

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

**MODESTO GROUNDWATER SUPERFUND SITE
MODESTO, CALIFORNIA**

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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
CLP	Contract Laboratory Program
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	tetrachloroethene
pCi/L	picoCuries per liter
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

LIST OF ACRONYMS AND ABBREVIATIONS (Continued)

UCL	upper confidence limit
URS	URS Group, Inc.
VOC	volatile organic compound
µg/L	micrograms per liter
2Q11	second quarter 2011

1.0 INTRODUCTION

This is the second quarter 2011 (2Q11) Quarterly Operations and Monitoring (O&M) Report for the Modesto Groundwater Superfund Site. The reporting period is from April 1 through June 30, 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 ($\mu\text{g/L}$). 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 (pCi/L).

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.

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, 2008a] 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 parts per billion by volume [ppbv]) were present under the concrete slab foundation of the Halford's Cleaners building (MWH, 2010a). 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, and the existing SVE well (SVE-01) was taken off-line and has been used as a monitoring point since.

The groundwater monitoring well network also was expanded in 2008. Sixteen additional groundwater monitoring wells were installed to evaluate the lateral and vertical extents of the groundwater plume. Section 2.3 of the *Quarterly Operations and Monitoring Report, Fourth Quarter 2008* (MWH, 2009) describes a dense non-aqueous-phase liquid investigation (none was reported).

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, 2010b).

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, 2010b).

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 provides process and instrumentation diagrams (P&IDs) for the GWT and SVE systems.

Appendix B provides laboratory analytical data tables.

Appendix C provides a laboratory data validation report.

Appendix D provides system uptime logs.

Appendix E provides 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 surrounding the SVE

wells (including three offline SVE wells) are sampled quarterly. During 1Q11 and 2Q11, the two soil vapor monitoring wells (DP-04A and DP-04B) were sampled instead of DP-05A and DP-05B to determine soil gas concentrations in the vadose zone near MW-4A, at which the highest concentrations of PCE in groundwater monitoring wells are reported. Additional detail on these results will be provided in the *Modesto Groundwater Superfund Site Interim Extraction Well Installation Work Plan* (URS, pending). 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 2Q11, 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.

3.1 Site Sampling and Monitoring

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 Contract Laboratory Program (CLP) Method SOM01.2 and American Society for Testing and Materials (ASTM) Method D5174. 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. Sampling of groundwater and vapor wells during 2Q11 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 CLP Method SOM01.2 and total uranium by ASTM Method D5174.

The SAP describes the sampling procedure. 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.

URS measured depths to groundwater on June 6, 2011, and collected groundwater samples from June 7 through 10, 2011.

3.1.2 Soil Vapor Sampling and Monitoring

Soil vapor samples were collected from SVE and vapor monitoring points on June 6 through 9, 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.

3.2.1 Groundwater System Sampling and Monitoring

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 (Method 524.2), total dissolved solids (TDS) monthly (Method 2540C), total suspended solids (TSS) monthly (Method 2540D), biochemical oxygen demand (BOD) monthly (Method 5210B), and total uranium quarterly (Method D5174). Figures A-1 and A-2 in Appendix A illustrate the locations of the sampling ports for the GWT system.

A compliance sample of the system effluent collected April 14, 2011, had a total uranium concentration of 25.4 pCi/L, exceeding the permit GW 98-3 discharge limit of 20.0 pCi/L. As required by permit Attachment A, Section B, Part 4, increased frequency monitoring for total uranium began on May 10, 2011. Effluent samples were collected for analysis of total uranium on May 10, 19, and 26, and on June 2, 2011. Results of those weekly samples show concentrations of 11.7, 10.3, 11.6, and 13.0 pCi/L, respectively, all less than the permit GW 98-3 discharge limit. After collection of four weekly samples, samples will be collected monthly for two months. If no results of the increased frequency monitoring requirement exceed the 20 pCi/L discharge limit, quarterly sampling for total uranium will resume.

In addition to collecting samples at an increased frequency, URS sampled the influent and effluent of all treatment process components on May 26, 2011, to evaluate whether a component of the treatment system upstream from the ion exchange system is causing the increased uranium concentrations at the ion exchange system influent. Uranium concentrations measured at the ion exchange system influent were greater than all other concentrations measured during the 1Q11 and 2Q11 sampling events. The sample concentrations upstream of the ion exchange resin in those two events are similar to influent sample concentrations obtained since 1Q11 before uranium increases were observed. Further discussion is provided in *Investigation of Increasing Uranium Concentrations at the Modesto Groundwater Superfund Site Ion Exchange Treatment System* (URS, 2011a).

3.2.2 Soil Vapor System Sampling and Monitoring

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 2Q11 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 2Q11.

4.1 Site Performance

This section provides results of the groundwater and soil vapor well sampling events for 2Q11 (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 June 6, 2011, groundwater elevations ranged from 47.49 feet mean sea level (msl) (MW-03A) to 50.26 feet msl (MW-11A) in the A zone; 48.15 feet msl (MW-19B) to 49.13 feet msl (MW-9B) in the B zone; and 47.57 feet msl (MW-16C) to 48.50 feet msl (MW-04C) in the C zone. Comparing 2Q11 and 1Q11 water levels, water elevations decreased an average of about 1 foot in A and B zone wells across the site; water elevations in C zone wells decreased an average of approximately 0.4 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. Potentiometric contours indicate that groundwater in the A zone flows southeast, consistent with previous quarters (Figure 4-2). They also show a cone of depression induced by pumping of EW-1R, which was operating at an average of approximately 46 gpm during 2Q11. The average hydraulic gradient parallel to the direction of regional groundwater flow in the A zone was approximately 0.0008, or approximately 4.1 feet per mile. Groundwater in the B zone was flowing southeast (Figure 4-3), and its horizontal gradient is approximately 0.0004, or 2.3 feet per mile. Groundwater in the C zone was flowing south-southeast (Figure 4-4) with a horizontal gradient of approximately 0.0004, or 2.1 feet per mile.

The flow direction in the A zone has been consistently southeast. The B and C zone flow directions however, have been variable. The flow direction in the B zone had been east-southeast during 3Q10. It had shifted to the southeast in 4Q10 and 1Q11. The flow direction in the C zone remained south-southeast in 2Q11, which was the same as in 1Q11 and 4Q10; however, the flow direction has not consistently been that direction. 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. Until 2Q11, the direction of groundwater flow in the C zone was 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, 2010a). 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, 2010b, Appendix B).

4.1.1.1 PCE

In 2Q11, 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 PCE isoconcentration contours in the C zone on Figure 4-4 because concentrations at C Zone wells are less than MCLs. 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 PCE time series plots for each monitoring well for the period from February 1992 through 2Q11. They indicate that 2Q11 PCE data for most wells are consistent with previously established trends and are decreasing or close to asymptotic.

A Zone

A groundwater investigation was performed during May and June 2011 to identify the optimal location for an A zone extraction well near the highest PCE concentrations that had been known historically on site at MW-4A (URS, 2011b). Results of the investigation will be documented in the *Modesto Groundwater Superfund Site Interim Extraction Well Installation Work Plan* (URS, pending). Groundwater analytical results from the hydropunch groundwater samples collected during the CPT investigation are posted on Figure 4-2 and have been used along with the monitoring well data to contour PCE concentrations in the A zone.

As depicted on Figure 4-2, the portion of the PCE plume greater than 50 µg/L and less than 1,000 µg/L has a long axis that parallels the southeast direction of the groundwater gradients in the A Zone; however, the portions of the plume between 5 µg/L and 50 µg/L and greater than 1,000 µg/L do not have the long-axis orientation paralleling groundwater gradient. The shape and extent of the 5 to 50 µg/L portion of the plume is consistent with previous quarters. The portion of the plume that had Hydropunch sample concentrations greater than 1,000 µg/L has a long axis that is east-west, not parallel to the downgradient direction (Figure 4-2); this orientation suggests geologic conditions had greater control than hydraulic gradient, assuming the historical A Zone gradient was southeast. The 1,000 µg/L PCE isoconcentration contour extends approximately 600 feet cross-gradient (bounded to the west by the concentration at MW-6A and to the east by the concentration at MW-12A) and less than 200 feet downgradient; however, there are concentrations greater than 100 µg/L extending downgradient from the CPT investigation locations to MW-20A. The concentrations of PCE at MW-20A were 310 µg/L in both 2Q10 and 2Q11, though concentrations were less during the intervening quarters (Figure G-4ac).

Though the PCE concentration at MW-11A remains below the MCL, it has increased during the last three quarters from 1.2 µg/L in 3Q10 to 3.4 µg/L in 2Q11. Concentrations at this well will continue to be monitored to determine if the apparent increasing trend continues; however, because MW-11A is located upgradient of the site, it is unlikely that concentrations from the site are causing the increases at the well.

The PCE concentrations at MW-14A, 24 µg/L in 1Q11 and 23 in 2Q11, were the highest reported at the well since its installation. Although this well is cross-gradient from the site and located within the western portion of the MCL isoconcentration contour, it too will continue to be monitored.

In previous reports, concentration fluctuations at the western plume 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, 2010b). Municipal Well 17, which has remained in consistent operation, could have hydraulic influence on the plume because it has a 4-foot-long perforated interval about 25 feet lower than the screened zones of MW-13A and MW-14A; however, it is located more than 3,500 feet northwest of the monitoring wells (MWH, 2010a). 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.

EW-1R had the same PCE concentration in 2Q11 (120 µg/L) as in 1Q11.

B Zone

Figure 4-3 depicts the B zone PCE plume and potentiometric surface contours. PCE was detected above the MCL at only three of the B Zone wells (MW-10B, MW-17B, and MW-20B) in both 1Q11 and 2Q11. The PCE plume in the B zone is undefined in the western, southwestern, and southern 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 and 58 in 2Q11 (see time series plot Figure G-4[x]). The migration of PCE to MW-17B is likely to be the result of pumping at Municipal Well 7, located 1,000 feet southwest; the fluctuating concentrations at MW-17B may be due to fluctuations in horizontal gradients caused by the intermittent pumping at Municipal Well 7. The City provided historical flow and water quality data for this municipal supply well through August 2009 (MWH, 2010b). 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. The well is in continuous use by the City and has been sampled regularly since 1986 with an annual or biannual frequency. 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, 2010a).

C Zone

A single groundwater elevation contours for the C zone and PCE concentration data are shown on Figure 4-4. There was only one detection of PCE in 2Q11 among the samples from the five wells screened in the C zone. A concentration of 0.6 µg/L, which is only slightly above the reporting limit and less than the MCL, was reported at MW-16C in 2Q11. Consequently, no PCE plume is shown on Figure 4-4. The last reported and only detection from the C zone wells that ever exceeded the MCL was 8.7 µg/L at MW-4C in 4Q08.

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, 1Q11, and 2Q11 sampling events. In 2Q11, benzene was reported in samples from eight wells in concentrations ranging from 0.68 to 70 µg/L. Concentrations at seven of the wells exceeded the California MCL.

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 June 6, 2011. Analytical results listed in Appendix G, Tables G-5(a) and G-5(b) are summarized below and posted on Figure 4-5:

- SVE-02 (screened interval 7 to 12 bgs): PCE concentration increased from 210 ppbv in 1Q11 to 320 ppbv in 2Q11.
- SVE-03 (screened interval 13 to 23 bgs): PCE concentration decreased slightly from 91 ppbv in 1Q11 to 82 ppbv in 2Q11.
- SVE-04 (screened interval 28 to 38 bgs): PCE concentration decreased slightly from 26 ppbv in 1Q11 to 23 in 2Q11.

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.

During the 22 February 2011 meeting with the U.S. Army Corps of Engineers, EPA, and URS, it was agreed to evaluate soil gas in the vadose zone near MW-4A, at which the highest concentrations of PCE in groundwater have been reported. Therefore, soil vapor samples were collected from DP-04 (located less than 100 feet north of MW-4A) shallow and deep monitoring zones during 1Q11 and 2Q11 instead of from DP-05 shallow and deep soil gas monitoring wells because results from those wells were less than the detection limit in the samples collected in 3Q10 and 4Q10. Results at DP-04 were 29 ppbv in 1Q11 and 41 ppbv in 2Q11 at DP-04A (screened from 23 to 24 feet bgs) and 3.7 ppbv in 1Q11 and 43 ppbv in 2Q11 at DP-04B (screened from 38.5 to 39.5 feet bgs) (Figure 4-5). Additional detail on the data from DP-04A and DP-04B are provided with soil gas data evaluation from the *Modesto Groundwater Superfund Site Interim Extraction Well Installation Work Plan* (URS, pending).

Comparison of 2Q11 to 1Q11 sample results generally shows a slight increase in PCE concentrations at all soil vapor monitoring wells. However, 2Q11 concentrations at the three operating extraction wells were similar to 1Q11 concentrations (Figure 4-5).

4.1.3 Analysis of Vertical Groundwater Gradients

Vertical gradients were calculated using 2Q11 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 an upward gradient at four well pairs between the A and B zones. The remaining well pairs (three between the A and B zones and five between the B and C zones) indicated a potential for a downward gradient. The directions of vertical gradients for some of these well pairs are shown by arrows 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 2Q11 data and particle tracks developed with the site's groundwater model [MWH, 2010b]) 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 2Q11 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; each stagnation point represents a divide at which groundwater either side of the divide 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, 2010b, 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 2Q11 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 150 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, 2010a). Vertical gradients calculated using 2Q11 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. These upward gradients corroborate the model’s prediction of upward vertical groundwater captured at EW-1R.

4.1.5 Uranium Evaluation for Use in Feasibility Study

In 2Q11, groundwater samples from all site monitoring wells were analyzed for uranium by Method ASTM D5174. The objective was to determine the range of background uranium concentrations in site monitoring wells. This information will be used in the site feasibility study when evaluating discharge options for treated groundwater.

Currently, treated groundwater is discharged to the sanitary sewer. However, the sewer capacity is only 50 gpm, which is adequate for the current groundwater treatment system but will likely not be sufficient when additional extraction wells are added and/or the treatment system is expanded. In addition, because of the sewer discharge requirements, naturally occurring uranium in groundwater is currently being treated by an ion exchange system, which would also have to be expanded if the plant capacity were increased. Therefore, there is an incentive to evaluate other discharge options so as to allow for increasing the treatment plant capacity, while potentially reducing costs.

One such option is the use of injection wells to reintroduce the treated groundwater back into the aquifer. The California anti-degradation policy for groundwater resources mandates that such reintroduction of groundwater not degrade background water quality. Because uranium occurs naturally in the aquifer, it may be possible to inject groundwater that has been treated for PCE and TCE back into the aquifer from which it was extracted, without treating for naturally occurring uranium. This would result in potentially significant cost savings when compared to sewer discharge or surface water discharge options. The existing extraction well (EW-01R) and the new extraction well planned for installation south of EW-01R will primarily extract water from the A zone. Therefore, it is important to establish the range of natural uranium concentrations in the A zone. However, depending on the remedy that will eventually be selected for the Site, there may be a need to install additional extraction wells in the B zone.

To address various injection scenarios, a statistical analysis of the uranium concentrations in Site monitoring wells was performed for several different groupings. The well groupings included all wells—A zone, B zone, and C zone wells. Additionally, two more groupings were added to represent those likely to be in the capture zone of EW-01R and the planned new extraction well (i.e., all A zone wells except MW-13A, MW-16A, MW-17A, MW-18A, and MW-19A; and B zone wells MW-04B, MW-09B, and MW-10B).

The results of the uranium sampling in Site monitoring wells are listed in Table 4-2. The statistical analysis results are presented in Table 4-3. The reporting limit of 1.0 PCi/L was used for uranium concentrations at two C zone wells (MW-04C and MW-10C) with “U” qualified (i.e., less than the detection limit) concentration results.

The statistical parameters evaluated were the mean, the median, the maximum, the standard deviation, the standard error, the 95th percentile, and the 95% upper confidence limit (UCL) of the uranium concentrations. The 95% UCL is arguably the most important statistical parameter because we can be 95% confident that the true mean of the uranium concentrations will be below this upper limit. Therefore, the 95% UCL can be used to represent the mean background uranium concentration. These data indicate that the A zone has the highest background uranium concentration and, therefore, could be used for injection of treated groundwater.

For comparison, 2Q11 uranium concentrations in EW-01R ranged from 50.4 PCi/L to 55.2 PCi/L, and the uranium concentration in the influent to the GAC unit was 53.2 PCi/L (Table B-3 in Appendix B). The only monitoring wells with uranium concentrations greater than 50 PCi/L were MW-03A, MW-17A, and MW-18A. Of these wells, only MW-03A is thought to be in the EW-01R capture zone and is the closest monitoring well to EW-01R. Therefore, it appears that the uranium concentrations in EW-01R, and subsequently processed by the treatment system, are strongly influenced by concentrations in the vicinity of EW-01R and MW-03A.

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 2Q11, the GWT system operated for approximately 2,181 hours (out of 2,184 hours possible during the quarter), which represents an uptime of approximately 99.9 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 5.62 to 87 million gallons of water and removed approximately 5.9 pounds of PCE during this reporting period. To date (since August 2001), the system has treated approximately 171 million gallons of water and removed approximately 484 pounds of PCE. Figure 4-8 illustrates the cumulative PCE mass removed.

The influent PCE concentrations ranged from 120 µg/L to 140 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 4-4.

4.2.2 Soil Vapor Extraction System Results

During 2Q11, the SVE system operated for approximately 2,184 hours (out of 2,184 hours possible during the quarter), which represents an uptime of 100 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 125 scfm and removed approximately 0.39 pound of VOCs during this quarter. The total cumulative VOC mass removed through June 6, 2011, is approximately 3,459 pounds. Figure 4-9 illustrates the cumulative PCE mass removed.

The influent PCE concentrations ranged from 1.6 ppbv to 300 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 4-5.

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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 2Q11 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, 2010b). Concentrations of PCE in groundwater have migrated from the source horizontally and downward into the A, B, and C zones. A groundwater investigation was performed during May and June 2011 to identify the optimal location for an A zone extraction well near the highest PCE concentrations identified on site at MW-04A (URS, 2011b). Groundwater analytical results from the hydropunch groundwater samples collected during the May/June 2011 CPT investigation indicate that the 1,000 µg/L PCE plume is larger than depicted in previous quarterly reports, and its long axis trends cross-gradient (approximately 600 feet from east to west) from the consistent southeast gradient in the A Zone. A study to determine an optimal location for an A zone extraction well, which will include extracting these concentrations, is in progress. Results will be reported in the *Modesto Groundwater Superfund Site Interim Extraction Well Installation Work Plan* (URS, pending).

Data collected in 2Q11 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 MW-13A and MW-14A fluctuate seasonally, usually peaking annually in the first or second quarter.

Additional data collection points are 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, PCE concentrations have been increasing since then to 51 µg/L in 1Q11 and 58 µg/L in 2Q11. Based on groundwater gradients measured since MW-17B was installed in 2008 (including the 2Q11 gradient [Figure 4-3]), the well was located cross-gradient from the center of the plume at MW-20B. The concentrations at MW-17B may indicate a preferential pathway exists that allows the plume to migrate in a direction approximately 90 degrees from the apparent horizontal gradient. The southern portion of the B Zone plume is 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 evaluate influences on the B zone plume between MW-20B and MW-17B.

PCE was detected at only one well screened in the C zone in 2Q11 at 0.6 µg/L, which is less than the MCL. Concentrations have been less than the MCL since 1Q09. 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 the horizontal gradient indicated by the potentiometric surface for the B zone, the effect of municipal well operations on plume migration should be evaluated. Water level transducers have been installed in plume perimeter wells to monitor water levels between quarterly measurements. If changes in horizontal and vertical gradients are identified that are 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. Water quality data from Municipal Well 7 should be closely monitored in the future, and an evaluation should be performed to determine its impact on the increasing concentrations at MW-17B.

Uranium Sampling for Use in Feasibility Study, Once the planned new extraction well is installed and plumbed into the treatment system, the uranium concentrations in the extracted water should be compared to the statistical evaluation results and the mean background concentrations listed in Table 4-3. Together, these data provide supporting information for evaluating injection as a discharge option for treated water.

5.2 Soil Vapor Extraction – Summary Observations and Recommendations

1Q11 and 2Q11 SVE treatment system average influent sample results were lower than the average in 4Q10. Monthly samples at the treatment system had PCE concentrations of 120, 140, and 120 ppbv in April, May, and June, respectively. Although, the concentration at operating extraction well SVE-02 was higher in 2Q11 (320) than in 1Q11 (210), overall PCE mass removed was down from 0.8 pound in 1Q11 to 0.39 pound in 2Q11. The decrease in total mass removed is because most of the soil vapor flow (59.5 scfm) to the treatment system is coming from the deepest screened (28 to 38 feet bgs) extraction well, SVE-04, concentrations from which were the lowest of the operating extraction wells at 23 ppbv. The concentration at SVE-02 increased, and the concentration at SVE-03 was comparable to 1Q11 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 is 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 April 2011 through June 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 April 14 and June 10, 2011, field samples, field duplicates, and field QC samples were collected for groundwater and air samples. 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: three normal samples and one field duplicate
- TSS by SM2540D: three normal samples and one field duplicate
- BOD by SM5210B: three normal samples
- VOCs in water by EPA Method 524.2: eight normal samples, two field duplicates, four trip blanks, one field blank, and three matrix spike/matrix spike duplicates (MS/MSD)
- Trace VOCs in water CLP Method SOM01.2: 31 normal samples, three field duplicates, one field blank, and two MS/MSD
- Total uranium by ASTM D5174: 46 normal samples, five field duplicates, six MS/duplicates, and one field blank
- VOCs in air by EPA Method TO15: 24 normal samples and three field duplicates

Analytical chemistry services for groundwater and air samples are provided by the EPA Region 9 laboratory in Richmond, California, except for the 2Q11 groundwater samples. These samples were analyzed by the CLP laboratory Liberty Analytical Corporation in Cary, North Carolina. 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, EPA Region 9 laboratory standard operating procedures, and EPA CLP Statement of Work as well as the National Functional Guidelines for Superfund Organic Methods Data Review (2008). 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:

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

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-03A (identified as MW-402-2Q11) and at the groundwater treatment system (identified as MW-401-2Q11). 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 (94.6 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

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TABLES

Table 4-1. Vertical Gradients, Second Quarter 2011

Well No.	Monitoring Zone	Groundwater Elevation (feet msl)	Vertical Gradient
MW-4A	A	48.66	0.0041
MW-4B	B	48.93	
MW-8A	A	48.78	0.0047
MW-9B	B	49.13	
MW-10A	A	48.71	0.0016
MW-10B	B	48.84	
MW-16A	A	48.31	-0.0004
MW-16B	B	48.29	
MW-17A	A	48.49	0.0006
MW-17B	B	48.52	
MW-19A	A	48.59	-0.0095
MW-19B	B	48.15	
MW-20A	A	48.42	-0.0014
MW-20B	B	48.31	
MW-4B	B	48.93	-0.0052
MW-4C	C	48.50	
MW-10B	B	48.84	-0.0081
MW-10C	C	48.30	
MW-16B	B	48.29	-0.0074
MW-16C	C	47.57	
MW-17B	B	48.52	-0.0066
MW-17C	C	47.91	
MW-20B	B	48.31	-0.0023
MW-20C	C	48.14	

**Table 4-2. Total Uranium Results by ASTM Method D5174
Second Quarter 2011, Modesto Groundwater Superfund Site**

Location	Field Sample Identification	Date Sampled	Analyte	Result (pCi/L)	Reporting Limit
MW-01A	MW-1A-2Q11	6/7/2011	Total Uranium	39.4	1.00
MW-02A	MW-2A-2Q11	6/7/2011	Total Uranium	33	1.00
MW-03A	MW-3A-2Q11	6/9/2011	Total Uranium	51	1.00
MW-04A	MW-4A-2Q11	6/8/2011	Total Uranium	45	1.00
MW-04B	MW-4B-2Q11	6/7/2011	Total Uranium	1.67	1.00
MW-04C	MW-4C-2Q11	6/7/2011	Total Uranium	<DL	1.00
MW-05A	MW-5A-2Q11	6/8/2011	Total Uranium	36.6	1.00
MW-06A	MW-6A-2Q11	6/8/2011	Total Uranium	19.6	1.00
MW-07A	MW-7A-2Q11	6/7/2011	Total Uranium	43.3	1.00
MW-08A	MW-8A-2Q11	6/7/2011	Total Uranium	39.9	1.00
MW-09B	MW-9B-2Q11	6/7/2011	Total Uranium	1.61	1.00
MW-10A	MW-10A-2Q11	6/8/2011	Total Uranium	30.8	1.00
MW-10B	MW-10B-2Q11	6/8/2011	Total Uranium	6.27	1.00
MW-10C	MW-10C-2Q11	6/8/2011	Total Uranium	<DL	1.00
MW-11A	MW-11A-2Q11	6/7/2011	Total Uranium	47.5	1.00
MW-12A	MW-12A-2Q11	6/7/2011	Total Uranium	19.7	1.00
MW-13A	MW-13A-2Q11	6/7/2011	Total Uranium	44.6	1.00
MW-14A	MW-14A-2Q11	6/8/2011	Total Uranium	43.9	1.00
MW-15A	MW-15A-2Q11	6/6/2011	Total Uranium	35.7	1.00
MW-16A	MW-16A-2Q11	6/8/2011	Total Uranium	34.8	1.00
MW-16B	MW-16B-2Q11	6/8/2011	Total Uranium	35.4	1.00
MW-16C	MW-16C-2Q11	6/8/2011	Total Uranium	7.68	1.00
MW-17A	MW-17A-2Q11	6/9/2011	Total Uranium	55.5	1.00
MW-17B	MW-17B-2Q11	6/9/2011	Total Uranium	33.8	1.00
MW-17C	MW-17C-2Q11	6/9/2011	Total Uranium	0.882	1.00
MW-18A	MW-18A-2Q11	6/7/2011	Total Uranium	54.7	1.00
MW-19A	MW-19A-2Q11	6/7/2011	Total Uranium	46.9	1.00
MW-19B1	MW-19B-2Q11	6/7/2011	Total Uranium	17.3	1.00
MW-20A	MW-20A-2Q11	6/10/2011	Total Uranium	43.5	1.00
MW-20B	MW-20B-2Q11	6/9/2011	Total Uranium	9.67	1.00
MW-20C	MW-20C-2Q11	6/9/2011	Total Uranium	1.49	1.00

AVERAGE

30.38524

Table 4-3. Statistical Analysis of Uranium Concentrations (PCi/L)

Statistical Parameter	All Wells	A Zone Wells	B Zone Wells	C Zone Wells	A Zone Wells in Capture Zone	A and B Zone Wells in Capture Zone
Mean	28.5	40.3	15.1	2.4	36.8	30.1
Median	34.3	41.6	8.0	1.2	36.6	34.4
Maximum	55.5	55.5	35.4	7.7	51.0	51.0
Standard Deviation	18.6	10.0	14.4	3.0	9.9	16.5
Standard Error	3.3	2.3	5.4	1.3	2.9	4.3
95% Percentile	52.9	54.8	34.9	6.4	49.1	48.6
95% UCL	35.0	44.8	25.7	5.0	42.4	38.4
Mean Background Concentration	35.0	44.8	25.7	5.0	42.4	38.4

Table 4-4. GWT System Sample Results: April - June 2011

Sample Port	Location	Sample Date	Sample Code	pH	PCE (µg/L)
SP-01	Extraction Well 1R	4/14/2011		7.25	120
		5/10/2011		7.23	140
		6/2/2011		7.18	120
SP-03	Carbon Influent	4/14/2011		8.21	< 0.5
SP-04	Carbon Mid Bed	4/14/2011		8.17	0.5 J
SP-05	Post Carbon Pre-Ion Exchange	4/14/2011		8.13	0.5 J
SP-07	GWT Effluent	4/14/2011		7.83	0.3 J
		5/10/2011		8.11	0.3 J
		6/2/2011		8.21	0.3 J
		6/2/2011	FD	8.21	0.4 J

FD = field duplicate

GWT = groundwater treatment system

J = estimated value

PCE = tetrachloroethene

µg/L = micrograms per liter

Table 4-5. SVE Sytem Sample Results: April - June 2011

Sample Port	Location	Sample Date	Sample Code	PCE (ppbv)
SP-11	SVE Pre-GAC	4/14/2011		2.7
		5/10/2011		1.6 J
		6/9/2011		80
SP-12	SVE Stack	4/14/2011		5.6
		5/10/2011		<2.3
		6/9/2011		3.0

GAC = granular activated carbon

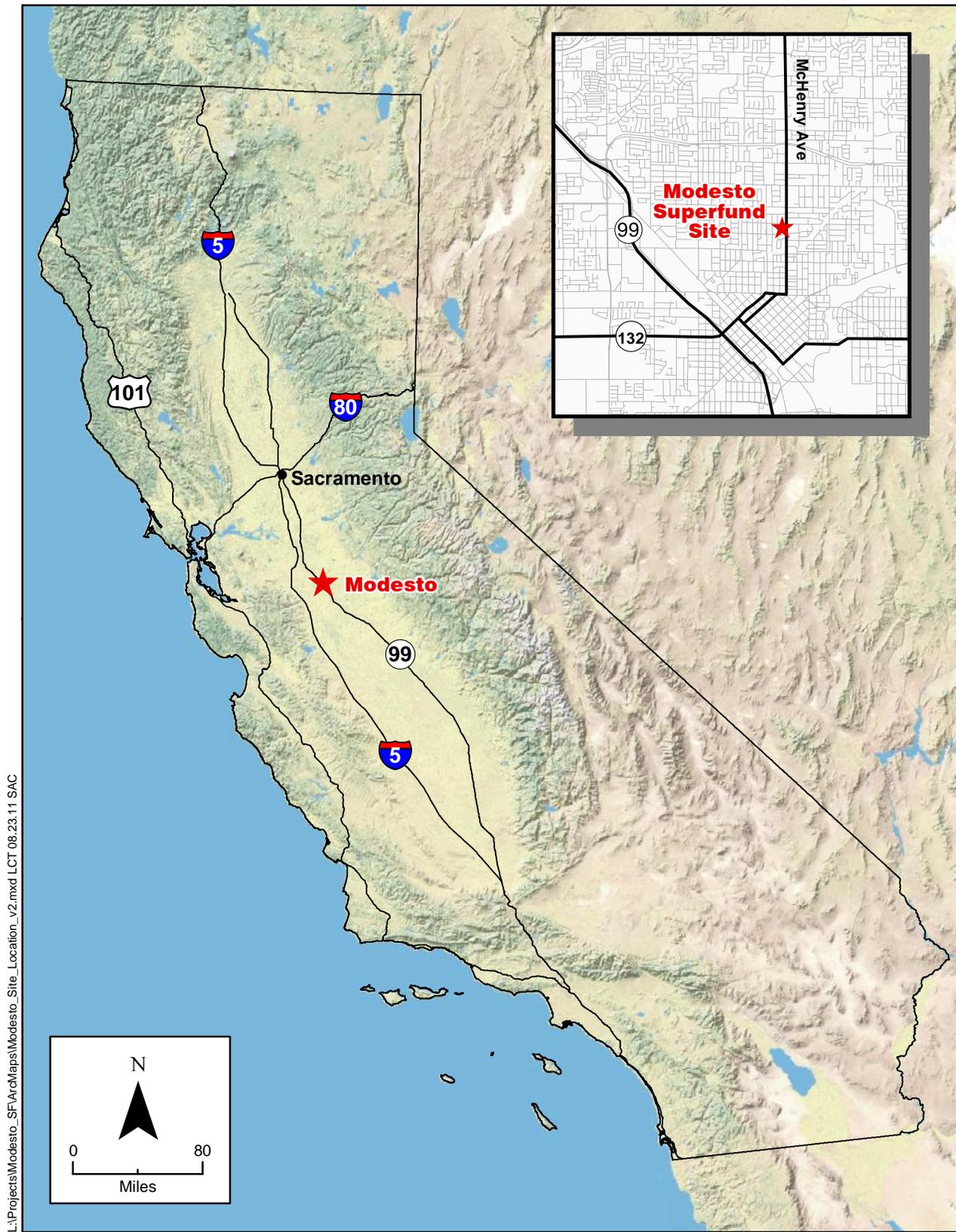
J = estimated value

PCE = tetrachloroethene

ppbv = parts per billion by volume

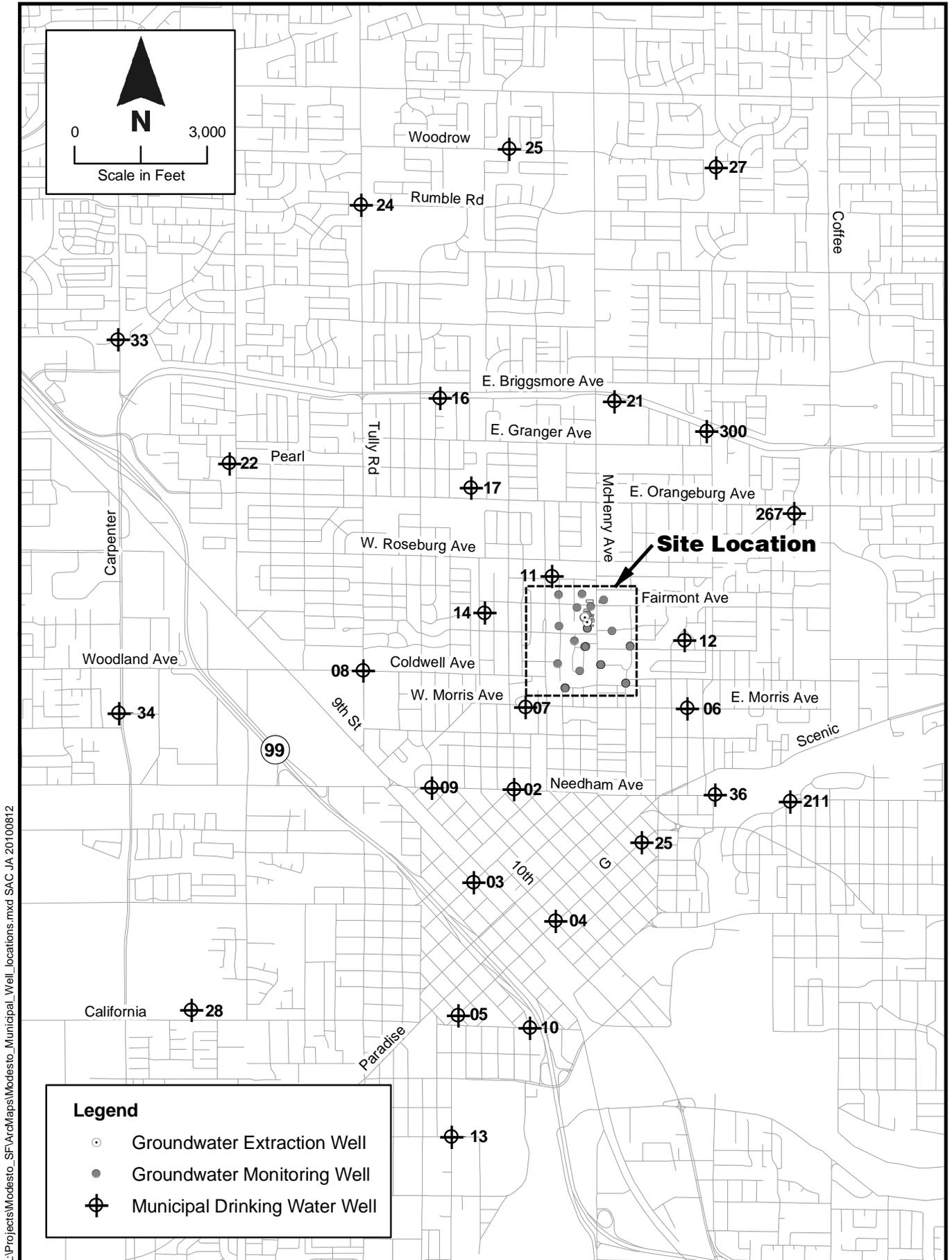
SVE = soil vapor extraction

FIGURES



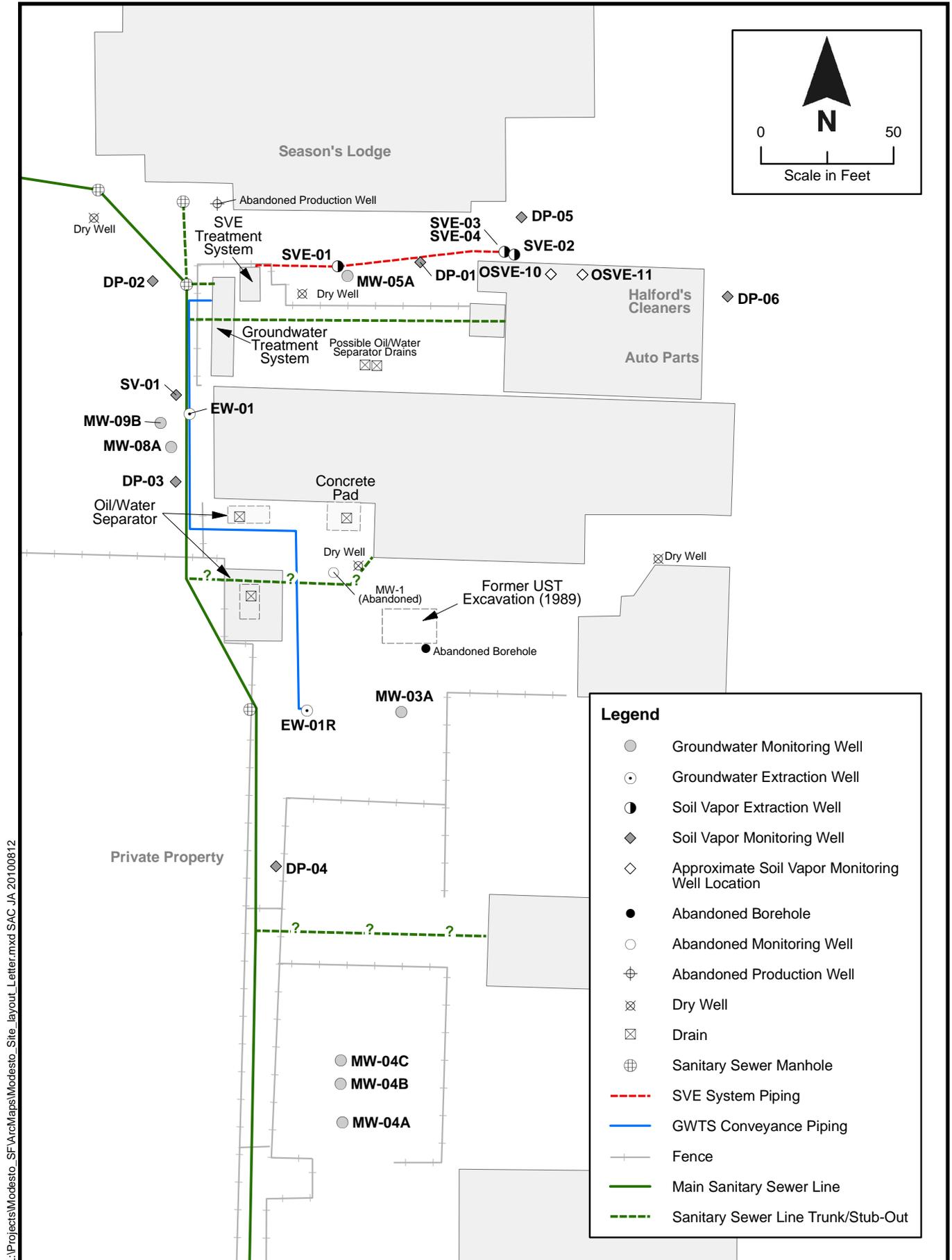
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Figure 1-1. Site Location, Modesto Groundwater Superfund Site, Modesto, California



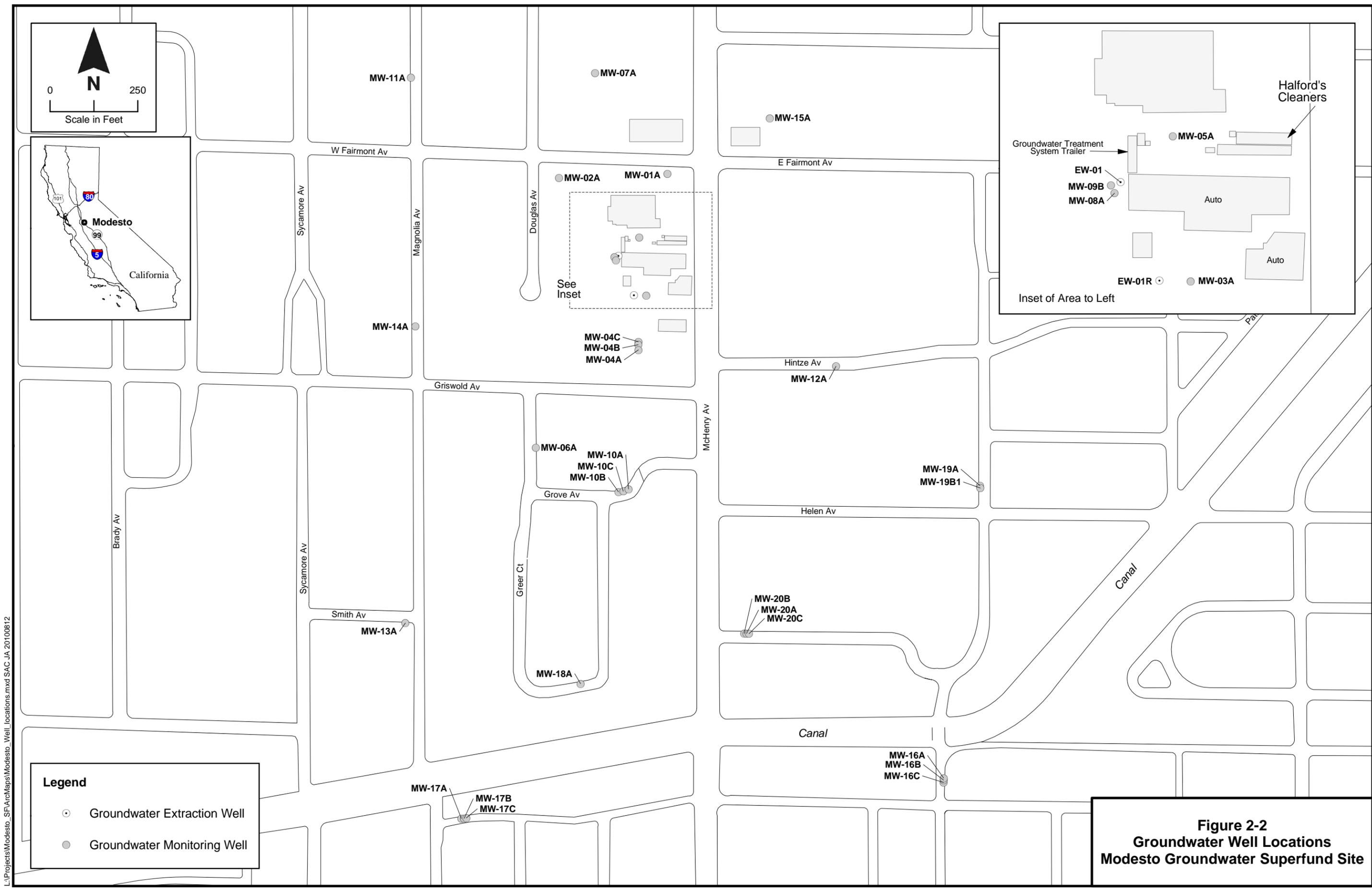
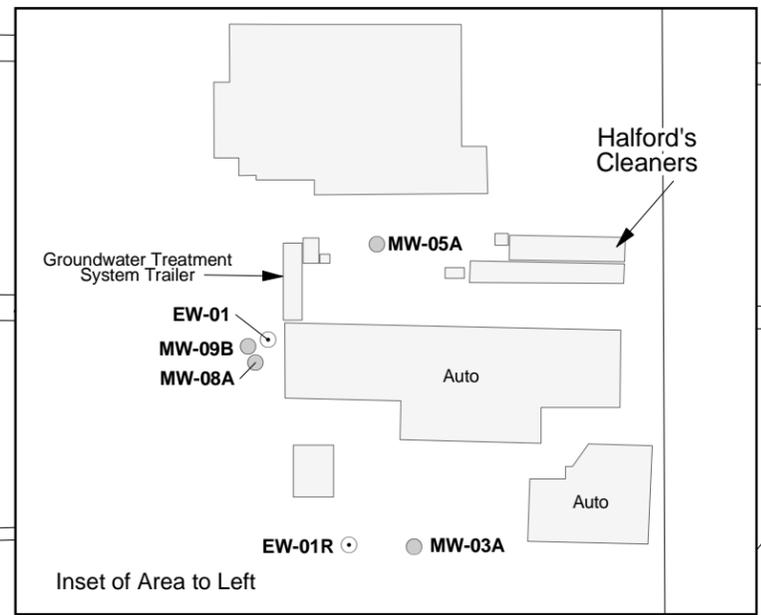
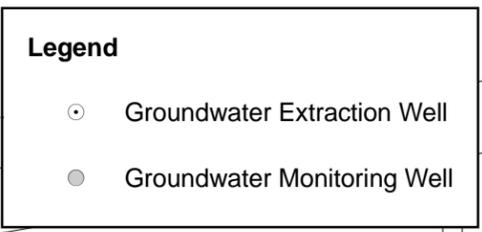
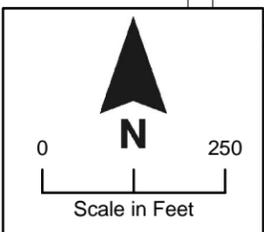
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Figure 1-2. Municipal Well Locations, Modesto Groundwater Superfund Site



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**Figure 2-1. Site Layout
Modesto Groundwater Superfund Site**



**Figure 2-2
Groundwater Well Locations
Modesto Groundwater Superfund Site**

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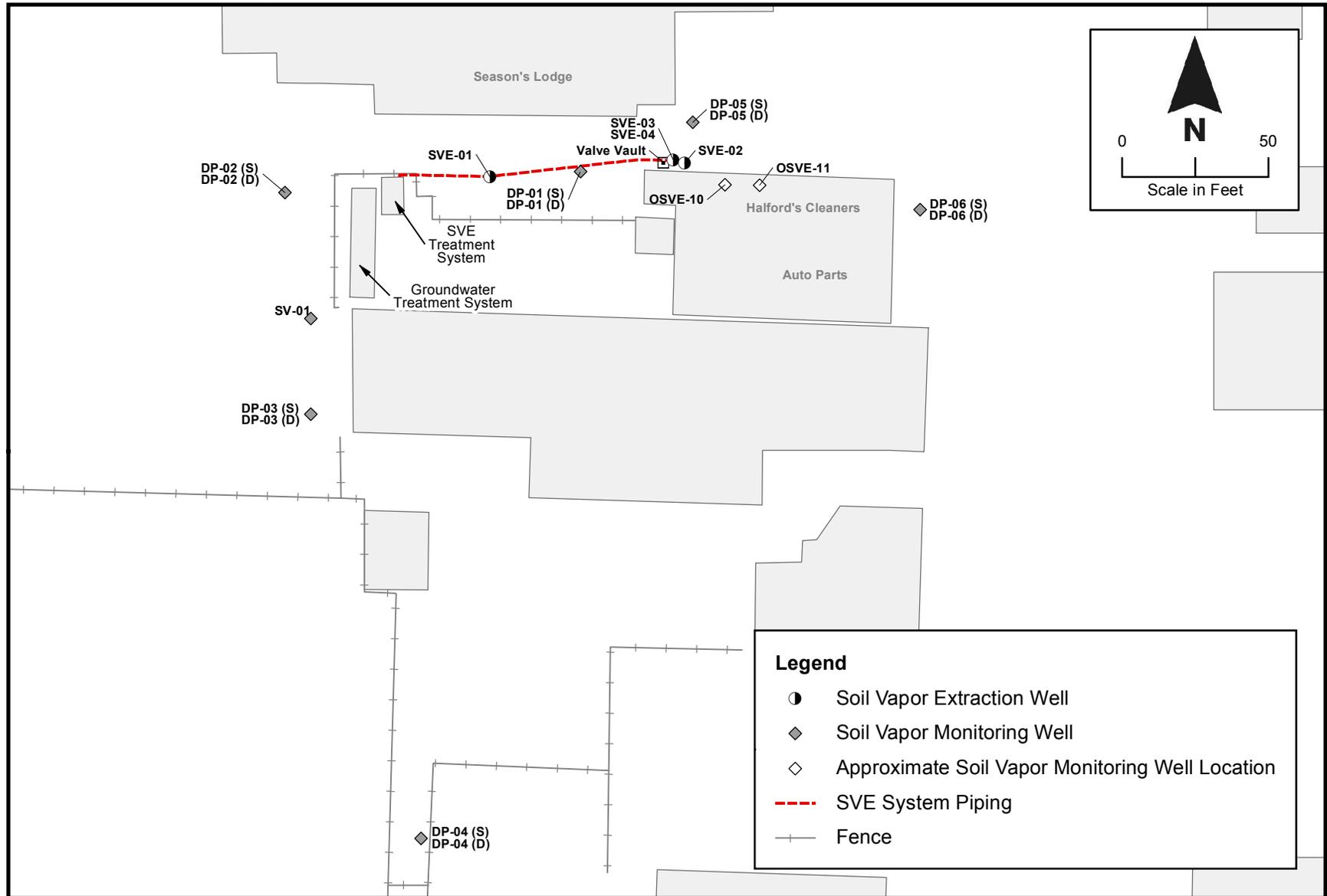
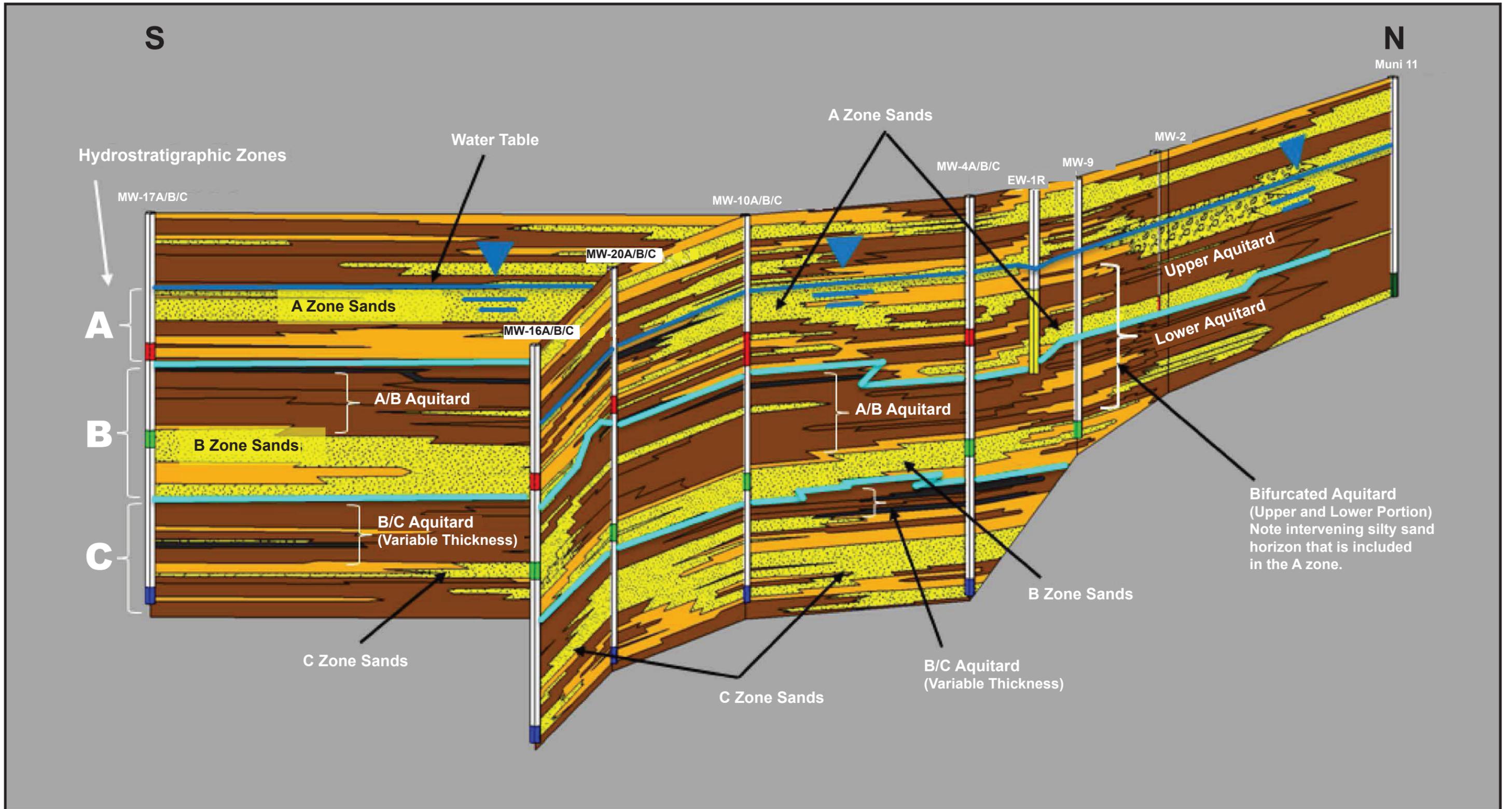


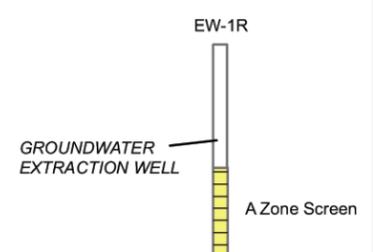
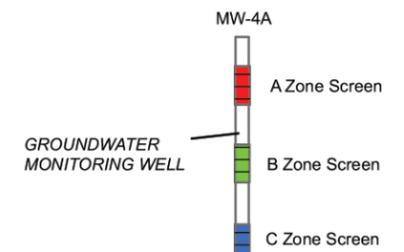
Figure 2-3. Soil Vapor Well Locations, Halford's Cleaners Area, Modesto Groundwater Superfund Site



LEGEND:

- SAND
- SILTY SAND
- SILT
- CLAY

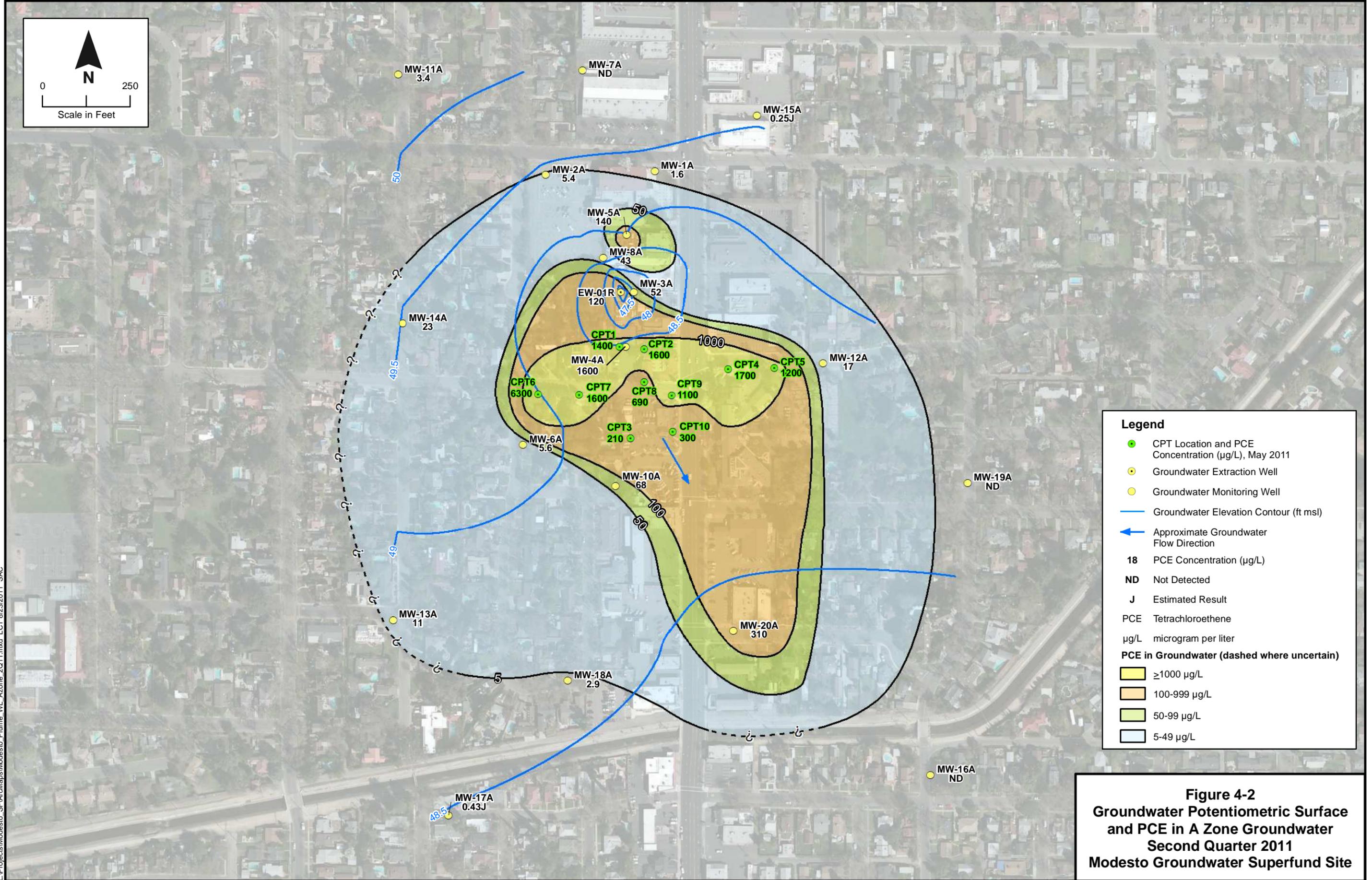
WATER TABLE SURFACE (A Zone)



Adapted from:
MWH source file

Figure 4-1
Stratigraphic Conceptual Model
Modesto Groundwater Superfund Site

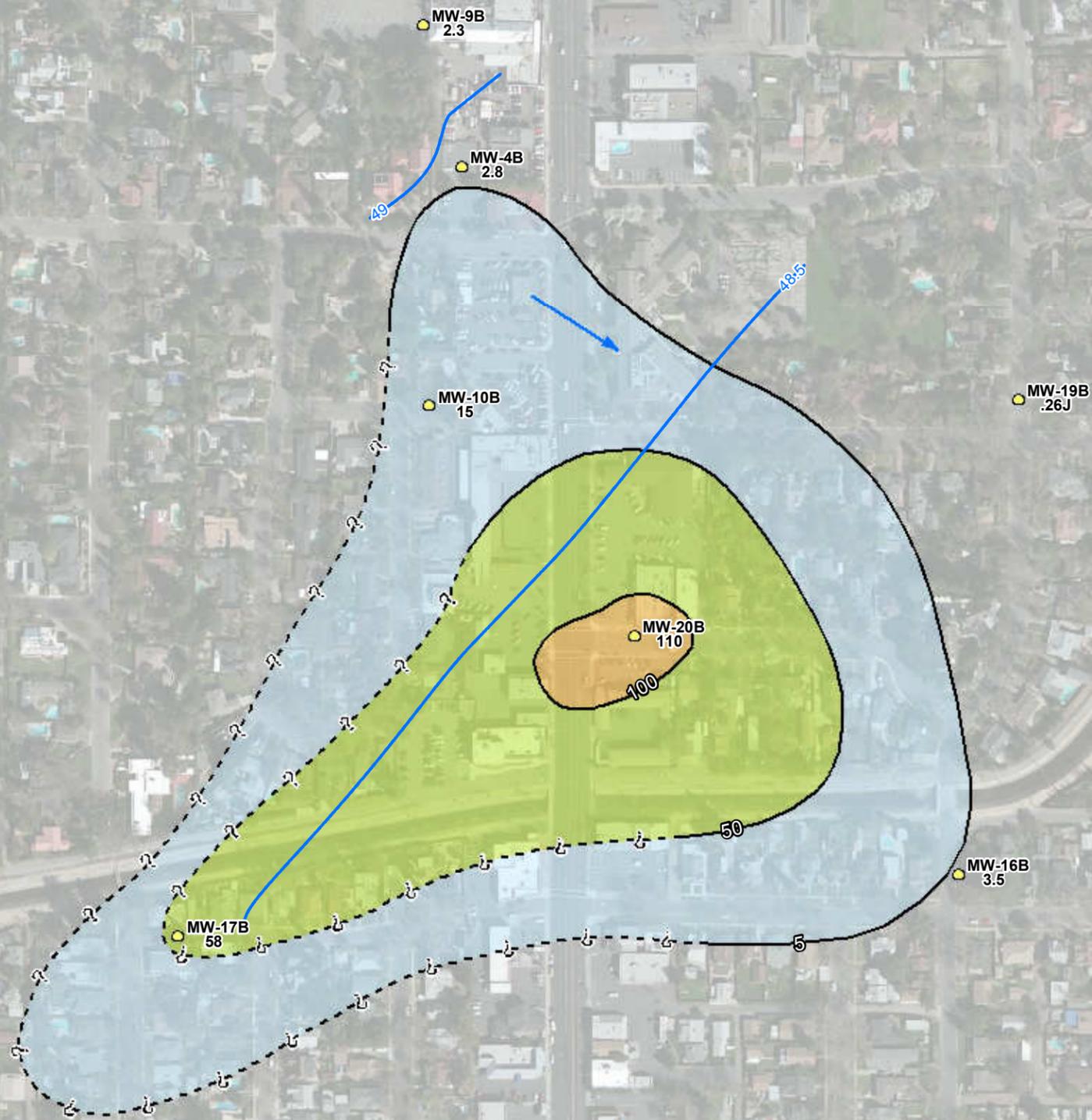
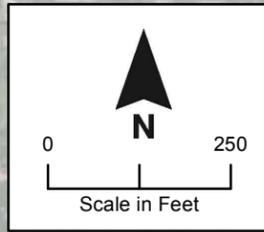
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Legend

- CPT Location and PCE Concentration (µg/L), May 2011
- Groundwater Extraction Well
- Groundwater Monitoring Well
- Groundwater Elevation Contour (ft msl)
- ← Approximate Groundwater Flow Direction
- 18 PCE Concentration (µg/L)
- ND Not Detected
- J Estimated Result
- PCE Tetrachloroethene
- µg/L microgram per liter
- PCE in Groundwater (dashed where uncertain)**
- ≥1000 µg/L
- 100-999 µg/L
- 50-99 µg/L
- 5-49 µg/L

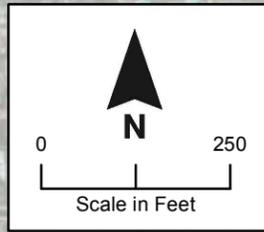
Figure 4-2
Groundwater Potentiometric Surface
and PCE in A Zone Groundwater
Second Quarter 2011
Modesto Groundwater Superfund Site



Legend

- Groundwater Monitoring Well
- Groundwater Elevation Contour (ft msl)
- Approximate Groundwater Flow Direction
- 140** PCE Concentration (µg/L)
- J** Estimated Result
- PCE Tetrachloroethene
- µg/L microgram per liter
- PCE in Groundwater (dashed where uncertain)**
- 100-999 µg/L
- 50-99 µg/L
- 5-49 µg/L

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

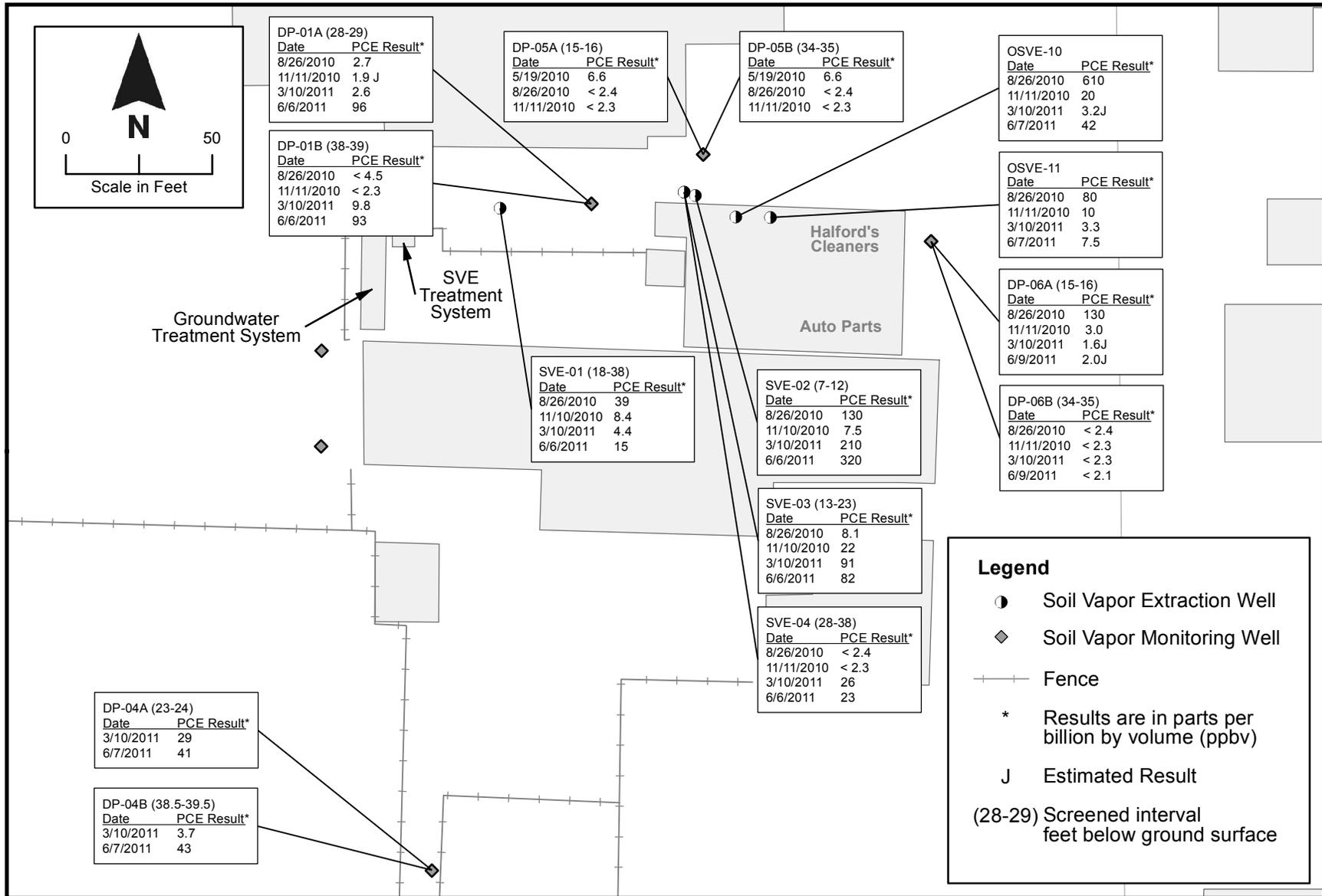


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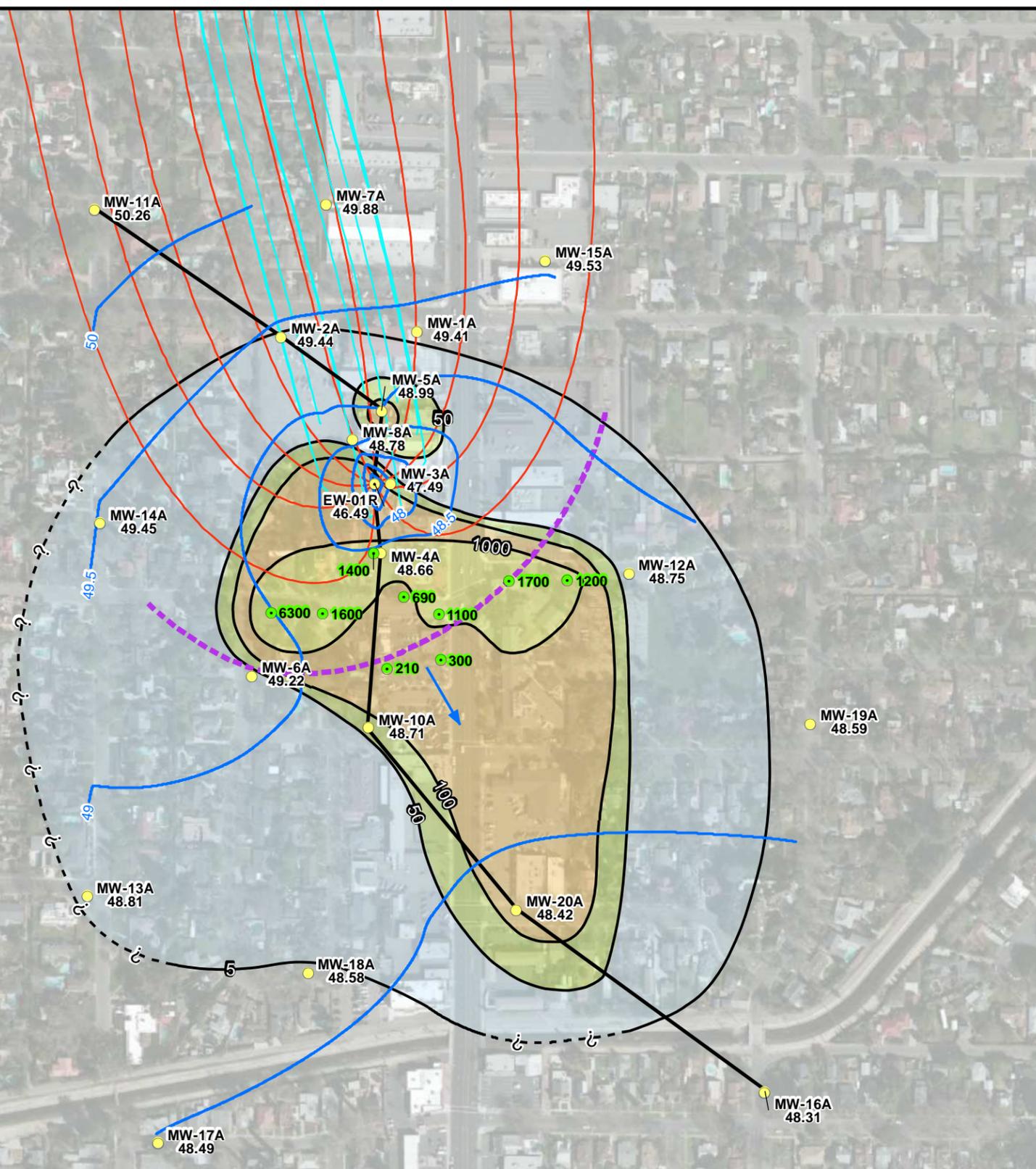
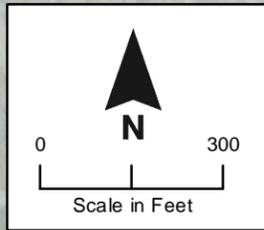
- Groundwater Monitoring Well
- Groundwater Elevation Contour (ft msl)
- ← Approximate Groundwater Flow Direction
- 0.6 PCE Concentration (µg/L)
- ND Tetrachloroethene Not Detected

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

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**Figure 4-5. Soil Vapor Analytical Results,
Third Quarter 2010 through Second Quarter 2011
Modesto Groundwater Superfund Site**



Legend

- CPT Location and PCE Concentration (µg/L), May 2011
- Groundwater Extraction Well
- Groundwater Monitoring Well
- Cross Section Location
- Empirical Capture Zone
- Groundwater Elevation Contour (ft msl)
- ← Approximate Groundwater Flow Direction
- 46.2 Groundwater Elevation (ft msl)
- ft msl feet mean sea level
- µg/L microgram per liter

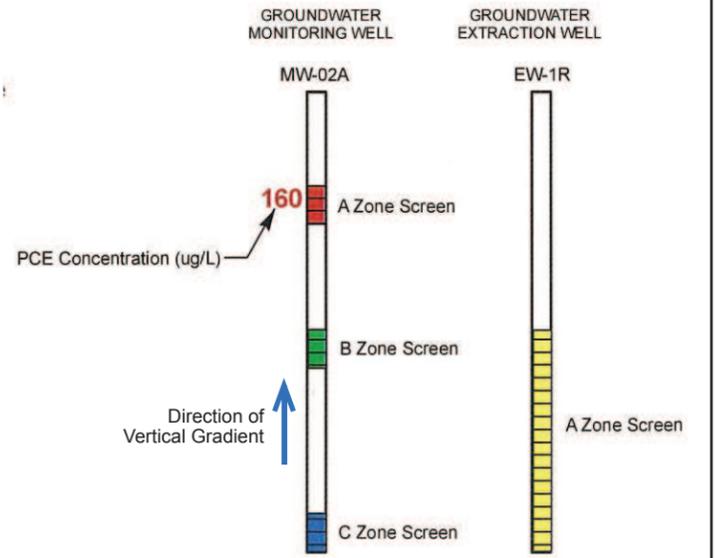
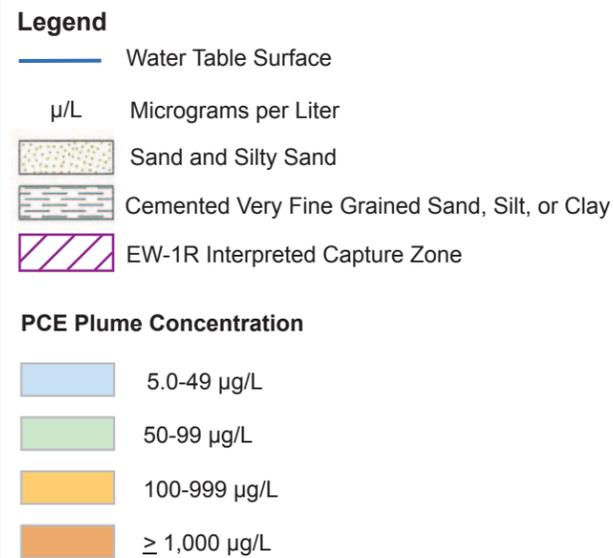
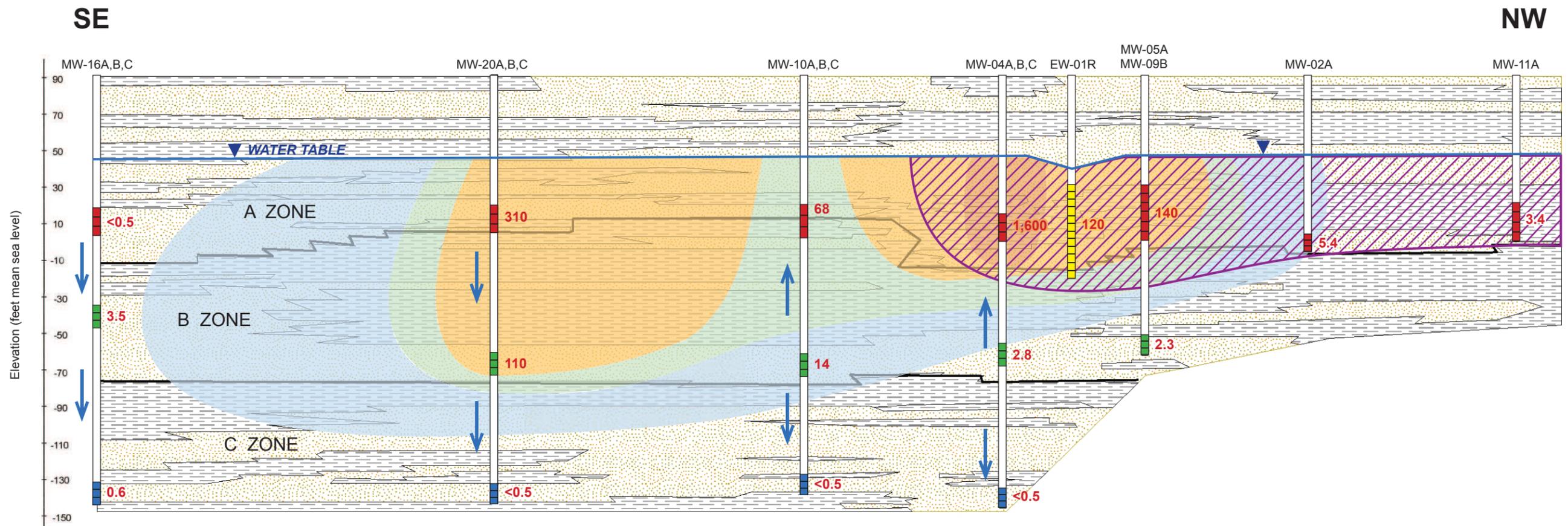
Particle Pathlines
 Source: Groundwater Delineation Optimization Methods (MWH, 2010)

- A Zone Sands Pathline
- A/B Aquitard Pathline

PCE in Groundwater (dashed where uncertain)

- ≥1000 µg/L
- 100-999 µg/L
- 50-99 µg/L
- 5-49 µg/L

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



Adapted from:
MWH source file

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

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

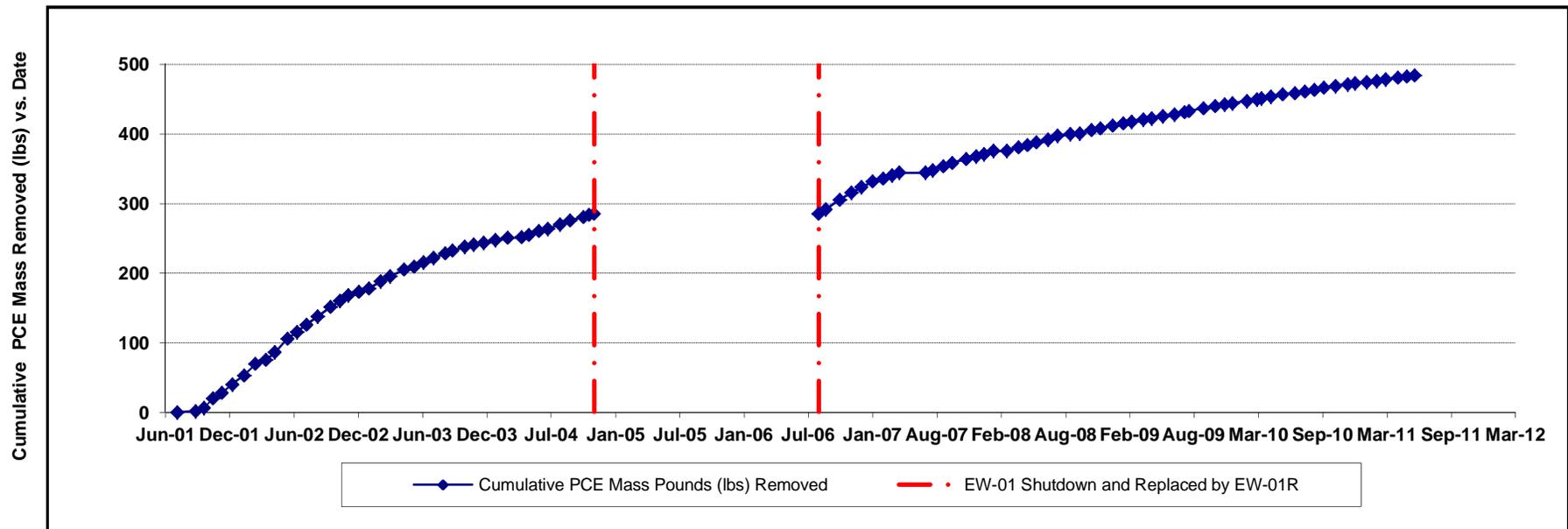
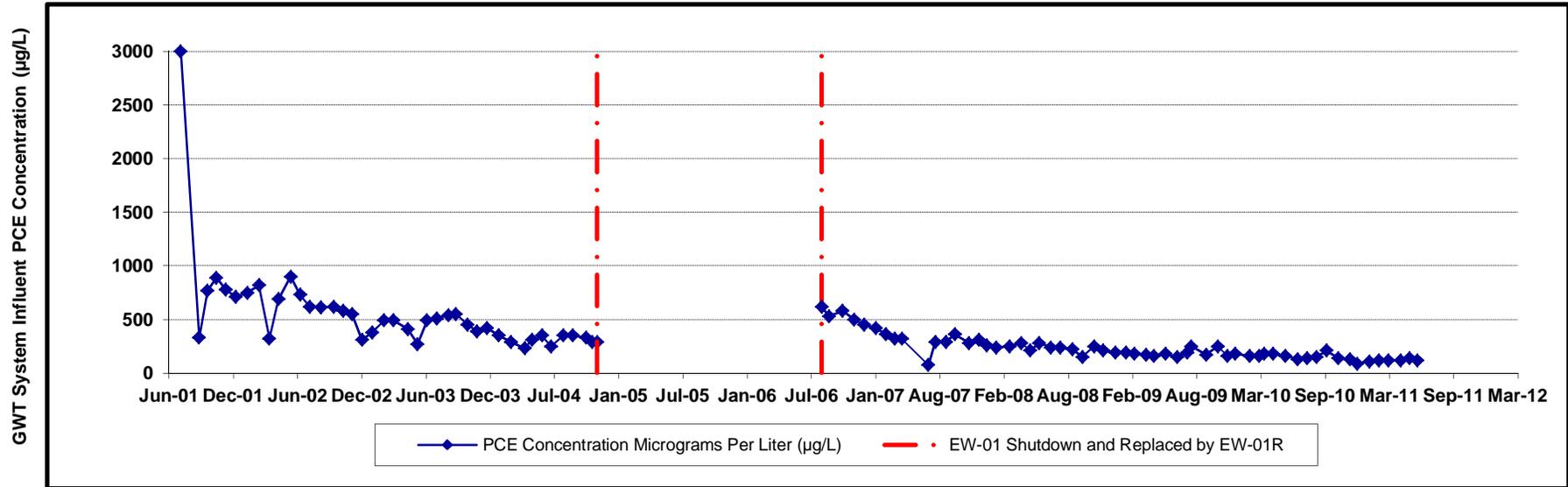
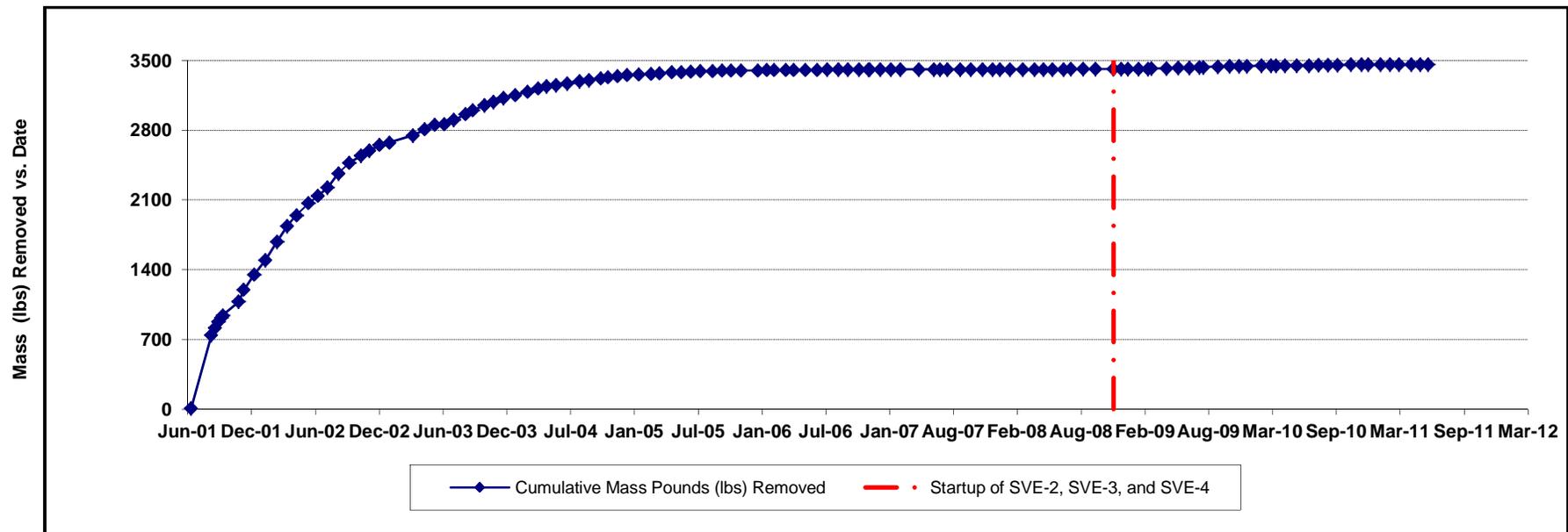
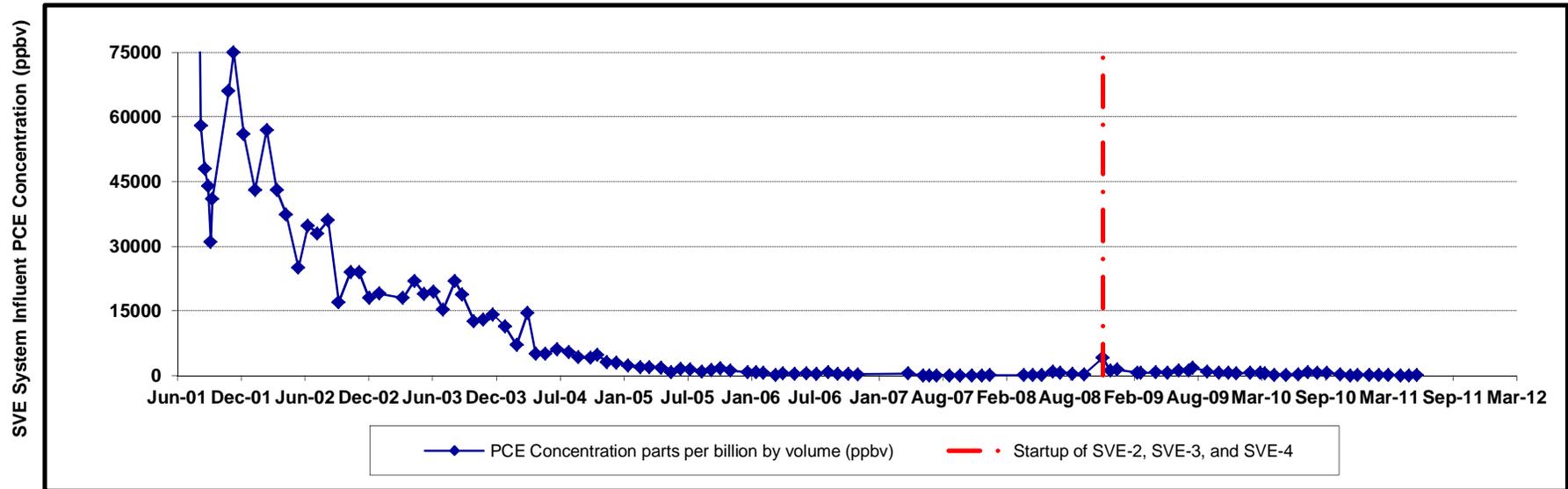


FIGURE 4-9
CUMULATIVE MASS REMOVED BY THE SOIL VAPOR EXTRACTION SYSTEM
MODESTO GROUNDWATER SUPERFUND SITE

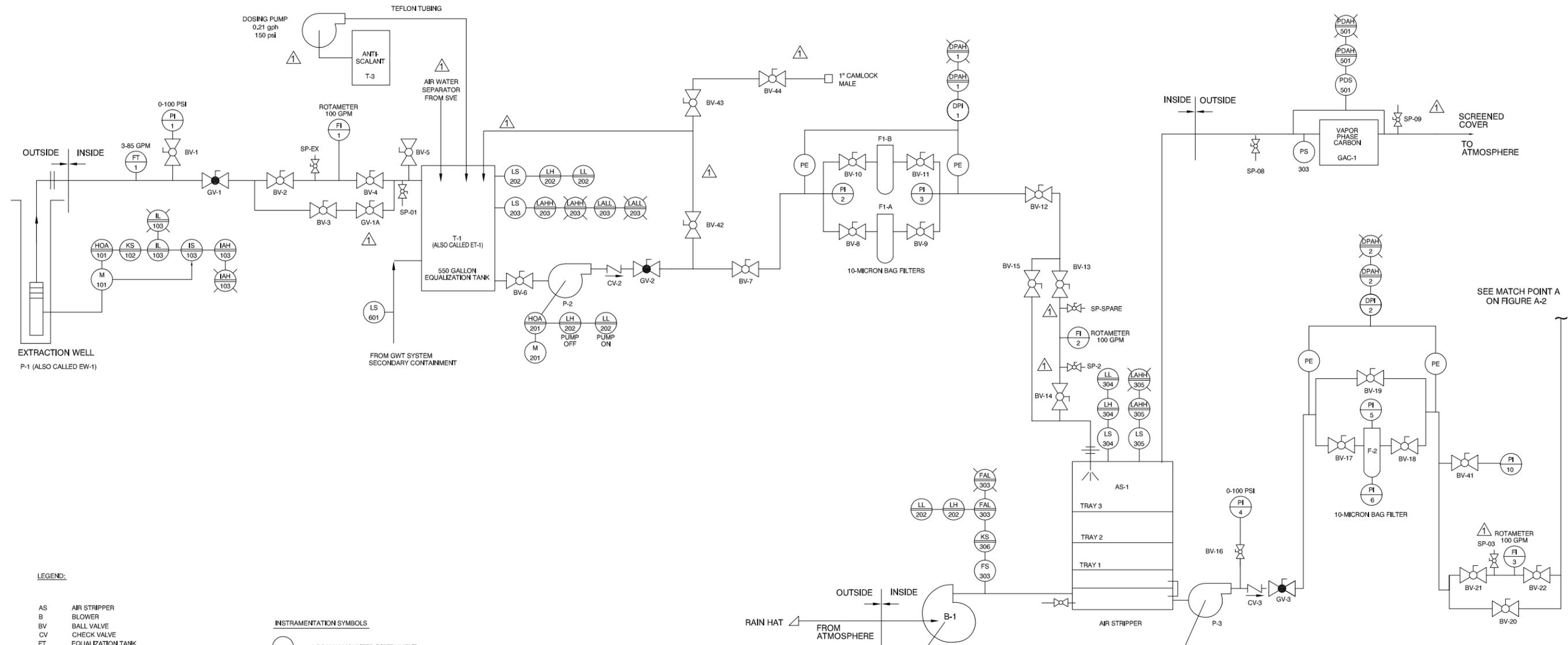


Appendix A
Treatment System Process and Instrumentation Diagrams

PLOT BY: ROBERT_P_TAYLOR - Mar 19, 2010 - 11:37:25am

DRAWING: T:\current-work files\Modesto\drawings\

DRAWING: 031910-Modesto_1-1.dwg



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

INSTRUMENTATION SYMBOLS

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

REFERENCES	
TITLE	

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

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APPROVED BY:			

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2870 Gateway Oaks Drive, Ste. 150
Sacramento, CA 95833-3200
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FAX: (916) 679-2900

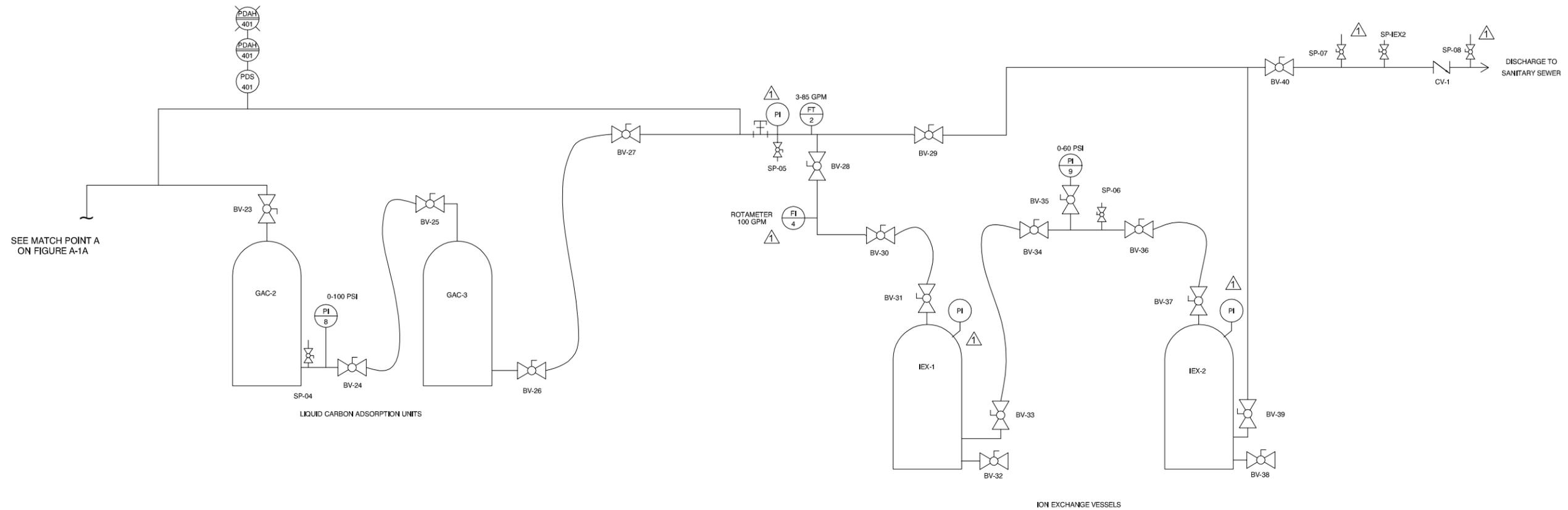
**MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA**
GROUNDWATER TREATMENT P&ID

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

PLOT BY: ROBERT_P_TAYLOR - Mar 19, 2010 - 11:38:02am

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DRAWING: 031910-Modesto_1-2.dwg



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

INSTRUMENTATION SYMBOLS

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

REFERENCES

TITLE

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NO.	BY.	DATE	REVISIONS DESCRIPTION

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DRAWN BY:	DATE
RPT	03/19/10
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APPROVED BY:	

URS
 2870 Gateway Oaks Drive, Ste. 150
 Sacramento, CA 95833-3200
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**MODESTO SUPERFUND SITE
 MODESTO, CALIFORNIA**

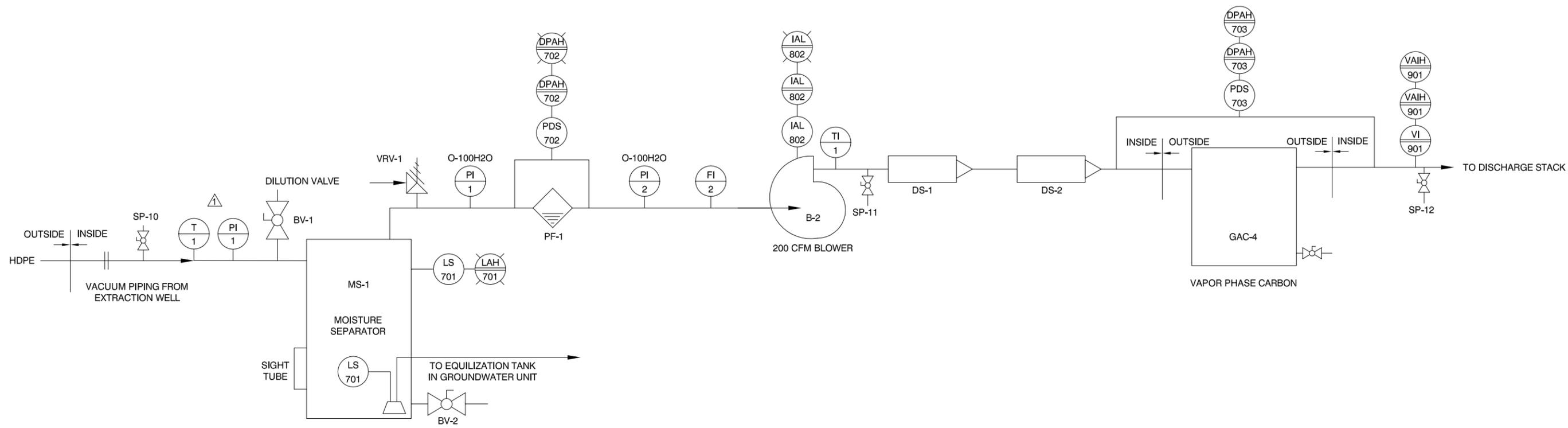
GROUNDWATER TREATMENT P&ID

JOB NO.
 PROJECT
 SHEET NO.
1-2

PLOT BY: ROBERT_P_TAYLOR - Mar 19, 2010 - 11:38:49am

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DRAWING: 031910-Modesto_1-3.dwg



- 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

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

REFERENCES
TITLE

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

DRAWING SCALE AS NOTED

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DRAWING SCALE		AS NOTED
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TM	03/19/10	
DRAWN BY:		
RPT	03/19/10	
CHECKED BY:		
APPROVED BY:		

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 2870 Gateway Oaks Drive, Ste. 150
 Sacramento, CA 95833-3200
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**MODESTO SUPERFUND SITE
 MODESTO, CALIFORNIA**

SOIL VAPOR EXTRACTION P&ID

JOB NO. _____
 PROJECT _____
 SHEET NO. **1-3**

Appendix B
Laboratory Analytical Data Tables

Table B1	Site Contaminants of Concern
Table B2	Sample Cross Reference
Table B3	Results Summary, Second 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
04/14/11	EFF-0403	276156001	N	ASTM D 5174
04/14/11	EW-1-0403	276156002	N	ASTM D 5174
04/14/11	IEX Mid-0403	276156003	N	ASTM D 5174
04/14/11	MW-101-0403	276156004	FD	ASTM D 5174
04/14/11	Pre IEX-0403	276156005	N	ASTM D 5174
04/14/11	EFF-0403	1202383378	DUP	ASTM D 5174
04/14/11	EFF-0403	1202383379	MS	ASTM D 5174
04/14/11	CRB EFF-0403	1104024-01	N	524.2
04/14/11	CRB INF-0403	1104024-02	N	524.2
04/14/11	CRB Mid-0403	1104024-03	N	524.2
04/14/11	EFF-0403	1104024-04	N	524.2
04/14/11	EFF-0403	1104024-04	N	2540C
04/14/11	EFF-0403	1104024-04	N	2540D
04/14/11	EFF-0403	1104024-04	N	5210B
04/14/11	EW-1-0403	1104024-05	N	524.2
04/14/11	MW-103-0403	1104024-06	FD	524.2
04/14/11	MW-301-2Q11	1104024-07	TB	524.2
04/14/11	MW-401-2Q11	1104024-08	FB	524.2
04/14/11	GWTP Pr GAC-0403	1104025-01	N	TO-15
04/14/11	GWTP Stack-0403	1104025-02	N	TO-15
04/14/11	SVE Pre GAC-0403	1104025-03	N	TO-15
04/14/11	SVE Stack-0403	1104025-04	N	TO-15
04/14/11	MW-301-2Q11MS	B1D0066-MS1	MS	524.2
04/14/11	MW-301-2Q11MSD	B1D0066-MSD1	MSD	524.2
04/14/11	EFF-0403DUP	B1D0068-DUP1	DUP	2540C
04/14/11	EFF-0403DUP	B1D0068-DUP2	DUP	2540D
04/14/11	GWTP PreGAC-0403DUP	B1D0088-DUP1	DUP	TO-15
05/10/11	EFF-0502	277857001	N	ASTM D 5174
05/10/11	EFF-0502	1105020-01	N	524.2
05/10/11	EFF-0502	1105020-01	N	2540C
05/10/11	EFF-0502	1105020-01	N	2540D
05/10/11	EFF-0502	1105020-01	N	5210B
05/10/11	EW-1-0502	1105020-02	N	524.2
05/10/11	MW-107-0502	1105020-03	FD	2540C
05/10/11	MW-107-0502	1105020-03	FD	2540D
05/10/11	MW-302-2Q11	1105020-04	TB	524.2
05/10/11	GWTP Pr GAC-0502	1105024-01	N	TO-15
05/10/11	GWTP Stack-0502	1105024-02	N	TO-15
05/10/11	SVE Pre GAC-0502	1105024-03	N	TO-15
05/10/11	SVE Stack-0502	1105024-04	N	TO-15
05/10/11	GWTP Pr GAC-0502DUP	B1E0046-DUP1	DUP	TO-15
05/10/11	EFF-0502DUP	B1E0049-DUP1	DUP	2540C
05/10/11	EFF-0502DUP	B1E0049-DUP2	DUP	2540D
05/10/11	MW-302-2Q11MS	B1E0052-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
05/10/11	MW-302-2Q11MSD	B1E0052-MSD1	MSD	524.2
05/19/11	EFF-0503	278569001	N	ASTM D 5174
05/19/11	EFF-0503	1202403032	DUP	ASTM D 5174
05/19/11	EFF-0503	1202403033	MS	ASTM D 5174
05/26/11	AS EFF-BF INF-0504	278951001	N	ASTM D 5174
05/26/11	BF EFF-AS INF-0504	278951002	N	ASTM D 5174
05/26/11	CRB INF-0504	278951003	N	ASTM D 5174
05/26/11	CRB MID-0504	278951004	N	ASTM D 5174
05/26/11	EFF-0504	278951005	N	ASTM D 5174
05/26/11	EW-1-0504	278951006	N	ASTM D 5174
05/26/11	INF Tank EFF-0504	278951007	N	ASTM D 5174
05/26/11	MW-98-0504	278951008	FD	ASTM D 5174
05/26/11	Pre IEX-0504	278951009	N	ASTM D 5174
05/26/11	AS EFF-BF INF-0504	1202406258	DUP	ASTM D 5174
05/26/11	AS EFF-BF INF-0504	1202406259	MS	ASTM D 5174
06/02/11	EFF-0603	279291001	N	ASTM D 5174
06/02/11	EFF-0603	1106004-01	N	524.2
06/02/11	EFF-0603	1106004-01	N	2540C
06/02/11	EFF-0603	1106004-01	N	2540D
06/02/11	EFF-0603	1106004-01	N	5210B
06/02/11	EW-1-0603	1106004-02	N	524.2
06/02/11	MW-107-0603	1106004-03	FD	524.2
06/02/11	MW-304-2Q11	1106004-04	TB	524.2
06/02/11	EFF-0603DUP	B1F0011-DUP1	DUP	2540C
06/02/11	EFF-0603DUP	B1F0011-DUP2	DUP	2540D
06/02/11	MW-304-2Q11MS	B1F0012-MS1	MS	524.2
06/02/11	MW-304-2Q11MSD	B1F0012-MSD1	MSD	524.2
06/06/11	MW-15A-2Q11	279800008	N	ASTM D 5174
06/06/11	DP-1A-2Q11	1106024-01	N	TO-15
06/06/11	DP-1B-2Q11	1106024-02	N	TO-15
06/06/11	SVE-1-2Q11	1106024-10	N	TO-15
06/06/11	SVE-2-2Q11	1106024-11	N	TO-15
06/06/11	SVE-3-2Q11	1106024-12	N	TO-15
06/06/11	SVE-4-2Q11	1106024-13	N	TO-15
06/06/11	SVE-98-2Q11	1106024-14	FD	TO-15
06/06/11	MW-15A-2Q11	1106051-08	N	SOM01.2
06/06/11	SVE-2-2Q11DUP	B1F0073-DUP1	DUP	TO-15
06/07/11	MW-4B-2Q11	279798004	N	ASTM D 5174
06/07/11	MW-4C-2Q11	279798005	N	ASTM D 5174
06/07/11	MW-7A-2Q11	279798008	N	ASTM D 5174
06/07/11	MW-88A-2Q11	279798009	FD	ASTM D 5174
06/07/11	MW-8A-2Q11	279798010	N	ASTM D 5174
06/07/11	MW-96B-2Q11	279798012	FD	ASTM D 5174
06/07/11	MW-9B-2Q11	279798013	N	ASTM D 5174
06/07/11	MW-11A-2Q11	279800004	N	ASTM D 5174

TABLE B2

**SAMPLE CROSS REFERENCE
MODESTO GROUNDWATER SUPERFUND SITE
MODESTO, CALIFORNIA**

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Analytical Method
06/07/11	MW-12A-2Q11	279800005	N	ASTM D 5174
06/07/11	MW-13A-2Q11	279800006	N	ASTM D 5174
06/07/11	MW-18A-2Q11	279800012	N	ASTM D 5174
06/07/11	MW-19A-2Q11	279800013	N	ASTM D 5174
06/07/11	MW-19B-2Q11	279800014	N	ASTM D 5174
06/07/11	MW-1A-2Q11	279800015	N	ASTM D 5174
06/07/11	MW-2A-2Q11	279800016	N	ASTM D 5174
06/07/11	DP-4A-2Q11	1106024-03	N	TO-15
06/07/11	DP-4B-2Q11	1106024-04	N	TO-15
06/07/11	DP-96B-2Q11	1106024-07	FD	TO-15
06/07/11	OSVE-10-2Q11	1106024-08	N	TO-15
06/07/11	OSVE-11-2Q11	1106024-09	N	TO-15
06/07/11	MW-11A-2Q11	1106051-04	N	SOM01.2
06/07/11	MW-12A-2Q11	1106051-05	N	SOM01.2
06/07/11	MW-13A-2Q11	1106051-06	N	SOM01.2
06/07/11	MW-18A-2Q11	1106051-12	N	SOM01.2
06/07/11	MW-19A-2Q11	1106051-13	N	SOM01.2
06/07/11	MW-19B-2Q11	1106051-14	N	SOM01.2
06/07/11	MW-1A-2Q11	1106051-15	N	SOM01.2
06/07/11	MW-2A-2Q11	1106051-16	N	SOM01.2
06/07/11	MW-303-2Q11	1106051-17	TB	SOM01.2
06/07/11	MW-4B-2Q11	1106051-19	N	SOM01.2
06/07/11	MW-4B-2Q11	1106051-19RE1	N	SOM01.2
06/07/11	MW-4C-2Q11	1106052-01	N	SOM01.2
06/07/11	MW-7A-2Q11	1106052-03	N	SOM01.2
06/07/11	MW-8A-2Q11	1106052-04	N	SOM01.2
06/07/11	MW-8A-2Q11	1106052-04RE1	N	SOM01.2
06/07/11	MW-98A-2Q11	1106052-06	FD	SOM01.2
06/07/11	MW-9B-2Q11	1106052-07	N	SOM01.2
06/08/11	MW-4A-2Q11	279798003	N	ASTM D 5174
06/08/11	MW-5A-2Q11	279798006	N	ASTM D 5174
06/08/11	MW-6A-2Q11	279798007	N	ASTM D 5174
06/08/11	MW-94A-2Q11	279798011	FD	ASTM D 5174
06/08/11	MW-10A-2Q11	279800001	N	ASTM D 5174
06/08/11	MW-10B-2Q11	279800002	N	ASTM D 5174
06/08/11	MW-10C-2Q11	279800003	N	ASTM D 5174
06/08/11	MW-14A-2Q11	279800007	N	ASTM D 5174
06/08/11	MW-16A-2Q11	279800009	N	ASTM D 5174
06/08/11	MW-16B-2Q11	279800010	N	ASTM D 5174
06/08/11	MW-16C-2Q11	279800011	N	ASTM D 5174
06/08/11	MW-10A-2Q11	1202420318	DUP	ASTM D 5174
06/08/11	MW-10A-2Q11	1202420319	MS	ASTM D 5174
06/08/11	MW-5A-2Q11MS	1061532-MS1	MS	SOM01.2
06/08/11	MW-5A-2Q11MSD	1061532-MSD1	MSD	SOM01.2
06/08/11	MW-10A-2Q11	1106051-01	N	SOM01.2

TABLE B2

**SAMPLE CROSS REFERENCE
MODESTO GROUNDWATER SUPERFUND SITE
MODESTO, CALIFORNIA**

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Analytical Method
06/08/11	MW-10A-2Q11	1106051-01RE1	N	SOM01.2
06/08/11	MW-10B-2Q11	1106051-02	N	SOM01.2
06/08/11	MW-10C-2Q11	1106051-03	N	SOM01.2
06/08/11	MW-14A-2Q11	1106051-07	N	SOM01.2
06/08/11	MW-14A-2Q11	1106051-07RE1	N	SOM01.2
06/08/11	MW-16A-2Q11	1106051-09	N	SOM01.2
06/08/11	MW-16B-2Q11	1106051-10	N	SOM01.2
06/08/11	MW-16C-2Q11	1106051-11	N	SOM01.2
06/08/11	MW-4A-2Q11	1106051-18	N	SOM01.2
06/08/11	MW-4A-2Q11	1106051-18RE1	N	SOM01.2
06/08/11	MW-5A-2Q11	1106051-20	N	SOM01.2
06/08/11	MW-5A-2Q11	1106051-20RE1	N	SOM01.2
06/08/11	MW-6A-2Q11	1106052-02	N	SOM01.2
06/08/11	MW-90B-2Q11	1106052-05	FD	SOM01.2
06/09/11	MW-3A-2Q11	279798001	N	ASTM D 5174
06/09/11	MW-402-2Q11	279798002	FB	ASTM D 5174
06/09/11	MW-17A-2Q11	279909001	N	ASTM D 5174
06/09/11	MW-17B-2Q11	279909002	N	ASTM D 5174
06/09/11	MW-17C-2Q11	279909003	N	ASTM D 5174
06/09/11	MW-20B-2Q11	279909005	N	ASTM D 5174
06/09/11	MW-20C-2Q11	279909006	N	ASTM D 5174
06/09/11	MW-3A-2Q11	1202416337	DUP	ASTM D 5174
06/09/11	MW-3A-2Q11	1202416338	MS	ASTM D 5174
06/09/11	MW-17A-2Q11	1202420339	DUP	ASTM D 5174
06/09/11	MW-17A-2Q11	1202420340	MS	ASTM D 5174
06/09/11	MW-17C-2Q11MS	1061533-MS1	MS	SOM01.2
06/09/11	MW-17C-2Q11MSD	1061533-MSD1	MSD	SOM01.2
06/09/11	GWTP Pr GAC-0603	1106018-01	N	TO-15
06/09/11	GWTP Stack-0603	1106018-02	N	TO-15
06/09/11	MW-108-0603	1106018-03	FD	TO-15
06/09/11	SVE Pre GAC-0603	1106018-04	N	TO-15
06/09/11	SVE Stack-0603	1106018-05	N	TO-15
06/09/11	DP-6A-2Q11	1106024-05	N	TO-15
06/09/11	DP-6B-2Q11	1106024-06	N	TO-15
06/09/11	MW-17A-2Q11	1106052-09	N	SOM01.2
06/09/11	MW-17B-2Q11	1106052-10	N	SOM01.2
06/09/11	MW-17B-2Q11	1106052-10RE1	N	SOM01.2
06/09/11	MW-17C-2Q11	1106052-11	N	SOM01.2
06/09/11	MW-20B-2Q11	1106052-13	N	SOM01.2
06/09/11	MW-20B-2Q11	1106052-13RE1	N	SOM01.2
06/09/11	MW-20C-2Q11	1106052-14	N	SOM01.2
06/09/11	MW-3A-2Q11	1106052-15	N	SOM01.2
06/09/11	MW-3A-2Q11	1106052-15RE1	N	SOM01.2
06/09/11	MW-402-2Q11	1106052-16	FB	SOM01.2
06/09/11	MW-80C-2Q11	1106052-17	FD	SOM01.2

TABLE B2

**SAMPLE CROSS REFERENCE
MODESTO GROUNDWATER SUPERFUND SITE
MODESTO, CALIFORNIA**

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Analytical Method
06/09/11	GWTP Pr GAC-0603DUP	B1F0066-DUP1	DUP	TO-15
06/10/11	MW-20A-2Q11	279909004	N	ASTM D 5174
06/10/11	MW-20A-2Q11	1106052-12	N	SOM01.2
06/10/11	MW-20A-2Q11	1106052-12RE1	N	SOM01.2

2Q11 = second quarter, 2011
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
SECOND 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-301-2Q11	WQ	E524.2	TB	4/14/2011	Chloroform	1.80	0.500	µg/L	
	MW-302-2Q11				5/10/2011	Chloroform	2.80	0.500	µg/L	
	MW-303-2Q11	WQ	SOM01.2	TB	6/7/2011	Chloroform	2.10	0.500	µg/L	
	MW-304-2Q11	WQ	E524.2	TB	6/2/2011	Chloroform	2.80	0.500	µg/L	
	MW-401-2Q11	WQ	E524.2	FB	4/14/2011	Acetone	5	4	µg/L	
	MW-402-2Q11	WQ	SOM01.2	FB	6/9/2011	Acetone	4.70	5	µg/L	J
						Chloroform	2.60	0.500	µg/L	
	MW-402-2Q11	WQ	ASTM D 5174	FB	6/9/2011	No Analytes Detected				
DP-1A	DP-1A-2Q11	GS	TO15	N	6/6/2011	1,1,2-Trichloroethane	1.60	2.30	ppbv	J
						Benzene	1.20	2.30	ppbv	J
						Tetrachloroethene	96	23	ppbv	
DP-1B	DP-1B-2Q11	GS	TO15	N	6/6/2011	1,1,2-Trichloroethane	1.50	2.30	ppbv	J
						Chloroform	2.90	2.30	ppbv	
						Tetrachloroethene	93	23	ppbv	
DP-4A	DP-4A-2Q11	GS	TO15	N	6/7/2011	Chloroform	42	2.30	ppbv	
						Tetrachloroethene	41	2.30	ppbv	
						trans 1,3-Dichloropropene	1.30	2.30	ppbv	J
DP-4B	DP-4B-2Q11	GS	TO15	N	6/7/2011	Chloroform	40	2.30	ppbv	
						Tetrachloroethene	43	23	ppbv	
DP-6A	DP-96B-2Q11	GS	TO15	FD	6/7/2011	Chloroform	39	2.30	ppbv	
						Tetrachloroethene	43	23	ppbv	
DP-6A	DP-6A-2Q11	GS	TO15	N	6/9/2011	Tetrachloroethene	2	2.20	ppbv	J
						trans 1,3-Dichloropropene	2.60	2.20	ppbv	J-
						No Analytes Detected				
DP-6B	DP-6B-2Q11	GS	TO15	N	6/9/2011	No Analytes Detected				
EFF AS/INF BAG/FIL	AS EFF-BF INF-0504	WG	ASTM D 5174	N	5/26/2011	Uranium	52.8	1	pci/L	
EFF BAGFIL/INF AS	BF EFF-AS INF-0504	WG	ASTM D 5174	N	5/26/2011	Uranium	52.4	1	pci/L	
EFFLUENT OF INF TANK	INF Tank EFF-0504	WG	ASTM D 5174	N	5/26/2011	Uranium	53.8	1	pci/L	
	MW-98-0504	WG	ASTM D 5174	FD	5/26/2011	Uranium	59.4	1	pci/L	

TABLE B3 (Continued)

Location	Field Sample Identification	Matrix	Method	Sample Type	Date Sampled	Analyte	Result	Reporting Limit	Units	Qualified Result
MW-01A	MW-1A-2Q11	WG	SOM01.2	N	6/7/2011	Tetrachloroethene	1.60	0.500	µg/L	
	MW-1A-2Q11	WG	ASTM D 5174	N	6/7/2011	Uranium	39.4	1	pci/L	
MW-02A	MW-2A-2Q11	WG	SOM01.2	N	6/7/2011	Bromodichloromethane	0.140	0.500	µg/L	J
						Tetrachloroethene	5.40	0.500	µg/L	
	MW-2A-2Q11	WG	ASTM D 5174	N	6/7/2011	Uranium	33	1	pci/L	
	MW-98A-2Q11	WG	SOM01.2	FD	6/7/2011	Bromodichloromethane	0.170	0.500	µg/L	J
						Chloroform	3	0.500	µg/L	
						Tetrachloroethene	5.30	0.500	µg/L	
MW-03A	MW-3A-2Q11	WG	SOM01.2	N	6/9/2011	Bromodichloromethane	0.100	0.500	µg/L	J
						Tetrachloroethene	52	2.50	µg/L	
	MW-3A-2Q11	WG	ASTM D 5174	N	6/9/2011	Uranium	51	1	pci/L	
MW-04A	MW-4A-2Q11	WG	SOM01.2	N	6/8/2011	cis-1,2-Dichloroethene	1.10	0.500	µg/L	
						Tetrachloroethene	1600	42	µg/L	
						Trichloroethylene	1	0.500	µg/L	
	MW-4A-2Q11	WG	ASTM D 5174	N	6/8/2011	Uranium	45	1	pci/L	
MW-04B	MW-4B-2Q11	WG	SOM01.2	N	6/7/2011	Benzene	70	3.60	µg/L	
						Cyclohexane	1.80	0.500	µg/L	
						Ethylbenzene	13	0.500	µg/L	
						Isopropylbenzene	0.340	0.500	µg/L	J
						m,p-Xylenes	21	3.60	µg/L	
						o-Xylene	13	0.500	µg/L	
						Tetrachloroethene	2.80	0.500	µg/L	
						Toluene	15	0.500	µg/L	
	MW-4B-2Q11	WG	ASTM D 5174	N	6/7/2011	Uranium	1.67	1	pci/L	
	MW-96B-2Q11	WG	ASTM D 5174	FD	6/7/2011	Uranium	1.74	1	pci/L	
MW-04C	MW-4C-2Q11	WG	ASTM D 5174	N	6/7/2011	No Analytes Detected				
	MW-4C-2Q11	WG	SOM01.2	N	6/7/2011	No Analytes Detected				
MW-05A	MW-5A-2Q11	WG	SOM01.2	N	6/8/2011	Tetrachloroethene	140	5	µg/L	
	MW-5A-2Q11	WG	ASTM D 5174	N	6/8/2011	Uranium	36.6	1	pci/L	

TABLE B3 (Continued)

Location	Field Sample Identification	Matrix	Method	Sample Type	Date Sampled	Analyte	Result	Reporting Limit	Units	Qualified Result
MW-06A	MW-6A-2Q11	WG	SOM01.2	N	6/8/2011	Bromodichloromethane	0.390	0.500	µg/L	J
						Chloroform	9.20	0.500	µg/L	
						Tetrachloroethene	5.60	0.500	µg/L	
MW-07A	MW-6A-2Q11	WG	ASTM D 5174	N	6/8/2011	Uranium	19.6	1	pci/L	
	MW-94A-2Q11	WG	ASTM D 5174	FD	6/8/2011	Uranium	19.3	1	pci/L	
	MW-7A-2Q11	WG	SOM01.2	N	6/7/2011	Chloroform	1.20	0.500	µg/L	
MW-07A	MW-7A-2Q11	WG	ASTM D 5174	N	6/7/2011	Uranium	43.3	1	pci/L	
						Chloroform	1.20	0.500	µg/L	
MW-08A	MW-8A-2Q11	WG	SOM01.2	N	6/7/2011	Bromodichloromethane	0.170	0.500	µg/L	J
						Chloroform	4.30	0.500	µg/L	
						Tetrachloroethene	43	2.10	µg/L	
MW-09B	MW-8A-2Q11	WG	ASTM D 5174	N	6/7/2011	Uranium	39.9	1	pci/L	
	MW-9B-2Q11	WG	SOM01.2	N	6/7/2011	Tetrachloroethene	2.30	0.500	µg/L	
	MW-9B-2Q11	WG	ASTM D 5174	N	6/7/2011	Uranium	1.61	1	pci/L	
MW-10A	MW-10A-2Q11	WG	SOM01.2	N	6/8/2011	Bromodichloromethane	0.220	0.500	µg/L	J
						Chloroform	5.90	0.500	µg/L	
						Tetrachloroethene	68	3.10	µg/L	
MW-10B	MW-10A-2Q11	WG	ASTM D 5174	N	6/8/2011	Uranium	30.8	1	pci/L	
						MW-10B-2Q11	WG	SOM01.2	N	
	MW-10B-2Q11	WG	SOM01.2	N	6/8/2011	Ethylbenzene	0.170	0.500	µg/L	J
						m,p-Xylenes	0.450	0.500	µg/L	J
						o-Xylene	0.140	0.500	µg/L	J
	MW-10B-2Q11	WG	SOM01.2	N	6/8/2011	Tetrachloroethene	14	0.500	µg/L	
						Uranium	6.27	1	pci/L	
Benzene						1.60	0.500	µg/L		
m,p-Xylenes						0.740	0.500	µg/L		
MW-10B-2Q11	WG	SOM01.2	N	6/8/2011	o-Xylene	0.260	0.500	µg/L	J	
					Tetrachloroethene	15	0.500	µg/L		
					MW-10C-2Q11	WG	ASTM D 5174	N		6/8/2011
MW-10C	MW-10C-2Q11	WG	SOM01.2	N	6/8/2011	No Analytes Detected				

TABLE B3 (Continued)

Location	Field Sample Identification	Matrix	Method	Sample Type	Date Sampled	Analyte	Result	Reporting Limit	Units	Qualified Result
MW-11A	MW-11A-2Q11	WG	SOM01.2	N	6/7/2011	Chloroform	1.80	0.500	µg/L	
						Tetrachloroethene	3.40	0.500	µg/L	
MW-12A	MW-11A-2Q11	WG	ASTM D 5174	N	6/7/2011	Uranium	47.5	1	pci/L	
	MW-12A-2Q11	WG	SOM01.2	N	6/7/2011	Bromodichloromethane	0.270	0.500	µg/L	J
						Chloroform	6.20	0.500	µg/L	
						Tetrachloroethene	17	0.500	µg/L	
MW-13A						Trichlorofluoromethane	0.400	0.500	µg/L	J
	MW-12A-2Q11	WG	ASTM D 5174	N	6/7/2011	Uranium	19.7	1	pci/L	
	MW-88A-2Q11	WG	ASTM D 5174	FD	6/7/2011	Uranium	22.3	1	pci/L	
	MW-13A-2Q11	WG	SOM01.2	N	6/7/2011	Bromodichloromethane	0.120	0.500	µg/L	J
MW-14A						Chloroform	3	0.500	µg/L	
						Tetrachloroethene	11	0.500	µg/L	
	MW-13A-2Q11	WG	ASTM D 5174	N	6/7/2011	Uranium	44.6	1	pci/L	
MW-15A	MW-14A-2Q11	WG	SOM01.2	N	6/8/2011	Tetrachloroethene	23	1	µg/L	
	MW-14A-2Q11	WG	ASTM D 5174	N	6/8/2011	Uranium	43.9	1	pci/L	
MW-16A	MW-15A-2Q11	WG	SOM01.2	N	6/6/2011	Tetrachloroethene	0.250	0.500	µg/L	J
	MW-15A-2Q11	WG	ASTM D 5174	N	6/6/2011	Uranium	35.7	1	pci/L	
MW-16B	MW-16A-2Q11	WG	SOM01.2	N	6/8/2011	1,1,1-Trichloroethane	0.0870	0.500	µg/L	J
						Chloroform	0.660	0.500	µg/L	
	MW-16A-2Q11	WG	ASTM D 5174	N	6/8/2011	Uranium	34.8	1	pci/L	
	MW-16B-2Q11	WG	SOM01.2	N	6/8/2011	Benzene	3.50	0.500	µg/L	
MW-16C						Chloroform	0.510	0.500	µg/L	
						Ethylbenzene	0.380	0.500	µg/L	J
						m,p-Xylenes	1.10	0.500	µg/L	
						o-Xylene	0.280	0.500	µg/L	J
						Tetrachloroethene	3.50	0.500	µg/L	
						Toluene	0.550	0.500	µg/L	
	MW-16B-2Q11	WG	ASTM D 5174	N	6/8/2011	Uranium	35.4	1	pci/L	
MW-16C-2Q11	WG	SOM01.2	N	6/8/2011	Tetrachloroethene	0.600	0.500	µg/L		

TABLE B3 (Continued)

Location	Field Sample Identification	Matrix	Method	Sample Type	Date Sampled	Analyte	Result	Reporting Limit	Units	Qualified Result
<i>MW-16C continued . . .</i>										
	MW-16C-2Q11	WG	ASTM D 5174	N	6/8/2011	Uranium	7.68	1	pci/L	
MW-17A	MW-17A-2Q11	WG	SOM01.2	N	6/9/2011	Bromodichloromethane	0.370	0.500	µg/L	J
						Tetrachloroethene	0.430	0.500	µg/L	J
	MW-17A-2Q11	WG	ASTM D 5174	N	6/9/2011	Uranium	55.5	1	pci/L	
MW-17B	MW-17B-2Q11	WG	SOM01.2	N	6/9/2011	Benzene	15	2.50	µg/L	
						Cyclohexane	1.40	0.500	µg/L	
						Ethylbenzene	9.60	0.500	µg/L	
						Isopropylbenzene	0.370	0.500	µg/L	J
						m,p-Xylenes	6.60	2.50	µg/L	
						o-Xylene	13	0.500	µg/L	
						Tetrachloroethene	58	2.50	µg/L	
						Toluene	10	0.500	µg/L	
	MW-17B-2Q11	WG	ASTM D 5174	N	6/9/2011	Uranium	33.8	1	pci/L	
MW-17C	MW-17C-2Q11	WG	SOM01.2	N	6/9/2011	No Analytes Detected				
	MW-17C-2Q11	WG	ASTM D 5174	N	6/9/2011	Uranium	0.882	1	pci/L	
MW-18A	MW-18A-2Q11	WG	SOM01.2	N	6/7/2011	Benzene	2.10	0.500	µg/L	
						Bromodichloromethane	0.150	0.500	µg/L	J
						Ethylbenzene	0.220	0.500	µg/L	J
						m,p-Xylenes	0.620	0.500	µg/L	
						o-Xylene	0.160	0.500	µg/L	J
						Tetrachloroethene	2.90	0.500	µg/L	
	MW-18A-2Q11	WG	ASTM D 5174	N	6/7/2011	Uranium	54.7	1	pci/L	
MW-19A	MW-19A-2Q11	WG	SOM01.2	N	6/7/2011	No Analytes Detected				
	MW-19A-2Q11	WG	ASTM D 5174	N	6/7/2011	Uranium	46.9	1	pci/L	
MW-19B1	MW-19B-2Q11	WG	SOM01.2	N	6/7/2011	Tetrachloroethene	0.260	0.500	µg/L	J
	MW-19B-2Q11	WG	ASTM D 5174	N	6/7/2011	Uranium	17.3	1	pci/L	
MW-20A	MW-20A-2Q11	WG	SOM01.2	N	6/10/2011	Benzene	0.680	0.500	µg/L	
						Bromodichloromethane	0.310	0.500	µg/L	J
						Chloroform	7.60	0.500	µg/L	

TABLE B3 (Continued)

Location	Field Sample Identification	Matrix	Method	Sample Type	Date Sampled	Analyte	Result	Reporting Limit	Units	Qualified Result
<i>MW-20A continued . . .</i>										
						Dichlorodifluoromethane	4.10	0.500	µg/L	J+
						m,p-Xylenes	0.340	0.500	µg/L	J
						o-Xylene	0.110	0.500	µg/L	J
						tert-Butyl methyl ether	0.400	0.500	µg/L	J
						Tetrachloroethene	310	25	µg/L	
						Trichloroethylene	0.240	0.500	µg/L	J
	MW-20A-2Q11	WG	ASTM D 5174	N	6/10/2011	Uranium	43.5	1	pci/L	
MW-20B	MW-20B-2Q11	WG	SOM01.2	N	6/9/2011	Benzene	1.70	0.500	µg/L	
						Ethylbenzene	0.280	0.500	µg/L	J
						m,p-Xylenes	0.880	0.500	µg/L	
						m,p-Xylenes	1.10	6.30	µg/L	J
						o-Xylene	0.300	0.500	µg/L	J
						Tetrachloroethene	110	6.30	µg/L	
	MW-20B-2Q11	WG	ASTM D 5174	N	6/9/2011	Uranium	9.67	1	pci/L	
MW-20C	MW-20C-2Q11	WG	SOM01.2	N	6/9/2011	Carbon Disulfide	0.170	0.500	µg/L	J
	MW-20C-2Q11	WG	ASTM D 5174	N	6/9/2011	Uranium	1.49	1	pci/L	
	MW-80C-2Q11	WG	SOM01.2	FD	6/9/2011	No Analytes Detected				
OSVE-10	OSVE-10-2Q11	GS	TO15	N	6/7/2011	Tetrachloroethene	42	23	ppbv	
OSVE-11	OSVE-11-2Q11	GS	TO15	N	6/7/2011	Tetrachloroethene	7.50	2.20	ppbv	
SP-01	EW-1-0403	WG	E524.2	N	4/14/2011	Chloroform	3.50	0.500	µg/L	
						Tetrachloroethene	120	10	µg/L	
	EW-1-0403	WG	ASTM D 5174	N	4/14/2011	Uranium	50.4	1	pci/L	
	EW-1-0502	WG	E524.2	N	5/10/2011	Chloroform	3.50	0.500	µg/L	
						Tetrachloroethene	140	10	µg/L	
	EW-1-0504	WG	ASTM D 5174	N	5/26/2011	Uranium	55.3	1	pci/L	
	EW-1-0603	WG	E524.2	N	6/2/2011	Tetrachloroethene	120	5	µg/L	
SP-03	CRB INF-0403	WG	E524.2	N	4/14/2011	No Analytes Detected				
	CRB INF-0504	WG	ASTM D 5174	N	5/26/2011	Uranium	53.2	1	pci/L	
	MW-103-0403	WG	E524.2	FD	4/14/2011	No Analytes Detected				

TABLE B3 (Continued)

Location	Field Sample Identification	Matrix	Method	Sample Type	Date Sampled	Analyte	Result	Reporting Limit	Units	Qualified Result
SP-04	CRB Mid-0403	WG	E524.2	N	4/14/2011	Tetrachloroethene	0.500	0.500	µg/L	J
	CRB MID-0504	WG	ASTM D 5174	N	5/26/2011	Uranium	50.6	1	pci/L	
SP-05	CRB EFF-0403	WG	E524.2	N	4/14/2011	Tetrachloroethene	0.500	0.500	µg/L	J
	Pre IEX-0403	WG	ASTM D 5174	N	4/14/2011	Uranium	74.5	1	pci/L	
	Pre IEX-0504				5/26/2011	Uranium	57.9	1	pci/L	
SP-06	IEX Mid-0403	WG	ASTM D 5174	N	4/14/2011	Uranium	18.6	1	pci/L	
SP-07	EFF-0403	WG	ASTM D 5174	N	4/14/2011	Uranium	25.4	1	pci/L	
	EFF-0403	WG	5210B	TB	4/14/2011	Biochemical Oxygen Demand	2	2	mg/L	
	EFF-0403	WG	2540D	TB	4/14/2011	No Analytes Detected				
	EFF-0403	WG	E524.2	TB	4/14/2011	Tetrachloroethene	0.300	0.500	µg/L	J
	EFF-0403	WG	2540C	TB	4/14/2011	Total dissolved solids	660	20	mg/L	
	EFF-0502	WG	ASTM D 5174	N		Uranium	11.7	1	pci/L	
	EFF-0502	WG	5210B	N	5/10/2011	Biochemical Oxygen Demand	2	2	mg/L	J-
	EFF-0502	WG	2540D	N	5/10/2011	No Analytes Detected				
	EFF-0502	WG	E524.2	N	5/10/2011	Tetrachloroethene	0.300	0.500	µg/L	J
	EFF-0502	WG	2540C	N	5/10/2011	Total dissolved solids	640	20	mg/L	
	EFF-0503	WG	ASTM D 5174	N	5/19/2011	Uranium	10.3	1	pci/L	
	EFF-0504				5/26/2011	Uranium	11.6	1	pci/L	
	EFF-0603	WG	5210B	N	6/2/2011	Biochemical Oxygen Demand	2	2	mg/L	J-
	EFF-0603	WG	2540D	N	6/2/2011	No Analytes Detected				
	EFF-0603	WG	E524.2	N	6/2/2011	Tetrachloroethene	0.300	0.500	µg/L	J
	EFF-0603	WG	2540C	N	6/2/2011	Total dissolved solids	640	20	mg/L	
	EFF-0603	WG	ASTM D 5174	N	6/2/2011	Uranium	13	1	pci/L	
	MW-101-0403	WG	ASTM D 5174	FD	4/14/2011	Uranium	24.6	1	pci/L	
	MW-107-0502	WG	2540D	FD	5/10/2011	No Analytes Detected				
	MW-107-0502	WG	2540C	FD	5/10/2011	Total dissolved solids	640	20	mg/L	
	MW-107-0603	WG	E524.2	FD	6/2/2011	Tetrachloroethene	0.400	0.500	µg/L	J

TABLE B3 (Continued)

Location	Field Sample Identification	Matrix	Method	Sample Type	Date Sampled	Analyte	Result	Reporting Limit	Units	Qualified Result
SP-08	GWTP Pr GAC-0403	GS	TO15	N	4/14/2011	1,1,2-Trichloroethane	2.50	2.20	ppbv	
						Chloroform	6.10	2.20	ppbv	
						Tetrachloroethene	260	22	ppbv	
	GWTP Pr GAC-0502	GS	TO15	N	5/10/2011	Chloroform	6	2.30	ppbv	
						Tetrachloroethene	260	23	ppbv	J
						Benzene	1.80	2.20	ppbv	J
	GWTP Pr GAC-0603	GS	TO15	N	6/9/2011	Chloroform	6.90	2.20	ppbv	
						cis-1,2-Dichloroethene	3.50	2.20	ppbv	
						Ethylbenzene	1.70	2.20	ppbv	J
						m,p-Xylenes	2.90	4.40	ppbv	J
						o-Xylene	1.70	2.20	ppbv	J
						Tetrachloroethene	300	22	ppbv	
						Toluene	5.30	2.20	ppbv	J
						Trichloroethylene	1.80	2.20	ppbv	J
MW-108-0603	GS	TO15	FD	6/9/2011	Chloroform	7.20	2.20	ppbv		
					Tetrachloroethene	300	22	ppbv		
SP-09	GWTP Stack-0403	GS	TO15	N	4/14/2011	Chloroform	6.10	2.20	ppbv	
						Tetrachloroethene	94	22	ppbv	
	GWTP Stack-0502	GS	TO15	N	5/10/2011	Chloroform	6	2.30	ppbv	
						Tetrachloroethene	85	23	ppbv	
	GWTP Stack-0603	GS	TO15	N	6/9/2011	Chloroform	6.30	2.20	ppbv	
						Chloromethane	1.50	2.20	ppbv	J
						cis-1,2-Dichloroethene	2.30	2.20	ppbv	
						Methylene Chloride	1.20	2.20	ppbv	J
						Tetrachloroethene	120	22	ppbv	
SP-11	SVE Pre GAC-0403	GS	TO15	N	4/14/2011	Toluene	3.20	2.20	ppbv	
						Tetrachloroethene	2.70	2.20	ppbv	
						SVE Pre GAC-0502	5/10/2011	Tetrachloroethene	1.60	2.40
SVE Pre GAC-0603	6/9/2011	Chloroform	4.50	2.30	ppbv					

TABLE B3 (Continued)

Location	Field Sample Identification	Matrix	Method	Sample Type	Date Sampled	Analyte	Result	Reporting Limit	Units	Qualified Result	
<i>SP-11 continued . . .</i>											
SP-12	SVE Stack-0403	GS	TO15	N	4/14/2011	Methylene Chloride	1.20	2.30	ppbv	J	
						Tetrachloroethene	80	23	ppbv		
						Chloroform	18	2.20	ppbv		
	SVE Stack-0502 SVE Stack-0603					5/10/2011 6/9/2011	Tetrachloroethene	5.60	2.20	ppbv	
							Chloroform	6.20	2.30	ppbv	
							1,2-Dichloropropane	1.40	2.10	ppbv	J
SVE-01	SVE-1-2Q11	GS	TO15	N	6/6/2011	Chloroform	3.70	2.10	ppbv		
						Methylene Chloride	1.40	2.10	ppbv	J	
SVE-02	SVE-2-2Q11	GS	TO15	N	6/6/2011	Tetrachloroethene	3	2.10	ppbv		
						Tetrachloroethene	15	2.30	ppbv		
						1,1,2-Trichloroethane	3.10	2.20	ppbv		
						1,2-Dichlorobenzene	43	2.20	ppbv		
						1,3-Dichlorobenzene	2.20	2.20	ppbv		
						1,4-Dichlorobenzene	6.50	2.20	ppbv		
						cis-1,2-Dichloroethene	2.80	2.20	ppbv		
						Tetrachloroethene	320	22	ppbv		
						Trichloroethylene	2.20	2.20	ppbv	J-	
						1,1,2,2-Tetrachloroethane	2.60	2.20	ppbv	J+	
						1,1,2-Trichloroethane	3	2.20	ppbv		
						1,2-Dichlorobenzene	29	22	ppbv		
						1,3-Dichlorobenzene	2.60	2.20	ppbv		
						1,4-Dichlorobenzene	7.80	2.20	ppbv		
cis-1,2-Dichloroethene	3.90	2.20	ppbv								
SVE-03	SVE-3-2Q11	GS	TO15	N	6/6/2011	Tetrachloroethene	200	22	ppbv		
						Trichloroethylene	2.50	2.20	ppbv	J-	
						1,2-Dichlorobenzene	6.60	2.20	ppbv		
SVE-04	SVE-4-2Q11	GS	TO15	N	6/6/2011	Tetrachloroethene	82	22	ppbv		
						1,1,2,2-Tetrachloroethane	7.90	2.20	ppbv	J+	
						1,2,4-Trichlorobenzene	1.10	2.20	ppbv	J	

TABLE B3 (Continued)

Location	Field Sample Identification	Matrix	Method	Sample Type	Date Sampled	Analyte	Result	Reporting Limit	Units	Qualified Result
<i>SVE-04 continued . . .</i>										
						1,2,4-Trimethylbenzene	3.90	2.20	ppbv	
						1,2-Dichlorobenzene	42	2.20	ppbv	
						1,3,5-Trimethylbenzene	2.40	2.20	ppbv	
						1,3-Dichlorobenzene	3	2.20	ppbv	
						1,4-Dichlorobenzene	11	2.20	ppbv	
						Chloroform	19	2.20	ppbv	
						Methylene Chloride	1.20	2.20	ppbv	J
						Tetrachloroethene	23	2.20	ppbv	
						Trichloroethylene	1.10	2.20	ppbv	J

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.
 J- = Analyte concentration considered an estimated value because one or more quality control specifications were not met, potential low 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	B1F0066	Trichloroethene	100	65	81-125	no
		trans-1,3-Dichloropropene	100	73	81-137	no
	B1F0073	Trichloroethene	100	70	81-125	no
		trans-1,3-Dichloropropene	100	72	81-137	no
		1,1,2,2-Tetrachloroethane	100	162	70-130	no
	B1F0080	Trichloroethene	100	72	81-125	no
trans-1,3-Dichloropropene		100	75	81-137	no	
5210B	B1E0095	Biological Oxygen Demand	100	78	81.5-118.5	no
	B1F0091	Biological Oxygen Demand	100	80	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	B1D0066	MW-301-2Q11	Napthalene	84	111	52-160	yes	28.0	20	no

Notes:

% - Percent

MS - Matrix Spike

MSD - Matrix Spike Duplicate

RPD - Relative Percent Difference

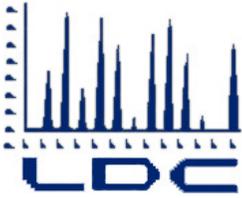
TABLE B6

COMPLETENESS SUMMARY
 MODESTO SUPERFUND SITE
 MODESTO, CALIFORNIA

(Page 1 of 1)

Analytical Method	Analyte	Possible Results	Analytical Completeness		Technical Completeness		
			Qualified Results	Percent (%)	Rejected Results	Percent (%)	
Water D5174	Uranium, total	46	0	100.0%	0	100.0%	
		Total:	46	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

August 10, 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 CLP Laboratory Compuchem (Liberty) and EPA Region 9 Laboratory's sample delivery groups (SDG) listed below. The SDGs are associated with the sampling period of April 14 to June 10, 2011. Not all of the analytical methods may have been required in each of the laboratory SDGs.

LDC Project #: 22732	
SDG #	Analytical Methods
11105B (Region 9 Lab) 11105C 11131B 11131E 11154A 11161A 11165C	EPA Method 524.2 (EPA Region 9 SOP 354, revision 9) EPA TO-15 (EPA Region 9 SOP 311, revision 1) SM 2540C (EPA Region 9 SOP 461, revision 6) SM 2540D (EPA Region 9 SOP 462, revision 6) SM 5210B (EPA Region 9 SOP 1133, revision 4)
Y7Y84 (Liberty) Y7YB1	CLP Trace volatiles (OLM01.2)

The data validation was performed in accordance with the criteria specified in the EPA Region 9 Standard Operating Procedures (SOPs) or the U.S. EPA Contract Laboratory Program (CLP) Statement of Work (SOW), as well as the National Functional Guidelines for Superfund Organics Methods Data Review (2008). 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
Senior Chemist

**Laboratory Data Consultants'
Quality Control Summary Report (QCSR)
Modesto Superfund Site
Quarterly and Monthly Sampling Events
Analytical Data for Samples Collected by URS
During the Period of
April 14, 2011 to June 10, 2011**

Prepared for:

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Reported: August 10, 2011

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LIST OF ACRONYMS

ADR	Automated Data Review
CA	California
CLP	Contract Laboratory Program
DMC	Deuterated Monitoring Compound
DU	Sample Duplicate
ELAP	Environmental Laboratory Accreditation Program
EPA	US Environmental Protection Agency
GW	Groundwater
LCS	Laboratory Control Sample
LDC	Laboratory Data Consultants, Inc.
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
NC	North Carolina
NFG	National Functional Guidelines
RL	Reporting Limit
ND	Non-detected
PCE	Tetrachloroethene
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
SVE	Soil Vapor Extraction
TICs	Tentatively Identified Compounds
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 U.S. Environmental Protection Agency (EPA) Region 9 Laboratory located in Richmond, CA and Contract Laboratory Program (CLP) laboratory Compuchem (a division of Liberty Analytical Corporation) in Cary, North Carolina (NC). The Region 9 laboratory is certified in the State of California by the Department of Health Services. The CLP laboratory (Liberty) is accredited through the Department of Defense (DOD) Environmental Laboratory Accreditation Program (ELAP) and the EPA Contract Laboratory Program (CLP). 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 Groundwater Superfund Site, Modesto, California" (SAP), (June 2010, U.S. Army Corps of Engineers, Sacramento District, and URS), as well as the quality control and validation criteria specified in the EPA CLP Multi-Media, Multi-Concentration Statement of Work (SOW) and Document SOM01.2, the "National Functional Guidelines (NFG) for Superfund Organic Methods Data Review" (EPA 2008), with Region 9 modifications, and the "National Functional Guidelines for Inorganic Data Review" (USEPA 2004).

Seventy-three field samples, ten field duplicates, and six field Quality Control (QC) samples were reported in seven EPA Region 9 Laboratory's sample delivery groups (SDGs) for the R11S57 Modesto Groundwater (GW) Treatment System Spring 2011 Monthly Sampling and the R11S78 Modesto June 2011 Quarterly Soil Vapor Extraction (SVE) Monitoring sampling efforts and two CLP laboratory (Liberty) SDGs for the case 41420 June 2011 Quarterly GW sampling effort.

Samples reported by Liberty were assigned a CLP-issued Client Sample ID number, and were reported by that sample ID. A cross reference table for the CLP-issued Client Sample ID has been included with Table 1. Ten sample dilutions were reported by Liberty for full list analytes. At the request of URS, these dilution sample results were merged with the undiluted results to report only one set of analytical results per sample.

The laboratories 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. Any resulting data validation qualifiers from ADR have been appended to the SEDD and ADR files. The SEDD files from Liberty were received as SEDD stage 3 (draft version 5.1). At the request of URS these files were converted and standardized for ADR. The resulting reviewed SEDD file is reported as SEDD stage 1.

Data review was based primarily 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 SAP" (June 2010) as well as the CLP SOW SOM01.2 and the NFG for Superfund Organics Methods Data Review (USEPA 2008), using biased qualifiers and Region 9 modifications. 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), 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 11105B (one sample for volatile organic compounds (VOCs) by EPA 524.2); SDG 11105C (two samples for VOCs by EPA TO-15); 11165A (three samples for VOCs by TO-15); and SDG Y7Y84 (two samples for trace VOCs by SOM01.2). 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 or Deuterated Monitoring Compounds (DMCs) - (organics)
- Matrix Spike/Matrix Spike Duplicates (MS/MSD) or Sample Duplicates (DU)
- Laboratory Control Samples (LCS)
- Reporting Limits (RL)
- Field QC Samples

The evaluation of the associated initial and continuing instrument calibrations, internal standards, sample preservation, field duplicate evaluations, and Level IV recalculations and data verifications 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 non-detected (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.

$$\% \text{Analytical Completeness} = (\text{Number of unqualified results} / \text{Number of reported results}) \times 100$$

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

$$\% \text{Contract Compliance Completeness} = (\text{Number of contract compliant results} / \text{Number of reported results}) \times 100$$

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

$\% \text{Technical Completeness} = (\text{Number of results not rejected} / \text{Number of reported results}) \times 100$

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 94.6%.

- VOCs by EPA Method 524.2 had analytical completeness of 98.4%,
- Trace VOCs by Method SOM01.2 had analytical completeness of 93.1 %,
- VOCs by EPA Method TO-15 had analytical completeness of 93.8%,
- 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 99.0% for VOCs by EPA Method 524.2, 94.3% for Trace VOCs by Method SOM01.2, and 95.5% 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 95.2%.

- VOCs by EPA Method 524.2 had contract completeness of 98.5%,
- Trace VOCs by Method SOM01.2 had contract compliance completeness of 94.3 %,
- VOCs by EPA Method TO-15 had contract completeness of 94.0%,
- 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 99.2% for VOCs by EPA Method 524.2, 95.6% for Trace VOCs by Method SOM01.2, and 95.7% 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%,
- Trace VOCs by Method SOM01.2 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 98.4%. Six of the 945 sample results were qualified as estimated due to trace values reported between the method detection limit (MDL) and the RL. Eight of the reported results were qualified as estimated due to initial calibration non-conformances. One of the reported results was qualified as estimated due to matrix spike/matrix spike duplicate (MS/MSD) relative percent difference (RPD) above the control limit. One of the reported results was qualified as non-detected (U) due to contamination in trip blank MW-304-2Q11. 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.).

The MS/MSD analysis for SDG 11105B was performed on trip blank sample MW-301-2Q11. The trip blank was qualified as estimated (J) for naphthalene due to a MS/MSD relative percent difference (RPD) outside of criteria. No other samples were qualified based upon this nonconformance. The trip blank matrix is not representative of environmental sample matrices for the project.

The MS/MSD analysis for SDG 11131B was performed on trip blank sample MW-302-2Q11. The trip blank was qualified as estimated with a positive bias (J+) for several compounds due to high MS/MSD recoveries. No other samples were qualified based upon this nonconformance. The trip blank matrix is not representative of environmental sample matrices for the project.

Several samples were diluted due to high analyte concentrations above the calibration range. Reporting limits for the affected analytes were increased to reflect the dilution factor.

Sample MW-103-0403 was identified as a field duplicate of sample CRB INF-0403 (SDG 11105B). No data were qualified as the samples were both non-detected for all compounds.

Sample MW-107-0603 was identified as a field duplicate of sample EFF-0603 (SDG 11154A). Positive detections for tetrachloroethene (PCE) 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.

Note the laboratory reported tentatively identified compounds (TICs) for some samples.

Trace Volatile Organics by SOM01.2 (CLP SOW SOM01.2)

The analytical completeness for Trace Volatile Organics by SOM01.2 was 93.1%. Twenty-four of the 1844 sample results were qualified as estimated due to trace values reported between the method detection limit (MDL) and the RL. Twenty-five of the reported results were qualified as estimated due to initial calibration non-conformances, and fourteen of the reported results were qualified as estimated due to continuing calibration non-conformances. Twenty of the detected reported results were qualified as estimated with a negative bias due to surrogate recoveries below the control limit, and two of the detected reported results were qualified as estimated with a positive bias due to surrogate recoveries above the control limit. Thirty-six samples were qualified due to method blank contamination. Five reported results were qualified as non-detected due to contamination in trip blank MW-303-2Q11 (Y7YA6), and three reported results were qualified as non-detected due to contamination in field blank MW-402-2Q11 (Y7YA8). 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.).

Several samples were diluted due to high analyte concentrations above the calibration range. Reporting limits for the affected analytes were increased to reflect the dilution factor.

Seventeen trace VOC samples shipped for delivery on June 8 were not received by Liberty until June 10, 2011, and the temperature of the cooler was 8.9 degrees. However, since the cooler temperatures did not exceed 10 degrees C, no significant adverse effect on the data quality is expected and the affected sample results were not qualified.

Sample MW-80C-2Q11 (Y7YB5) was identified as a field duplicate of sample MW-20C-2Q11 (Y7YA4) in SDG Y7YB1. Trace detections of methylene chloride in both samples were qualified as estimated (J) due to the detection between the MDL and the RL. The results for methylene chloride were qualified as non-detected (U) due to method blank contamination. A trace detection for carbon disulfide was found in sample Y7YA4 and was non-detected in sample Y7YB5. No data were qualified as the differences between the results were within the criteria in Table 2-10 of the SAP.

Sample MW-90B-2Q11 (Y7YB7) was identified as a field duplicate of sample MW-10B-2Q11 (Y7Y85) in SDGs Y7Y84 and Y7YB1. Positive detections of benzene and PCE were reported

for both samples. A trace detection for ethylbenzene was found in sample Y7Y85 and was non-detected in sample Y7YB7. Trace detections of methylene chloride, o-xylene, and m,p-xylene were qualified as estimated (J) due to the detection between the MDL and the RL. The results for methylene chloride were qualified as non-detected (U) due to method blank contamination. No data were qualified as the differences between the results were within the criteria in Table 2-10 of the SAP.

Sample MW-98A-2Q11 (Y7YB8) was identified as a field duplicate of sample MW-2A-2Q11 (Y7YA5) in SDGs Y7Y84 and Y7YB1. Positive detections of chloroform and PCE were reported for both samples. Estimated detections of acetone, bromodichloroethane, dichlorodifluoromethane, and trichloroethene in both samples were qualified as estimated (J) due to the detection between the MDL and the RL. No data were qualified as the differences between the results were within the criteria in Table 2-10 of the SAP.

Sample MW-80C-2Q11 (Y7YB5) was identified as a field duplicate of sample MW-20C-2Q11 (Y7YA4) in SDG Y7YB1. Positive detections of chloroform and PCE were reported for both samples. Trace detections of methylene chloride and bromodichloromethane in both samples were qualified as estimated (J) due to the detection between the MDL and the RL. The results for methylene chloride were qualified as non-detected (U) due to method blank contamination. No data were qualified as the differences between the results were within the criteria in Table 2-10 of the SAP.

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

The analytical completeness for Volatile Organics by EPA TO-15 was 93.8%. Nineteen of the 1012 sample results were qualified as estimated due to trace values reported between the MDL and the RL. Forty of the reported results were qualified as estimated due to LCS recoveries below the control limit. Three of the reported results were qualified as estimated due to continuing calibration non-conformances. Three 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.

The Region 9 laboratory did not report the analyte dichlorodifluoromethane for samples in SDG 11165C.

Several samples were diluted due to high analyte concentrations above the calibration range. Reporting limits for affected analytes were increased to reflect the dilution factor.

Sample MW-108-0603 was identified as a field duplicate of sample GWTP-Pre GAC-0603 (SDG 11161A). Positive detections of benzene, chloroform, cis-1,2-dichloroethene, ethylbenzene, PCE, m,p-xylene, o-xylene, toluene, and trichloroethene were reported for sample GWTP-Pre GAC-0603. Positive detections of chloroform, PCE and trichloroethene were reported for sample GWTP-Pre GAC-0603; benzene, cis-1,2-dichloroethene, ethylbenzene, m,p-xylene, o-xylene, and toluene were non-detected for sample MW-108-0603. No data were qualified as the differences between the results were within the criteria in Table 2-10 of the SAP.

Sample SVE-98-2Q11 was identified as a field duplicate of sample SVE-2-2Q11 (SDG 11165C). Positive detections of cis-1,2-dichloroethene, trichloroethene, 1,1,2-trichloroethane, PCE, 1,1,2,2-tetrachloroethane, 1,2-dichlorobenzene, 1,3-dichlorobenzene, and 1,4-dichlorobenzene 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 DP-96B-2Q11 was identified as a field duplicate of sample DP-4B-2Q11 (SDG 11165C). Positive detections of chloroform and PCE 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 Region 9 laboratory analyzed certain samples with historically high concentrations of tetrachloroethene (PCE) 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

Sample ID Cross Reference
Trace Volatiles Samples

<u>Sample ID</u>	<u>Sample Description</u>	<u>SDG</u>
Y7Y84	MW-10A-2Q11	Y7Y84
Y7Y85	MW-10B-2Q11	Y7Y84
Y7Y86	MW-10C-2Q11	Y7Y84
Y7Y87	MW-11A-2Q11	Y7Y84
Y7Y88	MW-12A-2Q11	Y7Y84
Y7Y89	MW-13A-2Q11	Y7Y84
Y7Y90	MW-14A-2Q11	Y7Y84
Y7Y91	MW-15A-2Q11	Y7Y84
Y7Y92	MW-16A-2Q11	Y7Y84
Y7Y93	MW-16B-2Q11	Y7Y84
Y7Y94	MW-16C-2Q11	Y7Y84
Y7Y95	MW-17A-2Q11	Y7YB1
Y7Y96	MW-17B-2Q11	Y7YB1
Y7Y97	MW-17C-2Q11	Y7YB1
Y7Y98	MW-18A-2Q11	Y7Y84
Y7Y99	MW-19A-2Q11	Y7Y84
Y7YA0	MW-19B-2Q11	Y7Y84
Y7YA1	MW-1A-2Q11	Y7Y84
Y7YA2	MW-20A-2Q11	Y7YB1
Y7YA3	MW-20B-2Q11	Y7YB1
Y7YA4	MW-20C-2Q11	Y7YB1
Y7YA5	MW-2A-2Q11	Y7Y84
Y7YA6	MW-303-2Q11	Y7Y84
Y7YA7	MW-3A-2Q11	Y7YB1
Y7YA8	MW-402-2Q11	Y7YB1
Y7YA9	MW-4A-2Q11	Y7Y84
Y7YB0	MW-4B-2Q11	Y7Y84
Y7YB1	MW-4C-2Q11	Y7YB1
Y7YB2	MW-5A-2Q11	Y7Y84
Y7YB3	MW-6A-2Q11	Y7YB1
Y7YB4	MW-7A-2Q11	Y7YB1
Y7YB5	MW-80C-2Q11	Y7YB1
Y7YB6	MW-8A-2Q11	Y7YB1
Y7YB7	MW-90B-2Q11	Y7YB1
Y7YB8	MW-98A-2Q11	Y7YB1
Y7YB9	MW-9B-2Q11	Y7YB1

Table 1: Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
14-Apr-2011	MW-103-0403	1104024-06	FD	5030B	524.2	III
14-Apr-2011	MW-301-2Q11	1104024-07	TB	5030B	524.2	III
14-Apr-2011	MW-401-2Q11	1104024-08	FB	5030B	524.2	III
14-Apr-2011	MW-301-2Q11MS	B1D0066-MS1	MS	5030B	524.2	III
14-Apr-2011	MW-301-2Q11MSD	B1D0066-MSD1	MSD	5030B	524.2	III
14-Apr-2011	GWTP Stack-0403	1104025-02	N	None	TO-15	IV
14-Apr-2011	GWTP PreGAC-0403	1104025-01	N	None	TO-15	III
14-Apr-2011	GWTP PreGAC-0403DUP	B1D0088-DUP1	DUP	None	TO-15	III
14-Apr-2011	SVE Stack-0403	1104025-04	N	None	TO-15	III
14-Apr-2011	SVE PreGAC-0403	1104025-03	N	None	TO-15	III
14-Apr-2011	EFF-0403	1104024-04	N	5030B	524.2	III
14-Apr-2011	EFF-0403	1104024-04	N	None	2540C	III
14-Apr-2011	EFF-0403	1104024-04	N	None	2540D	III
14-Apr-2011	EFF-0403	1104024-04	N	None	5210B	III
14-Apr-2011	EFF-0403DUP	B1D0068-DUP1	DUP	None	2540C	III
14-Apr-2011	EFF-0403DUP	B1D0068-DUP2	DUP	None	2540D	III
14-Apr-2011	CRB EFF-0403	1104024-01	N	5030B	524.2	III
14-Apr-2011	CRB Mid-0403	1104024-03	N	5030B	524.2	IV
14-Apr-2011	CRB INF-0403	1104024-02	N	5030B	524.2	III
14-Apr-2011	EW-1-0403	1104024-05	N	5030B	524.2	III
10-May-2011	MW-302-2Q11	1105020-04	TB	5030B	524.2	III
10-May-2011	MW-302-2Q11MS	B1E0052-MS1	MS	5030B	524.2	III
10-May-2011	MW-302-2Q11MSD	B1E0052-MSD1	MSD	5030B	524.2	III
10-May-2011	SVE Stack-0502	1105024-04	N	None	TO-15	III
10-May-2011	SVE Pre GAC-0502	1105024-03	N	None	TO-15	III
10-May-2011	GWTP Pr GAC-0502	1105024-01	N	None	TO-15	III

Table 1: Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
10-May-2011	GWTP Pr GAC-0502DUP	B1E0046-DUP1	DUP	None	TO-15	III
10-May-2011	GWTP Stack-0502	1105024-02	N	None	TO-15	III
10-May-2011	EFF-0502	1105020-01	N	5030B	524.2	III
10-May-2011	EFF-0502	1105020-01	N	None	2540C	III
10-May-2011	EFF-0502	1105020-01	N	None	2540D	III
10-May-2011	EFF-0502	1105020-01	N	None	5210B	III
10-May-2011	EFF-0502DUP	B1E0049-DUP1	DUP	None	2540C	III
10-May-2011	EFF-0502DUP	B1E0049-DUP2	DUP	None	2540D	III
10-May-2011	MW-107-0502	1105020-03	FD	None	2540C	III
10-May-2011	MW-107-0502	1105020-03	FD	None	2540D	III
10-May-2011	EW-1-0502	1105020-02	N	5030B	524.2	III
02-Jun-2011	MW-304-2Q11	1106004-04	TB	5030B	524.2	III
02-Jun-2011	MW-304-2Q11MS	B1F0012-MS1	MS	5030B	524.2	III
02-Jun-2011	MW-304-2Q11MSD	B1F0012-MSD1	MSD	5030B	524.2	III
02-Jun-2011	EFF-0603	1106004-01	N	5030B	524.2	III
02-Jun-2011	EFF-0603	1106004-01	N	None	2540C	III
02-Jun-2011	EFF-0603	1106004-01	N	None	2540D	III
02-Jun-2011	EFF-0603	1106004-01	N	None	5210B	III
02-Jun-2011	EFF-0603DUP	B1F0011-DUP1	DUP	None	2540C	III
02-Jun-2011	EFF-0603DUP	B1F0011-DUP2	DUP	None	2540D	III
02-Jun-2011	MW-107-0603	1106004-03	FD	5030B	524.2	III
02-Jun-2011	EW-1-0603	1106004-02	N	5030B	524.2	III
06-Jun-2011	SVE-1-2Q11	1106024-10	N	None	TO-15	III
06-Jun-2011	DP-1A-2Q11	1106024-01	N	None	TO-15	III
06-Jun-2011	DP-1B-2Q11	1106024-02	N	None	TO-15	III
06-Jun-2011	SVE-2-2Q11	1106024-11	N	None	TO-15	III

Table 1: Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
06-Jun-2011	SVE-2-2Q11DUP	B1F0073-DUP1	DUP	None	TO-15	III
06-Jun-2011	SVE-98-2Q11	1106024-14	FD	None	TO-15	III
06-Jun-2011	SVE-3-2Q11	1106024-12	N	None	TO-15	III
06-Jun-2011	SVE-4-2Q11	1106024-13	N	None	TO-15	III
06-Jun-2011	Y7Y91	1106051-08	N	SOM01.2	SOM01.2	III
07-Jun-2011	Y7YA6	1106051-17	TB	SOM01.2	SOM01.2	III
07-Jun-2011	Y7YB4	1106052-03	N	SOM01.2	SOM01.2	III
07-Jun-2011	Y7Y99	1106051-13	N	SOM01.2	SOM01.2	III
07-Jun-2011	Y7YB9	1106052-07	N	SOM01.2	SOM01.2	III
07-Jun-2011	Y7Y87	1106051-04	N	SOM01.2	SOM01.2	III
07-Jun-2011	Y7YA0	1106051-14	N	SOM01.2	SOM01.2	III
07-Jun-2011	Y7YA5	1106051-16	N	SOM01.2	SOM01.2	III
07-Jun-2011	Y7YB1	1106052-01	N	SOM01.2	SOM01.2	III
07-Jun-2011	Y7YA1	1106051-15	N	SOM01.2	SOM01.2	III
07-Jun-2011	Y7YB8	1106052-06	FD	SOM01.2	SOM01.2	III
07-Jun-2011	Y7YB0	1106051-19	N	SOM01.2	SOM01.2	III
07-Jun-2011	Y7YB0	1106051-19RE1	N	SOM01.2	SOM01.2	III
07-Jun-2011	Y7Y89	1106051-06	N	SOM01.2	SOM01.2	III
07-Jun-2011	Y7Y88	1106051-05	N	SOM01.2	SOM01.2	III
07-Jun-2011	DP-4A-2Q11	1106024-03	N	None	TO-15	III
07-Jun-2011	Y7Y98	1106051-12	N	SOM01.2	SOM01.2	IV
07-Jun-2011	DP-4B-2Q11	1106024-04	N	None	TO-15	III
07-Jun-2011	DP-96B-2Q11	1106024-07	FD	None	TO-15	III
07-Jun-2011	OSVE-11-2Q11	1106024-09	N	None	TO-15	III
07-Jun-2011	OSVE-10-2Q11	1106024-08	N	None	TO-15	IV
07-Jun-2011	Y7YB6	1106052-04	N	SOM01.2	SOM01.2	III

Table 1: Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
07-Jun-2011	Y7YB6	1106052-04RE1	N	SOM01.2	SOM01.2	III
08-Jun-2011	Y7YB3	1106052-02	N	SOM01.2	SOM01.2	III
08-Jun-2011	Y7YB2MS	1061532-MS1	MS	SOM01.2	SOM01.2	III
08-Jun-2011	Y7YB2MSD	1061532-MSD1	MSD	SOM01.2	SOM01.2	III
08-Jun-2011	Y7YB2	1106051-20	N	SOM01.2	SOM01.2	III
08-Jun-2011	Y7YB2	1106051-20RE1	N	SOM01.2	SOM01.2	III
08-Jun-2011	Y7Y92	1106051-09	N	SOM01.2	SOM01.2	III
08-Jun-2011	Y7Y84	1106051-01	N	SOM01.2	SOM01.2	IV
08-Jun-2011	Y7Y84	1106051-01RE1	N	SOM01.2	SOM01.2	IV
08-Jun-2011	Y7Y94	1106051-11	N	SOM01.2	SOM01.2	III
08-Jun-2011	Y7Y90	1106051-07	N	SOM01.2	SOM01.2	III
08-Jun-2011	Y7Y90	1106051-07RE1	N	SOM01.2	SOM01.2	III
08-Jun-2011	Y7Y93	1106051-10	N	SOM01.2	SOM01.2	III
08-Jun-2011	Y7Y86	1106051-03	N	SOM01.2	SOM01.2	III
08-Jun-2011	Y7Y85	1106051-02	N	SOM01.2	SOM01.2	III
08-Jun-2011	Y7YB7	1106052-05	FD	SOM01.2	SOM01.2	III
08-Jun-2011	Y7YA9	1106051-18	N	SOM01.2	SOM01.2	IV
08-Jun-2011	Y7YA9	1106051-18RE1	N	SOM01.2	SOM01.2	IV
09-Jun-2011	Y7YA8	1106052-16	FB	SOM01.2	SOM01.2	III
09-Jun-2011	Y7YA7	1106052-15	N	SOM01.2	SOM01.2	III
09-Jun-2011	Y7YA7	1106052-15RE1	N	SOM01.2	SOM01.2	III
09-Jun-2011	DP-6A-2Q11	1106024-05	N	None	TO-15	III
09-Jun-2011	GWTP Stack-0603	1106018-02	N	None	TO-15	III
09-Jun-2011	GWTP Pre GAC-0603	1106018-01	N	None	TO-15	III
09-Jun-2011	GWTP Pre GAC-0603DUP	B1F0066-DUP1	DUP	None	TO-15	III
09-Jun-2011	MW-108-0603	1106018-03	FD	None	TO-15	III

Table 1: Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
09-Jun-2011	DP-6B-2Q11	1106024-06	N	None	TO-15	IV
09-Jun-2011	Y7Y97MS	1061533-MS1	MS	SOM01.2	SOM01.2	III
09-Jun-2011	Y7Y97MSD	1061533-MSD1	MSD	SOM01.2	SOM01.2	III
09-Jun-2011	Y7Y97	1106052-11	N	SOM01.2	SOM01.2	III
09-Jun-2011	SVE Stack-0603	1106018-05	N	None	TO-15	III
09-Jun-2011	SVE Pre GAC-0603	1106018-04	N	None	TO-15	III
09-Jun-2011	Y7Y95	1106052-09	N	SOM01.2	SOM01.2	III
09-Jun-2011	Y7Y96	1106052-10	N	SOM01.2	SOM01.2	III
09-Jun-2011	Y7Y96	1106052-10RE1	N	SOM01.2	SOM01.2	III
09-Jun-2011	Y7YA4	1106052-14	N	SOM01.2	SOM01.2	III
09-Jun-2011	Y7YB5	1106052-17	FD	SOM01.2	SOM01.2	III
09-Jun-2011	Y7YA3	1106052-13	N	SOM01.2	SOM01.2	III
09-Jun-2011	Y7YA3	1106052-13RE1	N	SOM01.2	SOM01.2	III
10-Jun-2011	Y7YA2	1106052-12	N	SOM01.2	SOM01.2	III
10-Jun-2011	Y7YA2	1106052-12RE1	N	SOM01.2	SOM01.2	III

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	1	None	None	None
2540D	Water	3	1	None	None	None
5210B	Water	3	None	None	None	None
524.2	Water	9	2	3	None	1
SOM01.2	Water	31	3	1	None	1
TO-15	Air	24	3	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: 11105B								
2540C	EFF-0403	Water	N	TOTAL DISSOLVED SOLIDS	20	660		mg/L
5210B	EFF-0403	Water	N	Biochemical Oxygen Demand	2.0	2.0		mg/L
524.2	CRB EFF-0403	Water	N	TETRACHLOROETHENE	0.5	0.5J		ug/L
524.2	CRB Mid-0403	Water	N	TETRACHLOROETHENE	0.5	0.5J		ug/L
524.2	EFF-0403	Water	N	TETRACHLOROETHENE	0.5	0.3J		ug/L
524.2	EW-1-0403	Water	N	CHLOROFORM	0.5	3.5		ug/L
				TETRACHLOROETHENE	10	120		ug/L
524.2	MW-301-2Q11	Water	TB	CHLOROFORM	0.5	1.8		ug/L
524.2	MW-401-2Q11	Water	FB	ACETONE	4.0	5.0		ug/L
SDG: 11105C								
TO-15	GWTP PreGAC-0403	Air	N	1,1,2-TRICHLOROETHANE	2.2	2.5		ppbv
				CHLOROFORM	2.2	6.1		ppbv
				TETRACHLOROETHENE	22	260		ppbv
TO-15	GWTP Stack-0403	Air	N	CHLOROFORM	2.2	6.1		ppbv
				TETRACHLOROETHENE	22	94		ppbv
TO-15	SVE PreGAC-0403	Air	N	TETRACHLOROETHENE	2.2	2.7		ppbv
TO-15	SVE Stack-0403	Air	N	CHLOROFORM	2.2	18		ppbv
				TETRACHLOROETHENE	2.2	5.6		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: 11131B								
2540C	EFF-0502	Water	N	TOTAL DISSOLVED SOLIDS	20	640		mg/L
2540C	MW-107-0502	Water	FD	TOTAL DISSOLVED SOLIDS	20	640		mg/L
5210B	EFF-0502	Water	N	Biochemical Oxygen Demand	2.0	2.0J-		mg/L
524.2	EFF-0502	Water	N	TETRACHLOROETHENE	0.5	0.3J		ug/L
524.2	EW-1-0502	Water	N	CHLOROFORM	0.5	3.5		ug/L
				TETRACHLOROETHENE	10	140		ug/L
524.2	MW-302-2Q11	Water	TB	CHLOROFORM	0.5	2.8		ug/L
SDG: 11131E								
TO-15	GWTP Pr GAC-0502	Air	N	CHLOROFORM	2.3	6.0		ppbv
				TETRACHLOROETHENE	23	260J		ppbv
TO-15	GWTP Stack-0502	Air	N	CHLOROFORM	2.3	6.0		ppbv
				TETRACHLOROETHENE	23	85		ppbv
TO-15	SVE Pre GAC-0502	Air	N	TETRACHLOROETHENE	2.4	1.6J		ppbv
TO-15	SVE Stack-0502	Air	N	CHLOROFORM	2.3	6.2		ppbv
SDG: 11154A								
2540C	EFF-0603	Water	N	TOTAL DISSOLVED SOLIDS	20	640		mg/L
5210B	EFF-0603	Water	N	Biochemical Oxygen Demand	2.0	2.0J-		mg/L
524.2	EFF-0603	Water	N	TETRACHLOROETHENE	0.5	0.3J		ug/L
524.2	EW-1-0603	Water	N	TETRACHLOROETHENE	5.0	120		ug/L
524.2	MW-107-0603	Water	FD	TETRACHLOROETHENE	0.5	0.4J		ug/L
524.2	MW-304-2Q11	Water	TB	CHLOROFORM	0.5	2.8		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: 11161A								
TO-15	GWTP Pre GAC-0603	Air	N	BENZENE	2.2	1.8J		ppbv
				CHLOROFORM	2.2	6.9		ppbv
				CIS-1,2-DICHLOROETHENE	2.2	3.5		ppbv
				ETHYLBENZENE	2.2	1.7J		ppbv
				m&p-Xylene	4.4	2.9J		ppbv
				O-XYLENE	2.2	1.7J		ppbv
				TETRACHLOROETHENE	22	300		ppbv
				TOLUENE	2.2	5.3J		ppbv
				TRICHLOROETHENE	2.2	1.8J		ppbv
TO-15	GWTP Stack-0603	Air	N	CHLOROFORM	2.2	6.3		ppbv
				CHLOROMETHANE	2.2	1.5J		ppbv
				CIS-1,2-DICHLOROETHENE	2.2	2.3		ppbv
				METHYLENE CHLORIDE	2.2	1.2J		ppbv
				TETRACHLOROETHENE	22	120		ppbv
				TOLUENE	2.2	3.2		ppbv
TO-15	MW-108-0603	Air	FD	CHLOROFORM	2.2	7.2		ppbv
				TETRACHLOROETHENE	22	300		ppbv
TO-15	SVE Pre GAC-0603	Air	N	CHLOROFORM	2.3	4.5		ppbv
				METHYLENE CHLORIDE	2.3	1.2J		ppbv
				TETRACHLOROETHENE	23	80		ppbv
TO-15	SVE Stack-0603	Air	N	1,2-DICHLOROPROPANE	2.1	1.4J		ppbv
				CHLOROFORM	2.1	3.7		ppbv
				METHYLENE CHLORIDE	2.1	1.4J		ppbv
				TETRACHLOROETHENE	2.1	3.0		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: 11165C								
TO-15	DP-1A-2Q11	Air	N	1,1,2-TRICHLOROETHANE	2.3	1.6J		ppbv
				BENZENE	2.3	1.2J		ppbv
				TETRACHLOROETHENE	23	96		ppbv
TO-15	DP-1B-2Q11	Air	N	1,1,2-TRICHLOROETHANE	2.3	1.5J		ppbv
				CHLOROFORM	2.3	2.9		ppbv
				TETRACHLOROETHENE	23	93		ppbv
TO-15	DP-4A-2Q11	Air	N	CHLOROFORM	2.3	42		ppbv
				TETRACHLOROETHENE	2.3	41		ppbv
				TRANS-1,3-DICHLOROPROPENE	2.3	1.3J		ppbv
TO-15	DP-4B-2Q11	Air	N	CHLOROFORM	2.3	40		ppbv
				TETRACHLOROETHENE	23	43		ppbv
TO-15	DP-6A-2Q11	Air	N	TETRACHLOROETHENE	2.2	2.0J		ppbv
				TRANS-1,3-DICHLOROPROPENE	2.2	2.6J-		ppbv
TO-15	DP-96B-2Q11	Air	FD	CHLOROFORM	2.3	39		ppbv
				TETRACHLOROETHENE	23	43		ppbv
TO-15	OSVE-10-2Q11	Air	N	TETRACHLOROETHENE	23	42		ppbv
TO-15	OSVE-11-2Q11	Air	N	TETRACHLOROETHENE	2.2	7.5		ppbv
TO-15	SVE-1-2Q11	Air	N	TETRACHLOROETHENE	2.3	15		ppbv
TO-15	SVE-2-2Q11	Air	N	1,1,2-TRICHLOROETHANE	2.2	3.1		ppbv
				1,2-DICHLOROBENZENE	2.2	43		ppbv
				1,3-DICHLOROBENZENE	2.2	2.2		ppbv
				1,4-DICHLOROBENZENE	2.2	6.5		ppbv
				CIS-1,2-DICHLOROETHENE	2.2	2.8		ppbv
				TETRACHLOROETHENE	22	320		ppbv
				TRICHLOROETHENE	2.2	2.2J-		ppbv
TO-15	SVE-3-2Q11	Air	N	1,2-DICHLOROBENZENE	2.2	6.6		ppbv
				TETRACHLOROETHENE	22	82		ppbv

*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: 11165C								
TO-15	SVE-4-2Q11	Air	N	1,1,2,2-TETRACHLOROETHANE	2.2	7.9J+		ppbv
				1,2,4-TRICHLOROBENZENE	2.2	1.1J		ppbv
				1,2,4-TRIMETHYLBENZENE	2.2	3.9		ppbv
				1,2-DICHLOROBENZENE	2.2	42		ppbv
				1,3,5-TRIMETHYLBENZENE	2.2	2.4		ppbv
				1,3-DICHLOROBENZENE	2.2	3.0		ppbv
				1,4-DICHLOROBENZENE	2.2	11		ppbv
				CHLOROFORM	2.2	19		ppbv
				METHYLENE CHLORIDE	2.2	1.2J		ppbv
				TETRACHLOROETHENE	2.2	23		ppbv
				TRICHLOROETHENE	2.2	1.1J		ppbv
TO-15	SVE-98-2Q11	Air	FD	1,1,2,2-TETRACHLOROETHANE	2.2	2.6J+		ppbv
				1,1,2-TRICHLOROETHANE	2.2	3.0		ppbv
				1,2-DICHLOROBENZENE	2.2	29		ppbv
				1,3-DICHLOROBENZENE	2.2	2.6		ppbv
				1,4-DICHLOROBENZENE	2.2	7.8		ppbv
				CIS-1,2-DICHLOROETHENE	2.2	3.9		ppbv
				TETRACHLOROETHENE	2.2	200		ppbv
				TRICHLOROETHENE	2.2	2.5J-		ppbv

*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: Y7Y84								
SOM01.2	Y7Y84	Water	N	Bromodichloromethane	0.50	0.22J		ug/L
				Chloroform	0.50	5.9		ug/L
				Chloroform	3.1	5.9		ug/L
				Tetrachloroethene	0.50	63		ug/L
				Tetrachloroethene	3.1	68		ug/L
SOM01.2	Y7Y85	Water	N	Benzene	0.50	1.5		ug/L
				Ethylbenzene	0.50	0.17J		ug/L
				m,p-Xylene	0.50	0.45J		ug/L
				o-Xylene	0.50	0.14J		ug/L
				Tetrachloroethene	0.50	14		ug/L
SOM01.2	Y7Y87	Water	N	Chloroform	0.50	1.8		ug/L
				Tetrachloroethene	0.50	3.4		ug/L
SOM01.2	Y7Y88	Water	N	Bromodichloromethane	0.50	0.27J		ug/L
				Chloroform	0.50	6.2		ug/L
				Tetrachloroethene	0.50	17		ug/L
				Trichlorofluoromethane	0.50	0.40J		ug/L
SOM01.2	Y7Y89	Water	N	Bromodichloromethane	0.50	0.12J		ug/L
				Chloroform	0.50	3.0		ug/L
				Tetrachloroethene	0.50	11		ug/L
SOM01.2	Y7Y90	Water	N	Tetrachloroethene	1.0	23		ug/L
				Tetrachloroethene	0.50	21		ug/L
SOM01.2	Y7Y91	Water	N	Tetrachloroethene	0.50	0.25J		ug/L
SOM01.2	Y7Y92	Water	N	1,1,1-Trichloroethane	0.50	0.087J		ug/L
				Chloroform	0.50	0.66		ug/L
SOM01.2	Y7Y93	Water	N	Benzene	0.50	3.5		ug/L
				Chloroform	0.50	0.51		ug/L
				Ethylbenzene	0.50	0.38J		ug/L
				m,p-Xylene	0.50	1.1		ug/L
				o-Xylene	0.50	0.28J		ug/L
				Tetrachloroethene	0.50	3.5		ug/L
				Toluene	0.50	0.55		ug/L
SOM01.2	Y7Y94	Water	N	Tetrachloroethene	0.50	0.60		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: Y7Y84								
SOM01.2	Y7Y98	Water	N	Benzene	0.50	2.1		ug/L
				Bromodichloromethane	0.50	0.15J		ug/L
				Ethylbenzene	0.50	0.22J		ug/L
				m,p-Xylene	0.50	0.62		ug/L
				o-Xylene	0.50	0.16J		ug/L
				Tetrachloroethene	0.50	2.9		ug/L
SOM01.2	Y7YA0	Water	N	Tetrachloroethene	0.50	0.26J		ug/L
SOM01.2	Y7YA1	Water	N	Tetrachloroethene	0.50	1.6		ug/L
SOM01.2	Y7YA5	Water	N	Bromodichloromethane	0.50	0.14J		ug/L
				Tetrachloroethene	0.50	5.4		ug/L
SOM01.2	Y7YA6	Water	TB	Chloroform	0.50	2.1		ug/L
SOM01.2	Y7YA9	Water	N	cis-1,2-Dichloroethene	0.50	1.1		ug/L
				Tetrachloroethene	0.50	300		ug/L
				Tetrachloroethene	42	1600		ug/L
				Trichloroethene	0.50	1.0		ug/L
SOM01.2	Y7YB0	Water	N	Benzene	3.6	70		ug/L
				Benzene	0.50	63		ug/L
				Cyclohexane	0.50	1.8		ug/L
				Ethylbenzene	3.6	6.7		ug/L
				Ethylbenzene	0.50	13		ug/L
				Isopropylbenzene	0.50	0.34J		ug/L
				m,p-Xylene	0.50	32		ug/L
				m,p-Xylene	3.6	21		ug/L
				o-Xylene	0.50	13		ug/L
				o-Xylene	3.6	5.2		ug/L
				Tetrachloroethene	0.50	2.8		ug/L
				Tetrachloroethene	3.6	3.2J		ug/L
				Toluene	0.50	15		ug/L
				Toluene	3.6	9.3		ug/L
SOM01.2	Y7YB2	Water	N	Tetrachloroethene	0.50	110		ug/L
				Tetrachloroethene	5.0	140		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: Y7YB1								
SOM01.2	Y7Y95	Water	N	Bromodichloromethane	0.50	0.37J		ug/L
				Tetrachloroethene	0.50	0.43J		ug/L
SOM01.2	Y7Y96	Water	N	Benzene	0.50	55		ug/L
				Benzene	2.5	15		ug/L
				Cyclohexane	0.50	1.4		ug/L
				Ethylbenzene	0.50	9.6		ug/L
				Ethylbenzene	2.5	2.1J		ug/L
				Isopropylbenzene	0.50	0.37J		ug/L
				m,p-Xylene	0.50	32		ug/L
				m,p-Xylene	2.5	6.6		ug/L
				o-Xylene	0.50	13		ug/L
				o-Xylene	2.5	2.3J		ug/L
				Tetrachloroethene	0.50	43		ug/L
				Tetrachloroethene	2.5	58		ug/L
				Toluene	0.50	10		ug/L
				Toluene	2.5	2.8		ug/L
SOM01.2	Y7YA2	Water	N	Benzene	0.50	0.68		ug/L
				Bromodichloromethane	0.50	0.31J		ug/L
				Chloroform	0.50	7.6		ug/L
				Dichlorodifluoromethane	0.50	4.1J+		ug/L
				m,p-Xylene	0.50	0.34J		ug/L
				Methyl tert-butyl ether	0.50	0.40J		ug/L
				o-Xylene	0.50	0.11J		ug/L
				Tetrachloroethene	0.50	330		ug/L
				Tetrachloroethene	25	310		ug/L
				Trichloroethene	0.50	0.24J		ug/L
SOM01.2	Y7YA3	Water	N	Benzene	0.50	1.7		ug/L
				Ethylbenzene	0.50	0.28J		ug/L
				m,p-Xylene	0.50	0.88		ug/L
				m,p-Xylene	6.3	1.1J		ug/L
				o-Xylene	0.50	0.30J		ug/L
				Tetrachloroethene	0.50	110		ug/L
				Tetrachloroethene	6.3	110		ug/L
SOM01.2	Y7YA4	Water	N	Carbon Disulfide	0.50	0.17J		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: Y7YB1								
SOM01.2	Y7YA7	Water	N	2-Butanone	25	25		ug/L
				Acetone	25	25		ug/L
				Bromodichloromethane	0.50	0.10J		ug/L
				Tetrachloroethene	0.50	52		ug/L
				Tetrachloroethene	2.5	52		ug/L
SOM01.2	Y7YA8	Water	FB	Acetone	5.0	4.7J		ug/L
				Chloroform	0.50	2.6		ug/L
SOM01.2	Y7YB3	Water	N	Bromodichloromethane	0.50	0.39J		ug/L
				Chloroform	0.50	9.2		ug/L
				Tetrachloroethene	0.50	5.6		ug/L
SOM01.2	Y7YB4	Water	N	Chloroform	0.50	1.2		ug/L
SOM01.2	Y7YB6	Water	N	Bromodichloromethane	0.50	0.17J		ug/L
				Chloroform	0.50	4.3		ug/L
				Chloroform	2.1	4.3		ug/L
				Tetrachloroethene	0.50	43		ug/L
				Tetrachloroethene	2.1	43		ug/L
SOM01.2	Y7YB7	Water	FD	Benzene	0.50	1.6		ug/L
				m,p-Xylene	0.50	0.74		ug/L
				o-Xylene	0.50	0.26J		ug/L
				Tetrachloroethene	0.50	15		ug/L
SOM01.2	Y7YB8	Water	FD	Bromodichloromethane	0.50	0.17J		ug/L
				Chloroform	0.50	3.0		ug/L
				Tetrachloroethene	0.50	5.3		ug/L
SOM01.2	Y7YB9	Water	N	Tetrachloroethene	0.50	2.3		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 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: 11105B										
524.2	CRB EFF-0403	Water	N	NAPHTHALENE	0.5	0.5J,U,C 3		UJ	ug/L	IcRsd
				TETRACHLOROETHENE	0.5	0.3J,C1		J	ug/L	RI
524.2	CRB INF-0403	Water	N	NAPHTHALENE	0.5	0.5J,U,C 3		UJ	ug/L	IcRsd
524.2	CRB Mid-0403	Water	N	NAPHTHALENE	0.5	0.5J,U,C 3		UJ	ug/L	IcRsd
				TETRACHLOROETHENE	0.5	0.3J,C1		J	ug/L	RI
524.2	EFF-0403	Water	N	NAPHTHALENE	0.5	0.5J,U,C 3		UJ	ug/L	IcRsd
				TETRACHLOROETHENE	0.5	0.3J,C1		J	ug/L	RI
524.2	EW-1-0403	Water	N	NAPHTHALENE	0.5	0.5J,U,C 3		UJ	ug/L	IcRsd
524.2	MW-103-0403	Water	FD	NAPHTHALENE	0.5	0.5J,U,C 3		UJ	ug/L	IcRsd
524.2	MW-301-2Q11	Water	TB	NAPHTHALENE	0.5	0.5J,U,C 3,		UJ	ug/L	Ms, IcRsd
524.2	MW-401-2Q11	Water	FB	NAPHTHALENE	0.5	0.5J,U,C 3		UJ	ug/L	IcRsd
SDG: 11131B										
5210B	EFF-0502	Water	N	Biochemical Oxygen Demand	2.0	2.0J,<,Q 2		J-	mg/L	Lcs
524.2	EFF-0502	Water	N	TETRACHLOROETHENE	0.5	0.3J,C1		J	ug/L	RI

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: 11131E										
TO-15	GWTP Pr GAC-0502	Air	N	TETRACHLOROETHENE	23	260J,Q5		J	ppbv	Ld
TO-15	SVE Pre GAC-0502	Air	N	TETRACHLOROETHENE	2.4	1.6J,C1		J	ppbv	RI
SDG: 11154A										
5210B	EFF-0603	Water	N	Biochemical Oxygen Demand	2.0	2.0<,Q2		J-	mg/L	Lcs
524.2	EFF-0603	Water	N	TETRACHLOROETHENE	0.5	0.3J,C1		J	ug/L	RI
524.2	EW-1-0603	Water	N	CHLOROFORM	0.5	3.1		U	ug/L	Tb
524.2	MW-107-0603	Water	FD	TETRACHLOROETHENE	0.5	0.4J,C1		J	ug/L	RI

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: 11161A										
TO-15	GWTP Pre GAC-0603	Air	N	BENZENE	2.2	1.8J,C1		J	ppbv	RI
				ETHYLBENZENE	2.2	1.7J,C1		J	ppbv	RI
				HEXACHLOROBUTADIENE	2.2	2.2J,U,C 4		UJ	ppbv	Ccv
				m&p-Xylene	4.4	2.9J,C1		J	ppbv	RI
				O-XYLENE	2.2	1.7J,C1		J	ppbv	RI
				TOLUENE	2.2	5.3		J	ppbv	Ld
				TRANS-1,3-DICHLOROPROPENE	2.2	2.2J,U,Q 2		UJ	ppbv	Lcs
				TRICHLOROETHENE	2.2	1.8J,C1, Q2		J	ppbv	Ld, Lcs, RI
TO-15	GWTP Stack-0603	Air	N	CHLOROMETHANE	2.2	1.5J,C1		J	ppbv	RI
				HEXACHLOROBUTADIENE	2.2	2.2J,U,C 4		UJ	ppbv	Ccv
				METHYLENE CHLORIDE	2.2	1.2J,C1		J	ppbv	RI
				TRANS-1,3-DICHLOROPROPENE	2.2	2.2J,U,Q 2		UJ	ppbv	Lcs
				TRICHLOROETHENE	2.2	2.2J,U,Q 2		UJ	ppbv	Lcs
TO-15	MW-108-0603	Air	FD	HEXACHLOROBUTADIENE	2.2	2.2J,U,C 4		UJ	ppbv	Ccv
				TRANS-1,3-DICHLOROPROPENE	2.2	2.2J,U,Q 2		UJ	ppbv	Lcs
				TRICHLOROETHENE	2.2	2.2J,U,Q 2		UJ	ppbv	Lcs
TO-15	SVE Pre GAC-0603	Air	N	HEXACHLOROBUTADIENE	2.3	2.3J,U,C 4		UJ	ppbv	Ccv
				METHYLENE CHLORIDE	2.3	1.2J,C1		J	ppbv	RI
				TRANS-1,3-DICHLOROPROPENE	2.3	2.3J,U,Q 2		UJ	ppbv	Lcs
				TRICHLOROETHENE	2.3	2.3J,U,Q 2		UJ	ppbv	Lcs

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 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: 11161A										
TO-15	SVE Stack-0603	Air	N							
				1,2-DICHLOROPROPANE	2.1	1.4J,C1		J	ppbv	RI
				HEXACHLOROBUTADIENE	2.1	2.1J,U,C 4		UJ	ppbv	Ccv
				METHYLENE CHLORIDE	2.1	1.4J,C1		J	ppbv	RI
				TRANS-1,3-DICHLOROPROPENE	2.1	2.1J,U,Q 2		UJ	ppbv	Lcs
				TRICHLOROETHENE	2.1	2.1J,U,Q 2		UJ	ppbv	Lcs

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: 11165C										
TO-15	DP-1A-2Q11	Air	N	1,1,2-TRICHLOROETHANE	2.3	1.6J,C1		J	ppbv	RI
				BENZENE	2.3	1.2J,C1		J	ppbv	RI
				TRANS-1,3-DICHLOROPROPENE	2.3	2.3J,U,Q 2		UJ	ppbv	Lcs
				TRICHLOROETHENE	2.3	2.3J,U,Q 2		UJ	ppbv	Lcs
TO-15	DP-1B-2Q11	Air	N	1,1,2-TRICHLOROETHANE	2.3	1.5J,C1		J	ppbv	RI
				TRANS-1,3-DICHLOROPROPENE	2.3	2.3J,U,Q 2		UJ	ppbv	Lcs
				TRICHLOROETHENE	2.3	2.3J,U,Q 2		UJ	ppbv	Lcs
TO-15	DP-4A-2Q11	Air	N	TRANS-1,3-DICHLOROPROPENE	2.3	1.3J,C1, Q2		J	ppbv	Lcs, RI
				TRICHLOROETHENE	2.3	2.3J,U,Q 2		UJ	ppbv	Lcs
TO-15	DP-4B-2Q11	Air	N	TRANS-1,3-DICHLOROPROPENE	2.3	2.3J,U,Q 2		UJ	ppbv	Lcs
				TRICHLOROETHENE	2.3	2.3J,U,Q 2		UJ	ppbv	Lcs
TO-15	DP-6A-2Q11	Air	N	TETRACHLOROETHENE	2.2	2.0J,C1		J	ppbv	RI
				TRANS-1,3-DICHLOROPROPENE	2.2	2.6J,Q2		J-	ppbv	Lcs
				TRICHLOROETHENE	2.2	2.2J,U,Q 2		UJ	ppbv	Lcs
TO-15	DP-6B-2Q11	Air	N	TRANS-1,3-DICHLOROPROPENE	2.1	2.1J,U,Q 2		UJ	ppbv	Lcs
				TRICHLOROETHENE	2.1	2.1J,U,Q 2		UJ	ppbv	Lcs

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 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: 11165C										
TO-15	DP-96B-2Q11	Air	FD	TRANS-1,3-DICHLOROPROPENE	2.3	2.3J,U,Q 2		UJ	ppbv	Lcs
				TRICHLOROETHENE	2.3	2.3J,U,Q 2		UJ	ppbv	Lcs
TO-15	OSVE-10-2Q11	Air	N	TRANS-1,3-DICHLOROPROPENE	2.3	2.3J,U,Q 2		UJ	ppbv	Lcs
				TRICHLOROETHENE	2.3	2.3J,U,Q 2		UJ	ppbv	Lcs
TO-15	OSVE-11-2Q11	Air	N	TRANS-1,3-DICHLOROPROPENE	2.2	2.2J,U,Q 2		UJ	ppbv	Lcs
				TRICHLOROETHENE	2.2	2.2J,U,Q 2		UJ	ppbv	Lcs
TO-15	SVE-1-2Q11	Air	N	TRANS-1,3-DICHLOROPROPENE	2.3	2.3J,U,Q 2		UJ	ppbv	Lcs
				TRICHLOROETHENE	2.3	2.3J,U,Q 2		UJ	ppbv	Lcs
TO-15	SVE-2-2Q11	Air	N	TRANS-1,3-DICHLOROPROPENE	2.2	2.2J,U,Q 2		UJ	ppbv	Lcs
				TRICHLOROETHENE	2.2	2.2J,Q2		J-	ppbv	Lcs
TO-15	SVE-3-2Q11	Air	N	TRANS-1,3-DICHLOROPROPENE	2.2	2.2J,U,Q 2		UJ	ppbv	Lcs
				TRICHLOROETHENE	2.2	2.2J,U,Q 2		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: 11165C										
TO-15	SVE-4-2Q11	Air	N	1,1,2,2-TETRACHLOROETHANE	2.2	7.9J,C3, Q2		J+	ppbv	Lcs
				1,2,4-TRICHLOROBENZENE	2.2	1.1J,C1, C3		J	ppbv	RI
				METHYLENE CHLORIDE	2.2	1.2J,C1		J	ppbv	RI
				TRANS-1,3-DICHLOROPROPENE	2.2	2.2J,U,Q 2		UJ	ppbv	Lcs
				TRICHLOROETHENE	2.2	1.1J,C1, Q2		J	ppbv	Lcs, RI
TO-15	SVE-98-2Q11	Air	FD	1,1,2,2-TETRACHLOROETHANE	2.2	2.6J,C3, Q2		J+	ppbv	Lcs
				TRANS-1,3-DICHLOROPROPENE	2.2	2.2J,U,Q 2		UJ	ppbv	Lcs
				TRICHLOROETHENE	2.2	2.5J,Q2		J-	ppbv	Lcs

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: Y7Y84										
SOM01.2	Y7Y84	Water	N	2-Butanone	5.0	5.0U		UJ	ug/L	Surr-
				Acetone	5.0	5.0U		UJ	ug/L	Surr-
				Methylene chloride	0.50	0.31JB		U	ug/L	Mb
SOM01.2	Y7Y85	Water	N	2-Butanone	5.0	5.0U		UJ	ug/L	Surr-
				Acetone	5.0	5.0U		UJ	ug/L	Surr-
				Methylene chloride	0.50	0.48JB		U	ug/L	Mb
SOM01.2	Y7Y86	Water	N	2-Butanone	5.0	5.0U		UJ	ug/L	Surr-
				Acetone	5.0	5.0U		UJ	ug/L	Surr-
				Methylene chloride	0.50	0.31JB		U	ug/L	Mb
SOM01.2	Y7Y87	Water	N	Acetone	5.0	5.0U		UJ	ug/L	IcRrf
				Methylene chloride	0.50	0.31JB		U	ug/L	Mb
SOM01.2	Y7Y88	Water	N	2-Butanone	5.0	5.0U		UJ	ug/L	Surr-
				Acetone	5.0	5.0U		UJ	ug/L	Surr-
				Methylene chloride	0.50	0.25JB		U	ug/L	Mb
SOM01.2	Y7Y89	Water	N	2-Butanone	5.0	5.0U		UJ	ug/L	Surr-
				Acetone	5.0	5.0U		UJ	ug/L	Surr-
				Methylene chloride	0.50	0.28JB		U	ug/L	Mb
SOM01.2	Y7Y90	Water	N	2-Butanone	5.0	5.0U		UJ	ug/L	Surr-
				Acetone	5.0	5.0U		UJ	ug/L	Surr-
SOM01.2	Y7Y91	Water	N	2-Butanone	5.0	5.0U		UJ	ug/L	Surr-
				Acetone	5.0	5.0U		UJ	ug/L	Surr-
				Methylene chloride	0.50	0.27JB		U	ug/L	Mb

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 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: Y7Y84										
SOM01.2	Y7Y92	Water	N	1,1,1-Trichloroethane	0.50	0.087J		J	ug/L	RI
				Acetone	5.0	5.0U		UJ	ug/L	IcRrf
				Methylene chloride	0.50	0.38JB		U	ug/L	Mb
SOM01.2	Y7Y93	Water	N	2-Butanone	5.0	5.0U		UJ	ug/L	Surr-
				Acetone	5.0	5.0U		UJ	ug/L	Surr-
				Methylene chloride	0.50	0.39JB		U	ug/L	Mb
SOM01.2	Y7Y94	Water	N	Acetone	5.0	5.0U		UJ	ug/L	IcRrf
				Methylene chloride	0.50	0.42JB		U	ug/L	Mb
SOM01.2	Y7Y98	Water	N	Acetone	5.0	5.0U		UJ	ug/L	IcRrf
				Bromodichloromethane	0.50	0.15J		J	ug/L	RI
				Chloroform	0.50	4.2		U	ug/L	Tb
				Ethylbenzene	0.50	0.22J		J	ug/L	RI
				Methylene chloride	0.50	0.43JB		U	ug/L	Mb
				o-Xylene	0.50	0.16J		J	ug/L	RI
SOM01.2	Y7Y99	Water	N	Acetone	5.0	5.0U		UJ	ug/L	IcRrf
				Chloroform	0.50	1.3		U	ug/L	Tb
				Methylene chloride	0.50	0.76B		U	ug/L	Mb
SOM01.2	Y7YA0	Water	N	Acetone	5.0	5.0U		UJ	ug/L	IcRrf
				Methylene chloride	0.50	0.47JB		U	ug/L	Mb
				Tetrachloroethene	0.50	0.26J		J	ug/L	RI
SOM01.2	Y7YA1	Water	N	Acetone	5.0	5.0U		UJ	ug/L	IcRrf
				Methylene chloride	0.50	0.40JB		U	ug/L	Mb

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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: Y7Y84										
SOM01.2	Y7YA5	Water	N	2-Butanone	5.0	5.0U		UJ	ug/L	Surr-
				Acetone	5.0	5.0U		UJ	ug/L	Surr-
				Bromodichloromethane	0.50	0.14J		J	ug/L	RI
				Chloroform	0.50	2.9		U	ug/L	Tb
				Methylene chloride	0.50	0.52B		U	ug/L	Mb
SOM01.2	Y7YA6	Water	TB	Acetone	5.0	5.1		UJ	ug/L	IcRrf
				Methylene chloride	0.50	0.76B		U	ug/L	Mb
SOM01.2	Y7YA9	Water	N	Acetone	5.0	5.0U		UJ	ug/L	IcRrf
				Chloroform	0.50	1.6		U	ug/L	Tb
				Methylene chloride	0.50	0.51B		U	ug/L	Mb
SOM01.2	Y7YB0	Water	N	Acetone	5.0	3.9J		UJ	ug/L	Tb
				Isopropylbenzene	0.50	0.34J		J	ug/L	RI
SOM01.2	Y7YB2	Water	N	2-Butanone	5.0	5.0U		UJ	ug/L	Surr-
				Acetone	5.0	5.0U		UJ	ug/L	Surr-
				Methylene chloride	0.50	0.36JB		U	ug/L	Mb

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: Y7YB1										
SOM01.2	Y7Y95	Water	N	2-Butanone	5.0	5.0U		UJ	ug/L	IcRrf
				Acetone	5.0	5.0U		UJ	ug/L	IcRrf
				Bromodichloromethane	0.50	0.37J		J	ug/L	RI
				Chloroform	0.50	6.9		U	ug/L	Fb
				Methylene chloride	0.50	0.40JB		U	ug/L	Mb
				Tetrachloroethene	0.50	0.43J		J	ug/L	RI
SOM01.2	Y7Y96	Water	N	2-Butanone	5.0	5.0U		UJ	ug/L	CcRrf
				Acetone	5.0	5.6		UJ	ug/L	Fb,CcRrf
				Isopropylbenzene	0.50	0.37J		J	ug/L	RI
				Methylene chloride	0.50	0.34JB		U	ug/L	Mb
SOM01.2	Y7Y97	Water	N	2-Butanone	5.0	5.0U		UJ	ug/L	CcRrf
				Acetone	5.0	5.0U		UJ	ug/L	CcRrf
				Methylene chloride	0.50	0.34JB		U	ug/L	Mb
SOM01.2	Y7YA2	Water	N	2-Butanone	5.0	5.0U		UJ	ug/L	IcRrf
				Acetone	5.0	5.0U		UJ	ug/L	IcRrf
				Bromodichloromethane	0.50	0.31J		J	ug/L	RI
				Dichlorodifluoromethane	0.50	4.1		J+	ug/L	Surr+
				m,p-Xylene	0.50	0.34J		J	ug/L	RI
				Methyl tert-butyl ether	0.50	0.40J		J	ug/L	RI
				Methylene chloride	0.50	0.45JB		U	ug/L	Mb
				o-Xylene	0.50	0.11J		J	ug/L	RI
				Trichloroethene	0.50	0.24J		J	ug/L	RI

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: Y7YB1										
SOM01.2	Y7YA3	Water	N	2-Butanone	5.0	5.0U		UJ	ug/L	CcRrf
				Acetone	5.0	5.0U		UJ	ug/L	CcRrf
				Ethylbenzene	0.50	0.28J		J	ug/L	RI
				m,p-Xylene	6.3	1.1JD		J	ug/L	RI
				Methylene chloride	0.50	0.34JB		U	ug/L	Mb
				o-Xylene	0.50	0.30J		J	ug/L	RI
SOM01.2	Y7YA4	Water	N	2-Butanone	5.0	5.0U		UJ	ug/L	CcRrf
				Acetone	5.0	5.0U		UJ	ug/L	CcRrf
				Carbon Disulfide	0.50	0.17J		J	ug/L	Surr+
				Methylene chloride	0.50	0.37JB		U	ug/L	Mb
SOM01.2	Y7YA7	Water	N	2-Butanone	5.0	5.0U		UJ	ug/L	CcRrf
				Acetone	5.0	5.0U		UJ	ug/L	CcRrf
				Bromodichloromethane	0.50	0.10J		J	ug/L	RI
				Chloroform	0.50	2.3		U	ug/L	Fb
				Methylene chloride	0.50	0.39JB		U	ug/L	Mb
SOM01.2	Y7YA8	Water	FB	2-Butanone	5.0	5.0U		UJ	ug/L	CcRrf
				Acetone	5.0	4.7J		J	ug/L	RI,CcRrf
				Methylene chloride	0.50	0.45JB		U	ug/L	Mb
SOM01.2	Y7YB1	Water	N	2-Butanone	5.0	5.0U		UJ	ug/L	IcRrf
				Acetone	5.0	5.0U		UJ	ug/L	IcRrf
				Methylene chloride	0.50	0.32JB		U	ug/L	Mb
SOM01.2	Y7YB3	Water	N	2-Butanone	5.0	5.0U		UJ	ug/L	IcRrf
				Acetone	5.0	5.0U		UJ	ug/L	IcRrf
				Bromodichloromethane	0.50	0.39J		J	ug/L	RI
				Methylene chloride	0.50	0.35JB		U	ug/L	Mb

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: Y7YB1										
SOM01.2	Y7YB4	Water	N	2-Butanone	5.0	5.0U		UJ	ug/L	IcRrf
				Acetone	5.0	5.0U		UJ	ug/L	IcRrf
				Methylene chloride	0.50	0.35JB		U	ug/L	Mb
SOM01.2	Y7YB5	Water	FD	2-Butanone	5.0	5.0U		UJ	ug/L	CcRrf
				Acetone	5.0	5.0U		UJ	ug/L	CcRrf
				Methylene chloride	0.50	0.37JB		U	ug/L	Mb
SOM01.2	Y7YB6	Water	N	2-Butanone	5.0	5.0U		UJ	ug/L	IcRrf
				Acetone	5.0	5.0U		UJ	ug/L	IcRrf
				Bromodichloromethane	0.50	0.17J		J	ug/L	RI
				Methylene chloride	0.50	0.28JB		U	ug/L	Mb
SOM01.2	Y7YB7	Water	FD	2-Butanone	5.0	5.0U		UJ	ug/L	IcRrf
				Acetone	5.0	5.0U		UJ	ug/L	IcRrf
				Methylene chloride	0.50	0.26JB		U	ug/L	Mb
				o-Xylene	0.50	0.26J		J	ug/L	RI
SOM01.2	Y7YB8	Water	FD	2-Butanone	5.0	5.0U		UJ	ug/L	IcRrf
				Acetone	5.0	5.0U		UJ	ug/L	IcRrf
				Bromodichloromethane	0.50	0.17J		J	ug/L	RI
				Methylene chloride	0.50	0.30JB		U	ug/L	Mb
SOM01.2	Y7YB9	Water	N	2-Butanone	5.0	5.0U		UJ	ug/L	IcRrf
				Acetone	5.0	5.0U		UJ	ug/L	IcRrf
				Methylene chloride	0.50	0.29JB		U	ug/L	Mb

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

Table 5

Analytical Completeness

Analytical Completeness Report

Project No. / 41420 / Modesto GWMP 2Q11 ; 41420 - CLP / Modesto GWMP 2Q11 ; R11S57 / Modesto GW
Name : Treatment System Spring 2011 Sampling ; R11S78 / Modesto Groundwater June 2011 Qtrly Monitoring

Analytical Method	Total Number of Analytes	Number of Qualified	Percent Completeness
2540C	4	0	100.0
2540D	4	0	100.0
5210B	3	2	33.3
524.2	945	15	98.4
SOM01.2	1844	127	93.1
TO-15	1012	63	93.8
Total	3812	207	94.6

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. / 41420 / Modesto GWMP 2Q11 ; 41420 - CLP / Modesto GWMP 2Q11 ; R11S57 / Modesto GW
Name : Treatment System Spring 2011 Sampling ; R11S78 / Modesto Groundwater June 2011 Qtrly Monitoring

Analytical Method	Total Number of Analytes	Number of Qualified	Percent Completeness
2540C	4	0	100.0
2540D	4	0	100.0
5210B	3	2	33.3
524.2	945	14	98.5
SOM01.2	1844	105	94.3
TO-15	1012	61	94.0
Total	3812	182	95.2

Table 7

Technical Completeness

Technical Completeness Report

Project No. / 41420 / Modesto GWMP 2Q11 ; 41420 - CLP / Modesto GWMP 2Q11 ; R11S57 / Modesto GW
Name : Treatment System Spring 2011 Sampling ; R11S78 / Modesto Groundwater June 2011 Qtrly Monitoring

Analytical Method	Total Number of Analytes	Number of Rejects	Percent Completeness
2540C	4	0	100.0
2540D	4	0	100.0
5210B	3	0	100.0
524.2	945	0	100.0
SOM01.2	1844	0	100.0
TO-15	1012	0	100.0
Total	3812	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

Reason for Qualified Results

SDG Nos. : 11105B,11105C,11131B,11131E,11154A,11161A,11165C,Y7Y84,Y7YB1

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
11105B	CRB EFF-0403	524.2	91-20-3		J	NAPHTHALENE	Initial calibration %RSD
11105B	CRB INF-0403	524.2	91-20-3		J	NAPHTHALENE	Initial calibration %RSD
11105B	CRB Mid-0403	524.2	91-20-3		J	NAPHTHALENE	Initial calibration %RSD
11105B	EFF-0403	524.2	91-20-3		J	NAPHTHALENE	Initial calibration %RSD
11105B	EW-1-0403	524.2	91-20-3		J	NAPHTHALENE	Initial calibration %RSD
11105B	MW-103-0403	524.2	91-20-3		J	NAPHTHALENE	Initial calibration %RSD
11105B	MW-301-2Q11	524.2	91-20-3		J	NAPHTHALENE	Initial calibration %RSD
11105B	MW-301-2Q11	524.2	91-20-3		J	NAPHTHALENE	Matrix spike RPD
11105B	MW-401-2Q11	524.2	91-20-3		J	NAPHTHALENE	Initial calibration %RSD
11131B	EFF-0502	5210B	BOD	J-		Biochemical Oxygen Demand	LCS spike recovery
11131E	GWTP Pr GAC-0502	TO-15	127-18-4	J		TETRACHLOROETHENE	Lab Duplicate RPD
11131E	GWTP Pr GAC-0502DUP	TO-15	127-18-4	J		TETRACHLOROETHENE	Lab Duplicate RPD
11154A	EFF-0603	5210B	BOD	J-		Biochemical Oxygen Demand	LCS spike recovery
11154A	EW-1-0603	524.2	67-66-3	U		CHLOROFORM	Present in trip blank
11161A	GWTP Pre GAC-0603	TO-15	87-68-3		J	HEXACHLOROBUTADIENE	Continuing calibration percent difference
11161A	GWTP Pre GAC-0603	TO-15	108-88-3	J		TOLUENE	Lab Duplicate RPD
11161A	GWTP Pre GAC-0603	TO-15	10061-02-6		J	TRANS-1,3-DICHLOROPROPENE	LCS spike recovery
11161A	GWTP Pre GAC-0603	TO-15	79-01-6	J		TRICHLOROETHENE	Lab Duplicate RPD
11161A	GWTP Pre GAC-0603	TO-15	79-01-6	J-		TRICHLOROETHENE	LCS spike recovery
11161A	GWTP Pre GAC-0603DUP	TO-15	108-88-3	J		TOLUENE	Lab Duplicate RPD
11161A	GWTP Pre GAC-0603DUP	TO-15	79-01-6	J		TRICHLOROETHENE	Lab Duplicate RPD
11161A	GWTP Stack-0603	TO-15	87-68-3		J	HEXACHLOROBUTADIENE	Continuing calibration percent difference
11161A	GWTP Stack-0603	TO-15	10061-02-6		J	TRANS-1,3-DICHLOROPROPENE	LCS spike recovery
11161A	GWTP Stack-0603	TO-15	79-01-6	J		TRICHLOROETHENE	LCS spike recovery
11161A	MW-108-0603	TO-15	87-68-3		J	HEXACHLOROBUTADIENE	Continuing calibration percent difference
11161A	MW-108-0603	TO-15	10061-02-6		J	TRANS-1,3-DICHLOROPROPENE	LCS spike recovery
11161A	MW-108-0603	TO-15	79-01-6	J		TRICHLOROETHENE	LCS spike recovery
11161A	SVE Pre GAC-0603	TO-15	87-68-3	J		HEXACHLOROBUTADIENE	Continuing calibration percent difference

Reason for Qualified Results

SDG Nos. : 11105B,11105C,11131B,11131E,11154A,11161A,11165C,Y7Y84,Y7YB1

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
11161A	SVE Pre GAC-0603	TO-15	10061-02-6		J	TRANS-1,3-DICHLOROPROPENE	LCS spike recovery
11161A	SVE Pre GAC-0603	TO-15	79-01-6		J	TRICHLOROETHENE	LCS spike recovery
11161A	SVE Stack-0603	TO-15	87-68-3		J	HEXACHLOROBUTADIENE	Continuing calibration percent difference
11161A	SVE Stack-0603	TO-15	10061-02-6		J	TRANS-1,3-DICHLOROPROPENE	LCS spike recovery
11161A	SVE Stack-0603	TO-15	79-01-6		J	TRICHLOROETHENE	LCS spike recovery
11165C	DP-1A-2Q11	TO-15	10061-02-6		J	TRANS-1,3-DICHLOROPROPENE	LCS spike recovery
11165C	DP-1A-2Q11	TO-15	79-01-6		J	TRICHLOROETHENE	LCS spike recovery
11165C	DP-1B-2Q11	TO-15	10061-02-6		J	TRANS-1,3-DICHLOROPROPENE	LCS spike recovery
11165C	DP-1B-2Q11	TO-15	79-01-6		J	TRICHLOROETHENE	LCS spike recovery
11165C	DP-4A-2Q11	TO-15	10061-02-6	J-		TRANS-1,3-DICHLOROPROPENE	LCS spike recovery
11165C	DP-4A-2Q11	TO-15	79-01-6		J	TRICHLOROETHENE	LCS spike recovery
11165C	DP-4B-2Q11	TO-15	10061-02-6		J	TRANS-1,3-DICHLOROPROPENE	LCS spike recovery
11165C	DP-4B-2Q11	TO-15	79-01-6		J	TRICHLOROETHENE	LCS spike recovery
11165C	DP-6A-2Q11	TO-15	10061-02-6	J-		TRANS-1,3-DICHLOROPROPENE	LCS spike recovery
11165C	DP-6A-2Q11	TO-15	79-01-6		J	TRICHLOROETHENE	LCS spike recovery
11165C	DP-6B-2Q11	TO-15	10061-02-6		J	TRANS-1,3-DICHLOROPROPENE	LCS spike recovery
11165C	DP-6B-2Q11	TO-15	79-01-6		J	TRICHLOROETHENE	LCS spike recovery
11165C	DP-96B-2Q11	TO-15	10061-02-6		J	TRANS-1,3-DICHLOROPROPENE	LCS spike recovery
11165C	DP-96B-2Q11	TO-15	79-01-6		J	TRICHLOROETHENE	LCS spike recovery
11165C	OSVE-10-2Q11	TO-15	10061-02-6		J	TRANS-1,3-DICHLOROPROPENE	LCS spike recovery
11165C	OSVE-10-2Q11	TO-15	79-01-6		J	TRICHLOROETHENE	LCS spike recovery
11165C	OSVE-11-2Q11	TO-15	10061-02-6		J	TRANS-1,3-DICHLOROPROPENE	LCS spike recovery
11165C	OSVE-11-2Q11	TO-15	79-01-6		J	TRICHLOROETHENE	LCS spike recovery
11165C	SVE-1-2Q11	TO-15	10061-02-6		J	TRANS-1,3-DICHLOROPROPENE	LCS spike recovery
11165C	SVE-1-2Q11	TO-15	79-01-6		J	TRICHLOROETHENE	LCS spike recovery
11165C	SVE-2-2Q11	TO-15	10061-02-6		J	TRANS-1,3-DICHLOROPROPENE	LCS spike recovery
11165C	SVE-2-2Q11	TO-15	79-01-6	J-		TRICHLOROETHENE	LCS spike recovery
11165C	SVE-3-2Q11	TO-15	10061-02-6		J	TRANS-1,3-DICHLOROPROPENE	LCS spike recovery
11165C	SVE-3-2Q11	TO-15	79-01-6		J	TRICHLOROETHENE	LCS spike recovery
11165C	SVE-4-2Q11	TO-15	79-34-5	J+		1,1,2,2-TETRACHLOROETHANE	LCS spike recovery

Reason for Qualified Results

SDG Nos. : 11105B,11105C,11131B,11131E,11154A,11161A,11165C,Y7Y84,Y7YB1

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
11165C	SVE-4-2Q11	TO-15	10061-02-6		J	TRANS-1,3-DICHLOROPROPENE	LCS spike recovery
11165C	SVE-4-2Q11	TO-15	79-01-6	J-		TRICHLOROETHENE	LCS spike recovery
11165C	SVE-98-2Q11	TO-15	79-34-5	J+		1,1,2,2-TETRACHLOROETHANE	LCS spike recovery
11165C	SVE-98-2Q11	TO-15	10061-02-6		J	TRANS-1,3-DICHLOROPROPENE	LCS spike recovery
11165C	SVE-98-2Q11	TO-15	79-01-6	J-		TRICHLOROETHENE	LCS spike recovery
Y7Y84	Y7Y84	SOM01.2	78-93-3		J	2-Butanone	Surrogate recovery
Y7Y84	Y7Y84	SOM01.2	67-64-1		J	Acetone	Initial calibration average response factor
Y7Y84	Y7Y84	SOM01.2	67-64-1		J	Acetone	Surrogate recovery
Y7Y84	Y7Y84	SOM01.2	75-09-2	U		Methylene chloride	Present in method blank
Y7Y84	Y7Y85	SOM01.2	78-93-3		J	2-Butanone	Surrogate recovery
Y7Y84	Y7Y85	SOM01.2	67-64-1		J	Acetone	Continuing calibration response factor
Y7Y84	Y7Y85	SOM01.2	67-64-1		J	Acetone	Initial calibration average response factor
Y7Y84	Y7Y85	SOM01.2	67-64-1		J	Acetone	Surrogate recovery
Y7Y84	Y7Y85	SOM01.2	75-09-2	U		Methylene chloride	Present in method blank
Y7Y84	Y7Y86	SOM01.2	78-93-3		J	2-Butanone	Surrogate recovery
Y7Y84	Y7Y86	SOM01.2	67-64-1		J	Acetone	Initial calibration average response factor
Y7Y84	Y7Y86	SOM01.2	67-64-1		J	Acetone	Surrogate recovery
Y7Y84	Y7Y86	SOM01.2	75-09-2	U		Methylene chloride	Present in method blank
Y7Y84	Y7Y87	SOM01.2	67-64-1		J	Acetone	Initial calibration average response factor
Y7Y84	Y7Y87	SOM01.2	75-09-2	U		Methylene chloride	Present in method blank
Y7Y84	Y7Y88	SOM01.2	78-93-3		J	2-Butanone	Surrogate recovery
Y7Y84	Y7Y88	SOM01.2	67-64-1		J	Acetone	Initial calibration average response factor
Y7Y84	Y7Y88	SOM01.2	67-64-1		J	Acetone	Surrogate recovery
Y7Y84	Y7Y88	SOM01.2	75-09-2	U		Methylene chloride	Present in method blank
Y7Y84	Y7Y89	SOM01.2	78-93-3		J	2-Butanone	Surrogate recovery
Y7Y84	Y7Y89	SOM01.2	67-64-1		J	Acetone	Initial calibration average response factor
Y7Y84	Y7Y89	SOM01.2	67-64-1		J	Acetone	Surrogate recovery
Y7Y84	Y7Y89	SOM01.2	75-09-2	U		Methylene chloride	Present in method blank
Y7Y84	Y7Y90	SOM01.2	78-93-3		J	2-Butanone	Surrogate recovery
Y7Y84	Y7Y90	SOM01.2	67-64-1		J	Acetone	Initial calibration average response factor

Reason for Qualified Results

SDG Nos. : 11105B,11105C,11131B,11131E,11154A,11161A,11165C,Y7Y84,Y7YB1

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
Y7Y84	Y7Y90	SOM01.2	67-64-1		J	Acetone	Surrogate recovery
Y7Y84	Y7Y91	SOM01.2	78-93-3		J	2-Butanone	Surrogate recovery
Y7Y84	Y7Y91	SOM01.2	67-64-1		J	Acetone	Initial calibration average response factor
Y7Y84	Y7Y91	SOM01.2	67-64-1		J	Acetone	Surrogate recovery
Y7Y84	Y7Y91	SOM01.2	75-09-2	U		Methylene chloride	Present in method blank
Y7Y84	Y7Y92	SOM01.2	67-64-1		J	Acetone	Initial calibration average response factor
Y7Y84	Y7Y92	SOM01.2	75-09-2	U		Methylene chloride	Present in method blank
Y7Y84	Y7Y93	SOM01.2	78-93-3		J	2-Butanone	Surrogate recovery
Y7Y84	Y7Y93	SOM01.2	67-64-1		J	Acetone	Continuing calibration response factor
Y7Y84	Y7Y93	SOM01.2	67-64-1		J	Acetone	Initial calibration average response factor
Y7Y84	Y7Y93	SOM01.2	67-64-1		J	Acetone	Surrogate recovery
Y7Y84	Y7Y93	SOM01.2	75-09-2	U		Methylene chloride	Present in method blank
Y7Y84	Y7Y94	SOM01.2	67-64-1		J	Acetone	Continuing calibration response factor
Y7Y84	Y7Y94	SOM01.2	67-64-1		J	Acetone	Initial calibration average response factor
Y7Y84	Y7Y94	SOM01.2	75-09-2	U		Methylene chloride	Present in method blank
Y7Y84	Y7Y98	SOM01.2	67-64-1		J	Acetone	Continuing calibration response factor
Y7Y84	Y7Y98	SOM01.2	67-64-1		J	Acetone	Initial calibration average response factor
Y7Y84	Y7Y98	SOM01.2	67-66-3	U		Chloroform	Present in trip blank
Y7Y84	Y7Y98	SOM01.2	75-09-2	U		Methylene chloride	Present in method blank
Y7Y84	Y7Y99	SOM01.2	67-64-1		J	Acetone	Continuing calibration response factor
Y7Y84	Y7Y99	SOM01.2	67-64-1		J	Acetone	Initial calibration average response factor
Y7Y84	Y7Y99	SOM01.2	67-66-3	U		Chloroform	Present in trip blank
Y7Y84	Y7Y99	SOM01.2	75-09-2	U		Methylene chloride	Present in method blank
Y7Y84	Y7YA0	SOM01.2	67-64-1		J	Acetone	Continuing calibration response factor
Y7Y84	Y7YA0	SOM01.2	67-64-1		J	Acetone	Initial calibration average response factor
Y7Y84	Y7YA0	SOM01.2	75-09-2	U		Methylene chloride	Present in method blank
Y7Y84	Y7YA1	SOM01.2	67-64-1		J	Acetone	Continuing calibration response factor
Y7Y84	Y7YA1	SOM01.2	67-64-1		J	Acetone	Initial calibration average response factor
Y7Y84	Y7YA1	SOM01.2	75-09-2	U		Methylene chloride	Present in method blank
Y7Y84	Y7YA5	SOM01.2	78-93-3		J	2-Butanone	Surrogate recovery

Reason for Qualified Results

SDG Nos. : 11105B,11105C,11131B,11131E,11154A,11161A,11165C,Y7Y84,Y7YB1

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
Y7Y84	Y7YA5	SOM01.2	67-64-1		J	Acetone	Continuing calibration response factor
Y7Y84	Y7YA5	SOM01.2	67-64-1		J	Acetone	Initial calibration average response factor
Y7Y84	Y7YA5	SOM01.2	67-64-1		J	Acetone	Surrogate recovery
Y7Y84	Y7YA5	SOM01.2	67-66-3	U		Chloroform	Present in trip blank
Y7Y84	Y7YA5	SOM01.2	75-09-2	U		Methylene chloride	Present in method blank
Y7Y84	Y7YA6	SOM01.2	67-64-1	UJ		Acetone	Continuing calibration response factor
Y7Y84	Y7YA6	SOM01.2	67-64-1	UJ		Acetone	Initial calibration average response factor
Y7Y84	Y7YA6	SOM01.2	75-09-2	U		Methylene chloride	Present in method blank
Y7Y84	Y7YA9	SOM01.2	67-64-1		J	Acetone	Continuing calibration response factor
Y7Y84	Y7YA9	SOM01.2	67-64-1		J	Acetone	Initial calibration average response factor
Y7Y84	Y7YA9	SOM01.2	67-66-3	U		Chloroform	Present in trip blank
Y7Y84	Y7YA9	SOM01.2	75-09-2	U		Methylene chloride	Present in method blank
Y7Y84	Y7YB0	SOM01.2	67-64-1	UJ		Acetone	Continuing calibration response factor
Y7Y84	Y7YB0	SOM01.2	67-64-1	UJ		Acetone	Initial calibration average response factor
Y7Y84	Y7YB0	SOM01.2	67-64-1	U		Acetone	Present in trip blank
Y7Y84	Y7YB2	SOM01.2	78-93-3		J	2-Butanone	Surrogate recovery
Y7Y84	Y7YB2	SOM01.2	67-64-1		J	Acetone	Continuing calibration response factor
Y7Y84	Y7YB2	SOM01.2	67-64-1		J	Acetone	Initial calibration average response factor
Y7Y84	Y7YB2	SOM01.2	67-64-1		J	Acetone	Surrogate recovery
Y7Y84	Y7YB2	SOM01.2	75-09-2	U		Methylene chloride	Present in method blank
Y7YB1	Y7Y95	SOM01.2	78-93-3		J	2-Butanone	Continuing calibration response factor
Y7YB1	Y7Y95	SOM01.2	78-93-3		J	2-Butanone	Initial calibration average response factor
Y7YB1	Y7Y95	SOM01.2	67-64-1		J	Acetone	Continuing calibration response factor
Y7YB1	Y7Y95	SOM01.2	67-64-1		J	Acetone	Initial calibration average response factor
Y7YB1	Y7Y95	SOM01.2	67-66-3	U		Chloroform	Present in field blank
Y7YB1	Y7Y95	SOM01.2	75-09-2	U		Methylene chloride	Present in method blank
Y7YB1	Y7Y95	SOM01.2	Unknown-01	J+		Unknown-01	Surrogate recovery
Y7YB1	Y7Y96	SOM01.2	78-93-3		J	2-Butanone	Continuing calibration response factor
Y7YB1	Y7Y96	SOM01.2	67-64-1		J	Acetone	Continuing calibration response factor
Y7YB1	Y7Y96	SOM01.2	67-64-1	U		Acetone	Present in field blank

Reason for Qualified Results

SDG Nos. : 11105B,11105C,11131B,11131E,11154A,11161A,11165C,Y7Y84,Y7YB1

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
Y7YB1	Y7Y96	SOM01.2	75-09-2	U		Methylene chloride	Present in method blank
Y7YB1	Y7Y97	SOM01.2	78-93-3		J	2-Butanone	Continuing calibration response factor
Y7YB1	Y7Y97	SOM01.2	67-64-1		J	Acetone	Continuing calibration response factor
Y7YB1	Y7Y97	SOM01.2	75-09-2	U		Methylene chloride	Present in method blank
Y7YB1	Y7YA2	SOM01.2	78-93-3		J	2-Butanone	Continuing calibration response factor
Y7YB1	Y7YA2	SOM01.2	78-93-3		J	2-Butanone	Initial calibration average response factor
Y7YB1	Y7YA2	SOM01.2	67-64-1		J	Acetone	Continuing calibration response factor
Y7YB1	Y7YA2	SOM01.2	67-64-1		J	Acetone	Initial calibration average response factor
Y7YB1	Y7YA2	SOM01.2	75-71-8	J+		Dichlorodifluoromethane	Surrogate recovery
Y7YB1	Y7YA2	SOM01.2	75-09-2	U		Methylene chloride	Present in method blank
Y7YB1	Y7YA3	SOM01.2	78-93-3		J	2-Butanone	Continuing calibration response factor
Y7YB1	Y7YA3	SOM01.2	67-64-1		J	Acetone	Continuing calibration response factor
Y7YB1	Y7YA3	SOM01.2	75-09-2	U		Methylene chloride	Present in method blank
Y7YB1	Y7YA4	SOM01.2	78-93-3		J	2-Butanone	Continuing calibration response factor
Y7YB1	Y7YA4	SOM01.2	67-64-1		J	Acetone	Continuing calibration response factor
Y7YB1	Y7YA4	SOM01.2	75-15-0	J+		Carbon Disulfide	Surrogate recovery
Y7YB1	Y7YA4	SOM01.2	75-09-2	U		Methylene chloride	Present in method blank
Y7YB1	Y7YA4	SOM01.2	Unknown-01	J+		Unknown-01	Surrogate recovery
Y7YB1	Y7YA7	SOM01.2	78-93-3		J	2-Butanone	Continuing calibration response factor
Y7YB1	Y7YA7	SOM01.2	67-64-1		J	Acetone	Continuing calibration response factor
Y7YB1	Y7YA7	SOM01.2	67-66-3	U		Chloroform	Present in field blank
Y7YB1	Y7YA7	SOM01.2	75-09-2	U		Methylene chloride	Present in method blank
Y7YB1	Y7YA8	SOM01.2	78-93-3		J	2-Butanone	Continuing calibration response factor
Y7YB1	Y7YA8	SOM01.2	67-64-1	J		Acetone	Continuing calibration response factor
Y7YB1	Y7YA8	SOM01.2	75-09-2	U		Methylene chloride	Present in method blank
Y7YB1	Y7YA8	SOM01.2	Unknown-01	J+		Unknown-01	Surrogate recovery
Y7YB1	Y7YA8	SOM01.2	Unknown-02	J+		Unknown-02	Surrogate recovery
Y7YB1	Y7YB1	SOM01.2	78-93-3		J	2-Butanone	Continuing calibration response factor
Y7YB1	Y7YB1	SOM01.2	78-93-3		J	2-Butanone	Initial calibration average response factor
Y7YB1	Y7YB1	SOM01.2	67-64-1		J	Acetone	Continuing calibration response factor

Reason for Qualified Results

SDG Nos. : 11105B,11105C,11131B,11131E,11154A,11161A,11165C,Y7Y84,Y7YB1

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
Y7YB1	Y7YB1	SOM01.2	67-64-1		J	Acetone	Initial calibration average response factor
Y7YB1	Y7YB1	SOM01.2	75-09-2	U		Methylene chloride	Present in method blank
Y7YB1	Y7YB1	SOM01.2	Unknown-01	J+		Unknown-01	Surrogate recovery
Y7YB1	Y7YB3	SOM01.2	78-93-3		J	2-Butanone	Continuing calibration response factor
Y7YB1	Y7YB3	SOM01.2	78-93-3		J	2-Butanone	Initial calibration average response factor
Y7YB1	Y7YB3	SOM01.2	67-64-1		J	Acetone	Continuing calibration response factor
Y7YB1	Y7YB3	SOM01.2	67-64-1		J	Acetone	Initial calibration average response factor
Y7YB1	Y7YB3	SOM01.2	75-09-2	U		Methylene chloride	Present in method blank
Y7YB1	Y7YB4	SOM01.2	78-93-3		J	2-Butanone	Continuing calibration response factor
Y7YB1	Y7YB4	SOM01.2	78-93-3		J	2-Butanone	Initial calibration average response factor
Y7YB1	Y7YB4	SOM01.2	67-64-1		J	Acetone	Continuing calibration response factor
Y7YB1	Y7YB4	SOM01.2	67-64-1		J	Acetone	Initial calibration average response factor
Y7YB1	Y7YB4	SOM01.2	75-09-2	U		Methylene chloride	Present in method blank
Y7YB1	Y7YB4	SOM01.2	Unknown-01	J+		Unknown-01	Surrogate recovery
Y7YB1	Y7YB5	SOM01.2	78-93-3		J	2-Butanone	Continuing calibration response factor
Y7YB1	Y7YB5	SOM01.2	67-64-1		J	Acetone	Continuing calibration response factor
Y7YB1	Y7YB5	SOM01.2	75-09-2	U		Methylene chloride	Present in method blank
Y7YB1	Y7YB5	SOM01.2	Unknown-01	J+		Unknown-01	Surrogate recovery
Y7YB1	Y7YB6	SOM01.2	78-93-3		J	2-Butanone	Continuing calibration response factor
Y7YB1	Y7YB6	SOM01.2	78-93-3		J	2-Butanone	Initial calibration average response factor
Y7YB1	Y7YB6	SOM01.2	67-64-1		J	Acetone	Continuing calibration response factor
Y7YB1	Y7YB6	SOM01.2	67-64-1		J	Acetone	Initial calibration average response factor
Y7YB1	Y7YB6	SOM01.2	75-09-2	U		Methylene chloride	Present in method blank
Y7YB1	Y7YB6	SOM01.2	Unknown-01	J+		Unknown-01	Surrogate recovery
Y7YB1	Y7YB7	SOM01.2	78-93-3		J	2-Butanone	Continuing calibration response factor
Y7YB1	Y7YB7	SOM01.2	78-93-3		J	2-Butanone	Initial calibration average response factor
Y7YB1	Y7YB7	SOM01.2	67-64-1		J	Acetone	Continuing calibration response factor
Y7YB1	Y7YB7	SOM01.2	67-64-1		J	Acetone	Initial calibration average response factor
Y7YB1	Y7YB7	SOM01.2	75-09-2	U		Methylene chloride	Present in method blank
Y7YB1	Y7YB8	SOM01.2	78-93-3		J	2-Butanone	Continuing calibration response factor

Reason for Qualified Results

SDG Nos. : 11105B,11105C,11131B,11131E,11154A,11161A,11165C,Y7Y84,Y7YB1

Sample Del Group (SDG)	Sample ID	Test Method	CAS No.	Detected Qualifier	Non Detected Qualifier	Analyte Name	Reason
Y7YB1	Y7YB8	SOM01.2	78-93-3		J	2-Butanone	Initial calibration average response factor
Y7YB1	Y7YB8	SOM01.2	67-64-1		J	Acetone	Continuing calibration response factor
Y7YB1	Y7YB8	SOM01.2	67-64-1		J	Acetone	Initial calibration average response factor
Y7YB1	Y7YB8	SOM01.2	75-09-2	U		Methylene chloride	Present in method blank
Y7YB1	Y7YB9	SOM01.2	78-93-3		J	2-Butanone	Continuing calibration response factor
Y7YB1	Y7YB9	SOM01.2	78-93-3		J	2-Butanone	Initial calibration average response factor
Y7YB1	Y7YB9	SOM01.2	67-64-1		J	Acetone	Continuing calibration response factor
Y7YB1	Y7YB9	SOM01.2	67-64-1		J	Acetone	Initial calibration average response factor
Y7YB1	Y7YB9	SOM01.2	75-09-2	U		Methylene chloride	Present in method blank

Appendix A

Data Qualification Summary Report

SDG 11105B

Data Qualifier Summary

Lab Reporting Batch ID: 11105B

Laboratory: R9LAB

EDD Filename: 11105B_voc_edited_NB_rev

eQAPP Name: Modesto_Site_070810s

Method Category:	VOA	
Method:	524.2	Matrix: Water

Sample ID: CRB EFF-0403		Collected: 4/14/2011 1:05:00		Analysis Type: Initial-				Dilution: 1	
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
NAPHTHALENE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	lcRsd
TETRACHLOROETHENE	0.3	J,C1	0.2	MDL	0.5	MRL	ug/L	J	RI

Sample ID: CRB INF-0403		Collected: 4/14/2011 1:15:00		Analysis Type: Initial-				Dilution: 1	
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
NAPHTHALENE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	lcRsd

Sample ID: CRB Mid-0403		Collected: 4/14/2011 1:10:00		Analysis Type: Initial-				Dilution: 1	
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
NAPHTHALENE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	lcRsd
TETRACHLOROETHENE	0.3	J,C1	0.2	MDL	0.5	MRL	ug/L	J	RI

Sample ID: EFF-0403		Collected: 4/14/2011 12:35:00		Analysis Type: Initial-				Dilution: 1	
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
NAPHTHALENE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	lcRsd
TETRACHLOROETHENE	0.3	J,C1	0.2	MDL	0.5	MRL	ug/L	J	RI

Sample ID: EW-1-0403		Collected: 4/14/2011 1:20:00		Analysis Type: Initial-				Dilution: 1	
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
NAPHTHALENE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	lcRsd

Sample ID: MW-103-0403		Collected: 4/14/2011 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
NAPHTHALENE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	lcRsd

Sample ID: MW-301-2Q11		Collected: 4/14/2011 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
NAPHTHALENE	0.5	J,U,C3,Q6	0.2	MDL	0.5	MRL	ug/L	UJ	Ms, lcRsd

* denotes a non-reportable result

Project Name and Number: R11S57 - Modesto GW Treatment System Spring 2011 Sampling

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Data Qualifier Summary

Lab Reporting Batch ID: 11105B

Laboratory: R9LAB

EDD Filename: 11105B_voc_edited_NB_rev

eQAPP Name: Modesto_Site_070810s

Method Category:	VOA	
Method:	524.2	Matrix: Water

Sample ID: MW-401-2Q11

Collected: 4/14/2011 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
NAPHTHALENE	0.5	J,U,C3	0.2	MDL	0.5	MRL	ug/L	UJ	IcRsd

* denotes a non-reportable result

Project Name and Number: R11S57 - Modesto GW Treatment System Spring 2011 Sampling

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Data Qualifier Summary

Lab Reporting Batch ID: 11105B

Laboratory: R9LAB

EDD Filename: 11105B_voc_edited_NB_rev

eQAPP Name: Modesto_Site_070810s

Reason Code Legend

<i>Reason Code</i>	<i>Description</i>
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

* denotes a non-reportable result

Project Name and Number: R11S57 - Modesto GW Treatment System Spring 2011 Sampling

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Data Qualifier Summary

Lab Reporting Batch ID: 11105B

Laboratory: R9LAB

EDD Filename: 11105B_voc_edited_NB_rev

eQAPP Name: Modesto_Site_070810s

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

* denotes a non-reportable result

Project Name and Number: R11S57 - Modesto GW Treatment System Spring 2011 Sampling

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Data Qualifier Summary

Lab Reporting Batch ID: 11105B

Laboratory: R9LAB

EDD Filename: 11105B_voc_edited_NB_rev

eQAPP Name: Modesto_Site_070810s

StoA	Sampling to Analysis Estimation
StoA	Sampling to Analysis Rejection
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

* denotes a non-reportable result

Project Name and Number: R11S57 - Modesto GW Treatment System Spring 2011 Sampling

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Data Qualifier Summary

Lab Reporting Batch ID: 11105B
EDD Filename: 11105B_Wetchem_1104024
FINAL_edited_rev

Laboratory: R9LAB
eQAPP Name: Modesto_Site_070810s

No Data Review Qualifiers Applied.

SDG 11105C

Data Qualifier Summary

Lab Reporting Batch ID: 11105C

Laboratory: R9LAB

EDD Filename: 11105C_TO15_LDC edits_Final_NB

eQAPP Name: Modesto_Site_070810s

No Data Review Qualifiers Applied.

SDG 1131B

Data Qualifier Summary

Lab Reporting Batch ID: 11131B

Laboratory: R9LAB

EDD Filename: 11131b_voc FINAL_LDC_edited_NB_rev

eQAPP Name: Modesto_Site_070810s

Method Category:	VOA		
Method:	524.2	Matrix:	Water

Sample ID: EFF-0502

Collected: 5/10/2011 10:45:00

Analysis Type: Initial

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
TETRACHLOROETHENE	0.3	J,C1	0.2	MDL	0.5	MRL	ug/L	J	RI

* denotes a non-reportable result

Project Name and Number: R11S57 - Modesto GW Treatment System Spring 2011 Sampling

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Data Qualifier Summary

Lab Reporting Batch ID: 11131B

Laboratory: R9LAB

EDD Filename: 11131b_voc FINAL_LDC_edited_NB_rev

eQAPP Name: Modesto_Site_070810s

Reason Code Legend

<i>Reason Code</i>	<i>Description</i>
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

* denotes a non-reportable result

Project Name and Number: R11S57 - Modesto GW Treatment System Spring 2011 Sampling

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Data Qualifier Summary

Lab Reporting Batch ID: 11131B

Laboratory: R9LAB

EDD Filename: 11131b_voc FINAL_LDC_edited_NB_rev

eQAPP Name: Modesto_Site_070810s

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

* denotes a non-reportable result

Project Name and Number: R11S57 - Modesto GW Treatment System Spring 2011 Sampling

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Data Qualifier Summary

Lab Reporting Batch ID: 11131B

Laboratory: R9LAB

EDD Filename: 11131b_voc FINAL_LDC_edited_NB_rev

eQAPP Name: Modesto_Site_070810s

StoA	Sampling to Analysis Estimation
StoA	Sampling to Analysis Rejection
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

* denotes a non-reportable result

Project Name and Number: R11S57 - Modesto GW Treatment System Spring 2011 Sampling

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Data Qualifier Summary

Lab Reporting Batch ID: 11131B
EDD Filename: 11131B_TDSTSS_1105020
FINAL_LDC_edited_NB

Laboratory: R9LAB
eQAPP Name: Modesto_Site_070810s

No Data Review Qualifiers Applied.

Data Qualifier Summary

Lab Reporting Batch ID: 11131B

Laboratory: R9LAB

EDD Filename: 11131B_BOD_1105020 FINAL_rev_rev

eQAPP Name: Modesto_Site_070810s

Method Category:	GENCHEM	
Method:	5210B	Matrix: Water

Sample ID: EFF-0502

Collected: 5/10/2011 10:45:00

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

* denotes a non-reportable result

Project Name and Number: R11S57 - Modesto GW Treatment System Spring 2011 Sampling

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Data Qualifier Summary

Lab Reporting Batch ID: 11131B

Laboratory: R9LAB

EDD Filename: 11131B_BOD_1105020 FINAL_rev_rev

eQAPP Name: Modesto_Site_070810s

Reason Code Legend

<i>Reason Code</i>	<i>Description</i>
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

* denotes a non-reportable result

Project Name and Number: R11S57 - Modesto GW Treatment System Spring 2011 Sampling

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Data Qualifier Summary

Lab Reporting Batch ID: 11131B

Laboratory: R9LAB

EDD Filename: 11131B_BOD_1105020 FINAL_rev_rev

eQAPP Name: Modesto_Site_070810s

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

* denotes a non-reportable result

Project Name and Number: R11S57 - Modesto GW Treatment System Spring 2011 Sampling

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Data Qualifier Summary

Lab Reporting Batch ID: 11131B

Laboratory: R9LAB

EDD Filename: 11131B_BOD_1105020 FINAL_rev_rev

eQAPP Name: Modesto_Site_070810s

StoA	Sampling to Analysis Estimation
StoA	Sampling to Analysis Rejection
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

* denotes a non-reportable result

Project Name and Number: R11S57 - Modesto GW Treatment System Spring 2011 Sampling

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SDG 1131E

Data Qualifier Summary

Lab Reporting Batch ID: 11131E

Laboratory: R9LAB

EDD Filename: 11131e_TO15_FINAL_LDC_edited_NB

eQAPP Name: Modesto_Site_070810s

Method Category:	VOA	
Method:	TO-15	Matrix: Air

Sample ID: GWTP Pr GAC-0502 **Collected:** 5/10/2011 10:00:00 **Analysis Type:** Initial **Dilution:** 2.3

<i>Analyte</i>	<i>Lab Result</i>	<i>Lab Qual</i>	<i>DL</i>	<i>DL Type</i>	<i>RL</i>	<i>RL Type</i>	<i>Units</i>	<i>Data Review Qual</i>	<i>Reason Code</i>
TETRACHLOROETHENE	1800	J,Q5	80	MDL	200	MRL	ug/m^3	J	Ld

Sample ID: SVE Pre GAC-0502 **Collected:** 5/10/2011 9:45:00 **Analysis Type:** Initial **Dilution:** 2.35

<i>Analyte</i>	<i>Lab Result</i>	<i>Lab Qual</i>	<i>DL</i>	<i>DL Type</i>	<i>RL</i>	<i>RL Type</i>	<i>Units</i>	<i>Data Review Qual</i>	<i>Reason Code</i>
TETRACHLOROETHENE	10	J,C1	8	MDL	20	MRL	ug/m^3	J	RI

* denotes a non-reportable result

Project Name and Number: R11S57 - Modesto GW Treatment System Spring 2011 Sampling

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Data Qualifier Summary

Lab Reporting Batch ID: 11131E

Laboratory: R9LAB

EDD Filename: 11131e_TO15_FINAL_LDC_edited_NB

eQAPP Name: Modesto_Site_070810s

Reason Code Legend

<i>Reason Code</i>	<i>Description</i>
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

* denotes a non-reportable result

Project Name and Number: R11S57 - Modesto GW Treatment System Spring 2011 Sampling

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Data Qualifier Summary

Lab Reporting Batch ID: 11131E

Laboratory: R9LAB

EDD Filename: 11131e_TO15_FINAL_LDC_edited_NB

eQAPP Name: Modesto_Site_070810s

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

* denotes a non-reportable result

Project Name and Number: R11S57 - Modesto GW Treatment System Spring 2011 Sampling

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Data Qualifier Summary

Lab Reporting Batch ID: 11131E

Laboratory: R9LAB

EDD Filename: 11131e_TO15_FINAL_LDC_edited_NB

eQAPP Name: Modesto_Site_070810s

StoA	Sampling to Analysis Estimation
StoA	Sampling to Analysis Rejection
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

* denotes a non-reportable result

Project Name and Number: R11S57 - Modesto GW Treatment System Spring 2011 Sampling

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SDG 1154A

Data Qualifier Summary

Lab Reporting Batch ID: 11154A

Laboratory: R9LAB

EDD Filename: 11154a_voc_LDC_edited_NB

eQAPP Name: Modesto_Site_070810s

Method Category:	VOA	
Method:	524.2	Matrix: Water

Sample ID: EFF-0603 **Collected:** 6/2/2011 9:20:00 AM **Analysis Type:** Initial **Dilution:** 1

<i>Analyte</i>	<i>Lab Result</i>	<i>Lab Qual</i>	<i>DL</i>	<i>DL Type</i>	<i>RL</i>	<i>RL Type</i>	<i>Units</i>	<i>Data Review Qual</i>	<i>Reason Code</i>
TETRACHLOROETHENE	0.3	J,C1	0.2	MDL	0.5	MRL	ug/L	J	RI

Sample ID: EW-1-0603 **Collected:** 6/2/2011 9:45:00 AM **Analysis Type:** Reinjection-01 **Dilution:** 1

<i>Analyte</i>	<i>Lab Result</i>	<i>Lab Qual</i>	<i>DL</i>	<i>DL Type</i>	<i>RL</i>	<i>RL Type</i>	<i>Units</i>	<i>Data Review Qual</i>	<i>Reason Code</i>
CHLOROFORM	3.1		0.2	MDL	0.5	MRL	ug/L	U	Tb

Sample ID: MW-107-0603 **Collected:** 6/2/2011 9:25:00 AM **Analysis Type:** Initial **Dilution:** 1

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

* denotes a non-reportable result

Project Name and Number: R11S57 - Modesto GW Treatment System Spring 2011 Sampling

7/21/2011 9:14:25 AM

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Data Qualifier Summary

Lab Reporting Batch ID: 11154A

Laboratory: R9LAB

EDD Filename: 11154a_voc_LDC_edited_NB

eQAPP Name: Modesto_Site_070810s

Reason Code Legend

<i>Reason Code</i>	<i>Description</i>
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

* denotes a non-reportable result

Project Name and Number: R11S57 - Modesto GW Treatment System Spring 2011 Sampling

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Data Qualifier Summary

Lab Reporting Batch ID: 11154A

Laboratory: R9LAB

EDD Filename: 11154a_voc_LDC_edited_NB

eQAPP Name: Modesto_Site_070810s

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

* denotes a non-reportable result

Project Name and Number: R11S57 - Modesto GW Treatment System Spring 2011 Sampling

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Data Qualifier Summary

Lab Reporting Batch ID: 11154A

Laboratory: R9LAB

EDD Filename: 11154a_voc_LDC_edited_NB

eQAPP Name: Modesto_Site_070810s

StoA	Sampling to Analysis Estimation
StoA	Sampling to Analysis Rejection
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

* denotes a non-reportable result

Project Name and Number: R11S57 - Modesto GW Treatment System Spring 2011 Sampling

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Data Qualifier Summary

Lab Reporting Batch ID: 11154A

EDD Filename: 11154A TSS TDS

Laboratory: R9LAB

eQAPP Name: Modesto_Site_070810s

No Data Review Qualifiers Applied.

Data Qualifier Summary

Lab Reporting Batch ID: 11154A

Laboratory: R9LAB

EDD Filename: 11154A_BOD_1106004 FINAL_rev_rev

eQAPP Name: Modesto_Site_070810s

Method Category: GENCHEM
Method: 5210B Matrix: Water

Sample ID: EFF-0603

Collected: 6/2/2011 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
Biochemical Oxygen Demand	2.0	<,Q2	2.0	MDL	2.0	MRL	mg/L	J-	Lcs

* denotes a non-reportable result

Project Name and Number: R11S57 - Modesto GW Treatment System Spring 2011 Sampling

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Data Qualifier Summary

Lab Reporting Batch ID: 11154A

Laboratory: R9LAB

EDD Filename: 11154A_BOD_1106004 FINAL_rev_rev

eQAPP Name: Modesto_Site_070810s

Reason Code Legend

<i>Reason Code</i>	<i>Description</i>
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

* denotes a non-reportable result

Project Name and Number: R11S57 - Modesto GW Treatment System Spring 2011 Sampling

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Data Qualifier Summary

Lab Reporting Batch ID: 11154A

Laboratory: R9LAB

EDD Filename: 11154A_BOD_1106004 FINAL_rev_rev

eQAPP Name: Modesto_Site_070810s

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

* denotes a non-reportable result

Project Name and Number: R11S57 - Modesto GW Treatment System Spring 2011 Sampling

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Data Qualifier Summary

Lab Reporting Batch ID: 11154A

Laboratory: R9LAB

EDD Filename: 11154A_BOD_1106004 FINAL_rev_rev

eQAPP Name: Modesto_Site_070810s

StoA	Sampling to Analysis Estimation
StoA	Sampling to Analysis Rejection
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

* denotes a non-reportable result

Project Name and Number: R11S57 - Modesto GW Treatment System Spring 2011 Sampling

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SDG 1161A

Data Qualifier Summary

Lab Reporting Batch ID: 11161A

Laboratory: R9LAB

EDD Filename: 1106018 FINAL_LDC_edited_NB_rev

eQAPP Name: Modesto_Site_070810s

Method Category:	VOA	
Method:	TO-15	Matrix: Air

Sample ID: GWTP Pre GAC-0603 **Collected:** 6/9/2011 8:45:00 AM **Analysis Type:** Reinjection-01 **Dilution:** 2.21

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BENZENE	1.8	J,C1	1.1	MDL	2.2	MRL	ppbv	J	RI
ETHYLBENZENE	1.7	J,C1	1.1	MDL	2.2	MRL	ppbv	J	RI
HEXACHLOROBUTADIENE	2.2	J,U,C4	1.1	MDL	2.2	MRL	ppbv	UJ	Ccv
m&p-Xylene	2.9	J,C1	2.2	MDL	4.4	MRL	ppbv	J	RI
O-XYLENE	1.7	J,C1	1.1	MDL	2.2	MRL	ppbv	J	RI
TOLUENE	5.3		1.1	MDL	2.2	MRL	ppbv	J	Ld
TRANS-1,3-DICHLOROPROPENE	2.2	J,U,Q2	1.1	MDL	2.2	MRL	ppbv	UJ	Lcs
TRICHLOROETHENE	1.8	J,C1,Q2	1.1	MDL	2.2	MRL	ppbv	J	RI, Lcs, Ld

Sample ID: GWTP Stack-0603 **Collected:** 6/9/2011 8:35:00 AM **Analysis Type:** Reinjection-01 **Dilution:** 2.23

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
CHLOROMETHANE	1.5	J,C1	1.1	MDL	2.2	MRL	ppbv	J	RI
HEXACHLOROBUTADIENE	2.2	J,U,C4	1.1	MDL	2.2	MRL	ppbv	UJ	Ccv
METHYLENE CHLORIDE	1.2	J,C1	1.1	MDL	2.2	MRL	ppbv	J	RI
TRANS-1,3-DICHLOROPROPENE	2.2	J,U,Q2	1.1	MDL	2.2	MRL	ppbv	UJ	Lcs
TRICHLOROETHENE	2.2	J,U,Q2	1.1	MDL	2.2	MRL	ppbv	UJ	Lcs

Sample ID: MW-108-0603 **Collected:** 6/9/2011 8:50:00 AM **Analysis Type:** Reinjection-01- **Dilution:** 2.21

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
HEXACHLOROBUTADIENE	2.2	J,U,C4	1.1	MDL	2.2	MRL	ppbv	UJ	Ccv
TRANS-1,3-DICHLOROPROPENE	2.2	J,U,Q2	1.1	MDL	2.2	MRL	ppbv	UJ	Lcs
TRICHLOROETHENE	2.2	J,U,Q2	1.1	MDL	2.2	MRL	ppbv	UJ	Lcs

Sample ID: SVE Pre GAC-0603 **Collected:** 6/9/2011 10:05:00 **Analysis Type:** Reinjection-01- **Dilution:** 2.29

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
HEXACHLOROBUTADIENE	2.3	J,U,C4	1.1	MDL	2.3	MRL	ppbv	UJ	Ccv
METHYLENE CHLORIDE	1.2	J,C1	1.1	MDL	2.3	MRL	ppbv	J	RI
TRANS-1,3-DICHLOROPROPENE	2.3	J,U,Q2	1.1	MDL	2.3	MRL	ppbv	UJ	Lcs
TRICHLOROETHENE	2.3	J,U,Q2	1.1	MDL	2.3	MRL	ppbv	UJ	Lcs

* denotes a non-reportable result

Project Name and Number: R11S57 - Modesto GW Treatment System Spring 2011 Sampling

8/4/2011 5:55:57 PM

ADR version 1.4.0.111

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Data Qualifier Summary

Lab Reporting Batch ID: 11161A

Laboratory: R9LAB

EDD Filename: 1106018 FINAL_LDC_edited_NB_rev

eQAPP Name: Modesto_Site_070810s

Method Category: VOA
Method: TO-15
Matrix: Air

Sample ID: SVE Stack-0603

Collected: 6/9/2011 9:55:00 AM Analysis Type: Initial

Dilution: 2.06

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,2-DICHLOROPROPANE	1.4	J,C1	1.0	MDL	2.1	MRL	ppbv	J	RI
HEXACHLOROBUTADIENE	2.1	J,U,C4	1.0	MDL	2.1	MRL	ppbv	UJ	Ccv
METHYLENE CHLORIDE	1.4	J,C1	1.0	MDL	2.1	MRL	ppbv	J	RI
TRANS-1,3-DICHLOROPROPENE	2.1	J,U,Q2	1.0	MDL	2.1	MRL	ppbv	UJ	Lcs
TRICHLOROETHENE	2.1	J,U,Q2	1.0	MDL	2.1	MRL	ppbv	UJ	Lcs

* denotes a non-reportable result

Project Name and Number: R11S57 - Modesto GW Treatment System Spring 2011 Sampling

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Data Qualifier Summary

Lab Reporting Batch ID: 11161A

Laboratory: R9LAB

EDD Filename: 1106018 FINAL_LDC_edited_NB_rev

eQAPP Name: Modesto_Site_070810s

Reason Code Legend

<i>Reason Code</i>	<i>Description</i>
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

* denotes a non-reportable result

Project Name and Number: R11S57 - Modesto GW Treatment System Spring 2011 Sampling

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Data Qualifier Summary

Lab Reporting Batch ID: 11161A

Laboratory: R9LAB

EDD Filename: 1106018 FINAL_LDC_edited_NB_rev

eQAPP Name: Modesto_Site_070810s

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

* denotes a non-reportable result

Project Name and Number: R11S57 - Modesto GW Treatment System Spring 2011 Sampling

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Data Qualifier Summary

Lab Reporting Batch ID: 11161A

Laboratory: R9LAB

EDD Filename: 1106018 FINAL_LDC_edited_NB_rev

eQAPP Name: Modesto_Site_070810s

StoA	Sampling to Analysis Estimation
StoA	Sampling to Analysis Rejection
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

* denotes a non-reportable result

Project Name and Number: R11S57 - Modesto GW Treatment System Spring 2011 Sampling

8/4/2011 5:55:57 PM

ADR version 1.4.0.111

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SDG 1165C

Data Qualifier Summary

Lab Reporting Batch ID: 11165C

Laboratory: R9LAB

EDD Filename: 1106024 FINAL_edited_NB_rev_KD_rev

eQAPP Name: Modesto_Site_070810s

Method Category:	VOA	
Method:	TO-15	Matrix: Air

Sample ID: DP-1A-2Q11 **Collected:** 6/6/2011 11:48:00 **Analysis Type:** Initial2 **Dilution:** 2.28

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,1,2-TRICHLOROETHANE	1.6	J,C1	1.1	MDL	2.3	MRL	ppbv	J	RI
BENZENE	1.2	J,C1	1.1	MDL	2.3	MRL	ppbv	J	RI
TRANS-1,3-DICHLOROPROPENE	2.3	J,U,Q2	1.1	MDL	2.3	MRL	ppbv	UJ	Lcs
TRICHLOROETHENE	2.3	J,U,Q2	1.1	MDL	2.3	MRL	ppbv	UJ	Lcs

Sample ID: DP-1B-2Q11 **Collected:** 6/6/2011 12:09:00 **Analysis Type:** Initial1 **Dilution:** 2.29

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,1,2-TRICHLOROETHANE	1.5	J,C1	1.1	MDL	2.3	MRL	ppbv	J	RI
TRANS-1,3-DICHLOROPROPENE	2.3	J,U,Q2	1.1	MDL	2.3	MRL	ppbv	UJ	Lcs
TRICHLOROETHENE	2.3	J,U,Q2	1.1	MDL	2.3	MRL	ppbv	UJ	Lcs

Sample ID: DP-4A-2Q11 **Collected:** 6/7/2011 1:43:00 PM **Analysis Type:** Initial **Dilution:** 2.31

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
TRANS-1,3-DICHLOROPROPENE	1.3	J,C1,Q2	1.2	MDL	2.3	MRL	ppbv	J	RI, Lcs
TRICHLOROETHENE	2.3	J,U,Q2	1.2	MDL	2.3	MRL	ppbv	UJ	Lcs

Sample ID: DP-4B-2Q11 **Collected:** 6/7/2011 2:01:00 PM **Analysis Type:** Initial1 **Dilution:** 2.3

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
TRANS-1,3-DICHLOROPROPENE	2.3	J,U,Q2	1.2	MDL	2.3	MRL	ppbv	UJ	Lcs
TRICHLOROETHENE	2.3	J,U,Q2	1.2	MDL	2.3	MRL	ppbv	UJ	Lcs

Sample ID: DP-6A-2Q11 **Collected:** 6/9/2011 8:34:00 AM **Analysis Type:** Initial **Dilution:** 2.25

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
TETRACHLOROETHENE	2.0	J,C1	1.1	MDL	2.2	MRL	ppbv	J	RI
TRANS-1,3-DICHLOROPROPENE	2.6	J,Q2	1.1	MDL	2.2	MRL	ppbv	J-	Lcs
TRICHLOROETHENE	2.2	J,U,Q2	1.1	MDL	2.2	MRL	ppbv	UJ	Lcs

Sample ID: DP-6B-2Q11 **Collected:** 6/9/2011 8:50:00 AM **Analysis Type:** Initial **Dilution:** 2.14

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
TRANS-1,3-DICHLOROPROPENE	2.1	J,U,Q2	1.1	MDL	2.1	MRL	ppbv	UJ	Lcs

* denotes a non-reportable result

Project Name and Number: R11S78 - Modesto Groundwater June 2011 Qtrly Monitoring

8/10/2011 11:52:20 AM

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Data Qualifier Summary

Lab Reporting Batch ID: 11165C

Laboratory: R9LAB

EDD Filename: 1106024 FINAL_edited_NB_rev_KD_rev

eQAPP Name: Modesto_Site_070810s

Method Category:	VOA	
Method:	TO-15	Matrix: Air

Sample ID: DP-6B-2Q11 **Collected:** 6/9/2011 8:50:00 AM **Analysis Type:** Initial **Dilution:** 2.14

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
TRICHLOROETHENE	2.1	J,U,Q2	1.1	MDL	2.1	MRL	ppbv	UJ	Lcs

Sample ID: DP-96B-2Q11 **Collected:** 6/7/2011 2:03:00 PM **Analysis Type:** Initial1 **Dilution:** 2.31

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
TRANS-1,3-DICHLOROPROPENE	2.3	J,U,Q2	1.2	MDL	2.3	MRL	ppbv	UJ	Lcs
TRICHLOROETHENE	2.3	J,U,Q2	1.2	MDL	2.3	MRL	ppbv	UJ	Lcs

Sample ID: OSVE-10-2Q11 **Collected:** 6/7/2011 2:43:00 PM **Analysis Type:** Initial2 **Dilution:** 2.28

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
TRANS-1,3-DICHLOROPROPENE	2.3	J,U,Q2	1.1	MDL	2.3	MRL	ppbv	UJ	Lcs
TRICHLOROETHENE	2.3	J,U,Q2	1.1	MDL	2.3	MRL	ppbv	UJ	Lcs

Sample ID: OSVE-11-2Q11 **Collected:** 6/7/2011 2:32:00 PM **Analysis Type:** Initial **Dilution:** 2.25

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
TRANS-1,3-DICHLOROPROPENE	2.2	J,U,Q2	1.1	MDL	2.2	MRL	ppbv	UJ	Lcs
TRICHLOROETHENE	2.2	J,U,Q2	1.1	MDL	2.2	MRL	ppbv	UJ	Lcs

Sample ID: SVE-1-2Q11 **Collected:** 6/6/2011 11:25:00 **Analysis Type:** Initial **Dilution:** 2.31

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
TRANS-1,3-DICHLOROPROPENE	2.3	J,U,Q2	1.2	MDL	2.3	MRL	ppbv	UJ	Lcs
TRICHLOROETHENE	2.3	J,U,Q2	1.2	MDL	2.3	MRL	ppbv	UJ	Lcs

Sample ID: SVE-2-2Q11 **Collected:** 6/6/2011 12:40:00 **Analysis Type:** Reinjection-01 **Dilution:** 2.22

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
TRANS-1,3-DICHLOROPROPENE	2.2	J,U,Q2	1.1	MDL	2.2	MRL	ppbv	UJ	Lcs
TRICHLOROETHENE	2.2	J,Q2	1.1	MDL	2.2	MRL	ppbv	J-	Lcs

Sample ID: SVE-3-2Q11 **Collected:** 6/6/2011 12:59:00 **Analysis Type:** Reinjection-01 **Dilution:** 2.17

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
TRANS-1,3-DICHLOROPROPENE	2.2	J,U,Q2	1.1	MDL	2.2	MRL	ppbv	UJ	Lcs

* denotes a non-reportable result

Project Name and Number: R11S78 - Modesto Groundwater June 2011 Qtrly Monitoring

Data Qualifier Summary

Lab Reporting Batch ID: 11165C

Laboratory: R9LAB

EDD Filename: 1106024 FINAL_edited_NB_rev_KD_rev

eQAPP Name: Modesto_Site_070810s

Method Category:	VOA									
Method:	TO-15	Matrix:		Air						

Sample ID: SVE-3-2Q11 **Collected:** 6/6/2011 12:59:00 **Analysis Type:** Reinjection-01 **Dilution:** 2.17

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

Sample ID: SVE-4-2Q11 **Collected:** 6/6/2011 1:14:00 PM **Analysis Type:** Initial **Dilution:** 2.2

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,1,2,2-TETRACHLOROETHANE	7.9	J,C3,Q2	1.1	MDL	2.2	MRL	ppbv	J+	Lcs
1,2,4-TRICHLOROBENZENE	1.1	J,C1,C3	1.1	MDL	2.2	MRL	ppbv	J	RI
METHYLENE CHLORIDE	1.2	J,C1	1.1	MDL	2.2	MRL	ppbv	J	RI
TRANS-1,3-DICHLOROPROPENE	2.2	J,U,Q2	1.1	MDL	2.2	MRL	ppbv	UJ	Lcs
TRICHLOROETHENE	1.1	J,C1,Q2	1.1	MDL	2.2	MRL	ppbv	J	RI, Lcs

Sample ID: SVE-98-2Q11 **Collected:** 6/6/2011 12:42:00 **Analysis Type:** Initial1 **Dilution:** 2.21

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,1,2,2-TETRACHLOROETHANE	2.6	J,C3,Q2	1.1	MDL	2.2	MRL	ppbv	J+	Lcs
TRANS-1,3-DICHLOROPROPENE	2.2	J,U,Q2	1.1	MDL	2.2	MRL	ppbv	UJ	Lcs
TRICHLOROETHENE	2.5	J,Q2	1.1	MDL	2.2	MRL	ppbv	J-	Lcs

* denotes a non-reportable result

Project Name and Number: R11S78 - Modesto Groundwater June 2011 Qtrly Monitoring

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Data Qualifier Summary

Lab Reporting Batch ID: 11165C

Laboratory: R9LAB

EDD Filename: 1106024 FINAL_edited_NB_rev_KD_rev

eQAPP Name: Modesto_Site_070810s

Reason Code Legend

<i>Reason Code</i>	<i>Description</i>
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

* denotes a non-reportable result

Project Name and Number: R11S78 - Modesto Groundwater June 2011 Qtrly Monitoring

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Data Qualifier Summary

Lab Reporting Batch ID: 11165C

Laboratory: R9LAB

EDD Filename: 1106024 FINAL_edited_NB_rev_KD_rev

eQAPP Name: Modesto_Site_070810s

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

* denotes a non-reportable result

Project Name and Number: R11S78 - Modesto Groundwater June 2011 Qtrly Monitoring

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Data Qualifier Summary

Lab Reporting Batch ID: 11165C

Laboratory: R9LAB

EDD Filename: 1106024 FINAL_edited_NB_rev_KD_rev

eQAPP Name: Modesto_Site_070810s

StoA	Sampling to Analysis Estimation
StoA	Sampling to Analysis Rejection
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

* denotes a non-reportable result

Project Name and Number: R11S78 - Modesto Groundwater June 2011 Qtrly Monitoring

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SDG Y7Y84

Sample Qualification Report with Reason Codes (All Qualified Results sorted by Client Sample ID)

Client Sample ID : Y7Y84

Lab Report Batch : Y7Y84

Lab ID : LIBRTY

Sample Date : 06/08/2011

Analysis Type: RES

Sample Matrix : AQ

Lab Sample ID: 1106051-01

Reviewed By / Date : NB 7/30/2011

Approved By / Date :

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes	
Analysis Method : SOM01.2						Dilution: 1.0																
2-Butanone	5.0		ug/L	U	YES	UJ							UJ									Surr-
Acetone	5.0		ug/L	U	YES	UJ							UJ									Surr-
Methylene chloride	0.31		ug/L	JB	YES	U			U													Mb

Sample Qualification Report with Reason Codes (All Qualified Results sorted by Client Sample ID)

Client Sample ID : Y7Y84

Lab Report Batch : Y7Y84

Lab ID : LIBRTY

Sample Date : 06/08/2011

Analysis Type: DL

Sample Matrix : AQ

Lab Sample ID: 1106051-01RE1

Reviewed By / Date : NB 7/30/2011

Approved By / Date :

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes	
Analysis Method : SOM01.2						Dilution: 6.3																
2-Butanone	31		ug/L	U	NO	UJ							UJ									Surr-
Acetone	31		ug/L	U	NO	UJ							UJ									Surr-
Methylene chloride	3.6		ug/L	BD	NO	U			U							U						Mb

Sample Qualification Report with Reason Codes (All Qualified Results sorted by Client Sample ID)

Client Sample ID : Y7Y85

Lab Report Batch : Y7Y84

Lab ID : LIBRTY

Sample Date : 06/08/2011

Analysis Type: RES

Sample Matrix : AQ

Lab Sample ID: 1106051-02

Reviewed By / Date : NB 7/30/2011

Approved By / Date :

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes	
Analysis Method : SOM01.2						Dilution: 1.0																
2-Butanone	5.0		ug/L	U	YES	UJ							UJ									Surr-
Acetone	5.0		ug/L	U	YES	UJ							UJ									Surr-
Methylene chloride	0.48		ug/L	JB	YES	U			U													Mb

Sample Qualification Report with Reason Codes (All Qualified Results sorted by Client Sample ID)

Client Sample ID : Y7Y86

Lab Report Batch : Y7Y84

Lab ID : LIBRTY

Sample Date : 06/08/2011

Analysis Type: RES

Sample Matrix : AQ

Lab Sample ID: 1106051-03

Reviewed By / Date : NB 7/30/2011

Approved By / Date :

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes	
Analysis Method : SOM01.2						Dilution: 1.0																
2-Butanone	5.0		ug/L	U	YES	UJ							UJ									Surr-
Acetone	5.0		ug/L	U	YES	UJ							UJ									Surr-
Methylene chloride	0.31		ug/L	JB	YES	U			U													Mb

Sample Qualification Report with Reason Codes (All Qualified Results sorted by Client Sample ID)

Client Sample ID : Y7Y87

Lab Report Batch : Y7Y84

Lab ID : LIBRTY

Sample Date : 06/07/2011

Analysis Type: RES

Sample Matrix : AQ

Lab Sample ID: 1106051-04

Reviewed By / Date : NB 7/30/2011

Approved By / Date :

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes
Analysis Method : SOM01.2						Dilution: 1.0															
Acetone	5.0		ug/L	U	YES	UJ															IcRrf
Methylene chloride	0.31		ug/L	JB	YES	U			U												Mb

Sample Qualification Report with Reason Codes (All Qualified Results sorted by Client Sample ID)

Client Sample ID : Y7Y88

Lab Report Batch : Y7Y84

Lab ID : LIBRTY

Sample Date : 06/07/2011

Analysis Type: RES

Sample Matrix : AQ

Lab Sample ID: 1106051-05

Reviewed By / Date : NB 7/30/2011

Approved By / Date :

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes	
Analysis Method : SOM01.2						Dilution: 1.0																
2-Butanone	5.0		ug/L	U	YES	UJ							UJ									Surr-
Acetone	5.0		ug/L	U	YES	UJ							UJ									Surr-
Methylene chloride	0.25		ug/L	JB	YES	U			U													Mb

Sample Qualification Report with Reason Codes (All Qualified Results sorted by Client Sample ID)

Client Sample ID : Y7Y89

Lab Report Batch : Y7Y84

Lab ID : LIBRTY

Sample Date : 06/07/2011

Analysis Type: RES

Sample Matrix : AQ

Lab Sample ID: 1106051-06

Reviewed By / Date : NB 7/30/2011

Approved By / Date :

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes	
Analysis Method : SOM01.2						Dilution: 1.0																
2-Butanone	5.0		ug/L	U	YES	UJ							UJ									Surr-
Acetone	5.0		ug/L	U	YES	UJ							UJ									Surr-
Methylene chloride	0.28		ug/L	JB	YES	U			U													Mb

Sample Qualification Report with Reason Codes (All Qualified Results sorted by Client Sample ID)

Client Sample ID : Y7Y90

Lab Report Batch : Y7Y84

Lab ID : LIBRTY

Sample Date : 06/08/2011

Analysis Type: RES

Sample Matrix : AQ

Lab Sample ID: 1106051-07

Reviewed By / Date : NB 7/30/2011

Approved By / Date :

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes	
Analysis Method : SOM01.2						Dilution: 1.0																
2-Butanone	5.0		ug/L	U	YES	UJ							UJ									Surr-
Acetone	5.0		ug/L	U	YES	UJ							UJ									Surr-

Sample Qualification Report with Reason Codes (All Qualified Results sorted by Client Sample ID)

Client Sample ID : Y7Y90

Lab Report Batch : Y7Y84

Lab ID : LIBRTY

Sample Date : 06/08/2011

Analysis Type: DL

Sample Matrix : AQ

Lab Sample ID: 1106051-07RE1

Reviewed By / Date : NB 7/30/2011

Approved By / Date :

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes	
Analysis Method : SOM01.2						Dilution: 2.0																
2-Butanone	10		ug/L	U	NO	UJ							UJ									Surr-
Acetone	10		ug/L	U	NO	UJ							UJ									Surr-
Methylene chloride	1.0		ug/L	BD	NO	U			U													Mb

Sample Qualification Report with Reason Codes (All Qualified Results sorted by Client Sample ID)

Client Sample ID : Y7Y91

Lab Report Batch : Y7Y84

Lab ID : LIBRTY

Sample Date : 06/06/2011

Analysis Type: RES

Sample Matrix : AQ

Lab Sample ID: 1106051-08

Reviewed By / Date : NB 7/30/2011

Approved By / Date :

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes	
Analysis Method : SOM01.2						Dilution: 1.0																
2-Butanone	5.0		ug/L	U	YES	UJ							UJ									Surr-
Acetone	5.0		ug/L	U	YES	UJ							UJ									Surr-
Methylene chloride	0.27		ug/L	JB	YES	U			U													Mb

Sample Qualification Report with Reason Codes (All Qualified Results sorted by Client Sample ID)

Client Sample ID : Y7Y92

Lab Report Batch : Y7Y84

Lab ID : LIBRTY

Sample Date : 06/08/2011

Analysis Type: RES

Sample Matrix : AQ

Lab Sample ID: 1106051-09

Reviewed By / Date : NB 7/30/2011

Approved By / Date :

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes	
Analysis Method : SOM01.2						Dilution: 1.0																
1,1,1-Trichloroethane	0.087		ug/L	J	YES	J								J								RI
Acetone	5.0		ug/L	U	YES	UJ																IcRrf
Methylene chloride	0.38		ug/L	JB	YES	U			U													Mb

Sample Qualification Report with Reason Codes (All Qualified Results sorted by Client Sample ID)

Client Sample ID : Y7Y93

Lab Report Batch : Y7Y84

Lab ID : LIBRTY

Sample Date : 06/08/2011

Analysis Type: RES

Sample Matrix : AQ

Lab Sample ID: 1106051-10

Reviewed By / Date : NB 7/30/2011

Approved By / Date :

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes	
Analysis Method : SOM01.2						Dilution: 1.0																
2-Butanone	5.0		ug/L	U	YES	UJ							UJ									Surr-
Acetone	5.0		ug/L	U	YES	UJ							UJ									Surr-
Methylene chloride	0.39		ug/L	JB	YES	U			U													Mb

Sample Qualification Report with Reason Codes (All Qualified Results sorted by Client Sample ID)

Client Sample ID : Y7Y94

Lab Report Batch : Y7Y84

Lab ID : LIBRTY

Sample Date : 06/08/2011

Analysis Type: RES

Sample Matrix : AQ

Lab Sample ID: 1106051-11

Reviewed By / Date : NB 7/30/2011

Approved By / Date :

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes
Analysis Method : SOM01.2						Dilution: 1.0															
Acetone	5.0		ug/L	U	YES	UJ															IcRrf
Methylene chloride	0.42		ug/L	JB	YES	U			U												Mb

Sample Qualification Report with Reason Codes (All Qualified Results sorted by Client Sample ID)

Client Sample ID : Y7Y98

Lab Report Batch : Y7Y84

Lab ID : LIBRTY

Sample Date : 06/07/2011

Analysis Type: RES

Sample Matrix : AQ

Lab Sample ID: 1106051-12

Reviewed By / Date : NB

7/30/2011

Approved By / Date :

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes
Analysis Method : SOM01.2			Dilution: 1.0																		
Acetone	5.0		ug/L	U	YES	UJ															IcRrf
Bromodichloromethane	0.15		ug/L	J	YES	J								J							RI
Chloroform	4.2		ug/L		YES	U															Tb
Ethylbenzene	0.22		ug/L	J	YES	J								J							RI
Methylene chloride	0.43		ug/L	JB	YES	U			U												Mb
o-Xylene	0.16		ug/L	J	YES	J								J							RI

Sample Qualification Report with Reason Codes (All Qualified Results sorted by Client Sample ID)

Client Sample ID : Y7Y99

Lab Report Batch : Y7Y84

Lab ID : LIBRTY

Sample Date : 06/07/2011

Analysis Type: RES

Sample Matrix : AQ

Lab Sample ID: 1106051-13

Reviewed By / Date : NB 7/30/2011

Approved By / Date :

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes
Analysis Method : SOM01.2			Dilution: 1.0																		
Acetone	5.0		ug/L	U	YES	UJ															IcRrf
Chloroform	1.3		ug/L		YES	U															Tb
Methylene chloride	0.76		ug/L	B	YES	U			U												Mb

Sample Qualification Report with Reason Codes (All Qualified Results sorted by Client Sample ID)

Client Sample ID : Y7YA0

Lab Report Batch : Y7Y84

Lab ID : LIBRTY

Sample Date : 06/07/2011

Analysis Type: RES

Sample Matrix : AQ

Lab Sample ID: 1106051-14

Reviewed By / Date : NB 7/30/2011

Approved By / Date :

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes
Analysis Method : SOM01.2			Dilution: 1.0																		
Acetone	5.0		ug/L	U	YES	UJ															IcRrf
Methylene chloride	0.47		ug/L	JB	YES	U			U												Mb
Tetrachloroethene	0.26		ug/L	J	YES	J								J							RI

Sample Qualification Report with Reason Codes (All Qualified Results sorted by Client Sample ID)

Client Sample ID : Y7YA1

Lab Report Batch : Y7Y84

Lab ID : LIBRTY

Sample Date : 06/07/2011

Analysis Type: RES

Sample Matrix : AQ

Lab Sample ID: 1106051-15

Reviewed By / Date : NB 7/30/2011

Approved By / Date :

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes
Analysis Method : SOM01.2						Dilution: 1.0															
Acetone	5.0		ug/L	U	YES	UJ															IcRrf
Methylene chloride	0.40		ug/L	JB	YES	U			U												Mb

Sample Qualification Report with Reason Codes (All Qualified Results sorted by Client Sample ID)

Client Sample ID : Y7YA5

Lab Report Batch : Y7Y84

Lab ID : LIBRTY

Sample Date : 06/07/2011

Analysis Type: RES

Sample Matrix : AQ

Lab Sample ID: 1106051-16

Reviewed By / Date : NB 7/30/2011

Approved By / Date :

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes
Analysis Method : SOM01.2		Dilution: 1.0																			
2-Butanone	5.0		ug/L	U	YES	UJ							UJ								Surr-
Acetone	5.0		ug/L	U	YES	UJ							UJ								Surr-
Bromodichloromethane	0.14		ug/L	J	YES	J								J							RI
Chloroform	2.9		ug/L		YES	U										U					Tb
Methylene chloride	0.52		ug/L	B	YES	U			U												Mb

Sample Qualification Report with Reason Codes (All Qualified Results sorted by Client Sample ID)

Client Sample ID : Y7YA6

Lab Report Batch : Y7Y84

Lab ID : LIBRTY

Sample Date : 06/07/2011

Analysis Type: RES

Sample Matrix : AQ

Lab Sample ID: 1106051-17

Reviewed By / Date : NB 7/30/2011

Approved By / Date :

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes	
Analysis Method : SOM01.2		Dilution: 1.0																				
Acetone	5.1		ug/L		YES	UJ																IcRrf
Methylene chloride	0.76		ug/L	B	YES	U			U													Mb

Sample Qualification Report with Reason Codes (All Qualified Results sorted by Client Sample ID)

Client Sample ID : Y7YA9

Lab Report Batch : Y7Y84

Lab ID : LIBRTY

Sample Date : 06/08/2011

Analysis Type: RES

Sample Matrix : AQ

Lab Sample ID: 1106051-18

Reviewed By / Date : NB 7/30/2011

Approved By / Date :

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes
Analysis Method : SOM01.2			Dilution: 1.0																		
Acetone	5.0		ug/L	U	YES	UJ															IcRrf
Chloroform	1.6		ug/L		YES	U															Tb
Methylene chloride	0.51		ug/L	B	YES	U			U												Mb

Sample Qualification Report with Reason Codes (All Qualified Results sorted by Client Sample ID)

Client Sample ID : Y7YA9

Lab Report Batch : Y7Y84

Lab ID : LIBRTY

Sample Date : 06/08/2011

Analysis Type: DL

Sample Matrix : AQ

Lab Sample ID: 1106051-18RE1

Reviewed By / Date : NB 7/30/2011

Approved By / Date :

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes
Analysis Method : SOM01.2		Dilution: 83.3																			
Acetone	420		ug/L	U	NO	UJ															IcRrf
Methylene chloride	30		ug/L	JBD	NO	U			U												Mb

Sample Qualification Report with Reason Codes (All Qualified Results sorted by Client Sample ID)

Client Sample ID : Y7YB0

Lab Report Batch : Y7Y84

Lab ID : LIBRTY

Sample Date : 06/07/2011

Analysis Type: RES

Sample Matrix : AQ

Lab Sample ID: 1106051-19

Reviewed By / Date : NB 7/30/2011

Approved By / Date :

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes
Analysis Method : SOM01.2						Dilution: 1.0															
Acetone	3.9		ug/L	J	YES	UJ											U				Tb
Isopropylbenzene	0.34		ug/L	J	YES	J								J							RI

Sample Qualification Report with Reason Codes (All Qualified Results sorted by Client Sample ID)

Client Sample ID : Y7YB0

Lab Report Batch : Y7Y84

Lab ID : LIBRTY

Sample Date : 06/07/2011

Analysis Type: DL

Sample Matrix : AQ

Lab Sample ID: 1106051-19RE1

Reviewed By / Date : NB 7/30/2011

Approved By / Date :

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes
Analysis Method : SOM01.2						Dilution: 7.1															
Acetone	36		ug/L	U	NO	UJ															IcRrf
Methylene chloride	2.9		ug/L	JBD	NO	U			U												Mb
Tetrachloroethene	3.2		ug/L	JD	NO	J								J							RI

Sample Qualification Report with Reason Codes (All Qualified Results sorted by Client Sample ID)

Client Sample ID : Y7YB2

Lab Report Batch : Y7Y84

Lab ID : LIBRTY

Sample Date : 06/08/2011

Analysis Type: RES

Sample Matrix : AQ

Lab Sample ID: 1106051-20

Reviewed By / Date : NB 7/30/2011

Approved By / Date :

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes	
Analysis Method : SOM01.2			Dilution: 1.0																			
2-Butanone	5.0		ug/L	U	YES	UJ							UJ									Surr-
Acetone	5.0		ug/L	U	YES	UJ							UJ									Surr-
Methylene chloride	0.36		ug/L	JB	YES	U			U													Mb

Sample Qualification Report with Reason Codes (All Qualified Results sorted by Client Sample ID)

Client Sample ID : Y7YB2

Lab Report Batch : Y7Y84

Lab ID : LIBRTY

Sample Date : 06/08/2011

Analysis Type: DL

Sample Matrix : AQ

Lab Sample ID: 1106051-20RE1

Reviewed By / Date : NB 7/30/2011

Approved By / Date :

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes	
Analysis Method : SOM01.2		Dilution: 10.0																				
Acetone	50		ug/L	U	NO	UJ																IcRrf
Methylene chloride	7.8		ug/L	BD	NO	U			U													Mb

SDG Y7YB1

Sample Qualification Report with Reason Codes (All Qualified Results sorted by Client Sample ID)

Client Sample ID : Y7Y95

Lab Report Batch : Y7YB1

Lab ID : LIBRTY

Sample Date : 06/09/2011

Analysis Type: RES

Sample Matrix : Water

Lab Sample ID: 1106052-09

Reviewed By / Date : NB

8/2/2011

Approved By / Date : KTD

8/5/2011

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes
Analysis Method : SOM01.2			Dilution: 1.0																		
2-Butanone	5.0		ug/L	U	YES	UJ															IcRrf
Acetone	5.0		ug/L	U	YES	UJ															IcRrf
Bromodichloromethane	0.37		ug/L	J	YES	J								J							RI
Chloroform	6.9		ug/L		YES	U										U					Fb
Methylene chloride	0.40		ug/L	JB	YES	U			U												Mb
Tetrachloroethene	0.43		ug/L	J	YES	J								J							RI

Sample Qualification Report with Reason Codes (All Qualified Results sorted by Client Sample ID)

Client Sample ID : Y7Y96

Lab Report Batch : Y7YB1

Lab ID : LIBRTY

Sample Date : 06/09/2011

Analysis Type: RES

Sample Matrix : Water

Lab Sample ID: 1106052-10

Reviewed By / Date : NB

8/2/2011

Approved By / Date : KTD

8/5/2011

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes	
Analysis Method : SOM01.2		Dilution: 1.0																				
2-Butanone	5.0		ug/L	U	YES	UJ																CcRrf
Acetone	5.6		ug/L		YES	UJ										U						Fb,CcRrf
Isopropylbenzene	0.37		ug/L	J	YES	J								J								RI
Methylene chloride	0.34		ug/L	JB	YES	U			U													Mb

Sample Qualification Report with Reason Codes (All Qualified Results sorted by Client Sample ID)

Client Sample ID : Y7Y96

Lab Report Batch : Y7YB1

Lab ID : LIBRTY

Sample Date : 06/09/2011

Analysis Type: DL

Sample Matrix : Water

Lab Sample ID: 1106052-10RE1

Reviewed By / Date : NB

8/2/2011

Approved By / Date : KTD

8/5/2011

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes
Analysis Method : SOM01.2			Dilution: 5.0																		
2-Butanone	25		ug/L	U	NO	UJ															CcRrf
Acetone	25		ug/L	U	NO	UJ															CcRrf
Ethylbenzene	2.1		ug/L	JD	NO	J								J							RI
Methylene chloride	1.9		ug/L	JBD	NO	U			U												Mb
o-Xylene	2.3		ug/L	JD	NO	J								J							RI

Sample Qualification Report with Reason Codes (All Qualified Results sorted by Client Sample ID)

Client Sample ID : Y7Y97

Lab Report Batch : Y7YB1

Lab ID : LIBRTY

Sample Date : 06/09/2011

Analysis Type: RES

Sample Matrix : Water

Lab Sample ID: 1106052-11

Reviewed By / Date : NB 8/2/2011

Approved By / Date : KTD 8/5/2011

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes	
Analysis Method : SOM01.2						Dilution: 1.0																
2-Butanone	5.0		ug/L	U	YES	UJ																CcRrf
Acetone	5.0		ug/L	U	YES	UJ																CcRrf
Methylene chloride	0.34		ug/L	JB	YES	U			U													Mb

Sample Qualification Report with Reason Codes (All Qualified Results sorted by Client Sample ID)

Client Sample ID : Y7YA2

Lab Report Batch : Y7YB1

Lab ID : LIBRTY

Sample Date : 06/10/2011

Analysis Type: RES

Sample Matrix : Water

Lab Sample ID: 1106052-12

Reviewed By / Date : NB

8/2/2011

Approved By / Date : KTD

8/5/2011

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes
Analysis Method : SOM01.2			Dilution: 1.0																		
2-Butanone	5.0		ug/L	U	YES	UJ															IcRrf
Acetone	5.0		ug/L	U	YES	UJ															IcRrf
Bromodichloromethane	0.31		ug/L	J	YES	J								J							RI
Dichlorodifluoromethane	4.1		ug/L		YES	J+							J+								Surr+
m,p-Xylene	0.34		ug/L	J	YES	J								J							RI
Methyl tert-butyl ether	0.40		ug/L	J	YES	J								J							RI
Methylene chloride	0.45		ug/L	JB	YES	U			U												Mb
o-Xylene	0.11		ug/L	J	YES	J								J							RI
Trichloroethene	0.24		ug/L	J	YES	J								J							RI

Sample Qualification Report with Reason Codes (All Qualified Results sorted by Client Sample ID)

Client Sample ID : Y7YA2

Lab Report Batch : Y7YB1

Lab ID : LIBRTY

Sample Date : 06/10/2011

Analysis Type: DL

Sample Matrix : Water

Lab Sample ID: 1106052-12RE1

Reviewed By / Date : NB 8/2/2011

Approved By / Date : KTD 8/5/2011

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes	
Analysis Method : SOM01.2						Dilution: 50.0																
Methylene chloride	18		ug/L	JBD	NO	U			U													Mb

Sample Qualification Report with Reason Codes (All Qualified Results sorted by Client Sample ID)

Client Sample ID : Y7YA3

Lab Report Batch : Y7YB1

Lab ID : LIBRTY

Sample Date : 06/09/2011

Analysis Type: RES

Sample Matrix : Water

Lab Sample ID: 1106052-13

Reviewed By / Date : NB

8/2/2011

Approved By / Date : KTD

8/5/2011

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes
Analysis Method : SOM01.2			Dilution: 1.0																		
2-Butanone	5.0		ug/L	U	YES	UJ															CcRrf
Acetone	5.0		ug/L	U	YES	UJ															CcRrf
Ethylbenzene	0.28		ug/L	J	YES	J								J							RI
Methylene chloride	0.34		ug/L	JB	YES	U			U												Mb
o-Xylene	0.30		ug/L	J	YES	J								J							RI

Sample Qualification Report with Reason Codes (All Qualified Results sorted by Client Sample ID)

Client Sample ID : Y7YA3

Lab Report Batch : Y7YB1

Lab ID : LIBRTY

Sample Date : 06/09/2011

Analysis Type: DL

Sample Matrix : Water

Lab Sample ID: 1106052-13RE1

Reviewed By / Date : NB

8/2/2011

Approved By / Date : KTD

8/5/2011

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes
Analysis Method : SOM01.2						Dilution: 12.5															
2-Butanone	63		ug/L	U	NO	UJ															CcRrf
Acetone	63		ug/L	U	NO	UJ															CcRrf
m,p-Xylene	1.1		ug/L	JD	YES	J								J							RI
Methylene chloride	6.7		ug/L	BD	NO	U			U												Mb

Sample Qualification Report with Reason Codes (All Qualified Results sorted by Client Sample ID)

Client Sample ID : Y7YA4

Lab Report Batch : Y7YB1

Lab ID : LIBRTY

Sample Date : 06/09/2011

Analysis Type: RES

Sample Matrix : Water

Lab Sample ID: 1106052-14

Reviewed By / Date : NB

8/2/2011

Approved By / Date : KTD

8/5/2011

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes
Analysis Method : SOM01.2			Dilution: 1.0																		
2-Butanone	5.0		ug/L	U	YES	UJ															CcRrf
Acetone	5.0		ug/L	U	YES	UJ															CcRrf
Carbon Disulfide	0.17		ug/L	J	YES	J							J+	J							Surr+
Methylene chloride	0.37		ug/L	JB	YES	U			U												Mb

Sample Qualification Report with Reason Codes (All Qualified Results sorted by Client Sample ID)

Client Sample ID : Y7YA7

Lab Report Batch : Y7YB1

Lab ID : LIBRTY

Sample Date : 06/09/2011

Analysis Type: RES

Sample Matrix : Water

Lab Sample ID: 1106052-15

Reviewed By / Date : NB

8/2/2011

Approved By / Date : KTD

8/5/2011

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes	
Analysis Method : SOM01.2		Dilution: 1.0																				
2-Butanone	5.0		ug/L	U	YES	UJ																CcRrf
Acetone	5.0		ug/L	U	YES	UJ																CcRrf
Bromodichloromethane	0.10		ug/L	J	YES	J								J								RI
Chloroform	2.3		ug/L		YES	U										U						Tb
Methylene chloride	0.39		ug/L	JB	YES	U			U													Mb

Sample Qualification Report with Reason Codes (All Qualified Results sorted by Client Sample ID)

Client Sample ID : Y7YA7

Lab Report Batch : Y7YB1

Lab ID : LIBRTY

Sample Date : 06/09/2011

Analysis Type: DL

Sample Matrix : Water

Lab Sample ID: 1106052-15RE1

Reviewed By / Date : NB 8/2/2011

Approved By / Date : KTD 8/5/2011

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes
Analysis Method : SOM01.2		Dilution: 5.0																			
2-Butanone	25		ug/L	U	NO	v															CcRf
Acetone	25		ug/L	U	NO	v															CcRf
Chloroform	2.5		ug/L	D	NO	U										U					Tb
Methylene chloride	2.2		ug/L	JBD	NO	U			U												Mb

Sample Qualification Report with Reason Codes (All Qualified Results sorted by Client Sample ID)

Client Sample ID : Y7YA8

Lab Report Batch : Y7YB1

Lab ID : LIBRTY

Sample Date : 06/09/2011

Analysis Type: RES

Sample Matrix : Water

Lab Sample ID: 1106052-16

Reviewed By / Date : NB 8/2/2011

Approved By / Date : KTD 8/5/2011

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes	
Analysis Method : SOM01.2						Dilution: 1.0																
2-Butanone	5.0		ug/L	U	YES	UJ																CcRrf
Acetone	4.7		ug/L	J	YES	J								J								RI,CcRrf
Methylene chloride	0.45		ug/L	JB	YES	U			U													Mb

Sample Qualification Report with Reason Codes (All Qualified Results sorted by Client Sample ID)

Client Sample ID : Y7YB1

Lab Report Batch : Y7YB1

Lab ID : LIBRTY

Sample Date : 06/07/2011

Analysis Type: RES

Sample Matrix : Water

Lab Sample ID: 1106052-01

Reviewed By / Date : NB 8/2/2011

Approved By / Date : KTD 8/5/2011

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes
Analysis Method : SOM01.2						Dilution: 1.0															
2-Butanone	5.0		ug/L	U	YES	UJ															IcRrf
Acetone	5.0		ug/L	U	YES	UJ															IcRrf
Methylene chloride	0.32		ug/L	JB	YES	U			U												Mb

Sample Qualification Report with Reason Codes (All Qualified Results sorted by Client Sample ID)

Client Sample ID : Y7YB3

Lab Report Batch : Y7YB1

Lab ID : LIBRTY

Sample Date : 06/08/2011

Analysis Type: RES

Sample Matrix : Water

Lab Sample ID: 1106052-02

Reviewed By / Date : NB

8/2/2011

Approved By / Date : KTD

8/5/2011

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes
Analysis Method : SOM01.2			Dilution: 1.0																		
2-Butanone	5.0		ug/L	U	YES	UJ															IcRrf
Acetone	5.0		ug/L	U	YES	UJ															IcRrf
Bromodichloromethane	0.39		ug/L	J	YES	J								J							RI
Methylene chloride	0.35		ug/L	JB	YES	U			U												Mb

Sample Qualification Report with Reason Codes (All Qualified Results sorted by Client Sample ID)

Client Sample ID : Y7YB4

Lab Report Batch : Y7YB1

Lab ID : LIBRTY

Sample Date : 06/07/2011

Analysis Type: RES

Sample Matrix : Water

Lab Sample ID: 1106052-03

Reviewed By / Date : NB 8/2/2011

Approved By / Date : KTD 8/5/2011

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes
Analysis Method : SOM01.2						Dilution: 1.0															
2-Butanone	5.0		ug/L	U	YES	UJ															IcRrf
Acetone	5.0		ug/L	U	YES	UJ															IcRrf
Methylene chloride	0.35		ug/L	JB	YES	U			U												Mb

Sample Qualification Report with Reason Codes (All Qualified Results sorted by Client Sample ID)

Client Sample ID : Y7YB5

Lab Report Batch : Y7YB1

Lab ID : LIBRTY

Sample Date : 06/09/2011

Analysis Type: RES

Sample Matrix : Water

Lab Sample ID: 1106052-17

Reviewed By / Date : NB

8/2/2011

Approved By / Date : KTD

8/5/2011

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes	
Analysis Method : SOM01.2						Dilution: 1.0																
2-Butanone	5.0		ug/L	U	YES	UJ																CcRrf
Acetone	5.0		ug/L	U	YES	UJ																CcRrf
Methylene chloride	0.37		ug/L	JB	YES	U			U													Mb

Sample Qualification Report with Reason Codes (All Qualified Results sorted by Client Sample ID)

Client Sample ID : Y7YB6

Lab Report Batch : Y7YB1

Lab ID : LIBRTY

Sample Date : 06/07/2011

Analysis Type: RES

Sample Matrix : Water

Lab Sample ID: 1106052-04

Reviewed By / Date : NB

8/2/2011

Approved By / Date : KTD

8/5/2011

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes
Analysis Method : SOM01.2			Dilution: 1.0																		
2-Butanone	5.0		ug/L	U	YES	UJ															IcRrf
Acetone	5.0		ug/L	U	YES	UJ															IcRrf
Bromodichloromethane	0.17		ug/L	J	YES	J								J							RI
Methylene chloride	0.28		ug/L	JB	YES	U			U												Mb

Sample Qualification Report with Reason Codes (All Qualified Results sorted by Client Sample ID)

Client Sample ID : Y7YB6

Lab Report Batch : Y7YB1

Lab ID : LIBRTY

Sample Date : 06/07/2011

Analysis Type: DL

Sample Matrix : Water

Lab Sample ID: 1106052-04RE1

Reviewed By / Date : NB 8/2/2011

Approved By / Date : KTD 8/5/2011

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes
Analysis Method : SOM01.2						Dilution: 4.2															
2-Butanone	21		ug/L	U	NO	UJ															IcRrf
Acetone	21		ug/L	U	NO	UJ															IcRrf
Methylene chloride	1.9		ug/L	JBD	NO	U			U												Mb

Sample Qualification Report with Reason Codes (All Qualified Results sorted by Client Sample ID)

Client Sample ID : Y7YB7

Lab Report Batch : Y7YB1

Lab ID : LIBRTY

Sample Date : 06/08/2011

Analysis Type: RES

Sample Matrix : Water

Lab Sample ID: 1106052-05

Reviewed By / Date : NB 8/2/2011

Approved By / Date : KTD 8/5/2011

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes
Analysis Method : SOM01.2			Dilution: 1.0																		
2-Butanone	5.0		ug/L	U	YES	UJ															IcRrf
Acetone	5.0		ug/L	U	YES	UJ															IcRrf
Methylene chloride	0.26		ug/L	JB	YES	U			U												Mb
o-Xylene	0.26		ug/L	J	YES	J								J							RI

Sample Qualification Report with Reason Codes (All Qualified Results sorted by Client Sample ID)

Client Sample ID : Y7YB8

Lab Report Batch : Y7YB1

Lab ID : LIBRTY

Sample Date : 06/07/2011

Analysis Type: RES

Sample Matrix : Water

Lab Sample ID: 1106052-06

Reviewed By / Date : NB 8/2/2011

Approved By / Date : KTD 8/5/2011

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes
Analysis Method : SOM01.2		Dilution: 1.0																			
2-Butanone	5.0		ug/L	U	YES	UJ															IcRrf
Acetone	5.0		ug/L	U	YES	UJ															IcRrf
Bromodichloromethane	0.17		ug/L	J	YES	J								J							RI
Methylene chloride	0.30		ug/L	JB	YES	U			U												Mb

Sample Qualification Report with Reason Codes (All Qualified Results sorted by Client Sample ID)

Client Sample ID : Y7YB9

Lab Report Batch : Y7YB1

Lab ID : LIBRTY

Sample Date : 06/07/2011

Analysis Type: RES

Sample Matrix : Water

Lab Sample ID: 1106052-07

Reviewed By / Date : NB 8/2/2011

Approved By / Date : KTD 8/5/2011

Analyte Name	Result	Uncertainty / Error	Result Units	Lab Qual	Rep Res	Overall Qual*	Temp	HT	MB	LCS	MS	Lab Dup	Surr	Rep Limit	Moist Tot/Dis	Field QC	Tune	IC	ICV	CV / CCV	Reason Codes
Analysis Method : SOM01.2						Dilution: 1.0															
2-Butanone	5.0		ug/L	U	YES	UJ															IcRrf
Acetone	5.0		ug/L	U	YES	UJ															IcRrf
Methylene chloride	0.29		ug/L	JB	YES	U			U												Mb

Appendix B

Manual Validation Level III and IV Worksheets and ADR Reports

SDG 11105B

LDC #: 1104-01A1
 SDG #: 11105B
 Laboratory: EPA Region 9

VALIDATION COMPLETENESS WORKSHEET
 Level III/IV

Date: 07/14/11
 Page: 1 of 1
 Reviewer: LS
 2nd Reviewer: NS

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: 04/14/2011
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	MS/MSD = 8/9 performed on a Trip Blank
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	NS A	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	ND	FD = 2/6
XVII.	Field blanks	SW	TB = 7, FB = 8/10 KT

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

Validated Samples: ** Indicates sample underwent Level IV validation

1	CRB EFF-0403	11		21		31	
2	CRB INF-0403	12		22		32	
3	CRB Mid-0403**	13		23		33	
4	EFF-0403	14		24		34	
5	EW-1-0403	15		25		35	
6	MW-103-0403	16		26		36	
7	MW-301-2Q11	17		27		37	
8	MW-301-2Q11 MS	18		28		38	
9	MW-301-2Q11 MSD	19		29		39	
10	MW-401-2Q11	20		30		40	

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) \leq 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) \leq 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		<i>3/13 Naphthalene</i>
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			

VALIDATION FINDINGS CHECKLIST

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 \pm 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			J values for PCE (RL)
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 \pm 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 #: 1104-01A1
 SDG #: 11105B

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
 Reviewer: CS
 2nd Reviewer: NB

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:

$RRF = (\text{Std Resp} * \text{IStd Conc}) / (\text{Std Conc} * \text{IS Resp})$

$\%RSD = 100 * (S/X)$

Where:

S = Standard deviation of calibration factors

X = Mean of calibration factors

Calibration Date	Inst	Compound	Standard	Standard		Internal Standard		Recalculated		Reported	
				Concentration (ppb)	Response (A/H)	Concentration (ppb)	Response (A/H)	Calibration Factor (CF)	%RSD	Calibration Factor (CF)	%RSD
4/15/2011	HP5973F	Vinyl Chloride (vs Dichloromethane-d2)	Point 1	0.50	64961	5	276152	2.352		2.352	
			Point 2	1.00	135638	5	277428	2.445		2.445	
			Point 3	2.00	263810	5	275919	2.390		2.390	
			Point 4	5.00	659219	5	282128	2.337		2.337	
			Point 5	10.00	1337576	5	295510	2.263		2.263	
			Point 6	25.00	3392492	5	310182	2.187		2.187	
			Mean calibration factor							2.329	
4/15/2011	HP5973F	Trichloroethene (vs Fluorobenzene)	Point 1	0.50	76814	5	2718154	0.283		0.283	
			Point 2	1.00	155892	5	2751903	0.283		0.283	
			Point 3	2.00	316796	5	2781364	0.285		0.285	
			Point 4	5.00	812992	5	2896885	0.281		0.281	
			Point 5	10.00	1727111	5	3066137	0.282		0.282	
			Point 6	25.00	4670727	5	3377978	0.277		0.277	
			Mean calibration factor							0.282	
4/15/2011	HP5973F	Tetrachloroethene (vs Chlorobenzene-d5)	Point 1	0.50	71126	5	1586018	0.448		0.448	
			Point 2	1.00	148933	5	1610229	0.462		0.462	
			Point 3	2.00	304134	5	1634731	0.465		0.465	
			Point 4	5.00	754707	5	1725057	0.437		0.437	
			Point 5	10.00	1590091	5	1828099	0.435		0.435	
			Point 6	25.00	4257273	5	2001341	0.425		0.425	
			Mean calibration factor							0.446	

LDC #: 1104-01A1
SDG #: 11105B

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Page: 1 of 1
Reviewer: LS
2nd Reviewer: NB

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:

$$\text{RRF} = (\text{Std Resp} * \text{IStd Conc}) / (\text{Std Conc} * \text{IS Resp})$$

$$\%D = 100 * (\text{CC} - \text{IC}) / (\text{IC})$$

Where:

CC = Continuing calibration RRF

IC = Initial calibration RRF

Calibration Date	Compound	Standard		Internal Standard		Recalculated	Reported	Initial	Recalculated	Reported
		Concentration (ppb)	Response (A/H)	Concentration (ppb)	Response (A/H)	(RRF)	(RRF)	Calibration (RRF)	%D	%D
4/18/2011	Chloroform	5.0	1273411	5.0	242468	5.252	5.252	5.146	2.1	2.1
8:25	Trichloroethene	5.0	701383	5.0	2510770	0.279	0.279	0.282	-0.9	-1.1
HP5973F	Tetrachloroethene	5.0	661469	5.0	1481183	0.447	0.447	0.446	0.1	0.2

LDC #: 1104-01A1
SDG #: 11105B

VALIDATION FINDINGS WORKSHEET
Surrogate Compounds
Results Verification

Page: 1 of 1
Reviewer: LS
2nd Reviewer: NB

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: MW-103-04031

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
1,2-Dichloroethane-d4	5	5.898	118	118	0
Toluene-d8	5	4.966	99	99	0
4-Bromofluorobenzene	5	4.761	95	95	0
1,2-Dichlorobenzene-d4	5	4.645	93	93	0

LDC #: 1104-01A
 SDG #: 11105B

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Result Verification

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

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:

$\% \text{Recovery} = 100 * (\text{SSC} - \text{SC}) / \text{SA}$

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

$\text{RPD} = | \text{MS} - \text{MSD} | * 2 / (\text{MS} + \text{MSD})$

MS = Matrix spike recovery MSD = Matrix spike duplicate recovery

MS/MSD samples: MW-301-2Q11 MS/MW-301-2Q11 MSD

Compound	Spike Added (ug/L)		Sample Concentration (ug/L)	Spiked Sample Concentration (ug/L)		MS		MSD		MS/MSD	
	MS	MSD		MS	MSD	Percent Recovery		Percent Recovery		RPD	
						Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
1,1-Dichloroethene	5.00	5.00	0.00	4.81	5.59	96	96	112	112	15	15
Benzene	5.00	5.00	0.00	4.35	4.94	87	87	99	99	13	13
Trichloroethene	5.00	5.00	0.00	4.50	5.12	90	90	102	102	13	13
Toluene	5.00	5.00	0.00	4.25	4.77	85	85	95	95	12	12
Chlorobenzene	5.00	5.00	0.00	4.19	4.72	84	84	94	94	12	12

LDC #: 1104-D1A1
 SDG #: 11105B

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample
Result Verification

Page: 1 of 1
 Reviewer: LS
 2nd Reviewer: NB

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:

$\% \text{Recovery} = 100 * (\text{SSC} - \text{SC}) / \text{SA}$

SSC = Spiked concentration
 SA = Spike added

SC = Sample concentration

LCS Batch: B1D0066-BS1

Compound	Spike Added (ug/L)	Sample Concentration (ug/L)	Spiked Sample Concentration (ug/L)	LCS	
				Percent Recovery	
				Reported	Recalc.
LCS			LCS		
Vinyl chloride	5.00	0.00	5.76	115	115
Chloroform	5.00	0.00	5.28	106	106
1,2-Dichloroethane	5.00	0.00	5.77	115	115
Trichloroethene	5.00	0.00	5.25	105	105
1,2-Dichloropropane	5.00	0.00	5.45	109	109
1,1,2-Trichloroethane	5.00	0.00	5.31	106	106
Tetrachloroethene	5.00	0.00	5.07	101	101
1,1,2,2-Tetrachloroethane	5.00	0.00	5.60	112	112
Hexachlorobutadiene	5.00	0.00	5.32	106	106

Method Blank Outlier Report

Lab Reporting Batch ID: 11105B

Laboratory: R9LAB

EDD Filename: 11105B_voc_edited_NB

eQAPP Name: Modesto_Site_070810s

Method: 524.2
Matrix: Water

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
B1D0066-BLK1	4/15/2011 1:55:00 PM	NAPHTHALENE	0.3 ug/L	CRB EFF-0403 CRB INF-0403 CRB Mid-0403 EFF-0403 EW-1-0403 MW-103-0403 MW-301-2Q11 MW-401-2Q11
B1D0066-BLK2	4/18/2011 10:46:00 AM	METHYLENE CHLORIDE	0.3 ug/L	CRB EFF-0403 CRB INF-0403 CRB Mid-0403 EFF-0403 EW-1-0403 MW-103-0403 MW-301-2Q11 MW-401-2Q11

Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: 11105B

Laboratory: R9LAB

EDD Filename: 11105B_voc_edited_NB_rev

eQAPP Name: Modesto_Site_070810s

Method: 524.2
Matrix: Water

<i>QC Sample ID (Associated Samples)</i>	<i>Compound</i>	<i>MS %R</i>	<i>MSD %R</i>	<i>%R Limits</i>	<i>RPD (Limits)</i>	<i>Affected Compounds</i>	<i>Flag</i>
MW-301-2Q11MS (MW-301-2Q11)	NAPHTHALENE	-	-	52.00-160.00	28 (20.00)	NAPHTHALENE	J (all detects) UJ (all non-detects)

Reporting Limit Outliers

Lab Reporting Batch ID: 11105B

Laboratory: R9LAB

EDD Filename: 11105B_voc_edited_NB_rev

eQAPP Name: Modesto_Site_070810s

Method: 524.2

Matrix: Water

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
CRB EFF-0403	TETRACHLOROETHENE	J,C1	0.3	0.5	MRL	ug/L	J (all detects)
CRB Mid-0403	TETRACHLOROETHENE	J,C1	0.3	0.5	MRL	ug/L	J (all detects)
EFF-0403	TETRACHLOROETHENE	J,C1	0.3	0.5	MRL	ug/L	J (all detects)

Field QC Assignments and Associated Samples

EDD File Name: 11105B

eQapp Name: Modesto_Site_070810s

Associated Samples	Sample Collection Date
Field QC Sample: CRB INF-0403 QC Type: Field_Duplicate	
MW-103-0403	4/14/2011 12:00:00 PM
Field QC Sample: MW-301-2Q11 QC Type: Trip_Blank	
EFF-0403	4/14/2011 12:35:00 PM
Field QC Sample: MW-401-2Q11 QC Type: Field_Blank	
CRB Mid-0403	4/14/2011 1:10:00 PM
MW-301-2Q11	4/14/2011 12:00:00 PM
CRB EFF-0403	4/14/2011 1:05:00 PM
MW-103-0403	4/14/2011 12:00:00 PM
EW-1-0403	4/14/2011 1:20:00 PM
CRB INF-0403	4/14/2011 1:15:00 PM
EFF-0403	4/14/2011 12:35:00 PM

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: CRB EFF-0403								
NAPHTHALENE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	7/20/2011 13:23
Reason for change: %RSD>20.0% (31.75%)								
Field Sample ID: CRB INF-0403								
NAPHTHALENE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	7/20/2011 13:26
Reason for change: %RSD>20.0% (31.75%)								
Field Sample ID: CRB Mid-0403								
NAPHTHALENE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	7/20/2011 13:25
Reason for change: %RSD>20.0% (31.75%)								
Field Sample ID: EFF-0403								
NAPHTHALENE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	7/20/2011 13:25
Reason for change: %RSD>20.0% (31.75%)								
Field Sample ID: EW-1-0403								
NAPHTHALENE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	7/20/2011 13:25
Reason for change: %RSD>20.0% (31.75%)								
Field Sample ID: MW-103-0403								
NAPHTHALENE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	7/20/2011 13:25
Reason for change: %RSD>20.0% (31.75%)								

Analyte	Method	Analysis Type	Result	Unit	Reason Code	Original Value	New Value	Edit Time
Field Sample ID: MW-301-2Q11								
NAPHTHALENE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	7/20/2011 13:26
Reason for change: %RSD>20.0% (31.75%)								
Field Sample ID: MW-401-2Q11								
NAPHTHALENE	524.2	Initial	0.5	ug/L	Initial Calibration Percent		UJ	7/20/2011 13:26
Reason for change: %RSD>20.0% (31.75%)								

LDC #: 1104-01A

VALIDATION COMPLETENESS WORKSHEET

Date: 08/01/11

SDG #: 11105B

EPA Level III

Page: 1 of 1

Laboratory: EPA Region 9

Reviewer: LS

2nd Reviewer: JCTP

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: 04/14/2011
II.	Calibration verification	N	
III.	Blanks	A	
IV.	Matrix Spike/(Matrix Spike) Duplicates	N	
V.	Duplicates	N	
VI.	Laboratory control samples	A ND	(SRM)
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-0403	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: _____

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) $\leq 5\%$ for waters?			X	
V. Laboratory control samples				
Was an LCS analyzed for this SDG?	X	X	KD	Reference sample
Was an LCS analyzed per extraction batch?	X	KD	X	
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 81.5-118.5% QC limits?	X	KD	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 #: 1104-01A
 SDG #: 11105B

VALIDATION FINDINGS CHECKLIST

Page: 2 of 2
 Reviewer: LS
 2nd Reviewer: KP

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 #: 1104-01A
 SDG #: 11105B
 Laboratory: EPA Region 9

VALIDATION COMPLETENESS WORKSHEET
 EPA Level IV

Date: 08/01/11
 Page: 1 of 1
 Reviewer: LS
 2nd Reviewer: GD

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: 04/14/2011
II.	Calibration verification	A	
III.	Blanks	A	
IV.	Matrix Spike/(Matrix Spike) Duplicates	N	
V.	Duplicates	A	Dup = 2
VI.	Laboratory control samples	N	
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-0403	11		21		31	
2	EFF-0403 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: _____

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			
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) $\leq 5\%$ for waters?	X			
V. Laboratory control samples				
Was an LCS analyzed 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 #: 1104-01A
 SDG #: 11105B

VALIDATION FINDINGS CHECKLIST

Page: 2 of 2
 Reviewer: LS
 2nd Reviewer: JCT

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			
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	

LDC #: 1104-01A
 SDG #: 11105B
 Laboratory: EPA Region 9

VALIDATION COMPLETENESS WORKSHEET
 EPA Level IV

Date: 08/01/11
 Page: 1 of 1
 Reviewer: LS
 2nd Reviewer: JGD

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: 04/14/2011
II.	Calibration verification	A	
III.	Blanks	A	
IV.	Matrix Spike/(Matrix Spike) Duplicates	N	
V.	Duplicates	A/ND	Dup = 2
VI.	Laboratory control samples	N	
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-0403	11		21		31	
2	EFF-0403 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: _____

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			
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) $\leq 5\%$ for waters?	X			
V. Laboratory control samples				
Was an LCS analyzed 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 #: 1104-01A
 SDG #: 11105B

VALIDATION FINDINGS CHECKLIST

Page: 2 of 2
 Reviewer: CS
 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			
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 11105C

LDC #: 1104-01B49
 SDG #: 11105C
 Laboratory: EPA Region 9

VALIDATION COMPLETENESS WORKSHEET
 Level III/IV

Date: 07/11/11
 Page: 1 of 1
 Reviewer: CS
 2nd Reviewer: LB

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: 04/14/2011
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	SW/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 ND = No compounds detected D = Duplicate
 N = Not provided/applicable R = Rinsate TB = Trip blank
 SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples: ** Indicates sample underwent Level IV validation

1	GWTP PreGAC-0403 & RE1	11		21		31	
2	GWTP PreGAC-0403 Dup	12		22		32	
3	GWTP Stack-0403** & RE1	13		23		33	
4	SVE PreGAC-0403	14		24		34	
5	SVE Stack-0403	15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

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) \leq 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) \leq 30% and relative response factors (RRF) \geq 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			

VALIDATION FINDINGS CHECKLIST

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 #: 1104-01B48
 SDG #: 11105C

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

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

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:

$$CF = (\text{Std Resp} * \text{IStd Conc}) / (\text{Std Conc} * \text{IS Resp})$$

$$\%RSD = 100 * (S/X)$$

Where:

S = Standard deviation of calibration factors

X = Mean of calibration factors

Calibration Date	Standard	Compound	Standard	Standard		Internal Standard		Recalculated		Reported	
				Concentration (ppb)	Response (A/H)	Concentration (ppb)	Response (A/H)	Calibration Factor (CF)	%RSD	Calibration Factor (CF)	%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	
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	
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	

LDC #: 1104-01B48
 SDG #: 11105C

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Page: 1 of 1
 Reviewer: LS
 2nd Reviewer: NB

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:

$$RRF = (\text{Std Resp} * \text{IStd Conc}) / (\text{Std Conc} * \text{IS Resp})$$

$$\%D = 100 * (\text{CC-IC})/(\text{IC})$$

Where:

CC = Continuing calibration RRF

IC = Initial calibration RRF

Calibration Date	Compound	Standard		Internal Standard		Recalculated	Reported	Initial Calibration (RRF)	Recalculated	Reported
		Concentration (ppb)	Response (A/H)	Concentration (ppb)	Response (A/H)	(RRF)	(RRF)		%D	%D
4/19/2011 (2:17)	Chloroform	10.1	792397	20.00	844014	1.859	1.859	2.038	8.8	8.8
	Trichloroethene	10.1	444669	20.60	2640961	0.343	0.343	0.360	4.7	4.7
	Tetrachloroethene	10.2	671124	21.00	2440072	0.566	0.566	0.604	6.3	6.3

LDC #: _1104-01B4

VALIDATION FINDING WORKSHEET

Page: 1 of 1

SDG #: _11105C

Laboratory Duplicates

Reviewer: LS

MS

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	Recalculated
	GWTP PreGAC-0403 RE1	GWTP PreGAC-0403 RE1 Dup	RPD	RPD
Tetrachloroethane <i>e 13</i>	260	216	18	18

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 #: 1104-01B48
 SDG #: 11105C

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Result Verification

Page: 1 of 1
 Reviewer: LS
 2nd Reviewer: NB

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 identified below using the following calculation:

$\% \text{Recovery} = 100 * (\text{SSC} - \text{SC}) / \text{SA}$

Where: SSC = Spiked concentration
 SA = Spike added

SC = Sample concentration

$\% \text{D} = | \text{LCS} - \text{LCS recalc} | * 100 / (\text{LCS})$

LCS = Laboratory control spike recovery

LCS recalc = Laboratory control spike recovery recalculated

LCS sample: BID0088-BS1

Compound	Spike Added (ppbv)	Sample Concentration (ppbv)	Spiked Sample Concentration (ppbv)	LCS		LCS
				Percent Recovery		%D
				Reported	Recalc.	Calculated
	LCS	---	LCS			
Vinyl chloride	10.20	0.0	9.04	89	89	0.4
Chloroform	10.20	0.0	9.31	91	91	0.3
1,2-Dichloroethane	10.30	0.0	9.83	95	95	0.5
Trichloroethene	10.40	0.0	10.03	96	96	0.5
1,2-Dichloropropane	10.30	0.0	10.02	97	97	0.3
1,1,2-Trichloroethane	10.30	0.0	9.64	94	94	0.4
Tetrachloroethene	10.40	0.0	9.97	96	96	0.1
1,1,2,2-Tetrachloroethane	10.50	0.0	9.82	94	94	0.5
Hexachlorobutadiene	10.40	0.0	8.83	85	85	0.1

LDC #: 1104-01B48
 SDG #: 11105C

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
 Reviewer: LS
 2nd Reviewer: NS

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	GWTP PreGAC-0403	Chloroform	221446	200	2.25	20.00	2.038	200	772795	6.1	6.3	3.7	Y
		1,1,2-Trichloroethane	46106	200	2.25	20.00	0.406	200	2105124	2.5	2.4	-2.9	Y
		Tetrachloroethene	765870	200	2.25	21.00	0.604	20	2239250	260	268	2.9	Y
2	GWTP Stack-0403	Chloroform	223723	200	2.25	20.00	2.038	200	786659	6.1	6.3	2.9	Y
		Tetrachloroethene	268225	200	2.25	21.00	0.604	20	2171007	94	97	2.8	Y
3	SVE PreGAC-0403	Tetrachloroethene	64007	200	2.25	21.00	0.604	200	1843311	2.7	2.7	0.6	Y
4	SVE Stack-0403	Chloroform	639762	200	2.25	20.00	2.038	200	765446	18	18	2.5	Y
		Tetrachloroethene	159912	200	2.25	21.00	0.604	200	2166063	5.6	5.8	3.1	Y

SDG 1131B

VALIDATION COMPLETENESS WORKSHEET
 Level III/IV

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: 05/10/2011
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	A	
IV.	Continuing calibration/ICV	A	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	SW	MS/MSD = 4/5 <i>performed on a field QC sample</i>
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	<i>N SW</i>	FD = N/A
XVII.	Field blanks	SW	TB = 3

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

Validated Samples: ** Indicates sample underwent Level IV validation

1	EFF-0502	11		21		31	
2	EW-1-0502	12		22		32	
3	MW-302-2Q11	13		23		33	
4	MW-302-2Q11 MS	14		24		34	
5	MW-302-2Q11 MSD	15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

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) \leq 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) \leq 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			<i>performed on TB</i>
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		

VALIDATION FINDINGS CHECKLIST

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 \pm 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 \pm 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.	HP X	X		
Target compounds were detected in the field duplicates.	X		Y	
XVII. Field blanks				
Field blanks were identified in this SDG.	X			
Target compounds were detected in the field blanks.	X			

Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: 11131B

Laboratory: R9LAB

EDD Filename: 11131b_voc FINAL_LDC_edited_NB

eQAPP Name: Modesto_Site_070810s

Method: 524.2

Matrix: Water

<i>QC Sample ID (Associated Samples)</i>	<i>Compound</i>	<i>MS %R</i>	<i>MSD %R</i>	<i>%R Limits</i>	<i>RPD (Limits)</i>	<i>Affected Compounds</i>	<i>Flag</i>
MW-302-2Q11MS (MW-302-2Q11)	1,1,2-TRICHLORO-1,2,2-TRIFLUOROMETHANE	141	-	38.00-140.00	-	1,1,2-TRICHLORO-1,2,2-TRIFLUOROMETHANE	J+ (all detects)
	BROMOMETHANE	192	188	38.00-160.00	-	BROMOMETHANE	
	CHLOROETHANE	222	213	59.00-140.00	-	CHLOROETHANE	
	CHLOROMETHANE	152	142	47.00-140.00	-	CHLOROMETHANE	
	DICHLORODIFLUOROMETHANE	170	156	25.00-135.00	-	DICHLORODIFLUOROMETHANE	
	TOLUENE	121	-	68.00-120.00	-	TOLUENE	
	TRANS-1,2-DICHLOROETHENE	132	131	59.00-130.00	-	TRANS-1,2-DICHLOROETHENE	
	VINYL CHLORIDE	156	-	43.00-150.00	-	VINYL CHLORIDE	

Lab Control Spike/Lab Control Spike Duplicate Outlier Report

Lab Reporting Batch ID: 11131B

Laboratory: R9LAB

EDD Filename: 11131b_voc FINAL_LDC_edited_NB

eQAPP Name: Modesto_Site_070810s

Method: 524.2
Matrix: Water

<i>QC Sample ID (Associated Samples)</i>	<i>Compound</i>	<i>LCS %R</i>	<i>LCSD %R</i>	<i>%R Limits</i>	<i>RPD (Limits)</i>	<i>Affected Compounds</i>	<i>Flag</i>
B1E0052-BS1 (EFF-0502 EW-1-0502 MW-302-2Q11)	CHLOROETHANE	183	-	68.00-140.00	-	CHLOROETHANE	J+ (all detects)

Reporting Limit Outliers

Lab Reporting Batch ID: 11131B

Laboratory: R9LAB

EDD Filename: 11131b_voc FINAL_LDC_edited_NB

eQAPP Name: Modesto_Site_070810s

Method: 524.2

Matrix: Water

<i>SampleID</i>	<i>Analyte</i>	<i>Lab Qual</i>	<i>Result</i>	<i>Reporting Limit</i>	<i>RL Type</i>	<i>Units</i>	<i>Flag</i>
EFF-0502	TETRACHLOROETHENE	J,C1	0.3	0.5	MRL	ug/L	J (all detects)

SDG 1131E

LDC #: 1104-01D48**VALIDATION COMPLETENESS WORKSHEET**Date: 07/12/11SDG #: 11131E

Level III/IV

Page: 1 of 1Laboratory: EPA Region 9Reviewer: LS2nd Reviewer: NB**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: 05/10/2011
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	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 PrGAC-0502 & RE1	11		21		31	
2	GWTP PrGAC-0502 Dup	12		22		32	
3	GWTP Stack-0502 & RE1	13		23		33	
4	SVE PreGAC-0502	14		24		34	
5	SVE Stack-0502	15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

VALIDATION FINDINGS CHECKLIST

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) \leq 30% and relative response factors (RRF) \geq 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) \leq 30% and relative response factors (RRF) \geq 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 #: 1104-01D48
 SDG #: 11131E

VALIDATION FINDINGS CHECKLIST

Page: 2 of 2
 Reviewer: LS
 2nd Reviewer: NB

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	

Lab Duplicate Outlier Report

Lab Reporting Batch ID: 11131E

Laboratory: R9LAB

EDD Filename:

eQAPP Name: Modesto_Site_070810s

11131e_TO15_FINAL_LDC_edited_NB

Method: TO-15

Matrix: Air

<i>QC Sample ID (Associated Sample ID)</i>	<i>Analyte</i>	<i>Sample RPD</i>	<i>eQAPP RPD</i>	<i>Flag</i>
GWTP Pr GAC-0502DUP (GWTP Pr GAC-0502 GWTP Stack-0502 SVE Pre GAC-0502 SVE Stack-0502)	TETRACHLOROETHENE	22	20.00	J (all detects) UJ (all non-detects)

Reporting Limit Outliers

Lab Reporting Batch ID: 11131E

Laboratory: R9LAB

EDD Filename: 11131e_TO15_FINAL_LDC_edited_NB

eQAPP Name: Modesto_Site_070810s

Method: TO-15

Matrix: Air

<i>SampleID</i>	<i>Analyte</i>	<i>Lab Qual</i>	<i>Result</i>	<i>Reporting Limit</i>	<i>RL Type</i>	<i>Units</i>	<i>Flag</i>
SVE Pre GAC-0502	TETRACHLOROETHENE	J,C1	10	20	MRL	ug/m^3	J (all detects)

SDG 1154A

VALIDATION COMPLETENESS WORKSHEET
 Level III/IV

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: 06/02/2011
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	A	
IV.	Continuing calibration/ICV	A	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	MS/MSD = 5/6
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 = 1/3
XVII.	Field blanks	SW	TB = 4

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

Validated Samples: ** Indicates sample underwent Level IV validation

1	EFF-0603	11		21		31	
2	EW-1-0603	12		22		32	
3	MW-107-0603	13		23		33	
4	MW-304-2Q11	14		24		34	
5	MW-304-2Q11 MS	15		25		35	
6	MW-304-2Q11 MSD	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

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			

VALIDATION FINDINGS CHECKLIST

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 \pm 30 seconds of RT of the associated calibration standard?	X			
XI. Target compound identification				
Were relative retention times (RRT's) within \pm 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 \pm 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 #: 1104-01E

VALIDATION FINDING WORKSHEET

Page: 1 of 1

SDG #: 11154A

Field Duplicates

Reviewer: KTD

2nd Reviewer: NB

METHOD: GC/MS Volatile Organics (EPA Method 524.2)

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
	EFF-0603	MW-107-0603			
Tetrachloroethene	0.3	0.4	0.8	*	None

Analyte	Concentration (ug/L)		Difference	Difference (Limits)	Qualifications

* = See Table 2-17 of SAP

Field QC Assignments and Associated Samples

EDD File Name: 11154A

eQapp Name: Modesto_Site_070810s

	Associated Samples	Sample Collection Date
Field QC Sample: MW-107-0603 QC Type: Field_Duplicate		
	EFF-0603	6/2/2011 9:20:00 AM
Field QC Sample: MW-304-2Q11 QC Type: Trip_Blank		
	EFF-0603	6/2/2011 9:20:00 AM
	EW-1-0603	6/2/2011 9:45:00 AM
	MW-107-0603	6/2/2011 9:25:00 AM

Field Duplicate RPD Report

Lab Reporting Batch ID: 11154A

Laboratory: R9LAB

EDD Filename: 11154a_voc_LDC_edited_NB

eQAPP Name: Modesto_Site_070810s

Method: 524.2

Matrix: Water

<i>Analyte</i>	<i>Concentration (ug/L)</i>		<i>Sample RPD</i>	<i>eQAPP RPD</i>	<i>Flag</i>
	<i>EFF-0603</i>	<i>MW-107-0603</i>			
TETRACHLOROETHENE	0.3	0.4	29	1.00	No Qualifiers Applied

Trip Blank Outlier Report

Lab Reporting Batch ID: 11154A

Laboratory: R9LAB

EDD Filename: 11154a_voc_LDC_edited_NB

eQAPP Name: Modesto_Site_070810s

Method: 524.2
Matrix: Water

Trip Blank Sample ID	Collected Date	Analyte	Result	Associated Samples
MW-304-2Q11(Initial)	6/2/2011 9:00:00 AM	CHLOROFORM	2.8 ug/L	EFF-0603 EW-1-0603 MW-107-0603

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-1-0603(Reinjection-01)	CHLOROFORM	3.1 ug/L	3.1U ug/L

LDC #: 1104-01E
 SDG #: 11154A
 Laboratory: EPA Region 9

VALIDATION COMPLETENESS WORKSHEET
 EPA Level IV

Date: 08/03/11
 Page: 1 of 1
 Reviewer: LS
 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: 06/02/2011
II.	Calibration verification	A	
III.	Blanks	A	
IV.	Matrix Spike/(Matrix Spike) Duplicates	N	
V.	Duplicates	A	Dup = 2
VI.	Laboratory control samples	A	Reference sample
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-0603	11		21		31	
2	EFF-0603 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: _____

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			
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) $\leq 5\%$ for waters?	X			
V. Laboratory control samples				
Was an LCS analyzed for this SDG?	X	X	NA	Reference sample
Was an LCS analyzed per extraction batch?	X		X	
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 85-115% QC limits?	X		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 #: 1104-01E
 SDG #: 11154A

VALIDATION FINDINGS CHECKLIST

Page: 2 of 2
 Reviewer: LS
 2nd Reviewer: KT

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			
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	

LDC #: 1104-01E
 SDG #: 11154A
 Laboratory: EPA Region 9

VALIDATION COMPLETENESS WORKSHEET
 EPA Level IV

Date: 08/03/11
 Page: 1 of 1
 Reviewer: LS
 2nd Reviewer: LD

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: 06/02/2011
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	Reference sample
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-0603	11		21		31	
2	EFF-0603 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: _____

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			
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) $\leq 5\%$ for waters?	X			
V. Laboratory control samples				
Was an LCS analyzed for this SDG?	X	NO	NO	Reference sample
Was an LCS analyzed per extraction batch?	X		NO	
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 85-115% QC limits?	X		NO	
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 #: 1104-01E
 SDG #: 11154A

VALIDATION FINDINGS CHECKLIST

Page: 2 of 2
 Reviewer: LS
 2nd Reviewer: KP

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			
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	

LDC #: 1104-01E1

VALIDATION COMPLETENESS WORKSHEET

Date: 08/03/11

SDG #: 11154A

EPA Level III

Page: 1 of 1

Laboratory: EPA Region 9

Reviewer: LS

2nd Reviewer: AD

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: 06/02/2011
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-0603	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: _____

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 analyzed 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 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 #: 1104-01E1
 SDG #: 11154A

VALIDATION FINDINGS CHECKLIST

Page: 2 of 2
 Reviewer: LS
 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	

Lab Control Spike/Lab Control Spike Duplicate Outlier Report

Lab Reporting Batch ID: 11154A

Laboratory: R9LAB

EDD Filename: 11154A_BOD_1106004 FINAL_rev

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
B1F0091-SRM1 (EFF-0603)	Biochemical Oxygen Demand	80	-	81.50-118.50	-	Biochemical Oxygen Demand	J- (all detects) UJ (all non-detects)

SDG 1161A

LDC #: 1104-01G
 SDG #: 11161A
 Laboratory: EPA Region 9

VALIDATION COMPLETENESS WORKSHEET

Level III/IV ^{ED}

Date: 08/01/11
 Page: 1 of 1
 Reviewer: LS
 2nd Reviewer: KTD

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: 06/09/2011
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	A	
IV.	Continuing calibration	SW	
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	ED A N	Not reviewed for Level III validation samples.
XII.	Compound quantitation/CRQLs	ED A N	Not reviewed for Level III validation samples.
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	ED A N	Not reviewed for Level III validation samples.
XV.	Overall assessment of data	A	
XVI.	Field duplicates	SW	1/4
XVII.	Field blanks	N	

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

Validated Samples: ** Indicates sample underwent Level IV validation

1	GWTP PreGAC-0603 & RE1	11		21		31	
2	GWTP PreGAC-0603 Dup	12		22		32	
3	GWTP Stack-0603 & RE1	13		23		33	
4	MW-108-0603 & RE1	14		24		34	
5	SVE PreGAC-0603 & RE1	15		25		35	
6	SVE Stack-0603	16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

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) \leq 30% and relative response factors (RRF) \geq 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) \leq 30% and relative response factors (RRF) \geq 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	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		

VALIDATION FINDINGS CHECKLIST

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? <i>KTD</i>	<i>Y</i>		<i>Y</i>	
XI. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard? <i>KTD</i>	<i>Y</i>		<i>Y</i>	
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	<i>Y</i>		<i>Y</i>	
Were chromatogram peaks verified and accounted for?	<i>Y</i>		<i>Y</i>	
XII. Compound quantitation/CRQLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound? <i>KTD</i>	<i>Y</i>		<i>X</i>	
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation? <i>KTD</i>	<i>Y</i>		<i>X</i>	
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. <i>KTD</i>	<i>Y</i>		<i>X</i>	
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 #: _1104-01G_
SDG #: _11161A_

VALIDATION FINDING WORKSHEET
Laboratory Duplicates

Page: 1 of 1
Reviewer: LS

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

N NA Were laboratory duplicate pairs identified in this SDG?

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

Analyte	Concentration (ppbv)		Reported	Recalculated
	GWTP Pre GAC-0603	GWTP Pre GAC-0603 Dup	RPD	RPD
Tetrachloroethene	300	255	18	16

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 #: _1104-01G

VALIDATION FINDING WORKSHEET

Page: 1 of 1

SDG #: _11161A__

Field DuplicatesReviewer: LS**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)		Reported RPD	Recalculated RPD
	MW-108-2Q11	GWTP Pre GAC-0603		
cis-1,2-Dichloroethane	ND	3.5	NR	NC
Chloroform	7.2	6.9	NR	4
Benzene	ND	1.8	NR	NC
Trichloroethene	ND	1.8	NR	NC
Toluene	ND	5.3	NR	NC
Tetrachloroethene	300	300	NR	0
Ethylbenzene	ND	1.7	NR	NC
m&p-Xylene	ND	2.9	NR	NC
o-Xylene	ND	1.7	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

Lab Duplicate Outlier Report

Lab Reporting Batch ID: 11161A

Laboratory: R9LAB

EDD Filename: 1106018 FINAL_LDC_edited_NB

eQAPP Name: Modesto_Site_070810s

Method: TO-15

Matrix: Air

QC Sample ID (Associated Sample ID)	Analyte	Sample RPD	eQAPP RPD	Flag
GWTP Pre GAC-0603DUP (GWTP Pre GAC-0603 GWTP Stack-0603 MW-108-0603 SVE Pre GAC-0603 SVE Stack-0603)	TOLUENE TRICHLOROETHENE	35 26	20.00 20.00	J (all detects) UJ (all non-detects)

Lab Control Spike/Lab Control Spike Duplicate Outlier Report

Lab Reporting Batch ID: 11161A

Laboratory: R9LAB

EDD Filename: 1106018 FINAL_LDC_edited_NB

eQAPP Name: Modesto_Site_070810s

Method: TO-15
Matrix: Air

<i>QC Sample ID (Associated Samples)</i>	<i>Compound</i>	<i>LCS %R</i>	<i>LCSD %R</i>	<i>%R Limits</i>	<i>RPD (Limits)</i>	<i>Affected Compounds</i>	<i>Flag</i>
B1F0066-BS1 (GWTP Pre GAC-0603 GWTP Stack-0603 MW-108-0603 SVE Pre GAC-0603 SVE Stack-0603)	TRANS-1,3-DICHLOROPROPEN TRICHLOROETHENE	73 65	- -	81.00-137.00 81.00-125.00	- -	TRANS-1,3-DICHLOROPROPE TRICHLOROETHENE	J- (all detects) UJ (all non-detects)
B1F0066-BS1 (GWTP Pre GAC-0603 GWTP Stack-0603 MW-108-0603 SVE Pre GAC-0603 SVE Stack-0603)	1,1,2,2-TETRACHLOROETHANE	148	-	70.00-130.00	-	1,1,2,2-TETRACHLOROETHAN	J+(all detects)

Reporting Limit Outliers

Lab Reporting Batch ID: 11161A

Laboratory: R9LAB

EDD Filename: 1106018 FINAL_LDC_edited_NB

eQAPP Name: Modesto_Site_070810s

Method: TO-15
Matrix: Air

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
GWTP Pre GAC-0603	BENZENE	J,C1	1.8	2.2	MRL	ppbv	J (all detects)
	ETHYLBENZENE	J,C1	1.7	2.2	MRL	ppbv	
	m&p-Xylene	J,C1	2.9	4.4	MRL	ppbv	
	O-XYLENE	J,C1	1.7	2.2	MRL	ppbv	
	TRICHLOROETHENE	J,C1,Q 2	1.8	2.2	MRL	ppbv	
GWTP Stack-0603	CHLOROMETHANE	J,C1	1.5	2.2	MRL	ppbv	J (all detects)
	METHYLENE CHLORIDE	J,C1	1.2	2.2	MRL	ppbv	
SVE Pre GAC-0603	METHYLENE CHLORIDE	J,C1	1.2	2.3	MRL	ppbv	J (all detects)
SVE Stack-0603	1,2-DICHLOROPROPANE	J,C1	1.4	2.1	MRL	ppbv	J (all detects)
	METHYLENE CHLORIDE	J,C1	1.4	2.1	MRL	ppbv	

Field QC Assignments and Associated Samples

EDD File Name: 11161A

eQapp Name: Modesto_Site_070810s

Associated Samples	Sample Collection Date
--------------------	------------------------

Field QC Sample: MW-108-0603
QC Type: Field_Duplicate

GWTP Pre GAC-0603

6/9/2011 8:45:00 AM

Field Duplicate RPD Report

Lab Reporting Batch ID: 11161A

Laboratory: R9LAB

EDD Filename: 1106018

eQAPP Name: Modesto_Site_070810s

FINAL_LDC_edited_NB_rev

Method: TO-15

Matrix: Air

<i>Analyte</i>	<i>Concentration (ppbv)</i>		<i>Sample RPD</i>	<i>eQAPP RPD</i>	<i>Flag</i>
	GWTP Pre GAC-0603	MW-108-0603			
BENZENE	1.8	2.2 U	200	1.00	No Qualifiers Applied
CHLOROFORM	6.9	7.2	4	1.00	
CIS-1,2-DICHLOROETHENE	3.5	2.2 U	200	1.00	
ETHYLBENZENE	1.7	2.2 U	200	1.00	
m&p-Xylene	2.9	4.4 U	200	1.00	
O-XYLENE	1.7	2.2 U	200	1.00	
TETRACHLOROETHENE	300	300	0	1.00	
TOLUENE	5.3	2.2 U	200	1.00	
TRICHLOROETHENE	1.8	2.2	200	1.00	

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: GWTP Pre GAC-0603								
HEXACHLOROBUTADIENE	TO-15	Reinjection-	2.2	ppbv	Continuing Calibration		UJ	8/4/2011 17:48
Reason for change: Continuing calibration %D>30.0% (38.5%).								
Field Sample ID: GWTP Stack-0603								
HEXACHLOROBUTADIENE	TO-15	Reinjection-	2.2	ppbv	Continuing Calibration		UJ	8/4/2011 17:48
Reason for change: Continuing calibration %D>30.0% (38.5%).								
Field Sample ID: MW-108-0603								
HEXACHLOROBUTADIENE	TO-15	Reinjection-	2.2	ppbv	Continuing Calibration		UJ	8/4/2011 17:49
Reason for change: Continuing calibration %D>30.0% (38.5%).								
Field Sample ID: SVE Pre GAC-0603								
HEXACHLOROBUTADIENE	TO-15	Reinjection-	2.3	ppbv	Continuing Calibration		UJ	8/4/2011 17:49
Reason for change: Continuing calibration %D>30.0% (38.5%).								
Field Sample ID: SVE Stack-0603								
HEXACHLOROBUTADIENE	TO-15	Initial	2.1	ppbv	Continuing Calibration		UJ	8/4/2011 17:50
Reason for change: Continuing calibration %D>30.0% (38.5%).								

SDG 1165C

LDC #: 1104-01F
 SDG #: 11165C
 Laboratory: EPA Region 9

VALIDATION COMPLETENESS WORKSHEET
 Level III/IV

Date: 07/25/11
 Page: 1 of 1
 Reviewer: LS
 2nd Reviewer: CPD

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: 06/6, 7, 9/2011
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	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	SW	FD: 11/14, 3/7
XVII.	Field blanks	N	

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

Validated Samples: ** Indicates sample underwent Level IV validation

1	DP-1A-2Q11	11	SVE-2-2Q11	21		31	
2	DP-1B-2Q11	12	SVE-3-2Q11	22		32	
3	DP-4A-2Q11	13	SVE-4-2Q11	23		33	
4	DP-4B-2Q11	14	SVE-98-2Q11	24		34	
5	DP-6A-2Q11	15	SVE-2-2Q11 Dup	25		35	
6	DP-6B-2Q11 **	16		26		36	
7	DP-96B-2Q11	17		27		37	
8	OSVE-10-2Q11 **	18		28		38	
9	OSVE-11-2Q11	19		29		39	
10	SVE-1-2Q11	20		30		40	

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) \leq 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) \leq 30% and relative response factors (RRF) \geq 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 (\leq 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		

VALIDATION FINDINGS CHECKLIST

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 #: 1104-01F
 SDG #: 11165C

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
 Reviewer: LS
 2nd Reviewer: KTD

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:

$$CF = (\text{Std Resp} * \text{IStd Conc}) / (\text{Std Conc} * \text{IS Resp})$$

$$\%RSD = 100 * (S/X)$$

Where:

S = Standard deviation of calibration factors

X = Mean of calibration factors

Calibration Date	Standard	Compound	Standard			Internal Standard		Recalculated		Reported	
			Standard	Concentration (ppb)	Response (A/H)	Concentration (ppb)	Response (A/H)	Calibration Factor (CF)	%RSD	Calibration Factor (CF)	%RSD
5/28/2011	HP5973K	Vinyl chloride (vs Bromochloromethane)	Point 1	1.01	38677	20.00	866752	0.884		0.884	
			Point 2	2.02	82960	20.00	881250	0.932		0.932	
			Point 3	5.05	181329	20.00	81287328 873340	0.809 0.819		0.819	
			Point 4	10.10	330881	20.00	873340	0.750		0.750	
			Point 5	15.15	482982	20.00	878512	0.726		0.726	
			Point 6	20.20	625648	20.00	867763	0.714		0.714	
			Mean calibration factor							0.802	
5/28/2011	HP5973K	Trichloroethene (vs 1,4-Difluorobenzene)	Point 1	1.02	57324	20.60	2664199	0.435		0.435	
			Point 2	2.04	140601	20.60	2682472	0.529		0.529	
			Point 3	5.10	323770	20.60	2719479	0.481		0.481	
			Point 4	10.20	649424	20.60	2703908	0.485		0.485	
			Point 5	15.30	973942	20.60	2703132	0.485		0.485	
			Point 6	20.40	1302851	20.60	2683711	0.490		0.490	
			Mean calibration factor							0.484	
5/28/2011	HP5973K	Tetrachloroethene (vs Chlorobenzene-d5)	Point 1	1.03	63760	21.00	2354807	0.552		0.552	
			Point 2	2.06	154966	21.00	2415969	0.654		0.654	
			Point 3	5.15	365551	21.00	2529155	0.589		0.589	
			Point 4	10.30	709922	21.00	2485876	0.582		0.582	
			Point 5	15.45	1070554	21.00	2488733	0.585		0.585	
			Point 6	20.60	1431375	21.00	2475292	0.589		0.589	
			Mean calibration factor							0.592	

LDC #: 1104-01F
 SDG #: 11165C

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Page: 1 of 1
 Reviewer: LS
 2nd Reviewer: KIP

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:

$$RRF = (\text{Std Resp} * \text{IStd Conc}) / (\text{Std Conc} * \text{IS Resp})$$

$$\%D = 100 * (\text{CC-IC}) / (\text{IC})$$

Where:

CC = Continuing calibration RRF

IC = Initial calibration RRF

Calibration Date	Compound	Standard		Internal Standard		Recalculated	Reported	Initial Calibration (RRF)	Recalculated	Reported
		Concentration (ppb)	Response (A/H)	Concentration (ppb)	Response (A/H)	(RRF)	(RRF)		%D	%D
6/15/2011 (14:21)	Chloroform	10.00	784630	20.00	885395	1.772	1.772	2.075	14.6	14.6
	Trichloroethene	10.20	605568	20.60	2923013	0.418	0.418	0.484	13.6	13.6
	Tetrachloroethene	10.30	663894	21.00	2624535	0.516	0.516	0.592	12.8	12.8

LDC #: _1104-01F

VALIDATION FINDING WORKSHEET

Page: 1 of 1

SDG #: _11165C__

Laboratory Duplicates

Reviewer: LS
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
	SVE-2-2Q11	SVE-2-2Q11 Dup		
Tetrachloroethene	320	279	15	14

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: 11165C

Laboratory: R9LAB

EDD Filename: 1106024 FINAL_edited_NB

eQAPP Name: Modesto_Site_070810s

Method: TO-15
Matrix: Air

QC Sample ID (Associated Samples)	Compound	LCS %R	LCSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
B1F0073-BS1 (DP-1A-2Q11 DP-1B-2Q11 DP-4A-2Q11 DP-4B-2Q11 DP-6A-2Q11 DP-6B-2Q11 DP-96B-2Q11 OSVE-10-2Q11 OSVE-11-2Q11 SVE-1-2Q11 SVE-2-2Q11 SVE-3-2Q11 SVE-4-2Q11 SVE-98-2Q11)	TRANS-1,3-DICHLOROPROPEN TRICHLOROETHENE	72 70	- -	81.00-137.00 81.00-125.00	- -	TRANS-1,3-DICHLOROPROPE TRICHLOROETHENE	J- (all detects) UJ (all non-detects)
B1F0073-BS1 (DP-1A-2Q11 DP-1B-2Q11 DP-4A-2Q11 DP-4B-2Q11 DP-6A-2Q11 DP-6B-2Q11 DP-96B-2Q11 OSVE-10-2Q11 OSVE-11-2Q11 SVE-1-2Q11 SVE-2-2Q11 SVE-3-2Q11 SVE-4-2Q11 SVE-98-2Q11)	1,1,2,2-TETRACHLOROETHANE	162	-	70.00-130.00	-	1,1,2,2-TETRACHLOROETHAN	J+(all detects)
B1F0080-BS1 (DP-1A-2Q11 DP-1B-2Q11 DP-4B-2Q11 DP-96B-2Q11 OSVE-10-2Q11 SVE-98-2Q11)	TRANS-1,3-DICHLOROPROPEN TRICHLOROETHENE	75 72	- -	81.00-137.00 81.00-125.00	- -	TRANS-1,3-DICHLOROPROPE TRICHLOROETHENE	J-(all detects) UJ(all non-detects)
B1F0080-BS1 (DP-1A-2Q11 DP-1B-2Q11 DP-4B-2Q11 DP-96B-2Q11 OSVE-10-2Q11 SVE-98-2Q11)	1,1,2,2-TETRACHLOROETHANE	164	-	70.00-130.00	-	1,1,2,2-TETRACHLOROETHAN	J+(all detects)

LDC #: 1104-01F
 SDG #: 11165C

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Result Verification

Page: 1 of 1
 Reviewer: LS
 2nd Reviewer: KTP

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 identified below using the following calculation:

$\% \text{Recovery} = 100 * (\text{SSC} - \text{SC}) / \text{SA}$

Where: SSC = Spiked concentration
 SA = Spike added

SC = Sample concentration

$\% \text{D} = | \text{LCS} - \text{LCS recalc} | * 100 / (\text{LCS})$

LCS = Laboratory control spike recovery

LCS recalc = Laboratory control spike recovery recalculated

LCS sample: BIF0073-BS1

Compound	Spike Added (ppbv)	Sample Concentration (ppbv)	Spiked Sample Concentration (ppbv)	LCS		LCS
				Percent Recovery		%D
				Reported	Recalc.	Calculated
	LCS	---	LCS			
Vinyl chloride	10.70	0.0	9.73	91	91	0.1
Chloroform	10.50	0.0	9.61	92	92	0.5
1,2-Dichloroethane	10.50	0.0	9.01	86	86	0.2
Trichloroethene	10.60	0.0	7.39	70	70	0.4
1,2-Dichloropropane	10.60	0.0	10.40	98	98	0.1
1,1,2-Trichloroethane	10.60	0.0	10.20	96	96	0.2
Tetrachloroethene	10.60	0.0	10.80	102	102	0.1
1,1,2,2-Tetrachloroethane	10.50	0.0	17.00	162	162	0.1
Hexachlorobutadiene	9.20	0.0	10.50	114	114	0.1

Reporting Limit Outliers

Lab Reporting Batch ID: 11165C

Laboratory: R9LAB

EDD Filename: 1106024 FINAL_edited_NB

eQAPP Name: Modesto_Site_070810s

Method: TO-15
Matrix: Air

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
DP-1A-2Q11	1,1,2-TRICHLOROETHANE	J,C1	1.6	2.3	MRL	ppbv	J (all detects)
	BENZENE	J,C1	1.2	2.3	MRL	ppbv	
DP-1B-2Q11	1,1,2-TRICHLOROETHANE	J,C1	1.5	2.3	MRL	ppbv	J (all detects)
DP-4A-2Q11	TRANS-1,3-DICHLOROPROPENE	J,C1,Q 2	1.3	2.3	MRL	ppbv	J (all detects)
DP-6A-2Q11	TETRACHLOROETHENE	J,C1	2.0	2.2	MRL	ppbv	J (all detects)
SVE-4-2Q11	1,2,4-TRICHLOROBENZENE	J,C1,C 3	1.1	2.2	MRL	ppbv	J (all detects)
	METHYLENE CHLORIDE	J,C1	1.2	2.2	MRL	ppbv	
	TRICHLOROETHENE	J,C1,Q 2	1.1	2.2	MRL	ppbv	

Field QC Assignments and Associated Samples

EDD File Name: 11165C

eQapp Name: Modesto_Site_070810s

	Associated Samples	Sample Collection Date
Field QC Sample: DP-96B-2Q11 QC Type: Field_Duplicate	DP-4B-2Q11	6/7/2011 2:01:00 PM
Field QC Sample: SVE-98-2Q11 QC Type: Field_Duplicate	SVE-2-2Q11	6/6/2011 12:40:00 PM

Field Duplicate RPD Report

Lab Reporting Batch ID: 11165C

Laboratory: R9LAB

EDD Filename: 1106024 FINAL_edited_NB

eQAPP Name: Modesto_Site_070810s

Method: TO-15

Matrix: Air

Analyte	Concentration (ppbv)		Sample RPD	eQAPP RPD	Flag
	DP-4B-2Q11	DP-96B-2Q11			
CHLOROFORM	40	39	3	1.00	No Qualifiers Applied
TETRACHLOROETHENE	43	43	0	1.00	

Analyte	Concentration (ppbv)		Sample RPD	eQAPP RPD	Flag
	SVE-2-2Q11	SVE-98-2Q11			
1,1,2,2-TETRACHLOROETHANE	2.2	2.6	200	1.00	No Qualifiers Applied
1,1,2-TRICHLOROETHANE	3.1	3.0	3	1.00	
1,2-DICHLOROBENZENE	43	29	39	1.00	
1,3-DICHLOROBENZENE	2.2	2.6	17	1.00	
1,4-DICHLOROBENZENE	6.5	7.8	18	1.00	
CIS-1,2-DICHLOROETHENE	2.8	3.9	33	1.00	
TETRACHLOROETHENE	320	200	46	1.00	
TRICHLOROETHENE	2.2	2.5	13	1.00	

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)		Reported RPD	Recalculated RPD
	SVE-2-2Q11	SVE-98-2Q11		
cis-1,2-Dichloroethane	2.8	3.9	NR	33
Trichloroethene	2.2	2.5	NR	13
1,1,2-Trichloroethane	3.1	3.0	NR	3
Tetrachloroethene	320	200	NR	46
1,1,2,2-Tetrachloroethane	ND	3	NR	NC
1,3-Dichlorobenzene	2.2	2.6	NR	17
1,4-Dichlorobenzene	6.5	7.8	NR	18
1,2-Dichlorobenzene	43	29	NR	39

Analyte	Concentration (ppbv)		Reported RPD	Recalculated RPD
	DP-4B-2Q11	DP-96B-2Q11		
Chloroform	40	39	NR	3
Tetrachloroethene	43	43	NR	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

SDG Y7Y84

LDC #: 1106-05C
 SDG #: Y7Y84
 Laboratory: CompuChem

VALIDATION COMPLETENESS WORKSHEET
 EPA Tier 3 / 4

Date: 08/03/11
 Page: 1 of 1
 Reviewer: LS
 2nd Reviewer: GD

METHOD: GC/MS VOA (EPA CLP SOW SOM01.2)

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: 06/6,7,8/2011
II.	GC/MS Instrument Performance Check	A	
III.	Initial Calibration	A /SW	
IV.	Continuing Calibration	A /SW	
V.	Laboratory Blanks	SW	
VI.	Deuterated Monitoring Compounds	SW	
VII.	Matrix Spikes/Matrix Spike Duplicates	A	
VIII.	Laboratory Control Samples	N	Not Required.
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal Standards	A	
XI.	Target Compound Identification	A	
XII.	Compound Quantitation/CRQLs	A	
XIII.	Tentatively Identified Compounds (TIC)	A	
XIV.	System Performance	A	
XV.	Overall Assessment of Data	A	
XVI.	Field Duplicates	N	See Y7YB1 - SA2 and 16 FD to samples in Y7YB1
XVII.	Field Blanks	SW	TB = 17

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

Validated Samples: **XX Level 4**

1	Y7Y84	XX	11	Y7Y94	21	Y7YB2 MS	31	
2	Y7Y85		12	Y7Y98	XX	22	Y7YB2 MSD	32
3	Y7Y86		13	Y7Y99		23		33
4	Y7Y87		14	Y7YA0		24		34
5	Y7Y88		15	Y7YA1		25		35
6	Y7Y89		16	Y7YA5	17 → BS	26		36
7	Y7Y90		17	Y7YA6		27		37
8	Y7Y91		18	Y7YA9	XX	28		38
9	Y7Y92		19	Y7YB0		29		39
10	Y7Y93		20	Y7YB2		30		40

Method: Volatiles (EPA CLP SOW SOM01.2)

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 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 analyze an acceptable 5-point calibration prior to sample analysis?	X			
Were all: percent relative standard deviations (%RSD) $\leq 50.0\%$ for 1,4-Dioxane (low/medium only), $\leq 40.0\%$ for Table 3 compounds $\leq 30.0\%$ (trace) or $\leq 20.0\%$ (low/medium) for all other target compounds and relative response factors (RRF) ≥ 0.050 for all target compounds?	X			See worksheets
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours of analysis for each instrument?	X			
Were all: percent relative standard deviations (%D) $\leq 50.0\%$ for 1,4-Dioxane (low/medium only) $\leq \pm 40.0\%$ for Table 3 compounds and $\leq \pm 30.0\%$ (trace) or $\leq \pm 25.0\%$ (low/medium) for all others and relative response factors (RRF) ≥ 0.050 for all target compounds?	X			See worksheets
V. Laboratory 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?	X			
VI. Dueterated monitoring compounds (DMC)				
Were all DMC percent recoveries (%R) within QC limits?		X		
If the percent recovery (%R) for one or more DMCs was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?		X		
VII. Matrix spikes/matrix spike duplicates (MS/MSD)				
Was a MS/MSD analyzed for every 20 samples of each matrix?	X			
Were MS/MSD percent recoveries (%R) and relative percent differences (RPD) within the QC limits?	X			
VIII. Laboratory control samples (LCS)				
Was an LCS analyzed for this SDG?		X		
Was an LCS analyzed per analytical batch?			X	
Were LCS percent recoveries (%R) and relative percent differences (RPD) within the QC limits?			X	

VALIDATION FINDINGS CHECKLIST

Validation Area	Yes	No	NA	Findings/Comments
IX. Regional quality assurance and quality control				
Were performance evaluation (PE) samples performed?		X		
Were performance evaluation (PE) samples within the acceptance limits?			X	
X. Internal standards				
Were all internal standard area counts within $\pm 40\%$ (trace) or $<50\%$ to $>200\%$ (low/medium) of the associated calibration standard?	X			
Were retention times (RT) within ± 20 seconds of RT of the associated calibration standard?	X			
XI. Target compound identification				
Were relative retention times (RRT) 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 applicable to Tier 3 validation?	X			
XIII. Tentatively identified compounds (TIC)				
Were major ions ($>10\%$ relative intensity) in the reference spectrum evaluated in sample spectrum?	X			
Were relative intensities of the major ions within $\pm 20\%$ 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		see Y7YB1
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 #: 1106-05C
 SDG #: 47484

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 2
 Reviewer: LS
 2nd Reviewer: KTD

METHOD: GC/MS Volatiles (EPA CLP SOW SOM01.2)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$$RRF = (A_x)(C_{is}) / (A_{is})(C_x)$$

average RRF = sum of the RRFs/number of standards

$$\%RSD = 100 * (S/X)$$

A_x = Area of Compound A_{is} = Area of associated internal standard

C_x = Concentration of compound, C_{is} = Concentration of internal standard

S = Standard deviation of the RRFs, X = Mean of the RRFs

#	Standard ID	Calibration Date	Compound (Reference Internal Standard)	Reported	Recalculated	Reported	Recalculated	Reported	Recalculated
				RRF (RRF 5 std)	RRF (RRF 5 std)	Average RRF (Initial)	Average RRF (Initial)	%RSD	%RSD
1	1F15004	6/15/2011	Methylene chloride (1,4-Difluorobenzene)	0.302	0.302	0.347	0.347	26.5	26.4
			Trichloroethene (Chlorobenzene-d5)	0.487	0.487	0.488	0.488	7.7	7.7
			Bromoform (1,4-Dichlorobenzene-d4)	0.326	0.326	0.338	0.338	3.7	3.7

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 1106-05C
SDG #: 47484

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 2 of 2
Reviewer: LS
2nd Reviewer: (GT)

CPD	IS
243876	807377
410988	844493
152630	467849

0.5	1	5	10	20
0.493	0.382	0.302	0.283	0.276
0.447	0.455	0.487	0.527	0.525
0.333	0.334	0.326	0.339	0.359

6A - FORM VI VOA-1
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name:
 Contract:
 Lab Code: LIBRTY Case No.: 41420 Mod. Ref No.: SDG No.: Y7Y84
 Instrument ID: 5975hpms91 Calibration Date(s): 06/15/2011 06/15/2011
 Heated Purge: (Y/N) Y Calibration Time(s): 1128 1315
 Purge Volume: 25.0 (mL)
 GC Column: SPB-624 ID: 0.32 (mm) Length: 60 (m)

LAB FILE ID: RRF0.5= 1F15004-CAL1.d RRF1.0= 1F15004-CAL2.d
 RRF5.0= 1F15004-CAL3.d RRF10= 1F15004-CAL4.d RRF20= 1F15004-CAL5.d

COMPOUND	RRF0.5	RRF1.0	RRF5.0	RRF10	RRF20	RRF	% RSD
Dichlorodifluoromethane	1.071	0.982	0.960	0.943	0.905	0.972	6.4
Chloromethane	0.566	0.459	0.493	0.473	0.439	0.486	10.1
Vinyl chloride	0.547	0.458	0.468	0.463	0.438	0.475	8.8
Bromomethane	0.285	0.256	0.264	0.249	0.242	0.259	6.5
Chloroethane	0.273	0.243	0.241	0.234	0.226	0.243	7.4
Trichlorofluoromethane	0.861	0.839	0.760	0.748	0.732	0.788	7.4
1,1-Dichloroethene	0.332	0.313	0.293	0.294	0.289	0.304	5.9
1,1,2-Trichloro- 1,2,2-trifluoroethane	0.430	0.399	0.361	0.358	0.345	0.379	9.3
Acetone	0.041	0.035	0.032	0.031	0.032	0.034	11.4
Carbon disulfide	1.067	1.000	0.989	0.986	0.967	1.002	3.8
Methyl acetate	0.068	0.096	0.082	0.075	0.076	0.079	13.4
Methylene chloride	0.493	0.382	0.302	0.283	0.276	0.347	26.5
trans-1,2-Dichloroethene	0.404	0.438	0.498	0.505	0.482	0.465	9.2
Methyl tert-butyl ether	0.460	0.479	0.618	0.682	0.761	0.600	21.6
1,1-Dichloroethane	0.826	0.767	0.802	0.808	0.805	0.802	2.7
cis-1,2-Dichloroethene	0.366	0.401	0.511	0.516	0.513	0.462	15.7
2-Butanone	0.043	0.048	0.062	0.062	0.066	0.056	17.9
Bromochloromethane	0.190	0.175	0.179	0.180	0.178	0.180	3.1
Chloroform	1.073	1.007	1.037	1.028	1.015	1.032	2.5
1,1,1-Trichloroethane	1.000	0.951	0.960	0.980	0.943	0.966	2.4
Cyclohexane	0.318	0.413	0.596	0.651	0.649	0.525	28.8
Carbon tetrachloride	0.946	0.933	0.903	0.912	0.880	0.915	2.8
Benzene	1.559	1.712	1.942	1.946	1.832	1.798	9.2
1,2-Dichloroethane	0.618	0.597	0.620	0.607	0.614	0.611	1.6
Trichloroethene	0.447	0.455	0.487	0.527	0.525	0.488	7.7
Methylcyclohexane	0.553	0.641	0.832	0.866	0.834	0.745	18.8

70.01

Report 1,4-Dioxane for Low-Medium VOA analysis only

SA 1-16,20

6A - FORM VI VOA-1
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: COMPUCHEM Contract: EPW11032
 Lab Code: LIBRTY Case No.: 41420 Mod. Ref No.: _____ SDG No.: Y7Y84
 Instrument ID: 5975hpms91 Calibration Date(s): 06/16/2011 06/16/2011
 Heated Purge: (Y/N) Y Calibration Time(s): 1611 1759
 Purge Volume: 25.0 (mL)
 GC Column: SPB-624 ID: 0.32 (mm) Length: 60 (m)

LAB FILE ID: _____ RRF0.5= 1F16009-CAL1.d RRF1.0= 1F16009-CAL2.d
 RRF5.0= 1F16009-CAL3.d RRF10= 1F16009-CAL4.d RRF20= 1F16009-CAL5.d

COMPOUND	RRF0.5	RRF1.0	RRF5.0	RRF10	RRF20	RRF	% RSD
Dichlorodifluoromethane	1.032	0.915	0.906	0.878	0.836	0.913	8.0
Chloromethane	0.631	0.530	0.498	0.487	0.464	0.522	12.5
Vinyl chloride	0.568	0.498	0.484	0.477	0.460	0.497	8.4
Bromomethane	0.307	0.280	0.263	0.261	0.256	0.273	7.6
Chloroethane	0.322	0.269	0.262	0.254	0.241	0.270	11.5
Trichlorofluoromethane	0.868	0.807	0.734	0.717	0.698	0.765	9.3
1,1-Dichloroethene	0.394	0.336	0.305	0.308	0.309	0.331	11.4
1,1,2-Trichloro- 1,2,2-trifluoroethane	0.495	0.480	0.399	0.384	0.378	0.427	13.1
Acetone	0.046	0.041	0.037	0.037	0.034	0.039	11.5
Carbon disulfide	1.147	1.125	1.058	1.042	1.050	1.085	4.4
Methyl acetate	0.081	0.108	0.095	0.096	0.089	0.094	10.4
Methylene chloride	0.677	0.502	0.339	0.319	0.300	0.428	37.7
trans-1,2-Dichloroethene	0.420	0.445	0.503	0.498	0.481	0.469	7.7
Methyl tert-butyl ether	0.433	0.456	0.616	0.740	0.764	0.602	25.7
1,1-Dichloroethane	0.816	0.763	0.772	0.792	0.807	0.790	2.8
cis-1,2-Dichloroethene	0.339	0.373	0.499	0.523	0.518	0.450	19.5
2-Butanone	0.039	0.040	0.057	0.065	0.063	0.053	23.9
Bromochloromethane	0.186	0.190	0.187	0.189	0.181	0.186	1.8
Chloroform	1.121	1.096	1.076	1.069	1.076	1.088	1.9
1,1,1-Trichloroethane	1.040	1.015	0.961	0.968	0.976	0.992	3.4
Cyclohexane	0.274	0.420	0.542	0.592	0.618	0.489	29.1
Carbon tetrachloride	1.027	1.025	0.939	0.928	0.930	0.970	5.3
Benzene	1.452	1.669	1.815	1.809	1.772	1.704	8.9
1,2-Dichloroethane	0.682	0.663	0.683	0.678	0.673	0.676	1.2
Trichloroethene	0.417	0.448	0.460	0.488	0.514	0.465	8.0
Methylcyclohexane	0.462	0.767	0.799	0.835	0.849	0.742	21.6

70.01

Report 1,4-Dioxane for Low-Medium VOA analysis only

SA 17-19
4513

7A - FORM VII VOA-1
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: COMPUCHEM Contract: EPW11032
 Lab Code: LIBRTY Case No.: 41420 Mod. Ref No.: _____ SDG No.: Y7Y84
 Instrument ID: 5975hpms91 Calibration Date: 06/16/2011 Time: 0915
 Lab File ID: 1F15004-CCV2R91.d Init. Calib. Date(s): 06/15/2011 06/15/2011
 EPA Sample No. (VSTD#####): VSTD005UX Init. Calib. Time(s): 1128 1315
 Heated Purge: (Y/N) Y GC Column: SPB-624 ID: 0.32 (mm) Length: 60 (m)
 Purge Volume: 25.0 (mL)

COMPOUND	RRF	RRF5.0	MIN RRF	%D	MAX %D
Dichlorodifluoromethane	0.972	0.850	0.010	-12.5	50.0
Chloromethane	0.486	0.499	0.010	2.8	50.0
Vinyl chloride	0.475	0.482	0.010	1.6	50.0
Bromomethane	0.259	0.273	0.010	5.3	50.0
Chloroethane	0.243	0.262	0.010	7.8	50.0
Trichlorofluoromethane	0.788	0.764	0.010	-3.0	50.0
1,1-Dichloroethene	0.304	0.302	0.010	-0.9	50.0
1,1,2-Trichloro-1,2,2-trifluoroethane	0.379	0.340	0.010	-10.2	50.0
Acetone	0.034	0.039	0.010	1.9	50.0
Carbon disulfide	1.002	1.017	0.010	1.6	50.0
Methyl acetate	0.079	0.079	0.010	0.0	50.0
Methylene chloride	0.347	0.331	0.010	-4.5	50.0
trans-1,2-Dichloroethene	0.465	0.483	0.010	3.8	50.0
Methyl tert-butyl ether	0.600	0.598	0.010	-0.3	50.0
1,1-Dichloroethane	0.802	0.783	0.010	-2.3	50.0
cis-1,2-Dichloroethene	0.462	0.515	0.010	11.6	50.0
2-Butanone	0.056	0.058	0.010	3.0	50.0
Bromochloromethane	0.180	0.183	0.010	1.3	50.0
Chloroform	1.032	1.107	0.010	7.2	50.0
1,1,1-Trichloroethane	0.966	0.937	0.010	-3.1	50.0
Cyclohexane	0.525	0.468	0.010	-11.0	50.0
Carbon tetrachloride	0.915	0.882	0.010	-3.6	50.0
Benzene	1.798	1.847	0.010	2.7	50.0
1,2-Dichloroethane	0.611	0.669	0.010	9.5	50.0
Trichloroethene	0.488	0.530	0.010	8.6	50.0
Methylcyclohexane	0.745	0.657	0.010	-11.9	50.0

70.01

Report 1,4-Dioxane for Low-Medium VOA analysis only

closing 2, 9, 10-16, 20

7A - FORM VII VOA-1
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: COMPUCHEM Contract: EPW11032
 Lab Code: LIBRTY Case No.: 41420 Mod. Ref No.: _____ SDG No.: Y7Y84
 Instrument ID: 5975hpms91 Calibration Date: 06/17/2011 Time: 0327
 Lab File ID: 1F16009-CCV1R91.d Init. Calib. Date(s): 06/16/2011 06/16/2011
 EPA Sample No. (VSTD#####): VSTD005UZ Init. Calib. Time(s): 1611 1759
 Heated Purge: (Y/N) Y GC Column: SPB-624 ID: 0.32 (mm) Length: 60 (m)
 Purge Volume: 25.0 (mL)

COMPOUND	RRF	RRF _{5.0}	MIN RRF	%D	MAX %D
Dichlorodifluoromethane	0.913	0.883	0.010	-3.3	40.0
Chloromethane	0.522	0.534	0.010	2.4	40.0
Vinyl chloride	0.497	0.504	0.100	1.3	30.0
Bromomethane	0.273	0.280	0.100	2.6	30.0
Chloroethane	0.270	0.276	0.010	2.6	40.0
Trichlorofluoromethane	0.765	0.774	0.010	1.2	40.0
1,1-Dichloroethene	0.331	0.329	0.100	-0.5	30.0
1,1,2-Trichloro-1,2,2-trifluoroethane	0.427	0.399	0.010	-6.6	40.0
Acetone	0.039	0.039	0.010	-1.4	40.0
Carbon disulfide	1.085	1.110	0.010	2.3	40.0
Methyl acetate	0.094	0.102	0.010	8.9	40.0
Methylene chloride	0.428	0.374	0.010	-12.5	40.0
trans-1,2-Dichloroethene	0.469	0.487	0.010	3.7	40.0
Methyl tert-butyl ether	0.602	0.590	0.010	-1.9	40.0
1,1-Dichloroethane	0.790	0.771	0.200	-2.4	30.0
cis-1,2-Dichloroethene	0.450	0.500	0.010	11.0	40.0
2-Butanone	0.053	0.054	0.010	1.8	40.0
Bromochloromethane	0.186	0.186	0.050	-0.1	30.0
Chloroform	1.088	1.113	0.200	2.3	30.0
1,1,1-Trichloroethane	0.992	0.948	0.100	-4.5	30.0
Cyclohexane	0.489	0.471	0.010	-3.7	40.0
Carbon tetrachloride	0.970	0.919	0.100	-5.2	30.0
Benzene	1.704	1.752	0.400	2.9	30.0
1,2-Dichloroethane	0.676	0.698	0.100	3.3	30.0
Trichloroethene	0.465	0.433	0.300	-6.9	30.0
Methylcyclohexane	0.742	0.721	0.010	-2.9	40.0

70.01

Report 1,4-Dioxane for Low-Medium VOA analysis only

closing 17-19 + SP

LDC #: 1106-05C
 SDG #: 47784

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Page: 1 of 1
 Reviewer: LS
 2nd Reviewer: ESD

METHOD: GC/MS Volatiles (EPA CLP SOW SOM01.2)

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		Internal Standard		Recalculated	Reported	Initial Calibration (RRF)	Recalculated	Reported
		Concentration (ppb)	Response (A/H)	Concentration (ppb)	Response (A/H)	(RRF)	(RRF)		%D	%D
6/15/2011 21:33	Methylene chloride	5.0	232021	5.0	720948	0.322	0.322	0.347	-7.3	-7.3
	Trichloroethene	5.0	382817	5.0	791082	0.484	0.484	0.488	-0.8	-0.9
	Bromoform	5.0	138924	5.0	427892	0.325	0.325	0.338	-3.9	-4.0

Calibration Date	Compound	Standard		Internal Standard		Recalculated	Reported	Initial Calibration (RRF)	Recalculated	Reported
		Concentration (ppb)	Response (A/H)	Concentration (ppb)	Response (A/H)	(RRF)	(RRF)		%D	%D
6/16/2011 9:15	Methylene chloride	5.0	234917	5.0	708681	0.331	0.331	0.347	-4.5	-4.5
	Trichloroethene	5.0	411629	5.0	776480	0.530	0.530	0.488	8.6	8.6
	Bromoform	5.0	140406	5.0	438756	0.320	0.320	0.338	-5.3	-5.4

Method Blank Outlier Report

Lab Reporting Batch : Y7Y84

Lab ID: LIBRTY

Analysis Method : SOM01.2

Analysis Date : 06/15/2011

Preparation Type : SOM01.2

Preparation Date : 06/15/2011

Method Blank Lab Sample ID : 1061502-BLK1

Preparation Batch : 1061502_20110

Methylene chloride	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.28	0.50	ug/L	J	Common Contaminant

Methylene chloride was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
Y7Y84	1106051-01	1.0	0.31	JB	ug/L
Y7Y86	1106051-03	1.0	0.31	JB	ug/L
Y7Y87	1106051-04	1.0	0.31	JB	ug/L
Y7Y88	1106051-05	1.0	0.25	JB	ug/L
Y7Y89	1106051-06	1.0	0.28	JB	ug/L
Y7Y91	1106051-08	1.0	0.27	JB	ug/L

Method Blank Outlier Report

Lab Reporting Batch : Y7Y84

Lab ID: LIBRTY

Analysis Method : SOM01.2

Analysis Date : 06/15/2011

Preparation Type : SOM01.2

Preparation Date : 06/15/2011

Method Blank Lab Sample ID : 1061532-BLK1

Preparation Batch : 1061532_20110

Methylene chloride	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.35	0.50	ug/L	J	Common Contaminant

Methylene chloride was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
Y7Y84	1106051-01RE1	6.3	3.6	BD	ug/L
Y7Y85	1106051-02	1.0	0.48	JB	ug/L
Y7Y90	1106051-07RE1	2.0	1.0	BD	ug/L
Y7Y92	1106051-09	1.0	0.38	JB	ug/L
Y7Y93	1106051-10	1.0	0.39	JB	ug/L
Y7Y94	1106051-11	1.0	0.42	JB	ug/L
Y7Y98	1106051-12	1.0	0.43	JB	ug/L
Y7Y99	1106051-13	1.0	0.76	B	ug/L
Y7YA0	1106051-14	1.0	0.47	JB	ug/L
Y7YA1	1106051-15	1.0	0.40	JB	ug/L
Y7YA5	1106051-16	1.0	0.52	B	ug/L
Y7YB2	1106051-20	1.0	0.36	JB	ug/L
Y7YB2MS	1061532-MS1	1.0	0.36	JB	ug/L
Y7YB2MSD	1061532-MSD1	1.0	0.56	B	ug/L

Method Blank Outlier Report

Lab Reporting Batch : Y7Y84

Lab ID: LIBRTY

Analysis Method : SOM01.2

Analysis Date : 06/16/2011

Preparation Type : SOM01.2

Preparation Date : 06/16/2011

Method Blank Lab Sample ID : 1061605-BLK1

Preparation Batch : 1061605_20110

Methylene chloride

	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.48	0.50	ug/L	J	Common Contaminant

Methylene chloride was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
VHBLKYT	1106051-21	1.0	0.46	JB	ug/L
Y7YA6	1106051-17	1.0	0.76	B	ug/L
Y7YA9	1106051-18	1.0	0.51	B	ug/L
Y7YA9	1106051-18RE1	83.3	30	JBD	ug/L
Y7YB0	1106051-19RE1	7.1	2.9	JBD	ug/L
Y7YB2	1106051-20RE1	10.0	7.8	BD	ug/L

Storage

QC Outlier Report: Field Blank

Lab Reporting Batch : Y7Y84

Lab ID: LIBRTY

Method/Preparation Batch : 1061605_20110616 / 1061605_2011061

Analysis Date : 06/17/2011

Client Sample ID : VHBLKYT

Preparation Date : 06/16/2011

Lab Sample ID : 1106051-21

Preparation Type : SOM01.2

Analysis Method : SOM01.2

Methylene chloride

	Result	Reporting Limit	Units	Lab Qual	Comments
Field Blank Result:	0.46	0.50	ug/L	JB	Common Contaminant

Methylene chloride was qualified due to field blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Unit
Y7Y84	1106051-01RE1	6.3	3.6	BD	ug/L
Y7Y84	1106051-01	1.0	0.31	JB	ug/L
Y7Y85	1106051-02	1.0	0.48	JB	ug/L
Y7Y86	1106051-03	1.0	0.31	JB	ug/L
Y7Y87	1106051-04	1.0	0.31	JB	ug/L
Y7Y88	1106051-05	1.0	0.25	JB	ug/L
Y7Y89	1106051-06	1.0	0.28	JB	ug/L
Y7Y90	1106051-07RE1	2.0	1.0	BD	ug/L
Y7Y91	1106051-08	1.0	0.27	JB	ug/L
Y7Y92	1106051-09	1.0	0.38	JB	ug/L
Y7Y93	1106051-10	1.0	0.39	JB	ug/L
Y7Y94	1106051-11	1.0	0.42	JB	ug/L
Y7Y98	1106051-12	1.0	0.43	JB	ug/L
Y7Y99	1106051-13	1.0	0.76	B	ug/L
Y7YA0	1106051-14	1.0	0.47	JB	ug/L
Y7YA1	1106051-15	1.0	0.40	JB	ug/L
Y7YA5	1106051-16	1.0	0.52	B	ug/L
Y7YA6	1106051-17	1.0	0.76	B	ug/L
Y7YA9	1106051-18	1.0	0.51	B	ug/L
Y7YB0	1106051-19RE1	7.1	2.9	JBD	ug/L
Y7YB2	1106051-20	1.0	0.36	JB	ug/L

No Qual -
see MB -
mcl₂ is U

Surrogate Recovery Outlier Report

Lab Report Batch: Y7Y84

Lab ID: LIBRTY

Client Sample ID	Lab Sample ID	Analysis Method	Dilution Matrix		Surrogate	Percent Recovery	Criteria (percent)			Associated Target Analytes
							Lower Limit	Upper Limit	Reject Point	
Y7Y84	1106051-01RE1	SOM01.2	6.3	AQ	2-Butanone-d5	43	49.0	155.0	10.0	All Target
	1106051-01		1.0		2-Butanone-d5	43	49.0	155.0	10.0	All Target
Y7Y85	1106051-02	SOM01.2	1.0	AQ	2-Butanone-d5	47	49.0	155.0	10.0	All Target
Y7Y86	1106051-03	SOM01.2	1.0	AQ	2-Butanone-d5	43	49.0	155.0	10.0	All Target
Y7Y88	1106051-05	SOM01.2	1.0	AQ	2-Butanone-d5	46	49.0	155.0	10.0	All Target
Y7Y89	1106051-06	SOM01.2	1.0	AQ	2-Butanone-d5	41	49.0	155.0	10.0	All Target
Y7Y90	1106051-07RE1	SOM01.2	2.0	AQ	2-Butanone-d5	44	49.0	155.0	10.0	All Target
	1106051-07		1.0		2-Butanone-d5	46	49.0	155.0	10.0	All Target
Y7Y91	1106051-08	SOM01.2	1.0	AQ	2-Butanone-d5	44	49.0	155.0	10.0	All Target
Y7Y93	1106051-10	SOM01.2	1.0	AQ	2-Butanone-d5	47	49.0	155.0	10.0	All Target
Y7YA5	1106051-16	SOM01.2	1.0	AQ	2-Butanone-d5	47	49.0	155.0	10.0	All Target
Y7YB2	1106051-20	SOM01.2	1.0	AQ	2-Butanone-d5	45	49.0	155.0	10.0	All Target
Y7YB2MS	1061532-MS1	SOM01.2	1.0	AQ	1,1-Dichloroethene-d2	112	55.0	104.0	10.0	All Target
Y7YB2MSD	1061532-MSD1	SOM01.2	1.0	AQ	1,1-Dichloroethene-d2	111	55.0	104.0	10.0	All Target

per Table 9



Project Number and Name: 41420 - Modesto GWMP 2Q11

Surrogate Recovery Outlier Report

Lab Report Batch: Y7Y84

Lab ID: LIBRTY

Client Sample ID	Lab Sample ID	Analysis Method	Dilution Matrix		Surrogate	Percent Recovery	Criteria (percent)			Associated Target Analytes
							Lower Limit	Upper Limit	Reject Point	
Y7YB2MSD	1061532-MSD1	SOM01.2	1.0	AQ	2-Butanone-d5	48	49.0	155.0	10.0	All Target

Table 9. Volatile Deuterated Monitoring Compounds (DMCs) and the Associated Target Compounds

Chloroethane-d ₅ (DMC)	1,2-Dichloropropane-d ₆ (DMC)	1,2-Dichlorobenzene-d ₄ (DMC)
Dichlorodifluoromethane Chloromethane Bromomethane Chloroethane Carbon disulfide	Cyclohexane Methylcyclohexane 1,2-Dichloropropane Bromodichloromethane	Chlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,2-Dichlorobenzene 1,2,4-Trichlorobenzene 1,2,3-Trichlorobenzene
trans-1,3-Dichloropropene-d ₄ (DMC)	Chloroform-d (DMC)	2-Hexanone-d ₅ (DMC)
cis-1,3-Dichloropropene trans-1,3-Dichloropropene 1,1,2-Trichloroethane	1,1-Dichloroethane Bromochloromethane Chloroform Dibromochloromethane Bromoform	4-Methyl-2-pentanone 2-Hexanone
2-Butanone-d ₅ (DMC)	1,1-Dichloroethene-d ₂ (DMC)	1,1,2,2-Tetrachloroethane-d ₂ (DMC)
Acetone 2-Butanone	trans-1,2-Dichloroethene 1,1-Dichloroethene cis-1,2-Dichloroethene	1,1,2,2-Tetrachloroethane 1,2-Dibromo-3-chloropropane
Vinyl chloride-d ₃ (DMC)	Benzene-d ₆ (DMC)	Toluene-d ₈ (DMC)
Vinyl chloride	Benzene	Trichloroethene Toluene Tetrachloroethene Ethylbenzene o-Xylene m,p-Xylene Styrene Isopropylbenzene
1,2-Dichloroethane-d ₄ (DMC)		
Trichlorofluoromethane 1,1,2-Trichloro-1,2,2-trifluoroethane Methyl acetate Methylene chloride Methyl-tert-butyl ether 1,1,1-Trichloroethane Carbon tetrachloride 1,2-Dibromoethane 1,2-Dichloroethane		

LDC #: 1106-05C
 SDG #: Y7Y84

VALIDATION FINDINGS WORKSHEET
Deuterated Monitoring Compounds
Results Verification

Page: 1 of 2
 Reviewer: LS
 2nd Reviewer: KTD

METHOD: GC/MS Volatiles (EPA CLP SOW SOM01.2)

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

%Recovery: $DMCF/DMCS * 100$

Where: DMCF = DMC Found
 DMCS = DMC Spiked

Sample ID: Y7Y84

	DMC Spiked	DMC Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Vinyl Chloride-d3	5.00	5.52	110	110	0
Chloroethane-d5	5.00	5.47	109	109	0
1,1-Dichloroethene-d2	5.00	4.19	84	84	0
2-Butanone-d5	50.00	21.61	43	43	1
Chloroform-d	5.00	5.12	102	102	0
1,2-Dichloroethane-d4	5.00	4.83	97	97	0
Benzene-d6	5.00	5.11	102	102	0
1,2-Dichloropropane-d6	5.00	4.73	95	95	0
Toluene-d8	5.00	5.04	101	101	0
trans-1,3-Dichloropropene-d4	5.00	4.68	94	94	1
2-Hexanone-d5	50.00	26.56	53	53	0
1,4-Dioxane-d8	NR	NR	NR	NC	NC
1,1,2,2-Tetrachloroethane-d2	5.00	4.43	89	89	1
1,2-Dichlorobenzene-d4	5.00	5.47	109	109	0

Sample ID: Y7Y98

	DMC Spiked	DMC Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Vinyl Chloride-d3	5.00	6.06	121	121	0
Chloroethane-d5	5.00	6.08	122	122	0
1,1-Dichloroethene-d2	5.00	4.75	95	95	0
2-Butanone-d5	50.00	25.08	50	50	0
Chloroform-d	5.00	5.46	109	109	0
1,2-Dichloroethane-d4	5.00	5.30	106	106	0
Benzene-d6	5.00	5.54	111	111	0
1,2-Dichloropropane-d6	5.00	5.03	101	101	0
Toluene-d8	5.00	5.56	111	111	0
trans-1,3-Dichloropropene-d4	5.00	5.08	102	102	0
2-Hexanone-d5	50.00	32.50	65	65	0
1,4-Dioxane-d8	NR	NR	NR	NC	NC
1,1,2,2-Tetrachloroethane-d2	5.00	4.93	99	99	0
1,2-Dichlorobenzene-d4	5.00	5.80	116	116	0

LDC #: 1106-05C
 SDG #: Y7Y84

VALIDATION FINDINGS WORKSHEET
Deuterated Monitoring Compounds
Results Verification

Page: 2 of 2
 Reviewer: LS
 2nd Reviewer: KDP

METHOD: GC/MS Volatiles (EPA CLP SOW SOM01.2)

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

%Recovery: $DMCF/DMCS * 100$

Where: DMCF = DMC Found
 DMCS = DMC Spiked

Sample ID: Y7YA9

	DMC Spiked	DMC Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Vinyl Chloride-d3	5.00	5.09	102	102	0
Chloroethane-d5	5.00	5.09	102	102	0
1,1-Dichloroethene-d2	5.00	4.01	80	80	0
2-Butanone-d5	50.00	48.79	98	98	0
Chloroform-d	5.00	4.75	95	95	0
1,2-Dichloroethane-d4	5.00	4.61	92	92	0
Benzene-d6	5.00	4.89	98	98	0
1,2-Dichloropropane-d6	5.00	4.64	93	93	0
Toluene-d8	5.00	4.67	93	93	0
trans-1,3-Dichloropropene-d4	5.00	4.36	87	87	0
2-Hexanone-d5	50.00	48.04	96	96	0
1,4-Dioxane-d8	NR	NR	NR	NC	NC
1,1,2,2-Tetrachloroethane-d2	5.00	4.04	81	81	0
1,2-Dichlorobenzene-d4	5.00	5.51	110	110	0

LDC #: 1106-05C
 SDG #: 47484

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Result Verification

Page: 1 of 1
 Reviewer: LS
 2nd Reviewer: KTD

METHOD: GC/MS Volatiles (EPA CLP SOW SOM01.2)

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:

$\% \text{Recovery} = 100 * (\text{SSC} - \text{SC}) / \text{SA}$

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

$\text{RPD} = | \text{MS} - \text{MSD} | * 2 / (\text{MS} + \text{MSD})$

MS = Matrix spike recovery MSD = Matrix spike duplicate recovery

MS/MSD samples: Y7YB2 MS/MSD

Compound	Spike Added (ug/L)		Sample Concentration (ug/L)	Spiked Sample Concentration (ug/L)		MS		MSD		MS/MSD	
	MS	MSD		MS	MSD	Percent Recovery		Percent Recovery		RPD	
						Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
1,1-Dichloroethene	5.0	5.0	0.0	6.1	5.4	122	122	108	108	13	12
Benzene	5.0	5.0	0.0	5.2	4.7	103	104	94	94	10	9
Trichloroethene	5.0	5.0	0.0	5.0	4.4	101	100	89	88	13	13
Toluene	5.0	5.0	0.0	5.3	4.8	106	106	96	96	10	10
Chlorobenzene	5.0	5.0	0.0	5.0	4.4	99	100	89	88	11	11

LDC #: 1106-05C
 SDG #: Y7Y84

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 3
 Reviewer: LS
 2nd Reviewer: KTP

METHOD: GC/MS Volatiles (EPA CLP SOW SOM01.2)

Compound results for 10% EPA Tier 3 samples reported with a positive detect were recalculated and verified using the following equation:

$$\text{Concentration} = \frac{(A_x)(D_f)(C_i)}{(C_f)(V_o)(A_i)}$$

Where:

- A_x = Area or height of the peak for the compound to be measured
- D_F = Dilution factor
- C_i = Concentration of internal standard
- C_F = Calibration factor from the initial calibration curve
- V_o = Volume or weight of sample extracted in milliliters (mL) or grams (g)
- A_i = 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)
	Y7Y84	Methylene chloride	14624	1	5	0.347	1	675312	0.31	0.31	0.7	Y
		Chloroform	825418	1	5	1.032	1	675312	5.9	5.9	0.4	Y
		Bromodichloromethane	19888	1	5	0.631	1	713480	0.22	0.22	0.4	Y
		Tetrachloroethene	4360668	1	5	0.489	1	713480	63	62	-0.8	Y

LDC #: 1106-05C
 SDG #: 47484

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 2 of 3
 Reviewer: LS
 2nd Reviewer: JAP

METHOD: GC/MS Volatiles (EPA CLP SOW SOM01.2)

Compound results for 10% EPA Tier 3 samples reported with a positive detect were recalculated and verified using the following equation:

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

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 the initial calibration curve
- Vo = Volume or weight of sample extracted in milliliters (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)
	Y7Y98	Methylene chloride	19194	1	5	0.347	1	645092	0.43	0.43	-0.3	Y
		Chloroform	557599	1	5	1.032	1	645092	4.2	4.2	-0.3	Y
		Benzene	519629	1	5	1.798	1	645092	2.1	2.2	6.7	Y
		Bromodichloromethane	12512	1	5	0.631	1	645092	0.15	0.15	2.5	Y
		Tetrachloroethene	192571	1	5	0.489	1	681660	2.9	2.9	-0.4	Y
		Ethylbenzene	79663	1	5	2.636	1	681660	0.22	0.22	0.8	Y
		o-Xylene	18887	1	5	0.882	1	681660	0.16	0.16	-1.8	Y
		m,p-Xylene	81073	1	5	0.954	1	681660	0.62	0.62	0.5	Y

LDC #: 1106-05C
 SDG #: 47484

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 3 of 3
 Reviewer: LS
 2nd Reviewer: KP

METHOD: GC/MS Volatiles (EPA CLP SOW SOM01.2)

Compound results for 10% EPA Tier 3 samples reported with a positive detect were recalculated and verified using the following equation:

$$\text{Concentration} = \frac{(A_x)(D_f)(C_i)}{(C_f)(V_o)(A_i)}$$

Where:

- A_x = Area or height of the peak for the compound to be measured
- D_f = Dilution factor
- C_i = Concentration of internal standard
- C_f = Calibration factor from the initial calibration curve
- V_o = Volume or weight of sample extracted in milliliters (mL) or grams (g)
- A_i = 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)
	Y7YA9	Methylene chloride	34202	1	5	0.428	1	785023	0.51	0.51	-0.2	Y
		c-1,2-Dichloroethene	74262	1	5	0.450	1	785023	1.1	1.1	-4.4	Y
		Chloroform	277527	1	5	1.088	1	785023	1.6	1.6	1.5	Y
		Trichloroethene	83907	1	5	0.465	1	889724	1.0	1.0	1.4	Y
		Tetrachloroethene	27676736	1	5	0.511	1	889724	300	304	1.5	Y

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: Y7Y84

Lab ID: LIBRTY

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
Y7Y84	1106051-01	SOM01.2	AQ	Bromodichloromethane	J	0.22	0.50	ug/L
Y7Y85	1106051-02			Ethylbenzene	J	0.17	0.50	ug/L
				m,p-Xylene	J	0.45	0.50	ug/L
				o-Xylene	J	0.14	0.50	ug/L
Y7Y88	1106051-05			Bromodichloromethane	J	0.27	0.50	ug/L
				Trichlorofluoromethane	J	0.40	0.50	ug/L
Y7Y89	1106051-06			Bromodichloromethane	J	0.12	0.50	ug/L
Y7Y91	1106051-08			Tetrachloroethene	J	0.25	0.50	ug/L
Y7Y92	1106051-09			1,1,1-Trichloroethane	J	0.087	0.50	ug/L
Y7Y93	1106051-10			Ethylbenzene	J	0.38	0.50	ug/L
				o-Xylene	J	0.28	0.50	ug/L
Y7Y98	1106051-12			Bromodichloromethane	J	0.15	0.50	ug/L
				Ethylbenzene	J	0.22	0.50	ug/L
				o-Xylene	J	0.16	0.50	ug/L
Y7YA0	1106051-14			Tetrachloroethene	J	0.26	0.50	ug/L
Y7YA5	1106051-16			Bromodichloromethane	J	0.14	0.50	ug/L
Y7YB0	1106051-19			Isopropylbenzene	J	0.34	0.50	ug/L
	1106051-19RE1			Tetrachloroethene	JD	3.2	3.6	ug/L

Field QC and Associated Samples

Lab Reporting Batch : Y7Y84

Field QC Sample	QC Type	Associated Samples	Sample Collection Date
Y7YA6	TB	Y7Y98	06/07/2011 13:45
		Y7Y99	06/07/2011 08:45
		Y7YA0	06/07/2011 09:45
		Y7YA1	06/07/2011 11:29
		Y7YA5	06/07/2011 10:22
		Y7YA9	06/08/2011 14:16
		Y7YB0	06/07/2011 12:15
		Y7YB2	06/08/2011 09:30

Legend:

AB = Ambient Blank EB = Equipment Blank Rinsate FB = Field Blank FD = Field Duplicate TB = Trip Blank

QC Outlier Report: Trip Blank

Lab Reporting Batch : Y7Y84

Lab ID: LIBRTY

Method/Preparation Batch : 1061605_20110616 / 1061605_20110616

Analysis Date : 06/16/2011

Client Sample ID : Y7YA6

Preparation Date : 06/16/2011

Lab Sample ID : 1106051-17

Preparation Type : SOM01.2

Analysis Method : SOM01.2

Acetone	Result	Reporting Limit	Units	Lab Qual	Comments
Trip Blank Result:	5.1	5.0	ug/L		Common Contaminant

Acetone was qualified due to trip blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Unit
Y7YB0	1106051-19	1.0	3.9	J	ug/L

Chloroform	Result	Reporting Limit	Units	Lab Qual	Comments
Trip Blank Result:	2.1	0.50	ug/L		

Chloroform was qualified due to trip blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Unit
Y7Y98	1106051-12	1.0	4.2		ug/L
Y7Y99	1106051-13	1.0	1.3		ug/L
Y7YA5	1106051-16	1.0	2.9		ug/L
Y7YA9	1106051-18	1.0	1.6		ug/L

Methylene chloride	Result	Reporting Limit	Units	Lab Qual	Comments
Trip Blank Result:	0.76	0.50	ug/L	B	Common Contaminant

Methylene chloride was qualified due to trip blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Unit
Y7Y98	1106051-12	1.0	0.43	JB	ug/L
Y7Y99	1106051-13	1.0	0.76	B	ug/L
Y7YA0	1106051-14	1.0	0.47	JB	ug/L
Y7YA1	1106051-15	1.0	0.40	JB	ug/L
Y7YA5	1106051-16	1.0	0.52	B	ug/L
Y7YA9	1106051-18	1.0	0.51	B	ug/L
Y7YB0	1106051-19RE1	7.1	2.9	JBD	ug/L
Y7YB2	1106051-20	1.0	0.36	JB	ug/L

No quals
methylene
chloride u
due to MB

SDG Y7YB1

LDC #: 1106-05D
 SDG #: Y7YB1
 Laboratory: CompuChem

VALIDATION COMPLETENESS WORKSHEET
 EPA Tier 3

Date: 08/04/11
 Page: 1 of 1
 Reviewer: LCB
 2nd Reviewer: NB

METHOD: GC/MS VOA (EPA CLP SOW SOM01.2)

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: 06/07-10/2011 samples rec'd above 6 but below 10 deg C
II.	GC/MS Instrument Performance Check	A	
III.	Initial Calibration	A/SW	
IV.	Continuing Calibration	A/SW	
V.	Laboratory Blanks	SW	see ADR reports
VI.	Deuterated Monitoring Compounds	SW	see ADR reports
VII.	Matrix Spikes/Matrix Spike Duplicates	A	
VIII.	Laboratory Control Samples	N	Not Required.
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal Standards	A	
XI.	Target Compound Identification	N	Not reviewed for Level III
XII.	Compound Quantitation/CRQLs	N	Not reviewed for Level III
XIII.	Tentatively Identified Compounds (TIC)	N	Not reviewed for Level III
XIV.	System Performance	N	Not reviewed for Level III
XV.	Overall Assessment of Data	A	
XVI.	Field Duplicates	SW / A	see worksheet
XVII.	Field Blanks	SW	^{FB} TB = Y7YA8

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet/checklist

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

1	Y7YB1	11	Y7YA2	21	Y7YA3DL	31	
2	Y7YB3	12	Y7YA3	22	Y7YA7DL	32	
3	Y7YB4	13	Y7YA4	23	Y7YB6DL	33	
4	Y7YB6	14	Y7YA7	24		34	
5	Y7YB7	15	Y7YA8	25		35	
6	Y7YB8	16	Y7YB5	26		36	
7	Y7YB9	17	Y7Y97MS	27		37	
8	Y7Y95	18	Y7Y97MSD	28		38	
9	Y7Y96	19	Y7Y96DL	29		39	
10	Y7Y97	20	Y7YA2DL	30		40	

VALIDATION FINDINGS CHECKLIST

Method: Volatiles (EPA CLP SOW SOM01.2)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	X			
Cooler temperature criteria was met.		X		over 6 deg but below 10 degr C
II. GC/MS instrument performance check				
Were 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 analyze an acceptable 5-point calibration prior to sample analysis?	X			
Were all: percent relative standard deviations (%RSD) $\leq 50.0\%$ for 1,4-Dioxane (low/medium only), $\leq 40.0\%$ for Table 3 compounds $\leq 30.0\%$ (trace) or $\leq 20.0\%$ (low/medium) for all other target compounds and relative response factors (RRF) ≥ 0.050 for all target compounds ?		X		
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours of analysis for each instrument?	X			
Were all: percent relative standard deviations (%D) $\leq 50.0\%$ for 1,4-Dioxane (low/medium only) $\leq \pm 40.0\%$ for Table 3 compounds and $\leq \pm 30.0\%$ (trace) or $\leq \pm 25.0\%$ (low/medium) for all others and relative response factors (RRF) ≥ 0.050 for all target compounds ?		X		
V. Laboratory 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?	X			
VI. Dueterated monitoring compounds (DMC)				
Were all DMC percent recoveries (%R) within QC limits?		X		
If the percent recovery (%R) for one or more DMCs was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?		X		
VII. Matrix spikes/matrix spike duplicates (MS/MSD)				
Was a MS/MSD analyzed for every 20 samples of each matrix?	X			
Were MS/MSD percent recoveries (%R) and relative percent differences (RPD) within the QC limits?	X			
VIII. Laboratory control samples (LCS)				
Was an LCS analyzed for this SDG?		X		
Was an LCS analyzed per analytical batch?			X	
Were LCS percent recoveries (%R) and relative percent differences (RPD) within the QC limits?			X	

VALIDATION FINDINGS CHECKLIST

Validation Area	Yes	No	NA	Findings/Comments
IX. Regional quality assurance and quality control				
Were performance evaluation (PE) samples performed?		X		
Were performance evaluation (PE) samples within the acceptance limits?			X	
X. Internal standards				
Were all internal standard area counts within $\pm 40\%$ (trace) or $<50\%$ to $>200\%$ (low/medium) of the associated calibration standard?	X			
Were retention times (RT) within ± 20 seconds of RT of the associated calibration standard?			X	
XI. Target compound identification				
Were relative retention times (RRT) 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 applicable to Tier 3 validation?			X	
XIII. Tentatively identified compounds (TIC)				
Were major ions ($>10\%$ relative intensity) in the reference spectrum evaluated in sample spectrum?			X	
Were relative intensities of the major ions within $\pm 20\%$ 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			

6A - FORM VI VOA-1
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: COMPUCHEM Contract: EPW11032
 Lab Code: LIBRTY Case No.: 41420 Mod. Ref No.: _____ SDG No.: Y7YB1
 Instrument ID: 5973hp90 Calibration Date(s): 06/14/2011 06/14/2011
 Heated Purge: (Y/N) Y Calibration Time(s): 1311 1457
 Purge Volume: 25.0 (mL)
 GC Column: SPB-624 ID: 0.32 (mm) Length: 60 (m)

LAB FILE ID: _____ RRF0.5= 1F14005-CAL1.d RRF1.0= 1F14005-CAL2.d
 RRF5.0= 1F14005-CAL3.d RRF10= 1F14005-CAL4.d RRF20= 1F14005-CAL5.d

COMPOUND	RRF0.5	RRF1.0	RRF5.0	RRF10	RRF20	RRF	% RSD
Dichlorodifluoromethane	0.905	0.834	0.876	0.872	0.793	0.856	5.0
Chloromethane	0.443	0.404	0.434	0.440	0.371	0.418	7.3
Vinyl chloride	0.536	0.494	0.497	0.502	0.456	0.497	5.8
Bromomethane	0.206	0.228	0.237	0.257	0.262	0.238	9.6
Chloroethane	0.255	0.242	0.222	0.220	0.210	0.230	7.9
Trichlorofluoromethane	1.099	0.947	0.916	0.902	0.879	0.949	9.2
1,1-Dichloroethene	0.388	0.300	0.365	0.357	0.346	0.351	9.2
1,1,2-Trichloro- 1,2,2-trifluoroethane	0.482	0.426	0.466	0.461	0.440	0.455	4.8
Acetone	0.034	0.029	0.026	0.025	0.026	0.028	12.8
Carbon disulfide	1.073	0.921	1.041	1.060	1.036	1.026	5.9
Methyl acetate	0.083	0.057	0.058	0.053	0.055	0.061	20.3
Methylene chloride	0.479	0.348	0.284	0.272	0.265	0.329	27.2
trans-1,2-Dichloroethene	0.352	0.331	0.344	0.345	0.331	0.341	2.8
Methyl tert-butyl ether	0.489	0.485	0.485	0.509	0.540	0.501	4.7
1,1-Dichloroethane	0.620	0.597	0.601	0.581	0.567	0.593	3.3
cis-1,2-Dichloroethene	0.323	0.326	0.326	0.323	0.316	0.323	1.3
2-Butanone	0.034	0.036	0.033	0.033	0.035	0.034	3.6
Bromochloromethane	0.146	0.121	0.125	0.128	0.125	0.129	7.5
Chloroform	0.797	0.763	0.776	0.755	0.745	0.767	2.6
1,1,1-Trichloroethane	0.993	0.985	0.981	0.958	0.901	0.964	3.9
Cyclohexane	0.352	0.395	0.410	0.410	0.406	0.395	6.2
Carbon tetrachloride	0.903	0.883	0.934	0.900	0.872	0.898	2.6
Benzene	1.303	1.300	1.288	1.343	1.215	1.290	3.6
1,2-Dichloroethane	0.455	0.452	0.442	0.461	0.435	0.449	2.2
Trichloroethene	0.467	0.462	0.473	0.461	0.449	0.463	1.9
Methylcyclohexane	0.588	0.663	0.633	0.621	0.634	0.628	4.3

J/WS

J/WS

Report 1,4-Dioxane for Low-Medium VOA analysis only

Samples 1-7 (cover sheet)
and 11 of SDG

6C - FORM VI VOA-3
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: COMPUCHEM Contract: EPW11032
 Lab Code: LIBRTY Case No.: 41420 Mod. Ref No.: _____ SDG No.: Y7YB1
 Instrument ID: 5973hp90 Calibration Date(s): 06/14/2011 06/14/2011
 Heated Purge: (Y/N) Y Calibration Time(s): 1311 1457
 Purge Volume: 25.0 (mL)
 GC Column: SPB-624 ID: 0.32 (mm) Length: 60 (m)

COMPOUND	RRF0.5	RRF1.0	RRF5.0	RRF10	RRF20	RRF	% RSD
Vinyl chloride-d3	0.483	0.398	0.376	0.406	0.371	0.407	11.1
Chloroethane-d5	0.329	0.271	0.262	0.267	0.264	0.279	10.1
1,1-Dichloroethene-d2	1.031	0.799	0.862	0.891	0.862	0.889	9.7
2-Butanone-d5	0.047	0.044	0.036	0.036	0.043	0.041	11.9
Chloroform-d	0.918	0.778	0.728	0.749	0.745	0.784	9.9
1,2-Dichloroethane-d4	0.415	0.376	0.324	0.349	0.342	0.361	9.8
Benzene-d6	1.352	1.222	1.153	1.274	1.179	1.236	6.4
1,2-Dichloropropane-d6	0.417	0.371	0.330	0.335	0.322	0.355	11.1
Toluene-d8	1.468	1.365	1.266	1.323	1.335	1.352	5.5
trans-1,3-Dichloropropene-d4	0.387	0.384	0.356	0.380	0.399	0.381	4.1
2-Hexanone-d5	0.039	0.041	0.038	0.038	0.047	0.041	9.0
1,1,2,2-Tetrachloroethane-d2	0.184	0.191	0.169	0.173	0.186	0.181	5.1
1,2-Dichlorobenzene-d4	0.965	0.855	0.793	0.837	0.804	0.851	8.1

Report 1,4-Dioxane-d8 for Low-Medium VOA analysis only

6A - FORM VI VOA-1
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: COMPUCHEM Contract: EPW11032
 Lab Code: LIBRTY Case No.: 41420 Mod. Ref No.: _____ SDG No.: Y7YB1
 Instrument ID: 5975hpms91 Calibration Date(s): 06/16/2011 06/16/2011
 Heated Purge: (Y/N) Y Calibration Time(s): 1611 1759
 Purge Volume: 25.0 (mL)
 GC Column: SPB-624 ID: 0.32 (mm) Length: 60 (m)

LAB FILE ID: _____ RRF0.5= 1F16009-CAL1.d RRF1.0= 1F16009-CAL2.d
 RRF5.0= 1F16009-CAL3.d RRF10= 1F16009-CAL4.d RRF20= 1F16009-CAL5.d

COMPOUND	RRF0.5	RRF1.0	RRF5.0	RRF10	RRF20	RRF	% RSD
Dichlorodifluoromethane	1.032	0.915	0.906	0.878	0.836	0.913	8.0
Chloromethane	0.631	0.530	0.498	0.487	0.464	0.522	12.5
Vinyl chloride	0.568	0.498	0.484	0.477	0.460	0.497	8.4
Bromomethane	0.307	0.280	0.263	0.261	0.256	0.273	7.6
Chloroethane	0.322	0.269	0.262	0.254	0.241	0.270	11.5
Trichlorofluoromethane	0.868	0.807	0.734	0.717	0.698	0.765	9.3
1,1-Dichloroethene	0.394	0.336	0.305	0.308	0.309	0.331	11.4
1,1,2-Trichloro- 1,2,2-trifluoroethane	0.495	0.480	0.399	0.384	0.378	0.427	13.1
Acetone	0.046	0.041	0.037	0.037	0.034	0.039	11.5
Carbon disulfide	1.147	1.125	1.058	1.042	1.050	1.085	4.4
Methyl acetate	0.081	0.108	0.095	0.096	0.089	0.094	10.4
Methylene chloride	0.677	0.502	0.339	0.319	0.300	0.428	37.7
trans-1,2-Dichloroethene	0.420	0.445	0.503	0.498	0.481	0.469	7.7
Methyl tert-butyl ether	0.433	0.456	0.616	0.740	0.764	0.602	25.7
1,1-Dichloroethane	0.816	0.763	0.772	0.792	0.807	0.790	2.8
cis-1,2-Dichloroethene	0.339	0.373	0.499	0.523	0.518	0.450	19.5
2-Butanone	0.039	0.040	0.057	0.065	0.063	0.053	23.9
Bromochloromethane	0.186	0.190	0.187	0.189	0.181	0.186	1.8
Chloroform	1.121	1.096	1.076	1.069	1.076	1.088	1.9
1,1,1-Trichloroethane	1.040	1.015	0.961	0.968	0.976	0.992	3.4
Cyclohexane	0.274	0.420	0.542	0.592	0.618	0.489	29.1
Carbon tetrachloride	1.027	1.025	0.939	0.928	0.930	0.970	5.3
Benzene	1.452	1.669	1.815	1.809	1.772	1.704	8.9
1,2-Dichloroethane	0.682	0.663	0.683	0.678	0.673	0.676	1.2
Trichloroethene	0.417	0.448	0.460	0.488	0.514	0.465	8.0
Methylcyclohexane	0.462	0.767	0.799	0.835	0.849	0.742	21.6

J/W

Report 1,4-Dioxane for Low-Medium VOA analysis only

Storage blank only

6C - FORM VI VOA-3
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: COMPUCHEM Contract: EPW11032
 Lab Code: LIBRTY Case No.: 41420 Mod. Ref No.: _____ SDG No.: Y7YB1
 Instrument ID: 5975hpms91 Calibration Date(s): 06/16/2011 06/16/2011
 Heated Purge: (Y/N) Y Calibration Time(s): 1611 1759
 Purge Volume: 25.0 (mL)
 GC Column: SPB-624 ID: 0.32 (mm) Length: 60 (m)

COMPOUND	RRF0.5	RRF1.0	RRF5.0	RRF10	RRF20	RRF	% RSD
Vinyl chloride-d3	0.535	0.444	0.435	0.412	0.408	0.447	11.6
Chloroethane-d5	0.423	0.367	0.332	0.306	0.305	0.347	14.3
1,1-Dichloroethene-d2	0.999	0.940	0.819	0.776	0.786	0.864	11.6
2-Butanone-d5	0.035	0.033	0.040	0.050	0.052	0.042	20.6
Chloroform-d	1.330	1.204	1.110	1.054	1.064	1.152	10.0
1,2-Dichloroethane-d4	0.606	0.584	0.511	0.497	0.500	0.540	9.5
Benzene-d6	1.386	1.509	1.608	1.536	1.574	1.522	5.6
1,2-Dichloropropane-d6	0.454	0.403	0.404	0.391	0.398	0.410	6.1
Toluene-d8	1.425	1.892	1.716	1.659	1.712	1.681	10.0
trans-1,3-Dichloropropene-d4	0.402	0.444	0.480	0.497	0.521	0.469	10.0
2-Hexanone-d5	0.028	0.038	0.050	0.054	0.053	0.045	25.2
1,1,2,2-Tetrachloroethane-d2	0.383	0.351	0.302	0.294	0.279	0.322	13.6
1,2-Dichlorobenzene-d4	1.055	1.128	1.064	0.983	0.982	1.042	5.9

Report 1,4-Dioxane-d8 for Low-Medium VOA analysis only

DMC

DMC

7C - FORM VII VOA-3
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: COMPUCHEM Contract: EPW11032
 Lab Code: LIBRTY Case No.: 41420 Mod. Ref No.: _____ SDG No.: Y7YB1
 Instrument ID: 5973hp90 Calibration Date: 06/15/2011 Time: 2138
 Lab File ID: 1F14005-CCV390.d Init. Calib. Date(s): 06/14/2011 06/14/2011
 EPA Sample No. (VSTD#####): VSTD005ND Init. Calib. Time(s): 1311 1457
 Heated Purge: (Y/N) Y GC Column: SPB-624 ID: 0.32 (mm) Length: 60 (m)
 Purge Volume: 25.0 (mL)

COMPOUND	RRF	RRF5.0	MIN RRF	%D	MAX %D
Vinyl chloride-d3	0.407	0.462	0.010	13.6	30.0
Chloroethane-d5	0.279	0.335	0.010	20.2	40.0
1,1-Dichloroethene-d2	0.889	1.034	0.010	16.3	30.0
2-Butanone-d5	0.041	0.037	0.010	-9.1	40.0
Chloroform-d	0.784	0.858	0.010	9.5	30.0
1,2-Dichloroethane-d4	0.361	0.391	0.010	8.2	30.0
Benzene-d6	1.236	1.245	0.010	0.7	30.0
1,2-Dichloropropane-d6	0.355	0.375	0.010	5.5	40.0
Toluene-d8	1.352	1.375	0.010	1.8	30.0
trans-1,3-Dichloropropene-d4	0.381	0.368	0.010	-3.5	30.0
2-Hexanone-d5	0.041	0.036	0.010	-12.1	40.0
1,1,2,2-Tetrachloroethane-d2	0.181	0.190	0.010	5.0	30.0
1,2-Dichlorobenzene-d4	0.851	0.841	0.010	-1.2	30.0

Report 1,4-Dioxane-d8 for Low-Medium VOA analysis only

7C - FORM VII VOA-3
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: COMPUCHEM Contract: EPW11032
 Lab Code: LIBRTY Case No.: 41420 Mod. Ref No.: _____ SDG No.: Y7YB1
 Instrument ID: 5973hp90 Calibration Date: 06/16/2011 Time: 0926
 Lab File ID: 1F14005-CCV4R90.d Init. Calib. Date(s): 06/14/2011 06/14/2011
 EPA Sample No. (VSTD#####): VSTD005NE Init. Calib. Time(s): 1311 1457
 Heated Purge: (Y/N) Y GC Column: SPB-624 ID: 0.32 (mm) Length: 60 (m)
 Purge Volume: 25.0 (mL)

COMPOUND	RRF	RRF5.0	MIN RRF	%D	MAX %D
Vinyl chloride-d3	0.407	0.477	0.010	17.3	30.0
Chloroethane-d5	0.279	0.340	0.010	22.1	40.0
1,1-Dichloroethene-d2	0.889	1.021	0.010	14.9	30.0
2-Butanone-d5	0.041	0.040	0.010	-2.8	40.0
Chloroform-d	0.784	0.850	0.010	8.5	30.0
1,2-Dichloroethane-d4	0.361	0.390	0.010	7.9	30.0
Benzene-d6	1.236	1.271	0.010	2.8	30.0
1,2-Dichloropropane-d6	0.355	0.366	0.010	3.0	40.0
Toluene-d8	1.352	1.356	0.010	0.3	30.0
trans-1,3-Dichloropropene-d4	0.381	0.369	0.010	-3.2	30.0
2-Hexanone-d5	0.041	0.040	0.010	-0.9	40.0
1,1,2,2-Tetrachloroethane-d2	0.181	0.185	0.010	2.3	30.0
1,2-Dichlorobenzene-d4	0.851	0.897	0.010	5.4	30.0

Report 1,4-Dioxane-d8 for Low-Medium VOA analysis only

7C - FORM VII VOA-3
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: COMPUCHEM Contract: EPW11032
 Lab Code: LIBRTY Case No.: 41420 Mod. Ref No.: _____ SDG No.: Y7YB1
 Instrument ID: 5973hp90 Calibration Date: 06/16/2011 Time: 2107
 Lab File ID: 1F14005-CCV5R90.d Init. Calib. Date(s): 06/14/2011 06/14/2011
 EPA Sample No. (VSTD#####): VSTD005NF Init. Calib. Time(s): 1311 1457
 Heated Purge: (Y/N) Y GC Column: SPB-624 ID: 0.32 (mm) Length: 60 (m)
 Purge Volume: 25.0 (mL)

COMPOUND	RRF	RRF5.0	MIN RRF	%D	MAX %D
Vinyl chloride-d3	0.407	0.449	0.010	10.5	30.0
Chloroethane-d5	0.279	0.311	0.010	11.8	40.0
1,1-Dichloroethene-d2	0.889	0.965	0.010	8.5	30.0
2-Butanone-d5	0.041	0.025	0.010	-38.8	40.0
Chloroform-d	0.784	0.821	0.010	4.8	30.0
1,2-Dichloroethane-d4	0.361	0.368	0.010	2.0	30.0
Benzene-d6	1.236	1.166	0.010	-5.7	30.0
1,2-Dichloropropane-d6	0.355	0.366	0.010	3.0	40.0
Toluene-d8	1.352	1.265	0.010	-6.4	30.0
trans-1,3-Dichloropropene-d4	0.381	0.348	0.010	-8.6	30.0
2-Hexanone-d5	0.041	0.027	0.010	-32.9	40.0
1,1,2,2-Tetrachloroethane-d2	0.181	0.178	0.010	-1.3	30.0
1,2-Dichlorobenzene-d4	0.851	0.756	0.010	-11.1	30.0

Report 1,4-Dioxane-d8 for Low-Medium VOA analysis only

7C - FORM VII VOA-3
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: COMPUCHEM Contract: EPW11032
 Lab Code: LIBRTY Case No.: 41420 Mod. Ref No.: SDG No.: Y7YB1
 Instrument ID: 5973hp90 Calibration Date: 06/17/2011 Time: 1555
 Lab File ID: 1F14005-CCV7R90.d Init. Calib. Date(s): 06/14/2011 06/14/2011
 EPA Sample No. (VSTD#####): VSTD005NH Init. Calib. Time(s): 1311 1457
 Heated Purge: (Y/N) Y GC Column: SPB-624 ID: 0.32 (mm) Length: 60 (m)
 Purge Volume: 25.0 (mL)

COMPOUND	RRF	RRF5.0	MIN RRF	%D	MAX %D
Vinyl chloride-d3	0.407	0.484	0.010	19.0	50.0
Chloroethane-d5	0.279	0.348	0.010	25.0	50.0
1,1-Dichloroethene-d2	0.889	1.069	0.010	20.2	50.0
2-Butanone-d5	0.041	0.029	0.010	-28.1	50.0
Chloroform-d	0.784	0.913	0.010	16.6	50.0
1,2-Dichloroethane-d4	0.361	0.397	0.010	10.0	50.0
Benzene-d6	1.236	1.235	0.010	-0.1	50.0
1,2-Dichloropropane-d6	0.355	0.399	0.010	12.3	50.0
Toluene-d8	1.352	1.384	0.010	2.4	50.0
trans-1,3-Dichloropropene-d4	0.381	0.389	0.010	2.0	50.0
2-Hexanone-d5	0.041	0.031	0.010	-24.4	50.0
1,1,2,2-Tetrachloroethane-d2	0.181	0.188	0.010	3.9	50.0
1,2-Dichlorobenzene-d4	0.851	0.838	0.010	-1.5	50.0

Report 1,4-Dioxane-d8 for Low-Medium VOA analysis only

Dmc

Dmc

7A - FORM VII VOA-1
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: COMPUCHEM Contract: EPW11032
 Lab Code: LIBRTY Case No.: 41420 Mod. Ref No.: SDG No.: Y7YB1
 Instrument ID: 5975hpms91 Calibration Date: 06/17/2011 Time: 1352
 Lab File ID: 1F16009-CCV291.d Init. Calib. Date(s): 06/16/2011 06/16/2011
 EPA Sample No. (VSTD#####): VSTD005VA Init. Calib. Time(s): 1611 1759
 Heated Purge: (Y/N) Y GC Column: SPB-624 ID: 0.32 (mm) Length: 60 (m)
 Purge Volume: 25.0 (mL)

COMPOUND	RRF	RRF _{5.0}	MIN RRF	%D	MAX %D
Dichlorodifluoromethane	0.913	0.825	0.010	-9.7	40.0
Chloromethane	0.522	0.512	0.010	-1.9	40.0
Vinyl chloride	0.497	0.513	0.100	3.1	30.0
Bromomethane	0.273	0.290	0.100	6.0	30.0
Chloroethane	0.270	0.284	0.010	5.3	40.0
Trichlorofluoromethane	0.765	0.796	0.010	4.0	40.0
1,1-Dichloroethene	0.331	0.345	0.100	4.5	30.0
1,1,2-Trichloro-1,2,2-trifluoroethane	0.427	0.400	0.010	-6.2	40.0
Acetone	0.039	0.040	0.010	2.6	40.0
Carbon disulfide	1.085	1.163	0.010	7.3	40.0
Methyl acetate	0.094	0.099	0.010	5.5	40.0
Methylene chloride	0.428	0.402	0.010	-5.9	40.0
trans-1,2-Dichloroethene	0.469	0.476	0.010	1.5	40.0
Methyl tert-butyl ether	0.602	0.580	0.010	-3.7	40.0
1,1-Dichloroethane	0.790	0.757	0.200	-4.1	30.0
cis-1,2-Dichloroethene	0.450	0.503	0.010	11.6	40.0
2-Butanone	0.053	0.052	0.010	-2.2	40.0
Bromochloromethane	0.186	0.181	0.050	-3.1	30.0
Chloroform	1.088	1.105	0.200	1.6	30.0
1,1,1-Trichloroethane	0.992	0.986	0.100	-0.6	30.0
Cyclohexane	0.489	0.440	0.010	-10.0	40.0
Carbon tetrachloride	0.970	0.944	0.100	-2.6	30.0
Benzene	1.704	1.764	0.400	3.6	30.0
1,2-Dichloroethane	0.676	0.732	0.100	8.4	30.0
Trichloroethene	0.465	0.448	0.300	-3.7	30.0
Methylcyclohexane	0.742	0.665	0.010	-10.4	40.0

*Just NO
needed
(AC)*

Report 1,4-Dioxane for Low-Medium VOA analysis only

Storage blk only

7C - FORM VII VOA-3
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: COMPUCHEM Contract: EPW11032
 Lab Code: LIBRTY Case No.: 41420 Mod. Ref No.: SDG No.: Y7YB1
 Instrument ID: 5975hpms91 Calibration Date: 06/17/2011 Time: 1352
 Lab File ID: 1F16009-CCV291.d Init. Calib. Date(s): 06/16/2011 06/16/2011
 EPA Sample No. (VSTD#####): VSTD005VA Init. Calib. Time(s): 1611 1759
 Heated Purge: (Y/N) Y GC Column: SPB-624 ID: 0.32 (mm) Length: 60 (m)
 Purge Volume: 25.0 (mL)

COMPOUND	RRF	RRF5.0	MIN RRF	%D	MAX %D
Vinyl chloride-d3	0.447	0.449	0.010	0.5	30.0
Chloroethane-d5	0.347	0.364	0.010	5.1	40.0
1,1-Dichloroethene-d2	0.864	0.894	0.010	3.5	30.0
2-Butanone-d5	0.042	0.036	0.010	-14.4	40.0
Chloroform-d	1.152	1.146	0.010	-0.5	30.0
1,2-Dichloroethane-d4	0.540	0.542	0.010	0.4	30.0
Benzene-d6	1.522	1.517	0.010	-0.3	30.0
1,2-Dichloropropane-d6	0.410	0.381	0.010	-7.1	40.0
Toluene-d8	1.681	1.661	0.010	-1.2	30.0
trans-1,3-Dichloropropene-d4	0.469	0.431	0.010	-8.1	30.0
2-Hexanone-d5	0.045	0.046	0.010	3.1	40.0
1,1,2,2-Tetrachloroethane-d2	0.322	0.290	0.010	-10.1	30.0
1,2-Dichlorobenzene-d4	1.042	0.983	0.010	-5.7	30.0

Report 1,4-Dioxane-d8 for Low-Medium VOA analysis only

7A - FORM VII VOA-1
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: COMPUCHEM Contract: EPW11032
 Lab Code: LIBRTY Case No.: 41420 Mod. Ref No.: SDG No.: Y7YB1
 Instrument ID: 5975hpms91 Calibration Date: 06/17/2011 Time: 1913
 Lab File ID: 1F16009-CCV391.d Init. Calib. Date(s): 06/16/2011 06/16/2011
 EPA Sample No. (VSTD#####): VSTD005VB Init. Calib. Time(s): 1611 1759
 Heated Purge: (Y/N) Y GC Column: SPB-624 ID: 0.32 (mm) Length: 60 (m)
 Purge Volume: 25.0 (mL)

COMPOUND	RRF	RRF _{5.0}	MIN RRF	%D	MAX %D
Dichlorodifluoromethane	0.913	0.841	0.010	-7.9	50.0
Chloromethane	0.522	0.535	0.010	2.5	50.0
Vinyl chloride	0.497	0.534	0.010	7.4	50.0
Bromomethane	0.273	0.311	0.010	13.8	50.0
Chloroethane	0.270	0.298	0.010	10.5	50.0
Trichlorofluoromethane	0.765	0.826	0.010	8.0	50.0
1,1-Dichloroethene	0.331	0.353	0.010	6.9	50.0
1,1,2-Trichloro-1,2,2-trifluoroethane	0.427	0.428	0.010	0.2	50.0
Acetone	0.039	0.044	0.010	12.7	50.0
Carbon disulfide	1.085	1.227	0.010	13.1	50.0
Methyl acetate	0.094	0.105	0.010	12.0	50.0
Methylene chloride	0.428	0.411	0.010	-3.9	50.0
trans-1,2-Dichloroethene	0.469	0.487	0.010	3.8	50.0
Methyl tert-butyl ether	0.602	0.629	0.010	4.4	50.0
1,1-Dichloroethane	0.790	0.778	0.010	-1.5	50.0
cis-1,2-Dichloroethene	0.450	0.514	0.010	14.2	50.0
2-Butanone	0.053	0.059	0.010	11.3	50.0
Bromochloromethane	0.186	0.194	0.010	4.1	50.0
Chloroform	1.088	1.170	0.010	7.6	50.0
1,1,1-Trichloroethane	0.992	0.988	0.010	-0.4	50.0
Cyclohexane	0.489	0.428	0.010	-12.6	50.0
Carbon tetrachloride	0.970	0.952	0.010	-1.8	50.0
Benzene	1.704	1.723	0.010	1.1	50.0
1,2-Dichloroethane	0.676	0.762	0.010	12.8	50.0
Trichloroethene	0.465	0.438	0.010	-5.9	50.0
Methylcyclohexane	0.742	0.651	0.010	-12.3	50.0

QC

Report 1,4-Dioxane for Low-Medium VOA analysis only

Storage only

7C - FORM VII VOA-3
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: COMPUCHEM Contract: EPW11032
 Lab Code: LIBRTY Case No.: 41420 Mod. Ref No.: SDG No.: Y7YB1
 Instrument ID: 5975hpms91 Calibration Date: 06/17/2011 Time: 1913
 Lab File ID: 1F16009-CCV391.d Init. Calib. Date(s): 06/16/2011 06/16/2011
 EPA Sample No. (VSTD#####): VSTD005VB Init. Calib. Time(s): 1611 1759
 Heated Purge: (Y/N) Y GC Column: SPB-624 ID: 0.32 (mm) Length: 60 (m)
 Purge Volume: 25.0 (mL)

COMPOUND	RRF	RRF5.0	MIN RRF	%D	MAX %D
Vinyl chloride-d3	0.447	0.462	0.010	3.5	50.0
Chloroethane-d5	0.347	0.376	0.010	8.4	50.0
1,1-Dichloroethene-d2	0.864	0.931	0.010	7.8	50.0
2-Butanone-d5	0.042	0.039	0.010	-8.4	50.0
Chloroform-d	1.152	1.169	0.010	1.4	50.0
1,2-Dichloroethane-d4	0.540	0.560	0.010	3.7	50.0
Benzene-d6	1.522	1.457	0.010	-4.3	50.0
1,2-Dichloropropane-d6	0.410	0.364	0.010	-11.3	50.0
Toluene-d8	1.681	1.580	0.010	-6.0	50.0
trans-1,3-Dichloropropene-d4	0.469	0.406	0.010	-13.4	50.0
2-Hexanone-d5	0.045	0.047	0.010	4.5	50.0
1,1,2,2-Tetrachloroethane-d2	0.322	0.286	0.010	-11.3	50.0
1,2-Dichlorobenzene-d4	1.042	0.957	0.010	-8.2	50.0

Report 1,4-Dioxane-d8 for Low-Medium VOA analysis only

Method Blank Outlier Report

Lab Reporting Batch : Y7YB1

Lab ID: LIBRTY

Analysis Method : SOM01.2

Analysis Date : 06/15/2011

Preparation Type : SOM01.2

Preparation Date : 06/15/2011

Method Blank Lab Sample ID : 1061533-BLK1

Preparation Batch : 1061533_20110

Methylene chloride	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.45	0.50	ug/L	J	Common Contaminant

Methylene chloride was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
Y7Y97	1106052-11	1.0	0.34	JB	ug/L
Y7Y97MS	1061533-MS1	1.0	0.38	JB	ug/L
Y7Y97MSD	1061533-MSD1	1.0	0.61	B	ug/L
Y7YB1	1106052-01	1.0	0.32	JB	ug/L
Y7YB3	1106052-02	1.0	0.35	JB	ug/L
Y7YB4	1106052-03	1.0	0.35	JB	ug/L
Y7YB6	1106052-04	1.0	0.28	JB	ug/L

Method Blank Outlier Report

Lab Reporting Batch : Y7YB1

Lab ID: LIBRTY

Analysis Method : SOM01.2

Analysis Date : 06/16/2011

Preparation Type : SOM01.2

Preparation Date : 06/16/2011

Method Blank Lab Sample ID : 1061604-BLK1

Preparation Batch : 1061604_20110

Methylene chloride	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.36	0.50	ug/L	J	Common Contaminant

Methylene chloride was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
Y7YB6	1106052-04RE1	4.2	1.9	JBD	ug/L
Y7YB7	1106052-05	1.0	0.26	JB	ug/L
Y7YB8	1106052-06	1.0	0.30	JB	ug/L
Y7YB9	1106052-07	1.0	0.29	JB	ug/L

Method Blank Outlier Report

Lab Reporting Batch : Y7YB1

Lab ID: LIBRTY

Analysis Method : SOM01.2

Analysis Date : 06/16/2011

Preparation Type : SOM01.2

Preparation Date : 06/16/2011

Method Blank Lab Sample ID : 1061618-BLK1

Preparation Batch : 1061618_20110616

Methylene chloride	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.44	0.50	ug/L	J	Common Contaminant

Methylene chloride was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
Y7Y95	1106052-09	1.0	0.40	JB	ug/L
Y7Y96	1106052-10	1.0	0.34	JB	ug/L
Y7YA2	1106052-12	1.0	0.45	JB	ug/L
Y7YA3	1106052-13	1.0	0.34	JB	ug/L
Y7YA4	1106052-14	1.0	0.37	JB	ug/L
Y7YA7	1106052-15	1.0	0.39	JB	ug/L
Y7YA8	1106052-16	1.0	0.45	JB	ug/L
Y7YB5	1106052-17	1.0	0.37	JB	ug/L

Method Blank Outlier Report

Lab Reporting Batch : Y7YB1

Lab ID: LIBRTY

Analysis Method : SOM01.2

Analysis Date : 06/17/2011

Preparation Type : SOM01.2

Preparation Date : 06/17/2011

Method Blank Lab Sample ID : 1061711-BLK1

Preparation Batch : 1061711_20110

Methylene chloride	Result	Reporting Limit	Units	Lab Qual	Comments
Method Blank Result:	0.74	0.50	ug/L		Common Contaminant

Methylene chloride was qualified due to method blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Units
Y7Y96	1106052-10RE1	5.0	1.9	JBD	ug/L
Y7YA2	1106052-12RE1	50.0	18	JBD	ug/L
Y7YA3	1106052-13RE1	12.5	6.7	BD	ug/L
Y7YA7	1106052-15RE1	5.0	2.2	JBD	ug/L

Method Blank Outlier Report

Lab Reporting Batch : Y7YB1

Lab ID: LIBRTY

Analysis Method : SOM01.2

Analysis Date : 06/17/2011

Preparation Type : SOM01.2

Preparation Date : 06/17/2011

Method Blank Lab Sample ID : 1061722-BLK1

Preparation Batch : 1061722_20110

617

	Result	Reporting Limit	Units	Lab Qual	Comments
Methylene chloride					
Method Blank Result:	0.49	0.50	ug/L	J	Common Contaminant

Methylene chloride contamination found in the method blank did not qualify any samples.

Qualifies storage Blank
VHBLKY4 as "U"

4A - FORM IV VOA
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLKVA

Lab Name: COMPUCHEM Contract: EPW11032
 Lab Code: LIBRTY Case No.: 41420 Mod. Ref No.: SDG No.: Y7YB1
 Lab File ID: 1061722-BLK191.d Lab Sample ID: 1061722-BLK1
 Instrument ID: 5975hpms91
 Matrix: (SOIL/SED/WATER) WATER Date Analyzed: 06/17/2011
 Level: (TRACE or LOW/MED) TRACE Time Analyzed: 1441
 GC Column: SPB-624 ID: 0.32 (mm) Heated Purge: (Y/N) Y

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VHBLKYU	1106052-08	1106052-0891.d	1846
02				
03				
04				
05				
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS: _____

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VHBLKYU

Lab Name: COMPUCHEM Contract: EPW11032
 Lab Code: LIBRTY Case No.: 41420 Mod. Ref No.: _____ SDG No.: Y7YB1
 Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1106052-08
 Sample wt/vol: 25.0 (g/mL) _____ mL Lab File ID: 1106052-0891.d
 Level: (TRACE/LOW/MED) TRACE Date Received: _____
 % Moisture: not dec. _____ Date Analyzed: 06/17/2011
 GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0
 Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
 Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.32	JB
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U

U due to MBK

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VHBLKYU

Lab Name: COMPUCHEM Contract: EPW11032
 Lab Code: LIBRTY Case No.: 41420 Mod. Ref No.: _____ SDG No.: Y7YB1
 Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 1106052-08
 Sample wt/vol: 25.0 (g/mL) mL Lab File ID: 1106052-0891.d
 Level: (TRACE/LOW/MED) TRACE Date Received: _____
 % Moisture: not dec. _____ Date Analyzed: 06/17/2011
 GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0
 Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)
 Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/L	Q
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U

Surrogate Recovery Outlier Report

Lab Report Batch: Y7YB1

Lab ID: LIBRTY

Client Sample ID	Lab Sample ID	Analysis Method	Dilution	Matrix	Surrogate	Percent Recovery	Criteria (percent)			Associated Target Analytes
							Lower Limit	Upper Limit	Reject Point	
Y7Y95	1106052-09	SOM01.2	1.0	AQ	Chloroethane-d5	132	71.0	131.0	10.0	All Target
Y7Y96	1106052-10RE1	SOM01.2	5.0	AQ	Chloroethane-d5	138	71.0	131.0	10.0	All Target
					Vinyl chloride-d3	132	65.0	131.0	10.0	All Target
Y7Y97MS	1061533-MS1	SOM01.2	1.0	AQ	1,1-Dichloroethene-d2	118	55.0	104.0	10.0	All Target
Y7Y97MSD	1061533-MSD1	SOM01.2	1.0	AQ	1,1-Dichloroethene-d2	122	55.0	104.0	10.0	All Target
Y7YA2	1106052-12	SOM01.2	1.0	AQ	Chloroethane-d5	133	71.0	131.0	10.0	All Target
	1106052-12RE1		50.0		Chloroethane-d5	142	71.0	131.0	10.0	All Target
	1106052-12		1.0		Vinyl chloride-d3	133	65.0	131.0	10.0	All Target
Y7YA3	1106052-13RE1	SOM01.2	12.5	AQ	Chloroethane-d5	137	71.0	131.0	10.0	All Target
	1106052-13		1.0		Chloroethane-d5	132	71.0	131.0	10.0	All Target
	1106052-13RE1		12.5		Vinyl chloride-d3	132	65.0	131.0	10.0	All Target
Y7YA4	1106052-14	SOM01.2	1.0	AQ	Chloroethane-d5	135	71.0	131.0	10.0	All Target
Y7YA7	1106052-15	SOM01.2	1.0	AQ	Chloroethane-d5	135	71.0	131.0	10.0	All Target
	1106052-15RE1		5.0		Chloroethane-d5	134	71.0	131.0	10.0	All Target
Y7YA8	1106052-16	SOM01.2	1.0	AQ	Chloroethane-d5	137	71.0	131.0	10.0	All Target
Y7YB1	1106052-01	SOM01.2	1.0	AQ	Chloroethane-d5	132	71.0	131.0	10.0	All Target

per Table 9

Project Number and Name: 41420 - CLP - Modesto GWMP 2Q11

Surrogate Recovery Outlier Report

Lab Report Batch: Y7YB1

Lab ID: LIBRTY

Client Sample ID	Lab Sample ID	Analysis Method	Dilution Matrix		Surrogate	Percent Recovery	Criteria (percent)			Associated Target Analytes
							Lower Limit	Upper Limit	Reject Point	
Y7YB4	1106052-03	SOM01.2	1.0	AQ	Chloroethane-d5	132	71.0	131.0	10.0	All Target
Y7YB5	1106052-17	SOM01.2	1.0	AQ	Chloroethane-d5	136	71.0	131.0	10.0	All Target
Y7YB6	1106052-04	SOM01.2	1.0	AQ	Chloroethane-d5	132	71.0	131.0	10.0	All Target

Table 9. Volatile Deuterated Monitoring Compounds (DMCs) and the Associated Target Compounds

Chloroethane-d ₅ (DMC)	1,2-Dichloropropane-d ₆ (DMC)	1,2-Dichlorobenzene-d ₄ (DMC)
Dichlorodifluoromethane Chloromethane Bromomethane Chloroethane Carbon disulfide	Cyclohexane Methylcyclohexane 1,2-Dichloropropane Bromodichloromethane	Chlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,2-Dichlorobenzene 1,2,4-Trichlorobenzene 1,2,3-Trichlorobenzene
trans-1,3-Dichloropropene-d ₄ (DMC)	Chloroform-d (DMC)	2-Hexanone-d ₅ (DMC)
cis-1,3-Dichloropropene trans-1,3-Dichloropropene 1,1,2-Trichloroethane	1,1-Dichloroethane Bromochloromethane Chloroform Dibromochloromethane Bromoform	4-Methyl-2-pentanone 2-Hexanone
2-Butanone-d ₅ (DMC)	1,1-Dichloroethene-d ₂ (DMC)	1,1,2,2-Tetrachloroethane-d ₂ (DMC)
Acetone 2-Butanone	trans-1,2-Dichloroethene 1,1-Dichloroethene cis-1,2-Dichloroethene	1,1,2,2-Tetrachloroethane 1,2-Dibromo-3-chloropropane
Vinyl chloride-d ₃ (DMC)	Benzene-d ₆ (DMC)	Toluene-d ₈ (DMC)
Vinyl chloride	Benzene	Trichloroethene Toluene Tetrachloroethene Ethylbenzene o-Xylene m,p-Xylene Styrene Isopropylbenzene
1,2-Dichloroethane-d ₄ (DMC)		
Trichlorofluoromethane 1,1,2-Trichloro-1,2,2-trifluoroethane Methyl acetate Methylene chloride Methyl-tert-butyl ether 1,1,1-Trichloroethane Carbon tetrachloride 1,2-Dibromoethane 1,2-Dichloroethane		

Reporting Limits Outlier Report (detected results reported below the reporting limit)

Lab Report Batch: Y7YB1

Lab ID: LIBRTY

Client Sample ID	Lab Sample ID	Analysis Method	Matrix	Analyte Name	Lab Qualifier	Result	EDD Reporting Limit	Units
Y7Y95	1106052-09	SOM01.2	AQ	Bromodichloromethane	J	0.37	0.50	ug/L
				Tetrachloroethene	J	0.43	0.50	ug/L
Y7Y96	1106052-10RE1			Ethylbenzene	JD	2.1	2.5	ug/L
	1106052-10			Isopropylbenzene	J	0.37	0.50	ug/L
	1106052-10RE1			o-Xylene	JD	2.3	2.5	ug/L
Y7YA2	1106052-12			Bromodichloromethane	J	0.31	0.50	ug/L
				m,p-Xylene	J	0.34	0.50	ug/L
				Methyl tert-butyl ether	J	0.40	0.50	ug/L
				o-Xylene	J	0.11	0.50	ug/L
				Trichloroethene	J	0.24	0.50	ug/L
Y7YA3	1106052-13			Ethylbenzene	J	0.28	0.50	ug/L
	1106052-13RE1			m,p-Xylene	JD	1.1	6.3	ug/L
	1106052-13			o-Xylene	J	0.30	0.50	ug/L
Y7YA4	1106052-14			Carbon Disulfide	J	0.17	0.50	ug/L
Y7YA7	1106052-15			Bromodichloromethane	J	0.10	0.50	ug/L
Y7YA8	1106052-16			Acetone	J	4.7	5.0	ug/L
Y7YB3	1106052-02			Bromodichloromethane	J	0.39	0.50	ug/L
Y7YB6	1106052-04			Bromodichloromethane	J	0.17	0.50	ug/L
Y7YB7	1106052-05			o-Xylene	J	0.26	0.50	ug/L
Y7YB8	1106052-06			Bromodichloromethane	J	0.17	0.50	ug/L

Field QC and Associated Samples

Lab Reporting Batch : Y7YB1

Field QC Sample	QC Type	Associated Samples	Sample Collection Date
Y7YA8	FB	Y7Y95	06/09/2011 10:30
		Y7Y96	06/09/2011 11:15
		Y7Y97	06/09/2011 09:30
		Y7YA3	06/09/2011 15:35
		Y7YA4	06/09/2011 14:20
		Y7YA7	06/09/2011 07:49
		Y7YB5	06/09/2011 14:20
Y7YB5	FD	Y7YA4	06/09/2011 14:20

Legend:

AB = Ambient Blank EB = Equipment Blank Rinsate FB = Field Blank FD = Field Duplicate TB = Trip Blank

LDC #: 1106-05D

VALIDATION FINDING WORKSHEET

Page: 1 of 1

SDG #: Y7YB1

Field Duplicates

Reviewer: KTD2nd reviewer: LB

METHOD: GC/MS Volatiles (EPA CLP SOW SOM01.2)

 N NA Were field duplicate pairs identified in this SDG? N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		RPD	Qualifications
	Y7YA4	Y7YB5		
Carbon disulfide	0.17	0.50	98.5	*
Methylene chloride	0.37	0.37	0.0	*

Compound	Concentration (ug/L)		RPD	Qualifications
	Y7Y85	Y7YB7 (sdg Y7Y84)		
Methylene chloride	0.48	0.26	59.5	*
Benzene	1.5	1.6	6.5	*
Tetrachloroethene	14	15	6.9	*
Ethylbenzene	0.17	ND	not calc	*
o-xylene	0.14	0.26	60.0	*
m,p-xylene	0.45	0.74	48.7	*

Compound	Concentration (ug/L)		RPD	Qualifications
	Y7YA5	Y7YB8 (sdg Y7Y84)		
Methylene chloride	0.52	0.30	53.7	*
Chloroform	2.9	3.0	3.4	*
Bromodichloromethane	0.14	0.17	19.4	*
Tetrachloroethene	5.4	5.3	1.9	*

* = See Table 2-17 of SAP

QC Outlier Report: Field Duplicates (Non-qualified Outliers)

Lab Report Batch: Y7YB1

Lab ID: LIBRTY

Analysis Method	Matrix	Analyte Name	Field Sample			Field Sample Duplicate			RPD Dup* (%)	RPD Criteria (%)	Result Units		
			Client Sample ID	Ana Type	Result	Lab Qualifier	Client Sample Duplicate ID	Ana Type				Result	Lab Qualifiers
SOM01.2	AQ	Carbon Disulfide	Y7YA4	RES	0.17	J	Y7YB5	RES	0.50	U	200.0	1	ug/L

**Note: Outlier report also includes analytes detected in one sample but not in the related sample, i.e., analyte was detected in the field sample but not in the field duplicate sample, or vice versa. In this case, RPD value assigned to the field duplicate sample is 200.*

Project Number and Name: 41420 - CLP - Modesto GWMP 2Q11

QC Outlier Report: Field Blank

Lab Reporting Batch : Y7YB1

Lab ID: LIBRTY

Method/Preparation Batch : 1061618_20110616 / 1061618_2011061

Analysis Date : 06/17/2011

Client Sample ID : Y7YA8

Preparation Date : 06/16/2011

Lab Sample ID : 1106052-16

Preparation Type : SOM01.2

Analysis Method : SOM01.2

Acetone	Result	Reporting Limit	Units	Lab Qual	Comments
Field Blank Result:	4.7	5.0	ug/L	J	Common Contaminant

Acetone was qualified due to field blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Unit
Y7Y96	1106052-10	1.0	5.6		ug/L

Chloroform	Result	Reporting Limit	Units	Lab Qual	Comments
Field Blank Result:	2.6	0.50	ug/L		

Chloroform was qualified due to field blank contamination in the following associated samples:

Client Sample ID	Lab Sample ID	Dilution	Result	Lab Qual	Result Unit
Y7Y95	1106052-09	1.0	6.9		ug/L
Y7YA7	1106052-15RE1	5.0	2.5	D	ug/L
Y7YA7	1106052-15	1.0	2.3		ug/L

Methylene chloride	Result	Reporting Limit	Units	Lab Qual	Comments
Field Blank Result:	0.45	0.50	ug/L	JB	Common Contaminant

Methylene chloride contamination found in the field blank did not qualify any samples.

Appendix D
System Uptime Logs

APPENDIX D
SYSTEM UPTIME LOGS

This section presents quantitative results on operational time for the groundwater treatment (GWT) and soil vapor extraction (SVE) systems. Operation time and percentage of uptime for this reporting period (01 April through 30 June 2011) are as follows:

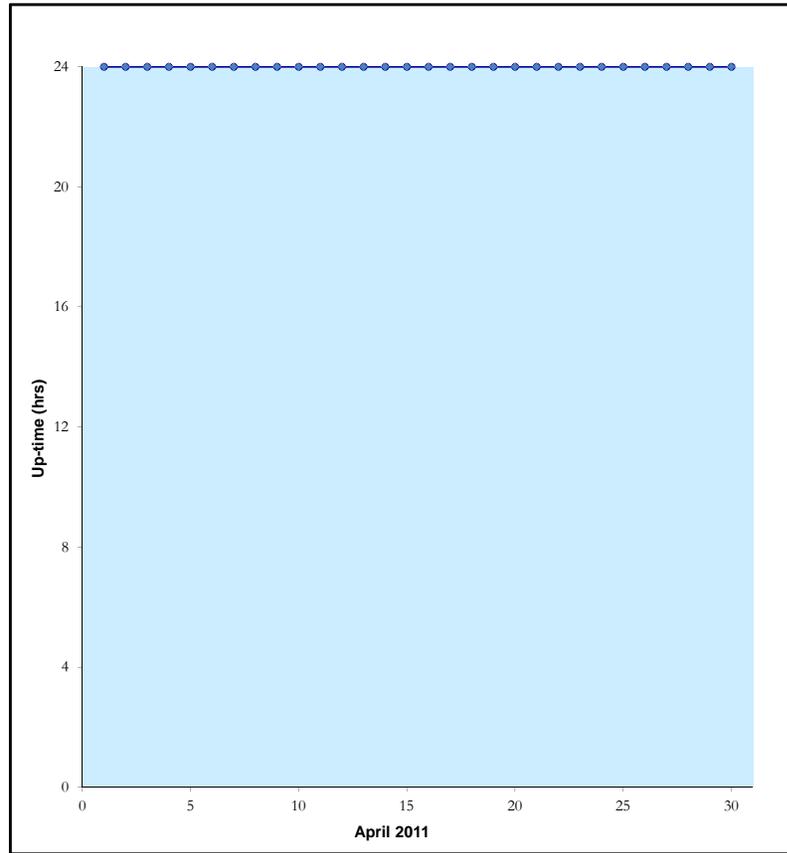
<u>Remedial System</u>	<u>Total Operation Hours</u>	<u>Percentage of Operation</u>
Groundwater Treatment	2,181	99.9%
Soil Vapor Extraction	2,184	100%

Monthly graphical representations of the GWT system operation time can be found in Figures D-1, D-2, and D-3 for April, May, and June 2011, respectively.

Monthly graphical representations of the SVE system operation time can be found in Figures D-4, D-5, and D-6 for April, May, and June 2010, respectively.

FIGURE D-1
UPTIME LOG
GROUNDWATER TREATMENT SYSTEM
MODESTO SUPERFUND SITE

Month	Day	Uptime (hrs)	Description of Activity Performed
April	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	
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	26	24	
	27	24	
	28	24	
	29	24	
	30	24	

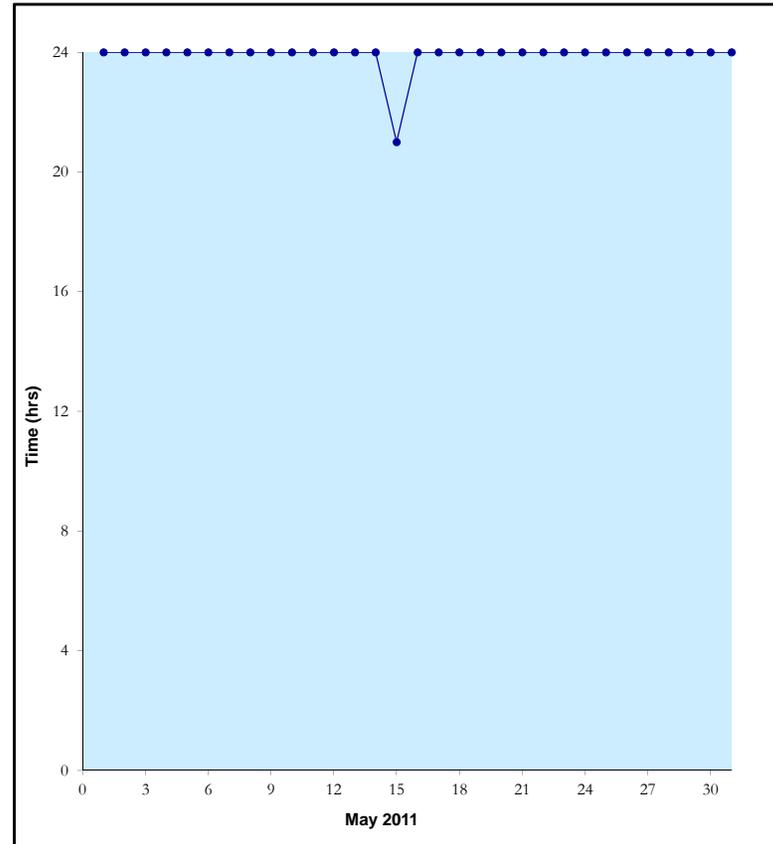


Uptime hours:	720
Uptime %:	100.0%

Notes:

FIGURE D-2
UPTIME LOG
GROUNDWATER TREATMENT SYSTEM
MODESTO SUPERFUND SITE

Month	Day	Uptime (hrs)	Description of Activity Performed
May	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	21	GWTP Shutdown due to high LGAC delta pressure/Stripper high high Level
	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	

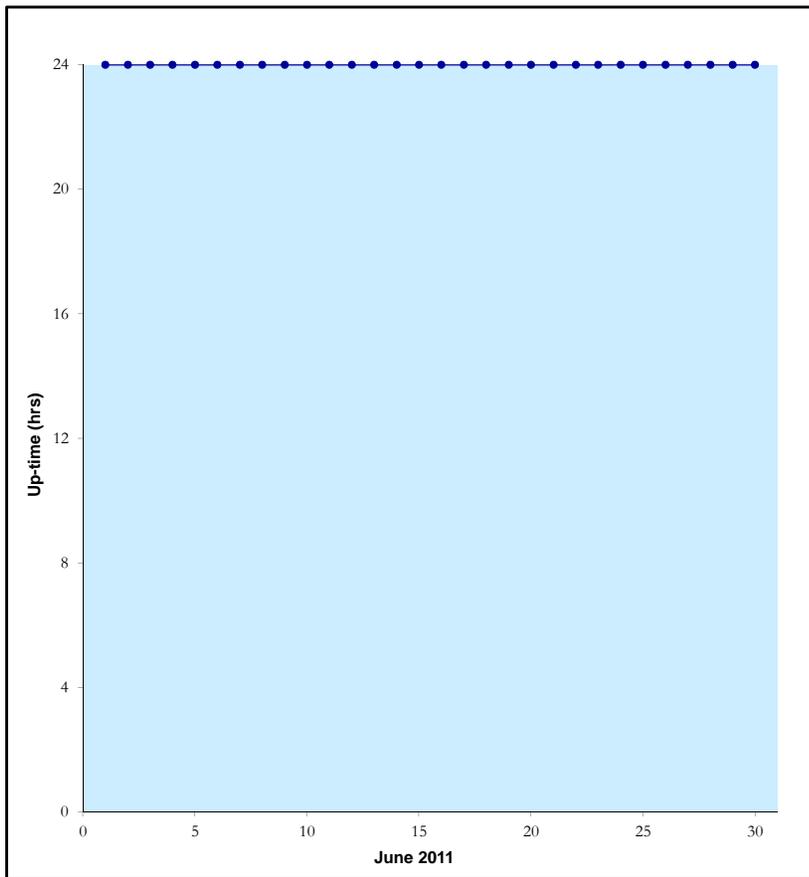


Uptime hours:	741
Uptime %:	99.6%

Notes:

FIGURE D-3
UPTIME LOG
GROUNDWATER TREATMENT SYSTEM
MODESTO SUPERFUND SITE

Month	Day	Uptime (hrs)	Description of Activity Performed
June	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	
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	26	24	
	27	24	
	28	24	
	29	24	
	30	24	

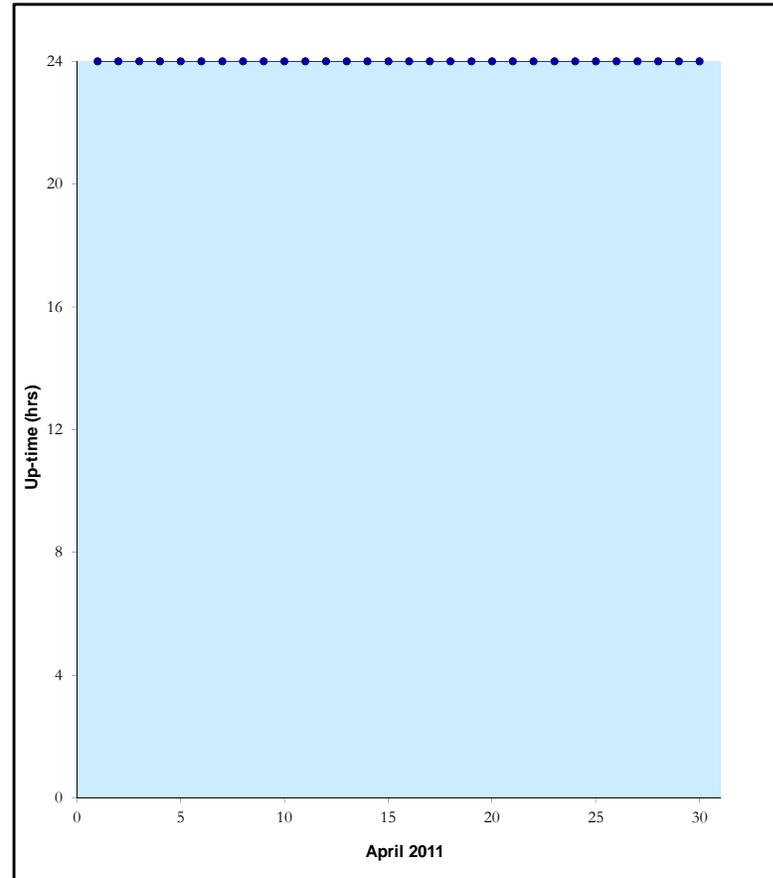


Uptime hours:	720
Uptime %:	100.0%

Notes:

FIGURE D-4
UPTIME LOG
SVE TREATMENT SYSTEM
MODESTO SUPERFUND SITE

Month	Day	Uptime (hrs)	Description of Activity Performed
April	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	
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	25	24	
	26	24	
	27	24	
	28	24	
	29	24	
	30	24	

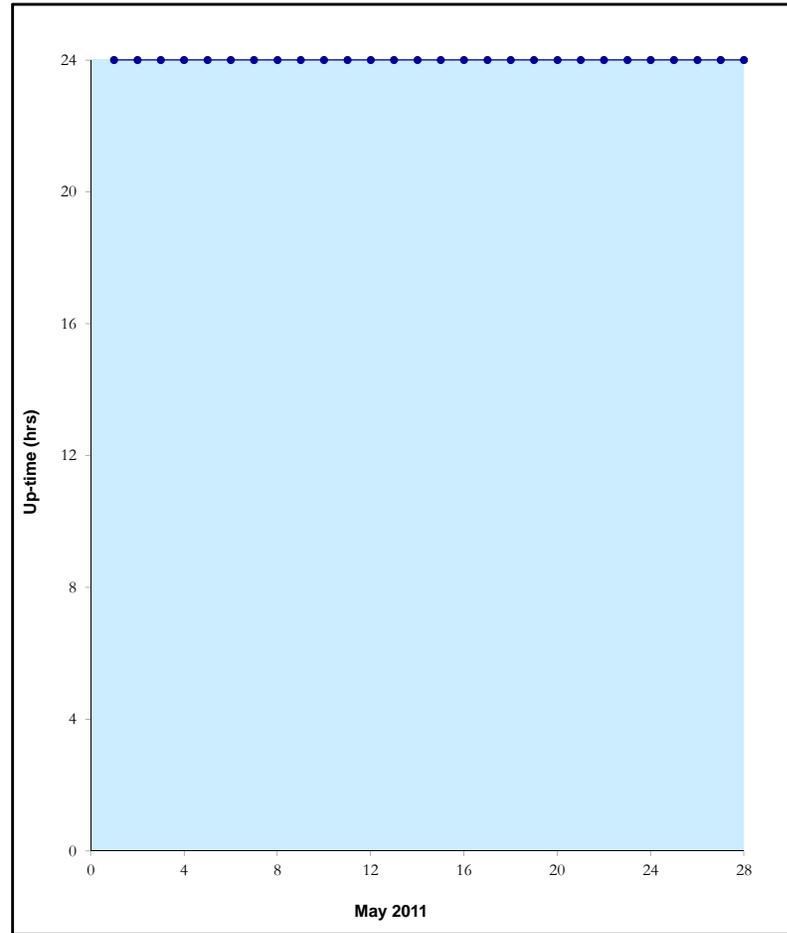


Uptime hours:	720
Uptime %:	100.0%

Notes:

FIGURE D-5
UPTIME LOG
SVE TREATMENT SYSTEM
MODESTO SUPERFUND SITE

Month	Day	Uptime (hrs)	Description of Activity Performed
May	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	
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	18	24	
	19	24	
	20	24	
	21	24	
	22	24	
	23	24	
	24	24	
	25	24	
	26	24	
	27	24	
	28	24	
	30	24	
	30	24	
	31	24	

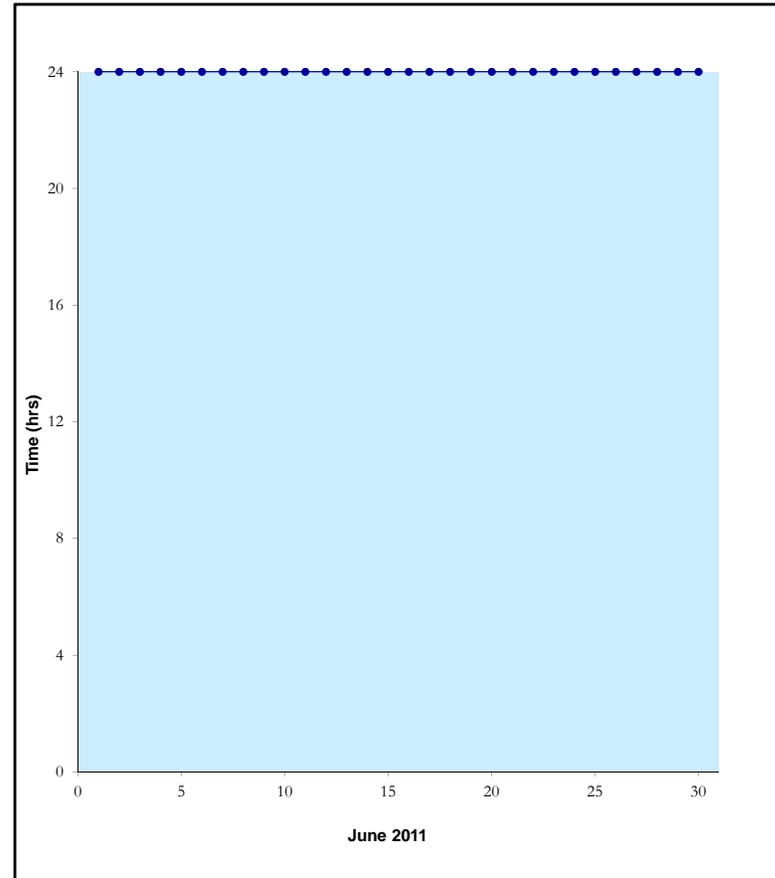


Uptime hours:	744
Uptime %:	100.0%

Notes:

FIGURE D-6
UPTIME LOG
SVE TREATMENT SYSTEM
MODESTO SUPERFUND SITE

Month	Day	Uptime (hrs)	Description of Activity Performed
June	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	



Uptime hours:	720
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 April through 30 June 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 Hrs.	Utility Power		System Influent				Anti-Scale Separator TSS Galons	Air Stripper Water						
Initials	Date	Time		kW	kWh	Flow GPM	Pressure PSI	Total Flow Gallons	pH		Influent Pressure PSI	Effluent Pressure PSI	Flow GPM	Pressure PSI	Influent Pressure PSI	Effluent Pressure PSI	Flow GPM
GB	4/7/11	1052	42205	22.681	97301	46	34	29448	7.21	12	40	37.5	70	31	43	35	59
KP	4/14/11	1050	42373	22.68	100777	46	34	32023	7.19	15	39.5	36.0	67	32	40	37	61.5
KP	4/21/11	0950	42540	22.69	104170	46.0	32.0	38582	7.20	19	40.0	35.0	66	34	34.1	33.0	61.0
GB	4/28/11	1005	42709	22.687	07631	46	33	43170	7.16	23	39.0	37.0	67	34	46	38	61.5
Design Range or Target Value				10.0-30	N/A	3.0-45	30-30	n/a	5.0-12.0	3.0-25	30-30	30-30	40-70	30-30	30-30	30-30	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 PSI	pH	Effluent Total Flow Gallons	Outside GWTS	Inside GWTS
in. H2O	in. H2O	psig	psig	°F	CFM	PSI	PSI	PSI	PSI	PSI	GPM	Gpm	PSI	pH	CFM	mR/hr Peak	mR/hr Peak
16	16	0	0	69.5	690	27	23	17.5	10	8	33	48	15.5	7.62	14184	0	0
17	17	0.0	0.0	69.9	700	29.25	24.5	19.0	10.0	9.5	35	48	16.5	7.60	14969	0	0
16	16	0.0	0.0	70.4	685	29.0	24.5	18.0	10.0	8.25	34.5	48	16.5	7.61	23505	0	0
16	16	0	0	70.2	700	29.5	24.5	18.5	10.0	8.5	35	49	16.0	7.63	28180	0	0
5.0-25	5.0-25	0-100	0-10	65-75	550-650	25-70	25-30	25-30	1.0-10	1.0-10	2.0-60	2.0-50	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		
in. H2O	°F	CFM	Yes/No	Hrs.	in. H2O	°F	CFM	in. H2O	in. H2O	psig	psig	°F	CFM	mR/hr Peak	mR/hr Peak		
65	65.9	145	N6	1006	3.0	188	148	-73	-70	0	0	188	148	0	0		
64	67.2	145	NO	1174.5	3.0	100	145	-75	-72	0.0	0.0	NC	NC	0	0		
70.0	69.5	145	NO	1341.7	3.0	195	151	-73	-70	0.0	0.0	186	150	0	0		
65	70.8	147	N6	1509.1	3.0	194	153	-73.5	-70	0	0	194	153	0	0		
75-70	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 pressure measured relative to atmospheric (barometric) pressure, use (-) for vacuum.

Reviewed By: _____ Date: _____

101692000

URS Corporation
Modesto Superfund Site
Site Inspections

Task Description	7/7/10	4/14/11	4/21/11	4/29/11	1/1
WEEKLY	Task Performed (Technician Initials or Value)				
Groundwater Treatment System					
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		
	Date	Initials	Reading
MONTHLY			
Check fire extinguisher	4/2/11	GB	
Inspect EW-1R vault	4/13/11	GD	
Inspect VI Mitigation operations - "Part House"	4/28/11	GD	
Replace Auto Dialer Batteries (if necessary)	4/28/11	GD	
Quarterly			
Interlock Checks Groundwater	TBD in May		
Interlock Checks SVE			
Collect Well Flow read at SVE-02			
Collect Well Flow read at SVE-03			
Collect Well Flow read at SVE-04			
ANNUAL			
Collect Amp readings			
Instrument Calibration			
System Effluent Flow Meter (Performed in June and December)			

Notes:

Reviewed by: _____ Date: _____

**URS Group
Preventative and Corrective Maintenance Log
Modesto Superfund Site**

Site Name: Modesto SF
 Period: 4/11/11 to 4/29/11
(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.)
4/14	KF	42373	Added Sags	Y (N)			Y / N		
4/21	KF	42540	Added Sags	Y (N)			Y / N		
4/21	KF	42540	Changed Bay Filters	Y (N)			Y / N		
4/21	KF	1342	Repaired SVE Air Connections	Y (N)			Y / N		
4/28	GD	42709	Replaced Auto Sampler	Y (N)			Y / N		
				Y / N			Y / N		

**URS Group
Preventative and Corrective Maintenance Log
Modesto Superfund Site**

Site Name: Modesto SF

Shutdown Date: _____	Startup Date: _____
Shutdown Time: _____	Startup Time: _____
Shutdown Purpose or Cause: <p align="center"><i>No Shutdowns</i></p>	
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: _____	

Shutdown Date: _____	Startup Date: _____
Shutdown Time: _____	Startup Time: _____
Shutdown Purpose or Cause:	
Corrective Actions Taken (if shutdown was unplanned):	
Performed By: _____	

Reviewed by: _____ Date: _____

Date: 4/14/16
 Weather: Sunny 70°
 Sampler: Kevin Ford

SAMPLE COLLECTION RECORD
 MODESTO SUPERFUND SITE

Time	Description	Totalizer Reading (gallons)	Flow (gpm)
1200	GWTS Effluent	1886900	46

Time	Sample Location / Test Method	Sample Description	LOCID	No. of Containers	Container Type	Preservative	pH	Cond	Temp
1235	EFF-0403 E524.2	Effluent-NS	SP-07	3	40 ml VOA	HCL	7.83	1076	20.7
1235	EFF-0403 SM2540C	Effluent-NS	SP-07	1	250 ml Poly	None			
1235	EFF-0403 SM5210B	Effluent-NS	SP-07	1	500 ml Poly	None			
1235	EFF-0403 SM2540D	Effluent-NS	SP-07	1	500 ml Poly	None			
1235	EFF-0403 D5174	Effluent-NS	SP-07	1	1 L Poly	HNO3			
1200	MW-101-0403	Field Duplicate	SP-07	1	1 L Poly	HNO3	7.83	1076	20.7
1255	IEX Mid-0403 D5174	Ion Exchange Mid-NS	SP-06	1	1 L Poly	HNO3	8.12	981	19.7
1305	Pre IEX-0403 D5174	Ion Exchange Pre-NS	SP-05	1	1 L Poly	HNO3	8.22	980	19.6
1305	CRB EFF-0403 E524.2	LGAC Effluent-NS	SP-05	3	40 ml VOA	HCL	8.13	979	19.7
1310	CRB Mid-0403 E524.2	LGAC Mid-NS	SP-04	3	40 ml VOA	HCL	8.17	982	19.7
1315	CRB INF-0403 E524.2	LGAC Influent-NS	SP-03	3	40 ml VOA	HCL	8.21	966	20.2
1200	MW-103-0403 E524.2	LGAC Influent-FD	SP-03	3	40 ml VOA	HCL	8.21	966	20.2
1320	EW-1-0403 E524.2	Influent-NS	SP-01	3	40 ml VOA	HCL	7.25	987	20.3
1320	EW-1-0403 D5174	Influent-NS	SP-01	1	1 L Poly	HNO3	7.25	987	20.3
1205	GWTP Stack-0403 TO15	GWTP VGAC Effluent-NS	SP-09	1	400ml Summa	None	N/A	N/A	N/A
1210	GWTP Pre GAC-0403 TO15	GWTP VGAC Influent-NS	SP-08	1	400ml Summa	None			
1215	SVE Stack-0403 TO15	SVE VGAC Effluent-NS	SP-12	1	400ml Summa	None			
1220	SVE Pre GAC-0403 TO15	SVE VGAC Influent-NS	SP-11	1	400ml Summa	None			
1200	MW-301-2Q11 E524.2	Trip Blank	Blank	3	40 ml VOA	HCL	N/A	N/A	N/A
1200	MW-401-2Q11 E524.2	Field Blank	Blank	3	40 ml VOA	HCL	N/A	N/A	N/A

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

**URS Corporation
Modesto, Superfund Site
Process Data Sheet**

Groundwater Treatment System																	
			Hour Meter Hrs.	Utility Power		System Influent				Anti-Scalant Sequestrant T-3 Gallons	Air Stripper Water						
Initials	Date	Time		kW	kWh	Flow GPM	Pressure PSI	Total Flow Gallons	pH		Influent Pressure PSI	Effluent Pressure PSI	Flow GPM	Pressure PSI	Influent Pressure PSI	Effluent Pressure PSI	Flow GPM
GB	0950	5/8/11	42876	22.681	11080	46	32.5	47734	7.21	18	39.5	37.0	66	33	42	38	61
GB	0900	5/16/11	42985	22.681	13525	46	34	58979	7.14	14	40.0	37.0	66	35.5	42	39.5	60
KF	0830	5/19/11	43209.4	22.681	17440	46.0	34.0	56753	7.50	16.5	42.0	39.0	66	42.0	42.0	64.0	
GB	1000	5/26/11	43378	22.681	21327	46.0	34.0	61348	7.20	12	42	39.0	68	42.5	48	45	65.0
Design Range or Target Value				10.0-30	N/A	30-85	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
in. H2O	in. H2O	ppm	ppm	°F	CFM	PSI	PSI	PSI	PSI	PSI	GPM	Gpm	PSI	pH	Gallons	mR/hr Peak	mR/hr Peak
16	16	0	0	70.8	695	28.5	24.0	17.5	10.0	8.5	34	49	16.1	7.65	32854	0	0
16	16	0	0	69.8	695	31.0	26.0	20.0	12.0	9.0	40	50	16.5	8.08	36173	0	0
NC	NC	0	0	70.9	685	35.0	30.0	23.0	13.75	10.5	42.0	49	22.5	8.51	42083	0	0
NC	NC	0.3	0.1	69.7	705	36.5	30.5	23.0	14	11.0	43.0	54	19.5	8.18	46766	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	
Date	Time	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
		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
5/5/11	1010	-65	77.0	158	No	1676.9	3.0	202	159	-70	-73	0	0	202	159	0	0
5/10/11	0900	-65	71.7	151	No	1796.1	3.0	193.2	153	-72	-74	0	0	193.2	153	0	0
5/19/11	0934	-70	72.9	147	NO	2012.3	3.0	190.2	153	-73	-70	0.0	0.0	190.2	153	0	0
5/26/11	1300	-69.65	75.8	160	NO	2013.7	3.0	200.8	150	-69	-72	0.0	0.0	200.8	150	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: _____ Date: _____

old
 LG 8000 BTU/H
 current
 5000 BTU/H
 Air Conditioning - 820 NAT, 7.3A

**URS Group
Preventative and Corrective Maintenance Log
Modesto Superfund Site**

Site Name: Modesto SF
 Period: 5/1/11 to 5/31/11
(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.)
5/26	GB	43378	Bucket Ass K LGAC	Y/N			Y/N		
5/26	GD	43378	Monitor CPT USA	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: <u>5/15/11</u>	Startup Date: <u>5/15/11</u>
Shutdown Time: <u>11:00 AM</u>	Startup Time: <u>2:00 PM</u>
Shutdown Purpose or Cause: <u>EWTP Shutdown due to High LGAC AP / Stripper HH level</u>	
Corrective Actions Taken (if shutdown was unplanned): <u>Increased flow through LGAC'S, Restarted System</u>	
Performed By: <u>GB</u>	

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: _____ Date: _____

**URS Corporation
Modesto Superfund Site
Site Inspections**

Task Description	5/5/11	5/10/11	5/19/11	5/26/11	11
WEEKLY	Task Performed (Technician Initials or Value)				
Groundwater Treatment System					
Record Process Logs	GB	GB	KF	GB	
Check Blowers and motors for heat, noise, and vibration	GB	GB	KF	GB	
Check Air Stripper Feed pump/motor (P-2) for heat, noise, and vibration.	GB	GB	KF	GB	
Inspect all process piping for leaks	GB	GB	KF	GB	
Inspect all process hoses/fittings for leaks	GB	GB	KF	GB	
Check Air Stripper Effluent pump/motor (P-3) for heat, noise, and vibration.	GB	GB	KF	GB	
Inspect Sump (Pump as Necessary).	GB	GB	KF	GB	
Check Air Stripper sump level site glass. Clean as necessary	GB	GB	KF	GB	
Inspect IX system influent vacuum break for leaks	GB	GB	KF	GB	
Clean up compound area	GB	GB	KF	GB	
Drain VGAC condensate	GB	GB	KF	GB	
Perform autodialer operational check	GB	GB	KF	GB	
Autodialer battery check	GB	GB	KF	GB	
Perform inspection of EW-IR pipeline	GB	GB	KF	GB	
Inspection of Spill Response Kit	GB	GB	KF	GB	
Inspection of Emergency Response Plan/MSDS Binder	GB	GB	KF	GB	
Soil Vapor Extraction System					
Record Process Logs	GB	GB	KF	GB	
Check Blowers and motors for heat, noise, and vibration	GB	GB	KF	GB	
Inspect all process piping for leaks	GB	GB	KF	GB	
Clean up compound area	GB	GB	KF	GB	
Drain VGAC condensate	GB	GB	KF	GB	
Perform autodialer operational check	GB	GB	KF	GB	
Inspection of Spill Response Kit	GB	GB	KF	GB	
Inspection of Emergency Response Plan/MSDS Binder	GB	GB	KF	GB	

Task Description	Performed		
	Date	Initials	Reading
MONTHLY			
Check fire extinguisher	5/12/11	GB	
Inspect EW-IR vault	5/10/11	GB	
Inspect VI Mitigation operations - "Part House"	5/10/11	GB	
Replace Auto Dialer Batteries (if necessary)	5/19/11	GB	
Quarterly			
Interlock Checks Groundwater			
Interlock Checks SVE			
Collect Well Flow read at SVE-02			
Collect Well Flow read at SVE-03			
Collect Well Flow read at SVE-04			
ANNUAL			
Collect Amp readings			
Instrument Calibration			
System Effluent Flow Meter (Performed in June and December)			

Notes:

Reviewed by: _____ Date: _____

Date:
Weather:
Sampler:

5/10/11
Warm, Sunny
George Bradshaw

SAMPLE COLLECTION RECORD
MODESTO SUPERFUND SITE

Time	Description	Totalizer Reading (gallons)	Flow (gpm)
5/14/11	GWTS Effluent	3,617,300	50

Time	Sample Location - Test Method	Sample Description	LOGID	# of Containers	Container Type	Preservative	pH	Cond	Temp
1045	EFF-0502 E524.2	Effluent-NS	SP-07	3	40 ml VOA	HCL	8.11	980	22.7
1045	EFF-0502 SM2540C	Effluent-NS	SP-07	1	250 ml Poly	None	8.11	980	22.7
1030	EFF-0502 SM5210B	Effluent-NS	SP-07	1	500 ml Poly	None	8.24	930	4.8°
1030	EFF-0502 SM2540D	Effluent-NS	SP-07	1	500 ml Poly	None	8.24	930	4.8°
1045	EFF-0502 DS174	Effluent-NS	SP-07	1	1 L Poly	HNO3	8.11	980	22.7
1035	MW-107-0502 SM2540D	Field Duplicate	SP-07	1	500 ml Poly	None	8.24	930	4.0°
1050	MW-107-0502 SM2540C	Field Duplicate	SP-07	1	250 ml Poly	None	8.11	980	22.7
1010	GWTP Stack-0502 TO15	GWTP VGAC Effluent-NS	SP-09	1	400ml Summa	None	Start -29	End -5	#646
1000	GWTP Pre GAC-0502 TO15	GWTP VGAC Influent-NS	SP-08	1	400ml Summa	None	Start -29	End -5	#648
0935	SVE Stack-0502 TO15	SVE VGAC Effluent-NS	SP-12	1	400ml Summa	None	Start -30	End -5	#651
0945	SVE Pre GAC-0502 TO15	SVE VGAC Influent-NS	SP-11	1	400ml Summa	None	Start -30	End -6	#657
0900	MW-302-2Q11 E524.2	Trip Blank	Blank	3	40 ml VOA	HCL	-	-	-

Sampler Signature: [Signature] Date: 5/10/11

Notes: 1055 EW-1-0502 E524.2 Influent-NS SP-01 340ml VOA 7.23 996 21.6 HCL PH Cond Temp

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																	
			Hour Meter	Utility Power		System Influent				Anti-Scalent Sequestrant	Air Stripper Water						
Initials	Date	Time		Hrs.	kW	kWh	Flow GPM	Pressure PSI	Total Flow Gallons		pH	T-3 Gallons	Influent Pressure PSI	Effluent Pressure PSI	Flow GPM	Pressure PSI	Influent Pressure PSI
			Bag Filter F-1							Pump P-3							
GB	6/2/11	0900	43544	22.681	24683	46	35	65808	7.19	19.5	41.5	39	68	36	44.0	40.0	62
GB	6/9/11	0812	43711	22.681	28071	46	34	70320	7.06	14.5	42.0	39.2	68	37	43.0	41.0	64
GB	6/16/11	0920	43880	22.681	31484	46	33	74919	7.21	22	42?	27	67	37	44	42	64
GB	6/23/11	0924	44048	n/c	n/c	46	32.5	79490	7.18	16	42.5	End	70	36	44	42	66
JP	6/27/11	0930	44144	22.681	36812	46	34	82087	7.09	26.5	32.5	33	70	37	44	42	66
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	Air Stripper Trays	VGAC Vessel	VGAC Vessel	Stack	Stack	PSI	PSI	PSI	PSI	PSI	GPM	Cpm	H ₂ O	pH	Gallons	mR/hr Peak	mR/hr Peak
in. H2O	in. H2O	ppm	ppm	°F	CFM	PSI	PSI	PSI	PSI	PSI	GPM	Cpm	H ₂ O	pH	Gallons	mR/hr Peak	mR/hr Peak
16	16	0	0	69.7	710	32	28	21	12.5	10	40	51	16.5	8.26	51334	0	0
16	16	0	0	70.0	700	33	29	22	13	10	40	50	16.5	8.19	55915	0	0
16	16	0	0	71.3	685	33	28	21	13	10	40	52	17.5	8.17	60551	0	0
16	16	0	0	71.1	705	33	28.5	21.5	13	10	40	51	18.0	8.09	65160	0	0
16	16	0	0	70.8	685	33	28.5	20.5	11	10	40.5	51	17.5	8.12	67767	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			
Date	Time	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
		in. H2O	°F	CFM	Yes/No	Hrs.	in. H2O	°F	CFM	in. H2O	in. H2O	VGAC Vessel	VGAC Vessel	°F	CFM	mR/hr Peak	mR/hr Peak
												ppm	ppm				
6/2/11	0955	-64	73.2	151	No	2348	3.0	193	151	-68	-72	0	0	193	151	0	0
6/9/11	0943	-63	70.6	160	No	2517	3.0	197	158	-68	-72	0	0	197	158	0	0
6/16/11	1000	-63	81.4	148	No	2685	3.0	205	158	-68	-71	0	0	205	158	0	0
6/23/11	1023	-62	87	147	No	2853	3.0	208	154	-66	-70	0	0	208	154	0	0
6/27/11	1030	-62	71.3	152	No	2948.7	3.0	195	155	-66	-72	0	0	195	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: _____ Date: _____

URS Group
Preventative and Corrective Maintenance Log
Modesto Superfund Site

Site Name: Modesto SF
 Period: _____ to _____
(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.)
6/9/11	GB	43711	Centrifugal Flow Meter	Y (N)			Y / N		
6/23/11	GB	44018	Replaced Hoses	Y (N)			Y / N		
6/23/11	GB	44048	Replaced Pressure Gauge	Y (N)			Y / N		
6/23/11	GB	2853	Installed new A/C in SUE	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: _____	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: _____	

Shutdown Date: _____	Startup Date: _____
Shutdown Time: _____	Startup Time: _____
Shutdown Purpose or Cause:	
Corrective Actions Taken (if shutdown was unplanned):	
Performed By: _____	

Reviewed by: _____ Date: _____

URS Corporation
Modesto Superfund Site
Site Inspections

Task Description	6/21/11	6/17/11	6/16/11	6/23/11	6/27/11
WEEKLY	Task Performed (Technician Initials or Value)				
Groundwater Treatment System					
Record Process Logs	✓	GB	GB	GB	JP
Check Blowers and motors for heat, noise, and vibration	✓	GB	GB	GB	JP
Check Air Stripper Feed pump/motor (P-2) for heat, noise, and vibration.	✓	GB	GB	GB	JP
Inspect all process piping for leaks	✓	GB	GB	GB	JP
Inspect all process hoses/fittings for leaks	✓	GB	GB	GB	JP
Check Air Stripper Effluent pump/motor (P-3) for heat, noise, and vibration.	✓	GB	GB	GB	JP
Inspect Sump (Pump as Necessary).	✓	GB	GB	GB	JP
Check Air Stripper sump level site glass. Clean as necessary	✓	GB	GB	GB	JP
Inspect IX system influent vacuum break for leaks	✓	GB	GB	GB	JP
Clean up compound area	✓	GB	GB	GB	JP
Drain VGAC condensate	✓	GB	GB	GB	JP
Perform autodialer operational check	✓	GB	GB	GB	JP
Autodialer battery check	✓	GB	GB	GB	JP
Perform inspection of EW-1R pipeline	✓	GB	GB	GB	JP
Inspection of Spill Response Kit	✓	GB	GB	GB	JP
Inspection of Emergency Response Plan/MSDS Binder	✓	GB	GB	GB	JP
Soil Vapor Extraction System					
Record Process Logs	✓	GB	GB	GB	JP
Check Blowers and motors for heat, noise, and vibration	✓	GB	GB	GB	JP
Inspect all process piping for leaks	✓	GB	GB	GB	JP
Clean up compound area	✓	GB	GB	GB	JP
Drain VGAC condensate	✓	GB	GB	GB	JP
Perform autodialer operational check	✓	GB	GB	GB	JP
Inspection of Spill Response Kit	✓	GB	GB	GB	JP
Inspection of Emergency Response Plan/MSDS Binder	✓	GB	GB	GB	JP

Task Description	Performed		
	Date	Initials	Reading
MONTHLY			
Check fire extinguisher	6/2/11	GB	
Inspect EW-1R vault	6/16/11	GB	
Inspect VI Mitigation operations - "Part House"	6/16/11	GB	
Replace Auto Dialer Batteries (if necessary)	6/16/11	GB	
Quarterly			
Interlock Checks Groundwater	6/2/11	GB	
Interlock Checks SVE	6/2/11	GB	
Collect Well Flow read at SVE-02	6/9/11	GB	37.5
Collect Well Flow read at SVE-03	6/9/11	GB	37.1
Collect Well Flow read at SVE-04	6/9/11	GB	53.5
ANNUAL			
Collect Amp readings			
Instrument Calibration			
System Effluent Flow Meter (Performed in June and December)	6/9/11	GB	

Notes:

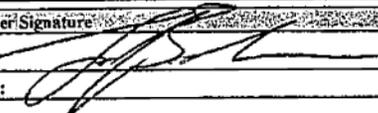
Reviewed by: _____ Date: _____

Date: 6/2/11
 Weather: Sunny, Clear
 Sampler: George Bradshaw

SAMPLE COLLECTION RECORD
 MODESTO SUPERFUND SITE

Time	Description	Totalizer Reading (gallons)	Flow (gpm)
0900	GWTS Effluent	5133400	51

Time	Sample Location - Test Method	Sample Description	LOCID	No. of Containers	Container Type	Preservative	pH	Cond	Temp
0920	EFF-0603 E524.2	Effluent-NS	SP-07	3	40 ml VOA	HCL	8.21	970	22.5
0920	EFF-0603 SM2540C	Effluent-NS	SP-07	1	250 ml Poly	None	8.21	970	22.5
0940	EFF-0603 SM5210B	Effluent-NS	SP-07	1	500 ml Poly	None	8.28	950	3.0
0940	EFF-0603 SM2540D	Effluent-NS	SP-07	1	500 ml Poly	None	8.28	950	3.0
0920	EFF-0603 D5174	Effluent-NS	SP-07	1	1 L Poly	HNO3	8.21	970	22.5
0945	EW-1-0603 E524.2	Influent-NS	SP-01	3	40 ml VOA	HCL	7.18	994	21.7
0925	MW-107-0603 E524.2	Field Duplicate	SP-07	3	40 ml VOA	None	8.21	970	22.5
0900	MW-304-2Q11 E524.2	Trip Blank	Blank	3	40 ml VOA	HCL	n/a	n/a	n/a

Sampler Signature:  Date: 6/2/11

Notes:

FD = Field Duplicate
 FB = Field Blank (ambient)
 NS = Normal Sample
 TB = Trip Blank

Fax COCs to:
 URS Attn: Kevin Ford (916) 923-0114

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 30 June 2011. Tables 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**

(Page 1 of 3)

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	Carbon 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	Carbon 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	Carbon 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**

(Page 2 of 3)

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**

(Page 3 of 3)

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**

(Page 1 of 1)

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
17	Performed a backwash of the primary LGAC vessel	26-May-11	26-May-11	Routine
18	Calibrated and certified the sewer outfall flow meter	04-Jun-11	04-Jun-11	Reimbursable

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

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

TABLE G-2(a)

GROUNDWATER MONITORING WELL WATER TABLE ELEVATION
 MODESTO SUPERFUND SITE
 MODESTO, CALIFORNIA

(Page 1 of 13)

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

(Page 2 of 13)

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

(Page 3 of 13)

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

(Page 4 of 13)

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

(Page 5 of 13)

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

(Page 6 of 13)

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

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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

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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

(Page 9 of 13)

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

(Page 10 of 13)

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

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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

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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

(Page 13 of 13)

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
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:

¹Wells re-surveyed in May 2003.

²Wells re-surveyed in September 2006

³EW-1R is the replacement extraction well. It was installed in August 2006 and started on August 24,

^aHistorical data from Ecology and Environment

^bSecond 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
				Jun-11	42.2	49.41
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
				Jun-11	41.44	49.44
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
				Jun-11	44.00	47.49
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
				Jun-11	42.47	48.66
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
				Jun-11	42.18	48.93
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
				Jun-11	42.75	48.50
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
				Jun-11	41.75	48.99

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-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
				Jun-11	40.5	49.22
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
				Jun-11	41.36	49.88
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
				Jun-11	42.66	48.78
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
				Jun-11	42.07	49.13
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
				Jun-11	41.77	48.71
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
				Jun-11	41.37	48.84
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
				Jun-11	42.2	48.30

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-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
				Jun-11	39.65	50.26
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
				Jun-11	42.4	48.75
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
				Jun-11	40.46	48.81
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
				Jun-11	40.34	49.45
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
				Jun-11	42.23	49.53
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
				Jun-11	43.58	48.31
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
				Jun-11	43.53	48.29

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-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
				Jun-11	44.07	47.57
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
				Jun-11	41.15	48.49
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
				Jun-11	41.17	48.52
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
				Jun-11	41.85	47.91
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
				Jun-11	41.56	48.58
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
				Jun-11	42.63	48.59
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
				Jun-11	42.93	48.15
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
				Jun-11	42.28	48.42

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-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
				Jun-11	42.34	48.31
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
				Jun-11	42.65	48.14

ft bgs - feet below ground surface
 MSL - Mean Sea Level
 MW - Monitoring Well
 NA - Not Applicable
 TOC - Top of Casing

TABLE G-3(a)

**GROUNDWATER MONITORING WELL ANALYTICAL SUMMARY RESULTS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA**

(Page 1 of 11)

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
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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
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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) Naphthalene (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	Naphthalene (1 BJ)

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:
	2/18/2003	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)

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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
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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 ^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)

**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:
	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
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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
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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**

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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	
	2/18/2003	7.50	0.9 J	< 5.0	< 5.0	< 5.0	Methylene Chloride (2 BJ) 1,2,4-Trichlorobenzene (1 J) 1,2,3-Trichlorobenzene (1 J) Naphthalene (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**

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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
	06/07/2011 11:29		7.1	1.6	<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
	06/07/2011 10:22		7.1	5.4	<0.5
	06/07/2011 12:00	FD	7.1	5.3	<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	06/09/2011 7:49		6.94	52	<0.5
	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	06/08/2011 14:16		7.24	1600	1
	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
	06/07/2011 12:15		7.25	2.8	<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	06/07/2011 11:20		7.5	<0.5	<0.5
	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
	06/08/2011 9:30		7.13	140	<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-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
	06/08/2011 8:28		7.21	5.6	<0.5
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
	06/07/2011 8:11		6.99	<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
	06/07/2011 14:51		7.09	43	<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	06/07/2011 8:58		7.58	2.3	<0.5
	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
MW-10B	03/09/2011 9:51		6.96	130	0.2 J
	06/08/2011 10:25		7.05	68	<0.5
	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
	06/08/2011 13:50	FD	7.17	15	<0.5
	06/08/2011 13:50		7.17	14	<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-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
	06/08/2011 13:00		7.47	<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
	06/07/2011 9:45		7.05	3.4	<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
	06/07/2011 13:15		7.19	17	<0.5
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	06/07/2011 12:16		7.04	11	<0.5
	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	06/08/2011 11:16		7.16	23	<0.5
	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	06/06/2011 14:12		7.06	0.25 J	<0.5
	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
	06/08/2011 9:40		6.68	<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-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
	06/08/2011 11:25		6.91	3.5	<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
	06/08/2011 10:35		7.33	0.6	<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
	06/09/2011 10:30		6.74	0.43 J	<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
	06/09/2011 11:15		6.95	58	<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
MW-18A	06/09/2011 9:30		7.44	<0.5	<0.5
	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	06/07/2011 13:45		6.72	2.9	<0.5
	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
	06/07/2011 8:45		6.93	<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-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
	06/07/2011 9:45		7.12	0.26 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
	06/10/2011 9:00		6.89	310	0.24 J
	03/11/2010 15:10		7.80	73	< 0.5
MW-20B	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
	06/09/2011 15:35		7.31	110	<0.5
	03/11/2010 15:59		8.04	< 0.5	< 0.5
MW-20C	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
	06/09/2011 14:20	FD	7.5	<0.5	<0.5
	06/09/2011 14:20		7.5	<0.5	<0.5

FD - field duplicate

J - Estimated value

J+ - Estimated value, High Bias

PCE - Tetrachloroethene

TCE - Trichloroethene

µg/L - micrograms per liter

FIGURE G-4(a)

HISTORICAL PCE CONCENTRATIONS IN
GROUNDWATER MONITORING WELLS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

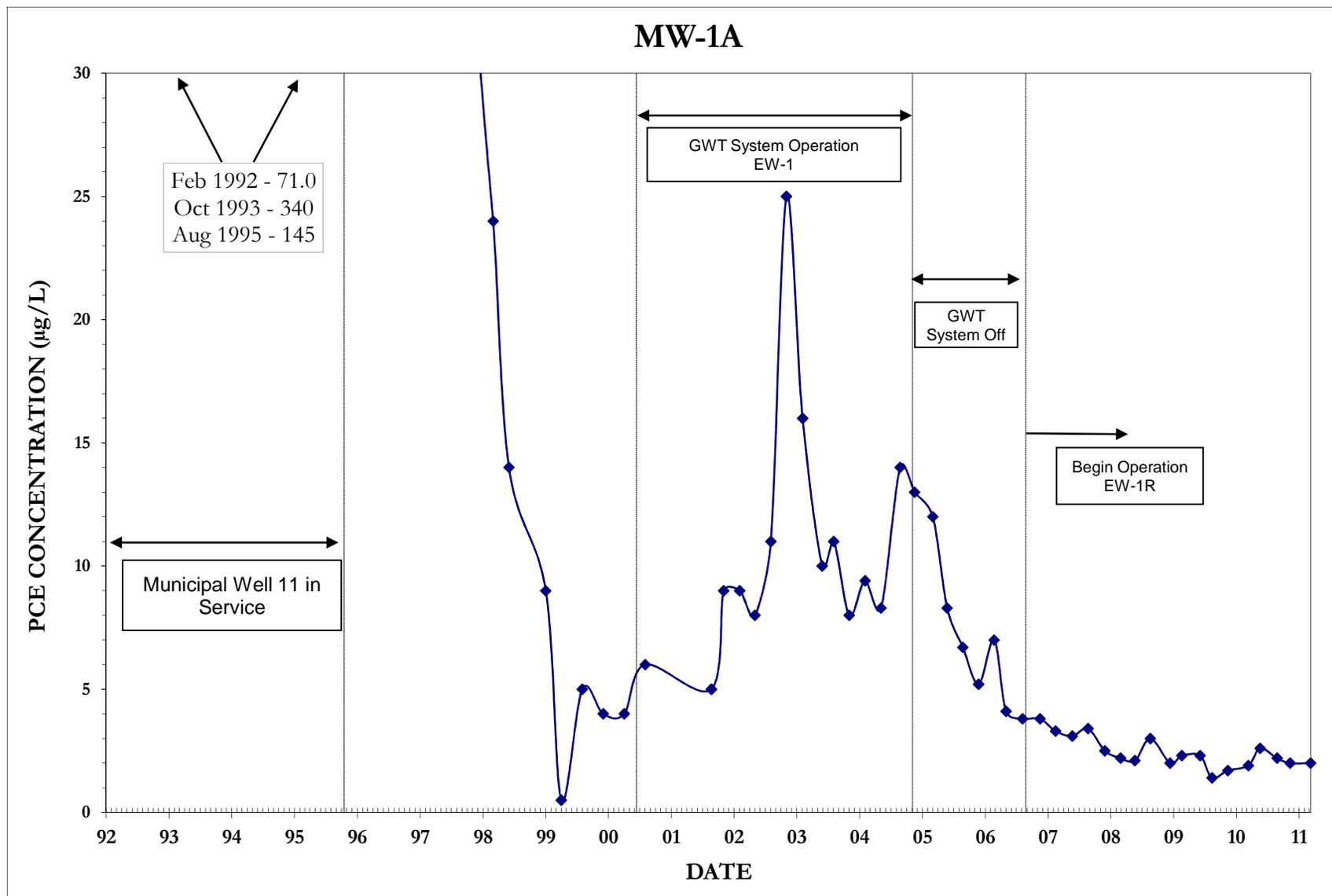


FIGURE G-4(b)

HISTORICAL PCE CONCENTRATIONS IN
GROUNDWATER MONITORING WELLS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

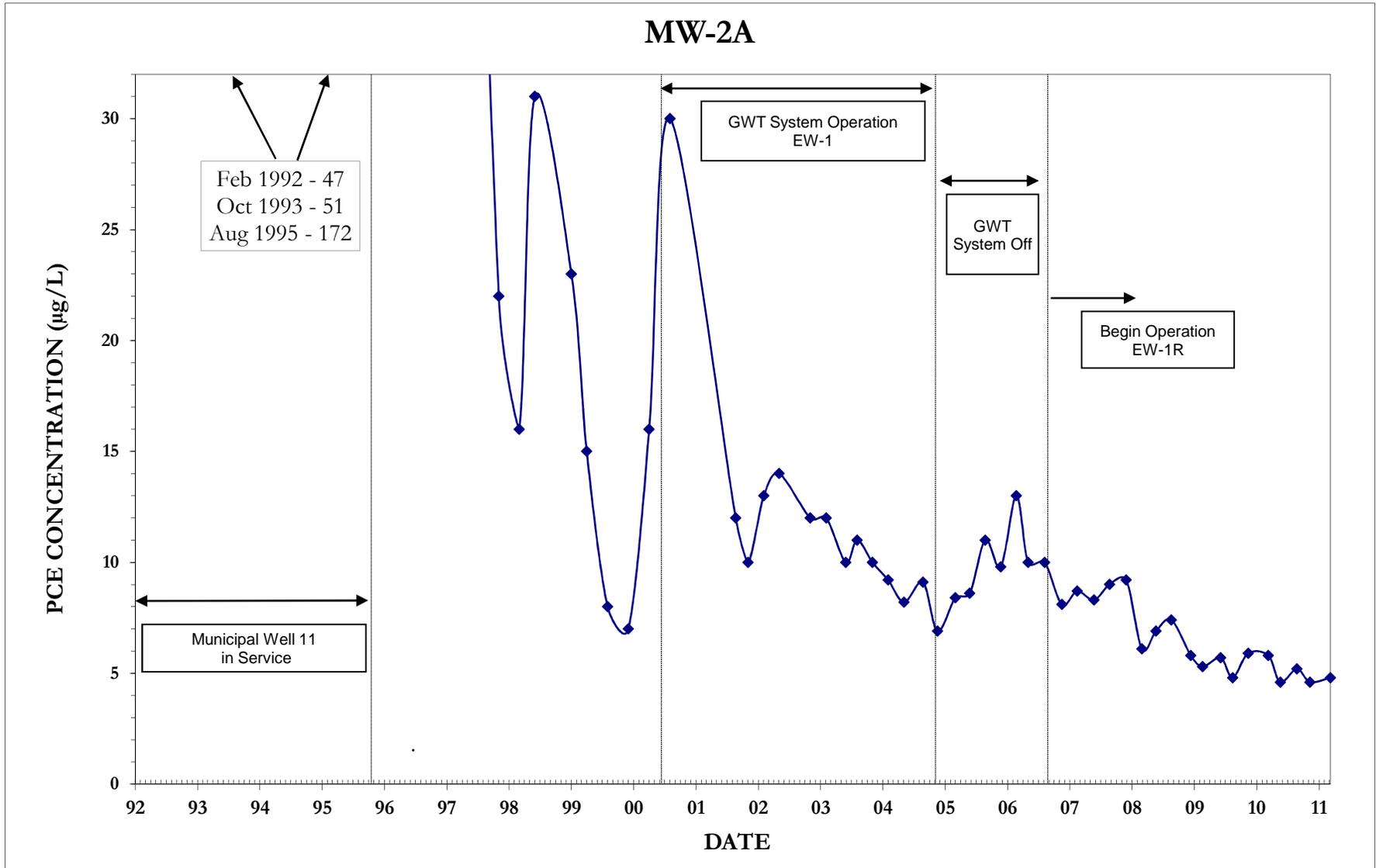


FIGURE G-4(d)

HISTORICAL PCE CONCENTRATIONS IN
GROUNDWATER MONITORING WELLS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

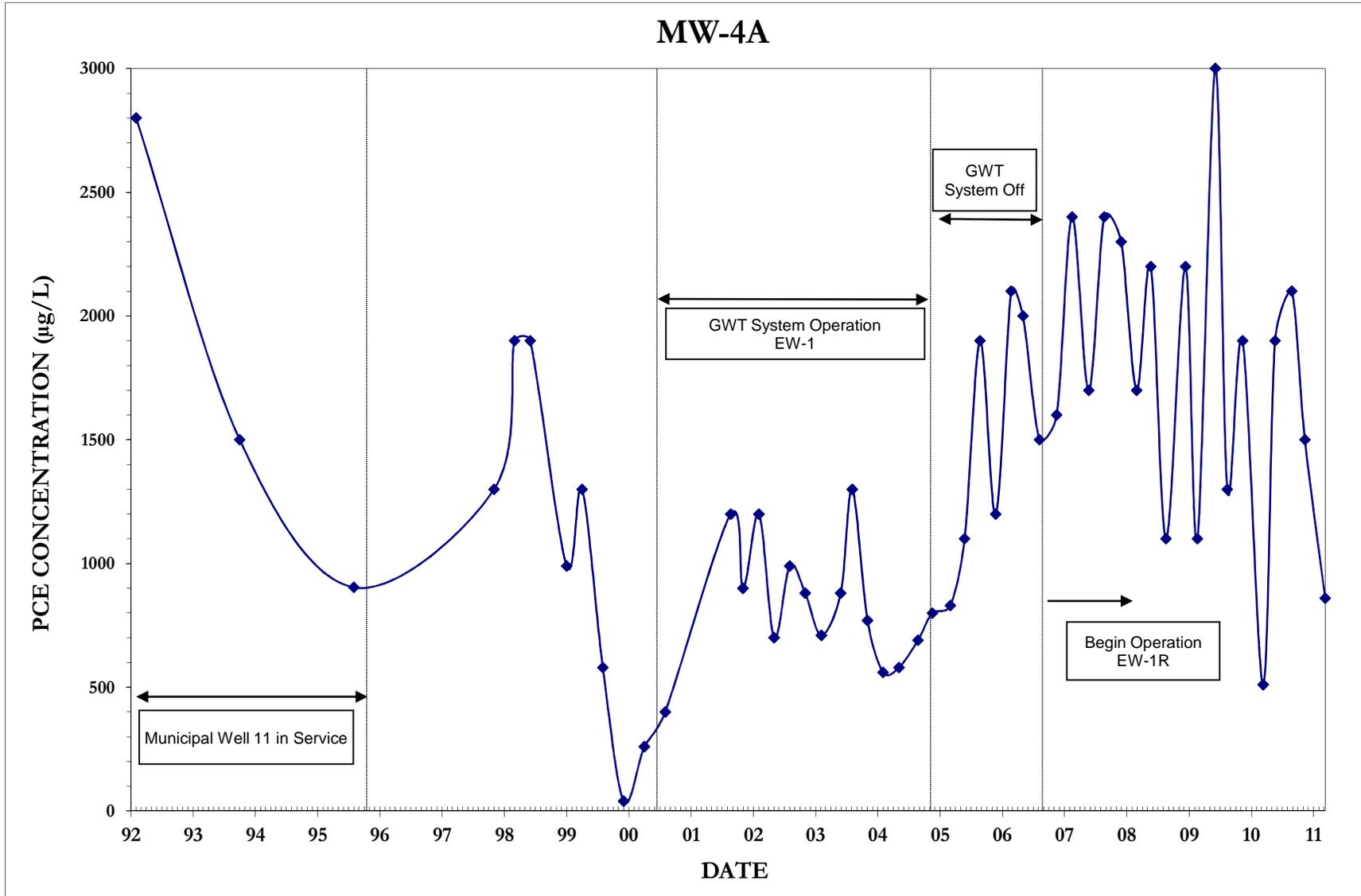


FIGURE G-4(e)

HISTORICAL PCE CONCENTRATIONS IN
GROUNDWATER MONITORING WELLS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

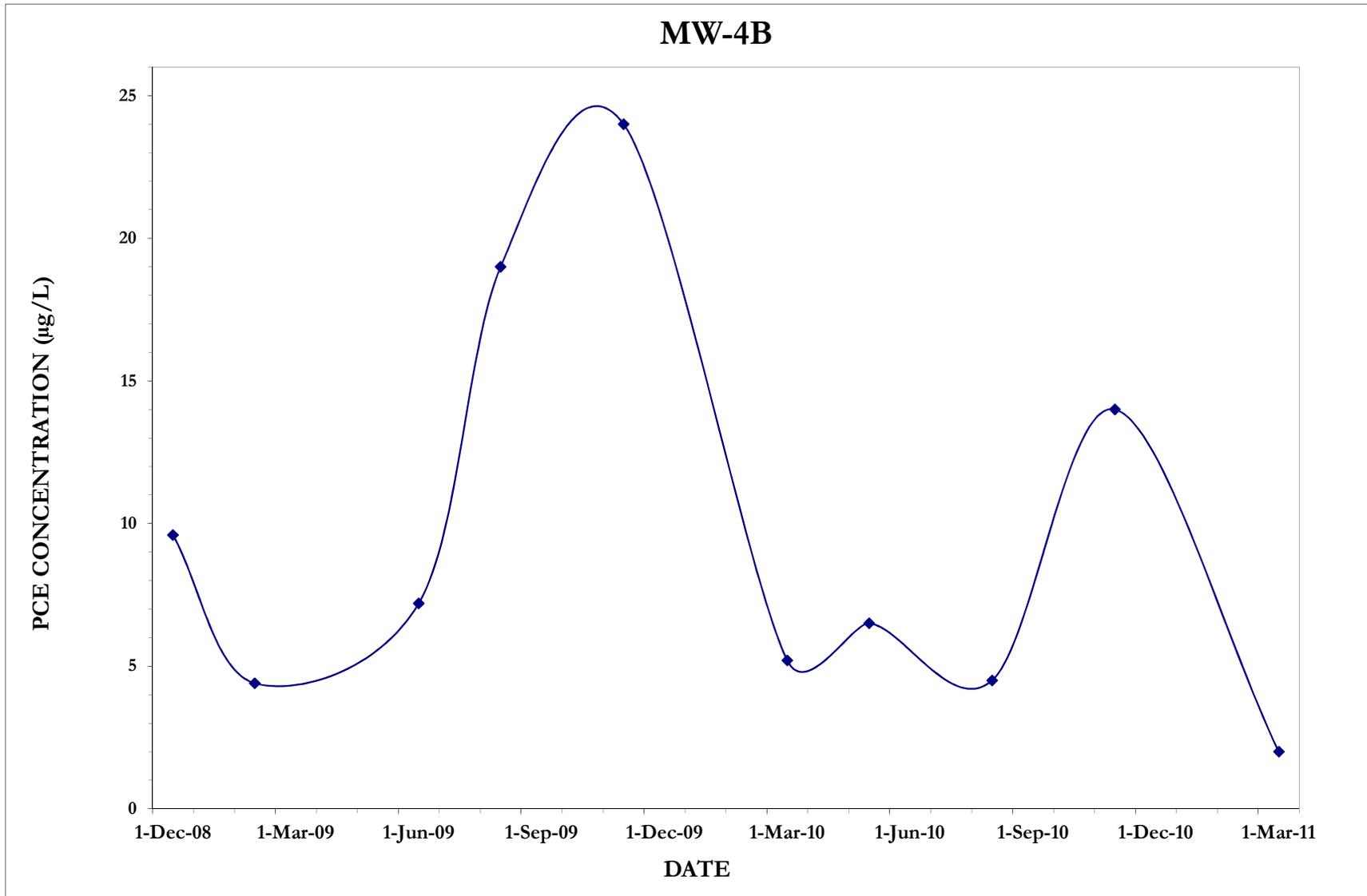


FIGURE G-4(f)

HISTORICAL PCE CONCENTRATIONS IN
GROUNDWATER MONITORING WELLS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

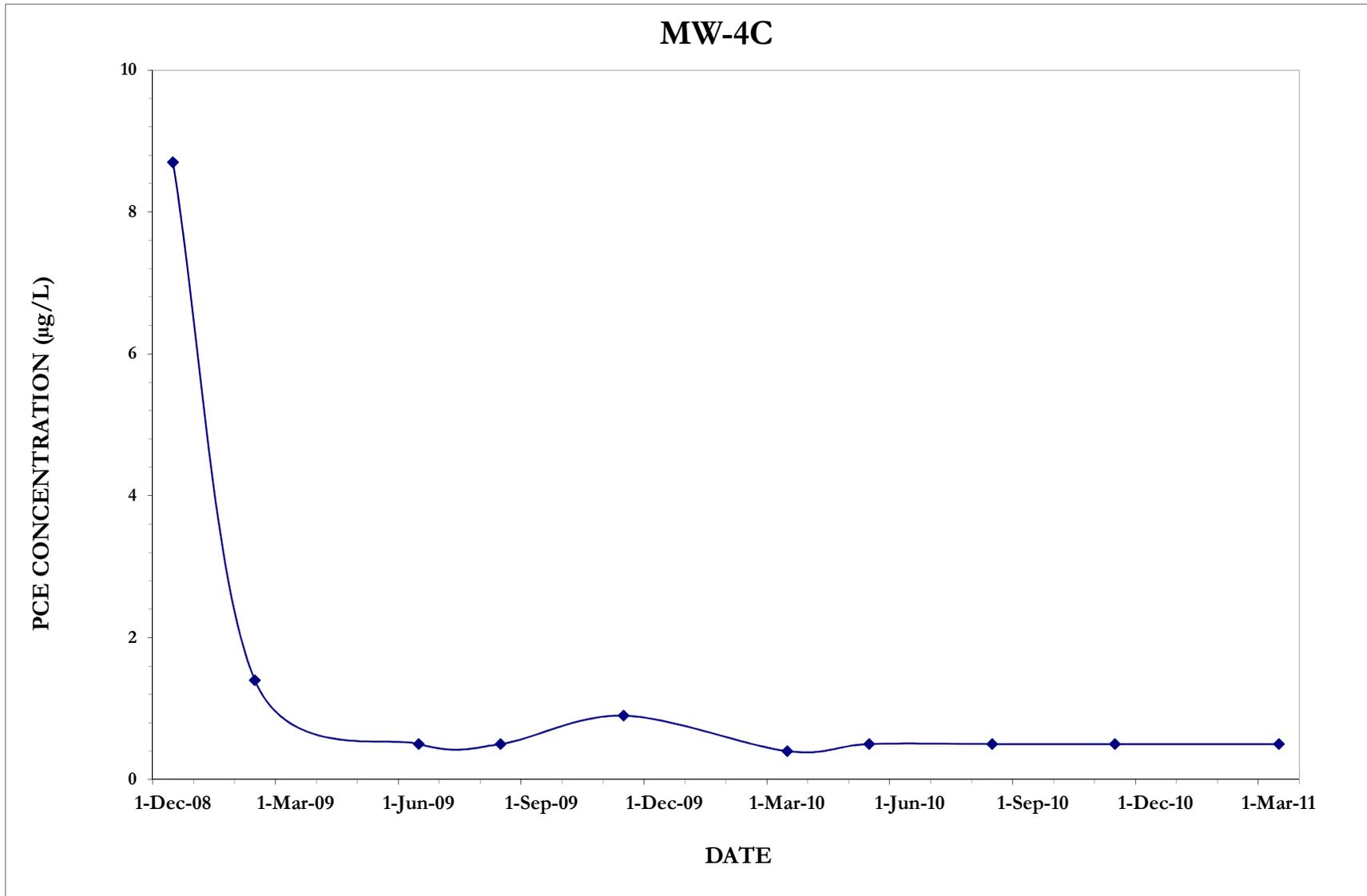


FIGURE G-4(g)

HISTORICAL PCE CONCENTRATIONS IN
GROUNDWATER MONITORING WELLS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

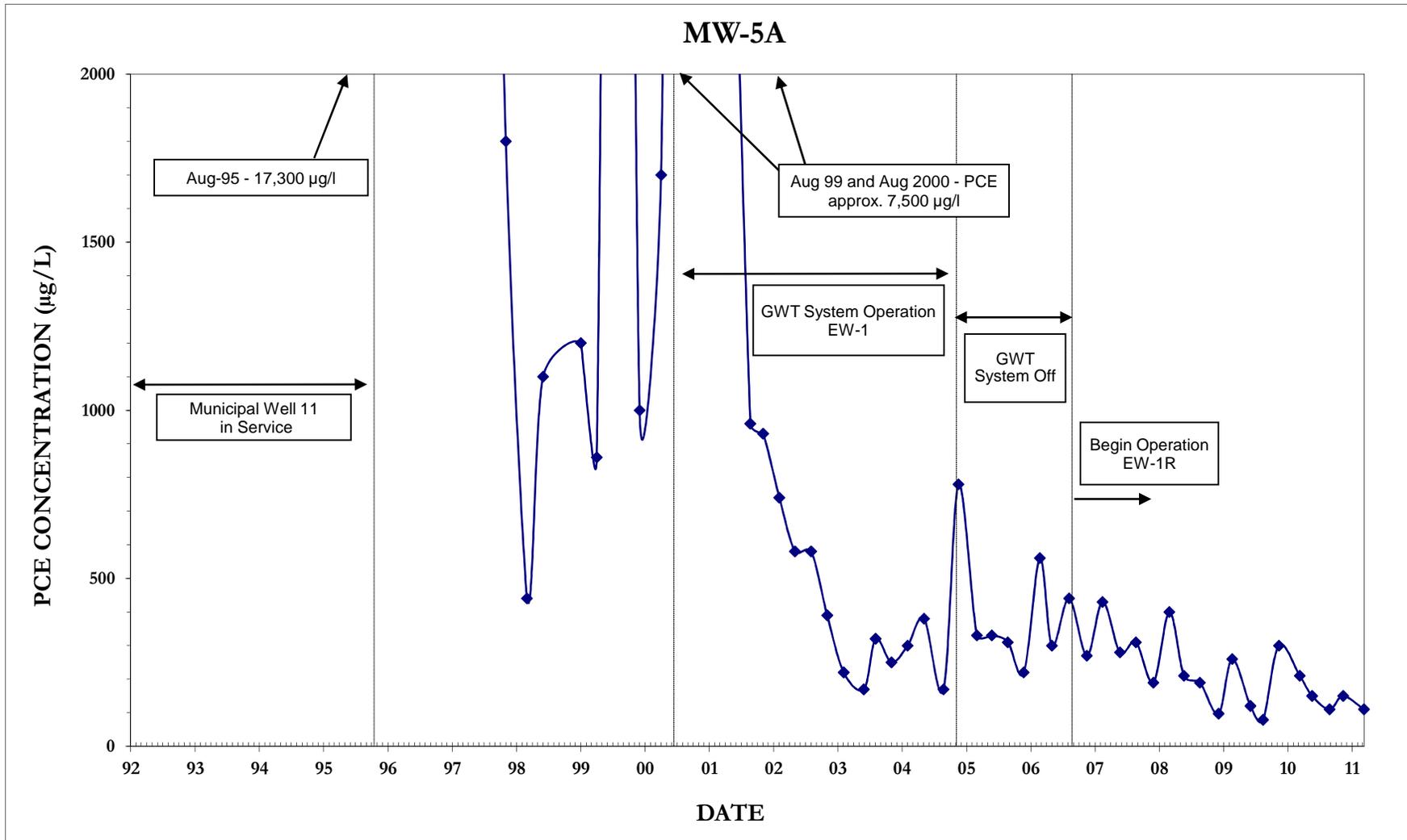


FIGURE G-4(h)

HISTORICAL PCE CONCENTRATION IN
GROUNDWATER MONITORING WELLS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

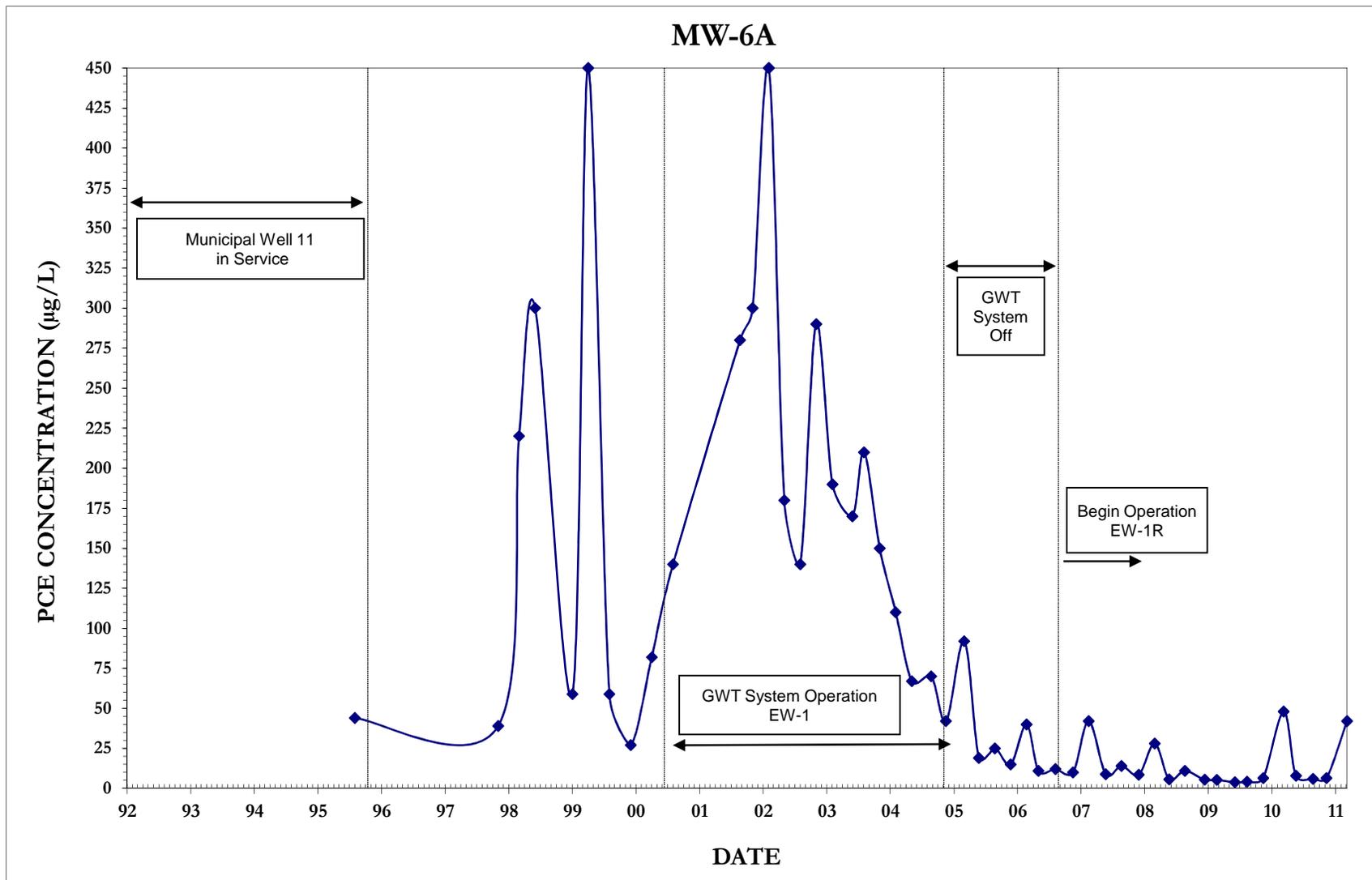


FIGURE G-4(i)

HISTORICAL PCE CONCENTRATIONS IN
GROUNDWATER MONITORING WELLS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

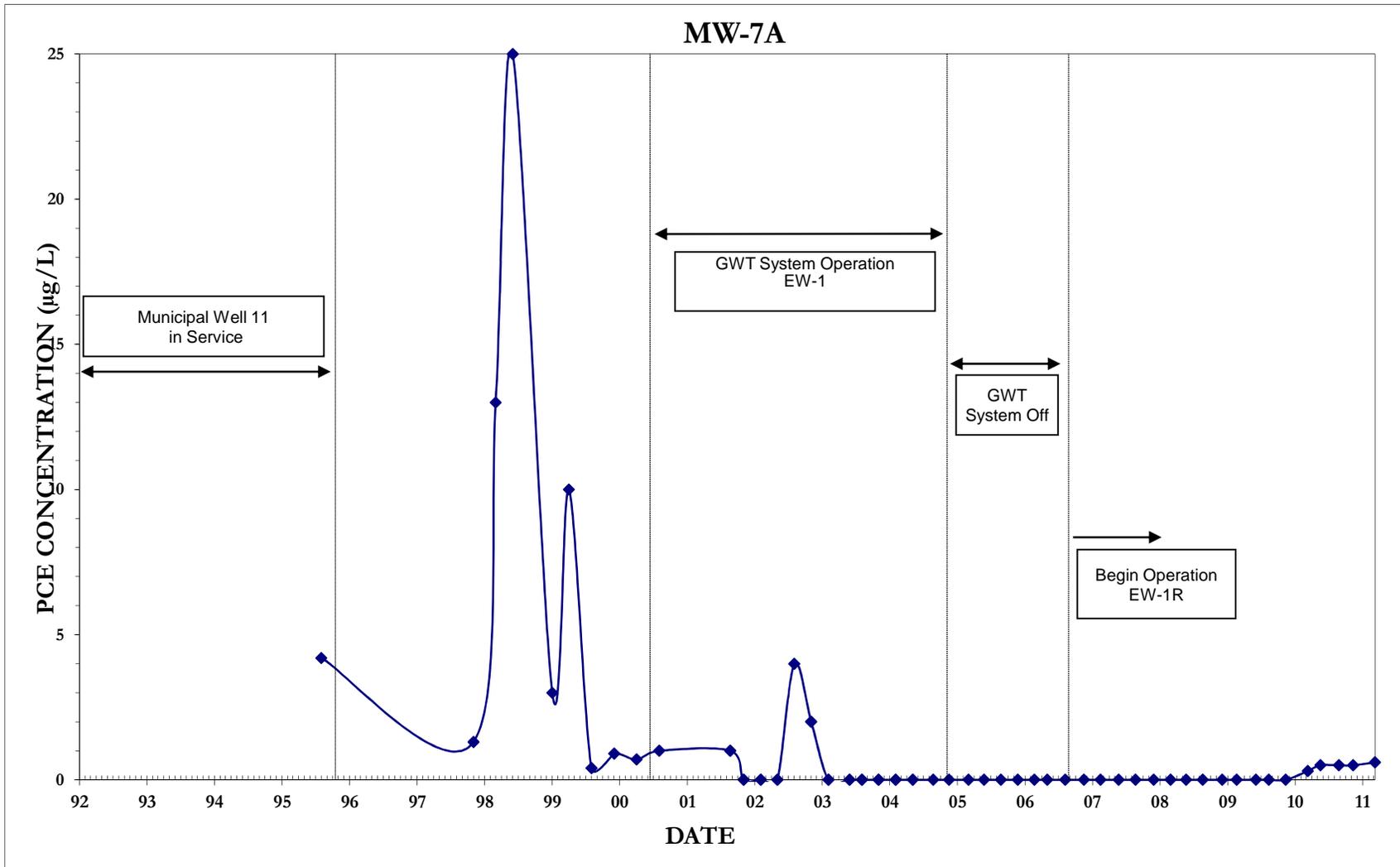


FIGURE G-4(j)

HISTORICAL PCE CONCENTRATIONS IN
GROUNDWATER MONITORING WELLS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

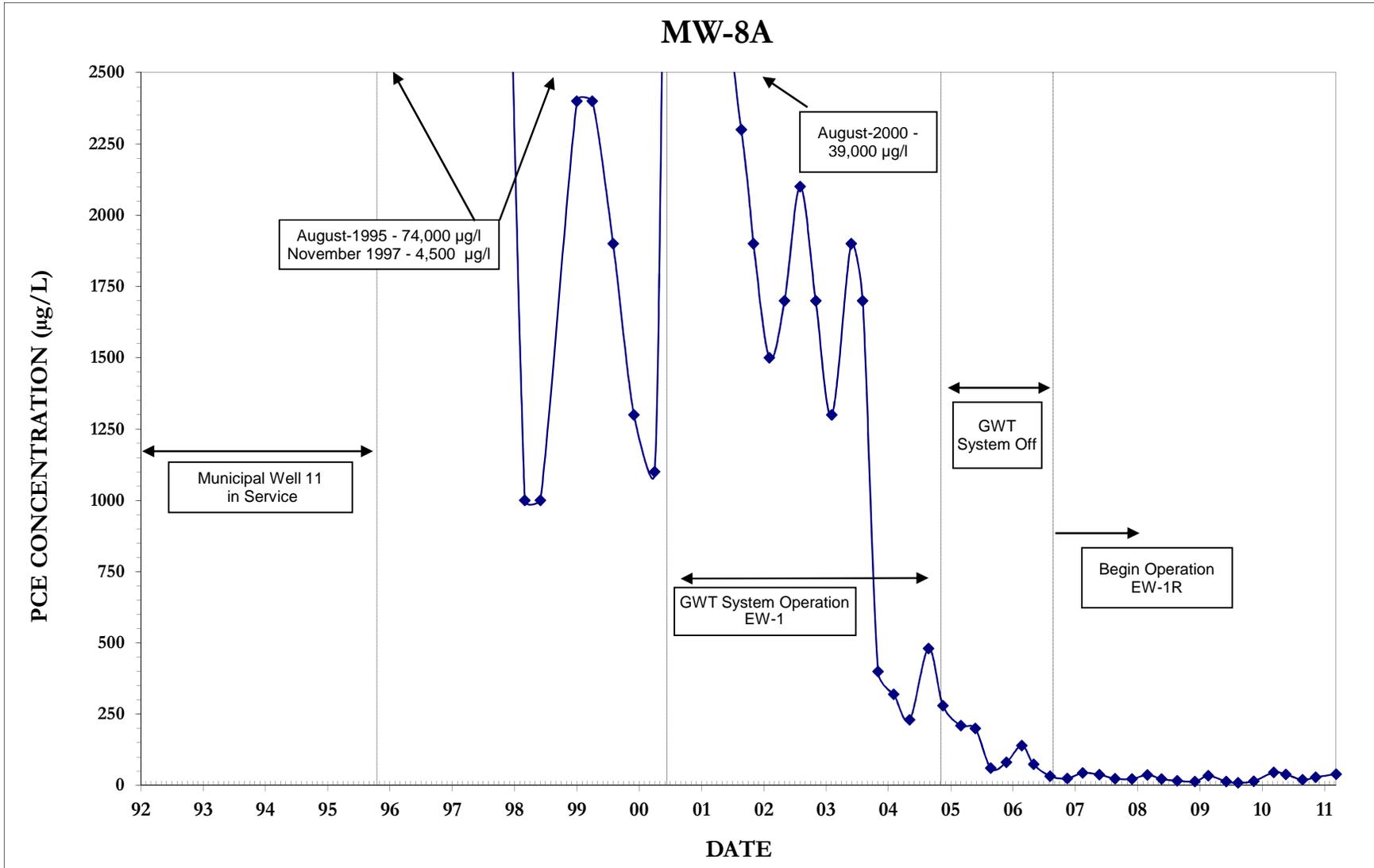


FIGURE G-4(k)

HISTORICAL PCE CONCENTRATIONS IN
GROUNDWATER MONITORING WELLS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

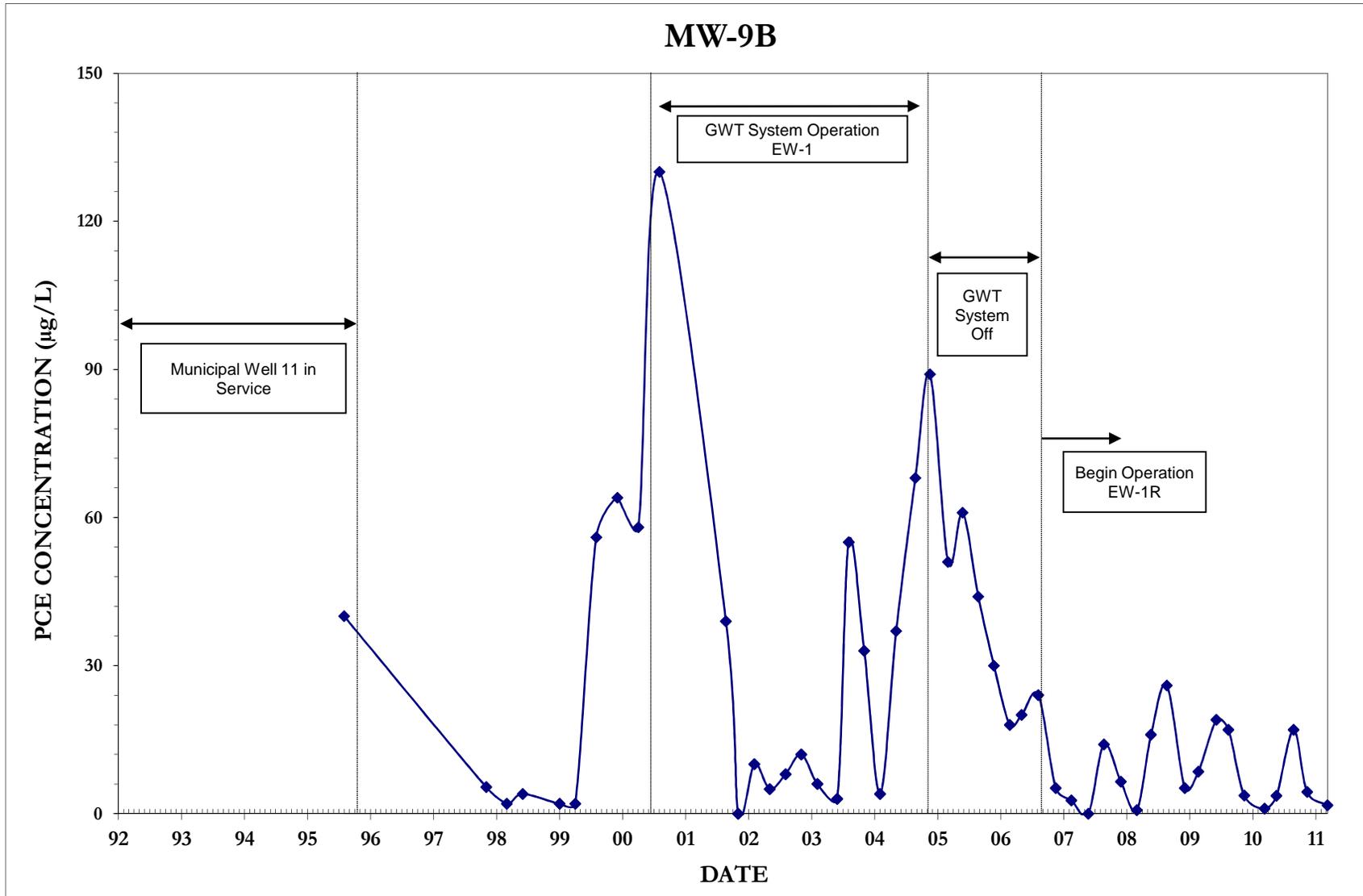


FIGURE G-4(I)

HISTORICAL PCE CONCENTRATIONS IN
GROUNDWATER MONITORING WELLS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

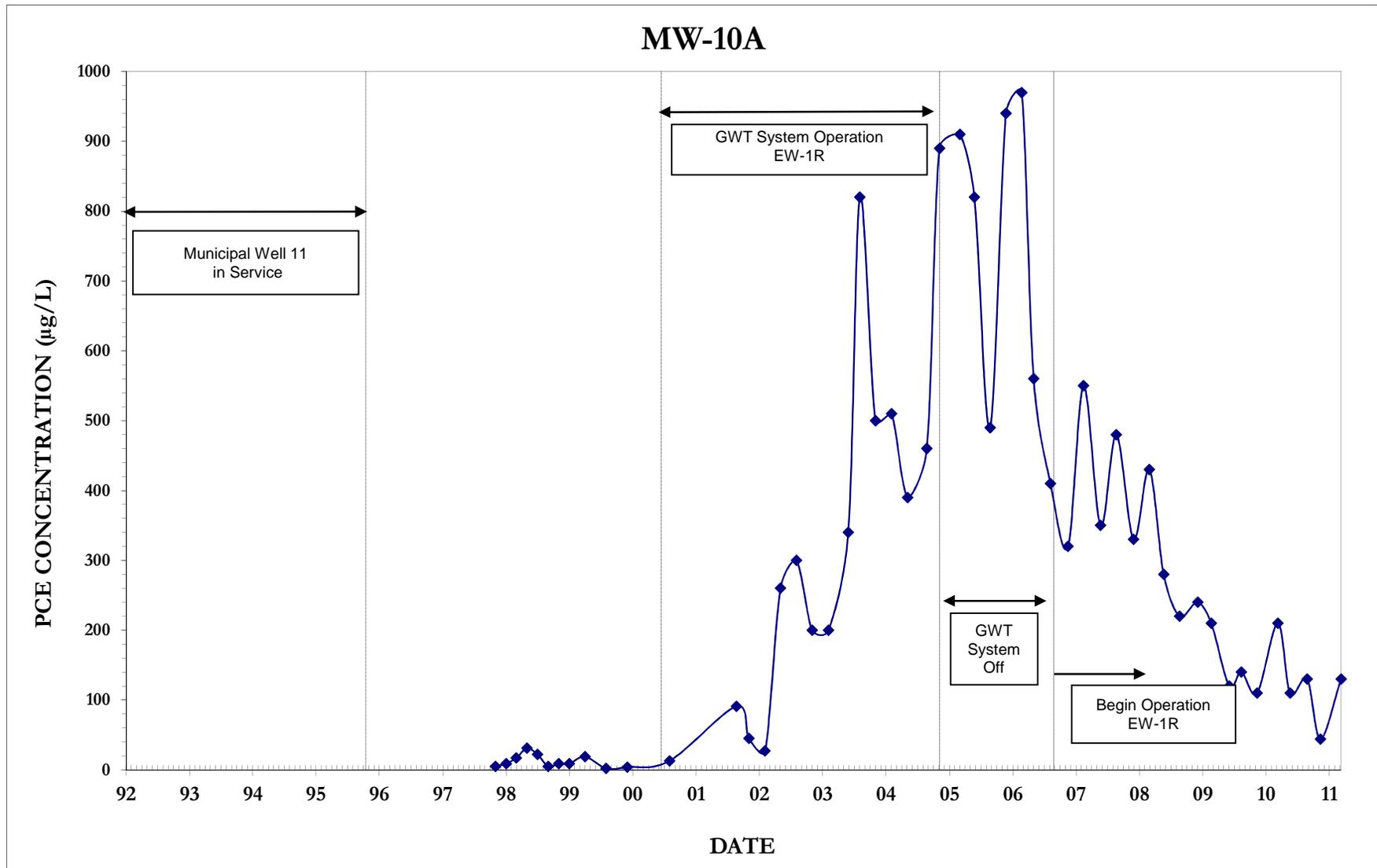


FIGURE G-4(m)

HISTORICAL PCE CONCENTRATIONS IN
GROUNDWATER MONITORING WELLS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

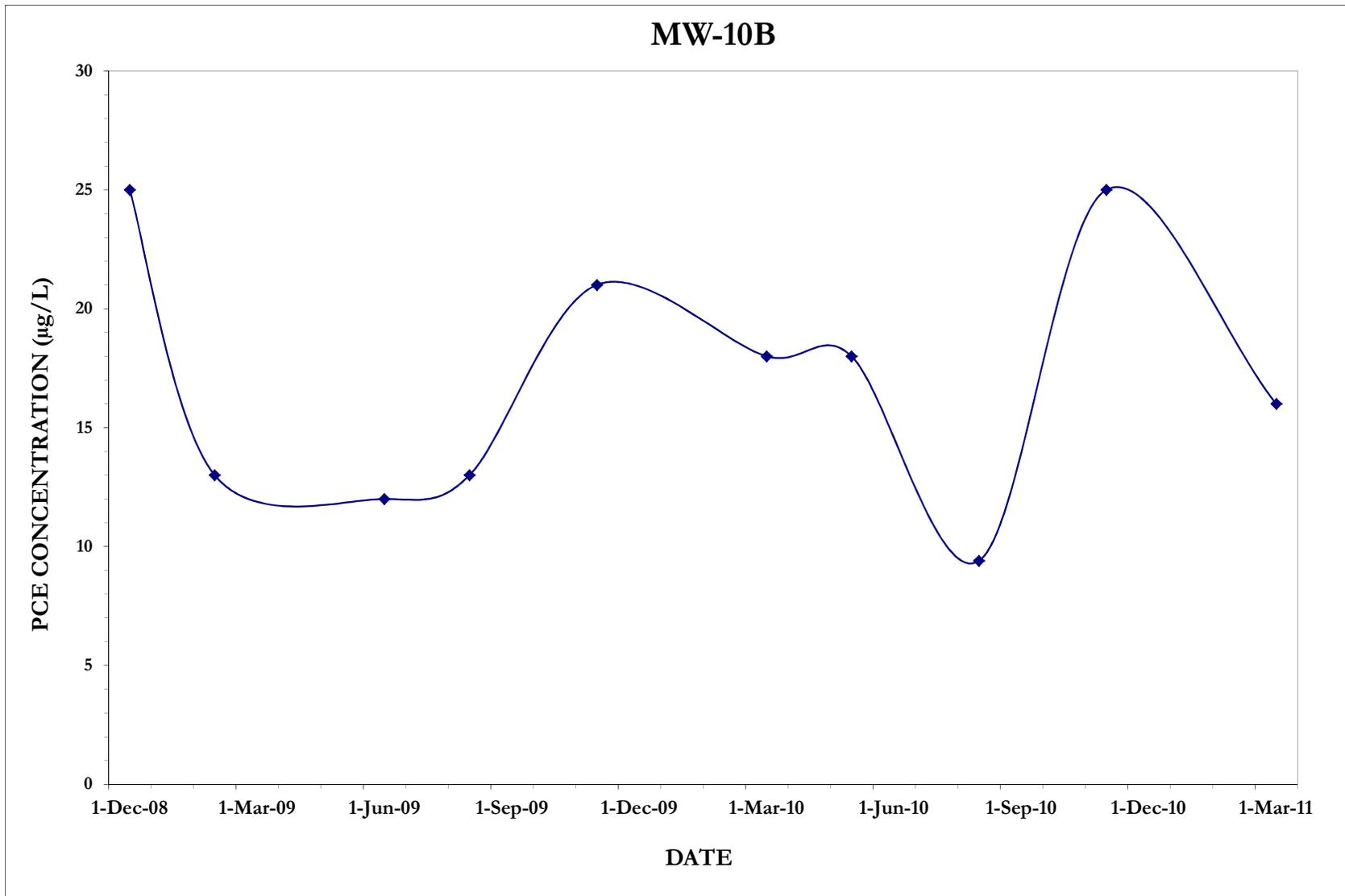


FIGURE G-4(n)

HISTORICAL PCE CONCENTRATIONS IN
GROUNDWATER MONITORING WELLS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

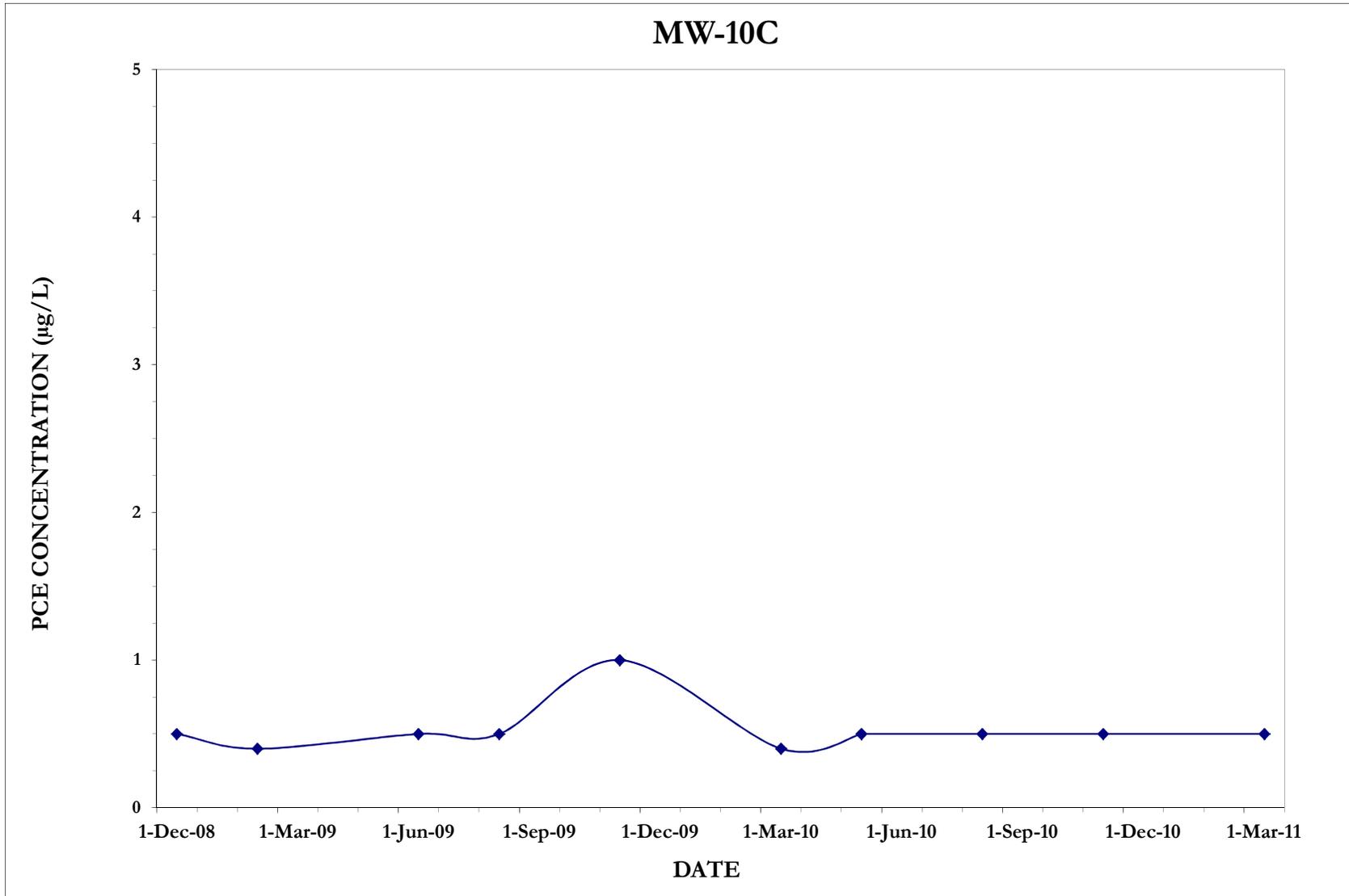


FIGURE G-4(o)

HISTORICAL PCE CONCENTRATIONS IN
GROUNDWATER MONITORING WELLS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

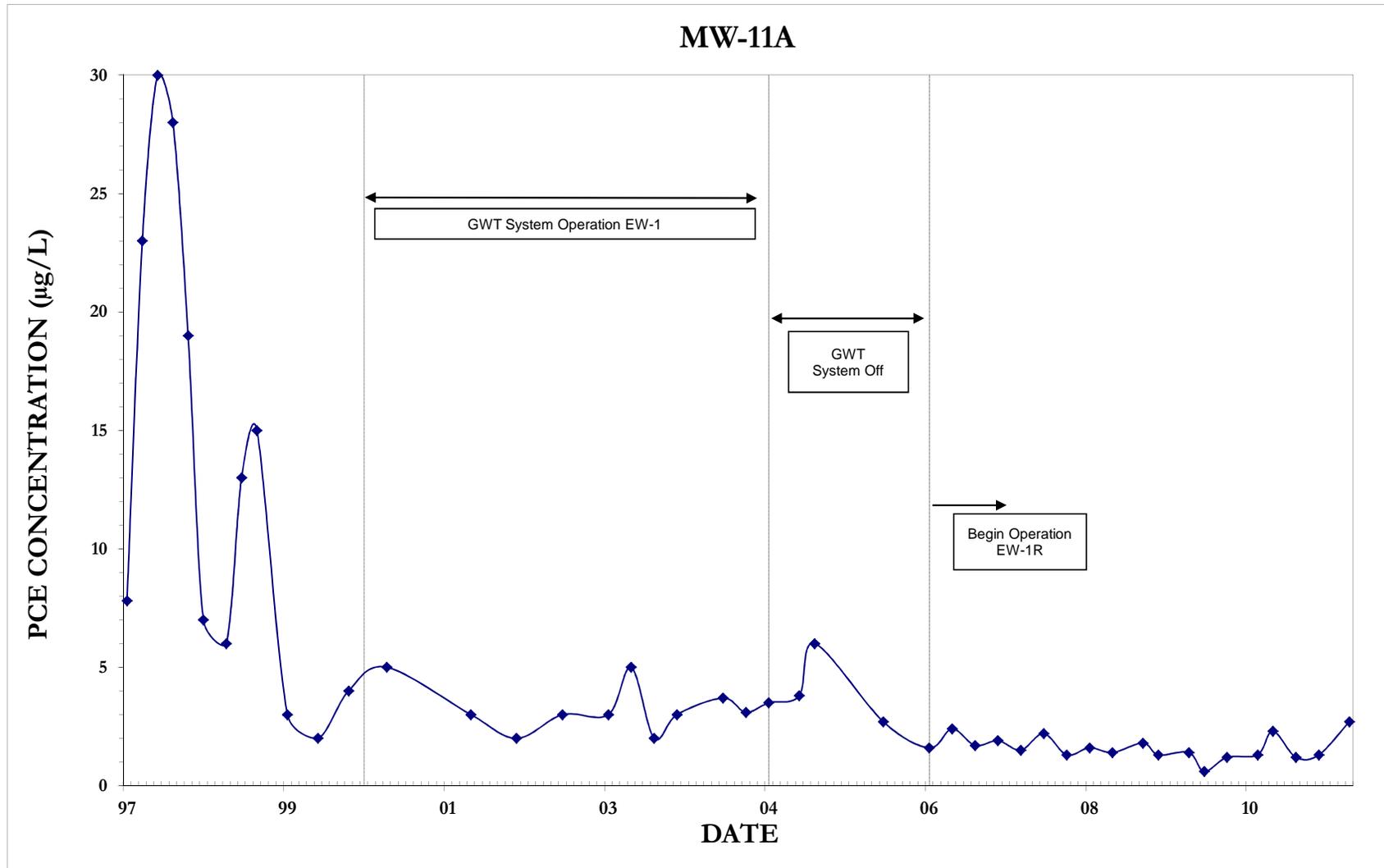


FIGURE G-4(p)

HISTORICAL PCE CONCENTRATIONS IN
GROUNDWATER MONITORING WELLS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

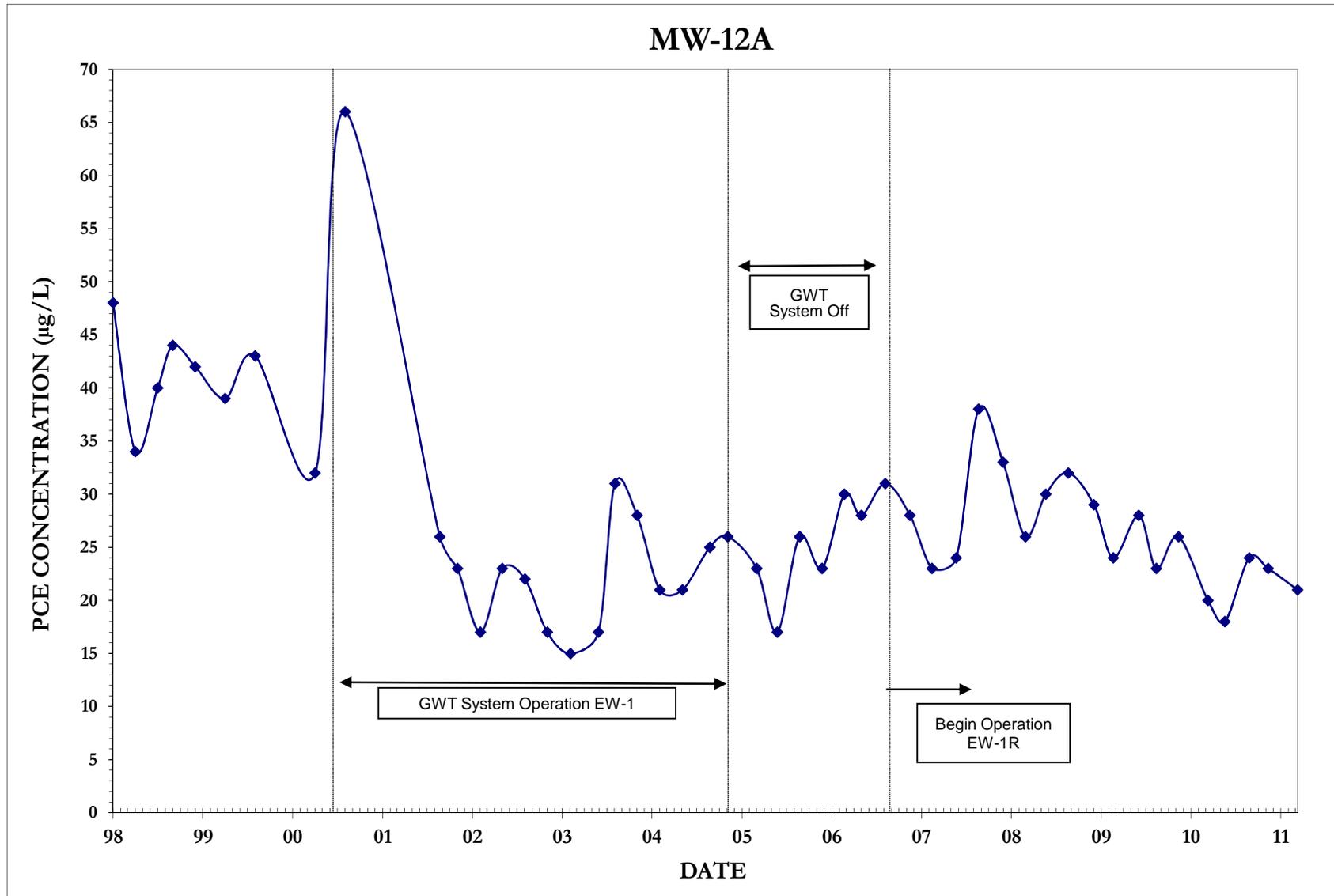


FIGURE G-4(q)

HISTORICAL PCE CONCENTRATIONS IN
GROUNDWATER MONITORING WELLS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

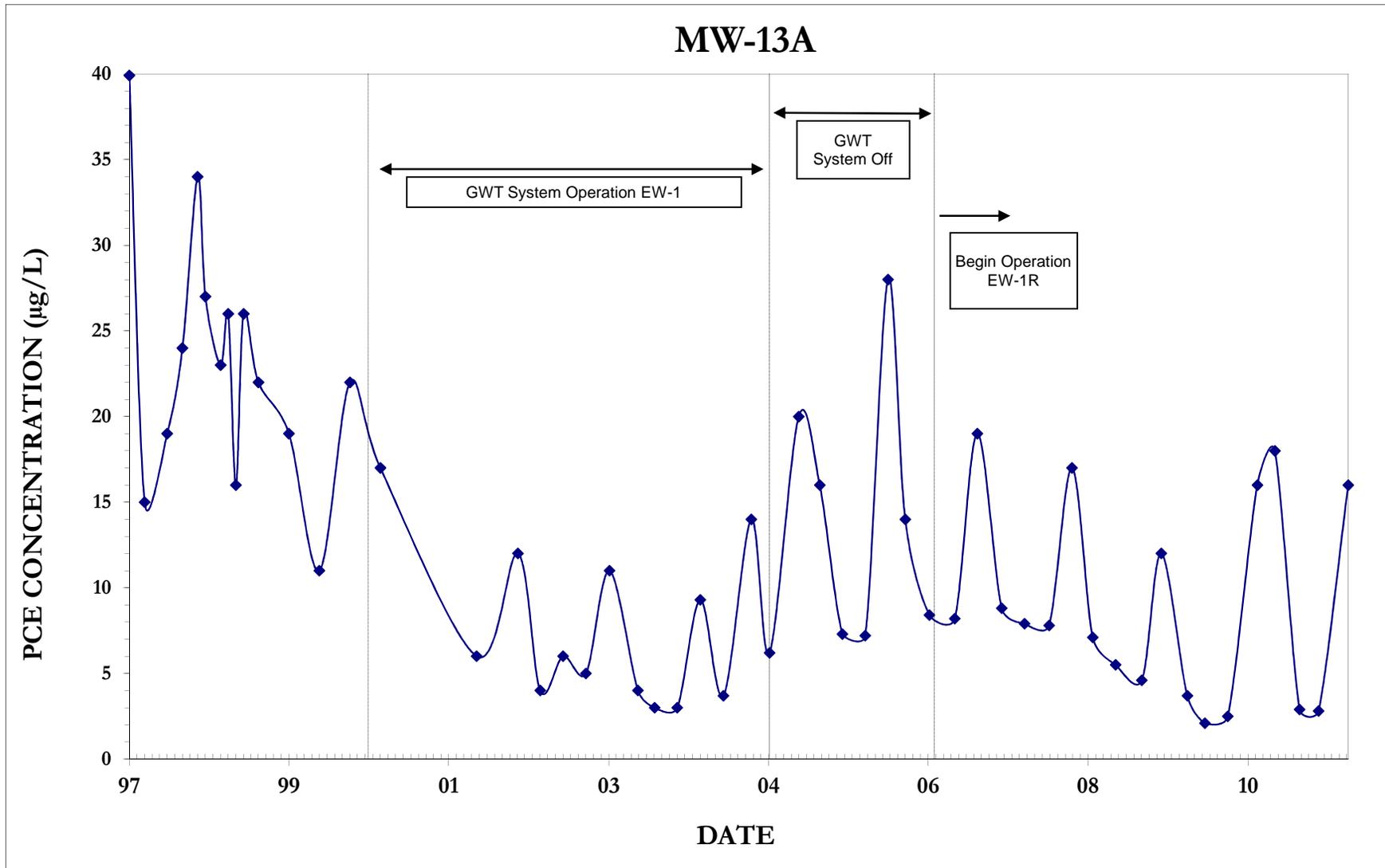


FIGURE G-4(r)

HISTORICAL PCE CONCENTRATIONS IN
GROUNDWATER MONITORING WELLS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

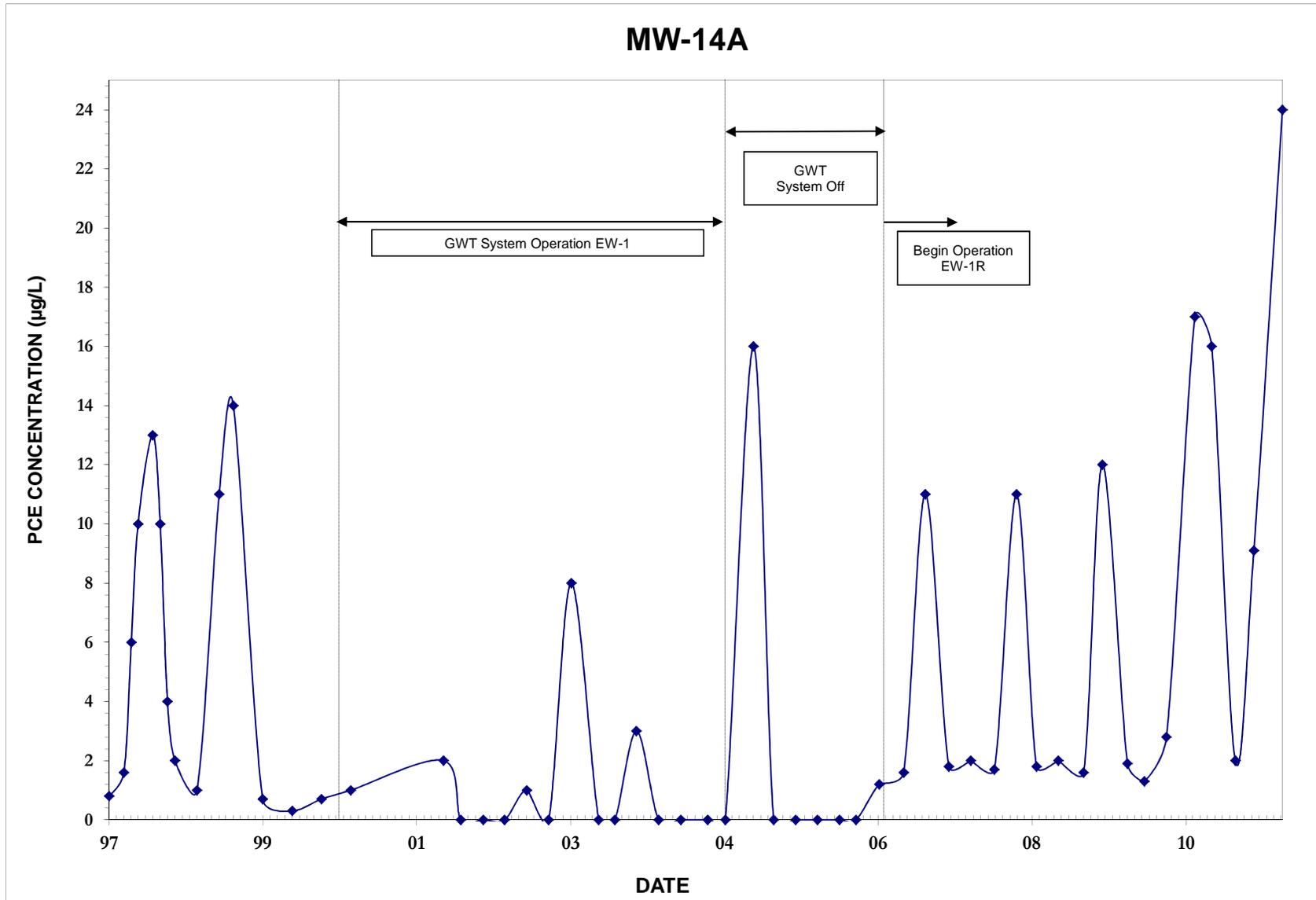


FIGURE G-4(s)

HISTORICAL PCE CONCENTRATIONS IN
GROUNDWATER MONITORING WELLS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

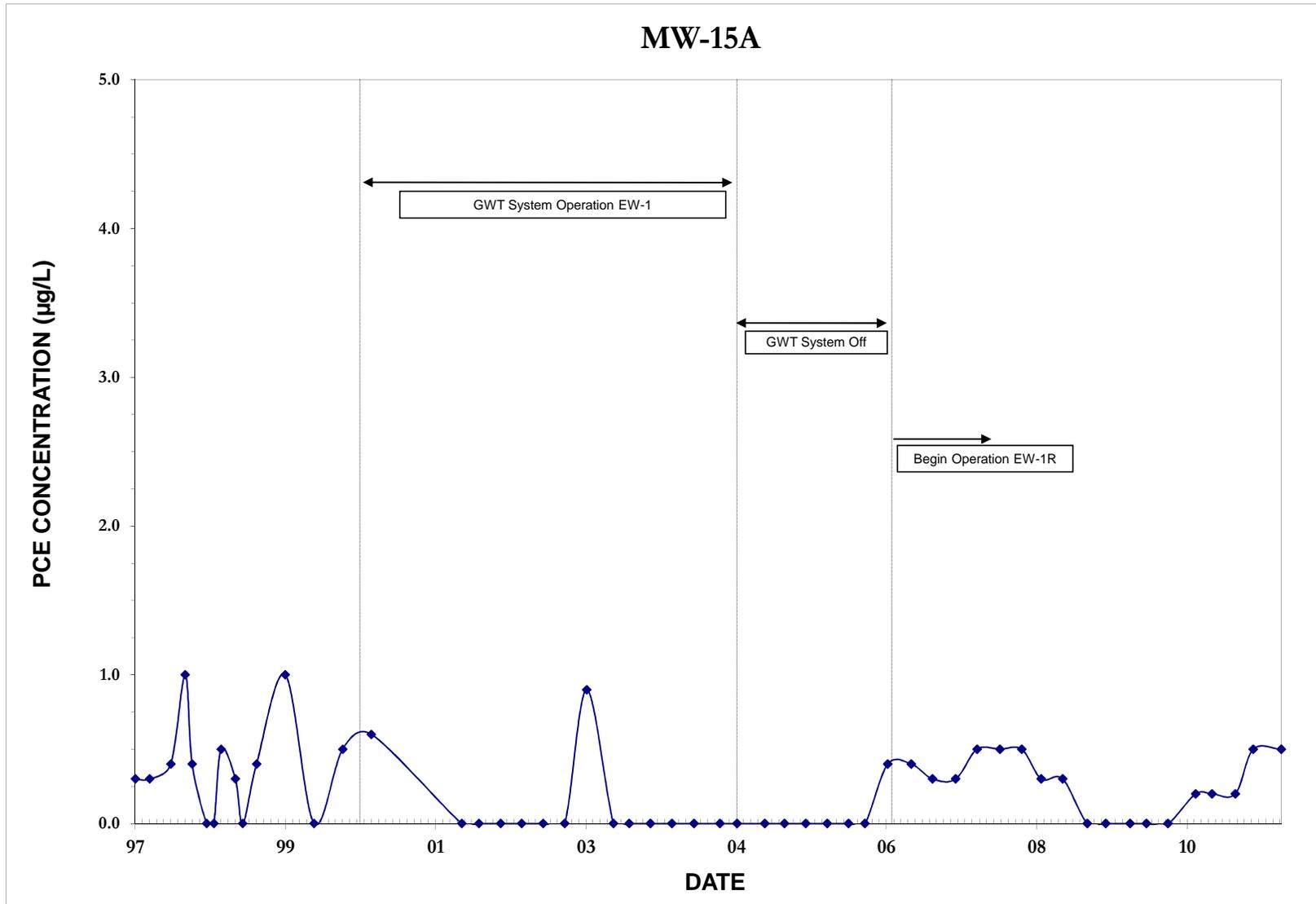


FIGURE G-4(t)

HISTORICAL PCE CONCENTRATIONS IN
GROUNDWATER MONITORING WELLS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

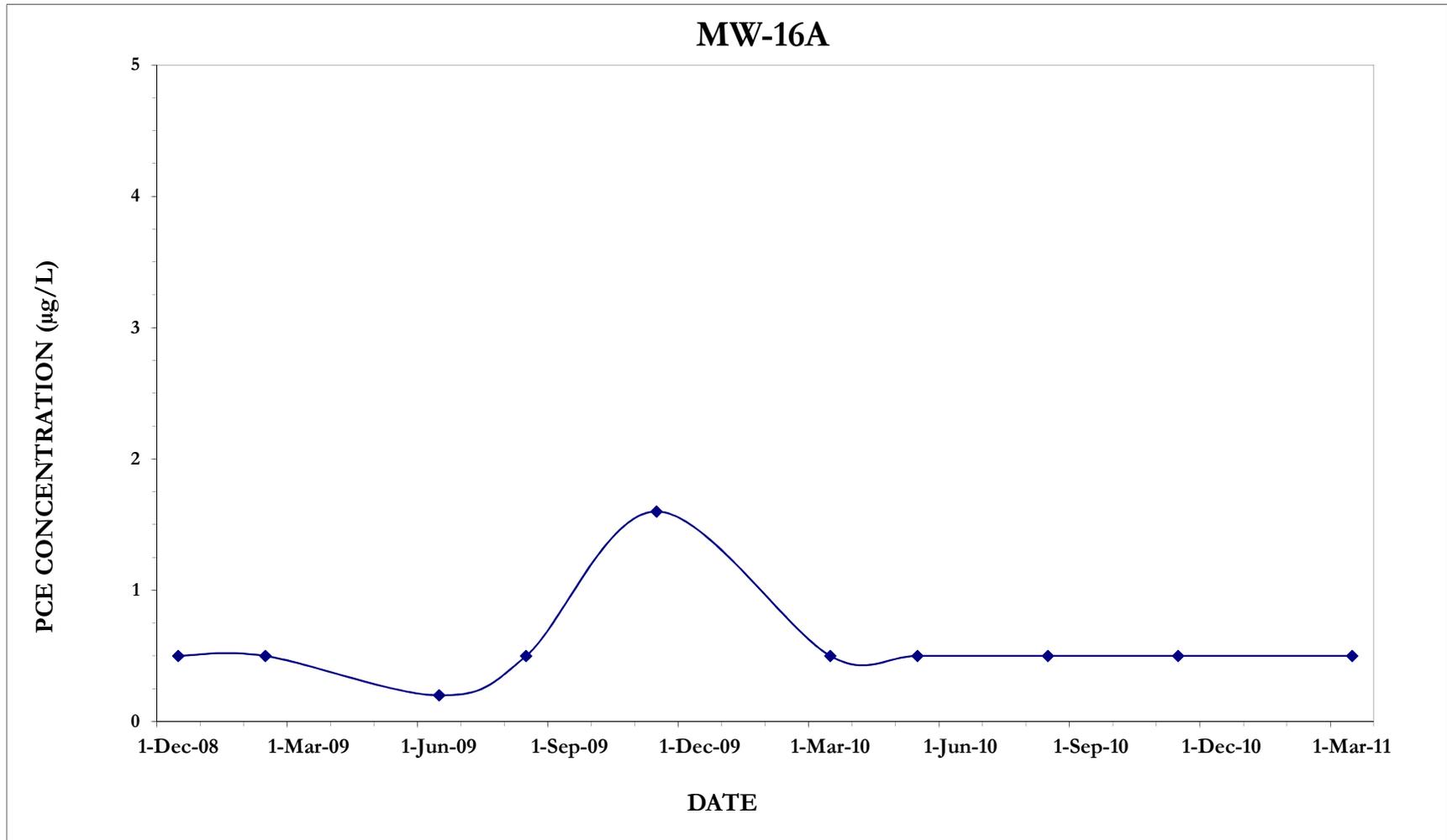


FIGURE G-4(u)

HISTORICAL PCE CONCENTRATIONS IN
GROUNDWATER MONITORING WELLS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

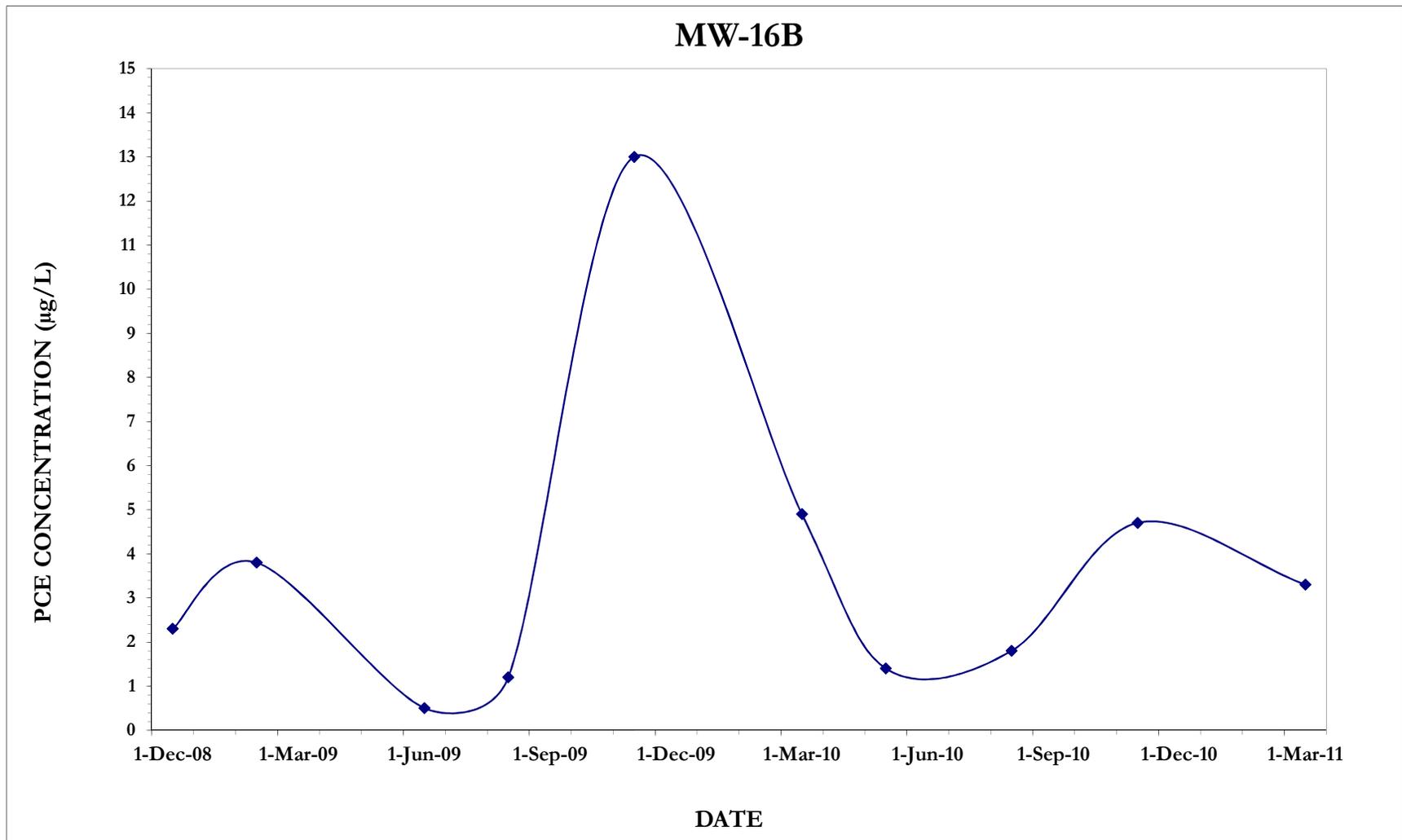


FIGURE G-4(v)

HISTORICAL PCE CONCENTRATIONS IN
GROUNDWATER MONITORING WELLS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

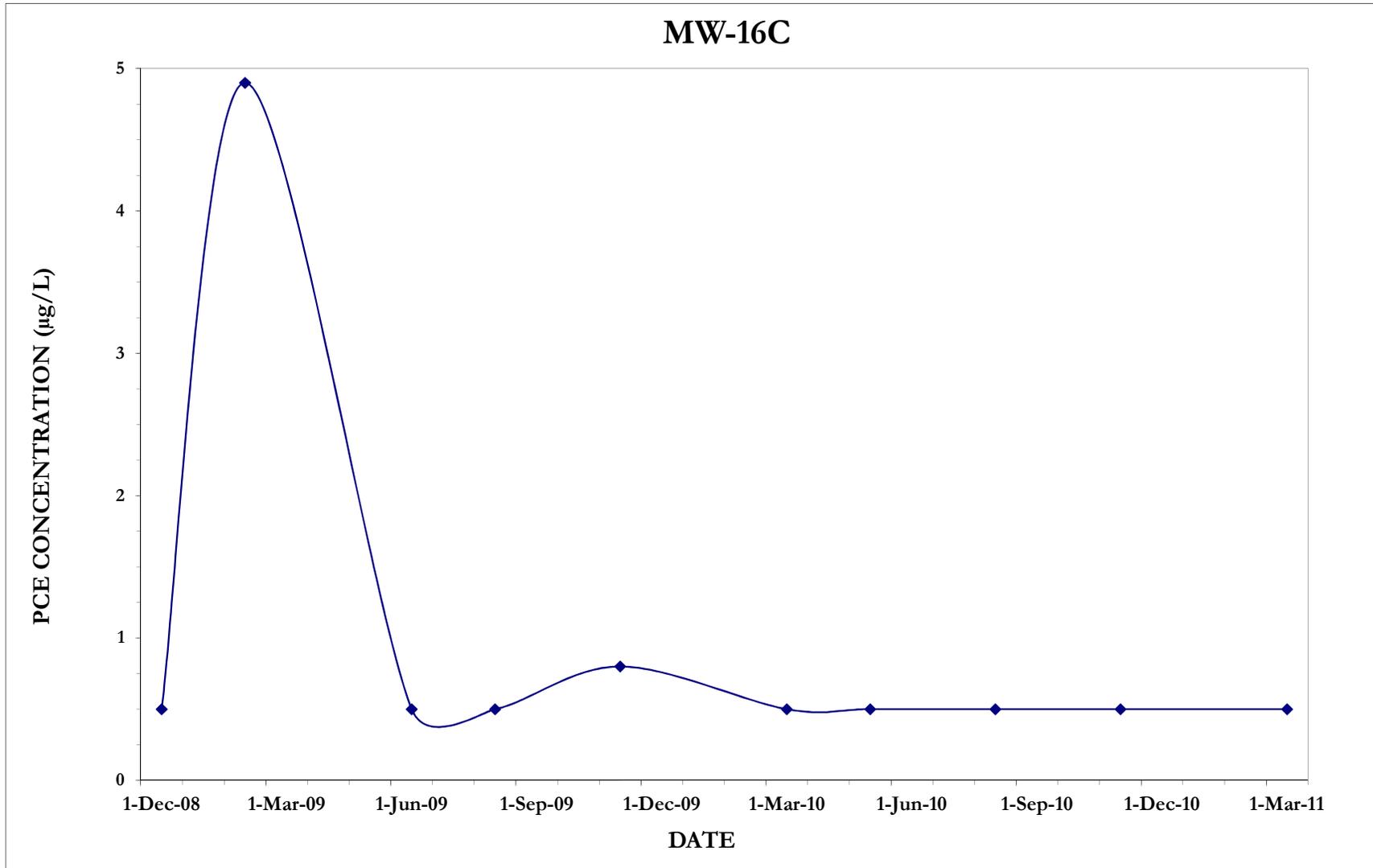


FIGURE G-4(w)

HISTORICAL PCE CONCENTRATIONS IN
GROUNDWATER MONITORING WELLS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

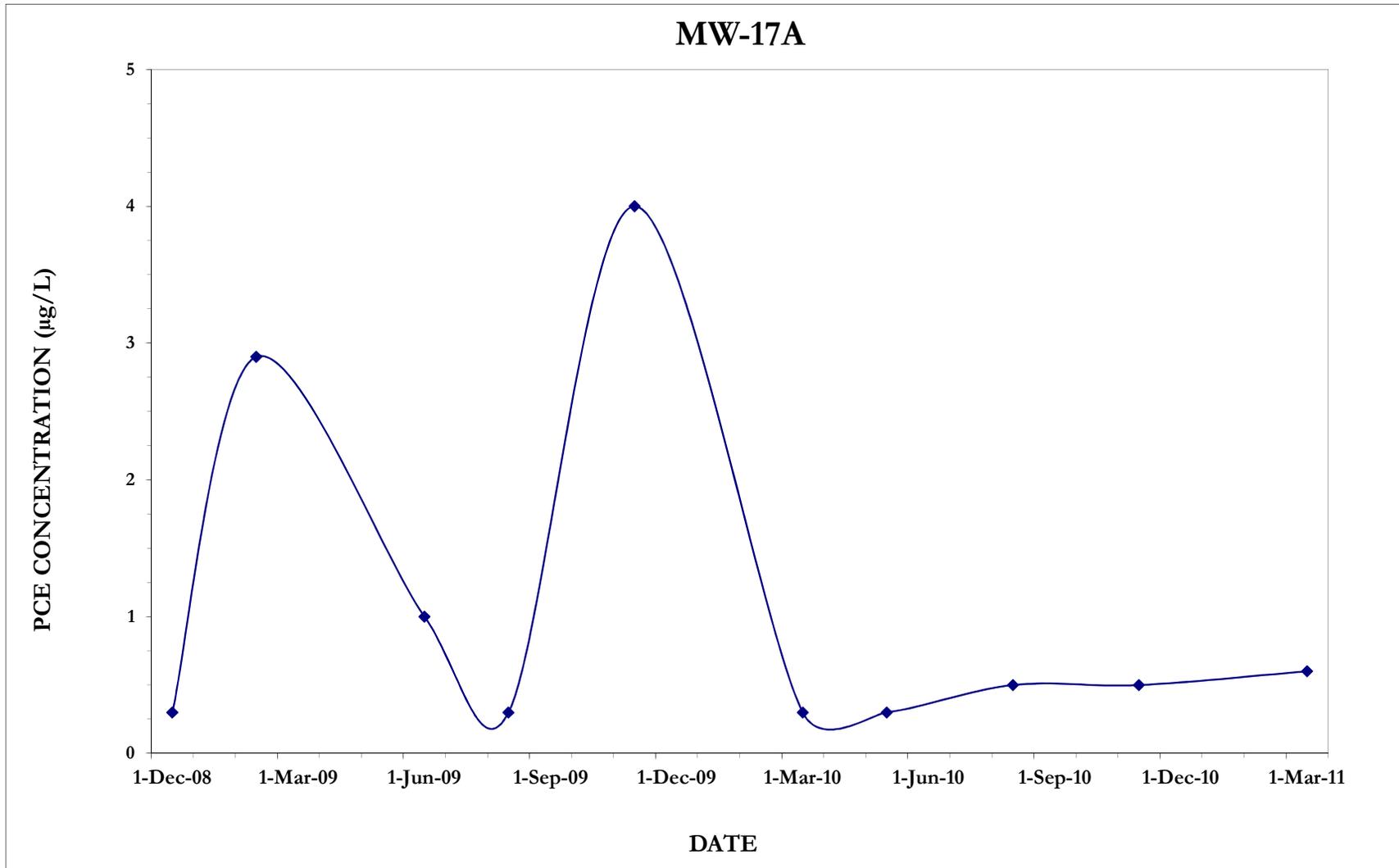


FIGURE G-4(x)

HISTORICAL PCE CONCENTRATIONS IN
GROUNDWATER MONITORING WELLS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

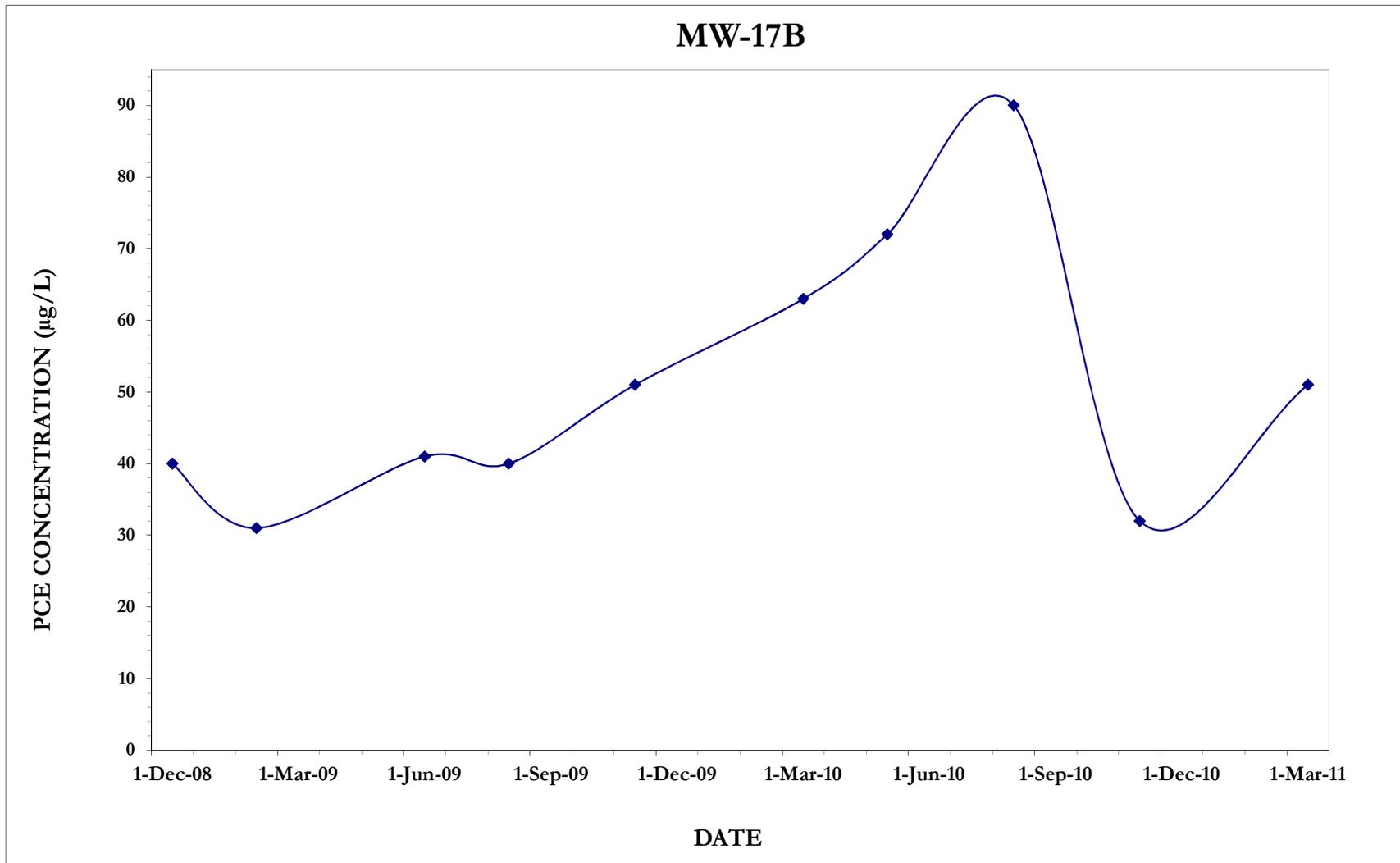


FIGURE G-4(y)

HISTORICAL PCE CONCENTRATIONS IN
GROUNDWATER MONITORING WELLS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

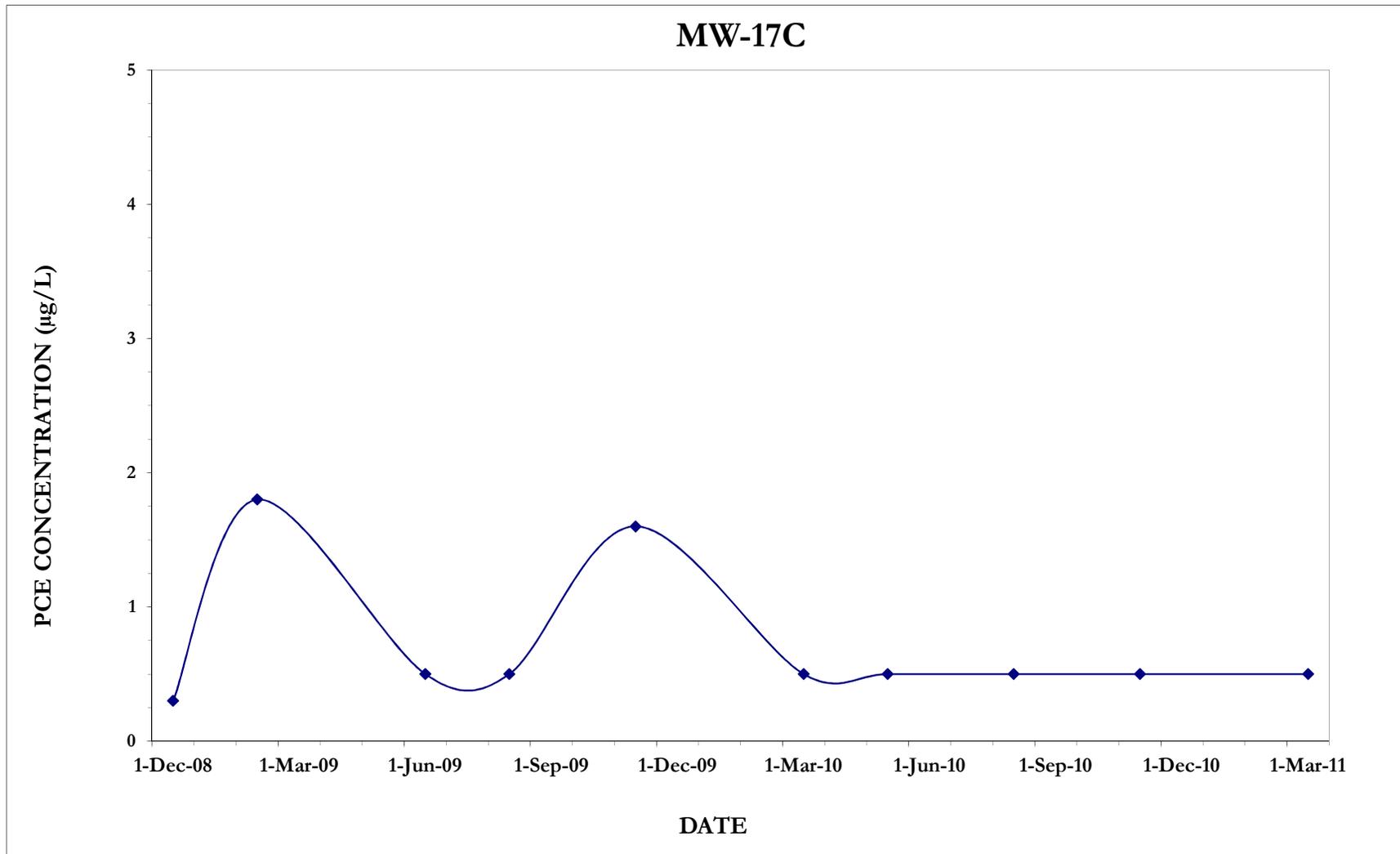


FIGURE G-4(z)

HISTORICAL PCE CONCENTRATIONS IN
GROUNDWATER MONITORING WELLS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

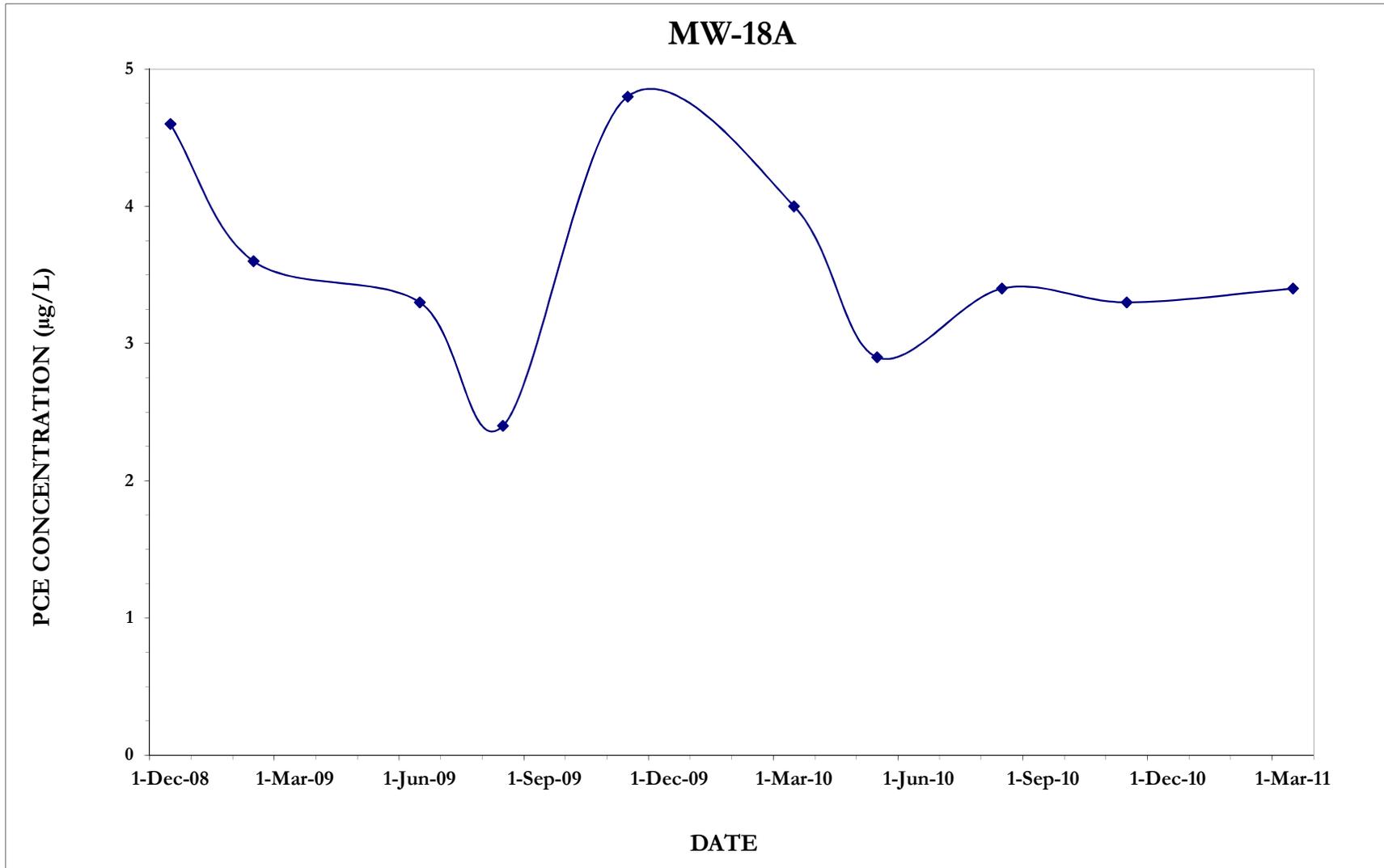


FIGURE G-4(aa)

HISTORICAL PCE CONCENTRATIONS IN
GROUNDWATER MONITORING WELLS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

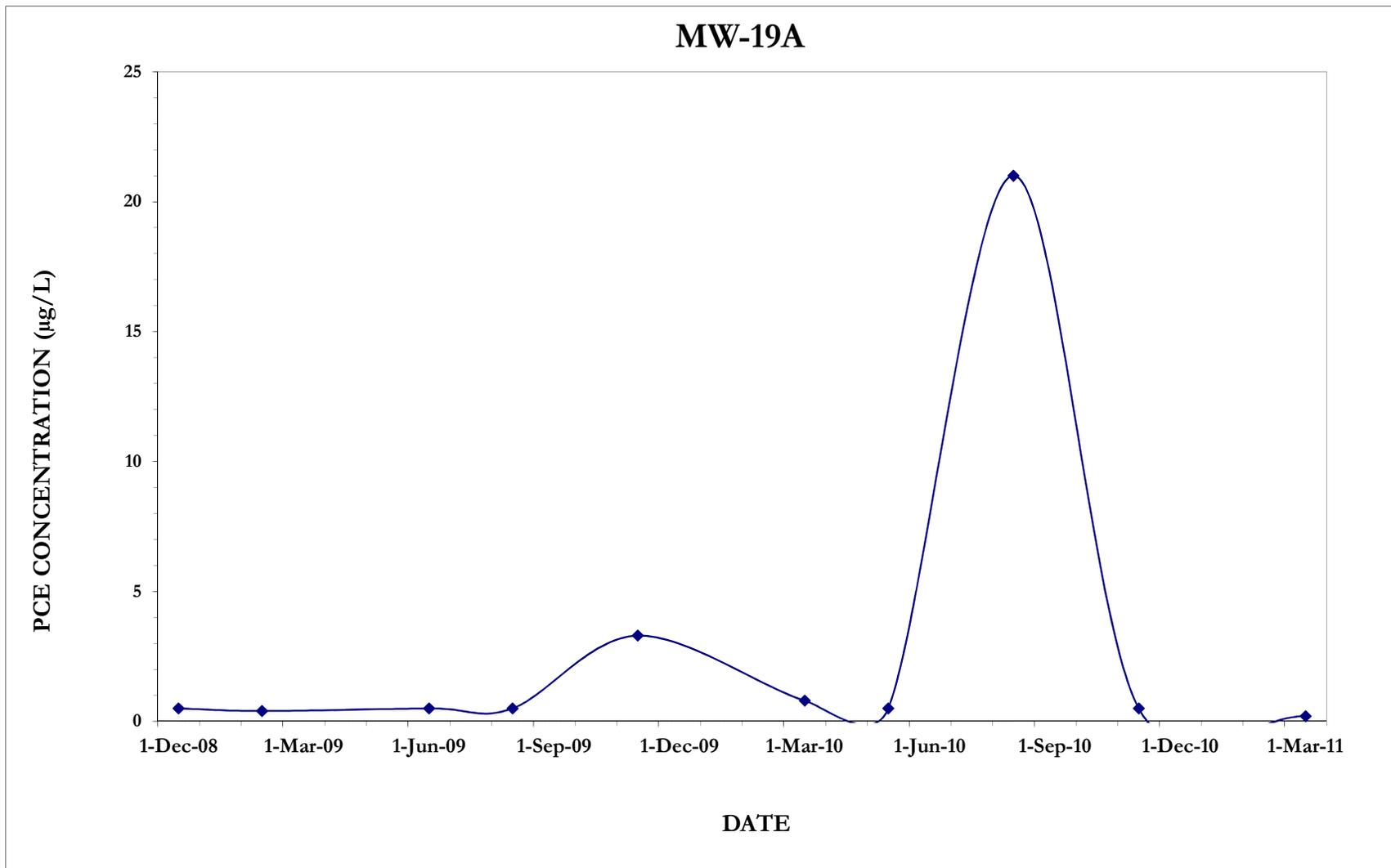


FIGURE G-4(ab)

HISTORICAL PCE CONCENTRATIONS IN
GROUNDWATER MONITORING WELLS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

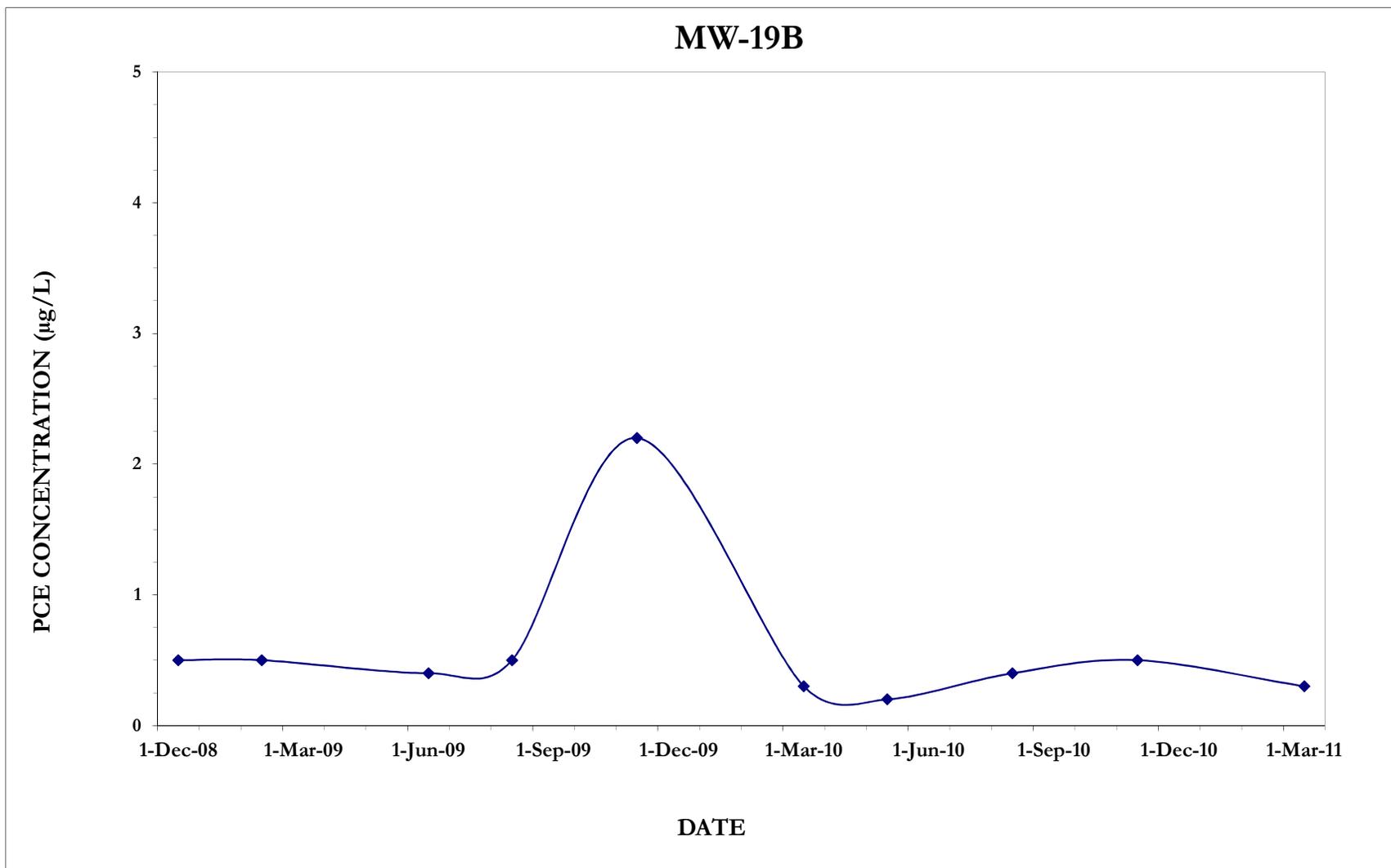


FIGURE G-4(ac)

HISTORICAL PCE CONCENTRATIONS IN
GROUNDWATER MONITORING WELLS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

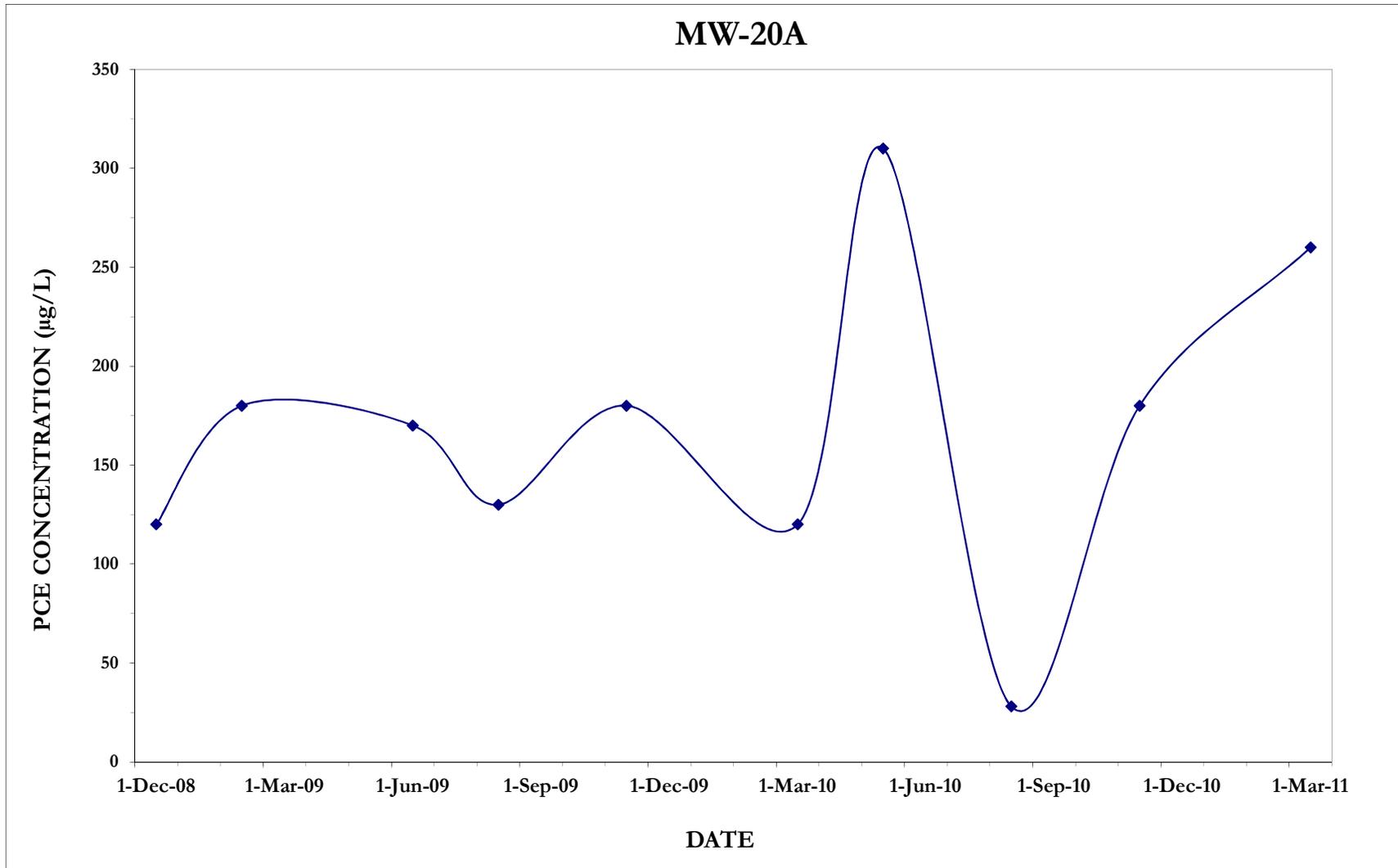


FIGURE G-4(ad)

HISTORICAL PCE CONCENTRATIONS IN
GROUNDWATER MONITORING WELLS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

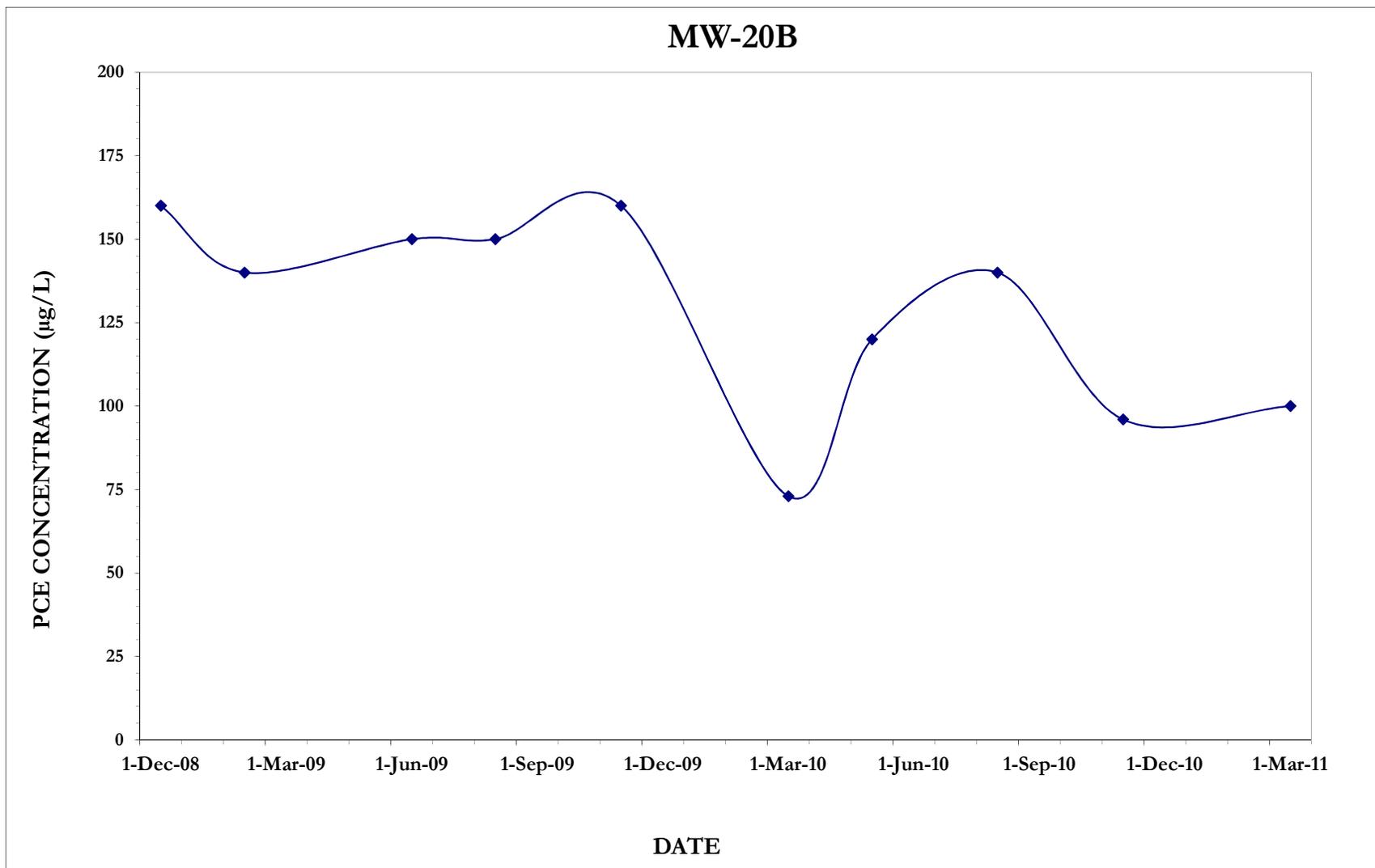


FIGURE G-4(ae)

HISTORICAL PCE CONCENTRATIONS IN
GROUNDWATER MONITORING WELLS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA

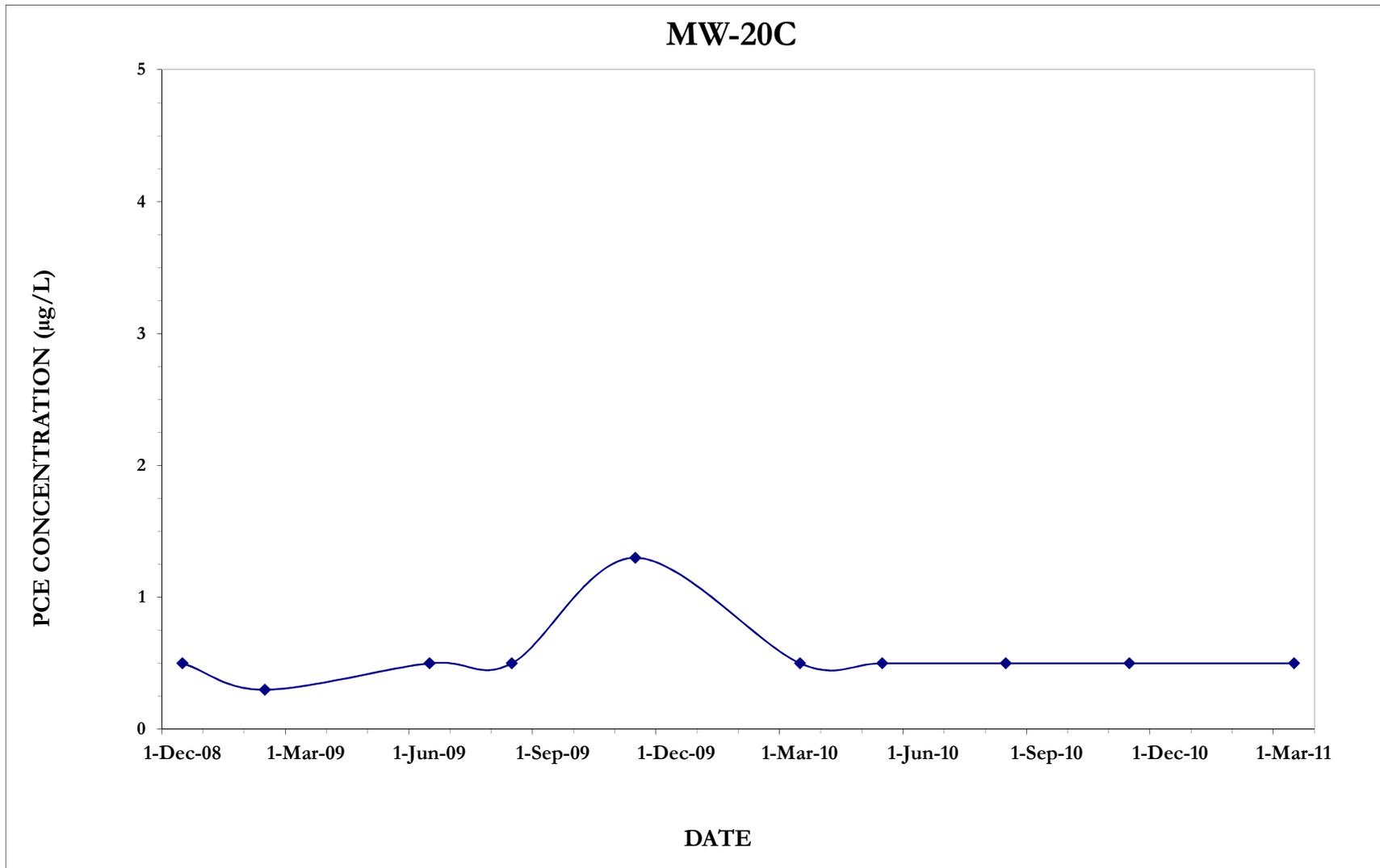


TABLE G-5(a)

**SOIL VAPOR EXTRACTION AND SOIL VAPOR MONITORING WELL
ANALYTICAL SUMMARY RESULTS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA**

(Page 1 of 4)

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**

(Page 2 of 4)

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**

(Page 3 of 4)

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**

(Page 4 of 4)

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 operational 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 chromatograph unit (the unit has been off-line since Nov. 2005, repair pending)

PCE - Tetrachloroethylene

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.

¹ May sample re-collected on June 8, 2007 due to low vacuum readings in the Summa canisters 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
	06/06/11		96
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
	06/06/11		93
DP-4A	03/10/11		29
	06/07/11		41
DP-4B	03/10/11		3.7
	06/07/11		43
	06/07/11	FD	43
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
	06/09/11		2 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
	06/09/11		<2.1

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-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
	06/07/11		42
OSVE-11	03/10/10		530
	05/19/10		190
	08/26/10		80
	11/11/10		10
	03/10/11		3.3
	06/07/11		7.5
SVE-01	03/10/10		13
	05/19/10		22
	08/26/10		39
	11/10/10		8.4
	03/10/11		4.4
	06/06/11		15
SVE-02	03/10/10		290
	05/19/10		420
	08/26/10		130
	11/10/10		7.5
	03/09/11		210
	06/06/11		320
	06/06/11	FD	200
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	06/06/11		82
	03/10/10		57
	05/19/10		40
	08/26/10		< 2.4
	11/10/10		2.3
	03/09/11		97
	06/06/11		23

FD - field duplicate
PCE - Tetrachloroethylene
ppbv - parts per billion volume
SVE - Soil vapor extraction

TABLE G-6(a)

**GROUNDWATER TREATMENT SYSTEM
ANALYTICAL SUMMARY RESULTS
MODESTO SUPERFUND SITE MODESTO, CALIFORNIA**

(Page 1 of 8)

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**

(Page 2 of 8)

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

(Page 3 of 8)

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**

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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**

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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**

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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**

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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 Mortalities

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	
		04/14/11		7.25					50.4	120	< 0.5	< 0.5
		05/10/11		7.23					140	< 0.5	< 0.5	
05/26/11		NC					55.3					
06/02/11		7.18						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	
		04/14/11	FD	8.21					< 0.5	< 0.5	< 0.5	
04/14/11		8.21					< 0.5	< 0.5	< 0.5			
05/26/11		NC					53.2					
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	
		04/14/11		8.17					0.5 J	< 0.5	< 0.5	
05/26/11		NC					50.6					
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				
04/14/11		8.13				74.5	0.5 J	< 0.5	< 0.5			
05/26/11		NC				57.9						
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				
		04/14/11		8.12				18.6				

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	650	< 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	650	< 10.0	< 2.0				
		10/14/10		8.11	650			9.86	0.2 J	< 0.5	< 0.5
		10/14/10		8.43	650	< 10.0	< 2.0				
		11/18/10		7.57	660				0.2 J	< 0.5	< 0.5
		11/18/10		7.57	650	< 10.0	< 2.0				
		12/09/10		8.21	660			< 0.5	< 0.5	< 0.5	
		12/09/10		8.17	650	< 3.0	< 2.0				
		01/13/11		8.16	650			8.73	< 0.5	< 0.5	< 0.5
		01/13/11		8.38	650	< 10.0	< 2.0				
		02/10/11		8.1	650				0.3 J	< 0.5	< 0.5
		02/10/11		8.28	650	< 10.0	< 2.0				
		03/09/11		7.82	640				0.2 J	< 0.5	< 0.5
		03/09/11		7.95	650	< 10.0	< 2.0				
		03/09/11	FD	7.82	650				0.2 J	< 0.5	< 0.5
		04/14/11		7.83	650			25.4	0.3 J	< 0.5	< 0.5
		04/14/11	FD	7.83	650			24.6			
		05/10/11		8.11	650			11.7	0.3 J	< 0.5	< 0.5
		05/19/11		8.1	650			10.3			
05/26/11		NC	650			11.6					
06/02/11		8.21	650			13	0.3 J	< 0.5	< 0.5		
06/02/11	FD	8.21	650				0.4 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

TABLE G-7(a)

**SVE AND GROUNDWATER TREATMENT VAPOR ANALYTICAL SUMMARY RESULTS
MODESTO SUPERFUND SITE
MODESTO, CALIFORNIA**

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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-DICHLOROTETRAFLUROETHA							

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		
		04/14/2011 12:10		260		
		05/10/2011 10:00		260 J		
		06/09/2011 08:45		300		
		06/09/2011 08:50		FD 300		
		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		
04/14/2011 12:05				94		
05/10/2011 10:10				85		
06/09/2011 08:35		120				

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-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
		04/14/2011 12:20		2.7
		05/10/2011 09:45		1.6 J
		06/09/2011 10:05		80
		SP-12	SVE Stack	03/11/2010 13:27
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		
04/14/2011 12:15		5.6		
05/10/2011 09:35		<2.3		
06/09/2011 09:55		3		

FD - field duplicate

J - Estimated value

PCE - Tetrachloroethene

µg/L - micrograms per liter