FIRST SEMI-ANNUAL GROUNDWATER MONITORING REPORT, 2013
JUNE MONITORING EVENT

FOR

PEMACO SUPERFUND SITE
Maywood, California

Contract Number W912PL-13-D-0017
Delivery Order Number 0001

Prepared for:

USACE
Los Angeles, California

U.S. Environmental Protection Agency
San Francisco, CA

Submitted by:

317 East Main Street
Ventura, California 93001

April 2014

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Approved by:

4/3/2014

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EXECUTIVE SUMMARY

This document has been prepared by Oneida Total Integrated Enterprises, LLC. (OTIE) under contract with the United States Army Corps of Engineers (USACE) contract No. W912PL-13-D-0017. This report summarizes the results of groundwater monitoring activities and analytical data results for the first semi-annual sampling event of 2013 completed at the Pemaco Superfund Site (the Site) in Maywood, California.

OTIE collected groundwater elevation measurements and groundwater samples in June 2013. Select wells were resurveyed in July and August 2013 for the groundwater gradient maps. In general, groundwater flowed away from the Los Angeles River in all zones with the gradient decreasing away from the river. The Perched, Exposition 'A', and Exposition 'B' Zones had localized deviations from the general flow.

Groundwater data were collected to evaluate the site-specific data quality objectives (DQOs):

- Are groundwater VOC concentrations declining in the treatment areas?
- Are groundwater COC concentrations below remedial action objectives (RAOs)?

The following table shows the number of wells that exceeded the RAOs for each chemical of concern (COC) in each zone.

	Number of Wells Exceeding SSRL / Total Wells with Analytical Results for COC						
COC	**Perched**	**'A' Zone**	**'B' Zone**	**'AB' Zone**	**'C' Zone**	**'D' Zone**	**'E' Zone**
1,1-dichloroethene (1,1-DCE)	1/15	0/11	0/24	0/7	0/7	0/7	0/1
1,4-dioxane (SW8260SIM)	1/3	2/5	3/9	2/5	0/0	0/0	0/0
benzene	1/15	0/11	0/24	0/7	0/7	0/7	0/1
cis-1,2-dichloroethene (cis-1,2-DCE)	0/15	0/11	6/24	1/7	2/7	1/7	0/1
tetrachloroethene (PCE)	1/15	0/11	0/24	0/7	0/7	0/7	0/1
trichloroethene (TCE)	0/15	2/11	17/24	2/7	4/7	3/7	0/1
vinyl chloride (VC)	1/15	0/11	0/24	0/7	0/7	0/7	0/1

COC concentration trends are generally decreasing except for cis-1,2-DCE and TCE in wells in the Exposition 'B' and 'C' Zones that currently have COCs over their respective RAOs.

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ACRONYMS AND ABBREVIATIONS

µg/L	microgram per liter
1,1-DCE	1,1-dichloroethene
1,2-DCA	1,2-dichloroethane
AST	above ground storage tank
C	degree Centigrade
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
cis-1,2-DCE	cis-1,2-Dichloroethene
CLP	Contract Laboratory Program
CSM	conceptual site model
COC	Chemicals of Concern
DCA	1,1 dichloroethane
DCE	1,2 dichloroethene
DQO	Data Quality Objective
EISB	Enhanced In Situ Bioremediation
ERH	Electrical Resistive Heating
EXES	Exchange and Evaluation System
ft/ft	feet per foot
ft bgs	feet below ground surface
FD	field duplicate
FS	Feasibility Study
HVDPE	High vacuum, dual phase extraction
LACSD	Los Angeles County Sanitation District
LCS	Laboratory control samples
LCSD	Laboratory control samples duplicates
mg/L	milligrams per liter
MDL	Method detection limit
MRL	Minimal Risk Level
MS/MSD	matrix spike/matrix spike duplicate
MTBE	methyl tert butyl ether
MW	Monitoring well
NFG	National Functional Guidelines
OTIE	Oneida Total Integrated Enterprises, LLC.
PCE	tetrachloroethene

ACRONYMS AND ABBREVIATIONS, CONTINUED

QA	quality assurance
QAPP	Quality Assurance Project Plan
QC	quality control
RAO	Remedial Action Objectives
RI	Remedial Investigation
RL	Reporting Limits
ROD	Record of Decision
RPD	Relative Percent Difference
RPM	Remedial Project Manager
RW	recovery well
SIM	Selective Ion Mode
SAP	Sampling and Analysis Plan
SOM	Superfund Organic Method
SSRL	Site-Specific Remediation Levels
START	Superfund Technical Assessment and Response Team
SVE	Soil Vapor Extraction
SVOC	Semi Volatile Organic Compounds
TB	trip blanks
TCE	trichloroethene
TCL	Target Compound List
TN&A	T N & Associates, Inc.
TRS	Thermal Remediation Services, Inc.
USACE	United States Army Corp of Engineers
U.S. EPA	United States Environmental Protection Agency
UST	underground storage tanks
VC	Vinyl Chloride
VOC	Volatile organic compounds
W.W. Henry	The W.W. Henry Company

1.0 INTRODUCTION

This document has been prepared by Oneida Total Integrated Enterprises, LLC. (OTIE) under contract with the United States Army Corps of Engineers (USACE) contract No. W912PL-13-D-0017. This report summarizes the results of groundwater monitoring activities and analytical results for the First Semi-annual Groundwater Monitoring Event conducted during June 2013 at the Pemaco Superfund Site in Maywood, California (the Site).

During the first quarter of 2013, both the groundwater and vapor treatment systems were off due to water discharge permitting. During the second quarter of 2013, only the groundwater treatment system was operated.

All fields and laboratory work was completed in accordance with the existing approved Sampling and Analysis Plan (SAP) and addendum referenced as follows:

- *"Draft Sampling and Analysis Plan, (field sampling plan and quality assurance project plan), Monitoring, Operations and Maintenance for the Pemaco Remedial Action"* by TN & Associates, Inc. (TN&A) (TN&A 2007a)
- SAP Addendum, May 2011, by OTIE (OTIE 2011)

Groundwater data were collected between June 19 and 27, 2013 from selected monitoring wells and extraction wells screened in the Perched and Exposition Aquifer 'A' through 'E' Zones at the Site. These data include groundwater elevations and laboratory analytical results. These data were to evaluate the following data quality objectives (DQOs), as detailed in the SAP and addendum (TN&A 2007a; OTIE 2011):

- Are groundwater volatile organic compound (VOC) concentrations declining in the treatment areas?
- Are groundwater chemicals of concern (COC) concentrations below Remedial Action Objectives (RAOs)?

In order to achieve the DQOs, the groundwater monitoring program at the Site was designed to:

- Evaluate the lateral and vertical extent of the COC plumes within the Perched and Exposition Aquifer;
- Monitor 1,4-dioxane within selected Perched and Exposition Aquifer wells; and
- Monitor the on-going progress, effectiveness, and groundwater treatment of the dissolved-phase COC plumes.

This report documents the data and sample collection techniques, distills the data into comparable data sets, provides technically sound interpretations of the field and analytical data, identifies uncertainties and gaps within the spatial-temporal framework of the data, and updates the current understanding of the conceptual site model (CSM).

1.1. Project Team Roles and Contact Numbers

Technical contacts for the Site are listed in the table below.

Table 1-1 Project Roles and Contact Information

Name	Association	Job Title	Office Phone	Cell Phone	E-Mail Address
Claudia Garcia	USACE	Project Manager	602-230-6924	--	Claudia.Garcia@usace.army.mil
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Notes:

1. USACE = United States Army Corps of Engineers
2. U.S. EPA = United States Environmental Protection Agency
3. OTIE = Oneida Total Integrated Enterprises, LLC.
4, RPM = Remedial Project Manager
5. COR = Contracting Officer Representative
6. GIS = Geographic Information Systems
7. "--" = Unavailable

1.2. PROJECT WEBSITE

The Pemaco SharePoint website (http://www.otie-sharepoint.com/pemaco/default.aspx) serves as a tool to connect internal and external participants and to present remedial progress. Data generated through system operation, as well as environmental data (e.g. groundwater chemical data and vapor data) is accessible to the project team via the website. The website functions as a secure virtual office space with tools and facilities necessary for the project team members to continuously stay up-to-date on site developments. Useful tools available on the project website include main menu that contains tabs such as calendar, schedule, plans and documents, and submittals, and system data that contains data, maps, and graphs. Web access can be gained by contacting the United States Environmental Protection Agency (U.S. EPA) remedial project manager (RPM), Rose Marie Caraway.

2.0 SITE BACKGROUND

2.1. SITE LOCATION

The Pemaco Site is located at 5973 South District Boulevard in east Los Angeles County, City of Maywood, along the Los Angeles River. The Site is bounded by the west and south by industrial and residential neighborhoods, and to the east by the concrete-lined Los Angeles River. Figure 1-1 shows the Site location and vicinity map.

The original Pemaco Site and surrounding properties (land previously owned by W. W. Henry, Precision Arrow, Catellus, Los Angeles Junction Railway, and Lubrication and Oil Services) encompassed about 6 acres. The northern and western parts of the Site and surrounding properties have been redeveloped into Maywood Riverfront Park, while an area of approximately 1.4 acres (the current Site) remains undeveloped. Construction of the western part of the park began in March 2005 and was completed in June 2006. Maywood Riverfront Park will ultimately be expanded to encompass the current undeveloped portion of the properties originally purchased for park development.

The Pemaco facility formally operated as a custom chemical blender from the 1940s until 1991. A wide variety of chemicals were used and stored on site including chlorinated and aromatic solvents, flammable liquids, oils, and specialty chemicals. These chemicals were stored in drums, above-ground storage tanks (AST), and underground storage tanks (UST). In 1991, the facility was abandoned by its owner. Remaining stored chemicals in drums and storage tanks were removed by the U.S. EPA between 1992 and 1998. The topography of the Site is relatively flat. There are six discrete water-bearing zones underlying the Site, the topmost being the perched aquifer The Exposition Aquifer underlies the perched aquifer and contains five distinct saturated intervals, informally named Exposition Zones ‘A’ through ‘E.’ The following table describes the depth of occurrence and saturated thickness of the aquifers.

Table 2-1 Site Water-bearing Zones

Zone	Depth of Occurrence (typical) (ft bgs)	Saturated Thickness (feet)
Perched	35	varies
Exposition Aquifer ‘A’ Zone(‘A’ Zone)	65-75	0-1
Exposition Aquifer ‘B’ Zone (‘B’ Zone)	80-90	0-5
Exposition Aquifer ‘C’ Zone (‘C’ Zone)	100-110	0-10
Exposition Aquifer ‘D’ Zone (‘D’ Zone)	125-145	10-21
Exposition Aquifer ‘E’ Zone (‘E’ Zone)	160-175	15

2.2. INVESTIGATIVE SITE HISTORY

Pemaco Inc. operated on this site from the 1940s until April 1991 when the site was abandoned (Ecology & Environment 1999). Details of the Site history are presented in the 2010 Monitoring and Sampling Report (SulTRAC 2012) and are summarized below. Soil and groundwater contamination, primarily by chlorinated solvents, resulted from site activities at the Site.

In 1997, an emergency site assessment and remedial investigation was conducted by the Superfund Technical Assessment and Response Team (START) contractor. The START contractor located and sampled several existing monitoring wells for VOCs. The results indicated that chlorinated and non-

chlorinated VOCs (hazardous substances, as defined under the Comprehensive Environmental Response, Compensation, and Liability Act [CERCLA]) were present in groundwater. A layer of non-aqueous phase liquid that was composed of chlorinated and nonchlorinated VOCs ranging from 3 to 5 feet thick was found in the perched aquifer unit (U.S. EPA 1997). Environmental assessments performed between 1990 and 1999 continued to characterized soil and groundwater contamination at the Site(U.S. EPA 2005).

A soil-vapor extraction (SVE) system that used a thermal oxidizer to treat the soil vapor was installed as an interim treatment method in 1998. It remained operational until 1999, when it was shut down due to concerns about dioxin emissions that may have been produced as a byproduct of incomplete combustion. However, no testing for the presence of dioxins was conducted. By the time the SVE system was removed, it had treated over 90,000 pounds of hydrocarbons (U.S. EPA 2005).

Based on these previous investigations, Pemaco was added to the National Priorities List in January 1999.

Between January 2001 and March 2002, the U.S. EPA conducted a remedial investigation/feasibility study (RI/FS) to assess the nature and extent of contamination at the Site and the surrounding area.

In January 2005, EPA issued a Record of Decision (ROD) based on the findings of the RI and FS Reports, (U.S. EPA 2005). The ROD divided the Site into the following three “remediation zones”, each with its own selected remedy:

Table 2-2 ROD Remediation Zones and Selected Remedies

Remediation Zone	Selected Remedy
Surface and near-surface soil remediation zone (0 – 3 ft bgs)	Soil capping
Upper vadose-zone soil and Perched groundwater (3 – 35 ft bgs)	High-vacuum dual-phase extraction (HVDPE)
Lower vadose-zone soil and Exposition Aquifer groundwater	• Electrical resistance heating (ERH) to thermally treat highest contamination zone; • In-situ treatment of groundwater to augment cleanup, if needed; • Vacuum Enhanced groundwater extraction for the areas of the plume between 10 and 1,000 parts per billion; and • Monitored natural attenuation for areas of the plume that are less than 10 parts per billion.

From August to September 2005, various groundwater extraction wells and monitoring wells were installed within the Perched and Exposition Aquifer as part of the remedial action. Additional monitoring wells were installed in June and November 2006. The locations of all Site wells are shown in Figure 2-1.

A bioremediation pilot test was performed, as documented in the “Enhanced In-Situ Bioremediation (EISB) Pilot Test Work Plan” as part of the Final Remediation Design Report (TN&A 2006b).

Some wells have been destroyed / abandoned during post-remedial investigation activities, as outlined in the 2010 Monitoring and Sampling Report (SulTRAC 2012).

2.2.1. Remedial Action Objectives

The ROD stated that the RAOs for Pemaco are to:

- Protect human health and the environment from contaminants in the soil, groundwater, soil vapor, and indoor air;
- Prevent contaminant migration beyond the boundaries of the site;
- Reduce source contamination onsite; and
- Restore groundwater to potential beneficial use as a drinking-water source.

To accomplish these objectives, the U.S. EPA generated site-specific remediation levels (SSRLs) for each remediation zone based on Maximum Contaminant Levels, preliminary remediation goals, dilution attenuation factors, and site-specific hydrogeologic conditions. (U.S. EPA 2005).

2.2.2. Remedial Action Activities

2.2.2.1. Surface and Near-Surface Soil Remediation

Between March and July 2005, six "hot spots" in what is now the Maywood Riverfront Park and the Site were removed by the City of Maywood and a 1- to 3-foot-thick surface soil cover was placed over contaminated soils (TN&A 2007a).

2.2.2.2. Upper Vadose-Zone Soil and Perched Groundwater (3 – 35 Ft Bgs)

HVDPE has been used since 2007 to remediate the Upper Vadose Zone soils and Perched groundwater. Extracted groundwater and vapors are treated in the on-site treatment plant. Extracted groundwater is (1) treated by chlorination, (2) passed through a 10-micron filter, followed by a 1-micron filter bag, and finally (3) pumped through granular activated carbon (GAC) to remove contaminants. Treated groundwater is discharged to the Los Angeles County Sanitation District (LACSD) sewer system. Vapor is treated by cooling and passing through vapor-phase GAC, then discharged to ambient air though a stack at the top of the treatment plant. Condensate from extracted vapor is separated from the vapor and combined with groundwater for treatment.

2.2.2.3. Lower Vadose Zone Soil, and Exposition Aquifer Groundwater

The ROD selected ERH with HVDPE to address contamination in the lower vadose-zone soil and Exposition Aquifer groundwater. During ERH, collected vapors were treated using a flameless thermal oxidizer followed by vapor phase GAC. The groundwater was treated using the same method described in Section 2.2.2.2.

ERH treatment was active for 200 days, from September 25, 2007, to April 10, 2008. Post-ERH remediation consisted of mostly groundwater extraction until April 21, 2012, when the plant was shut down because the LACSD discharge permit expired. The treatment plant was restarted upon reinstatement of the LACSD discharge permit on March 6, 2013.

2.3. SITE GEOLOGY/HYDROGEOLOGY

The Site geology and hydrogeology has been described in the ROD (2005). The following provides a brief summary of the relevant portions of that description.

2.3.1. Regional Geology/Hydrogeology

The Site is located on the Los Angeles–Orange County coastal plain, a structural basin formed by folding of the consolidated rocks that underlie the basin at great depths. Primary geologic/hydrogeologic units in the area, from youngest to oldest include:

- Recent Alluvium
- Pleistocene Lakewood Formation, including the Exposition and Gage/Gardena Aquifers
- Lower Pleistocene San Pedro Formation, including the Hollydale, Jefferson, Lynwood and Silverado Aquifers

There are two distinct hydrogeologic units within the study area: a perched groundwater zone and the stratigraphic equivalent of the regional Exposition Aquifer. Site stratigraphy as it pertains to groundwater as it is encountered at the Site is summarized below:

- Perched Zone: Typically found between 25 and 40 feet and occurs in semi-continuous and discontinuous lenses of poorly graded sand, silty sand, and sandy silt. These lenses are located at different depths ranging from 20 and 40 feet bgs and range from 5 inches to 5 feet in thickness. The geometry of the Perched Zone is controlled by the highly irregular and undulating top surface of the underlying, laterally extensive perching clay.
- Exposition Aquifer: Made up of five distinct saturated intervals typically encountered at depths between 65 and 175 feet bgs, and are separated by silt/clay intervals
    - **'A' Zone**: Typically found between 65 and 75 feet bgs and is comprised of fine silty and poorly graded sands locally interbedded with well graded sands ranging in thickness from 3 inches to 10 feet.
    - **'B' Zone**: Typically found between 80 and 90 feet bgs and is comprised of fine silty sands, poorly graded sands and poorly graded sands with silt ranging in thickness from 1.5 to 10 feet.
    - **'C' Zone**: Typically found between 100 and 110 feet bgs and is comprised of saturated dark greenish gray fine silty sands, poorly graded sands and poorly graded sands with silt ranging in thickness from 2 to 6 feet.
    - **'D' Zone**: Typically found between 125 and 145 feet bgs and is comprised of interbedded fine silty sands, poorly graded sands and poorly graded sands with silt, well-graded sands and gravelly sands and local well graded sandy gravel intervals ranging in thickness from 6 to 15 feet
    - **'E' Zone**: Typically found between 160 and 175 feet bgs and is comprised of alternating saturated intervals of 1-foot-thick fine silty sands and well-graded sands; the thickness of this unit has not been characterized.

The Exposition Aquifer 'A' through 'D' Zones are the predominant zones of concern.

3.0 FIELD AND ANALYTICAL METHODS

Presented in this section are the field collection/measurement techniques and laboratory analytical methods used during the event. Field and laboratory work were conducted in accordance with the SAP (TN&A 2007a), which included the Field Sampling Plan and Quality Assurance Project Plan (QAPP) and subsequent modifications approved by the U.S. EPA Region 9 Quality Assurance Group. Modifications to the SAP were needed as the analytical program sampling locations and analyses have changed over time as Site conditions have evolved and new data are collected and evaluated and the CSM updated. These modifications have been documented in the various quarterly and semi-annual sampling events.

The following sections discuss groundwater level measurements (Section 3.1), well resurvey (Section 3.2), groundwater sampling methodologies (Section 3.3), sample analysis and laboratory information (Section 3.4), and quality assurance (QA)/quality control (QC) (Section 3.5).

3.1. GROUNDWATER LEVEL MEASUREMENTS

OTIE collected groundwater elevation measurements Site-wide on June 17 and 18, 2013. Previously, OTIE temporarily shut down the groundwater extraction system on June 12 and the system remained inactive throughout the event to avoid interference with monitoring and sampling activities. Depth-to-water and total depth measurements were collected prior to initiating well purging and sample collection. Therefore the water level data and reported gradients represent non-pumping on static conditions.

Depth-to-water measurements were taken to an accuracy of ±0.01-foot using an electronic water level indicators that were checked for accuracy prior to use. Measurements were made relative to a permanent reference mark located or scribed onto the top of the casing at each well. Depth-to-water measurements relative to the top of casing are presented in Table 3-1. Field gauging sheets are presented in Appendix A.

3.2. WELL RESURVEY

Due to potential wellhead alterations, OTIE recommended resurveying select wells to ensure valid groundwater elevation calculations. On July 24 and August 8, 2013, a California-licensed surveyor surveyed the reference mark on select wells. The updated reference point elevation is included in Table 3-1. The surveyor report is presented in Appendix B.

3.3. GROUNDWATER SAMPLING METHODOLOGIES

Wells that were purged and sampled utilizing low flow-rate groundwater sampling procedures are presented on Table 3-2. The objective of low-flow sampling is to achieve a stabilized pumping water level with minimal drawdown to avoid stressing the formation and mobilizing fine-grained solids, and to obtain stabilized indicator parameters in the shortest time possible. The SAP suggests that drawdown should not exceed 10% of the total water column (TN&A 2007a). However, in wells with low groundwater yields or recharge rates, the prescribed maximum drawdown was unavoidably exceeded. Samples were collected from wells even if more than 10% drawdown was observed. These wells are footnoted on Table 3-2.

Aquifer stabilization is achieved per the SAP after three consecutive readings were within (TN&A 2007a):

- ± 0.2 for pH,
- ± 20 millivolts for oxidation-reduction potential,

- ± 0.2 milligrams per liter (mg/L) for dissolved oxygen,
- < 50 Nephelometric turbidity unit (NTU) for turbidity,
- ± 10% (± 2 degrees centigrade [°C]) for temperature, and
- ± 10% for conductivity.

Groundwater indicator parameters were recorded on groundwater purge logs (Appendix A). Wells with less than 12 inches of water column were not sampled, and a nearby well with sufficient water column was substituted instead. Groundwater level measurements collected at the time of purging and sampling were noted on the purging sheets and used for sampling purposes only.

Perched Zone wells were purged using portable 1¾-inch portable bladder pumps equipped with new sample tubing for each well. The exception was one well (B-27), which had to be sampled using a foot valve and clean disposable poly tubing due to a bend in the casing that excludes the use of a pump.

Each monitoring well (MW) is equipped with either a dedicated pump or dedicated sample tubing when a dedicated pump was unavailable. Extraction wells (identified by the prefix DA-, DAB-, or DB-, and select MWs) are permanently equipped with pneumatic extraction pumps or QED™ bladder pumps, to pump extracted groundwater to the treatment plant. Samples were collected through a built-in sample port on the pump discharge line.

Samples were transferred into the appropriate sample containers, placed in coolers with ice, and transported under appropriate chain of custody protocol to U.S. EPA's Contract Laboratory Program (CLP) selected analytical laboratory. Samples for U.S. EPA CLP Laboratory analysis were shipped on a daily basis via FedEx Priority Overnight™. Select samples were also submitted to Calscience Environmental Laboratories, Inc. (see Section 3.4). Copies of the completed chain-of-custody forms are provided in Appendix C.

All non-disposable sampling equipment and materials used during the field operations were decontaminated between each well.

Purge water generated from June 2013 semi-annual purging and sampling activities was containerized and pumped through the groundwater treatment system as a waste management procedure.

3.4. Sample Analysis And Laboratory Information

The analytical methods performed on individual groundwater samples are presented in Table 3-2. The analytical laboratories information and analytical methods is provided below:

Table 3-1 Analytical Laboratory Information

Laboratory	Case Number	Target Analytes	Method
CLP – KAP Technologies, Inc. The Woodlands, TX	42674	VOCS	Superfund Organic Method (SOM)01.2C/SOM01.2
Calscience Environmental Laboratories Inc. Garden Grove, CA (Calscience)	Not Applicable	1,4-Dioxane	SW8260B- Selective Ion Mode (SIM)

Samples were analyzed for a Target Compound List (TCL) VOC that includes Pemaco-specific COCs defined in the ROD (U.S. EPA 2005). Select groundwater samples were separately analyzed for 1,4-dioxane using SW8260B Selective Ion Mode (SIM) in order to attempt to obtain detection limits below the SSRL. Complete laboratory reports are included in Appendix C.

3.5. Quality Assurance/Quality Control (QA/QC) Samples

QA/QC samples included field duplicates (FD), trip blanks (TB), equipment rinsate blanks, and matrix spike/matrix spike duplicate (MS/MSD) samples. In general, one FD sample was collected per every 10 samples collected; one TB was included in every cooler used to transport VOC samples; and when applicable, one set of MS/MSD was collected for every 20 field samples collected. A temperature blank was also included in each cooler used to transport samples so that the receiving laboratory could confirm the proper preservation temperatures.

4.0 GROUNDWATER ELEVATION AND FLOW PATTERNS

Calculated groundwater elevations for wells that were resurveyed (Section 3.2) are reported in Table 3-1. Groundwater elevations from June 2013 are shown on potentiometric surface maps for the Perched Zone and each of the Exposition Aquifer 'A' through 'D' Zones (see Figures 4-1 through 4-5). A potentiometric surface map is not presented for the 'E' Zone because there is only one well screened in this zone.

Elevations in both extraction and monitoring wells were used to produce Figures 4-1 through 4-5. Groundwater elevation data are displayed alongside each well location in these figures. Data collected from wells that were not resurveyed have been excluded from water level evaluations. Data collected from wells screened through both the Exposition Aquifer 'A' and Exposition Aquifer 'B' Zones are not representative of either zone, and were therefore excluded.

4.1. PERCHED ZONE GROUNDWATER ELEVATIONS AND GRADIENTS

The following table presents the minimum and maximum observed groundwater elevations in the Perched Zone monitoring and extraction wells at the Site.

Table 4-1 Perched Zone Groundwater Elevation Summary

Minimum Elevation			Maximum Elevation		
Well	**ft msl**	**Date**	**Well**	**ft msl**	**Date**
PA-05	111.70	06/17/2013	B-38	125.16	06/18/2013

Eleven Perched Zone wells were either dry or had less than one foot of water column.

The June 2013 Perched Zone groundwater elevations and potentiometric surface are presented on Figure 4-1. Historically, Perched Zone groundwater generally flows to the east/southeast, toward the Los Angeles River (SulTRAC 2013). However, the June 2013 data show that groundwater flows radially toward an elongated trough near the northeasterly boundary of Riverfront Park. In other parts of the Site, groundwater generally flows south and southeast, sub-parallel to the Los Angeles River. Due to the irregular nature of groundwater flow within the Perched Zone, no groundwater gradient was calculated.

4.2. EXPOSITION 'A' ZONE

The following table presents the minimum and maximum observed groundwater elevations in the Exposition 'A' Zone in monitoring and extraction wells in the vicinity of the Pemaco Site in 2013.

Table 4-2 Exposition 'A' Zone Groundwater Elevation Summary

	Minimum Elevation		Maximum Elevation	
Well Type	**Well**	**ft msl**	**Well**	**ft msl**
Extraction	DA-7	78.32	DA-8	86.38
Monitoring	MW-10-75	75.98	MW-07-75	88.25

Three Exposition 'A' Zone wells were dry.

The June 2013 Exposition 'A' Zone groundwater elevations and potentiometric surface are presented on Figure 4-2.

The potentiometric data show that the groundwater gradient in the 'A' Zone generally flows west, away from the Los Angeles River. However, the gradient shows an apparent flow radially away from the MW-07-75, at the intersection of District Blvd and East 60th Street with the area south of the ERH treatment area having a northwesterly flow component.

The gradient is relatively steep in the southern portion of the Site near the river but becomes more gradual further from the river. An average groundwater gradient of 0.010 ft/ft was calculated for this event.

4.3. EXPOSITION 'B' ZONE

The observed range in groundwater elevation measurements in the confined Exposition 'B' Zone are shown in the following table.

Table 4-3 Exposition 'B' Zone Groundwater Elevation Summary

	Minimum Elevation		Maximum Elevation	
Well Type	**Well**	**ft msl**	**Well**	**ft msl**
Extraction	DB-1	76.82	DB-6	82.00
Monitoring	MW-10-90	71.74	MW-13-85	83.14

One Exposition 'B' Zone well was dry.

The June 2013 Exposition 'B' Zone groundwater elevations and potentiometric surface are presented on Figure 4-3.

The potentiometric data shows that the groundwater gradient in the Exposition 'B' Zone is relatively flat over the portion of the Site north of the ERH area. South of 59th Place and west of Walker Avenue the groundwater gradient is generally towards the west, with an increasing west-southwest component closer to Alamo Avenue. South of the ERH Area and east of Walker Avenue, the general groundwater gradient is towards the northwest.

The approximate gradient is 0.015 ft/ft. However, gradient is steeper in the southeast corner of the Site near the Los Angeles River and flattens out further from the river.

4.4. EXPOSITION 'C' ZONE

The range of groundwater elevation measurements in the Exposition 'C' Zone are presented in the following table.

Table 4-4 Exposition 'C' Zone Groundwater Elevation Summary

	Minimum Elevation		Maximum Elevation	
Well Type	**Well**	**ft msl**	**Well**	**ft msl**
Monitoring	MW-10-110	48.84	MW-24-110	47.37

One well was dry.

The June 2013 Exposition 'C' Zone groundwater elevations and potentiometric surface are presented on Figure 4-4.

The potentiometric data show that the groundwater gradient Exposition 'C' Zone flows south-southwest across the Site with a very gradual gradient calculated at 0.00098 ft/ft. South of the Site, the groundwater gradient appears to be westerly away from the river.

4.5. EXPOSITION 'D' & 'E' ZONES

The following table presents the range of groundwater elevations observed in the confined Exposition 'D' Zone:

Table 4-5 Exposition 'D' Zone Groundwater Elevation Summary

	Minimum Elevation		Maximum Elevation	
Well Type	**Well**	**ft msl**	**Well**	**ft msl**
Monitoring	MW-11-130	29.06	MW-23-145	30.95

The June 2013 Exposition 'D' Zone groundwater elevations and potentiometric surface are presented on Figure 4-5.

The potentiometric data shows that the groundwater gradient in the Exposition 'D' Zone flows southward across the Site at a calculated gradient of 0.0028 ft/ft.

Because there is only one monitoring well screened within the Exposition 'E' Zone (MW-10-170), no gradient data is available for this zone.

5.0 GROUNDWATER QUALITY AND MONITORING RESULTS

The following subsections discuss the June 2013 groundwater sampling results for monitoring and extraction wells screened in the Perched Zone and Exposition Zones 'A' through 'E' (Sections 5-1 through 5-6).

The following table provides an index to the tables that present analytical results for the individual hydrogeologic zones and the figures that show the TCE groundwater plumes.

Table 5-1 Index to Analytical Tables, Figures, and Graphs

COC	Type	Perched	'A' Zone	'B' Zone	'AB' Zone	'C' Zone	'D' Zone	'E' Zone
VOC Analytical Results	Table	5-1	5-2	5-3a	5-3b	5-4	5-5	5-5
1,4-dioxane Analytical Results	Table	5-6	5-6	5-6	5-6	5-6	5-6	5-6
Selected Primary COCs	Figure	5-1a	5-2a	5-3a	5-3a	5-4a	5-5a	5-5a
TCE Plume	Figure	None	5-2b	5-3b	5-3b	5-4b	5-5b	None
TCE Time vs. Concentration Plots	Graph	5-1a to 5-1d	5-2a to 5-2c	5-3a to 5-3g	5-3h to 5-3j	5-4a & 5-4b	5-5a & 5-5b	5-6a
Cis-1,2-DCE Time vs. Concentration Plots	Graph	None	None	5-3k to 5-3q	5-3r to 5-3t	5-4c & 5-4d	5-5c & 5-5d	None

OTIE evaluated TCE concentration trends in all wells and those compounds that exceeded their respective RAO in only the well(s) that the RAO was exceeded. Trends were evaluated based on cumulative historical groundwater analytical results presented in Appendix D. Time-concentration plots were only generated for TCE and cis-1,2-DCE in select zones.

Both chlorinated and non-chlorinated VOCs were detected at the Site; however only a few compounds exceeded their SSRLs. The discussion presented herein focuses on the COCs that exceeded the respective SSRL. Since the ROD defines a SSRL for 1,4-dioxane only for the Perched Zone (U.S. EPA 2005), OTIE adopted the Perched Zone 1,4-dioxane SSRL for all aquifer zones. The following table (next page) summarizes the COCs that exceeded the SSRL and the number of wells in each zone that had a concentration exceeding the SSRL:

Table 5-2 Summary of COCs Detected Above the SSRL

	Number of Wells Exceeding SSRL / Total Wells with Analytical Results for COC						
COC	Perched	'A' Zone	'B' Zone	'AB' Zone	'C' Zone	'D' Zone	'E' Zone
1,1-dichloroethene (1,1-DCE)	1/15	0/11	0/24	0/7	0/7	0/7	0/1
1,4-dioxane (SW8260SIM)	1/3	3/5	3/9	2/5	0/0	0/0	0/0
benzene	1/15	0/11	0/24	0/7	0/7	0/7	0/1
cis-1,2-dichloroethene (cis-1,2-DCE)	0/15	0/11	6/24	1/7	2/7	1/7	0/1
tetrachloroethene (PCE)	1/15	0/11	0/24	0/7	0/7	0/7	0/1
trichloroethene (TCE)	0/15	2/11	17/24	2/7	4/7	3/7	0/1
vinyl chloride (VC)	1/15	0/11	0/24	0/7	0/7	0/7	0/1

The detection limits reported for some samples exceeded the SSRL, most notably for VC and 1,4-dioxane when analyzed by SOM01.2C/SOM01.2. These elevated detection limits were not included in the above exceedance count.

5.1. Perched Zone Groundwater Sampling Results

Groundwater samples that did contain concentrations of COCs exceeding their respective SSRLs were limited to the area proximal to the north-northwest end of the ERH soil treatment (Figure 5-1). TCE was not exhibited in concentrations exceeding its SSRLs.

Concentration trends were evaluated for TCE, 1,1-DCE, 1,4-dioxane, benzene, PCE and VC.

- The TCE concentration trends in all wells show an overall decreasing trend (Graphs 5-1a thru d);
- Concentrations of 1,1-DCE and PCE have been variable in PC-06 without a discernible trend;
- Benzene concentrations in PD 04 are significantly lower than historic highs, but have fluctuated from close to the detection limit to just above the RAO since 2010;
- 1,4-dioxane and VC trends in SV-05 show a decreasing trend.

5.2. Exposition 'A' Zone Groundwater Sampling Results

Compounds that exceeded the SSRLs in the Exposition 'A' Zone were limited to three wells located west and northwest of the ERH Area (Figure 5-1b). The TCE plume is limited to two wells west and northwest of the ERH Area Figure 5-2b. The northern extent of TCE impact in the 'A' Zone was not defined using the wells sampled; however well MW-21-80 is located north of the TCE plume and could be used in future sampling events to delineate the plume.

TCE concentration vs. time plots show that TCE concentrations have been generally decreasing over time (Graphs 5-2a thru 5-2c).

1,4-dioxane was reported above the SSRL in two wells, DA-01 and DA-04. However, there is not enough data collected from DA-01 and DA-04 to determine a trend in these wells.

5.3. Exposition 'B' Zone Groundwater Sampling Results

Several wells are screened across both the 'A' and 'B' Zones. Although not exclusively screened in the 'B' Zone, these wells are discussed in this section because many of the 'A' Zone wells were dry during this reporting period, which suggests that the groundwater sampled from these wells was from the 'B' Zone aquifer.

The majority of the reported concentrations of TCE and cis-1,2-DCE above their SSRLs occurred in the 'B' Zone. The highest TCE concentrations were detected at the northern edge of the Site (Figure 5-3b). TCE concentrations generally decrease from north to south across the Site. South of the ERH Area TCE concentrations are below the SSRL with the exception of one well (DAB-6). There is an isolated well west of the residential block (MW-12-90) that contains TCE concentration above the SSRL. The on-Site plume is bounded only on the southwestern edge due to lack of data to the north and northeast.

The TCE concentration trends for the 'B' Zone extraction wells show a general decreasing or stable trend with the exception of two wells, DB-7 and DAB-8 located northwest and west of the ERH Area (Graphs 5-3a thru 5-3c, 5-3h, and 5-3i). TCE concentrations in these wells show an initial decrease following the ERH treatment, but have been increasing since about 2010. Stable trends following an

initial decrease after the ERH treatment are observed in wells DB-01, DB-03, and DB-04, all located west of the ERH Area.

TCE concentration trends in the 'B' Zone monitoring wells decreased following the ERH treatment in 2008. Since about 2010, wells located in the northern portion of the Site have been increasing while wells south of the Site have been decreasing (Graphs 5-3d thru 5-3g and 5-3j). Generally TCE concentration increases are most notable in the northern portion of the Site near MW-01-80, MW-20-85, and MW-21-90. TCE concentration trends become more stable in wells in the vicinity of the ERH Area (MW-08-85 and MW-28-90); however some wells in the ERH Area do have increasing TCE concentration trends (MW-29-85, MW-33-90, and RW-01-95). South of the Site TCE concentration trends are stable (MW-08-85 and MW-13-85) or decreasing (MW-05-85). The off-Site well to the west, MW-12-90, increased to above the SSRL for the first time since monitoring began in this well in 2001; previously TCE concentrations had been non-detect.

The cis-1,2-DCE concentrations above the SSRL are limited to the northern portion of the Site (Figure 5-3a). The highest concentration was reported in well MW-20-85. Cis-1,2-DCE concentrations generally decreased following ERH treatment, but have been increasing in select wells since about 2010 (Graphs 5-3k thru 5-3t). The wells with increasing trends are the same as those that currently have concentrations above the SSRL (DB-01, DB-07, DB-09, MW-20-85, MW-21-90, MW-22-90, and MW-01-80). Two wells which had concentrations that increased to above the SSRL since 2011, showed decreases in concentration below the SSRL during this sampling event (MW-29-85, MW-22-90).

The 1,4-dioxane concentrations above the SSRL are near DB-01 and north of DB-01 up to the northern boundary of the Site (Figure 5-3a). The highest 1,4-dioxane concentration was reported in DB-01. Concentration trends in the wells where 1,4-dioxane exceeds the SSRS are as follows:

- DB-01: declining;
- DAB-08 and MW-21-90: stable;
- MW-01-80 and MW-20-85: undetermined.

5.4. EXPOSITION 'C' ZONE GROUNDWATER SAMPLING RESULTS

The spatial extent of 'C' Zone monitoring wells is limited to the southern portion of the Site and off-Site wells to the south and west (Figure 5-4a). The TCE plume above the SSRL extends off-Site to the west and south of the ERH Area with the highest TCE concentration reported off-Site to the west (MW-23-110). The northern extent of the TCE plume is not defined.

With the exception of the two wells west of the ERH Area (MW-05-105 and MW-23-110), TCE concentration trends are decreasing (Graphs 5-4a and 5-4b). The TCE concentration in MW-05-105 is gradually increasing while the concentration in MW-23-110 increased significantly in October 2012 and has been increasing more slowly in the two sampling events since then.

The extent of cis-1,2-DCE impacted groundwater mirrors the TCE plume but does not extend as far south(Figure 5-4a). Concentrations have been decreasing in MW-23-110 but began to increase in late 2012 (Graphs 5-4c). While concentrations in well MW-05-105 are not above the SSRL, concentrations in this well have been increasing since 2011(Graphs 5-4c). The cis-1,2-DCE concentration trend in MW-24-110 showed a spike in early 2011, but has been generally decreasing since. However, the concentration during the last sampling event increased to above the SSRL (Graph 5-4d).

5.5. EXPOSITION 'D' ZONE GROUNDWATER SAMPLING RESULTS

The spatial extend of the 'D' Zone monitoring wells is restricted to the southern portion of the Site and off-Site to the west and south (Figure 5-5a). The TCE plume extends from south of the ERH Area south along the Los Angeles River with the highest concentration in on-Site well MW-25-130. The southern and eastern extent of the plume under the Los Angeles River is not defined. TCE concentration trends in the wells south of the Site along the Los Angeles River are increasing while the other monitored wells appear to have stable concentrations (Graphs 5-5a and 5-5b).

The cis-1,2-DCE concentration trend in MW-25-130 shows a slow increase beginning in early 2012 (Graph 5-5c).

5.6. EXPOSITION 'E' ZONE GROUNDWATER SAMPLING RESULTS

One well is screened in this zone and is located off-Site to the east-southeast. No COCs were detected in this well. The TCE concentrations over time presented in Graph 5-6 show that TCE has historically never been detected in this zone.

6.0 QUALITY ASSURANCE/QUALITY CONTROL (QA/QC)

The following section summarizes the quality assurance (QA) and quality control (QC) analysis that is included as Appendix C. Data validation on VOC data was performed by the U.S. EPA CLP Electronic Data Exchange and Evaluation System. An OTIE staff chemist validated the 1,4-dioxane analysis performed by Calscience.

Data review and validation procedures for analytical results were followed as described the SAP (TN&A 2007a) and U.S. EPA Guidelines (U.S. EPA 1999).

The relative percent difference calculated for the field duplicate pairs were below the established control limit, with the following exceptions:

- Cis-1,2-dichloroethene in duplicate pairs Y8X01 & Y8X00 associated with well DA-01,
- Cis-1,2-dichloroethene in duplicate pairs Y8X15 & Y8X14 associated with well DB-02, and
- Methyl acetate in duplicate pairs Y8WZ4 & Y8WZ3 associated with well DAB-05.

Detections in the trip blank samples did not require in any of the data to be qualified.

Equipment blank (EB) samples had no detections with the following exception:

- 1,4-dioxane in EB sample 20130621-001 collected on 21 June 2013.

As a result, all samples collected on the same day as this EB equipment blank were “J” flagged if the sample result was less than 10X the EB detection.

There were several laboratory blank detections in the VOC analysis that resulted in sample results being “J” flagged by the CLP.

Detected concentrations of 1,4-dioxane in laboratory blanks resulted in select “J” flagged results below the reporting limit to be validated as not detected at the reporting limit.

All analytical results detected below reporting limits, but above method detection limits are also considered as quantitative estimates (flagged with “J”).

7.0 THE W.W. HENRY COMPANY SAMPLING SUMMARY

The following section summarizes information relevant to Pemaco from the second quarterly 2013 sampling of the W.W. Henry Company (W.W. Henry) wells (Arcadis 2013). The W.W. Henry site is located adjacent to Pemaco, to the west. Data collected from the W.W. Henry site may assist with some of the data gaps to the west and south of the Pemaco Site.

During the second quarter 2013 reporting period, Arcadis monitored and sampled:

- Perched Zone groundwater monitoring wells (including five from the Pemaco site); and
- Exposition 'A' Zone and 'B' Zone wells installed by Arcadis.

One conclusion of the report suggested that "chlorinated compounds detected in groundwater in the Perched, Exposition 'A', and Exposition 'B' Zones on the west of the Pemaco Site likely represent contamination from the Pemaco Site."

This report conclusion was based on data that did not include samples collected from the northern and northeastern Pemaco wells or reference data from groundwater sampling reports for Pemaco. As a result, this conclusion may not consider the possibility of a source regionally upgradient of the Pemaco Site.

The W.W. Henry data were not collected concurrently with the Pemaco semi-annual sampling event, so the data may not be directly correlated to the data from the Pemaco semi-annual sampling event. However, the W.W. Henry data infers that western extent of the Pemaco TCE plume can be partially defined using W.W. Henry wells.

OTIE recommends that some W.W. Henry wells be monitored during the next semi-annual sampling event to fill in some of the data gaps west of the Pemaco Site. Table 7-1 below lists the W.W. Henry wells and the reason for the recommended monitoring. These wells are west of Walker Avenue and south of 59th Place and are shown on Figure 7-1. Note that gradient data for these wells should be obtained during the Pemaco groundwater sampling event. Samples for analysis should only be collected if the W.W. Henry data is more than 60 days before or after the planned Pemaco groundwater analysis.

Table 7-1 W.W. Henry Groundwater Monitoring Wells Recommended to be Included in Pemaco Sampling

Well	Well Location, Current Condition, and OTIE Recommendations for Pemaco Sampling
MW-28A	W.W. Henry well south of 59th Place. Has been historically non-detect. Recommend to use for gradient data.
MW-32A	W.W. Henry well located on 59th Place. Has been historically non-detect. Recommend to use for gradient data.
MW-33A	W.W. Henry well located south of 59th Place. Has been historically non-detect. Recommend to use for gradient data.
MW-25B	W.W. Henry well located in 59th Place. Very low to non-detect for TCE. Recommend to use for 'B' Zone isoconcentration and gradient data.
MW-28B	W.W. Henry well located south of 59th Place. Has had TCE detections as high as 380 µg/L. Recommend to use for 'B' Zone isoconcentration and gradient data.

8.0 SUMMARY

This report presents the first semi-annual monitoring activities at the Pemaco Superfund Site 2013. Groundwater data were collected between June 19 and 27, 2013 to evaluate the site-specific DQOs (TN&A 2007a; OTIE 2011):

- Are groundwater VOC concentrations declining in the treatment areas?
- Are groundwater COC concentrations below RAOs?

The following evaluates the analytical results for each zone against the DQOs.

Perched Zone

- Under non-pumping (static) conditions, groundwater flows radially toward an elongated trough near the northeasterly boundary of Riverfront Park. In other parts of the Site, groundwater generally flows south and southeast, sub-parallel to the Los Angeles River.
- TCE concentrations show a general decrease compared to historic highs. PCE concentrations in PC-06 are highly variable.
- TCE was not reported above the RAO; however 1,1-DCE, 1,4-dioxane, benzene, PCE, and VC were each detected once above their respective RAOs.
- 1,4-dioxane and VC trends in SV-05 show a decreasing trend; both of them located northern and west of the ERH Area.

Exposition 'A' Zone

- Under non-pumping (static) conditions, groundwater generally flows west, away from the Los Angeles River. The gradient is relatively steep in the southern portion of the Site near the river but becomes more gradual further from the river
- Compounds that exceeded the SSRLs in the Exposition 'A' Zone were limited to three wells located west and northwest of the ERH Area.
- The TCE plume is limited to two wells west and northwest of the ERH Area and was not defined to the north using the wells sampled.
- TCE concentrations have been generally decreasing over time.
- 1,4-dioxane was reported above the SSRL in two wells; both of them located north and west of the ERH Area.

Exposition 'B' Zone

- Under non-pumping (static) conditions, groundwater flow is generally westerly with the steepest gradient south of the Site near South District Boulevard and 60th Street.
- The highest TCE concentrations were detected at the northern edge of the Site. TCE concentrations generally decrease from north to south across the Site. There is an isolated well west of the residential block (MW-12-90) that contains TCE concentration above the SSRL. The on-Site plume is bounded only on the southwestern edge due to lack of data to the north and northeast.

- The TCE concentration trends for the 'B' Zone extraction wells show a general decreasing or stable trend with the exception of two wells, DB-7 and DAB-8 located northwest and west of the ERH Area.
- TCE concentration trends in the 'B' Zone monitoring wells decreased following the ERH treatment, but since about 2010 have been increasing in wells located in the northern portion of the Site and decreasing in wells south of the Site.
- The cis-1,2-DCE concentrations above the SSRL are limited to the northern and western portion of the Site. cis-1,2-DCE concentrations generally decreased following ERH treatment, but have been increasing since about 2010 in wells in the northern portion of the Site.
- There are five wells with 1,4-dioxane concentrations above the SSRL, located near the north and western portion of the Site.
- Samples from the W.W. Henry site have detected concentrations of chlorinated VOCs in wells west of the Pemaco Site.

Exposition 'C' Zone

- Groundwater flow beneath the Site is generally south-southwest across the Site.
- The spatial extent of 'C' Zone monitoring wells is limited to the southern portion of the Site and off-Site wells to the south and west. The northern extent of the TCE plume is not defined.
- TCE concentration trends are decreasing with the exception of the two wells west of the ERH Area (MW-05-105 and MW-23-110).
- The extent of cis-1,2-DCE impacted groundwater resembles the TCE plume but does not extend as far south.

Exposition 'D' Zone

- The groundwater gradient is generally towards the south across the Site.
- The TCE plume extends from south of the ERH Area and appears to parallel the Los Angeles River. The southern and eastern extent of the plume under the Los Angeles River is not defined.
- TCE concentration trends in the wells south of the Site along the Los Angeles River (MW-25-130 and MW-07-130) are increasing while the other monitored wells appear to have stable concentrations.
- The cis-1,2-DCE concentration trend in MW-25-130 shows a slow increase beginning in early 2012.

Exposition 'E' Zone

- A groundwater gradient could not be calculated.
- No COCs were detected in this Zone.

The next semi-annual sampling is scheduled for December 2013. Select groundwater monitoring wells from the W.W. Henry site should be included in the sampling program to help characterize the TCE plume west of the ERH Area.

9.0 REFERENCES

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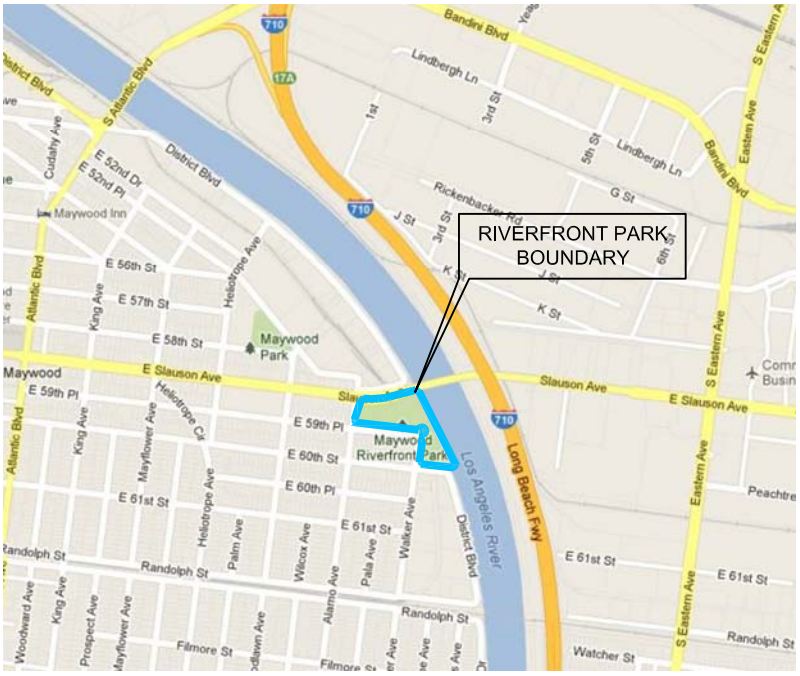
FIGURES



Legend

Riverfront Park Boundary

Former Pemaco Property

0 200

SCALE: 1"=200 FT
(APPROXIMATE)

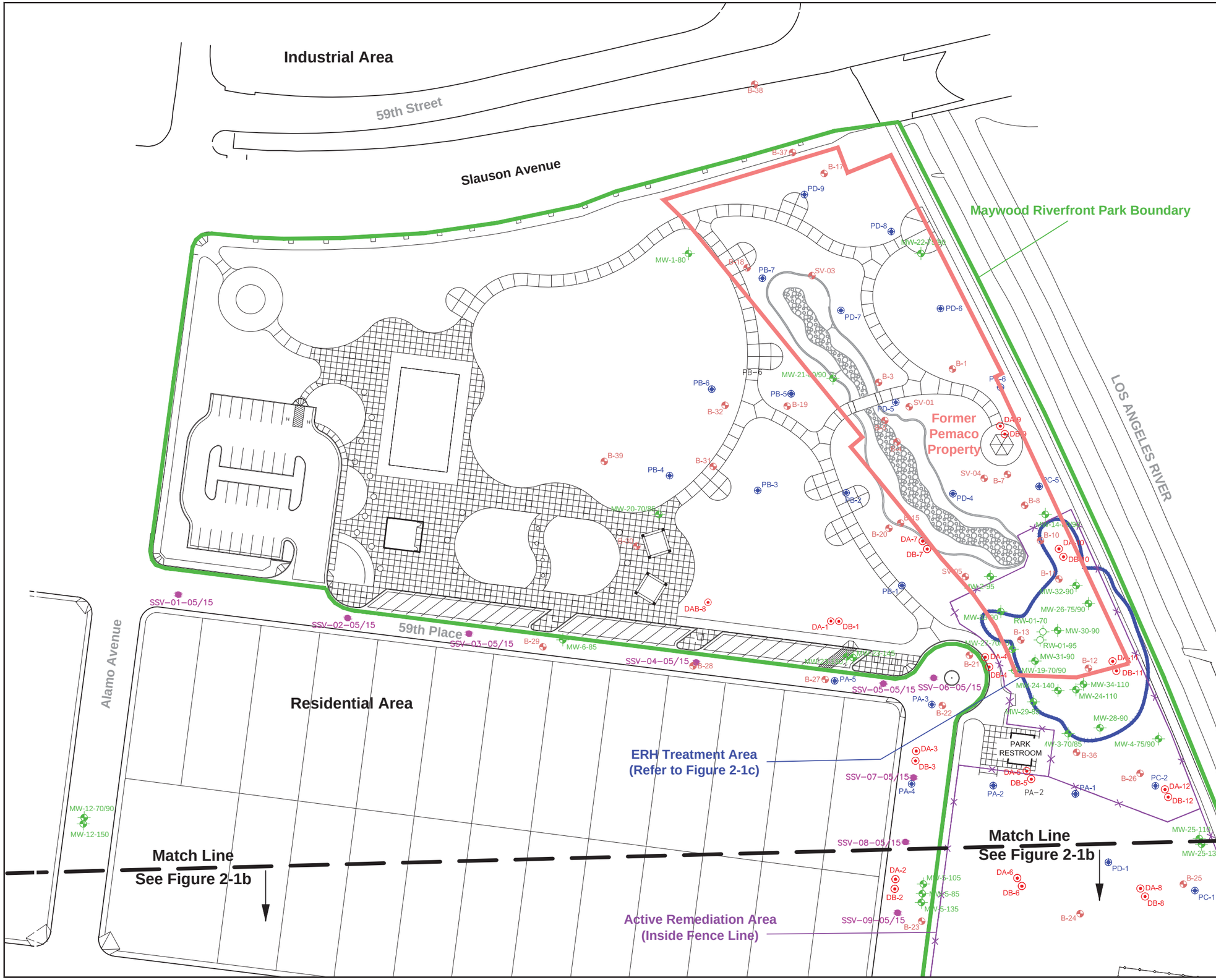
Figure 1-1
Site Location Map

Pemaco Superfund Site
Maywood, California

OTIE
Oneida Total Integrated Enterprises

Date: September 12, 2013

File: Fig 1 - Pemaco Site Location



LEGEND:

- DAB-1, DA-1, DB-1 — Vacuum Enhanced Groundwater Extraction Well, Exposition Aquifer
- MW-1-80, B-01, SV-01 — Monitoring Well, Perched Zone and Exposition Aquifer
- RW-1-70 — Recovery Well (Currently Used as a Monitoring Well), Exposition Aquifer
- PB-1 — Dual-Phase Extraction Well, Perched Zone
- SSV-06-05/15 — Soil Vapor Monitoring Probes
- Former Pemaco Property
- Maywood Riverfront Park Boundary
- ERH Treatment Area
- Active Remediation Area

NOTES:

1. USEPA = United States Environmental Protection Agency, Region 9
2. ERH = Electrical Resistive Heating

N W E S

Approximate Scale in Feet

0 80 160

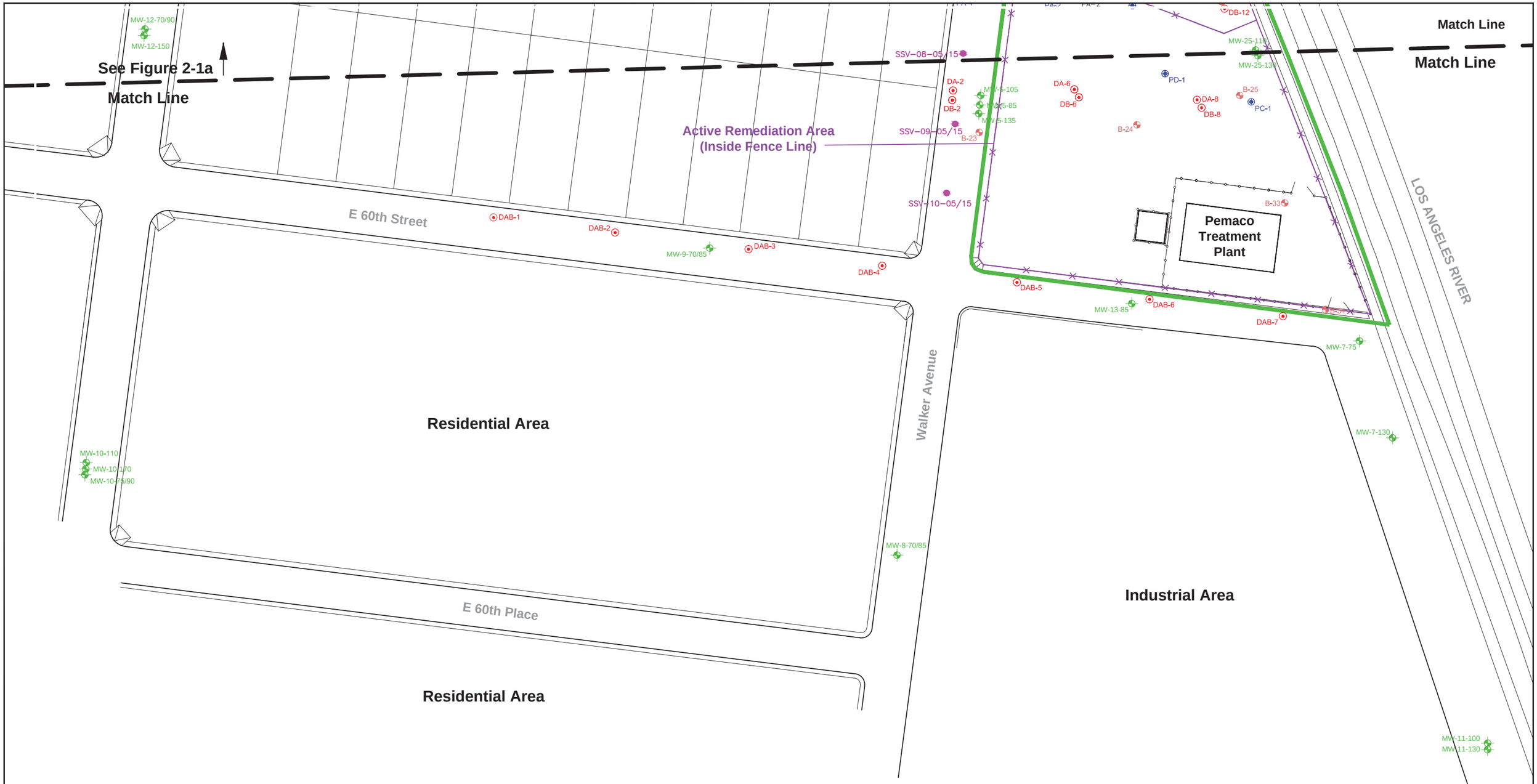
Figure 2-1a
Site Plan with All Monitoring and Extraction Well Locations

Pemaco Superfund Site
Maywood, California

OTIE Oneida Total Integrated Enterprises

Date: September 12, 2013

File: Pem_Site.dwg



LEGEND:

- DAB-1, DA-1, DB-1 — Vacuum Enhanced Groundwater Extraction Well, Exposition Aquifer
- MW-1-80, B-01, SV-01 — Monitoring Well, Perched Zone and Exposition Aquifer
- RW-1-70 — Recovery Well (Currently Used as a Monitoring Well), Exposition Aquifer
- PB-1 — Dual-Phase Extraction Well, Perched Zone
- SSV-06-05/15 — Soil Vapor Monitoring Probes
- Former Pemaco Property
- Maywood Riverfront Park Boundary
- ERH Treatment Area
- Active Remediation Area

NOTES:

1. USEPA = United States Environmental Protection Agency, Region 9
2. ERH = Electrical Resistive Heating

N
W E
S

Approximate Scale in Feet

0 80 160

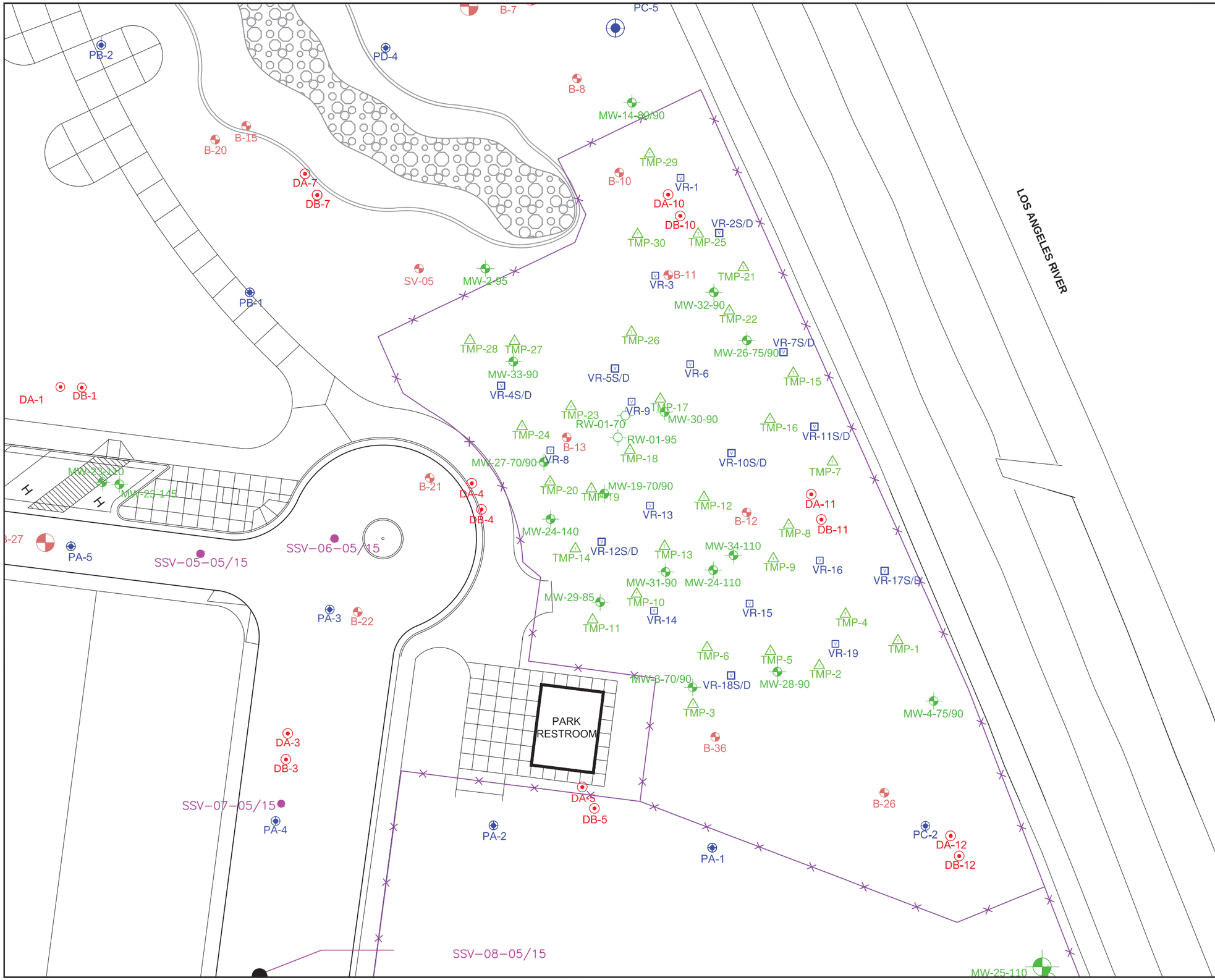
Figure 2-1b
Site Plan with All Monitoring and Extraction Well Locations

Pemaco Superfund Site
Maywood, California

OTIE
Oneida Total Integrated Enterprises

Date: September 12, 2013

File: Pem_Site.dwg



LEGEND:

DAB-1, DA-1, DB-1	Vacuum Enhanced Groundwater Extraction Well, Exposition Aquifer
MW-1-80, B-01, SV-01	Monitoring Well, Perched Zone and Exposition Aquifer
RW-1-70	Recovery Well (Currently Used as a Monitoring Well), Exposition Aquifer
PB-1	Dual-Phase Extraction Well, Perched Zone
VR-11S/D	ERH Vapor Recovery Well, Upper and Lower Vadose Zone
TMP-7	ERH Temperature Monitoring Probes
SSV-06-05/15	Soil Vapor Monitoring Probes
	Active Remediation Area

NOTES:

1. USEPA = United States Environmental Protection Agency, Region 9
2. ERH = Electrical Resistive Heating

N
W E
S

Approximate Scale in Feet

0 30 60

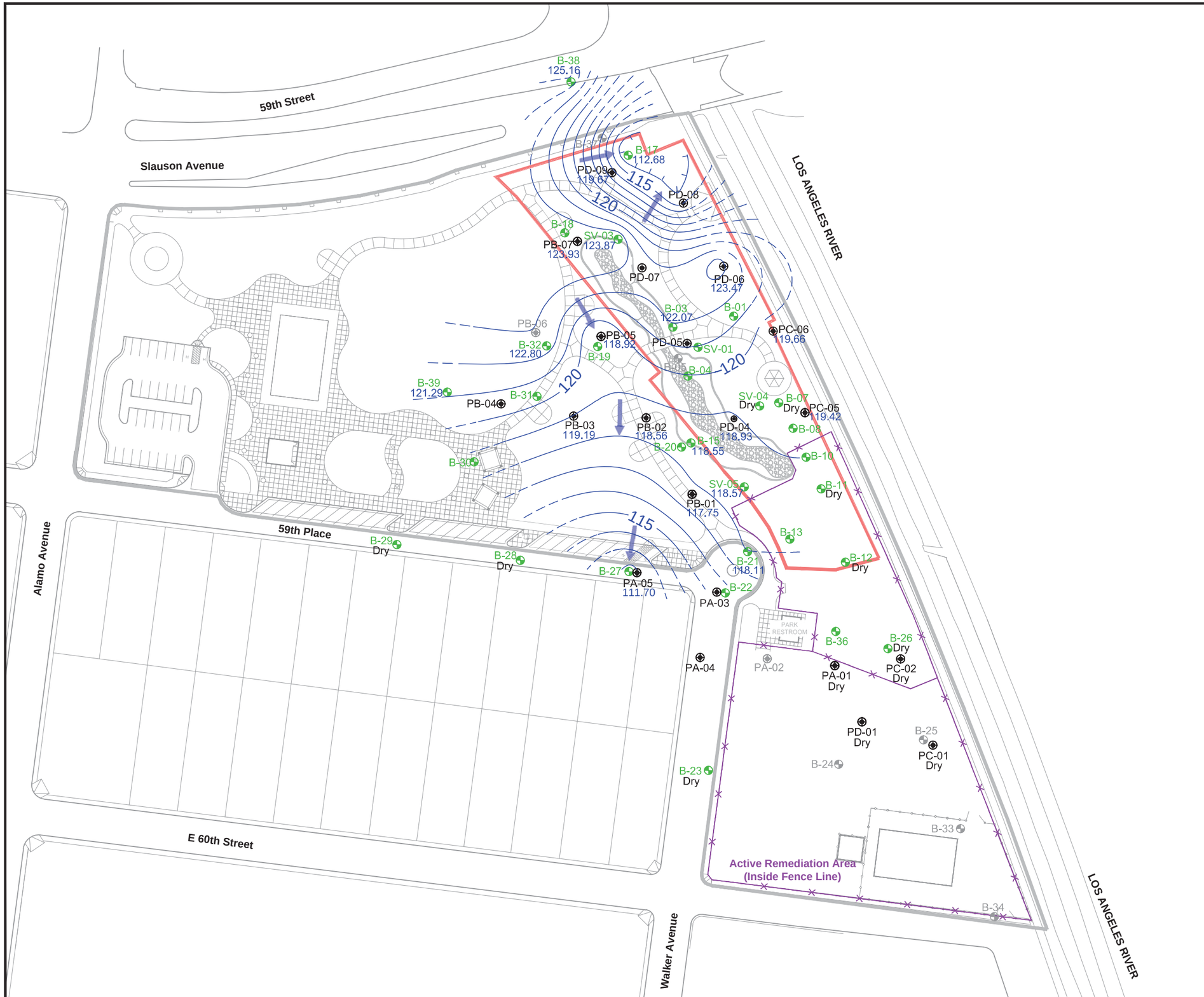
Figure 2-1c
Site Plan with All Monitoring and Extraction Well Locations

Pemaco Superfund Site
Maywood, California

OTIE
Oneida Total Integrated Enterprises

Date: September 12, 2013

File: GWMR Fig 2-1c.dwg



LEGEND:

PB-1	U.S. EPA, Extraction Well, Perched Zone
B-01 SV-01	U.S. EPA, Monitoring Well, Perched Zone
PB-1	Grayed Wells Indicate Abandoned or Inaccessible
Dry	Dry Indicates less than one foot of water in well
	Groundwater Contour (One-Foot Intervals; Dashed Where Inferred)
	Groundwater Flow Direction
122.78	Groundwater Elevation
	Former Pemaco Property
	Riverfront Park Boundary
	Active Remediation Area

NOTES:

1. Groundwater elevations represent static (non-pumping) conditions. Remediation pumps were turned off one week prior to water level measurements.
2. Wells screened in intervals below the perched zone are not shown in this figure.
3. All groundwater elevations are expressed in feet above mean sea level.
4. The survey is accurate to 0.01-foot vertically and is referenced to the North American Vertical Datum 1988 (NAVD 88) relative to mean sea level and 0.1-foot horizontally and is referenced to the State Plane Coordinate System, North American Datum 1983 (NAD 83).

U.S. EPA = United States Environmental Protection Agency, Region 9

N
W E
S

Approximate Scale in Feet

0 100 200

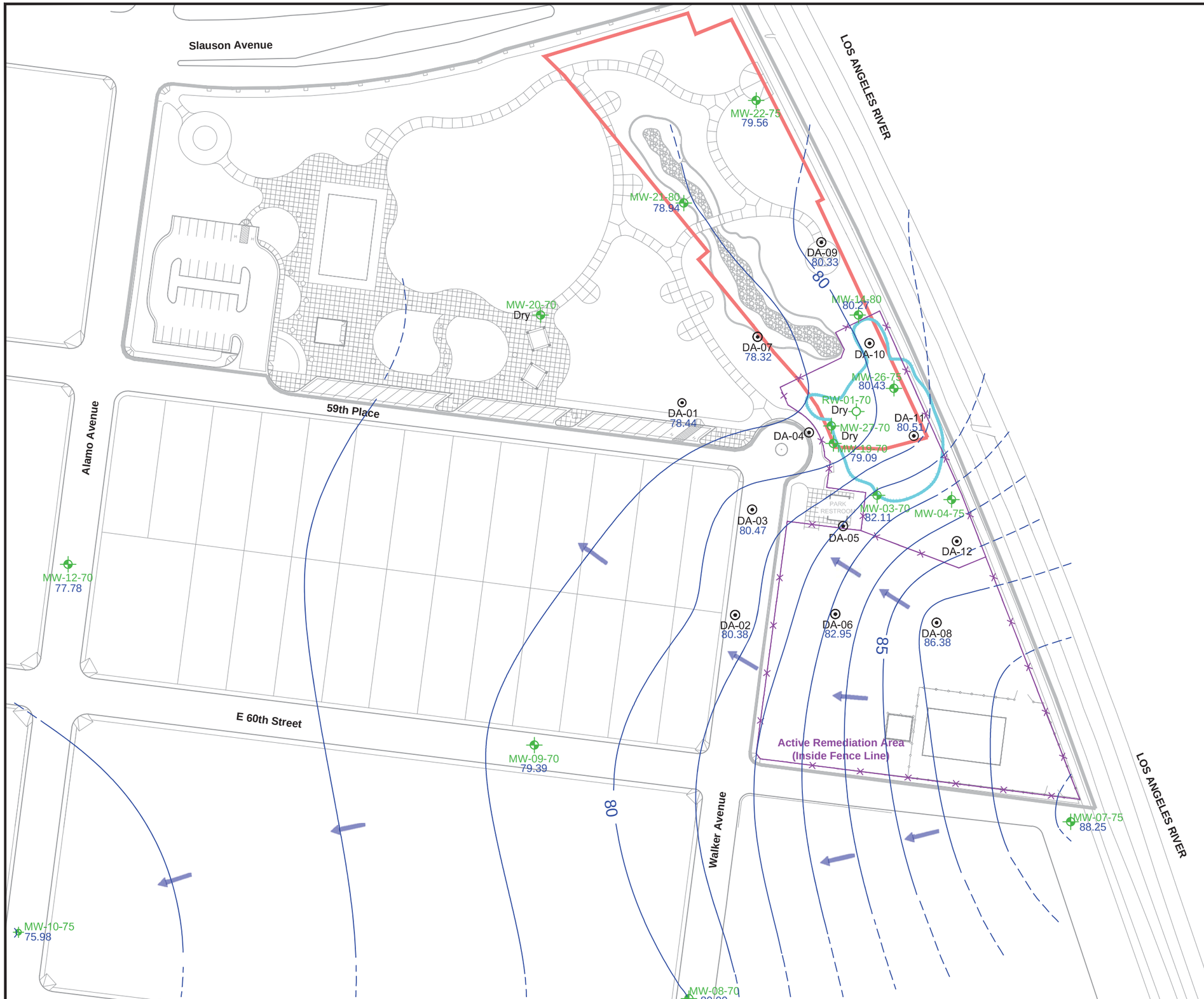
Figure 4-1
Groundwater Gradient Maps
(Static, Non-Pumping)
Perched Zone, June 2013

Pemaco Superfund Site
Maywood, California

OTIE
Oneida Total Integrated Enterprises

Date: April 3, 2014

File: Pem_Site_GW Contour.dwg



LEGEND:

- DA-1 — U.S. EPA, Extraction Well, Individual Screens for the 'A' Zone
- MW-1-80 — U.S. EPA, Monitoring Well, Exposition Aquifer
- RW-1-70 — U.S. EPA, Recovery Well, Exposition Aquifer (Currently Used as a Monitoring Well)
- Dry — Dry Indicates less than one foot of water in well
- Groundwater Contour (One-Foot Intervals; Dashed Where Inferred)
- Groundwater Flow Direction
- 80.29 — Groundwater Elevation
- Former Pemaco Property
- Riverfront Park Boundary
- ERH Treatment Area
- Active Remediation Area

NOTES:

1. Groundwater elevations represent static (non-pumping) conditions. Remediation pumps were turned off one week prior to water level measurements.
2. Wells screened in intervals above or below the 'A' zone are not shown in this figure.
3. All groundwater elevations are expressed in feet above mean sea level.
4. The survey is accurate to 0.01-foot vertically and is referenced to the North American Vertical Datum 1988 (NAVD 88) relative to mean sea level and 0.1-foot horizontally and is referenced to the State Plane Coordinate System, North American Datum 1983 (NAD 83).

U.S. EPA = United States Environmental Protection Agency, Region 9
ERH = Electrical Resistive Heating

N
W E
S

Approximate Scale in Feet

0 100 200

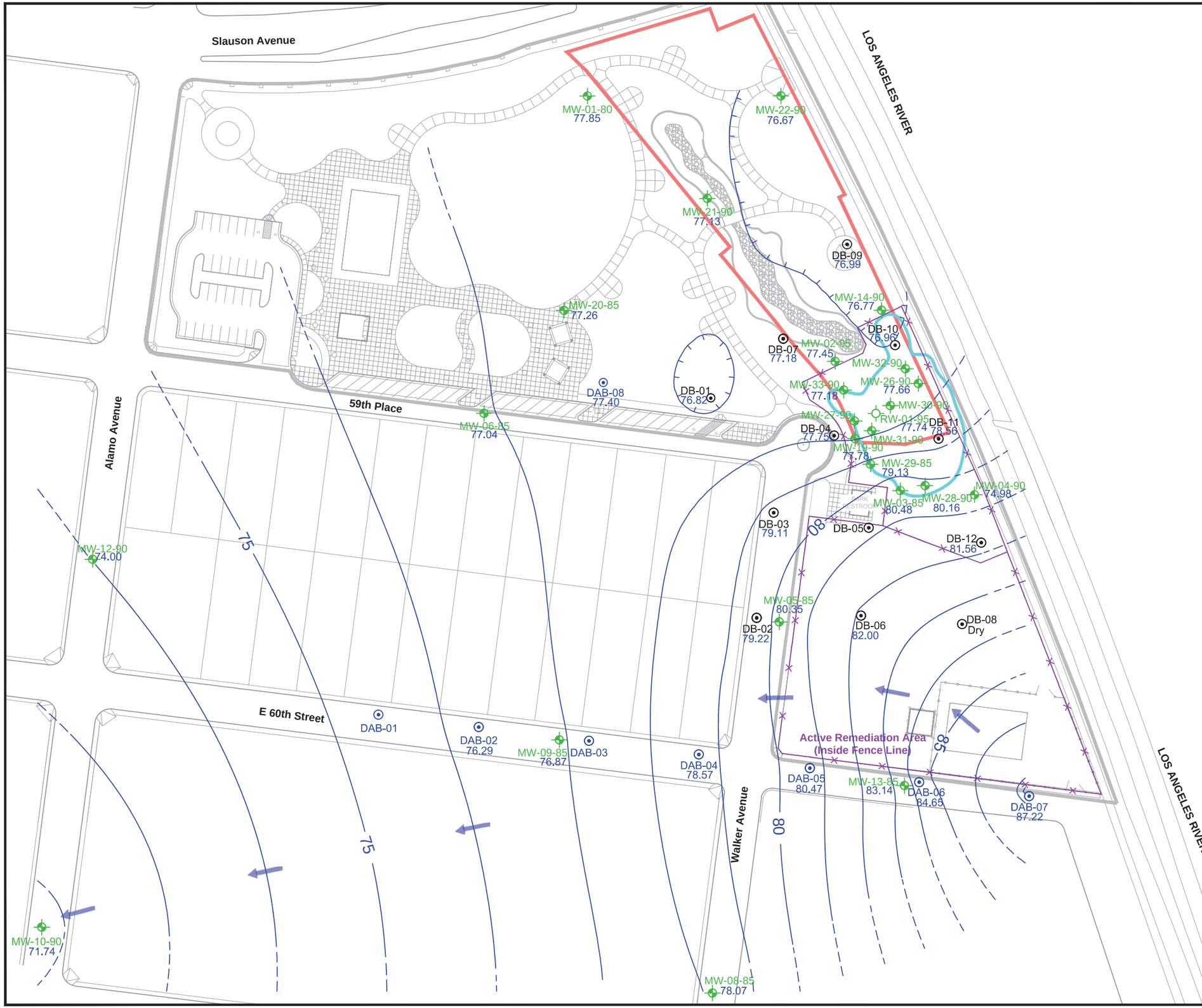
Figure 4-2
Groundwater Gradient Maps
(Static, Non-Pumping)
Exposition 'A' Zone, June 2013

Pemaco Superfund Site
Maywood, California

OTIE
Oneida Total Integrated Enterprises

Date: April 3, 2014

File: Pem_Site_GW Contour.dwg



LEGEND:

DB-1	U.S. EPA, Extraction Well, Individual Screens for the 'B' Zone
DAB-1	U.S. EPA, Extraction Well, Screened though Both 'A' and 'B' Zones
MW-1-80	U.S. EPA, Monitoring Well, Exposition Aquifer
RW-1-70	U.S. EPA, Recovery Well, Exposition Aquifer (Currently Used as a Monitoring Well)
	Groundwater Contour (One-Foot Intervals; Dashed Where Inferred)
	Groundwater Flow Direction
76.96	Groundwater Elevation
	Former Pemaco Property
	Riverfront Park Boundary
	ERH Treatment Area
	Active Remediation Area

NOTES:

1. Groundwater elevations represent static (non-pumping) conditions. Remediation pumps were turned off one week prior to water level measurements.
2. Wells screened in intervals above or below the 'B' zone are not shown in this figure.
3. All groundwater elevations are expressed in feet above mean sea level.
4. The survey is accurate to 0.01-foot vertically and is referenced to the North American Vertical Datum 1988 (NAVD 88) relative to mean sea level and 0.1-foot horizontally and is referenced to the State Plane Coordinate System, North American Datum 1983 (NAD 83).

U.S. EPA = United States Environmental Protection Agency, Region 9
ERH = Electrical Resistive Heating

N
W E
S

Approximate Scale in Feet

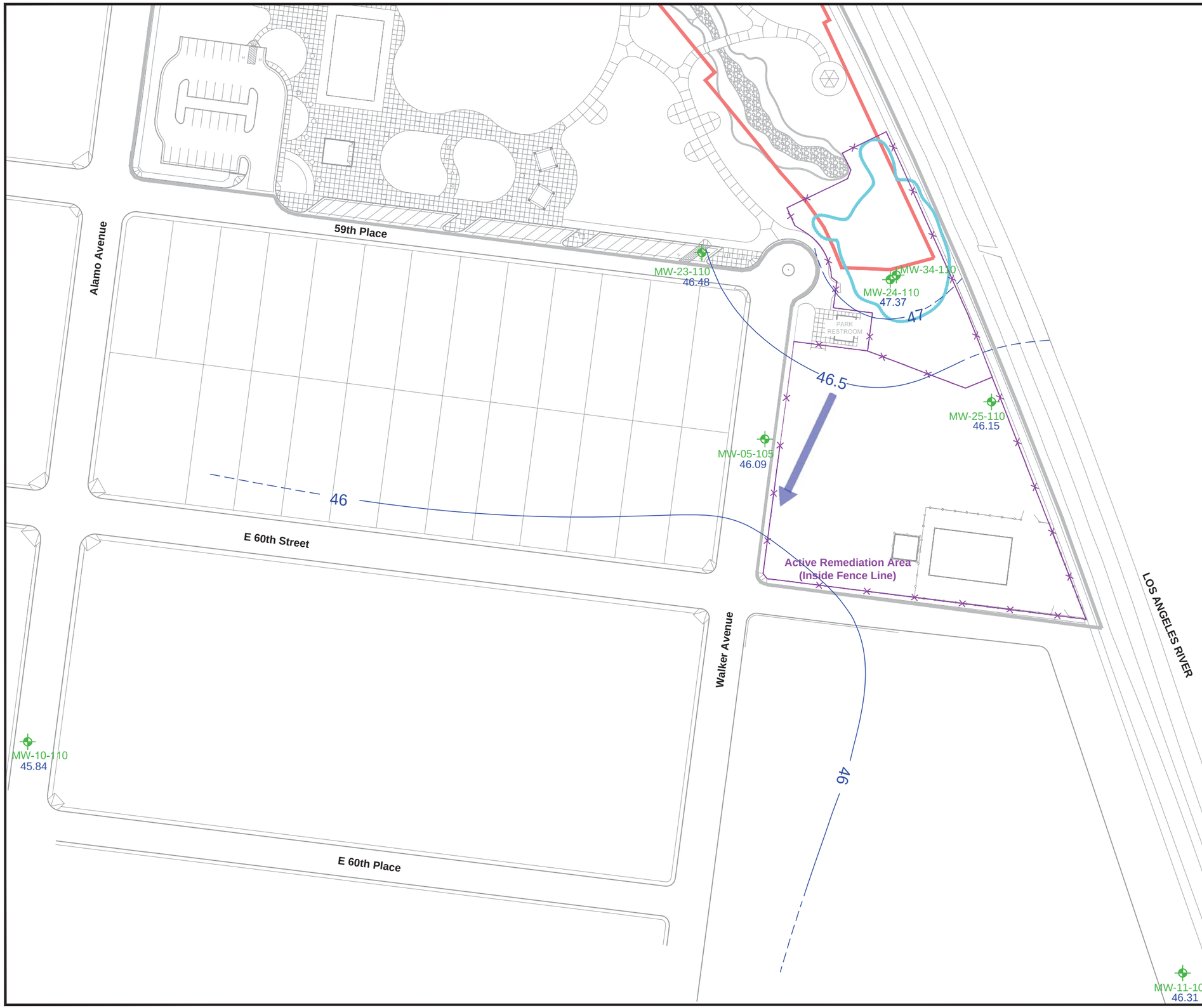
0 100 200

Figure 4-3
Groundwater Gradient Maps
(Static, Non-Pumping)
Exposition 'B' and 'A'&'B' Zones, June 2013

Pemaco Superfund Site
Maywood, California

OTIE
Oneida Total Integrated Enterprises

Date: April 3, 2014
File: Pem_Site_GW Contour.dwg



LEGEND:

- MW-1-80 U.S. EPA, Monitoring Well, Exposition Aquifer
- Groundwater Contour (0.5-Foot Intervals; Dashed Where Inferred)
- Groundwater Flow Direction
- 46.15 Groundwater Elevation
- Former Pemaco Property
- Riverfront Park Boundary
- ERH Treatment Area
- Active Remediation Area

NOTES:

1. Groundwater elevations represent static (non-pumping) conditions. Remediation pumps were turned off one week prior to water level measurements.
2. Wells screened in intervals above or below the 'C' zone are not shown in this figure.
3. All groundwater elevations are expressed in feet above mean sea level.
4. The survey is accurate to 0.01-foot vertically and is referenced to the North American Vertical Datum 1988 (NAVD 88) relative to mean sea level and 0.1- foot horizontally and is referenced to the State Plane Coordinate System, North American Datum 1983 (NAD 83).

U.S. EPA = United States Environmental Protection Agency, Region 9
ERH = Electrical Resistive Heating

N
W E
S

Approximate Scale in Feet

0 100 200

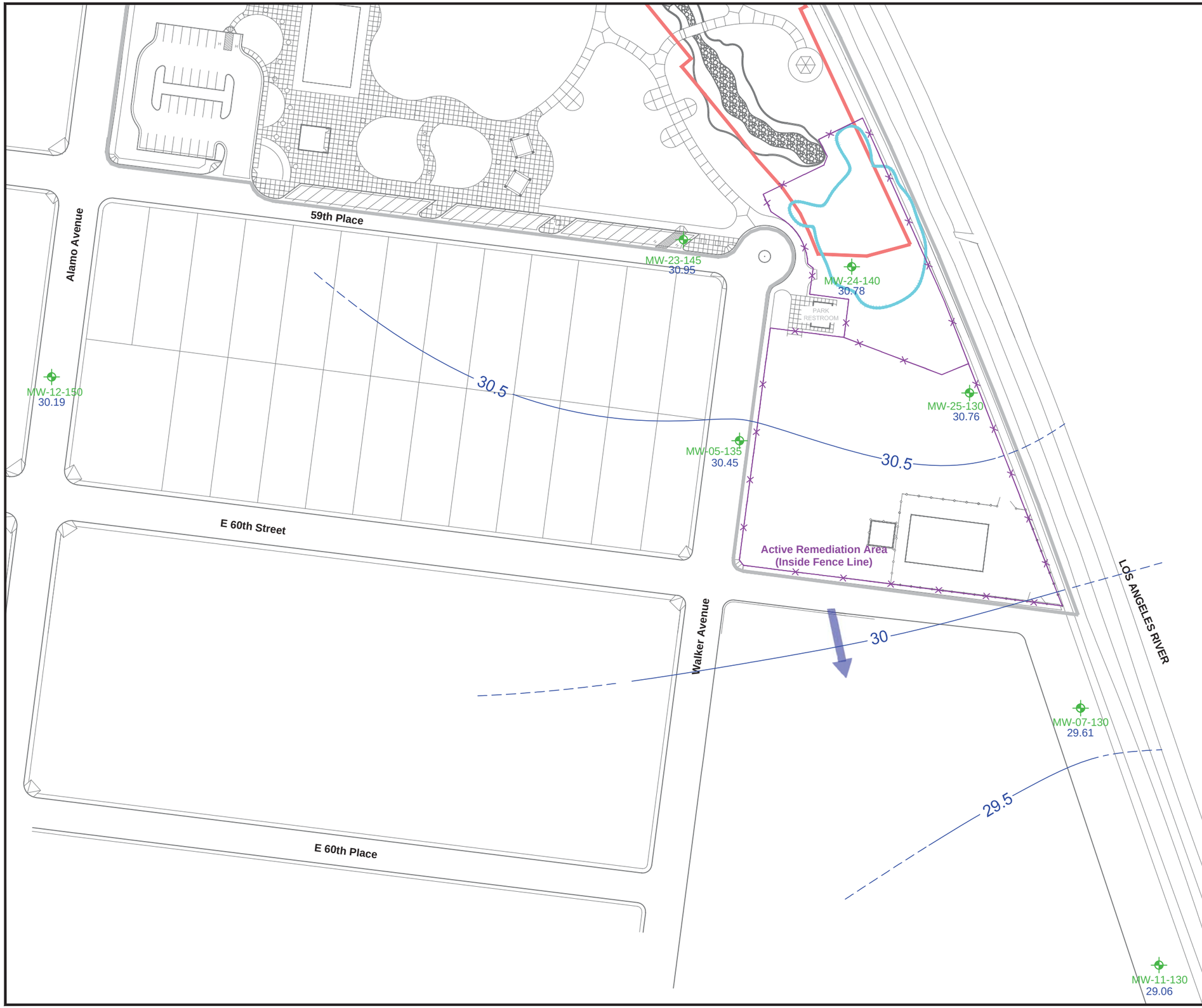
Figure 4-4
Groundwater Gradient Maps
(Static, Non-Pumping)
Exposition 'C' Zone, June 2013

Pemaco Superfund Site
Maywood, California

OTIE
Oneida Total Integrated Enterprises

Date: April 3, 2014

File: Pem_Site_GW Contour.dwg



LEGEND:

- MW-1-80 U.S. EPA, Monitoring Well, Exposition Aquifer
- Groundwater Contour (0.5-Foot Intervals; Dashed Where Inferred)
- Groundwater Flow Direction
- 30.78 Groundwater Elevation
- Former Pemaco Property
- Riverfront Park Boundary
- ERH Treatment Area
- Active Remediation Area

NOTES:

1. Groundwater elevations represent static (non-pumping) conditions. Remediation pumps were turned off one week prior to water level measurements.
2. Wells screened in intervals above or below the 'D' zone are not shown in this figure.
3. All groundwater elevations are expressed in feet above mean sea level.
4. The survey is accurate to 0.01-foot vertically and is referenced to the North American Vertical Datum 1988 (NAVD 88) relative to mean sea level and 0.1-foot horizontally and is referenced to the State Plane Coordinate System, North American Datum 1983 (NAD 83).

U.S. EPA = United States Environmental Protection Agency, Region 9
ERH = Electrical Resistive Heating

N
W E
S

Approximate Scale in Feet

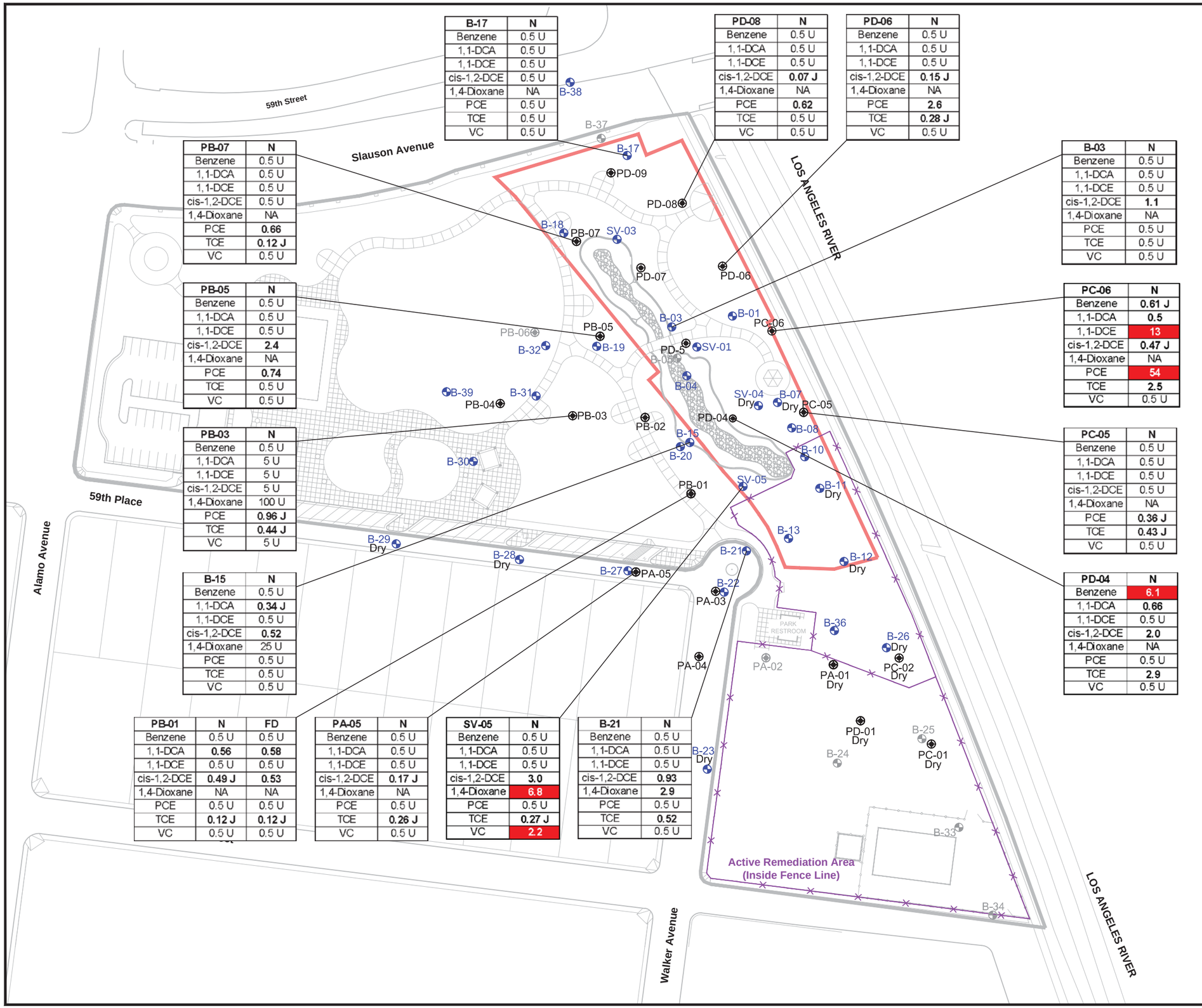
0 100 200

Figure 4-5
Groundwater Gradient Maps
(Static, Non-Pumping)
Exposition 'D' Zone, June 2013

Pemaco Superfund Site
Maywood, California

OTIE
Oneida Total Integrated Enterprises

Date: April 3, 2014
File: Pem_Site_GW Contour.dwg



B-17	N
Benzene	0.5 U
1,1-DCA	0.5 U
1,1-DCE	0.5 U
cis-1,2-DCE	0.5 U
1,4-Dioxane	NA
PCE	0.5 U
TCE	0.5 U
VC	0.5 U

PD-08	N
Benzene	0.5 U
1,1-DCA	0.5 U
1,1-DCE	0.5 U
cis-1,2-DCE	**0.07 J**
1,4-Dioxane	NA
PCE	**0.62**
TCE	0.5 U
VC	0.5 U

PD-06	N
Benzene	0.5 U
1,1-DCA	0.5 U
1,1-DCE	0.5 U
cis-1,2-DCE	**0.15 J**
1,4-Dioxane	NA
PCE	**2.6**
TCE	**0.28 J**
VC	0.5 U

PB-07	N
Benzene	0.5 U
1,1-DCA	0.5 U
1,1-DCE	0.5 U
cis-1,2-DCE	0.5 U
1,4-Dioxane	NA
PCE	**0.66**
TCE	**0.12 J**
VC	0.5 U

B-03	N
Benzene	0.5 U
1,1-DCA	0.5 U
1,1-DCE	0.5 U
cis-1,2-DCE	**1.1**
1,4-Dioxane	NA
PCE	0.5 U
TCE	0.5 U
VC	0.5 U

PB-05	N
Benzene	0.5 U
1,1-DCA	0.5 U
1,1-DCE	0.5 U
cis-1,2-DCE	**2.4**
1,4-Dioxane	NA
PCE	**0.74**
TCE	0.5 U
VC	0.5 U

PC-06	N
Benzene	**0.61 J**
1,1-DCA	**0.5**
1,1-DCE	**13**
cis-1,2-DCE	**0.47 J**
1,4-Dioxane	NA
PCE	**54**
TCE	**2.5**
VC	0.5 U

PB-03	N
Benzene	0.5 U
1,1-DCA	5 U
1,1-DCE	5 U
cis-1,2-DCE	5 U
1,4-Dioxane	100 U
PCE	**0.96 J**
TCE	**0.44 J**
VC	5 U

PC-05	N
Benzene	0.5 U
1,1-DCA	0.5 U
1,1-DCE	0.5 U
cis-1,2-DCE	0.5 U
1,4-Dioxane	NA
PCE	**0.36 J**
TCE	**0.43 J**
VC	0.5 U

B-15	N
Benzene	0.5 U
1,1-DCA	**0.34 J**
1,1-DCE	0.5 U
cis-1,2-DCE	**0.52**
1,4-Dioxane	25 U
PCE	0.5 U
TCE	0.5 U
VC	0.5 U

PD-04	N
Benzene	**6.1**
1,1-DCA	**0.66**
1,1-DCE	0.5 U
cis-1,2-DCE	**2.0**
1,4-Dioxane	NA
PCE	0.5 U
TCE	**2.9**
VC	0.5 U

PB-01	N	FD
Benzene	0.5 U	0.5 U
1,1-DCA	**0.56**	**0.58**
1,1-DCE	0.5 U	0.5 U
cis-1,2-DCE	**0.49 J**	**0.53**
1,4-Dioxane	NA	NA
PCE	0.5 U	0.5 U
TCE	**0.12 J**	**0.12 J**
VC	0.5 U	0.5 U

PA-05	N
Benzene	0.5 U
1,1-DCA	0.5 U
1,1-DCE	0.5 U
cis-1,2-DCE	**0.17 J**
1,4-Dioxane	NA
PCE	0.5 U
TCE	**0.26 J**
VC	0.5 U

SV-05	N
Benzene	0.5 U
1,1-DCA	0.5 U
1,1-DCE	0.5 U
cis-1,2-DCE	**3.0**
1,4-Dioxane	**6.8**
PCE	0.5 U
TCE	**0.27 J**
VC	**2.2**

B-21	N
Benzene	0.5 U
1,1-DCA	0.5 U
1,1-DCE	0.5 U
cis-1,2-DCE	**0.93**
1,4-Dioxane	**2.9**
PCE	0.5 U
TCE	**0.52**
VC	0.5 U

LEGEND:

- PB-1 — U.S. EPA, Extraction Well, Perched Zone
- B-01, SV-01 — U.S. EPA, Monitoring Well, Perched Zone
- PB-1 — Grayed Wells Indicate Abandoned or Inaccessible
- Dry — Dry Indicates less than one foot of water in well
- Former Pemaco Property
- Riverfront Park Boundary
- Active Remediation Area

NOTES:

1. All analyte concentrations are expressed in µg/L.
2. Wells without a chembox were not sampled during the first semi-annual groundwater monitoring event.
3. Red highlighting indicates a result that exceeds the SSRL.
4. Bold font indicates an anlytical detection.
5. Perched Zone SSRLs (µg/L):
   1,1-DCA: 5
   1,1-DCE: 6
   1,4-Dioxane: 3
   Benzene: 1
   cis-1,2-DCE: 6
   PCE: 5
   TCE: 5
   VC: 0.5

U.S. EPA = United States Environmental Protection Agency, Region 9
ERH = Electrical Resistive Heating
SSRL = Site Specific Remediation Limit
µg/L = micrograms per liter
1,1-DCA = 1,1-Dichloroethane
1,1-DCE = 1,1-Dichloroethene
cis-1,2-DCE = cis-1,2-Dochhloroethene
PCE = Tetrachloroethene
TCE = Trichloroethene
VC = Vinyl Chloride
N = normal sample
FD = field duplicate
U = not detected above reporting limit
J = estimated value
NA = not available

N W E S

Approximate Scale in Feet

0 100 200

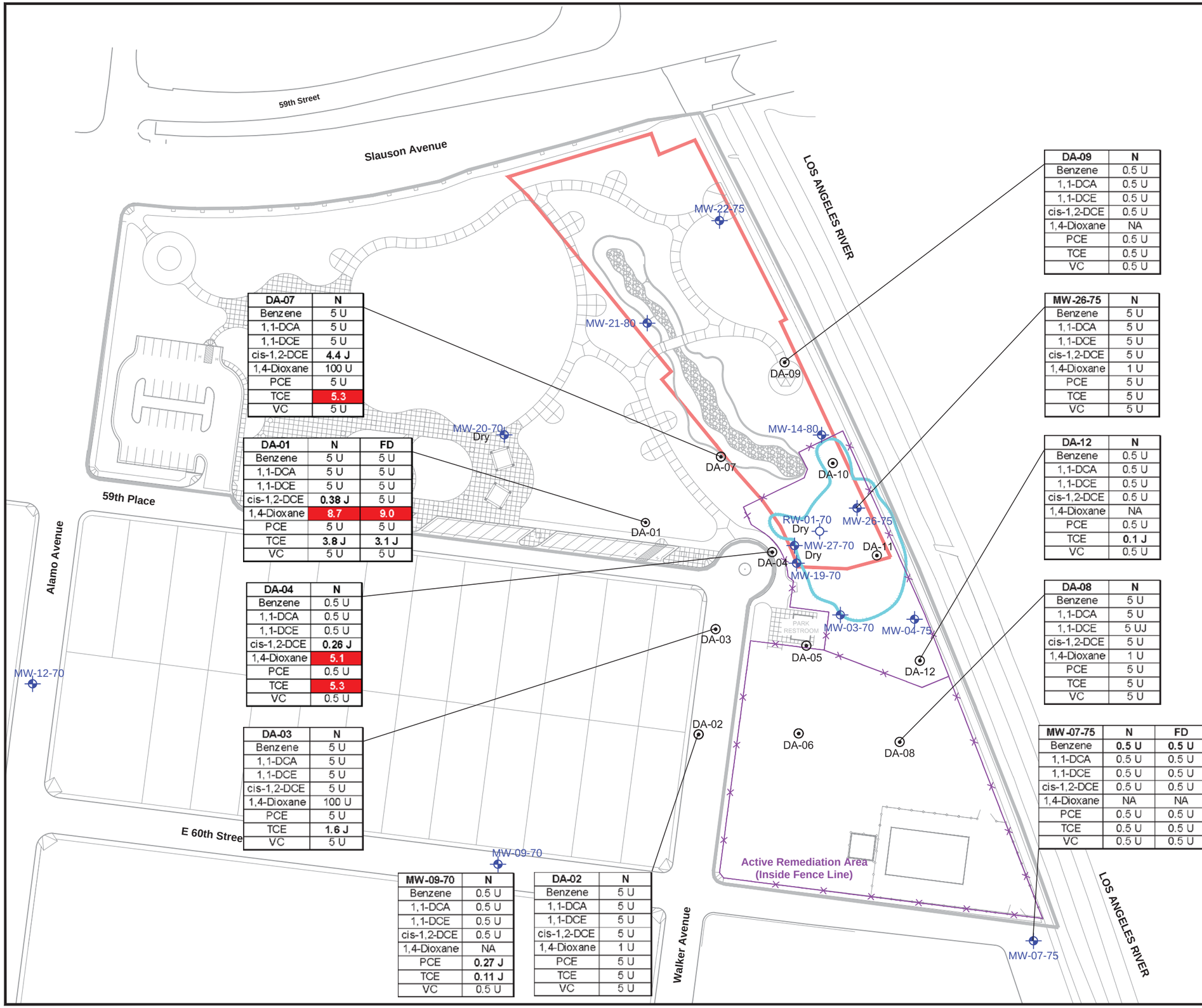
Figure 5-1a
Chemicals of Concern in Groundwater
Perched Zone, June 2013

Pemaco Superfund Site
Maywood, California

OTIE Oneida Total Integrated Enterprises

Date: November 6, 2013

File: Pem_Site_GWMR.dwg



DA-09	N
Benzene	0.5 U
1,1-DCA	0.5 U
1,1-DCE	0.5 U
cis-1,2-DCE	0.5 U
1,4-Dioxane	NA
PCE	0.5 U
TCE	0.5 U
VC	0.5 U

MW-26-75	N
Benzene	5 U
1,1-DCA	5 U
1,1-DCE	5 U
cis-1,2-DCE	5 U
1,4-Dioxane	1 U
PCE	5 U
TCE	5 U
VC	5 U

DA-12	N
Benzene	0.5 U
1,1-DCA	0.5 U
1,1-DCE	0.5 U
cis-1,2-DCE	0.5 U
1,4-Dioxane	NA
PCE	0.5 U
TCE	**0.1 J**
VC	0.5 U

DA-08	N
Benzene	5 U
1,1-DCA	5 U
1,1-DCE	5 UJ
cis-1,2-DCE	5 U
1,4-Dioxane	1 U
PCE	5 U
TCE	5 U
VC	5 U

MW-07-75	N	FD
Benzene	**0.5 U**	**0.5 U**
1,1-DCA	0.5 U	0.5 U
1,1-DCE	0.5 U	0.5 U
cis-1,2-DCE	0.5 U	0.5 U
1,4-Dioxane	NA	NA
PCE	0.5 U	0.5 U
TCE	0.5 U	0.5 U
VC	0.5 U	0.5 U

DA-07	N
Benzene	5 U
1,1-DCA	5 U
1,1-DCE	5 U
cis-1,2-DCE	**4.4 J**
1,4-Dioxane	100 U
PCE	5 U
TCE	**5.3**
VC	5 U

DA-01	N	FD
Benzene	5 U	5 U
1,1-DCA	5 U	5 U
1,1-DCE	5 U	5 U
cis-1,2-DCE	**0.38 J**	5 U
1,4-Dioxane	**8.7**	**9.0**
PCE	5 U	5 U
TCE	**3.8 J**	**3.1 J**
VC	5 U	5 U

DA-04	N
Benzene	0.5 U
1,1-DCA	0.5 U
1,1-DCE	0.5 U
cis-1,2-DCE	**0.26 J**
1,4-Dioxane	**5.1**
PCE	0.5 U
TCE	**5.3**
VC	0.5 U

DA-03	N
Benzene	5 U
1,1-DCA	5 U
1,1-DCE	5 U
cis-1,2-DCE	5 U
1,4-Dioxane	100 U
PCE	5 U
TCE	**1.6 J**
VC	5 U

MW-09-70	N
Benzene	0.5 U
1,1-DCA	0.5 U
1,1-DCE	0.5 U
cis-1,2-DCE	0.5 U
1,4-Dioxane	NA
PCE	**0.27 J**
TCE	**0.11 J**
VC	0.5 U

DA-02	N
Benzene	5 U
1,1-DCA	5 U
1,1-DCE	5 U
cis-1,2-DCE	5 U
1,4-Dioxane	1 U
PCE	5 U
TCE	5 U
VC	5 U

LEGEND:

- DA-1 — U.S. EPA, Extraction Well, Individual Screens for the 'A' Zone
- MW-1-80 — U.S. EPA, Monitoring Well, Exposition Aquifer
- RW-1-70 — U.S. EPA, Recovery Well, Exposition Aquifer (Currently Used as a Monitoring Well)
- Dry — Dry Indicates less than one foot of water in well
- Former Pemaco Property
- Riverfront Park Boundary
- ERH Treatment Area
- Active Remediation Area

NOTES:

1. All analyte concentrations are expressed in µg/L.
2. Wells without a chembox were not sampled during the first semi-annual groundwater monitoring event.
3. Red highlighting indicates a result that exceeds the SSRL.
4. Bold font indicates an anlytical detection.
5. 'A' Zone SSRLs (µg/L):
   1,1-DCE: 6
   Benzene: 1
   cis-1,2-DCE: 6
   PCE: 5
   TCE: 5
   VC: 0.5
6. Adopted SSRL (µg/L):
   1,4-Dioxane: 3

U.S. EPA = United States Environmental Protection Agency, Region 9
ERH = Electrical Resistive Heating
SSRL = Site Specific Remediation Limit
µg/L = micrograms per liter
1,1-DCA = 1,1-Dichloroethane
1,1-DCE = 1,1-Dichloroethene
cis-1,2-DCE = cis-1,2-Dochhloroethene
PCE = Tetrachloroethene
TCE = Trichloroethene
VC = Vinyl Chloride
N = normal sample
FD = field duplicate
U = not detected above reporting limit
J = estimated value
NA = not available

N W E S

Approximate Scale in Feet

0 100 200

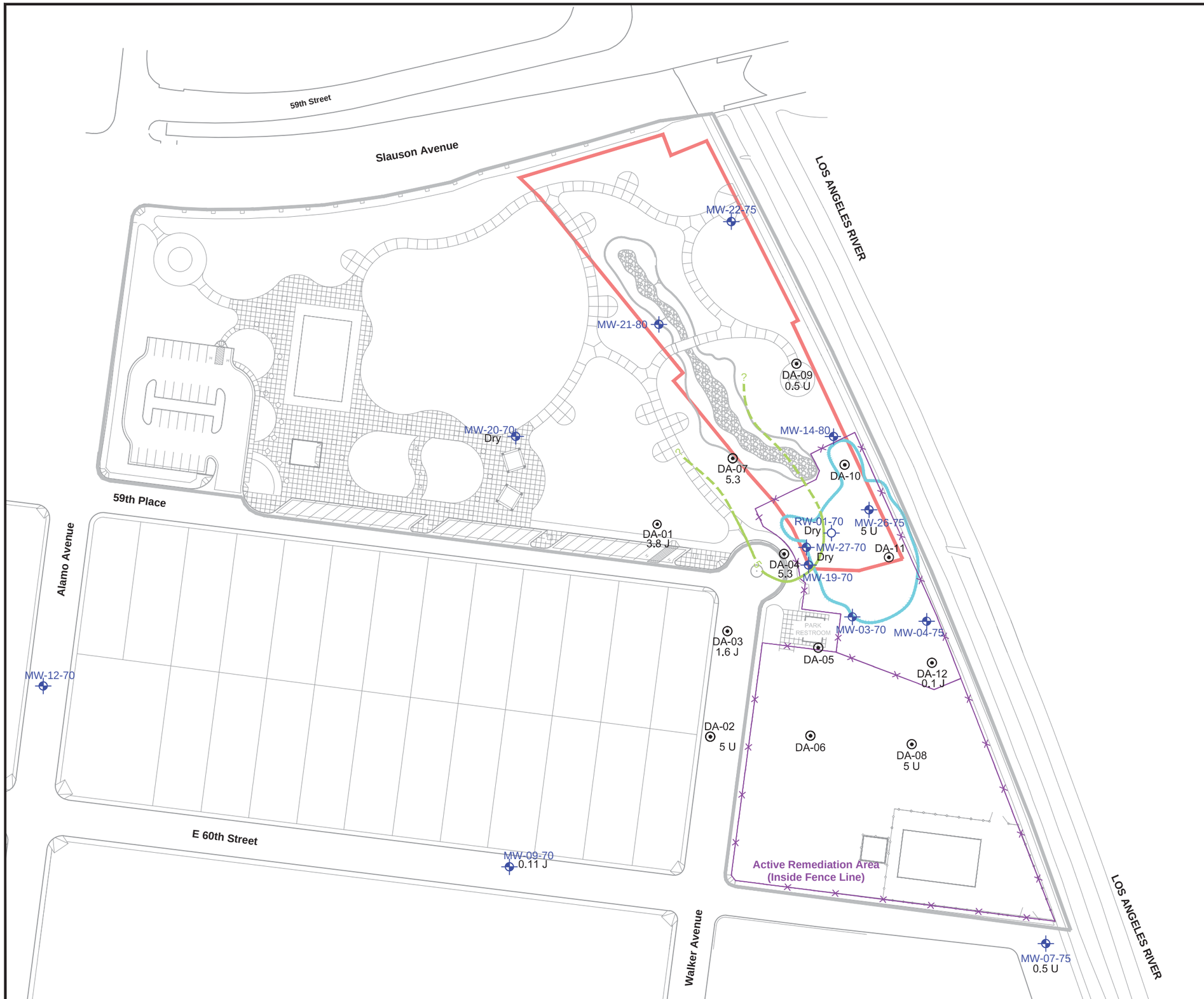
Figure 5-2a
Chemicals of Concern in Groundwater
Exposition 'A' Zone, June 2013

Pemaco Superfund Site
Maywood, California

OTIE Oneida Total Integrated Enterprises

Date: November 6, 2013

File: Pem_Site_GWMR.dwg



LEGEND:

DA-1	U.S. EPA, Extraction Well, Individual Screens for the 'A' Zone
MW-1-80	U.S. EPA, Monitoring Well, Exposition Aquifer
RW-1-70	U.S. EPA, Recovery Well, Exposition Aquifer (Currently Used as a Monitoring Well)
	5 µg/L TCE Isoconcentration Contour (Dashed Where Inferred)
5.3	TCE Concentration
	Former Pemaco Property
	Riverfront Park Boundary
	ERH Treatment Area
	Active Remediation Area

NOTES:

1. All analyte concentrations are expressed in µg/L.
2. The SSRL for TCE is 5 µg/L.
3. Wells screened above or below the 'A' zone are not shown on this figure.
4. For duplicate samples, the higher concentration results are shown.
5. Wells without results were not sampled during the first semi-annual groundwater monitoring event.

U.S. EPA = United States Environmental Protection Agency, Region 9
ERH = Electrical Resistive Heating
SSRL = Site Specific Remediation Limit
µg/L = micrograms per liter
TCE = Trichloroethene
U = not detected above reporting limit
J = estimated value

N
W E
S

Approximate Scale in Feet

0 100 200

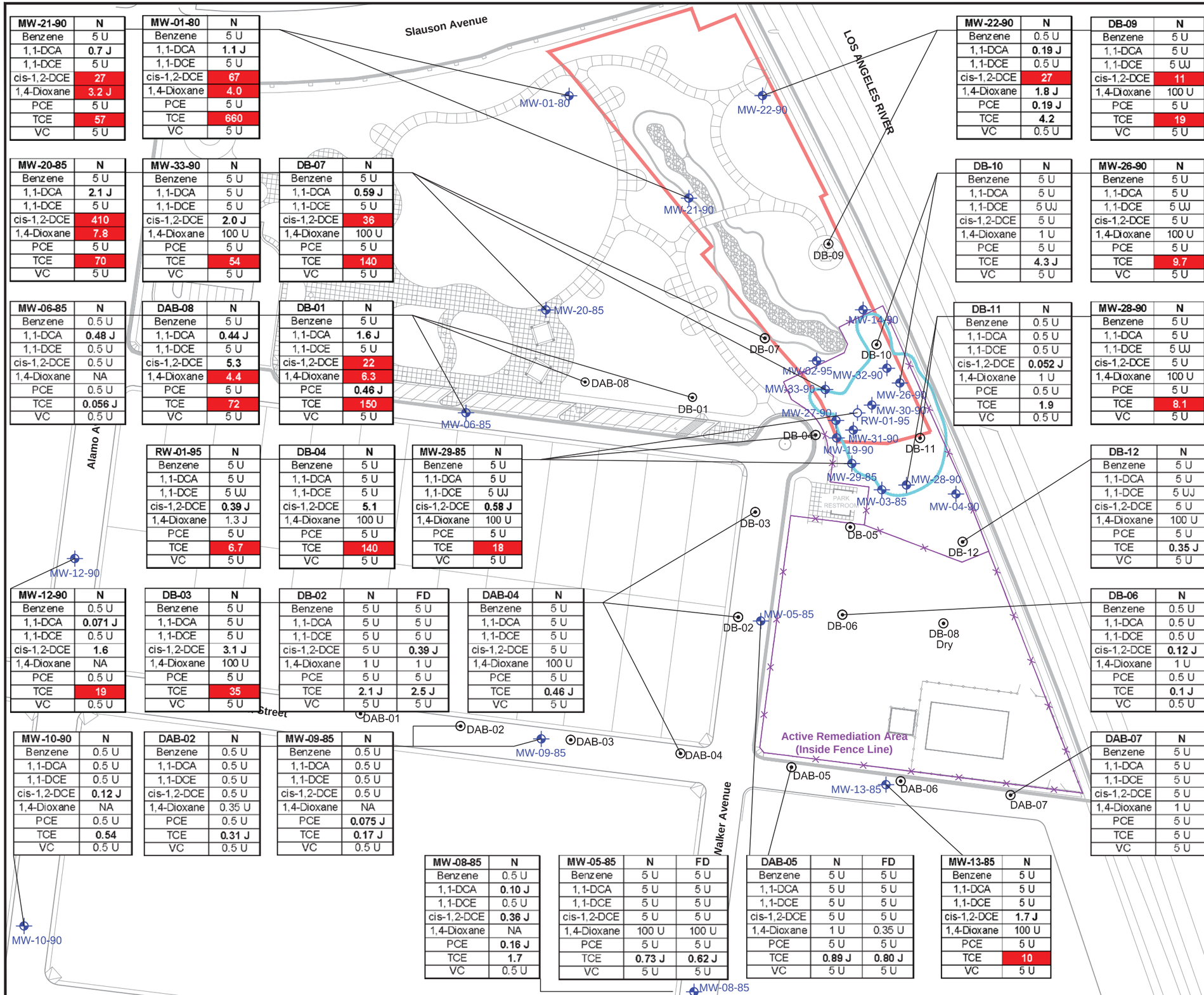
Figure 5-2b
Trichloroethene Plume in Groundwater
Exposition 'A' Zone, June 2013

Pemaco Superfund Site
Maywood, California

OTIE
Oneida Total Integrated Enterprises

Date: November 6, 2013

File: Pem_Site_GWMR.dwg



MW-21-90	N
Benzene	5 U
1,1-DCA	**0.7 J**
1,1-DCE	5 U
cis-1,2-DCE	27
1,4-Dioxane	3.2 J
PCE	5 U
TCE	57
VC	5 U

MW-01-80	N
Benzene	5 U
1,1-DCA	**1.1 J**
1,1-DCE	5 U
cis-1,2-DCE	67
1,4-Dioxane	4.0
PCE	5 U
TCE	660
VC	5 U

MW-22-90	N
Benzene	0.5 U
1,1-DCA	**0.19 J**
1,1-DCE	0.5 U
cis-1,2-DCE	27
1,4-Dioxane	**1.8 J**
PCE	**0.19 J**
TCE	**4.2**
VC	0.5 U

DB-09	N
Benzene	5 U
1,1-DCA	5 U
1,1-DCE	5 UJ
cis-1,2-DCE	11
1,4-Dioxane	100 U
PCE	5 U
TCE	19
VC	5 U

MW-20-85	N
Benzene	5 U
1,1-DCA	**2.1 J**
1,1-DCE	5 U
cis-1,2-DCE	410
1,4-Dioxane	7.8
PCE	5 U
TCE	70
VC	5 U

MW-33-90	N
Benzene	5 U
1,1-DCA	5 U
1,1-DCE	5 U
cis-1,2-DCE	**2.0 J**
1,4-Dioxane	100 U
PCE	5 U
TCE	54
VC	5 U

DB-07	N
Benzene	5 U
1,1-DCA	**0.59 J**
1,1-DCE	5 U
cis-1,2-DCE	36
1,4-Dioxane	100 U
PCE	5 U
TCE	140
VC	5 U

DB-10	N
Benzene	5 U
1,1-DCA	5 U
1,1-DCE	5 UJ
cis-1,2-DCE	5 U
1,4-Dioxane	1 U
PCE	5 U
TCE	**4.3 J**
VC	5 U

MW-26-90	N
Benzene	5 U
1,1-DCA	5 U
1,1-DCE	5 UJ
cis-1,2-DCE	5 U
1,4-Dioxane	100 U
PCE	5 U
TCE	9.7
VC	5 U

MW-06-85	N
Benzene	0.5 U
1,1-DCA	**0.48 J**
1,1-DCE	0.5 U
cis-1,2-DCE	0.5 U
1,4-Dioxane	NA
PCE	0.5 U
TCE	**0.056 J**
VC	0.5 U

DAB-08	N
Benzene	5 U
1,1-DCA	**0.44 J**
1,1-DCE	5 U
cis-1,2-DCE	**5.3**
1,4-Dioxane	4.4
PCE	5 U
TCE	72
VC	5 U

DB-01	N
Benzene	5 U
1,1-DCA	**1.6 J**
1,1-DCE	5 U
cis-1,2-DCE	22
1,4-Dioxane	6.3
PCE	**0.46 J**
TCE	150
VC	5 U

DB-11	N
Benzene	0.5 U
1,1-DCA	0.5 U
1,1-DCE	0.5 U
cis-1,2-DCE	**0.052 J**
1,4-Dioxane	1 U
PCE	0.5 U
TCE	**1.9**
VC	0.5 U

MW-28-90	N
Benzene	5 U
1,1-DCA	5 U
1,1-DCE	5 UJ
cis-1,2-DCE	5 U
1,4-Dioxane	100 U
PCE	5 U
TCE	8.1
VC	5 U

RW-01-95	N
Benzene	5 U
1,1-DCA	5 U
1,1-DCE	5 UJ
cis-1,2-DCE	**0.39 J**
1,4-Dioxane	1.3 J
PCE	5 U
TCE	6.7
VC	5 U

DB-04	N
Benzene	5 U
1,1-DCA	5 U
1,1-DCE	5 U
cis-1,2-DCE	**5.1**
1,4-Dioxane	100 U
PCE	5 U
TCE	140
VC	5 U

MW-29-85	N
Benzene	5 U
1,1-DCA	5 U
1,1-DCE	5 UJ
cis-1,2-DCE	**0.58 J**
1,4-Dioxane	100 U
PCE	5 U
TCE	18
VC	5 U

DB-12	N
Benzene	5 U
1,1-DCA	5 U
1,1-DCE	5 UJ
cis-1,2-DCE	5 U
1,4-Dioxane	100 U
PCE	5 U
TCE	**0.35 J**
VC	5 U

MW-12-90	N
Benzene	0.5 U
1,1-DCA	**0.071 J**
1,1-DCE	0.5 U
cis-1,2-DCE	**1.6**
1,4-Dioxane	NA
PCE	0.5 U
TCE	19
VC	0.5 U

DB-03	N
Benzene	5 U
1,1-DCA	5 U
1,1-DCE	5 U
cis-1,2-DCE	**3.1 J**
1,4-Dioxane	100 U
PCE	5 U
TCE	35
VC	5 U

DB-02	N	FD
Benzene	5 U	5 U
1,1-DCA	5 U	5 U
1,1-DCE	5 U	5 U
cis-1,2-DCE	5 U	**0.39 J**
1,4-Dioxane	1 U	1 U
PCE	5 U	5 U
TCE	**2.1 J**	**2.5 J**
VC	5 U	5 U

DAB-04	N
Benzene	5 U
1,1-DCA	5 U
1,1-DCE	5 U
cis-1,2-DCE	5 U
1,4-Dioxane	100 U
PCE	5 U
TCE	**0.46 J**
VC	5 U

DB-06	N
Benzene	0.5 U
1,1-DCA	0.5 U
1,1-DCE	0.5 U
cis-1,2-DCE	**0.12 J**
1,4-Dioxane	1 U
PCE	0.5 U
TCE	**0.1 J**
VC	0.5 U

MW-10-90	N
Benzene	0.5 U
1,1-DCA	0.5 U
1,1-DCE	0.5 U
cis-1,2-DCE	**0.12 J**
1,4-Dioxane	NA
PCE	0.5 U
TCE	**0.54**
VC	0.5 U

DAB-02	N
Benzene	0.5 U
1,1-DCA	0.5 U
1,1-DCE	0.5 U
cis-1,2-DCE	0.5 U
1,4-Dioxane	0.35 U
PCE	0.5 U
TCE	**0.31 J**
VC	0.5 U

MW-09-85	N
Benzene	0.5 U
1,1-DCA	0.5 U
1,1-DCE	0.5 U
cis-1,2-DCE	0.5 U
1,4-Dioxane	NA
PCE	**0.075 J**
TCE	**0.17 J**
VC	0.5 U

DAB-07	N
Benzene	5 U
1,1-DCA	5 U
1,1-DCE	5 U
cis-1,2-DCE	5 U
1,4-Dioxane	1 U
PCE	5 U
TCE	5 U
VC	5 U

MW-08-85	N
Benzene	0.5 U
1,1-DCA	**0.10 J**
1,1-DCE	0.5 U
cis-1,2-DCE	**0.36 J**
1,4-Dioxane	NA
PCE	**0.16 J**
TCE	**1.7**
VC	0.5 U

MW-05-85	N	FD
Benzene	5 U	5 U
1,1-DCA	5 U	5 U
1,1-DCE	5 U	5 U
cis-1,2-DCE	5 U	5 U
1,4-Dioxane	100 U	100 U
PCE	5 U	5 U
TCE	**0.73 J**	**0.62 J**
VC	5 U	5 U

DAB-05	N	FD
Benzene	5 U	5 U
1,1-DCA	5 U	5 U
1,1-DCE	5 U	5 U
cis-1,2-DCE	5 U	5 U
1,4-Dioxane	1 U	0.35 U
PCE	5 U	5 U
TCE	**0.89 J**	**0.80 J**
VC	5 U	5 U

MW-13-85	N
Benzene	5 U
1,1-DCA	5 U
1,1-DCE	5 U
cis-1,2-DCE	**1.7 J**
1,4-Dioxane	100 U
PCE	5 U
TCE	10
VC	5 U

LEGEND:

- DB-1 — U.S. EPA, Extraction Well, Individual Screens for the 'B' Zone
- DAB-1 — U.S. EPA, Extraction Well, Screened though Both 'A' and 'B' Zones
- MW-1-80 — U.S. EPA, Monitoring Well, Exposition Aquifer
- RW-1-70 — U.S. EPA, Recovery Well, Exposition Aquifer (Currently Used as a Monitoring Well)
- Dry — Dry Indicates less than one foot of water in well
- Former Pemaco Property
- Riverfront Park Boundary
- ERH Treatment Area
- Active Remediation Area

NOTES:

1. All analyte concentrations are expressed in µg/L.
2. Wells without a chembox were not sampled during the first semi-annual groundwater monitoring event.
3. Red highlighting indicates a result that exceeds the SSRL.
4. Bold font indicates an anlytical detection.
5. Perched Zone SSRLs (µg/L):
   1,1-DCE: 6
   Benzene: 1
   cis-1,2-DCE: 6
   PCE: 5
   TCE: 5
   VC: 0.5
6. Adopted SSRL (µg/L):
   1,4-Dioxane: 3

U.S. EPA = United States Environmental Protection Agency, Region 9
ERH = Electrical Resistive Heating
SSRL = Site Specific Remediation Limit
µg/L = micrograms per liter
1,1-DCA = 1,1-Dichloroethane
1,1-DCE = 1,1-Dichloroethene
cis-1,2-DCE = cis-1,2-Dochhloroethene
PCE = Tetrachloroethene
TCE = Trichloroethene
VC = Vinyl Chloride
N = normal sample
FD = field duplicate
U = not detected above reporting limit
J = estimated value
NA = not available

N W E S

Approximate Scale in Feet

0 100 200

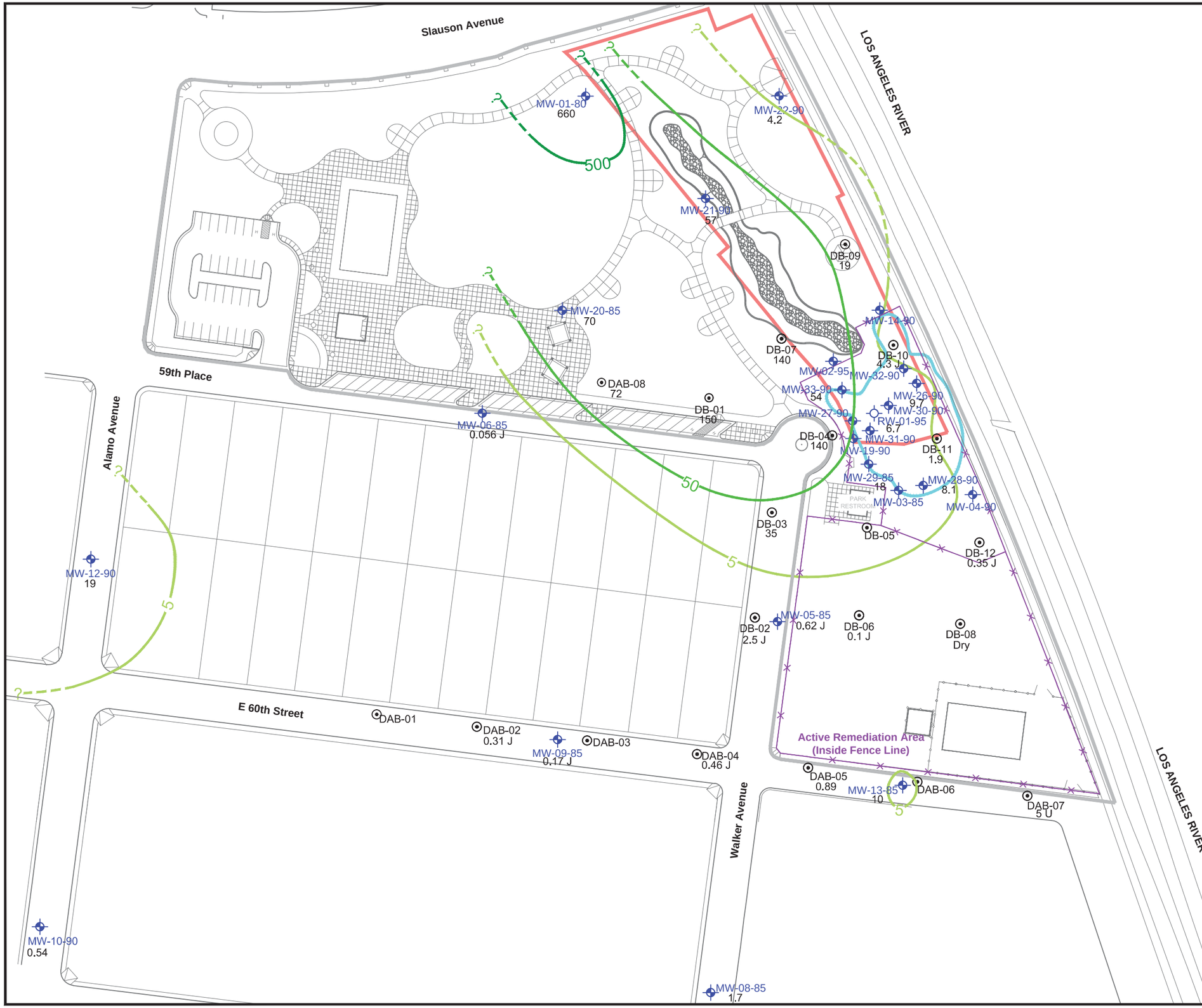
Figure 5-3a
Chemicals of Concern in Groundwater
Exposition 'B' and 'A'&'B' Zones, June 2013

Pemaco Superfund Site
Maywood, California

OTIE Oneida Total Integrated Enterprises

Date: November 6, 2013

File: Pem_Site_GWMR.dwg



LEGEND:

DB-1	U.S. EPA, Extraction Well, Individual Screens for the 'B' and 'A'&'B' Zones
MW-1-80	U.S. EPA, Monitoring Well, Exposition Aquifer
RW-1-70	U.S. EPA, Recovery Well, Exposition Aquifer (Currently Used as a Monitoring Well)
	5 µg/L TCE Isoconcentration Contour (Dashed Where Inferred)
	50 µg/L TCE Isoconcentration Contour (Dashed Where Inferred)
	500 µg/L TCE Isoconcentration Contour (Dashed Where Inferred)
660	TCE Concentration
	Former Pemaco Property
	Riverfront Park Boundary
	ERH Treatment Area
	Active Remediation Area

NOTES:

1. All analyte concentrations are expressed in µg/L.
2. The SSRL for TCE is 5 µg/L.
3. Wells screened above or below the 'B' zone are not shown on this figure.
4. For duplicate samples, the higher concentration results are shown.
5. Wells without results were not sampled during the first semi-annual groundwater monitoring event.

U.S. EPA = United States Environmental Protection Agency, Region 9
ERH = Electrical Resistive Heating
SSRL = Site Specific Remediation Limit
µg/L = micrograms per liter
TCE = Trichloroethene
U = not detected above reporting limit
J = estimated value

N
W E
S

Approximate Scale in Feet

0 100 200

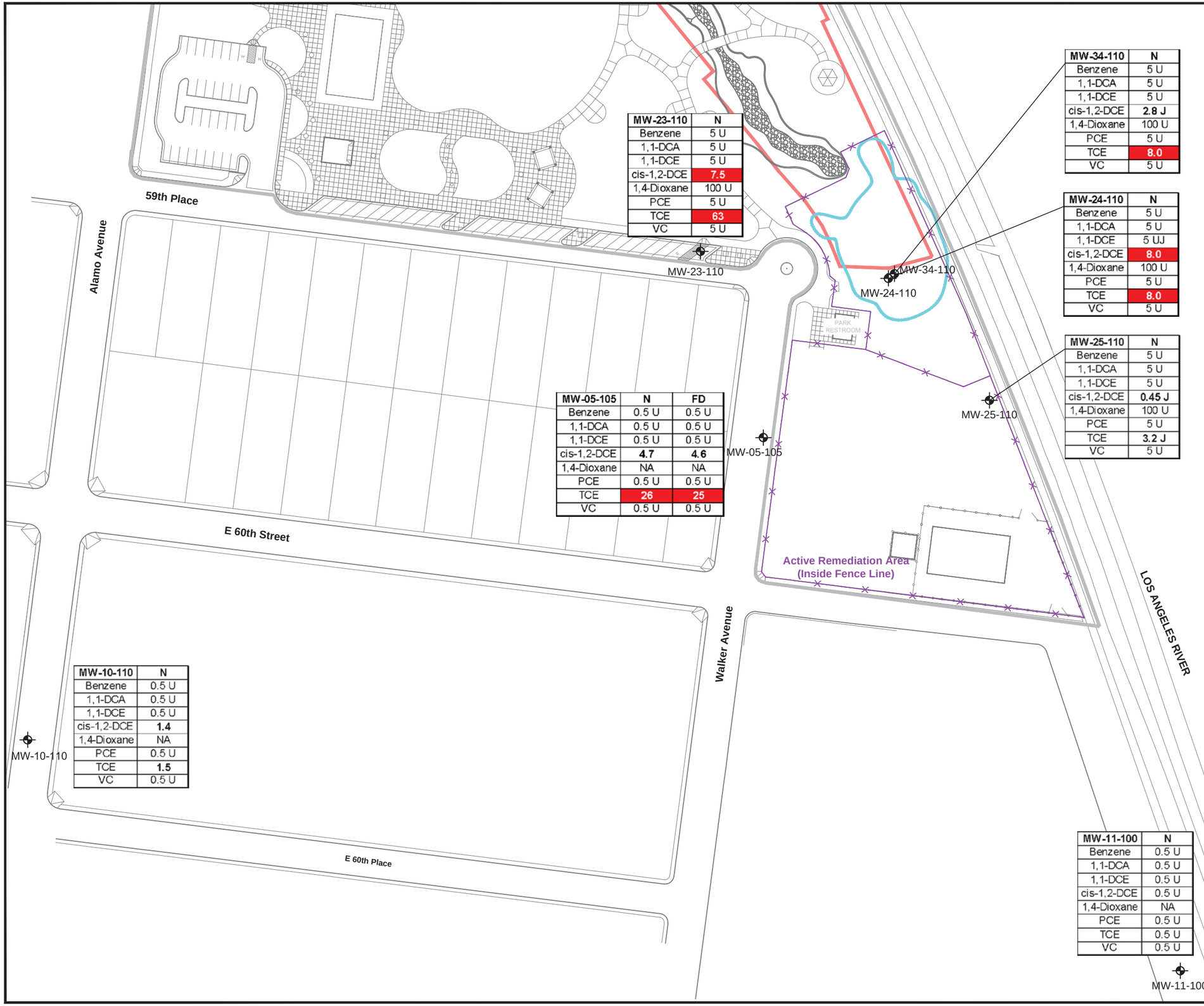
Figure 5-3b
Trichloroethene Plume in Groundwater
Exposition 'B' and 'A'&'B' Zones, June 2013

Pemaco Superfund Site
Maywood, California

OTIE
Oneida Total Integrated Enterprises

Date: November 6, 2013

File: Pem_Site_GWMR.dwg



MW-23-110	N
Benzene	5 U
1,1-DCA	5 U
1,1-DCE	5 U
cis-1,2-DCE	7.5
1,4-Dioxane	100 U
PCE	5 U
TCE	63
VC	5 U

MW-34-110	N
Benzene	5 U
1,1-DCA	5 U
1,1-DCE	5 U
cis-1,2-DCE	**2.8 J**
1,4-Dioxane	100 U
PCE	5 U
TCE	8.0
VC	5 U

MW-24-110	N
Benzene	5 U
1,1-DCA	5 U
1,1-DCE	5 UJ
cis-1,2-DCE	8.0
1,4-Dioxane	100 U
PCE	5 U
TCE	8.0
VC	5 U

MW-25-110	N
Benzene	5 U
1,1-DCA	5 U
1,1-DCE	5 U
cis-1,2-DCE	**0.45 J**
1,4-Dioxane	100 U
PCE	5 U
TCE	**3.2 J**
VC	5 U

MW-05-105	N	FD
Benzene	0.5 U	0.5 U
1,1-DCA	0.5 U	0.5 U
1,1-DCE	0.5 U	0.5 U
cis-1,2-DCE	**4.7**	**4.6**
1,4-Dioxane	NA	NA
PCE	0.5 U	0.5 U
TCE	26	25
VC	0.5 U	0.5 U

MW-10-110	N
Benzene	0.5 U
1,1-DCA	0.5 U
1,1-DCE	0.5 U
cis-1,2-DCE	**1.4**
1,4-Dioxane	NA
PCE	0.5 U
TCE	**1.5**
VC	0.5 U

MW-11-100	N
Benzene	0.5 U
1,1-DCA	0.5 U
1,1-DCE	0.5 U
cis-1,2-DCE	0.5 U
1,4-Dioxane	NA
PCE	0.5 U
TCE	0.5 U
VC	0.5 U

LEGEND:

MW-1-80 U S. EPA, Monitoring Well, Exposition Aquifer

Former Pemaco Property

Riverfront Park Boundary

ERH Treatment Area

Active Remediation Area

NOTES:

1. All analyte concentrations are expressed in µg/L.
2. Wells without a chembox were not sampled during the first semi-annual groundwater monitoring event.
3. Red highlighting indicates a result that exceeds the SSRL.
4. Bold font indicates an anlytical detection.
5. Perched Zone SSRLs (µg/L):
   1,1-DCE: 6
   Benzene: 1
   cis-1,2-DCE: 6
   PCE: 5
   TCE: 5
   VC: 0.5
6. Adopted SSRL (µg/L):
   1,4-Dioxane: 3

U.S. EPA = United States Environmental Protection Agency, Region 9
ERH = Electrical Resistive Heating
SSRL = Site Specific Remediation Limit
µg/L = micrograms per liter
1,1-DCA = 1,1-Dichloroethane
1,1-DCE = 1,1-Dichloroethene
cis-1,2-DCE = cis-1,2-Dochhloroethene
PCE = Tetrachloroethene
TCE = Trichloroethene
VC = Vinyl Chloride
N = normal sample
FD = field duplicate
U = not detected above reporting limit
J = estimated value
NA = not available

N
W E
S

Approximate Scale in Feet

0 100 200

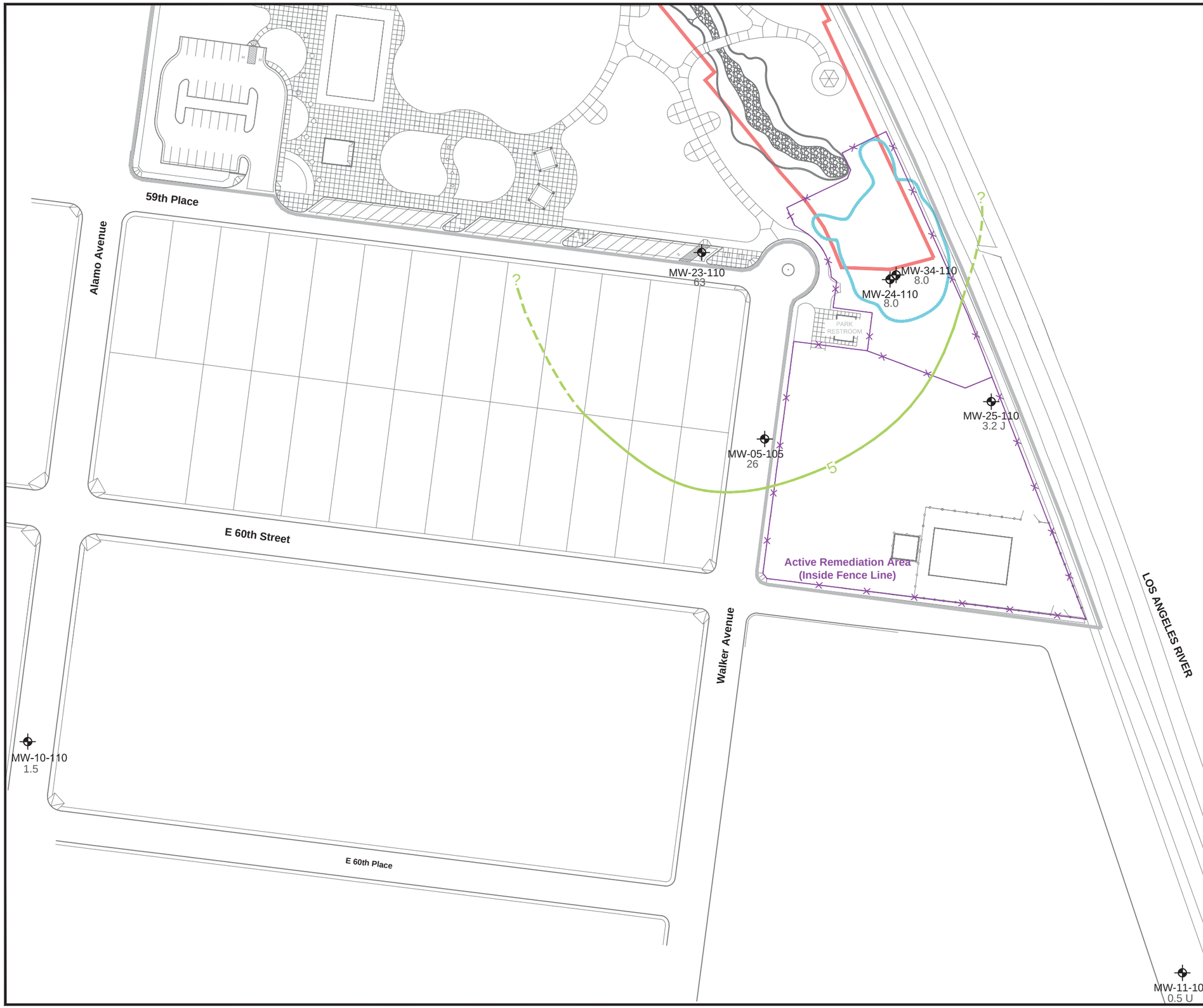
Figure 5-4a
Chemicals of Concern in Groundwater
Exposition 'C' Zone, June 2013

Pemaco Superfund Site
Maywood, California

OTIE
Oneida Total Integrated Enterprises

Date: November 6, 2013

File: Pem_Site_GWMR.dwg



LEGEND:

- MW-1-80 — U.S. EPA, Monitoring Well, Exposition Aquifer
- 5 µg/L TCE Isoconcentration Contour (Dashed Where Inferred)
- 63 — TCE Concentration
- Former Pemaco Property
- Riverfront Park Boundary
- ERH Treatment Area
- Active Remediation Area

NOTES:

1. All analyte concentrations are expressed in µg/L.
2. The SSRL for TCE is 5 µg/L.
3. Wells screened above or below the 'C' zone are not shown on this figure.
4. For duplicate samples, the higher concentration results are shown.
5. Wells without results were not sampled during the first semi-annual groundwater monitoring event.

U.S. EPA = United States Environmental Protection Agency, Region 9
ERH = Electrical Resistive Heating
SSRL = Site Specific Remediation Limit
µg/L = micrograms per liter
TCE = Trichloroethene
U = not detected above reporting limit
J = estimated value

N
W E
S

Approximate Scale in Feet

0 100 200

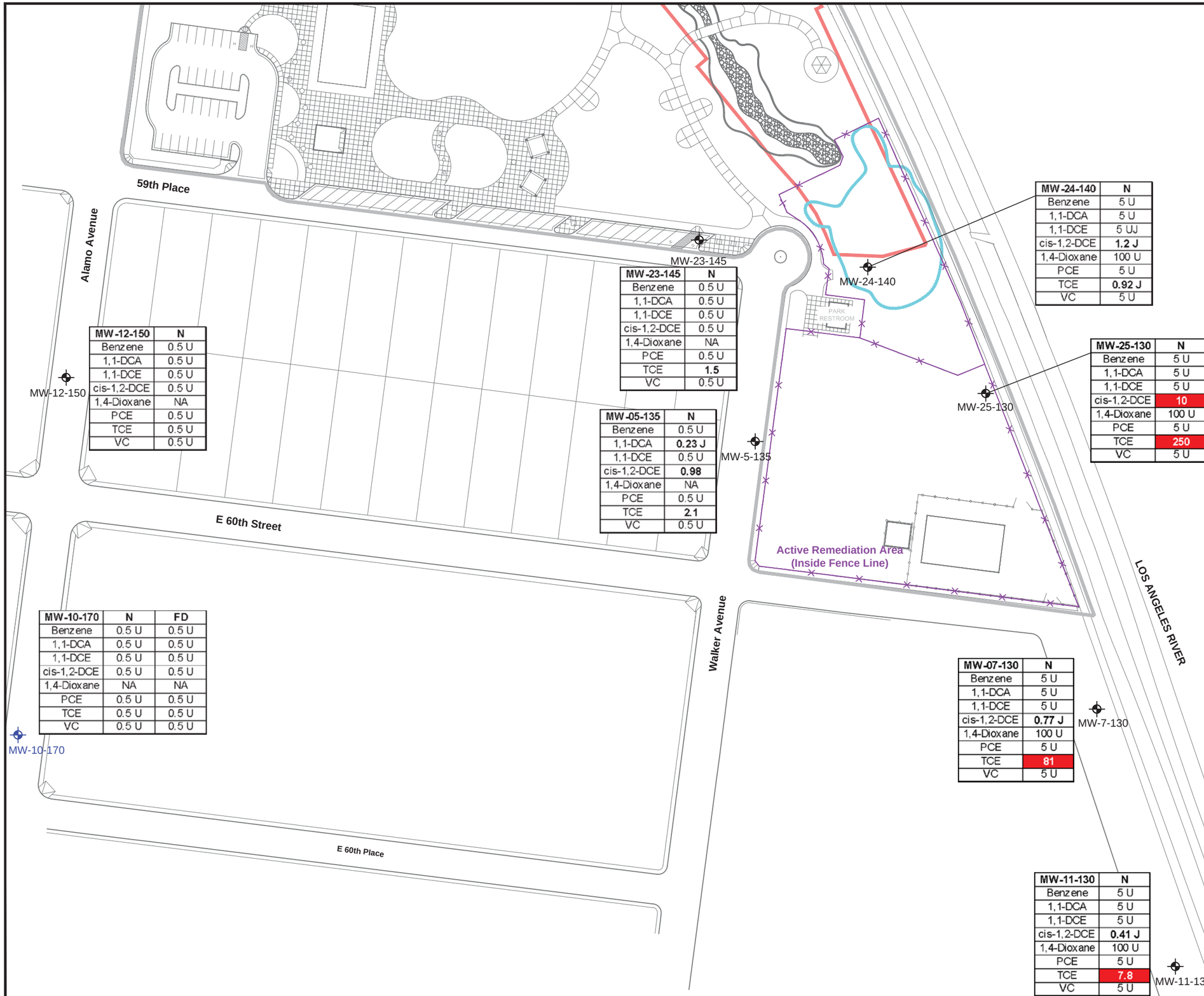
Figure 5-4b
Trichloroethene Plume in Groundwater
Exposition 'C' Zone, June 2013

Pemaco Superfund Site
Maywood, California

OTIE
Oneida Total Integrated Enterprises

Date: November 6, 2013

File: Pem_Site_GWMR.dwg



MW-12-150	N
Benzene	0.5 U
1,1-DCA	0.5 U
1,1-DCE	0.5 U
cis-1,2-DCE	0.5 U
1,4-Dioxane	NA
PCE	0.5 U
TCE	0.5 U
VC	0.5 U

MW-23-145	N
Benzene	0.5 U
1,1-DCA	0.5 U
1,1-DCE	0.5 U
cis-1,2-DCE	0.5 U
1,4-Dioxane	NA
PCE	0.5 U
TCE	**1.5**
VC	0.5 U

MW-24-140	N
Benzene	5 U
1,1-DCA	5 U
1,1-DCE	5 UJ
cis-1,2-DCE	**1.2 J**
1,4-Dioxane	100 U
PCE	5 U
TCE	**0.92 J**
VC	5 U

MW-25-130	N
Benzene	5 U
1,1-DCA	5 U
1,1-DCE	5 U
cis-1,2-DCE	10
1,4-Dioxane	100 U
PCE	5 U
TCE	250
VC	5 U

MW-05-135	N
Benzene	0.5 U
1,1-DCA	**0.23 J**
1,1-DCE	0.5 U
cis-1,2-DCE	**0.98**
1,4-Dioxane	NA
PCE	0.5 U
TCE	**2.1**
VC	0.5 U

MW-10-170	N	FD
Benzene	0.5 U	0.5 U
1,1-DCA	0.5 U	0.5 U
1,1-DCE	0.5 U	0.5 U
cis-1,2-DCE	0.5 U	0.5 U
1,4-Dioxane	NA	NA
PCE	0.5 U	0.5 U
TCE	0.5 U	0.5 U
VC	0.5 U	0.5 U

MW-07-130	N
Benzene	5 U
1,1-DCA	5 U
1,1-DCE	5 U
cis-1,2-DCE	**0.77 J**
1,4-Dioxane	100 U
PCE	5 U
TCE	81
VC	5 U

MW-11-130	N
Benzene	5 U
1,1-DCA	5 U
1,1-DCE	5 U
cis-1,2-DCE	**0.41 J**
1,4-Dioxane	100 U
PCE	5 U
TCE	7.8
VC	5 U

LEGEND:

- MW-5-135 U.S. EPA, Monitoring Well, Exposition D Zone
- MW-10-170 U.S. EPA, Monitoring Well, Exposition E Zone
- Former Pemaco Property
- Riverfront Park Boundary
- ERH Treatment Area
- Active Remediation Area

NOTES:

1. All analyte concentrations are expressed in µg/L.
2. Wells without a chembox were not sampled during the first semi-annual groundwater monitoring event.
3. Red highlighting indicates a result that exceeds the SSRL.
4. Bold font indicates an anlytical detection.
5. Perched Zone SSRLs (µg/L):
   1,1-DCE: 6
   Benzene: 1
   cis-1,2-DCE: 6
   PCE: 5
   TCE: 5
   VC: 0.5
6. Adopted SSRL (µg/L):
   1,4-Dioxane: 3

U.S. EPA = United States Environmental Protection Agency, Region 9
ERH = Electrical Resistive Heating
SSRL = Site Specific Remediation Limit
µg/L = micrograms per liter
1,1-DCA = 1,1-Dichloroethane
1,1-DCE = 1,1-Dichloroethene
cis-1,2-DCE = cis-1,2-Dochhloroethene
PCE = Tetrachloroethene
TCE = Trichloroethene
VC = Vinyl Chloride
N = normal sample
FD = field duplicate
U = not detected above reporting limit
J = estimated value
NA = not available

N W E S

Approximate Scale in Feet

0 100 200

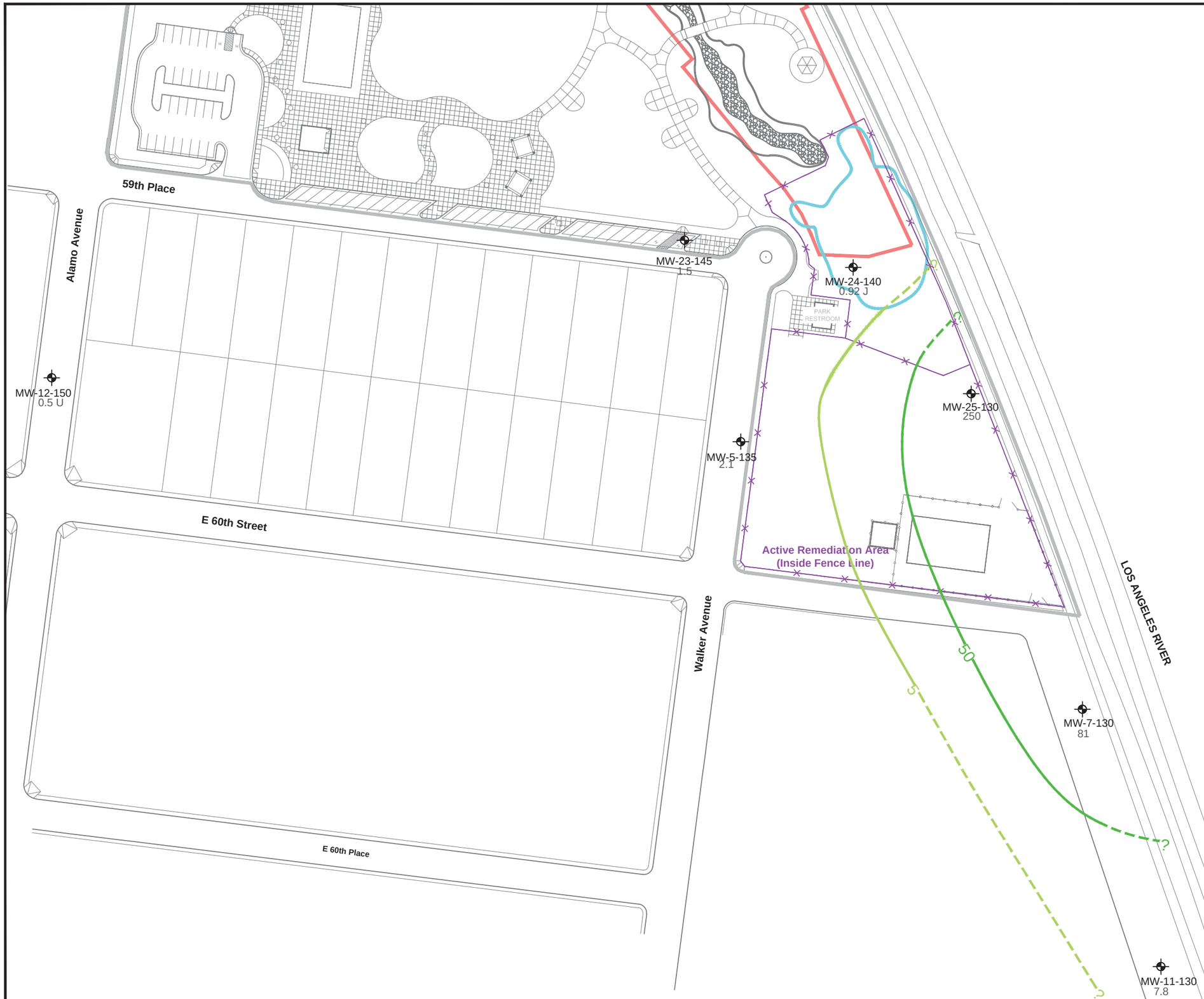
Figure 5-5a
Chemicals of Concern in Groundwater
Exposition 'D' and 'E' Zones, June 2013

Pemaco Superfund Site
Maywood, California

OTIE Oneida Total Integrated Enterprises

Date: November 6, 2013

File: Pem_Site_GWMR.dwg



LEGEND:

MW-1-80 U.S. EPA, Monitoring Well, Exposition Aquifer

5 µg/L TCE Isoconcentration Contour (Dashed Where Inferred)

50 µg/L TCE Isoconcentration Contour (Dashed Where Inferred)

250 TCE Concentration

Former Pemaco Property

Riverfront Park Boundary

ERH Treatment Area

Active Remediation Area

NOTES:

1. All analyte concentrations are expressed in µg/L.
2. The SSRL for TCE is 5 µg/L.
3. Wells screened above or below the 'D' zone are not shown on this figure.
4. For duplicate samples, the higher concentration results are shown.

U.S. EPA = United States Environmental Protection Agency, Region 9
ERH = Electrical Resistive Heating
SSRL = Site Specific Remediation Limit
µg/L = micrograms per liter
TCE = Trichloroethene
U = not detected above reporting limit
J = estimated value

N
W E
S

Approximate Scale in Feet

0 100 200

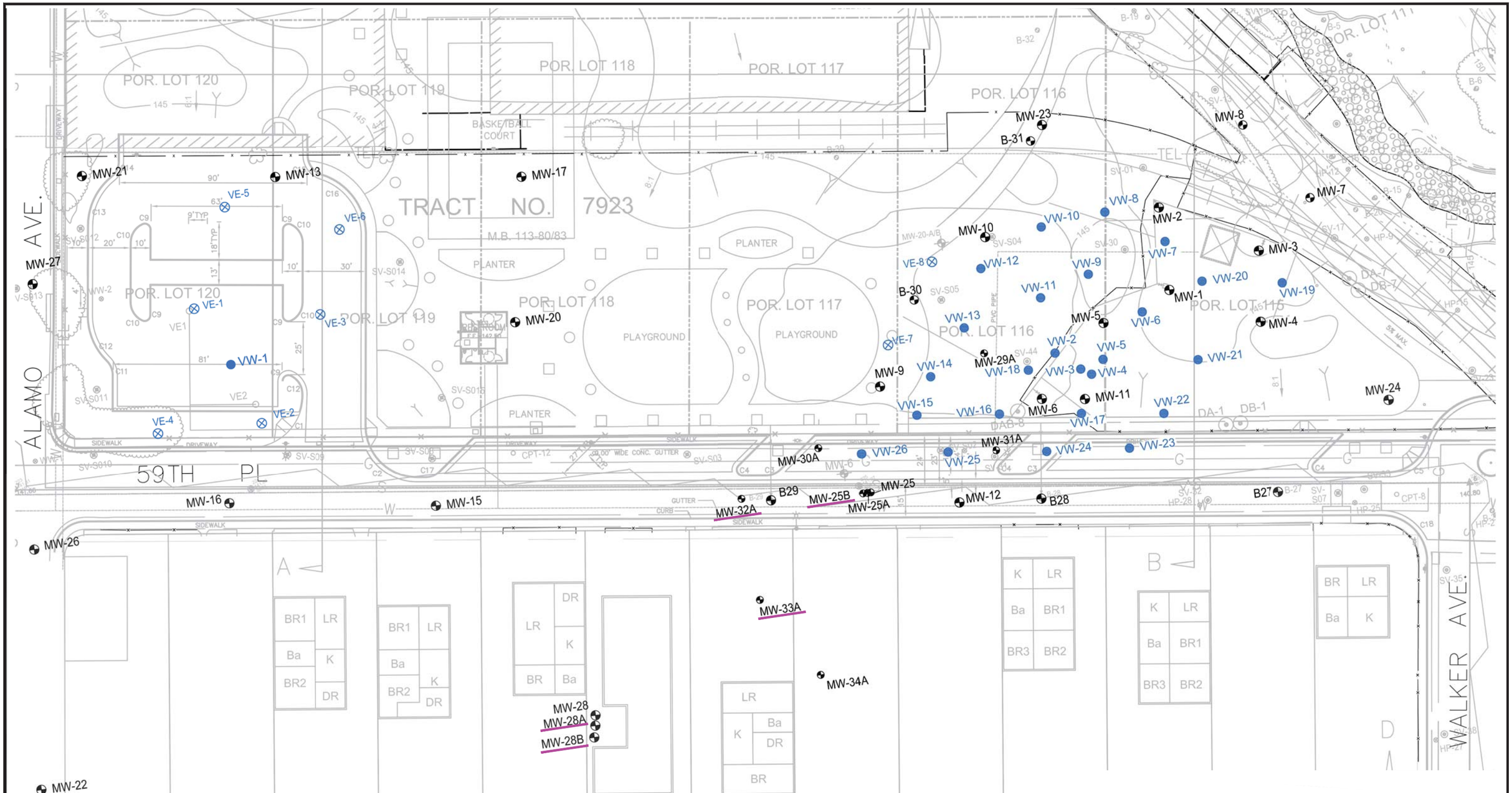
Figure 5-5b
Trichloroethene Plume in Groundwater
Exposition 'D' Zone, June 2013

Pemaco Superfund Site
Maywood, California

OTIE
Oneida Total Integrated Enterprises

Date: November 6, 2013

File: Pem_Site_GWMR.dwg



LEGEND:

- VS-1 SVE Well
- VW-4 DPE Well
- MW-23 Groundwater Monitoring Well
- MW-28A Wells of Interest to Pemaco Monitoring

N
W E
S

Approximate Scale in Feet

0 40 80

Figure 7-1
WW Henry Well Location Map

Pemaco Superfund Site
Maywood, California

OTIE
Oneida Total Integrated Enterprises

Date: November 18, 2013

File: GWMR Fig 7-1.dwg

TABLES

Table 3-1
Pemaco Well and Groundwater Information
Pemaco Superfund Site
Maywood, California

Well ID	Well Type	Screened Unit	Casing Diameter (inches)	Screen Interval (ft bgs)	Constructed Well Depth (ft bgs)	Measured Total Depth, June 2013 (feet TOC)	Change in Total Depth (Constructed - Measured)	Top of Casing Elevation (ft NAVD88)	Depth to Water (ft TOC)	Groundwater Elevation, June 2013 (ft amsl)
B-01	Monitoring	Perched Zone	2	--	37	31.20	-5.80	NM	29.60	--
B-03	Monitoring	Perched Zone	2	--	42	40.00	-2.00	148.44	26.37	122.07
B-04	Monitoring	Perched Zone	2	--	40	37.45	-2.55	NM	26.44	--
B-05	Monitoring	Perched Zone	2	--	41	Obstructed at 12.95'	--	NM	--	--
B-07	Monitoring	Perched Zone	2	--	34	30.00	-4.00	NM	Dry	--
B-08	Monitoring	Perched Zone	2	--	--	31.55	--	NM	29.80	--
B-10	Monitoring	Perched Zone	2	--	40	34.90	-5.10	NM	31.22	--
B-11	Monitoring	Perched Zone	2	--	34	24.85	-9.15	NM	Dry	--
B-12	Monitoring	Perched Zone	2	--	32	17.95	-14.05	NM	Dry	--
B-13	Monitoring	Perched Zone	2	--	46	31.40	-14.60	NM	29.29	--
B-15	Monitoring	Perched Zone	2	--	40	33.90	-6.10	146.33	27.78	118.55
B-17	Monitoring	Perched Zone	1.5	39-49	49	46.60	-2.40	156.10	43.42	112.68
B-18	Monitoring	Perched Zone	1.5	25-30	30	27.30	-2.70	NM	24.02	--
B-19	Monitoring	Perched Zone	1.5	24-34	34	31.55	-2.45	NM	26.07	--
B-20	Monitoring	Perched Zone	1.5	27-37	37	34.20	-2.80	NM	28.29	--
B-21	Monitoring	Perched Zone	1.5	24-29	29	26.90	-2.10	141.09	22.98	118.11
B-22	Monitoring	Perched Zone	1.5	22-27	27	24.30	-2.70	NM	22.50	--
B-23	Monitoring	Perched Zone	1.5	21-26	26	23.75	-2.25	NM	Dry	--
B-24	Monitoring	Perched Zone	--	22-27	27	Buried or Inaccessible	--	NM	--	--
B-25	Monitoring	Perched Zone	--	18-23	23	Buried or Obstructed	--	NM	--	--
B-26	Monitoring	Perched Zone	2	27-32	32	28.65	-3.35	NM	Dry	--
B-27	Monitoring	Perched Zone	2	23-28	28	25.65	-2.35	NM	23.69	--
B-28	Monitoring	Perched Zone	2	23-28	28	23.81 (Soft Bottom)	-4.19	NM	Dry	--
B-29	Monitoring	Perched Zone	2	24-29	29	23.11 (Soft Bottom)	-5.89	NM	Dry	--
B-30	Monitoring	Perched Zone	1.5	21-26	26	23.65	-2.35	NM	22.98	--
B-31	Monitoring	Perched Zone	1.5	22-27	27	23.15	-3.85	NM	20.71	--
B-32	Monitoring	Perched Zone	1.5	24-34	34	29.60	-4.40	145.14	22.34	122.80
B-33	Monitoring	Perched Zone	--	21-26	26	Buried or Inaccessible	--	NM	--	--
B-34	Monitoring	Perched Zone	--	19-24	24	Buried or Inaccessible	--	NM	--	--
B-36	Monitoring	Perched Zone	2	33-38	38	35.80	-2.20	NM	35.65	--
B-38	Monitoring	Perched Zone	2	31-36	36	34.90	-1.10	155.43	30.27	125.16
B-39	Monitoring	Perched Zone	1.5	24-34	34	31.60	-2.40	145.76	24.47	121.29
PA-01	Extraction	Perched Zone	4	17-27	30	26.45	-3.55	NM	26.4 < 1' of W.	--
PA-02	Extraction	Perched Zone	4	22-32	35	Remote Vault; Cannot Access	--	NM	--	--
PA-03	Extraction	Perched Zone	4	22-32	35	31.50	-3.50	NM	30.94	--
PA-04	Extraction	Perched Zone	4	20-30	30	29.50	-0.50	NM	29.31	--
PA-05	Extraction	Perched Zone	4	20-30	30	29.70	-0.30	139.44	27.74	111.70
PB-01	Extraction	Perched Zone	4	26-36	40	35.40	-4.60	142.39	24.64	117.75

Table 3-1
Pemaco Well and Groundwater Information
Pemaco Superfund Site
Maywood, California

Well ID	Well Type	Screened Unit	Casing Diameter (inches)	Screen Interval (ft bgs)	Constructed Well Depth (ft bgs)	Measured Total Depth, June 2013 (feet TOC)	Change in Total Depth (Constructed - Measured)	Top of Casing Elevation (ft NAVD88)	Depth to Water (ft TOC)	Groundwater Elevation, June 2013 (ft amsl)
PB-02	Extraction	Perched Zone	4	22-32	35	32.50	-2.50	145.69	27.13	118.56
PB-03	Extraction	Perched Zone	4	22-32	35	32.55	-2.45	143.54	24.35	119.19
PB-04	Extraction	Perched Zone	4	16-26	30	26.57	-3.43	NM	23.39	--
PB-05	Extraction	Perched Zone	4	24-34	35	32.90	-2.10	144.57	25.65	118.92
PB-06	Extraction	Perched Zone	4	22-32	35	--	--	NM	--	--
PB-07	Extraction	Perched Zone	4	24-34	35	33.70	-1.30	148.05	24.12	123.93
PC-01	Extraction	Perched Zone	4	15-25	25	25.90	0.90	NM	25.33 < 1' of W.	--
PC-02	Extraction	Perched Zone	4	17-27	30	26.33	-3.67	NM	Dry	--
PC-05	Extraction	Perched Zone	4	29-39	40	38.30	-1.70	149.15	29.73	119.42
PC-06	Extraction	Perched Zone	4	28-38	40	36.60	-3.40	148.94	29.28	119.66
PD-01	Extraction	Perched Zone	4	17-27	30	27.83	-2.17	NM	27.24 < 1' of W.	--
PD-04	Extraction	Perched Zone	4	28-38	41	38.12	-2.88	146.32	27.39	118.93
PD-05	Extraction	Perched Zone	4	27-37	40	37.15	-2.85	NM	29.99	--
PD-06	Extraction	Perched Zone	4	24-34	35	35.30	0.30	149.50	26.03	123.47
PD-07	Extraction	Perched Zone	4	26-36	40	36.45	-3.55	NM	35.90 < 1' of W.	--
PD-08	Extraction	Perched Zone	4	26-36	37	35.80	-1.20	NM	34.92	--
PD-09	Extraction	Perched Zone	4	28-38	40	39.55	-0.45	148.99	29.32	119.67
SV-01	Monitoring	Perched Zone	4	12-37	37	34.74	-2.26	NM	28.37	--
SV-03	Monitoring	Perched Zone	4	17-37	37	34.35	-2.65	150.38	26.51	123.87
SV-04	Monitoring	Perched Zone	4	18-38	38	21.15	-16.85	NM	Dry	--
SV-05	Monitoring	Perched Zone	4	20-40	40	33.00	-7.00	146.18	27.61	118.57
DA-01	Extraction	A Zone	6	61-76	77	--	--	140.71	62.27	78.44
DA-02	Extraction	A Zone	6	72-82	83	--	--	138.70	58.32	80.38
DA-03	Extraction	A Zone	6	74-84	85	--	--	138.92	58.45	80.47
DA-04	Extraction	A Zone	6	56-66	67	--	--	NM	61.97	--
DA-05	Extraction	A Zone	6	68-78	80	--	--	NM	58.73	--
DA-06	Extraction	A Zone	6	60-70	71	--	--	142.14	59.19	82.95
DA-07	Extraction	A Zone	6	61-71	72	70	-2.00	145.27	66.95	78.32
DA-08	Extraction	A Zone	6	65-75	76	76.1	0.10	140.63	54.25	86.38
DA-09	Extraction	A Zone	6	66-76	77	--	--	148.78	68.45	80.33
DA-10	Extraction	A Zone	6	66-76	77	74.3	-2.70	NM	68.11	--
DA-11	Extraction	A Zone	6	64-74	76	Pump in Well	--	143.38	62.87	80.51
DA-12	Extraction	A Zone	6	66-76	77	72.05	-4.95	NM	57.10	--
MW-03-70	Monitoring	A Zone	2	61-71	71	65.30	-5.70	144.79	62.68	82.11
MW-04-75	Monitoring	A Zone	2	65-75	75	Pump in Well	--	NM	58.41	--
MW-07-75	Monitoring	A Zone	4	67-77	77	75.30	-1.70	139.32	51.07	88.25
MW-08-70	Monitoring	A Zone	2	65-70	70	Pump in Well	--	139.04	59.04	80.00
MW-09-70	Monitoring	A Zone	2	67-72	72	Pump in Well	--	139.66	60.27	79.39
MW-10-75	Monitoring	A Zone	2	70-75	75	Pump in Well	--	140.62	64.64	75.98
MW-12-70	Monitoring	A Zone	2	67-72	72	Pump in Well	--	140.68	62.90	77.78
MW-14-80	Monitoring	A Zone	2	80-85	85	77.65	-7.35	149.55	69.28	80.27
MW-19-70	Monitoring	A Zone	2	69-74	74	73.20	-0.80	145.96	66.87	79.09
MW-20-70	Monitoring	A Zone	2	63-68	68	Pump in Well	--	141.57	Dry	--
MW-21-80	Monitoring	A Zone	2	75-85	85	75.20	-9.80	148.39	69.45	78.94
MW-22-75	Monitoring	A Zone	2	69-74	74	75.00	1.00	151.12	71.56	79.56
MW-26-75	Monitoring	A Zone	4	65-75	75	73.90	-1.10	146.10	65.67	80.43

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Table 3-1
Pemaco Well and Groundwater Information
Pemaco Superfund Site
Maywood, California

Well ID	Well Type	Screened Unit	Casing Diameter (inches)	Screen Interval (ft bgs)	Constructed Well Depth (ft bgs)	Measured Total Depth, June 2013 (feet TOC)	Change in Total Depth (Constructed - Measured)	Top of Casing Elevation (ft NAVD88)	Depth to Water (ft TOC)	Groundwater Elevation, June 2013 (ft amsl)
MW-27-70	Monitoring	A Zone	2	60-70	70	62.11 (Soft Bottom)	-7.89	NM	Dry	--
RW-01-70	Monitoring	A Zone	6	53-68	68	67.76	-0.24	146.31	Dry	--
DB-1	Extraction	B Zone	6	83-93	94	--	--	140.65	63.83	76.82
DB-2	Extraction	B Zone	6	86-96	97	--	--	138.59	59.37	79.22
DB-3	Extraction	B Zone	6	77-87	88	--	--	138.92	59.81	79.11
DB-4	Extraction	B Zone	6	75-85	86	--	--	140.77	63.02	77.75
DB-5	Extraction	B Zone	6	80-90	90	86.45	-3.55	NM	61.06	--
DB-6	Extraction	B Zone	6	80-90	91	--	--	142.11	60.11	82.00
DB-7	Extraction	B Zone	6	81-91	92	91.00	-1.00	145.30	68.12	77.18
DB-8	Extraction	B Zone	6	81-91	92	93.95	1.95	140.63	Dry	--
DB-9	Extraction	B Zone	6	84-94	94	86.85	-7.15	148.79	71.80	76.99
DB-10	Extraction	B Zone	6	81-91	92	89.40	-2.60	147.44	70.48	76.96
DB-11	Extraction	B Zone	6	76-86	87	Pump in Well	--	143.51	64.95	78.56
DB-12	Extraction	B Zone	6	84-94	95	--	--	143.68	62.12	81.56
MW-02-95	Monitoring	B Zone	2	81-101	101	91.30	-9.70	145.75	68.30	77.45
MW-03-85	Monitoring	B Zone	2	72-82	82	82.00	0.00	144.38	63.90	80.48
MW-04-90	Monitoring	B Zone	2	75-85	90	85.7 (Top of Pump)	--	NM	64.46	74.98
MW-06-85	Monitoring	B Zone	4	81-86	86	84.40	-1.60	140.65	63.61	77.04
MW-08-85	Monitoring	B Zone	2	81-86	86	Pump in Well	--	138.96	60.89	78.07
MW-09-85	Monitoring	B Zone	2	82-87	87	80.25	-6.75	139.66	62.79	76.87
MW-10-90	Monitoring	B Zone	2	89-94	94	Pump in Well	--	140.62	68.88	71.74
MW-12-90	Monitoring	B Zone	2	87-92	92	Pump in Well	--	140.68	66.68	74.00
MW-13-85	Monitoring	B Zone	4	82-87	87	83.98	-3.02	139.48	56.34	83.14
MW-14-90	Monitoring	B Zone	2	91-96	96	89.79	-6.21	149.52	72.75	76.77
MW-19-90	Monitoring	B Zone	2	88-93	93	84.20	-8.80	145.99	68.21	77.78
MW-20-85	Monitoring	B Zone	2	78-83	83	74.40	-8.60	141.57	64.31	77.26
MW-21-90	Monitoring	B Zone	2	85-90	90	85.50	-4.50	148.42	71.29	77.13
MW-22-90	Monitoring	B Zone	2	89-94	94	91.00	-3.00	150.95	74.28	76.67
MW-26-90	Monitoring	B Zone	4	80-90	90	90.35	0.35	146.36	68.70	77.66
MW-27-90	Monitoring	B Zone	2	80-90	90	77.90	-12.10	NM	68.21	--
MW-28-90	Monitoring	B Zone	4	--	--	92.80	--	148.40	68.24	80.16
MW-29-90	Monitoring	B Zone	4	--	--	87.80	--	144.64	65.51	79.13
MW-30-90	Monitoring	B Zone	4	--	--	92.90	--	NM	71.21	--
MW-31-90	Monitoring	B Zone	4	--	--	92.80	--	NM	68.51	--
MW-32-90	Monitoring	B Zone	4	--	--	92.85	--	NM	71.79	--
MW-33-90	Monitoring	B Zone	4	79.5-89.5	91.5	92.30	0.80	147.58	70.40	77.18
RW-01-95	Monitoring	B Zone	6	85-100	100	93.00	-7.00	145.96	68.22	77.74
DAB-1	Extraction	A & B Zone	6	70-90	91	--	--	NM	62.80	--
DAB-2	Extraction	A & B Zone	6	70-90	91	89.30	-1.70	138.56	62.27	76.29
DAB-3	Extraction	A & B Zone	6	69-89	90	88.30	-1.70	NM	61.17	--
DAB-4	Extraction	A & B Zone	6	66-86	87	84	-3.00	138.35	59.78	78.57
DAB-5	Extraction	A & B Zone	6	69-89	90	86.70	-3.30	138.00	57.53	80.47
DAB-6	Extraction	A & B Zone	6	67-87	88	Pump in Well	--	138.45	53.80	84.65
DAB-7	Extraction	A & B Zone	6	68-88	89	83.85	-5.15	138.52	51.30	87.22

Table 3-1
Pemaco Well and Groundwater Information
Pemaco Superfund Site
Maywood, California

Well ID	Well Type	Screened Unit	Casing Diameter (inches)	Screen Interval (ft bgs)	Constructed Well Depth (ft bgs)	Measured Total Depth, June 2013 (feet TOC)	Change in Total Depth (Constructed - Measured)	Top of Casing Elevation (ft NAVD88)	Depth to Water (ft TOC)	Groundwater Elevation, June 2013 (ft amsl)
DAB-8	Extraction	A & B Zone	6	65-85	86	--	--	141.57	64.17	77.40
MW-01-80	Monitoring	A & B Zone	2	59-79	79	Pump in Well	--	148.56	70.71	77.85
MW-05-85	Monitoring	A & B Zone	4	70-85	85	85.20	0.20	139.44	59.09	80.35
MW-05-105	Monitoring	C Zone	4	70-85	105	--	--	139.63	93.54	46.09
MW-10-110	Monitoring	C Zone	4	102-112	112	110.30	-1.70	140.64	94.80	45.84
MW-11-100	Monitoring	C Zone	4	97-102	102	Pump in Well	--	138.22	91.91	46.31
MW-23-110	Monitoring	C Zone	4	101-111	111	113.00	2.00	140.24	93.76	46.48
MW-24-110	Monitoring	C Zone	6	97-107	107	107.00	0.00	142.50	95.13	47.37
MW-25-110	Monitoring	C Zone	4	102-107	107	107.60	0.60	147.81	101.66	46.15
MW-34-110	Monitoring	C Zone	4	98.4-108.2	112	Pump in Well	--	145.46	Dry at 55.1	--
MW-05-135	Monitoring	D Zone	4	72-87	137	--	--	139.68	109.23	30.45
MW-07-130	Monitoring	D Zone	4	122-132	132	Pump in Well	--	139.11	109.50	29.61
MW-11-130	Monitoring	D Zone	4	--	130	Pump in Well	--	138.09	109.03	29.06
MW-12-150	Monitoring	D Zone	4	142-152	150	148.80	-1.20	140.67	110.48	30.19
MW-23-145	Monitoring	D Zone	4	135-145	145	150.00	5.00	140.07	109.12	30.95
MW-24-140	Monitoring	D Zone	4	130-140	140	134.62	-5.38	141.93	111.15	30.78
MW-25-130	Monitoring	D Zone	4	130-140	140	138.00	-2.00	148.05	117.29	30.76
MW-10-170	Monitoring	E Zone	4	167-177	175	177.00	2.00	140.75	112.01	28.74

Notes:

1. Total number of casing elevations surveyed = 79. The survey is accurate to 0.01-foot vertically and is surveyed to the State Plane Coordinate System, NAVD88 relative to mean sea level.
2. Screen intervals and constructed well depth adjusted from original construction diagrams to account for grading activities that occurred subsequent to well installations.
3. Groundwater elevation = top of casing elevation - depth to water.
4. Change in total depth calculations that indicate an apparent increase in total depth of the well (positive values) likely due to sounter tape sticking to the side of the well or friction through the long water column. Increases of less than 2 feet are considered within an acceptable margin of error.
5. ft = feet; bgs = below ground surface; NAVD88 = North American Vertical Datum 1988; amsl = above mean sea level; NM = not measured; "--" = not applicable; < 1' of W. = less than one foot of water column.

Well total depth decreases greater than 5 ft (negative values).
Well total depth decreases between 0 to 5 ft (negative values).
Measured well total depth greater than construction information by between 2 and 5 ft (positive values).
Measured well total depth greater than construction information by 5 ft or more (positive values).

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Table 3-2
Pemaco Sampling Frequency
Pemaco Superfund Site
Maywood, California

Well ID	Hydrogeologic Zone	Well Type	Wells Sampled June, 2013 (Semi-Annual Event)		
			VOC	1,4-Dioxane	
			SOM01.2C/ SOM01.2	SOM01.2C/ SOM01.2	SW8260BSIM
B-01	Perched	Monitoring			
B-03	Perched	Monitoring	X [6]		
B-04	Perched	Monitoring			
B-05	Perched	Monitoring			
B-07	Perched	Monitoring			
B-08	Perched	Monitoring			
B-10	Perched	Monitoring			
B-11	Perched	Monitoring			
B-12	Perched	Monitoring			
B-13	Perched	Monitoring			
B-15	Perched	Monitoring	X		X
B-17	Perched	Monitoring	X [6]		
B-18	Perched	Monitoring			
B-19	Perched	Monitoring			
B-20	Perched	Monitoring			
B-21	Perched	Monitoring	X [6]		X
B-22	Perched	Monitoring			
B-23	Perched	Monitoring			
B-24	Perched	Monitoring			
B-25	Perched	Monitoring			
B-26	Perched	Monitoring			
B-27	Perched	Monitoring			
B-28	Perched	Monitoring			
B-29	Perched	Monitoring			
B-30	Perched	Monitoring			
B-31	Perched	Monitoring			
B-32	Perched	Monitoring			
B-33	Perched	Monitoring			
B-34	Perched	Monitoring			
B-36	Perched	Monitoring			
B-38	Perched	Monitoring			
B-39	Perched	Monitoring			
PA-01	Perched	Extraction			
PA-02	Perched	Extraction			
PA-03	Perched	Extraction			
PA-04	Perched	Extraction			
PA-05	Perched	Extraction	X [6]		
PB-01	Perched	Extraction	X		
PB-02	Perched	Extraction			
PB-03	Perched	Extraction	X [6]	X	
PB-04	Perched	Extraction			
PB-05	Perched	Extraction	X [6]		
PB-06	Perched	Extraction			
PB-07	Perched	Extraction	X		
PC-01	Perched	Extraction			
PC-02	Perched	Extraction			
PC-05	Perched	Extraction	X		

Table 3-2
Pemaco Sampling Frequency
Pemaco Superfund Site
Maywood, California

Well ID	Hydrogeologic Zone	Well Type	Wells Sampled June, 2013 (Semi-Annual Event)		
			VOC	1,4-Dioxane	
			SOM01.2C/ SOM01.2	SOM01.2C/ SOM01.2	SW8260BSIM
PC-06	Perched	Extraction	X		
PD-01	Perched	Extraction			
PD-04	Perched	Extraction	X		
PD-05	Perched	Extraction			
PD-06	Perched	Extraction	X		
PD-07	Perched	Extraction			
PD-08	Perched	Extraction	X		
PD-09	Perched	Extraction			
SV-01	Perched	Monitoring			
SV-03	Perched	Monitoring			
SV-04	Perched	Monitoring			
SV-05	Perched	Monitoring	X		X
Subtotal		**59**	**15**	**1**	**3**
DA-01	A Zone	Extraction	X	X	X
DA-02	A Zone	Extraction	X	X	X
DA-03	A Zone	Extraction	X	X	
DA-04	A Zone	Extraction	X [6]	X	X
DA-05	A Zone	Extraction			
DA-06	A Zone	Extraction			
DA-07	A Zone	Extraction	X	X	
DA-08	A Zone	Extraction	X	X	X
DA-09	A Zone	Extraction	X		
DA-10	A Zone	Extraction			
DA-11	A Zone	Extraction			
DA-12	A Zone	Extraction	X		
MW-03-70	A Zone	Monitoring			
MW-04-75	A Zone	Monitoring			
MW-07-75	A Zone	Monitoring	X		
MW-08-70	A Zone	Monitoring			
MW-09-70	A Zone	Monitoring	X		
MW-10-75	A Zone	Monitoring			
MW-12-70	A Zone	Monitoring			
MW-14-80	A Zone	Monitoring			
MW-19-70	A Zone	Monitoring			
MW-20-70	A Zone	Monitoring			
MW-21-80	A Zone	Monitoring			
MW-22-75	A Zone	Monitoring			
MW-26-75	A Zone	Monitoring	X	X	X
MW-27-70	A Zone	Monitoring			
RW-01-70	A Zone	Monitoring			
Subtotal		**27**	**11**	**7**	**5**
DB-01	B Zone	Extraction	X	X	X
DB-02	B Zone	Extraction	X	X	X
DB-03	B Zone	Extraction	X	X	
DB-04	B Zone	Extraction	X	X	
DB-05	B Zone	Extraction			
DB-06	B Zone	Extraction	X		X

Table 3-2
Pemaco Sampling Frequency
Pemaco Superfund Site
Maywood, California

Well ID	Hydrogeologic Zone	Well Type	Wells Sampled June, 2013 (Semi-Annual Event)		
			VOC	1,4-Dioxane	
			SOM01.2C/ SOM01.2	SOM01.2C/ SOM01.2	SW8260BSIM
DB-07	B Zone	Extraction	X	X	
DB-08	B Zone	Extraction			
DB-09	B Zone	Extraction	X	X	
DB-10	B Zone	Extraction	X	X	X
DB-11	B Zone	Extraction	X		X
DB-12	B Zone	Extraction	X	X	
MW-02-95	B Zone	Monitoring			
MW-03-85	B Zone	Monitoring			
MW-04-90	B Zone	Monitoring			
MW-06-85	B Zone	Monitoring	X		
MW-08-85	B Zone	Monitoring	X		
MW-09-85	B Zone	Monitoring	X		
MW-10-90	B Zone	Monitoring	X		
MW-12-90	B Zone	Monitoring	X		
MW-13-85	B Zone	Monitoring	X	X	
MW-14-90	B Zone	Monitoring			
MW-19-90	B Zone	Monitoring			
MW-20-85	B Zone	Monitoring	X	X	X
MW-21-90	B Zone	Monitoring	X	X	X
MW-22-90	B Zone	Monitoring	X		X
MW-26-90	B Zone	Monitoring	X	X	
MW-27-90	B Zone	Monitoring			
MW-28-90	B Zone	Monitoring	X	X	
MW-29-85	B Zone	Monitoring	X	X	
MW-30-90	B Zone	Monitoring			
MW-31-90	B Zone	Monitoring			
MW-32-90	B Zone	Monitoring			
MW-33-90	B Zone	Monitoring	X	X	
RW-01-95	B Zone	Monitoring	X	X	X
Subtotal		**35**	**24**	**16**	**9**
DAB-01	A & B Zone	Extraction			
DAB-02	A & B Zone	Extraction	X		X
DAB-03	A & B Zone	Extraction			
DAB-04	A & B Zone	Extraction	X	X	
DAB-05	A & B Zone	Extraction	X	X	X
DAB-06	A & B Zone	Extraction			
DAB-07	A & B Zone	Extraction	X	X	X
DAB-08	A & B Zone	Extraction	X	X	X
MW-01-80	A & B Zone	Monitoring	X	X	X
MW-05-85	A & B Zone	Monitoring	X	X	
Subtotal		**10**	**7**	**6**	**5**
MW-05-105	C Zone	Monitoring	X		
MW-10-110	C Zone	Monitoring	X		
MW-11-100	C Zone	Monitoring	X		
MW-23-110	C Zone	Monitoring	X	X	
MW-24-110	C Zone	Monitoring	X	X	
MW-25-110	C Zone	Monitoring	X	X	

Table 3-2
Pemaco Sampling Frequency
Pemaco Superfund Site
Maywood, California

Well ID	Hydrogeologic Zone	Well Type	Wells Sampled June, 2013 (Semi-Annual Event)		
			VOC	1,4-Dioxane	
			SOM01.2C/ SOM01.2	SOM01.2C/ SOM01.2	SW8260BSIM
MW-34-110	C Zone	Monitoring	X [6]	X	
Subtotal		**7**	**7**	**4**	**0**
MW-05-135	D Zone	Monitoring	X		
MW-07-130	D Zone	Monitoring	X	X	
MW-11-130	D Zone	Monitoring	X	X	
MW-12-150	D Zone	Monitoring	X		
MW-23-145	D Zone	Monitoring	X		
MW-24-140	D Zone	Monitoring	X	X	
MW-25-130	D Zone	Monitoring	X	X	
Subtotal		**7**	**7**	**4**	**0**
MW-10-170	E Zone	Monitoring	X		
Subtotal		**1**	**1**	**0**	**0**
Total Wells Sampled			72	38	22

NOTES:

1. VOC analyses was performed via the U.S. EPA Contract Laboratory Program using U.S. EPA Method SOM01.2C.
2. 1,4-dioxane analyses was performed by CalScience using U.S. EPA Method SW8260B-SIM.
3. VOC = volatile organic compound; U.S. EPA = United States Environmental Protection Agency.
4. Wells that were destroyed or otherwise inaccessible are not included in this table.
5. This table does not reflect the number of analytical results obtained during the sampling event.
6. Drawdown in well during purging exceeded 10% of the water column.

Table 5-1
First Semi-Annual 2013 VOC Analytical Results - Perched Zone
Pemaco Superfund Site
Maywood, California

	Sample Location		B-03	B-15	B-17	B-21	PA-05	PB-01	PB-01	PB-03	PB-05	PB-07	PC-05	PC-06	PD-04	PD-06	PD-08	SV-05
	Zone		P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	Sample ID		Y8WX5	Y8WX6	Y8WX7	Y8WX8	Y8WX9	Y8WY1	Y8WY0	Y8WY2	Y8WY3	Y8WY4	Y8WY5	Y8WY6	Y8WY7	Y8WY8	Y8WY9	Y8WZ0
	Sample Date		6/26/2013	6/25/2013	6/28/2013	6/27/2013	6/26/2013	6/26/2013	6/26/2013	6/25/2013	6/27/2013	6/20/2013	6/20/2013	6/20/2013	6/26/2013	6/20/2013	6/27/2013	6/27/2013
	Sample Type		N	N	N	N	N	N	FD	N	N	N	N	N	N	N	N	N
Analyte Name	**SSRL/MCL**	**Units**																
1,1,1-Trichloroethane	200*	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	**0.083 J**	0.5 U	0.5 U	**0.045 J**	0.5 U
1,1,2,2-Tetrachloroethane	1*	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	1200*	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	**0.77 J**	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	5	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	5	µg/L	0.5 U	**0.34 J**	0.5 U	0.5 U	0.5 U	**0.56**	**0.58**	5 U	0.5 U	0.5 U	0.5 U	**0.5**	**0.66**	0.5 U	0.5 U	0.5 U
1,1-Dichloroethene	6	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	**13**	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichlorobenzene	NC	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	5*	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dibromo-3-Chloropropane	0.2	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dibromoethane	NC	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichlorobenzene	600*	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	0.5	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloropropane	5*	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichlorobenzene	NC	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,4-Dichlorobenzene	5*	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Butanone	NC	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Hexanone	NC	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
4-Methyl-2-pentanone	2000	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Acetone	5500	µg/L	5 U	5 U	5 U	5 U	5 U	**0.97 J**	**0.82 J**	10 U	5 U	5 U	5 U	5 U	**3.5 J**	5 U	5 U	5 U
Benzene	1	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	**0.61 J**	**6.1**	0.5 U	0.5 U	0.5 U
Bromochloromethane	NC	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromodichloromethane	NC	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	NC	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromomethane	NC	µg/L	**0.14 J**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 UJ	0.5 U	0.5 U	0.5 U	**0.52 J**	0.5 U	0.5 U	0.5 U	0.5 U
Carbon disulfide	NC	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon tetrachloride	0.5*	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	NC	µg/L	**0.068 J**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	**0.031 J**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	100	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	80	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	**0.8**	0.5 U	0.5 U	0.5 U	0.5 U
Chloromethane	NC	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,2-Dichloroethene	6	µg/L	**1.1**	**0.52**	0.5 U	**0.93**	**0.17 J**	**0.49 J**	**0.53**	5 U	**2.4**	0.5 U	0.5 U	**0.47 J**	**2.0**	**0.15 J**	**0.07 J**	**3.0**
cis-1,3-Dichloropropene	0.5*	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Cyclohexane	NC	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	**0.4 J**	0.5 U	0.5 U	0.5 U
Dibromochloromethane	80	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**0.058 J**	0.5 U
Dichlorodifluoromethane	NC	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethylbenzene	300	µg/L	0.5 U	**0.061 J**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	**0.037 J**	**0.079 J**	**0.1 J**	0.5 U	0.5 U	0.5 U	0.5 U
Isopropanol	NC	µg/L	25 U	25 U	25 U	25 U	25 U	25 U	25 U	250 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Isopropylbenzene	NC	µg/L	0.5 U	**0.11 J**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	**4.4**	0.5 U	0.5 U	0.5 U
Methyl Acetate	NC	µg/L	0.5 U	0.5 U	**0.34 J**	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl Tert-Butyl Ether	13	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**0.086 J**	**0.09 J**	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methylcyclohexane	NC	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	**2.5**	0.5 U	0.5 U	0.5 U
Methylene chloride	5	µg/L	**0.054 J**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	**0.53 J**	0.5 U	0.5 U	0.5 U	0.5 U
N-Hexane	NC	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
o-Xylene	1750*	µg/L	0.5 U	**0.055 J**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	**0.055 J**	**0.2 J**	**0.24 J**	0.5 U	0.5 U	0.5 U	0.5 U
Styrene	100*	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

Table 5-1
First Semi-Annual 2013 VOC Analytical Results - Perched Zone
Pemaco Superfund Site
Maywood, California

	Sample Location		B-03	B-15	B-17	B-21	PA-05	PB-01	PB-01	PB-03	PB-05	PB-07	PC-05	PC-06	PD-04	PD-06	PD-08	SV-05
	Zone		P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
	Sample ID		Y8WX5	Y8WX6	Y8WX7	Y8WX8	Y8WX9	Y8WY1	Y8WY0	Y8WY2	Y8WY3	Y8WY4	Y8WY5	Y8WY6	Y8WY7	Y8WY8	Y8WY9	Y8WZ0
	Sample Date		6/26/2013	6/25/2013	6/28/2013	6/27/2013	6/26/2013	6/26/2013	6/26/2013	6/25/2013	6/27/2013	6/20/2013	6/20/2013	6/20/2013	6/26/2013	6/20/2013	6/27/2013	6/27/2013
	Sample Type		N	N	N	N	N	N	FD	N	N	N	N	N	N	N	N	N
Analyte Name	**SSRL/MCL**	**Units**																
Tetrachloroethene	5	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**0.96 J**	**0.74**	**0.66**	**0.36 J**	**54**	0.5 U	**2.6**	**0.62**	0.5 U
Toluene	150	µg/L	0.5 U	**0.11 J**	**2.7**	0.5 U	0.5 U	0.5 U	0.5 U	5 UJ	0.5 U	0.5 U	**0.14 J**	**0.17 J**	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,2-Dichloroethene	10	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**0.59**
trans-1,3-Dichloropropene	0.5*	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethene	5	µg/L	0.5 U	0.5 U	0.5 U	**0.52**	**0.26 J**	**0.12 J**	**0.12 J**	**0.44 J**	0.5 U	**0.12 J**	**0.43 J**	**2.5**	**2.9**	**0.28 J**	0.5 U	**0.27 J**
Trichlorofluoromethane	150*	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl chloride	0.5	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**2.2**
Xylenes, m & p	1750*	µg/L	0.5 U	**0.089 J**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U	0.5 U	**0.09 J**	**0.37 J**	**0.43 J**	0.5 U	**0.12 J**	0.5 U	0.5 U

Notes:

1. All results are presented in µg/L.

2. MCLs are differentiated from SSRLs with "*" after their values.

3. Bold indicates a sample detection.

4. Yellow shading indicates a concentration in excess of SSRL.

5. µg/L = micrograms per liter; ID = identification; J = estimated value; NA = not available; NC = no criteria; SSRL = Site-Specific Remediation Level; U = not detected above reporting limit; UJ = not detected above estimated reporting limit.

Table 5-2
First Semi-Annual 2013 VOC Analytical Results - 'A' Zone
Pemaco Superfund Site
Maywood, California

	Sample Location		DA-01	DA-01	DA-02	DA-03	DA-04	DA-07	DA-08	DA-09	DA-12	MW-07-75	MW-07-75	MW-09-70	MW-26-75
	Zone		A	A	A	A	A	A	A	A	A	A	A	A	A
	Sample ID		Y8X01	Y8X00	Y8X02	Y8X03	Y8X12	Y8X04	Y8X05	Y8X06	Y8X07	Y8X09	Y8X08	Y8X10	Y8X11
	Sample Date		6/26/2013	6/26/2013	6/26/2013	6/24/2013	6/25/2013	6/27/2013	6/21/2013	6/20/2013	6/21/2013	6/19/2013	6/19/2013	6/24/2013	6/20/2013
	Sample Type		N	FD	N	N	N	N	N	N	N	N	FD	N	N
Analyte Name	**SSRL/MCL**	**Units**													
1,1,1-Trichloroethane	200*	µg/L	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U
1,1,2,2-Tetrachloroethane	1*	µg/L	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	1200*	µg/L	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U
1,1,2-Trichloroethane	5*	µg/L	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U
1,1-Dichloroethane	5*	µg/L	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U
1,1-Dichloroethene	6	µg/L	5 U	5 U	5 U	5 U	0.5 U	5 U	5 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U
1,2,3-Trichlorobenzene	NC	µg/L	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U
1,2,4-Trichlorobenzene	5*	µg/L	5 U	5 U	5 U	5 U	0.5 U	5 U	**0.55 J**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U
1,2-Dibromo-3-Chloropropane	0.2	µg/L	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U
1,2-Dibromoethane	NC	µg/L	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U
1,2-Dichlorobenzene	600*	µg/L	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U
1,2-Dichloroethane	0.5	µg/L	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U
1,2-Dichloropropane	5*	µg/L	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U
1,3-Dichlorobenzene	NC	µg/L	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U
1,4-Dichlorobenzene	5*	µg/L	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U
1,4-Dioxane (P-Dioxane)	NC	µg/L	**8.7**	**9.0**	1 U	100 U	**5.1**	100 U	1 U	--	--	--	--	--	1 U
2-Butanone	NC	µg/L	10 U	10 U	10 U	10 U	5 U	10 U	10 U	5 U	5 U	5 U	5 U	5 U	10 U
2-Hexanone	NC	µg/L	10 U	10 U	10 U	10 U	5 U	10 U	10 U	5 U	5 U	5 U	5 U	5 U	10 U
4-Methyl-2-pentanone	NC	µg/L	10 U	10 U	10 U	10 U	5 U	10 U	10 U	5 U	5 U	5 U	5 U	5 U	10 U
Acetone	5500	µg/L	10 U	10 U	10 U	10 U	5 U	10 U	10 U	5 U	5 U	5 U	5 U	5 U	10 U
Benzene	1	µg/L	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U
Bromochloromethane	NC	µg/L	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U
Bromodichloromethane	NC	µg/L	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U
Bromoform	NC	µg/L	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U
Bromomethane	NC	µg/L	5 UJ	5 UJ	5 UJ	5 U	0.5 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U
Carbon disulfide	NC	µg/L	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U
Carbon tetrachloride	0.5*	µg/L	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U
Chlorobenzene	NC	µg/L	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U
Chloroethane	NC	µg/L	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U
Chloroform	80	µg/L	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U
Chloromethane	NC	µg/L	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U
cis-1,2-Dichloroethene	6	µg/L	**0.38 J**	5 U	5 U	5 U	**0.26 J**	**4.4 J**	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U
cis-1,3-Dichloropropene	0.5*	µg/L	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U
Cyclohexane	NC	µg/L	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U
Dibromochloromethane	80	µg/L	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U
Dichlorodifluoromethane	NC	µg/L	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U
Ethylbenzene	300*	µg/L	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	**0.067 J**	**0.039 J**	0.5 U	0.5 U	0.5 U	5 U
Isopropanol	NC	µg/L	250 U	250 U	250 U	250 U	25 U	250 U	250 U	25 U	25 U	25 U	25 U	25 U	250 U
Isopropylbenzene	NC	µg/L	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U
Methyl Acetate	NC	µg/L	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U

Table 5-2
First Semi-Annual 2013 VOC Analytical Results - 'A' Zone
Pemaco Superfund Site
Maywood, California

	Sample Location		DA-01	DA-01	DA-02	DA-03	DA-04	DA-07	DA-08	DA-09	DA-12	MW-07-75	MW-07-75	MW-09-70	MW-26-75
	Zone		A	A	A	A	A	A	A	A	A	A	A	A	A
	Sample ID		Y8X01	Y8X00	Y8X02	Y8X03	Y8X12	Y8X04	Y8X05	Y8X06	Y8X07	Y8X09	Y8X08	Y8X10	Y8X11
	Sample Date		6/26/2013	6/26/2013	6/26/2013	6/24/2013	6/25/2013	6/27/2013	6/21/2013	6/20/2013	6/21/2013	6/19/2013	6/19/2013	6/24/2013	6/20/2013
	Sample Type		N	FD	N	N	N	N	N	N	N	N	FD	N	N
Analyte Name	**SSRL/MCL**	**Units**													
Methyl Tert-Butyl Ether	13	µg/L	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U
Methylcyclohexane	NC	µg/L	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U
Methylene chloride	5	µg/L	5 U	5 U	5 U	5 U	**0.11 J**	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	**0.088 J**	5 U
N-Hexane	NC	µg/L	5 U	5 U	5 U	5 U	0.5 U	5 U	**0.93 J**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U
o-Xylene	1750*	µg/L	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	**0.17 J**	**0.1 J**	0.5 U	0.5 U	0.5 U	5 U
Styrene	100*	µg/L	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U
Tetrachloroethene	5	µg/L	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	**0.27 J**	5 U
Toluene	150*	µg/L	5 UJ	5 UJ	5 UJ	5 UJ	0.5 U	5 UJ	5 UJ	**0.12 J**	**0.092 J**	0.5 U	0.5 U	0.5 U	5 UJ
trans-1,2-Dichloroethene	10	µg/L	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U
trans-1,3-Dichloropropene	0.5*	µg/L	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U
Trichloroethene	5	µg/L	**3.8 J**	**3.1 J**	5 U	**1.6 J**	**5.3**	**5.3**	5 U	0.5 U	**0.1 J**	0.5 U	0.5 U	**0.11 J**	5 U
Trichlorofluoromethane	150*	µg/L	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U
Vinyl chloride	0.5	µg/L	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 U
Xylenes, m & p	1750*	µg/L	5 U	5 U	5 U	5 U	0.5 U	5 U	**0.31 J**	**0.24 J**	**0.16 J**	0.5 U	0.5 U	0.5 U	**0.38 J**

Notes:
1. All results are presented in µg/L.
2. MCLs are differentiated from SSRLs with "*" after their values.
3. Bold indicates a sample detection.
4. Yellow shading indicates a concentration in excess of SSRL.
5. µg/L = micrograms per liter; ID = identification; J = estimated value; NA = not available; NC = no criteria; SSRL = Site-Specific Remediation Level; U = not detected above reporting limit; UJ = not detected above estimated reporting limit.

Table 5-3
First Semi-Annual 2013 VOC Analytical Results - 'B' Zone
Pemaco Superfund Site
Maywood, California

	Sample Location		DB-01	DB-02	DB-02	DB-03	DB-04	DB-06	DB-07	DB-09	DB-10	DB-11	DB-12	MW-06-85	MW-08-85	MW-09-85
	Zone		B	B	B	B	B	B	B	B	B	B	B	B	B	B
	Sample ID		Y8X13	Y8X15	Y8X14	Y8X16	Y8X17	Y8X19	Y8X18	Y8X20	Y8X21	Y8X22	Y8X23	Y8X24	Y8X25	Y8X26
	Sample Date		6/26/2013	6/26/2013	6/26/2013	6/24/2013	6/25/2013	6/26/2013	6/26/2013	6/20/2013	6/20/2013	6/21/2013	6/21/2013	6/24/2013	6/24/2013	6/24/2013
	Sample Type		N	N	FD	N	N	N	N	N	N	N	N	N	N	N
Analyte Name	**SSRL/MCL**	**Units**														
1,1,1-Trichloroethane	200*	µg/L	5 U	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	1*	µg/L	5 U	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	1200*	µg/L	5 U	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	5*	µg/L	5 U	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	5*	µg/L	**1.6 J**	5 U	5 U	5 U	5 U	0.5 U	**0.59 J**	5 U	5 U	0.5 U	5 U	**0.48 J**	**0.10 J**	0.5 U
1,1-Dichloroethene	6	µg/L	5 U	5 U	5 U	5 U	5 U	0.5 U	5 U	5 UJ	5 UJ	0.5 U	5 UJ	0.5 U	0.5 U	0.5 U
1,2,3-Trichlorobenzene	NC	µg/L	5 U	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	5*	µg/L	5 U	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	**0.21 J**	0.5 U	5 U	0.5 U	0.5 U	0.5 U
1,2-Dibromo-3-Chloropropane	0.2	µg/L	5 U	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U
1,2-Dibromoethane	NC	µg/L	5 U	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U
1,2-Dichlorobenzene	600*	µg/L	5 U	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	0.5	µg/L	5 U	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloropropane	5*	µg/L	5 U	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U
1,3-Dichlorobenzene	NC	µg/L	5 U	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U
1,4-Dichlorobenzene	5*	µg/L	5 U	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U
1,4-Dioxane (P-Dioxane)	NC	µg/L	**6.3**	1 U	1 U	100 U	100 U	1 U	100 U	100 U	1 U	1 U	100 U	--	--	--
2-Butanone	NC	µg/L	10 U	10 U	10 U	10 U	10 U	5 U	10 U	10 U	10 U	5 U	10 U	5 U	5 U	5 U
2-Hexanone	NC	µg/L	10 U	10 U	10 U	10 U	10 U	5 U	10 U	10 U	10 U	5 U	10 U	5 U	5 U	5 U
4-Methyl-2-pentanone	NC	µg/L	10 U	10 U	10 U	10 U	10 U	5 U	10 U	10 U	10 U	5 U	10 U	5 U	5 U	5 U
Acetone	5500	µg/L	10 U	10 U	10 U	10 U	10 U	5 U	10 U	10 U	10 U	5 U	10 U	5 U	5 U	5 U
Benzene	1	µg/L	5 U	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U
Bromochloromethane	NC	µg/L	5 U	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U
Bromodichloromethane	NC	µg/L	5 U	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U
Bromoform	NC	µg/L	5 U	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U
Bromomethane	NC	µg/L	5 U	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U
Carbon disulfide	NC	µg/L	5 U	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U
Carbon tetrachloride	0.5*	µg/L	5 U	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	NC	µg/L	5 U	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U
Chloroethane	NC	µg/L	5 U	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U
Chloroform	80	µg/L	5 U	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U
Chloromethane	NC	µg/L	5 U	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U

(Analytes Continued)

Table 5-3
First Semi-Annual 2013 VOC Analytical Results - 'B' Zone
Pemaco Superfund Site
Maywood, California

	Sample Location		DB-01	DB-02	DB-02	DB-03	DB-04	DB-06	DB-07	DB-09	DB-10	DB-11	DB-12	MW-06-85	MW-08-85	MW-09-85
	Zone		B	B	B	B	B	B	B	B	B	B	B	B	B	B
	Sample ID		Y8X13	Y8X15	Y8X14	Y8X16	Y8X17	Y8X19	Y8X18	Y8X20	Y8X21	Y8X22	Y8X23	Y8X24	Y8X25	Y8X26
	Sample Date		6/26/2013	6/26/2013	6/26/2013	6/24/2013	6/25/2013	6/26/2013	6/26/2013	6/20/2013	6/20/2013	6/21/2013	6/21/2013	6/24/2013	6/24/2013	6/24/2013
	Sample Type		N	N	FD	N	N	N	N	N	N	N	N	N	N	N
Analyte Name	**SSRL/MCL**	**Units**														
cis-1,2-Dichloroethene	6	µg/L	**22**	5 U	**0.39 J**	**3.1 J**	**5.1**	**0.12 J**	**36**	**11**	5 U	**0.052 J**	5 U	0.5 U	**0.36 J**	**0.5 U**
cis-1,3-Dichloropropene	0.5*	µg/L	5 U	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U
Cyclohexane	NC	µg/L	5 U	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U
Dibromochloromethane	80	µg/L	5 U	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U
Dichlorodifluoromethane	NC	µg/L	5 U	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U
Ethylbenzene	300*	µg/L	5 U	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U
Isopropanol	NC	µg/L	250 U	250 U	250 U	250 U	250 U	25 U	250 U	250 U	250 U	25 U	250 U	25 U	25 U	25 U
Isopropylbenzene	NC	µg/L	5 U	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U
Methyl Acetate	NC	µg/L	5 U	5 U	5 U	5 U	5 U	0.5 U	5 U	**0.97 J**	5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U
Methyl Tert-Butyl Ether	13	µg/L	5 U	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U
Methylcyclohexane	NC	µg/L	5 U	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U
Methylene chloride	5	µg/L	5 U	5 U	5 U	5 U	5 U	**0.086 J**	5 U	5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U
N-Hexane	NC	µg/L	5 U	5 U	5 U	5 U	5 U	0.5 U	5 U	**0.52 J**	**0.57 J**	0.5 U	**0.62 J**	0.5 U	0.5 U	**0.5 U**
o-Xylene	1750*	µg/L	5 U	5 U	5 U	5 U	5 U	**0.069 J**	5 U	5 U	**0.26 J**	0.5 U	5 U	0.5 U	0.5 U	0.5 U
Styrene	100*	µg/L	5 U	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethene	5	µg/L	**0.46 J**	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	0.5 U	**0.16 J**	0.075 J
Toluene	150*	µg/L	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	0.5 U	5 UJ	5 UJ	5 UJ	0.5 U	5 UJ	0.5 U	0.5 U	0.5 U
trans-1,2-Dichloroethene	10	µg/L	**1.2 J**	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U
trans-1,3-Dichloropropene	0.5*	µg/L	5 U	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U
Trichloroethene	5	µg/L	**150**	**2.1 J**	**2.5 J**	**35**	**140**	**0.1 J**	**140**	**19**	**4.3 J**	**1.9**	**0.35 J**	**0.056 J**	**1.7**	**0.17 J**
Trichlorofluoromethane	150*	µg/L	5 U	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U
Vinyl chloride	0.5	µg/L	5 U	5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	0.5 U
Xylenes, m & p	1750*	µg/L	5 U	5 U	5 U	5 U	5 U	**0.11 J**	5 U	**0.42 J**	**0.51 J**	0.5 U	5 U	0.5 U	0.5 U	0.5 U

Notes:
1. All results are presented in µg/L.
2. MCLs are differentiated from SSRLs with "*" after their values.
3. Bold indicates a sample detection.
4. Yellow shading indicates a concentration in excess of SSRL.
5. MW-20-80 is also known as MW-20-85; MW-29-85 is also known as MW-29-90.
6. µg/L = micrograms per liter; ID = identification; J = estimated value; NA = not available; NC = no criteria; SSRL = Site-Specific Remediation Level; U = not detected above reporting limit; UJ = not detected above estimated reporting limit.

Table 5-3
First Semi-Annual 2013 VOC Analytical Results - 'B' Zone
Pemaco Superfund Site
Maywood, California

	Sample Location		MW-10-90	MW-12-90	MW-13-85	MW-20-85	MW-21-90	MW-22-90	MW-26-90	MW-28-90	MW-29-85	MW-33-90	RW-01-95
	Zone		B	B	B	B	B	B	B	B	B	B	B
	Sample ID		Y8X27	Y8X28	Y8X29	Y8X30	Y8X31	Y8X32	Y8X33	Y8X34	Y8X35	Y8X36	Y8X37
	Sample Date		6/25/2013	6/25/2013	6/24/2013	6/27/2013	6/19/2013	6/19/2013	6/20/2013	6/20/2013	6/21/2013	6/27/2013	6/20/2013
	Sample Type		N	N	N	N	N	N	N	N	N	N	N
Analyte Name	**SSRL/MCL**	**Units**											
1,1,1-Trichloroethane	200*	µg/L	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	1*	µg/L	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	5 U	5 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	1200*	µg/L	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	5 U	5 U
1,1,2-Trichloroethane	5*	µg/L	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethane	5*	µg/L	0.5 U	**0.071 J**	5 U	**2.1 J**	**0.7 J**	**0.19 J**	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethene	6	µg/L	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 UJ	5 UJ	5 UJ	5 U	5 UJ
1,2,3-Trichlorobenzene	NC	µg/L	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	5 U	5 U
1,2,4-Trichlorobenzene	5*	µg/L	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	**0.35 J**	**0.3 J**	5 U	5 U	5 U
1,2-Dibromo-3-Chloropropane	0.2	µg/L	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dibromoethane	NC	µg/L	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichlorobenzene	600*	µg/L	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethane	0.5	µg/L	0.5 U	**0.26 J**	5 U	5 U	**0.35 J**	**0.15 J**	5 U	5 U	5 U	5 U	5 U
1,2-Dichloropropane	5*	µg/L	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	5 U	5 U
1,3-Dichlorobenzene	NC	µg/L	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	5 U	5 U
1,4-Dichlorobenzene	5*	µg/L	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	5 U	5 U
1,4-Dioxane (P-Dioxane)	NC	µg/L	--	--	100 U	100 U	**3.2 J**	**1.8**	100 U	100 U	100 U	100 U	**1.3 J**
2-Butanone	NC	µg/L	5 U	5 U	10 U	10 U	10 U	5 U	10 U	10 U	10 U	10 U	10 U
2-Hexanone	NC	µg/L	5 U	5 U	10 U	10 U	10 U	5 U	10 U	10 U	10 U	10 U	10 U
4-Methyl-2-pentanone	NC	µg/L	5 U	5 U	10 U	10 U	10 U	5 U	10 U	10 U	10 U	10 U	10 U
Acetone	5500	µg/L	5 U	5 U	10 U	10 U	10 U	5 U	10 U	10 U	10 U	10 U	10 U
Benzene	1	µg/L	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	5 U	5 U
Bromochloromethane	NC	µg/L	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	5 U	5 U
Bromodichloromethane	NC	µg/L	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	5 U	5 U
Bromoform	NC	µg/L	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	5 U	5 U
Bromomethane	NC	µg/L	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	5 U	5 U
Carbon disulfide	NC	µg/L	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	5 U	5 U
Carbon tetrachloride	0.5*	µg/L	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	5 U	5 U
Chlorobenzene	NC	µg/L	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	5 U	5 U
Chloroethane	NC	µg/L	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	5 U	5 U
Chloroform	80	µg/L	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	5 U	5 U
Chloromethane	NC	µg/L	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	5 U	5 U

(Analytes Continued)

Table 5-3
First Semi-Annual 2013 VOC Analytical Results - 'B' Zone
Pemaco Superfund Site
Maywood, California

	Sample Location		MW-10-90	MW-12-90	MW-13-85	MW-20-85	MW-21-90	MW-22-90	MW-26-90	MW-28-90	MW-29-85	MW-33-90	RW-01-95
	Zone		B	B	B	B	B	B	B	B	B	B	B
	Sample ID		Y8X27	Y8X28	Y8X29	Y8X30	Y8X31	Y8X32	Y8X33	Y8X34	Y8X35	Y8X36	Y8X37
	Sample Date		6/25/2013	6/25/2013	6/24/2013	6/27/2013	6/19/2013	6/19/2013	6/20/2013	6/20/2013	6/21/2013	6/27/2013	6/20/2013
	Sample Type		N	N	N	N	N	N	N	N	N	N	N
Analyte Name	**SSRL/MCL**	**Units**											
cis-1,2-Dichloroethene	6	µg/L	**0.12 J**	**1.6**	**1.7 J**	**410**	**27**	**27**	5 U	5 U	**0.58 J**	**2.0 J**	**0.39 J**
cis-1,3-Dichloropropene	0.5*	µg/L	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	5 U	5 U
Cyclohexane	NC	µg/L	0.5 U	0.5 U	5 U	5 U	5 U	**0.52**	5 U	5 U	5 U	5 U	5 U
Dibromochloromethane	80	µg/L	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	5 U	5 U
Dichlorodifluoromethane	NC	µg/L	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	5 U	5 U
Ethylbenzene	300*	µg/L	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	5 U	5 U
Isopropanol	NC	µg/L	25 U	25 U	250 U	250 U	250 U	25 U	250 U	250 U	250 U	250 U	250 U
Isopropylbenzene	NC	µg/L	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	5 U	5 U
Methyl Acetate	NC	µg/L	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	5 U	5 U
Methyl Tert-Butyl Ether	13	µg/L	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	5 U	5 U
Methylcyclohexane	NC	µg/L	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	5 U	5 U
Methylene chloride	5	µg/L	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	5 U	5 U
N-Hexane	NC	µg/L	0.5 U	0.5 U	5 U	**0.6 J**	5 U	0.5 U	**0.56 J**	**0.67 J**	**0.82 J**	5 U	**0.79 J**
o-Xylene	1750*	µg/L	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	**0.48 J**	5 U	5 U
Styrene	100*	µg/L	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	5 U	5 U
Tetrachloroethene	5	µg/L	0.5 U	0.5 U	5 U	5 U	5 U	**0.19 J**	5 U	5 U	5 U	5 U	5 U
Toluene	150*	µg/L	0.5 U	0.5 U	5 UJ	5 UJ	5 UJ	0.5 U	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ
trans-1,2-Dichloroethene	10	µg/L	0.5 U	**0.099 J**	5 U	**1.9 J**	5 U	**0.38 J**	5 U	5 U	5 U	5 U	5 U
trans-1,3-Dichloropropene	0.5*	µg/L	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	5 U	5 U
Trichloroethene	5	µg/L	**0.54**	**19**	**10**	**70**	**57**	**4.2**	**9.7**	**8.1**	**18**	**54**	**6.7**
Trichlorofluoromethane	150*	µg/L	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	5 U	5 U
Vinyl chloride	0.5	µg/L	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	5 U	5 U
Xylenes, m & p	1750*	µg/L	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	**0.37 J**	**0.86 J**	5 U	5 U

Notes:
1. All results are presented in µg/L.
2. MCLs are differentiated from SSRLs with "*" after their values.
3. Bold indicates a sample detection.
4. Yellow shading indicates a concentration in excess of SSRL.
5. MW-20-80 is also known as MW-20-85; MW-29-85 is also known as MW-29-90.
6. µg/L = micrograms per liter; ID = identification; J = estimated value; NA = not available; NC = no criteria; SSRL = Site-Specific Remediation Level; U = not detected above reporting limit; UJ = not detected above e

Table 5-4
First Semi-Annual 2013 VOC Analytical Results - 'A'&'B' Zone
Pemaco Superfund Site
Maywood, California

	Sample Location		DAB-02	DAB-04	DAB-05	DAB-05	DAB-07	DAB-08	MW-01-80	MW-05-85	MW-05-85
	Zone		AB	AB	AB	AB	AB	AB	AB	AB	AB
	Sample ID		Y8WZ1	Y8WZ2	Y8WZ4	Y8WZ3	Y8WZ5	Y8WZ6	Y8WZ7	Y8WZ9	Y8WZ8
	Sample Date		6/24/2013	6/24/2013	6/24/2013	6/24/2013	6/24/2013	6/26/2013	6/25/2013	6/24/2013	6/24/2013
	Sample Type		N	N	N	FD	N	N	N	N	FD
Analyte Name	**SSRL/MCL**	**Units**									
1,1,1-Trichloroethane	200*	µg/L	0.5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	1*	µg/L	0.5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	1200*	µg/L	0.5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2-Trichloroethane	5*	µg/L	0.5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethane	5*	µg/L	0.5 U	5 U	5 U	5 U	5 U	**0.44 J**	**1.1 J**	5 U	5 U
1,1-Dichloroethene	6	µg/L	0.5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2,3-Trichlorobenzene	NC	µg/L	0.5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2,4-Trichlorobenzene	5*	µg/L	0.5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dibromo-3-Chloropropane	0.2	µg/L	0.5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dibromoethane	NC	µg/L	0.5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichlorobenzene	600*	µg/L	0.5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethane	0.5	µg/L	0.5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloropropane	5*	µg/L	0.5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,3-Dichlorobenzene	NC	µg/L	0.5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,4-Dichlorobenzene	5*	µg/L	**0.048 J**	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,4-Dioxane (P-Dioxane)	NC	µg/L	0.35 U	100 U	1 U	0.35 U	1 U	**4.4**	**4.0**	100 U	100 U
2-Butanone	NC	µg/L	5 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Hexanone	NC	µg/L	5 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Methyl-2-pentanone	NC	µg/L	5 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acetone	5500	µg/L	5 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzene	1	µg/L	0.5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bromochloromethane	NC	µg/L	0.5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bromodichloromethane	NC	µg/L	0.5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bromoform	NC	µg/L	0.5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bromomethane	NC	µg/L	0.5 U	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 U
Carbon disulfide	NC	µg/L	0.5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon tetrachloride	0.5*	µg/L	0.5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chlorobenzene	NC	µg/L	0.5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroethane	NC	µg/L	0.5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroform	80	µg/L	0.5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloromethane	NC	µg/L	0.5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
cis-1,2-Dichloroethene	6	µg/L	0.5 U	5 U	5 U	5 U	5 U	**5.3**	**67**	5 U	5 U
cis-1,3-Dichloropropene	0.5*	µg/L	0.5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Cyclohexane	NC	µg/L	0.5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Dibromochloromethane	80	µg/L	0.5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U

Table 5-4
First Semi-Annual 2013 VOC Analytical Results - 'A'&'B' Zone
Pemaco Superfund Site
Maywood, California

	Sample Location		DAB-02	DAB-04	DAB-05	DAB-05	DAB-07	DAB-08	MW-01-80	MW-05-85	MW-05-85
	Zone		AB	AB	AB	AB	AB	AB	AB	AB	AB
	Sample ID		Y8WZ1	Y8WZ2	Y8WZ4	Y8WZ3	Y8WZ5	Y8WZ6	Y8WZ7	Y8WZ9	Y8WZ8
	Sample Date		6/24/2013	6/24/2013	6/24/2013	6/24/2013	6/24/2013	6/26/2013	6/25/2013	6/24/2013	6/24/2013
	Sample Type		N	N	N	FD	N	N	N	N	FD
Analyte Name	**SSRL/MCL**	**Units**									
Dichlorodifluoromethane	NC	µg/L	0.5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Ethylbenzene	300*	µg/L	**0.052 J**	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Isopropanol	NC	µg/L	25 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U
Isopropylbenzene	NC	µg/L	0.5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Methyl Acetate	NC	µg/L	0.5 U	**1.6 J**	**1.8 J**	**1.1 J**	**0.99 J**	**0.87 J**	5 U	5 U	5 U
Methyl Tert-Butyl Ether	13	µg/L	0.5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Methylcyclohexane	NC	µg/L	0.5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Methylene chloride	5	µg/L	**0.13 J**	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
N-Hexane	NC	µg/L	0.5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
o-Xylene	1750*	µg/L	**0.15 J**	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Styrene	100*	µg/L	0.5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Tetrachloroethene	5	µg/L	0.5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Toluene	150*	µg/L	**0.14 J**	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ
trans-1,2-Dichloroethene	10	µg/L	0.5 U	5 U	5 U	5 U	5 U	5 U	**0.49 J**	5 U	5 U
trans-1,3-Dichloropropene	0.5*	µg/L	0.5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Trichloroethene	5	µg/L	**0.31 J**	**0.46 J**	**0.89 J**	**0.80 J**	5 U	**72**	**660**	**0.73 J**	**0.62 J**
Trichlorofluoromethane	150*	µg/L	0.5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Vinyl chloride	0.5	µg/L	0.5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Xylenes, m & p	1750*	µg/L	**0.23 J**	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U

Notes:
1. All results are presented in µg/L.
2. MCLs are differentiated from SSRLs with "*" after their values.
3. Bold indicates a sample detection.
4. Yellow shading indicates a concentration in excess of SSRL.
5. µg/L = micrograms per liter; ID = identification; J = estimated value; NA = not available; NC = no criteria; SSRL = Site-Specific Remediation Level; U = not detected above reporting limit; UJ = not detected above estimated reporting limit.

Table 5-5
First Semi-Annual 2013 VOC Analytical Results - 'C' Zone
Pemaco Superfund Site
Maywood, California

	Sample Location		MW-05-105	MW-05-105	MW-10-110	MW-11-100	MW-23-110	MW-24-110	MW-25-110	MW-34-110
	Zone		C	C	C	C	C	C	C	C
	Sample ID		Y8X39	Y8X38	Y8X40	Y8X41	Y8X42	Y8X43	Y8X44	Y8X45
	Sample Date		6/27/2013	6/27/2013	6/25/2013	6/19/2013	6/19/2013	6/21/2013	6/25/2013	6/26/2013
	Sample Type		N	FD	N	N	N	N	N	N
Analyte Name	**SSRL/MCL**	**Units**								
1,1,1-Trichloroethane	200*	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	1*	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	5 U	5 U	5 U	5 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	1200*	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	5 U	5 U	5 U	5 U
1,1,2-Trichloroethane	5*	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethane	5*	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethene	6	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	5 U	5 UJ	5 U	5 U
1,2,3-Trichlorobenzene	NC	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	5 U	5 U	5 U	5 U
1,2,4-Trichlorobenzene	5*	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	5 U	5 U	5 U	5 U
1,2-Dibromo-3-Chloropropane	0.2	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	5 U	5 U	5 U	5 U
1,2-Dibromoethane	NC	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	5 U	5 U	5 U	5 U
1,2-Dichlorobenzene	600*	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethane	0.5	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	5 U	5 U	5 U	5 U
1,2-Dichloropropane	5*	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	5 U	5 U	5 U	5 U
1,3-Dichlorobenzene	NC	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	5 U	5 U	5 U	5 U
1,4-Dichlorobenzene	5*	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	5 U	5 U	5 U	5 U
1,4-Dioxane (P-Dioxane)	NC	µg/L	--	--	--	--	100 U	100 U	100 U	100 U
2-Butanone	NC	µg/L	5 U	5 U	5 U	5 U	10 U	10 U	10 U	10 U
2-Hexanone	NC	µg/L	5 U	5 U	5 U	5 U	10 U	10 U	10 U	10 U
4-Methyl-2-pentanone	NC	µg/L	5 U	5 U	5 U	5 U	10 U	10 U	10 U	10 U
Acetone	5500	µg/L	5 U	5 U	5 U	5 U	10 U	10 U	10 U	10 U
Benzene	1	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	5 U	5 U	5 U	5 U
Bromochloromethane	NC	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	5 U	5 U	5 U	5 U
Bromodichloromethane	NC	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	5 U	5 U	5 U	5 U
Bromoform	NC	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	5 U	5 U	5 U	5 U
Bromomethane	NC	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	5 U	5 U	5 U	5 U
Carbon disulfide	NC	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	5 U	5 U	5 U	5 U
Carbon tetrachloride	0.5*	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	5 U	5 U	5 U	5 U
Chlorobenzene	NC	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	5 U	5 U	5 U	5 U
Chloroethane	NC	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	5 U	5 U	5 U	5 U

Table 5-5
First Semi-Annual 2013 VOC Analytical Results - 'C' Zone
Pemaco Superfund Site
Maywood, California

	Sample Location		MW-05-105	MW-05-105	MW-10-110	MW-11-100	MW-23-110	MW-24-110	MW-25-110	MW-34-110
	Zone		C	C	C	C	C	C	C	C
	Sample ID		Y8X39	Y8X38	Y8X40	Y8X41	Y8X42	Y8X43	Y8X44	Y8X45
	Sample Date		6/27/2013	6/27/2013	6/25/2013	6/19/2013	6/19/2013	6/21/2013	6/25/2013	6/26/2013
	Sample Type		N	FD	N	N	N	N	N	N
Analyte Name	**SSRL/MCL**	**Units**								
Chloroform	80	µg/L	**3.3**	**3.1**	0.5 U	0.5 U	5 U	5 U	5 U	5 U
Chloromethane	NC	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	5 U	5 U	5 U	5 U
cis-1,2-Dichloroethene	6	µg/L	**4.7**	**4.6**	**1.4**	0.5 U	**7.5**	**8.0**	**0.45 J**	**2.8 J**
cis-1,3-Dichloropropene	0.5*	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	5 U	5 U	5 U	5 U
Cyclohexane	NC	µg/L	0.5 U	0.5 U	**0.057 J**	0.5 U	5 U	5 U	5 U	5 U
Dibromochloromethane	80	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	5 U	5 U	5 U	5 U
Dichlorodifluoromethane	NC	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	5 U	5 U	5 U	5 U
Ethylbenzene	300*	µg/L	0.5 U	0.5 U	0.5 U	**0.036 J**	5 U	5 U	5 U	5 U
Isopropanol	NC	µg/L	25 U	25 U	25 U	25 U	250 U	250 U	250 U	250 U
Isopropylbenzene	NC	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	5 U	5 U	5 U	5 U
Methyl Acetate	NC	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	5 U	5 U	5 U	5 U
Methyl Tert-Butyl Ether	13	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	5 U	5 U	5 U	5 U
Methylcyclohexane	NC	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	5 U	5 U	5 U	5 U
Methylene chloride	5	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	5 U	5 U	5 U	5 U
N-Hexane	NC	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	5 U	**0.60 J**	5 U	5 U
o-Xylene	1750*	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	5 U	5 U	5 U	5 U
Styrene	100*	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	5 U	5 U	5 U	5 U
Tetrachloroethene	5	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	5 U	5 U	5 U	5 U
Toluene	150*	µg/L	0.5 U	0.5 U	0.5 U	**0.08 J**	5 UJ	5 UJ	5 UJ	5 UJ
trans-1,2-Dichloroethene	10	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	5 U	5 U	5 U	5 U
trans-1,3-Dichloropropene	0.5*	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	5 U	5 U	5 U	5 U
Trichloroethene	5	µg/L	**26**	**25**	**1.5**	0.5 U	**63**	**8.0**	**3.2 J**	**8.0**
Trichlorofluoromethane	150*	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	5 U	5 U	5 U	5 U
Vinyl chloride	0.5	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	5 U	5 U	5 U	5 U
Xylenes, m & p	1750*	µg/L	0.5 U	0.5 U	0.5 U	**0.034 J**	5 U	5 U	5 U	5 U

Notes:

1. All results are presented in µg/L.
2. MCLs are differentiated from SSRLs with "*" after their values.
3. Bold indicates a sample detection.
4. Yellow shading indicates a concentration in excess of SSRL.
5. µg/L = micrograms per liter; ID = identification; J = estimated value; NA = not available; NC = no criteria; SSRL = Site-Specific Remediation Level; U = not detected above reporting limit; UJ = not detected above estimated reporting limit.

Table 5-6
First Semi-Annual 2013 VOC Analytical Results - 'D' and 'E' Zone
Pemaco Superfund Site
Maywood, California

	Sample Location		MW-05-135	MW-07-130	MW-11-130	MW-12-150	MW-23-145	MW-24-140	MW-25-130	MW-10-170	MW-10-170
	Zone		D	D	D	D	D	D	D	E	E
	Sample ID		Y8X46	Y8X47	Y8X52	Y8X48	Y8X49	Y8X50	Y8X51	Y8X54	Y8X53
	Sample Date		6/24/2013	6/19/2013	6/19/2013	6/25/2013	6/19/2013	6/20/2013	6/25/2013	6/25/2013	6/25/2013
	Sample Type		N	N	N	N	N	N	N	N	FD
Analyte Name	**SSRL/MCL**	**Units**									
1,1,1-Trichloroethane	200*	µg/L	0.5 U	5 U	5 U	0.5 U	0.5 U	5 U	5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	1*	µg/L	0.5 U	5 U	5 U	0.5 U	0.5 U	5 U	5 U	0.5 U	0.5 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	1200*	µg/L	0.5 U	5 U	5 U	0.5 U	0.5 U	5 U	5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	5*	µg/L	0.5 U	5 U	5 U	0.5 U	0.5 U	5 U	5 U	0.5 U	0.5 U
1,1-Dichloroethane	5*	µg/L	**0.23 J**	5 U	5 U	0.5 U	0.5 U	5 U	5 U	0.5 U	0.5 U
1,1-Dichloroethene	6	µg/L	0.5 U	5 U	5 U	0.5 U	0.5 U	5 UJ	5 U	0.5 U	0.5 U
1,2,3-Trichlorobenzene	NC	µg/L	0.5 U	5 U	5 U	0.5 U	0.5 U	5 U	5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	5*	µg/L	0.5 U	5 U	5 U	0.5 U	0.5 U	5 U	5 U	0.5 U	0.5 U
1,2-Dibromo-3-Chloropropane	0.2	µg/L	0.5 U	5 U	5 U	0.5 U	0.5 U	5 U	5 U	0.5 U	0.5 U
1,2-Dibromoethane	NC	µg/L	0.5 U	5 U	5 U	0.5 U	0.5 U	5 U	5 U	0.5 U	0.5 U
1,2-Dichlorobenzene	600*	µg/L	0.5 U	5 U	5 U	0.5 U	0.5 U	5 U	5 U	0.5 U	0.5 U
1,2-Dichloroethane	0.5	µg/L	**0.39 J**	5 U	5 U	0.5 U	0.5 U	5 U	5 U	0.5 U	0.5 U
1,2-Dichloropropane	5*	µg/L	0.5 U	5 U	5 U	0.5 U	0.5 U	5 U	5 U	0.5 U	0.5 U
1,3-Dichlorobenzene	NC	µg/L	0.5 U	5 U	5 U	0.5 U	0.5 U	5 U	5 U	0.5 U	0.5 U
1,4-Dichlorobenzene	5*	µg/L	0.5 U	5 U	5 U	0.5 U	0.5 U	5 U	5 U	0.5 U	0.5 U
1,4-Dioxane (P-Dioxane)	NC	µg/L	NA	100 U	100 U	NA	NA	100 U	100 U	NA	NA
2-Butanone	NC	µg/L	5 U	10 U	10 U	5 U	5 U	10 U	10 U	5 U	5 U
2-Hexanone	NC	µg/L	5 U	10 U	10 U	5 U	5 U	10 U	10 U	5 U	5 U
4-Methyl-2-pentanone	NC	µg/L	5 U	10 U	10 U	5 U	5 U	10 U	10 U	5 U	5 U
Acetone	5500	µg/L	5 U	10 U	10 U	5 U	5 U	10 U	10 U	5 U	5 U
Benzene	1	µg/L	0.5 U	5 U	5 U	0.5 U	0.5 U	5 U	5 U	0.5 U	0.5 U
Bromochloromethane	NC	µg/L	0.5 U	5 U	5 U	0.5 U	0.5 U	5 U	5 U	0.5 U	0.5 U
Bromodichloromethane	NC	µg/L	0.5 U	5 U	5 U	0.5 U	0.5 U	5 U	5 U	0.5 U	0.5 U
Bromoform	NC	µg/L	0.5 U	5 U	5 U	0.5 U	0.5 U	5 U	5 U	0.5 U	0.5 U
Bromomethane	NC	µg/L	0.5 U	5 U	5 U	0.5 U	0.5 U	5 U	5 U	0.5 U	0.5 U
Carbon disulfide	NC	µg/L	0.5 U	5 U	5 U	0.5 U	0.5 U	5 U	5 U	0.5 U	0.5 U
Carbon tetrachloride	0.5*	µg/L	0.5 U	5 U	5 U	0.5 U	0.5 U	5 U	5 U	0.5 U	0.5 U
Chlorobenzene	NC	µg/L	0.5 U	5 U	5 U	0.5 U	0.5 U	5 U	5 U	0.5 U	0.5 U
Chloroethane	NC	µg/L	0.5 U	5 U	5 U	0.5 U	0.5 U	5 U	5 U	0.5 U	0.5 U
Chloroform	80	µg/L	0.5 U	5 U	5 U	0.5 U	0.5 U	5 U	5 U	0.5 U	0.5 U
Chloromethane	NC	µg/L	0.5 U	5 U	5 U	0.5 U	0.5 U	5 U	5 U	0.5 U	0.5 U
cis-1,2-Dichloroethene	6	µg/L	**0.98**	**0.77 J**	**0.41 J**	0.5 U	0.5 U	**1.2 J**	**10**	0.5 U	0.5 U
cis-1,3-Dichloropropene	0.5*	µg/L	0.5 U	5 U	5 U	0.5 U	0.5 U	5 U	5 U	0.5 U	0.5 U
Cyclohexane	NC	µg/L	0.5 U	5 U	5 U	0.5 U	0.5 U	5 U	5 U	0.5 U	0.5 U
Dibromochloromethane	80	µg/L	0.5 U	5 U	5 U	0.5 U	0.5 U	5 U	5 U	0.5 U	0.5 U
Dichlorodifluoromethane	NC	µg/L	0.5 U	5 U	5 U	0.5 U	0.5 U	5 U	5 U	0.5 U	0.5 U

Table 5-6
First Semi-Annual 2013 VOC Analytical Results - 'D' and 'E' Zone
Pemaco Superfund Site
Maywood, California

	Sample Location		MW-05-135	MW-07-130	MW-11-130	MW-12-150	MW-23-145	MW-24-140	MW-25-130	MW-10-170	MW-10-170
	Zone		D	D	D	D	D	D	D	E	E
	Sample ID		Y8X46	Y8X47	Y8X52	Y8X48	Y8X49	Y8X50	Y8X51	Y8X54	Y8X53
	Sample Date		6/24/2013	6/19/2013	6/19/2013	6/25/2013	6/19/2013	6/20/2013	6/25/2013	6/25/2013	6/25/2013
	Sample Type		N	N	N	N	N	N	N	N	FD
Analyte Name	**SSRL/MCL**	**Units**									
Ethylbenzene	300*	µg/L	0.5 U	5 U	5 U	0.5 U	0.5 U	5 U	5 U	0.5 U	0.5 U
Isopropanol	NC	µg/L	25 U	250 U	250 U	25 U	25 U	250 U	250 U	25 U	25 U
Isopropylbenzene	NC	µg/L	0.5 U	5 U	5 U	0.5 U	0.5 U	5 U	5 U	0.5 U	0.5 U
Methyl Acetate	NC	µg/L	0.5 U	5 U	5 U	0.5 U	0.5 U	**0.75 J**	5 U	0.5 U	0.5 U
Methyl Tert-Butyl Ether	13	µg/L	0.5 U	5 U	5 U	0.5 U	0.5 U	5 U	5 U	0.5 U	0.5 U
Methylcyclohexane	NC	µg/L	0.5 U	5 U	5 U	0.5 U	0.5 U	5 U	5 U	0.5 U	0.5 U
Methylene chloride	5	µg/L	0.5 U	5 U	5 U	0.5 U	0.5 U	5 U	**2.8 J**	0.5 U	0.5 U
N-Hexane	NC	µg/L	0.5 U	5 U	5 U	0.5 U	0.5 U	**0.42 J**	5 U	0.5 U	0.5 U
o-Xylene	1750*	µg/L	0.5 U	5 U	5 U	0.5 U	0.5 U	5 U	5 U	0.5 U	0.5 U
Styrene	100*	µg/L	0.5 U	5 U	5 U	0.5 U	0.5 U	5 U	5 U	0.5 U	0.5 U
Tetrachloroethene	5	µg/L	0.5 U	5 U	5 U	0.5 U	0.5 U	5 U	5 U	0.5 U	0.5 U
Toluene	150*	µg/L	0.5 U	5 UJ	5 UJ	0.5 U	0.5 U	5 UJ	5 UJ	0.5 U	0.5 U
trans-1,2-Dichloroethene	10	µg/L	0.5 U	5 U	5 U	0.5 U	0.5 U	5 U	5 U	0.5 U	0.5 U
trans-1,3-Dichloropropene	0.5*	µg/L	0.5 U	5 U	5 U	0.5 U	0.5 U	5 U	5 U	0.5 U	0.5 U
Trichloroethene	5	µg/L	**2.1**	**81**	**7.8**	0.5 U	**1.5**	**0.92 J**	**250**	0.5 U	0.5 U
Trichlorofluoromethane	150*	µg/L	0.5 U	5 U	5 U	0.5 U	0.5 U	5 U	5 U	0.5 U	0.5 U
Vinyl chloride	0.5	µg/L	0.5 U	5 U	5 U	0.5 U	0.5 U	5 U	5 U	0.5 U	0.5 U
Xylenes, m & p	1750*	µg/L	0.5 U	5 U	5 U	0.5 U	0.5 U	5 U	5 U	0.5 U	0.5 U

Notes:
1. All results are presented in µg/L.
2. MCLs are differentiated from SSRLs with "*" after their values.
3. Bold indicates a sample detection.
4. Yellow shading indicates a concentration in excess of
5. µg/L = micrograms per liter; ID = identification; J = estimated value; NA = not available; NC = no criteria; SSRL = Site-Specific Remediation Level; U = not detected above reporting limit; UJ = not detected above estimated reporting limit.

Table 5-7
First Semi-Annual 1,4-Dioxane Analytical Results
Pemaco Superfund Site
Maywood, California

	Sample Location		B-15	B-21	PB-03	SV-05	DA-01	DA-01	DA-02
	Zone		P	P	P	P	A	A	A
	Sample ID		Y8WX6	Y8WX8	Y8WY2	Y8WZ0	Y8X01	Y8X00	Y8X02
	Sample Date		6/25/2013	6/27/2013	6/25/2013	6/27/2013	6/26/2013	6/26/2013	6/26/2013
	Sample Type		N	N	N	N	N	FD	N
Analysis Method	SSRL	Units							
SOM01.2C	3	µg/L	--	--	100 U	--	100 U	100 U	100 U
SW8260SIM	3	µg/L	25 U	**2.9**	--	**6.8**	**8.7**	**9.0**	1 U

	Sample Location		DA-03	DA-04	DA-07	DA-08	MW-26-75	DB-01	DB-02
	Zone		A	A	A	A	A	B	B
	Sample ID		Y8X03	Y8X12	Y8X04	Y8X05	Y8X11	Y8X13	Y8X15
	Sample Date		6/24/2013	6/25/2013	6/27/2013	6/21/2013	6/20/2013	6/26/2013	6/26/2013
	Sample Type		N	N	N	N	N	N	N
Analysis Method	SSRL	Units							
SOM01.2C	3	µg/L	100 U	--	100 U	100 U	100 U	100 U	100 U
SW8260SIM	3	µg/L	--	**5.1**	--	1 U	1 U	**6.3**	1 U

	Sample Location		DB-02	DB-03	DB-04	DB-06	DB-07	DB-09	DB-10
	Zone		B	B	B	B	B	B	B
	Sample ID		Y8X14	Y8X16	Y8X17	Y8X19	Y8X18	Y8X20	Y8X21
	Sample Date		6/26/2013	6/24/2013	6/25/2013	6/26/2013	6/26/2013	6/20/2013	6/20/2013
	Sample Type		FD	N	N	N	N	N	N
Analysis Method	SSRL	Units							
SOM01.2C	3	µg/L	100 U	100 U	100 U	--	100 U	100 U	100 U
SW8260SIM	3	µg/L	1 U	--	--	1 U	--	--	1 U

	Sample Location		DB-11	DB-12	MW-13-85	MW-20-85	MW-21-90	MW-22-90	MW-26-90
	Zone		B	B	B	B	B	B	B
	Sample ID		Y8X22	Y8X23	Y8X29	Y8X30	Y8X31	Y8X32	Y8X33
	Sample Date		6/21/2013	6/21/2013	6/24/2013	6/27/2013	6/19/2013	6/19/2013	6/20/2013
	Sample Type		N	N	N	N	N	N	N
Analysis Method	SSRL	Units							
SOM01.2C	3	µg/L	--	100 U	100 U	100 U	100 U	--	100 U
SW8260SIM	3	µg/L	1 U	--	--	**7.8**	**3.2 J**	**1.8 J**	--

	Sample Location		MW-28-90	MW-29-85	MW-33-90	RW-01-95	DAB-02	DAB-04	DAB-05
	Zone		B	B	B	B	AB	AB	AB
	Sample ID		Y8X34	Y8X35	Y8X36	Y8X37	Y8WZ1	Y8WZ2	Y8WZ4
	Sample Date		6/20/2013	6/21/2013	6/27/2013	6/20/2013	6/24/2013	6/24/2013	6/24/2013
	Sample Type		N	N	N	N	N	N	N
Analysis Method	SSRL	Units							
SOM01.2C	3	µg/L	100 U	100 U	100 U	100 U	--	100 U	100 U
SW8260SIM	3	µg/L	--	--	--	**1.3 J**	1 U	--	1 U

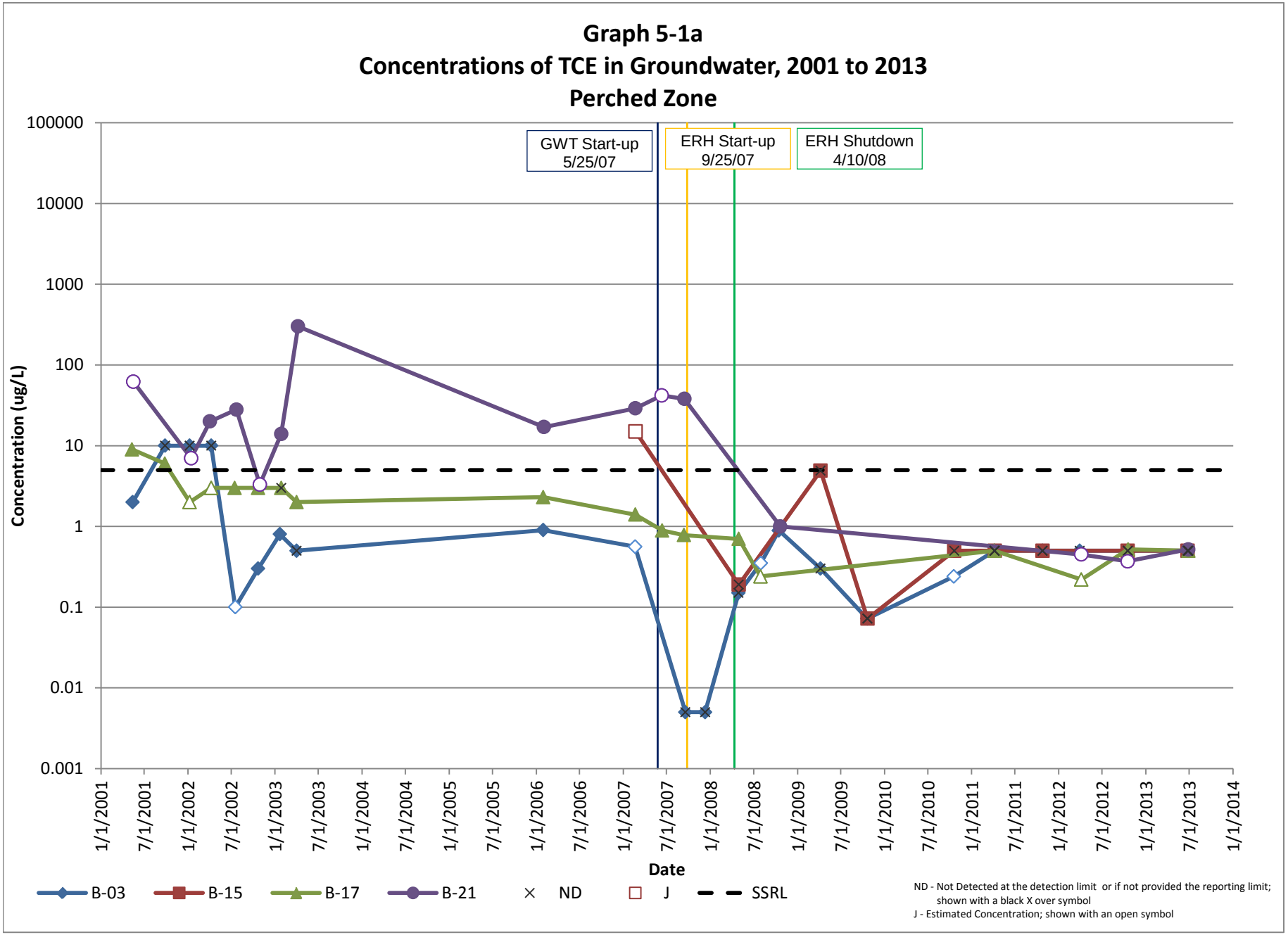
	Sample Location		DAB-05	DAB-07	DAB-08	MW-01-80	MW-05-85	MW-05-85	MW-23-110
	Zone		AB	AB	AB	AB	AB	AB	C
	Sample ID		Y8WZ3	Y8WZ5	Y8WZ6	Y8WZ7	Y8WZ9	Y8WZ8	Y8X42
	Sample Date		6/24/2013	6/24/2013	6/26/2013	6/25/2013	6/24/2013	6/24/2013	6/19/2013
	Sample Type		FD	N	N	N	N	FD	N
Analysis Method	SSRL	Units							
SOM01.2C	3	µg/L	100 U	100 U	100 U	100 U	100 U	100 U	100 U
SW8260SIM	3	µg/L	1 U	1 U	**4.4**	**4.0**	--	--	--

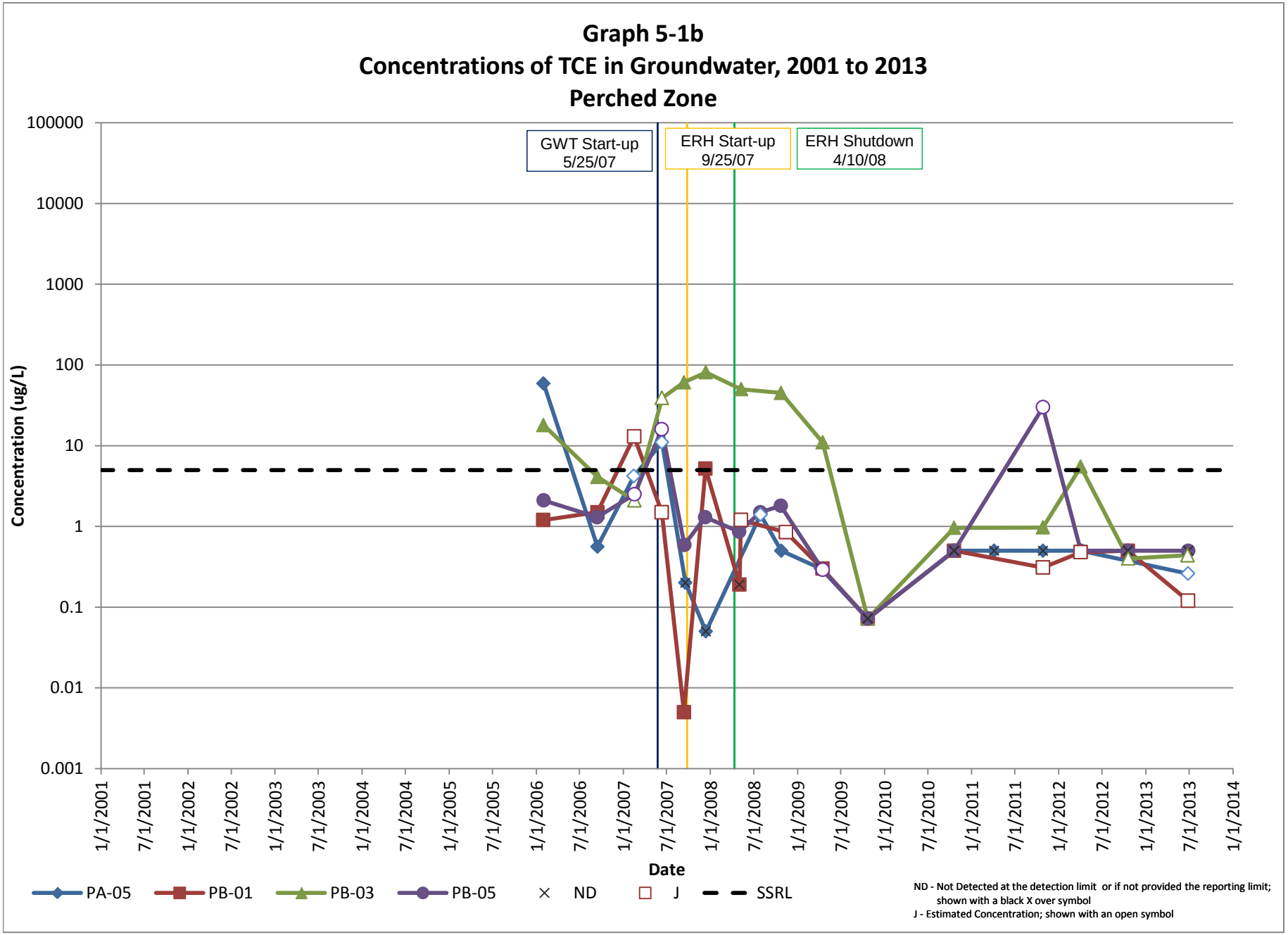
Table 5-7
First Semi-Annual 1,4-Dioxane Analytical Results
Pemaco Superfund Site
Maywood, California

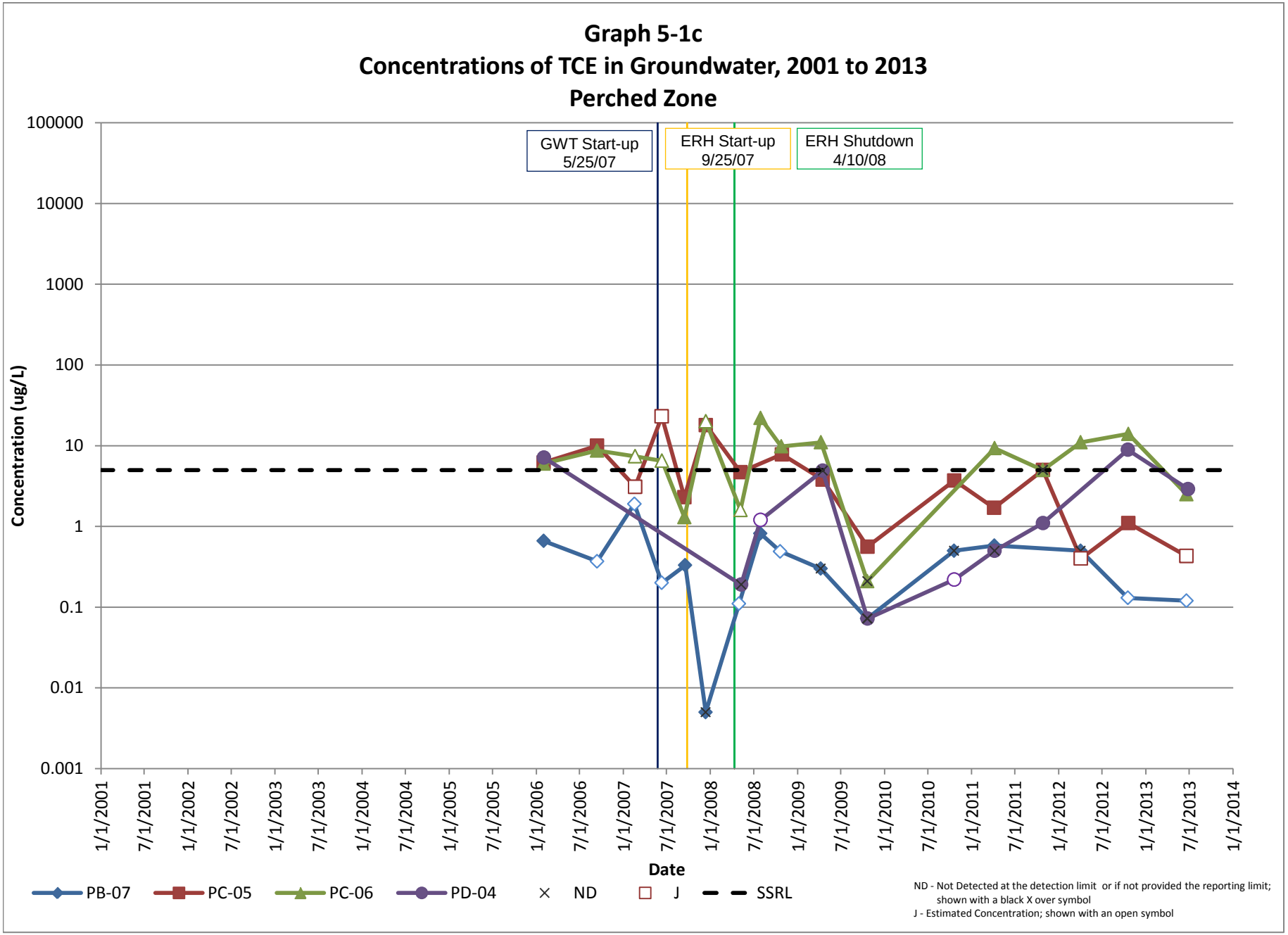
	Sample Location		MW-24-110	MW-25-110	MW-34-110	MW-07-130	MW-11-130	MW-24-140	MW-25-130
	Zone		C	C	C	D	D	D	D
	Sample ID		Y8X43	Y8X44	Y8X45	Y8X47	Y8X52	Y8X50	Y8X51
	Sample Date		6/21/2013	6/25/2013	6/26/2013	6/19/2013	6/19/2013	6/20/2013	6/25/2013
	Sample Type		N	N	N	N	N	N	N
Analysis Method	**SSRL**	**Units**							
SOM01.2C	3	µg/L	100 U	100 U	100 U	100 U	100 U	100 U	100 U
SW8260SIM	3	µg/L	--	--	--	--	--	--	--

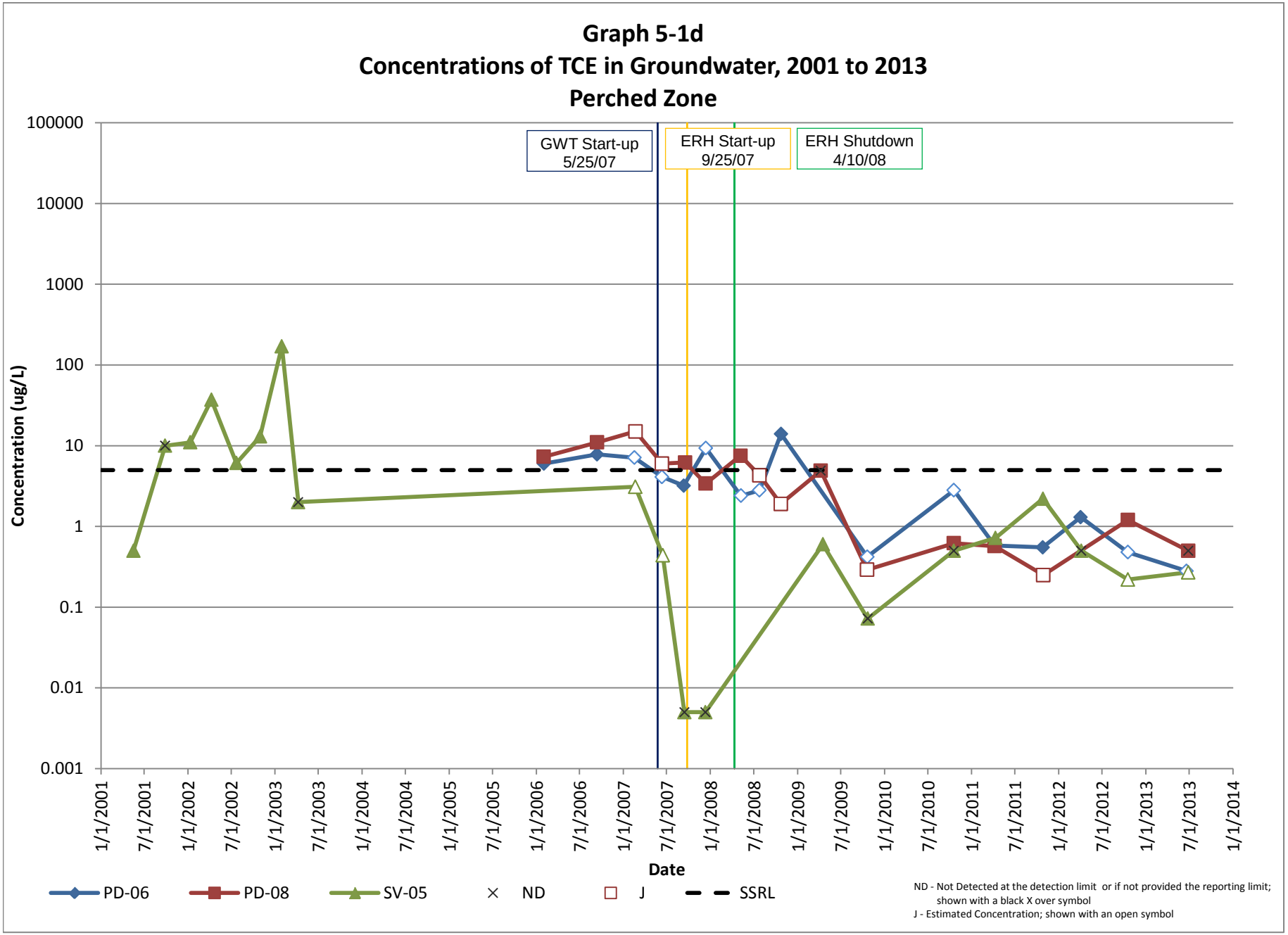
Notes:
1. All results are presented in µg/L.
2. Perched Zone SSRL adopted for all zones where an SSRL was not defined in the Record of Decision (U.S. EPA 2005)
3. Bold indicates a sample detection.
4. Yellow shading indicates a concentration in excess of SSRL.
5. µg/L = micrograms per liter; ID = identification; J = estimated result value; NA = not available; NC = no criteria; SSRL = Site-Specific Reporting Level; U = non-detected result; UJ = estimated non-detected result; SOM = Superfund Organic Method; SIM = Selective Ion Mode; U.S. EPA = United States Environmental Protection Agency.

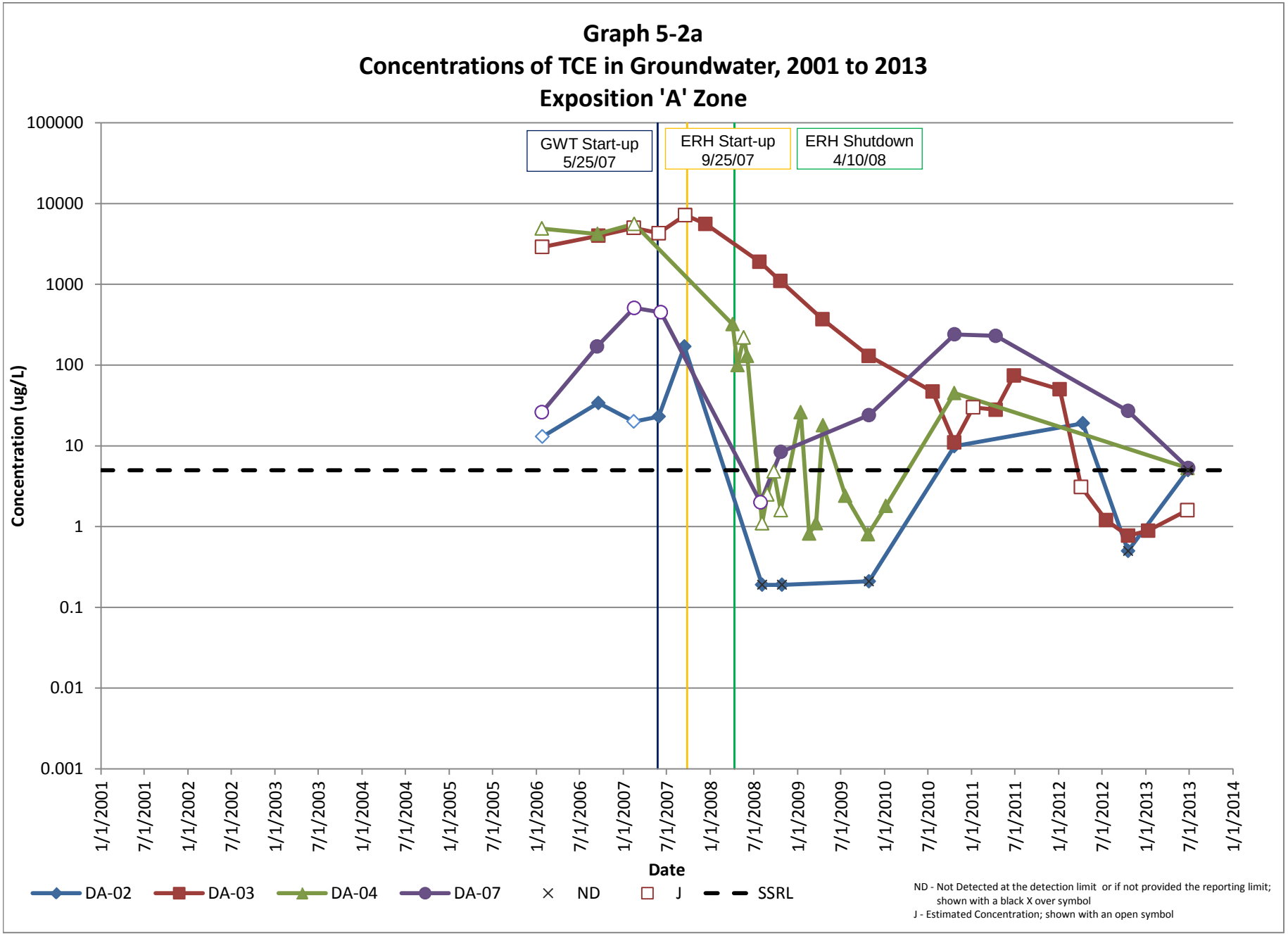
GRAPHS

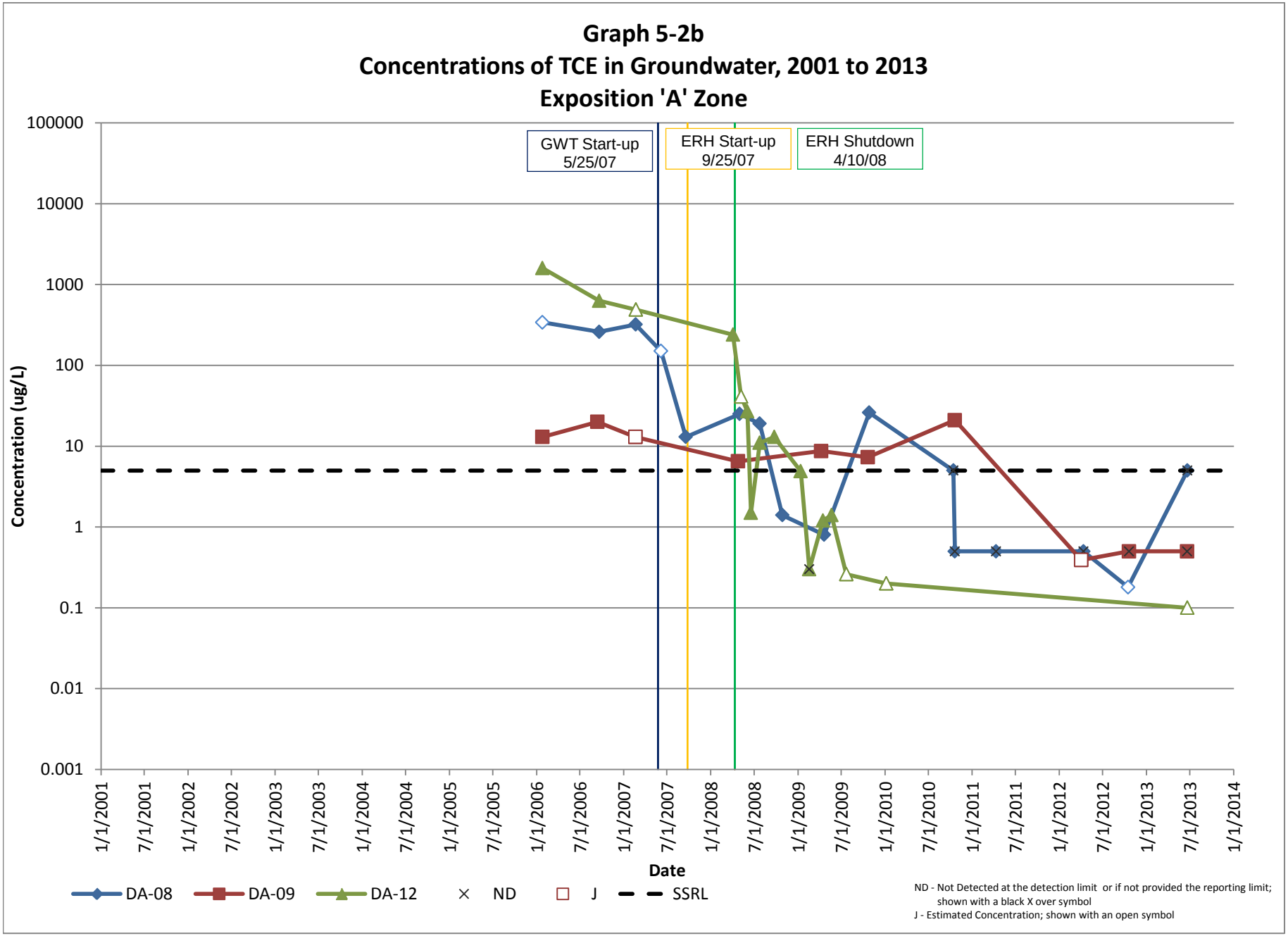

Graph 5-1a
Concentrations of TCE in Groundwater, 2001 to 2013
Perched Zone
GWT Start-up 5/25/07
ERH Start-up 9/25/07
ERH Shutdown 4/10/08
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
0.01
0.001
1/1/2001
7/1/2001
1/1/2002
7/1/2002
1/1/2003
7/1/2003
1/1/2004
7/1/2004
1/1/2005
7/1/2005
1/1/2006
7/1/2006
1/1/2007
7/1/2007
1/1/2008
7/1/2008
1/1/2009
7/1/2009
1/1/2010
7/1/2010
1/1/2011
7/1/2011
1/1/2012
7/1/2012
1/1/2013
7/1/2013
1/1/2014
Date
B-03
B-15
B-17
B-21
ND
J
SSRL
ND - Not Detected at the detection limit or if not provided the reporting limit; shown with a black X over symbol
J - Estimated Concentration; shown with an open symbol

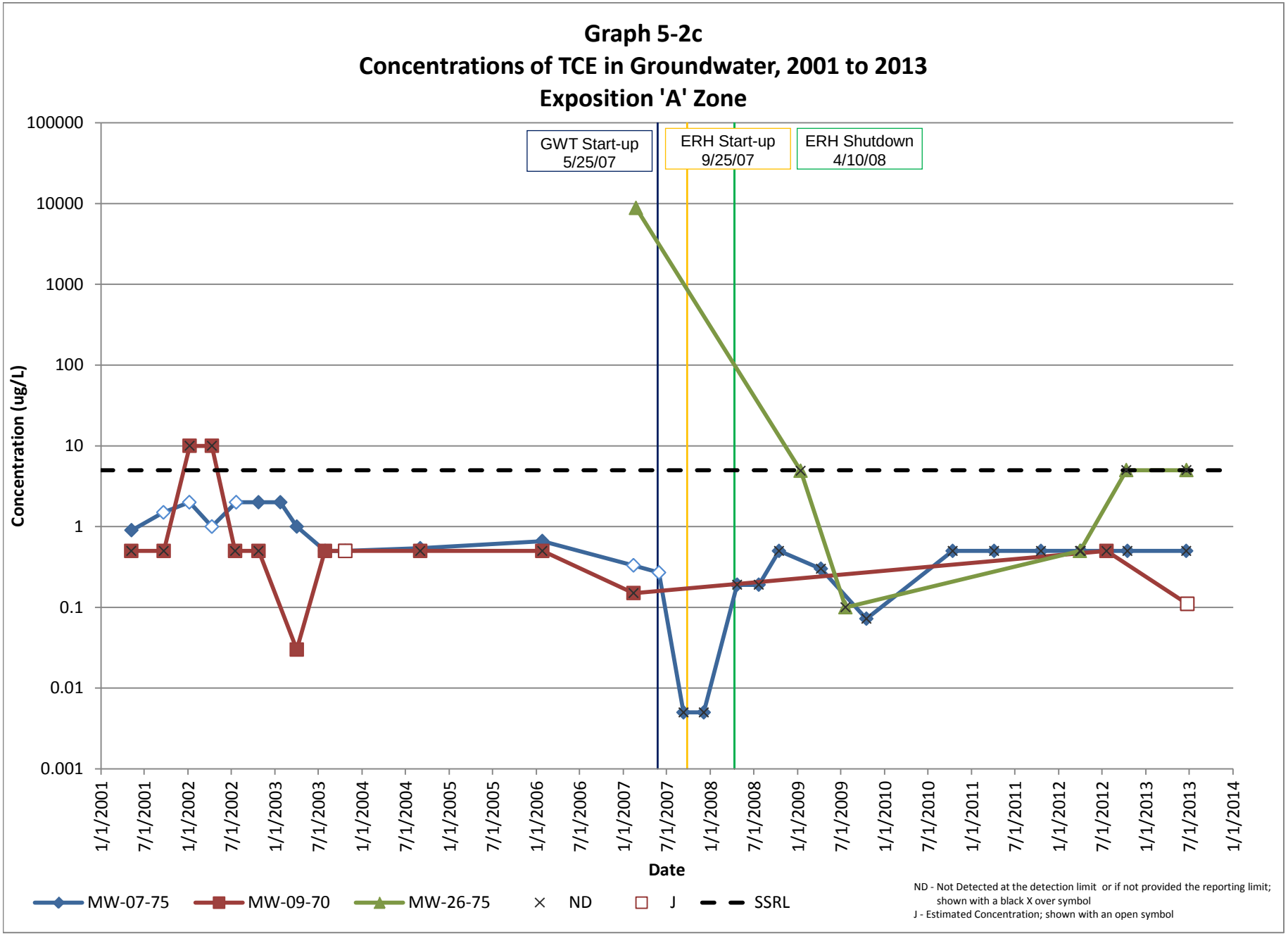

Graph 5-1b
Concentrations of TCE in Groundwater, 2001 to 2013
Perched Zone
GWT Start-up
5/25/07
ERH Start-up
9/25/07
ERH Shutdown
4/10/08
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
0.01
0.001
1/1/2001
7/1/2001
1/1/2002
7/1/2002
1/1/2003
7/1/2003
1/1/2004
7/1/2004
1/1/2005
7/1/2005
1/1/2006
7/1/2006
1/1/2007
7/1/2007
1/1/2008
7/1/2008
1/1/2009
7/1/2009
1/1/2010
7/1/2010
1/1/2011
7/1/2011
1/1/2012
7/1/2012
1/1/2013
7/1/2013
1/1/2014
Date
PA-05
PB-01
PB-03
PB-05
ND
J
SSRL
ND - Not Detected at the detection limit or if not provided the reporting limit; shown with a black X over symbol
J - Estimated Concentration; shown with an open symbol

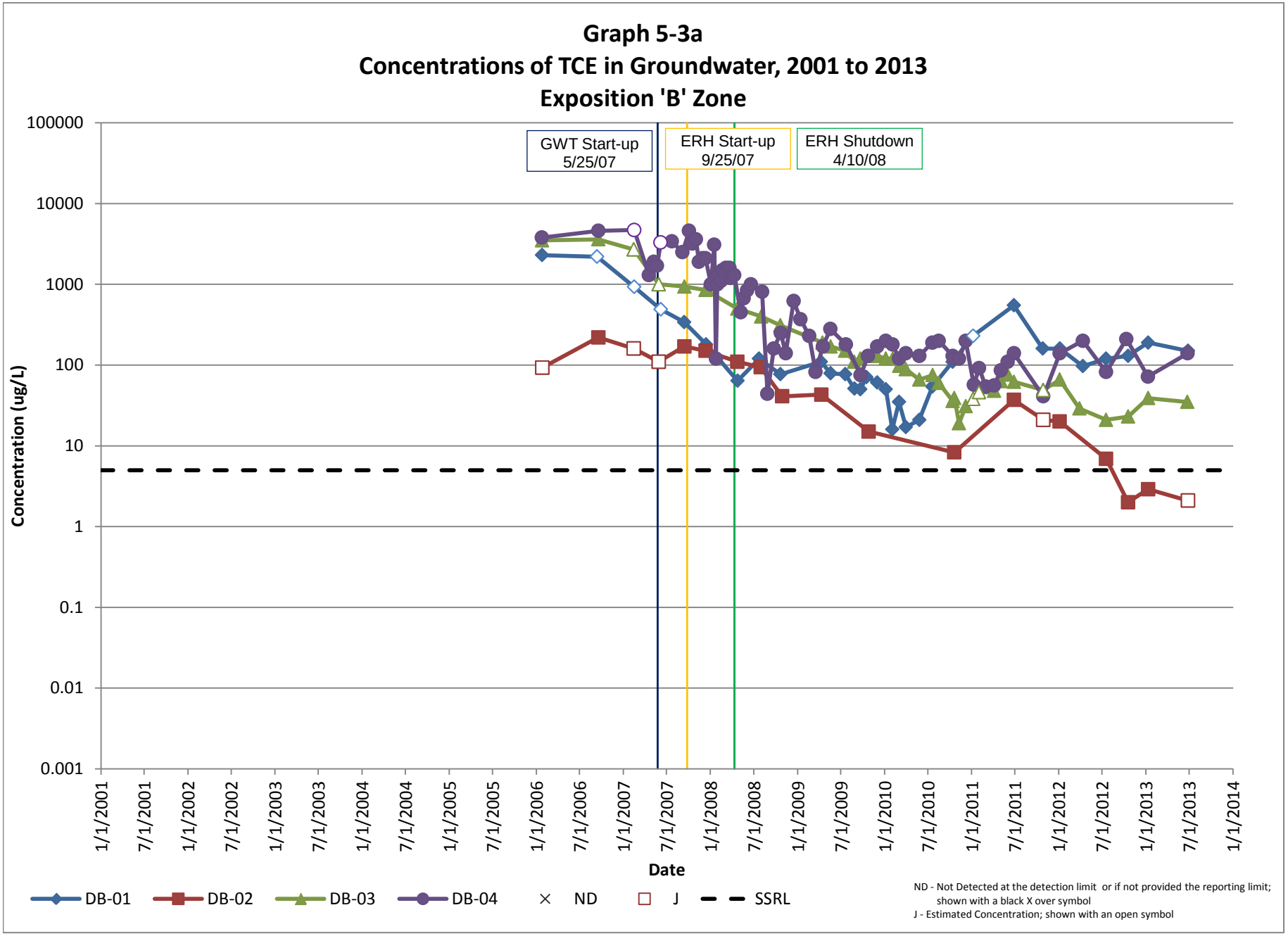

Graph 5-1c
Concentrations of TCE in Groundwater, 2001 to 2013
Perched Zone
GWT Start-up 5/25/07
ERH Start-up 9/25/07
ERH Shutdown 4/10/08
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
0.01
0.001
1/1/2001
7/1/2001
1/1/2002
7/1/2002
1/1/2003
7/1/2003
1/1/2004
7/1/2004
1/1/2005
7/1/2005
1/1/2006
7/1/2006
1/1/2007
7/1/2007
1/1/2008
7/1/2008
1/1/2009
7/1/2009
1/1/2010
7/1/2010
1/1/2011
7/1/2011
1/1/2012
7/1/2012
1/1/2013
7/1/2013
1/1/2014
Date
PB-07
PC-05
PC-06
PD-04
ND
J
SSRL
ND - Not Detected at the detection limit or if not provided the reporting limit; shown with a black X over symbol
J - Estimated Concentration; shown with an open symbol

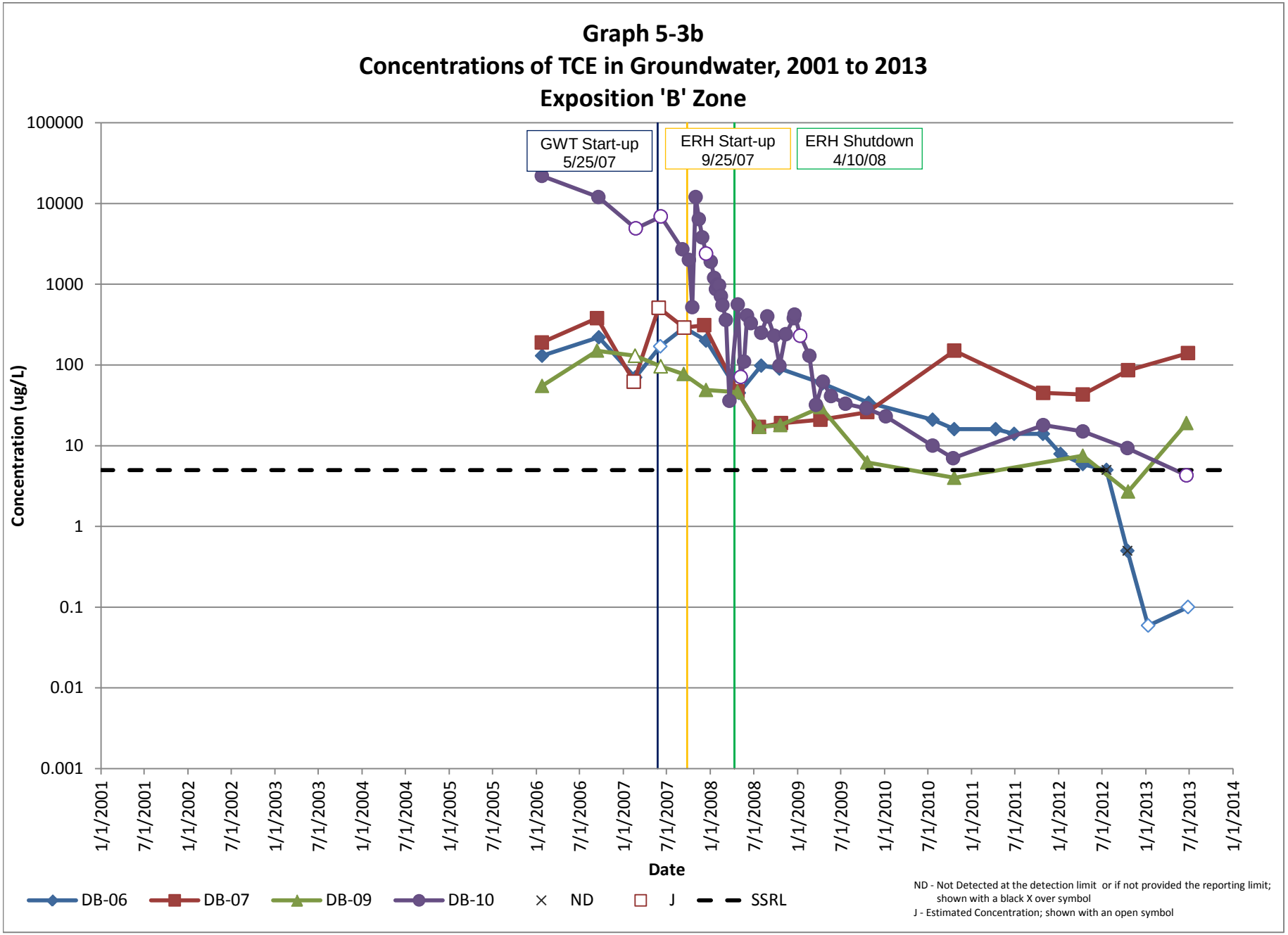

Graph 5-1d
Concentrations of TCE in Groundwater, 2001 to 2013
Perched Zone
GWT Start-up 5/25/07
ERH Start-up 9/25/07
ERH Shutdown 4/10/08
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
0.01
0.001
1/1/2001
7/1/2001
1/1/2002
7/1/2002
1/1/2003
7/1/2003
1/1/2004
7/1/2004
1/1/2005
7/1/2005
1/1/2006
7/1/2006
1/1/2007
7/1/2007
1/1/2008
7/1/2008
1/1/2009
7/1/2009
1/1/2010
7/1/2010
1/1/2011
7/1/2011
1/1/2012
7/1/2012
1/1/2013
7/1/2013
1/1/2014
Date
PD-06
PD-08
SV-05
ND
J
SSRL
ND - Not Detected at the detection limit or if not provided the reporting limit; shown with a black X over symbol
J - Estimated Concentration; shown with an open symbol

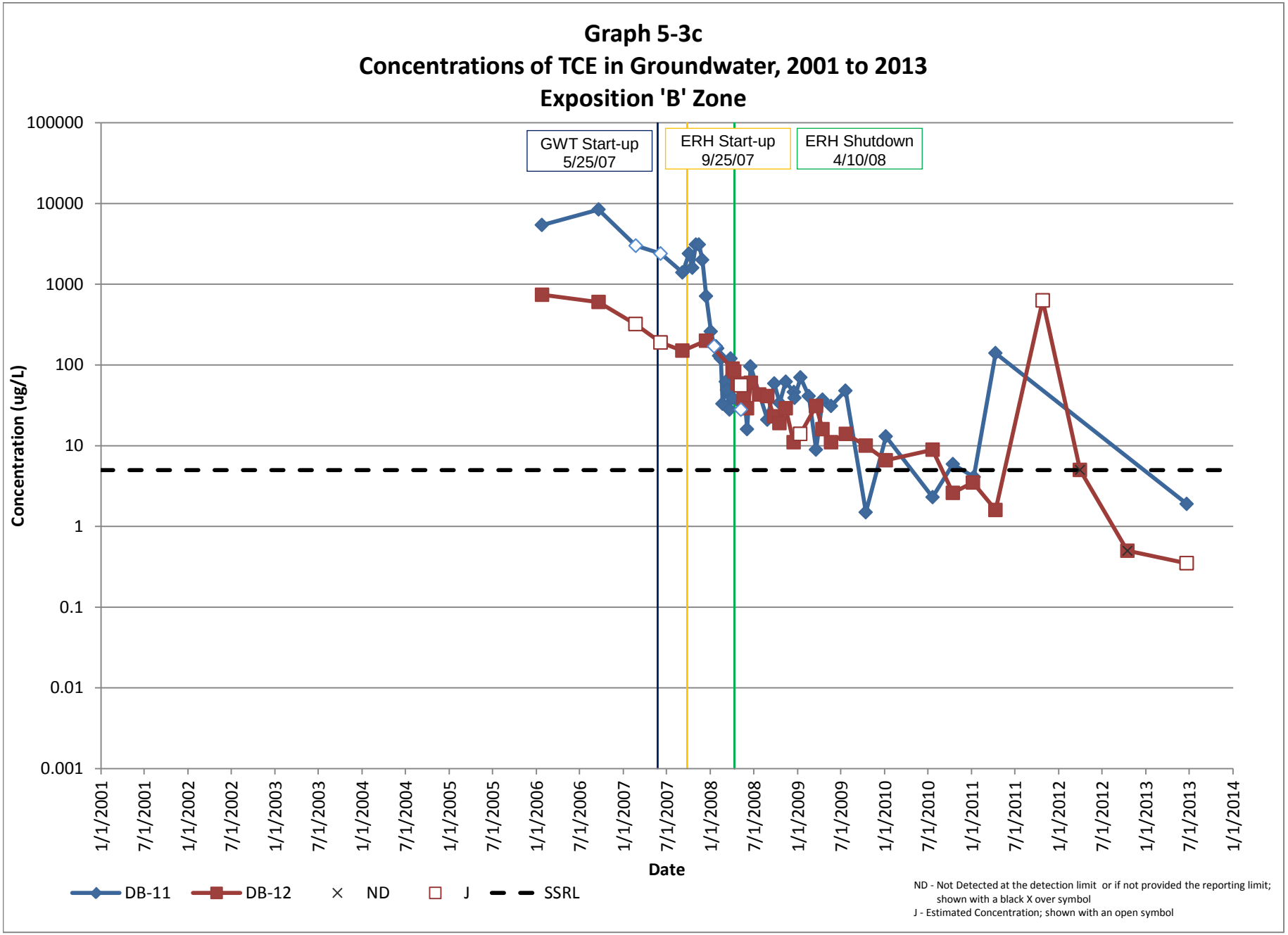

Graph 5-2a
Concentrations of TCE in Groundwater, 2001 to 2013
Exposition 'A' Zone
GWT Start-up
5/25/07
ERH Start-up
9/25/07
ERH Shutdown
4/10/08
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
0.01
0.001
1/1/2001
7/1/2001
1/1/2002
7/1/2002
1/1/2003
7/1/2003
1/1/2004
7/1/2004
1/1/2005
7/1/2005
1/1/2006
7/1/2006
1/1/2007
7/1/2007
1/1/2008
7/1/2008
1/1/2009
7/1/2009
1/1/2010
7/1/2010
1/1/2011
7/1/2011
1/1/2012
7/1/2012
1/1/2013
7/1/2013
1/1/2014
Date
DA-02
DA-03
DA-04
DA-07
ND
J
SSRL
ND - Not Detected at the detection limit or if not provided the reporting limit; shown with a black X over symbol
J - Estimated Concentration; shown with an open symbol

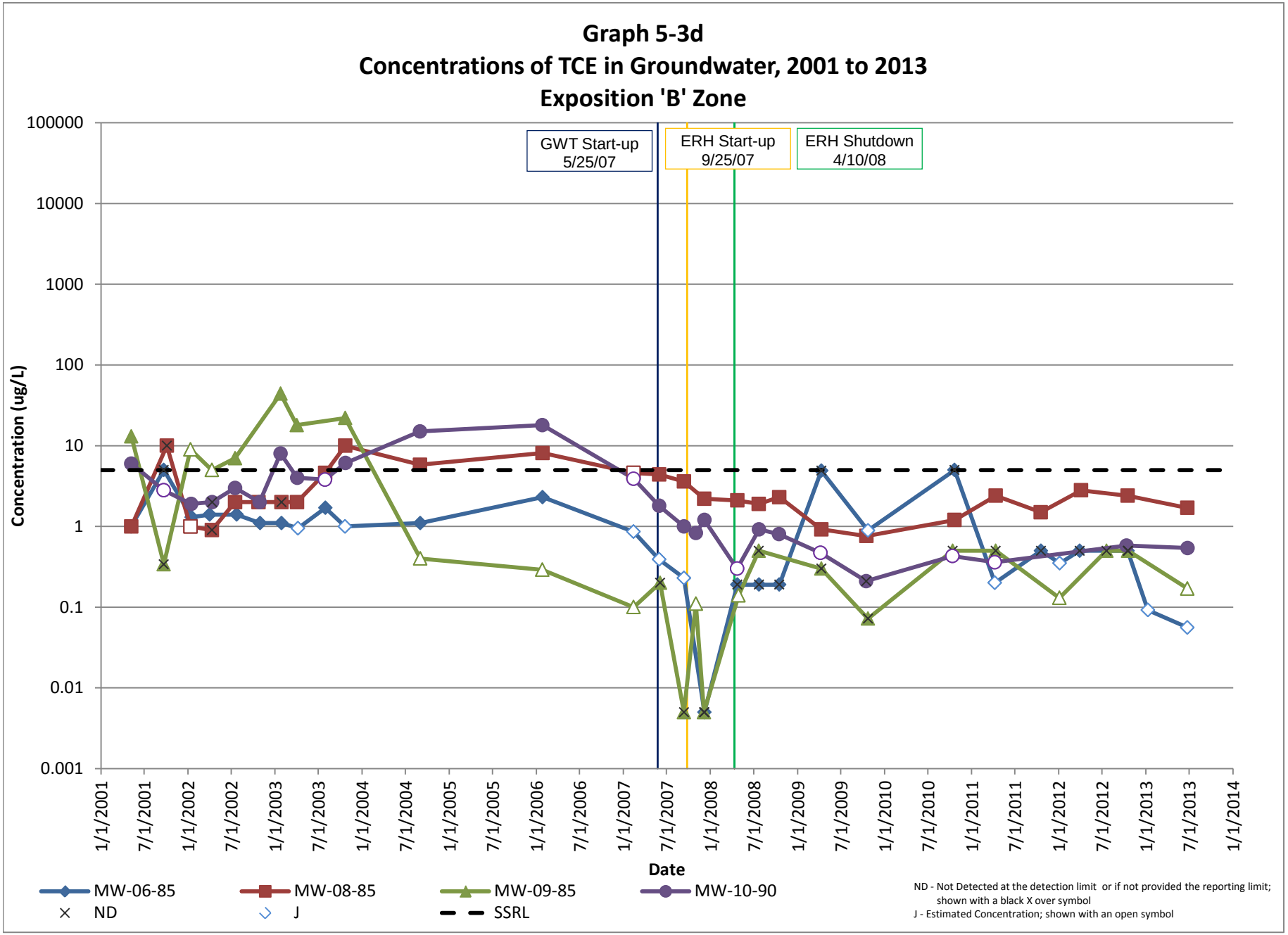

Graph 5-2b
Concentrations of TCE in Groundwater, 2001 to 2013
Exposition 'A' Zone
GWT Start-up 5/25/07
ERH Start-up 9/25/07
ERH Shutdown 4/10/08
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
0.01
0.001
1/1/2001
7/1/2001
1/1/2002
7/1/2002
1/1/2003
7/1/2003
1/1/2004
7/1/2004
1/1/2005
7/1/2005
1/1/2006
7/1/2006
1/1/2007
7/1/2007
1/1/2008
7/1/2008
1/1/2009
7/1/2009
1/1/2010
7/1/2010
1/1/2011
7/1/2011
1/1/2012
7/1/2012
1/1/2013
7/1/2013
1/1/2014
Date
DA-08
DA-09
DA-12
ND
J
SSRL
ND - Not Detected at the detection limit or if not provided the reporting limit; shown with a black X over symbol
J - Estimated Concentration; shown with an open symbol

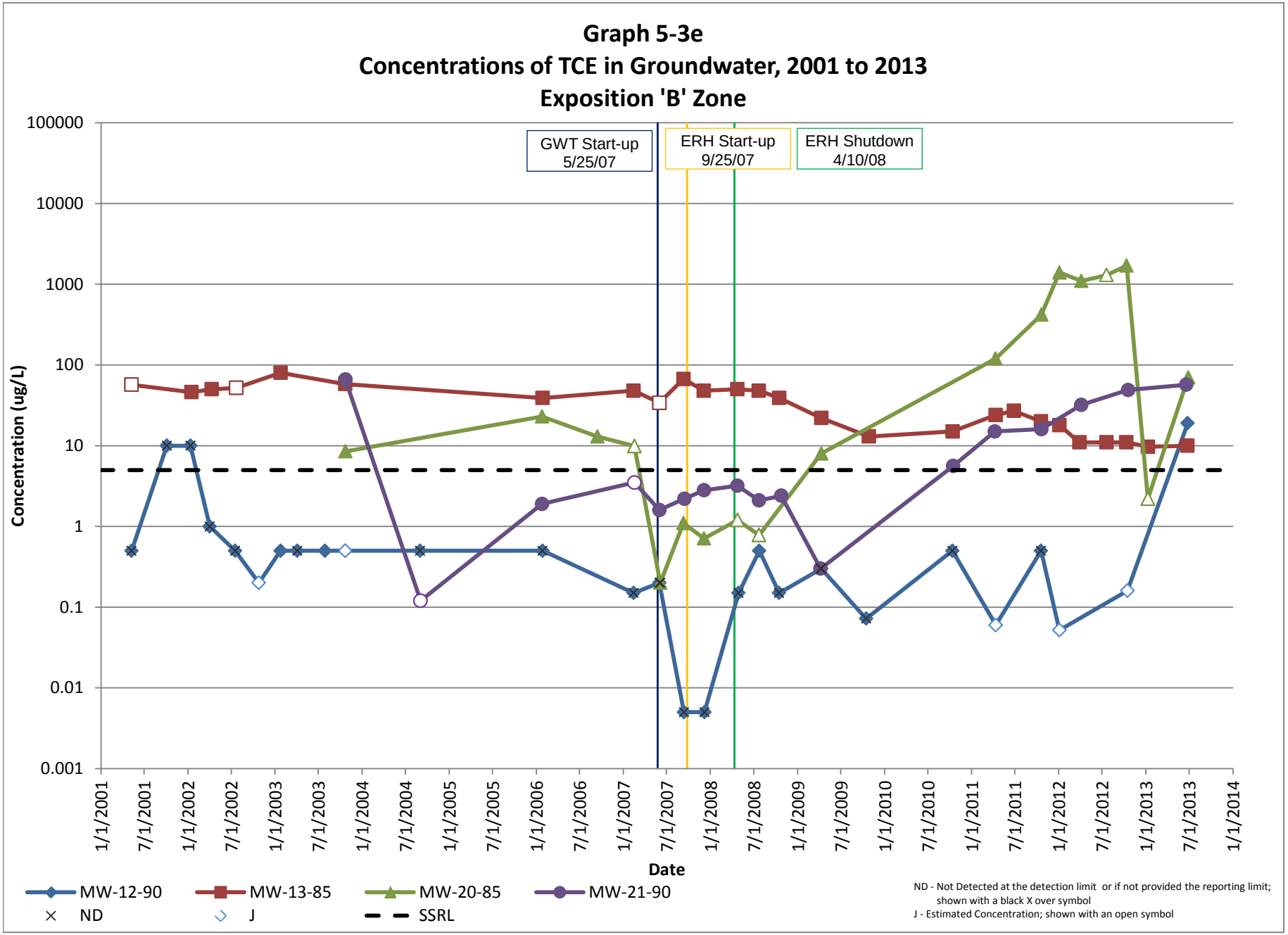

Graph 5-2c
Concentrations of TCE in Groundwater, 2001 to 2013
Exposition 'A' Zone
GWT Start-up 5/25/07
ERH Start-up 9/25/07
ERH Shutdown 4/10/08
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
0.01
0.001
1/1/2001
7/1/2001
1/1/2002
7/1/2002
1/1/2003
7/1/2003
1/1/2004
7/1/2004
1/1/2005
7/1/2005
1/1/2006
7/1/2006
1/1/2007
7/1/2007
1/1/2008
7/1/2008
1/1/2009
7/1/2009
1/1/2010
7/1/2010
1/1/2011
7/1/2011
1/1/2012
7/1/2012
1/1/2013
7/1/2013
1/1/2014
Date
MW-07-75
MW-09-70
MW-26-75
ND
J
SSRL
ND - Not Detected at the detection limit or if not provided the reporting limit; shown with a black X over symbol
J - Estimated Concentration; shown with an open symbol

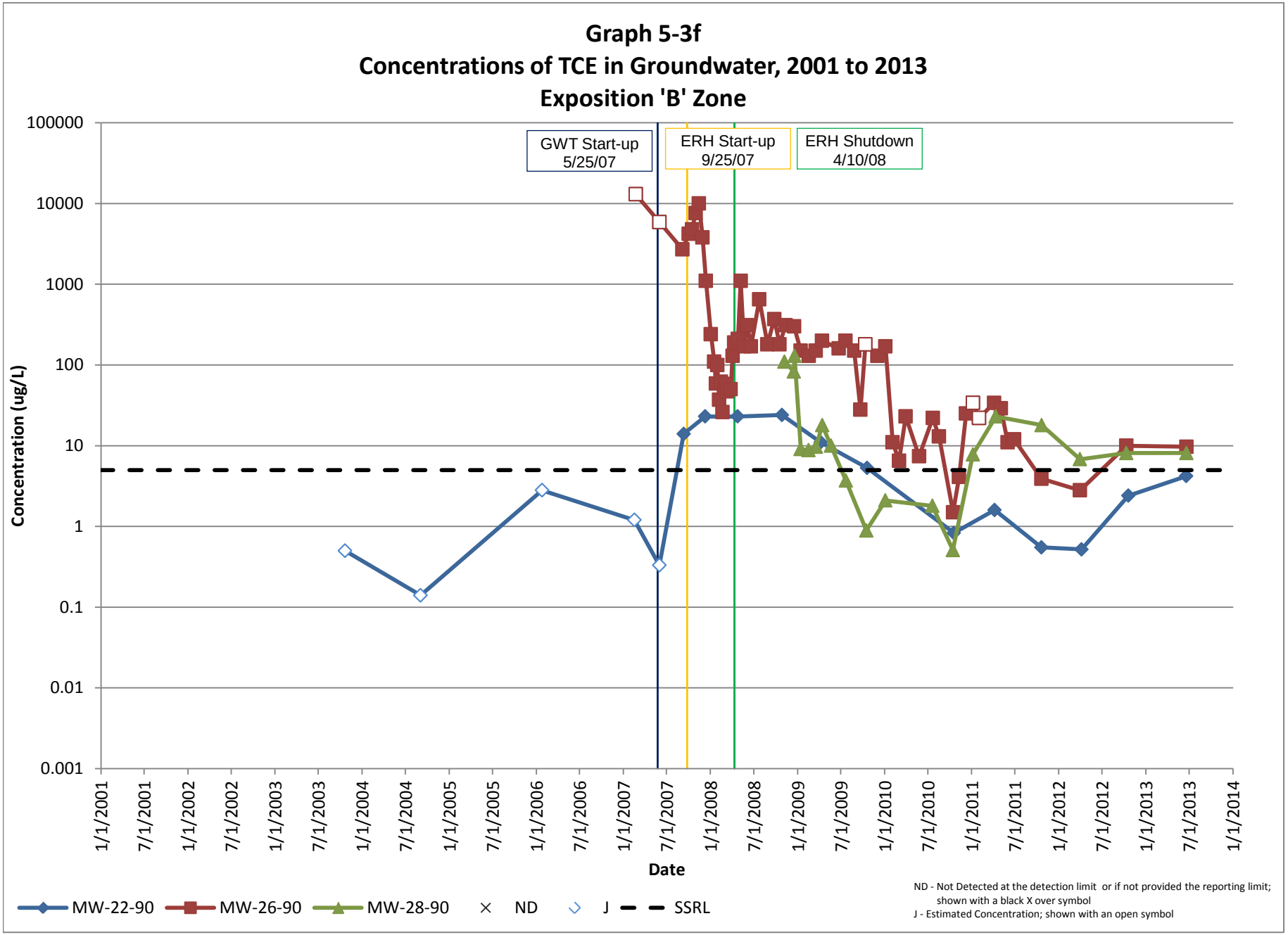

Graph 5-3a
Concentrations of TCE in Groundwater, 2001 to 2013
Exposition 'B' Zone
GWT Start-up 5/25/07
ERH Start-up 9/25/07
ERH Shutdown 4/10/08
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
0.01
0.001
1/1/2001
7/1/2001
1/1/2002
7/1/2002
1/1/2003
7/1/2003
1/1/2004
7/1/2004
1/1/2005
7/1/2005
1/1/2006
7/1/2006
1/1/2007
7/1/2007
1/1/2008
7/1/2008
1/1/2009
7/1/2009
1/1/2010
7/1/2010
1/1/2011
7/1/2011
1/1/2012
7/1/2012
1/1/2013
7/1/2013
1/1/2014
Date
DB-01
DB-02
DB-03
DB-04
ND
J
SSRL
ND - Not Detected at the detection limit or if not provided the reporting limit; shown with a black X over symbol
J - Estimated Concentration; shown with an open symbol

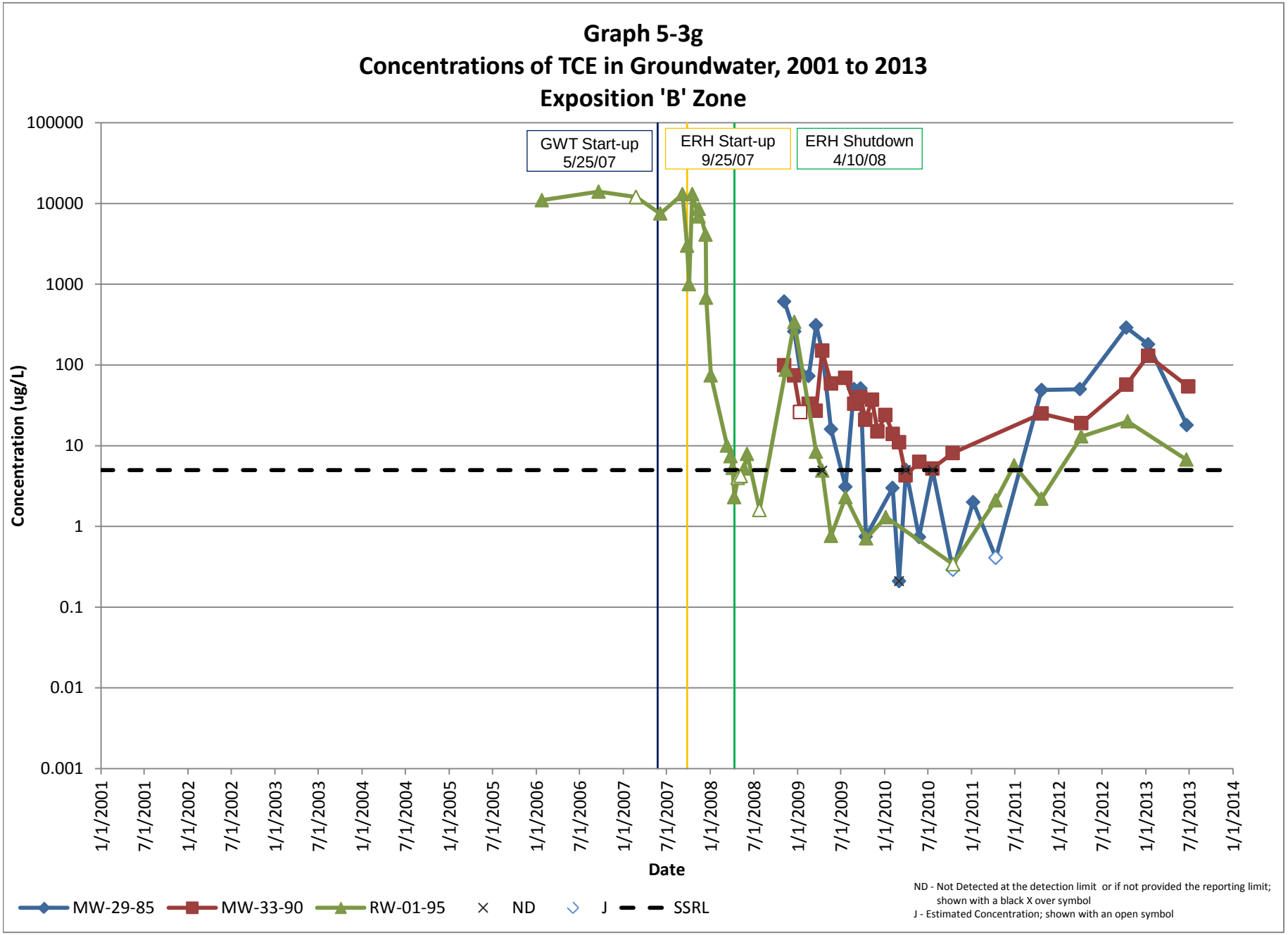

Graph 5-3b
Concentrations of TCE in Groundwater, 2001 to 2013
Exposition 'B' Zone
GWT Start-up
5/25/07
ERH Start-up
9/25/07
ERH Shutdown
4/10/08
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
0.01
0.001
1/1/2001
7/1/2001
1/1/2002
7/1/2002
1/1/2003
7/1/2003
1/1/2004
7/1/2004
1/1/2005
7/1/2005
1/1/2006
7/1/2006
1/1/2007
7/1/2007
1/1/2008
7/1/2008
1/1/2009
7/1/2009
1/1/2010
7/1/2010
1/1/2011
7/1/2011
1/1/2012
7/1/2012
1/1/2013
7/1/2013
1/1/2014
Date
DB-06
DB-07
DB-09
DB-10
ND
J
SSRL
ND - Not Detected at the detection limit or if not provided the reporting limit; shown with a black X over symbol
J - Estimated Concentration; shown with an open symbol

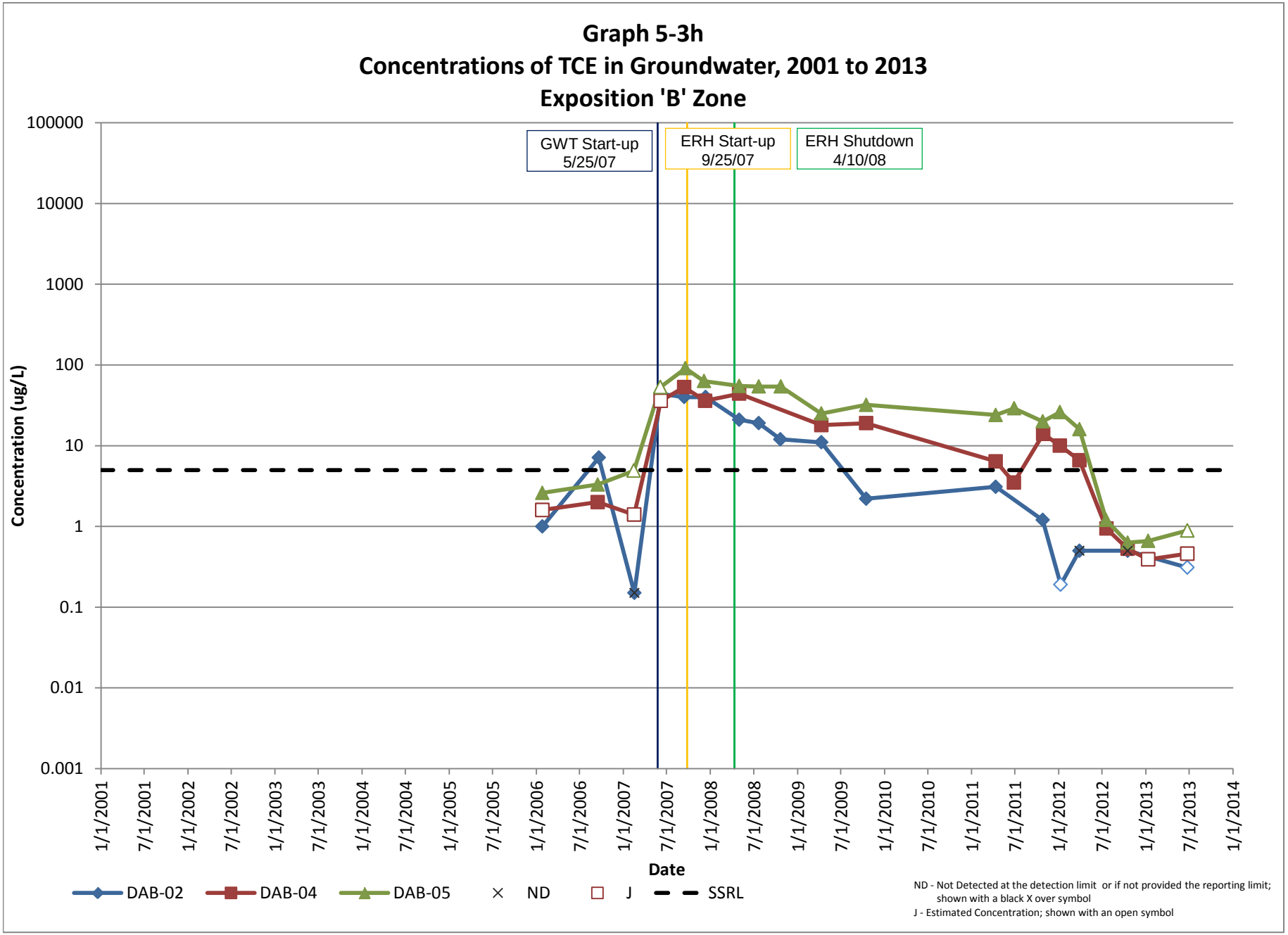

Graph 5-3c
Concentrations of TCE in Groundwater, 2001 to 2013
Exposition 'B' Zone
GWT Start-up
5/25/07
ERH Start-up
9/25/07
ERH Shutdown
4/10/08
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
0.01
0.001
1/1/2001
7/1/2001
1/1/2002
7/1/2002
1/1/2003
7/1/2003
1/1/2004
7/1/2004
1/1/2005
7/1/2005
1/1/2006
7/1/2006
1/1/2007
7/1/2007
1/1/2008
7/1/2008
1/1/2009
7/1/2009
1/1/2010
7/1/2010
1/1/2011
7/1/2011
1/1/2012
7/1/2012
1/1/2013
7/1/2013
1/1/2014
Date
DB-11
DB-12
ND
J
SSRL
ND - Not Detected at the detection limit or if not provided the reporting limit; shown with a black X over symbol
J - Estimated Concentration; shown with an open symbol

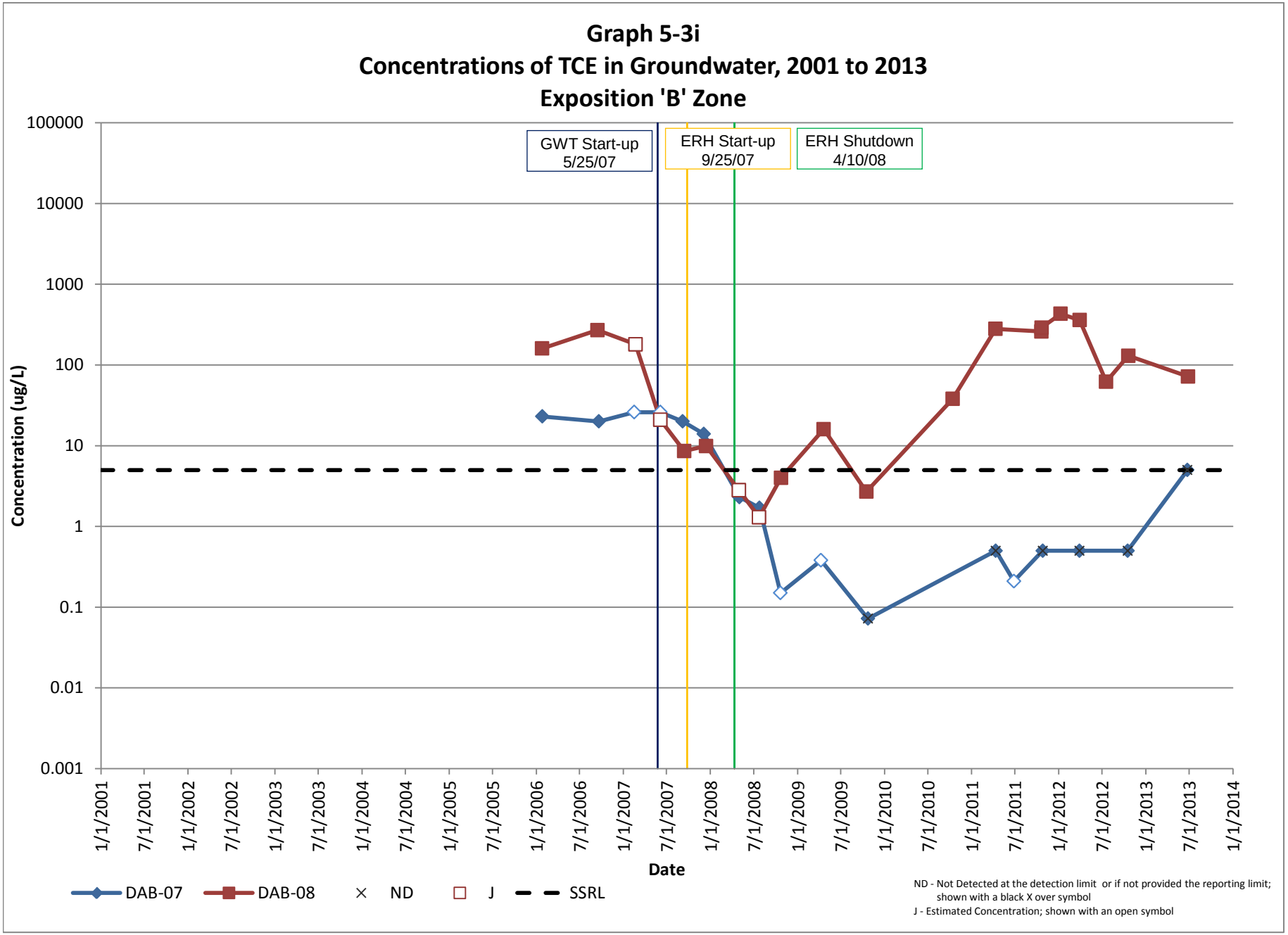

Graph 5-3d
Concentrations of TCE in Groundwater, 2001 to 2013
Exposition 'B' Zone
GWT Start-up 5/25/07
ERH Start-up 9/25/07
ERH Shutdown 4/10/08
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
0.01
0.001
1/1/2001
7/1/2001
1/1/2002
7/1/2002
1/1/2003
7/1/2003
1/1/2004
7/1/2004
1/1/2005
7/1/2005
1/1/2006
7/1/2006
1/1/2007
7/1/2007
1/1/2008
7/1/2008
1/1/2009
7/1/2009
1/1/2010
7/1/2010
1/1/2011
7/1/2011
1/1/2012
7/1/2012
1/1/2013
7/1/2013
1/1/2014
Date
MW-06-85
MW-08-85
MW-09-85
MW-10-90
ND
J
SSRL
ND - Not Detected at the detection limit or if not provided the reporting limit; shown with a black X over symbol
J - Estimated Concentration; shown with an open symbol

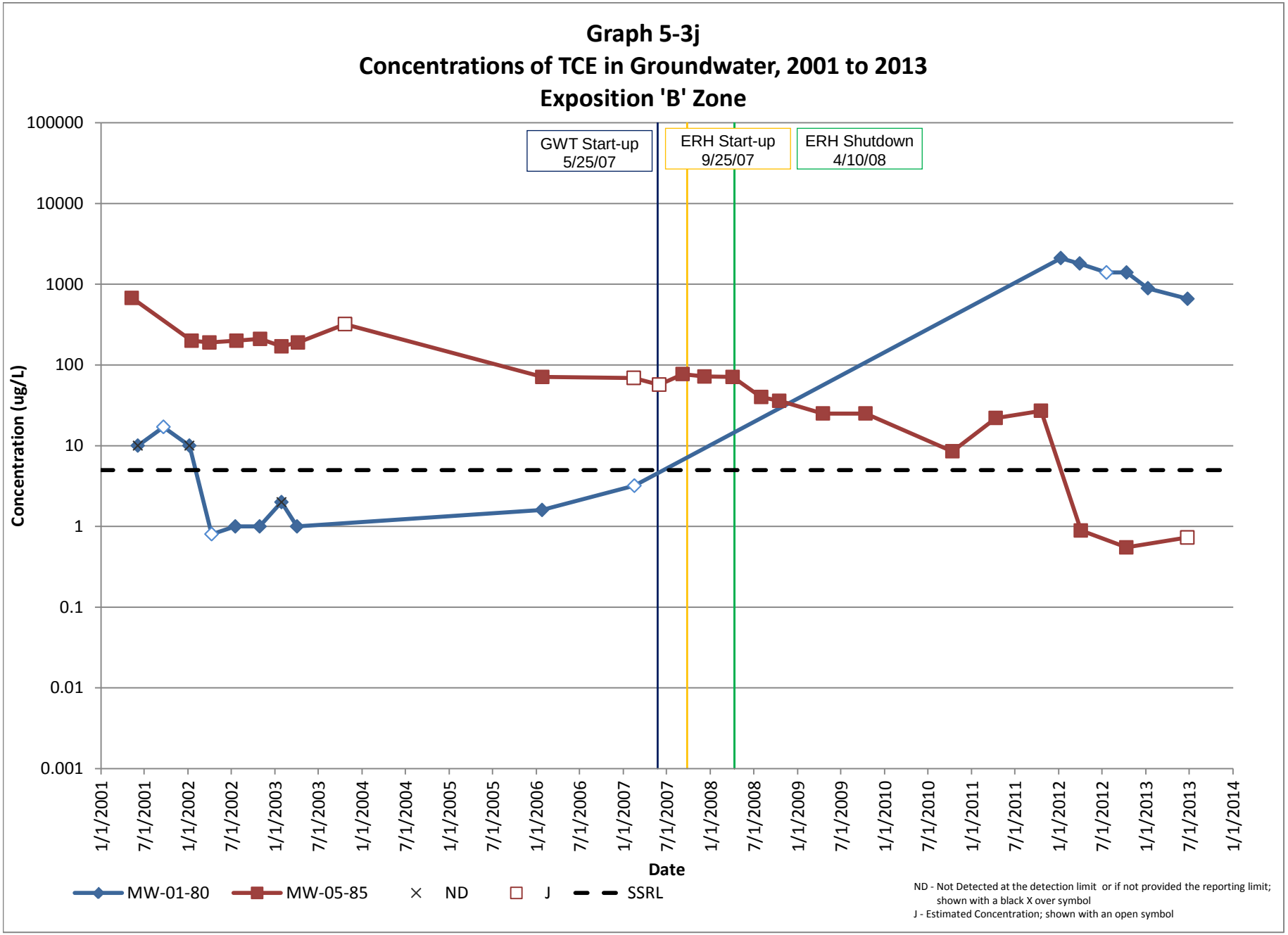

Graph 5-3e
Concentrations of TCE in Groundwater, 2001 to 2013
Exposition 'B' Zone
GWT Start-up 5/25/07
ERH Start-up 9/25/07
ERH Shutdown 4/10/08
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
0.01
0.001
1/1/2001
7/1/2001
1/1/2002
7/1/2002
1/1/2003
7/1/2003
1/1/2004
7/1/2004
1/1/2005
7/1/2005
1/1/2006
7/1/2006
1/1/2007
7/1/2007
1/1/2008
7/1/2008
1/1/2009
7/1/2009
1/1/2010
7/1/2010
1/1/2011
7/1/2011
1/1/2012
7/1/2012
1/1/2013
7/1/2013
1/1/2014
Date
MW-12-90
MW-13-85
MW-20-85
MW-21-90
ND
J
SSRL
ND - Not Detected at the detection limit or if not provided the reporting limit; shown with a black X over symbol
J - Estimated Concentration; shown with an open symbol

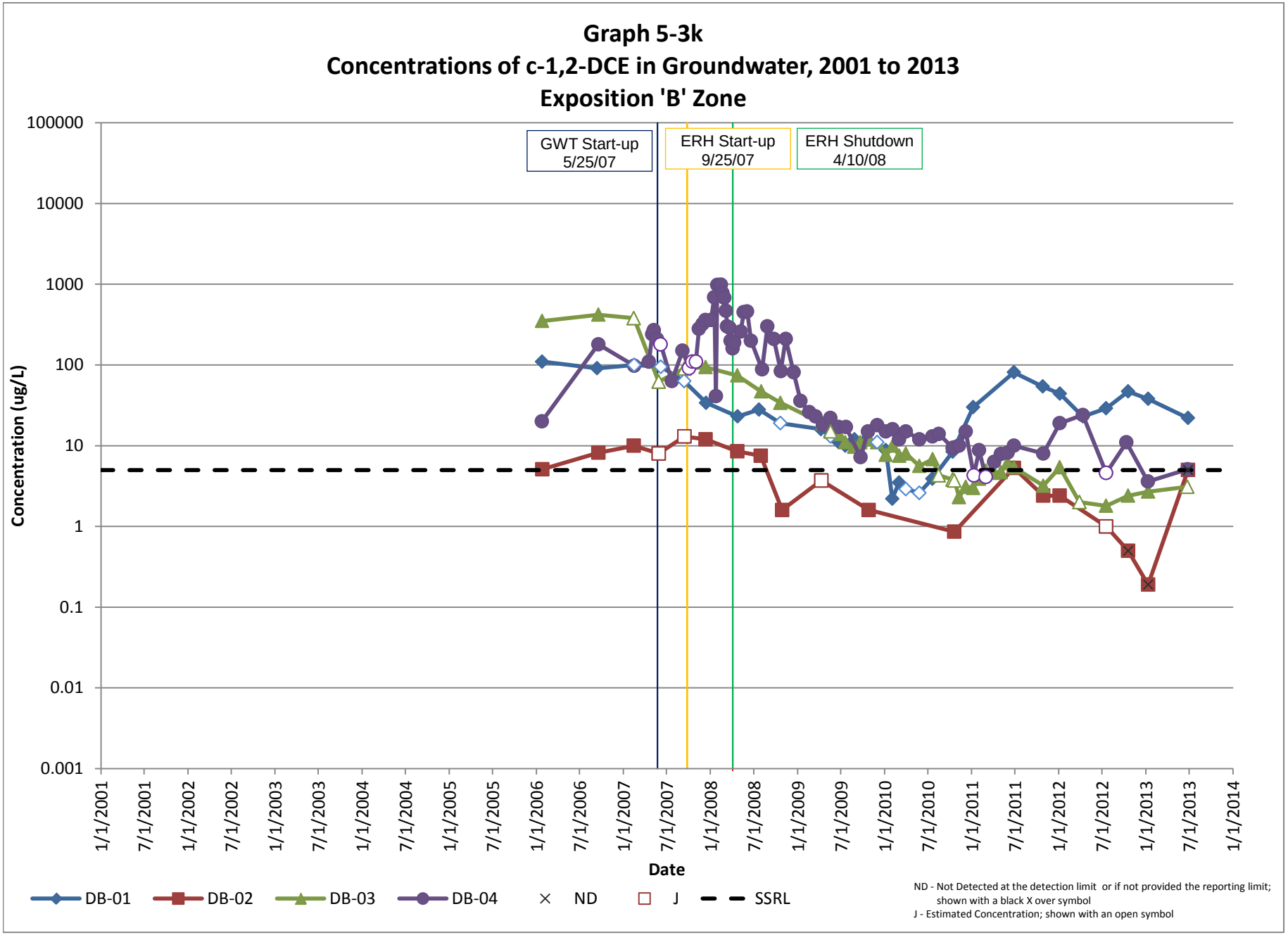

Graph 5-3f
Concentrations of TCE in Groundwater, 2001 to 2013
Exposition 'B' Zone
GWT Start-up 5/25/07
ERH Start-up 9/25/07
ERH Shutdown 4/10/08
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
0.01
0.001
1/1/2001
7/1/2001
1/1/2002
7/1/2002
1/1/2003
7/1/2003
1/1/2004
7/1/2004
1/1/2005
7/1/2005
1/1/2006
7/1/2006
1/1/2007
7/1/2007
1/1/2008
7/1/2008
1/1/2009
7/1/2009
1/1/2010
7/1/2010
1/1/2011
7/1/2011
1/1/2012
7/1/2012
1/1/2013
7/1/2013
1/1/2014
Date
MW-22-90
MW-26-90
MW-28-90
ND
J
SSRL
ND - Not Detected at the detection limit or if not provided the reporting limit; shown with a black X over symbol
J - Estimated Concentration; shown with an open symbol

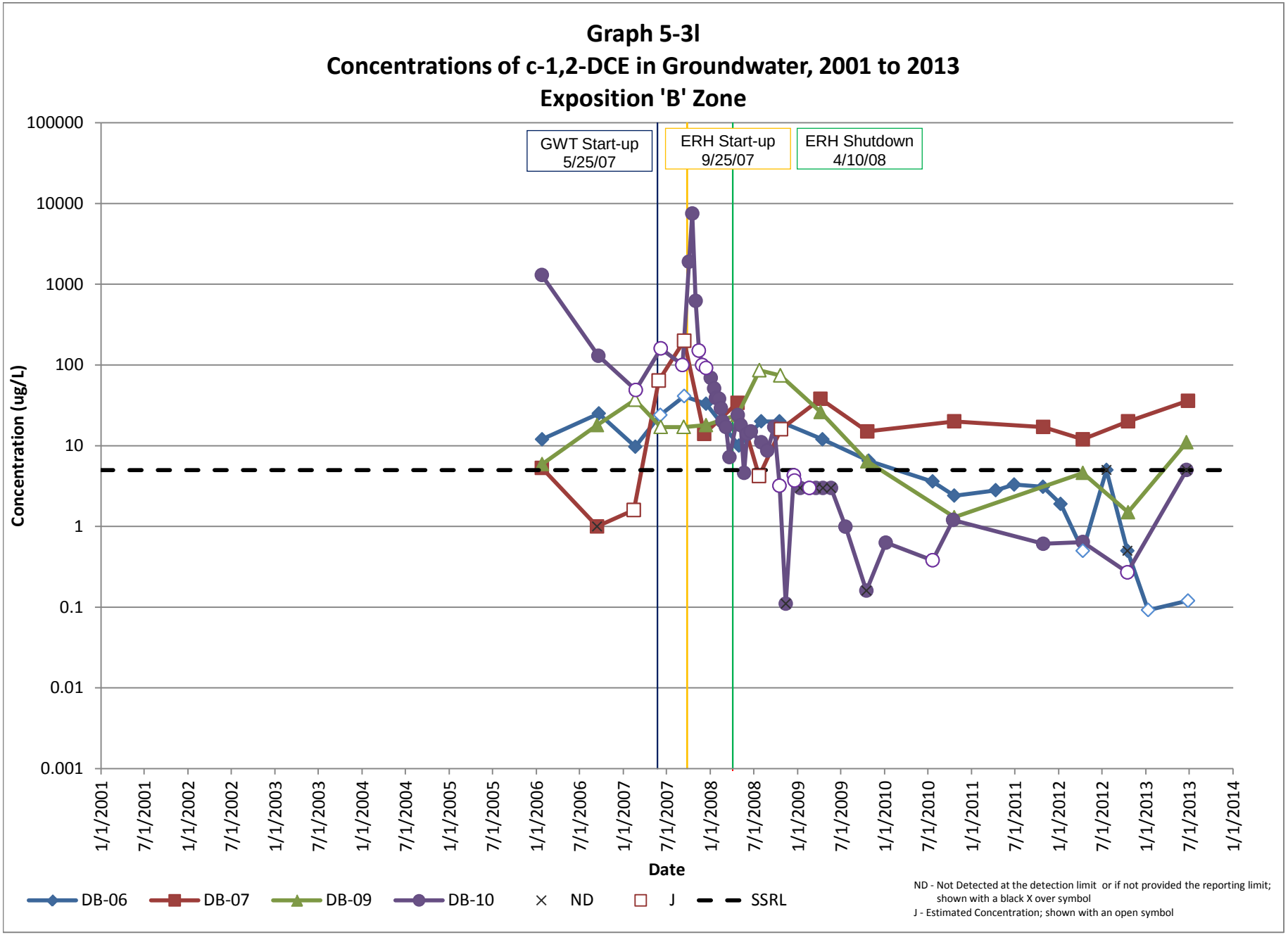

Graph 5-3g
Concentrations of TCE in Groundwater, 2001 to 2013
Exposition 'B' Zone
GWT Start-up 5/25/07
ERH Start-up 9/25/07
ERH Shutdown 4/10/08
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
0.01
0.001
1/1/2001
7/1/2001
1/1/2002
7/1/2002
1/1/2003
7/1/2003
1/1/2004
7/1/2004
1/1/2005
7/1/2005
1/1/2006
7/1/2006
1/1/2007
7/1/2007
1/1/2008
7/1/2008
1/1/2009
7/1/2009
1/1/2010
7/1/2010
1/1/2011
7/1/2011
1/1/2012
7/1/2012
1/1/2013
7/1/2013
1/1/2014
Date
MW-29-85
MW-33-90
RW-01-95
ND
J
SSRL
ND - Not Detected at the detection limit or if not provided the reporting limit; shown with a black X over symbol
J - Estimated Concentration; shown with an open symbol

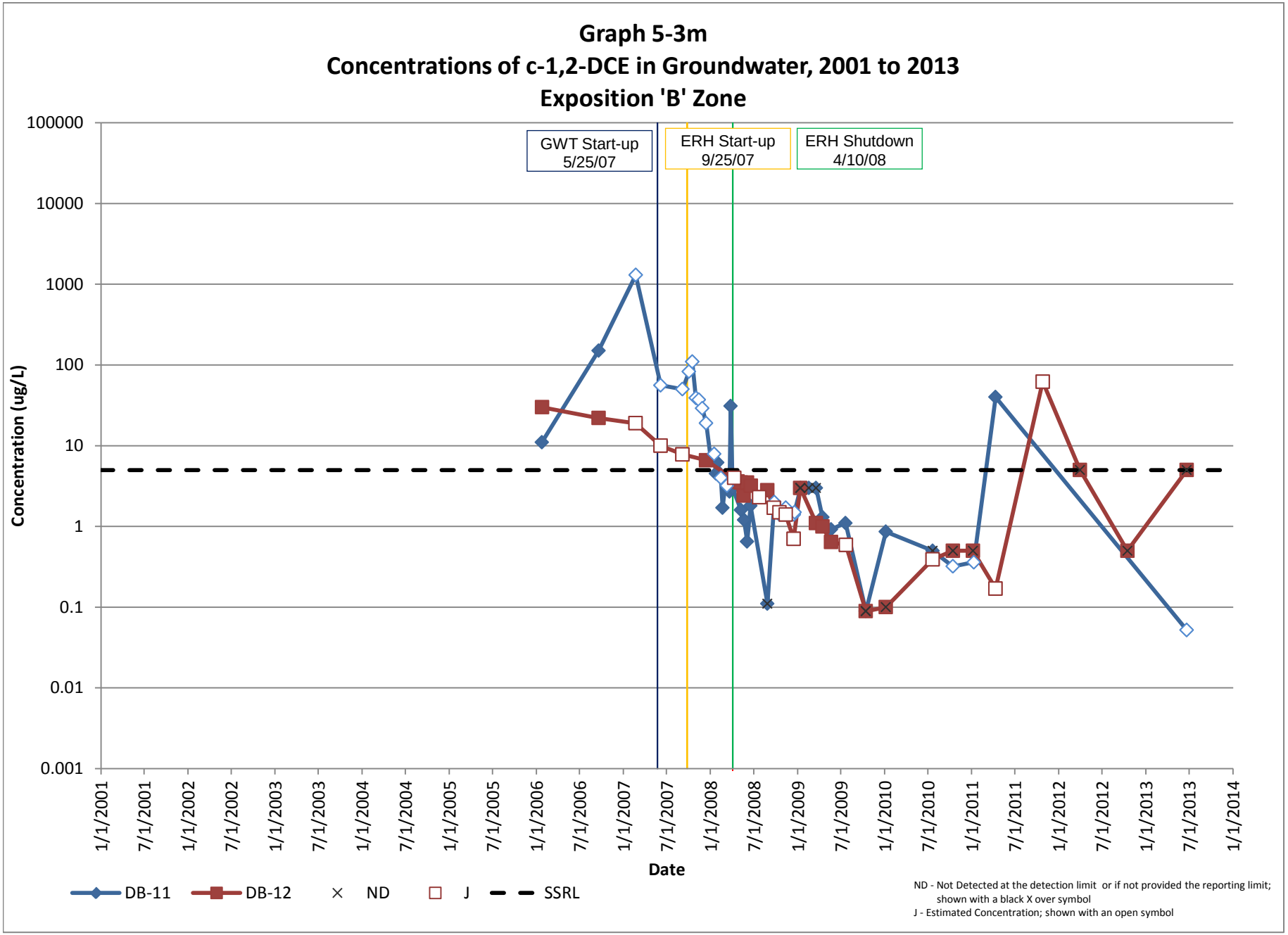

Graph 5-3h
Concentrations of TCE in Groundwater, 2001 to 2013
Exposition 'B' Zone
GWT Start-up 5/25/07
ERH Start-up 9/25/07
ERH Shutdown 4/10/08
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
0.01
0.001
1/1/2001
7/1/2001
1/1/2002
7/1/2002
1/1/2003
7/1/2003
1/1/2004
7/1/2004
1/1/2005
7/1/2005
1/1/2006
7/1/2006
1/1/2007
7/1/2007
1/1/2008
7/1/2008
1/1/2009
7/1/2009
1/1/2010
7/1/2010
1/1/2011
7/1/2011
1/1/2012
7/1/2012
1/1/2013
7/1/2013
1/1/2014
Date
DAB-02
DAB-04
DAB-05
ND
J
SSRL
ND - Not Detected at the detection limit or if not provided the reporting limit; shown with a black X over symbol
J - Estimated Concentration; shown with an open symbol

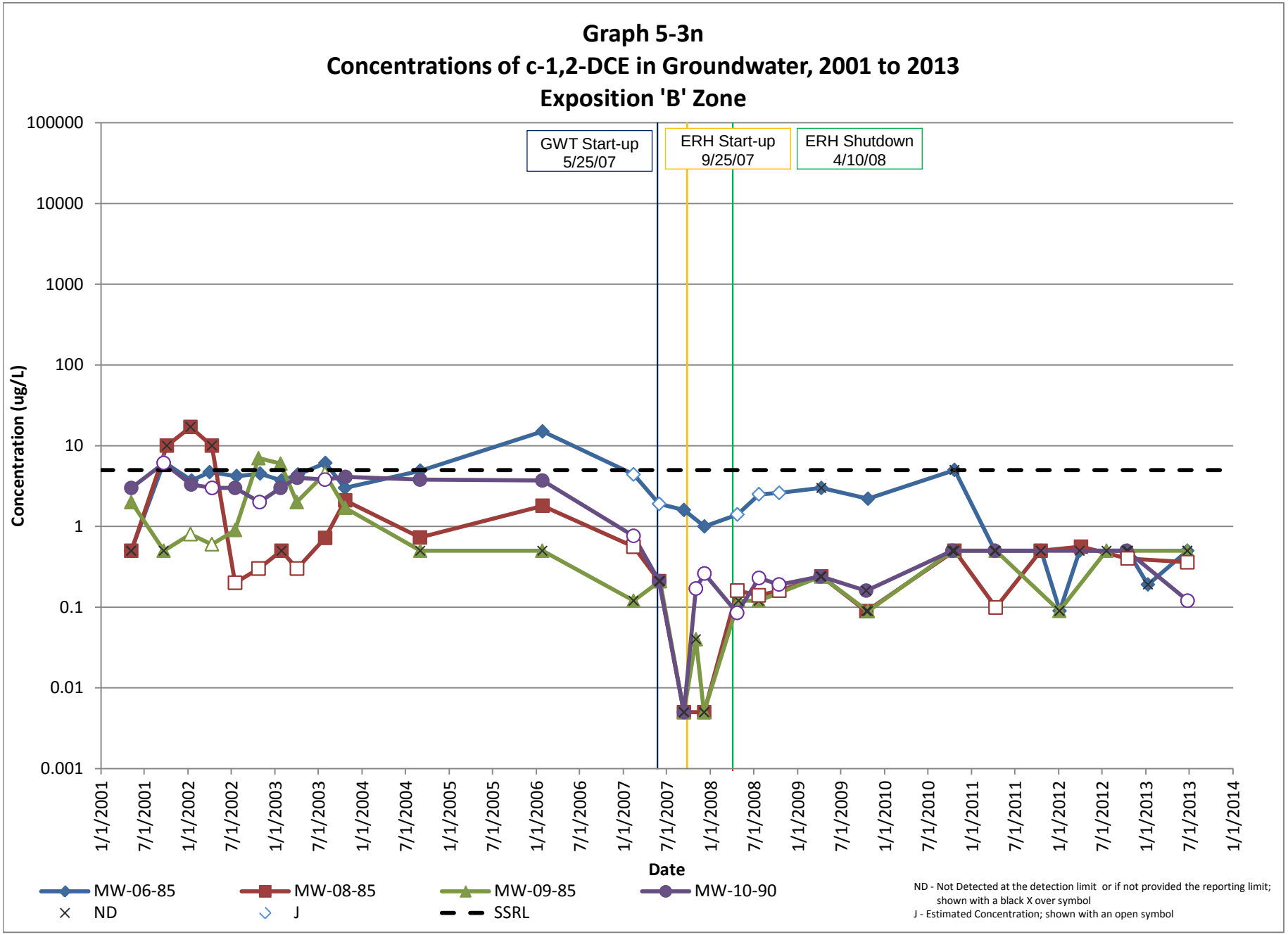

Graph 5-3i
Concentrations of TCE in Groundwater, 2001 to 2013
Exposition 'B' Zone
GWT Start-up
5/25/07
ERH Start-up
9/25/07
ERH Shutdown
4/10/08
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
0.01
0.001
1/1/2001
7/1/2001
1/1/2002
7/1/2002
1/1/2003
7/1/2003
1/1/2004
7/1/2004
1/1/2005
7/1/2005
1/1/2006
7/1/2006
1/1/2007
7/1/2007
1/1/2008
7/1/2008
1/1/2009
7/1/2009
1/1/2010
7/1/2010
1/1/2011
7/1/2011
1/1/2012
7/1/2012
1/1/2013
7/1/2013
1/1/2014
Date
DAB-07
DAB-08
ND
J
SSRL
ND - Not Detected at the detection limit or if not provided the reporting limit; shown with a black X over symbol
J - Estimated Concentration; shown with an open symbol

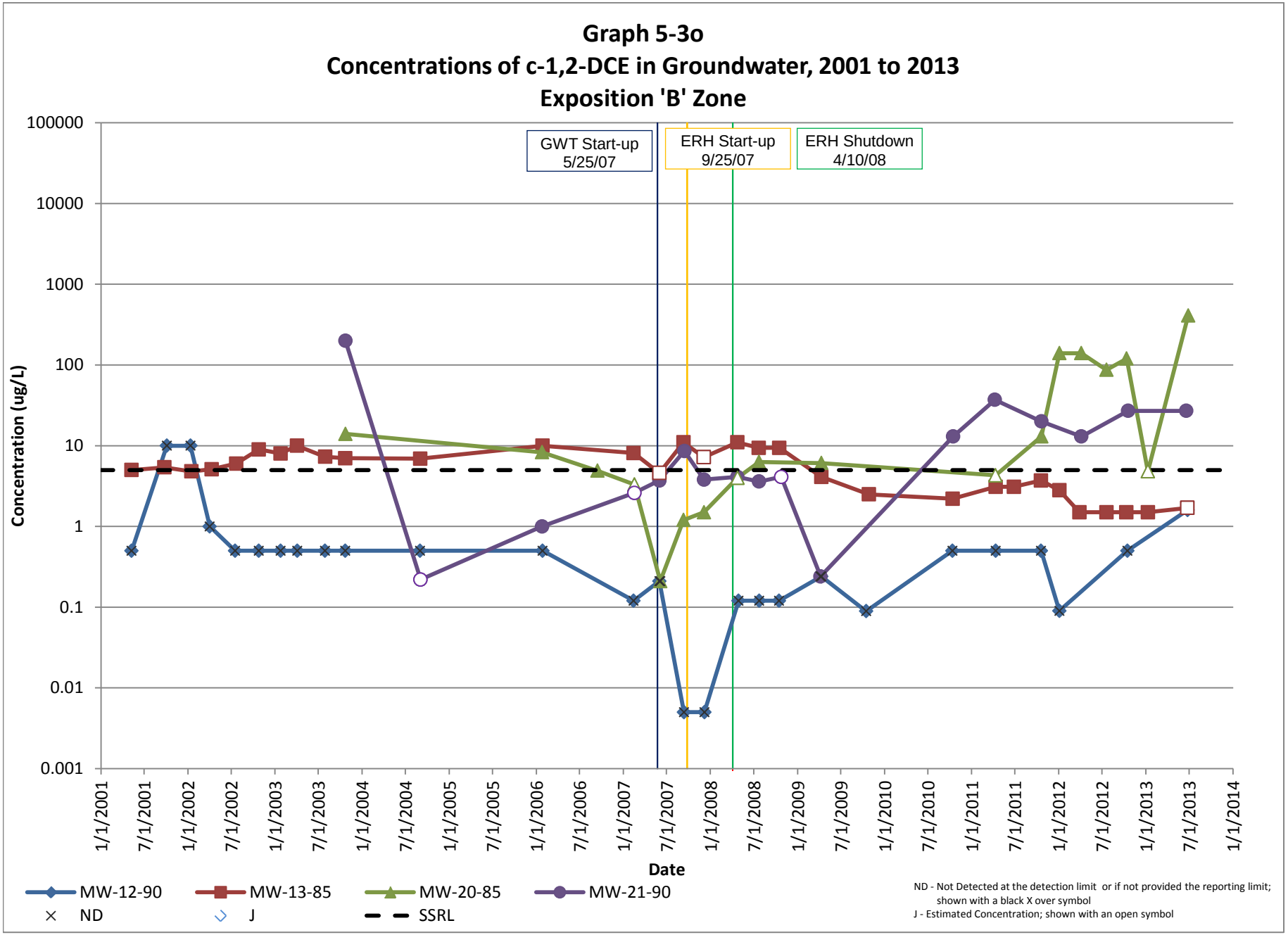

Graph 5-3j
Concentrations of TCE in Groundwater, 2001 to 2013
Exposition 'B' Zone
GWT Start-up
5/25/07
ERH Start-up
9/25/07
ERH Shutdown
4/10/08
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
0.01
0.001
1/1/2001
7/1/2001
1/1/2002
7/1/2002
1/1/2003
7/1/2003
1/1/2004
7/1/2004
1/1/2005
7/1/2005
1/1/2006
7/1/2006
1/1/2007
7/1/2007
1/1/2008
7/1/2008
1/1/2009
7/1/2009
1/1/2010
7/1/2010
1/1/2011
7/1/2011
1/1/2012
7/1/2012
1/1/2013
7/1/2013
1/1/2014
Date
MW-01-80
MW-05-85
ND
J
SSRL
ND - Not Detected at the detection limit or if not provided the reporting limit; shown with a black X over symbol
J - Estimated Concentration; shown with an open symbol

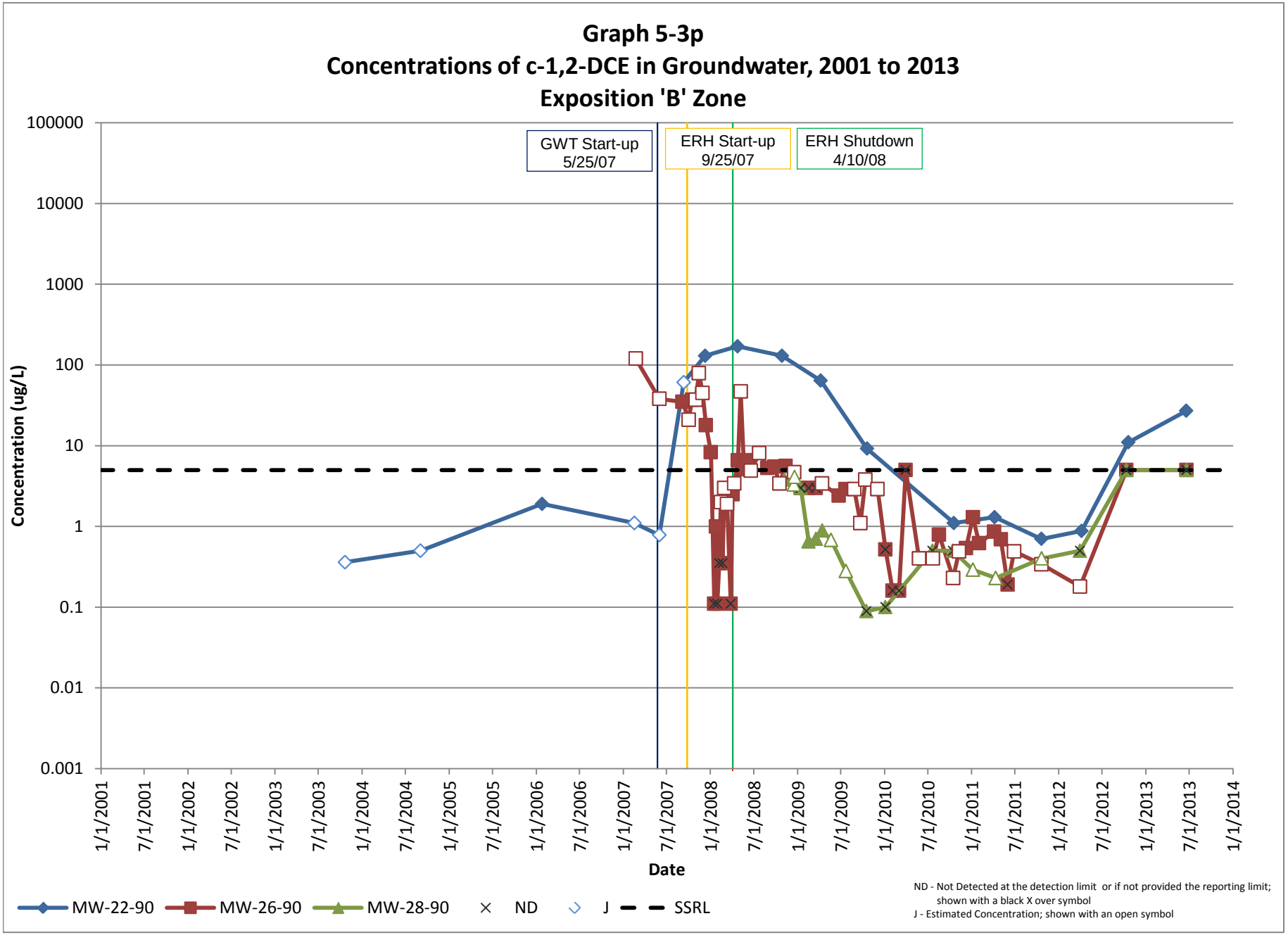

Graph 5-3k
Concentrations of c-1,2-DCE in Groundwater, 2001 to 2013
Exposition 'B' Zone
GWT Start-up 5/25/07
ERH Start-up 9/25/07
ERH Shutdown 4/10/08
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
0.01
0.001
1/1/2001
7/1/2001
1/1/2002
7/1/2002
1/1/2003
7/1/2003
1/1/2004
7/1/2004
1/1/2005
7/1/2005
1/1/2006
7/1/2006
1/1/2007
7/1/2007
1/1/2008
7/1/2008
1/1/2009
7/1/2009
1/1/2010
7/1/2010
1/1/2011
7/1/2011
1/1/2012
7/1/2012
1/1/2013
7/1/2013
1/1/2014
Date
DB-01
DB-02
DB-03
DB-04
ND
J
SSRL
ND - Not Detected at the detection limit or if not provided the reporting limit; shown with a black X over symbol
J - Estimated Concentration; shown with an open symbol

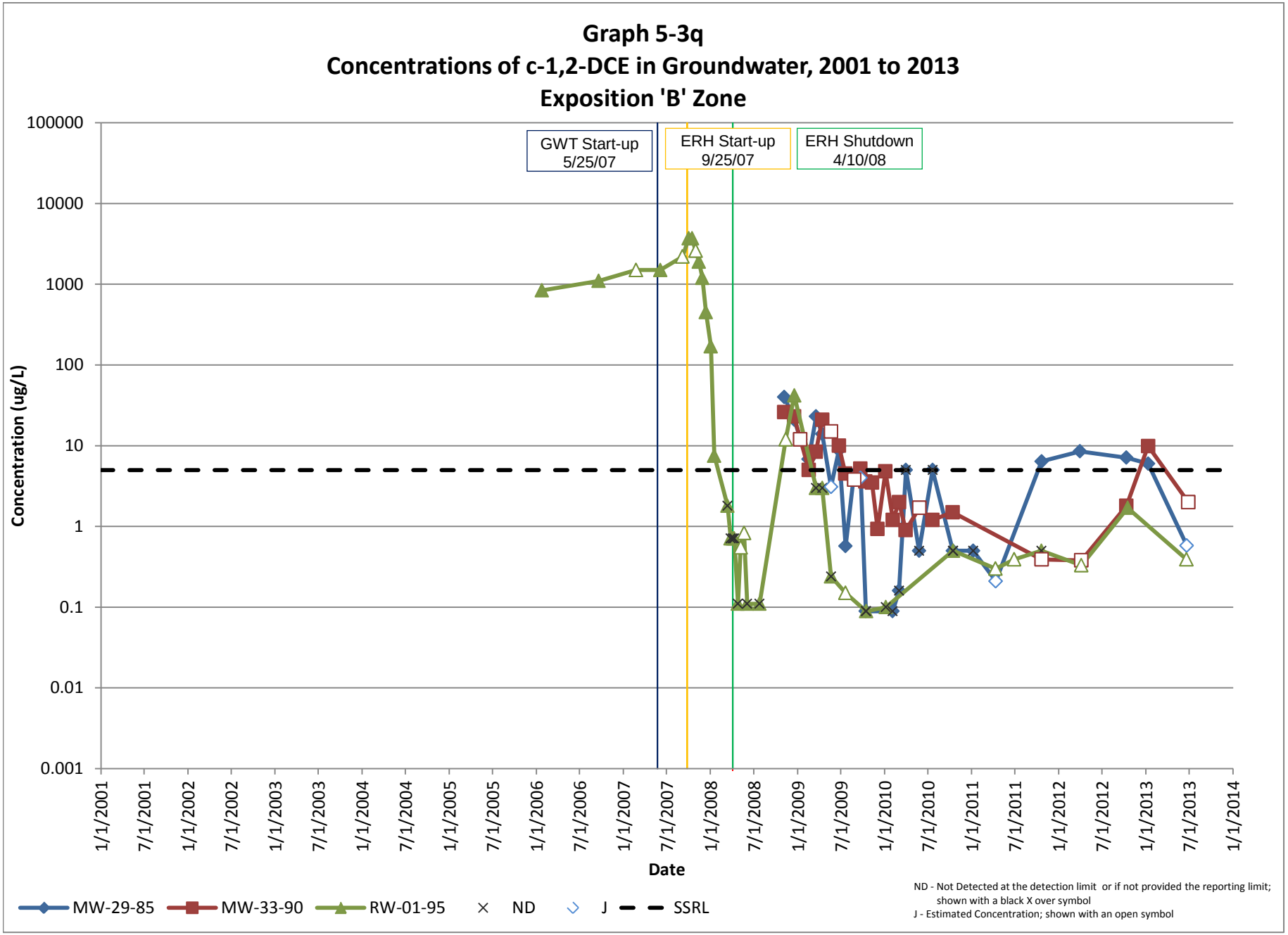

Graph 5-3l
Concentrations of c-1,2-DCE in Groundwater, 2001 to 2013
Exposition 'B' Zone
GWT Start-up 5/25/07
ERH Start-up 9/25/07
ERH Shutdown 4/10/08
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
0.01
0.001
1/1/2001
7/1/2001
1/1/2002
7/1/2002
1/1/2003
7/1/2003
1/1/2004
7/1/2004
1/1/2005
7/1/2005
1/1/2006
7/1/2006
1/1/2007
7/1/2007
1/1/2008
7/1/2008
1/1/2009
7/1/2009
1/1/2010
7/1/2010
1/1/2011
7/1/2011
1/1/2012
7/1/2012
1/1/2013
7/1/2013
1/1/2014
Date
DB-06
DB-07
DB-09
DB-10
ND
J
SSRL
ND - Not Detected at the detection limit or if not provided the reporting limit; shown with a black X over symbol
J - Estimated Concentration; shown with an open symbol

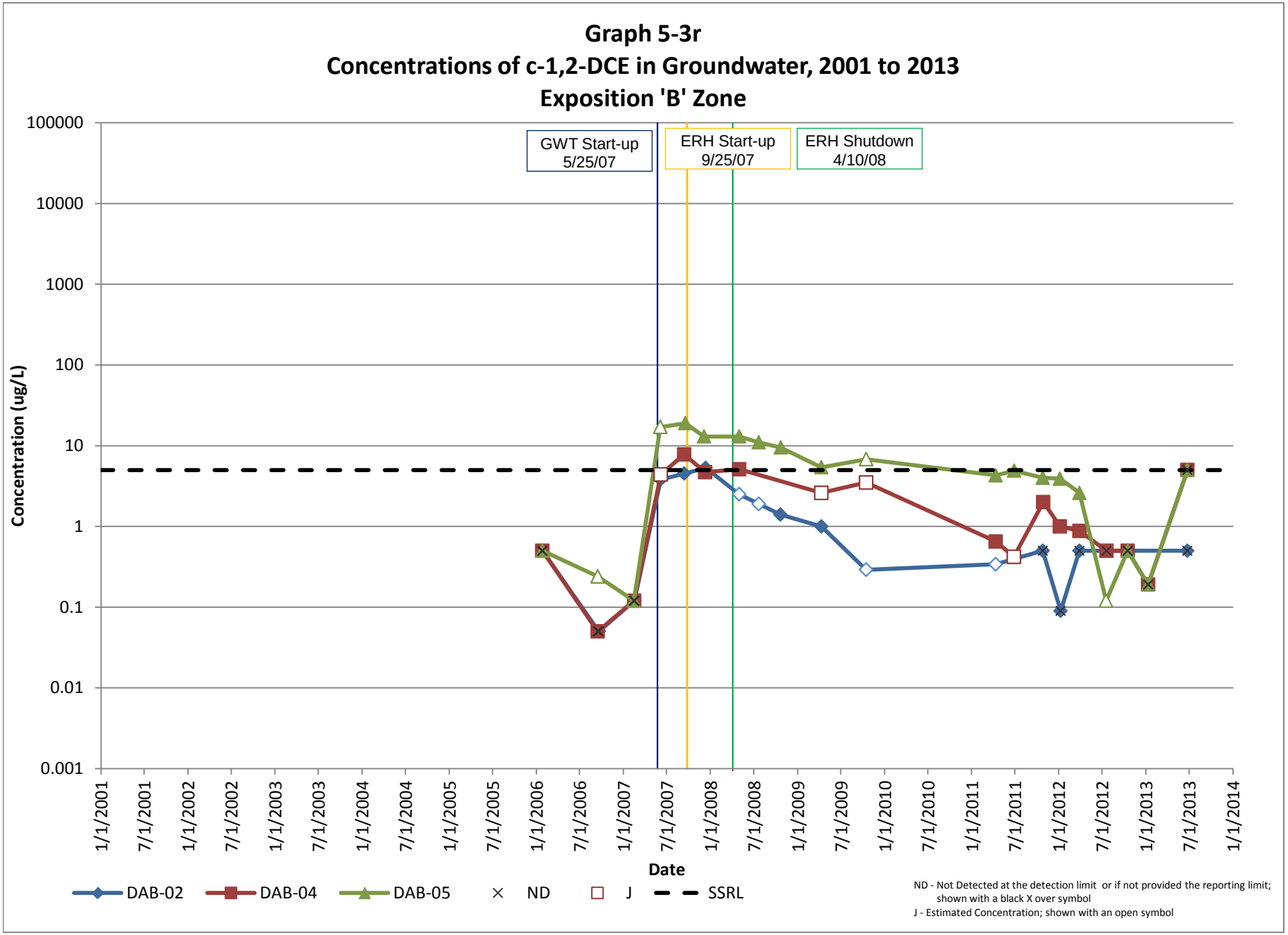

Graph 5-3m
Concentrations of c-1,2-DCE in Groundwater, 2001 to 2013
Exposition 'B' Zone
GWT Start-up 5/25/07
ERH Start-up 9/25/07
ERH Shutdown 4/10/08
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
0.01
0.001
1/1/2001
7/1/2001
1/1/2002
7/1/2002
1/1/2003
7/1/2003
1/1/2004
7/1/2004
1/1/2005
7/1/2005
1/1/2006
7/1/2006
1/1/2007
7/1/2007
1/1/2008
7/1/2008
1/1/2009
7/1/2009
1/1/2010
7/1/2010
1/1/2011
7/1/2011
1/1/2012
7/1/2012
1/1/2013
7/1/2013
1/1/2014
Date
DB-11
DB-12
ND
J
SSRL
ND - Not Detected at the detection limit or if not provided the reporting limit; shown with a black X over symbol
J - Estimated Concentration; shown with an open symbol

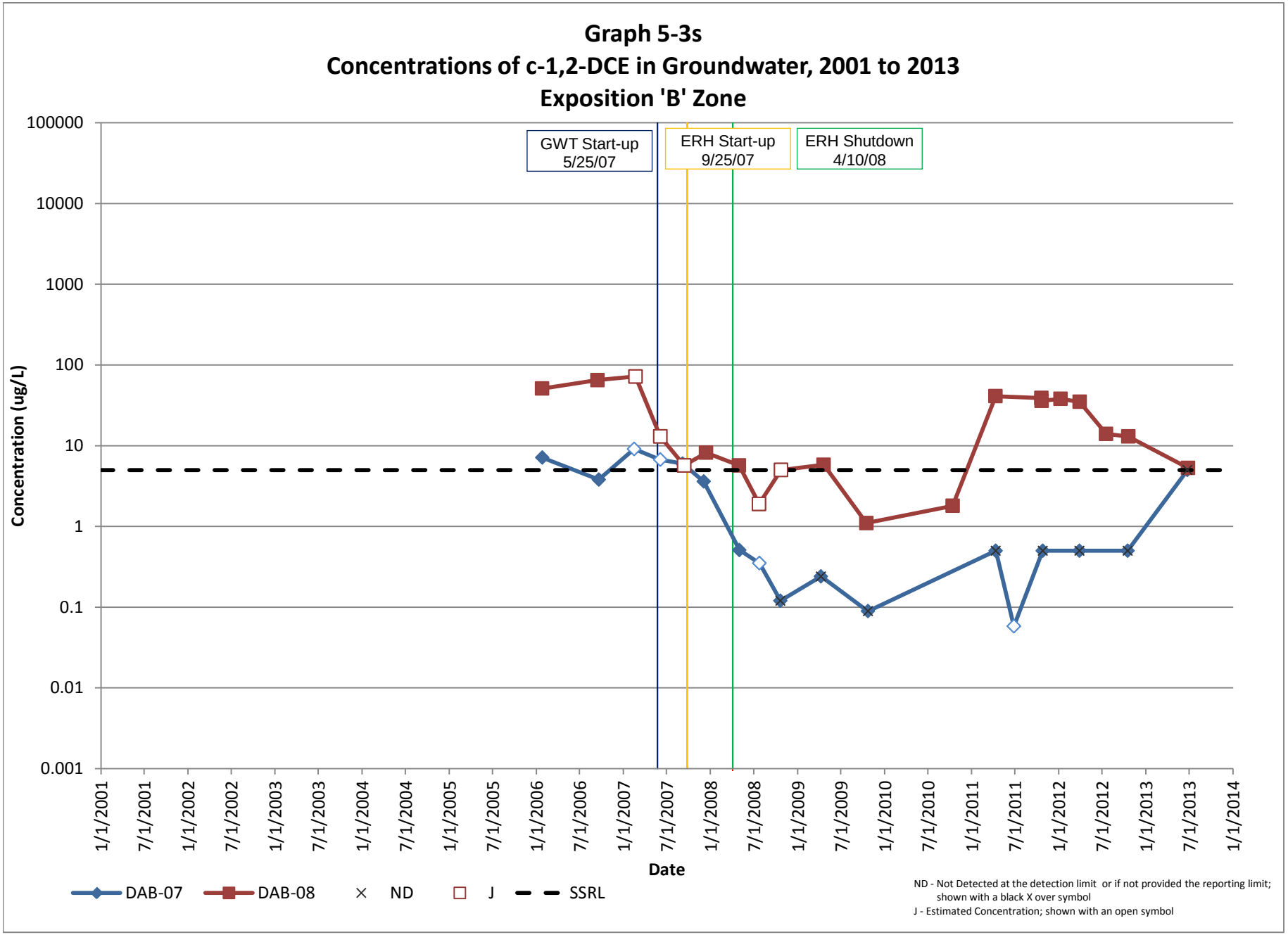

Graph 5-3n
Concentrations of c-1,2-DCE in Groundwater, 2001 to 2013
Exposition 'B' Zone
GWT Start-up 5/25/07
ERH Start-up 9/25/07
ERH Shutdown 4/10/08
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
0.01
0.001
1/1/2001
7/1/2001
1/1/2002
7/1/2002
1/1/2003
7/1/2003
1/1/2004
7/1/2004
1/1/2005
7/1/2005
1/1/2006
7/1/2006
1/1/2007
7/1/2007
1/1/2008
7/1/2008
1/1/2009
7/1/2009
1/1/2010
7/1/2010
1/1/2011
7/1/2011
1/1/2012
7/1/2012
1/1/2013
7/1/2013
1/1/2014
Date
MW-06-85
MW-08-85
MW-09-85
MW-10-90
ND
J
SSRL
ND - Not Detected at the detection limit or if not provided the reporting limit; shown with a black X over symbol
J - Estimated Concentration; shown with an open symbol

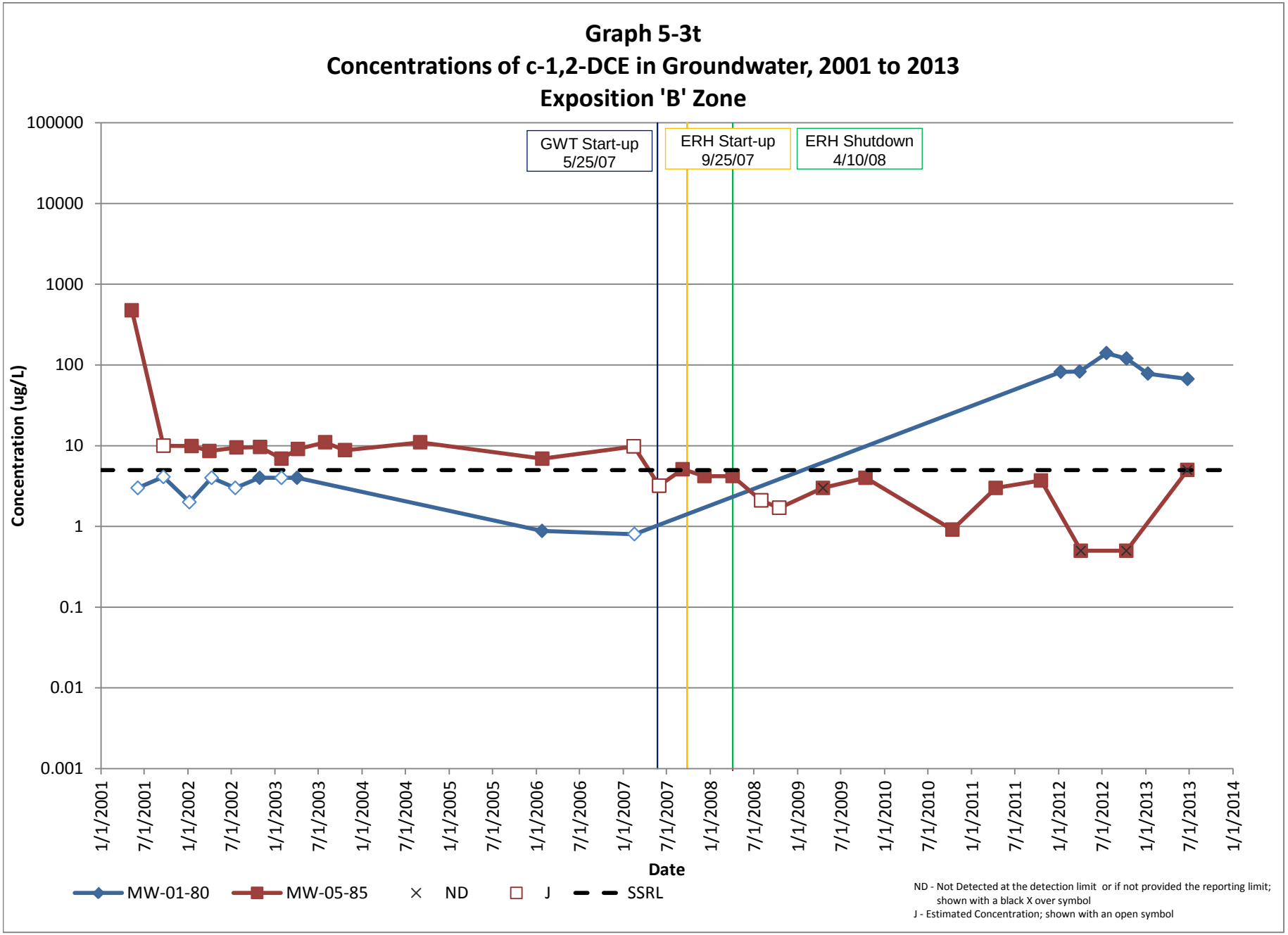

Graph 5-3o
Concentrations of c-1,2-DCE in Groundwater, 2001 to 2013
Exposition 'B' Zone
GWT Start-up 5/25/07
ERH Start-up 9/25/07
ERH Shutdown 4/10/08
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
0.01
0.001
1/1/2001
7/1/2001
1/1/2002
7/1/2002
1/1/2003
7/1/2003
1/1/2004
7/1/2004
1/1/2005
7/1/2005
1/1/2006
7/1/2006
1/1/2007
7/1/2007
1/1/2008
7/1/2008
1/1/2009
7/1/2009
1/1/2010
7/1/2010
1/1/2011
7/1/2011
1/1/2012
7/1/2012
1/1/2013
7/1/2013
1/1/2014
Date
MW-12-90
MW-13-85
MW-20-85
MW-21-90
ND
J
SSRL
ND - Not Detected at the detection limit or if not provided the reporting limit; shown with a black X over symbol
J - Estimated Concentration; shown with an open symbol

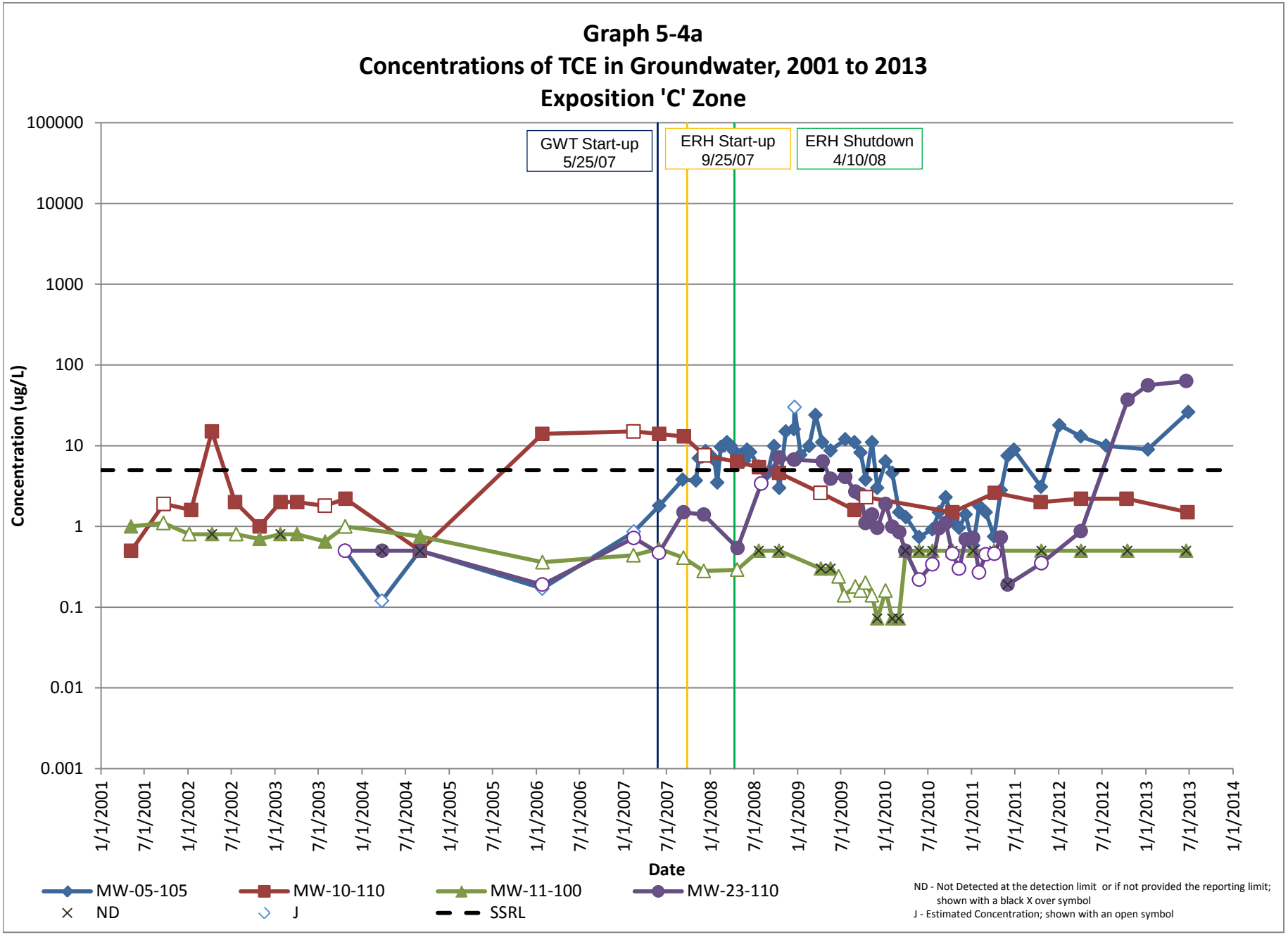

Graph 5-3p
Concentrations of c-1,2-DCE in Groundwater, 2001 to 2013
Exposition 'B' Zone
GWT Start-up 5/25/07
ERH Start-up 9/25/07
ERH Shutdown 4/10/08
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
0.01
0.001
1/1/2001
7/1/2001
1/1/2002
7/1/2002
1/1/2003
7/1/2003
1/1/2004
7/1/2004
1/1/2005
7/1/2005
1/1/2006
7/1/2006
1/1/2007
7/1/2007
1/1/2008
7/1/2008
1/1/2009
7/1/2009
1/1/2010
7/1/2010
1/1/2011
7/1/2011
1/1/2012
7/1/2012
1/1/2013
7/1/2013
1/1/2014
Date
MW-22-90
MW-26-90
MW-28-90
ND
J
SSRL
ND - Not Detected at the detection limit or if not provided the reporting limit; shown with a black X over symbol
J - Estimated Concentration; shown with an open symbol

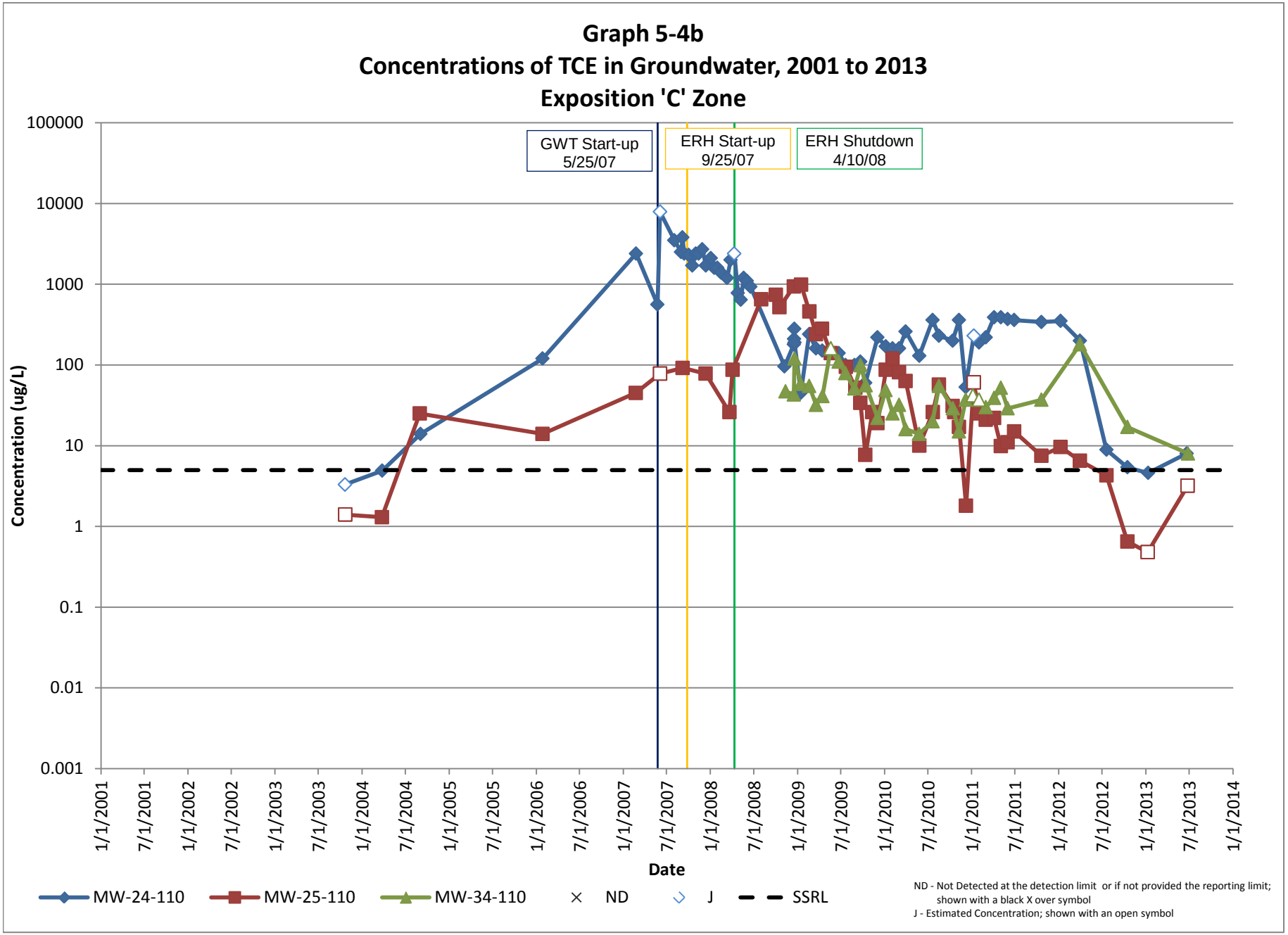

Graph 5-3q
Concentrations of c-1,2-DCE in Groundwater, 2001 to 2013
Exposition 'B' Zone
GWT Start-up 5/25/07
ERH Start-up 9/25/07
ERH Shutdown 4/10/08
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
0.01
0.001
1/1/2001
7/1/2001
1/1/2002
7/1/2002
1/1/2003
7/1/2003
1/1/2004
7/1/2004
1/1/2005
7/1/2005
1/1/2006
7/1/2006
1/1/2007
7/1/2007
1/1/2008
7/1/2008
1/1/2009
7/1/2009
1/1/2010
7/1/2010
1/1/2011
7/1/2011
1/1/2012
7/1/2012
1/1/2013
7/1/2013
1/1/2014
Date
MW-29-85
MW-33-90
RW-01-95
ND
J
SSRL
ND - Not Detected at the detection limit or if not provided the reporting limit; shown with a black X over symbol
J - Estimated Concentration; shown with an open symbol

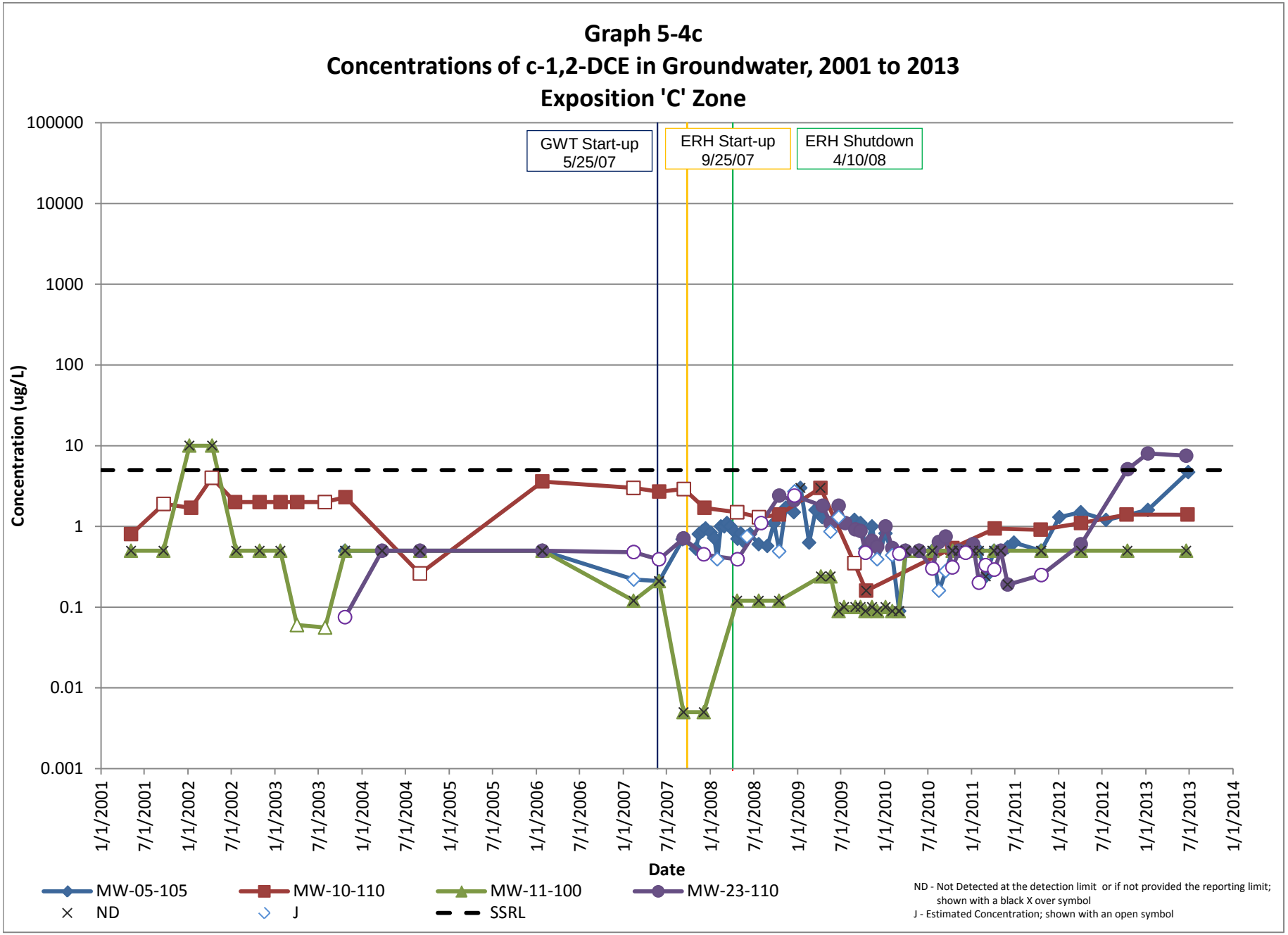

Graph 5-3r
Concentrations of c-1,2-DCE in Groundwater, 2001 to 2013
Exposition 'B' Zone
GWT Start-up 5/25/07
ERH Start-up 9/25/07
ERH Shutdown 4/10/08
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
0.01
0.001
1/1/2001
7/1/2001
1/1/2002
7/1/2002
1/1/2003
7/1/2003
1/1/2004
7/1/2004
1/1/2005
7/1/2005
1/1/2006
7/1/2006
1/1/2007
7/1/2007
1/1/2008
7/1/2008
1/1/2009
7/1/2009
1/1/2010
7/1/2010
1/1/2011
7/1/2011
1/1/2012
7/1/2012
1/1/2013
7/1/2013
1/1/2014
Date
DAB-02
DAB-04
DAB-05
ND
J
SSRL
ND - Not Detected at the detection limit or if not provided the reporting limit; shown with a black X over symbol
J - Estimated Concentration; shown with an open symbol

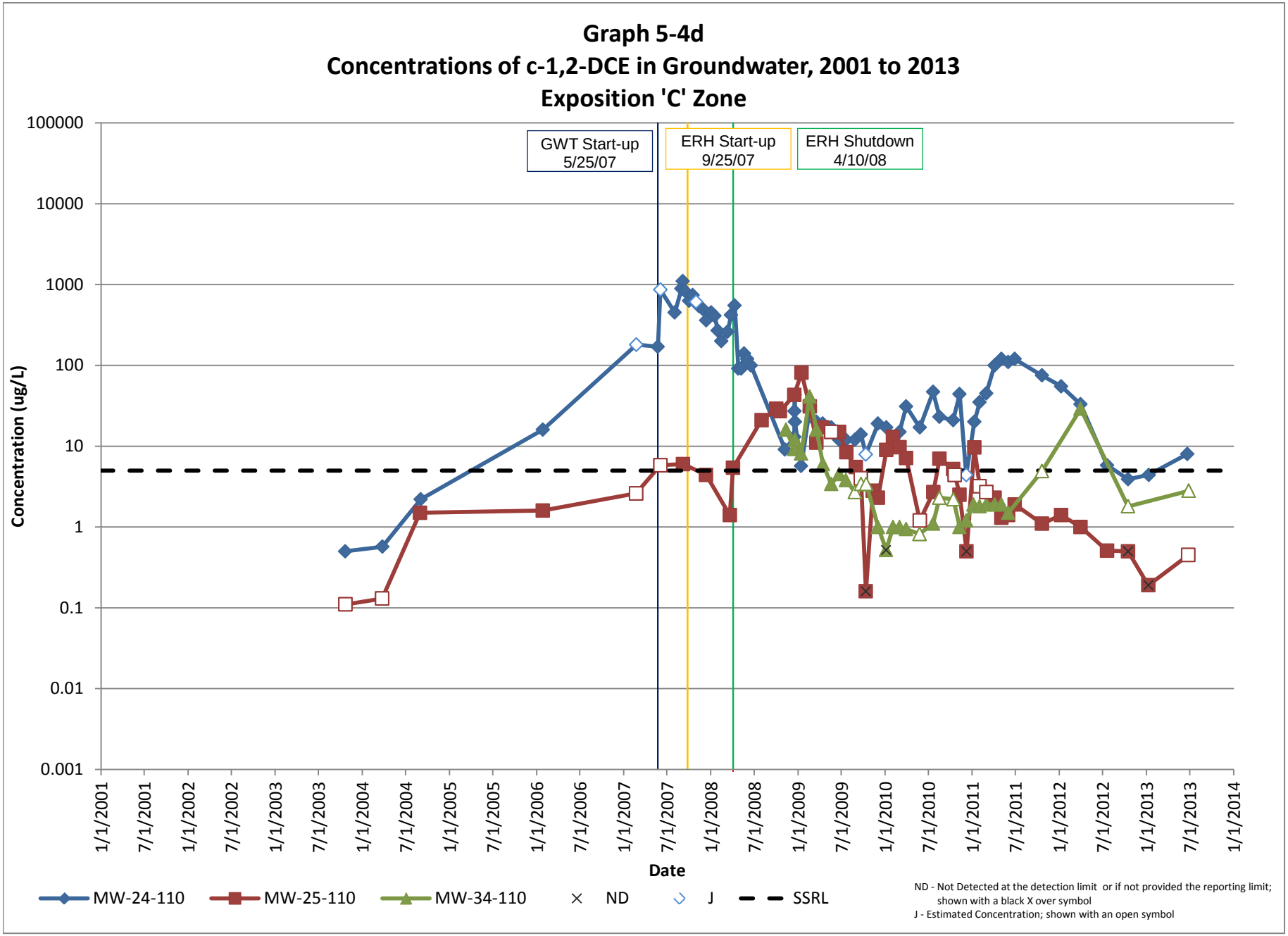

Graph 5-3s
Concentrations of c-1,2-DCE in Groundwater, 2001 to 2013
Exposition 'B' Zone
GWT Start-up 5/25/07
ERH Start-up 9/25/07
ERH Shutdown 4/10/08
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
0.01
0.001
1/1/2001
7/1/2001
1/1/2002
7/1/2002
1/1/2003
7/1/2003
1/1/2004
7/1/2004
1/1/2005
7/1/2005
1/1/2006
7/1/2006
1/1/2007
7/1/2007
1/1/2008
7/1/2008
1/1/2009
7/1/2009
1/1/2010
7/1/2010
1/1/2011
7/1/2011
1/1/2012
7/1/2012
1/1/2013
7/1/2013
1/1/2014
Date
DAB-07
DAB-08
ND
J
SSRL
ND - Not Detected at the detection limit or if not provided the reporting limit; shown with a black X over symbol
J - Estimated Concentration; shown with an open symbol

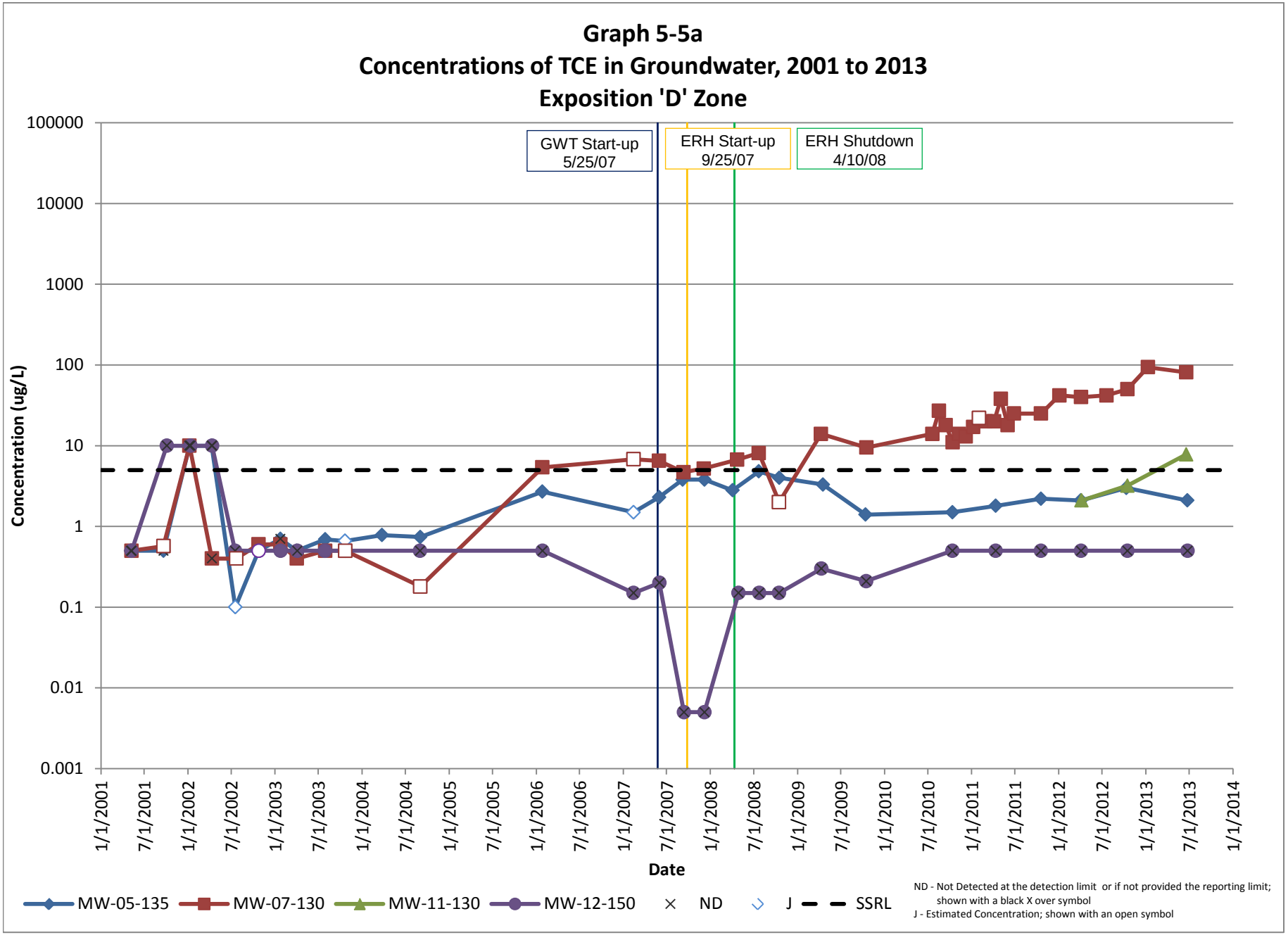

Graph 5-3t
Concentrations of c-1,2-DCE in Groundwater, 2001 to 2013
Exposition 'B' Zone
GWT Start-up 5/25/07
ERH Start-up 9/25/07
ERH Shutdown 4/10/08
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
0.01
0.001
1/1/2001
7/1/2001
1/1/2002
7/1/2002
1/1/2003
7/1/2003
1/1/2004
7/1/2004
1/1/2005
7/1/2005
1/1/2006
7/1/2006
1/1/2007
7/1/2007
1/1/2008
7/1/2008
1/1/2009
7/1/2009
1/1/2010
7/1/2010
1/1/2011
7/1/2011
1/1/2012
7/1/2012
1/1/2013
7/1/2013
1/1/2014
Date
MW-01-80
MW-05-85
ND
J
SSRL
ND - Not Detected at the detection limit or if not provided the reporting limit; shown with a black X over symbol
J - Estimated Concentration; shown with an open symbol

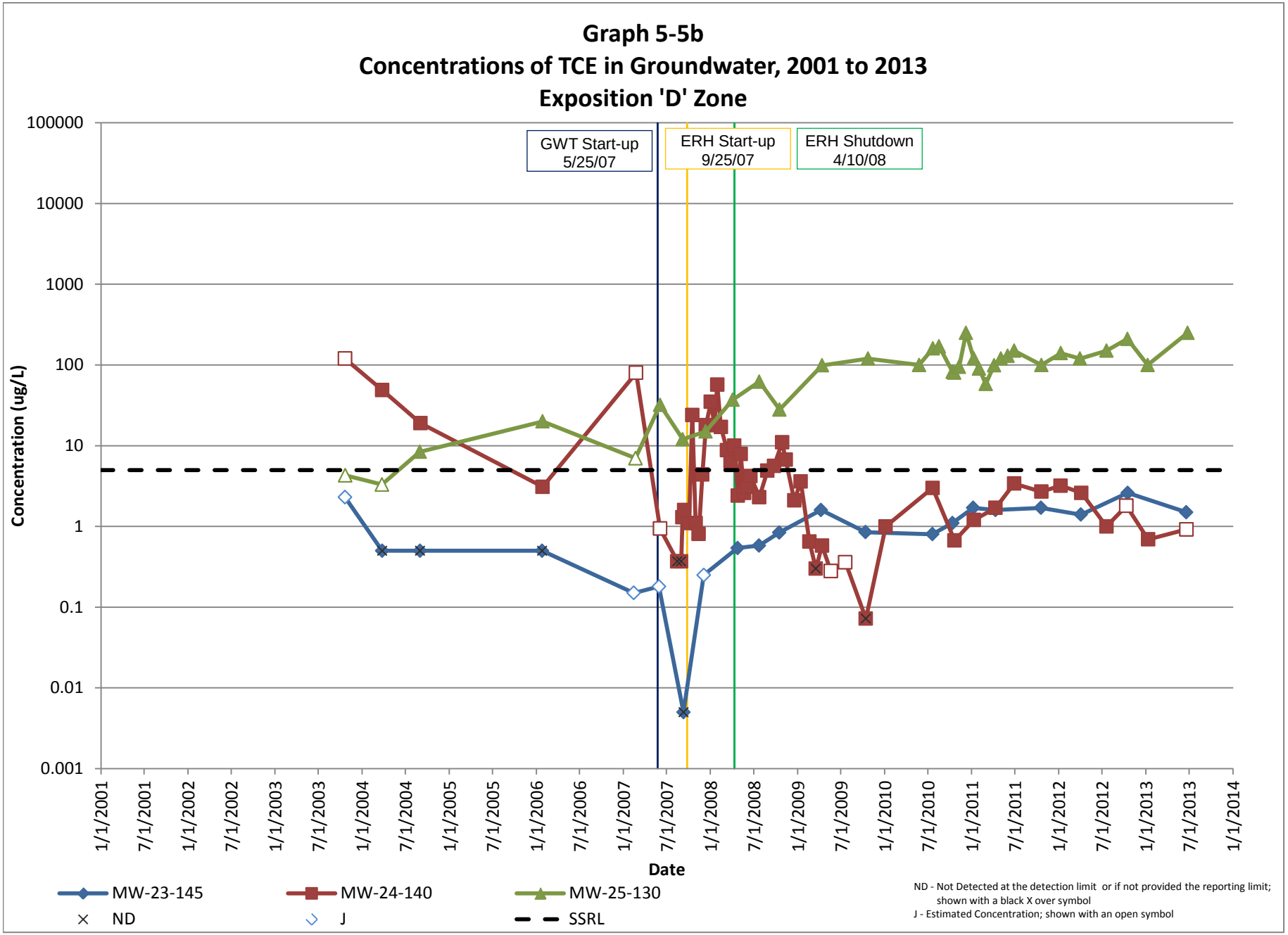

Graph 5-4a
Concentrations of TCE in Groundwater, 2001 to 2013
Exposition 'C' Zone
GWT Start-up 5/25/07
ERH Start-up 9/25/07
ERH Shutdown 4/10/08
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
0.01
0.001
1/1/2001
7/1/2001
1/1/2002
7/1/2002
1/1/2003
7/1/2003
1/1/2004
7/1/2004
1/1/2005
7/1/2005
1/1/2006
7/1/2006
1/1/2007
7/1/2007
1/1/2008
7/1/2008
1/1/2009
7/1/2009
1/1/2010
7/1/2010
1/1/2011
7/1/2011
1/1/2012
7/1/2012
1/1/2013
7/1/2013
1/1/2014
Date
MW-05-105
MW-10-110
MW-11-100
MW-23-110
ND
J
SSRL
ND - Not Detected at the detection limit or if not provided the reporting limit; shown with a black X over symbol
J - Estimated Concentration; shown with an open symbol

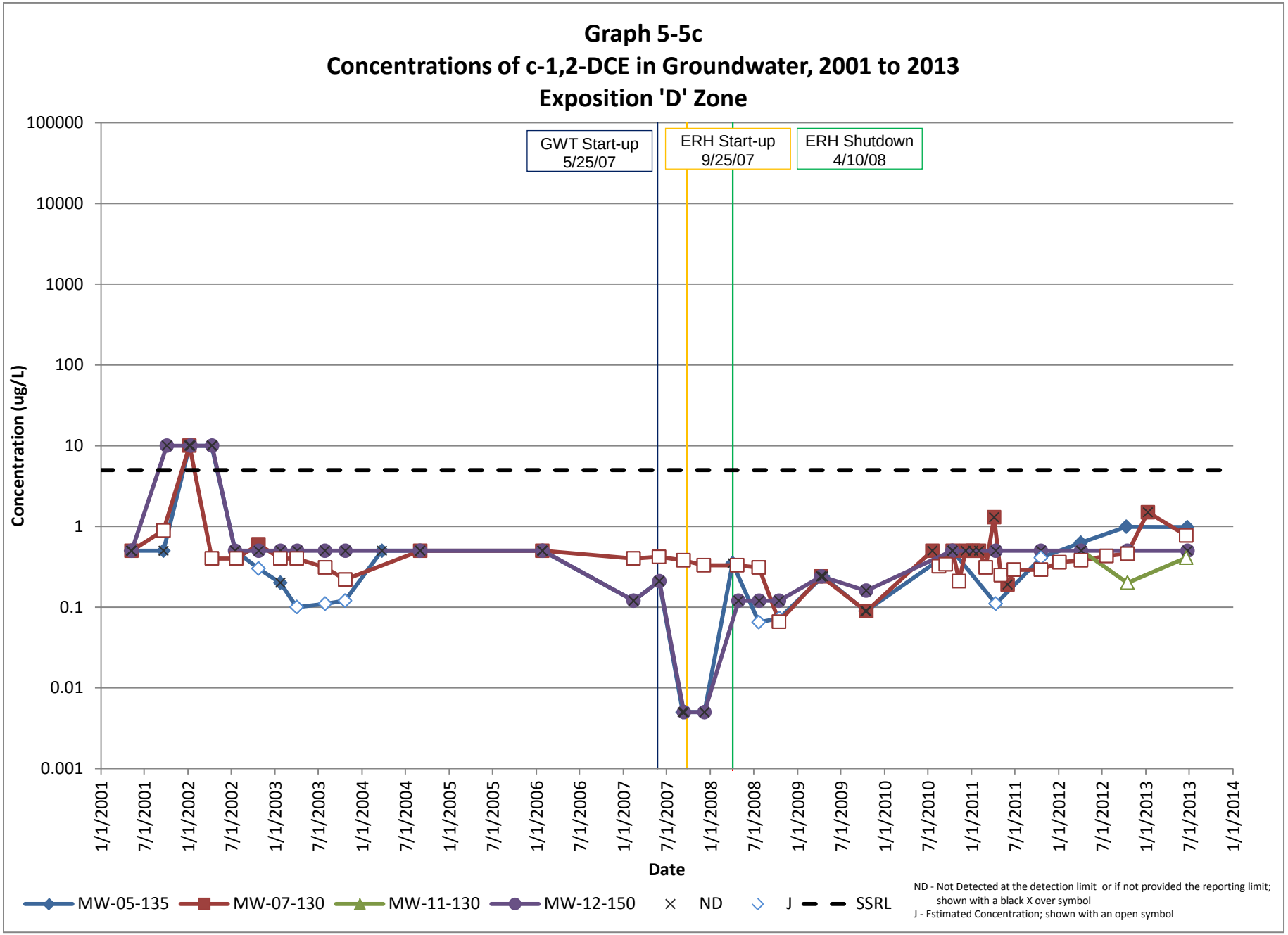

Graph 5-4b
Concentrations of TCE in Groundwater, 2001 to 2013
Exposition 'C' Zone
GWT Start-up
5/25/07
ERH Start-up
9/25/07
ERH Shutdown
4/10/08
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
0.01
0.001
1/1/2001
7/1/2001
1/1/2002
7/1/2002
1/1/2003
7/1/2003
1/1/2004
7/1/2004
1/1/2005
7/1/2005
1/1/2006
7/1/2006
1/1/2007
7/1/2007
1/1/2008
7/1/2008
1/1/2009
7/1/2009
1/1/2010
7/1/2010
1/1/2011
7/1/2011
1/1/2012
7/1/2012
1/1/2013
7/1/2013
1/1/2014
Date
MW-24-110
MW-25-110
MW-34-110
ND
J
SSRL
ND - Not Detected at the detection limit or if not provided the reporting limit; shown with a black X over symbol
J - Estimated Concentration; shown with an open symbol

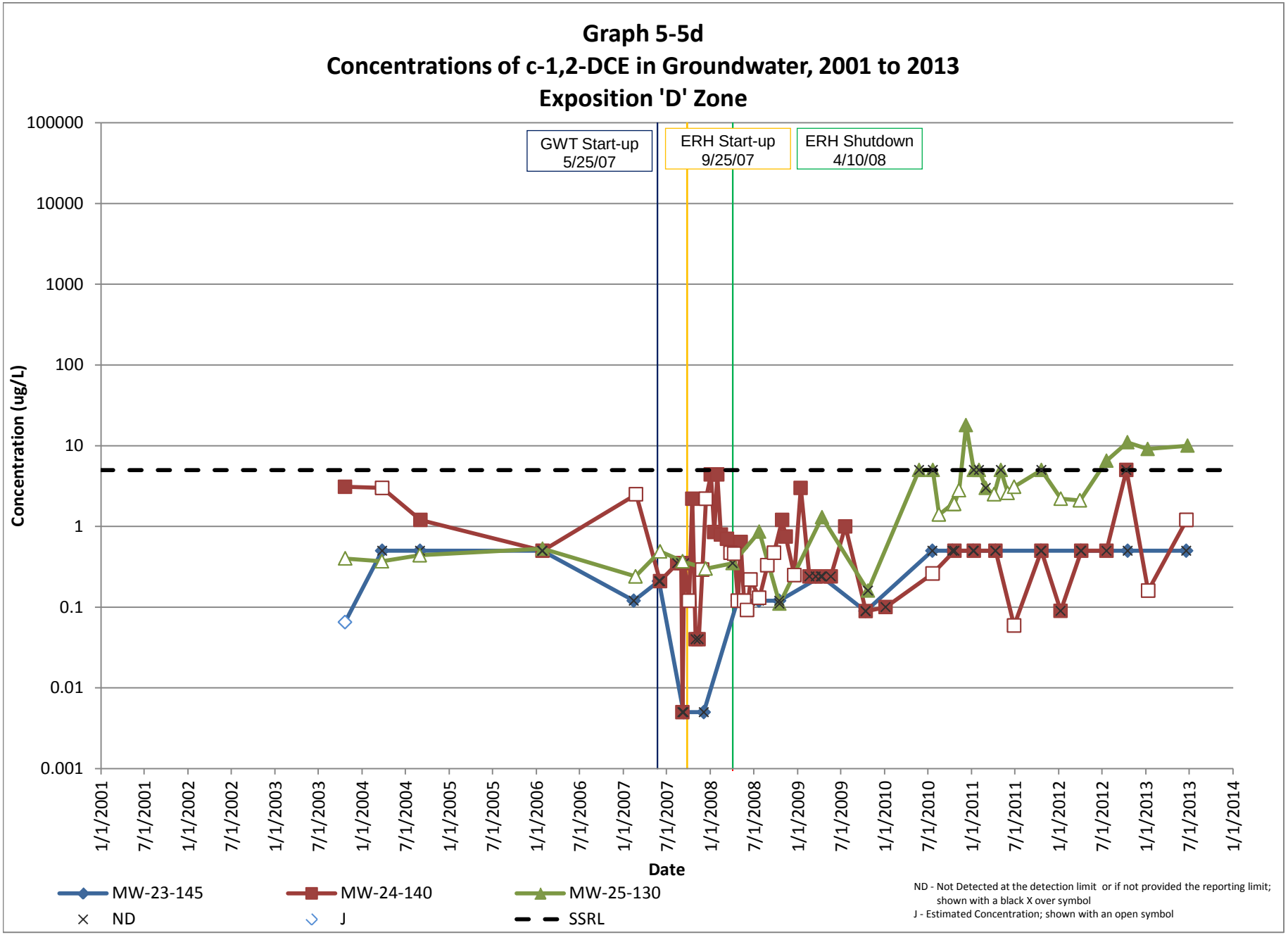

Graph 5-4c
Concentrations of c-1,2-DCE in Groundwater, 2001 to 2013
Exposition 'C' Zone
GWT Start-up 5/25/07
ERH Start-up 9/25/07
ERH Shutdown 4/10/08
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
0.01
0.001
1/1/2001
7/1/2001
1/1/2002
7/1/2002
1/1/2003
7/1/2003
1/1/2004
7/1/2004
1/1/2005
7/1/2005
1/1/2006
7/1/2006
1/1/2007
7/1/2007
1/1/2008
7/1/2008
1/1/2009
7/1/2009
1/1/2010
7/1/2010
1/1/2011
7/1/2011
1/1/2012
7/1/2012
1/1/2013
7/1/2013
1/1/2014
Date
MW-05-105
MW-10-110
MW-11-100
MW-23-110
ND
J
SSRL
ND - Not Detected at the detection limit or if not provided the reporting limit; shown with a black X over symbol
J - Estimated Concentration; shown with an open symbol

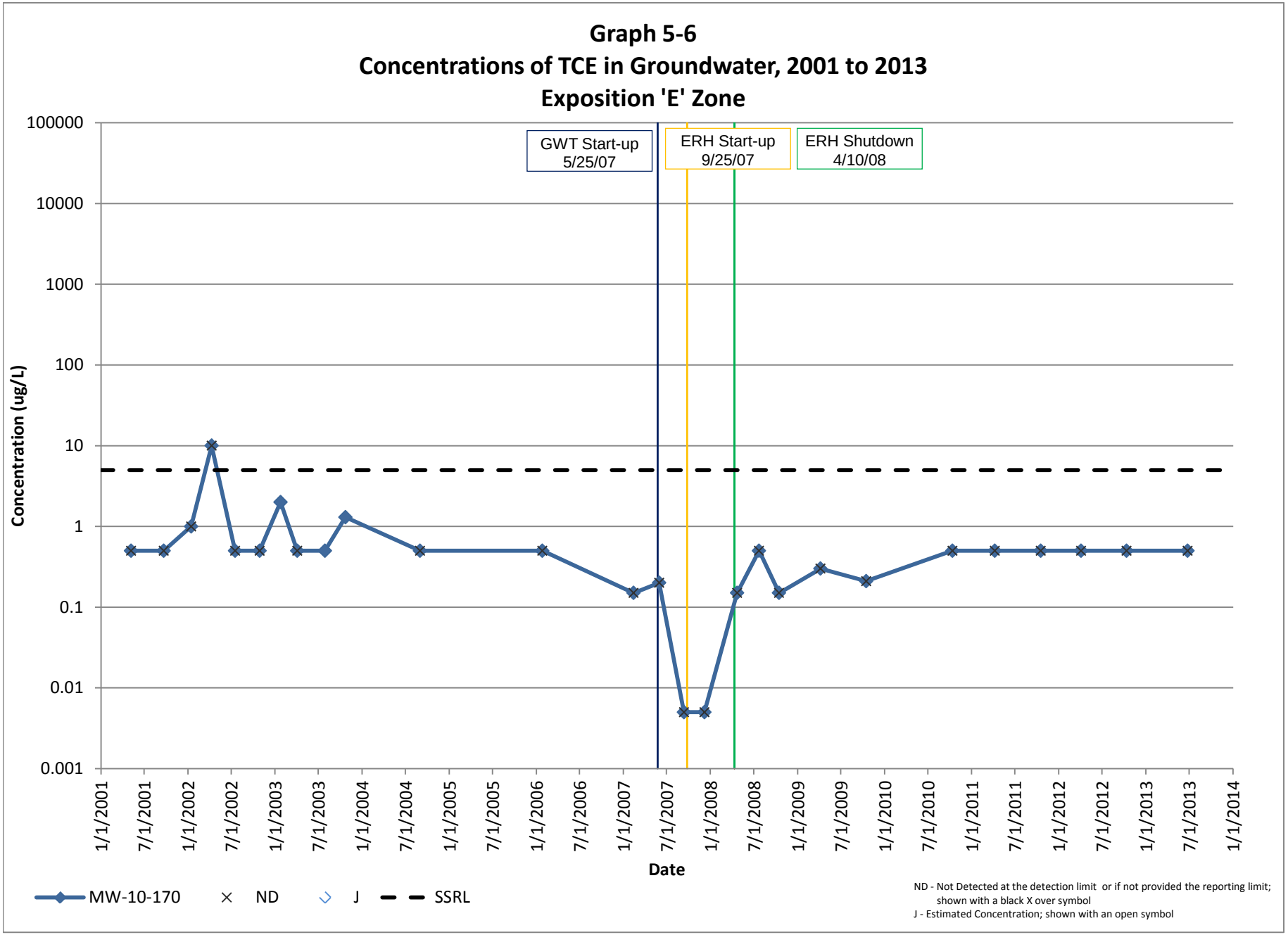

Graph 5-4d
Concentrations of c-1,2-DCE in Groundwater, 2001 to 2013
Exposition 'C' Zone
GWT Start-up
5/25/07
ERH Start-up
9/25/07
ERH Shutdown
4/10/08
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
0.01
0.001
1/1/2001
7/1/2001
1/1/2002
7/1/2002
1/1/2003
7/1/2003
1/1/2004
7/1/2004
1/1/2005
7/1/2005
1/1/2006
7/1/2006
1/1/2007
7/1/2007
1/1/2008
7/1/2008
1/1/2009
7/1/2009
1/1/2010
7/1/2010
1/1/2011
7/1/2011
1/1/2012
7/1/2012
1/1/2013
7/1/2013
1/1/2014
Date
MW-24-110
MW-25-110
MW-34-110
ND
J
SSRL
ND - Not Detected at the detection limit or if not provided the reporting limit; shown with a black X over symbol
J - Estimated Concentration; shown with an open symbol


Graph 5-5a
Concentrations of TCE in Groundwater, 2001 to 2013
Exposition 'D' Zone
GWT Start-up 5/25/07
ERH Start-up 9/25/07
ERH Shutdown 4/10/08
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
0.01
0.001
1/1/2001
7/1/2001
1/1/2002
7/1/2002
1/1/2003
7/1/2003
1/1/2004
7/1/2004
1/1/2005
7/1/2005
1/1/2006
7/1/2006
1/1/2007
7/1/2007
1/1/2008
7/1/2008
1/1/2009
7/1/2009
1/1/2010
7/1/2010
1/1/2011
7/1/2011
1/1/2012
7/1/2012
1/1/2013
7/1/2013
1/1/2014
Date
MW-05-135
MW-07-130
MW-11-130
MW-12-150
ND
J
SSRL
ND - Not Detected at the detection limit or if not provided the reporting limit; shown with a black X over symbol
J - Estimated Concentration; shown with an open symbol


Graph 5-5b
Concentrations of TCE in Groundwater, 2001 to 2013
Exposition 'D' Zone
GWT Start-up 5/25/07
ERH Start-up 9/25/07
ERH Shutdown 4/10/08
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
0.01
0.001
1/1/2001
7/1/2001
1/1/2002
7/1/2002
1/1/2003
7/1/2003
1/1/2004
7/1/2004
1/1/2005
7/1/2005
1/1/2006
7/1/2006
1/1/2007
7/1/2007
1/1/2008
7/1/2008
1/1/2009
7/1/2009
1/1/2010
7/1/2010
1/1/2011
7/1/2011
1/1/2012
7/1/2012
1/1/2013
7/1/2013
1/1/2014
Date
MW-23-145
MW-24-140
MW-25-130
ND
J
SSRL
ND - Not Detected at the detection limit or if not provided the reporting limit; shown with a black X over symbol
J - Estimated Concentration; shown with an open symbol


Graph 5-5c
Concentrations of c-1,2-DCE in Groundwater, 2001 to 2013
Exposition 'D' Zone
GWT Start-up 5/25/07
ERH Start-up 9/25/07
ERH Shutdown 4/10/08
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
0.01
0.001
1/1/2001
7/1/2001
1/1/2002
7/1/2002
1/1/2003
7/1/2003
1/1/2004
7/1/2004
1/1/2005
7/1/2005
1/1/2006
7/1/2006
1/1/2007
7/1/2007
1/1/2008
7/1/2008
1/1/2009
7/1/2009
1/1/2010
7/1/2010
1/1/2011
7/1/2011
1/1/2012
7/1/2012
1/1/2013
7/1/2013
1/1/2014
Date
MW-05-135
MW-07-130
MW-11-130
MW-12-150
ND
J
SSRL
ND - Not Detected at the detection limit or if not provided the reporting limit; shown with a black X over symbol
J - Estimated Concentration; shown with an open symbol


Graph 5-5d
Concentrations of c-1,2-DCE in Groundwater, 2001 to 2013
Exposition 'D' Zone
GWT Start-up 5/25/07
ERH Start-up 9/25/07
ERH Shutdown 4/10/08
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
0.01
0.001
1/1/2001
7/1/2001
1/1/2002
7/1/2002
1/1/2003
7/1/2003
1/1/2004
7/1/2004
1/1/2005
7/1/2005
1/1/2006
7/1/2006
1/1/2007
7/1/2007
1/1/2008
7/1/2008
1/1/2009
7/1/2009
1/1/2010
7/1/2010
1/1/2011
7/1/2011
1/1/2012
7/1/2012
1/1/2013
7/1/2013
1/1/2014
Date
MW-23-145
MW-24-140
MW-25-130
ND
J
SSRL
ND - Not Detected at the detection limit or if not provided the reporting limit; shown with a black X over symbol
J - Estimated Concentration; shown with an open symbol


Graph 5-6
Concentrations of TCE in Groundwater, 2001 to 2013
Exposition 'E' Zone
GWT Start-up
5/25/07
ERH Start-up
9/25/07
ERH Shutdown
4/10/08
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
0.01
0.001
1/1/2001
7/1/2001
1/1/2002
7/1/2002
1/1/2003
7/1/2003
1/1/2004
7/1/2004
1/1/2005
7/1/2005
1/1/2006
7/1/2006
1/1/2007
7/1/2007
1/1/2008
7/1/2008
1/1/2009
7/1/2009
1/1/2010
7/1/2010
1/1/2011
7/1/2011
1/1/2012
7/1/2012
1/1/2013
7/1/2013
1/1/2014
Date
MW-10-170
ND
J
SSRL
ND - Not Detected at the detection limit or if not provided the reporting limit; shown with a black X over symbol
J - Estimated Concentration; shown with an open symbol

APPENDIX A

Purge Logs and Field Forms

Pemaco We pling Sheet

OTIE

Casing Volume = _____
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. DAB - 02

Sampler(s): MW

Control Settings*: R: 10 D: 5 P: 45

Time	Volume Purged (mL)	Flow Rate (mL/min)	Sol, TOC Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	DO	Comments
1230	–	–	61.93	–	–	–	–	–	–	
1252	Initial	150	61.98	18.39	1.31	7.92	103	44.6	4.44	
1257	750	150	61.98	16.54	1.39	7.93	107	35.8	4.57	
1302	1500	150	61.98	16.37	1.39	7.92	109	37.6	4.45	
1307	2250	150	61.98	16.13	1.40	7.91	112	35.2	4.33	
1312	3000	150	61.98	16.04	1.40	7.90	116	35.8	4.26	
1317	4000	150	61.98	16.09	1.40	7.90	117	35.1	4.22	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: Y8WZ1

Sample Date/Time: 6/24/13; 130

1,4-Dioxane? Yes/No

#VOAs 6

QA/QC Samples? None FD MS/MSD

Dup Sample ID N/A

Dup Sample Time N/A

Sample Depth (feet below TOC): _____

Method of Extraction

- [✓] Submersible Pump
- [ ] Dedicated Pump
- [ ] Disposable Bailer
- [ ] Footvalve

Sampling Method:

- [✓] Submersible Pump
- [ ] Dedicated Pump
- [ ] Disposable Bailer
- [ ] Footvalve

*R = Refill
D = Discharge
P = Pressure

Pemaco We ıpling Sheet

OTIE
Oneida Total Integrated Enterprises

Casing Volume =
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. DAB-04

Sampler(s): MW

Control Settings*: R: 10 D: 5 P: 45

Date: 6/24/2013 Time	Volume Purged (mL)	Flow Rate (mL/min)	Heron, TOC Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	DO	Comments
1003	—	—	59.39	—	—	—	—	—		
1021	Initial	200	59.49	16.42	1.21	7.44	181	20.8	3.73	
1026	1000	200	59.51	16.06	1.23	7.44	180	30.2	3.31	
1031	2000	200	59.57	15.95	1.24	7.45	179	33.1	2.89	
1036	3000	200	59.59	15.88	1.24	7.47	177	35.2	2.59	
1041	4000	200	59.61	15.78	1.24	7.48	176	35.9	2.36	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: Y8WZZ

Sample Date/Time: 6.24.13; 1042

1,4-Dioxane? Yes/No

#VOAs 3

QA/QC Samples? None FD MS/MSD

Dup Sample ID N/A

Dup Sample Time N/A

Sample Depth (feet below TOC): _____

Method of Extraction

- [✓] Submersible Pump
- [ ] Dedicated Pump
- [ ] Disposable Bailer
- [ ] Footvalve

Sampling Method:

- [✓] Submersible Pump
- [ ] Dedicated Pump
- [ ] Disposable Bailer
- [ ] Footvalve

*R = Refill
D = Discharge
P = Pressure

Pemaco Wel pling Sheet

OTIE
Oneida Total Integrated Enterprises

Casing Volume = _____
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. DAB-5

Sampler(s): [illegible]

Control Settings*: R: 10 D: 5 P: ~~50~~ 70

Date 6/24/13 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	D.O mg/L	Comments
10:05	—	400	57.10							
10:10	2000	400	57.50	22.90	1.66	5.35	+388	Ø	4.46	Horiba giving "Error 3" = Control unit
10:15	4,000	400	57.60	22.78	1.67	5.36	+392	Ø	4.42	battery voltage drop
10:20	6,000	400	57.65	22.78	1.67	5.37	+390	Ø	4.41	
10:25	8,000	400	57.66	22.73	1.67	5.38	+392	Ø	4.38	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: Y8WZ3 **Sample Date/Time:** 6/24/13 10:27 1,4-Dioxane? Yes/No #VOAs 12

QA/QC Samples? None FD MS/MSD

Dup Sample ID Y8WZ4

Dup Sample Time 6/24/13 10:05

Sample Depth (feet below TOC): _____

*R = Refill
D = Discharge
P = Pressure

Method of Extraction

- [x] Submersible Pump
- [ ] Dedicated Pump
- [ ] Disposable Bailer
- [ ] Footvalve

Sampling Method:

- [x] Submersible Pump
- [ ] Dedicated Pump
- [ ] Disposable Bailer
- [ ] Footvalve

Pemaco We pling Sheet

OTIE

Casing Volume = _____
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. DAB-07

Sampler(s): MW

Control Settings*: R: 10 D: 5 P: 40

Date: 6-24-2013 Time	Volume Purged (mL)	Flow Rate (mL/min)	Hydro Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	DO	Comments
0900	–	–	51.30	–	–	–	–	–	–	
0910	Initial	200	51.30	18.54	1.14	6.72	225	9.8	10.14	
0915	1000	200	51.30	16.48	1.24	7.44	195	18.6	2.19	
0920	2000	200	51.30	16.30	1.23	7.58	184	21.2	1.66	
0925	3000	200	51.30	16.16	1.23	7.73	171	19.1	1.09	
0930	4000	200	51.31	16.04	1.23	7.79	162	22.0	0.96	
0935	5000	200	51.31	15.99	1.22	7.85	154	14.3	0.64	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: YSWZ5

Sample Date/Time: 6-24-13; ~~1045~~ 0945 MW

1,4-Dioxane? Yes/No

#VOAs 6

QA/QC Samples? None FD MS/MSD

Dup Sample ID N/A

Dup Sample Time N/A

Sample Depth (feet below TOC): _____

Method of Extraction
- [✓] Submersible Pump
- [ ] Dedicated Pump
- [ ] Disposable Bailer
- [ ] Footvalve

Sampling Method:
- [✓] Submersible Pump
- [ ] Dedicated Pump
- [ ] Disposable Bailer
- [ ] Footvalve

*R = Refill
D = Discharge
P = Pressure

Pemaco Wel pling Sheet

OTIE
Oneida Total Integrated Enterprises

Casing Volume = _____
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. DAB-08

Sampler(s): MW

Control Settings*: R: N/A D: — P: —

6/26/13 Time	Volume Purged (mL)	Flow Rate (mL/min)	Aeron Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	DO	Comments
			63.90							YSI
1230	Initial	600	63.95	25.47	1.412	7.36	203.7	6.4	1.30	
1235	3000	600	64.10	22.89	1.316	7.29	210.7	6.3	0.52	
1240	6000	600	64.15	23.21	1.204	7.34	202.5	2.5	0.62	
1245	9000	600	64.14	23.30	1.145	7.35	194.1	1.1	0.98	
1250	12,000	600	64.05	23.35	1.129	7.37	198.3	0.6	1.08	
1255	15,000	600	64.01	23.30	1.122	7.37	200.1	0.4	1.11	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: Y8WZ6

Sample Date/Time: 6/26/13; 1300

1,4-Dioxane? Yes/No

#VOAs 6

QA/QC Samples? None FD MS/MSD

Dup Sample ID N/A

Dup Sample Time N/A

Sample Depth (feet below TOC): see table

*R = Refill
D = Discharge
P = Pressure

Method of Extraction

	Submersible Pump
✓	Dedicated Pump (Extr)
	Disposable Bailer
	Footvalve

Sampling Method:

	Submersible Pump
✓	Dedicated Pump (Extr)
	Disposable Bailer
	Footvalve

Pemaco Wel pling Sheet

OTIE

Casing Volume = _____
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. MW-01-80

Sampler(s): MW

Control Settings*: R: 25 D: N/A 5 P: 45

6/25/13 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	DO	Comments
0800	—	—	70.61	—	—	—	—	—	—	
0806	initial	125	70.65	15.96	1.66	7.67	164	16.6	8.72	
0811	625	125	70.65	14.78	1.78	7.39	168	16.0	6.11	
0816	1250	125	70.64	14.66	1.78	7.32	169	16.6	4.53	
0821	1875	125	70.65	14.49	1.77	7.30	169	18.9	2.14	
0826	2500	125	70.65	14.43	1.77	7.29	168	17.1	1.99	
0831	3125	125	70.65	14.38	1.77	7.29	167	17.2	1.27	
0836	3750	125	70.65	14.38	1.77	7.29	166	17.7	1.12	
0841	4375	125	70.66	14.35	1.77	7.29	165	17.6	0.80	
0846	5000	125	70.65	14.33	1.77	7.29	165	15.9	0.66	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: Y8W27

QA/QC Samples? None FD

Dup Sample ID N/A

Dup Sample Time N/A

Sample Depth (feet below TOC):* _____

*R = Refill
D = Discharge
P = Pressure

Sample Date/Time: 6/25/13; 0850

MS/MSD

1,4-Dioxane? Yes/No/MW

#VOAs ~~7~~ 6

Method of Extraction

	Submersible Pump
✓	Dedicated Pump
	Disposable Bailer
	Footvalve

Sampling Method:

	Submersible Pump
✓	Dedicated Pump
	Disposable Bailer
	Footvalve

* Pump raised 1.9' above TOC

Pemaco Wel pling Sheet

OTIE
Oneida Total Integrated Enterprises

Casing Volume = _____
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. MW-05-85

Sampler(s): [illegible]

Control Settings*: R: ~~[illegible]~~ 25 D: 5 P: ~~[illegible]~~ 45

Date: 6/24/13 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	DO mg/L	Comments
11:10	—	~~[illegible]~~ 200	58.86	—	—	—	—	—		
11:15	1,000	200	59.40	23.31	2.59	6.45	+374	0.5	5.03	
11:20	2,000	200	59.60	23.24	2.76	6.68	+364	Ø	4.86	
11:25	3,000	200	59.68	23.32	2.77	6.79	+360	Ø	4.83	
11:30	4,000	200	59.75	23.40	2.77	6.84	+357	Ø	4.80	
11:35	5,000	200	59.78	23.31	2.77	6.91	+354	Ø	4.78	
11:40	6,000	200	59.80	23.50	2.77	6.93	+352	Ø	4.75	
11:45	7,000	200	59.80	23.51	2.78	6.94	+351	Ø	4.74	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: Y8WZ8

Sample Date/Time: 6/24/13 11:48

1,4-Dioxane? Yes/No

#VOAs 6

QA/QC Samples? None FD MS/MSD

Dup Sample ID Y8WZ9

Dup Sample Time 11:05

Sample Depth (feet below TOC): _____

*R = Refill
D = Discharge
P = Pressure

Method of Extraction

	Submersible Pump
✓	Dedicated Pump
	Disposable Bailer
	Footvalve

Sampling Method:

	Submersible Pump
✓	Dedicated Pump
	Disposable Bailer
	Footvalve

Pemaco Wel pling Sheet

OTIE
Oneida Total Integrated Enterprises

Casing Volume = _____
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. DA-1

Sampler(s): [illegible]

Control Settings*: R: 10 D: 5 P: 50

Date: 6/26/13 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	DO mg/L	Comments
11:25	—	300	61.80	—	—	—	—	—	—	
11:30	1,500	300	62.00	23.45	0.875	6.14	+186.9	27.7	2.36	
11:35	3,000	300	62.02	23.31	0.870	6.11	+187.9	15.6	2.31	
11:40	4,500	300	62.10	23.36	0.870	6.07	+191.7	7.6	2.21	
11:45	6,000	300	62.12	23.36	0.870	6.03	+196.4	8.0	2.12	
11:50	7,500	300	62.15	23.44	0.871	5.99	+202.3	7.0	2.03	
11:55	9,000	300	62.16	23.46	0.872	5.98	+203.1	7.1	2.01	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: Y8X00

QA/QC Samples? None FD

Dup Sample ID Y8X01

Dup Sample Time 11:25

Sample Depth (feet below TOC): _____

*R = Refill
D = Discharge
P = Pressure

Sample Date/Time: 6/26/13 11:57

MS/MSD

1,4-Dioxane? Yes/No

#VOAs ~~6~~ 12

Method of Extraction

✓	Submersible Pump
	Dedicated Pump
	Disposable Bailer
	Footvalve

Sampling Method:

✓	Submersible Pump
	Dedicated Pump
	Disposable Bailer
	Footvalve

Pemaco Wel pling Sheet

OTIE
Oneida Total Integrated Enterprises

Casing Volume = _____
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. DA-2

Sampler(s): TW

Control Settings*: R: NA D: NA P: NA

Date 6/26/13 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	DO. mg/L	Comments
09:35	—	600	58.82	—	—	—	—	—	—	
09:40	3,000	600	58.97	23.29	1.061	7.52	+97.4	21.8	3.18	
09:45	6,000	600	58.99	23.39	1.063	7.60	+100.1	35.5	3.61	
09:50	9,000	600	59.03	23.22	1.059	7.66	+101.1	55.2	3.43	
09:55	12,000	600	59.07	23.20	1.055	7.71	+106.9	57.5	3.41	
10:00	15,000	600	59.15	23.19	1.052	7.73	+110.3	53.6	3.40	
10:25	18,000	600	59.17	23.19	1.051	7.74	+112.5	52.0	3.44	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: ~~18X14~~ 18X02 **Sample Date/Time:** 6/26/13 10:08 1,4-Dioxane? Yes/No #VOAs ~~16~~ 18

QA/QC Samples? ~~None~~ FD MS/MSD TW

Dup Sample ID NA

Dup Sample Time NA

Sample Depth (feet below TOC): _____

*R = Refill
D = Discharge
P = Pressure

Method of Extraction

	Submersible Pump
✓	Dedicated Pump Extraction Pump
	Disposable Bailer
	Footvalve

Sampling Method:

	Submersible Pump
✓	Dedicated Pump Extraction Pump
	Disposable Bailer
	Footvalve

Pemaco We. .pling Sheet

OTIE
Oneida Total Integrated Enterprises

Casing Volume =
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. DA-03

Sampler(s): TW

Control Settings*: R: 10 D: 5 P: 55

Date: 6/24/13 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	D.O. mg/L	Comments
13:10	—	400	57.81	—	—	—	—	—	—	
13:15	2000	400	58.30	23.32	0.955	7.29	+351	Ø	5.56	changed control setting to R25 D5 P55
13:20	3,000	200	58.28	23.58	0.952	7.26	+353	Ø	5.51	
13:25	4,000	200	58.30	23.66	0.957	7.23	+352	Ø	5.43	
13:30	5,000	200	58.29	23.64	0.958	7.23	+351	Ø	5.41	
13:35	6,000	200	58.30	23.62	0.958	7.22	+352	Ø	5.38	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: Y8X03

Sample Date/Time: 6/24/13 13:37

1,4-Dioxane? Yes/No

#VOAs 3

QA/QC Samples? None FD MS/MSD

Dup Sample ID NA

Dup Sample Time NA

Sample Depth (feet below TOC): _____

Method of Extraction
- [x] Submersible Pump
- [ ] Dedicated Pump
- [ ] Disposable Bailer
- [ ] Footvalve

Sampling Method:
- [x] Submersible Pump
- [ ] Dedicated Pump
- [ ] Disposable Bailer
- [ ] Footvalve

*R = Refill
D = Discharge
P = Pressure

Pemaco Wel pling Sheet

OTIE
Oneida Total Integrated Enterprises

Casing Volume = _____
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. DA-7

Sampler(s): MW/IS

Control Settings*: R: 10 D: 5 P: 40

Date: 6/27/13 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	DO	Comments
1042			66.06							Heron, Top of flange cup.
1500			66.15							Solinist, TOC
~~1305~~ 1505	Initial	100	66.35	24.23	0.992	7.40	136.4	5.5	2.89	
~~1310~~ 1510	500	100	66.40	23.99	0.981	7.40	152.2	4.3	2.74	
1515	1000	100	66.45	23.90	0.977	7.40	158.0	6.5	2.68	
1520	1500	100	66.50	23.87	0.976	7.39	162.6	6.7	2.65	
1525	2000	100	66.55	23.82	0.973	7.39	167.3	6.6	2.60	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: Y8X04 **Sample Date/Time:** 6/27/13 1535 1,4-Dioxane? Yes/No #VOAs 3

QA/QC Samples? None FD MS/MSD

Dup Sample ID NA

Dup Sample Time NA

Sample Depth (feet below TOC): _____

Method of Extraction:
- [✓] Submersible Pump
- [ ] Dedicated Pump
- [ ] Disposable Bailer
- [ ] Footvalve

Sampling Method:
- [✓] Submersible Pump
- [ ] Dedicated Pump
- [ ] Disposable Bailer
- [ ] Footvalve

*R = Refill
D = Discharge
P = Pressure

Pemaco We ıpling Sheet

OTIE
Omega Total Integrated Enterprises

Casing Volume =
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. DA-8

Sampler(s): TD

Control Settings*: R: 10 D: 5 P: 60

Date: 6/21/13 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) ~~(mS/cm)~~	pH	ORP (mV)	Turbidity (NTU)	D.O. mg/L	Comments
07:00	—	400	53.98	—						
07:05	2,000	400	54.03	23.70	1.23	7.77	+380	36.4	4.96	
07:10	4,000	400	54.05	23.43	1.25	7.60	+378	36.1	4.97	
07:15	6,000	400	54.00	23.32	1.25	7.64	+375	36.7	4.96	Change out air tank (07:25 restart)
07:30	8,000	400	54:03	23.23	1.26	7.51	+381	63.3	5.12	
07:35	10,000	400	54.09	23.20	1.26	7.45	+381	36.3	5.15	
07:40	12,000	400	54.10	23.16	1.27	7.47	+378	36.9	5.20	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: YBX05

Sample Date/Time: 6/21/13 07:43

1,4-Dioxane? Yes/No

#VOAs 6

QA/QC Samples? None FD MS/MSD

Dup Sample ID NA

Dup Sample Time NA

Sample Depth (feet below TOC): _____

*R = Refill
D = Discharge
P = Pressure

Method of Extraction

✓	Submersible Pump
	Dedicated Pump
	Disposable Bailer
	Footvalve

Sampling Method:

✓	Submersible Pump
	Dedicated Pump
	Disposable Bailer
	Footvalve

Pemaco Wel pling Sheet

OTIE

Casing Volume = _____
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. DA-9

Sampler(s): TP

Control Settings*: R: 10 D: 5 P: 75

Date: 6/20/13 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	D.O. mg/L	Comments
~~15:25~~	~~—~~	~~400~~	~~68.00~~	~~24.11~~	~~0.947~~	~~7.53~~	~~+378~~	~~36.8~~	~~6.78~~	
15:30	2,000	400	68.30	24.11	0.947	7.53	+378	36.8	6.78	
15:35	3,000	200	68.40	23.54	0.965	7.36	+382	36.1	6.89	Change cycle to 25/5/75
15:40	4,000	200	68.50	23.36	0.971	7.44	+376	36.1	6.80	
15:45	5,000	200	68.52	23.35	0.971	7.44	+376	35.8	6.88	
15:50	6,000	200	68.53	23.31	0.972	7.42	+377	36.1	6.84	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: Y8X06

Sample Date/Time: 6/20/13 15:54

1,4-Dioxane? Yes/No

#VOAs 3

QA/QC Samples? None FD MS/MSD

Dup Sample ID _____

Dup Sample Time _____

Sample Depth (feet below TOC): _____

Method of Extraction

- [✓] Submersible Pump
- [ ] Dedicated Pump
- [ ] Disposable Bailer
- [ ] Footvalve

Sampling Method:

- [✓] Submersible Pump
- [ ] Dedicated Pump
- [ ] Disposable Bailer
- [ ] Footvalve

*R = Refill
D = Discharge
P = Pressure

Pemaco We pling Sheet

OTIE
Omaha Total Integrated Enterprises

Casing Volume =
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. DA-12

Sampler(s): MW

Control Settings*: R: 25 D: 5 P: ~~50~~ 30

Date: 6-21-2013 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	DO	Comments
0935	—	—	57.11	—	—	—	—	—		
0950	Initial	100	57.88	18.96	1.35	8.71	97	11.2	5.03	
0955	500	100	57.90	17.90	1.39	8.70	100	11.5	5.00	
1000	1000	100	57.90	17.64	1.40	8.69	104	12.7	4.85	
1005	1500	100	57.89	17.29	1.41	8.68	110	11.1	4.73	
1010	2000	100	57.89	17.28	1.41	8.67	113	10.0	4.70	
1015	2500	100	57.90	17.23	1.40	8.67	114	8.5	4.57	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: 48X07

QA/QC Samples? None MW FD MS/MSD

Dup Sample ID N/A

Dup Sample Time N/A

Sample Depth (feet below TOC):

*R = Refill
D = Discharge
P = Pressure

Sample Date/Time: 6-21-2013; 1020

1,4-Dioxane? Yes/No

#VOAs 9

Method of Extraction

- [✓] Submersible Pump
- [ ] Dedicated Pump
- [ ] Disposable Bailer
- [ ] Footvalve

Sampling Method:

- [✓] Submersible Pump
- [ ] Dedicated Pump
- [ ] Disposable Bailer
- [ ] Footvalve

Pemaco Wel .pling Sheet

OTIE
Oneida Total Integrated Enterprises

Casing Volume = _____
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. MW-07-75

Sampler(s): [illegible]

Control Settings*: R: 10 D: 5 P: 95

Date 6/19/13 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm) S/m	pH	ORP (mV)	Turbidity (NTU)	Comments
10:45	—	400	51.11	~~25.3~~	~~0.115~~	~~7.15~~	~~+154~~	~~Ø~~	~~D.O.=2.46~~
10:50	2000	"	51.25	25.3	0.115	7.15	+154	Ø	DO=2.46
10:55	4000	"	51.27	24.9	0.116	7.18	+153	Ø	2.19
11:00	6000	"	51.27	24.9	0.116	7.19	+153	Ø	2.10
11:05	8000	"	51.28	24.7	0.116	7.20	+152	Ø	2.02
11:10	10,000	"	51.28	24.7	0.116	7.19	+151	Ø	1.98
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs	

Sample ID: Y8X08

QA/QC Samples? None FD

Dup Sample ID Y8X09

Dup Sample Time 10:45

Sample Depth (feet below TOC): _____

*R = Refill
D = Discharge
P = Pressure

Sample Date/Time: 6/19/13 11:15

MS/MSD

1,4-Dioxane? Yes/No

#VOAs 6

Method of Extraction

	Submersible Pump
✓	Dedicated Pump
	Disposable Bailer
	Footvalve

Sampling Method:

	Submersible Pump
✓	Dedicated Pump
	Disposable Bailer
	Footvalve

Pemaco We ıpling Sheet

OTIE
Omaha Total Integrated Enterprises

Casing Volume = _____
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. MW-09-~~75~~ 70 mw

Sampler(s): MW

Control Settings*: R: 25 D: 5 P: 30

Date: 6/24/2013 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	DO	Comments
1103	–	–	60.01	–	–	–	–	–		Well mislabeled "MW-09-75"
1110	Initial	100	60.14	17.59	1.72	8.41	158	37.1	11.44	
1115	500	100	60.14	17.09	1.83	8.00	170	35.2	12.16	
1120	1000	100	60.14	16.87	1.83	7.82	175	31.9	11.23	
1125	1500	100	60.14	16.83	1.84	7.75	179	24.4	10.78	
1130	2000	100	60.19	16.87	1.83	7.73	181	22.8	10.46	
1135	2500	100	60.15	16.84	1.82	7.72	183	24.2	10.31	
1140	3000	100	60.15	16.93	1.82	7.71	183	23.4	10.25	
1145	3500	100	60.15	17.04	1.82	7.71	184	21.2	10.26	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: 18X10

QA/QC Samples? None FD MS/MSD

Dup Sample ID N/A

Dup Sample Time N/A

Sample Depth (feet below TOC): _____

Sample Date/Time: 6/24/13, 1047

1,4-Dioxane? Yes/No

#VOAs 3

Method of Extraction
- [ ] Submersible Pump
- [x] Dedicated Pump
- [ ] Disposable Bailer
- [ ] Footvalve

Sampling Method:
- [ ] Submersible Pump
- [x] Dedicated Pump
- [ ] Disposable Bailer
- [ ] Footvalve

*R = Refill
D = Discharge
P = Pressure

Pemaco Wel pling Sheet

OTIE
Omaha Total Integrated Enterprises

Casing Volume =
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. MW-26-75

Sampler(s): [illegible]

Control Settings*: R: 25 D: 5 P: ~~[illegible]~~ 70

Date 6/20/13 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm) S/m	pH	ORP (mV)	Turbidity (NTU)	D.O. mg/L	Comments
07:40	—	200	65.46							
07:45	1000		65.90	31.2	0.147	5.31	+178	6.6	1.81	Horiba error 2 (sensor lost low)
07:50	2000		65.92	31.1	0.149	5.35	+175	8.0	1.54	
07:55	3000		66.00	31.2	0.149	5.36	+173	7.1	1.50	
08:00	4000		66.02	31.3	0.149	5.37	+173	9.4	1.49	
08:05	4500	100	66.03	30.5	0.150	5.39	+172	8.8	1.69	change to R55, D:5, P:150
08:10	5000		66.01	30.4	0.150	5.39	+172	10.5	1.62	
08:15	5500		66.02	30.4	0.150	5.42	+171	9.1	1.59	
08:20	6000		66.01	30.3	0.150	5.43	+170	11.3	1.61	
										Rusty colored H_2O
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: Y8X11

Sample Date/Time: 6/20/13 08:25

1,4-Dioxane? Yes/No

#VOAs 6

QA/QC Samples? None FD MS/MSD

Dup Sample ID NA

Dup Sample Time N/A

Sample Depth (feet below TOC): _____

*R = Refill
D = Discharge
P = Pressure

Method of Extraction
- [x] Submersible Pump
- [ ] Dedicated Pump
- [ ] Disposable Bailer
- [ ] Footvalve

Sampling Method:
- [x] Submersible Pump
- [ ] Dedicated Pump
- [ ] Disposable Bailer
- [ ] Footvalve

Pemaco Wel pling Sheet

OTIE
Oneida Total Integrated Enterprises

Casing Volume = _____
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. DA-4*

Sampler(s): MW

Control Settings*: R: N/A D: P:

Date: 6/25/13 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	DO	Comments
1345	–	–	61.31	–	–	–	–	–	–	Using YSI
1418	12000	400	62.29	28.37	0.820	8.21	74.4	18.9	2.97	Ran ~ 3 gals prior to flush out system
1425	14000	400	62.41	28.43	~~0.969~~ 0.820 mw	8.41	75.5	21.2	2.91	
1430	16000	400	62.44	28.58	0.825	8.62	77.0	30.2	2.87	
1435	18000	400	62.72	28.70	0.828	8.84	84.6	33.0	2.87	
1440	20000	400	62.78	28.74	0.830	8.87	96.4	31.8	2.88	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: Y8X12

QA/QC Samples? None FD MS/MSD

Dup Sample ID N/A

Dup Sample Time N/A

Sample Depth (feet below TOC): _____

*R = Refill
D = Discharge
P = Pressure

Sample Date/Time: 6/25/13; 1445

1,4-Dioxane? Yes/No

#VOAs 6

Method of Extraction

	Submersible Pump
✓	Dedicated Pump Extr
	Disposable Bailer
	Footvalve

Sampling Method:

	Submersible Pump
✓	Dedicated Pump Extr
	Disposable Bailer
	Footvalve

* Replaces RW-01-75 that is dry

OTIE

Pemaco Wel pling Sheet

OTIE

Casing Volume =
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. DB-1

Sampler(s): TD

Control Settings*: R: NA D: NA P: NA

Date 6/26/13 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	D.O. mg/L	Comments
10:50	–	700	64.00							
10:55	3,500	700	64.02	23.08	1.200	7.07	+151.0	0.1	0.95	
11:00	7,000	700	64.05	23.18	1.199	7.07	+151.5	1.1	0.94	
11:05	10,500	700	64.02	23.24	1.199	7.07	+152.3	1.5	0.94	
11:10	14,000	700	64.00	23.29	1.187	7.07	+154.5	1.5	0.98	
11:15	17,500	700	64.02	23.31	1.186	7.07	+154.4	1.4	0.98	
11:20	21,000	700	64.00	23.31	1.183	7.07	+154.7	1.7	0.99	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: Y8X13 **Sample Date/Time:** 6/26/13 11:22 1,4-Dioxane? Yes/No #VOAs 6

QA/QC Samples? None FD MS/MSD

Dup Sample ID NA

Dup Sample Time NA

Sample Depth (feet below TOC): _____

*R = Refill
D = Discharge
P = Pressure

Method of Extraction

	Submersible Pump
✓	Dedicated Pump Extraction Pump
	Disposable Bailer
	Footvalve

Sampling Method:

	Submersible Pump
✓	Dedicated Pump Extraction Pump
	Disposable Bailer
	Footvalve

Pemaco Wel pling Sheet

OTIE
Oneida Total Integrated Enterprises

Casing Volume = _____
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. DB-2

Sampler(s): [illegible]

Control Settings*: R: 10 D: 5 P: 70

Date: 6/26/13 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	D.O. mg/L	Comments
08:10	—	400	60.70	—						
08:15	2,000	400	61.00	22.33	1.242	7.49	+111.9	16.8	3.73	
08:20	4,000	400	61.08	22.30	1.241	7.48	+112.3	38.8	3.50	
08:25	6,000	400	61.10	22.38	1.242	7.48	+113.8	18.8	3.40	
08:30	8,000	400	61.12	22.38	1.236	7.48	+116.0	15.9	3.38	
08:35	10,000	400	61.12	22.40	1.238	7.47	+117.6	20.1	3.35	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: Y8X14 **Sample Date/Time:** 6/26/13 08:37 1,4-Dioxane? Yes/No #VOAs 12

QA/QC Samples? None FD MS/MSD

Dup Sample ID Y8X15

Dup Sample Time 6/26/13 08:05

Sample Depth (feet below TOC): _____

Method of Extraction
- [x] Submersible Pump
- [ ] Dedicated Pump
- [ ] Disposable Bailer
- [ ] Footvalve

Sampling Method:
- [x] Submersible Pump
- [ ] Dedicated Pump
- [ ] Disposable Bailer
- [ ] Footvalve

*R = Refill
D = Discharge
P = Pressure

Pemaco Wel pling Sheet

OTIE
Oneida Total Integrated Enterprises

Casing Volume = _____
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. DB-03

Sampler(s): TD

Dedicated Extraction Pump

Control Settings*: R: NA D: NA P: NA

Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	D.O. mg/L	Comments
14:15	—	700	59.64	—						
14:20	3,500	700	60.02	24.35	1.32	6.74	+84	Ø	4.17	
14:25	7,000	700	60.15	23.92	1.27	6.74	+98	Ø	4.21	
14:30	10,500	700	60.20	24.07	1.30	6.77	+98	Ø	4.28	
14:35	14,000	700	60.15	23.80	1.29	6.81	+110	Ø	4.39	
14:40	17,500	700	60.15	23.49	1.29	6.74	+129	Ø	4.48	
14:45	21,000	700	60.17	23.59	1.26	6.82	+160	Ø	4.74	
14:50	24,500	700	60.15	23.91	1.21	6.87	+205	Ø	5.12	
14:55	28,000	700	60.19	24.85	1.19	6.90	+222	Ø	4.94	
15:00	31,500	700	60.17	24.78	1.18	6.90	+231	Ø	4.99	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: Y8X16 **Sample Date/Time:** 6/24/13 15:03 1,4-Dioxane? Yes/No #VOAs 3

QA/QC Samples? None FD MS/MSD

Dup Sample ID NA

Dup Sample Time NA

Sample Depth (feet below TOC): _____

*R = Refill
D = Discharge
P = Pressure

Method of Extraction

	Submersible Pump
✓	Dedicated Pump extraction pump
	Disposable Bailer
	Footvalve

Sampling Method:

	Submersible Pump
✓	Dedicated Pump Extraction Pump
	Disposable Bailer
	Footvalve

Pemaco Wel .pling Sheet

OTIE
Oneida Total Integrated Enterprises

Casing Volume = _____
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. DB-4

Sampler(s): MW

Control Settings*: R: D: P:

6/25/13 Time	Volume Purged (mL)	Flow Rate (mL/min)	Heron Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	RDO	Comments
1340	–	–	63.11	–	–	–	–	–		Using YSI ProonFEI
1349	8000	700	63.21	28.90	~~1.053~~ 1.124 mS	7.40	-32.8	96.2	5.70	milky
1351	9400	700	63.46	28.86	1.105	7.42	-33.5	52.9	6.05	
1353	10800	700	63.58	28.86	1.072	7.43	-2.2	66.3	6.83	
1355	12200	700	63.51	28.79	1.029	7.45	17.8	46.6	6.61	
1357	13600	700	63.37	28.79	1.005	7.45	31.9	36.5	6.17	
1359	15000	700	63.60	28.78	0.997	7.46	44.7	27.5	6.80	
1401	16400	700	63.71	28.79	0.995	7.	64.5	35.0	7.06	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: Y8X17

Sample Date/Time: 6/25/13; 1405

1,4-Dioxane? Yes/No

#VOAs 3

QA/QC Samples? None FD MS/MSD

Dup Sample ID _____

Dup Sample Time _____

Sample Depth (feet below TOC): _____

*R = Refill
D = Discharge
P = Pressure

Method of Extraction

- [ ] Submersible Pump
- [x] Dedicated Pump Exter
- [ ] Disposable Bailer
- [ ] Footvalve

Sampling Method:

- [ ] Submersible Pump
- [x] Dedicated Pump Exter
- [ ] Disposable Bailer
- [ ] Footvalve

Pemaco We[illegible] [illegible]pling Sheet

OTIE
Oneida Total Integrated Enterprises

Casing Volume = _____
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. DB-7

Sampler(s): MW/IS

Control Settings*: R: D: P:

Date 6/27/13 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	DO	Comments
1123			67.95							
1518			68.91							Heron Top of flange cap
1541			67.63							Heron. TOC
1552	initial	70	67.70							
1557	350	70	67.75	25.52	1.246	7.25	169.4	32.6	4.33	
1602	700	70	67.80	25.15	1.235	7.23	179.1	29.5	4.09	
1607	1050	70	67.80	24.97	1.230	7.20	183.4	27.8	3.97	
1612	1400	70	67.80	24.84	1.226	7.18	186.4	22.1	3.93	
1617	1750	70	67.80	24.73	1.223	7.15	189.8	26.4	3.87	
1622	2100	70	67.80	24.76	1.224	7.14	192.2	23.3	3.83	
1627	2450	70	67.80	24.70	1.223	7.12	195.9	24.2	3.79	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: Y8X18

Sample Date/Time: 6/27/13 1631

1,4-Dioxane? Yes/No

#VOAs 3

QA/QC Samples? None FD MS/MSD

Dup Sample ID NA

Dup Sample Time NA

Sample Depth (feet below TOC): _____

*R = Refill
D = Discharge
P = Pressure

Method of Extraction

✓	Submersible Pump
	Dedicated Pump
	Disposable Bailer
	Footvalve

Sampling Method:

✓	Submersible Pump
	Dedicated Pump
	Disposable Bailer
	Footvalve

Pemaco We ıpling Sheet

OTIE

Casing Volume = _____
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. DB-06*

Sampler(s): MW

Control Settings*: R: 10 D: 5 P: 50

Date: 6-26-13 Time	Volume Purged (mL)	Flow Rate (mL/min)	Heron Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	DO	Comments
0800	–	–	58.98	–	–					
0813	Initial	125		21.82	1.012	7.54	159.6	8.7	5.07	
~~0815~~ 0817	500	125	59.90	21.87	1.013	7.54	160.3	13.6 ~~7.97~~	4.97	
0821	1000	125	59.90	21.88	1.013	7.53	160.5	13.0	4.93	
0825	1500	125	59.90	21.91	1.012	7.53	161.4	15.8	4.76	
0829	2000	125	59.90	21.95	1.013	7.52	162.7	32.2	4.57	
0833	2500	125	59.90	21.97	1.014	7.52	163.3	38.7	4.51	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: Y8X19

Sample Date/Time: 6/26/13; ~~0832~~ 0835 MW

1,4-Dioxane? Yes/No

#VOAs 6

QA/QC Samples? None FD MS/MSD

Dup Sample ID N/A

Dup Sample Time N/A

Sample Depth (feet below TOC): _____

*R = Refill
D = Discharge
P = Pressure

Method of Extraction

✓	Submersible Pump
	Dedicated Pump
	Disposable Bailer
	Footvalve

Sampling Method:

✓	Submersible Pump
	Dedicated Pump
	Disposable Bailer
	Footvalve

*Replacement for DB-08 (dry)

OTIE

Pemaco We ıpling Sheet

OTIE

Casing Volume = _____
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. DB-9

Sampler(s): TO

Control Settings*: R: 10 D: 5 P: 70

Date 6/20/13 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	D.O. mg/L	Comments
14:25	—	400	71.40	—	—	—	—	—	—	
14:30	2,000	400	71.55	23.53	1.20	7.82	+355	35.8	4.38	
14:35	4,000	400	71.55	23.36	1.19	7.70	+343	36.4	4.32	
14:40	6,000	400	71.56	23.28	1.21	7.70	+342	36.8	4.33	
14:45	8,000	400	71.56	23.21	1.22	7.68	+340	36.6	4.33	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: Y8X2Ø **Sample Date/Time:** 6/20/13 14:48 1,4-Dioxane? Yes/No #VOAs 3

QA/QC Samples? None FD MS/MSD

Dup Sample ID NA

Dup Sample Time NA

Sample Depth (feet below TOC): _____

*R = Refill
D = Discharge
P = Pressure

Method of Extraction
- [✓] Submersible Pump
- [ ] Dedicated Pump
- [ ] Disposable Bailer
- [ ] Footvalve

Sampling Method:
- [✓] Submersible Pump
- [ ] Dedicated Pump
- [ ] Disposable Bailer
- [ ] Footvalve

Pemaco We ıpling Sheet

OTIE

Casing Volume = _____
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. DR-10

Sampler(s): MW

Control Settings*: R: 70 D: 5 P: 50

Date: 6-20-2013 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	DO	Comments
0715	–	–	70.33	–	–	–	–	–		
0742	1000	300	70.35	20.78	1.17	9.02	-166	22.8	1.06	
0749										Pause to change out CO_2 tank
0750	3400	200	70.35	19.78	1.18	8.96	-164	23.7	1.30	
0755	4400	200	70.35	20.40	1.18	8.92	-192	0.0	0.70	
0800	5400	200	70.35	20.70	1.18	8.92	-205	0.0	0.62	
0805	6400	200	70.35	20.74	1.19	8.92	-207	0.0	0.60	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: Y8X21

Sample Date/Time: 0807, 6-20-2013

1,4-Dioxane? Yes/No

#VOAs 6

QA/QC Samples? None FD MS/MSD

Dup Sample ID N/A

Dup Sample Time N/A

Sample Depth (feet below TOC): _____

*R = Refill
D = Discharge
P = Pressure

Method of Extraction

✓	Submersible Pump
	Dedicated Pump
	Disposable Bailer
	Footvalve

Sampling Method:

✓	Submersible Pump
	Dedicated Pump
	Disposable Bailer
	Footvalve

Pemaco We ıpling Sheet

OTIE

Casing Volume = _____
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. DB-11

Sampler(s): TD

Control Settings*: R: D: P:

6/21/13 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	DO mg/L	Comments
09:00	—	700	64.90	27.88	1.39	7.47	+144	34.0	3.96	
09:05	3500	700	65.50	27.76	1.39	7.48	+134	34.5	3.99	
09:10	7000	700	65.45	27.68	1.39	7.56	+126	34.1	4.03	
09:15	10,500	700	65.47	27.64	1.38	7.60	+137	36.0	4.06	
09:20	14,000	700	65.44	27.66	1.37	7.59	+140	36.4	4.08	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: ~~DB-11~~ Y8XZZ **Sample Date/Time:** 6/21/13 09:24 1,4-Dioxane? Yes/No #VOAs 6

QA/QC Samples? None FD MS/MSD

Dup Sample ID NA

Dup Sample Time NA

Sample Depth (feet below TOC): _____

*R = Refill
D = Discharge
P = Pressure

Method of Extraction

	Submersible Pump
✓	Dedicated Pump Extraction pump
	Disposable Bailer
	Footvalve

Sampling Method:

	Submersible Pump
✓	Dedicated Pump Extraction Pump
	Disposable Bailer
	Footvalve

Pemaco We pling Sheet

OTIE
Oneida Total Integrated Enterprises

Casing Volume = _____
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. DB-12

Sampler(s): MW

Control Settings*: R: N/A D: N/A P: N/A

6/21/13 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	DO	Comments
1021	5000	900		16.35	1.42	8.54	31	30.0	2.39	
1023	6800	900		16.22	1.42	8.53	32	24.7	2.29	
1025	8600	900		16.20	1.41	8.54	35	28.4	2.25	
1027	10400	900		16.19	1.40	8.54	39	29.3	2.26	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: YSX23

Sample Date/Time: 6-21-13 - 1030

1,4-Dioxane? Yes/No

#VOAs _____

QA/QC Samples? None FD MS/MSD

Dup Sample ID N/A

Dup Sample Time N/A

Sample Depth (feet below TOC): _____

*R = Refill
D = Discharge
P = Pressure

Method of Extraction

	Submersible Pump
✓	Dedicated Pump (Extraction)
	Disposable Bailer
	Footvalve

Sampling Method:

	Submersible Pump
✓	Dedicated Pump (Extraction)
	Disposable Bailer
	Footvalve

Pemaco Wel pling Sheet

OTIE

Casing Volume =
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW = 85 64

Well No. MW-6-85

Sampler(s): MW

Control Settings*: R: 10 D: 5 P: 45

Date: 6/24/2013 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	DO	Comments
1430	—	—	63.41	—	—	—	—	—	—	
1437	Initial	400	63.75	19.76	1.43	7.84	151	12.3	11.49	
1442	2000	400	64.00	18.22	1.59	7.43	141	13.1	11.64	
1447	~~40~~ 4000	400	64.31	17.19	1.66	7.33	16	19.8	10.68	Lowered flow rate to 200 ml/min
1452	5000	200	64.11	17.55	1.67	7.34	5	24.5	9.94	
1457	6000	200	64.10	17.52	1.67	7.35	1	26.6	9.61	
1502	7000	200	64.02	17.32	1.67	7.35	0	28.9	9.26	
1507	8000	200	64.02	17.54	1.66	7.35	-2	25.3	8.82	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: Y8X24

Sample Date/Time: 6/24/13; 1510

1,4-Dioxane? Yes/No

#VOAs 3

QA/QC Samples? None FD MS/MSD

Dup Sample ID N/A

Dup Sample Time N/A

Sample Depth (feet below TOC):

*R = Refill
D = Discharge
P = Pressure

Method of Extraction

- [ ] Submersible Pump
- [x] Dedicated Pump
- [ ] Disposable Bailer
- [ ] Footvalve

Sampling Method:

- [ ] Submersible Pump
- [x] Dedicated Pump
- [ ] Disposable Bailer
- [ ] Footvalve

Pemaco Wel pling Sheet

OTIE
Oneida Total Integrated Enterprises

Casing Volume = _____
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. MW-08-85

Sampler(s): [illegible]

Control Settings*: R: ~~10~~ 25 D: 5 P: 45

Date: 6/24/13 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	DO mg/L	Comments
15:15	—	200	60.90							
15:20	1,000	200	61.50	25.21	1.47	6.68	-11	Ø	4.01	
15:25	2,000	200	61.50	25.44	1.48	6.67	-35	Ø	3.88	
15:30	3,000	200	61.50	25.45	1.50	6.70	-46	Ø	3.83	
15:35	4,000	200	61.49	25.05	1.53	6.75	-52	Ø	3.87	
15:40	5,000	200	61.50	24.77	1.54	6.76	-57	Ø	3.87	
15:45	6,000	200	61.50	24.65	1.55	6.75	-60	Ø	3.86	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: Y8X25 **Sample Date/Time:** 6/24/13 15:47 1,4-Dioxane? Yes/No #VOAs 3

QA/QC Samples? None FD MS/MSD

Dup Sample ID NA

Dup Sample Time NA

Sample Depth (feet below TOC): _____

*R = Refill
D = Discharge
P = Pressure

Method of Extraction
- [ ] Submersible Pump
- [x] Dedicated Pump
- [ ] Disposable Bailer
- [ ] Footvalve

Sampling Method:
- [ ] Submersible Pump
- [x] Dedicated Pump
- [ ] Disposable Bailer
- [ ] Footvalve

Pemaco We .pling Sheet

OTIE

Casing Volume = _____
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. MW-09-85

Sampler(s): MW

Control Settings*: R: 10 D: 5 P: 40

Date: 6/24/2013 Time	Volume Purged (mL)	Flow Rate (mL/min)	Heron, Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) ~~(mS/cm)~~ ~~(S/cm)~~	pH	ORP (mV)	Turbidity (NTU)	DO	Comments
1148	—	—	62.69	—	—	—	—	—	—	No bolts
1150	Initial	400	63.00	16.16	1.71	7.47	15	31.5	8.69	
1155	2000	400	63.20	15.38	1.68	7.30	-98	36.7	0.75	
1200	4000	400	63.30	15.85	1.66	7.33	-109	35.9	0.65	
1205	6000	400	63.25	15.87	1.66	7.35	-113	37.5	0.59	
1210	8000	400	63.28	15.88	1.64	7.39	-116	36.9	0.36	
1215	1000	400	63.25	15.89	1.63	7.41	-116	37.0	0.34	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: Y8x26

Sample Date/Time: 6/24/2013; 1217

1,4-Dioxane? Yes/No

#VOAs 3

QA/QC Samples? None FD MS/MSD

Dup Sample ID N/A

Dup Sample Time N/A

Sample Depth (feet below TOC): _____

Method of Extraction

- [ ] Submersible Pump
- [x] Dedicated Pump
- [ ] Disposable Bailer
- [ ] Footvalve

Sampling Method:

- [ ] Submersible Pump
- [x] Dedicated Pump
- [ ] Disposable Bailer
- [ ] Footvalve

*R = Refill
D = Discharge
P = Pressure

Pemaco Wel pling Sheet

OTIE

Casing Volume = _____
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. MW-10-90

Sampler(s): MW

Control Settings*: R: 10 D: 5 P: 40

Date: 6/25/2013 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	DO	Comments
1100	–	–	68.84	–	–	–	–	–	–	
1103	Initial	200	68.91	18.10	1.82	6.93	23	35.1	8.31	
1108	1000	200	68.90	15.38	1.26	7.63	27	42.4	5.76	
1113	2000	200	68.91	15.91	1.26	7.62	28	42.5	4.33	
1118	3000	200	68.91	15.49	1.26	7.68	27	41.3	3.38	
1123	4000	200	68.91	15.31	1.26	7.72	22	41.4	2.40	
1128	5000	200	68.91	15.22	1.25	7.76	18	33.3	1.56	
1133	6000	200	68.91	15.17	1.26	7.77	15	28.2	1.34	
1138	7000	200	68.91	15.14	1.25	7.78	13	4.9	0.98	
1143	8000	200	68.91	15.16	1.25	7.79	12	4.9	0.94	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: Y8X27

QA/QC Samples? None FD

Dup Sample ID N/A

Dup Sample Time N/A

Sample Depth (feet below TOC): _____

*R = Refill
D = Discharge
P = Pressure

Sample Date/Time: 6/25/13; 1145

MS/MSD

1,4-Dioxane? Yes/No

#VOAs 3

Method of Extraction

	Submersible Pump
✓	Dedicated Pump
	Disposable Bailer
	Footvalve

Sampling Method:

	Submersible Pump
✓	Dedicated Pump
	Disposable Bailer
	Footvalve

Pemaco We pling Sheet

OTIE

Casing Volume =
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. MW-12-90

Sampler(s): TW

Control Settings*: R: 25 D: 5 P: 50

Date: 6/25/13 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	D.O. mg/L	Comments
10:45	—	200	66.70	—						
10:50	1000	200	67.00	23.17	1.23	6.72	+79	Ø	4.44	
10:55	2,000	200	67.09	23.41	1.22	6.82	+1	Ø	4.08	
11:00	3,000	200	67.05	23.57	1.21	6.89	-25	Ø	3.93	
11:05	4,000	200	67.00	23.57	1.21	6.93	-35	Ø	3.89	
11:10	5,000	200	66.96	23.20	1.22	6.95	-43	Ø	3.90	
11:15	6,000	200	67.00	23.07	1.22	6.98	-49	Ø	3.88	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: Y8X28 **Sample Date/Time:** 6/25/13 11:18 1,4-Dioxane? Yes No #VOAs 3

QA/QC Samples? None FD MS/MSD

Dup Sample ID NA

Dup Sample Time NA

Sample Depth (feet below TOC): _____

*R = Refill
D = Discharge
P = Pressure

Method of Extraction

	Submersible Pump
✓	Dedicated Pump
	Disposable Bailer
	Footvalve

Sampling Method:

	Submersible Pump
✓	Dedicated Pump
	Disposable Bailer
	Footvalve

Pemaco Wel pling Sheet

OTIE

Casing Volume =
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. MW-13-85

Sampler(s): TW

Control Settings*: R: 10 D: 5 P: 50

Date: 6/24/13 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	D.O. mg/L	Comments
09:05	—	400	57.37	—						
09:10	2,000	400	57.45	24.13	1.28	5.88	+330	∅	4.01	
09:15	4,000	400	57.87	23.89	1.26	6.04	+269	∅	3.86	
09:20	5,000	200	57.85	24.06	1.26	6.15	+217	∅	3.81	change control setting to R:25 D:10 P:50
09:25	6,000	200	57.86	24.05	1.25	6.27	+186	∅	3.79	
09:30	7,000	200	57.85	24.06	1.25	6.27	+176	∅	3.77	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: Y8X29

Sample Date/Time: 6/24/13 09:33

1,4-Dioxane? Yes/No

#VOAs 3

QA/QC Samples? None FD MS/MSD

Dup Sample ID NA

Dup Sample Time NA

Sample Depth (feet below TOC): _____

*R = Refill
D = Discharge
P = Pressure

Method of Extraction

	Submersible Pump
✓	Dedicated Pump
	Disposable Bailer
	Footvalve

Sampling Method:

	Submersible Pump
✓	Dedicated Pump
	Disposable Bailer
	Footvalve

Pemaco We .pling Sheet

OTIE

Casing Volume = _____
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. MW-20-80/85

Sampler(s): TW

Control Settings*: R: 25 D: 5 P:

Date: 6/27/13 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet ~~toc~~) TW	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	DO mg/L	Comments
11:10	–	200	~~64.84~~	–						
11:15	1,000	200	64.95	23.10	1.014	6.83	-171.3	49.3	1.11	
11:20	2,000	200	65.00	23.06	1.020	6.86	-188.1	88.8	0.95	
11:25	3,000	200	65.02	23.11	0.977	6.87	-192.6	77.4	0.90	
11:30	4,000	200	64.80	23.11	0.975	6.88	-194.2	32.0	0.91	Replaced air tank
11:40	5,000	200	64.60	23.90	0.993	6.88	-196.6	42.2	0.90	
11:45	6,000	200	65.00	23.27	0.981	6.87	-201.5	51.0	0.96	
11:50	7,000	200	65.00	23.12	0.976	6.86	-206.8	43.5	0.98	
11:55	8,000	200	65.02	22.97	0.972	6.86	-209.3	53.7	0.90	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: Y8X30

Sample Date/Time: 6/27/13 11:58

1,4-Dioxane? Yes/No

#VOAs 6

QA/QC Samples? None FD MS/MSD

Dup Sample ID NA

Dup Sample Time NA

Sample Depth (feet below TOC): _____

*R = Refill
D = Discharge
P = Pressure

Method of Extraction

- [x] Submersible Pump
- [x] ~~Dedicated Pump~~ TW
- [ ] Disposable Bailer
- [ ] Footvalve

Sampling Method:

- [x] Submersible Pump
- [x] ~~Dedicated Pump~~ TW
- [ ] Disposable Bailer
- [ ] Footvalve

Pemaco We. .pling Sheet

OTIE
Omaha Total Integrated Enterprises

Casing Volume = _____
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. MW-21-90

Sampler(s): [illegible]

Control Settings*: R: 10 D: 5 P: 135

Date: 6/19/13 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm) S/m	pH	ORP (mV)	Turbidity (NTU)	D.O. mg/L	Comments
13:55	—	400	71.20	~~24.5~~	~~0.154~~	~~7.08~~	~~+193~~	~~11.7~~	~~2.38~~	
14:00	2000	"	71.34	24.5	0.154	7.08	+193	11.7	2.38	
14:05	4000	"	71.31	24.5	0.154	7.05	+190	11.1	1.96	
14:10	6000	"	71.33	24.5	0.153	7.02	+186	10.2	1.78	
14:15	8000	"	71.33	24.4	0.153	7.01	+181	11.3	1.68	
14:20	10,000	"	71.33	24.4	0.153	7.00	+181	10.3	1.68	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: Y8X31 **Sample Date/Time:** 6/19/13 14:23 1,4-Dioxane? Yes/No #VOAs 6

QA/QC Samples? None FD MS/MSD

Dup Sample ID NA

Dup Sample Time NA

Sample Depth (feet below TOC): _____

*R = Refill
D = Discharge
P = Pressure

Method of Extraction

	Submersible Pump
✓	Dedicated Pump
	Disposable Bailer
	Footvalve

Sampling Method:

	Submersible Pump
✓	Dedicated Pump
	Disposable Bailer
	Footvalve

Pemaco Wel pling Sheet

OTIE
Oneida Total Integrated Enterprises

Casing Volume =
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. MW-22-90

Sampler(s): MW

Control Settings*: R: 25 D: 5 P: 60

Date: 6-19-2013 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	DO	Comments
1410		~~3~~	74.21							
1415	Initial	300	74.55	16.98	1.44	8.37	114	0.0	5.00	
1420	1500		74.60	15.88	1.45	8.05	29	3.7	1.01	
1425	3000		74.49	15.43	1.47	8.22	29	0.00	0.01	
1430	4500		74.52	15.30	1.47	8.27	39	0.0	0.00	
1435	6000		74.55	15.29	1.47	8.31	45	0.0	0.00	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: 78X32

Sample Date/Time: 6-19-2013; 1440

1,4-Dioxane? Yes/No

#VOAs 6

QA/QC Samples? None FD MS/MSD

Dup Sample ID N/A

Dup Sample Time N/A

Sample Depth (feet below TOC):

*R = Refill
D = Discharge
P = Pressure

Method of Extraction

	Submersible Pump
✓	Dedicated Pump
	Disposable Bailer
	Footvalve

Sampling Method:

	Submersible Pump
✓	Dedicated Pump
	Disposable Bailer
	Footvalve

Pemaco We ıpling Sheet

OTIE

Casing Volume = _____
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. MW-26-90

Sampler(s): TD

Control Settings*: R: 25 D: 5 P: ~~TBD~~ TD 70

Date: 6/20/13 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm) S/m	pH	ORP (mV)	Turbidity (NTU)	D.O mg/L	Comments
08:50	—	200	68.84	—						
08:55	1,000	"	69.04	28.50	0.128	6.75	+69	10.1	4.06	
09:00	2,000	"	69.06	28.7	0.128	6.95	+74	11.7	2.98	
09:05	3,000	"	69.07	28.8	0.128	7.00	+73	13.0	2.90	
09:10	4,000	"	69.05	28.6	0.128	7.06	+74	13.0	2.70	
09:15	5,000	"	69.05	28.2	0.129	7.07	+74	12.9	2.69	
09:20	6,000	"	69.05	28.3	0.129	7.07	+75	9.7	2.66	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: Y8X33 **Sample Date/Time:** 6/20/13 09:25 1,4-Dioxane? Yes/No #VOAs 3

QA/QC Samples? None FD MS/MSD

Dup Sample ID NA

Dup Sample Time NA

Sample Depth (feet below TOC): _____

*R = Refill
D = Discharge
P = Pressure

Method of Extraction

	Submersible Pump
✓	Dedicated Pump
	Disposable Bailer
	Footvalve

Sampling Method:

	Submersible Pump
✓	Dedicated Pump
	Disposable Bailer
	Footvalve

Pemaco We pling Sheet

OTIE

Casing Volume =
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. MW-28-90

Sampler(s): VV

Control Settings*: R: 25 D: 5 P: ~~150~~ 70

Date 6/20/13 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) ~~(S/cm)~~	pH	ORP (mV)	Turbidity (NTU)	D.O. mg/L	Comments
10:45	—	200	68.09							Replacement Horiba (Rental)
10:50	1,000	200	68.34	29.05	1.36	8.18	+22	0.2	3.62	Rusty colored H_2O
10:55	3,000	400	68.45	28.52	1.33	7.88	-12	0.0	3.61	Change cycle to R:10, D:5, P:150
~~10~~ 11:00	5,000	400	68.50	28.34	1.32	7.75	-34	0.0	3.48	
11:05	7,000	400	68.52	28.30	1.32	7.70	-36	0.0	3.47	
11:10	9,000	400	68.53	28.23	1.32	7.65	-47	0.0	3.44	
11:15	11,000	400	68.53	28.20	1.31	7.62	-83	0.0	3.41	
11:20	13,000	400	68.53	28.24	1.31	7.58	-85	0.0	3.40	
11:25	15,000	400	68.53	28.19	1.31	7.59	-87	0.0	3.40	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: YBX34 **Sample Date/Time:** 6/20/13 11:27 1,4-Dioxane? Yes/No #VOAs 3

QA/QC Samples? None FD MS/MSD

Dup Sample ID NA

Dup Sample Time NA

Sample Depth (feet below TOC):

*R = Refill
D = Discharge
P = Pressure

Method of Extraction

- [✓] Submersible Pump
- [ ] Dedicated Pump
- [ ] Disposable Bailer
- [ ] Footvalve

Sampling Method:

- [✓] Submersible Pump
- [ ] Dedicated Pump
- [ ] Disposable Bailer
- [ ] Footvalve

Pemaco We ,pling Sheet

OTIE

Casing Volume =
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. MW-29-90 85/

Sampler(s): MW

Control Settings*: R: 10 D: 5 P: 40

Date: 6-21-2013 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	DO	Comments
0715	—	—	65.45	—	—	—	—	—		
0749	Initial	200		22.02	0.798	7.47	-51	0.0	1.93	
0754	1000	200	65.58	22.19	0.817	7.20	-55	0.0	1.05	
0759	2000	200	~~55~~ 65.58	22.19	0.825	7.06	-62	0.0	0.63	
0804	3000	200	65.61	22.17	0.826	7.00	-68	0.0	0.67	
0809	4000	200	65.63	22.16	0.826	6.98	-69	0.0	0.71	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: YSX35

Sample Date/Time: 6-21-2013; 0815

1,4-Dioxane? Yes/No

#VOAs 3

QA/QC Samples? None FD MS/MSD

Dup Sample ID N/A

Dup Sample Time N/A

Sample Depth (feet below TOC):

*R = Refill
D = Discharge
P = Pressure

Method of Extraction

- [✓] Submersible Pump
- [ ] Dedicated Pump
- [ ] Disposable Bailer
- [ ] Footvalve

Sampling Method:

- [✓] Submersible Pump
- [ ] Dedicated Pump
- [ ] Disposable Bailer
- [ ] Footvalve

Pemaco Well S .ng Sheet

OTIE
Oneida Total Integrated Enterprises

Casing Volume = _____
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. MW-33-90

Sampler(s): TD

Control Settings*: R: 10 D: 5 P: 80

Date 6/27/13 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	D.O. mg/L	Comments
14:15	—	400	69.94	—	—	—	—	—	—	
14:20	2,000	400	70.32	31.47	1.352	7.15	+9.8	37.4	0.64	
14:25	4,000	400	70.34	31.42	1.353	7.17	+20.9	24.4	0.63	
14:30	6,000	400	70.35	31.37	1.359	7.19	+24.7	18.3	0.60	
14:35	8,000	400	70.34	31.36	1.362	7.18	+30.3	15.4	0.64	
14:40	10,000	400	70.34	31.38	1.365	7.18	+35.1	11.5	0.61	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: Y8X36 **Sample Date/Time:** 6/27/13 14:43 1,4-Dioxane? Yes/No #VOAs 3

QA/QC Samples? None FD MS/MSD

Dup Sample ID NA

Dup Sample Time NA

Sample Depth (feet below TOC): _____

*R = Refill
D = Discharge
P = Pressure

Method of Extraction
- [x] Submersible Pump
- [ ] Dedicated Pump
- [ ] Disposable Bailer
- [ ] Footvalve

Sampling Method:
- [x] Submersible Pump
- [ ] Dedicated Pump
- [ ] Disposable Bailer
- [ ] Footvalve

Pemaco Wel pling Sheet

OTIE

Casing Volume = _____
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. RW-01-95

Sampler(s): MW

Control Settings*: R: 10 D: 5 P: 40

Date: 6-20-2013 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	DO	Comments
0943	–	–	68.62	–	–	–	–	–		
0945	Initial	200		24.79	1.36	8.86	~~0.1 mv~~ 210	5.9	7.72	
0950	1000	200	68.78	25.77	1.39	8.34	208	6.9	5.50	
0955	2000	200	68.79	26.03	1.40	8.02	207	2.8	4.38	
1000	3000	200	68.79	26.85	1.41	7.92	198	5.7	2.12	
1005	4000	200	68.80	27.28	1.41	8.08	185	2.2	1.24	
1010	5000	200	68.82	27.22	1.41	8.25	177	1.4	0.93	
1015	6000	200	68.84	27.26	1.40	8.33	172	6.5	0.81	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: _____

QA/QC Samples? None FD MS/MSD

Dup Sample ID _____

Dup Sample Time _____

Sample Depth (feet below TOC): _____

*R = Refill
D = Discharge
P = Pressure

Sample Date/Time: 6/20/13; 1020

1,4-Dioxane? Yes/No

#VOAs ~~6~~ 18

Method of Extraction

	Submersible Pump
✓	Dedicated Pump
	Disposable Bailer
	Footvalve

Sampling Method:

	Submersible Pump
✓	Dedicated Pump
	Disposable Bailer
	Footvalve

Pemaco We ıpling Sheet

OTIE
Oneida Total Integrated Enterprises

Casing Volume =
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. MW-05-105

Sampler(s): [illegible]

Control Settings*: R: 25 D: 5 P: 65

Date: 6/27/13 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	DO mg/L	Comments
07:55	—	100	93.49	—						
08:00	500	100	93.55	22.37	1.168	5.91	+206.0	153.7	0.83	
08:05	1,000	100	93.55	22.50	1.172	6.13	+195.2	140.3	0.92	
08:10	1,500	100	93.55	22.59	1.171	6.40	+181.9	143.9	0.98	
08:15	2,500	200	93.60	22.53	1.166	6.70	+168.6	136.9	0.96	change controller setting to 10/5/65
08:20	3,500	200	93.61	22.50	1.158	7.05	+151.6	134.9	0.86	
08:25	4,500	200	93.63	22.53	1.155	7.17	+142.6	111.1	0.83	
08:30	5,500	200	93.64	22.55	1.154	7.21	+137.9	97.0	0.81	
08:35	6,500	200	93.62	22.54	1.154	7.22	+135.4	85.9	0.79	
08:40	7,500	200	93.63	22.54	1.153	7.23	+133.0	75.0	0.78	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: Y8X38 **Sample Date/Time:** 6/27/13 08:43 1,4-Dioxane? Yes/No #VOAs 6

QA/QC Samples? None FD MS/MSD

Dup Sample ID Y8X39

Dup Sample Time 07:50

Sample Depth (feet below TOC): _____

*R = Refill
D = Discharge
P = Pressure

Method of Extraction

✓	Submersible Pump
	Dedicated Pump
	Disposable Bailer
	Footvalve

Sampling Method:

✓	Submersible Pump
	Dedicated Pump
	Disposable Bailer
	Footvalve

Pemaco Wel pling Sheet

OTIE
Oneida Total Integrated Enterprises

Casing Volume = _____
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. MW-10-110

Sampler(s): TW

Control Settings*: R: 25 D: 5 P: 65

Date: 6/25/13 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	DO mg/L	Comments
11:50	—	200	94.87	—						
11:55	1,000	200	95.07	23.47	1.16	7.14	+224	Ø	5.63	
12:00	2,000	200	95.78	23.18	1.22	6.97	+88	Ø	4.56	
12:05	2,500	100	96.00	23.13	1.23	6.97	+16	Ø	4.34	change control setting to R55/D5/P65
12:10	3500	100	96.15	23.73	1.23	6.94	-8	Ø	4.22	
12:15	4000	30	96.22	23.87	1.23	6.97	-15	Ø	4.20	change to R57/D3/P65
12:20	4030	30	96.18	24.42	1.23	6.98	-16	Ø	4.16	
12:25	4060	30	96.14	24.75	1.23	6.98	-15	Ø	4.13	
12:30	4090	30	96.11	24.89	1.23	6.99	-14	Ø	4.13	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: Y8X40 **Sample Date/Time:** 6/25/13 12:32 1,4-Dioxane? Yes (No) #VOAs 3

QA/QC Samples? (None) FD MS/MSD

Dup Sample ID NA

Dup Sample Time NA

Sample Depth (feet below TOC): _____

*R = Refill
D = Discharge
P = Pressure

Method of Extraction

	Submersible Pump
✓	Dedicated Pump
	Disposable Bailer
	Footvalve

Sampling Method:

	Submersible Pump
✓	Dedicated Pump
	Disposable Bailer
	Footvalve

Pemaco We' .pling Sheet

OTIE
Oneida Total Integrated Enterprises

Casing Volume = _____
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. MW-11-100

Sampler(s): TD

Control Settings*: R: 25 D: 5 P: 10 5

Date 6/19/13 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm) S/m	pH	ORP (mV)	Turbidity (NTU)	Comments
09:50	—	400	91.80			~~6.68~~			controler settings rate = ~~[illegible]~~ 10/5/130
09:55	2000	200	92.95	24.6	0.153	6.68	+182	Ø	DO = 1.20 mg/L rate R 25/D5/130
10:00	3000	↓	91.75	24.3	0.155	6.71	+191	12	DO = 0.89 mg/L
10:05	4000		91.85	24.3	0.155	6.71	+191	0	0.90
10:10	5000	↓	91.87	24.3	0.154	6.72	+190	7	0.91 ↓
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs	

Sample ID: Y8X41 **Sample Date/Time:** 6/19/13/1015 1,4-Dioxane? Yes/No #VOAs 3

QA/QC Samples? None FD MS/MSD

Dup Sample ID NA

Dup Sample Time NA

Sample Depth (feet below TOC): _____

*R = Refill
D = Discharge
P = Pressure

Method of Extraction	
	Submersible Pump
✓	Dedicated Pump
	Disposable Bailer
	Footvalve

Sampling Method:	
	Submersible Pump
✓	Dedicated Pump
	Disposable Bailer
	Footvalve

Pemaco Wel pling Sheet

OTIE

Casing Volume = _____
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. MW-23-110

Sampler(s): W

Control Settings*: R: 10 D: 5 P: 145

Date 6/19/13 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm) S/m	pH	ORP (mV)	Turbidity (NTU)	D.O. mg/L	Comments
13:03	∅	400	93.68	~~26.1~~	~~0.127~~	~~6.86~~	~~+201~~	~~∅~~	~~2.25~~	R:10 D:5 P:145
13:08	2000	"	93.95	26.1	0.127	6.86	+201	∅	2.25	
13:13	4000	"	93.96	25.5	0.127	6.79	+198	∅	1.10	
13:18	6000	"	93.97	25.2	0.127	6.78	+195	∅	0.86	
13:23	8000	"	93.97	25.2	0.127	6.78	+191	∅	0.72	
13:28	10,000	"	93.97	25.1	0.126	6.78	+188	∅	0.65	
13:33	12,000	"	93.97	25.2	0.126	6.78	+185	∅	0.60	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: Y8X42 **Sample Date/Time:** 6/19/13 13:38 1,4-Dioxane? Yes/No #VOAs 3

QA/QC Samples? None FD MS/MSD

Dup Sample ID NA

Dup Sample Time NA

Sample Depth (feet below TOC): _____

*R = Refill
D = Discharge
P = Pressure

Method of Extraction

	Submersible Pump
✓	Dedicated Pump
	Disposable Bailer
	Footvalve

Sampling Method:

	Submersible Pump
✓	Dedicated Pump
	Disposable Bailer
	Footvalve

Pemaco We. ,pling Sheet

OTIE
Oneida Total Integrated Enterprises

Casing Volume =
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. MW-24-110

Sampler(s): [illegible]

Control Settings*: R: ~~N/A~~ 3 D: ~~N/A~~ 34 P: ~~N/A~~ 50

6/21/13 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	D.O mg/L	Comments
09:40	—	750	95.15	—	—	—	—	—		
09:45	3,750	750	95.90	30.57	1.36	7.38	-2	37.2	3.90	Small crack at flange where
09:50	7,500	750	95.50	30.37	1.31	7.48	+26	37.6	4.35	discharge line is connected. H_2O
09:55	11,250	750	95.70	30.34	1.30	7.51	+55	37.2	4.53	sprays from crack. Also air
10:00	15,000	750	95.80	30.42	1.28	7.57	+25	37.5	4.23	regulator leaks air.
10:05	18,750	750	95.75	30.39	1.28	7.56	+27	37.0	4.30	
10:10	22,500	750	95.80	30.43	1.28	7.55	+26	37.1	4.31	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: Y8X43 **Sample Date/Time:** 6/21/13 10:13 1,4-Dioxane? Yes/No #VOAs 3

QA/QC Samples? None FD MS/MSD

Dup Sample ID NA

Dup Sample Time NA

Sample Depth (feet below TOC):

*R = Refill
D = Discharge
P = Pressure

Method of Extraction

	Submersible Pump
✓	Dedicated Pump Extraction Pump
	Disposable Bailer
	Footvalve

Sampling Method:

	Submersible Pump
✓	Dedicated Pump Extraction Pump
	Disposable Bailer
	Footvalve

Pemaco Wel pling Sheet

OTIE

Casing Volume = _____
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. MW-25-110

Sampler(s): TD

Control Settings*: R: D: P:

Date: 6/25/13 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	D.O. mg/L	Comments
13:35	–	500	101.80							
13:40	2,500	500	101.75	24.48	1.421	7.00	+60.2	64.7	1.03	
13:45	5,000	500	101.80	24.69	1.433	7.04	+68.5	44.3	0.82	
13:50	7,500	500	101.80	24.30	1.427	7.06	+70.9	20.3	0.87	
13:55	10,000	500	101.84	23.84	1.408	7.08	+73.3	25.2	0.99	
14:00	12,500	500	101.85	23.77	1.403	7.09	+74.3	27.0	0.97	
14:05	15,000	500	101.85	23.85	1.403	7.10	+75.8	26.9	0.95	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: Y8X44 **Sample Date/Time:** 6/25/13 14:08 1,4-Dioxane? Yes (No) #VOAs 3

QA/QC Samples? (None) FD MS/MSD

Dup Sample ID NA

Dup Sample Time NA

Sample Depth (feet below TOC): _____

*R = Refill
D = Discharge
P = Pressure

Method of Extraction

	Submersible Pump
✓	Dedicated Pump Extraction Pump
	Disposable Bailer
	Footvalve

Sampling Method:

	Submersible Pump
✓	Dedicated Pump Extraction Pump
	Disposable Bailer
	Footvalve

Pemaco We .pling Sheet

OTIE
Outside Total Integrated Enterprises

Casing Volume = _____
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. MW-34-110

Sampler(s): TP

Control Settings*: R: 10 D: 5 P: 100

Date 6/26/13 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	D.O. mg/L	Comments
15:45	—	350	98.67							
15:50	1,750	350	98.80	31.62	1.364	6.80	+33.1	10.6	0.92	
15:55	3,500	350	98.77	31.58	1.358	6.62	+55.9	6.6	0.60	
16:00	5,250	350	98.76	31.58	1.358	6.55	+65.0	5.4	0.55	
16:05	7,000	350	98.76	31.56	1.356	6.48	+74.7	3.4	0.48	
16:10	8,750	350	98.75	31.49	1.356	6.30	+91.8	4.3	0.44	
16:15	10,500	350	98.75	31.43	1.356	6.18	+107.0	12.9	0.39	
16:20	12,250	350	98.75	31.48	1.354	6.15	+113.0	33.9	0.38	
16:25	14,000	350	98.75	31.48	1.35	6.14	+117.0	44.0	0.37	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: Y8X45 **Sample Date/Time:** 6/26/13 16:28 1,4-Dioxane? Yes No #VOAs 3

QA/QC Samples? None FD MS/MSD

Dup Sample ID NA

Dup Sample Time NA

Sample Depth (feet below TOC): _____

*R = Refill
D = Discharge
P = Pressure

Method of Extraction

✓	Submersible Pump
	Dedicated Pump
	Disposable Bailer
	Footvalve

Sampling Method:

✓	Submersible Pump
	Dedicated Pump
	Disposable Bailer
	Footvalve

Pemaco Wel pling Sheet

OTIE

Casing Volume =
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. MW-05-135

Sampler(s): TW

Control Settings*: R: 10 D: 5 P: 75

Date: 6/24/13 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	DO mg/L	Comments
12:00	—	400	109.36	—						
12:05	2,000	400	109.40	23.48	1.58	6.88	+368	Ø	5.11	
12:10	3,000	400	109.40	23.55	1.57	6.86	+363	Ø	4.78	
12:15	4,000	400	109.40	23.50	1.54	6.87	+361	Ø	4.73	
12:20	5,000	400	109.40	23.48	1.55	6.88	+360	Ø	4.70	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: Y8X46 **Sample Date/Time:** 6/24/13 12:23 1,4-Dioxane? Yes/No #VOAs 9

QA/QC Samples? None FD MS/MSD

Dup Sample ID NA

Dup Sample Time NA

Sample Depth (feet below TOC): _____

*R = Refill
D = Discharge
P = Pressure

Method of Extraction

	Submersible Pump
✓	Dedicated Pump
	Disposable Bailer
	Footvalve

Sampling Method:

	Submersible Pump
✓	Dedicated Pump
	Disposable Bailer
	Footvalve

Pemaco Wel pling Sheet

OTIE
Oneida Total Integrated Enterprises

Casing Volume = _____
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. MW-07-130

Sampler(s): MW

Control Settings*: R: 10 D: 5 P: 65

Date: 6-19-2013 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	DO	Comments
1040	–	–	109.43							
1044	Initial	300	109.45	18.21	1.39	8.68	319	0.0	10.26	clear
1049	1500		109.46	16.33	1.67	8.09	328	1.6	5.40	
1054	3000		109.45	16.24	1.67	8.07	328	1.4	4.25	
1059	4500		109.45	16.13	1.64	8.13	324	4.2	3.12	
1104	6000		109.45	16.15	1.62	8.15	323	3.2	2.64	
1109	7500			16.16	1.61	8.15	324	4.6	2.49	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: Y8X47 **Sample Date/Time:** 6-19-2013;1110 1,4-Dioxane? Yes/No #VOAs 3

QA/QC Samples? None FD MS/MSD

Dup Sample ID N/A

Dup Sample Time N/A

Sample Depth (feet below TOC): _____

*R = Refill
D = Discharge
P = Pressure

Method of Extraction

	Submersible Pump
✓	Dedicated Pump
	Disposable Bailer
	Footvalve

Sampling Method:

	Submersible Pump
✓	Dedicated Pump
	Disposable Bailer
	Footvalve

Pemaco Wel pling Sheet

OTIE
Oneida Total Integrated Enterprises

Casing Volume =
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. MW-12-150

Sampler(s): TW

Control Settings*: R: 10 D: 5 P: 80

Date: 6/25/13 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) ~~(mS/cm)~~ (S/cm)	pH	ORP (mV)	Turbidity (NTU)	DO mg/L	Comments
09:50	—	400	110.72							
09:55	2000	200	111.48	23.50	0.476	6.81	+110	Ø	4.76	change control settings to R25/D5/P80
10:00	3000	200	112.29	22.85	0.791	6.68	-50	Ø	4.12	" " " R55/D5/P80
10:05	3,500	100	112.35	22.90	0.801	6.70	-53	Ø	4.09	
10:10	4,000	100	112.48	23.14	0.783	6.67	-56	Ø	4.06	~~" R37.5/D2.5/P80~~ TW
10:15	4,500	100	112.51	23.98	0.759	6.66	-53	Ø	4.09	
10:20	5,000	100	112.50	24.09	0.757	6.67	-50	Ø	4.15	
10:25	5,500	100	112.49	24.12	0.758	6.68	-51	Ø	4.13	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: Y8X48 **Sample Date/Time:** 6/25/13 10:28 1,4-Dioxane? Yes/No #VOAs 3

QA/QC Samples? None FD MS/MSD

Dup Sample ID NA

Dup Sample Time NA

Sample Depth (feet below TOC): _____

*R = Refill
D = Discharge
P = Pressure

Method of Extraction

	Submersible Pump
✓	Dedicated Pump
	Disposable Bailer
	Footvalve

Sampling Method:

	Submersible Pump
✓	Dedicated Pump
	Disposable Bailer
	Footvalve

Pemaco We ,pling Sheet

OTIE

Casing Volume = _____
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. MW-23-145

Sampler(s): MW

Control Settings*: R: ~~10~~ 13 D: ~~50~~ 7 P: 70

Date: 6-19-2013 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) ~~(mS/cm)~~ (S/cm)	pH	ORP (mV)	Turbidity (NTU)	DO	Comments
1303		~~500~~	109.08							
1305	Initial	300	109.35	19.79	1.52	8.96	259	2.8	12.45	
1310	1500		109.40	18.48	1.67	8.50	296	13.8	10.34	
1315	3000		109.48	17.73	1.84	8.20	308	14.4	6.87	
1320	4500		109.50	17.51	1.89	8.21	312	11.0	~~11.0~~ 6.00	
1325	6000		109.53	17.49	1.82	8.25	313	16.3	5.79	
1330	7500		109.55	17.46	1.89	8.28	313	16.8	5.71	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: Y8X49 **Sample Date/Time:** 6-19-2013 1335 1,4-Dioxane? Yes/No #VOAs 3

QA/QC Samples? None FD MS/MSD

Dup Sample ID N/A

Dup Sample Time N/A

Sample Depth (feet below TOC): _____

*R = Refill
D = Discharge
P = Pressure

Method of Extraction	
	Submersible Pump
✓	Dedicated Pump
	Disposable Bailer
	Footvalve

Sampling Method:	
	Submersible Pump
✓	Dedicated Pump
	Disposable Bailer
	Footvalve

Pemaco We. ıpling Sheet

OTIE
Oneida Total Integrated Enterprises

Casing Volume =
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. MW-24-140

Sampler(s): MW

Control Settings*: R: 13 D: 7 P: 65

Date: 6-20-2013 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	DO	Comments
1049	-	-	111.14	-	-	-	-	-	-	
1055	Initial	300	111.20	25.31	1.34	8.35	-114	1.5	6.13	Sulfur odor, very clear, yellowish
1100	1500	300	111.24	23.20	1.35	8.17	-232	0.0	1.18	
1105	3000	300	111.24	22.19	1.35	8.51	-286	0.0	0.41	
1110	4500	300	111.24	21.78	1.36	8.51	-281	0.0	0.48	
1115	6000	300	111.25	21.59	1.36	8.47	-278	0.0	0.38	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: Y8X50 **Sample Date/Time:** 6-20-2013; 1117 1,4-Dioxane? Yes/No #VOAs 3

QA/QC Samples? None FD MS/MSD

Dup Sample ID N/A

Dup Sample Time N/A

Sample Depth (feet below TOC):

*R = Refill
D = Discharge
P = Pressure

Method of Extraction

	Submersible Pump
✓	Dedicated Pump
	Disposable Bailer
	Footvalve

Sampling Method:

	Submersible Pump
✓	Dedicated Pump
	Disposable Bailer
	Footvalve

Pemaco Wel pling Sheet

OTIE

Casing Volume =
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. MW-25-130

Sampler(s): TD

Control Settings*: R: D: P:

Date: 6/25/13 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	D.O. mg/L	Comments
14:10	—	800	117.53							
14:15	4000	800	117.60	24.46	1.305	7.10	-25.6	238.9	2.33	
14:20	8000	800	117.62	27.82	1.398	7.10	-11.1	120.1	1.09	
14:25	12000	800	117.60	27.69	1.393	7.09	-8.7	32.4	0.89	
14:30	16000	800	117.65	27.67	1.394	7.09	-9.5	40.9	0.90	
14:35	20,000	800	117.63	27.70	1.400	7.09	-12.0	38.7	0.85	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: Y8X51 **Sample Date/Time:** 6/25/13 14:38 1,4-Dioxane? Yes/No #VOAs 3

QA/QC Samples? None FD MS/MSD

Dup Sample ID NA

Dup Sample Time NA

Sample Depth (feet below TOC):

*R = Refill
D = Discharge
P = Pressure

Method of Extraction

- [ ] Submersible Pump
- [x] Dedicated Pump
- [ ] Disposable Bailer
- [ ] Footvalve

Sampling Method:

- [ ] Submersible Pump
- [x] Dedicated Pump
- [ ] Disposable Bailer
- [ ] Footvalve

Pemaco We[illegible] [illegible]pling Sheet

OTIE
Omaha Total Integrated Enterprises

Casing Volume =
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. MW-11-130

Sampler(s): MW

Control Settings*: R: 10 D: 5 P: 60

Date: 6-19-2017 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	Mg/L DO	Comments
0945	—	—	108.95	—	—	—	—	—		Heron
0953	Initial	200								
0958	1000		108.98	15.67	1.66	8.00	203	28.6	2.90	
1003	2000		109.01	15.44	1.67	8.23	236	23.3	2.07	
1008	3000		109.03	15.32	1.67	8.36	257	25.6 ~~15.50~~	1.60	
1013	4000		109.03	15.28	1.69	8.42	266	26.2	1.50	
1018	5000		109.03	15.29	1.69	8.44	269	29.1	1.32	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: Y8X52

Sample Date/Time: 06-19-2013, 1020

1,4-Dioxane? Yes/No

#VOAs 3

QA/QC Samples? None FD MS/MSD

Dup Sample ID N/A

Dup Sample Time N/A

Sample Depth (feet below TOC): _____

*R = Refill
D = Discharge
P = Pressure

Method of Extraction

- [ ] Submersible Pump
- [x] Dedicated Pump
- [ ] Disposable Bailer
- [ ] Footvalve

Sampling Method:

- [ ] Submersible Pump
- [x] Dedicated Pump
- [ ] Disposable Bailer
- [ ] Footvalve

Pemaco Wei pling Sheet

OTIE
Oneida Total Integrated Enterprises

Casing Volume = _____
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. MW-10-170

Sampler(s): MW

Control Settings*: R: 13 D: 7 P: 75

Date: 6/25/13 Time	Volume Purged (mL)	Flow Rate (mL/min)	Heron Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	DO	Comments
1148	—	—	112.30	—	—	—	—	—		
1155	Initial	~~150~~ 125 MW	112.41	16.28	1.08	7.89	97	31.2	11.77	
1200	625	125	112.43	15.88	1.09	7.59	101	26.4	7.06	
1205	1250	125	112.44	15.72	1.09	7.63	98	26.9	5.79	
1210	1875	125	112.43	15.58	1.09	7.59	85	27.3	4.03	
1215	2500	125	112.46	15.43	1.09	7.60	75	28.8	2.48	
1220	3125	125	112.48	15.41	1.08	7.62	69	28.9	1.83	
1225	3750	125	112.48	15.36	1.08	7.65	62	30.4	1.78	
1230	4375	125	112.48	15.33	1.08	7.66	57	30.2	1.75	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: Y8x53 ~~Y8x53~~

Sample Date/Time: 6/25/13, 1235

1,4-Dioxane? Yes/No

#VOAs 6

QA/QC Samples? None FD

MS/MSD

Dup Sample ID Y8x54

Dup Sample Time 1245

Sample Depth (feet below TOC): _____

*R = Refill
D = Discharge
P = Pressure

Method of Extraction

	Submersible Pump
✓	Dedicated Pump
	Disposable Bailer
	Footvalve

Sampling Method:

	Submersible Pump
✓	Dedicated Pump
	Disposable Bailer
	Footvalve

Pemaco We ıpling Sheet

OTIE

TD = 40.3

Casing Volume = _____
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. B-3

Sampler(s): MW

Control Settings*: R: 15 D: 5 P: 25

Date 6/26/13 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	DO	Comments
1415	—	—	26.29	—	—	—	—	—	—	Well box full of H_2O
1423	Initial	200	27.69	23.23	1.609	6.86	-55.1	110.0	1.27	bolts are stripped
1428	1000	200	27.98	23.28	1.611	6.86	-59.0	91.1	1.28	H_2O orange-brown, turbid
1433	2000	200	27.94	23.69	1.623	6.87	-59.6	65.2	1.01	
1438	3000	200	28.13	23.91	1.672	6.86	-68.9	68.8	0.76	
1443	4000	200	28.35	23.69	1.621	6.86	-71.7	48.8	0.58	
1448	5000	200	28.61	23.33	1.613	6.86	-74.3	26.5	0.58	
1453	6000	200		23.30	1.611	6.86	-77.0	20.5	0.56	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: YSWX5

Sample Date/Time: 6/26/13; 1455

1,4-Dioxane? Yes/No

#VOAs 3

QA/QC Samples? None FD MS/MSD

Dup Sample ID

Dup Sample Time

Sample Depth (feet below TOC): 33.5'

*R = Refill
D = Discharge
P = Pressure

Method of Extraction

✓	Submersible Pump
	Dedicated Pump
	Disposable Bailer
	Footvalve

Sampling Method:

✓	Submersible Pump
	Dedicated Pump
	Disposable Bailer
	Footvalve

Pemaco Wel pling Sheet

OTIE
Omaha Total Integrated Enterprises

Casing Volume = 0.97
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW = 28.51

Well No. B-15

Sampler(s): MW

Control Settings*: R: 25 D: 5 P: 20

6/25/13 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	DO	Comments
0918	-	-	27.91	-	-	-	-	-	1.33	
0930	initial	100	28.65	18.40	2.29	6.92	-121	164.0		Water clear, tannin color/dk yellowish brown
0935	250	50	28.81	16.18	2.48	6.92	-119	197	0.62	Strong petroleum odor, lowered flow rate to 50 mL/min
~~0940~~										Pause, adjust settings to allow recharge
0950	250	10	28.66	15.19	2.51	6.91	-108	102	0.38	R:D:P= 5/3/15
0955	300	10	28.58	14.93	2.51	6.91	-103	108	0.46	
1000	350	10	28.51	14.70	2.52	6.91	-96	107	0.42	
1005	400	10	28.43	14.58	2.52	6.92	-90	101	0.31	
1010	450	10	28.40	14.49	2.52	6.93	-87	111	0.24	
1015	500	10	28.35	14.52	2.51	6.92	-84	114	0.26	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: Y8WX6 **Sample Date/Time:** 6/25/13, 1022 1,4-Dioxane? Yes/No #VOAs 6

QA/QC Samples? None FD MS/MSD

Dup Sample ID N/A

Dup Sample Time N/A

Sample Depth (feet below TOC): 33'

Method of Extraction

✓	Submersible Pump
	Dedicated Pump
	Disposable Bailer
	Footvalve

Sampling Method:

✓	Submersible Pump
	Dedicated Pump
	Disposable Bailer
	Footvalve

*R = Refill
D = Discharge
P = Pressure

Pemaco Wel pling Sheet

OTIE
Oneida Total Integrated Enterprises

TD = 46.7

Casing Volume =
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. B-17

Sampler(s): MW

Control Settings*: R: N/A D: N/A P: N/A

Date: 6/28/2013 Time	Volume Purged (mL)	Flow Rate (mL/min)	(Heron) Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	DO (mg/L)	Comments
			43.67							~~Heron~~. Using Waterra footvalve
				~~22.33~~	~~0.555~~	~~7.29~~	~~199.7~~	~~191.5~~	~~3.65~~	micro purge to purge & sample
0758	800	unk	46.15	22.33	0.855	7.29	199.7	191.5	3.65	well dry - flow-thru cell not
										completely full (1L capacity), so
										"snapshot" of water quality. Wait
										for recharge.
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: Y8WX7 **Sample Date/Time:** 6-27-2013; 0852 1,4-Dioxane? Yes/No #VOAs 3

QA/QC Samples? None FD MS/MSD

Dup Sample ID N/A

Dup Sample Time N/A

Sample Depth (feet below TOC): 46'

*R = Refill
D = Discharge
P = Pressure

Method of Extraction

	Submersible Pump
	Dedicated Pump
	Disposable Bailer
✓	Footvalve

Sampling Method:

	Submersible Pump
	Dedicated Pump
	Disposable Bailer
✓	Footvalve

Pemaco We ıpling Sheet

OTIE

TD = 26.8

Casing Volume = ~~[illegible]~~

(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)

10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. B-21

Sampler(s): MW/JS

Control Settings*: R: D: P:

6/27/2013 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) mS/cm (S/cm)	pH	ORP (mV)	Turbidity (NTU)	DO	Comments
0720			23.40							Per John's approval, switched from bladder pump to footvalve because it took too much time
1000	750	250	23.70	29.26	1.473	7.44	158.1	89.6	2.75	
1004	1750	250	23.80	28.46	1.306	7.34	162.7	74.0	2.29	
1008	2750	250	23.90	28.33	1.292	7.33	165.1	79.3	2.16	
1012	3750	250	24.49	27.85	1.281	7.32	170.2	37.1	1.73	
~~1016~~	~~4750~~		~~24.4~~ 23.42							
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: 78WX8 **Sample Date/Time:** 6/27/13; 1,4-Dioxane? Yes/No #VOAs 6

QA/QC Samples? None FD MS/MSD

Dup Sample ID N/A

Dup Sample Time N/A

Sample Depth (feet below TOC): 26

*R = Refill

D = Discharge

P = Pressure

Method of Extraction	
	Submersible Pump
	Dedicated Pump
	Disposable Bailer
X	Footvalve

Sampling Method:	
	Submersible Pump
	Dedicated Pump
	Disposable Bailer
X	Footvalve

Pemaco Wel pling Sheet

OTIE
Oneida Total Integrated Enterprises

TD = 29.9

Casing Volume =
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. PA-5

Sampler(s): MW

Control Settings*: R: 55 D: 5 P: 20

6/26/13 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	DO	Comments
1005			~~8~~ 27.79							
1030			27.96							
1037	1000		27.98	30.50	1.174	7.61	155.3	1.0	5.52	clear H_2O, mud on bottom
1112		~~40~~	28.10	31.22	1.161	7.37	180.8	0.4	5.09	of pump
~~1120~~ 1122		40	28.25	30.55	1.142	7.35	187.7	1.7	4.67	
1127		40	~~28.85~~ 28.29	28.85	1.100	7.29	193.0	1.3	4.49	
1132		40	28.38	28.22	1.080	7.28	197.3	1.1	4.43	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: Y8WX9 **Sample Date/Time:** 6/26/13; 1141 1,4-Dioxane? Yes/No #VOAs 3

QA/QC Samples? None FD MS/MSD

Dup Sample ID N/A

Dup Sample Time N/A

Sample Depth (feet below TOC):

Method of Extraction		Sampling Method:	
✓	Submersible Pump	✓	Submersible Pump
	Dedicated Pump		Dedicated Pump
	Disposable Bailer		Disposable Bailer
	Footvalve		Footvalve

*R = Refill
D = Discharge
P = Pressure

Pemaco We. ,pling Sheet

OTIE

Casing Volume = _____
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. PB-1

Sampler(s): W

Control Settings*: R: 10 D: 5 P: 30

Date 6/26/13 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	D.O. mg/L	Comments
12:40	—	400	24.53							
12:45	2,000	200	25.00	24.09	1.851	6.79	-57.4	74.1	2.32	Change control settings to 25/5/30
12:50	3,000	200	24.85	24.47	1.885	6.81	-56.0	67.7	1.56	
12:55	4,000	200	24.81	24.43	1.884	6.81	-59.1	62.9	1.49	
13:00	5,000	200	24.80	24.48	1.882	6.81	-60.4	54.9	1.53	
1305	6,000	200	24.80	24.45	1.898	6.81	-64.2	44.7	1.62	
13:10	7,000	201	24.80	24.56	1.876	6.82	-66.8	35.9	1.64	
13:15	8,000	200	24.80	24.43	1.875	6.82	-66.2	32.6	1.60	
13:20	9,000	200	24.80	24.44	1.873	6.82	-67.5	29.7	1.62	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: Y8WY0 **Sample Date/Time:** 6/26/13 13:23 1,4-Dioxane? Yes/No #VOAs 6

QA/QC Samples? None FD MS/MSD

Dup Sample ID Y8WY1

Dup Sample Time 12:40

Sample Depth (feet below TOC): _____

*R = Refill
D = Discharge
P = Pressure

Method of Extraction

✓	Submersible Pump
	Dedicated Pump
	Disposable Bailer
	Footvalve

Sampling Method:

✓	Submersible Pump
	Dedicated Pump
	Disposable Bailer
	Footvalve

Pemaco Wel pling Sheet

OTIE
Oneida Total Integrated Enterprises

Casing Volume = _____
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. PB-03

Sampler(s): TW

Control Settings*: R: 10 D: 5 P: 45

Date: 6/25/13 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	D.O. mg/L	Comments
08:25	—	400	24.22							
08:30	2,000	200	25.23	21.67	1.37	6.89	+370	0.1	6.27	Change Control settings to R:25 D:5 P:45
08:35	3,000	200	25.58	21.43	1.37	6.68	+375	Ø	6.33	" " " R55; D5; P45
08:40	4,000	100	25.58	21.37	1.37	6.65	+375	0.1	6.25	
08:45	4,500	100	25.55	21.26	1.38	6.60	+376	Ø	6.30	
08:50	5,000	100	25.56	21.15	1.38	6.43	+384	Ø	6.25	Very Slow Recharge
08:55	5,500	100	25.60	21.13	1.38	6.47	+383	Ø	6.26	
09:00	6,000	100	25.61	21.14	1.38	6.47	+383	Ø	6.18	
09:05	6,500	100	25.60	21.15	1.38	6.47	+383	Ø	6.16	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: Y8WY2 **Sample Date/Time:** 6/25/13 09:08 1,4-Dioxane? Yes (No) #VOAs 3

QA/QC Samples? (None) FD MS/MSD

Dup Sample ID NA

Dup Sample Time NA

Sample Depth (feet below TOC): _____

*R = Refill
D = Discharge
P = Pressure

Method of Extraction

✓	Submersible Pump
	Dedicated Pump
	Disposable Bailer
	Footvalve

Sampling Method:

✓	Submersible Pump
	Dedicated Pump
	Disposable Bailer
	Footvalve

Pemaco Wel pling Sheet

OTIE
Oneida Total Integrated Enterprises

Casing Volume =
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. PB-5

Sampler(s): MW/ IS

→ 26.49

Control Settings*: R: D: P:

Date: 6/27/13 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	DO	Comments
1318			25.92							Bailed out rusty sludge and let
1344	750	75		~~[illegible]~~	~~[illegible]~~					well recover prior to sampling.
1349	1125	75	26.25	24.23	1.624	6.89	121.6	109.6	2.03	
1354	1500	75	26.38	23.85	1.610	6.89	129.6	94.5	1.89	
1359	1875	75	~~[illegible]~~	23.67	1.605	6.90	136.3	87.6	1.79	
1404	2250	75	26.60	23.62	1.604	6.90	140.6	78.0	1.73	
1409	2625	75	26.73	23.55	1.604	6.91	144.3	71.4	1.68	
1414	3000	75	26.80	23.49	1.604	6.91	147.0	66.3	1.72	
1419	3187.5	37.5	26.80	23.62	1.608	6.92	148.2	56.0	1.59	
1424	3375	37.5	26.80	23.95	1.622	6.94	151.0	53.6	1.58	
1429	3562.5	37.5	26.80	24.12	1.628	6.95	152.4	46.0	1.56	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: Y8WY3

Sample Date/Time: 6/27/13, 1435

1,4-Dioxane? Yes/No

#VOAs 3

QA/QC Samples? None FD

MS/MSD

Dup Sample ID NA

Dup Sample Time ~~[illegible]~~ NA

Sample Depth (feet below TOC):

*R = Refill
D = Discharge
P = Pressure

Method of Extraction

X	Submersible Pump
	Dedicated Pump
	Disposable Bailer
	Footvalve

Sampling Method:

X	Submersible Pump
	Dedicated Pump
	Disposable Bailer
	Footvalve

Pemaco We pling Sheet

OTIE

Casing Volume =
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. PB-7

Sampler(s): TP

Control Settings*: R: 10 D: 5 P: 30

Date: 6/20/13 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	DO mg/L	Comments
13:20	—	400	24.11	—	—	—	—	—		
13:25	2,000	400	24.35	24.26	2.11	7.38	+324	31.7	4.04	
13:30	4,000	400	24.38	23.98	2.11	7.40	+318	30.4	3.91	
13:35	6,000	400	24.40	23.86	2.11	7.42	+312	31.9	3.84	
13:40	8,000	400	24.40	23.75	2.11	7.44	+303	28.7	3.78	
13:45	10,000	400	24.41	23.68	2.11	7.44	+299	28.2	3.75	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: Y8WY4 **Sample Date/Time:** 6/20/13 13:48 1,4-Dioxane? Yes No #VOAs 3

QA/QC Samples? None FD MS/MSD

Dup Sample ID NA

Dup Sample Time NA

Sample Depth (feet below TOC):

*R = Refill
D = Discharge
P = Pressure

Method of Extraction

✓	Submersible Pump
	Dedicated Pump
	Disposable Bailer
	Footvalve

Sampling Method:

✓	Submersible Pump
	Dedicated Pump
	Disposable Bailer
	Footvalve

Pemaco We pling Sheet

OTIE
Oneida Total Integrated Enterprises

Casing Volume =
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. PC-05

Sampler(s): MW

Control Settings*: R: 15 D: 5 P: 20

Date: 6/20/13 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	DO	Comments
1550	—	—	29.74	—	—	—	—	—		
1600	Begin	200	29.96	17.47	1.75	8.80	71	13.8	0.49	Pump 3' off bottom
1605	1000	200	29.98	17.05	1.77	8.79	68	0.0	0.26	
1610	2000	200	29.99	16.62	1.78	8.78	62	0.0	0.06	
1615	3000	200	30.00	16.52	1.77	8.78	59	0.0	0.00	
1620	4000	200	30.00	16.47	1.77	8.79	56	0.0	0.00	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: Y8WY5 **Sample Date/Time:** 6/20/13; 1630 1,4-Dioxane? Yes/No #VOAs

QA/QC Samples? None FD MS/MSD

Dup Sample ID N/A

Dup Sample Time N/A

Sample Depth (feet below TOC):

Method of Extraction	
✓	Submersible Pump
	Dedicated Pump
	Disposable Bailer
	Footvalve

Sampling Method:	
✓	Submersible Pump
	Dedicated Pump
	Disposable Bailer
	Footvalve

*R = Refill
D = Discharge
P = Pressure

Pemaco Wel ,pling Sheet

OTIE
Oneida Total Integrated Enterprises

Casing Volume =
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. PC-06

Sampler(s): MW

Control Settings*: R: 25 D: 5 P: 20

Date: 6-20-2013 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	DO	Comments
1426	—	—	29.25	-	—	-	—	—	—	
1444	Begin	100	29.35	18.18	1.52	9.20	73	12.4	7.03	
1449	500	100	29.47	16.90	1.55	9.14	80	15.2	6.20	
1454	1000	100	29.55	16.40	1.58	9.09	86	9.8	5.54	
1459	1500	100	29.58	16.26	1.59	9.06	87	10.8	5.04	
1504	2000	100	29.63	16.00	1.62	9.03	88	6.6	4.12	
1509	2500	100	29.68	16.02	1.62	9.03	88	7.4	3.64	
1514	3000	100	29.70	15.71	1.66	9.03	88	9.9	3.76	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: YSWY6

Sample Date/Time: 6.20.13, 1520

1,4-Dioxane? Yes/No

#VOAs 3

QA/QC Samples? None FD MS/MSD

Dup Sample ID

Dup Sample Time

Sample Depth (feet below TOC):

*R = Refill
D = Discharge
P = Pressure

Method of Extraction

✓	Submersible Pump
	Dedicated Pump
	Disposable Bailer
	Footvalve

Sampling Method:

✓	Submersible Pump
	Dedicated Pump
	Disposable Bailer
	Footvalve

Pemaco We ıpling Sheet

OTIE
Omaha Total Integrated Enterprises

Casing Volume = _____
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. PD-4

Sampler(s): MW

Control Settings*: R: 15 D: 5 P: 25

Date: 6/26/13 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	DO	Comments
1554	—	—	27.30	—	—	—	—	—	—	Water rust-colored
1610	Initial	200	~~28~~ 27.85	24.23	1.923	6.83	-109.9	93.3	0.49	
1615	1000	200	~~28~~ 27.88	24.17	1.920	6.84	-102.8	62.9	0.47	
1620	2000	200	~~28~~ 27.90	24.12	1.915	6.84	-106.6	73.8	0.43	
1625	3000	200	27.92	24.07	1.913	6.85	-100.7	76.4	0.41	Reduced flow to 25/5/20 = 150 to reduce turbidity
1630	4000	~~200~~ 150	27.88	24.19	1.914	6.86	-105.5	62.6	0.39	
1635	5000	~~200~~ 150	27.81	24.42	1.923	6.86	-111.5	48.6	0.40	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: Y8W47 **Sample Date/Time:** 6/26/13 ; 1638 1,4-Dioxane? Yes/No #VOAs 3

QA/QC Samples? None FD MS/MSD

Dup Sample ID N/A

Dup Sample Time N/A

Sample Depth (feet below TOC): _____

Method of Extraction	
✓	Submersible Pump
	Dedicated Pump
	Disposable Bailer
	Footvalve

Sampling Method:	
✓	Submersible Pump
	Dedicated Pump
	Disposable Bailer
	Footvalve

*R = Refill
D = Discharge
P = Pressure

Pemaco Wel pling Sheet

OTIE
Oneida Total Integrated Enterprises

Casing Volume =
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
TD = 35
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. PD-06

Sampler(s): MW

Control Settings*: R: 25 D: 5 P: 20

Date: 6-20-2013 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	DO	Comments
1315	–	–	~~3~~26.03	–	–	–	–	–		
1325	Begin	100	26.10	18.91	1.62	8.48	-19	11.1	2.50	
1330	500	100	26.11	17.58	1.67	8.39	-26	10.4	0.91	
1335	1000	100	26.15	17.21	1.68	8.37	-32	7.3	0.66	
1340	1500	100	26.18	16.94	1.69	8.35	-42	6.7	0.26	
1345	2000	100	26.18	16.84	1.69	8.34	-49	4.4	0.12	
1350	2500	100	26.18	16.83	1.69	8.34	-53	4.5	0.10	
1356	3000	100	26.18	16.81	1.68	8.33	-56	4.7	0.08	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: Y8WY8

Sample Date/Time: 1401

1,4-Dioxane? Yes/No

#VOAs 3

QA/QC Samples? None FD MS/MSD

Dup Sample ID N/A

Dup Sample Time N/A

Sample Depth (feet below TOC):

*R = Refill
D = Discharge
P = Pressure

Method of Extraction

✓	Submersible Pump
	Dedicated Pump
	Disposable Bailer
	Footvalve

Sampling Method:

✓	Submersible Pump
	Dedicated Pump
	Disposable Bailer
	Footvalve

Pemaco We ıpling Sheet

OTIE
Oriental Total Integrated Enterprises

Casing Volume =
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. PD-9

Sampler(s): TP

Control Settings*: R: 25 D: 5 P: 40

Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	D.O. mg/L	Comments
~~15:45~~	~~—~~	~~200~~	~~30.60~~	~~—~~	~~—~~	~~—~~	~~—~~	~~—~~	~~—~~	~~TP~~
15:45	—	200	30.60	—	—	—	—	—	—	
15:50	1,000	200	31.50	24.53	1.510	6.96	+78.5	0.9	1.58	
15:55	2,000	200	31.55	24.52	1.508	6.98	+91.4	1.5	1.47	
16:00	3,000	200	31.70	24.55	1.507	7.01	+97.6	1.1	1.42	
16:05	4,000	200	31.74	24.49	1.505	7.03	+101.8	1.7	1.37	
16:10	5,000	200	31.79	24.37	1.502	7.04	+104.0	1.9	1.32	
16:15	6,000	200	31.80	24.34	1.499	7.05	+104.7	1.7	1.33	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: Y8WY9 **Sample Date/Time:** 6/27/13 16:18 1,4-Dioxane? Yes/No #VOAs 3

QA/QC Samples? None FD MS/MSD

Dup Sample ID ~~Y8WY9~~ TP

Dup Sample Time NA

Sample Depth (feet below TOC): NA

*R = Refill
D = Discharge
P = Pressure

Method of Extraction

✓	Submersible Pump
	Dedicated Pump
	Disposable Bailer
	Footvalve

Sampling Method:

✓	Submersible Pump
	Dedicated Pump
	Disposable Bailer
	Footvalve

Pemaco We ıpling Sheet

OTIE

Casing Volume = _____
(Casing Volume = [TD-DTW]*[well diameter (inches)]^2*0.0408)
10% Drawdown = [0.10*(TD-DTW)]+DTW =

Well No. SV-05

Sampler(s): WD

Control Settings*: R: 10 D: 5 P: 30

Date: 6/27/13 Time	Volume Purged (mL)	Flow Rate (mL/min)	Depth to Water (DTW) (Feet btoc)	Temp (°C)	Spec. Cond Circle One: (µS/cm) (mS/cm) (S/cm)	pH	ORP (mV)	Turbidity (NTU)	DO mg/L	Comments
09:20	—	400	27.72	—	—	—	—	—	—	
09:25	2,000	400	27.97	23.08	1.615	6.16	+29.6	31.3	2.80	
09:30	4,000	400	28.02	25.08	1.625	6.26	+28.8	75.1	1.52	
09:35	6,000	400	28.04	25.42	1.674	6.89	+13.6	16.7	0.49	
09:40	8,000	400	28.06	25.41	1.678	6.88	+9.7	16.4	0.38	
09:45	10,000	400	28.07	25.42	1.680	6.87	+7.2	15.4	0.40	
*Stabilization parameters according to the SAP (2013)			< 10% drawdown	+/- 10%	+/- 10%	+/- 0.2	+/- 20 mV	<50 NTUs		

Sample ID: Y8WZØ **Sample Date/Time:** 6/27/13 09:48 1,4-Dioxane? Yes/No #VOAs 6

QA/QC Samples? None FD MS/MSD

Dup Sample ID NA

Dup Sample Time NA

Sample Depth (feet below TOC): _____

*R = Refill
D = Discharge
P = Pressure

Method of Extraction
- [x] Submersible Pump
- [ ] Dedicated Pump
- [ ] Disposable Bailer
- [ ] Footvalve

Sampling Method:
- [x] Submersible Pump
- [ ] Dedicated Pump
- [ ] Disposable Bailer
- [ ] Footvalve

APPENDIX B

Surveyor Report

PEMACO SUPERFUND SITE

Monitoring Well Survey

PSOMAS ID	WELL/BORE ID	TYPE	NORTHING	EASTING	NOTES	FIELD_PT_CLASS	LATITUDE	LONGITUDE	XY_METHOD	XY_DATUM	XY_ACC_VAL	XY_SURVEY_ORG	GPS_EQUIP_TYPE	XY_SURVEY_DESC	ELEV_SURVEY_DATE	ELEVATION	ELEV_METHOD	ELEV_DATUM	ELEV_ACC_VAL	ELEV_SURVEY_ORG	ELEV_DESC
1097	DA-01	CASING	1816966.12	6509408.64	VAULT	MW	33.9849944	118.1723803	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	140.71	DIG	NAVD88	0.3 cm.	PSOMAS	
1101	DA-01	GROUND	1816968.33	6509408.72			33.9850005	118.1723800	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	142.14	TRIG	NAVD88	1.2 cm.	PSOMAS	
1035	DA-02	CASING	1816740.93	6509465.28	VAULT	MW	33.9843759	118.1721922	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	138.70	DIG	NAVD88	0.3 cm.	PSOMAS	
1039	DA-02	GROUND	1816743.07	6509465.47			33.9843818	118.1721916	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	140.10	TRIG	NAVD88	1.2 cm.	PSOMAS	
1047	DA-03	CASING	1816856.96	6509480.42	VAULT	MW	33.9846948	118.1721429	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	138.92	DIG	NAVD88	0.3 cm.	PSOMAS	
1051	DA-03	GROUND	1816858.90	6509480.67			33.9847002	118.1721421	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	140.34	TRIG	NAVD88	1.2 cm.	PSOMAS	
1183	DA-06	CASING	1816750.38	6509565.51	VAULT	MW	33.9844024	118.1718616	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	142.14	DIG	NAVD88	0.3 cm.	PSOMAS	
1186	DA-06	GROUND	1816753.16	6509566.63			33.9844100	118.1718579	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	142.93	TRIG	NAVD88	1.2 cm.	PSOMAS	
1158	DA-07	CASING	1817036.21	6509483.21	VAULT	MW	33.9851874	118.1721347	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	145.27	DIG	NAVD88	0.3 cm.	PSOMAS	
1160	DA-07	GROUND	1817039.21	6509483.12			33.9851956	118.1721350	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	146.80	TRIG	NAVD88	1.2 cm.	PSOMAS	
1231	DA-08	CASING	1816740.67	6509671.27	VAULT	MW	33.9843762	118.1715127	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	140.63	DIG	NAVD88	0.3 cm.	PSOMAS	
1235	DA-08	GROUND	1816743.51	6509672.04			33.9843840	118.1715101	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	141.85	TRIG	NAVD88	1.2 cm.	PSOMAS	
2036	DA-08	CASING	1816740.76	6509670.69	TOP OF CASING	MW	33.9843764	118.1715146	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	140.63	DIG	NAVD88	0.3 cm.	PSOMAS	
2031	DA-08	GROUND	1816738.69	6509670.57	SHOT OUTLINE OF VAULT		33.9843707	118.1715150	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	142.02	TRIG	NAVD88	1.2 cm.	PSOMAS	
2032	DA-08	GROUND	1816740.62	6509673.28	SHOT OUTLINE OF VAULT		33.9843761	118.1715060	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	142.00	TRIG	NAVD88	1.2 cm.	PSOMAS	
2033	DA-08	GROUND	1816742.71	6509671.95	SHOT OUTLINE OF VAULT		33.9843818	118.1715104	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	142.02	TRIG	NAVD88	1.2 cm.	PSOMAS	
2034	DA-08	GROUND	1816740.74	6509669.17	SHOT OUTLINE OF VAULT		33.9843764	118.1715196	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	142.02	TRIG	NAVD88	1.2 cm.	PSOMAS	
2035	DA-08	GROUND	1816742.44	6509670.59	GROUND SHOT AT 1-FT NORTH		33.9843810	118.1715149	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	141.81	TRIG	NAVD88	1.2 cm.	PSOMAS	
1135	DA-09	CASING	1817135.83	6509548.68	VAULT	MW	33.9854614	118.1719193	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	148.78	DIG	NAVD88	0.3 cm.	PSOMAS	
1138	DA-09	GROUND	1817137.65	6509547.93			33.9854664	118.1719218	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	150.26	TRIG	NAVD88	1.2 cm.	PSOMAS	
2058	DA-11	CASING	1816932.86	6509649.05	TOP OF CASING	MW	33.9849042	118.1715871	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	143.38	DIG	NAVD88	0.3 cm.	PSOMAS	
2053	DA-11	GROUND	1816930.65	6509647.55	SHOT OUTLINE OF VAULT		33.9848981	118.1715920	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	144.84	TRIG	NAVD88	1.2 cm.	PSOMAS	
2054	DA-11	GROUND	1816931.90	6509650.71	SHOT OUTLINE OF VAULT		33.9849016	118.1715816	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	144.84	TRIG	NAVD88	1.2 cm.	PSOMAS	
2055	DA-11	GROUND	1816934.17	6509649.73	SHOT OUTLINE OF VAULT		33.9849078	118.1715848	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	144.82	TRIG	NAVD88	1.2 cm.	PSOMAS	
2056	DA-11	GROUND	1816932.70	6509646.58	SHOT OUTLINE OF VAULT		33.9849037	118.1715952	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	144.84	TRIG	NAVD88	1.2 cm.	PSOMAS	
2057	DA-11	GROUND	1816934.51	6509647.63	GROUND SHOT AT 1-FT NORTH		33.9849087	118.1715917	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	144.63	TRIG	NAVD88	1.2 cm.	PSOMAS	
1025	DAB-02	CASING	1816624.34	6509172.77	VAULT	MW	33.9840542	118.1731564	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	138.56	DIG	NAVD88	0.3 cm.	PSOMAS	
1029	DAB-02	GROUND	1816626.86	6509172.84			33.9840611	118.1731561	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	139.76	TRIG	NAVD88	1.2 cm.	PSOMAS	
1018	DAB-04	CASING	1816598.19	6509397.74	VAULT	MW	33.9839834	118.1724141	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	138.35	DIG	NAVD88	0.3 cm.	PSOMAS	
1022	DAB-04	GROUND	1816600.69	6509398.02			33.9839903	118.1724132	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	139.60	TRIG	NAVD88	1.2 cm.	PSOMAS	
1011	DAB-05	CASING	1816585.08	6509516.76	VAULT	MW	33.9839479	118.1720215	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	138.00	DIG	NAVD88	0.3 cm.	PSOMAS	
1014	DAB-05	GROUND	1816587.55	6509517.10			33.9839547	118.1720203	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	139.22	TRIG	NAVD88	1.2 cm.	PSOMAS	
2025	DAB-06	CASING	1816570.30	6509630.67	TOP OF CASING	MW	33.9839078	118.1716456	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	138.45	DIG	NAVD88	0.3 cm.	PSOMAS	
2020	DAB-06	GROUND	1816573.60	6509630.93	CONC SHOT AT 1-FT NORTH		33.9839169	118.1716448	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	139.85	TRIG	NAVD88	1.2 cm.	PSOMAS	
2021	DAB-06	GROUND	1816572.43	6509632.23	OUTLINE OF VAULT		33.9839137	118.1716405	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	139.83	TRIG	NAVD88	1.2 cm.	PSOMAS	
2022	DAB-06	GROUND	1816572.71	6509629.80	OUTLINE OF VAULT		33.9839145	118.1716485	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	139.84	TRIG	NAVD88	1.2 cm.	PSOMAS	
2023	DAB-06	GROUND	1816569.28	6509629.40	OUTLINE OF VAULT		33.9839050	118.1716498	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	139.83	TRIG	NAVD88	1.2 cm.	PSOMAS	
2024	DAB-06	GROUND	1816569.01	6509631.81	OUTLINE OF VAULT		33.9839043	118.1716419	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	139.83	TRIG	NAVD88	1.2 cm.	PSOMAS	
1006	DAB-07	CASING	1816557.00	6509746.07	VAULT	MW	33.9838718	118.1712649	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	138.52	DIG	NAVD88	0.3 cm.	PSOMAS	
1008	DAB-07	GROUND	1816559.67	6509746.85			33.9838792	118.1712624	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	139.62	TRIG	NAVD88	1.2 cm.	PSOMAS	
1110	DAB-08	CASING	1816988.52	6509299.68	VAULT	MW	33.9850555	118.1727398	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	141.57	DIG	NAVD88	0.3 cm.	PSOMAS	
1114	DAB-08	GROUND	1816991.31	6509300.57			33.9850631	118.1727369	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	143.05	TRIG	NAVD88	1.2 cm.	PSOMAS	
1092	DB-01	CASING	1816962.78	6509416.50	VAULT	MW	33.9849853	118.1723543	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	140.65	DIG	NAVD88	0.3 cm.	PSOMAS	
1096	DB-01	GROUND	1816964.94	6509416.61			33.9849912	118.1723540	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	142.07	TRIG	NAVD88	1.2 cm.	PSOMAS	
1030	DB-02	CASING	1816734.90	6509464.44	VAULT	MW	33.9843594	118.1721949	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	138.59	DIG	NAVD88	0.3 cm.	PSOMAS	
1034	DB-02	GROUND	1816736.92	6509464.65			33.9843649	118.1721942	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	140.08	TRIG	NAVD88	1.2 cm.	PSOMAS	
1042	DB-03	CASING	1816850.21	6509479.62	VAULT	MW	33.9846763	118.1721455	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	138.92	DIG	NAVD88	0.3 cm.	PSOMAS	
1046	DB-03	GROUND	1816852.34	6509479.75			33.9846821	118.1721451	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	140.33	TRIG	NAVD88	1.2 cm.	PSOMAS	
1178	DB-04	CASING	1816930.54	6509543.01	VAULT	MW	33.9848973	118.1719368	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	140.77	DIG	NAVD88	0.3 cm.	PSOMAS	
1182	DB-04	GROUND	1816932.52	6509542.56			33.9849028	118.1719383	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	141.74	TRIG	NAVD88	1.2 cm.	PSOMAS	
1187	DB-06	CASING	1816743.78	6509571.05	VAULT	MW	33.9843843	118.1718433	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	142.11	DIG	NAVD88	0.3 cm.	PSOMAS	
1191	DB-06	GROUND	1816746.60	6509572.32			33.9843920	118.1718391	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	142.78	TRIG	NAVD88	1.2 cm.	PSOMAS	
1154	DB-07	CASING	1817029.93	6509486.05	VAULT	MW	33.9851702	118.1721253	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	145.30	DIG	NAVD88	0.3 cm.	PSOMAS	
1157	DB-07	GROUND	1817032.92	6509485.95			33.9851784	118.1721256	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	146.43	TRIG	NAVD88	1.2 cm.	PSOMAS	
2041	DB-08	CASING	1816732.49	6509675.71	TOP OF CASING	MW	33.9843537	118.1714980	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	140.63	DIG	NAVD88	0.3 cm.	PSOMAS	
2037	DB-08	GROUND	1816730.81	6509675.23	SHOT OUTLINE OF VAULT		33.9843491	118.1714996	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	141.95	TRIG	NAVD88	1.2 cm.	PSOMAS	
2038	DB-08	GROUND	1816732.62	6509678.17	SHOT OUTLINE OF VAULT		33.9843541	118.1714899	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	141.94	TRIG	NAVD88	1.2 cm.	PSOMAS	
2039	DB-08	GROUND	1816734.45	6509676.97	SHOT OUTLINE OF VAULT		33.9843591	118.1714938	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	141.98	TRIG	NAVD88	1.2 cm.	PSOMAS	
2040	DB-08	GROUND	1816732.94	6509674.25	SHOT OUTLINE OF VAULT		33.9843550	118.1715028	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	141.98	TRIG	NAVD88	1.2 cm.	PSOMAS	
2042	DB-08	GROUND	1816734.85	6509675.19	GROUND SHOT AT 1-FT NORTH		33.9843602	118.1714997	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	141.81	TRIG	NAVD88	1.2 cm.	PSOMAS	
1139	DB-09	CASING	1817128.41	6509553.12	VAULT	MW	33.9854411	118.1719046	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	148.79	DIG	NAVD88	0.3 cm.	PSOMAS	
1143	DB-09	GROUND	1817130.16	6509552.07			33.9854459	118.1719081	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	150.19	TRIG	NAVD88	1.2 cm.	PSOMAS	
1226	DB-10	CASING	1817023.27	6509604.35	VAULT	MW	33.9851524	118.1717350	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	147.44	DIG	NAVD88	0.3 cm.	PSOMAS	
1230	DB-10	GROUND	1817025.49	6509603.77			33.9851585	118.1717369	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	147.92	TRIG	NAVD88	1.2 cm.	PSOMAS	
2064	DB-11	CASING	1816924.74	6509652.52	TOP OF CASING	MW	33.9848819	118.1715756	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	143.51	DIG	NAVD88	0.3 cm.	PSOMAS	
2059	DB-11	GROUND	1816924.90	6509649.66	SHOT OUTLINE OF VAULT		33.9848823	118.1715850	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	144.86	TRIG	NAVD88	1.2 cm.	PSOMAS	
2060	DB-11	GROUND	1816926.32	6509652.71	SHOT OUTLINE OF VAULT		33.9848862	118.1715749	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	144.87	TRIG	NAVD88	1.2 cm.	PSOMAS	
2061	DB-11	GROUND	1816924.20	6509653.76	SHOT OUTLINE OF VAULT		33.9848804	118.1715715	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	144.89	TRIG	NAVD88	1.2 cm.	PSOMAS	
2062	DB-11	GROUND	1816922.82	6509650.80	SHOT OUTLINE OF VAULT		33.9848766	118.1715812	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	144.86	TRIG	NAVD88	1.2 cm.	PSOMAS	
2063	DB-11	GROUND	1816926.72	6509650.57	GROUND SHOT AT 1-FT NORTH		33.9848873	118.1715820	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	144.28	TRIG	NAVD88	1.2 cm.	PSOMAS	
1197	DB-12	CASING	1816819.72	6509694.14	VAULT	MW	33.9845935	118.1714377	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	143.68	DIG	NAVD88	0.3 cm.	PSOMAS	
1201	DB-12	GROUND	1816821.62	6509693.17			33.9845987	118.1714409	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	144.79	TRIG	NAVD88	1.2 cm.	PSOMAS	
1115	MW-01-80	CASING	1817284.55	6509288.89		MW	33.9858689	118.1727771	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	148.56	DIG	NAVD88	0.3 cm.	PSOMAS	
1116	MW-01-80	GROUND	1817285.49	6509288.82			33.9858715	118.1727773	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	149.14	TRIG	NAVD88	1.2 cm.	PSOMAS	
2014	MW-02-95	CASING	1817007.52	6509547.63	TOP OF CASING	MW	33.9851089	118.1719220	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	145.75	DIG	NAVD88	0.3 cm.	PSOMAS	
2012	MW-02-95	GROUND	1817007.40	6509547.88	SHOT TOP CENTER LID		33.9851085	118.1719212	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	146.17	TRIG	NAVD88	1.2 cm.	PSOMAS	
2013	MW-02-95	GROUND	1817008.83	6509547.62	GROUND SHOT AT 1-FT NORTH		33.9851125	118.1719221	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	146.08	TRIG	NAVD88	1.2 cm.	PSOMAS	
2044	MW-03-70	CASING	1816872.78	6509613.78	TOP OF CASING	MW	33.9847389	118.1717031	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	144.79	DIG	NAVD88	0.3 cm.	PSOMAS	
2043	MW-03-90	CASING	1816872.44	6509613.56	TOP OF CASING	MW	33.9847380	118.1717038	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	144.38	DIG	NAVD88	0.3 cm.	PSOMAS	
1176	MW-05-105	CASING	1816743.99	6509491.54		MW	33.9843845	118.1721055	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	139.63	DIG	NAVD88	0.3 cm.	PSOMAS	
1177	MW-05-105	GROUND	1816744.89	6509491.63			33.9843869	118.1721053	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	139.95	TRIG	NAVD88	1.2 cm.	PSOMAS	
1040	MW-05-135	CASING	1816728.33	6509489.18		MW	33.9843414	118.1721132	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	139.68	DIG	NAVD88	0.3 cm.	PSOMAS	
1041	MW-05-135	GROUND	1816729.24	6509489.39			33.9843439	118.1721126	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	139.90	TRIG	NAVD88	1.2 cm.	PSOMAS	
1174	MW-05-85	CASING	1816735.65	6509490.12		MW	33.9843615	118.1721102	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	139.44	DIG	NAVD88	0.3 cm.	PSOMAS	
1175	MW-05-85	GROUND	1816736.55	6509490.14			33.9843640	118.1721101	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	139.96	TRIG	NAVD88	1.2 cm.	PSOMAS	

PEMACO SUPERFUND SITE

Monitoring Well Survey

PSOMAS ID	WELL/BORE ID	TYPE	NORTHING	EASTING	NOTES	FIELD_PT_CLASS	LATITUDE	LONGITUDE	XY_METHOD	XY_DATUM	XY_ACC_VAL	XY_SURVEY_ORG	GPS_EQUIP_TYPE	XY_SURVEY_DESC	ELEV_SURVEY_DATE	ELEVATION	ELEV_METHOD	ELEV_DATUM	ELEV_ACC_VAL	ELEV_SURVEY_ORG	ELEV_DESC
1066	MW-06-85	CASING	1816955.34	6509200.35		MW	33.9849639	118.1730673	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	140.65	DIG	NAVD88	0.3 cm.	PSOMAS	
1067	MW-06-85	GROUND	1816956.22	6509200.45			33.9849663	118.1730669	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	140.94	TRIG	NAVD88	1.2 cm.	PSOMAS	
1002	MW-07-130	CASING	1816449.20	6509844.30		MW	33.9835761	118.1709403	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	139.11	DIG	NAVD88	0.3 cm.	PSOMAS	
1003	MW-07-130	GROUND	1816450.03	6509844.03		MW	33.9835784	118.1709412	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	139.39	TRIG	NAVD88	1.2 cm.	PSOMAS	
1004	MW-07-75	CASING	1816532.57	6509815.83			33.9838050	118.1710347	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	139.32	DIG	NAVD88	0.3 cm.	PSOMAS	
1005	MW-07-75	GROUND	1816533.49	6509815.52		MW	33.9838076	118.1710357	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	139.66	TRIG	NAVD88	1.2 cm.	PSOMAS	
2027	MW-08-70	CASING	1816348.34	6509417.98	TOP OF CASING	MW	33.9832969	118.1723460	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	139.04	DIG	NAVD88	0.3 cm.	PSOMAS	
1016	MW-08-85	CASING	1816348.34	6509417.91		MW	33.9832969	118.1723462	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	138.97	DIG	NAVD88	0.3 cm.	PSOMAS	
2028	MW-08-85	CASING	1816348.35	6509417.75	TOP OF CASING	MW	33.9832970	118.1723467	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	138.96	DIG	NAVD88	0.3 cm.	PSOMAS	
1017	MW-08-85	GROUND	1816349.26	6509418.07			33.9832995	118.1723457	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	139.34	TRIG	NAVD88	1.2 cm.	PSOMAS	
1023	MW-09-70	CASING	1816612.50	6509256.69	2 WELLS UNDER LID	MW	33.9840220	118.1728795	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	139.66	DIG	NAVD88	0.3 cm.	PSOMAS	
1024	MW-09-70	GROUND	1816613.40	6509256.82	2 WELLS UNDER LID		33.9840245	118.1728791	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	139.94	TRIG	NAVD88	1.2 cm.	PSOMAS	
1023	MW-09-85	CASING	1816612.50	6509256.69	2 WELLS UNDER LID	MW	33.9840220	118.1728795	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	139.66	DIG	NAVD88	0.3 cm.	PSOMAS	
1024	MW-09-85	GROUND	1816613.40	6509256.82	2 WELLS UNDER LID		33.9840245	118.1728791	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	139.94	TRIG	NAVD88	1.2 cm.	PSOMAS	
1059	MW-10-110	CASING	1816427.89	6508720.36		MW	33.9835122	118.1746476	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	140.64	DIG	NAVD88	0.3 cm.	PSOMAS	
1060	MW-10-110	GROUND	1816428.92	6508720.50			33.9835150	118.1746471	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	141.07	TRIG	NAVD88	1.2 cm.	PSOMAS	
1057	MW-10-170	CASING	1816422.32	6508719.75		MW	33.9834969	118.1746495	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	140.75	DIG	NAVD88	0.3 cm.	PSOMAS	
1058	MW-10-170	GROUND	1816423.04	6508719.88			33.9834989	118.1746491	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	141.05	TRIG	NAVD88	1.2 cm.	PSOMAS	
1055	MW-10-75	CASING	1816417.49	6508719.11	2 WELLS UNDER LID	MW	33.9834836	118.1746516	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	140.62	DIG	NAVD88	0.3 cm.	PSOMAS	
1056	MW-10-75	GROUND	1816418.35	6508719.24	2 WELLS UNDER LID		33.9834860	118.1746512	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	141.03	TRIG	NAVD88	1.2 cm.	PSOMAS	
1055	MW-10-90	CASING	1816417.49	6508719.11	2 WELLS UNDER LID	MW	33.9834836	118.1746516	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	140.62	DIG	NAVD88	0.3 cm.	PSOMAS	
1056	MW-10-90	GROUND	1816418.35	6508719.24	2 WELLS UNDER LID		33.9834860	118.1746512	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	141.03	TRIG	NAVD88	1.2 cm.	PSOMAS	
1000	MW-11-100	CASING	1816186.41	6509926.05		MW	33.9828544	118.1706691	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	138.22	DIG	NAVD88	0.3 cm.	PSOMAS	
1001	MW-11-100	GROUND	1816187.35	6509925.80			33.9828569	118.1706700	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	138.59	TRIG	NAVD88	1.2 cm.	PSOMAS	
1237	MW-11-130	CASING	1816178.40	6509928.47		MW	33.9828324	118.1706611	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	138.09	DIG	NAVD88	0.3 cm.	PSOMAS	
1238	MW-11-130	GROUND	1816179.17	6509928.29			33.9828345	118.1706617	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	138.62	TRIG	NAVD88	1.2 cm.	PSOMAS	
1061	MW-12-150	CASING	1816795.67	6508770.06		MW	33.9845231	118.1744857	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	140.67	DIG	NAVD88	0.3 cm.	PSOMAS	
1062	MW-12-150	GROUND	1816796.48	6508770.16			33.9845253	118.1744854	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	140.95	TRIG	NAVD88	1.2 cm.	PSOMAS	
1063	MW-12-70	CASING	1816800.90	6508770.82	2 WELLS UNDER LID	MW	33.9845374	118.1744832	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	140.68	DIG	NAVD88	0.3 cm.	PSOMAS	
1064	MW-12-70	GROUND	1816801.88	6508770.84	2 WELLS UNDER LID		33.9845401	118.1744832	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	141.01	TRIG	NAVD88	1.2 cm.	PSOMAS	
1063	MW-12-90	CASING	1816800.90	6508770.82	2 WELLS UNDER LID	MW	33.9845374	118.1744832	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	140.68	DIG	NAVD88	0.3 cm.	PSOMAS	
1064	MW-12-90	GROUND	1816801.88	6508770.84	2 WELLS UNDER LID		33.9845401	118.1744832	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	141.01	TRIG	NAVD88	1.2 cm.	PSOMAS	
1009	MW-13-85	CASING	1816564.80	6509620.09		MW	33.9838927	118.1716805	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	139.48	DIG	NAVD88	0.3 cm.	PSOMAS	
1010	MW-13-85	GROUND	1816565.73	6509620.17			33.9838952	118.1716803	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	139.84	TRIG	NAVD88	1.2 cm.	PSOMAS	
2010	MW-14-70	CASING	1817060.65	6509594.82	TOP OF CASING	MW	33.9852551	118.1717667	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	149.55	DIG	NAVD88	0.3 cm.	PSOMAS	
2008	MW-14-70/90	GROUND	1817060.74	6509594.71	SHOT TOP CENTER LID-Per Brian Hendron, labeled wrong on lid and paperwork. MW-14-70/90 NOT MW-14-80/90		33.9852553	118.1717670	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	149.82	TRIG	NAVD88	1.2 cm.	PSOMAS	
2009	MW-14-70/90	GROUND	1817061.79	6509594.24	GROUND SHOT AT 1-FT NORTH		33.9852582	118.1717686	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	149.84	TRIG	NAVD88	1.2 cm.	PSOMAS	
2011	MW-14-90	CASING	1817060.58	6509594.49	TOP OF CASING	MW	33.9852549	118.1717677	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	149.52	DIG	NAVD88	0.3 cm.	PSOMAS	
2045	MW-19-70	CASING	1816927.49	6509568.49	TOP OF CASING	MW	33.9848891	118.1718528	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	145.96	DIG	NAVD88	0.3 cm.	PSOMAS	
2048	MW-19-70/90	GROUND	1816873.98	6509612.93	GROUND SHOT AT 1-FT NORTH		33.9847422	118.1717059	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	144.48	TRIG	NAVD88	1.2 cm.	PSOMAS	
2046	MW-19-90	CASING	1816927.22	6509568.48	TOP OF CASING	MW	33.9848883	118.1718528	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	145.99	DIG	NAVD88	0.3 cm.	PSOMAS	
1244	MW-20-70	CASING	1817061.00	6509263.70	2 WELLS UNDER LID	MW	33.9852545	118.1728589	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	141.57	DIG	NAVD88	0.3 cm.	PSOMAS	
2002	MW-20-70	CASING	1817061.25	6509263.70	TOP OF CASING	MW	33.9852552	118.1728589	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	141.59	DIG	NAVD88	0.3 cm.	PSOMAS	
1245	MW-20-70	GROUND	1817061.84	6509263.31	2 WELLS UNDER LID		33.9852568	118.1728602	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	141.88	TRIG	NAVD88	1.2 cm.	PSOMAS	
2000	MW-20-70/85	GROUND	1817060.94	6509263.62	SHOT TOP CENTER LID		33.9852543	118.1728592	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	141.90	TRIG	NAVD88	1.2 cm.	PSOMAS	
2001	MW-20-70/85	GROUND	1817062.16	6509263.88	CONC SHOT AT 1-FT NORTH		33.9852577	118.1728583	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	141.89	TRIG	NAVD88	1.2 cm.	PSOMAS	
1244	MW-20-85	CASING	1817061.00	6509263.70	2 WELLS UNDER LID	MW	33.9852545	118.1728589	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	141.57	DIG	NAVD88	0.3 cm.	PSOMAS	
2003	MW-20-85	CASING	1817060.82	6509263.62	TOP OF CASING	MW	33.9852540	118.1728592	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	141.55	DIG	NAVD88	0.3 cm.	PSOMAS	
1245	MW-20-85	GROUND	1817061.84	6509263.31	2 WELLS UNDER LID		33.9852568	118.1728602	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	141.88	TRIG	NAVD88	1.2 cm.	PSOMAS	
1129	MW-21-80	CASING	1817177.74	6509412.54	2 WELLS UNDER LID	MW	33.9855760	118.1723686	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	148.39	DIG	NAVD88	0.3 cm.	PSOMAS	
1130	MW-21-80	GROUND	1817178.44	6509412.85	2 WELLS UNDER LID		33.9855779	118.1723676	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	148.67	TRIG	NAVD88	1.2 cm.	PSOMAS	
1129	MW-21-90	CASING	1817177.74	6509412.54	2 WELLS UNDER LID	MW	33.9855760	118.1723686	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	148.42	DIG	NAVD88	0.3 cm.	PSOMAS	
1130	MW-21-90	GROUND	1817178.44	6509412.85	2 WELLS UNDER LID		33.9855779	118.1723676	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	148.67	TRIG	NAVD88	1.2 cm.	PSOMAS	
2007	MW-22-75	CASING	1817253.63	6509500.49	TOP OF CASING	MW	33.9857849	118.1720789	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	151.12	DIG	NAVD88	0.3 cm.	PSOMAS	
2004	MW-22-75/90	GROUND	1817253.52	6509500.22	SHOT TOP CENTER LID		33.9857846	118.1720798	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	151.64	TRIG	NAVD88	1.2 cm.	PSOMAS	
2005	MW-22-75/90	GROUND	1817254.78	6509500.04	CONC SHOT AT 1-FT NORTH		33.9857881	118.1720804	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	151.65	TRIG	NAVD88	1.2 cm.	PSOMAS	
1121	MW-22-90	CASING	1817253.56	6509500.29		MW	33.9857847	118.1720796	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	150.96	DIG	NAVD88	0.3 cm.	PSOMAS	
2006	MW-22-90	CASING	1817253.36	6509500.17	TOP OF CASING	MW	33.9857842	118.1720800	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	150.95	DIG	NAVD88	0.3 cm.	PSOMAS	
1122	MW-22-90	GROUND	1817254.48	6509500.08			33.9857873	118.1720803	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	151.61	TRIG	NAVD88	1.2 cm.	PSOMAS	
1102	MW-23-110	CASING	1816938.91	6509424.43		MW	33.9849197	118.1723280	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	140.24	DIG	NAVD88	0.3 cm.	PSOMAS	
1103	MW-23-110	GROUND	1816939.91	6509424.53			33.9849225	118.1723277	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	140.82	TRIG	NAVD88	1.2 cm.	PSOMAS	
1104	MW-23-145	CASING	1816938.25	6509429.68		MW	33.9849180	118.1723107	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	140.07	DIG	NAVD88	0.3 cm.	PSOMAS	
1105	MW-23-145	GROUND	1816939.22	6509429.83			33.9849206	118.1723102	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	140.73	TRIG	NAVD88	1.2 cm.	PSOMAS	
1211	MW-24-110	CASING	1816908.02	6509619.66	VAULT	MW	33.9848358	118.1716839	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	142.50	DIG	NAVD88	0.3 cm.	PSOMAS	
1215	MW-24-110	GROUND	1816910.04	6509618.85			33.9848413	118.1716865	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	143.12	TRIG	NAVD88	1.2 cm.	PSOMAS	
1206	MW-24-140	CASING	1816910.37	6509605.62	VAULT	MW	33.9848422	118.1717302	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	141.93	DIG	NAVD88	0.3 cm.	PSOMAS	
1210	MW-24-140	GROUND	1816912.36	6509604.73			33.9848476	118.1717331	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	143.05	TRIG	NAVD88	1.2 cm.	PSOMAS	
1195	MW-25-110	CASING	1816782.61	6509726.76		MW	33.9844917	118.1713299	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	147.81	DIG	NAVD88	0.3 cm.	PSOMAS	
1196	MW-25-110	GROUND	1816783.41	6509726.45			33.9844939	118.1713309	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	144.12	TRIG	NAVD88	1.2 cm.	PSOMAS	
1193	MW-25-130	CASING	1816778.19	6509728.73		MW	33.9844796	118.1713234	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	148.05	DIG	NAVD88	0.3 cm.	PSOMAS	
1194	MW-25-130	GROUND	1816779.03	6509728.33			33.9844819	118.1713247	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	143.93	TRIG	NAVD88	1.2 cm.	PSOMAS	
1222	MW-26-75	CASING	1816981.30	6509630.58		MW	33.9850372	118.1716482	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	146.10	DIG	NAVD88	0.3 cm.	PSOMAS	
1223	MW-26-75	GROUND	1816982.15	6509630.24			33.9850395	118.1716494	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	146.21	TRIG	NAVD88	1.2 cm.	PSOMAS	
1224	MW-26-90	CASING	1816984.36	6509638.99		MW	33.9850456	118.1716205	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	146.36	DIG	NAVD88	0.3 cm.	PSOMAS	
1225	MW-26-90	GROUND	1816985.20	6509638.67			33.9850480	118.1716216	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	146.32	TRIG	NAVD88	1.2 cm.	PSOMAS	
1202	MW-28-90	CASING	1816875.49	6509640.30		MW	33.9847465	118.1716156	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	148.40	DIG	NAVD88	0.3 cm.	PSOMAS	
1203	MW-28-90	GROUND	1816876.25	6509640.01			33.9847486	118.1716166	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	144.81	TRIG	NAVD88	1.2 cm.	PSOMAS	
1204	MW-29-90	CASING	1816897.72	6509583.66		MW	33.9848073	118.1718026	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	144.64	DIG	NAVD88	0.3 cm.	PSOMAS	
1205	MW-29-90	GROUND	1816898.47	6509583.29			33.9848094	118.1718038	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	143.94	TRIG	NAVD88	1.2 cm.	PSOMAS	
1256	MW-33-90	CASING	1816974.89	6509555.92		MW	33.9850192	118.1718945	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	147.58	DIG	NAVD88	0.3 cm.	PSOMAS	
1257	MW-33-90	GROUND	1816975.68	6509555.68			33.9850214	118.1718953	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	145.95	TRIG	NAVD88	1.2 cm.	PSOMAS	
1216	MW-34-110	CASING	1816912.79	6509626.44		MW	33.9848489	118.1716615	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	145.46	DIG	NAVD88	0.3 cm.	PSOMAS	

PEMACO SUPERFUND SITE

Monitoring Well Survey

PSOMAS ID	WELL/BORE ID	TYPE	NORTHING	EASTING	NOTES	FIELD_PT_CLASS	LATITUDE	LONGITUDE	XY_METHOD	XY_DATUM	XY_ACC_VAL	XY_SURVEY_ORG	GPS_EQUIP_TYPE	XY_SURVEY_DESC	ELEV_SURVEY_DATE	ELEVATION	ELEV_METHOD	ELEV_DATUM	ELEV_ACC_VAL	ELEV_SURVEY_ORG	ELEV_DESC
1217	MW-34-110	GROUND	1816913.59	6509625.99			33.9848511	118.1716630	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	145.02	TRIG	NAVD88	1.2 cm.	PSOMAS	
2047	MW-3-70/90	GROUND	1816928.22	6509567.74	GROUND SHOT AT 1-FT NORTH		33.9848911	118.1718552	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	144.48	TRIG	NAVD88	1.2 cm.	PSOMAS	
2026	MW-8-70/85	GROUND	1816348.31	6509417.98	SHOT TOP CENTER LID		33.9832968	118.1723460	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	139.36	TRIG	NAVD88	1.2 cm.	PSOMAS	
2029	MW-8-70/85	GROUND	1816349.80	6509418.02	AC SHOT AT 1-FT NORTH		33.9833009	118.1723458	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	139.36	TRIG	NAVD88	1.2 cm.	PSOMAS	
1127	MW-B-03	CASING	1817173.94	6509451.68		MW	33.9855657	118.1722395	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	148.44	DIG	NAVD88	0.3 cm.	PSOMAS	
1128	MW-B-03	GROUND	1817174.82	6509451.26			33.9855681	118.1722409	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	148.62	TRIG	NAVD88	1.2 cm.	PSOMAS	
1085	MW-B-15	CASING	1817053.27	6509470.54		MW	33.9852342	118.1721766	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	146.33	DIG	NAVD88	0.3 cm.	PSOMAS	
1086	MW-B-15	GROUND	1817054.17	6509470.92			33.9852367	118.1721753	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	146.64	TRIG	NAVD88	1.2 cm.	PSOMAS	
1169	MW-B-17	CASING	1817353.05	6509405.14		MW	33.9860577	118.1723940	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	156.10	DIG	NAVD88	0.3 cm.	PSOMAS	
1170	MW-B-17	GROUND	1817353.92	6509404.67			33.9860600	118.1723956	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	156.37	TRIG	NAVD88	1.2 cm.	PSOMAS	
1052	MW-B-21	CASING	1816940.29	6509529.46		MW	33.9849240	118.1719816	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	141.09	DIG	NAVD88	0.3 cm.	PSOMAS	
1053	MW-B-21	GROUND	1816941.13	6509529.25			33.9849263	118.1719823	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	141.46	TRIG	NAVD88	1.2 cm.	PSOMAS	
1070	MW-B-32	CASING	1817154.56	6509320.35		MW	33.9855118	118.1726726	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	145.14	DIG	NAVD88	0.3 cm.	PSOMAS	
1071	MW-B-32	GROUND	1817155.50	6509320.52			33.9855144	118.1726720	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	145.69	TRIG	NAVD88	1.2 cm.	PSOMAS	
1171	MW-B-38	CASING	1817429.69	6509345.61		MW	33.9862680	118.1725908	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	155.43	DIG	NAVD88	0.3 cm.	PSOMAS	
1172	MW-B-38	GROUND	1817430.64	6509345.43			33.9862706	118.1725914	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	155.73	TRIG	NAVD88	1.2 cm.	PSOMAS	
1068	MW-B-39	CASING	1817106.40	6509216.70		MW	33.9853790	118.1730142	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	145.76	DIG	NAVD88	0.3 cm.	PSOMAS	
1069	MW-B-39	GROUND	1817107.47	6509216.96			33.9853819	118.1730134	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	146.19	TRIG	NAVD88	1.2 cm.	PSOMAS	
1162	MW-SV-03	CASING	1817261.29	6509395.07		MW	33.9858055	118.1724267	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	150.38	DIG	NAVD88	0.3 cm.	PSOMAS	
1163	MW-SV-03	GROUND	1817262.16	6509394.82			33.9858079	118.1724275	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	150.66	TRIG	NAVD88	1.2 cm.	PSOMAS	
1152	MW-SV-05	CASING	1817003.91	6509525.76		MW	33.9850988	118.1719941	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	146.18	DIG	NAVD88	0.3 cm.	PSOMAS	
1153	MW-SV-05	GROUND	1817004.87	6509525.39			33.9851015	118.1719954	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	146.54	TRIG	NAVD88	1.2 cm.	PSOMAS	
1106	PA-05	CASING	1816917.55	6509409.88	VAULT	MW	33.9848610	118.1723759	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	139.44	DIG	NAVD88	0.3 cm.	PSOMAS	
1109	PA-05	GROUND	1816919.67	6509410.18			33.9848668	118.1723749	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	140.74	TRIG	NAVD88	1.2 cm.	PSOMAS	
1087	PB-01	CASING	1816998.52	6509467.10	VAULT	MW	33.9850837	118.1721876	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	142.39	DIG	NAVD88	0.3 cm.	PSOMAS	
1091	PB-01	GROUND	1817000.99	6509467.24			33.9850906	118.1721872	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	143.73	TRIG	NAVD88	1.2 cm.	PSOMAS	
1080	PB-02	CASING	1817077.61	6509418.34	VAULT	MW	33.9853008	118.1723489	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	145.69	DIG	NAVD88	0.3 cm.	PSOMAS	
1084	PB-02	GROUND	1817080.24	6509417.43			33.9853081	118.1723519	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	146.46	TRIG	NAVD88	1.2 cm.	PSOMAS	
1076	PB-03	CASING	1817080.27	6509343.91	VAULT	MW	33.9853078	118.1725944	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	143.54	DIG	NAVD88	0.3 cm.	PSOMAS	
1079	PB-03	GROUND	1817082.40	6509344.08			33.9853137	118.1725939	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	144.57	TRIG	NAVD88	1.2 cm.	PSOMAS	
1072	PB-05	CASING	1817163.19	6509373.09	VAULT	MW	33.9855358	118.1724986	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	144.57	DIG	NAVD88	0.3 cm.	PSOMAS	
1075	PB-05	GROUND	1817165.68	6509373.26			33.9855426	118.1724981	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	146.24	TRIG	NAVD88	1.2 cm.	PSOMAS	
1117	PB-07	CASING	1817260.45	6509347.29	VAULT	MW	33.9858029	118.1725843	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	148.05	DIG	NAVD88	0.3 cm.	PSOMAS	
1120	PB-07	GROUND	1817262.31	6509346.30			33.9858080	118.1725876	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	148.97	TRIG	NAVD88	1.2 cm.	PSOMAS	
1148	PC-05	CASING	1817083.33	6509584.27	VAULT	MW	33.9853173	118.1718016	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	149.15	DIG	NAVD88	0.3 cm.	PSOMAS	
1151	PC-05	GROUND	1817085.13	6509583.06			33.9853223	118.1718056	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	150.52	TRIG	NAVD88	1.2 cm.	PSOMAS	
1131	PC-06	CASING	1817168.07	6509550.29	VAULT	MW	33.9855500	118.1719142	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	148.94	DIG	NAVD88	0.3 cm.	PSOMAS	
1134	PC-06	GROUND	1817170.58	6509549.57			33.9855569	118.1719166	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	150.32	TRIG	NAVD88	1.2 cm.	PSOMAS	
1144	PD-04	CASING	1817077.71	6509510.77	VAULT	MW	33.9853015	118.1720440	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	146.32	DIG	NAVD88	0.3 cm.	PSOMAS	
1147	PD-04	GROUND	1817080.49	6509510.63			33.9853092	118.1720445	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	147.39	TRIG	NAVD88	1.2 cm.	PSOMAS	
1123	PD-06	CASING	1817235.47	6509499.45	VAULT	MW	33.9857350	118.1720823	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	149.50	DIG	NAVD88	0.3 cm.	PSOMAS	
1126	PD-06	GROUND	1817237.45	6509498.56			33.9857404	118.1720852	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	151.21	TRIG	NAVD88	1.2 cm.	PSOMAS	
1164	PD-08	CASING	1817301.11	6509457.55	VAULT	MW	33.9859152	118.1722208	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	148.99	DIG	NAVD88	0.3 cm.	PSOMAS	
1168	PD-08	GROUND	1817303.10	6509456.72			33.9859207	118.1722236	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	150.42	TRIG	NAVD88	1.2 cm.	PSOMAS	
1220	RW-01-95	CASING	1816950.13	6509589.41		MW	33.9849514	118.1717839	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	145.96	DIG	NAVD88	0.3 cm.	PSOMAS	
1221	RW-01-95	GROUND	1816950.90	6509589.02			33.9849535	118.1717852	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	145.27	TRIG	NAVD88	1.2 cm.	PSOMAS	
2049	RW-1-75	CASING	1816957.19	6509591.68	TOP OF CASING-per Brian Hendron, held numbering on casing, not paperwork	MW	33.9849708	118.1717764	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	146.31	DIG	NAVD88	0.3 cm.	PSOMAS	
2050	RW-1-75	GROUND	1816958.08	6509591.26	GROUND SHOT AT 1-FT NORTH-per Brian Hendron, held numbering on casing, not paperwork		33.9849732	118.1717778	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	145.73	TRIG	NAVD88	1.2 cm.	PSOMAS	
2051	RW-1-95	CASING	1816950.27	6509589.36	TOP OF CASING-per Brian Hendron, held numbering on casing, not paperwork	MW	33.9849517	118.1717840	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	145.96	DIG	NAVD88	0.3 cm.	PSOMAS	
2052	RW-1-95	GROUND	1816951.11	6509588.98	GROUND SHOT AT 1-FT NORTH		33.9849541	118.1717853	CGPS	NAD83	3 cm.	PSOMAS	T57		8/13/2013	145.30	TRIG	NAVD88	1.2 cm.	PSOMAS	
1247	WW-MW-25	CASING	1816942.19	6509211.12		MW	33.9849278	118.1730317	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	140.41	DIG	NAVD88	0.3 cm.	PSOMAS	
1248	WW-MW-25	GROUND	1816943.10	6509211.15			33.9849303	118.1730316	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	141.13	TRIG	NAVD88	1.2 cm.	PSOMAS	
1240	WW-MW-25A	CASING	1816942.71	6509205.65		MW	33.9849292	118.1730497	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	140.49	DIG	NAVD88	0.3 cm.	PSOMAS	
1241	WW-MW-25A	GROUND	1816943.59	6509205.72			33.9849316	118.1730495	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	141.15	TRIG	NAVD88	1.2 cm.	PSOMAS	
1242	WW-MW-25B	CASING	1816943.39	6509200.47		MW	33.9849310	118.1730668	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	140.78	DIG	NAVD88	0.3 cm.	PSOMAS	
1243	WW-MW-25B	GROUND	1816944.42	6509200.58			33.9849338	118.1730665	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	141.08	TRIG	NAVD88	1.2 cm.	PSOMAS	
1249	WW-MW-28	CASING	1816856.16	6509069.55		MW	33.9846907	118.1734982	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	141.23	DIG	NAVD88	0.3 cm.	PSOMAS	
1250	WW-MW-28	GROUND	1816857.16	6509069.69			33.9846934	118.1734977	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	141.51	TRIG	NAVD88	1.2 cm.	PSOMAS	
1251	WW-MW-28A	CASING	1816851.53	6509069.00		MW	33.9846780	118.1735000	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	141.10	DIG	NAVD88	0.3 cm.	PSOMAS	
1252	WW-MW-28A	GROUND	1816852.52	6509069.03			33.9846807	118.1734999	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	141.46	TRIG	NAVD88	1.2 cm.	PSOMAS	
1253	WW-MW-28B	CASING	1816846.54	6509068.14		MW	33.9846643	118.1735028	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	141.12	DIG	NAVD88	0.3 cm.	PSOMAS	
1254	WW-MW-28B	GROUND	1816847.54	6509068.26			33.9846670	118.1735024	CGPS	NAD83	3 cm.	PSOMAS	T57		7/24/2013	141.52	TRIG	NAVD88	1.2 cm.	PSOMAS	

APPENDIX C

Data Validation and Laboratory Reports
(on CD-ROM)

APPENDIX D

Historical Chemical Trends in Groundwater
(on CD-ROM)