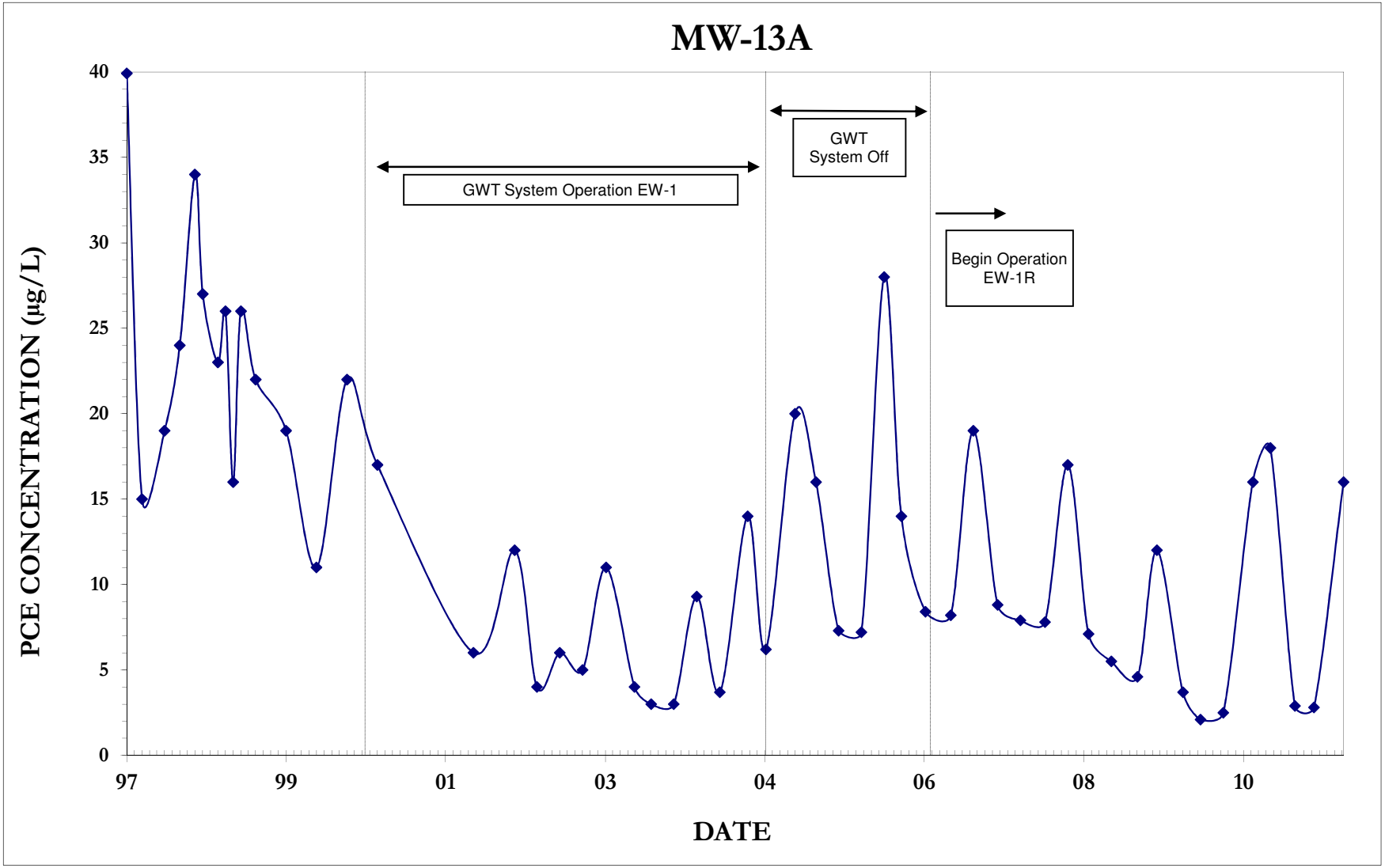


FIGURE G-4(r)

HISTORICAL PCE CONCENTRATIONS IN GROUNDWATER MONITORING WELLS MODESTO SUPERFUND SITE MODESTO, CALIFORNIA

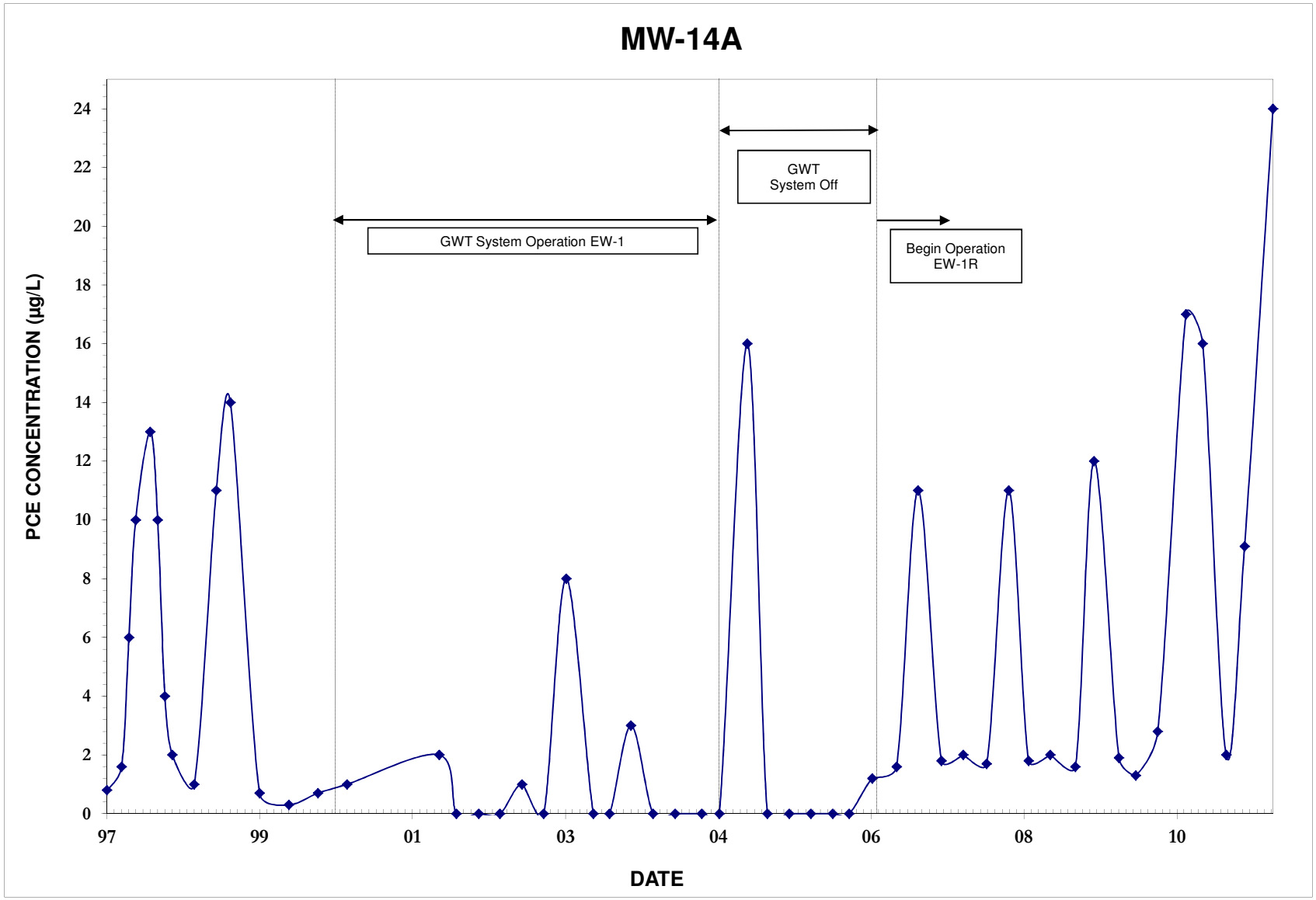


FIGURE G-4(s)

HISTORICAL PCE CONCENTRATIONS IN
GROUNDWATER MONITORING WELLS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

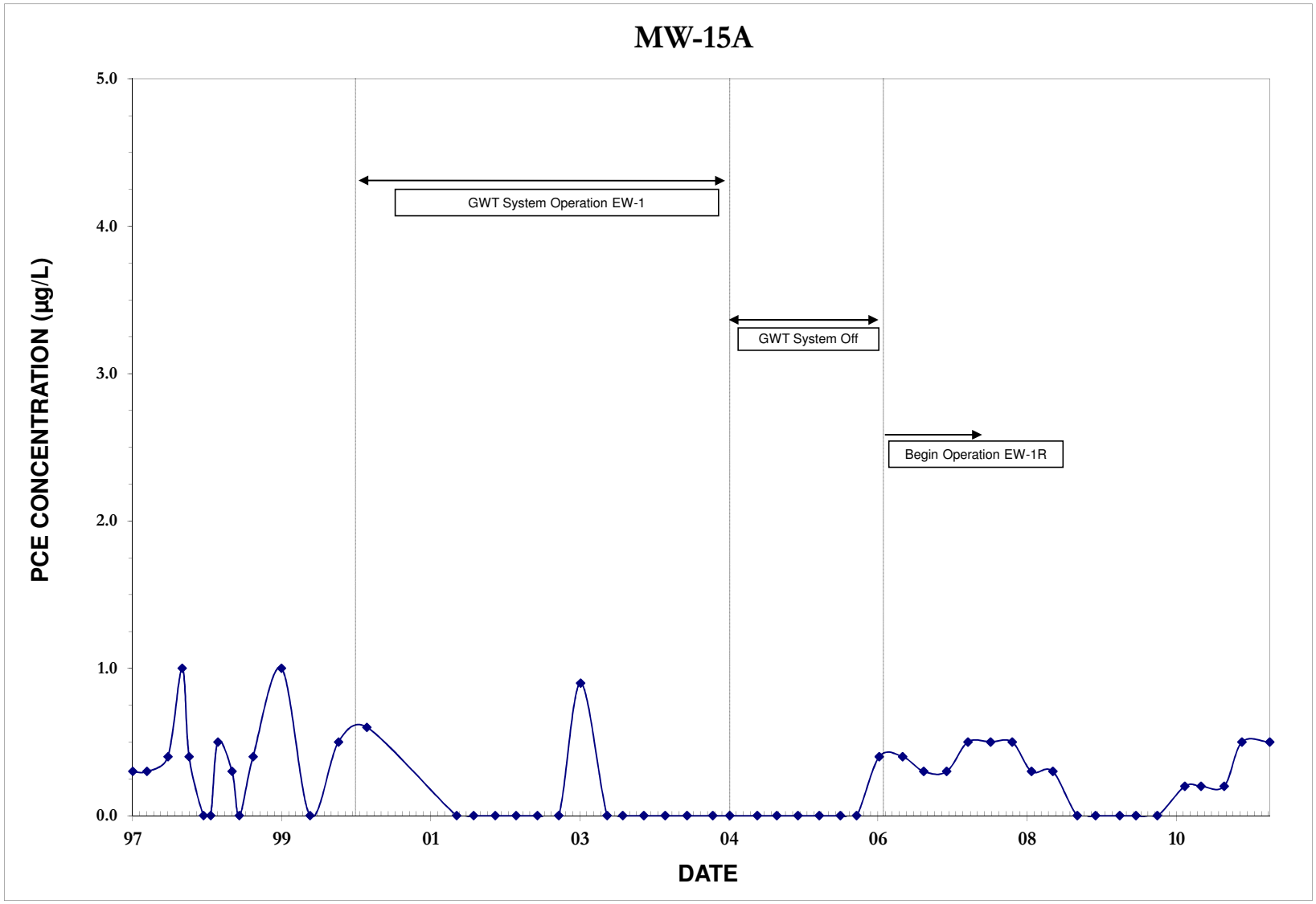


FIGURE G-4(t)

HISTORICAL PCE CONCENTRATIONS IN GROUNDWATER MONITORING WELLS MODESTO SUPERFUND SITE MODESTO, CALIFORNIA

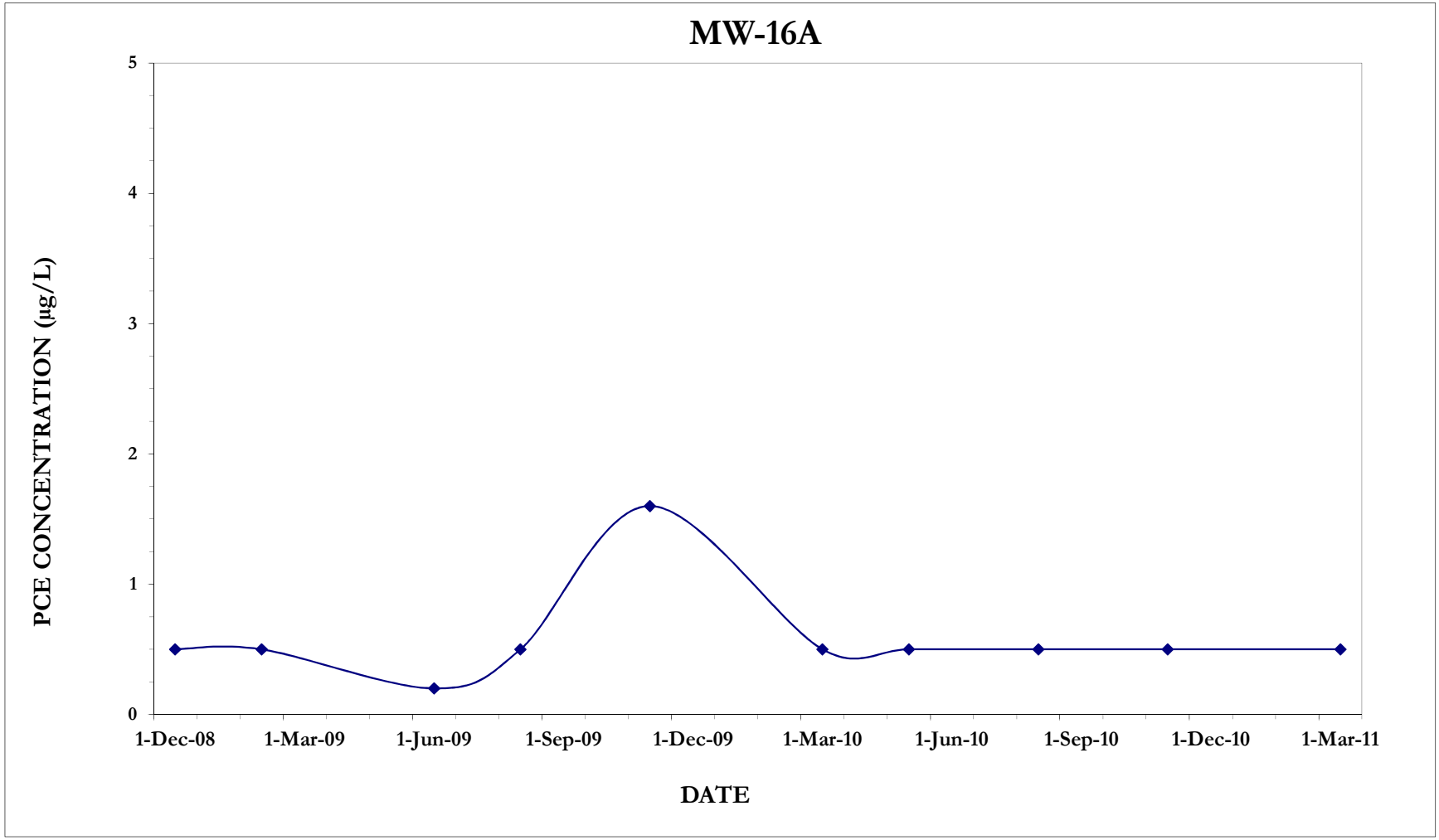


FIGURE G-4(u)

HISTORICAL PCE CONCENTRATIONS IN GROUNDWATER MONITORING WELLS MODESTO SUPERFUND SITE MODESTO, CALIFORNIA

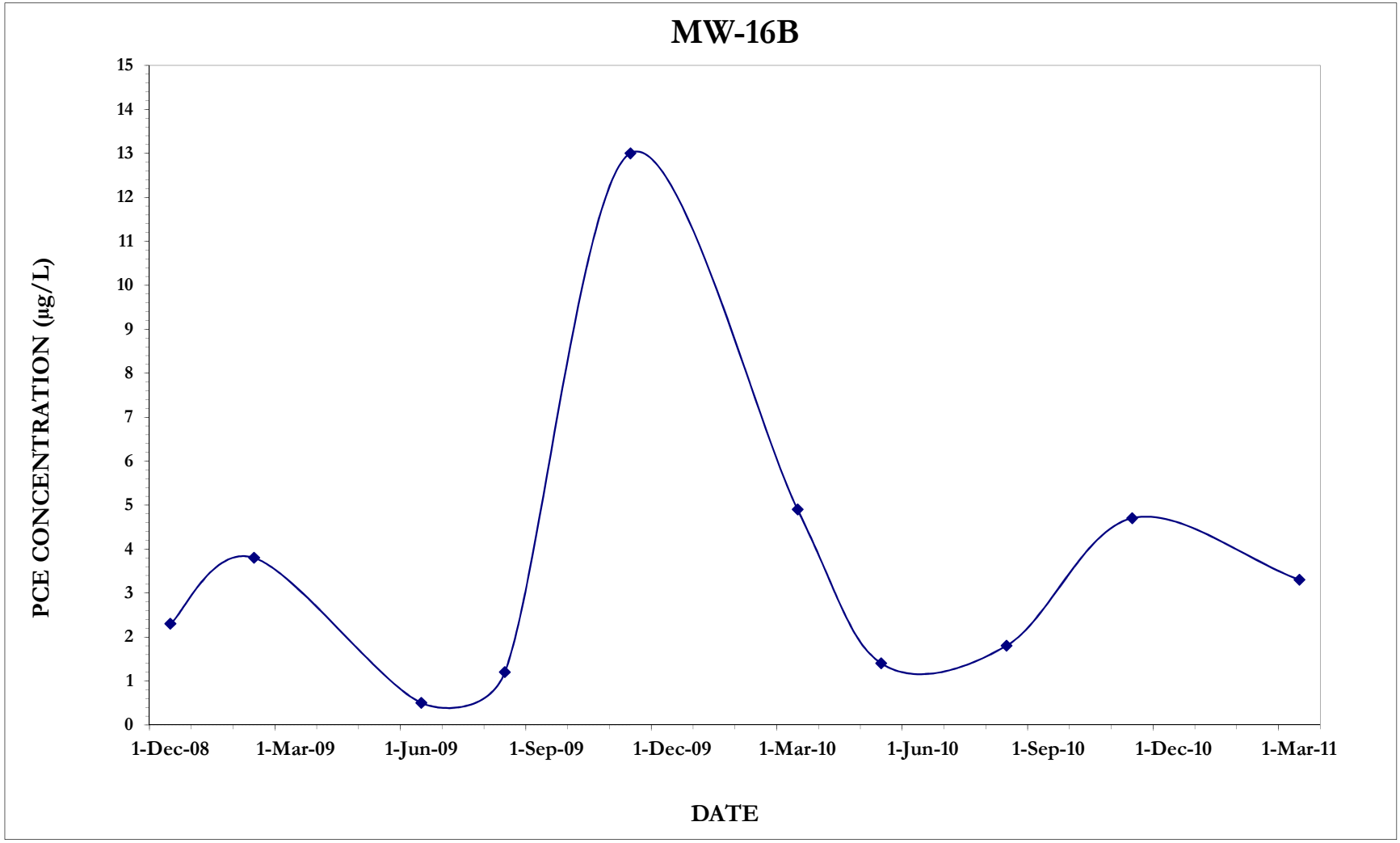


FIGURE G-4(v)

HISTORICAL PCE CONCENTRATIONS IN GROUNDWATER MONITORING WELLS MODESTO SUPERFUND SITE MODESTO, CALIFORNIA

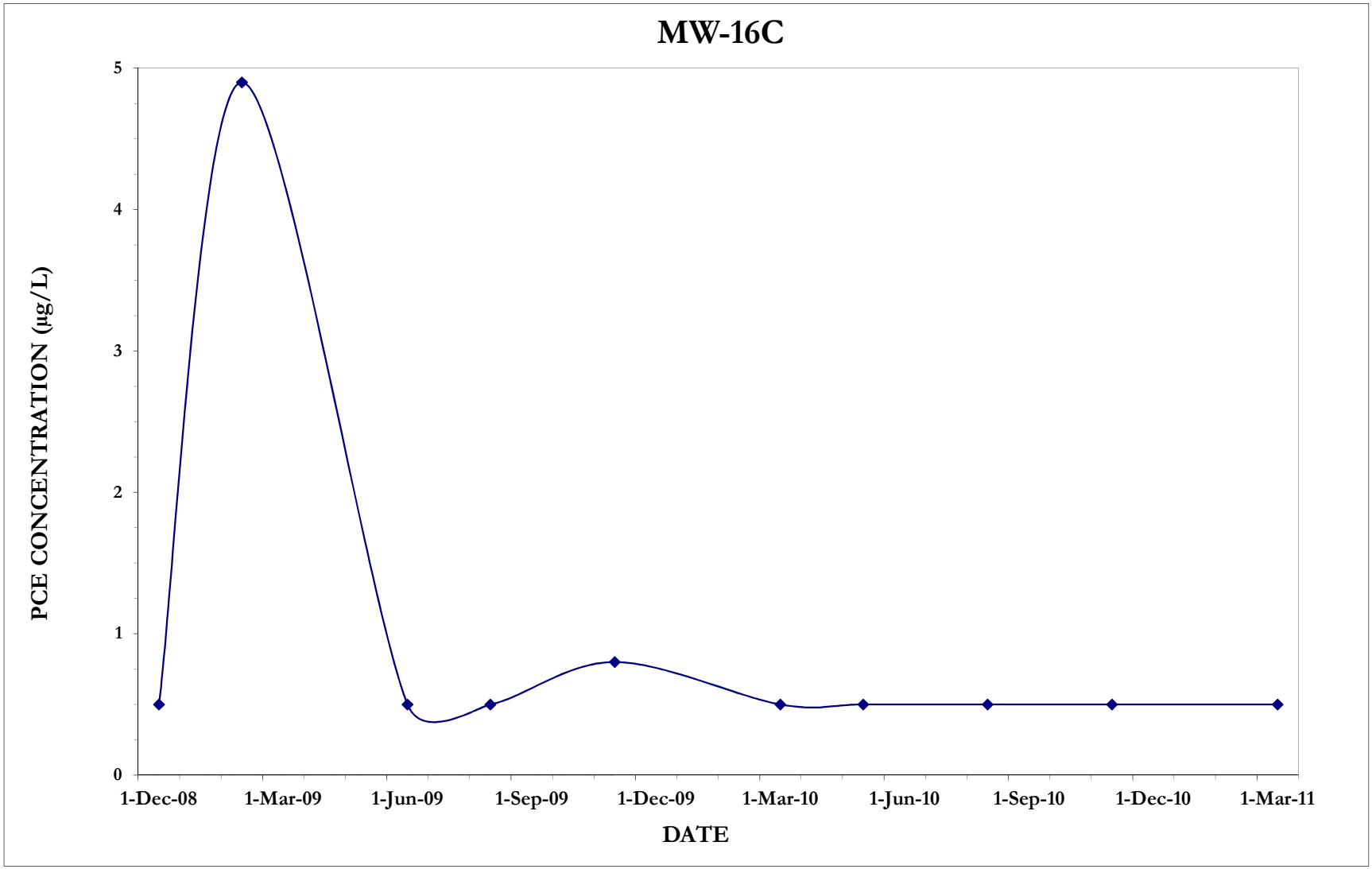


FIGURE G-4(w)

HISTORICAL PCE CONCENTRATIONS IN GROUNDWATER MONITORING WELLS MODESTO SUPERFUND SITE MODESTO, CALIFORNIA

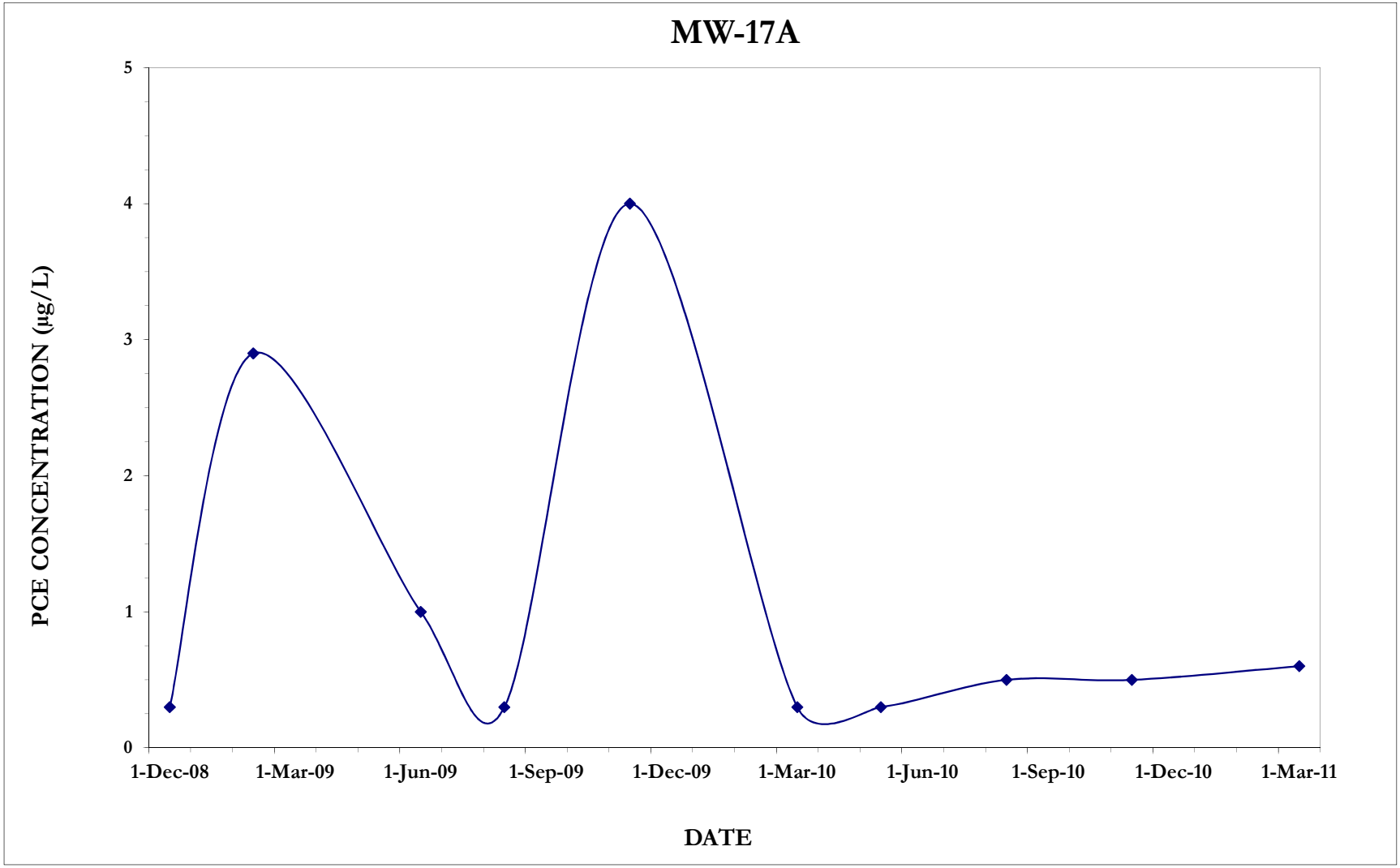


FIGURE G-4(x)

HISTORICAL PCE CONCENTRATIONS IN GROUNDWATER MONITORING WELLS MODESTO SUPERFUND SITE MODESTO, CALIFORNIA

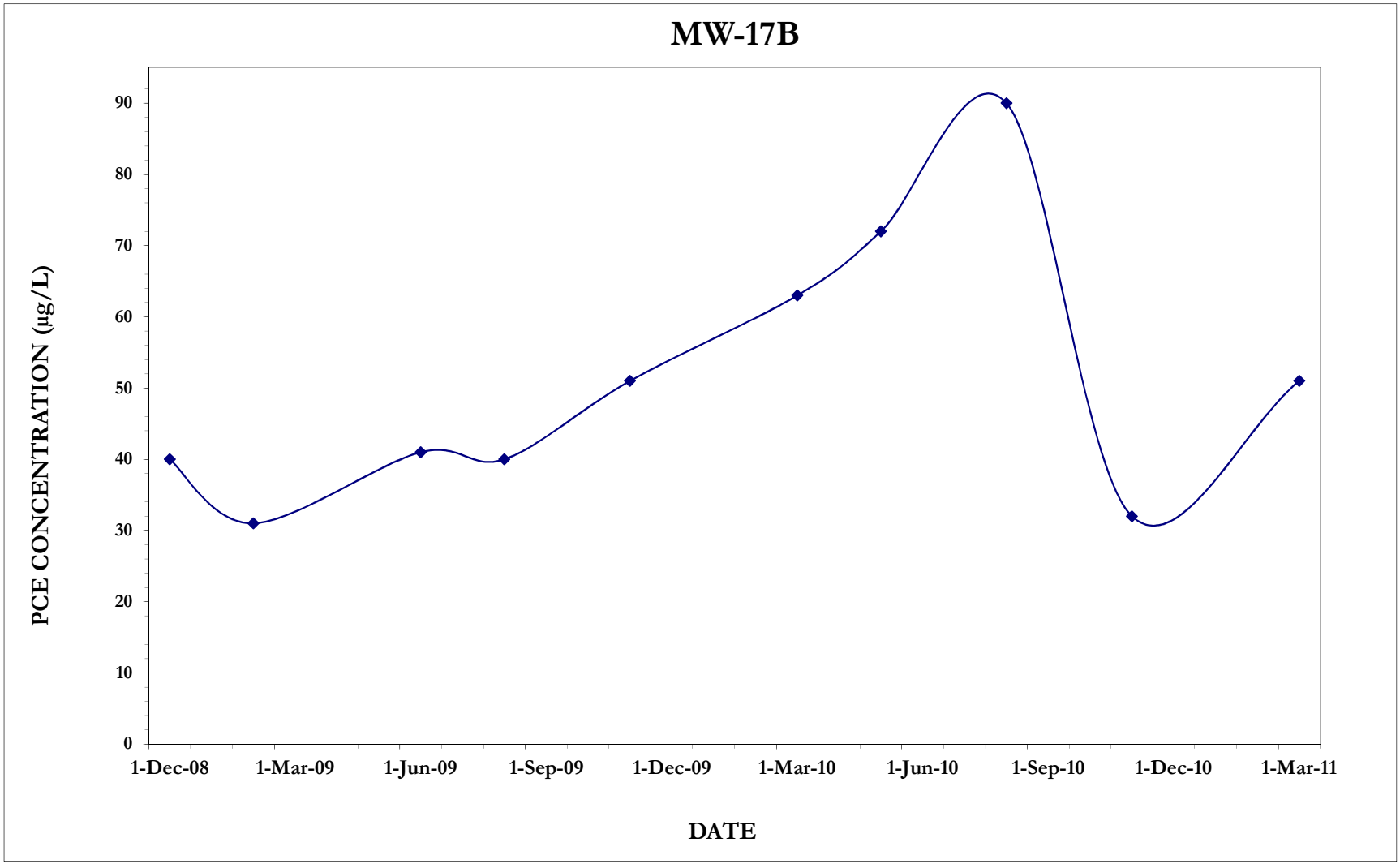


FIGURE G-4(y)

HISTORICAL PCE CONCENTRATIONS IN GROUNDWATER MONITORING WELLS MODESTO SUPERFUND SITE MODESTO, CALIFORNIA

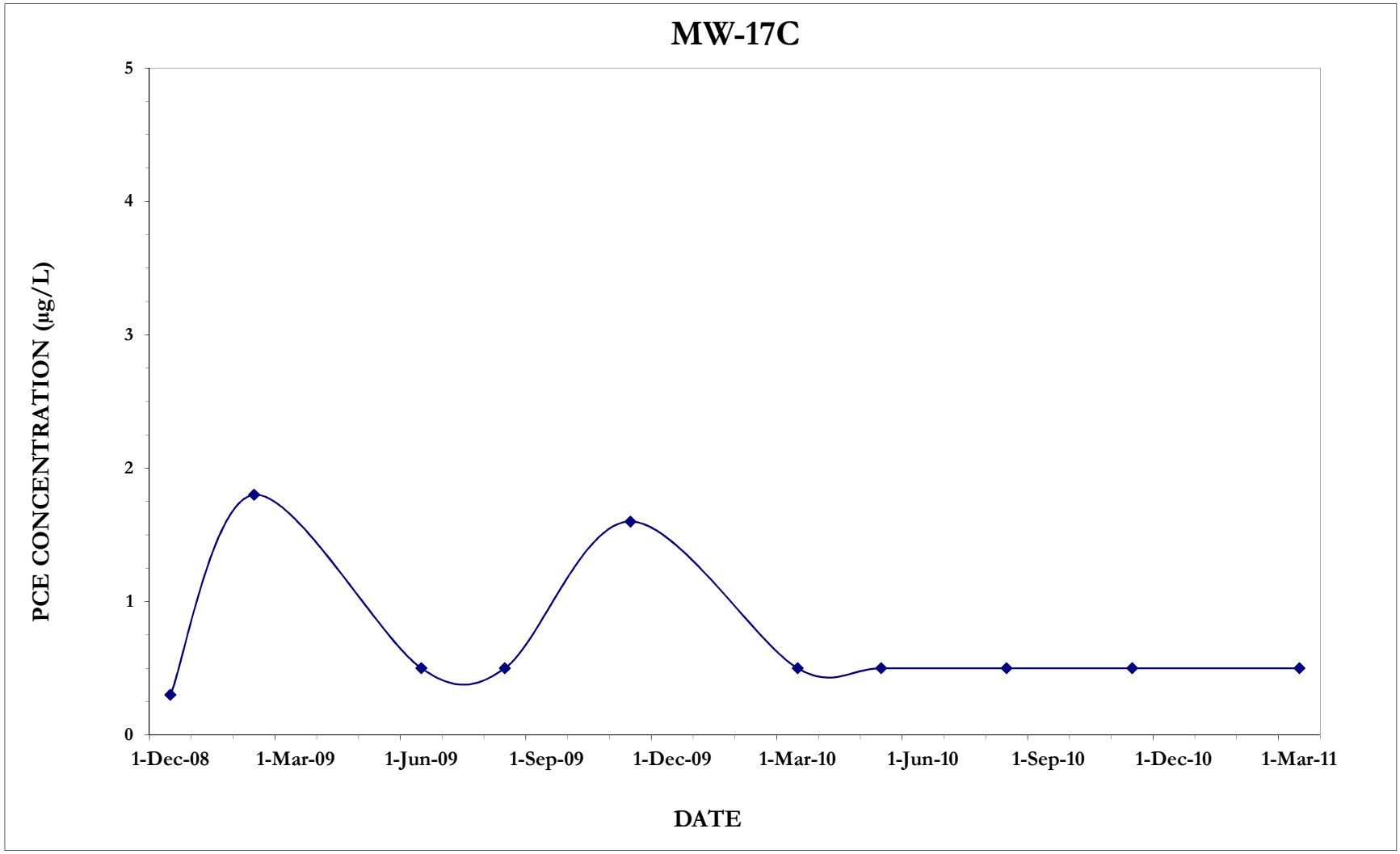


FIGURE G-4(z)

HISTORICAL PCE CONCENTRATIONS IN GROUNDWATER MONITORING WELLS MODESTO SUPERFUND SITE MODESTO, CALIFORNIA

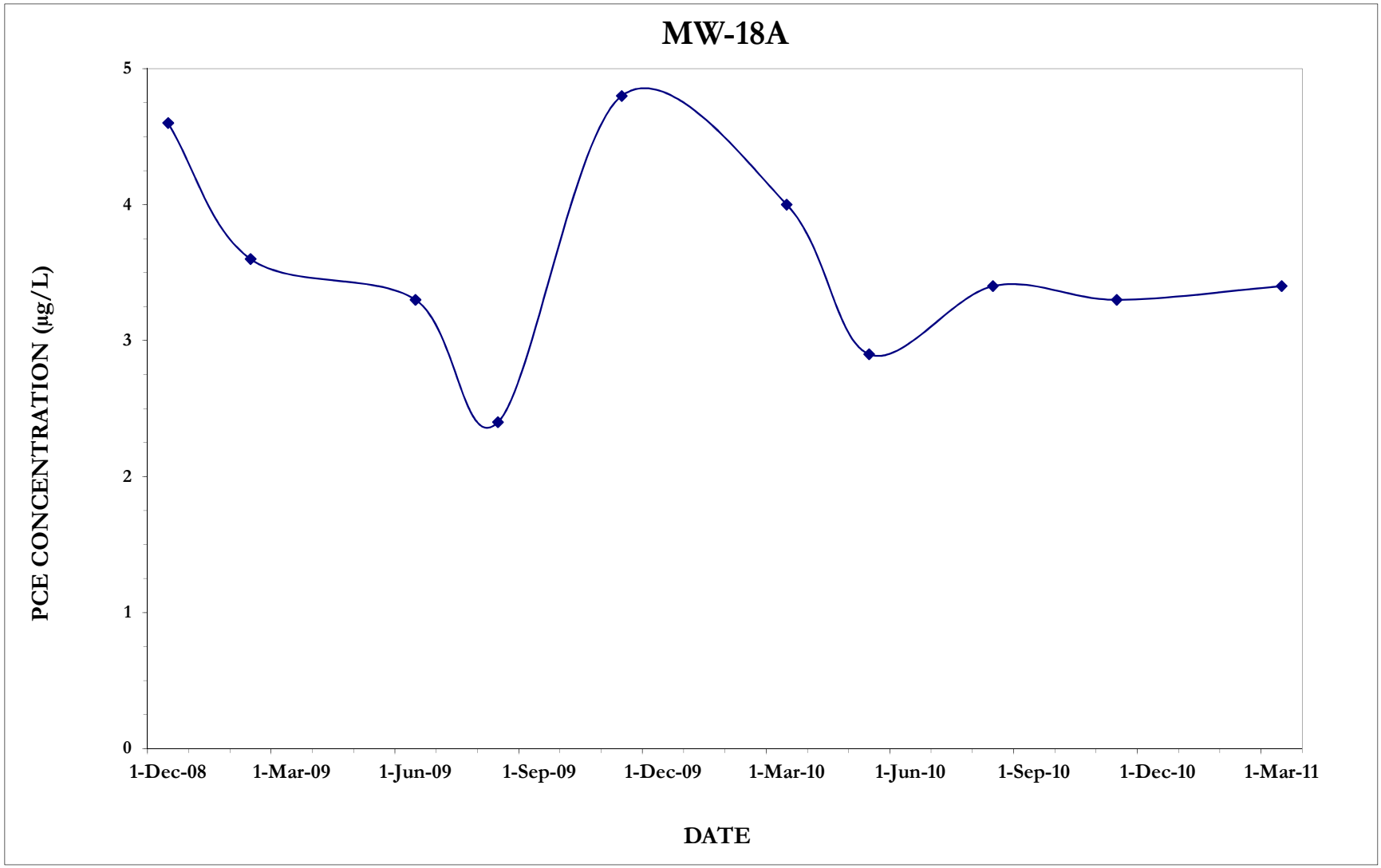


FIGURE G-4(aa)

HISTORICAL PCE CONCENTRATIONS IN GROUNDWATER MONITORING WELLS MODESTO SUPERFUND SITE MODESTO, CALIFORNIA

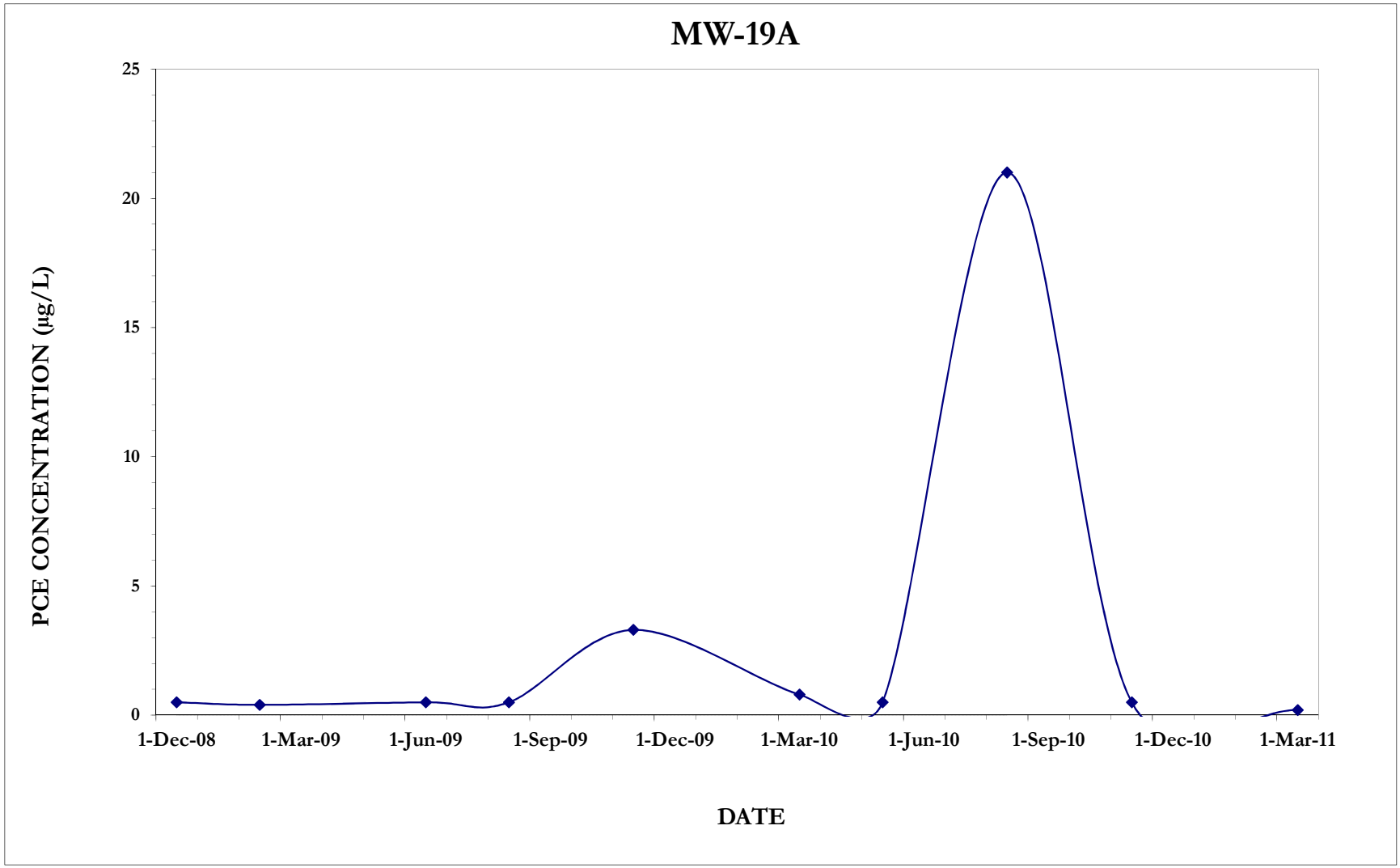


FIGURE G-4(ab)

HISTORICAL PCE CONCENTRATIONS IN GROUNDWATER MONITORING WELLS MODESTO SUPERFUND SITE MODESTO, CALIFORNIA

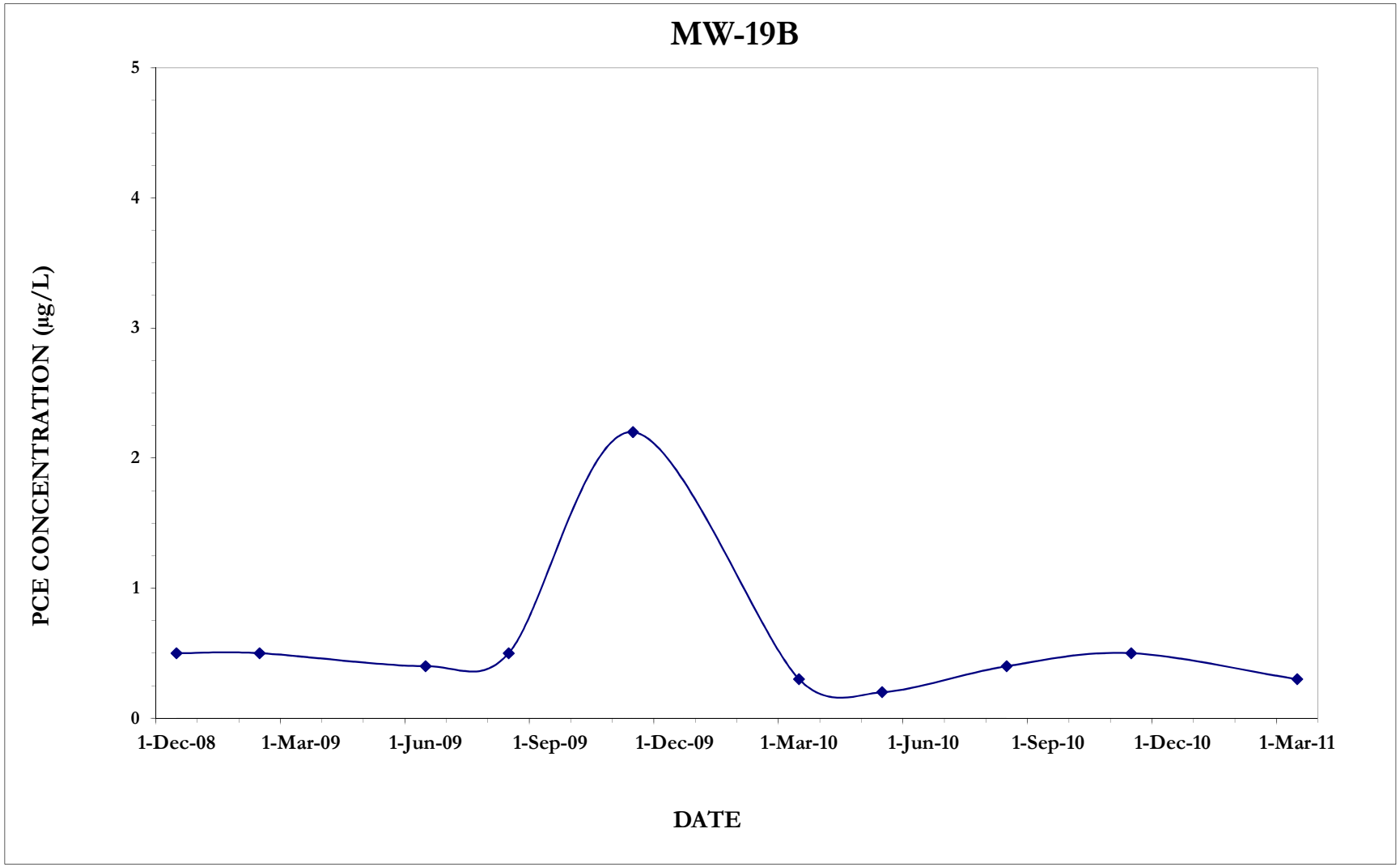


FIGURE G-4(ac)

HISTORICAL PCE CONCENTRATIONS IN GROUNDWATER MONITORING WELLS MODESTO SUPERFUND SITE MODESTO, CALIFORNIA

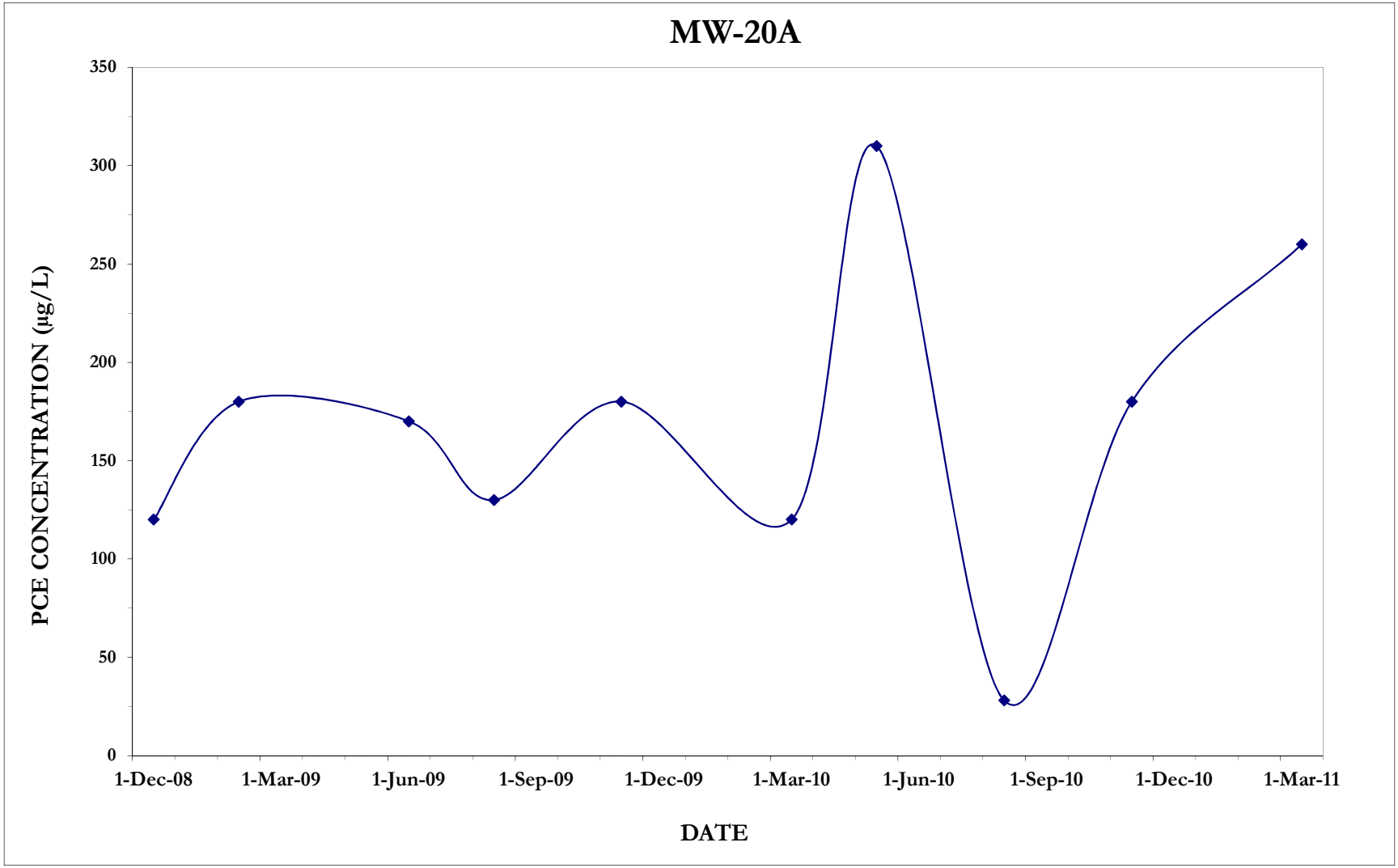


FIGURE G-4(ad)

HISTORICAL PCE CONCENTRATIONS IN GROUNDWATER MONITORING WELLS MODESTO SUPERFUND SITE MODESTO, CALIFORNIA

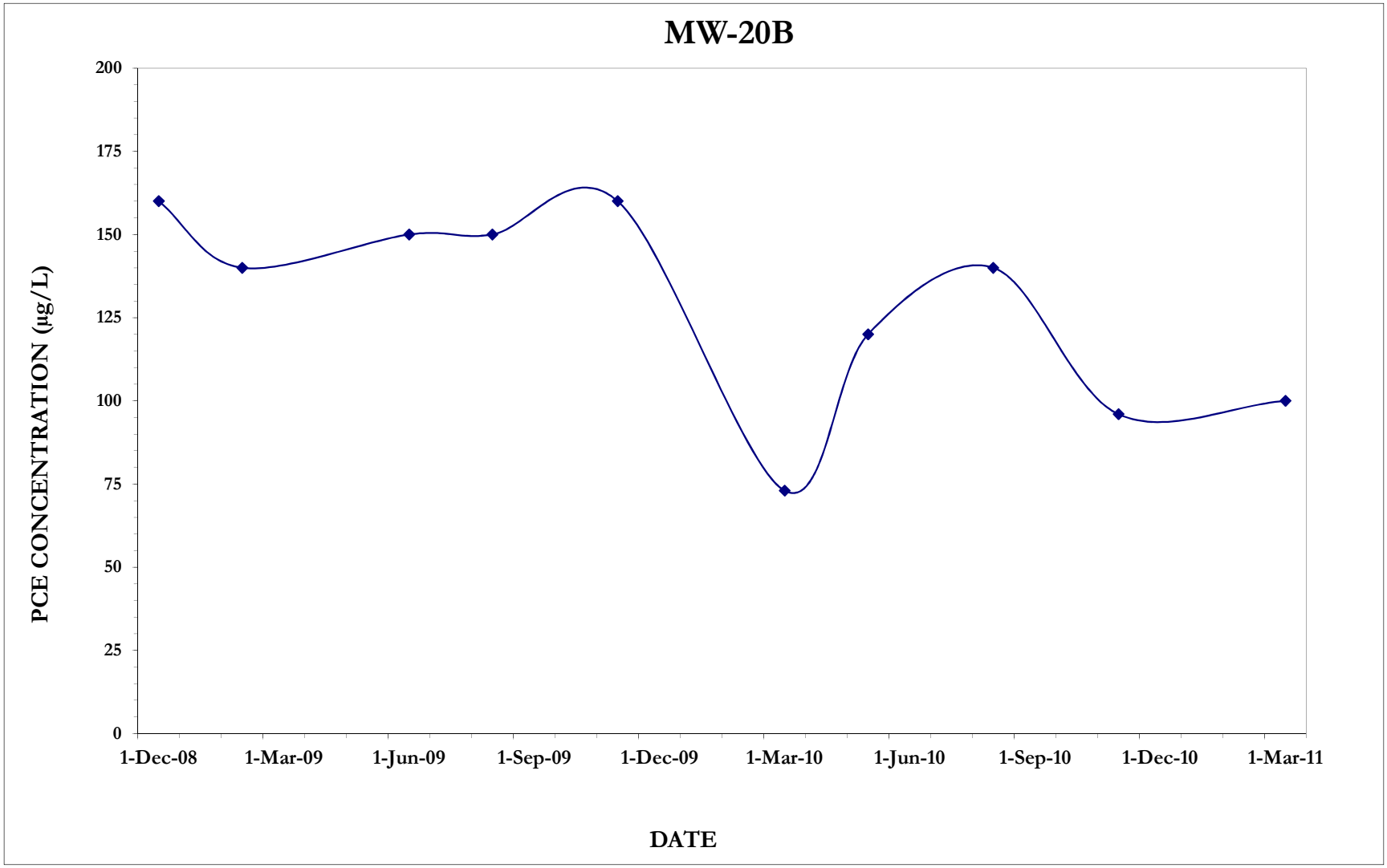
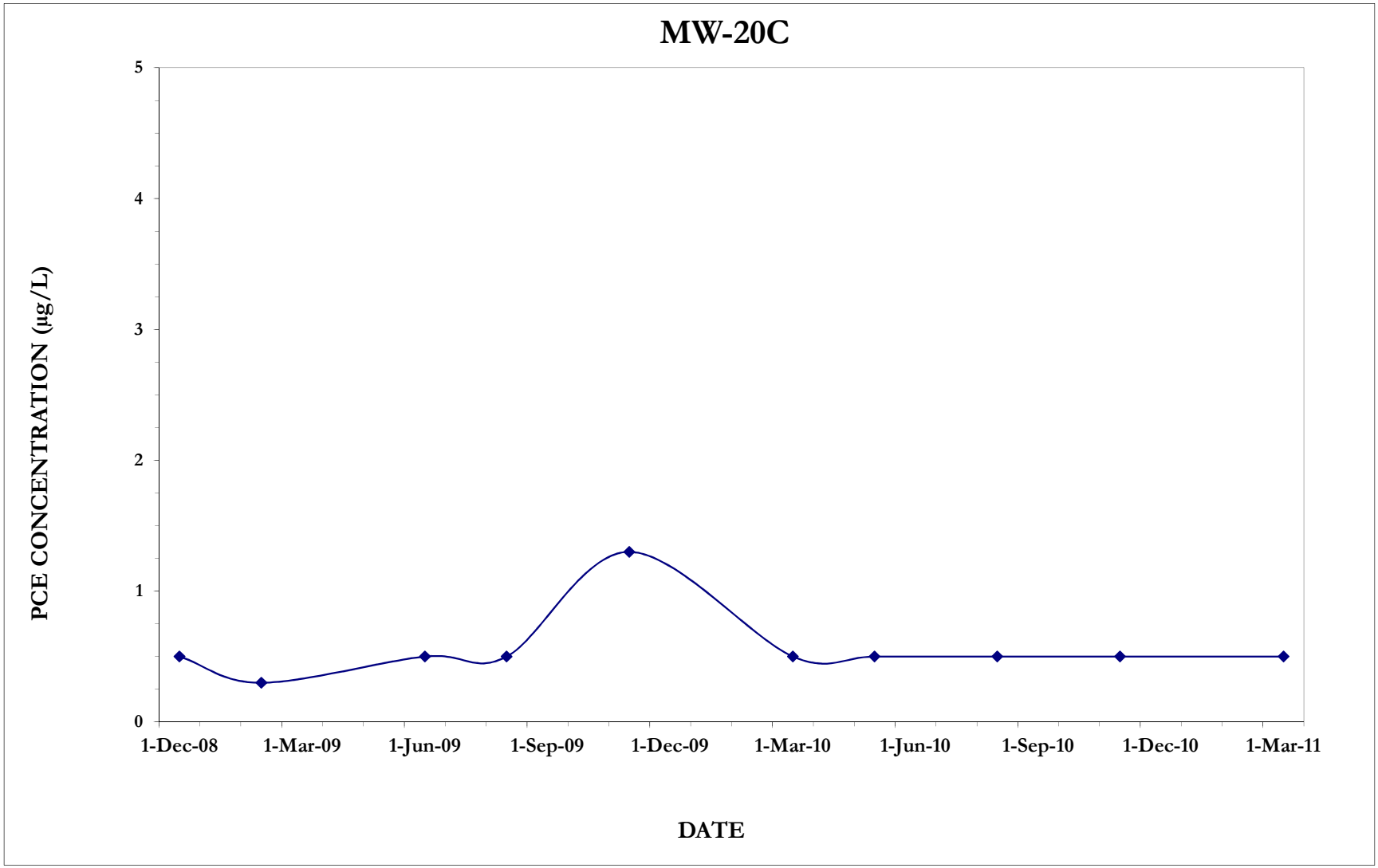


FIGURE G-4(ae)

HISTORICAL PCE CONCENTRATIONS IN
GROUNDWATER MONITORING WELLS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA



Appendix G-5
Soil Vapor Extraction and Soil Vapor Monitoring Well Analytical Summary Results

TABLE G-5(a)

SOIL VAPOR EXTRACTION AND SOIL VAPOR MONITORING WELL
ANALYTICAL SUMMARY RESULTS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

Sample Identification	Date	PCE (ppbv) Laboratory	PCE (ppbv) GC Unit
SVE-1[A]	6/11/2001	**520,000**	**-**
	8/9/2001	**58,000**	**-**
	8/20/2001	**48,000**	**-**
	8/30/2001	**44,000**	**-**
	9/7/2001	**31,000**	**-**
	9/12/2001	**41,000**	**-**
	10/29/2001	**66,000**	**-**
	11/13/2001	**75,000**	**-**
	12/13/2001	**56,000**	**-**
	1/16/2002	**43,000**	**-**
	2/19/2002	**57,000**	**-**
	3/21/2002	**43,000**	**-**
	4/17/2002	**37,400**	**-**
	5/23/2002	**25,000**	**-**
	6/20/2002	**34,800**	**-**
	7/18/2002	**33,000**	**-**
	8/19/2002	**36,000**	**-**
	9/26/2002	**17,000**	**-**
	10/24/2002	**24,000**	**-**
	11/18/2002	**24,000**	**-**
	12/18/2002	**18,000**	**-**
	1/9/2003	**-**	**28,434**
	1/16/2003	**19,000**	**-**
	3/27/2003	**18,000**	**22,838**
	4/24/2003	**-**	**21,970**
	5/29/2003	**-**	**18,968**
	6/26/2003	**-**	**19,428**
	7/24/2003	**13,000**	**15,313**
	8/29/2003	-	**21,885**
	9/18/2003	-	**18,819**
	10/25/2003	-	**12,600**
	11/21/2003	-	**12,980**
	12/19/2003	-	**14,127**
	1/22/2004	-	**11,454**
	2/26/2004	**7,100**	-
	3/29/2004	-	**14,527**
	4/18/2004	-	**5,077**
	5/20/2004	-	**5,017**
	6/23/2004	-	**6,118**
	7/31/2004	-	**5,370**
	8/26/2004	**4,200**	**3,661**

TABLE G-5(a)

SOIL VAPOR EXTRACTION AND SOIL VAPOR MONITORING WELL
ANALYTICAL SUMMARY RESULTS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

Sample Identification	Date	PCE (ppbv) Laboratory	PCE (ppbv) GC Unit
	9/30/2004	-	**4,091**
	10/21/2004	-	**4,784**
	11/18/2004	-	**3,062**
	12/16/2004	-	**2,954**
	1/19/2005	-	**2,260**
	2/24/2005	**1,900**	**2,319**
	3/22/2005	-	**1,956**
	4/24/2005	-	**1,810**
	5/22/2005	-	**812**
	6/24/2005	-	**1,553**
	7/26/2005	-	**1,449**
	8/24/2005	**860**	**940**
	9/21/2005	-	**1,246**
	10/18/2005	-	**1,691**
	11/16/2005	-	**1,099**
	1/6/2006*	**800**	**-**
	1/31/2006*	**760**	-
	2/22/2006*	**590**	**-**
	3/29/2006*	**100**	**-**
	4/20/2006*	**490**	**-**
	5/25/2006*	**310**	**-**
	6/29/2006*	**530**	-
	7/28/2006	**400**	-
	8/31/2006	**810**	-
	9/28/2006	**360**	-
	11/15/2006	**300**	-
	12/18/2006	NS	-
	1/22/2007	NS	-
	2/13/2007	NS	-
	3/20/2007	NS	-
	4/25/2007	-	**635**
	6/8/2007[1]	**7**	-
	6/26/2007	-	ND
	7/31/2007	ND	-
	8/24/2007	ND	-
	9/24/2007	**4**	-
	10/29/2007	**5**	-
	11/28/2007	**15**	-
	12/20/2007	**54**	-
	1/17/2008	<1.7	-

TABLE G-5(a)

SOIL VAPOR EXTRACTION AND SOIL VAPOR MONITORING WELL ANALYTICAL SUMMARY RESULTS MODESTO SUPERFUND SITE MODESTO, CALIFORNIA

Sample Identification	Date	PCE (ppbv) Laboratory	PCE (ppbv) GC Unit
	2/25/2008	NS	-
	3/31/2008	**51**	-
	4/25/2008	**94**	-
	6/24/2008	**900**	-
	7/24/2008	**630**	-
	8/20/2008	**430**	-
	9/25/2008	**270**	-
	11/11/2008	**-**	**101**
SVE-2	11/11/2008	**-**	**14,000**
	11/18/2008	**13,000**	-
	12/10/2008	**3,200**	-
	12/30/2008	**4,100**	-
	1/30/2009	**4,700**	-
	3/10/2009	**980**	-
	5/28/2009	**1,500**	-
	8/10/2009	**5,700**	-
	11/23/2009	**110**	-
SVE-3	11/11/2008	**-**	**981**
	11/18/2008	**-**	ND
	12/10/2008	**810**	-
	12/30/2008	**1,600**	-
	1/30/2009	**980**	-
	3/10/2009	**30**	-
	5/28/2009	**620**	-
	8/10/2009	**88**	-
	11/23/2009	**2.6**	-
SVE-4	11/11/2008	**-**	**429**
	11/18/2008	**890**	-
	12/10/2008	**350**	-
	12/30/2008	**390**	-
	1/30/2009	**330**	-
	3/10/2009	**290**	-
	5/28/2009	**180**	-
	8/10/2009	**140**	-
	11/23/2009	**90**	-
DP-1S	11/11/2008	**-**	**3570[b]**
	12/10/2008	**-**	-
	3/10/2009	**570**	-

TABLE G-5(a)

SOIL VAPOR EXTRACTION AND SOIL VAPOR MONITORING WELL ANALYTICAL SUMMARY RESULTS MODESTO SUPERFUND SITE MODESTO, CALIFORNIA

Sample Identification	Date	PCE (ppbv) Laboratory	PCE (ppbv) GC Unit
DP-1D	11/11/2008	**-**	**9113[b]**
	12/10/2008	**-**	-
	3/10/2009	**190**	-
DP-5S	11/11/2008	**-**	**661**
	12/10/2008	**-**	-
	3/10/2009	**3.7**	-
DP-5D	11/11/2008	**-**	**179**
	12/10/2008	**-**	-
	3/10/2009	**60**	-
DP-6S	11/11/2008	**870**	**712**
	12/10/2008	**-**	-
	3/10/2009	**160**	-
DP-6D	11/11/2008	**-**	**1,110**
	12/10/2008	**-**	-
	3/10/2009	**730**	-
OSVE-11	3/10/2009	**27,000**	-
OSVE-10	3/10/2009	**450**	-

Notes:

[A] = SVE-Pre GAC opperational from 6/11/01 has been renamed as SVE-1

[b] = Note: PCE value used in contouring at the location of DP-1 is the average value from upper and lower screens (6341 ppbv) as both screens are in the "deep" zone

NS - Not Sampled (system off for rebound test)

GAC - Granular activated carbon

GC Unit - Gas chromotagraph unit (the unit has been off-line since Nov. 2005, repair pending)

PCE - Tetrachloroethlene

ppbv - parts per billion volume

SVE - Soil vapor extraction

* The GC Unit was shut down due to malfunction starting in late November. Since then, samples have been analyzed by the laboratory only.

Repair of the unit is pending

[1] May sample re-collected on June 8, 2007 due to low vacuum readings in the Summa cannisters during the May sampling event.

TABLE G-5(b)

SOIL VAPOR EXTRACTION AND SOIL VAPOR MONITORING WELL ANALYTICAL SUMMARY RESULTS MODESTO GROUNDWATER SUPERFUND SITE MODESTO, CALIFORNIA

Location	Date	Sample Code	PCE (ppbv) Laboratory
DP-1A	03/10/10		56
	05/19/10		24
	05/19/10	FD	23
	08/26/10		2.7
	11/11/10		1.9 J
	03/10/11		2.6
DP-1B	03/10/10		180
	05/19/10		74
	08/26/10		< 4.5
	11/11/10	FD	2.3
	11/11/10		2.3
	03/10/11		9.8
DP-4A	03/10/11		29
DP-4B	03/10/11		3.7
DP-5A	03/10/10		1.2
	05/19/10		6.6
	08/26/10		< 2.4
	08/26/10	FD	< 2.4
	11/11/10		2.3
DP-5B	03/10/10	FD	21
	03/10/10		21
	05/19/10		6.6
	08/26/10		< 2.4
	11/11/10		2.3
DP-6A	03/10/10		59
	05/19/10		130
	08/26/10		130
	11/11/10		3
	03/10/11		1.6 J
DP-6B	03/10/10		5.8
	05/19/10		87
	05/19/10	FD	90
	08/26/10		< 2.4
	11/11/10		2.3
	03/10/11		2.3
OSVE-10	03/10/10		130
	05/19/10		320
	08/26/10		610
	11/11/10	FD	20
	11/11/10		20
	03/10/11		3.2 J

TABLE G-5(b)

SOIL VAPOR EXTRACTION AND SOIL VAPOR MONITORING WELL ANALYTICAL SUMMARY RESULTS MODESTO GROUNDWATER SUPERFUND SITE MODESTO, CALIFORNIA

Location	Date	Sample Code	PCE (ppbv) Laboratory
OSVE-11	03/10/10		530
	05/19/10		190
	08/26/10		80
	11/11/10		10
	03/10/11		3.3
SVE-01	03/10/10		13
	05/19/10		22
	08/26/10		39
	11/10/10		8.4
	03/10/11		4.4
SVE-02	03/10/10		290
	05/19/10		420
	08/26/10		130
	11/10/10		7.5
	03/09/11		210
SVE-03	03/10/10		88
	05/19/10		53
	08/26/10		8.1
	08/26/10	FD	8.0
	11/10/10		22
	03/09/11	FD	97
	03/09/11		91
SVE-04	03/10/10		57
	05/19/10		40
	08/26/10		< 2.4
	11/10/10		2.3
	03/09/11		97

FD - field duplicate
PCE - Tetrachloroethlene
ppbv - parts per billion volume
SVE - Soil vapor extraction

Appendix G-6
Groundwater Treatment System Analytical Summary Results

TABLE G-6(a)

GROUNDWATER TREATMENT SYSTEM
ANALYTICAL SUMMARY RESULTS
MODESTO SUPERFUND SITE MODESTO, CALIFORNIA

Sample Identification	Date	pH	TDS (mg/L)	U-234 (pCi/L)	U-235 (pCi/L)	U-238 (pCi/L)	Total U (pCi/L)	PCE (mg/L)	Toluene (mg/L)	TCE (mg/L)	Bioassay
Maximum Allowable Discharge Limit		**5 - 12**	**NA**	**20**	**20**	**20**	**20**	**0.0005**	**0.150**	**NA**	**NA**
COMPLIANCE MONITORING											
Extraction Well -1[(1)]	6/11/01[(a)]	NS	NS	**23.7**	**0.562**	**19.9**	NS	**3.0**	< 0.1	< 0.1	-
	8/28/2001	**7.4**	NS	**18.1**	**0.423**	**13.3**	NS	**0.330 J**	< 0.05	< 0.05	-
	9/21/2001	**7.3**	NS	NS	NS	NS	NS	**0.770**	< 0.05	< 0.05	-
	10/17/2001	**7.3**	NS	NS	NS	NS	NS	**0.890**	<0.05	<0.05	-
	11/13/2001	**7.4**	**528**	**21.1**	**0.519**	**15.2**	NS	**0.780**	< 0.005	< 0.005	-
	12/13/2001	**7.3**	NS	NS	NS	NS	NS	**0.710**	< 0.005	**0.031**	-
	1/16/2002	**7.3**	NS	NS	NS	NS	NS	**0.750**	< 0.005	**0.008**	-
	2/19/2002	**7.3**	NS	**20.4**	**0.615**	**14.9**	NS	**0.820**	< 0.005	< 0.005	-
	3/21/2002	**7.3**	NS	NS	NS	NS	NS	**0.003 J**	< 0.005	< 0.005	-
	3/21/02 [(b)]	**7.3**	NS	NS	NS	NS	NS	**0.321 R**	< 0.005	< 0.005	-
	4/17/2002	**7.4**	NS	NS	NS	NS	NS	**0.690**	< 0.005	< 0.005	-
	5/23/2002	**7.1**	NS	**22.8**	**0.715**	**18.1**	NS	**0.900 D**	< 0.005	< 0.005	-
	6/20/2002	**7.1**	NS	NS	NS	NS	NS	**0.730 D**	< 0.005	< 0.005	-
	7/18/2002	**6.8**	NS	NS	NS	NS	NS	**0.620 D**	< 0.005	< 0.005	-
	8/19/2002	**7.4**	NS	**23.0**	**0.880**	**16.9**	NS	**0.610**	< 0.005	< 0.005	-
	9/26/2002	**7.4**	NS	NS	NS	NS	NS	**0.620 D**	< 0.005	< 0.005	-
	10/24/2002	**7.4**	NS	NS	NS	NS	NS	**0.580 D**	< 0.005	< 0.005	-
	11/18/2002	**7.4**	NS	**25.6**	**0.829**	**18.7**	NS	**0.550 D**	< 0.005	< 0.005	-
	12/18/2002	**7.3**	NS	NS	NS	NS	NS	**0.310**	< 0.010	< 0.010	-
	1/16/2003	**7.2**	NS	NS	NS	NS	NS	**0.380**	< 0.025	< 0.025	-
	2/20/2003	**7.3**	NS	**21.2**	**1.82**	**13.9**	NS	**0.490**	< 0.005	< 0.005	-
	3/20/2003	**7.4**	NS	NS	NS	NS	NS	**0.490**	< 0.005	< 0.005	-
	4/30/2003	**7.4**	NS	NS	NS	NS	NS	**0.410**	< 0.005	< 0.005	-
	5/29/2003	**7.4**	NS	**26.5**	**1.60**	**15.6**	NS	**0.270**	< 0.005	< 0.005	-
	6/26/2003	**7.3**	NS	NS	NS	NS	NS	**0.490**	< 0.005	< 0.005	-
	7/24/2003	**7.6**	NS	NS	NS	NS	NS	**0.510**	<0.005	<0.005	-
	8/28/2003	**7.5**	NS	**24.3**	**1.81**	**16.3**	NS	**0.540**	< 0.005	< 0.005	-
	9/18/2003	**7.5**	NS	NS	NS	NS	NS	**0.550**	<0.005	<0.005	-
	10/23/2003	**7.4**	NS	NS	NS	NS	NS	**0.450**	< 0.005	< 0.005	-
	11/19/2003	**7.4**	NS	**31.6**	**0.975**	**21.8**	NS	**0.390**	<0.005	<0.005	-
	12/18/2003	**7.1**	NS	NS	NS	NS	NS	**0.420**	< 0.005	< 0.005	-
	1/22/2004	**7.2**	NS	NS	NS	NS	NS	**0.350**	<0.001	<0.005	-
	2/26/2004	**7.5**	NS	NS	NS	NS	**43.8**	**0.290**	< 0.005	< 0.005	-
	4/8/2004	**7.0**	NS	NS	NS	NS	NS	**0.230**	<0.005	<0.005	-
	4/22/2004	**7.4**	NS	NS	NS	NS	NS	**0.310 D**	< 0.005	< 0.005	-
	5/20/2004	**7.4**	NS	**25.1**	**1.2**	**19.5**	NS	**0.350**	< 0.005	< 0.005	-

TABLE G-6(a)

GROUNDWATER TREATMENT SYSTEM
ANALYTICAL SUMMARY RESULTS
MODESTO SUPERFUND SITE MODESTO, CALIFORNIA

Sample Identification	Date	pH	TDS (mg/L)	U-234 (pCi/L)	U-235 (pCi/L)	U-238 (pCi/L)	Total U (pCi/L)	PCE (mg/L)	Toluene (mg/L)	TCE (mg/L)	Bioassay
Maximum Allowable Discharge Limit		**5 - 12**	**NA**	**20**	**20**	**20**	**20**	**0.0005**	**0.150**	**NA**	**NA**
	6/23/2004	**7.1**	NS	NS	NS	NS	NS	**0.250**	< 0.005	< 0.005	-
	7/29/2004	**7.4**	NS	NS	NS	NS	NS	**0.350**	< 0.005	< 0.005	-
	8/26/2004	**7.4**	NS	NS	NS	NS	**57.2**	**0.350**	< 0.005	< 0.005	-
	10/4/2004	**7.3**	NS	NS	NS	NS	NS	**0.330**	< 0.005	< 0.005	-
	10/21/2004	**7.2**	NS	NS	NS	NS	NS	**0.290**	< 0.005	< 0.005	-
	8/24/2006*	**7.3**	NS	NS	NS	NS	**76.2**	**0.620**	< 0.005	< 0.005	-
	8/31/2006*	NS	NS	NS	NS	NS	NS	NS	NS	NS	-
	9/7/2006*	NS	NS	NS	NS	NS	NS	NS	NS	NS	-
	9/14/2006*	**7.2**	NS	NS	NS	NS	NS	**0.530**	< 0.005	< 0.005	-
	10/24/2006	**7.2**	NS	NS	NS	NS	NS	**0.43 J**	< 0.005	**0.0004 J**	-
	11/15/2006	**7.4**	NS	NS	NS	NS	**63.9**	**0.500**	< 0.005	**0.0003 J**	-
	12/18/2006	**7.3**	NS	NS	NS	NS	NS	**0.450**	< 0.005	**0.0003 J**	-
	1/22/2007	**7.4**	NS	NS	NS	NS	NS	**0.420**	< 0.005	< 0.005	-
	2/13/2007	**7.2**	NS	NS	NS	NS	**63.4**	**0.360**	< 0.005	< 0.005	-
	3/20/2007	**7.3**	NS	NS	NS	NS	NS	**0.320 J-**	< 0.005	< 0.005	-
	4/16/07 [(c)]	NS	NS	NS	NS	NS	NS	NS	NS	NS	-
	7/2/2007**	**7.4**	NS	NS	NS	NS	NS	**0.076**	< 0.0005	< 0.0005	-
	7/23/2007**	**7.5**	NS	NS	NS	NS	NS	**0.290**	< 0.005	< 0.005	-
	8/23/2007**	**7.5**	NS	NS	NS	NS	NS	**0.290**	< 0.005	**0.0002 J**	-
	8/29/2007**	**7.4**	NS	NS	NS	NS	**58.1**	NS	NS	NS	-
	9/18/2007	**7.6**	NS	NS	NS	NS	NS	**0.360**	< 0.0005	< 0.0005	-
	10/29/2007	**7.6**	NS	NS	NS	NS	NS	**0.280**	<0.005	<0.005	-
Start-up VOC sample	11/29/2007	**7.5**	NS	NS	NS	NS	**54.7**	**0.310**	<0.0005	<0.0005	-
Start-up VOC sample	12/6/2007	**7.2**	NS	NS	NS	NS	NS	**0.260**	<0.0005	<0.0005	-
Start-up VOC sample	12/13/2007	**7.4**	NS	NS	NS	NS	NS	**0.290**	<0.0005	<0.0005	-
Start-up VOC sample	12/20/2007	**6.9**	NS	NS	NS	NS	NS	**0.260**	<0.0005	<0.0005	-
	1/17/2008	**7.2**	NS	NS	NS	NS	NS	**0.240**	<0.0005	<0.0005	-
	2/25/2008	**8.3**	NS	NS	NS	NS	**59.2**	**0.250**	<0.0005	<0.0005	-
	3/31/2008	**8.2**	NS	NS	NS	NS	NS	**0.280**	<0.0005	<0.0005	-
	4/25/2008	**7.3**	NS	NS	NS	NS	NS	**0.210**	<0.0005	<0.0005	-
	5/22/2008	**7.3**	NS	NS	NS	NS	**58.1**	**0.280**	<0.0005	<0.0005	-
	6/18/2008	**7.2**	NS	NS	NS	NS	NS	**0.240**	<0.0005	<0.0005	-
	7/16/2008	**7.7**	NS	NS	NS	NS	NS	**0.240**	<0.0005	<0.0005	-
	8/20/2008	**8.0**	NS	NS	NS	NS	**83.2**	**0.220**	<0.0005	<0.0005	-
	9/25/2008	**8.1**	NS	NS	NS	NS	NS	**0.150**	<0.0005	<0.0005	-
	10/30/2008	**8.0**	NS	NS	NS	NS	NS	**0.250**	<0.0005	<0.0005	-
	11/25/2008	**7.2**	NS	NS	NS	NS	**62.2**	**0.210**	<0.0005	<0.0005	-
	12/30/2008	**7.2**	NS	NS	NS	NS	NS	**0.190**	<0.0005	<0.0005	-
	1/30/2009	**7.2**	NS	NS	NS	NS	NS	**0.190**	<0.0005	<0.0005	-
	2/27/2009	**7.4**	NS	NS	NS	NS	**58.1**	**0.180**	<0.0005	<0.0005	-

TABLE G-6(a)

GROUNDWATER TREATMENT SYSTEM
ANALYTICAL SUMMARY RESULTS
MODESTO SUPERFUND SITE MODESTO, CALIFORNIA

Sample Identification	Date	pH	TDS (mg/L)	U-234 (pCi/L)	U-235 (pCi/L)	U-238 (pCi/L)	Total U (pCi/L)	PCE (mg/L)	Toluene (mg/L)	TCE (mg/L)	Bioassay
Maximum Allowable Discharge Limit		**5 - 12**	**NA**	**20**	**20**	**20**	**20**	**0.0005**	**0.150**	**NA**	**NA**
	3/30/2009	**7.8**	NS	NS	NS	NS	NS	**0.170**	<0.0005	<0.0005	-
	4/23/2009	**8.0**	NS	NS	NS	NS	NS	**0.160**	<0.0005	<0.0005	-
	5/26/2009	**7.6**	NS	NS	NS	NS	**60.4**	**0.180**	<0.0005	<0.0005	-
	6/29/2009	**7.5**	NS	NS	NS	NS	NS	**0.150**	< 0.0005	< 0.0005	-
	7/29/2009	**7.7**	NS	NS	NS	NS	NS	**0.190**	<0.0005	<0.0005	-
	8/10/2009	**7.6**	NS	NS	NS	NS	NS	**0.250**	<0.0005	<0.0005	-
	9/22/2009	**7.5**	NS	NS	NS	NS	NS	**0.170**	<0.0005	<0.0005	-
	10/26/2009	**8.6**	NS	NS	NS	NS	NS	**0.250**	< 0.0005	< 0.0005	-
	11/23/2009	**8.1**	NS	NS	NS	NS	**56.0**	**0.160**	< 0.0005	< 0.0005	-
	12/16/2009	**7.8**	NS	NS	NS	NS	NS	**0.180**	< 0.0005	< 0.0005	-
GWT Effluent[2,3,4]	6/11/01[a]	NS	**531**	**0.01040**	< 0.0884	< 0.0884	NS	**0.003**	< 0.0005	< 0.0005	-
	6/25/01[a]	NS	NS	NS	NS	NS	NS	< 0.0005	< 0.0005	< 0.0005	-
	7/12/2001	**8.1**	NS	**0.01180**	**0.00784**	**0.00784**	NS	< 0.0005	< 0.0005	< 0.0005	-
	7/19/2001	**7.9**	NS	NS	NS	NS	NS	< 0.0005	< 0.0005	< 0.0005	**-**
	7/26/2001	**8.0**	NS	NS	NS	NS	NS	< 0.0005	< 0.0005	< 0.0005	-
	8/28/2001	**7.7**	**525**	**0.00825**	**0.00825**	**0.00825**	NS	< 0.0005	< 0.0005	< 0.0005	-
	9/6/2001	**7.8**	NS	< 0.190	< 0.157	**0.01960**	NS	< 0.0005	**0.0008**	< 0.0005	-
	9/21/2001	**8.4**	**520**	**0.09470**	< 0.227	**0.03150**	NS	< 0.0005	< 0.0005	< 0.0005	-
	10/3/2001	**7.7**	NS	**0.05250**	**0.00657**	< 0.0356	NS	< 0.0005	< 0.0005	< 0.0005	-
	10/17/2001	**8.1**	**514**	**0.05340**	**0.01670**	< 0.0800	NS	< 0.0005	< 0.0005	< 0.0005	**-**
	11/14/2001	**7.8**	**531**	**5.94**	**0.230**	**5.88**	NS	< 0.0005	< 0.0005	< 0.0005	-
	12/13/2001	**8.1**	**529**	**0.0270**	< 0.109	< 0.242	NS	< 0.0005	< 0.0005	< 0.0005	-
	1/16/2002	**8.2**	**537**	NS	NS	NS	NS	< 0.0005	< 0.0005	< 0.0005	-
	2/19/2002	**8.1**	**536**	**2.30**	**0.043**	**1.82**	NS	< 0.0005	< 0.0005	< 0.0005	-
	3/21/2002	**8.3**	**541**	NS	NS	NS	NS	< 0.0005	< 0.0005	< 0.0005	-
	4/17/2002	**8.2**	**563**	NS	NS	NS	NS	< 0.0005	< 0.0005	< 0.0005	-
	5/23/2002	**8.0**	**605**	**9.47**	**0.348**	**6.58**	NS	< 0.0005	< 0.0005	< 0.0005	-
	6/20/2002	**8.0**	**571**	NS	NS	NS	NS	< 0.0005	< 0.0005	< 0.0005	-
	7/18/2002	**7.6**	**563**	NS	NS	NS	NS	< 0.0005	< 0.0005	< 0.0005	-
	8/19/2002	**8.3**	**592**	**10.8**	**0.381**	**7.4**	NS	< 0.0005	< 0.0005	< 0.0005	-
	9/16/2002	**8.4**	NS	NS	NS	NS	NS	NS	NS	NS	**-**
	9/26/2002	**8.3**	NS	NS	NS	NS	NS	**0.0003 J**	< 0.0005	< 0.0005	-
	10/3/2002	**8.4**	NS	NS	NS	NS	NS	**0.0003 J**	< 0.0005	< 0.0005	-
	10/24/2002	**8.3**	**595**	NS	NS	NS	NS	< 0.0005	< 0.0005	< 0.0005	-
	11/18/2002	**8.2**	**576**	**5.96**	**0.197**	**5.02**	NS	< 0.0005	< 0.0005	< 0.0005	-
	12/18/2002	**8.2**	**576**	NS	NS	NS	NS	< 0.0005	< 0.0005	< 0.0005	-
	1/16/2003	**8.0**	**581**	NS	NS	NS	NS	< 0.0005	< 0.0005	< 0.0005	-
	2/20/2003	**8.3**	**589**	**13.10**	**0.464**	**11.10**	NS	< 0.0005	< 0.0005	< 0.0005	-

TABLE G-6(a)

GROUNDWATER TREATMENT SYSTEM
ANALYTICAL SUMMARY RESULTS
MODESTO SUPERFUND SITE MODESTO, CALIFORNIA

Sample Identification	Date	pH	TDS (mg/L)	U-234 (pCi/L)	U-235 (pCi/L)	U-238 (pCi/L)	Total U (pCi/L)	PCE (mg/L)	Toluene (mg/L)	TCE (mg/L)	Bioassay
Maximum Allowable Discharge Limit		**5 - 12**	**NA**	**20**	**20**	**20**	**20**	**0.0005**	**0.150**	**NA**	**NA**
	3/20/2003	**8.3**	**592**	NS	NS	NS	NS	< 0.0005	< 0.0005	< 0.0005	-
	4/30/2003	**8.2**	**600**	NS	NS	NS	NS	< 0.0005	< 0.0005	< 0.0005	-
	5/29/2003	**8.5**	**595**	**9.92**	**0.495**	**7.41**	NS	< 0.0005	< 0.0005	< 0.0005	-
	6/26/2003	**8.4**	**602**	NS	NS	NS	NS	< 0.0005	< 0.0005	< 0.0005	-
	7/24/2003	**8.5**	**593**	NS	NS	NS	NS	< 0.0005	< 0.0005	< 0.0005	-
	8/28/2003	**8.4**	**622**	**8.69**	**0.423**	**7.00**	NS	< 0.0005	< 0.0005	< 0.0005	-
	9/18/2003	**8.3**	**602**	NS	NS	NS	NS	< 0.0005	< 0.0005	< 0.0005	-
	10/23/2003	**8.3**	**645**	NS	NS	NS	NS	< 0.0005	< 0.0005	< 0.0005	-
	11/19/2003	**8.2**	**602**	**12.0**	**0.481**	**8.60**	NS	< 0.0005	< 0.0005	< 0.0005	-
	12/18/2003	**8.1**	**597**	NS	NS	NS	NS	< 0.0005	< 0.0005	< 0.0005	-
	1/22/2004	**8.0**	**594**	NS	NS	NS	NS	< 0.0005	< 0.0005	< 0.0005	-
	2/26/2004	**8.4**	**582**	NS	NS	NS	**10.80**	< 0.0005	< 0.0005	< 0.0005	-
	4/8/2004	**8.0**	**631**	**8.29**	**0.203**	**6.18**	NS	< 0.0005	< 0.0005	< 0.0005	-
	4/15/2004	**8.4**	NS	**9.52**	**0.230**	**7.35**	NS	NS	NS	NS	-
	4/22/2004	**8.3**	**589**	**9.32**	**0.269**	**6.69**	NS	< 0.0005	< 0.0005	< 0.0005	-
	4/28/2004	**8.3**	**NS**	**9.32**	**0.300**	**6.37**	NS	NS	NS	NS	-
	5/20/2004	**8.4**	**609**	**9.80**	**0.289**	**6.83**	NS	**0.00042 J**	< 0.0005	< 0.0005	-
	6/23/2004	**8.3**	**602**	**7.88**	**0.238**	**5.91**	NS	< 0.0005	< 0.0005	< 0.0005	-
	7/29/2004	**8.2**	**602**	NS	NS	NS	NS	< 0.0005	< 0.0005	< 0.0005	-
	8/26/2004	**8.4**	**620**	NS	NS	NS	**15.1**	< 0.0005	< 0.0005	< 0.0005	-
	10/4/2004	**8.4**	**622**	NS	NS	NS	NS	< 0.0005	< 0.0005	< 0.0005	-
	10/21/2004	**8.2**	**624**	NS	NS	NS	NS	< 0.0005	< 0.0005	< 0.0005	-
	8/24/2006*	**8.4**	**680**	NS	NS	NS	**12.2**	< 0.0005	< 0.0005	< 0.0005	**-**
	8/31/2006*	**8.4**	NS	NS	NS	NS	NS	< 0.0005	< 0.0005	< 0.0005	-
	9/7/2006*	**8.4**	NS	NS	NS	NS	**1.76**	< 0.0005	< 0.0005	< 0.0005	-
	9/14/2006*	**8.4**	NS	NS	NS	NS	**1.87**	< 0.0005	< 0.0005	< 0.0005	-
	10/24/2006	**8.2**	**660**	NS	NS	NS	**12.3**	< 0.0005	< 0.0005	< 0.0005	-
	11/15/2006	**8.1**	**660**	NS	NS	NS	**14.4**	< 0.0005	< 0.0005	< 0.0005	-
	12/18/2006	**8.3**	**670**	NS	NS	NS	NS	< 0.0005	< 0.0005	< 0.0005	-
	1/22/2007	**8.2**	**670**	NS	NS	NS	NS	< 0.0005	< 0.0005	< 0.0005	-
	2/13/2007	**8.0**	**660**	NS	NS	NS	**32.9**	< 0.0005	< 0.0005	< 0.0005	-
	3/20/2007	**8.0**	**660**	NS	NS	NS	**26.9**	< 0.0005	< 0.0005	< 0.0005	-
	4/16/07 [(c)]	NS	NS	NS	NS	NS	NS	NS	NS	NS	-
	7/2/2007**	**7.9**	**640**	NS	NS	NS	**0.070**	< 0.0005	< 0.0005	< 0.0005	**-**
	7/9/2007**	**7.7**	NS	NS	NS	NS	**0.036**	< 0.0005	< 0.0005	< 0.0005	-
	7/16/2007**	**7.9**	NS	NS	NS	NS	**0.007**	< 0.0005	< 0.0005	< 0.0005	-
	7/23/2007**	**8.0**	**690**	NS	NS	NS	**0.005**	< 0.0005	< 0.0005	< 0.0005	-
	8/23/2007**	**7.6**	**720**	NS	NS	NS	NS	**0.0003**	< 0.0005	< 0.0005	-
	8/29/2007	**7.8**	NS	NS	NS	NS	**15.4**	NS	NS	NS	-

TABLE G-6(a)

GROUNDWATER TREATMENT SYSTEM
ANALYTICAL SUMMARY RESULTS
MODESTO SUPERFUND SITE MODESTO, CALIFORNIA

Sample Identification	Date	pH	TDS (mg/L)	U-234 (pCi/L)	U-235 (pCi/L)	U-238 (pCi/L)	Total U (pCi/L)	PCE (mg/L)	Toluene (mg/L)	TCE (mg/L)	Bioassay
Maximum Allowable Discharge Limit		**5 - 12**	**NA**	**20**	**20**	**20**	**20**	**0.0005**	**0.150**	**NA**	**NA**
	9/18/2007**	**7.6**	**680**	NS	NS	NS	NS	**0.0004**	< 0.0005	< 0.0005	-
	10/29/2007	**8.0**	**660**	NS	NS	NS	NS	**0.0006**	<0.005	<0.005	-
Start-up VOC sample	11/28/2007	**8.6**	**630**	NS	NS	NS	**14.8**	<0.0005	<0.0005	<0.0005	-
Start-up VOC sample	12/6/2007	**8.1**	NS	NS	NS	NS	NS	<0.0005	<0.0005	<0.0005	-
Start-up VOC sample	12/13/2007	**7.9**	NS	NS	NS	NS	NS	<0.0005	<0.0005	<0.0005	-
Start-up VOC sample	12/20/2007	**8.0**	NS	NS	NS	NS	NS	<0.0005	<0.0005	<0.0005	-
	1/17/2008	**7.8**	**680**	NS	NS	NS	NS	< 0.0005	< 0.0005	< 0.0005	-
	2/25/2008	**8.4**	**660**	NS	NS	NS	**17.5**	<0.0005	<0.0005	<0.0005	-
	3/31/2008	**8.2**	**660**	NS	NS	NS	NS	<0.0005	<0.0005	<0.0005	-
	4/25/2008	**8.3**	**660**	NS	NS	NS	NS	<0.0005	<0.0005	<0.0005	-
	5/22/2008	NA	**650**	NS	NS	NS	**9.82**	<0.0005	<0.0005	<0.0005	-
	6/18/2008	**7.8**	**660**	NS	NS	NS	NS	<0.0005	<0.0005	<0.0005	-
	7/16/2008	**7.7**	**660**	NS	NS	NS	NS	<0.0005	<0.0005	<0.0005	-
	8/20/2008	NA	**680**	NS	NS	NS	**4.49**	<0.0005	<0.0005	<0.0005	-
	9/25/2008	**7.8**	**680**	NS	NS	NS	NS	<0.0005	<0.0005	<0.0005	-
	10/30/2008	**8.4**	**680**	NS	NS	NS	NS	<0.0005	<0.0005	<0.0005	-
	11/25/2008	**7.7**	**680**	NS	NS	NS	**13.2**	<0.0005	<0.0005	<0.0005	-
	12/30/2008	**7.8**	**660**	NS	NS	NS	NS	<0.0005	<0.0005	<0.0005	-
	1/30/2009	**8.4**	**670**	NS	NS	NS	NS	<0.0005	<0.0005	<0.0005	-
	2/27/2009	**7.5**	**660**	NS	NS	NS	**9.0**	<0.0005	<0.0005	<0.0005	-
	3/30/2009	**7.5**	**660**	NS	NS	NS	NS	0.0002	<0.0005	<0.0005	-
	4/23/2009	**8.0**	**660**	NS	NS	NS	NS	0.0003	<0.0005	<0.0005	-
	5/26/2009	**7.5**	**670**	NS	NS	NS	**22.3**	0.0003J	<0.0005	<0.0005	-
	6/29/2009	**8.0**	**660**	NS	NS	NS	**18.3**[d]	0.0003J-	< 0.0005	< 0.0005	-
	7/29/2009	**8.4**	**660**	NS	NS	NS	**17.9**	<0.0005	<0.0005	<0.0005	-
	8/10/2009	**8.3**	**650**	NS	NS	NS	NS	<0.0005	<0.0005	<0.0005	-
	9/22/2009	**8.0**	**650**	NS	NS	NS	NS	<0.0005	<0.0005	<0.0005	-
	10/26/2009	**8.9**	**590**	NS	NS	NS	NS	< 0.0005	0.0005	< 0.0005	-
	11/23/2009	**9.2**	**620**	NS	NS	NS	**35.8**	< 0.0005	< 0.0005	< 0.0005	-
	12/16/2009	**9.1**	**640**	NS	NS	NS	**15.2**	<0.0005	<0.0005	<0.0005	-
PERFORMANCE MONITORING											
Pre-Air Stripper[(2)]	6/25/01[(a)]	NS	NS	NS	NS	NS	NS	**2.9**	< 0.0005	**0.002 J**	-
Carbon Influent[(2)]	6/25/01[(a)]	NS	NS	NS	NS	NS	NS	**0.007**	< 0.0005	< 0.0005	-
	8/28/2001	NS	NS	NS	NS	NS	NS	< 0.0005	< 0.0005	< 0.0005	-
	11/13/2001	**8.4**	NS	NS	NS	NS	NS	< 0.0005	< 0.0005	< 0.0005	-
	2/19/2002	**8.1**	NS	NS	NS	NS	NS	**0.006**	< 0.0005	< 0.0005	-
	5/23/2002	**7.1**	NS	NS	NS	NS	NS	< 0.0005	< 0.0005	< 0.0005	-
	8/19/2002	**8.3**	NS	NS	NS	NS	NS	**0.0005**	< 0.0005	< 0.0005	-
	11/18/2002	**8.3**	NS	NS	NS	NS	NS	**0.0010**	< 0.0005	< 0.0005	-

TABLE G-6(a)

GROUNDWATER TREATMENT SYSTEM
ANALYTICAL SUMMARY RESULTS
MODESTO SUPERFUND SITE MODESTO, CALIFORNIA

Sample Identification	Date	pH	TDS (mg/L)	U-234 (pCi/L)	U-235 (pCi/L)	U-238 (pCi/L)	Total U (pCi/L)	PCE (mg/L)	Toluene (mg/L)	TCE (mg/L)	Bioassay
Maximum Allowable Discharge Limit		**5 - 12**	**NA**	**20**	**20**	**20**	**20**	**0.0005**	**0.150**	**NA**	**NA**
	2/20/2003	**8.4**	NS	NS	NS	NS	NS	**0.0008**	< 0.0005	< 0.0005	-
	5/29/2003	**8.3**	NS	NS	NS	NS	NS	**0.0009**	< 0.0005	< 0.0005	-
	8/28/2003	**8.5**	NS	NS	NS	NS	NS	**0.0088**	< 0.0005	< 0.0005	-
	11/19/2003	**8.3**	NS	NS	NS	NS	NS	**0.0077**	< 0.0005	< 0.0005	-
	2/26/2004	**8.5**	NS	NS	NS	NS	NS	**0.00045 J**	< 0.0005	< 0.0005	-
	5/20/2004	**8.5**	NS	NS	NS	NS	NS	< 0.0005	< 0.0005	< 0.0005	-
	8/26/2004	**8.3**	NS	NS	NS	NS	NS	**0.0018**	< 0.0005	< 0.0005	-
	11/15/2006	**8.3**	NS	NS	NS	NS	NS	**0.0017**	< 0.0005	< 0.0005	-
	2/13/2007	**8.4**	NS	NS	NS	NS	NS	**0.410**	< 0.0005	**0.0002**	-
	4/16/07 [c]	NS	NS	NS	NS	NS	NS	NS	NS	NS	-
	8/23/2007	**7.6**	NS	NS	NS	NS	NS	**0.0008**	< 0.0005	< 0.0005	-
	11/28/2007	**8.5**	NS	NS	NS	NS	NS	<0.0005	<0.0005	<0.0005	-
	2/25/2008	NA	NS	NS	NS	NS	NS	<0.0005	<0.0005	<0.0005	-
	5/22/2008	NA	NS	NS	NS	NS	NS	**0.0003J**	<0.0005	<0.0005	-
	8/20/2008	NA	NS	NS	NS	NS	NS	**0.001**	<0.0005	<0.0005	-
	11/25/2008	NA	NS	NS	NS	NS	NS	**0.0005**	<0.0005	<0.0005	-
	2/27/2009	NA	NS	NS	NS	NS	NS	**0.0007**	<0.0005	<0.0005	-
	5/26/2009	**7.5**	NS	NS	NS	NS	NS	**0.0004J-**	<0.0005	<0.0005	-
	8/10/2009	NA	NS	NS	NS	NS	NS	<0.0005	<0.0005	<0.0005	-
	11/23/2009	**8.5**	NS	NS	NS	NS	NS	**0.0003 J**	< 0.0005	< 0.0005	-
Carbon Mid Bed[2]	6/25/01[a]	NS	NS	NS	NS	NS	NS	< 0.0005	< 0.0005	< 0.0005	-
	8/28/2001	NS	NS	NS	NS	NS	NS	< 0.0005	< 0.0005	< 0.0005	-
	9/21/2001	**8.3**	NS	NS	NS	NS	NS	< 0.0005	< 0.0005	< 0.0005	-
	10/17/2001	**8.4**	NS	NS	NS	NS	NS	< 0.0005	< 0.0005	< 0.0005	-
	11/13/2001	**8.2**	NS	NS	NS	NS	NS	< 0.0005	< 0.0005	< 0.0005	-
	12/13/2001	**8.0**	NS	NS	NS	NS	NS	< 0.0005	< 0.0005	< 0.0005	-
	10/3/2002	**8.1**	NS	NS	NS	NS	NS	**0.0005 J**	< 0.0005	< 0.0005	-
	11/18/2002	**8.2**	NS	NS	NS	NS	NS	< 0.0005	< 0.0005	< 0.0005	-
	2/20/2003	**8.3**	NS	NS	NS	NS	NS	< 0.0005	< 0.0005	< 0.0005	-
	5/29/2003	**8.3**	NS	NS	NS	NS	NS	< 0.0005	< 0.0005	< 0.0005	-
	8/28/2003	**8.5**	NS	NS	NS	NS	NS	< 0.0005	< 0.0005	< 0.0005	-
	11/19/2003	**8.4**	NS	NS	NS	NS	NS	< 0.0005	< 0.0005	< 0.0005	-
	2/26/2004	**8.4**	NS	NS	NS	NS	NS	< 0.0005	< 0.0005	< 0.0005	-
	8/26/2004	NS	NS	NS	NS	NS	NS	NS	NS	NS	-
	8/24/2006*	**8.4**	NS	NS	NS	NS	NS	< 0.0005	< 0.0005	< 0.0005	-
	11/15/2006	**8.3**	NS	NS	NS	NS	NS	**0.0003 J**	< 0.0005	< 0.0005	-
	2/13/2007	**8.3**	NS	NS	NS	NS	NS	**0.0009**	< 0.0005	< 0.0005	-
	4/16/2007 [c]	NS	NS	NS	NS	NS	NS	NS	NS	NS	-

TABLE G-6(a)

GROUNDWATER TREATMENT SYSTEM
ANALYTICAL SUMMARY RESULTS
MODESTO SUPERFUND SITE MODESTO, CALIFORNIA

Sample Identification	Date	pH	TDS (mg/L)	U-234 (pCi/L)	U-235 (pCi/L)	U-238 (pCi/L)	Total U (pCi/L)	PCE (mg/L)	Toluene (mg/L)	TCE (mg/L)	Bioassay
Maximum Allowable Discharge Limit		**5 - 12**	**NA**	**20**	**20**	**20**	**20**	**0.0005**	**0.150**	**NA**	**NA**
	8/23/2007	**7.6**	NS	NS	NS	NS	NS	**0.0009**	< 0.0005	< 0.0005	-
	11/28/2007	**8.5**	NS	NS	NS	NS	NS	<0.0005	<0.0005	<0.0005	-
	2/25/2008	NA	NS	NS	NS	NS	NS	<0.0005	<0.0005	<0.0005	-
	5/22/2008	NA	NS	NS	NS	NS	NS	<0.0005	<0.0005	<0.0005	-
	8/20/2008	NA	NS	NS	NS	NS	NS	**0.0011**	<0.0005	<0.0005	-
	11/25/2008	NA	NS	NS	NS	NS	NS	<0.0005	<0.0005	<0.0005	-
	2/27/2009	NA	NS	NS	NS	NS	NS	**0.0004**	<0.0005	<0.0005	-
	5/26/2009	**7.5**	NS	NS	NS	NS	NS	**0.0006J-**	<0.0005	<0.0005	-
	8/10/2009	NA	NS	NS	NS	NS	NS	<0.0005	<0.0005	<0.0005	-
	11/23/2009	**8.51**	NS	NS	NS	NS	NS	< 0.0005	< 0.0005	< 0.0005	-
Pre Ion Exchange[2]	8/28/2001	NS	NS	**18.9**	**0.404**	**14.0**	NS	< 0.0005	< 0.0005	< 0.0005	-
	11/14/2001	**7.8**	NS	**19.1**	**0.515**	**12.6**	NS	< 0.0005	< 0.0005	< 0.0005	-
	2/19/2002	**8.1**	NS	**19.5**	**0.506**	**14.3**	NS	< 0.0005	< 0.0005	< 0.0005	-
	5/23/2002	**8.0**	NS	**20.0**	**0.412**	**15.6**	NS	< 0.0005	< 0.0005	< 0.0005	-
	8/19/2002	**8.3**	NS	**25.7**	**0.621**	**17.7**	NS	< 0.0005	< 0.0005	< 0.0005	-
	11/18/2002	**8.2**	NS	**22.4**	**0.523**	**17.2**	NS	< 0.0005	< 0.0005	< 0.0005	-
	2/20/2003	**8.3**	NS	**27.3**	**1.550**	**21.2**	NS	< 0.0005	< 0.0005	< 0.0005	-
	5/29/2003	**8.3**	NS	**25.7**	**1.650**	**17.9**	NS	< 0.0005	< 0.0005	< 0.0005	-
	8/28/2003	**8.4**	NS	**26.8**	**1.390**	**19.3**	NS	< 0.0005	< 0.0005	< 0.0005	-
	11/19/2003	**8.1**	NS	**26.9**	**0.725**	**23.4**	NS	< 0.0005	< 0.0005	< 0.0005	-
	2/26/2004	**8.4**	NS	NS	NS	NS	**411.0**	< 0.0005	< 0.0005	< 0.0005	-
	5/20/2004	**8.5**	NS	**23.8**	**0.621**	**18.3**	NS	< 0.0005	< 0.0005	< 0.0005	-
	8/26/2004*	**8.4**	NS	NS	NS	NS	**68.4**	< 0.0005	< 0.0005	< 0.0005	-
	11/15/2006	**8.2**	NS	NS	NS	NS	**46.8**	**0.0003 J**	< 0.0005	< 0.0005	-
	2/13/2007	**8.3**	NS	NS	NS	NS	**24.5 J-**	< 0.0005	< 0.0005	< 0.0005	-
	4/16/2007 [c]	NS	NS	NS	NS	NS	NS	NS	NS	NS	-
	8/23/2007	**7.6**	NS	NS	NS	NS	NS	**0.0002**	< 0.0005	< 0.0005	-
	8/29/2007	**7.6**	NS	NS	NS	NS	**54.2**	NS	NS	NS	-
	11/28/2007	**8.5**	NS	NS	NS	NS	**53.4**	<0.0005	<0.0005	<0.0005	-
	2/25/2008	NA	NS	NS	NS	NS	**56.5**	<0.0005	<0.0005	<0.0005	-
	5/22/2008	NA	NS	NS	NS	NS	**58.9**	<0.0005	<0.0005	<0.0005	-
	8/20/2008	NA	NS	NS	NS	NS	**79.9**	<0.0005	<0.0005	<0.0005	-
	11/25/2008	NA	NS	NS	NS	NS	**56.7**	<0.0005	<0.0005	<0.0005	-
	2/27/2009	NA	NS	NS	NS	NS	**62.3**	<0.0005	<0.0005	<0.0005	-
	5/26/2009	**7.50**	NS	NS	NS	NS	**54.0**	0.0004J-	<0.0005	<0.0005	-
	8/10/2009	NA	NS	NS	NS	NS	NS	<0.0005	<0.0005	<0.0005	-
	11/23/2009	**8.47**	NS	NS	NS	NS	**53.0**	< 0.0005	< 0.0005	< 0.0005	-

TABLE G-6(a)

GROUNDWATER TREATMENT SYSTEM
ANALYTICAL SUMMARY RESULTS
MODESTO SUPERFUND SITE MODESTO, CALIFORNIA

Sample Identification	Date	pH	TDS (mg/L)	U-234 (pCi/L)	U-235 (pCi/L)	U-238 (pCi/L)	Total U (pCi/L)	PCE (mg/L)	Toluene (mg/L)	TCE (mg/L)	Bioassay
Maximum Allowable Discharge Limit		**5 - 12**	**NA**	**20**	**20**	**20**	**20**	**0.0005**	**0.150**	**NA**	**NA**
Ion Exchange Mid Bed[3]	8/28/2001	NS	NS	**0.00826**	**0.00826**	**0.02480**	NS	NS	NS	NS	-
	2/19/2002	**8.1**	NS	**0.232**	< 0.0434	**0.304**	NS	NS	NS	NS	-
	5/23/2002	**8.0**	NS	**3.31**	**0.142**	**2.15**	NS	NS	NS	NS	-
	8/19/2002	**8.3**	NS	**8.01**	**0.288**	**5.72**	NS	NS		NS	-
	11/18/2002	**8.2**	NS	**6.84**	**0.225**	**4.71**	NS	NS	NS	NS	-
	2/20/2003	**8.3**	NS	**13.60**	**0.498**	**9.24**	NS	NS	NS	NS	-
	5/29/2003	**8.2**	NS	**16.3**	**0.849**	**12.0**	NS	NS	NS	NS	-
	8/28/2003	**8.4**	NS	**8.7**	**0.423**	**7.0**	NS	NS	NS	NS	-
	11/19/2003	**8.1**	NS	**18.3**	**0.871**	**15.1**	NS	NS	NS	NS	-
	2/26/2004	**8.4**	NS	NS	NS	NS	**24.5**	NS	NS	NS	-
	5/20/2004	**8.5**	NS	**18.9**	**0.590**	**14.0**	NS	NS	NS	NS	-
	8/26/2004	**8.4**	NS	NS	NS	NS	**19.8**	NS	NS	NS	-
	8/26/2004*	**8.3**	NS	NS	NS	NS	**6.05**	NS	NS	NS	-
	11/15/2006	**8.2**	NS	NS	NS	NS	**35.5**	NS	NS	NS	-
	2/13/2007	**8.4**	NS	NS	NS	NS	**42.7 J-**	NS	NS	NS	-
	4/16/2007 [c]	NS	NS	NS	NS	NS	NS	NS	NS	NS	-
	8/29/2007	**7.9**	NS	NS	NS	NS	**3.29**	NS	NS	NS	-
	11/28/2007	**8.4**	NS	NS	NS	NS	**4.07**	NS	NS	NS	-
	2/25/2008	NA	NS	NS	NS	NS	**15.50**	NS	NS	NS	-
	8/20/2008	NA	NS	NS	NS	NS	**42.6**	NS	NS	NS	-
	11/25/2008	NA	NS	NS	NS	NS	**35.7**	NS	NS	NS	-
	2/27/2009	NA	NS	NS	NS	NS	**42.7**	NS	NS	NS	-
	5/26/2009	NA	NS	NS	NS	NS	**47.0**	NS	NS	NS	-
	8/10/2009	NS	NS	NS	NS	NS	NS	NS	NS	NS	-
	11/23/2009	NS	NS	NS	NS	NS	**53.0**	NS	NS	NS	-
	12/22/2009	NS	NS	NS	NS	NS	**0.893**	NS	NS	NS	-

Notes:
(1) Analyzed for VOCs using USEPA Method 8260
(2) Analyzed for VOCs using USEPA Method 524.2
(3) Analyzed for uranium using USEPA Method 908.0
(4) Analyzed for TDS using USEPA Method 160.1
(a) Was not discharged to City of Modesto Sanitary Sewer System
(b) Sample was analyzed out of holding time
(c) No sample collected 2Q07. System down for ion-exchange change-out.
(d) Total U sample collected on 6/17/2009.
* - System Start-up with new extraction well EW-1R
** - July 2007 System Start-up Samples/
GWT - Groundwater Treatment
PCE - Tetrachloroethene
TCE - Trichloroethene
TDS - Total Dissolved Solids
mg/L - milligrams per liter
B - Analyte Detected in trip blank or method blank
J - Estimated Value (J- = low bias)
NA - Not Applicable
NS - Not Sampled
NSM - Not Significant Mortalitites
R - Rejected
U - Uranium
VOCs - Volatile organic compounds
pCi/L - picoCuries per liter

TABLE G-6(b)

GROUNDWATER TREATMENT SYSTEM ANALYTICAL SUMMARY RESULTS
MODESTO GROUNDWATER SUPERFUND SITE
MODESTO, CALIFORNIA

Sample Port	Location	Date	Sample Code	pH	TDS mg/L	TSS mg/L	BOD mg/L	Total Uranium PCI/L	PCE ug/L	TOLUENE ug/L	TCE ug/L
SP-01	Extraction Well 1R	1/27/2010		8.10					160	< 0.5	< 0.5
		2/25/2010		8.60					160	< 0.5	< 0.5
		3/11/2010		7.20				54.9	180	< 0.5	< 0.5
		4/7/2010		7.63					180	< 0.5	< 0.5
		5/12/2010		7.15				50.9	160	< 0.5	< 0.5
		6/17/2010		6.96					130	< 0.5	< 0.5
		6/17/2010	FD	6.96					120	< 0.5	< 0.5
		07/15/10	FD	6.98					140	< 0.5	< 0.5
		07/15/10		6.98				55.6	140	< 0.5	< 0.5
		08/12/10		7.70					150	< 0.5	< 0.5
		09/09/10		7.27					210	< 0.5	< 0.5
		10/14/10		7.20				54.4	140	< 0.5	< 0.5
		10/14/10	FD	7.20					140	< 0.5	< 0.5
		11/18/10		6.85					130	< 0.5	< 0.5
		12/09/10		7.32					88	< 0.5	< 0.5
		01/13/11		7.28				49.0	110	< 0.5	< 0.5
		02/10/11		7.11					120	< 0.5	< 0.5
		03/09/11		7.11					120	< 0.5	< 0.5
SP-03	Carbon Influent	3/11/2010		8.70					0.4 J	< 0.5	< 0.5
		5/12/2010		8.39					0.4 J	< 0.5	< 0.5
		07/15/10		NC					0.4 J	< 0.5	< 0.5
		10/14/10		8.25					< 0.5	< 0.5	< 0.5
		01/13/11		8.25					< 0.5	< 0.5	< 0.5
SP-04	Carbon Mid Bed	3/11/2010		8.36					< 0.5	< 0.5	< 0.5
		5/12/2010		8.30					< 0.5	< 0.5	< 0.5
		07/15/10		NC					0.3 J	< 0.5	< 0.5
		10/14/10		8.19					0.2 J	< 0.5	< 0.5
		01/13/11		8.2					0.2 J	< 0.5	< 0.5
SP-05	Post Carbon Pre Ion Exchange	3/11/2010		8.29				54.6	< 0.5	< 0.5	< 0.5
		5/12/2010		8.38				60.1	< 0.5	< 0.5	< 0.5
		5/12/2010	FD	8.38				53.9			
		07/15/10		NC				57.0	< 0.5	< 0.5	< 0.5
		07/15/10	FD	NC				58.7			
		10/14/10		8.15				58.3	0.2 J	< 0.5	< 0.5
		01/13/11		8.21				69.9	< 0.5	< 0.5	< 0.5
		01/13/11	FD	8.21				71.5			
SP-06	Ion Exchange Mid Bed	3/11/2010		8.10				5.90			
		5/12/2010		8.15				6.22			
		07/15/10		NC				8.04			
		10/14/10		8.15				21.3			
		01/13/11		8.14				40.0			
SP-07	GWT Effluent	1/27/2010		8.30	640				< 0.5	< 0.5	< 0.5
		2/25/2010		8.79	640				< 0.5	< 0.5	< 0.5
		2/25/2010	FD	8.79	650						
		3/11/2010		8.40	640			19.7	< 0.5	< 0.5	< 0.5
		3/11/2010	FD	8.40	640			19.1			
		4/7/2010		8.28	650				< 0.5	< 0.5	< 0.5
		5/12/2010		8.10	640			9.93	< 0.5	< 0.5	< 0.5
		6/17/2010		8.20	660	< 10.0	< 2.0		< 0.5	< 0.5	< 0.5
		6/17/2010	FD	8.20	670						
		07/15/10		7.89	650	< 10.0	< 2.0	9.95	< 0.5	< 0.5	< 0.5
		08/12/10		7.91	640				< 0.5	< 0.5	< 0.5
		08/12/10		8.21		< 10.0	< 2.0				
		09/09/10		8.08	660				< 0.5	< 0.5	< 0.5
		09/09/10	FD	8.08	660						
		09/09/10		8.50		< 10.0	< 2.0				
		10/14/10		8.11	650			9.86	0.2 J	< 0.5	< 0.5
		10/14/10		8.43		< 10.0	< 2.0				
		11/18/10		7.57	660				0.2 J	< 0.5	< 0.5
		11/18/10		7.57		< 10.0	< 2.0				
		12/09/10		8.21	660				< 0.5	< 0.5	< 0.5
		12/09/10		8.17		< 3.0	< 2.0				
		01/13/11		8.16	650			8.73	< 0.5	< 0.5	< 0.5
		01/13/11		8.38		< 10.0	< 2.0				
		02/10/11		8.1	650				0.3 J	< 0.5	< 0.5
		02/10/11		8.28		< 10.0	< 2.0				
		03/09/11		7.82	640				0.2 J	< 0.5	< 0.5
		03/09/11		7.95		< 10.0	< 2.0				
		03/09/11	FD	7.82					0.2 J	< 0.5	< 0.5

FD - field duplicate
J - Estimated value
NC - Not Collected
PCE - Tetrachloroethene
PCI/L -
TCE - Trichloroethene
TDS - total dissolved solids
µg/L - milligrams per liter
µg/L - micrograms per liter

Appendix G-7
SVE and Groundwater Treatment System Vapor Analytical Summary Results

TABLE G-7(a)

SVE AND GROUNDWATER TREATMENT VAPOR ANALYTICAL SUMMARY RESULTS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

Sample ID:	SVE PRE GAC-060807	SVE Pre GAC-073107	SVE Pre GAC-082407	SVE Pre GAC-092407	SVE Pre GAC-102907	SVE Pre GAC-112807	SVE Pre GAC-122007	SVE Pre GAC-011708	SVE Pre GAC-033108	SVE Pre GAC-042508	SVE Pre GAC-052208	SVE Pre GAC-062408
Sample Date:	06/08/07	07/31/07	08/24/07	09/24/07	10/29/07	11/28/07	12/20/07	01/17/08	03/31/08	04/25/08	05/22/08	06/24/08
Units:	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV
Tetrachloroethylene (PCE)	**7**	< 2.2000	< 2.3000	**4.4**	**4.8**	**15**	**54**	< 1.7000	**51**	**94**	**7700**	**900**
Trichloroethylene (TCE)	< 2.2000	< 2.2000	< 2.3000	< 2.3000	< 2.3000	< 2.0000	< 24.0000	< 1.7000	< 1.0000	< 2.5000	**27**	**11**
cis-1,2-Dichloroethylene	< 2.2000	< 2.2000	< 2.3000	< 2.3000	< 2.3000	< 2.0000	< 24.0000	< 1.7000	< 1.0000	< 2.5000	**19**	**13**
Dichlorodifluoromethane	< 2.2000	< 2.2000	< 2.3000	< 2.3000	< 2.3000	< 2.0000	< 24.0000	< 1.7000	< 1.0000	< 2.5000	**2**	< 20.0000
Chloroform	< 2.2000	< 2.2000	< 2.3000	< 2.3000	< 2.3000	< 2.0000	< 24.0000	< 1.7000	< 1.0000	< 2.5000	**16**	**34**
1,1,1-Trichloroethane	< 2.2000	< 2.2000	< 2.3000	< 2.3000	< 2.3000	< 2.0000	< 24.0000	< 1.7000	< 1.0000	< 2.5000	< 2.3000	< 20.0000
1,1,2,2-Tetrachloroethane	< 2.2000	< 2.2000	< 2.3000	< 2.3000	< 2.3000	< 2.0000	< 24.0000	< 1.7000	< 1.0000	< 2.5000	< 2.3000	< 20.0000
1,1,2-Trichloro-1,2,2-trifluoroethane	< 2.2000	< 2.2000	< 2.3000	< 2.3000	< 2.3000	< 2.0000	< 24.0000	< 1.7000	< 1.0000	< 2.5000	< 2.3000	< 20.0000
1,1,2-Trichloroethane	< 2.2000	< 2.2000	< 2.3000	< 2.3000	< 2.3000	< 2.0000	< 24.0000	< 1.7000	< 1.0000	< 2.5000	< 2.3000	< 20.0000
1,1-Dichloroethane	< 2.2000	< 2.2000	< 2.3000	< 2.3000	< 2.3000	< 2.0000	< 24.0000	< 1.7000	< 1.0000	< 2.5000	< 2.3000	< 20.0000
1,1-Dichloroethene	< 2.2000	< 2.2000	< 2.3000	< 2.3000	< 2.3000	< 2.0000	< 24.0000	< 1.7000	< 1.0000	< 2.5000	< 2.3000	< 20.0000
1,2,4-Trichlorobenzene	**2.8**	< 2.2000	< 2.3000	< 2.3000	< 2.3000	< 2.0000	< 24.0000	< 1.7000	< 1.0000	< 2.5000	< 2.3000	< 20.0000
1,2,4-Trimethylbenzene	< 2.2000	< 2.2000	< 2.3000	< 2.3000	< 2.3000	< 2.0000	< 24.0000	< 1.7000	< 1.0000	< 2.5000	< 2.3000	< 20.0000
1,2-Dibromoethane (Ethylene dibromide)	< 2.2000	< 2.2000	< 2.3000	< 2.3000	< 2.3000	< 2.0000	< 24.0000	< 1.7000	< 1.0000	< 2.5000	< 2.3000	< 20.0000
1,2-Dichloro-1,1,2,2-trifluoroethane	< 2.2000	< 2.2000	< 2.3000	< 2.3000	< 2.3000	< 2.0000	< 24.0000	< 1.7000	< 1.0000	< 2.5000	< 2.3000	< 20.0000
1,2-Dichlorobenzene	< 2.2000	< 2.2000	< 2.3000	< 2.3000	< 2.3000	< 2.0000	< 24.0000	< 1.7000	< 1.0000	< 2.5000	< 2.3000	< 20.0000
1,2-Dichloroethane	< 2.2000	< 2.2000	< 2.3000	< 2.3000	< 2.3000	< 2.0000	< 24.0000	< 1.7000	< 1.0000	< 2.5000	< 2.3000	< 20.0000
1,2-Dichloropropane	< 2.2000	< 2.2000	< 2.3000	< 2.3000	< 2.3000	< 2.0000	< 24.0000	< 1.7000	< 1.0000	< 2.5000	< 2.3000	< 20.0000
1,3,5-Trimethylbenzene	< 2.2000	< 2.2000	< 2.3000	< 2.3000	< 2.3000	< 2.0000	< 24.0000	< 1.7000	< 1.0000	< 2.5000	< 2.3000	< 20.0000
1,3-Dichlorobenzene	< 2.2000	< 2.2000	< 2.3000	< 2.3000	< 2.3000	< 2.0000	< 24.0000	< 1.7000	< 1.0000	< 2.5000	< 2.3000	< 20.0000
1,4-Dichlorobenzene	< 2.2000	< 2.2000	< 2.3000	< 2.3000	< 2.3000	< 2.0000	< 24.0000	< 1.7000	< 1.0000	< 2.5000	< 2.3000	< 20.0000
2-Butanone (MEK)		< 2.2000	< 2.3000	< 2.3000	< 2.3000	< 2.0000	< 24.0000	< 1.7000				
4-Ethyltoluene		< 2.2000	< 2.3000	< 2.3000	< 2.3000	< 2.0000	< 24.0000	< 1.7000				
Acetone	**5.6**	**1.1**	**10**	**11**	**10**	**7.3**	< 24.0000	**7.2**				
Benzene	< 2.2000	< 2.2000	< 2.3000	< 2.3000	< 2.3000	< 2.0000	< 24.0000	< 1.7000	< 1.0000	< 2.5000	< 2.3000	< 20.0000
Bromomethane	< 2.2000	< 2.2000	< 2.3000	< 2.3000	< 2.3000	< 2.0000	< 24.0000	< 1.7000	< 1.0000	< 2.5000	< 2.3000	< 20.0000
Carbon disulfide		< 2.2000	< 2.3000	< 2.3000	< 2.3000	< 2.0000	< 24.0000	< 1.7000				
Carbon tetrachloride	< 2.2000	< 2.2000	< 2.3000	< 2.3000	< 2.3000	< 2.0000	< 24.0000	< 1.7000	< 1.0000	< 2.5000	< 2.3000	< 20.0000
Chlorobenzene	< 2.2000	< 2.2000	< 2.3000	< 2.3000	< 2.3000	< 2.0000	< 24.0000	< 1.7000	< 1.0000	< 2.5000	< 2.3000	< 20.0000
Chloroethane	< 2.2000	< 2.2000	< 2.3000	< 2.3000	< 2.3000	< 2.0000	< 24.0000	< 1.7000	< 1.0000	< 2.5000	< 2.3000	< 20.0000
Chloromethane	< 2.2000	< 2.2000	< 2.3000	< 2.3000	< 2.3000	< 2.0000	< 24.0000	< 1.7000	**0.5**	< 2.5000	< 2.3000	< 20.0000
cis-1,3-Dichloropropene	< 2.2000	< 2.2000	< 2.3000	< 2.3000	< 2.3000	< 2.0000	< 24.0000	< 1.7000	< 1.0000	< 2.5000	< 2.3000	< 20.0000
Ethylbenzene	< 2.2000	< 2.2000	< 2.3000	< 2.3000	< 2.3000	< 2.0000	< 24.0000	< 1.7000	< 1.0000	< 2.5000	< 2.3000	< 20.0000
Hexachlorobutadiene	**3.7**	< 2.2000	< 2.3000	< 2.3000	< 2.3000	< 2.0000	< 24.0000	< 1.7000	< 1.0000	< 2.5000	< 2.3000	< 20.0000
m,p-Xylene	< 4.4000	< 4.4000	< 4.6000	< 4.7000	< 4.7000	< 4.1000	< 47.0000	< 3.4000	**1.1**	< 4.9000	< 4.6000	< 40.0000
Methylene chloride	< 2.2000	< 2.2000	< 2.3000	< 2.3000	< 2.3000	< 2.0000	< 24.0000	< 1.7000	< 1.0000	< 2.5000	< 2.3000	< 20.0000
o-Xylene	< 2.2000	< 2.2000	< 2.3000	< 2.3000	< 2.3000	< 2.0000	< 24.0000	< 1.7000	< 1.0000	< 2.5000	< 2.3000	< 20.0000
Styrene	< 2.2000	< 2.2000	< 2.3000	< 2.3000	< 2.3000	< 2.0000	< 24.0000	< 1.7000	< 1.0000	< 2.5000	< 2.3000	< 20.0000
Toluene	< 2.2000	< 2.2000	< 2.3000	**10**	**2**	< 2.0000	< 24.0000	**1**	**8.6**	**1.4**	< 2.3000	< 20.0000
trans-1,2-Dichloroethene		< 2.2000	< 2.3000	< 2.3000	< 2.3000	< 2.0000	< 24.0000	< 1.7000				
trans-1,3-Dichloropropene	< 2.2000	< 2.2000	< 2.3000	< 2.3000	< 2.3000	< 2.0000	< 24.0000	< 1.7000	< 1.0000	< 2.5000	< 2.3000	< 20.0000
Trichlorofluoromethane	< 2.2000	< 2.2000	< 2.3000	< 2.3000	< 2.3000	< 2.0000	< 24.0000	< 1.7000	< 1.0000	**4.2**	< 2.3000	< 20.0000
Vinyl chloride	< 2.2000	< 2.2000	< 2.3000	< 2.3000	< 2.3000	< 2.0000	< 24.0000	< 1.7000	< 1.0000	< 2.5000	< 2.3000	< 20.0000
1,2-DICHLOROTETRAFLUOROETHANE												

TABLE G-7(a)

SVE AND GROUNDWATER TREATMENT VAPOR ANALYTICAL SUMMARY RESULTS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

Sample ID:	SVE Pre GAC-072408	SVE Pre GAC-082002	SVE Pre Gac-092508	SVE Pre GAC-111808 (RE)	SVE Pre GAC-121008 (RE)	SVE Pre GAC-123008	SVE Pre GAC-013009	SVE Pre GAC-022709	SVE Pre GAC-031009	SVE Pre GAC-042309	SVE Pre GAC-052809	SVE Pre GAC-062909
Sample Date:	07/24/08	08/20/08	09/25/08	11/18/08	12/10/08	12/30/08	01/30/09	02/27/09	03/10/09	04/23/09	05/28/09	06/29/09
Units:	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV
Tetrachloroethylene (PCE)	**630**	**430**	**270**	**4100**	**1100**	**1400**	**2.1**	**670**	**610**	**750**	**610**	**1200**
Trichloroethylene (TCE)	**8.7**	**9.4**	**6**	**19**	**6.1**		< 2.1000	**2.6**	**2.6 J**	**4.3**	**7.7**	**15**
cis-1,2-Dichloroethylene	**10**	**8.1**	**5.6**	**29**	**8**		< 2.1000	**2.7**	**2.7 J**	**5.4**	**10**	**12**
Dichlorodifluoromethane	**2.5**	**1.9**	**1.8**	< 22.0000	**2.9**		< 2.1000	**2.7**	**2.6 J**	**1.9**	**3 J**	**2.2 J**
Chloroform	**37**	**33**	**29**	**62**	**45**		< 2.1000	**45**	**40**	**30**	**30**	**32**
1,1,1-Trichloroethane	< 2.0000	< 2.1000	< 1.9000	< 22.0000	< 3.9000		< 2.1000	< 2.2000	< 4.3000	< 1.9000	< 4.6000	< 2.7000
1,1,2,2-Tetrachloroethane	< 2.0000	< 2.1000	< 1.9000	< 22.0000	< 3.9000		< 2.1000	< 2.2000	< 4.3000	< 1.9000	< 4.6000	< 2.7000
1,1,2-Trichloro-1,2,2-trifluoroethane	< 2.0000	< 2.1000	< 1.9000	< 22.0000	< 3.9000		< 2.1000	< 2.2000	< 4.3000	< 1.9000	< 4.6000	< 2.7000
1,1,2-Trichloroethane	< 2.0000	< 2.1000	< 1.9000	< 22.0000	< 3.9000		< 2.1000	< 2.2000	< 4.3000	< 1.9000	< 4.6000	< 2.7000
1,1-Dichloroethane	< 2.0000	< 2.1000	< 1.9000	< 22.0000	< 3.9000		< 2.1000	< 2.2000	< 4.3000	< 1.9000	< 4.6000	< 2.7000
1,1-Dichloroethene	< 2.0000	< 2.1000	< 1.9000	< 22.0000	< 3.9000		< 2.1000	< 2.2000	< 4.3000	< 1.9000	< 4.6000	< 2.7000
1,2,4-Trichlorobenzene	< 2.0000	< 2.1000	< 1.9000	< 22.0000	< 3.9000		< 2.1000	< 2.2000	< 4.3000 UJ	< 1.9000	< 4.6000	< 2.7000
1,2,4-Trimethylbenzene	< 2.0000	< 2.1000	< 1.9000	< 22.0000	**25**		**1.4 J**	< 2.2000	< 4.3000	< 1.9000	< 4.6000	**6.9**
1,2-Dibromoethane (Ethylene dibromide)	< 2.0000	< 2.1000	< 1.9000	< 22.0000	**3**		< 2.1000	< 2.2000	< 4.3000	< 1.9000	< 4.6000	< 2.7000
1,2-Dichloro-1,1,2,2-trifluoroethane	< 2.0000	< 2.1000	< 1.9000	< 22.0000	< 3.9000		< 2.1000	< 2.2000	< 4.3000	< 1.9000	< 4.6000	< 2.7000
1,2-Dichlorobenzene	< 2.0000	< 2.1000	< 1.9000	< 22.0000	< 3.9000		< 2.1000	< 2.2000	< 4.3000	< 1.9000	< 4.6000	< 2.7000
1,2-Dichloroethane	< 2.0000	< 2.1000	< 1.9000	< 22.0000	< 3.9000		< 2.1000	< 2.2000	< 4.3000	< 1.9000	< 4.6000	< 2.7000
1,2-Dichloropropane	< 2.0000	< 2.1000	< 1.9000	< 22.0000	< 3.9000		< 2.1000	< 2.2000	< 4.3000	< 1.9000	< 4.6000	< 2.7000
1,3,5-Trimethylbenzene	< 2.0000	< 2.1000	< 1.9000	< 22.0000	**13**		**1.1 J**	< 2.2000	< 4.3000	< 1.9000	< 4.6000	**4.4**
1,3-Dichlorobenzene	< 2.0000	< 2.1000	< 1.9000	< 22.0000	< 3.9000		< 2.1000	< 2.2000	< 4.3000	< 1.9000	< 4.6000	< 2.7000
1,4-Dichlorobenzene	< 2.0000	< 2.1000	< 1.9000	< 22.0000	< 3.9000		< 2.1000	< 2.2000	< 4.3000	< 1.9000	< 4.6000	< 2.7000
2-Butanone (MEK)												
4-Ethyltoluene												
Acetone												
Benzene	< 2.0000	< 2.1000	< 1.9000	< 22.0000	**3.3**		< 2.1000	< 2.2000	< 4.3000	< 1.9000	< 4.6000	< 2.7000
Bromomethane	< 2.0000	< 2.1000	< 1.9000	< 22.0000	< 3.9000		< 2.1000	< 2.2000	< 4.3000	< 1.9000	< 4.6000	< 2.7000
Carbon disulfide												
Carbon tetrachloride	< 2.0000	< 2.1000	< 1.9000	< 22.0000	< 3.9000		< 2.1000	< 2.2000	< 4.3000	< 1.9000	< 4.6000	< 2.7000
Chlorobenzene	< 2.0000	< 2.1000	< 1.9000	< 22.0000	< 3.9000		< 2.1000	< 2.2000	< 4.3000	< 1.9000	< 4.6000	< 2.7000
Chloroethane	< 2.0000	< 2.1000	< 1.9000	< 22.0000	< 3.9000		< 2.1000	< 2.2000	< 4.3000	< 1.9000	< 4.6000	< 2.7000
Chloromethane	< 2.0000	< 2.1000	< 1.9000	< 22.0000	< 3.9000		< 2.1000	< 2.2000	< 4.3000	< 1.9000	< 4.6000	< 2.7000
cis-1,3-Dichloropropene	< 2.0000	< 2.1000	< 1.9000	< 22.0000	< 3.9000		< 2.1000	< 2.2000	< 4.3000	**2.1**	< 4.6000	< 2.7000
Ethylbenzene	< 2.0000	< 2.1000	< 1.9000	< 22.0000	**19**		< 2.1000	< 2.2000	< 4.3000	< 1.9000	< 4.6000	< 2.7000
Hexachlorobutadiene	< 2.0000	< 2.1000	< 1.9000	< 22.0000	< 3.9000		< 2.1000	< 2.2000	< 4.3000 UJ	< 1.9000	< 4.6000	< 2.7000 UJ
m,p-Xylene	< 4.0000	< 4.3000	**2.3**	< 45.0000	**210**		< 4.2000	< 4.3000	< 8.6000	< 3.7000	< 9.2000	**11**
Methylene chloride	< 2.0000	< 2.1000	< 1.9000	< 22.0000	< 3.9000		< 2.1000	< 2.2000	< 4.3000	< 1.9000	< 4.6000	**1.5**
o-Xylene	< 2.0000	< 2.1000	< 1.9000	< 22.0000	**63**		< 2.1000	< 2.2000	< 4.3000	< 1.9000	< 4.6000	**5.6**
Styrene	< 2.0000	< 2.1000	< 1.9000	< 22.0000	< 3.9000		< 2.1000 UJ	< 2.2000	< 4.3000	< 1.9000 UJ	< 4.6000 UJ	< 2.7000 UJ
Toluene	< 2.0000	< 2.1000	**2.4**	< 22.0000	**140**		**1.8 J**	< 2.2000	< 4.3000	< 1.9000	< 4.6000	**2 J**
trans-1,2-Dichloroethene												
trans-1,3-Dichloropropene	< 2.0000	< 2.1000	< 1.9000	< 22.0000	< 3.9000		< 2.1000	< 2.2000	< 4.3000	< 1.9000	< 4.6000	< 2.7000
Trichlorofluoromethane	< 2.0000	< 2.1000	< 1.9000	< 22.0000	< 3.9000		< 2.1000	< 2.2000	< 4.3000	< 1.9000	< 4.6000	< 2.7000
Vinyl chloride	< 2.0000	< 2.1000	< 1.9000	< 22.0000	< 3.9000		< 2.1000	< 2.2000	< 4.3000	< 1.9000	< 4.6000	< 2.7000
1,2-DICHLOROTETRAFLUOROETHA												

TABLE G-7(a)

SVE AND GROUNDWATER TREATMENT VAPOR ANALYTICAL SUMMARY RESULTS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

Sample ID:	SVE Pre GAC-072909	SVE Pre GAC-081009	SVE Pre GAC-092209	SVE Pre GAC-102609	SVE Pre GAC-112309	SVE Pre GAC-121609	SVE Stack-060807	SVE Stack-073107	SVE Stack-082407	SVE Stack-092407	SVE Stack-102907	SVE Stack-112807
Sample Date:	07/29/09	08/10/09	09/22/09	10/26/09	11/23/09	12/16/09	06/08/07	07/31/07	08/24/07	09/24/07	10/29/07	11/28/07
Units:	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV
Tetrachloroethylene (PCE)	**1200**	**1800**	**940**	**630**	**500**	**420**	< 2.4000	**4.5**	< 2.3000	**4.3**	< 2.3000	< 2.0000
Trichloroethylene (TCE)	**19**	**20**	**7.3**	**4.4**	**3**	**2.2**	< 2.4000	< 2.1000	< 2.3000	**4.6**	< 2.3000	< 2.0000
cis-1,2-Dichloroethylene	**10**	**11**	**3.3**	**1.8 J**	**1.4 J**	< 2.1000	< 2.4000	< 2.1000	< 2.3000	**5**	< 2.3000	< 2.0000
Dichlorodifluoromethane	**2.1 J**	**2.2 J**	< 2.3000	**1.6 J**	**1.3 J**	**1.5 J**	< 2.4000	< 2.1000	< 2.3000	**5**	< 2.3000	< 2.0000
Chloroform	**10**	**44**	**34**	**39**	**26**	**29**	< 2.4000	< 2.1000	< 2.3000	**5.8**	< 2.3000	< 2.0000
1,1,1-Trichloroethane	< 2.4000	< 2.9000	< 2.3000	< 2.3000	< 2.3000	< 2.1000	< 2.4000	< 2.1000	< 2.3000	**6.7**	< 2.3000	< 2.0000
1,1,2,2-Tetrachloroethane	< 2.4000	< 2.9000	< 2.3000	< 2.3000	< 2.3000	< 2.1000	< 2.4000	< 2.1000	< 2.3000	**1.9**	< 2.3000	< 2.0000
1,1,2-Trichloro-1,2,2-trifluoroethane	< 2.4000	< 2.9000	< 2.3000	< 2.3000	< 2.3000	< 2.1000	< 2.4000	< 2.1000	< 2.3000	**6.1**	< 2.3000	< 2.0000
1,1,2-Trichloroethane	< 2.4000	< 2.9000	< 2.3000	< 2.3000	< 2.3000	< 2.1000	< 2.4000	< 2.1000	< 2.3000	**4.1**	< 2.3000	< 2.0000
1,1-Dichloroethane	< 2.4000	< 2.9000	< 2.3000	< 2.3000	< 2.3000	< 2.1000	< 2.4000	< 2.1000	< 2.3000	**5.5**	< 2.3000	< 2.0000
1,1-Dichloroethene	< 2.4000	< 2.9000	< 2.3000	< 2.3000	< 2.3000	< 2.1000	< 2.4000	< 2.1000	< 2.3000	**6.3**	< 2.3000	< 2.0000
1,2,4-Trichlorobenzene	< 2.4000	< 2.9000	< 2.3000	< 2.3000	< 2.3000	< 2.1000	< 2.4000	< 2.1000	< 2.3000	**1.7**	< 2.3000	< 2.0000
1,2,4-Trimethylbenzene	**2.7**	< 2.9000	< 2.3000	< 2.3000	< 2.3000	< 2.1000	< 2.4000	< 2.1000	< 2.3000	**1.9**	< 2.3000	< 2.0000
1,2-Dibromoethane (Ethylene dibromide)	< 2.4000	< 2.9000	< 2.3000	< 2.3000	< 2.3000	< 2.1000	< 2.4000	< 2.1000	< 2.3000	**2.6**	< 2.3000	< 2.0000
1,2-Dichloro-1,1,2,2-trifluoroethane	< 2.4000	< 2.9000	< 2.3000	< 2.3000	< 2.3000	< 2.1000	< 2.4000	< 2.1000	< 2.3000	**4.4**	< 2.3000	< 2.0000
1,2-Dichlorobenzene	< 2.4000	< 2.9000	< 2.3000	< 2.3000	< 2.3000	< 2.1000	< 2.4000	< 2.1000	< 2.3000	**1.5**	< 2.3000	< 2.0000
1,2-Dichloroethane	< 2.4000	< 2.9000	< 2.3000	< 2.3000	< 2.3000	< 2.1000	< 2.4000	< 2.1000	< 2.3000	**6.6**	< 2.3000	< 2.0000
1,2-Dichloropropane	< 2.4000	< 2.9000	< 2.3000	< 2.3000	< 2.3000	< 2.1000	< 2.4000	< 2.1000	< 2.3000	**5.1**	< 2.3000	< 2.0000
1,3,5-Trimethylbenzene	< 2.4000	< 2.9000	< 2.3000	< 2.3000	< 2.3000	< 2.1000	< 2.4000	< 2.1000	< 2.3000	**2**	< 2.3000	< 2.0000
1,3-Dichlorobenzene	< 2.4000	< 2.9000	< 2.3000	< 2.3000	< 2.3000	< 2.1000	< 2.4000	< 2.1000	< 2.3000	**1.6**	< 2.3000	< 2.0000
1,4-Dichlorobenzene	< 2.4000	< 2.9000	< 2.3000	< 2.3000	< 2.3000	< 2.1000	< 2.4000	< 2.1000	< 2.3000	**1.5**	< 2.3000	< 2.0000
2-Butanone (MEK)								< 2.1000	< 2.3000	**2**	< 2.3000	< 2.0000
4-Ethyltoluene								< 2.1000	< 2.3000	< 1.0000	< 2.3000	< 2.0000
Acetone							**1.3**	**10**	4.8	**5.6**	**14**	**2.2**
Benzene	< 2.4000	< 2.9000	< 2.3000	< 2.3000	< 2.3000	**2.3**	< 2.4000	< 2.1000	< 2.3000	**5.4**	< 2.3000	< 2.0000
Bromomethane	< 2.4000	< 2.9000	< 2.3000	< 2.3000	< 2.3000	< 2.1000	< 2.4000	< 2.1000	< 2.3000	**5.2**	< 2.3000	< 2.0000
Carbon disulfide								< 2.1000	< 2.3000	< 1.0000	< 2.3000	< 2.0000
Carbon tetrachloride	< 2.4000	< 2.9000	< 2.3000	< 2.3000	< 2.3000	< 2.1000	< 2.4000	< 2.1000	< 2.3000	**6.7**	< 2.3000	< 2.0000
Chlorobenzene	< 2.4000	< 2.9000	< 2.3000	< 2.3000	< 2.3000	< 2.1000	< 2.4000	< 2.1000	< 2.3000	**2.7**	< 2.3000	< 2.0000
Chloroethane	< 2.4000	< 2.9000	< 2.3000	< 2.3000	< 2.3000	< 2.1000	< 2.4000	< 2.1000	< 2.3000	**6.4**	< 2.3000	< 2.0000
Chloromethane	< 2.4000	< 2.9000	< 2.3000	< 2.3000	< 2.3000	< 2.1000	< 2.4000	< 2.1000	< 2.3000	**7.7**	< 2.3000	< 2.0000
cis-1,3-Dichloropropene	< 2.4000	< 2.9000	< 2.3000	< 2.3000	< 2.3000	< 2.1000	< 2.4000	< 2.1000	< 2.3000	**3.9**	< 2.3000	< 2.0000
Ethylbenzene	< 2.4000	< 2.9000	< 2.3000	< 2.3000	< 2.3000	< 2.1000	< 2.4000	< 2.1000	< 2.3000	**3.7**	< 2.3000	< 2.0000
Hexachlorobutadiene	< 2.4000	< 2.9000	< 2.3000	< 2.3000	< 2.3000	< 2.1000	< 2.4000	< 2.1000	< 2.3000	**2.6**	< 2.3000	< 2.0000
m,p-Xylene	**4.5 J**	< 5.7000	< 4.6000	< 4.5000	< 4.6000	< 4.1000	< 4.8000	< 4.1000	< 4.7000	**8**	< 4.5000	< 4.0000
Methylene chloride	< 2.4000	< 2.9000	< 2.3000	< 2.3000	< 2.3000	< 2.1000	< 2.4000	< 2.1000	< 2.3000	**6**	< 2.3000	< 2.0000
o-Xylene	**2.7**	< 2.9000	< 2.3000	< 2.3000	< 2.3000	< 2.1000	< 2.4000	< 2.1000	< 2.3000	**3.1**	< 2.3000	< 2.0000
Styrene	< 2.4000	< 2.9000	< 2.3000	< 2.3000	< 2.3000	< 2.1000	< 2.4000	< 2.1000	< 2.3000	**2**	< 2.3000	< 2.0000
Toluene	**5**	< 2.9000	< 2.3000	< 2.3000	< 2.3000	< 2.1000	< 2.4000	< 2.1000	< 2.3000	**15**	< 2.3000	< 2.0000
trans-1,2-Dichloroethene								< 2.1000	< 2.3000	< 1.0000	< 2.3000	< 2.0000
trans-1,3-Dichloropropene	< 2.4000	< 2.9000	< 2.3000	< 2.3000	< 2.3000	< 2.1000	< 2.4000	< 2.1000	< 2.3000	**3.2**	< 2.3000	< 2.0000
Trichlorofluoromethane	< 2.4000	< 2.9000	< 2.3000	< 2.3000	< 2.3000	< 2.1000	< 2.4000	< 2.1000	< 2.3000	**7.8**	< 2.3000	< 2.0000
Vinyl chloride	< 2.4000	< 2.9000	< 2.3000	< 2.3000	< 2.3000	< 2.1000	< 2.4000	< 2.1000	< 2.3000	**6.2**	< 2.3000	< 2.0000
1,2-DICHLOROTETRAFLUOROETHA												

TABLE G-7(a)

SVE AND GROUNDWATER TREATMENT VAPOR ANALYTICAL SUMMARY RESULTS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

Sample ID:	**SVE Stack-122007**	**SVE Stack-011708**	**SVE Stack-032008**	**SVE Stack-033108**	**SVE Stack-042508**	**SVE Stack-052208**	**SVE Stack-062408**	**SVE Stack-072408**	**SVE Stack-082002**	**SVE Stack-092508**	**SVE Stack-111808**	**SVE Stack-121008**
Sample Date:	12/20/07	01/17/08	03/20/08	03/31/08	04/25/08	05/22/08	06/24/08	07/24/08	08/20/08	09/25/08	11/18/08	12/10/08
Units:	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV
Tetrachloroethylene (PCE)	**17**	< 1.7000	< 2.5000	**0.7**	< 2.2000	< 2.3000	**3**	< 1.9000	**6.9**	**2.6**	< 2.4000	< 1.9000
Trichloroethylene (TCE)	< 2.3000	< 1.7000	< 2.5000	< 1.0000	< 2.2000	< 2.3000	< 2.0000	< 1.9000	< 2.1000	< 2.0000	< 2.4000	< 1.9000
cis-1,2-Dichloroethylene	< 2.3000	< 1.7000	< 2.5000	< 1.0000	< 2.2000	< 2.3000	< 2.0000	< 1.9000	< 2.1000	< 2.0000	< 2.4000	< 1.9000
Dichlorodifluoromethane	< 2.3000	< 1.7000	< 2.5000	< 1.0000	< 2.2000	< 2.3000	**1.6**	**1.5**	1.5	**1.3**	< 2.4000	**1.3**
Chloroform	< 2.3000	< 1.7000	< 2.5000	< 1.0000	< 2.2000	< 2.3000	< 2.0000	< 1.9000	< 2.1000	**1.4**	< 2.4000	< 1.9000
1,1,1-Trichloroethane	< 2.3000	< 1.7000	< 2.5000	< 1.0000	< 2.2000	< 2.3000	< 2.0000	< 1.9000	< 2.1000	< 2.0000	< 2.4000	< 1.9000
1,1,2,2-Tetrachloroethane	< 2.3000	< 1.7000	< 2.5000	< 1.0000	< 2.2000	< 2.3000	< 2.0000	< 1.9000	< 2.1000	< 2.0000	< 2.4000	< 1.9000
1,1,2-Trichloro-1,2,2-trifluoroethane	< 2.3000	< 1.7000	< 2.5000	< 1.0000	< 2.2000	< 2.3000	< 2.0000	< 1.9000	< 2.1000	< 2.0000	< 2.4000	< 1.9000
1,1,2-Trichloroethane	< 2.3000	< 1.7000	< 2.5000	< 1.0000	< 2.2000	< 2.3000	< 2.0000	< 1.9000	< 2.1000	< 2.0000	< 2.4000	< 1.9000
1,1-Dichloroethane	< 2.3000	< 1.7000	< 2.5000	< 1.0000	< 2.2000	< 2.3000	< 2.0000	< 1.9000	< 2.1000	< 2.0000	< 2.4000	< 1.9000
1,1-Dichloroethene	< 2.3000	< 1.7000	< 2.5000	< 1.0000	< 2.2000	< 2.3000	< 2.0000	< 1.9000	< 2.1000	< 2.0000	< 2.4000	< 1.9000
1,2,4-Trichlorobenzene	< 2.3000	< 1.7000	< 2.5000	< 1.0000	< 2.2000	< 2.3000	< 2.0000	< 1.9000	< 2.1000	**1.6**	< 2.4000	< 1.9000
1,2,4-Trimethylbenzene	< 2.3000	< 1.7000	< 2.5000	< 1.0000	< 2.2000	< 2.3000	< 2.0000	< 1.9000	< 2.1000	< 2.0000	< 2.4000	**38**
1,2-Dibromoethane (Ethylene dibromide)	< 2.3000	< 1.7000	< 2.5000	< 1.0000	< 2.2000	< 2.3000	< 2.0000	< 1.9000	< 2.1000	< 2.0000	< 2.4000	**9**
1,2-Dichloro-1,1,2,2-trifluoroethane	< 2.3000	< 1.7000	< 2.5000	< 1.0000	< 2.2000	< 2.3000	< 2.0000	< 1.9000	< 2.1000	< 2.0000	< 2.4000	< 1.9000
1,2-Dichlorobenzene	< 2.3000	< 1.7000	< 2.5000	< 1.0000	< 2.2000	< 2.3000	< 2.0000	< 1.9000	< 2.1000	< 2.0000	< 2.4000	< 1.9000
1,2-Dichloroethane	< 2.3000	< 1.7000	< 2.5000	< 1.0000	< 2.2000	< 2.3000	< 2.0000	< 1.9000	< 2.1000	< 2.0000	< 2.4000	< 1.9000
1,2-Dichloropropane	< 2.3000	< 1.7000	< 2.5000	< 1.0000	< 2.2000	< 2.3000	< 2.0000	< 1.9000	< 2.1000	< 2.0000	< 2.4000	< 1.9000
1,3,5-Trimethylbenzene	< 2.3000	< 1.7000	< 2.5000	< 1.0000	< 2.2000	< 2.3000	< 2.0000	< 1.9000	< 2.1000	< 2.0000	< 2.4000	**21**
1,3-Dichlorobenzene	< 2.3000	< 1.7000	< 2.5000	< 1.0000	< 2.2000	< 2.3000	< 2.0000	< 1.9000	< 2.1000	< 2.0000	< 2.4000	< 1.9000
1,4-Dichlorobenzene	< 2.3000	< 1.7000	< 2.5000	< 1.0000	< 2.2000	< 2.3000	< 2.0000	< 1.9000	< 2.1000	< 2.0000	< 2.4000	< 1.9000
2-Butanone (MEK)	< 2.3000	< 1.7000										
4-Ethyltoluene	< 2.3000	< 1.7000										
Acetone	< 2.3000	< 1.7000										
Benzene	< 2.3000	< 1.7000	< 2.5000	< 1.0000	< 2.2000	< 2.3000	< 2.0000	< 1.9000	< 2.1000	< 2.0000	< 2.4000	**9.4**
Bromomethane	< 2.3000	< 1.7000	< 2.5000	< 1.0000	< 2.2000	< 2.3000	< 2.0000	< 1.9000	< 2.1000	< 2.0000	< 2.4000	< 1.9000
Carbon disulfide	< 2.3000	< 1.7000										
Carbon tetrachloride	< 2.3000	< 1.7000	< 2.5000	< 1.0000	< 2.2000	< 2.3000	< 2.0000	< 1.9000	< 2.1000	< 2.0000	< 2.4000	< 1.9000
Chlorobenzene	< 2.3000	< 1.7000	< 2.5000	< 1.0000	< 2.2000	< 2.3000	< 2.0000	< 1.9000	< 2.1000	< 2.0000	< 2.4000	< 1.9000
Chloroethane	< 2.3000	< 1.7000	< 2.5000	< 1.0000	< 2.2000	< 2.3000	< 2.0000	< 1.9000	< 2.1000	< 2.0000	< 2.4000	< 1.9000
Chloromethane	< 2.3000	< 1.7000	< 2.5000	**0.5**	< 2.2000	< 2.3000	< 2.0000	< 1.9000	< 2.1000	< 2.0000	< 2.4000	< 1.9000
cis-1,3-Dichloropropene	< 2.3000	< 1.7000	< 2.5000	< 1.0000	< 2.2000	< 2.3000	< 2.0000	< 1.9000	< 2.1000	< 2.0000	< 2.4000	< 1.9000
Ethylbenzene	< 2.3000	< 1.7000	< 2.5000	< 1.0000	< 2.2000	< 2.3000	< 2.0000	< 1.9000	< 2.1000	< 2.0000	< 2.4000	**41**
Hexachlorobutadiene	< 2.3000	< 1.7000	< 2.5000	< 1.0000	< 2.2000	< 2.3000	< 2.0000	< 1.9000	< 2.1000	< 2.0000	< 2.4000	< 1.9000
m,p-Xylene	< 4.6000	< 3.5000	< 4.9000	**1.2**	< 4.3000	< 4.6000	< 4.1000	< 3.8000	< 4.2000	< 4.0000	< 4.7000	**420**
Methylene chloride	< 2.3000	< 1.7000	< 2.5000	< 1.0000	< 2.2000	< 2.3000	< 2.0000	< 1.9000	< 2.1000	< 2.0000	< 2.4000	< 1.9000
o-Xylene	< 2.3000	< 1.7000	< 2.5000	< 1.0000	< 2.2000	< 2.3000	< 2.0000	< 1.9000	< 2.1000	< 2.0000	< 2.4000	**110**
Styrene	< 2.3000	< 1.7000	< 2.5000	< 1.0000	< 2.2000	< 2.3000	< 2.0000	< 1.9000	< 2.1000	< 2.0000	< 2.4000	< 1.9000
Toluene	< 2.3000	< 1.7000	< 2.5000	**5.2**	< 2.2000	< 2.3000	< 2.0000	< 1.9000	< 2.1000	< 2.0000	< 2.4000	**210**
trans-1,2-Dichloroethene	< 2.3000	< 1.7000										
trans-1,3-Dichloropropene	< 2.3000	< 1.7000	< 2.5000	< 1.0000	< 2.2000	< 2.3000	< 2.0000	< 1.9000	< 2.1000	< 2.0000	< 2.4000	< 1.9000
Trichlorofluoromethane	< 2.3000	< 1.7000	< 2.5000	< 1.0000	**4.5**	< 2.3000	< 2.0000	< 1.9000	< 2.1000	< 2.0000	< 2.4000	< 1.9000
Vinyl chloride	< 2.3000	< 1.7000	< 2.5000	< 1.0000	< 2.2000	< 2.3000	< 2.0000	< 1.9000	< 2.1000	< 2.0000	< 2.4000	< 1.9000
1,2-DICHLOROTETRAFLUOROETHA												

TABLE G-7(a)

SVE AND GROUNDWATER TREATMENT VAPOR ANALYTICAL SUMMARY RESULTS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

Sample ID:	SVE Stack-123008	SVE Stack-013009	SVE Stack-022709	SVE Stack-031009	SVE Stack-042309	SVE Stack-052809	SVE Stack-062909	SVE Stack-072909	SVE Stack-081009	SVE Stack-092209	SVE Stack-102609	SVE Stack-112309
Sample Date:	12/30/08	01/30/09	02/27/09	03/10/09	04/23/09	05/28/09	06/29/09	07/29/09	08/10/09	09/22/09	10/26/09	11/23/09
Units:	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV
Tetrachloroethylene (PCE)	< 1.9000	**2.7**	**2.4**	**4.4**	**11**	< 2.4000	< 3.0000	**2.3**	**3**	< 2.1000	**6.2**	**4**
Trichloroethylene (TCE)	< 1.9000	< 2.0000	< 2.2000	< 2.2000	< 1.8000	< 2.4000	< 3.0000	< 2.2000	< 2.6000	< 2.1000	< 2.3000	< 2.3000
cis-1,2-Dichloroethylene	< 1.9000	< 2.0000	< 2.2000	< 2.2000	< 1.8000	< 2.4000	< 3.0000	< 2.2000	< 2.6000	< 2.1000	< 2.3000	**3.3**
Dichlorodifluoromethane	< 1.9000	< 2.0000	**1.6 J**	**2.6**	**1.6 J**	**1.8 J**	< 3.0000	**2 J**	**2.2 J**	**1.8 J**	**1.5 J**	**1.4 J**
Chloroform	< 1.9000	< 2.0000	< 2.2000	**2.7**	< 1.8000	< 2.4000	< 3.0000	**1.5**	**3.9**	**5.5**	**31**	**83**
1,1,1-Trichloroethane	< 1.9000	< 2.0000	< 2.2000	< 2.2000	< 1.8000	< 2.4000	< 3.0000	< 2.2000	< 2.6000	< 2.1000	< 2.3000	< 2.3000
1,1,2,2-Tetrachloroethane	< 1.9000	< 2.0000	< 2.2000	< 2.2000	< 1.8000	< 2.4000	< 3.0000	< 2.2000	< 2.6000	< 2.1000	< 2.3000	< 2.3000
1,1,2-Trichloro-1,2,2-trifluoroethane	< 1.9000	< 2.0000	< 2.2000	< 2.2000	< 1.8000	< 2.4000	< 3.0000	< 2.2000	< 2.6000	< 2.1000	< 2.3000	< 2.3000
1,1,2-Trichloroethane	< 1.9000	< 2.0000	< 2.2000	< 2.2000	< 1.8000	< 2.4000	< 3.0000	< 2.2000	< 2.6000	< 2.1000	< 2.3000	< 2.3000
1,1-Dichloroethane	< 1.9000	< 2.0000	< 2.2000	< 2.2000	< 1.8000	< 2.4000	< 3.0000	< 2.2000	< 2.6000	< 2.1000	< 2.3000	< 2.3000
1,1-Dichloroethene	< 1.9000	< 2.0000	< 2.2000	< 2.2000	< 1.8000	< 2.4000	< 3.0000	< 2.2000	< 2.6000	< 2.1000	< 2.3000	< 2.3000
1,2,4-Trichlorobenzene	< 1.9000	< 2.0000 UJ	< 2.2000	< 2.2000 UJ	< 1.8000	< 2.4000	< 3.0000	< 2.2000	< 2.6000	< 2.1000	< 2.3000	< 2.3000
1,2,4-Trimethylbenzene	**2**	**2**	< 2.2000	< 2.2000	< 1.8000	**4.5**	< 3.0000	< 2.2000	< 2.6000	< 2.1000	< 2.3000	< 2.3000
1,2-Dibromoethane (Ethylene dibromide)	< 1.9000	< 2.0000	< 2.2000	< 2.2000	< 1.8000	< 2.4000	< 3.0000	< 2.2000	< 2.6000	< 2.1000	< 2.3000	< 2.3000
1,2-Dichloro-1,1,2,2-trifluoroethane	< 1.9000	< 2.0000	< 2.2000	< 2.2000	< 1.8000	< 2.4000	< 3.0000	< 2.2000	< 2.6000	< 2.1000	< 2.3000	< 2.3000
1,2-Dichlorobenzene	< 1.9000	< 2.0000	< 2.2000	< 2.2000	< 1.8000	< 2.4000	< 3.0000	< 2.2000	< 2.6000	< 2.1000	< 2.3000	< 2.3000
1,2-Dichloroethane	< 1.9000	< 2.0000	< 2.2000	< 2.2000	< 1.8000	< 2.4000	< 3.0000	< 2.2000	< 2.6000	< 2.1000	< 2.3000	< 2.3000
1,2-Dichloropropane	< 1.9000	< 2.0000	< 2.2000	< 2.2000	< 1.8000	< 2.4000	< 3.0000	< 2.2000	< 2.6000	< 2.1000	< 2.3000	< 2.3000
1,3,5-Trimethylbenzene	**2.6**	**1.8 J**	< 2.2000	< 2.2000	< 1.8000	**2.6**	< 3.0000	< 2.2000	< 2.6000	< 2.1000	< 2.3000	< 2.3000
1,3-Dichlorobenzene	< 1.9000	< 2.0000	< 2.2000	< 2.2000	< 1.8000	< 2.4000	< 3.0000	< 2.2000	< 2.6000	< 2.1000	< 2.3000	< 2.3000
1,4-Dichlorobenzene	< 1.9000	< 2.0000	< 2.2000	< 2.2000	< 1.8000	< 2.4000	< 3.0000	< 2.2000	< 2.6000	< 2.1000	< 2.3000	< 2.3000
2-Butanone (MEK)												
4-Ethyltoluene												
Acetone												
Benzene	< 1.9000	< 2.0000	< 2.2000	< 2.2000	< 1.8000	< 2.4000	< 3.0000	< 2.2000	< 2.6000	< 2.1000	< 2.3000	< 2.3000
Bromomethane	< 1.9000	< 2.0000	< 2.2000	< 2.2000	< 1.8000	< 2.4000	< 3.0000	< 2.2000	< 2.6000	< 2.1000	< 2.3000	< 2.3000
Carbon disulfide												
Carbon tetrachloride	< 1.9000	< 2.0000	< 2.2000	< 2.2000	< 1.8000	< 2.4000	< 3.0000	< 2.2000	< 2.6000	< 2.1000	< 2.3000	< 2.3000
Chlorobenzene	< 1.9000	< 2.0000	< 2.2000	< 2.2000	< 1.8000	< 2.4000	< 3.0000	< 2.2000	< 2.6000	< 2.1000	< 2.3000	< 2.3000
Chloroethane	< 1.9000	< 2.0000	< 2.2000	< 2.2000	< 1.8000	< 2.4000	< 3.0000	< 2.2000	< 2.6000	< 2.1000	< 2.3000	< 2.3000
Chloromethane	< 1.9000	< 2.0000	< 2.2000	< 2.2000	< 1.8000	< 2.4000	< 3.0000	< 2.2000	< 2.6000	< 2.1000	< 2.3000	< 2.3000
cis-1,3-Dichloropropene	< 1.9000	< 2.0000	< 2.2000	< 2.2000	< 1.8000	< 2.4000	< 3.0000	< 2.2000	< 2.6000	< 2.1000	< 2.3000	< 2.3000
Ethylbenzene	< 1.9000	< 2.0000	< 2.2000	< 2.2000	< 1.8000	< 2.4000	< 3.0000 UJ	< 2.2000	< 2.6000	< 2.1000	< 2.3000	< 2.3000
Hexachlorobutadiene	< 1.9000	< 2.0000 UJ	< 2.2000	< 2.2000 UJ	< 1.8000	< 2.4000	< 3.0000	< 2.2000	< 2.6000	< 2.1000	< 2.3000	< 2.3000
m,p-Xylene	**6.6**	< 3.9000	< 4.3000	< 4.4000	< 3.5000	**8.3**	< 5.9000	< 4.5000	< 5.1000	< 4.3000	< 4.6000	< 4.6000
Methylene chloride	< 1.9000	< 2.0000	< 2.2000	< 2.2000	< 1.8000	< 2.4000	< 3.0000	**3.1**	**1.3 J**	< 2.1000	< 2.3000	< 2.3000
o-Xylene	**3.3**	< 2.0000	< 2.2000	< 2.2000	< 1.8000	**3.8**	< 3.0000	< 2.2000	< 2.6000	< 2.1000	< 2.3000	< 2.3000
Styrene	< 1.9000	< 2.0000 UJ	< 2.2000	< 2.2000	< 1.8000 UJ	< 2.4000 UJ	< 3.0000 UJ	< 2.2000	< 2.6000	< 2.1000	< 2.3000	< 2.3000
Toluene	< 1.9000	**3.1**	< 2.2000	< 2.2000	**2.7**	**1.8 J**	< 3.0000	< 2.2000	< 2.6000	< 2.1000	< 2.3000	< 2.3000
trans-1,2-Dichloroethene												
trans-1,3-Dichloropropene	< 3.9000	< 2.0000	< 2.2000	< 2.2000	< 1.8000	< 2.4000	< 3.0000	< 2.2000	< 2.6000	< 2.1000	< 2.3000	< 2.3000
Trichlorofluoromethane	< 1.9000	< 2.0000	< 2.2000	< 2.2000	< 1.8000	< 2.4000	< 3.0000	< 2.2000	< 2.6000	**1.2 J**	< 2.3000	< 2.3000
Vinyl chloride	< 1.9000	< 2.0000	< 2.2000	< 2.2000	< 1.8000	< 2.4000	< 3.0000	< 2.2000	< 2.6000	< 2.1000	< 2.3000	< 2.3000
1,2-DICHLOROTETRAFLUOROETHA												

TABLE G-7(a)

SVE AND GROUNDWATER TREATMENT VAPOR ANALYTICAL SUMMARY RESULTS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

Sample ID:	SVE Stack-121609	GWT Pre GAC-092407	GWT Pre GAC-102907	GWT Pre GAC-120607	GWT Pre GAC-122007	GWT Pre GAC-011708	GWT Pre GAC-022508	GWT Pre GAC-033108	GWT Pre GAC-042508	GWT Pre GAC-052208	GWT Pre GAC-062408	GWT Pre GAC-072408
Sample Date:	12/16/09	09/24/07	10/29/07	12/06/07	12/20/07	01/17/08	02/25/08	03/31/08	04/25/08	05/22/08	06/24/08	07/24/08
Units:	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV
Tetrachloroethylene (PCE)	**17**	**550**	**450**	< 2.0000	**390**	**420**	**200**	**22**	**360**	**110**	**65**	**450**
Trichloroethylene (TCE)	< 2.1000	< 2.4000	< 2.2000	< 2.0000	< 21.0000	< 16.0000	< 1.9000	< 1.7000	< 2.6000	< 2.3000	< 2.0000	< 1.9000
cis-1,2-Dichloroethylene	**6.6**	< 2.4000	< 2.2000	< 2.0000	< 21.0000	< 16.0000	< 1.9000	< 1.7000	< 2.6000	< 2.3000	< 2.0000	< 1.9000
Dichlorodifluoromethane	**1.1 J**	< 2.4000	< 2.2000	< 2.0000	< 21.0000	< 16.0000	< 1.9000	< 1.7000	< 2.6000	< 2.3000	< 2.0000	< 1.9000
Chloroform	**62**	**8.8**	**13**	< 2.0000	< 21.0000	**9.5**	**4.7**	< 1.7000	**9.5**	**11**	**10**	**12**
1,1,1-Trichloroethane	< 2.1000	< 2.4000	< 2.2000	< 2.0000	< 21.0000	< 16.0000	< 1.9000	< 1.7000	< 2.6000	< 2.3000	< 2.0000	< 1.9000
1,1,2,2-Tetrachloroethane	< 2.1000	< 2.4000	< 2.2000	< 2.0000	< 21.0000	< 16.0000	< 1.9000	< 1.7000	< 2.6000	< 2.3000	< 2.0000	< 1.9000
1,1,2-Trichloro-1,2,2-trifluoroethane	< 2.1000	< 2.4000	< 2.2000	< 2.0000	< 21.0000	< 16.0000	< 1.9000	< 1.7000	< 2.6000	< 2.3000	< 2.0000	< 1.9000
1,1,2-Trichloroethane	< 2.1000	< 2.4000	< 2.2000	< 2.0000	< 21.0000	< 16.0000	< 1.9000	< 1.7000	< 2.6000	< 2.3000	< 2.0000	< 1.9000
1,1-Dichloroethane	< 2.1000	< 2.4000	< 2.2000	< 2.0000	< 21.0000	< 16.0000	< 1.9000	< 1.7000	< 2.6000	< 2.3000	< 2.0000	< 1.9000
1,1-Dichloroethene	< 2.1000	< 2.4000	< 2.2000	< 2.0000	< 21.0000	< 16.0000	< 1.9000	< 1.7000	< 2.6000	< 2.3000	< 2.0000	< 1.9000
1,2,4-Trichlorobenzene	< 2.1000	< 2.4000	< 2.2000	< 2.0000	< 21.0000	< 16.0000	< 1.9000	< 1.7000	< 2.6000	< 2.3000	< 2.0000	< 1.9000
1,2,4-Trimethylbenzene	< 2.1000	< 2.4000	< 2.2000	< 2.0000	< 21.0000	< 16.0000	**2.2**	< 1.7000	< 2.6000	< 2.3000	< 2.0000	< 1.9000
1,2-Dibromoethane (Ethylene dibromide)	< 2.1000	< 2.4000	< 2.2000	< 2.0000	< 21.0000	< 16.0000	< 1.9000	< 1.7000	< 2.6000	< 2.3000	< 2.0000	< 1.9000
1,2-Dichloro-1,1,2,2-trifluoroethane	< 2.1000	< 2.4000	< 2.2000	< 2.0000	< 21.0000	< 16.0000	< 1.9000	< 1.7000	< 2.6000	< 2.3000	< 2.0000	< 1.9000
1,2-Dichlorobenzene	< 2.1000	< 2.4000	< 2.2000	< 2.0000	< 21.0000	< 16.0000	< 1.9000	< 1.7000	< 2.6000	< 2.3000	< 2.0000	< 1.9000
1,2-Dichloroethane	< 2.1000	< 2.4000	< 2.2000	< 2.0000	< 21.0000	< 16.0000	< 1.9000	< 1.7000	< 2.6000	< 2.3000	< 2.0000	< 1.9000
1,2-Dichloropropane	< 2.1000	< 2.4000	< 2.2000	< 2.0000	< 21.0000	< 16.0000	< 1.9000	< 1.7000	< 2.6000	< 2.3000	< 2.0000	< 1.9000
1,3,5-Trimethylbenzene	< 2.1000	< 2.4000	< 2.2000	< 2.0000	< 21.0000	< 16.0000	< 1.9000	< 1.7000	< 2.6000	< 2.3000	< 2.0000	< 1.9000
1,3-Dichlorobenzene	< 2.1000	< 2.4000	< 2.2000	< 2.0000	< 21.0000	< 16.0000	< 1.9000	< 1.7000	< 2.6000	< 2.3000	< 2.0000	< 1.9000
1,4-Dichlorobenzene	< 2.1000	< 2.4000	< 2.2000	< 2.0000	< 21.0000	< 16.0000	< 1.9000	< 1.7000	< 2.6000	< 2.3000	< 2.0000	< 1.9000
2-Butanone (MEK)		**1.9**	< 2.2000	< 2.0000	< 21.0000	**13**						
4-Ethyltoluene		< 2.4000	< 2.2000	< 2.0000	< 21.0000	< 16.0000						
Acetone		**5.9**	**1.9**	**4**	< 21.0000	< 16.0000						
Benzene	**1.4**	< 2.4000	< 2.2000	< 2.0000	< 21.0000	< 16.0000	**6.2**	< 1.7000	< 2.6000	< 2.3000	< 2.0000	< 1.9000
Bromomethane	< 2.1000	< 2.4000	< 2.2000	< 2.0000	< 21.0000	< 16.0000	< 1.9000	< 1.7000	< 2.6000	< 2.3000	< 2.0000	< 1.9000
Carbon disulfide		< 2.4000	< 2.2000	< 2.0000	< 21.0000	< 16.0000						
Carbon tetrachloride	< 2.1000	< 2.4000	< 2.2000	< 2.0000	< 21.0000	< 16.0000	< 1.9000	< 1.7000	< 2.6000	< 2.3000	< 2.0000	< 1.9000
Chlorobenzene	< 2.1000	< 2.4000	< 2.2000	< 2.0000	< 21.0000	< 16.0000	< 1.9000	< 1.7000	< 2.6000	< 2.3000	< 2.0000	< 1.9000
Chloroethane	< 2.1000	< 2.4000	< 2.2000	< 2.0000	< 21.0000	< 16.0000	< 1.9000	< 1.7000	< 2.6000	< 2.3000	< 2.0000	< 1.9000
Chloromethane	< 2.1000	< 2.4000	< 2.2000	< 2.0000	< 21.0000	< 16.0000	< 1.9000	< 1.7000	< 2.6000	< 2.3000	< 2.0000	< 1.9000
cis-1,3-Dichloropropene	< 2.1000	< 2.4000	< 2.2000	< 2.0000	< 21.0000	< 16.0000	< 1.9000	< 1.7000	< 2.6000	< 2.3000	< 2.0000	< 1.9000
Ethylbenzene	< 2.1000	< 2.4000	< 2.2000	< 2.0000	< 21.0000	< 16.0000	**2.8**	< 1.7000	< 2.6000	< 2.3000	< 2.0000	< 1.9000
Hexachlorobutadiene	< 2.1000	< 2.4000	< 2.2000	< 2.0000	< 21.0000	< 16.0000	< 1.9000	< 1.7000	< 2.6000	< 2.3000	< 2.0000	< 1.9000
m,p-Xylene	< 4.1000	< 4.8000	< 4.4000	< 4.0000	< 42.0000	< 32.0000	**10**	< 3.5000	< 5.3000	< 4.7000	< 3.9000	< 3.8000
Methylene chloride	< 2.1000	< 2.4000	< 2.2000	< 2.0000	< 21.0000	< 16.0000	< 1.9000	< 1.7000	< 2.6000	< 2.3000	< 2.0000	< 1.9000
o-Xylene	< 2.1000	< 2.4000	< 2.2000	< 2.0000	< 21.0000	< 16.0000	**3**	< 1.7000	< 2.6000	< 2.3000	< 2.0000	< 1.9000
Styrene	< 2.1000	< 2.4000	< 2.2000	< 2.0000	< 21.0000	< 16.0000	< 1.9000	< 1.7000	< 2.6000	< 2.3000	< 2.0000	< 1.9000
Toluene	< 2.1000	**8.2**	**1.2**	**6.2**	< 21.0000	< 16.0000	**21**	< 1.7000	< 2.6000	< 2.3000	< 2.0000	< 1.9000
trans-1,2-Dichloroethene		< 2.4000	< 2.2000	< 2.0000	< 21.0000	< 16.0000						
trans-1,3-Dichloropropene	< 2.1000	< 2.4000	< 2.2000	< 2.0000	< 21.0000	< 16.0000	< 1.9000	< 1.7000	< 2.6000	< 2.3000	< 2.0000	< 1.9000
Trichlorofluoromethane	< 2.1000	< 2.4000	< 2.2000	< 2.0000	< 21.0000	< 16.0000	< 1.9000	< 1.7000	< 2.6000	< 2.3000	< 2.0000	< 1.9000
Vinyl chloride	< 2.1000	< 2.4000	< 2.2000	< 2.0000	< 21.0000	< 16.0000	< 1.9000	< 1.7000	< 2.6000	< 2.3000	< 2.0000	< 1.9000
1,2-DICHLOROTETRAFLUOROETHA												

TABLE G-7(a)

SVE AND GROUNDWATER TREATMENT VAPOR ANALYTICAL SUMMARY RESULTS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

Sample ID:	GWT Pre GAC-082008	GWT Pre GAC-092508	GWT Pre GAC-103008	GWT Pre GAC-112508	GWT Pre GAC-013009	GWT Pre GAC-022709	GWT Pre GAC-031009	GWT Pre GAC-042309	GWT Pre GAC-052609	GWT Pre GAC-062909	GWT Pre GAC-072909	GWT Pre GAC-081009
Sample Date:	08/20/08	09/25/08	10/30/08	11/25/08	01/30/09	02/27/09	03/10/09	04/23/09	05/26/09	06/29/09	07/29/09	08/10/09
Units:	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV
Tetrachloroethylene (PCE)	**370**	**160**	**450**	**390**	**380**	**300**	**460**	**560**	**35**	**390**	**490**	**480**
Trichloroethylene (TCE)	< 2.1000	< 2.0000	**1.6**	< 1.8000	< 1.8000	< 2.2000	< 2.1000	< 1.8000	< 2.4000	< 2.6000	< 2.7000	< 2.4000
cis-1,2-Dichloroethylene	< 2.1000	< 2.0000	< 2.2000	< 1.8000	< 1.8000	< 2.2000	< 2.1000	< 1.8000	< 2.4000	< 2.6000	< 2.7000	< 2.4000
Dichlorodifluoromethane	< 2.1000	< 2.0000	< 2.2000	< 1.8000	< 1.8000	< 2.2000	< 2.1000	< 1.8000	< 2.4000	< 2.6000	< 2.7000	< 2.4000
Chloroform	**12**	**12**	**12**	**9.9**	**10**	**11**	**10**	**10**	< 2.4000	**7.2**	**9.7**	**11**
1,1,1-Trichloroethane	< 2.1000	< 2.0000	< 2.2000	< 1.8000	< 1.8000	< 2.2000	< 2.1000	< 1.8000	< 2.4000	< 2.6000	< 2.7000	< 2.4000
1,1,2,2-Tetrachloroethane	< 2.1000	< 2.0000	< 2.2000	< 1.8000	< 1.8000	< 2.2000	< 2.1000	< 1.8000	< 2.4000	< 2.6000	< 2.7000	< 2.4000
1,1,2-Trichloro-1,2,2-trifluoroethane	< 2.1000	< 2.0000	< 2.2000	< 1.8000	< 1.8000	< 2.2000	< 2.1000	< 1.8000	< 2.4000	< 2.6000	< 2.7000	< 2.4000
1,1,2-Trichloroethane	< 2.1000	< 2.0000	< 2.2000	< 1.8000	< 1.8000	< 2.2000	< 2.1000	< 1.8000	< 2.4000	< 2.6000	< 2.7000	< 2.4000
1,1-Dichloroethane	< 2.1000	< 2.0000	< 2.2000	< 1.8000	< 1.8000	< 2.2000	< 2.1000	< 1.8000	< 2.4000	< 2.6000	< 2.7000	< 2.4000
1,1-Dichloroethene	< 2.1000	< 2.0000	< 2.2000	< 1.8000	< 1.8000	< 2.2000	< 2.1000	< 1.8000	< 2.4000	< 2.6000	< 2.7000	< 2.4000
1,2,4-Trichlorobenzene	< 2.1000	< 2.0000	< 2.2000	< 1.8000	< 1.8000	< 2.2000	< 2.1000 UJ	< 1.8000	< 2.4000	< 2.6000	< 2.7000	< 2.4000
1,2,4-Trimethylbenzene	< 2.1000	< 2.0000	< 2.2000	< 1.8000	**3.1**	< 2.2000	< 2.1000	< 1.8000	**2.8**	< 2.6000	< 2.7000	< 2.4000
1,2-Dibromoethane (Ethylene dibromide)	< 2.1000	< 2.0000	< 2.2000	< 1.8000	< 1.8000	< 2.2000	< 2.1000	< 1.8000	< 2.4000	< 2.6000	< 2.7000	< 2.4000
1,2-Dichloro-1,1,2,2-trifluoroethane	< 2.1000	< 2.0000	< 2.2000	< 1.8000	< 1.8000	< 2.2000	< 2.1000	< 1.8000	< 2.4000	< 2.6000	< 2.7000	< 2.4000
1,2-Dichlorobenzene	< 2.1000	< 2.0000	< 2.2000	< 1.8000	< 1.8000	< 2.2000	< 2.1000	< 1.8000	< 2.4000	< 2.6000	< 2.7000	< 2.4000
1,2-Dichloroethane	< 2.1000	< 2.0000	< 2.2000	< 1.8000	< 1.8000	< 2.2000	< 2.1000	< 1.8000	< 2.4000	< 2.6000	< 2.7000	< 2.4000
1,2-Dichloropropane	< 2.1000	< 2.0000	< 2.2000	< 1.8000	< 1.8000	< 2.2000	< 2.1000	< 1.8000	< 2.4000	< 2.6000	< 2.7000	< 2.4000
1,3,5-Trimethylbenzene	< 2.1000	< 2.0000	< 2.2000	< 1.8000	**3.1**	< 2.2000	< 2.1000	< 1.8000	**1.7 J**	< 2.6000	< 2.7000	< 2.4000
1,3-Dichlorobenzene	< 2.1000	< 2.0000	< 2.2000	< 1.8000	< 1.8000	< 2.2000	< 2.1000	< 1.8000	< 2.4000	< 2.6000	< 2.7000	< 2.4000
1,4-Dichlorobenzene	< 2.1000	< 2.0000	< 2.2000	< 1.8000	< 1.8000	< 2.2000	< 2.1000	< 1.8000	< 2.4000	< 2.6000	< 2.7000	< 2.4000
2-Butanone (MEK)												
4-Ethyltoluene												
Acetone												
Benzene	< 2.1000	< 2.0000	< 2.2000	< 1.8000	< 1.8000	< 2.2000	< 2.1000	< 1.8000	< 2.4000	< 2.6000	< 2.7000	< 2.4000
Bromomethane	< 2.1000	< 2.0000	< 2.2000	< 1.8000	< 1.8000	< 2.2000	< 2.1000	< 1.8000	< 2.4000	< 2.6000	< 2.7000	< 2.4000
Carbon disulfide												
Carbon tetrachloride	< 2.1000	< 2.0000	< 2.2000	< 1.8000	< 1.8000	< 2.2000	< 2.1000	< 1.8000	< 2.4000	< 2.6000	< 2.7000	< 2.4000
Chlorobenzene	< 2.1000	< 2.0000	< 2.2000	< 1.8000	< 1.8000	< 2.2000	< 2.1000	< 1.8000	< 2.4000	< 2.6000	< 2.7000	< 2.4000
Chloroethane	< 2.1000	< 2.0000	< 2.2000	< 1.8000	< 1.8000	< 2.2000	< 2.1000	< 1.8000	< 2.4000	< 2.6000	< 2.7000	< 2.4000
Chloromethane	< 2.1000	< 2.0000	< 2.2000	< 1.8000	< 1.8000	< 2.2000	< 2.1000	< 1.8000	< 2.4000	< 2.6000	< 2.7000	< 2.4000
cis-1,3-Dichloropropene	< 2.1000	< 2.0000	< 2.2000	< 1.8000	< 1.8000	< 2.2000	< 2.1000	< 1.8000	< 2.4000	< 2.6000	< 2.7000	< 2.4000
Ethylbenzene	< 2.1000	< 2.0000	< 2.2000	< 1.8000	< 1.8000	< 2.2000	< 2.1000	< 1.8000	< 2.4000	< 2.6000	< 2.7000	< 2.4000
Hexachlorobutadiene	< 2.1000	< 2.0000	< 2.2000	< 1.8000	< 1.8000	< 2.2000	< 2.1000 UJ	< 1.8000	< 2.4000	< 2.6000 UJ	< 2.7000	< 2.4000
m,p-Xylene	< 4.2000	< 3.9000	< 4.5000	< 3.6000	< 3.7000	< 4.3000	< 4.3000	< 3.5000	**4.2 J**	< 5.3000	< 5.3000	< 4.9000
Methylene chloride	< 2.1000	< 2.0000	< 2.2000	**1.3**	< 1.8000	< 2.2000	< 2.1000	< 1.8000	< 2.4000	< 2.6000	< 2.7000	< 2.4000
o-Xylene	< 2.1000	< 2.0000	< 2.2000	< 1.8000	**1 J**	< 2.2000	< 2.1000	< 1.8000	**2.1 J**	< 2.6000	< 2.7000	< 2.4000
Styrene	< 2.1000	< 2.0000	< 2.2000	< 1.8000	< 1.8000 UJ	< 2.2000	< 2.1000	< 1.8000 UJ	< 2.4000 UJ	< 2.6000 UJ	< 2.7000	< 2.4000
Toluene	< 2.1000	< 2.0000	**2.9**	**0.9**	**1.9**	< 2.2000	< 2.1000	< 1.8000	< 2.4000	< 2.6000	< 2.7000	< 2.4000
trans-1,2-Dichloroethene												
trans-1,3-Dichloropropene	< 2.1000	< 2.0000	< 2.2000	< 1.8000	< 1.8000	< 2.2000	< 2.1000	< 1.8000	< 2.4000	< 2.6000	< 2.7000	< 2.4000
Trichlorofluoromethane	< 2.1000	< 2.0000	< 2.2000	< 1.8000	< 1.8000	< 2.2000	< 2.1000	< 1.8000	< 2.4000	< 2.6000	< 2.7000	< 2.4000
Vinyl chloride	< 2.1000	< 2.0000	< 2.2000	< 1.8000	< 1.8000	< 2.2000	< 2.1000	< 1.8000	< 2.4000	< 2.6000	< 2.7000	< 2.4000
1,2-DICHLOROTETRAFLUOROETHA												

TABLE G-7(a)

SVE AND GROUNDWATER TREATMENT VAPOR ANALYTICAL SUMMARY RESULTS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

Sample ID:	GWT Pre GAC-092209	GWT Pre GAC-102609	GWT Pre GAC-112309	GWT Pre GAC-121609	GWT Stack-073107	GWT Stack-082407	GWT Stack-092407	GWT Stack-102907	GWT Stack-112807	GWT Stack-120607	GWT Stack-122007	GWT Stack-011708
Sample Date:	09/22/09	10/26/09	11/23/09	12/16/09	07/31/07	08/24/07	09/24/07	10/29/07	11/28/07	12/06/07	12/20/07	01/17/08
Units:	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV
Tetrachloroethylene (PCE)	**280**	**300**	**180**	**350**	**400**	< 2.3000	**510**	**460**	**8**	< 2.1000	**3**	**1.7**
Trichloroethylene (TCE)	< 2.2000	< 2.3000	< 2.2000	**1.5 J**	< 4.8000	< 2.3000	< 2.4000	< 2.2000	**3.6**	< 2.1000	< 2.2000	< 1.6000
cis-1,2-Dichloroethylene	< 2.2000	< 2.3000	< 2.2000	< 2.1000	< 4.8000	< 2.3000	< 2.4000	< 2.2000	< 2.0000	< 2.1000	< 2.2000	< 1.6000
Dichlorodifluoromethane	< 2.2000	< 2.3000	< 2.2000	< 2.1000	< 4.8000	< 2.3000	< 2.4000	< 2.2000	< 2.0000	< 2.1000	< 2.2000	< 1.6000
Chloroform	**11**	**9.9**	**7.8**	**9.6**	**8.9**	< 2.3000	**12**	**12**	< 2.0000	< 2.1000	**3.6**	**9.3**
1,1,1-Trichloroethane	< 2.2000	< 2.3000	< 2.2000	< 2.1000	< 4.8000	< 2.3000	< 2.4000	< 2.2000	< 2.0000	< 2.1000	< 2.2000	< 1.6000
1,1,2,2-Tetrachloroethane	< 2.2000	< 2.3000	< 2.2000	< 2.1000	< 4.8000	< 2.3000	< 2.4000	< 2.2000	< 2.0000	< 2.1000	< 2.2000	< 1.6000
1,1,2-Trichloro-1,2,2-trifluoroethane	< 2.2000	< 2.3000	< 2.2000	< 2.1000	< 4.8000	< 2.3000	< 2.4000	< 2.2000	< 2.0000	< 2.1000	< 2.2000	< 1.6000
1,1,2-Trichloroethane	< 2.2000	< 2.3000	< 2.2000	< 2.1000	< 4.8000	< 2.3000	< 2.4000	< 2.2000	< 2.0000	< 2.1000	< 2.2000	< 1.6000
1,1-Dichloroethane	< 2.2000	< 2.3000	< 2.2000	< 2.1000	< 4.8000	< 2.3000	< 2.4000	< 2.2000	< 2.0000	< 2.1000	< 2.2000	< 1.6000
1,1-Dichloroethene	< 2.2000	< 2.3000	< 2.2000	< 2.1000	< 4.8000	< 2.3000	< 2.4000	< 2.2000	< 2.0000	< 2.1000	< 2.2000	< 1.6000
1,2,4-Trichlorobenzene	< 2.2000	< 2.3000	< 2.2000	< 2.1000	< 4.8000	< 2.3000	**2.4**	< 2.2000	< 2.0000	< 2.1000	< 2.2000	< 1.6000
1,2,4-Trimethylbenzene	< 2.2000	< 2.3000	< 2.2000	< 2.1000	< 4.8000	< 2.3000	< 2.4000	< 2.2000	< 2.0000	< 2.1000	**1.1**	< 1.6000
1,2-Dibromoethane (Ethylene dibromide)	< 2.2000	< 2.3000	< 2.2000	< 2.1000	< 4.8000	< 2.3000	< 2.4000	< 2.2000	< 2.0000	< 2.1000	< 2.2000	< 1.6000
1,2-Dichloro-1,1,2,2-trifluoroethane	< 2.2000	< 2.3000	< 2.2000	< 2.1000	< 4.8000	< 2.3000	< 2.4000	< 2.2000	< 2.0000	< 2.1000	< 2.2000	< 1.6000
1,2-Dichlorobenzene	< 2.2000	< 2.3000	< 2.2000	< 2.1000	< 4.8000	< 2.3000	< 2.4000	< 2.2000	< 2.0000	< 2.1000	< 2.2000	< 1.6000
1,2-Dichloroethane	< 2.2000	< 2.3000	< 2.2000	< 2.1000	< 4.8000	< 2.3000	< 2.4000	< 2.2000	< 2.0000	< 2.1000	< 2.2000	< 1.6000
1,2-Dichloropropane	< 2.2000	< 2.3000	< 2.2000	< 2.1000	< 4.8000	< 2.3000	< 2.4000	< 2.2000	< 2.0000	< 2.1000	< 2.2000	< 1.6000
1,3,5-Trimethylbenzene	< 2.2000	< 2.3000	< 2.2000	< 2.1000	< 4.8000	< 2.3000	< 2.4000	< 2.2000	< 2.0000	< 2.1000	< 2.2000	< 1.6000
1,3-Dichlorobenzene	< 2.2000	< 2.3000	< 2.2000	< 2.1000	< 4.8000	< 2.3000	< 2.4000	< 2.2000	< 2.0000	< 2.1000	< 2.2000	< 1.6000
1,4-Dichlorobenzene	< 2.2000	< 2.3000	< 2.2000	< 2.1000	< 4.8000	< 2.3000	< 2.4000	< 2.2000	< 2.0000	< 2.1000	< 2.2000	< 1.6000
2-Butanone (MEK)					< 4.8000	< 2.3000	< 2.4000	< 2.2000	< 2.0000	< 2.1000	< 2.2000	**4.2**
4-Ethyltoluene					< 4.8000	< 2.3000	< 2.4000	< 2.2000	< 2.0000	< 2.1000	< 2.2000	< 1.6000
Acetone					**7.6**	**7.9**	**1.2**	**10**	**4.2**	**4.9**	**2.4**	**2.6**
Benzene	< 2.2000	< 2.3000	< 2.2000	**4.4**	< 4.8000	< 2.3000	< 2.4000	< 2.2000	< 2.0000	< 2.1000	**1.2**	< 1.6000
Bromomethane	< 2.2000	< 2.3000	< 2.2000	< 2.1000	< 4.8000	< 2.3000	< 2.4000	< 2.2000	< 2.0000	< 2.1000	< 2.2000	< 1.6000
Carbon disulfide					< 4.8000	< 2.3000	< 2.4000	< 2.2000	< 2.0000	< 2.1000	< 2.2000	< 1.6000
Carbon tetrachloride	< 2.2000	< 2.3000	< 2.2000	< 2.1000	< 4.8000	< 2.3000	< 2.4000	< 2.2000	< 2.0000	< 2.1000	< 2.2000	< 1.6000
Chlorobenzene	< 2.2000	< 2.3000	< 2.2000	< 2.1000	< 4.8000	< 2.3000	< 2.4000	< 2.2000	< 2.0000	< 2.1000	< 2.2000	< 1.6000
Chloroethane	< 2.2000	< 2.3000	< 2.2000	< 2.1000	< 4.8000	< 2.3000	< 2.4000	< 2.2000	< 2.0000	< 2.1000	< 2.2000	< 1.6000
Chloromethane	< 2.2000	< 2.3000	< 2.2000	< 2.1000	< 4.8000	< 2.3000	< 2.4000	< 2.2000	< 2.0000	< 2.1000	< 2.2000	< 1.6000
cis-1,3-Dichloropropene	< 2.2000	< 2.3000	< 2.2000	< 2.1000	< 4.8000	< 2.3000	< 2.4000	< 2.2000	< 2.0000	< 2.1000	< 2.2000	< 1.6000
Ethylbenzene	< 2.2000	< 2.3000	< 2.2000	< 2.1000	< 4.8000	< 2.3000	< 2.4000	< 2.2000	< 2.0000	< 2.1000	< 2.2000	< 1.6000
Hexachlorobutadiene	< 2.2000	< 2.3000	< 2.2000	< 2.1000	< 4.8000	< 2.3000	**2.8**	< 2.2000	< 2.0000	< 2.1000	< 2.2000	< 1.6000
m,p-Xylene	< 4.3000	< 4.6000	< 4.5000	< 4.1000	< 9.6000	< 4.7000	< 4.7000	< 4.3000	< 4.0000	< 4.2000	< 4.4000	< 3.1000
Methylene chloride	< 2.2000	< 2.3000	< 2.2000	< 2.1000	< 4.8000	< 2.3000	< 2.4000	< 2.2000	< 2.0000	< 2.1000	< 2.2000	< 1.6000
o-Xylene	< 2.2000	< 2.3000	< 2.2000	< 2.1000	< 4.8000	< 2.3000	< 2.4000	< 2.2000	< 2.0000	< 2.1000	< 2.2000	< 1.6000
Styrene	< 2.2000	< 2.3000	< 2.2000	< 2.1000	< 4.8000	< 2.3000	< 2.4000	< 2.2000	< 2.0000	< 2.1000	< 2.2000	< 1.6000
Toluene	< 2.2000	< 2.3000	**2.8**	< 2.1000	< 4.8000	< 2.3000	< 2.4000	**1.1**	< 2.0000	**6.6**	< 2.2000	**1.1**
trans-1,2-Dichloroethene					< 4.8000	< 2.3000	< 2.4000	< 2.2000	< 2.0000	< 2.1000	< 2.2000	< 1.6000
trans-1,3-Dichloropropene	< 2.2000	< 2.3000	< 2.2000	< 2.1000	< 4.8000	< 2.3000	< 2.4000	< 2.2000	< 2.0000	< 2.1000	< 2.2000	< 1.6000
Trichlorofluoromethane	< 2.2000	< 2.3000	< 2.2000	< 2.1000	< 4.8000	< 2.3000	< 2.4000	< 2.2000	< 2.0000	< 2.1000	< 2.2000	< 1.6000
Vinyl chloride	< 2.2000	< 2.3000	< 2.2000	< 2.1000	< 4.8000	< 2.3000	< 2.4000	< 2.2000	< 2.0000	< 2.1000	< 2.2000	< 1.6000
1,2-DICHLOROTETRAFLUOROETHA												

TABLE G-7(a)

SVE AND GROUNDWATER TREATMENT VAPOR ANALYTICAL SUMMARY RESULTS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

Sample ID:	GWT Stack-022508	GWT Stack-033108	GWT Stack-042508	GWT Stack-052208	GWT Stack-062408	GWT Stack-072408	GWT Stack-082002	GWT Stack-092508	GWT Stack-103008	GWT Stack-112508	GWT Stack-013009	GWT Stack-022709
Sample Date:	02/25/08	03/31/08	04/25/08	05/22/08	06/24/08	07/24/08	08/20/08	09/25/08	10/30/08	11/25/08	01/30/09	02/27/09
Units:	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV
Tetrachloroethylene (PCE)	**12**	**27**	**73**	**330**	**460**	**34**	**32**	**27**	**43**	**98**	**560**	**310**
Trichloroethylene (TCE)	**3.5**	< 1.0000	< 2.1000	< 2.4000	< 20.0000	< 1.9000	< 2.1000	< 1.9000	< 2.0000	< 2.1000	< 2.2000	< 2.1000
cis-1,2-Dichloroethylene	< 1.8000	< 1.0000	< 2.1000	< 2.4000	< 20.0000	< 1.9000	< 2.1000	< 1.9000	< 2.0000	< 2.1000	< 2.2000	< 2.1000
Dichlorodifluoromethane	< 1.8000	< 1.0000	< 2.1000	< 2.4000	< 20.0000	< 1.9000	< 2.1000	< 1.9000	< 2.0000	< 2.1000	< 2.2000	< 2.1000
Chloroform	**9.6**	**9.7**	**10**	**8.8**	**11**	**13**	**14**	**13**	**7.2**	**9.5**	**11**	**11**
1,1,1-Trichloroethane	< 1.8000	< 1.0000	< 2.1000	< 2.4000	< 20.0000	< 1.9000	< 2.1000	< 1.9000	< 2.0000	< 2.1000	< 2.2000	< 2.1000
1,1,2,2-Tetrachloroethane	< 1.8000	< 1.0000	< 2.1000	< 2.4000	< 20.0000	< 1.9000	< 2.1000	< 1.9000	< 2.0000	< 2.1000	< 2.2000	< 2.1000
1,1,2-Trichloro-1,2,2-trifluoroethane	< 1.8000	< 1.0000	< 2.1000	< 2.4000	< 20.0000	< 1.9000	< 2.1000	< 1.9000	< 2.0000	< 2.1000	< 2.2000	< 2.1000
1,1,2-Trichloroethane	< 1.8000	< 1.0000	< 2.1000	< 2.4000	< 20.0000	< 1.9000	< 2.1000	< 1.9000	< 2.0000	< 2.1000	< 2.2000	< 2.1000
1,1-Dichloroethane	< 1.8000	< 1.0000	< 2.1000	< 2.4000	< 20.0000	< 1.9000	< 2.1000	< 1.9000	< 2.0000	< 2.1000	< 2.2000	< 2.1000
1,1-Dichloroethene	< 1.8000	< 1.0000	< 2.1000	< 2.4000	< 20.0000	< 1.9000	< 2.1000	< 1.9000	< 2.0000	< 2.1000	< 2.2000	< 2.1000
1,2,4-Trichlorobenzene	< 1.8000	< 1.0000	< 2.1000	< 2.4000	< 20.0000	< 1.9000	< 2.1000	< 1.9000	< 2.0000	< 2.1000	< 2.2000 UJ	< 2.1000
1,2,4-Trimethylbenzene	**1**	< 1.0000	< 2.1000	< 2.4000	< 20.0000	< 1.9000	< 2.1000	< 1.9000	< 2.0000	< 2.1000	**1.6 J**	< 2.1000
1,2-Dibromoethane (Ethylene dibromide)	< 1.8000	< 1.0000	< 2.1000	< 2.4000	< 20.0000	< 1.9000	< 2.1000	< 1.9000	< 2.0000	< 2.1000	< 2.2000	< 2.1000
1,2-Dichloro-1,1,2,2-trifluoroethane	< 1.8000	< 1.0000	< 2.1000	< 2.4000	< 20.0000	< 1.9000	< 2.1000	< 1.9000	< 2.0000	< 2.1000	< 2.2000	< 2.1000
1,2-Dichlorobenzene	< 1.8000	< 1.0000	< 2.1000	< 2.4000	< 20.0000	< 1.9000	< 2.1000	< 1.9000	< 2.0000	< 2.1000	< 2.2000	< 2.1000
1,2-Dichloroethane	< 1.8000	< 1.0000	< 2.1000	< 2.4000	< 20.0000	< 1.9000	< 2.1000	< 1.9000	< 2.0000	< 2.1000	< 2.2000	< 2.1000
1,2-Dichloropropane	< 1.8000	< 1.0000	< 2.1000	< 2.4000	< 20.0000	< 1.9000	< 2.1000	< 1.9000	< 2.0000	< 2.1000	< 2.2000	< 2.1000
1,3,5-Trimethylbenzene	< 1.8000	< 1.0000	< 2.1000	< 2.4000	< 20.0000	< 1.9000	< 2.1000	< 1.9000	< 2.0000	< 2.1000	**1.8 J**	< 2.1000
1,3-Dichlorobenzene	< 1.8000	< 1.0000	< 2.1000	< 2.4000	< 20.0000	< 1.9000	< 2.1000	< 1.9000	< 2.0000	< 2.1000	< 2.2000	< 2.1000
1,4-Dichlorobenzene	< 1.8000	< 1.0000	< 2.1000	< 2.4000	< 20.0000	< 1.9000	< 2.1000	< 1.9000	< 2.0000	< 2.1000	< 2.2000	< 2.1000
2-Butanone (MEK)												
4-Ethyltoluene												
Acetone												
Benzene	**1.5**	< 1.0000	< 2.1000	< 2.4000	< 20.0000	< 1.9000	< 2.1000	< 1.9000	< 2.0000	< 2.1000	< 2.2000	< 2.1000
Bromomethane	< 1.8000	< 1.0000	< 2.1000	< 2.4000	< 20.0000	< 1.9000	< 2.1000	< 1.9000	< 2.0000	< 2.1000	< 2.2000	< 2.1000
Carbon disulfide												
Carbon tetrachloride	< 1.8000	< 1.0000	< 2.1000	< 2.4000	< 20.0000	< 1.9000	< 2.1000	< 1.9000	< 2.0000	< 2.1000	< 2.2000	< 2.1000
Chlorobenzene	< 1.8000	< 1.0000	< 2.1000	< 2.4000	< 20.0000	< 1.9000	< 2.1000	< 1.9000	< 2.0000	< 2.1000	< 2.2000	< 2.1000
Chloroethane	< 1.8000	< 1.0000	< 2.1000	< 2.4000	< 20.0000	< 1.9000	< 2.1000	< 1.9000	< 2.0000	< 2.1000	< 2.2000	< 2.1000
Chloromethane	< 1.8000	**0.6**	< 2.1000	< 2.4000	< 20.0000	< 1.9000	< 2.1000	< 1.9000	< 2.0000	< 2.1000	< 2.2000	< 2.1000
cis-1,3-Dichloropropene	< 1.8000	< 1.0000	< 2.1000	< 2.4000	< 20.0000	< 1.9000	< 2.1000	< 1.9000	< 2.0000	< 2.1000	< 2.2000	< 2.1000
Ethylbenzene	**1.1**	< 1.0000	< 2.1000	< 2.4000	< 20.0000	< 1.9000	< 2.1000	< 1.9000	< 2.0000	< 2.1000	< 2.2000	< 2.1000
Hexachlorobutadiene	< 1.8000	< 1.0000	< 2.1000	< 2.4000	< 20.0000	< 1.9000	< 2.1000	< 1.9000	< 2.0000	< 2.1000	< 2.2000 UJ	< 2.1000
m,p-Xylene	**4.5**	< 2.0000	< 4.2000	< 4.8000	< 40.0000	< 3.8000	< 4.2000	< 3.8000	< 3.9000	< 4.1000	< 4.4000	< 4.2000
Methylene chloride	< 1.8000	< 1.0000	< 2.1000	< 2.4000	< 20.0000	< 1.9000	< 2.1000	< 1.9000	< 2.0000	**2.6**	< 2.2000	< 2.1000
o-Xylene	**1.1**	< 1.0000	< 2.1000	< 2.4000	< 20.0000	< 1.9000	< 2.1000	< 1.9000	< 2.0000	< 2.1000	< 2.2000	< 2.1000
Styrene	< 1.8000	< 1.0000	< 2.1000	< 2.4000	< 20.0000	< 1.9000	< 2.1000	< 1.9000	< 2.0000	< 2.1000	< 2.2000 UJ	< 2.1000
Toluene	**8.1**	**1.3**	< 2.1000	< 2.4000	< 20.0000	< 1.9000	**1.9**	**2.3**	**1.2**	< 2.1000	< 2.2000	< 2.1000
trans-1,2-Dichloroethene												
trans-1,3-Dichloropropene	< 1.8000	< 1.0000	< 2.1000	< 2.4000	< 20.0000	< 1.9000	< 2.1000	< 1.9000	< 2.0000	< 2.1000	< 2.2000	< 2.1000
Trichlorofluoromethane	< 1.8000	< 1.0000	**25**	< 2.4000	< 20.0000	< 1.9000	< 2.1000	< 1.9000	< 2.0000	< 2.1000	< 2.2000	< 2.1000
Vinyl chloride	< 1.8000	< 1.0000	< 2.1000	< 2.4000	< 20.0000	< 1.9000	< 2.1000	< 1.9000	< 2.0000	< 2.1000	< 2.2000	< 2.1000
1,2-DICHLOROTETRAFLUOROETHA												

TABLE G-7(a)

SVE AND GROUNDWATER TREATMENT VAPOR ANALYTICAL SUMMARY RESULTS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

Sample ID:	GWT Stack-031009	GWT Stack-042309	GWT Stack-052609	GWT Stack-062909	GWT Stack-072909	GWT Stack-081009	GWT Stack-092209	GWT Stack-102609	GWT Stack-112309	GWT Stack-121609	DP-1D-031009	DP-1S-031009
Sample Date:	03/10/09	04/23/09	05/26/09	06/29/09	07/29/09	08/10/09	09/22/09	10/26/09	11/23/09	12/16/09	03/10/09	03/10/09
Units:	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV
Tetrachloroethylene (PCE)	**430**	**410**	**480**	**280**	**310**	**370**	**210**	**450**	**230**	**390**	**190**	**570**
Trichloroethylene (TCE)	< 2.2000	< 2.3000	< 2.5000	< 2.8000	< 2.9000	< 2.9000	< 2.2000	< 2.3000	< 2.4000	**1.1 J**	< 2.2000	**2.1 J**
cis-1,2-Dichloroethylene	< 2.2000	< 2.3000	< 2.5000	< 2.8000	< 2.9000	< 2.9000	< 2.2000	< 2.3000	< 2.4000	< 2.0000	< 2.2000	< 2.2000
Dichlorodifluoromethane	< 2.2000	< 2.3000	< 2.5000	< 2.8000	< 2.9000	< 2.9000	< 2.2000	< 2.3000	< 2.4000	< 2.0000	< 2.2000	< 2.2000
Chloroform	**11**	**7.7**	**7.5**	**7.2**	**8.9**	**9**	**7.6**	**10**	**8.6**	**10**	< 2.2000	< 2.2000
1,1,1-Trichloroethane	< 2.2000	< 2.3000	< 2.5000	< 2.8000	< 2.9000	< 2.9000	< 2.2000	< 2.3000	< 2.4000	< 2.0000	< 2.2000	< 2.2000
1,1,2,2-Tetrachloroethane	< 2.2000	< 2.3000	< 2.5000	< 2.8000	< 2.9000	< 2.9000	< 2.2000	< 2.3000	< 2.4000	< 2.0000	< 2.2000	< 2.2000
1,1,2-Trichloro-1,2,2-trifluoroethane	< 2.2000	< 2.3000	< 2.5000	< 2.8000	< 2.9000	< 2.9000	< 2.2000	< 2.3000	< 2.4000	< 2.0000	< 2.2000	< 2.2000
1,1,2-Trichloroethane	< 2.2000	< 2.3000	< 2.5000	< 2.8000	< 2.9000	< 2.9000	< 2.2000	< 2.3000	< 2.4000	< 2.0000	< 2.2000	< 2.2000
1,1-Dichloroethane	< 2.2000	< 2.3000	< 2.5000	< 2.8000	< 2.9000	< 2.9000	< 2.2000	< 2.3000	< 2.4000	< 2.0000	< 2.2000	< 2.2000
1,1-Dichloroethene	< 2.2000	< 2.3000	< 2.5000	< 2.8000	< 2.9000	< 2.9000	< 2.2000	< 2.3000	< 2.4000	< 2.0000	< 2.2000	< 2.2000
1,2,4-Trichlorobenzene	< 2.2000 UJ	< 2.3000	**1.3 J**	< 2.8000	< 2.9000	< 2.9000	< 2.2000	< 2.3000	< 2.4000	< 2.0000	< 2.2000	< 2.2000
1,2,4-Trimethylbenzene	< 2.2000	< 2.3000	**10**	**1.4 J**	< 2.9000	< 2.9000	**1.2 J**	< 2.3000	< 2.4000	< 2.0000	< 2.2000	< 2.2000
1,2-Dibromoethane (Ethylene dibromide)	< 2.2000	< 2.3000	< 2.5000	< 2.8000	< 2.9000	< 2.9000	< 2.2000	< 2.3000	< 2.4000	< 2.0000	< 2.2000	< 2.2000
1,2-Dichloro-1,1,2,2-trifluoroethane	< 2.2000	< 2.3000	< 2.5000	< 2.8000	< 2.9000	< 2.9000	< 2.2000	< 2.3000	< 2.4000	< 2.0000	< 2.2000	< 2.2000
1,2-Dichlorobenzene	< 2.2000	< 2.3000	< 2.5000	< 2.8000	< 2.9000	< 2.9000	< 2.2000	< 2.3000	< 2.4000	< 2.0000	< 2.2000	< 2.2000
1,2-Dichloroethane	< 2.2000	< 2.3000	< 2.5000	< 2.8000	< 2.9000	< 2.9000	< 2.2000	< 2.3000	< 2.4000	< 2.0000	< 2.2000	< 2.2000
1,2-Dichloropropane	< 2.2000	< 2.3000	< 2.5000	< 2.8000	< 2.9000	< 2.9000	< 2.2000	< 2.3000	< 2.4000	< 2.0000	< 2.2000	< 2.2000
1,3,5-Trimethylbenzene	< 2.2000	< 2.3000	**6.3**	< 2.8000	< 2.9000	< 2.9000	< 2.2000	< 2.3000	< 2.4000	< 2.0000	< 2.2000	< 2.2000
1,3-Dichlorobenzene	< 2.2000	< 2.3000	< 2.5000	< 2.8000	< 2.9000	< 2.9000	< 2.2000	< 2.3000	< 2.4000	< 2.0000	< 2.2000	< 2.2000
1,4-Dichlorobenzene	< 2.2000	< 2.3000	< 2.5000	< 2.8000	< 2.9000	< 2.9000	< 2.2000	< 2.3000	< 2.4000	< 2.0000	< 2.2000	< 2.2000
2-Butanone (MEK)												
4-Ethyltoluene												
Acetone												
Benzene	< 2.2000	< 2.3000	< 2.5000	< 2.8000	< 2.9000	< 2.9000	< 2.2000	< 2.3000	**1.2 J**	**2.8**	< 2.2000	< 2.2000
Bromomethane	< 2.2000	< 2.3000	< 2.5000	< 2.8000	< 2.9000	< 2.9000	< 2.2000	< 2.3000	< 2.2000	< 2.0000	< 2.2000	< 2.2000
Carbon disulfide												
Carbon tetrachloride	< 2.2000	< 2.3000	< 2.5000	< 2.8000	< 2.9000	< 2.9000	< 2.2000	< 2.3000	< 2.4000	< 2.0000	< 2.2000	< 2.2000
Chlorobenzene	< 2.2000	< 2.3000	< 2.5000	< 2.8000	< 2.9000	< 2.9000	< 2.2000	< 2.3000	< 2.4000	< 2.0000	< 2.2000	< 2.2000
Chloroethane	< 2.2000	< 2.3000	< 2.5000	< 2.8000	< 2.9000	< 2.9000	< 2.2000	< 2.3000	< 2.4000	< 2.0000	< 2.2000	< 2.2000
Chloromethane	< 2.2000	< 2.3000	< 2.5000	< 2.8000	< 2.9000	< 2.9000	< 2.2000	< 2.3000	< 2.4000	< 2.0000	< 2.2000	< 2.2000
cis-1,3-Dichloropropene	< 2.2000	< 2.3000	< 2.5000	< 2.8000	< 2.9000	< 2.9000	< 2.2000	< 2.3000	< 2.4000	< 2.0000	< 2.2000	< 2.2000
Ethylbenzene	< 2.2000	< 2.3000	**2.4 J**	< 2.8000	< 2.9000	< 2.9000	< 2.2000	< 2.3000	< 2.4000	< 2.0000	< 2.2000	< 2.2000
Hexachlorobutadiene	< 2.2000 UJ	< 2.3000	**1.6 J**	< 2.8000 UJ	< 2.9000	< 2.9000	< 2.2000	< 2.3000	< 2.4000	< 2.0000	< 2.2000	< 2.2000
m,p-Xylene	< 4.3000	**2.4 J**	**19**	< 5.5000	< 5.8000	< 5.8000	< 4.3000	< 4.6000	**6.1**	< 4.1000	< 4.4000	< 4.4000
Methylene chloride	< 2.2000	< 2.3000	< 2.5000	< 2.8000	< 2.9000	< 2.9000	< 2.2000	< 2.3000	< 2.4000	< 2.0000	< 2.2000	< 2.2000
o-Xylene	< 2.2000	< 2.3000	**8.6**	< 2.8000	< 2.9000	< 2.9000	< 2.2000	< 2.3000	**1.7 J**	< 2.0000	< 2.2000	< 2.2000
Styrene	< 2.2000	< 2.3000 UJ	< 2.5000 UJ	< 2.8000 UJ	< 2.9000	< 2.9000	< 2.2000	< 2.3000	< 2.4000	< 2.0000	< 2.2000	< 2.2000
Toluene	< 2.2000	**3.1**	**3.5**	< 2.8000	< 2.9000	< 2.9000	< 2.2000	< 2.3000	**11**	< 2.0000	< 2.2000	< 2.2000
trans-1,2-Dichloroethene												
trans-1,3-Dichloropropene	< 2.2000	< 2.3000	< 2.5000	< 2.8000	< 2.9000	< 2.9000	< 2.2000	< 2.3000	< 2.4000	< 2.0000	< 2.2000	< 2.2000
Trichlorofluoromethane	< 2.2000	< 2.3000	< 2.5000	< 2.8000	< 2.9000	< 2.9000	< 2.2000	< 2.3000	< 2.4000	< 2.0000	< 2.2000	< 2.2000
Vinyl chloride	< 2.2000	< 2.3000	< 2.5000	< 2.8000	< 2.9000	< 2.9000	< 2.2000	< 2.3000	< 2.4000	< 2.0000	< 2.2000	< 2.2000
1,2-DICHLOROTETRAFLUOROETHA												

TABLE G-7(a)

SVE AND GROUNDWATER TREATMENT VAPOR ANALYTICAL SUMMARY RESULTS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

Sample ID:	DP-5D-031009	DP-5S-031009	DP-6D-031009	DP-6S-111108	DP-6S-031009	SVE-2-111108	SVE-2-111808	SVE-2-121008	SVE-2-123008	SVE-2-013009	SVE-2-031009	SVE-2-052809
Sample Date:	03/10/09	03/10/09	03/10/09	11/11/08	03/10/09	11/11/08	11/18/08	12/10/08	12/30/08	01/30/09	03/10/09	05/28/09
Units:	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV
Tetrachloroethylene (PCE)	**60**	**730**	**160**	**870**		**14000**	**13000**	**3200**	**4100**	**4700**	**980**	**1500**
Trichloroethylene (TCE)	< 2.4000	< 2.1000	**6.5**	**3.9**	< 2.1000	**210**	**55 J+**	**16**	**10**	**23**	**9.6**	**17**
cis-1,2-Dichloroethylene	< 2.4000	< 2.1000	< 2.1000	< 1.9000	< 2.1000	**270**	**110**	**31**	**38**	**24**	**15**	**30**
Dichlorodifluoromethane	< 2.4000	< 2.1000	**2.2**	**1.1 J+**	< 2.1000	**1.1 J+**	< 21.0000	< 7.7000	< 7.2000	< 13.0000	< 2.1000	< 11.0000
Chloroform	**53**	< 2.1000	**43**	**10**	< 2.1000	**3.7**	< 21.0000	< 7.7000	< 7.2000	< 13.0000	< 2.1000	< 11.0000
1,1,1-Trichloroethane	< 2.4000	< 2.1000	< 2.1000	< 1.9000	< 2.1000	< 1.9000	< 21.0000	< 7.7000	< 7.2000	< 13.0000	< 2.1000	< 11.0000
1,1,2,2-Tetrachloroethane	< 2.4000	< 2.1000	< 2.1000	< 1.9000	< 2.1000	< 1.9000	< 21.0000	< 7.7000	< 7.2000	< 13.0000	< 2.1000	< 11.0000
1,1,2-Trichloro-1,2,2-trifluoroethane	< 2.4000	< 2.1000	< 2.1000	< 1.9000	< 2.1000	< 1.9000	< 21.0000	< 7.7000	< 7.2000	< 13.0000	< 2.1000	< 11.0000
1,1,2-Trichloroethane	< 2.4000	< 2.1000	< 2.1000	< 1.9000	< 2.1000	< 1.9000	< 21.0000	< 7.7000	< 7.2000	< 13.0000	< 2.1000	< 11.0000
1,1-Dichloroethane	< 2.4000	< 2.1000	< 2.1000	< 1.9000	< 2.1000	< 1.9000	< 21.0000	< 7.7000	< 7.2000	< 13.0000	< 2.1000	< 11.0000
1,1-Dichloroethene	< 2.4000	< 2.1000	< 2.1000	< 1.9000	< 2.1000	< 1.9000	< 21.0000	< 7.7000	< 7.2000	< 13.0000	< 2.1000	< 11.0000
1,2,4-Trichlorobenzene	< 2.4000	< 2.1000	< 2.1000	< 1.9000	< 2.1000	< 1.9000	< 21.0000	< 7.7000	< 7.2000	< 13.0000	< 2.1000	< 11.0000
1,2,4-Trimethylbenzene	< 2.4000	< 2.1000	< 2.1000	< 1.9000	< 2.1000	< 1.9000	< 21.0000	**14**	< 7.2000	< 13.0000	< 2.1000	< 11.0000
1,2-Dibromoethane (Ethylene dibromide)	< 2.4000	< 2.1000	< 2.1000	< 1.9000	< 2.1000	< 1.9000	< 21.0000	< 7.7000	< 7.2000	< 13.0000	< 2.1000	< 11.0000
1,2-Dichloro-1,1,2,2-trifluoroethane	< 2.4000	< 2.1000	< 2.1000	< 1.9000	< 2.1000	< 1.9000	< 21.0000	< 7.7000	< 7.2000	< 13.0000	< 2.1000	< 11.0000
1,2-Dichlorobenzene	< 2.4000	< 2.1000	< 2.1000	< 1.9000	< 2.1000	< 1.9000	< 21.0000	< 7.7000	< 7.2000	< 13.0000	< 2.1000	< 11.0000
1,2-Dichloroethane	< 2.4000	< 2.1000	< 2.1000	< 1.9000	< 2.1000	< 1.9000	< 21.0000	< 7.7000	< 7.2000	< 13.0000	< 2.1000	< 11.0000
1,2-Dichloropropane	< 2.4000	< 2.1000	< 2.1000	< 1.9000	< 2.1000	< 1.9000	< 21.0000	< 7.7000	< 7.2000	< 13.0000	< 2.1000	< 11.0000
1,3,5-Trimethylbenzene	< 2.4000	< 2.1000	< 2.1000	< 1.9000	< 2.1000	< 1.9000	< 21.0000	**6.6**	< 7.2000	< 13.0000	< 2.1000	< 11.0000
1,3-Dichlorobenzene	< 2.4000	< 2.1000	< 2.1000	< 1.9000	< 2.1000	< 1.9000	< 21.0000	< 7.7000	< 7.2000	< 13.0000	< 2.1000	< 11.0000
1,4-Dichlorobenzene	< 2.4000	< 2.1000	< 2.1000	< 1.9000	< 2.1000	< 1.9000	< 21.0000	< 7.7000	< 7.2000	< 13.0000	< 2.1000	< 11.0000
2-Butanone (MEK)												
4-Ethyltoluene												
Acetone												
Benzene	< 2.4000	< 2.1000	< 2.1000	< 1.9000	< 2.1000	< 1.9000	< 21.0000	< 7.7000	< 7.2000	< 13.0000	< 2.1000	< 11.0000
Bromomethane	< 2.4000	< 2.1000	< 2.1000	< 1.9000	< 2.1000	< 1.9000	< 21.0000	< 7.7000	< 7.2000	< 13.0000	< 2.1000	< 11.0000
Carbon disulfide												
Carbon tetrachloride	< 2.4000	< 2.1000	< 2.1000	< 1.9000	< 2.1000	< 1.9000	< 21.0000	< 7.7000	< 7.2000	< 13.0000	< 2.1000	< 11.0000
Chlorobenzene	< 2.4000	< 2.1000	< 2.1000	< 1.9000	< 2.1000	**1.4 J**	< 21.0000	< 7.7000	< 7.2000	< 13.0000	< 2.1000	< 11.0000
Chloroethane	< 2.4000	< 2.1000	< 2.1000	< 1.9000	< 2.1000	< 1.9000	< 21.0000	< 7.7000	< 7.2000	< 13.0000	< 2.1000	< 11.0000
Chloromethane	< 2.4000	< 2.1000	< 2.1000	< 1.9000	< 2.1000	< 1.9000	< 21.0000	< 7.7000	< 7.2000	< 13.0000	< 2.1000	< 11.0000
cis-1,3-Dichloropropene	< 2.4000	< 2.1000	< 2.1000	< 1.9000	< 2.1000	< 1.9000	< 21.0000	< 7.7000	< 7.2000	< 13.0000	< 2.1000	< 11.0000
Ethylbenzene	< 2.4000	< 2.1000	< 2.1000	< 1.9000	< 2.1000	< 1.9000	< 21.0000	5.1	< 7.2000	< 13.0000	< 2.1000	< 11.0000
Hexachlorobutadiene	< 2.4000	< 2.1000	< 2.1000	< 1.9000	< 2.1000	< 1.9000	< 21.0000	< 7.7000	< 7.2000	< 13.0000	< 2.1000	< 11.0000
m,p-Xylene	< 4.8000	< 4.1000	< 4.2000	< 3.8000	< 4.2000	< 3.8000	< 43.0000	57	< 14.0000	< 27.0000	< 4.3000	< 23.0000
Methylene chloride	< 2.4000	< 2.1000	< 2.1000	< 1.9000	< 2.1000	< 1.9000	< 21.0000	< 7.7000	< 7.2000	< 13.0000	< 2.1000	< 11.0000
o-Xylene	< 2.4000	< 2.1000	< 2.1000	< 1.9000	< 2.1000	< 1.9000	< 21.0000	19	< 7.2000	< 13.0000	< 2.1000	< 11.0000
Styrene	< 2.4000	< 2.1000	< 2.1000	< 1.9000	< 2.1000	< 1.9000	< 21.0000	< 7.7000	< 7.2000	< 13.0000	< 2.1000	< 11.0000 UJ
Toluene	< 2.4000	< 2.1000	< 2.1000	**1.1 J**	< 2.1000	1	< 21.0000	20	< 7.2000	< 13.0000	< 2.1000	< 11.0000
trans-1,2-Dichloroethene												
trans-1,3-Dichloropropene	< 2.4000	< 2.1000	< 2.1000	< 1.9000	< 2.1000	< 1.9000	< 21.0000	< 7.7000	< 14.0000	< 13.0000	< 2.1000	< 11.0000
Trichlorofluoromethane	< 2.4000	< 2.1000	< 2.1000	< 1.9000	< 2.1000	< 1.9000	< 21.0000	< 7.7000	< 7.2000	< 13.0000	< 2.1000	< 11.0000
Vinyl chloride	< 2.4000	< 2.1000	< 2.1000	< 1.9000	< 2.1000	< 1.9000	< 21.0000	< 7.7000	< 7.2000	< 13.0000	< 2.1000	< 11.0000
1,2-DICHLOROTETRAFLUOROETHA												

TABLE G-7(a)

SVE AND GROUNDWATER TREATMENT VAPOR ANALYTICAL SUMMARY RESULTS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

Sample ID:	**SVE-2-081009**	**SVE-2-112309**	**SVE-3-121008**	**SVE-3-123008**	**SVE-3-013009**	**SVE-3-031009**	**SVE-3-052809**	**SVE-3-081009**	**SVE-3-112309**	**SVE-4-111808**	**SVE-4-121008**	**SVE-4-123008**
Sample Date:	08/10/09	11/23/09	12/10/08	12/30/08	01/30/09	03/10/09	05/28/09	08/10/09	11/23/09	11/18/08	12/10/08	12/30/08
Units:	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV
Tetrachloroethylene (PCE)	**5700**	**110**	**810**	**1600**	**980**	**30**	**620**	**88**	**2.6**	**890**	**350**	**390**
Trichloroethylene (TCE)	**62**	**1.3 J**	**6.5 J**	**4.3 J**	**3.5**	< 2.1000	**7.4**	< 2.5000	< 2.5000	< 8.6000	**1.1 J**	< 1.8000
cis-1,2-Dichloroethylene	**36**	<2.3000	< 7.7000	< 7.2000	**2**	< 2.1000	**2.7 J**	< 2.5000	< 2.5000	< 8.6000	< 2.0000	< 1.8000
Dichlorodifluoromethane	< 13.0000	<2.3000	< 7.7000	< 7.2000	< 2.0000	< 2.1000	**2.9 J**	< 2.5000	< 2.5000	**6 J**	**4.4**	**4**
Chloroform	< 13.0000	<2.3000	**5.7 J**	**6.4 J**	**2.1**	< 2.1000	**2.8 J**	< 2.5000	< 2.5000	**140**	**130**	**110**
1,1,1-Trichloroethane	< 13.0000	<2.3000	< 7.7000	< 7.2000	< 2.0000	< 2.1000	< 4.6000	< 2.5000	< 2.5000	< 8.6000	< 2.0000	< 1.8000
1,1,2,2-Tetrachloroethane	< 13.0000	<2.3000	< 7.7000	< 7.2000	< 2.0000	< 2.1000	< 4.6000	< 2.5000	< 2.5000	< 8.6000	< 2.0000	< 1.8000
1,1,2-Trichloro-1,2,2-trifluoroethane	< 13.0000	<2.3000	< 7.7000	< 7.2000	< 2.0000	< 2.1000	< 4.6000	< 2.5000	< 2.5000	< 8.6000	< 2.0000	< 1.8000
1,1,2-Trichloroethane	< 13.0000	<2.3000	< 7.7000	< 7.2000	< 2.0000	< 2.1000	< 4.6000	< 2.5000	< 2.5000	< 8.6000	< 2.0000	< 1.8000
1,1-Dichloroethane	< 13.0000	<2.3000	< 7.7000	< 7.2000	< 2.0000	< 2.1000	< 4.6000	< 2.5000	< 2.5000	< 8.6000	< 2.0000	< 1.8000
1,1-Dichloroethene	< 13.0000	<2.3000	< 7.7000	< 7.2000	< 2.0000	< 2.1000	< 4.6000	< 2.5000	< 2.5000	< 8.6000	< 2.0000	< 1.8000
1,2,4-Trichlorobenzene	< 13.0000	<2.3000	< 7.7000	< 7.2000	< 2.0000	< 2.1000	< 4.6000	< 2.5000	< 2.5000	< 8.6000	< 2.0000	< 1.8000
1,2,4-Trimethylbenzene	< 13.0000	<2.3000	**40**	< 7.2000	< 2.0000	< 2.1000	< 4.6000	< 2.5000	< 2.5000	< 8.6000	**17**	< 1.8000
1,2-Dibromoethane (Ethylene dibromide)	< 13.0000	<2.3000	**4.2 J**	< 7.2000	< 2.0000	< 2.1000	< 4.6000	< 2.5000	< 2.5000	< 8.6000	**1.2 J**	< 1.8000
1,2-Dichloro-1,1,2,2-trifluoroethane	< 13.0000	<2.3000	< 7.7000	< 7.2000	< 2.0000	< 2.1000	< 4.6000	< 2.5000	< 2.5000	< 8.6000	< 2.0000	< 1.8000
1,2-Dichlorobenzene	< 13.0000	<2.3000	< 7.7000	< 7.2000	< 2.0000	< 2.1000	< 4.6000	< 2.5000	< 2.5000	< 8.6000	< 2.0000	< 1.8000
1,2-Dichloroethane	< 13.0000	<2.3000	< 7.7000	< 7.2000	< 2.0000	< 2.1000	< 4.6000	< 2.5000	< 2.5000	< 8.6000	< 2.0000	< 1.8000
1,2-Dichloropropane	< 13.0000	<2.3000	< 7.7000	< 7.2000	< 2.0000	< 2.1000	< 4.6000	< 2.5000	< 2.5000	< 8.6000	< 2.0000	< 1.8000
1,3,5-Trimethylbenzene	< 13.0000	<2.3000	**21**	< 7.2000	< 2.0000	< 2.1000	< 4.6000	< 2.5000	< 2.5000	< 8.6000	**8.2**	< 1.8000
1,3-Dichlorobenzene	< 13.0000	<2.3000	< 7.7000	< 7.2000	< 2.0000	< 2.1000	< 4.6000	< 2.5000	< 2.5000	< 8.6000	< 2.0000	< 1.8000
1,4-Dichlorobenzene	< 13.0000	<2.3000	< 7.7000	< 7.2000	< 2.0000	< 2.1000	< 4.6000	< 2.5000	< 2.5000	< 8.6000	< 2.0000	< 1.8000
2-Butanone (MEK)												
4-Ethyltoluene												
Acetone												
Benzene	< 13.0000	<2.3000	< 7.7000	< 7.2000	< 2.0000	< 2.1000	< 4.6000	< 2.5000	< 2.5000	< 8.6000	< 2.0000	< 1.8000
Bromomethane	< 13.0000	<2.3000	< 7.7000	< 7.2000	< 2.0000	< 2.1000	< 4.6000	< 2.5000	< 2.5000	< 8.6000	< 2.0000	< 1.8000
Carbon disulfide												
Carbon tetrachloride	< 13.0000	<2.3000	< 7.7000	< 7.2000	< 2.0000	< 2.1000	< 4.6000	< 2.5000	< 2.5000	< 8.6000	< 2.0000	< 1.8000
Chlorobenzene	< 13.0000	<2.3000	< 7.7000	< 7.2000	< 2.0000	< 2.1000	< 4.6000	< 2.5000	< 2.5000	< 8.6000	< 2.0000	< 1.8000
Chloroethane	< 13.0000	<2.3000	< 7.7000	< 7.2000	< 2.0000	< 2.1000	< 4.6000	< 2.5000	< 2.5000	< 8.6000	< 2.0000	< 1.8000
Chloromethane	< 13.0000	<2.3000	< 7.7000	< 7.2000	< 2.0000	< 2.1000	< 4.6000	< 2.5000	< 2.5000	< 8.6000	< 2.0000	< 1.8000
cis-1,3-Dichloropropene	< 13.0000	<2.3000	< 7.7000	< 7.2000	< 2.0000	< 2.1000	< 4.6000	< 2.5000	< 2.5000	< 8.6000	< 2.0000	< 1.8000
Ethylbenzene	< 13.0000	<2.3000	31	< 7.2000	< 2.0000	< 2.1000	< 4.6000	< 2.5000	< 2.5000	< 8.6000	**9.6**	< 1.8000
Hexachlorobutadiene	< 13.0000	<2.3000	< 7.7000	< 7.2000	< 2.0000	< 2.1000	< 4.6000	< 2.5000	< 2.5000	< 8.6000	< 2.0000	< 1.8000
m,p-Xylene	< 25.0000	<4.5000	120	< 14.0000	< 4.0000	< 4.3000	< 9.2000	< 5.0000	< 5.0000	< 17.0000	**67**	< 3.6000
Methylene chloride	< 13.0000	<2.3000	< 7.7000	< 7.2000	< 2.0000	< 2.1000	< 4.6000	< 2.5000	< 2.5000	< 8.6000	< 2.0000	< 1.8000
o-Xylene	< 13.0000	<2.3000	98	< 7.2000	< 2.0000	< 2.1000	< 4.6000	< 2.5000	< 2.5000	< 8.6000	**31**	< 1.8000
Styrene	< 13.0000	<2.3000	< 7.7000	< 7.2000	< 2.0000	< 2.1000	< 4.6000 UJ	< 2.5000	< 2.5000	< 8.6000	< 2.0000	< 1.8000
Toluene	< 13.0000	<2.3000	93	< 7.2000	< 2.0000	< 2.1000	< 4.6000	< 2.5000	< 2.5000	< 8.6000	**52**	< 1.8000
trans-1,2-Dichloroethene												
trans-1,3-Dichloropropene	< 13.0000	<2.3000	< 7.7000	< 14.0000	< 2.0000	< 2.1000	< 4.6000	< 2.5000	< 2.5000	< 8.6000	< 2.0000	< 3.6000
Trichlorofluoromethane	< 13.0000	<2.3000	< 7.7000	< 7.2000	< 2.0000	< 2.1000	< 4.6000	< 2.5000	< 2.5000	< 8.6000	< 2.0000	< 1.8000
Vinyl chloride	< 13.0000	<2.3000	< 7.7000	< 7.2000	< 2.0000	< 2.1000	< 4.6000	< 2.5000	< 2.5000	< 8.6000	< 2.0000	< 1.8000
1,2-DICHLOROTETRAFLUOROETHA												

TABLE G-7(a)

SVE AND GROUNDWATER TREATMENT VAPOR ANALYTICAL SUMMARY RESULTS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

Sample ID:	SVE-4-013009	SVE-4-031009	SVE-4-052809	SVE-4-081009	SVE-4-112309	OSVE-10-031009	OSVE-11-031009
Sample Date:	01/30/09	03/10/09	05/28/09	08/10/09	11/23/09	03/10/09	03/10/09
Units:	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV	PPBV
Tetrachloroethylene (PCE)	**330**	**290**	**180**	**140**	**90**	**450**	**27,000**
Trichloroethylene (TCE)	**2.7**	< 2.1000	< 2.3000	< 2.6000	< 2.3000	< 2.1000	< 21.0000
cis-1,2-Dichloroethylene	**3.8**	< 2.1000	< 2.3000	< 2.6000	< 2.3000	< 2.1000	< 21.0000
Dichlorodifluoromethane	**3.4**	**4.8**	**4.9**	**2.7**	**2.1 J**	< 2.1000	< 21.0000
Chloroform	**87**	**95**	**80**	**67**	**51**	< 2.1000	< 21.0000
1,1,1-Trichloroethane	< 2.0000	< 2.1000	< 2.3000	< 2.6000	< 2.3000	< 2.1000	< 21.0000
1,1,2,2-Tetrachloroethane	< 2.0000	< 2.1000	< 2.3000	< 2.6000	< 2.3000	< 2.1000	< 21.0000
1,1,2-Trichloro-1,2,2-trifluoroethane	< 2.0000	< 2.1000	< 2.3000	< 2.6000	< 2.3000	< 2.1000	< 21.0000
1,1,2-Trichloroethane	< 2.0000	< 2.1000	< 2.3000	< 2.6000	< 2.3000	< 2.1000	< 21.0000
1,1-Dichloroethane	< 2.0000	< 2.1000	< 2.3000	< 2.6000	< 2.3000	< 2.1000	< 21.0000
1,1-Dichloroethene	< 2.0000	< 2.1000	< 2.3000	< 2.6000	< 2.3000	< 2.1000	< 21.0000
1,2,4-Trichlorobenzene	< 2.0000	< 2.1000	< 2.3000	< 2.6000	< 2.3000	< 2.1000	< 21.0000
1,2,4-Trimethylbenzene	< 2.0000	< 2.1000	< 2.3000	< 2.6000	< 2.3000	< 2.1000	< 21.0000
1,2-Dibromoethane (Ethylene dibromide)	< 2.0000	< 2.1000	< 2.3000	< 2.6000	< 2.3000	< 2.1000	< 21.0000
1,2-Dichloro-1,1,2,2-trifluoroethane	< 2.0000	< 2.1000	< 2.3000	< 2.6000	< 2.3000	< 2.1000	< 21.0000
1,2-Dichlorobenzene	< 2.0000	< 2.1000	< 2.3000	< 2.6000	< 2.3000	< 2.1000	< 21.0000
1,2-Dichloroethane	< 2.0000	< 2.1000	< 2.3000	< 2.6000	< 2.3000	< 2.1000	< 21.0000
1,2-Dichloropropane	< 2.0000	< 2.1000	< 2.3000	< 2.6000	< 2.3000	< 2.1000	< 21.0000
1,3,5-Trimethylbenzene	< 2.0000	< 2.1000	< 2.3000	< 2.6000	< 2.3000	< 2.1000	< 21.0000
1,3-Dichlorobenzene	< 2.0000	< 2.1000	< 2.3000	< 2.6000	< 2.3000	< 2.1000	< 21.0000
1,4-Dichlorobenzene	< 2.0000	< 2.1000	< 2.3000	< 2.6000	< 2.3000	< 2.1000	< 21.0000
2-Butanone (MEK)							
4-Ethyltoluene							
Acetone							
Benzene	< 2.0000	< 2.1000	< 2.3000	< 2.6000	< 2.3000	< 2.1000	< 21.0000
Bromomethane	< 2.0000	< 2.1000	< 2.3000	< 2.6000	< 2.3000	< 2.1000	< 21.0000
Carbon disulfide							
Carbon tetrachloride	< 2.0000	< 2.1000	< 2.3000	< 2.6000	< 2.3000	< 2.1000	< 21.0000
Chlorobenzene	< 2.0000	< 2.1000	< 2.3000	< 2.6000	< 2.3000	< 2.1000	< 21.0000
Chloroethane	< 2.0000	< 2.1000	< 2.3000	< 2.6000	< 2.3000	< 2.1000	< 21.0000
Chloromethane	< 2.0000	< 2.1000	< 2.3000	< 2.6000	< 2.3000	< 2.1000	< 21.0000
cis-1,3-Dichloropropene	< 2.0000	< 2.1000	< 2.3000	< 2.6000	< 2.3000	< 2.1000	< 21.0000
Ethylbenzene	< 2.0000	< 2.1000	< 2.3000	< 2.6000	< 2.3000	< 2.1000	< 21.0000
Hexachlorobutadiene	< 2.0000	< 2.1000	< 2.3000	< 2.6000	< 2.3000	< 2.1000	< 21.0000
m,p-Xylene	< 4.0000	< 4.2000	< 4.6000	< 5.1000	< 4.6000	< 4.2000	< 42.0000
Methylene chloride	< 2.0000	< 2.1000	< 2.3000	< 2.6000	< 2.3000	< 2.1000	< 21.0000
o-Xylene	< 2.0000	< 2.1000	< 2.3000	< 2.6000	< 2.3000	< 2.1000	< 21.0000
Styrene	< 2.0000	< 2.1000	< 2.3000 UJ	< 2.6000	< 2.3000	< 2.1000	< 21.0000
Toluene	< 2.0000	< 2.1000	< 2.3000	< 2.6000	< 2.3000	**1.3 J**	< 21.0000
trans-1,2-Dichloroethene							
trans-1,3-Dichloropropene	< 2.0000	< 2.1000	< 2.3000	< 2.6000	< 2.3000	< 2.1000	< 21.0000
Trichlorofluoromethane	< 2.0000	< 2.1000	< 2.3000	< 2.6000	< 2.3000	< 2.1000	< 21.0000
Vinyl chloride	< 2.0000	< 2.1000	< 2.3000	< 2.6000	< 2.3000	< 2.1000	< 21.0000
1,2-DICHLOROTETRAFLUOROETHA							

TABLE G-7(b)

SVE AND GROUNDWATER TREATMENT VAPOR ANALYTICAL SUMMARY RESULTS
MODESTO GROUNDWATER SUPERFUND SITE
MODESTO, CALIFORNIA

Sample Port	Location	Date	Sample Code	PCE ug/L
SP-08	GWTP Pre GAC	03/11/2010 14:03		280
		04/07/2010 11:10		330
		05/12/2010 10:55		320
		06/17/2010 10:32		340
		07/15/2010 10:46		300
		08/12/2010 10:05		230
		09/09/2010 11:02		240
		10/14/2010 11:40		280
		11/18/2010 10:22		220
		12/09/2010 8:25		240
		01/13/2011 11:50		250 J
		02/10/2011 11:30		280 J
		03/09/2011 14:30		62
SP-09	GWTP Stack	03/11/2010 13:08		340
		04/07/2010 11:00		390
		05/12/2010 10:48		340
		06/17/2010 10:15		210
		07/15/2010 10:37		270
		08/12/2010 9:55		220
		09/09/2010 10:46		23
		10/14/2010 11:30		7.3
		11/18/2010 10:15		2.1
		12/09/2010 8:20		1.2 J
		01/13/2011 11:40		8.7
		02/10/2011 11:20		22
		03/09/2011 14:20		60
SP-11	SVE Pre GAC	03/11/2010 13:40		12
		04/07/2010 12:00		130
		05/12/2010 11:37		120
		05/12/2010 11:43	FD	97
		06/17/2010 11:21		220
		07/15/2010 11:06		720
		08/12/2010 11:00		620
		09/09/2010 11:26		590
		10/14/2010 12:16		240
		11/18/2010 11:05		42
		12/09/2010 14:35	FD	1.6 J
		12/09/2010 14:40		66
		01/13/2011 12:25		73
		02/10/2011 11:55		92
		03/09/2011 15:05		140

TABLE G-7(b)

SVE AND GROUNDWATER TREATMENT VAPOR ANALYTICAL SUMMARY RESULTS
MODESTO GROUNDWATER SUPERFUND SITE
MODESTO, CALIFORNIA

Sample Port	Location	Date	Sample Code	PCE ug/L
SP-12	SVE Stack	03/11/2010 13:27		51
		04/07/2010 11:50		63
		05/12/2010 10:48		130
		06/17/2010 11:12		2.6
		07/15/2010 10:57		23
		08/12/2010 10:45		7.2 J
		08/12/2010 10:50		2.2 J
		09/09/2010 11:18		2.4
		10/14/2010 12:00		2.6
		11/18/2010 10:50		2.2 J
		12/09/2010 14:30		2.2
		01/13/2011 12:15		2.1 J
		02/10/2011 11:50		4.9
		03/09/2011 14:55		2.2

FD - field duplicate
J - Estimated value
PCE - Tetrachloroethene
µg/L - micrograms per liter

Appendix G-8
PCE Mass Removed by Groundwater Treatment System

TABLE G-8

PCE MASS REMOVED BY GROUNDWATER TREATMENT SYSTEM
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

Sampe Date	Volume of Water Treated Since Previuos sample (gallons)	Total Volume of Water Treated (gallons)	Influent PCE concentration (µg/L)	Mass of PCE Removed Since Previuos sample (lbs)	Cumulative Mass of PCE Removed (lbs)
28-Aug-01	701,200	701,200	330	1.93	1.93
21-Sep-01	673,100	1,374,300	770	4.33	6.26
17-Oct-01	1,842,900	3,217,200	890	13.69	19.95
13-Nov-01	1,208,800	4,426,000	780	7.87	27.81
13-Dec-01	2,126,600	6,552,600	710	12.60	40.42
16-Jan-02	1,992,550	8,545,150	750	12.47	52.89
19-Feb-02	2,435,550	10,980,700	820	16.67	69.56
21-Mar-02	2,144,100	13,124,800	321	5.74	75.30
17-Apr-02	1,908,400	15,033,200	690	10.99	86.29
23-May-02	2,543,200	17,576,400	900	19.10	105.39
20-Jun-02	1,699,600	19,276,000	730	10.35	115.75
18-Jul-02	1,989,500	21,265,500	620	10.29	126.04
19-Aug-02	2,289,500	23,555,000	610	11.66	137.70
26-Sep-02	2,659,200	26,214,200	620	13.76	151.46
24-Oct-02	1,769,600	27,983,800	580	8.57	160.02
18-Nov-02	1,764,700	29,748,500	550	8.10	168.12
18-Dec-02	2,086,100	31,834,600	310	5.40	173.52
16-Jan-03	1,503,500	33,338,100	380	4.77	178.29
20-Feb-03	2,377,800	35,715,900	490	9.72	188.01
20-Mar-03	1,877,700	37,593,600	490	7.68	195.69
30-Apr-03	2,701,900	40,295,500	410	9.25	204.94
29-May-03	1,794,800	42,090,300	270	4.04	208.98
26-Jun-03	1,679,200	43,769,500	490	6.87	215.85
24-Jul-03	1,470,800	45,240,300	510	6.26	222.11
28-Aug-03	1,402,800	46,643,100	540	6.32	228.43
18-Sep-03	902,600	47,545,700	550	4.14	232.58
23-Oct-03	1,420,900	48,966,600	450	5.34	237.91
19-Nov-03	962,500	49,929,100	390	3.13	241.05
18-Dec-03	870,100	50,799,200	420	3.05	244.10
22-Jan-04	1,210,000	52,009,200	350	3.53	247.63
26-Feb-04	1,191,800	53,201,000	290	2.88	250.51
8-Apr-04	431,700	53,632,700	230	0.83	251.34
22-Apr-04	1,369,164	55,001,864	310	3.54	254.89
20-May-04	1,844,450	56,846,313	350	5.39	260.27
23-Jun-04	1,502,110	58,348,423	250	3.13	263.41
29-Jul-04	2,355,600	60,704,023	350	6.88	270.29
26-Aug-04	1,767,150	62,471,173	350	5.16	275.45
4-Oct-04	1,931,540	64,402,713	330	5.32	280.77
21-Oct-04	1,168,970	65,571,683	290	2.83	283.60
24-Aug-06	0	0	620.00	0.00	285.42
28-Sep-06	1,460,060	67,784,613	530.00	6.46	291.88
24-Oct-06	2,861,570	70,646,183	580	13.85	305.73
15-Nov-06	2,370,250	73,016,433	500	9.89	315.62
27-Dec-06	2,139,250	75,155,683	450	8.03	323.66
29-Jan-07	2,365,450	77,521,133	420.0	8.29	331.95
28-Feb-07	1,240,000	78,761,133	360.0	3.73	335.67
26-Mar-07	1,847,900	80,609,033	320.0	4.94	340.61

TABLE G-8

PCE MASS REMOVED BY GROUNDWATER TREATMENT SYSTEM
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

Sampe Date	Volume of Water Treated Since Previuos sample (gallons)	Total Volume of Water Treated (gallons)	Influent PCE concentration (µg/L)	Mass of PCE Removed Since Previuos sample (lbs)	Cumulative Mass of PCE Removed (lbs)
16-Apr-07	1,521,900	82,130,933	320.0	4.06	344.67
2-Jul-07	0	82,130,933	76.0	0.00	344.67
23-Jul-07	1,281,000	83,411,933	290.0	3.10	347.77
23-Aug-07	2,451,700	85,863,633	290.0	5.93	353.71
18-Sep-07	1,554,100	87,417,733	360.0	4.67	358.38
29-Oct-07	2,562,300	89,980,033	280.0	5.99	364.36
28-Nov-07	1,285,700	91,265,733	310.0	3.33	367.69
20-Dec-07	1,538,400	92,804,133	260.0	3.34	371.03
17-Jan-08	2,473,700	95,277,833	240.0	4.95	375.98
25-Feb-08	2,249,000	97,526,833	250.0	4.69	375.72
31-Mar-08	2,318,700	99,845,533	280.0	5.42	381.14
25-Apr-08	1,569,600	101,415,133	210.0	2.75	383.89
22-May-08	1,761,600	103,176,733	280.0	4.12	388.01
24-Jun-08	2,024,600	105,201,333	240.0	4.06	392.06
23-Jul-08	2,905,200	108,106,533	240.0	5.82	397.88
28-Aug-08	1,045,500	109,152,033	220.0	1.92	399.80
25-Sep-08	1,148,600	110,300,633	150.0	1.44	401.24
30-Oct-08	2,067,400	112,368,033	250.0	4.31	405.55
25-Nov-08	1,437,600	113,805,633	210.0	2.52	408.07
30-Dec-08	2,350,906	116,156,539	190.0	3.73	411.80
30-Jan-09	2,004,294	118,160,833	190.0	3.18	414.98
24-Feb-09	1,677,300	119,838,133	180.0	2.52	417.50
30-Mar-09	2,266,700	122,104,833	170.0	3.22	420.72
23-Apr-09	1,565,200	123,670,033	160.0	2.09	422.81
26-May-09	2,045,500	125,715,533	180.0	3.07	425.88
29-Jun-09	1,844,200	127,559,733	150.0	2.31	428.19
29-Jul-09	1,952,600	129,512,333	190.0	3.10	431.28
10-Aug-09	793,600	130,305,933	250.0	1.66	432.94
22-Sep-09	2,874,700	133,180,633	170.0	4.08	437.02
26-Oct-09	1,407,400	134,588,033	250.0	2.94	439.95
23-Nov-09	1,712,600	136,300,633	160.0	2.29	442.24
16-Dec-09	1,351,400	137,652,033	180.0	2.03	444.27
27-Jan-10	2,585,600	140,237,633	160.0	3.45	447.72
25-Feb-10	1,771,800	142,009,433	160.0	2.37	450.09
11-Mar-10	882,600	142,892,033	180.0	1.33	451.42
7-Apr-10	1,743,300	144,635,333	180.0	2.62	454.03
12-May-10	2,337,600	146,972,933	160.0	3.12	457.16
17-Jun-10	1,527,400	148,500,333	130.0	1.66	458.81
15-Jul-10	1,846,600	150,346,933	140.0	2.16	460.97
12-Aug-10	1,846,600	152,193,533	150.0	2.31	463.28
9-Sep-10	1,832,100	154,025,633	210.0	3.21	466.49
14-Oct-10	2,295,600	156,321,233	140.0	2.68	469.18
18-Nov-10	2,268,500	158,589,733	130.0	2.46	471.64
9-Dec-10	1,365,000	159,954,733	88.0	1.00	472.64
13-Jan-11	2,271,000	162,225,733	110.0	2.08	474.72
10-Feb-11	1,850,600	164,076,333	120.0	1.85	476.58
9-Mar-11	1,747,400	165,823,733	120.0	1.75	478.33

Notes:
µg/L - micrograms per liter
lbs - pounds
PCE - Tetrachloroethene

Appendix G-9
PCE Mass Removed by Soil Vapor Extraction System

TABLE G-9

PCE MASS REMOVED BY SOIL VAPOR EXTRACTION SYSTEM
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

Date Sampled	Cumulative Hours of Operation	Cumulative Days of Operation	Mass Extraction Rate (lbs/day)	Cumulative Mass Extracted (a) (lbs)
6/11/2001	5.8	0.2	53.0	12.70
8/9/2001	590.8	24.6	7.0	744.00
8/20/2001	854.8	35.6	6.4	817.63
8/30/2001	1,094.8	45.6	6.2	880.30
9/7/2001	1,286.8	53.6	3.9	920.57
9/12/2001	1,406.8	58.6	4.9	942.62
10/29/2001	1,920.0	80.0	7.9	1,079.84
11/13/2001	2,272.0	94.7	8.1	1,197.56
12/13/2001	2,787.8	116.2	6.0	1,348.99
1/16/2002	3,469.3	144.6	4.6	1,498.66
2/19/2002	4,283.8	178.5	6.1	1,679.54
3/21/2002	5,003.8	208.5	4.6	1,839.44
4/17/2002	5,603.8	233.5	4.0	1,946.39
5/23/2002	6,467.8	269.5	2.7	2,066.49
6/20/2002	7,039.0	293.3	3.7	2,142.61
7/18/2002	7,526.0	313.6	4.3	2,223.90
8/19/2002	8,294.0	345.6	4.7	2,367.84
9/19/2002	9,037.0	376.5	2.0	2,471.06
10/24/2002	9,839.6	410.0	2.3	2,542.57
11/18/2002	10,441.0	435.0	2.0	2,596.51
12/18/2002	11,167.0	465.3	1.6	2,650.80
1/16/2003	11,519.0	480.0	1.8	2,675.27
3/27/2003	12,578.0	524.1	1.6	2,748.88
4/30/2003	13,390.1	557.9	1.8	2,806.77
5/29/2003	14,037.2	584.9	1.7	2,854.55
6/26/2003	14,067.7	586.2	1.7	2,856.70
7/24/2003	14,737.8	614.1	1.5	2,901.48
8/28/2003	15,502.0	645.9	2.0	2,958.25
9/18/2003	15,980.8	665.9	1.9	2,997.31

TABLE G-9

PCE MASS REMOVED BY SOIL VAPOR EXTRACTION SYSTEM
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

Date Sampled	Cumulative Hours of Operation	Cumulative Days of Operation	Mass Extraction Rate (lbs/day)	Cumulative Mass Extracted (a) (lbs)
10/23/2003	16,797.6	699.9	1.3	3,050.65
11/19/2003	17,448.4	727.0	1.3	3,085.25
12/18/2003	18,092.9	753.9	1.4	3,121.56
1/22/2004	18,688.3	778.7	1.1	3,153.22
2/26/2004	19,529.0	813.7	0.7	3,185.64
3/29/2004	20,245.3	843.6	1.4	3,217.84
4/22/2004	20,872.0	869.7	0.5	3,242.93
5/20/2004	21,408.8	892.0	0.5	3,253.44
6/23/2004	22,174.7	923.9	0.6	3,269.99
7/29/2004	22,976.8	957.4	0.6	3,289.24
8/26/2004	23,644.1	985.2	0.5	3,303.77
9/30/2004	24,481.0	1020.0	0.4	3,319.59
10/21/2004	24,988.4	1041.2	0.5	3,329.59
11/18/2004	25,653.5	1068.9	0.3	3,341.19
12/16/2004	26,349.7	1097.9	0.3	3,350.62
1/19/2005	27,140.5	1130.9	0.2	3,359.30
2/24/2005	28,011.5	1167.1	0.2	3,366.49
3/22/2005	28,628.3	1192.8	0.2	3,371.23
4/26/2005	29,759.6	1240.0	0.2	3,379.36
5/25/2005	30,455.6	1269.0	0.07	3,382.64
6/22/2005	31,175.6	1299.0	0.13	3,385.63
7/20/2005	31,847.6	1327.0	0.13	3,389.39
8/24/2005	32,663.6	1361.0	0.07	3,392.81
9/21/2005	33,335.6	1389.0	0.09	3,394.98
10/18/2005	33,672.0	1403.0	0.13	3,396.49
11/16/2005	33,985.0	1416.0	0.08	3,397.84
1/6/2006	34,992.1	1458.0	0.06	3,399.62
1/31/2006	35,760.1	1490.0	0.06	3,401.52
2/22/2006	36,288.1	1512.0	0.04	3,402.03

TABLE G-9

PCE MASS REMOVED BY SOIL VAPOR EXTRACTION SYSTEM
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

Date Sampled	Cumulative Hours of Operation	Cumulative Days of Operation	Mass Extraction Rate (lbs/day)	Cumulative Mass Extracted (a) (lbs)
3/29/2006	37,128.1	1547.0	0.01	3,402.92
4/20/2006	37,703.0	1571.0	0.04	3,403.50
5/25/2006	38,543.6	1606.0	0.02	3,404.62
6/29/2006	39,260.2	1635.8	0.05	3,405.63
7/28/2006	39,954.0	1664.8	0.03	3,406.78
8/31/2006	40,099.3	1670.8	0.06	3,407.06
9/28/2006	40,602.1	1691.8	0.03	3,407.94
10/30/2006	41,216.9	1717.4	0.02	3,408.57
11/27/2006	41,986.1	1749.4	0.04	3,409.58
12/1/2006	41,986.1	1749.4	0.00	3,409.58
1/1/2007	41,986.1	1749.4	0.00	3,409.58
2/1/2007	41,986.1	1749.4	0.00	3,409.58
3/1/2007	41,986.1	1749.4	0.00	3,409.58
4/25/2007	41,998.1	1749.9	0.05	3,409.60
6/8/2007	43,030.1	1792.9	0.003	3,410.65
6/26/2007	43,460.5	1810.9	0.00	3,410.68
7/18/2007	43,988.5	1832.9	0.00	3,410.68
8/24/2007	44,540.5	1855.9	0.00	3,410.68
9/24/2007	45,308.5	1887.9	0.00	3,410.69
10/29/2007	46,148.5	1922.9	0.001	3,410.71
11/28/2007	46,868.5	1952.9	0.000	3,410.73
12/20/2007	47,396.5	1974.9	0.001	3,410.75
1/17/2008	48,068.5	2002.9	0.000	3,410.76
2/25/2008	49,004.5	2041.9	0.000	3,410.76
3/31/2008	49,844.5	2076.9	0.001	3,410.77
4/25/2008	50,444.5	2101.9	0.001	3,410.80
5/22/2008	51,092.5	2128.9	0.001	3,410.82
6/24/2008	51,884.5	2161.9	0.012	3,411.03
7/16/2008	52,412.5	2183.9	0.047	3,411.67

TABLE G-9

PCE MASS REMOVED BY SOIL VAPOR EXTRACTION SYSTEM
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

Date Sampled	Cumulative Hours of Operation	Cumulative Days of Operation	Mass Extraction Rate (lbs/day)	Cumulative Mass Extracted (a) (lbs)
8/20/2008	53,252.5	2218.9	0.032	3,413.06
9/25/2008	54,116.5	2254.9	0.019	3,413.98
11/18/2008	55,412.5	2308.9	0.038	3,415.50
12/10/2008	55,940.5	2330.9	0.012	3,416.04
12/30/2008	56,420.5	2350.9	0.001	3,416.16
1/30/2009	57,164.5	2381.9	0.000	3,416.18
2/27/2009	57,836.5	2409.9	0.050	3,416.89
3/10/2009	58,100.5	2420.9	0.057	3,417.48
4/23/2009	59,156.5	2464.9	0.088	3,420.68
5/28/2009	59,996.5	2499.9	0.067	3,423.39
6/29/2009	60,764.5	2531.9	0.122	3,426.40
7/29/2009	61,484.5	2561.9	0.122	3,430.06
8/10/2009	61,772.5	2573.9	0.184	3,431.90
9/22/2009	62,804.5	2616.9	0.097	3,437.94
10/26/2009	63,620.5	2650.9	0.071	3,440.79
11/23/2009	64,292.5	2678.9	0.063	3,442.66
12/16/2009	64,844.5	2701.9	0.051	3,443.97
1/27/2010	65,852.5	2743.9	0.077	3,446.66
2/25/2010	66,548.5	2772.9	0.060	3,448.65
3/11/2010	66,884.5	2786.9	0.001	3,449.08
4/7/2010	67,532.5	2813.9	0.012	3,449.27
5/12/2010	68,372.5	2848.9	0.012	3,449.70
6/17/2010	69,236.5	2884.9	0.024	3,450.35
7/15/2010	69,908.5	2912.9	0.076	3,451.76
8/12/2010	70,580.5	2940.9	0.059	3,453.65
9/9/2010	71,252.5	2968.9	0.063	3,455.36
10/19/2010	72,212.5	3008.9	0.024	3,457.11
11/18/2010	72,932.5	3038.9	0.004	3,457.54
12/9/2010	73,436.5	3059.9	0.007	3,457.66

TABLE G-9

PCE MASS REMOVED BY SOIL VAPOR EXTRACTION SYSTEM
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

Date Sampled	Cumulative Hours of Operation	Cumulative Days of Operation	Mass Extraction Rate (lbs/day)	Cumulative Mass Extracted (a) (lbs)
1/13/2011	74,276.5	3094.9	0.008	3,457.93
2/10/2011	74,948.5	3122.9	0.010	3,458.17
3/9/2011	75,596.5	3149.9	0.016	3,458.51
TOTAL	**75,596.5**	**3,149.9**		**3,458.51**

Notes:

(a) Cumulative mass extracted was determined by multiplying the average mass extraction rate times the days of operation.

lbs - pounds

lbs/day - pounds per day