AOC-65 IN-SITU CHEMICAL OXIDATION PHASE III ASSESSMENT REPORT

Prepared for:

Camp Stanley Storage Activity
Boerne, Texas

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EXECUTIVE SUMMARY

AOC-65 is located along the southwestern side of Camp Stanley Storage Activity (CSSA) and consists of Building 90 and potential contamination source areas associated with Building 90. The chlorinated solvent tetrachloroethene (PCE) was used as a cleaning agent in and around Building 90 for more than 30 years, and environmental investigations indicated that groundwater contamination was present on- and off-post. In 2002, a soil vapor extraction (SVE) system was installed to remove the VOC contamination in the vadose zone. This system, however, proved ineffective at reducing groundwater contaminant levels. While partial source area removal was accomplished by removing soil and rock west of Building 90, contamination sources underlying the building, immediately adjacent to the building, and in deep bedrock fractures remained to be addressed. In 2012, a new remedial approach utilizing In-Situ Chemical Oxidation (ISCO) was designed and implemented at AOC-65.

The success of the ISCO approach is based on a chemical oxidation process which involves increasing the oxidation state of a substance (e.g., chlorinated solvents like PCE) by introducing an oxidant. The design approach for treating the remaining PCE source at AOC-65 includes the injection of an oxidant into the subsurface so that it has direct contact with chlorinated solvents in the environment. The chlorinated solvents in the substrate would then be transformed into benign compounds.

Multiple injections of chemical oxidants have been conducted at AOC-65 to treat tetrachloroethene (PCE)-contaminated groundwater in a highly fractured karst limestone bedrock aquifer. Beginning in 2013, the initial phase of a Treatability Study, Phase I, was conducted. It included bench-scale testing with a small scale field application of the alkaline-activated oxidant sodium persulfate. The application was performed by injecting the sodium persulfate into a series of infiltration galleries in a trench excavated in bedrock just west of Building 90. Phase II of the Treatability Study was conducted in May and June of 2014 and consisted of a larger-scale ISCO application (22 tons of sodium persulfate) within the infiltration galleries as well as within four open borehole injection wells (IIWs) installed along the CSSA fenceline. The objective of this phase was to test the effectiveness of using the IIWs to create a “treatment curtain” to intercept contaminants mobilized during the injections within the infiltration trench. Results from the monitoring of Phase I and II of the Treatability Study indicated that the injection of the ISCO solution is capable of oxidizing VOCs; however, the radius of influence is limited.

Based on the results of the first two injections, a follow-on Phase III injection was performed that involved the injection of a larger volume of sodium persulfate (66 tons) into the AOC-65 groundwater system via the infiltration galleries and IIWs than had previously been attempted. This injection was performed in the fall of 2014 and follow up monitoring continued through June 2015. The results from this injection indicated that the infiltration trench requires large volumes of injected solution to develop an effective radius of influence and maintain adequate contact time with contaminants for oxidation to occur. Additionally, the large-volume

injection, while arguably more successful at oxidizing PCE within the UGR west of the trench than previous injections, was still unable to distribute oxidant across all suspected source areas of contamination, specifically to areas east of the trench where pneumatic transport of contaminated groundwater appears to occur.

This report describes the ISCO activities conducted during performance of the Phase III treatability study including a discussion of the monitoring network locations, analyses, and collection of field parameters; a discussion of the ISCO injection including the equipment, amount and distribution of chemicals; an overview of the monitoring results; and the resulting conclusions and recommendations.

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LIST OF ACRONYMS

µg/L	microgram per liter
AOC	Area of Concern
bgs	below ground surface
CO_2	carbon dioxide
CSSA	Camp Stanley Storage Activity
CY	cubic yards
DCE	Cis-1,2-dichloroethene
FI	Facility Investigation
GAC	granular activated carbon
HDPE	high-density polyethylene
IIWs	injection wells
ISCO	*In-Situ* Chemical Oxidation
IRA	interim removal action
KDT	Klozur Demand Testing
Lbs	pounds
LGR	Lower Glen Rose
LSE	large-scale mixing skid
NaOH	sodium hydroxide
ORP	oxidation-reduction potential
PCE	Tetrachloroethene
ppm	parts per million
PZ	piezometer
QED	QED Environmental Systems
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
SF_6	sulfur hexafluoride
SVE	soil vapor extraction
TCEQ	Texas Commission on Environmental Quality
TCE	Trichloroethene
TSW	treatability study well
UGR	Upper Glen Rose
UIC	Underground Injection Control
USEPA	U.S. Environmental Protection Agency
VEW	vapor extraction well

LIST OF ACRONYMS (*continued*)

VMPs	vapor monitoring points
VOC	volatile organic compound
WB	Westbay

SECTION 1
INTRODUCTION

1.1 PURPOSE

This report provides a summary of activities and results related to the in-situ chemical oxidation (ISCO) treatability study at Camp Stanley Storage Activity (CSSA) between September 2014 and June 2015. These activities were conducted in support of the study of the tetrachloroethene (PCE) and trichloroethene (TCE) groundwater plume at Area of Concern 65 (AOC-65), and included one round of ISCO chemical injections and three rounds of groundwater monitoring.

1.2 BACKGROUND

CSSA is located in northwestern Bexar County, about 19 miles northwest of downtown San Antonio. The installation consists of 4,004 acres immediately east of Ralph Fair Road, and approximately 0.5 miles east of Interstate Highway 10. AOC-65 is located along the western fenceline within the inner cantonment. Buildings 90 and 89 are located within AOC-65 (**Figure 1.1**). A general history of AOC-65 is provided in **Table 1.1**.

Table 1.1 General History of AOC-65

Date	Activity
Prior to 1995	Chlorinated solvent PCE was used as a cleaning agent in and around Building 90 for more than 30 years.
1995	Citrus-based cleaner usage replaced chlorinated solvents at Building 90.
1999	PCE was identified in wells in the vicinity of Building 90 during the Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI).
2001	Soil gas survey conducted at over 300 points in and around Building 90. The soil gas survey detected PCE and its natural degradation products TCE, *cis*-1,2-dichloroethene (DCE), and *trans*-1,2-DCE.
2002	RFI report for AOC-65 completed. Interim removal action (IRA) completed including the removal of surface soils underlying pavement and drainage swale west of Building 90. The drainage swale was lined with concrete to prevent rainwater run-off infiltration.

Table 1.1 General History of AOC-65 (*continued*)

Date	Activity
2002 - 2012	SVE treatability study system installed and operated within AOC-65. The SVE system was enhanced in 2006 and 2010, including installation of additional blowers and VEWs.
2011	Steam enhanced extraction treatability study conducted. SVE system returned to normal operations following test completion.
February 2012	Onset of ISCO related activities including a second IRA to remove contaminated soil and bedrock west of Building 90, and subsequent installation of an ISCO infiltration gallery within the excavation trench.
August 2012	Phase I ISCO injection including the injection of ~10 tons of sodium persulfate within the infiltration gallery trench and SIW-01.
August 2012	SVE system operations formally terminated due to its significantly decreased effectiveness. Specifics regarding the termination of SVE activities are provided in the ***2012 Update to AOC-65 Soil Vapor Extraction Operations and Maintenance Assessment Report*** (Parsons, 2012)
May 2013	Phase II ISCO injection including the injection of ~22 tons of sodium persulfate within the infiltration gallery trench, SIW-01, and four newly installed ISCO Injection Wells (IIWs).
September to November 2014	Phase III ISCO injection including the injection of ~66 tons of sodium persulfate within the infiltration gallery trench, SIW-01, and IIWs.

Activities associated with ISCO began with the initiation of the second IRA in February 2012 which removed contaminated soil beneath the concrete-lined drainage swale on the west side of Building 90. Past releases of PCE into the ditch are suspected to have contributed to the long-term dissolved phase PCE and TCE contamination in groundwater in the Upper and Lower Glen Rose (UGR and LGR, respectively) Formations locally. The IRA included the excavation of a ~320-foot long, 3.5-foot wide, and between 12- and 15-foot deep trench in this ditch. Post excavation, the trench was converted into a series of infiltration galleries to facilitate the application of the chemical oxidants.

A fourth ISCO injection conducted in the fall of 2015 will be described in a subsequent report following 9 months of monitoring. A summary of all ISCO related activities performed at AOC-65 is provided in **Table 1.2**.

1.3 PHASE III OBJECTIVE

The objective of the Phase III injection was to increase the contact time between oxidants and contaminants through the application of a significantly larger volume of ISCO chemicals over a longer injection duration than had been attempted in previous applications at AOC-65. This scale of injection would thereby increase the overall effectiveness of the application of the ISCO chemicals.

VOCs are oxidized in areas where sufficient contact time between activated sodium persulfate and VOCs has been established. As the activated persulfate solution comes into contact with PCE (or other chlorinated compounds), oxidation occurs. The direct oxidation of PCE in contact with activated persulfate is given by:

$$Na_2S_2O_8^{2-} + C_2Cl_4 + 4H_2O \rightarrow 2CO_2 + 2SO_4^{2-} + 8H^+ + 4Cl^- + 2Na$$

Where $Na_2S_2O_8^{2-}$ (sodium persulfate), C_2Cl_4 (PCE), and water are the reactants. The reaction results in the destruction of PCE with the addition of an oxygen atom and formation of carbon dioxide (CO_2), as well as the additional products sulfate and chloride, and the release of hydrogen and sodium. Therefore, increases in sulfate (and sodium) from the decomposition of persulfate, and increases in chloride from the destruction of chlorinated compounds, should accompany a reduction in chlorinated compound concentrations.

1.4 REPORT ORGANIZATION

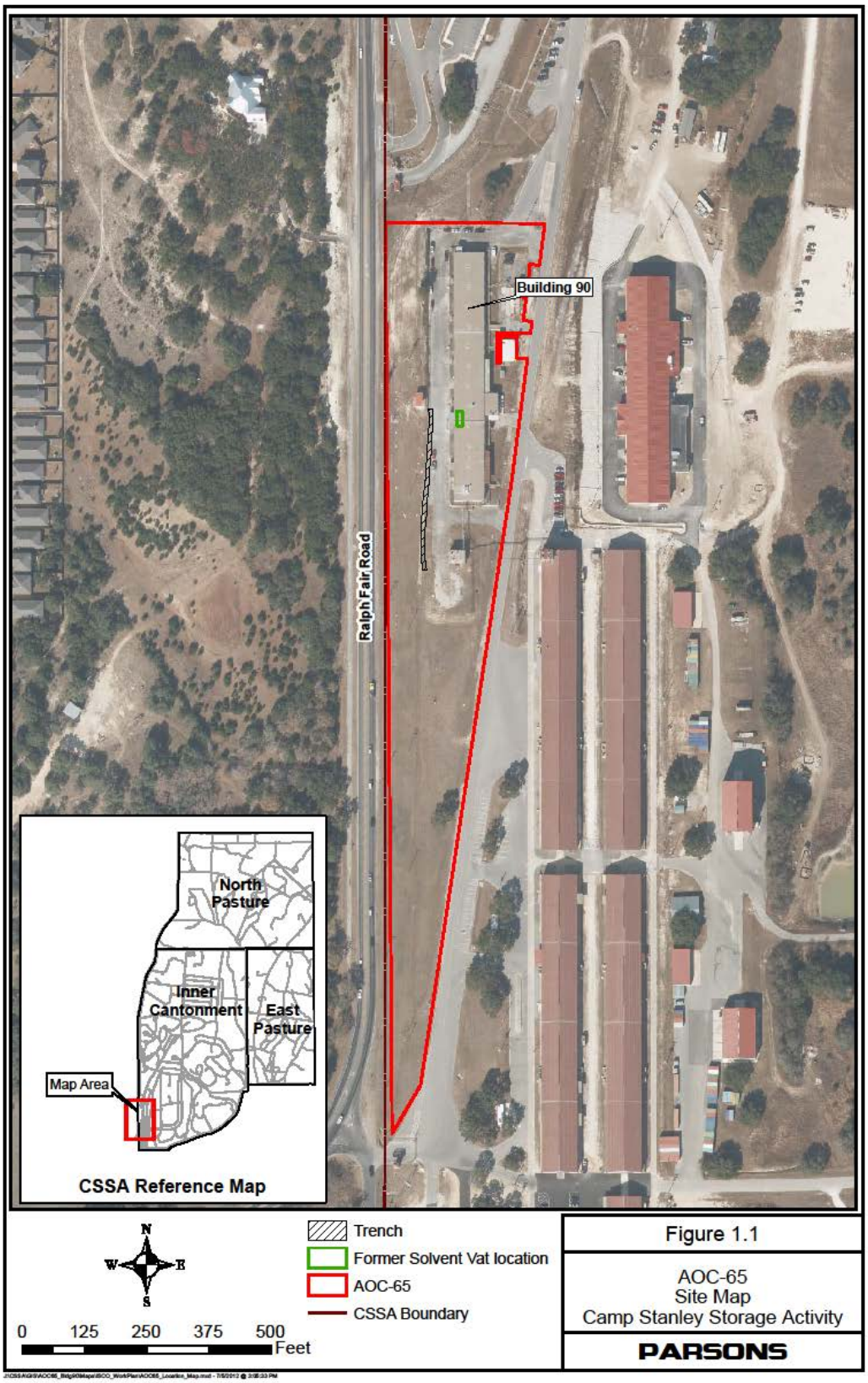
This report consists of seven sections. Section 1 presents an overview, including the project purpose, background information, and objectives. Section 2 describes the monitoring efforts associated with the ISCO treatability study including: monitoring network locations, analyses, and field parameter collection. Section 3 describes the Phase III ISCO injection including: specialized equipment used, amounts of chemicals applied, and the distribution of chemicals among application locations. Section 4 includes monitoring results following injections. Section 5 presents conclusions derived from data collected following three rounds of sodium persulfate application and monitoring. Discussions of individual well results are presented in Section 6, and References are included in Section 7.

Table 1.2 ISCO Activity Chronology

	2012	2013	2014	2015
January	Core sample collection for bench-scale testing.	Quarterly sampling		
February	IRA conducted: excavation of 1,000 CY of soil and bedrock creates 3.5-ft x 12 - 15-ft deep x 320-ft long trench.		Quarterly sampling	Quarterly sampling
March	Fracture documentation and analysis; UIC permit issued for injection of ISCO chemicals in infiltration gallery.			
April	Infiltration gallery construction completed; background/baseline sample collection from all ISCO monitoring locations.	Quarterly sampling; IIWs installed; baseline monitoring for Injection #2.		
May	Sulfur hexafluoride (SF_6) tracer test and bench-scale KDT demand test performed	**ISCO injection #2**: 48,500 lbs of activated sodium persulfate into infiltration gallery zones, IIWs, and SIW-01.	Quarterly sampling	Quarterly sampling
June	Installation of TSWs	Injection # 2 - 30-day post-injection sampling.		
July	Injection #1 baseline monitoring	Injection #2 - 60-day post-injection sampling.		
August	**ISCO injection #1:** 19,000 lbs of activated sodium persulfate into infiltration gallery zones and SIW-01; AOC-65 SVE system operations formally terminated	Injection #2 - 90-day post-injection sampling.	Quarterly sampling; baseline monitoring for injection #3.	***ISCO Injection #4**
September	Injection #1 - 30-day post-injection sampling; building 90 VEWs and VMPs plugged and abandoned.		**ISCO injection #3:** 145,464 lbs of activated sodium persulfate into infiltration gallery zones, IIWs, and SIW-01	Quarterly sampling
October	Injection #1 - 60-day post-injection sampling.		Injection #3 - 10-day, 24-day, 38-days post-injection sampling.	
November	Injection #1 - 90-day post-injection sampling.	Quarterly sampling	Injection #3 - 60-day post-injection sampling; quarterly sampling	***ISCO Injection #5;** quarterly monitoring
December	Injection #1 - 120-day post-injection sampling.			

* Future ISCO applications will be discussed under separate cover.

Figure 1.1 AOC-65 Location Map



SECTION 2
ISCO MONITORING

2.1 GROUNDWATER MONITORING NETWORK

The network of wells used to monitor AOC-65 is composed of Westbay wells, monitoring wells, and VEWs. The majority of these wells were designed and installed prior to ISCO injections as part of the CSSA groundwater monitoring program or part of former SVE treatability studies. Following the infiltration gallery installation in 2012, seven new wells were installed specifically for ISCO monitoring.

Three types of sampling locations were included in the monitoring network in order to monitor and assess the impact of the treatability study: baseline, performance, and observation:

Baseline Sampling Locations: Included sample collection at every available monitoring location within AOC-65 (i.e., monitoring wells, vapor extraction wells (VEWs), Westbay (WB) wells, and piezometers (PZs), as well as on- and off-post monitoring and water supply wells. (**Figure 2.1**).

Performance Sampling Locations: Includes a selection of the monitoring wells within the AOC-65: for example treatability study wells (TSWs), VEWs, shallow WB well zones (UGR-01 and LGR-01), and piezometers (PZs) (Figure 2.2)

Observation Sampling Locations: Included the off-post private supply wells with granular activated carbon (GAC) filtration systems installed, monitoring of the LGR within the deepest available zone at Westbay wells WB01 through WB04 (LGR09 zone at Westbay wells WB01, WB02, and WB03; LGR11 zone at WB04), and monitoring of on-post LGR monitoring wells adjacent to the treatment area within AOC-65. (**Figure 2.2**)

The full list of ISCO monitoring locations is presented in **Table 2.1.**

2.2 SAMPLE COLLECTION AND ANALYSIS

Groundwater samples were collected for laboratory analysis and field measurements were taken to assess various field parameters in real time. The sampling method varied and was tailored to the diversity of wells included in the monitoring network – wells with and without QED Environmental Systems (QED) pumps installed, Westbay multi-port monitoring wells, VEWs, PZs, and water supply wells with submersible electric pumps and GAC filters. Samples were collected with dedicated disposable poly bailers, Westbay equipment, or installed pumps. Both pre- and post-GAC samples were collected at GAC-equipped supply wells.

Table 2.1
ISCO Monitoring Locations

Off-Post Supply Wells
RFR-10
RFR-11
OFR-3
LS-5
LS-6
LS-7

Off-Post Monitoring Wells
I10-4
WB04 (11 zones)

On-Post Monitoring Wells
CS-MW6-LGR
CS-MW7-LGR
CS-MW8-LGR
CS-MW36-LGR
PZ-01
PZ-02
PZ-03
PZ-04
PZ-05
PZ-06
TSW-01
TSW-02
TSW-03
TSW-04
TSW-05
TSW-06
TSW-07
WB01 (9 zones)
WB02 (9 zones)
WB03 (9 zones)

On-Post Vapor Extraction Wells
VEW-15
VEW-16
VEW-17
VEW-18
VEW-19
VEW-20
VEW-21
VEW-22
VEW-23
VEW-24
VEW-25
VEW-26
VEW-27
VEW-28A
VEW-28B
VEW-29
VEW-30
VEW-31
VEW-32
VEW-33

Westbay Wells	
Zone Breakdown	
Zones:	
UGR-01	
LGR-01	WB01, 02, & 03
LGR-02	LGR-09
LGR-03	UGR-01
LGR-04	LGR-01
LGR-05 (WB01, 02, & 03 only)	
LGR-06	WB04
LGR-07	LGR-11
LGR-08	
LGR-09	
LGR-10 (WB04 only)	
LGR-11 (WB04 only)	

Notes:
1. All wells/WB zones sampled during Baseline sampling event(s).

2. Observation sampling locations.

3. Performance sampling locations.

4. Field parameters may be collected at PZ, TSW, and VEW locations periodically.

Groundwater samples were submitted to the laboratory for volatile organic compound (VOCs), metals, and anions (sulfate and chloride) analyses using U.S. Environmental Protection Agency (USEPA) methods SW8260B (VOCs), SW6010B (metals), and SW9056 (anions). Specific analytes for the various methods are provided in **Table 2.2**.

Table 2.2
Analyte List by Method

	VOC (short list)	**Metals**	**Anions**
Method	SW8260B	SW6010B	SW9065
Analytes	1,1-Dichloroethene, *cis*-1,2-Dichloroethene, PCE, TCE, *trans*-1,2-Dichloroethene, and Vinyl Chloride	Antimony, Beryllium, Cadmium, Chromium, Copper, Mercury, Nickel, Selenium, Silver, Thallium, and Zinc	Chloride, and Sulfate (as SO_4)

These analytes were chosen to monitor and measure the effects of the injection process. The presence and concentrations of VOCs in the samples give an indication of any changes to the original contaminant concentration levels and it's oxidation by products. An increase in the concentration of metals in the groundwater would be an indication of the mobilization of metals in response to changing geochemical conditions in the subsurface as a result of changes in pH. The concentrations of the anions sulfate and chloride are also anticipated to increase as a result of the injections. Increases in sulfate are likely a result of the degradation of sodium persulfate as contaminants or other naturally occurring organics are oxidized, while increases in chloride concentrations indicate the oxidation of chlorinated contaminants.

Field parameters included temperature, pH, oxidation-reduction potential (ORP), dissolved oxygen, and conductivity. These were collected to provide direct and indirect evidence of ISCO solution distribution, oxidizing geochemical conditions, and chlorinated solvent destruction. Additional information regarding implications of changing field parameter values is provided in Section 4.2. The field parameters were collected using a hand-held water quality multi-parameter meter - a YSI-556 (or similar). The parameters were collected at shallow monitoring locations provided there was greater than 0.5 foot of saturated thickness within the well. For deep wells, a bailer was used to collect a sample for field parameter analysis if no pump was installed; however, if sample collection with a bailer was deemed impracticable due to well design or configuration, no field parameters were collected (e.g. VEW-28A). Field parameters were not collected at Westbay wells unless samples were already being collected for analytical purposes.

Water levels were also collected when practicable. This was measured using a standard water level indicator. Depth to water was measured from the top of casing, and then used to calculate water table elevations. Pressures in Westbay well zones were recorded for water level calculation during scheduled sampling events.

Phase III pre-injection monitoring occurred on August 6 and September 16, 2014 at performance monitoring locations within AOC-65, selected on-post Westbay zones and LGR monitoring wells, and off-post private supply wells. Post-injection sampling events occurred 10, 24, 38, and 60 days following the start of the third ISCO injection at a selection of on-post performance monitoring locations. The 60-day event (November 2014) corresponded with scheduled quarterly sampling. Upon completion of the post injection sampling events, monitoring returned to a quarterly schedule. In addition to collecting groundwater samples, field testing for persulfate and collection of field parameters was completed at on-post monitoring locations. The sampling schedule is included in Appendix A.

VEW21
VEW20
PZ06
VEW15
PZ01
VEW29
VEW16
VEW19
VEW30
SIW01
VEW22
VEW31
VEW28
SIW02
TSW05
VEW23
VEW13
VEW32
VEW33
TSW01
WB03
CS-MW36-LGR
VEW24
VEW27
TSW02
VEW17
VEW25
VEW14
VEW18
TSW03
VEW26
TSW04
CS-MW6-LGR
PZ04
PZ03
I10-4
TSW07
TSW06
PZ02
CS-WB02
CS-MW7-LGR
PZ05
CS-MW8-LGR
CS-WB01
RFR-10
CS-WB04
OFR-3
RFR-11
LS-7
LS-5
LS-6

N
W
E
S

0 200 400 800
Feet

Monitoring Locations
Fracture trends identified in IRA
USGS mapped faults
Trench with ISCO Infiltration Gallery

Figure 2.1

AOC-65 ISCO
Monitoring Locations
Camp Stanley Storage Activity

PARSONS

SECTION 3
ISCO INJECTION

The Phase III sodium persulfate ISCO injection efforts at AOC-65 began on September 22, 2014 and were completed November 6, 2014. Approximately 145,400 lbs of powdered Klozur sodium persulfate oxidant mixed with 70,000 gallons of water (generating 76,300 gallons of 20% persulfate solution) and 27,000 gallons of 25% sodium hydroxide activator were injected as described below.

3.1 INJECTION EQUIPMENT

The Phase III injection system set-up was similar to that of the Phase II injection. Equipment included the large-scale mixing skid (LSE) provided by PeroxyChem, a 2,400-gallon mixing tank, diaphragm pump, and eductor with flowmeters to regulate application of oxidant and activator. Additionally, 300 feet of flexible high-density polyethylene (HDPE) were used to inject activated persulfate solution directly into IIWs.

Make-up water was acquired from CSSA's distribution system to mix the 20% persulfate solution recommended by PeroxyChem. The water from CSSA's distribution system is chlorinated (concentrations ranging between 0.7 and 2.0 ppm); however, PeroxyChem technical representatives indicated that, at these concentrations, the additional persulfate demand generated by the presence of chlorine is negligible and therefore suitable for use in this application.

3.2 INJECTION VOLUMES AND LOCATIONS

Activated ISCO solution was distributed into four IIWs, three treatment zones within the infiltration gallery, and SIW-01. ISCO solution was mixed in 1,150-gallon batches then activated while injected. Non-activated ISCO solution injection volumes for the initial injection effort are given in **Table 3.1**.

Activation of the ISCO solution occurred simultaneously with injection. Sodium hydroxide was introduced via an eductor located between the storage tank and injection manifold. Two vane-style flowmeters located up and downstream of the eductor were used to monitor volumes of persulfate and sodium hydroxide solutions to maintain appropriate dosages. In addition to activating the persulfate solution, supplementary sodium hydroxide was injected to neutralize the acids generated from the reduction of the persulfate. This additional volume is roughly equivalent to 13% of the required activation volume (**Table 3.1**).

Table 3.1 Phase III – Oxidant/Activator Injection Volumes

Injection Location	Klozur Persulfate Solution (gallons)	Sodium Hydroxide (activator + acid neutralization) (gallons)
Trench - Upper Zone	16,170	5,717
Trench - Middle Zone	32,340	11,433
Trench - Lower Zone	24,255	8,574
IIW-01	925	325
IIW-02	925	325
IIW-03	925	325
IIW-04	665	240
SIW-01	60	25
Total	76,265	26,964

SECTION 4
ISCO MONITORING RESULTS

Results from monitoring efforts associated with all ISCO applications including the Phase III injections are presented as tables and figures in **Appendix A** unless otherwise provided in text. ISCO monitoring included the collection of water quality parameter field readings (pH, conductivity, and oxidation-reduction potential) at various wells, the collection of groundwater samples for field testing of persulfate concentrations as well as laboratory analysis of groundwater samples for VOC, metals, and anion (chloride and sulfate) analysis.

4.1 FIELD PARAMETERS

Application of an oxidant, in particular sodium persulfate, can result in an alteration of subsurface geochemical conditions including: pH, conductivity, and ORP. Monitoring field parameters for changes in these geochemical conditions provides indirect evidence of ISCO solution movement along preferred subsurface flow paths. A selection of wells was also screened for Klozur solution, as described below in Section 4.1.4. Measurements were collected from performance monitoring locations within AOC-65. These measurements were only collected if water levels were greater than six inches above the total depth of the well. Field parameter results are presented in **Table A.1**.

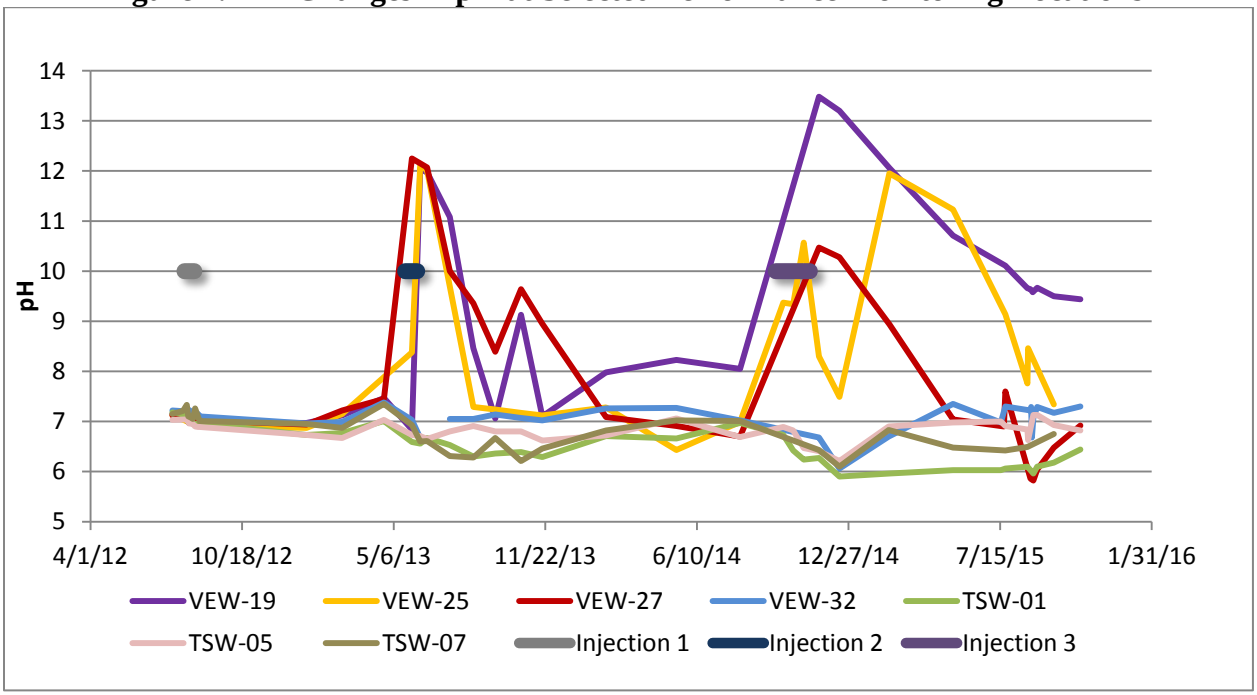
4.1.1 pH

Measurement of pH values near ISCO injection points provide a rough indication of which direction injected materials are moving in the subsurface. Sodium hydroxide has a very high pH value (12+) and activated sodium persulfate also exhibits very alkaline pH. Thus, when comparing neutral baseline pH values (~6.5-7.5) with post-injection values, areas affected by ISCO solution injection may exhibit increases in pH values. The magnitude of pH increase may also provide insight as to how well the monitoring point is hydraulically connected to the infiltration gallery or injection wells. Observable increases in pH may only occur if sufficient sodium hydroxide is present to neutralize the acid generated from the decomposition of the persulfate solution. Very acidic pH (2 or less) may be observed in areas where contaminants are being oxidized and the decomposition products are forming hydrochloric acid and where the sodium hydroxide supply is absent or has been exhausted.

Neutral or slightly acidic pH values do not necessarily mean a hydraulic connection between a particular monitoring point and injection point does not exist, however. As activated sodium persulfate interacts and degrades contaminants in the subsurface, acid is generated. Typically, an additional volume of sodium hydroxide, equivalent to approximately 30 to 35% of the volume required for persulfate activation, is injected with the activated persulfate solution to neutralize the acid generated during contaminant oxidation. If an insufficient amount of sodium

hydroxide is injected, alkaline conditions are not maintained, and acids generated will force pH toward more neutral or acidic conditions. **Figure 4.1** presents pH data acquired from performance monitoring locations following the Phase I, II, and III injections. During baseline field parameter collection, the normal range of pH found at AOC-65 is generally in the 6.8 to 7.3 range, and seven months following the Phase III injection, pH values are similar to those observed following the Phase II injections (ranging from 6 to 11.2). These higher pH values likely indicate the persistence of sodium hydroxide. pH values less than 7 indicate the generation of acid from contaminant degradation, such as at TSW-01, where a steady decline in pH values from the baseline measurement of 7.18 (July 2012) to 6.03 (July 2015) is observed. Data from groundwater samples collected at TSW-01 indicate an overall decline in PCE concentrations following an initial peak after the first ISCO injection (~64 ppm to 2.3 ppm from August 2012 to May 2015) which corroborates acid generation from PCE destruction.

Figure 4.1 Changes in pH at Selected Performance Monitoring Locations



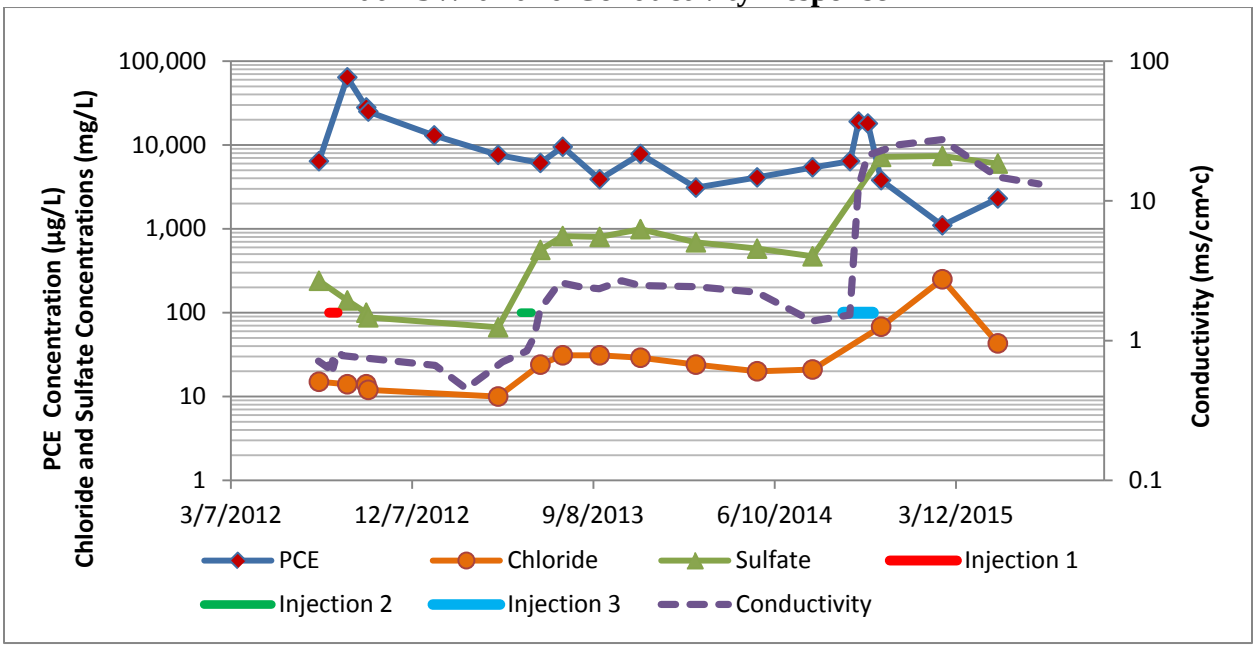
4.1.2 Conductivity

Similar to pH, conductivity data may provide ancillary information useful for determining where contaminant oxidation has occurred in response to ISCO injection. Alterations in subsurface geochemical conditions arise as a result of the breakdown of VOCs and/or the ISCO solution as the oxidation reaction progresses. An increase in conductivity values in monitoring points near the infiltration gallery and/or injection wells may indicate an increase in inorganic dissolved solids such as sulfate and chloride. An increase in sulfate may be attributed to the breakdown of the ISCO solution and an increase in chloride may be attributed to

the destruction of chlorinated contaminants. Thus, increases in conductivity may indicate areas where the ISCO solution is actively destroying chlorinated contaminants.

Figure 4.2 shows PCE, sulfate, chloride, and conductivity at TSW-01 during all three injections. During the first injection, little to no increases in conductivity are observed as a result of increases in anion concentrations. Following the second injection, conductivity increased slightly as a result of small increases in anion concentrations due to the reduction of persulfate solution and destruction of chlorinated compounds. A sharp (order of magnitude) increase in conductivity was observed following the third application of persulfate, in which anion concentrations increased an order of magnitude in response to a near order of magnitude reduction in PCE concentrations.

Figure 4.2 Changes in PCE and Anion Concentrations at TSW-01 and Conductivity Response



4.1.3 Oxidation-Reduction Potential

ORP is used as a general screening tool to determine whether subsurface geochemical conditions are oxidizing or reducing in an area. It is anticipated that ORP values in areas affected by injected ISCO fluids would remain in the oxidizing range (~100 mV or greater), as was the case at AOC-65 during injections, with few exceptions. Of the wells monitored for ORP, only VEWs 19, 29, and 31 indicated significant periods with continuous reducing conditions during ISCO injections, however each indicated a marked increase in ORP values following Phase III injections (Table A.1).

4.1.4 Persulfate Field Test Kits

Persulfate field test kits were utilized to screen for Klozur solution at monitoring locations within AOC-65 during and immediately after the third ISCO injection. Identification of persulfate solution within a well confirms that the ISCO solution is being distributed within the UGR. The positive identification of persulfate within a monitoring well indicates the well is in communication with the infiltration trench or one of the IIWs. Persulfate field test kit results are presented in **Table 4.1**.

During the second week of injection, persulfate was identified at TSWs 01 and 05 and at VEW-25. Subsequent tests confirmed the presence of persulfate at VEW-25 and TSW-01. No persulfate was identified at off-post wells (LS-5, LS-7, RFR-10) or at Westbay well zones (WB02-LGR09 and WB03-UGR01) or CS-MW36-LGR during or after the completion of Phase III injections.

Table 4.1 Persulfate Field Test Kit Results – ISCO Injection 3

Date	Activity	Well tested	Result (g/L)	Persulfate Injected to Date
10/2/14	ISCO Injection #3 In-progress	WB02-LGR09	0.0	1 ton – IIWs,
	First Round of Test Kit	WB03-UGR01	0.0	5 tons – upper trench zone,
	Samples Collected	TSW-01	**0.9625**	4 tons – middle trench zone,
		TSW-05	**0.07**	8 tons – lower trench zone
		VEW-25	**5.425**	
		CS-MW36-LGR	0.0	
10/15/14	ISCO Injection #3 In-progress	LS-5	0.0	2 ton – IIWs,
	Second Round of Test Kit	LS-7	0.0	7 tons – upper trench zone,
	Samples Collected	WB03-UGR01	0.0	10 tons – middle trench zone,
		CS-MW36-LGR	0.0	14 tons – lower trench zone,
		WB02-LGR09	0.0	125 lbs – SIW-01
		TSW-01	**12.565**	
		VEW-25	**17.325**	
		TSW-05	0.0	
10/29/14	ISCO Injection #3 In-progress	RFR-10	0.0	3 ton – IIWs,
	Third Round of Test Kit	LS-7	0.0	12 tons – upper trench zone,
	Samples Collected	WB03-UGR01	0.0	19 tons – middle trench zone,
		CS-MW36-LGR	0.0	21 tons – lower trench zone,
		WB02-LGR09	0.0	125 lbs – SIW-01
		TSW-01	**18.813**	
		VEW-25	**21.788**	
		TSW-05	0.0	

Table 4.1 Persulfate Field Test Kit Results – ISCO Injection 3 (*continued*)

11/13/14	ISCO Injection #3 Complete	WB03-UGR01	0.0	3 ton – IIWs,
	Fourth Round of Test Kit	CS-MW36-LGR	0.0	14 tons – upper trench zone,
	Samples Collected	WB02-LGR09	0.0	28 tons – middle trench zone,
				21 tons – lower trench zone,
				125 lbs – SIW-01

4.2 LABORATORY ANALYSES

4.2.1 Volatile Organic Compounds

The expected outcome resulting from an application of ISCO solution is a reduction in VOC concentrations including PCE. The sampling results for wells in the UGR and the upper and lower portions of the LGR are described below. Locations of the selected UGR wells discussed are provided in **Figure 4.3**. VOC analytical results for observation and performance monitoring locations are presented in **Tables A.2** and **A.3**, respectively. Individual PCE concentration trend figures for UGR and LGR monitoring locations are presented in **Appendix A**.

4.2.1.1 Upper Glen Rose (UGR)

The anticipated reduction of PCE was observed in the UGR wells like TSW-01, and VEWs 19, 25, and 27. For example; PCE at TSW-01 initially increased from a pre-injection concentration of 5.4 ppm to 19 ppm mid-way through the two-month-long injection event. Monitoring following the completion of the Phase III injection shows a marked decrease in PCE concentrations to 1.1 ppm in February 2015 (3 months following completion of the injection event); (shown in Figure 4.2). More recent PCE data for TSW-01 indicate PCE concentrations have rebounded somewhat, but are still below pre-Phase III injection concentration. Results from sampling at VEWs -19, -25, -27, and -32 show similar reductions in PCE concentrations, though at VEW-27 PCE concentrations eventually rebounded above the pre-Phase III injection concentrations.

Contrary to expectations some wells showed either no change or an increase in PCE concentrations. WB03-UGR-01 samples show little deviation in concentrations, indicating that although this well is adjacent to the infiltration gallery, little if any vertical transport of activated sodium persulfate has occurred at this location. Additional UGR wells located near the infiltration gallery (TSW-03, TSW-04, and TSW-07) also showed minimal deviations in PCE concentrations. Samples from TSW-05 indicated a steady increase in PCE concentrations (**Figure 4.4**). TSW-05 is located on the opposite side of building 90 (eastern side) than the infiltration trench and the bulk of the monitoring/observation wells. PCE concentrations at TSW-05 rose from a pre-Phase III concentration of 150 ppb to 680 ppb six months after the injections were completed.

Figure 4.3 Selected UGR Well Locations

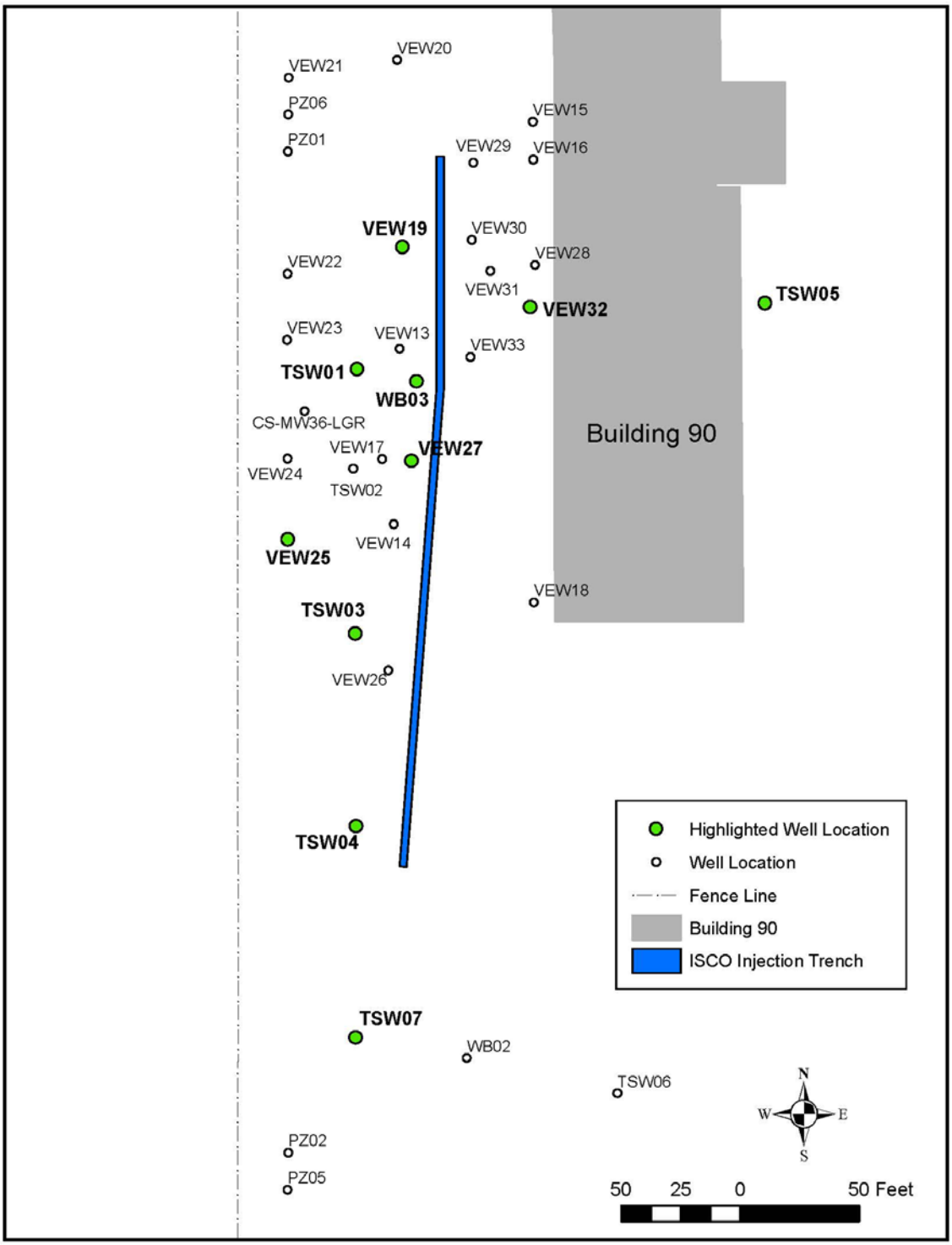
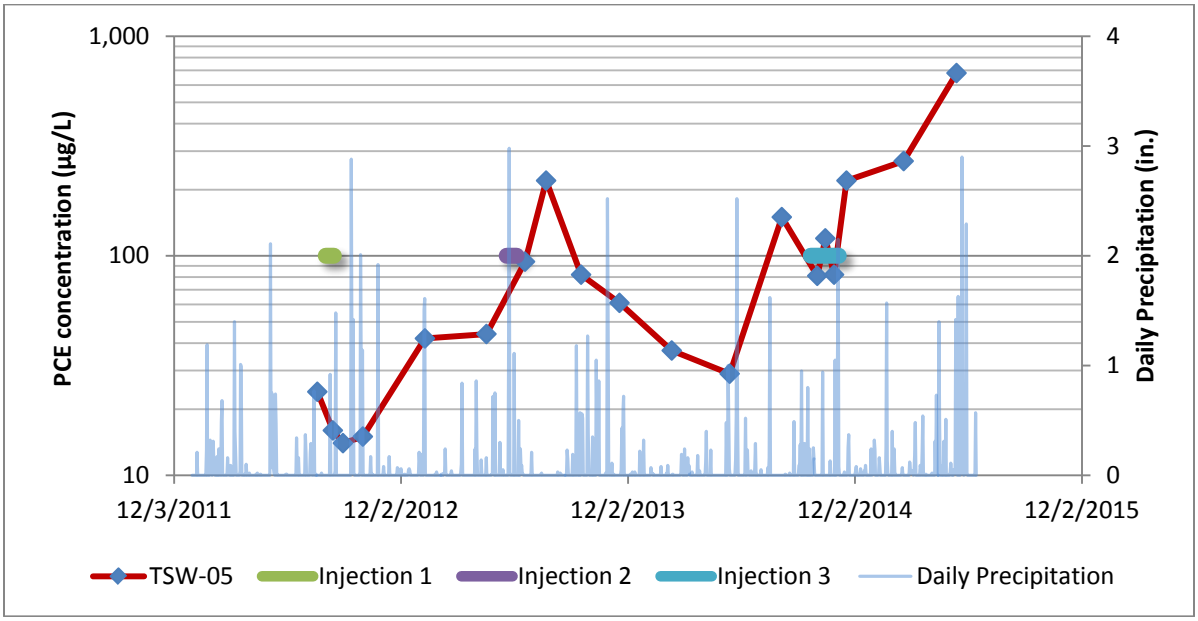


Figure 4.4 TSW-05 PCE Concentration Trend



4.2.1.2 Lower Glen Rose (LGR)

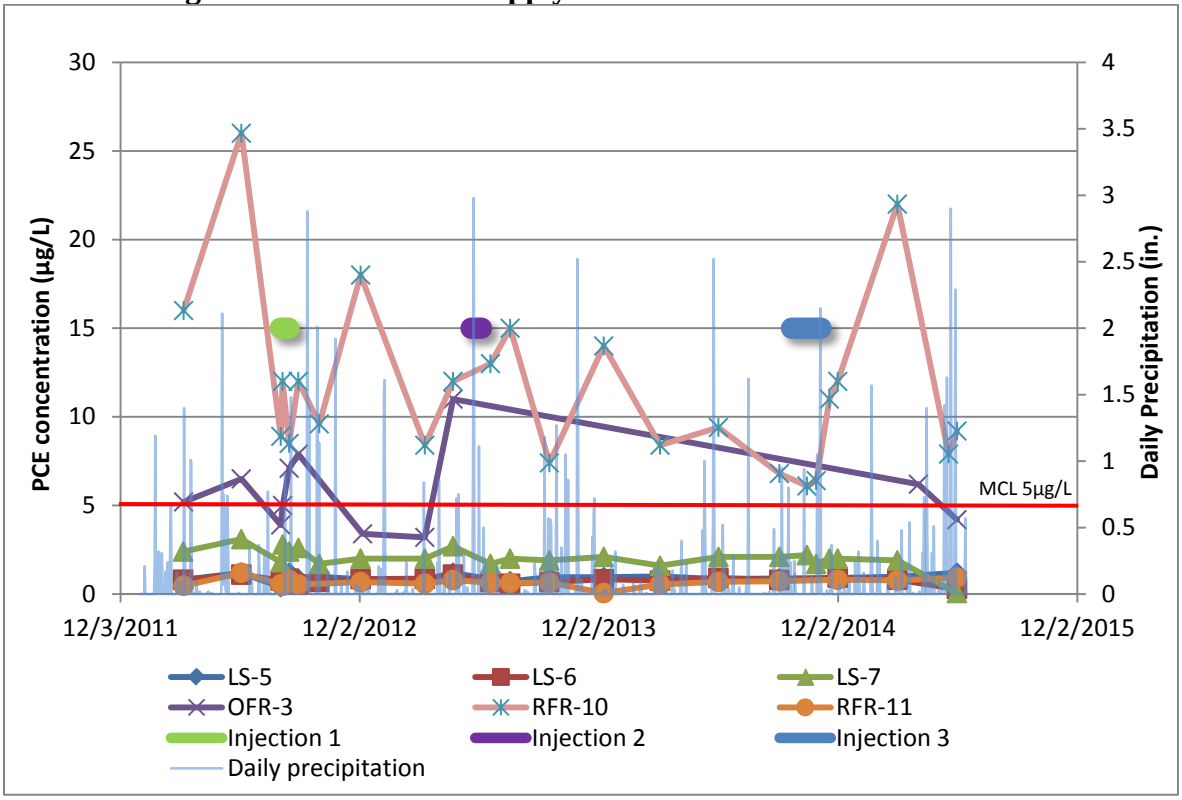
Monitoring wells installed within the upper portion of the LGR (WB01-LGR01, WB02-LGR01, WB03-LGR01, and WB04-LGR01) indicated only slight fluctuations in PCE concentrations. These fluctuations, whether increasing or decreasing, are difficult to attribute directly to the injected ISCO solution during Phase III injections or to changes in groundwater levels from drought conditions or precipitation.

Within the productive portion of the LGR (the lower portion), no significant changes in VOC concentrations were observed at any of the off-post private supply wells (**Figure 4.5**). These wells are of particular importance due to their usage and potential impacts to receptors. These off-post water supply wells will continue to be monitored following the completion of ISCO monitoring efforts.

4.2.2 Metals

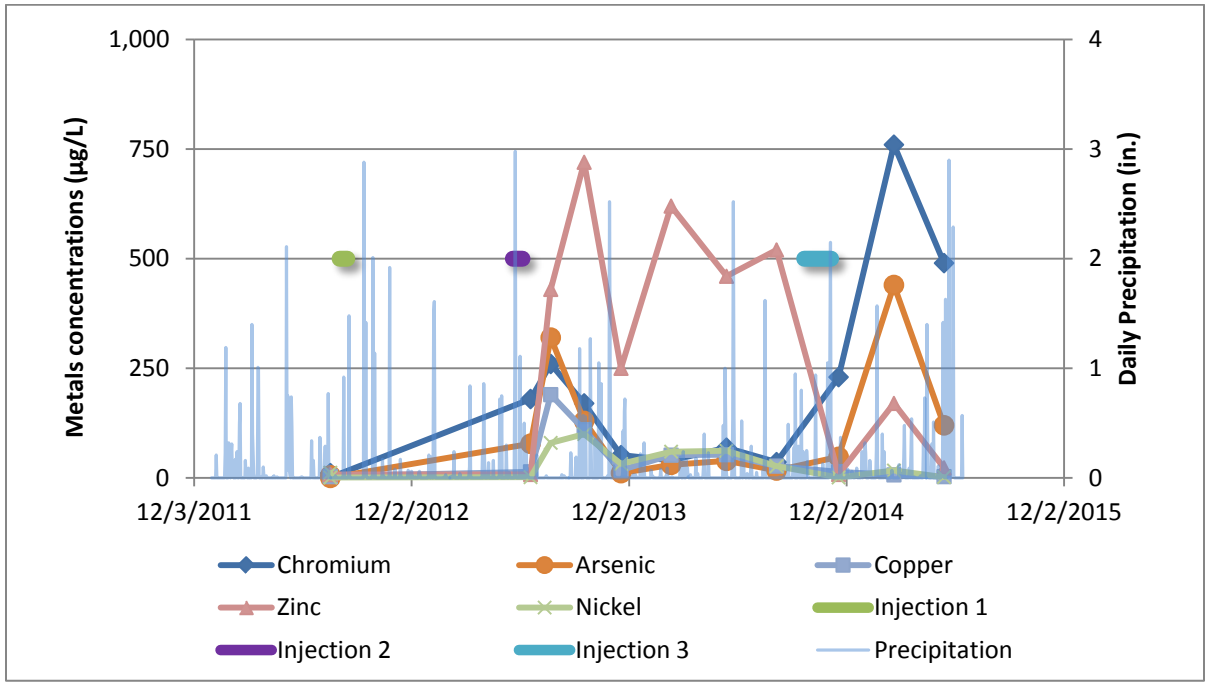
Metals mobilization is a possible result of the oxidation processes. An increase in metals concentrations is possible due to the changing geochemical conditions in the subsurface as a result of changes in pH. Results from laboratory analyses for metals at observation and performance monitoring locations are presented in **Tables A.4** and **A.5**, respectively.

Figure 4.5 Off-Post Supply Well PCE Concentration Trends



The analytical results for samples collected at off-post monitoring locations during and following all three ISCO injections generally show little deviation from baseline concentrations. However, analytical results from samples collected at performance monitoring wells indicate significant increases in chromium and arsenic concentrations following ISCO injections and smaller increases in copper, nickel, and zinc concentrations. Chromium concentrations began increasing following the first ISCO injection, and increased sharply following the second and third ISCO injections. Arsenic concentrations appear unaffected following the first injection, and then rose sharply following the second and third injections. In some cases both chromium and arsenic concentrations appear to be returning to baseline concentrations (VEWs 19 and 25), while at other wells, the concentrations for one or both remained elevated (TSWs 03, 04, and 07, and WB02-LGR-01). Copper, nickel, and zinc concentrations spiked following the second and third injections, and while copper and nickel returned to concentrations similar to baseline conditions, zinc concentrations remained elevated (VEWs 19 and 25). Changes in metals concentrations at VEW-25 are shown in **Figure 4.6**, additional figures depicting changes in metals concentrations at selected monitoring locations are presented in Appendix B.

Figure 4.6 VEW-25 Changes in Metals Concentrations



4.2.3 Anions (Sulfate and Chloride)

Increases in sulfate and chloride concentrations are anticipated following ISCO injections. Increases in sulfate are likely a result of the degradation of sodium persulfate as contaminants or other naturally occurring organics are oxidized, while increases in chloride concentrations reflect the oxidation of chlorinated contaminants. Increases in chloride concentrations generally occur where a significant increase in sulfate is also observed, although increases in sulfate concentrations are observed in some wells with little increase in chloride concentrations. This indicates a dependency on the degradation of persulfate (and thereby increases in sulfate) for increases in chloride concentrations. However, increases in sulfate concentrations alone may not indicate the oxidation of PCE or other VOC contaminants, as the oxidation of naturally occurring oxidant demands (other organic material in the soil or groundwater in the subsurface) will also oxidize in the presence of persulfate. In these instances persulfate degrades, oxidizing these materials in the absence of chlorinated contaminants. Additionally, the absence of chloride may be a result of the precipitation of salts, thus low chloride concentrations may be present where high sulfate concentrations exist.

Analytical results for sulfate and chloride for observation and performance monitoring locations are presented in **Table A.6** and **A.7**, respectively. Analytical results for samples collected at off-post monitoring locations during and following ISCO injections show little deviation from baseline concentrations.

Increases in sulfate and chloride concentrations mostly occurred following the completion of persulfate applications. Increases in both sulfate and chloride concentrations were observed within AOC-65 at TSWs 01 (Figure 4.2), 03, and 04, and VEWs, 19, 25 and 27.

SECTION 5
Individual Well Results

5.1 GENERAL

Results of the ISCO injection vary by well location. In some instances it appears that the destruction of VOCs (PCE) is taking place. At other locations, it appears that injection of sodium persulfate has had little to no effect or has resulted in overall increase in VOC concentrations due to displacement of impacted groundwater within the UGR.

5.2 UGR WELLS

Results from the following selected wells are discussed in greater detail to give a broad idea of ISCO effectiveness within AOC-65: TSW-01, TSW-05, TSW-07, VEW-19, VEW-25, VEW-27, and WB03-UGR-01. Each of these wells is screened in the UGR formation with total depths ranging from 21 to 40 feet bgs. A summary of well depths and screen intervals for the selected UGR wells is provided in **Table 5.1** and a summary of key monitoring results for each well is provided in **Table 5.2.** Locations of selected UGR wells within AOC-65 are shown in **Figure 5.1**.

Table 5.1 Selected UGR Well Statistics

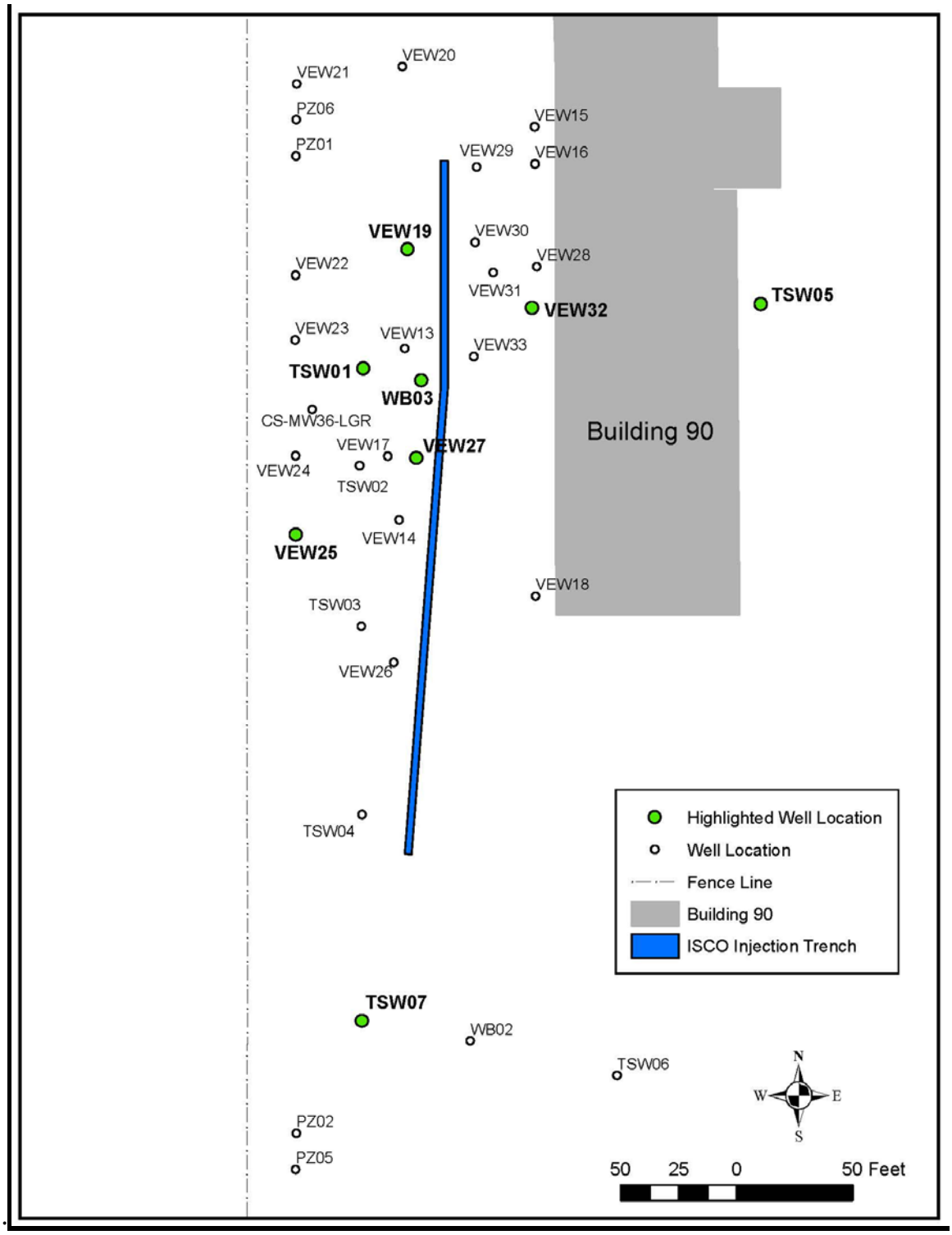
Well	Total Depth (ft bgs)	Screened Interval (ft bgs)
TSW-01	40	10-40
TSW-05	40	10-40
TSW-07	40	10-40
VEW-19	25	5-25
VEW-25	21	6-21
VEW-27	21	6-21
VEW-32	25	5-25
WB03-UGR-01	---	20-37

Table 5.2 Oxidation Indicator Observations at Selected UGR Wells

Parameter	Results Indicitative of ISCO reaction	Well ID	2 months after injections began (11/18/14)			5 months after injections began (2/19/15)			8 months after injections began (5/14/15)		
			Decrease	Stable	Increase	Decrease	Stable	Increase	Decrease	Stable	Increase
VOCs	VOCs (PCE) concentrations are expected to decrease in wells where oxidation is occurring.	TSW-01	✓			✓					x
		TSW-05			x			x			x
		TSW-07		x			x			x	
		VEW-19	✓			✓					x
		VEW-25	✓			✓				x	
		VEW-27	✓			✓					x
		VEW-32	✓					x	✓		
		WB03-UGR-01			x	✓			✓		
Chloride	Chloride concentrations are expected to increase or be elevated in wells where VOCs have been oxidized.	TSW-01			✓			✓	x		
		TSW-05		x			x			x	
		TSW-07			✓			✓			✓
		VEW-19			✓			✓	x		
		VEW-25			✓			✓	x		
		VEW-27			✓			✓	x		
		VEW-32		x			x			x	
		WB03-UGR-01	not sampled				x			x	
pH	**Increase** - indicates presence of activator, connected flowpath from infiltration gallery. **Decrease** - indicates areas where hydrochloric acid may have formed during the oxidation process.	TSW-01	x			x			x		
		TSW-05		x			x			x	
		TSW-07	x				x		x		
		VEW-19			x			x			x
		VEW-25			x			x			x
		VEW-27			x			x		x	
		VEW-32		x			x			x	
		WB03-UGR-01	not sampled			not sampled			not sampled		
Sulfate	Sulfate concentrations are expected to increase or be elevated (above 1,000 ppb) in wells where the ISCO solution has been consumed during oxidation or decomposed.	TSW-01			✓			✓	x		
		TSW-05		x			x			x	
		TSW-07	x					✓			✓
		VEW-19			✓	x			x		
		VEW-25			✓			✓	x		
		VEW-27			✓	x			x		
		VEW-32		x			x			x	
		WB03-UGR-01	not sampled				x			x	
Metals	Metals concentrations may be effected by changes to pH. Where pH is acidic, metals may become soluable	TSW-01			✓	x					✓
		TSW-05		x			x			x	
		TSW-07	x					✓			✓
		VEW-19			✓			✓	x		
		VEW-25			✓			✓	x		
		VEW-27			✓	x			x		
		VEW-32		x			x			x	
		WB03-UGR-01	not sampled				x			x	

Anticipated response to ISCO Injection
x Observed response
✓ Observed response likely due to ISCO injection

Figure 5.1 Selected UGR Well Location Map



5.2.1 TSW-01

TSW-01 is an example of where the injection of ISCO solution within the trench infiltration gallery has been moderately successful. During the injection, persulfate was positively identified within samples collected from the well using persulfate field test kits. Knowing that the injected persulfate is within the vicinity of the well, it is expected that primary indications of the oxidation of PCE would also be observed within this well. Following the Phase III injection, PCE concentrations declined and continued to decline five months after the injection. During this time chloride and sulfate concentrations increased.

The increase in chloride and sulfate was a result of the destruction of PCE, and the breakdown of sodium persulfate at TSW-01 or along a flowpath connecting the trench to the well. Additionally, there was a decrease in pH during the monitoring period. A decrease in pH following the ISCO solution injection may be due to the generation of acid during the oxidation of PCE. Acid is typically neutralized with the application of additional sodium hydroxide during the ISCO solution injection. This additional sodium hydroxide is approximately equivalent to 30% of the volume required to activate a given volume of oxidant solution. The additional sodium hydroxide is meant to buffer acid formation during the oxidation process; however, if insufficient volume of sodium hydroxide is applied, groundwater pH will tend to be more acidic (pH < 7). It is likely that the change in pH observed at TSW-01 allowed naturally occurring metals to become soluble, which resulted in elevated metals concentrations.

Eight months after the injections, PCE concentrations began to rise. PCE concentrations were less than the pre-injection concentrations, yet well above the MCL (5 ug/L) for PCE. Chloride and sulfate concentrations declined as well, which is an indication that oxidation of PCE is no longer occurring.

5.2.2 VEWs 19, 25, and 27

VEWs 19, 25, and 27 indicate similar responses to ISCO injections. While all three are west of the trench, VEW-19 and 27 are adjacent (less than ~15 feet) to the trench, while VEW-25 is located along the fenceline ~50 feet away. VEW-19 is near the northern terminus of the trench, but VEW-25 and 27 are closer to the middle. Each of these wells is similarly constructed, though VEW-19 is slightly deeper. During the Phase III injection, persulfate was identified within VEW-25. No samples were collected from VEWs 19 or 27 for persulfate field test kit analysis. Sample results from these wells indicated decreases in PCE concentrations during the first five months following Phase III injections, and a slight increase after eight months. All three indicated significant increases in chloride and sulfate concentrations which may be attributable to the destruction of PCE and decomposition of sodium persulfate. Unlike at TSW-01, samples collected from these wells generally were caustic (pH greater than 7), indicating the presence of excess activator/buffer solution (sodium hydroxide).

5.2.3 TSW-07

TSW-07 is located south of the infiltration trench and slightly west. Samples collected at this well did not indicate PCE oxidation at this location is occurring. PCE concentrations from samples collected prior to and following ISCO injections were all below the MCL and remained relatively stable. With little PCE to oxidize, increases in chloride or sulfate concentrations would not be anticipated unless contamination located between the trench and well was treated. There is evidence of elevated chloride and sulfate; however the concentrations are highest prior to the Phase III injections. The chloride concentrations decreased over the eight months of monitoring, and sulfate concentrations initially decline before beginning to increase five months after Phase III injections began. This indicates the elevated concentrations are likely the product of previous injections (Phase II), and the increase in sulfate concentrations is the influx of sulfate from persulfate decomposition following Phase III. During Phase III, pH remained stable and near neutral to slightly acidic, further indicating that there was little influence from the generation of acid or the effects of sodium hydroxide. Although metal concentrations at TSW-07 trend upward, the lack of evidence suggesting oxidation of PCE is occurring at this location likely means these increases are due to migration (along with sulfate) from an area closer to the trench.

5.2.4 TSW-05 and VEW-32

While oxidation of PCE appears to occur mainly in the northern portion west of the infiltration trench, displacement of contaminants and migration appears to occur on the east side of the trench. VEW-32 and TSW-05 are both located on the east side of the trench with VEW-32 approximately 40 feet and TSW-05 approximately 120 feet east of the trench. The basic indicators of oxidation of PCE are the reduction in PCE concentrations and an increase in chloride and sulfate concentrations. Following the Phase III injection a significant decrease in PCE concentrations was observed at VEW-32; however, no increase in chloride concentrations was observed, only a slight increase in sulfate (less than 1,000 ppb) was observed, and pH remained near neutral. If PCE concentrations are reduced with no increase in chloride concentration to account for VOC destruction, then it is assumed that displacement, rather than destruction, is actually occurring. Sample results from TSW-05 further east of the trench appear to agree with this. A steady increase in PCE concentrations was observed in the months following the Phase III injections, and chloride, sulfate, and metals concentrations remained stable (similar to baseline concentrations) throughout the duration of Phase III monitoring. pH at TSW-05 was slightly acidic, however it remained stable and near neutral.

Although persulfate was identified at a very low concentration at TSW-05 during the injection, it was more likely the result of human error in performing the persulfate field test kit analysis rather than a positive persulfate result. There is little evidence to support that the injected ISCO solution or the products of oxidation or destruction of persulfate have migrated along a flowpath from the trench to or near TSW-05 (or even VEW-32). No increases in

chloride, sulfate, or metals concentrations or change in pH indicates there is no direct flow from the trench to the well. Increasing PCE concentrations may, however, indicate that groundwater mounding caused by the application of large volumes of ISCO solution and activator changed the local flow dynamics, and caused the pneumatic displacement of contaminated groundwater to the east.

5.2.5 WB03-UGR-01

WB03-UGR-01 is located approximately 100 feet south of the northern end of the infiltration trench, and is immediately adjacent to the trench, similar to VEWs 19 and 27. This monitoring location is one of many sampling zones within WB03. The well is completed in an open borehole with packers isolating the borehole above and below the sample port. The WB03-UGR-01 sampling interval begins slightly deeper (from 20 to 37 feet bgs) than the TSWs, and the sample port is located at the base of the interval.

The UGR zone at WB03 has historically had high PCE concentrations, typically in the 10-20 ppm range, with occasional concentrations below 1 ppm. Since WB03 is located so close to the infiltration trench, significant reductions in VOCs including PCE and increases in chloride concentrations were expected following persulfate injection. This was not the case however, and PCE concentrations appeared unaffected. Additionally, only very slight changes in chloride and sulfate concentrations were observed. pH is not measured at WB zones, but metals concentrations appeared stable, indicating that pH was also stable, or at least not acidic enough to solubilize naturally occurring metals. Thus, it is likely that although WB03 is adjacent to the infiltration gallery, there is no direct vertical flow path from the base of the trench (at 12 to 15 feet bgs) to the UGR sample zone (beginning at 20 feet bgs) at this location.

5.3 LGR WELLS

Wells screened within the LGR at AOC-65 generally did not indicate any direct influence of Phase III persulfate injections. The LGR monitoring locations within AOC-65 consist of three WB wells, two PZs, and one monitoring well. Two zones in each of the WB wells are monitored: one zone at the top of the LGR (LGR-01) and one zone at the base of the LGR (LGR-09). LGR well locations monitored within AOC-65 during Phase III ISCO injections are shown on **Figure 5.2**. A summary of individual LGR well depths and screen intervals is provided in **Table 5.3**.

Of the nine LGR locations monitored following ISCO injections, five are screened at or just below the UGR/LGR contact, and four are screened near the base of the LGR. The four locations screened near the base of the LGR are most similar to the off-post private supply wells in that they are screened at similar depths in the most productive portion of the LGR.

Figure 5.2 Selected LGR Well Location Map

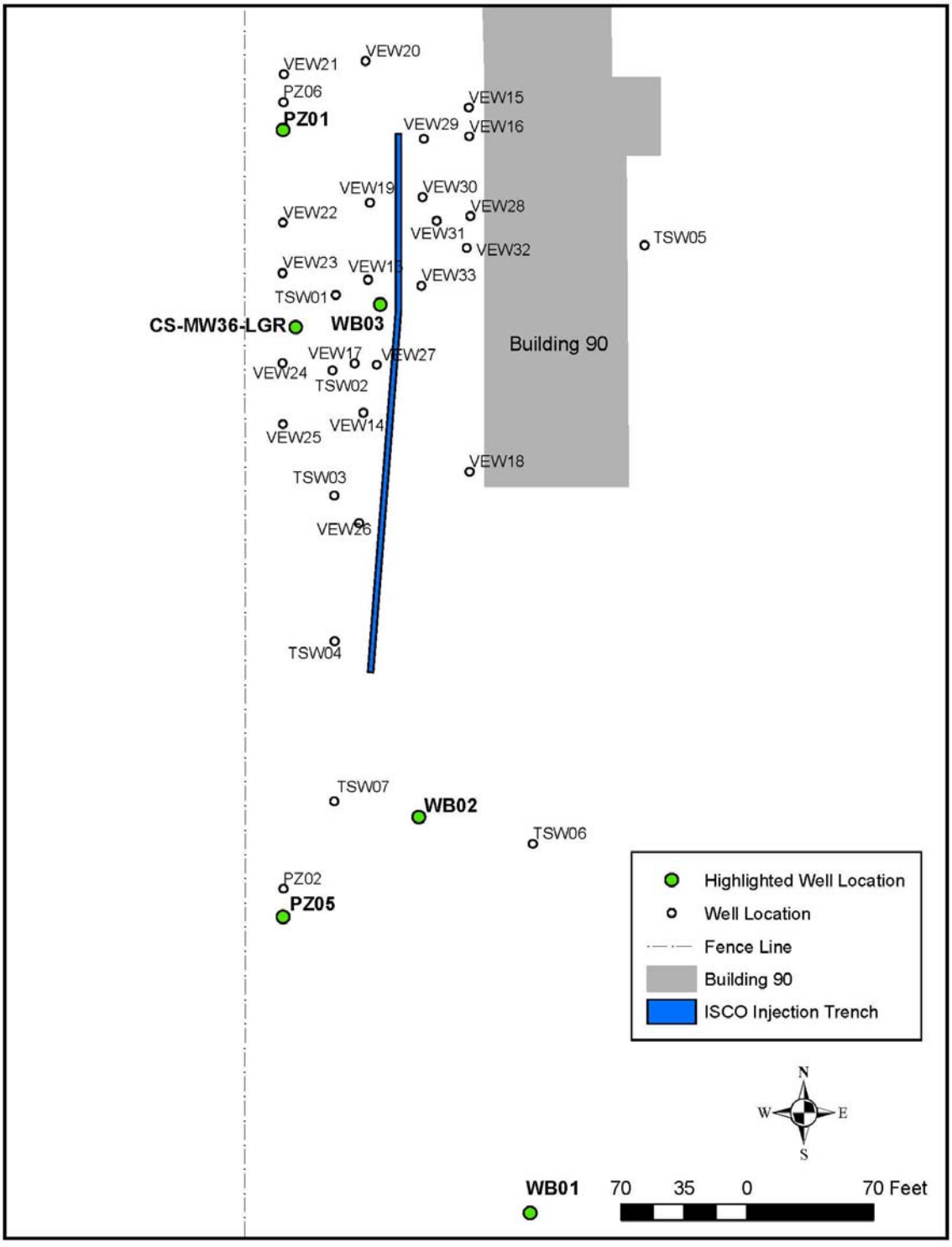


Table 5.3 LGR Well Statistics

Well	Total Depth (ft bgs)	Screened Interval (ft bgs)
PZ-01	133	105-130
PZ-05	129	89-124
MW36-LGR	385	345-370
WB01-LGR-01		48-91
WB01-LGR-09	310	300-310
WB02-LGR-01		51-76
WB02-LGR-09	311	297-311
WB03-LGR-01		42-68
WB03-LGR-09	308	297-308

5.3.1 Shallow LGR wells

The shallow LGR wells monitored included PZ-01 and -05, and WB01 to WB03-LGR-01 zones. Of these, only samples from PZ-05 and WB02-LGR-01 indicated ISCO injection influence by a slight increase in chloride and sulfate concentrations. Both of these wells typically have low PCE concentrations (below 10 ppb), and concentrations remained fairly stable throughout the injection. The subtle increases in chloride and sulfate following the Phase III injection are likely an indication of connections to areas where oxidation is occurring, rather than the oxidation of VOCs at or near these wells.

5.3.2 Deep LGR wells

The deep LGR wells monitored within AOC-65 include MW36-LGR, and the LGR-09 zones at WB01, 02, and 03. Results from monitoring efforts at these wells indicated that PCE, chloride, sulfate, and metals concentrations generally remained stable. Samples from WB02-LGR09 initially indicated an elevated PCE concentration (120 ppb) and subsequent samples indicated a decreasing trend in PCE, however, no accompanying increase in chloride or sulfate was observed.

SECTION 6
CONCLUSIONS AND RECOMMENDATIONS

6.1 CONCLUSIONS

ISCO remains a viable remedial option for soil and groundwater within AOC-65 based on the occurrence of VOC degradation products (i.e., chloride). Application of oxidants via infiltration gallery treatment zones provides partial distribution within some areas in the upper portion of the UGR, and limited vertical distribution within the LGR. Results of Phase I through III injections indicate sodium hydroxide-activated sodium persulfate is capable of oxidizing VOCs. However, the current application method (infiltration trench) requires large volumes of injected solution to develop an effective radius of influence and maintain adequate contact time with contaminants for oxidation to occur. These volumetric requirements are directly related to the overall size of the infiltration gallery treatment zones.

6.1.1 Oxidant Effectiveness

VOCs are oxidized in areas where sufficient contact time between activated sodium persulfate and VOCs has been established. The strongest evidence of this is the relationship between VOC concentrations and chloride and sulfate concentrations. As the activated persulfate solution comes in contact with PCE (or other chlorinated compounds), oxidation occurs. The direct oxidation of PCE in contact with activated persulfate is given by:

$$Na_2S_2O_8^{2-} + C_2Cl_4 + 4H_2O \rightarrow 2CO_2 + 2SO_4^{2-} + 8H^+ + 4Cl^- + 2Na$$

Where $Na_2S_2O_8^{2-}$ (sodium persulfate), C_2Cl_4 (PCE), and water are the reactants. The reaction results in the destruction of PCE with the addition of an oxygen atom and formation of CO_2, as well as the additional products sulfate and chloride, and the release of hydrogen and sodium. Therefore, increases in sulfate (and sodium) from the decomposition of persulfate, and increases in chloride from the destruction of chlorinated compounds, should accompany a reduction in chlorinated compound concentrations. Several monitoring wells exhibit these conditions including: TSW-01, VEW-19, VEW-25, and VEW-27.

6.1.2 Distribution of ISCO Solution

Distribution of ISCO solution is determined via persulfate field test kit results, and indirectly from observed pH values, changes in PCE, and sulfate and chloride concentrations. Persulfate field test kits confirm the distribution of persulfate within the UGR to the west of the infiltration gallery (TSW-01 and VEW-25), and to a lesser extent to the east (TSW-05). Similarly, high pH values at monitoring wells (VEW-19, -25, -27, and TSW-02 and -04), likely due to activator sodium hydroxide (NaOH) persistence, also provide evidence of the distribution of ISCO chemicals in the shallow subsurface. Unusually low pH values (approximately 1 pH

unit less than baseline or more) potentially indicate areas where acid is generated from the decomposition of persulfate (due to contact with chlorinated solvents and not enough NaOH is present to neutralize this acid). Low pH values were recorded following Phase III injections at VEW-23, VEW-31, TSW-01, and TSW-07 (pH of 5.99, 5.65, 5.9, and 6.1, respectively) in December 2014. Regardless of whether the acid generation is due to destruction of chlorinated solvents or to other oxidant demands, the deviations in pH further indicate the potential distribution of activated persulfate within the subsurface near the infiltration trench and to the west.

While there is evidence of ISCO solution distribution to the west of the infiltration gallery, such evidence is not present on the east side. Only marginal increases in sulfate concentrations were observed at VEW-32 and TSW-05, and these increases were not accompanied by increases in chloride concentrations or decreases in PCE concentrations. At TSW-05, a significant increasing PCE trend was observed and only a slight decrease in PCE was observed at VEW-32. Sulfate, chloride, and PCE concentrations do not indicate oxidation via persulfate is occurring. Lateral distribution of injected solution, resulting in the oxidation of PCE, appears mainly confined to areas west of the infiltration trench. In areas east of the infiltration gallery, pneumatic displacement of groundwater, rather than oxidation from the injected persulfate, appears to be the dominant cause of the observed changes in PCE concentrations. Vertical distribution of the injected solution is generally confined to the UGR with very minimal impacts observed in LGR monitoring locations.

The application of activated sodium persulfate via infiltration trench galleries at AOC-65 may be regarded as a limited success in that there is strong evidence that PCE is being oxidized within AOC-65. Injected ISCO solution appears to be distributed mainly within the UGR west of the infiltration trench. Reduction of PCE due to oxidation is shown at some UGR monitoring locations within AOC-65 (e.g. TSW-01, VEW-27, and VEW-25) along with increases in sulfate and chloride. Other areas, such as WB03-UGR-01, appear unaffected. WB03 is located adjacent to the infiltration gallery, and PCE concentrations within the UGR-01 zone remained near 10 ppm throughout all three injections. The sample port for the WB03-UGR-01 zone lies at 36 feet bgs (below the bottom of the gallery). Based on the lack of changes in PCE and chloride concentrations, and only slight increases in sulfate concentration, it is assumed that vertical transport of injected ISCO solution from the infiltration gallery has not been achieved at this location.

6.2 RECOMMENDATIONS

Based on the results of three rounds of sodium persulfate application within the infiltration gallery trench at AOC-65, Parsons conducted a Phase IV injection with the following:

- Smaller infiltration galleries within or near suspected source areas for a more targeted application of oxidants;

- An alternative oxidant solution that does not auto-decompose; and
- Continue monitoring at performance monitoring locations within AOC-65 and at off-post observation wells.

6.2.1 Installation of Smaller Infiltration Galleries

Though sodium hydroxide-activated sodium persulfate is able to effectively oxidize VOCs within portions of the UGR and, to a lesser degree, the LGR at AOC-65, the limited distribution (to areas west of the trench) of this application method allows for omissions in treatment of suspected source area(s) to the east of the infiltration trench. Parsons recommends a more focused approach for future applications of oxidants to treat suspected source area contaminants at AOC-65 via the installation of smaller infiltration galleries between the current infiltration trench and Building 90. Two Phase IV injections were conducted: the first between August 24 and 26, 2015 and the second between November 2 and November 4, 2015.

Suspected source areas within AOC-65 include the drainage ditch west of Building 90 and the area beneath a concrete-lined vault within Building 90. Soil samples collected from beneath the concrete vault indicated the presence of PCE and other VOCs. Installation of a small infiltration gallery within the vault will ensure applied oxidants are delivered directly to this suspected source area. Likewise, smaller infiltration galleries may be installed in areas between building 90 and the infiltration trench to target contamination identified in wells that were unaffected by previous applications of ISCO chemicals (e.g. VEW-32 and WB03-UGR-01).

Utilizing smaller infiltration galleries to target specific VOC-impacted areas will also require less oxidant solution, as compared to the volume required to achieve a radius of influence large enough to treat these areas from the infiltration trench. A smaller injected volume of oxidant solution will minimize potential contaminant migration caused by pneumatic displacement of groundwater.

6.2.2 Alternative Oxidant

Application of sodium persulfate at AOC-65 has proven somewhat successful, with moderate to strong reductions in contaminant mass in some areas. However, in other areas, limited reduction of PCE with increased concentrations of oxidant degradation products (sulfate) is observed. This indicates that a path between the point of injection and the monitoring point exists, yet the oxidant has degraded prior to reaching the contaminants. Sodium persulfate has a relatively long reaction time (up to several weeks), but it will eventually auto-decompose. Utilizing an oxidant that will only decompose when in contact with chlorinated solvents or other naturally occurring oxidant demands will ensure that treatment effectiveness will not be limited by slow groundwater (or oxidant) flow velocities.

Permanganate is similar to persulfate in many respects. It is a moderate to strong oxidizer, is denser than water when in solution allowing density-driven transport, and has a long

reaction time. Permanganate will not auto-decompose, and therefore will only be completely reduced when oxidizing chlorinated contaminants or other oxidant demands encountered in the subsurface, effectively increasing the contact time with encountered contaminants.

6.2.3 Continued Groundwater Monitoring

Geochemical conditions in groundwater continue to change following the three rounds of sodium persulfate injections at AOC-65. Continued monitoring of on- and off-post locations will provide data to gauge past and future ISCO injection effectiveness, and will ensure appropriate protective measures are in place for potential receptors.

SECTION 7
REFERENCES

Parsons, 2002. *Area of Concern-65 RCRA Facility Investigation Report*, Parsons Infrastructure and Technology Group, Austin, Texas, September 2002.

Parsons, 2012. *Area of Concern-65 Soil Vapor Extraction O&M Assessment Report*, Parsons Government Services Group, Austin, Texas, April 2012.

Parsons, 2012. *Update to AOC-65 Soil Vapor Extraction Operations and Maintenance Assessment Report*, Parsons Government Services Group, Austin, Texas, December 2012.

Parsons, 2015. *2014 AOC-65 In-Situ Chemical Oxidation Assessment Report*, Parsons Government Services Group, Austin Texas, February 2015.

Appendix A

Tables

Table A.1 Performance Monitoring Well Field Parameters

Well ID	Date	Depth to Water (ft bgs)	Temp. (°C)	Cond. (ms/cm^c)	pH	DO (mg/L)	ORP (mV)	Phase
VEW-13	7/18/12	39.53	---	---	---	---	---	Baseline
	8/1/12	39.25	---	---	---	---	---	Phase I
	8/3/12	39.2	---	---	---	---	---	
	8/6/12	39.18	---	---	---	---	---	
	8/8/12	39.14	---	---	---	---	---	
	8/9/12	38.94	22.7	0.787	6.85	2.32	110.4	
	8/14/12	38.97	22.75	0.788	6.82	1.54	174.7	
	8/17/12	39.13	22.91	0.012	6.53	6.79	148.9	
	8/21/12	39.08	22.65	0.798	6.8	1.47	177	
	8/23/12	39.07	22.65	0.77	6.78	1.35	63.9	
	1/11/13	31.94	23.17	0.567	6.71	4.24	154.4	
	2/27/13	35.07	22.95	0.453	6.69	0.61	135.5	
	4/23/13	35.97	22.96	0.706	6.94	3.1	180.3	
	5/30/13	32.62	23.01	0.719	6.5	4.67	248	Phase II
	6/10/13	33.76	23.06	0.538	6.5	2.47	547	
	6/19/13	34.32	22.83	0.559	6.6	0.66	186.1	
	7/19/13	35.38	22.83	0.664	6.74	2.67	178.5	
	8/19/13	35.87	22.77	0.608	6.75	1.38	58.9	
	10/21/13	36.21	22.85	0.684	6.69	0.63	58.5	
	11/18/13	33.72	22.88	0.671	6.51	0.73	57.1	
	2/10/14	34.99	22.48	0.701	6.79	1.55	286.7	
	5/14/14	35.79	22.77	0.737	6.76	1.31	245.4	
	8/6/14	35.57	22.06	0.638	6.88	0.67	90	
	11/18/14	33.19	22.76	0.540	6.65	4.82	438.2	Phase III
	12/15/14	34.34	22.76	0.677	6.17	0.91	1085.4	
	2/19/15	35	22.72	1.016	6.73	1.52	476.1	
	5/14/15	35.49	22.91	0.799	6.74	1.22	-29.5	
VEW-14	7/18/12	60.54	---	---	---	---	---	Baseline
	8/1/12	60.51	---	---	---	---	---	
	8/3/12	60.49	---	---	---	---	---	Phase I
	8/6/12	60.51	---	---	---	---	---	
	8/8/12	60.52	---	---	---	---	---	
	8/9/12	60.52	---	---	---	---	---	
	8/14/12	60.49	---	---	---	---	---	
	8/17/12	60.52	---	---	---	---	---	
	8/21/12	60.52	---	---	---	---	---	
	8/23/12	60.54	---	---	---	---	---	
	1/11/13	60.33	---	---	---	---	---	
	2/27/13	60.56	---	---	---	---	---	
	4/23/13	60.14	---	---	---	---	---	
	5/30/13	60.57	---	---	---	---	---	Phase II
	6/10/13	60.56	---	---	---	---	---	
	6/19/13	60.54	---	---	---	---	---	
	7/19/13	60.55	---	---	---	---	---	
	8/19/13	60.52	---	---	---	---	---	
	10/21/13	60.55	---	---	---	---	---	
	11/18/13	60.56	---	---	---	---	---	
	2/10/14	60.58	---	---	---	---	---	
	5/14/14	60.58	---	---	---	---	---	
	8/6/14	60.55	---	---	---	---	---	
	11/18/14	60.6	---	---	---	---	---	Phase III
	12/15/14	60.6	---	---	---	---	---	
	2/19/15	60.63	---	---	---	---	---	
	5/14/15	60.6	---	---	---	---	---	

Well ID	Date	Depth to Water (ft bgs)	Temp. (°C)	Cond. (ms/cm[c])	pH	DO (mg/L)	ORP (mV)	Phase
VEW-15	7/18/12	9.92	19.44	0.447	7.14	6.63	92.7	Baseline
	8/6/12	7.45	25.88	0.44	6.94	1.9	166.7	Phase I
	8/9/12	7.55	25.89	0.46	7.14	2.61	203.7	
	8/14/12	7.31	25.81	0.465	7.1	1.87	354.3	
	8/17/12	7.69	26.5	0.466	7.14	3.63	241.7	
	8/21/12	7.07	25.95	0.467	7.08	2.11	192.9	
	8/23/12	7.07	25.91	0.464	7.01	1.64	196.2	
	1/11/13	7.9	22.48	0.377	7.26	5.05	318.8	
	2/27/13	7.36	21.49	0.316	7.08	4.92	283.4	
	4/23/13	7.24	21.84	0.427	7.55	5.48	189.2	
	5/30/13	7.07	23.06	0.493	7.05	3.95	223.4	Phase II
	6/10/13	7.15	22.96	0.368	6.89	1.78	124	
	6/19/13	7.2	23.44	0.37	7.03	1.57	267.8	
	7/19/13	7.35	24.72	0.461	6.99	1.81	517.5	
	8/19/13	7.46	25.6	0.433	6.97	2.09	-34.2	
	9/17/13	7.25	26.56	0.423	6.99	0.41	-0.5	
	10/21/13	7.01	26.51	0.493	7.07	0.92	160.5	
	11/18/13	7.21	25.46	0.473	7.1	1.79	473	
	2/10/14	7.3	20.23	0.402	7.18	5.13	643.2	
	5/14/14	7.11	21.55	0.416	7.26	3.93	184	
	8/6/14	7.28	20.65	0.437	6.96	1.01	224.3	
	11/18/14	7.25	25.23	0.393	6.96	1.33	306	Phase III
	12/15/14	7.27	23.23	0.423	6.7	4.53	1258.1	
	2/18/15	7.29	19.9	0.734	7.55	5.51	263.5	
	5/14/15	6.93	21.24	0.430	7.27	2.75	538	
	7/16/15	7.29	23.61	0.456	7.12	1.12	363.1	
VEW-16	7/18/12	30.75	18.2	0.59	6.93	1.85	55.7	Baseline
	8/6/12	30.2	23.11	0.523	7.01	0.44	-29.9	Phase I
	8/9/12	29.98	23.22	0.561	6.93	0.5	116.3	
	8/14/12	29.98	23.15	0.558	6.87	0.34	257.6	
	8/17/12	30	23.38	0.517	6.99	6.26	227.7	
	8/21/12	29.99	23.13	0.557	6.91	0.84	60.9	
	8/23/12	29.99	23.146	0.549	6.92	0.41	17.2	
	1/11/13	29.97	23.78	0.553	6.73	4.16	288.1	
	2/27/13	30	23.45	0.451	6.66	4.38	257.8	
	4/23/13	29.95	23.1	0.577	7.02	4.84	190.6	
	5/30/13	29.92	23.34	0.689	6.61	3.82	228.7	Phase II
	6/10/13	29.94	23.19	0.476	6.53	2.36	99.2	
	6/19/13	29.95	23.33	0.465	6.66	4.08	247.1	
	7/19/13	29.94	23.17	0.56	6.69	1.71	461.6	
	8/19/13	30.02	23.13	0.509	6.74	1.95	-20.1	
	10/21/13	29.93	23.61	0.568	6.82	0.53	-94.2	
	11/18/13	29.92	23.15	0.553	6.78	0.91	306.5	
	2/10/14	30.02	22.7	0.585	6.77	0.56	497.2	
	5/14/14	30.02	23.02	0.574	7.1	0.48	50.1	
	8/6/14	29.98	19.37	0.534	6.69	1.17	124.6	
	11/18/14	29.94	22.89	0.474	6.6	2.48	323	Phase III
	12/15/14	29.97	22.95	0.552	6.09	0.86	1185.4	
	2/18/15	29.48	22.83	1.151	6.88	0.55	266.1	
	5/14/15	29.96	23	0.608	6.84	1.2	511.7	
VEW-17	7/18/12	50.68	---	---	---	---	---	Baseline
	8/1/12	51.63	22.65	0.453	7.14	1.41	75.1	
	11/18/13	51.68	22.68	0.669	6.59	3.25	327.2	Phase II
	2/10/14	51.87	22.59	0.756	7.02	3.35	375.6	
	5/14/14	51.93	22.57	0.705	6.71	3.52	275.5	
	8/6/14	52.1	---	---	---	---	---	

Well ID	Date	Depth to Water (ft bgs)	Temp. (°C)	Cond. (ms/cm^c)	pH	DO (mg/L)	ORP (mV)	Phase
	11/18/14	51.97	---	---	---	---	---	Phase III
	12/15/14	51.88	22.67	1.425	6.3	2.08	1250.5	
	2/19/15	51.95	21.78	1.773	6.73	1.78	516.3	
	5/14/15	51.83	22.71	1.207	6.72	1.37	386.9	
VEW-18	7/18/12	53.51	24.37	0.56	7.03	3.91	60.1	Baseline
	8/6/12	52.92	23.25	0.561	7.02	3.77	61.9	Phase I
	8/9/12	52.97	22.75	0.597	6.91	4.01	214.2	
	8/14/12	53.13	22.74	0.595	6.85	4.07	208	
	8/17/12	53.13	24.21	0.036	6.68	5.81	20.4	
	8/21/12	53.19	22.65	0.619	6.82	3.48	159.2	
	8/23/12	52.9	22.73	0.593	6.85	4.07	97.9	
	1/11/13	45.97	22.58	0.828	6.65	4.22	226.5	
	2/27/13	52.94	22.95	0.682	6.73	3.58	247.5	
	4/23/13	52.68	18.38	0.815	7.01	5.37	262.3	
	5/30/13	32.16	23.01	5.395	6.72	4.89	315	Phase II
	6/10/13	32.15	23	7.485	6.45	4.41	399.2	
	6/19/13	41.85	23.03	5.31	6.45	3.58	330.7	
	7/19/13	51.48	22.81	6.80	6.37	3.72	327.8	
	8/19/13	52.49	22.89	5.42	6.39	2.87	397.5	
	10/21/13	41.87	22.65	4.891	6.54	3.56	296.1	
	11/18/13	48.26	22.61	8.290	6.55	2.82	278.8	
	2/10/14	52.12	21.95	3.205	6.53	3.61	303.6	
	5/14/14	52.81	22.81	4.520	6.84	1.89	324.4	
	8/6/14	51.15	20.52	5.347	6.7	1.92	304.2	
	11/18/14	42.2	22.27	8.45	6.3	4.31	476	Phase III
	12/15/14	48.38	22.62	14.19	6.18	1.48	1096.7	
	2/18/15	41.93	22.56	54.95	6.77	1.74	422	
	5/14/15	39.03	22.94	30.42	7.03	3.52	328.5	
VEW-19	7/18/12	15.03	22.25	0.458	7.15	4.81	45.7	Baseline
	8/1/12	15.7	22.6	0.385	7.18	4.32	39.8	
	8/3/12	15.68	22.46	0.495	7.05	3.58	19.1	Phase I
	8/6/12	16.06	22.38	0.465	7.09	3.45	3	
	8/8/12	16.04	22.56	0.49	7.01	3.47	43.8	
	8/9/12	16.08	22.58	0.502	6.97	2.54	8.5	
	8/14/12	16.05	22.62	0.501	7.01	2.37	-2.7	
	8/17/12	16.08	22.84	0.531	7.03	2.27	103.3	
	8/21/12	16.1	22.66	0.505	6.93	1.84	-28.9	
	8/23/12	16.11	22.69	0.5	6.98	1.68	39.1	
	1/11/13	18.37	23.89	0.614	6.97	0.64	86.1	
	2/27/13	18.48	23.35	0.407	7.12	2.39	118.8	
	4/23/13	20.6	22.27	0.59	7.47	4.9	189.9	
	5/30/13	20.95	22.54	0.74	6.84	1.98	242.9	Phase II
	6/10/13	10.61	22.01	25.48	12.04	11.64	162.5	
	6/19/13	12.75	22.4	32.84	11.97	0.75	227.2	
	7/19/13	17.8	22.63	30.83	11.08	1.94	296.3	
	8/19/13	20.26	22.9	20	8.46	1.35	377.6	
	9/17/13	21.44	23.15	21.76	7.06	1.07	403.5	
	10/21/13	22.6	23.52	24.03	9.13	0.83	286	
	11/18/13	20.25	23.67	18.410	7.1	0.53	106.2	
	2/10/14	23.45	23.24	6.724	7.98	0.75	216.7	
	5/14/14	25.4	22.09	12.680	8.23	0.97	-215	
	8/6/14	23.66	22.26	6.290	8.05	1.87	122.1	
	11/18/14	9.98	24.89	105.200	13.48	25.96	986.9	Phase III
	12/15/14	10.8	24	82.950	13.2	15.97	1058.7	
	2/19/15	10.25	23.37	112.900	12.06	26.38	295.6	
	5/14/15	10.59	22.37	78.150	10.71	26.9	392.3	

Well ID	Date	Depth to Water (ft bgs)	Temp. (°C)	Cond. (ms/cm[c])	pH	DO (mg/L)	ORP (mV)	Phase
VEW-20	7/18/12	24.86	22.48	0.755	7.16	4.86	47	Baseline
	1/11/13	24.05	23.62	0.912	6.98	1.03	175.7	Phase I
	2/27/13	23.74	22.87	0.62	7	1.17	210	
	4/23/13	23.53	22.21	0.867	7.59	4.87	184.9	
	5/30/13	23.57	22.46	1.08	7.23	4.8	264	Phase II
	6/10/13	23.48	22.43	0.754	7.12	4.93	196.5	
	6/19/13	23.4	22.57	0.763	7.33	4.88	277.4	
	7/19/13	23.16	22.36	0.911	7.26	9.06	262.4	
	8/19/13	23.1	22.47	0.833	7.18	3.71	196.8	
	10/21/13	22.95	23.02	0.941	7.07	1.15	290.2	
	11/18/13	22.85	23.29	0.914	6.96	1.36	158.9	
	2/10/14	22.08	23	0.950	7.37	1.63	234.6	
	5/14/14	22.39	21.88	0.899	7.46	4.79	413.2	
	8/6/14	21.82	21.87	0.804	7.3	3.11	155.7	
	11/18/14	20.71	22.73	0.813	7.07	0.78	-84.5	Phase III
	12/15/14	21.37	22.97	0.942	6.7	0.72	999	
	2/19/15	17.4	22.73	1.071	7.19	0.48	333.3	
	5/14/15	13.29	20.91	0.703	7.46	4.36	289.6	
VEW-21	7/18/12	26.5	---	---	---	---	---	Baseline
	8/3/12	---	---	---	---	---	---	Phase I
	8/8/12	26.14	---	---	---	---	---	
	8/9/12	26.15	---	---	---	---	---	
	8/14/12	26.11	---	---	---	---	---	
	8/17/12	25.98	---	---	---	---	---	
	8/21/12	26.08	---	---	---	---	---	
	8/23/12	26.07	---	---	---	---	---	
	1/11/13	13.1	23.4	0.535	7.06	4.96	183.1	
	2/27/13	14.16	22.7	0.464	7.11	3.49	210.1	
	4/23/13	14.58	22.02	0.682	7.31	3.16	191.8	
	5/30/13	13.22	22.12	0.798	6.85	3.29	257.4	Phase II
	6/10/13	13.54	22.14	0.551	6.87	3.14	204.9	
	6/19/13	13.71	22.08	0.552	6.89	3.04	252.1	
	7/19/13	14.03	22.44	0.663	6.96	3.43	272.5	
	8/19/13	14.34	22.94	0.6	6.92	2.07	191.8	
	10/21/13	14.67	22.99	0.701	6.99	0.44	69.1	
	11/18/13	13.77	23.36	0.673	6.77	0.44	156.4	
	2/10/14	14.38	22.64	0.670	7.33	3.09	227.1	
	5/14/14	14.67	21.85	0.633	7.26	3.43	476.4	
	8/6/14	14.32	22	0.573	7.13	0.91	95.3	
	11/18/14	13.64	23.69	0.520	7.09	4.02	395.0	Phase III
	12/15/14	13.85	22.96	0.653	6.54	0.92	1164.0	
	2/19/15	13.62	22.57	0.837	7.27	3.09	328.1	
	5/14/15	13.09	21.2	0.636	7.14	4.00	356.1	
VEW-22	7/18/12	49.75	---	---	---	---	---	Baseline
	8/3/12	---	---	---	---	---	---	Phase I
	8/8/12	50.49	---	---	---	---	---	
	8/14/12	50.48	---	---	---	---	---	
	8/21/12	50.48	---	---	---	---	---	
	8/23/12	50.53	---	---	---	---	---	
	1/11/13	50.29	---	---	---	---	---	
	4/23/13	---	---	---	---	---	---	
	5/30/13	49.84	---	---	---	---	---	Phase II
	6/10/13	50.38	---	---	---	---	---	
	6/19/13	50.55	---	---	---	---	---	
	8/19/13	50.5	---	---	---	---	---	
	10/21/13	50.5	---	---	---	---	---	

Well ID	Date	Depth to Water (ft bgs)	Temp. (°C)	Cond. (ms/cm[c])	pH	DO (mg/L)	ORP (mV)	Phase
	11/18/13	50.49	---	---	---	---	---	
	2/10/14	50.5	---	---	---	---	---	
	11/18/14	50.5	---	---	---	---	---	Phase III
	12/15/14	---	---	---	---	---	---	
	2/19/15	---	---	---	---	---	---	
	5/14/15	---	---	---	---	---	---	
VEW-23	7/18/12	19.95	---	---	---	---	---	Baseline
	8/3/12	---	---	---	---	---	---	Phase I
	8/8/12	19.93	---	---	---	---	---	
	8/9/12	19.9	---	---	---	---	---	
	8/14/12	19.95	---	---	---	---	---	
	8/17/12	19.85	---	---	---	---	---	
	8/21/12	19.93	---	---	---	---	---	
	8/23/12	19.99	---	---	---	---	---	
	1/11/13	19.33	---	---	---	---	---	
	2/27/13	19.4	---	---	---	---	---	
	4/23/13	19.49	22.54	1.007	7.26	4.51	184.3	
	5/30/13	19.77	22.34	1.243	6.97	5.03	219.4	Phase II
	6/10/13	19.79	22.25	0.854	6.86	5.33	473	
	6/19/13	19.76	22.54	0.865	6.94	4.64	186.4	
	7/19/13	19.82	22.53	1.011	7.21	8.34	446.3	
	8/19/13	19.88	22.78	0.917	6.97	2.71	178.6	
	10/21/13	19.93	23.56	1.024	7.04	0.81	112.6	
	2/10/14	19.95	22.55	1.010	7.64	4.42	205.6	
	5/14/14	20.09	21.32	0.963	7.28	5.86	231.2	
	8/6/14	20.2	22.08	0.912	7.01	1.88	106.2	
	11/18/14	15.92	23.73	5.404	6.65	2.84	389.2	Phase III
	12/15/14	16.04	23.47	6.010	5.99	0.77	1245.2	
	2/19/15	12.53	21.29	1.712	7.46	5.61	483.5	
	5/14/15	13.7	21.52	5.203	6.21	0.18	194.1	
VEW-24	7/18/12	---	---	---	---	---	---	Baseline
	8/3/12	---	---	---	---	---	---	Phase I
	4/23/13	---	---	---	---	---	---	
	5/30/13	---	---	---	---	---	---	Phase II
	11/18/13	50	---	---	---	---	---	
	8/6/14	50	---	---	---	---	---	
	11/18/14	50	---	---	---	---	---	Phase III
	12/15/14	---	---	---	---	---	---	
	2/19/15	---	---	---	---	---	---	
	5/14/15	---	---	---	---	---	---	
VEW-25	7/18/12	20.28	23.04	0.465	7.13	6.18	82.9	Baseline
	8/8/12	20.32	22.78	0.471	6.99	6.51	101.9	Phase I
	8/9/12	20.28	22.86	0.481	7.02	5.43	212.9	
	8/14/12	20.42	22.87	0.482	6.97	5.43	253	
	8/17/12	20.5	23.17	0.28	7.09	5.66	178.1	
	8/21/12	20.52	22.86	0.48	6.94	5.45	186.8	
	8/23/12	50.53	22.94	0.481	6.92	6.13	226.6	
	1/11/13	17.78	23.66	0.579	6.87	4.9	163.6	
	2/27/13	20.59	22.66	0.001	7.15	7.33	188.5	
	5/30/13	16.22	22.14	4.694	8.38	4.34	265.9	Phase II
	6/10/13	14.9	22.14	59.49	12.12	0.38	278.6	
	6/19/13	19	22.65	38.05	12.01	1.41	198	
	8/19/13	20.6	22.84	9.524	7.29	2.07	367.5	
	9/17/13	20.52	23.38	9.875	7.24	0.93	394.9	
	10/21/13	19.63	23.69	8.362	7.17	2.46	352.7	
	11/18/13	20.04	23.78	4.316	7.12	4.29	357.1	

Well ID	Date	Depth to Water (ft bgs)	Temp. (°C)	Cond. (ms/cm[c])	pH	DO (mg/L)	ORP (mV)	Phase
	2/10/14	20.52	22.6	3.543	7.28	1.11	348.6	
	5/14/14	20.55	32	4.518	6.43	1.3	332.5	
	8/6/14	20.33	22.16	2.730	6.99	2.17	164.4	
	10/2/14	16.43	23.3	9.276	9.37	3.05	320.4	Phase III
	10/15/14	16.4	23.43	20.440	9.34	0.37	389.1	
	10/29/14	17.21	23.76	25.540	10.57	0.45	351.1	
	11/18/14	18.19	23.73	21.240	8.3	0.46	462.9	
	12/15/14	18.79	23.9	24.840	7.49	0.77	1202.2	
	2/19/15	17.22	22.93	40.250	11.95	2.75	231.5	
	5/14/15	17.45	22.03	25.310	11.23	1.78	248.3	
VEW-26	7/18/12	46.7	22.74	0.576	6.9	4.66	63.4	Baseline
	8/1/12	49.12	22.55	0.468	6.88	1.87	46.2	
	8/23/12	48.86	22.61	0.302	6.91	5.23	---	Phase I
	1/11/13	48.9	22.43	0.811	6.66	3.71	223.4	
	5/30/13	48.74	22.59	1.432	6.65	4.21	237.6	Phase II
	6/10/13	47.98	22.62	1.136	6.69	5.79	311.2	
	6/19/13	47.3	22.59	1.424	6.66	5.57	201.2	
	7/19/13	48.78	22.6	1.969	6.76	7.18	283.7	
	10/21/13	48.2	22.53	2.76	6.6	3.69	374	
	11/18/13	47.81	22.57	3.362	6.44	3.79	418.4	
	2/10/14	49.14	22.2	3.804	6.8	3.21	411.3	
	8/6/14	48.72	22.53	3.911	6.81	2.85	341.8	
	11/18/14	45.89	22.16	19.81	6.78	3.8	526.6	Phase III
	12/15/14	45.96	22.47	43.56	6.84	2.44	555.4	
	2/19/15	34.33	22.67	39.78	7.44	0.34	361.9	
	5/14/15	30.08	22.88	17.16	7.07	0.17	441.4	
VEW-27	7/18/12	16.47	22.33	0.532	7.12	3.79	60.3	Baseline
	8/3/12	16.77	22.61	0.577	7.09	2.39	28.5	Phase I
	8/6/12	16.98	22.75	0.549	7.08	1.57	75.8	
	8/8/12	16.98	22.67	0.574	6.99	1.74	280.7	
	8/9/12	16.94	22.86	0.584	7.09	2.24	192.5	
	8/14/12	16.88	23.03	0.59	7.04	2.05	231.7	
	8/17/12	16.85	23.26	0.632	7.05	2.39	144.4	
	8/21/12	16.82	22.96	0.623	7.04	1.74	172.6	
	8/23/12	16.82	23.14	0.617	7.02	1.64	178.5	
	1/11/13	15.69	21.16	0.558	6.94	5.43	290.2	
	2/27/13	12.24	22.94	0.609	7.22	2.35	377.1	
	4/23/13	13.47	22.57	0.898	7.45	3.69	176.4	
	5/30/13	8.8	21.99	76.96	12.25	4.32	215.9	Phase II
	6/19/13	10.54	23.13	51.29	12.07	0.44	272.7	
	7/19/13	12.11	23.45	54.17	10	2.83	346.7	
	8/19/13	13.04	23.79	45.81	9.36	2.3	401.5	
	9/17/13	13.22	24.44	43.74	8.39	1	447.3	
	10/21/13	13.43	24.37	55.26	9.64	10.85	393.9	
	11/18/13	12.05	24.55	51.11	8.95	10.46	383.5	
	2/10/14	13.01	22.72	46.88	7.09	2.15	434.8	
	5/14/14	14.48	22.34	44.02	6.91	7.18	352.6	
	8/6/14	13.98	22.48	28.73	6.7	1.65	381.1	
	11/18/14	9.2	24.44	38.08	10.47	2.12	401	Phase III
	12/15/14	9.9	25.44	42.55	10.28	8.93	1107.2	
	2/19/15	9.5	24.45	58.66	8.94	6.03	337.3	
	5/14/15	10.26	22.7	41.28	7.04	5.16	368	
	7/20/15	10.94	22.99	40.18	6.9	2.68	439.6	
VEW-28A	7/18/12	114.68	24.3	0.577	7.12	5.53	84.2	Baseline
	8/6/12	114.92	23.82	0.55	7.05	5.05	122	Phase I
	8/9/12	114.94	22.53	0.639	6.97	5.22	275.1	

Well ID	Date	Depth to Water (ft bgs)	Temp. (°C)	Cond. (ms/cm[c])	pH	DO (mg/L)	ORP (mV)	Phase
	8/14/12	114.98	22.68	0.628	7	1.26	234.9	
	8/17/12	116	22.57	0.627	6.93	4.44	177.3	
	8/21/12	115.04	21.95	0.6	6.91	5.12	209.5	
	8/23/12	115.04	22.54	0.596	7.02	4.86	106.3	
	1/11/13	115.17	22.75	0.608	6.83	5.39	125.7	
	4/23/13	115.55	19.11	0.597	7	5.86	305.2	
	5/30/13	115.61	---	---	---	---	---	Phase II
	8/19/13	115.8	---	---	---	---	---	
VEW-28B	7/18/12	147.92	23.02	0.618	7.04	1.03	72.2	Baseline
	8/6/12	149.12	24.88	0.597	7.08	1.67	171.7	Phase I
	8/9/12	149.37	22.72	0.63	7.05	1.72	238.8	
	8/14/12	149.56	22.57	0.583	6.89	4.79	216.5	
	8/17/12	149.71	22.69	0.676	6.96	1.44	195.3	
	8/21/12	149.96	21.87	0.632	6.96	1.58	200.7	
	8/23/12	150.21	22.31	0.622	6.99	1.23	83.9	
	1/11/13	150.18	21.9	0.67	6.93	1.8	112.9	
	4/23/13	151.24	---	---	---	---	---	
	5/30/13	151.04	---	---	---	---	---	Phase II
	8/19/13	150.55	---	---	---	---	---	
VEW-29	7/18/12	33.95	18.82	0.766	6.92	1.1	-60.6	Baseline
	8/1/12	33.95	23.17	0.537	7	3.04	9.7	
	8/3/12	33.87	22.89	0.714	6.82	1.94	110.1	Phase I
	8/6/12	34.02	23.01	0.679	6.91	0.81	-30	
	8/9/12	33.91	22.99	0.726	6.86	0.89	19	
	8/14/12	33.85	22.96	0.727	6.83	0.29	-32.1	
	8/17/12	33.86	22.96	0.72	6.83	0.82	112.2	
	8/21/12	33.82	22.96	0.723	6.83	0.53	-17	
	8/23/12	33.89	22.96	0.712	6.85	0.23	-98.2	
	1/11/13	29.62	23.35	0.436	6.88	3.19	269.8	
	4/23/13	32.64	22.99	0.667	7.08	1.82	-61	
	5/30/13	32.05	23.26	0.779	6.59	0.85	233.7	Phase II
	6/10/13	31.9	23.31	0.568	6.63	0.3	-193.9	
	6/19/13	31.92	23.15	0.557	6.71	0.28	-210.8	
	7/19/13	32.3	23.12	0.645	6.7	1.14	-159.9	
	8/19/13	33.05	23.06	0.584	6.7	1.77	-134.8	
	10/21/13	32.76	23.08	0.67	6.75	0.41	-190.6	
	11/18/13	30.78	23.11	0.689	6.71	0.38	-230.9	
	2/10/14	31.92	23.21	0.726	6.73	0.39	-163.4	
	5/14/14	33.2	23.09	0.676	6.78	0.22	-271.4	
	8/6/14	32.78	20.62	0.613	6.62	0.78	-153	
	11/18/14	31.56	22.77	0.618	6.59	0.49	-187.2	Phase III
	12/15/14	31.79	22.95	0.692	6.1	0.51	414.1	
	2/18/15	31.5	22.9	1.378	6.84	0.72	36.9	
	5/14/15	31.19	23.08	0.745	6.76	0.6	-49	
	7/16/15	29.84	22.89	0.759	6.53	0.22	-263.8	
VEW-30	7/18/12	24.34	---	---	---	---	---	Baseline
	8/1/12	24.36	---	---	---	---	---	
	8/3/12	24.34	---	---	---	---	---	Phase I
	8/6/12	24.37	---	---	---	---	---	
	8/9/12	24.38	---	---	---	---	---	
	8/14/12	24.39	---	---	---	---	---	
	8/17/12	24.39	---	---	---	---	---	
	8/21/12	24.36	---	---	---	---	---	
	8/23/12	24.39	---	---	---	---	---	
	1/11/13	24.36	---	---	---	---	---	
	2/27/13	24.35	---	---	---	---	---	

Well ID	Date	Depth to Water (ft bgs)	Temp. (°C)	Cond. (ms/cm[c])	pH	DO (mg/L)	ORP (mV)	Phase
	4/23/13	24.35	---	---	---	---	---	
	5/30/13	24.35	---	---	---	---	---	Phase II
	6/10/13	24.32	---	---	---	---	---	
	6/19/13	24.35	---	---	6.44	---	---	
	7/19/13	24.37	---	---	---	---	---	
	8/19/13	24.35	---	---	---	---	---	
	10/21/13	24.35	---	---	---	---	---	
	11/18/13	24.24	---	---	---	---	---	
	2/10/14	24.25	---	---	---	---	---	
	5/14/14	24.08	---	---	---	---	---	
	8/6/14	24.2	---	---	---	---	---	
	11/18/14	24.24	---	---	---	---	---	Phase III
	12/15/14	24.3	---	---	---	---	---	
	2/18/15	24.21	---	---	---	---	---	
	5/14/15	24.21	---	---	---	---	---	
VEW-31	7/18/12	30.26	21.97	0.649	6.83	1.31	46	Baseline
	8/1/12	30.14	22.92	0.504	6.86	1.8	47.3	
	8/3/12	30.1	22.8	0.622	6.75	5.02	124.5	Phase I
	8/6/12	30.32	22.78	1.813	6.7	2.77	256	
	8/9/12	30.13	22.87	2.945	6.54	3.56	297.1	
	8/14/12	30.21	22.9	3.11	6.29	0.97	309.9	
	8/17/12	30.14	22.9	3.165	6.37	2.25	283.4	
	8/21/12	30.14	22.86	3.243	6.21	0.41	250	
	8/23/12	30.13	22.86	3.213	6.21	0.27	194.3	
	1/11/13	30.14	23.06	3.09	6.23	0.56	-142.5	
	2/27/13	30.05	23.36	1.336	6.51	2.13	273.3	
	4/23/13	30.13	22.48	0.587	7.52	6.42	578.2	
	5/30/13	30.12	23.27	1.702	6.67	4.61	254.2	Phase II
	6/10/13	30.11	23.16	2.019	6.21	1.55	174.5	
	6/19/13	31.15	22.98	1.943	6.98	4.43	156.8	
	7/19/13	30.15	23.09	2.578	6.32	1.65	81.3	
	8/19/13	30.15	23.02	2.304	6.34	2.39	117.5	
	10/21/13	30.14	23.09	2.424	6.38	0.5	-36.4	
	11/18/13	30.15	23.08	2.270	6.3	0.41	-71	
	2/10/14	30.15	23.03	1.951	6.44	0.5	-1	
	5/14/14	30.14	23.14	1.770	6.77	0.46	-55.6	
	8/6/14	30.15	20.66	1.406	6.54	0.77	-74.7	
	11/18/14	30.14	21.84	4.881	6.12	0.7	325.9	Phase III
	12/15/14	30.14	22.96	5.193	5.65	0.81	889.8	
	2/18/15	30.14	23.03	8.510	6.27	0.14	295.4	
	5/14/15	30.14	23.12	4.145	6.24	0.43	-24.6	
VEW-32	7/18/12	8.73	23.22	0.338	7.22	5.22	65.8	Baseline
	8/6/12	11.07	23.18	0.447	7.2	4.05	11.5	Phase I
	8/9/12	11.18	23.72	0.412	7.23	3.66	243.8	
	8/14/12	11.48	24.3	0.387	7.18	3.25	250.9	
	8/17/12	11.91	23.47	0.461	7.16	2.92	181.8	
	8/21/12	11.83	23.2	0.444	7.15	2.63	170.5	
	8/23/12	11.69	23.27	0.423	7.1	2.65	76.6	
	1/11/13	8.35	24.07	0.417	6.96	4.04	69.4	
	2/27/13	12.85	23.5	0.381	6.99	3.18	235.2	
	4/23/13	11.69	19.61	0.46	7.38	4.33	271.5	
	5/30/13	8.78	22.83	0.522	7.03	2.71	250.4	Phase II
	6/10/13	9.02	22.75	0.366	6.67	2.07	199.2	
	6/19/13	9.39	22.94	0.364		1.64	108	
	7/19/13	11.45	23.09	0.455	7.05	1.88	99.5	
	8/19/13	12.91	23.36	0.417	7.05	1.81	183.6	

Well ID	Date	Depth to Water (ft bgs)	Temp. (°C)	Cond. (ms/cm[c])	pH	DO (mg/L)	ORP (mV)	Phase
	9/17/13	12.72	23.93	0.403	7.14	0.65	228.7	
	10/21/13	8.79	24.04	0.477	7.07	0.43	28.6	
	11/18/13	10.01	24.24	0.467	7.02	0.44	-15.8	
	2/10/14	12.65	23.34	0.915	7.26	2.98	149.5	
	5/14/14	8.29	22.27	0.419	7.27	4.01	308.3	
	8/6/14	10.41	20.52	0.403	7.02	1.14	24.7	
	11/18/14	8.94	25.1	1.614	6.68	0.66	252.5	Phase III
	12/15/14	9.31	24.03	2.295	6.06	0.5	920.7	
	2/18/15	9.26	23.14	3.997	6.7	0.3	300.9	
	5/14/15	7.92	22.01	0.481	7.35	4.43	186.6	
	7/16/15	9.3	22.69	0.392	6.98	2.25	315.2	
VEW-33	7/18/12	24.31	---	---	---	---	---	Baseline
	8/1/12	24.35	---	---	---	---	---	
	8/3/12	24.34	---	---	---	---	---	Phase I
	8/6/12	24.37	---	---	---	---	---	
	8/9/12	24.36	---	---	---	---	---	
	8/14/12	24.37	---	---	---	---	---	
	8/17/12	24.36	---	---	---	---	---	
	8/21/12	24.36	---	---	---	---	---	
	8/23/12	24.35	---	---	---	---	---	
	1/11/13	24.34	---	---	---	---	---	
	2/27/13	24.36	---	---	---	---	---	
	4/23/13	24.38	---	---	---	---	---	
	5/30/13	24.37	---	---	---	---	---	Phase II
	6/10/13	24.38	---	---	---	---	---	
	6/19/13	24.37	---	---	---	---	---	
	7/19/13	24.35	---	---	---	---	---	
	8/19/13	24.34	---	---	---	---	---	
	10/21/13	24.38	---	---	---	---	---	
	11/18/13	24.31	---	---	---	---	---	
	2/10/14	24.3	---	---	---	---	---	
	5/14/14	24.26	---	---	---	---	---	
	8/6/14	24.28	---	---	---	---	---	
	11/18/14	24.34	21.97	0.055	6.34	1.68	63.7	Phase III
	12/15/14	24.31	---	---	---	---	---	
	2/18/15	24.3	---	---	---	---	---	
	5/14/15	24.23	---	---	---	---	---	
TSW-01	7/18/12	37.38	22.81	0.714	7.18	5.21	45.1	Baseline
	8/1/12	35.5	22.83	0.641	7.14	1.63	-32.8	
	8/6/12	35.42	22.74	0.729	7.11	2.24	24.8	Phase I
	8/8/12	35.25	22.7	0.78	6.99	1.75	228.2	
	8/9/12	35.22	22.71	0.634	7.11	3.92	165.8	
	8/14/12	34.76	22.7	0.773	6.95	1.54	183.7	
	8/17/12	34.58	22.67	0.747	6.95	2.45	127.9	
	8/21/12	34.34	22.67	0.801	6.94	0.43	-71.1	
	8/23/12	34.25	22.71	0.782	6.97	0.4	-30.2	
	1/11/13	32.4	22.88	0.666	6.73	2.05	98.9	
	2/27/13	31.85	22.79	0.454	6.77	1.82	113.4	
	4/23/13	32	23.26	0.704	7.01	3.05	271	
	5/30/13	31.71	22.96	0.843	6.59	1.82	231	Phase II
	6/10/13	31.8	22.8	1.067	6.56	1.36	417.8	
	6/19/13	31.86	22.97	1.674	6.67	1.98	224.5	
	7/19/13	31.87	22.77	2.606	6.53	3.33	369.1	
	8/19/13	31.94	22.69	2.425	6.3	1.5	233.8	
	9/17/13	32.08	22.85	2.35	6.36	0.69	210.6	
	10/21/13	31.75	22.82	2.682	6.39	0.59	65.4	

Well ID	Date	Depth to Water (ft bgs)	Temp. (°C)	Cond. (ms/cm[c])	pH	DO (mg/L)	ORP (mV)	Phase
	11/18/13	31.82	22.83	2.480	6.29	0.73	319.4	
	2/10/14	32.11	22.86	2.433	6.71	0.41	75.2	
	5/14/14	33.97	22.93	2.220	6.66	0.67	-139.8	
	8/6/14	31.91	20.54	1.382	6.97	0.9	82.3	
	10/2/14	31.59	22.69	1.524	6.73	3.22	343.6	Phase III
	10/15/14	31.68	22.51	12.44	6.42	2.2	477.8	
	10/29/14	31.82	22.63	21.17	6.24	1.62	396.4	
	11/18/14	32.49	22.75	22.80	6.27	0.68	365.2	
	12/15/14	31.85	22.67	25.20	5.9	0.74	1088.2	
	2/19/15	31.77	22.6	27.42	5.96	0.48	388.8	
	5/14/15	31.94	22.82	14.84	6.03	0.17	347.3	
	7/16/15	31.9	22.87	13.20	6.03	0.2	236.1	
TSW-02	7/18/12	39.98	---	---	---	---	---	Baseline
	8/1/12	39.97	---	---	---	---	---	
	8/3/12	---	---	---	---	---	---	Phase I
	8/6/12	39.96	---	---	---	---	---	Phase I
	8/8/12	39.96	---	---	---	---	---	
	8/9/12	39.96	---	---	---	---	---	
	8/14/12	39.98	---	---	---	---	---	
	8/17/12	39.88	---	---	---	---	---	
	8/21/12	39.95	---	---	---	---	---	
	8/23/12	39.97	---	---	---	---	---	
	1/11/13	37.79	22.29	0.699	6.77	1.33	226.7	
	2/27/13	36.89	22.79	0.611	6.71	1.33	104.5	
	4/23/13	36.8	23.57	1.321	6.94	2.56	286.2	
	5/30/13	36.6	22.9	1.11	6.69	0.48	173.3	Phase II
	6/10/13	31.16	22.95	1.778	6.52	4.42	331.4	
	6/19/13	31.53	23.07	3.551	6.29	1.16	322.6	
	7/19/13	32.75	22.99	2.889	6.35	4.19	308.9	
	8/19/13	33.49	22.83	3.376	6.3	1.63	329.1	
	10/21/13	34.49	22.76	2.627	6.27	0.5	453.4	
	11/18/13	32.04	22.75	2.828	6.07	0.51	370.1	
	2/10/14	32.5	22.85	1.133	6.87	0.54	337.8	
	5/14/14	33.62	22.93	1.490	6.71	0.89	246.5	
	8/6/14	23.85	22.58	0.673	6.82	0.78	142.5	
	11/18/14	31.24	22.09	18.910	8.99	1.01	408.6	Phase III
	12/15/14	31.49	22.7	21.130	6.25	0.64	1255	
	2/19/15	31.44	22.69	20.100	6.32	0.14	431	
	5/14/15	31.59	22.89	14.210	6.12	0.19	393.3	
TSW-03	7/18/12	28.85	22.58	0.474	7.25	3.31	81.2	Baseline
	8/1/12	28.89	22.54	0.37	7.18	5.6	---	
	8/6/12	28.68	22.47	4.209	7.02	3.02	257.2	Phase I
	8/8/12	28.55	22.58	4.513	6.68	2.81	300	
	8/9/12	28.58	22.59	4.69	6.43	1.04	279.9	
	8/14/12	28.56	22.59	5.32	6.19	0.61	316.5	
	8/17/12	28.59	22.62	5.714	6.2	0.53	328.5	
	8/21/12	28.6	22.53	5.716	6.09	0.6	294.3	
	8/23/12	28.61	22.48	6.118	6.56	4.68	305.9	
	1/11/13	28.58	22.74	15.25	6.69	3.2	375.8	
	2/27/13	29.18	22.63	11.5	6.81	2	378.6	
	4/23/13	28.64	22.9	14.76	6.83	3.24	339.4	
	5/30/13	28.56	22.85	18.01	7.04	5.32	298.7	Phase II
	6/10/13	28.7	22.69	12.44	6.32	0.93	331.1	
	6/19/13	28.96	22.8	13.09	6.87	5.04	307.2	
	7/19/13	29.13	22.74	16.76	6.99	7.31	399.8	
	8/19/13	29.18	22.62	16.33	6.98	4.49	467.5	

Well ID	Date	Depth to Water (ft bgs)	Temp. (°C)	Cond. (ms/cm[c])	pH	DO (mg/L)	ORP (mV)	Phase
	9/17/13	29.15	22.76	18.11	6.83	3.08	430.2	
	10/21/13	28.82	22.7	26.81	6.95	3.24	443.4	
	11/18/13	28.9	22.7	25.780	6.48	1.3	404.1	
	2/10/14	29.25	22.81	24.500	6.88	0.54	379	
	5/14/14	24	22.14	23.710	6.61	2.07	322.9	
	8/6/14	29.24	22.5	20.390	6.55	1.09	349.2	
	11/18/14	29.32	22.54	17.710	6.39	0.97	415.1	Phase III
	12/15/14	29.37	22.68	20.810	6.09	0.84	1217.5	
	2/19/15	29.37	22.74	40.390	6.81	0.48	301.4	
	5/14/15	29.3	22.8	38.580	7.15	1.18	366.4	
TSW-04	7/18/12	28.85	22.43	0.677	6.93	1.96	200	Baseline
	8/6/12	28.97	22.4	0.596	6.97	0.3	119.6	Phase I
	8/8/12	28.65	22.39	0.601	6.84	2.12	187.9	
	8/9/12	28.66	22.44	0.647	6.86	0.39	169.3	
	8/14/12	28.71	22.42	0.645	6.82	0.33	195.7	
	8/17/12	28.72	22.37	0.657	6.87	2.35	198.8	
	8/21/12	28.75	22.34	0.642	6.85	0.63	144.3	
	8/23/12	28.78	22.38	0.629	6.81	2.48	99.8	
	1/11/13	28.79	22.4	2.151	6.41	0.49	244.8	
	2/27/13	28.92	22.54	8.623	6.49	0.92	361.8	
	4/23/13	28.24	22.85	8.108	6.54	1.29	300.5	
	5/30/13	28.48	22.64	15.7	6.6	1.77	283.3	Phase II
	6/10/13	28.26	22.48	11.93	6.47	0.98	285.9	
	6/19/13	28.52	22.55	12.01	6.56	3.97	350	
	7/19/13	28.83	22.51	19	6.61	4.53	409	
	8/19/13	---	22.42	18.13	6.57	2.14	480.2	
	9/17/13	28.94	22.54	15.79	6.37	0.9	410.9	
	10/21/13	28.42	22.41	25.81	6.63	1.49	454.9	
	11/18/13	28.7	22.52	39.000	6.64	1.9	415.4	
	2/10/14	28.86	22.35	58.490	6.84	0.92	391.3	
	5/14/14	28.9	22.53	38.620	7.07	1.33	368.7	
	8/6/14	28.76	22.37	33.270	6.63	1.01	387.5	
	11/18/14	28.59	22.5	39.650	9.11	3.45	379.6	Phase III
	12/15/14	28.8	22.33	52.810	7.02	1.15	1181.1	
	2/18/15	28.65	22.53	103.100	6.62	0.17	456.3	
	5/14/15	28.59	22.95	55.340	6.24	0.35	372.9	
TSW-05	7/18/12	34.74	22.5	0.748	7.03	5.65	99.2	Baseline
	8/6/12	30.04	22.51	0.665	7.04	2.49	116.1	Phase I
	8/9/12	29.78	22.52	0.732	6.96	0.92	171.8	
	8/14/12	29.84	22.51	0.726	6.95	0.73	98.9	
	8/17/12	29.82	22.53	0.75	6.9	1.45	163.6	
	8/21/12	29.79	22.45	0.676	6.89	1.59	132.2	
	8/23/12	29.79	22.49	0.663	6.89	1.2	59.2	
	1/11/13	29.75	22.56	0.659	6.73	2.81	231.8	
	2/27/13	29.74	22.69	0.525	6.67	0.76	95	
	4/23/13	29.79	20.78	0.594	7.03	5.57	249.7	
	5/30/13	29.78	22.76	0.812	6.73	0.32	-11.5	Phase II
	6/10/13	29.76	22.69	0.57	6.71	0.31	19.6	
	6/19/13	29.76	22.76	0.519	6.65	0.41	180.8	
	7/19/13	29.8	22.69	0.611	6.8	1.8	188.4	
	8/19/13	29.81	22.64	0.593	6.91	1.57	-54.5	
	9/17/13	29.83	22.56	0.543	6.8	0.48	171	
	10/21/13	29.77	22.51	0.644	6.8	0.57	2.4	
	11/18/13	29.78	22.51	0.616	6.62	0.76	36.2	
	2/10/14	29.81	22.37	0.616	6.72	1.2	279.2	
	5/14/14	29.75	22.66	0.609	7.06	0.56	-23.6	

Well ID	Date	Depth to Water (ft bgs)	Temp. (°C)	Cond. (ms/cm[c])	pH	DO (mg/L)	ORP (mV)	Phase
	8/6/14	29.78	20.24	0.529	6.69	3.32	170.6	
	10/2/14	29.76	22.49	0.440	6.89	3.91	333.4	Phase III
	10/15/14	29.78	22.34	0.548	6.82	2.75	510.5	
	10/29/14	29.79	22.43	0.556	6.47	1.98	251.2	
	11/18/14	29.78	22.05	0.506	6.41	0.93	468.3	
	12/15/14	29.79	22.31	0.578	6.21	1.02	1239.1	
	2/18/15	29.78	22.5	1.233	6.90	0.48	172.8	
	5/14/15	29.71	22.53	0.581	6.98	1.46	191.7	
	7/16/15	29.78	22.3	0.511	7.00	4.07	154.6	
TSW-06	7/18/12	35.9	22.53	0.708	7.08	1.8	31.1	Baseline
	8/9/12	36.14	22.45	0.581	7.19	0.17	161.6	Phase I
	8/14/12	35.87	22.45	0.591	7.26	0.32	62.3	
	8/17/12	36.57	22.46	0.569	7.00	3.16	155.1	
	8/21/12	35.87	22.39	0.592	7.12	0.35	125.8	
	8/23/12	35.88	22.4	0.614	6.99	0.31	-12.9	
	1/11/13	35.8	22.29	0.699	6.77	1.33	226.7	
	4/23/13	35.89	19.98	0.673	7.14	4.47	254.2	
	5/30/13	35.87	22.85	0.811	6.71	2.37	220.5	Phase II
	6/10/13	35.85	22.7	0.559	6.59	1.57	195	
	6/19/13	35.86	22.62	0.559	6.74	0.5	211.7	
	7/19/13	35.3	22.57	0.663	6.77	3.5	184.6	
	8/19/13	35.97	22.55	0.611	6.8	2.32	301.6	
	10/21/13	35.85	22.42	0.689	6.71	1.64	88.6	
	11/18/13	35.88	22.4	0.672	6.61	0.98	264	
	2/10/14	35.89	22.19	0.695	6.68	0.91	298.3	
	5/14/14	35.88	22.57	0.683	7.05	0.48	-30.2	
	8/6/14	35.89	20.24	0.628	6.72	0.9	19.1	
	11/18/14	35.82	21.89	0.585	6.5	0.79	479.2	Phase III
	12/15/14	35.88	22.21	0.646	6.17	0.78	855.1	
	2/18/15	35.89	22.1	1.348	6.65	0.15	16.1	
	5/14/15	35.86	22.45	0.720	6.86	0.1	-42.7	
TSW-07	7/18/12	28.1	22.3	0.843	7.15	2.78	169.4	Baseline
	8/1/12	28.26	22.07	0.618	7.21	3.93	---	
	8/6/12	28.46	22.1	0.743	7.33	5.63	80.9	Phase I
	8/8/12	28.28	22.18	0.787	7.1	3.87	187.1	
	8/9/12	28.28	22.13	0.794	7.1	4.1	165	
	8/14/12	28.25	22.14	0.795	7.05	2.24	182.4	
	8/17/12	28.24	22.05	0.82	7.26	6.08	181.8	
	8/21/12	28.23	22.08	0.781	7.09	4.19	140.5	
	8/23/12	28.21	22.11	0.786	7.01	1.86	85	
	1/11/13	25.57	22.38	0.926	6.95	22.49	4.77	
	2/27/13	28.02	22.28	0.593	6.87	2.49	297.4	
	4/23/13	28.03	22.72	0.752	7.35	6.29	216	
	5/30/13	27.35	22.24	0.862	6.93	4.79	193.2	Phase II
	6/10/13	26.31	22.28	1.411	6.6	5.18	274.1	
	6/19/13	26.87	22.2	2.409	6.61	5.1	283.8	
	7/19/13	28.11	22.23	5.513	6.31	2.22	345	
	8/19/13	28.29	22.24	4.858	6.28	1.76	332.8	
	9/17/13	28.28	22.46	1.93	6.67	3.22	258.8	
	10/21/13	27.86	22.21	4.727	6.21	0.56	262.7	
	11/18/13	27.91	22.33	6.348	6.46	4.18	348.9	
	2/10/14	28.19	22.01	10.630	6.82	2.92	390.4	
	5/14/14	28.19	22.22	17.220	7.02	4.87	409.8	
	8/6/14	28.21	19.92	15.360	7.01	4.44	351.9	
	11/18/14	27.95	21.62	9.388	6.43	2.99	323.4	Phase III
	12/15/14	27.98	22.14	14.210	6.1	0.71	1187.1	

Well ID	Date	Depth to Water (ft bgs)	Temp. (°C)	Cond. (ms/cm[c])	pH	DO (mg/L)	ORP (mV)	Phase
	2/18/15	27.98	22.36	22.820	6.83	4.7	432.6	
	5/14/15	27.69	22.3	14.710	6.48	0.18	311.9	
PZ-01	7/18/12	120.05	24.55	0.54	7.03	---	81.3	Baseline
	8/8/12	120.26	24.32	0.456	7.22	4.9	119.4	Phase I
	8/9/12	120.4	23.27	0.474	7.88	4.05	116.3	
	8/14/12	120.27	22.94	0.468	7.14	4.27	107.8	
	8/17/12	120.3	23.87	0.535	7.05	5.2	314.1	
	8/21/12	120.32	22.38	0.476	7.16	4.55	99.2	
	8/23/12	120.28	22.66	0.471	7.09	4.55	67.9	
	1/11/13	120.36	20.43	0.41	7.16	6.35	325.1	
	2/27/13	120.79	19.8	0.32	7.21	6.19	199.3	
	4/23/13	120.87	21.73	0.485	7.28	5.74	185.9	
	6/10/13	120.84	23.63	0.384	7.1	6.38	198	Phase II
	6/19/13	120.88	26.87	0.477	7.17	5.42	197.2	
	7/19/13	120.97	24.17	0.58	7.19	9.43	282	
	8/19/13	121.8	23.13	0.617	6.96	6.15	330.1	
	9/17/13	121.25	22.89	0.41	7.11	5.93	228.9	
	10/21/13	121.21	21.91	0.558	6.94	5.72	311	
	11/18/13	121.12	22.3	0.462	7.04	5.48	198.9	
	2/10/14	121.43	16.67	0.557	7.17	7.7	309.8	
	5/14/14	121.92	18.46	0.555	7.09	7.19	432.9	
	8/6/14	121.75	23.67	0.484	7.19	4.92	146.6	
	11/18/14	121.82	19.73	0.466	7.08	7.36	388.2	Phase III
	12/15/14	121.78	22.18	0.531	6.49	6.31	1170.9	
	2/19/15	122.05	20.01	0.721	7.18	5.59	339.5	
	5/14/15	121.8	24.31	0.633	7.04	6.82	315.4	
PZ-02	7/18/12	46.29	22.23	0.371	7.25	---	61.1	Baseline
	8/8/12	47.24	23.26	0.4	7.58	7.45	189.2	Phase I
	8/9/12	46.83	22.29	0.348	7.52	5.8	145.7	
	8/14/12	45.58	22.22	0.354	7.5	5.77	162.7	
	8/17/12	45.69	22.27	0.402	7.53	5.94	166.6	
	8/21/12	45.98	22.14	0.413	7.31	5.78	128.7	
	8/23/12	45.95	22.24	0.426	7.26	5.59	73.7	
	1/11/13	43.15	20.53	0.828	6.13	4.96	300.5	
	2/27/13	44.96	21.9	0.645	6.7	4.11	312.1	
	4/23/13	46.69	22.68	0.883	7.06	5.21	226.6	
	6/10/13	42.56	22.2	1.09	6.64	4.86	276.3	Phase II
	6/19/13	43.43	22.35	1.299	6.78	5.42	213.9	
	7/19/13	47.4	23.34	2.179	6.8	6.88	288.4	
	8/19/13	48.74	22.2	2.175	6.81	5.7	343.9	
	9/17/13	49.35	23.53	2.203	6.63	4.47	324.4	
	10/21/13	44.85	22.23	3.103	6.63	4.05	299.2	
	11/18/13	45.71	22.06	2.783	6.54	4.12	305.1	
	2/10/14	48.02	20.54	3.664	6.75	4.42	350.9	
	5/14/14	48.77	22.29	4.538	6.91	4.19	385.1	
	8/6/14	47.95	20.35	5.021	6.8	4.4	356.7	
	11/18/14	43.05	21.42	6.340	6.58	5.85	302.3	Phase III
	12/15/14	45.29	21.98	6.631	6.41	4.23	1218.3	
	2/18/15	43.44	22.06	10.870	6.89	4.87	382.1	
	5/14/15	43.72	22.43	7.090	6.78	4.71	309.6	
PZ-03	7/18/12	128.72	26.21	0.514	7.05	---	82.4	Baseline
	8/8/12	128.73	23.54	0.488	7	7.41	123.8	Phase I
	8/9/12	128.74	22.9	0.491	7.01	5.87	128.1	
	8/14/12	128.74	22.5	0.49	6.96	5.93	125.4	
	8/17/12	128.68	23.01	0.528	6.96	6.43	178.7	
	8/21/12	128.77	22.25	0.487	6.99	5.71	100.6	

Well ID	Date	Depth to Water (ft bgs)	Temp. (°C)	Cond. (ms/cm[c])	pH	DO (mg/L)	ORP (mV)	Phase
	8/23/12	128.72	22.73	0.482	7	6.28	80.3	
	1/11/13	128.72	20.33	0.51	6.87	6.23	353.7	
	2/27/13	129.06	19.23	0.359	7.05	6.78	231.4	
	4/23/13	129.05	21.56	0.499	7.14	5.36	202	
	6/10/13	129.13	23.03	0.413	6.82	6.81	228.2	Phase II
	6/19/13	132.51	23.48	0.415	6.63	6.63	215.9	
	7/19/13	129.13	23.4	0.477	7.07	11.34	255.1	
	8/19/13	129.16	24.28	0.43	6.93	5.48	219.2	
	10/21/13	129.18	21.7	0.479	6.99	6.08	280	
	11/18/13	129.21	21.64	0.468	6.71	6.35	240.8	
	2/10/14	129.3	19.17	0.497	7.42	7.01	278.1	
	5/14/14	124.57	20.02	0.473	7.23	7.6	502.3	
	8/6/14	129.47	23.1	0.409	7.08	5.36	-181.2	
	11/18/14	129.65	19.9	0.412	7.16	7.38	270.9	Phase III
	12/15/14	129.48	21.71	0.457	6.59	6.53	1130.9	
	2/19/15	129.68	20.16	0.710	7.17	6.55	336.8	
	5/14/15	129.54	22.53	0.490	7.21	7.4	289.5	
PZ-04	7/18/12	36.49	22.71	0.555	6.91	---	94.6	Baseline
	8/8/12	36.51	22.72	0.519	6.98	1.43	116.7	Phase I
	8/9/12	36.49	22.74	0.517	7.01	2.02	115.7	
	8/14/12	36.48	22.76	0.518	6.99	1.81	105.1	
	8/17/12	36.48	22.7	0.54	6.95	4.42	160.8	
	8/21/12	36.48	22.66	0.519	6.93	2.13	82.1	
	8/23/12	36.48	22.69	0.513	6.96	2.17	63.7	
	1/11/13	36.49	20.83	0.623	6.8	4.09	336.3	
	2/27/13	36.51	22.62	0.435	6.77	2.44	248	
	4/23/13	36.55	22.36	0.628	7.02	3.65	226.5	
	6/10/13	36.52	23.84	0.571	6.65	5.21	255.6	Phase II
	6/19/13	36.54	22.77	0.532	6.68	3.73	196.9	
	7/19/13	36.49	22.95	0.631	6.82	6	259	
	8/19/13	36.54	22.82	0.578	6.75	3.86	206.1	
	10/21/13	36.47	22.68	0.666	6.72	2.39	304	
	11/18/13	36.47	22.76	0.659	6.54	2.73	225.9	
	2/10/14	36.52	22.3	0.689	6.89	1.79	292.7	
	5/14/14	36.52	22.42	0.671	6.89	2.56	546.2	
	8/6/14	36.5	22.74	0.597	6.91	3.78	158	
	11/18/14	36.39	22.43	0.596	6.77	3.74	254.4	Phase III
	12/15/14	36.48	22.61	0.663	6.36	3.1	1165.2	
	2/19/15	36.43	22.52	1.006	6.77	2.9	341.6	
	5/14/15	36.43	22.76	0.743	6.8	2.62	301.1	
PZ-05	7/18/12	115.14	25.26	0.537	7.11	---	69.7	Baseline
	8/8/12	116.93	23.11	0.506	7.13	7.49	209.2	Phase I
	8/9/12	116.92	22.33	0.511	7.05	5.79	161.5	
	8/14/12	117.36	22.62	0.511	7.04	6.13	180.4	
	8/17/12	117.1	22.65	0.555	7.03	6.09	254.6	
	8/21/12	116.32	22.02	0.522	7.01	6.18	138.8	
	8/23/12	114.32	22.38	0.521	6.98	5.9	95.1	
	1/11/13	116.15	20.34	0.58	6.81	5.77	292.5	
	2/27/13	115.44	20.44	0.381	6.91	5.73	513.3	
	4/23/13	114.07	22.28	0.541	7.22	6.49	201.8	
	6/10/13	98.09	22.89	0.488	6.76	6.62	268.9	Phase II
	6/19/13	105.51	24.83	0.611	6.84	5.97	194	
	7/19/13	115.81	22.52	0.59	6.45	8.77	271.8	
	9/17/13	120.38	24.56	0.581	6.94	5.12	200.6	
	10/21/13	98.74	21.99	0.801	6.76	5.38	258.9	
	11/18/13	105.03	21.7	0.682	6.73	5.5	287.2	

Well ID	Date	Depth to Water (ft bgs)	Temp. (°C)	Cond. (ms/cm^c)	pH	DO (mg/L)	ORP (mV)	Phase
	2/10/14	119.79	18.38	0.726	6.94	6.18	328.3	
	5/14/14	121.05	21.62	0.675	7.16	6.96	350	
	8/6/14	113.21	21.84	0.570	7.05	6.19	270.1	
	11/18/14	99.04	17.96	0.527	6.47	7.42	259.7	Phase III
	12/15/14	111.61	21.68	0.663	6.36	3.1	1165.2	
	2/18/15	107.34	20.48	1.874	7.09	6.39	333.1	
	5/14/15	102.69	22.29	1.416	7.02	5.38	265.7	
PZ-06	7/18/12	36.43	22.31	0.287	7.75	---	55.6	Baseline
	8/8/12	36.46	24.09	0.332	7.26	6.63	111.7	Phase I
	8/9/12	36.54	22.49	0.34	7.31	5.76	107.9	
	8/14/12	36.46	22.48	0.349	7.21	4.72	99.5	
	8/17/12	36.45	22.47	0.385	7.19	4.55	145.6	
	8/21/12	36.44	22.46	0.373	7.15	3.78	40.6	
	8/23/12	36.43	22.5	0.375	7.21	3.44	41.2	
	1/11/13	36.39	22.71	0.574	6.74	3.13	187.7	
	2/27/13	36.41	20.15	0.399	6.82	3.86	210.5	
	4/23/13	36.35	22.39	0.584	6.99	4.4	195.4	
	6/10/13	36.4	22.76	0.493	6.62	4.59	206.6	Phase II
	6/19/13	36.43	22.59	0.493	6.67	4.16	242.2	
	7/19/13	36.51	22.73	0.554	6.86	6.63	282.5	
	8/19/13	36.63	22.59	0.497	6.8	3.88	202.6	
	9/17/13	36.4	22.63	0.479	6.67	4.01	241.2	
	10/21/13	36.42	22.63	0.58	6.76	4.09	343.8	
	11/18/13	36.44	22.62	0.564	6.56	3.59	204.9	
	2/10/14	36.54	22.37	0.639	6.93	2.95	302.9	
	5/14/14	36.63	22.74	0.628	6.85	2.32	477.8	
	8/6/14	36.49	22.46	0.604	6.92	3.45	165.1	
	11/18/14	36.44	22.4	0.503	6.79	4.99	400.8	Phase III
	12/15/14	36.48	22.53	0.596	6.39	4.69	1173	
	2/19/15	36.45	22.58	0.848	6.76	3.59	343.6	
	5/14/15	36.42	22.52	0.64	6.73	4.13	356.2	

Table A.2 **Observation Wells - VOC Concentrations**

Well ID	Sample Date	1,1-Dichloro-ethene µg/L	*cis* -1,2-Dichloroethene µg/L	Tetrachloro-ethene (PCE) µg/L	Trichloroethene (TCE) µg/L	*trans* -1,2-Dichloroethene µg/L	Vinyl chloride µg/L
LS-5	3/7/2012	0.12	0.070	**0.81**	**2.5**	0.080	0.080
	6/4/2012	0.12	0.070	**1.2**	**3.3**	0.080	0.080
	8/3/2012	0.12	0.070	**0.40**	**1.2**	0.080	0.080
	8/6/2012	0.12	0.070	**1.3**	**2.8**	0.080	0.080
	8/16/2012	0.12	0.070	**1.2**	**2.8**	0.080	0.080
	8/30/2012	0.12	0.070	**0.84**	**3.0**	0.080	0.080
	10/1/2012	0.12	0.070	**0.98**	**2.5**	0.080	0.080
	12/3/2012	0.12	0.070	**0.84**	**2.7**	0.080	0.080
	3/11/2013	0.12	0.070	**0.80**	**2.7**	0.080	0.080
	4/23/2013	0.12	0.070	**1.2**	**3.1**	0.080	0.080
	6/19/2013	0.12	0.070	**0.84**	**2.3**	0.080	0.080
	7/19/2013	0.12	0.070	**0.72**	**2.4**	0.080	0.080
	9/17/2013	0.12	0.070	**0.95**	**2.7**	0.080	0.080
	12/9/2013	0.12	0.070	**0.95**	**2.5**	0.080	0.080
	3/5/2014	0.12	0.070	**1.0**	**3.0**	0.080	0.080
	6/2/2014	0.12	0.070	**0.85**	**2.8**	0.080	0.080
	9/3/2014	0.12	0.070	**0.88**	**3.1**	0.080	0.080
	12/1/2014	0.12	0.070	**0.91**	**2.9**	0.080	0.080
	3/2/2015	0.12	0.070	**0.98**	**3.4**	0.080	0.080
	6/1/2015	0.12	0.070	**1.2**	**2.7**	0.080	0.080
LS-6	3/7/2012	0.12	0.070	**0.81**	**1.8**	0.080	0.080
	6/4/2012	0.12	0.070	**1.1**	**3.4**	0.080	0.080
	8/3/2012	0.12	0.070	**0.76**	**1.6**	0.080	0.080
	8/6/2012	0.12	0.070	**0.74**	**2.0**	0.080	0.080
	8/16/2012	0.12	0.070	**0.87**	**1.5**	0.080	0.080
	8/30/2012	0.12	0.070	**0.55**	**1.8**	0.080	0.080
	10/1/2012	0.12	0.070	**0.69**	**1.9**	0.080	0.080
	12/3/2012	0.12	0.070	**0.85**	**2.2**	0.080	0.080
	3/11/2013	0.12	0.070	**0.87**	**2.7**	0.080	0.080
	4/23/2013	0.12	0.070	**1.1**	**3.0**	0.080	0.080
	6/19/2013	0.12	0.070	**0.68**	**3.0**	0.080	0.080
	7/19/2013	0.12	0.070	**0.58**	**1.9**	0.080	0.080
	9/17/2013	0.12	0.070	**0.68**	**2.1**	0.080	0.080
	12/9/2013	0.12	0.070	**0.84**	**2.7**	0.080	0.080
	3/5/2014	0.12	0.070	**0.76**	**3.2**	0.080	0.080
	6/2/2014	0.12	0.070	**0.91**	**3.2**	0.080	0.080
	9/3/2014	0.12	0.070	**0.80**	**3.1**	0.080	0.080
	12/1/2014	0.12	0.070	**0.93**	**3.7**	0.080	0.080
	3/2/2015	0.12	0.070	**0.81**	**3.5**	0.080	0.080
	6/1/2015	0.12	0.070	**0.29**	0.050	0.080	0.080
LS-7	3/7/2012	0.12	0.070	**2.4**	**0.36**	0.080	0.080
	6/4/2012	0.12	0.070	**3.1**	**0.42**	0.080	0.080
	8/3/2012	0.12	0.070	**1.8**	**0.30**	0.080	0.080
	8/6/2012	0.12	0.070	**2.8**	**0.41**	0.080	0.080
	8/16/2012	0.12	0.070	**2.4**	**0.30**	0.080	0.080
	8/30/2012	0.12	0.070	**2.6**	**0.66**	0.080	0.080
	10/1/2012	0.12	0.070	**1.7**	**0.46**	0.080	0.080
	12/3/2012	0.12	0.070	**2.0**	**0.43**	0.080	0.080
	3/11/2013	0.12	0.070	**2.0**	**0.41**	0.080	0.080
	4/23/2013	0.12	0.070	**2.7**	**0.27**	0.080	0.080
	6/19/2013	0.12	0.070	**1.7**	**0.24**	0.080	0.080
	7/19/2013	0.12	0.070	**2.0**	**0.24**	0.080	0.080
	9/17/2013	0.12	0.070	**1.9**	**0.19**	0.080	0.080
	12/9/2013	0.12	0.070	**2.1**	**0.23**	0.080	0.080
	3/5/2014	0.12	0.070	**1.6**	**0.44**	0.080	0.080
	6/2/2014	0.12	0.070	**2.1**	**0.46**	0.080	0.080
	9/3/2014	0.12	0.070	**2.1**	**0.54**	0.080	0.080
	10/15/2014	0.12	0.070	**2.2**	**0.47**	0.080	0.080
	10/29/2014	0.12	0.070	**1.7**	**0.37**	0.080	0.080
	11/18/2014	0.12	0.070	**2.0**	**0.45**	0.080	0.080
	12/1/2014	0.12	0.070	**2.0**	**0.38**	0.080	0.080
	3/2/2015	0.12	0.070	**1.9**	**0.44**	0.080	0.080
	6/1/2015	0.12	0.070	0.060	0.050	0.080	0.080
OFR-3	3/8/2012	0.12	**0.17**	**5.2**	**3.3**	0.080	0.080
	6/4/2012	0.12	0.070	**6.5**	**6.6**	0.080	0.080
	8/3/2012	0.12	0.070	**3.9**	**3.0**	0.080	0.080

Well ID	Sample Date	1,1-Dichloro-ethene µg/L	*cis* -1,2-Dichloroethene µg/L	Tetrachloro-ethene (PCE) µg/L	Trichloroethene (TCE) µg/L	*trans* -1,2-Dichloroethene µg/L	Vinyl chloride µg/L
	8/6/2012	0.12	0.070	**5.0**	**3.2**	0.080	0.080
	8/16/2012	0.12	0.070	**7.1**	**4.5**	0.080	0.080
	8/30/2012	0.12	0.070	**7.9**	**5.8**	0.080	0.080
	12/6/2012	0.12	0.070	**3.4**	**3.1**	0.080	0.080
	3/11/2013	0.12	0.070	**3.2**	**2.9**	0.080	0.080
	4/23/2013	0.12	**0.25**	**11**	**7.0**	0.080	0.080
	4/3/2015	0.12	0.070	**6.2**	**3.3**	0.080	0.080
	6/1/2015	0.12	0.070	**4.2**	**2.6**	0.080	0.080
RFR-10	3/8/2012	0.12	**0.40**	**16**	**10**	0.080	0.080
	6/4/2012	0.12	**0.49**	**26**	**14**	0.080	0.080
	8/3/2012	0.12	**0.33**	**8.9**	**3.4**	0.080	0.080
	8/6/2012	0.12	0.070	**12**	**4.5**	0.080	0.080
	8/16/2012	0.12	0.070	**8.5**	**3.1**	0.080	0.080
	8/30/2012	0.12	0.070	**12**	**4.8**	0.080	0.080
	10/1/2012	0.12	0.070	**9.6**	**4.6**	0.080	0.080
	12/3/2012	0.12	**0.29**	**18**	**7.7**	0.080	0.080
	3/11/2013	0.12	0.070	**8.4**	**3.2**	0.080	0.080
	4/23/2013	0.12	0.070	**12**	**4.3**	0.080	0.080
	6/19/2013	0.12	**0.28**	**13**	**8.7**	0.080	0.080
	7/19/2013	0.12	**0.21**	**15**	**6.9**	0.080	0.080
	9/17/2013	0.12	0.070	**7.4**	**2.3**	0.080	0.080
	12/9/2013	0.12	**0.16**	**14**	**6.4**	0.080	0.080
	3/5/2014	0.12	0.070	**8.4**	**3.4**	0.080	0.080
	6/2/2014	0.12	0.070	**9.4**	**4.9**	0.080	0.080
	9/3/2014	0.12	0.070	**6.8**	**2.4**	0.080	0.080
	10/15/2014	0.12	0.070	**6.1**	**2.2**	0.080	0.080
	10/29/2014	0.12	0.070	**6.4**	**2.0**	0.080	0.080
	11/18/2014	0.12	**0.18**	**11**	**8.0**	0.080	0.080
	12/1/2014	0.12	**0.19**	**12**	**7.1**	0.080	0.080
	3/2/2015	0.12	**0.35**	**22**	**14**	0.080	0.080
	5/19/2015	0.12	0.070	**7.9**	**4.7**	0.080	0.080
	6/1/2015	0.12	**0.13**	**9.2**	**5.5**	0.080	0.080
RFR-11	3/8/2012	0.12	0.070	**0.47**	**1.7**	0.080	0.080
	6/4/2012	0.12	0.070	**1.2**	**2.0**	0.080	0.080
	8/3/2012	0.12	0.070	**0.55**	**2.1**	0.080	0.080
	8/6/2012	0.12	0.070	**0.47**	**1.9**	0.080	0.080
	8/16/2012	0.12	0.070	**0.80**	**2.7**	0.080	0.080
	8/30/2012	0.12	0.070	**0.54**	**2.9**	0.080	0.080
	12/3/2012	0.12	0.070	**0.67**	**2.0**	0.080	0.080
	3/11/2013	0.12	0.070	**0.59**	**2.3**	0.080	0.080
	4/23/2013	0.12	0.070	**0.79**	**2.7**	0.080	0.080
	6/19/2013	0.12	0.070	**0.64**	**2.3**	0.080	0.080
	7/19/2013	0.12	0.070	**0.63**	**2.6**	0.080	0.080
	9/17/2013	0.12	0.070	**0.65**	**2.1**	0.080	0.080
	12/9/2013	0.12	0.070	0.060	**2.5**	0.080	0.080
	3/5/2014	0.12	0.070	**0.54**	**2.3**	0.080	0.080
	6/2/2014	0.12	0.070	**0.69**	**2.4**	0.080	0.080
	9/3/2014	0.12	0.070	**0.73**	**2.6**	0.080	0.080
	12/1/2014	0.12	0.070	**0.81**	**2.7**	0.080	0.080
	3/2/2015	0.12	0.070	**0.77**	**2.6**	0.080	0.080
	6/1/2015	0.12	0.070	**0.93**	0.050	0.080	0.080
CS-MW6-LGR	3/20/2012	0.12	0.070	**0.25**	0.050	0.080	0.080
	8/6/2012	0.12	0.070	0.060	0.050	0.080	0.080
	8/16/2012	0.12	0.070	0.060	0.050	0.080	0.080
	8/31/2012	0.12	0.070	0.060	0.050	0.080	0.080
	12/13/2012	0.12	0.070	0.060	0.050	0.080	0.080
	4/22/2013	0.12	0.070	**0.22**	0.050	0.080	0.080
	6/19/2013	0.12	0.070	0.060	0.050	0.080	0.080
	7/19/2013	0.12	0.070	0.060	0.050	0.080	0.080
	9/17/2013	0.12	0.070	0.060	0.050	0.080	0.080
	11/20/2013	0.12	0.070	0.060	0.050	0.080	0.080
	2/13/2014	0.12	0.070	0.060	0.050	0.080	0.080
	6/17/2014	0.12	0.070	0.060	0.050	0.080	0.080
	9/4/2014	0.12	0.070	0.060	0.050	0.080	0.080
	11/13/2014	0.12	0.070	0.060	0.050	0.080	0.080
	3/10/2015	0.12	0.070	0.060	0.050	0.080	0.080
	6/10/2015	0.12	0.070	**0.65**	0.050	0.080	0.080
CS-MW7-LGR	3/20/2012	0.12	0.070	**0.69**	0.050	0.080	0.080

Well ID	Sample Date	1,1-Dichloro-ethene µg/L	*cis* -1,2-Dichloroethene µg/L	Tetrachloro-ethene (PCE) µg/L	Trichloroethene (TCE) µg/L	*trans* -1,2-Dichloroethene µg/L	Vinyl chloride µg/L
	8/6/2012	0.12	0.070	**0.35**	0.050	0.080	0.080
	8/16/2012	0.12	0.070	**0.40**	0.050	0.080	0.080
	8/31/2012	0.12	0.070	**0.53**	0.050	0.080	0.080
	12/17/2012	0.12	0.070	0.060	0.050	0.080	0.080
	4/22/2013	0.12	0.070	**0.89**	0.050	0.080	0.080
	6/19/2013	0.12	0.070	**0.39**	0.050	0.080	0.080
	7/19/2013	0.12	0.070	**0.50**	0.050	0.080	0.080
	9/19/2013	0.12	0.070	**0.68**	0.050	0.080	0.080
	11/20/2013	0.12	0.070	**0.51**	0.050	0.080	0.080
	2/13/2014	0.12	0.070	**0.80**	0.050	0.080	0.080
	6/20/2014	0.12	0.070	**0.83**	0.050	0.080	0.080
	9/4/2014	0.12	0.070	**0.71**	0.050	0.080	0.080
	11/13/2014	0.12	0.070	**1.1**	0.050	0.080	0.080
	3/10/2015	0.12	0.070	**0.87**	0.050	0.080	0.080
	6/10/2015	0.12	0.070	**0.77**	0.050	0.080	0.080
CS-MW8-LGR	3/20/2012	0.12	0.070	**2.4**	0.050	0.080	0.080
	8/6/2012	0.12	0.070	**1.6**	0.050	0.080	0.080
	8/16/2012	0.12	0.070	**2.4**	0.050	0.080	0.080
	8/30/2012	0.12	0.070	**2.0**	0.050	0.080	0.080
	9/11/2012	0.12	0.070	**1.8**	0.050	0.080	0.080
	12/13/2012	0.12	0.070	**2.1**	0.050	0.080	0.080
	4/22/2013	0.12	0.070	**3.0**	**0.16**	0.080	0.080
	6/19/2013	0.12	0.070	**2.5**	0.050	0.080	0.080
	7/19/2013	0.12	0.070	**1.6**	0.050	0.080	0.080
	9/17/2013	0.12	0.070	**1.4**	0.050	0.080	0.080
	11/20/2013	0.12	0.070	**3.1**	0.050	0.080	0.080
	3/6/2014	0.12	0.070	**1.8**	0.050	0.080	0.080
	6/17/2014	0.12	0.070	**3.3**	0.050	0.080	0.080
	9/4/2014	0.12	0.070	**1.5**	0.050	0.080	0.080
	11/13/2014	0.12	0.070	**2.2**	0.050	0.080	0.080
	3/10/2015	0.12	0.070	**3.4**	0.050	0.080	0.080
	6/10/2015	0.12	0.070	**2.4**	0.050	0.080	0.080
CS-MW36-LGR	3/19/2012	0.12	0.070	**8.4**	**4.9**	0.080	0.080
	6/11/2012	0.12	0.070	**7.7**	**1.8**	0.080	0.080
	8/6/2012	0.12	**1.6**	**19**	**46**	0.080	0.080
	8/16/2012	0.12	**2.0**	**22**	**57**	0.080	0.080
	8/30/2012	0.12	**1.7**	**21**	**55**	0.080	0.080
	10/2/2012	0.12	**0.34**	**9.0**	**13**	0.080	0.080
	12/13/2012	0.12	**0.63**	**13**	**19**	0.080	0.080
	3/5/2013	0.12	**1.7**	**27**	**65**	0.080	0.080
	4/22/2013	0.12	**2.2**	**31**	**69**	0.080	0.080
	6/19/2013	0.12	0.070	**7.6**	**6.3**	0.080	0.080
	7/19/2013	0.12	**0.83**	**16**	**31**	0.080	0.080
	9/17/2013	0.12	**0.78**	**16**	**29**	0.080	0.080
	12/2/2013	0.12	**0.38**	**11**	**15**	0.080	0.080
	3/6/2014	0.12	**0.79**	**18**	**33**	0.080	0.080
	6/17/2014	0.12	0.070	**9.6**	**7.8**	0.080	0.080
	9/9/2014	0.12	**0.63**	**16**	**23**	0.080	0.080
	10/2/2014	0.12	**0.72**	**22**	**31**	0.080	0.080
	10/15/2014	0.12	**0.74**	**18**	**28**	0.080	0.080
	10/29/2014	0.12	**0.62**	**18**	**26**	0.080	0.080
	11/13/2014	0.12	**0.29**	**12**	**12**	0.080	0.080
	12/2/2014	0.12	**0.17**	**13**	**11**	0.080	0.080
	3/10/2015	0.12	**0.70**	**17**	**28**	0.080	0.080
	6/10/2015	0.12	0.070	**8.7**	**6.3**	0.080	0.080
CS-WB01-LGR-09	3/12/2012	0.12	**0.37**	**14**	**19**	0.080	0.080
	8/3/2012	0.12	**0.35**	**11**	**16**	0.080	0.080
	8/6/2012	0.12	**0.41**	**18**	**22**	0.080	0.080
	8/17/2012	0.12	**0.43**	**17**	**19**	0.080	0.080
	8/30/2012	0.12	**0.40**	**18**	**22**	0.080	0.080
	9/4/2012	0.12	**0.39**	**15**	**19**	0.080	0.080
	12/12/2012	0.12	**0.39**	**13**	**18**	0.080	0.080
	4/23/2013	0.12	**0.63**	**19**	**25**	0.080	0.080
	6/13/2013	0.12	**0.53**	**8.6**	**12**	0.080	0.080
	7/22/2013	0.12	**0.50**	**8.7**	**13**	0.080	0.080
	9/23/2013	0.12	**0.40**	**7.0**	**11**	0.080	0.080
	12/4/2013	0.12	**0.43**	**12**	**14**	0.080	0.080
	3/20/2014	0.12	**0.61**	**14**	**16**	0.080	0.080

Well ID	Sample Date	1,1-Dichloro-ethene µg/L	*cis* -1,2-Dichloroethene µg/L	Tetrachloro-ethene (PCE) µg/L	Trichloroethene (TCE) µg/L	*trans* -1,2-Dichloroethene µg/L	Vinyl chloride µg/L
	6/25/2014	0.12	**0.35**	**12**	**14**	0.080	0.080
	9/16/2014	0.12	**0.50**	**16**	**15**	0.080	0.080
	12/9/2014	0.12	**0.41**	**10**	**13**	0.080	0.080
	3/23/2015	0.12	**0.35**	**6.5**	**8.7**	0.080	**0.28**
	6/17/2015	0.12	**0.80**	**11**	**14**	0.080	0.080
CS-WB02-LGR-09	3/12/2012	0.12	**0.31**	**16**	**14**	0.080	0.080
	8/3/2012	0.12	0.070	**12**	**11**	0.080	0.080
	8/6/2012	0.12	**0.23**	**8.1**	**7.3**	0.080	0.080
	8/17/2012	0.12	**0.42**	**14**	**13**	0.080	0.080
	8/30/2012	0.12	**0.29**	**15**	**11**	0.080	0.080
	9/4/2012	0.12	**0.31**	**14**	**12**	0.080	0.080
	12/12/2012	0.12	0.070	**120**	**12**	0.080	0.080
	4/29/2013	0.12	**0.28**	**12**	**11**	0.080	0.080
	6/12/2013	0.12	**0.32**	**110**	**11**	0.080	0.080
	7/22/2013	0.12	**0.28**	**13**	**12**	0.080	0.080
	9/18/2013	0.12	**0.27**	**260**	**11**	0.080	0.080
	12/4/2013	0.12	**0.26**	**47**	**9.5**	0.080	0.080
	3/19/2014	0.12	0.070	**7.8**	**5.8**	0.080	0.080
	6/24/2014	0.12	**0.28**	**430**	**11**	0.080	0.080
	9/16/2014	0.60	0.35	**120**	**9.6**	0.40	0.40
	10/2/2014	0.12	0.070	**10**	**9.1**	0.080	0.080
	10/15/2014	0.12	**0.28**	**12**	**11**	0.080	0.080
	10/29/2014	0.12	0.070	**6.9**	**6.1**	0.080	0.080
	11/13/2014	0.12	**0.24**	**97**	**10.0**	0.080	0.080
	12/10/2014	0.12	**0.20**	**7.6**	**7.0**	0.080	0.080
	3/23/2015	0.12	**0.21**	**7.9**	**8.0**	0.080	0.080
	6/22/2015	0.12	**0.21**	**17**	**9.7**	0.080	0.080
CS-WB03-LGR-09	3/13/2012	0.12	**21**	**9.1**	**5.0**	0.080	0.080
	8/6/2012	0.12	**8.6**	**2.5**	**2.0**	0.080	0.080
	8/16/2012	0.12	**9.2**	**4.3**	**4.1**	0.080	0.080
	8/30/2012	0.12	**10.0**	**4.2**	**3.3**	0.080	0.080
	9/5/2012	0.12	**12**	**3.5**	**3.8**	0.080	0.080
	12/12/2012	0.12	**20**	**3.5**	**2.4**	0.080	0.080
	4/23/2013	0.12	**7.6**	**3.5**	**3.3**	0.080	0.080
	6/12/2013	0.12	**8.9**	**1.6**	**2.1**	0.080	0.080
	7/22/2013	0.12	**15**	**1.8**	**1.8**	0.080	0.080
	9/18/2013	0.12	**9.6**	**1.3**	**2.2**	0.080	0.080
	12/4/2013	0.12	**10**	**1.3**	**1.7**	0.080	0.080
	3/17/2014	0.12	**4.1**	**2.9**	**1.5**	0.080	**0.92**
	6/24/2014	0.12	**4.0**	**1.8**	**2.5**	0.080	0.080
	9/16/2014	0.12	**1.9**	**3.0**	**4.3**	0.080	0.080
	12/3/2014	0.12	**1.7**	**2.0**	**1.3**	0.080	0.080
	3/24/2015	0.12	**1.8**	**0.75**	**1.2**	0.080	0.080
	6/18/2015	0.12	0.070	**2.9**	**3.7**	0.080	0.080
CS-WB04-LGR-11	3/13/2012	0.12	0.070	**0.42**	**0.21**	0.080	0.080
	8/6/2012	0.12	0.070	0.060	0.050	0.080	0.080
	8/16/2012	0.12	0.070	**0.29**	0.050	0.080	0.080
	8/30/2012	0.12	0.070	0.060	0.050	0.080	0.080
	9/6/2012	0.12	0.070	**0.27**	0.050	0.080	0.080
	10/2/2012	0.12	0.070	0.060	0.050	0.080	0.080
	12/12/2012	0.12	0.070	0.060	0.050	0.080	0.080
	4/24/2013	0.12	0.070	**0.40**	0.050	0.080	0.080
	6/20/2013	0.12	0.070	**0.24**	0.050	0.080	0.080
	7/22/2013	0.12	0.070	**0.12**	0.050	0.080	0.080
	9/23/2013	0.12	0.070	**0.27**	0.050	0.080	0.080
	12/2/2013	0.12	0.070	0.060	0.050	0.080	0.080
	3/6/2014	0.12	0.070	0.060	0.050	0.080	**0.42**
	6/25/2014	0.12	0.070	**1.2**	0.050	0.080	0.080
	9/17/2014	0.12	0.070	**0.73**	0.050	0.080	0.080
	12/8/2014	0.12	0.070	**0.92**	0.050	0.080	0.080
	3/24/2015	0.12	0.070	**440**	**2.7**	0.080	0.080
	5/18/2015	0.12	0.070	**0.28**	0.050	0.080	0.080

Detections are bolded. Results not highlighted are detections above the RL.
Not detected. Reported result is reported as the MDL and flagged U.
Trace value. Reported result is a value between the MDL and the RL and is flagged F.

Table A.3 Performance Monitoring Wells - VOC Concentrations

Well ID	Sample Date	1,1-Dichloro-ethene µg/L	cis-1,2-Dichloroethene µg/L	Tetrachloro-ethene (PCE) µg/L	Trichloroethene (TCE) µg/L	trans-1,2-Dichloroethene µg/L	Vinyl chloride µg/L
PZ-01	7/20/2012	0.12	0.070	**8.6**	**3.9**	0.080	0.080
	1/9/2013	0.12	0.070	**8.7**	**2.6**	0.080	0.080
	4/16/2013	0.12	0.070	**6.2**	**2.5**	0.080	0.080
	6/19/2013	0.12	0.070	**4.4**	**2.4**	0.080	0.080
	7/23/2013	0.12	0.070	**10**	**3.9**	0.080	0.080
	9/17/2013	0.12	0.070	**5.6**	**3.2**	0.080	0.080
	11/18/2013	0.12	0.070	**7.8**	**3.0**	0.080	0.080
	2/10/2014	0.12	0.070	**6.9**	**3.0**	0.080	0.080
	5/14/2014	0.12	0.070	**13**	**5.8**	0.080	0.080
	8/6/2014	0.12	0.070	**13**	**4.3**	0.080	0.080
	11/18/2014	0.12	0.070	**12**	**5.1**	0.080	0.080
	2/19/2015	0.12	0.070	**12**	**4.9**	0.080	0.080
	5/14/2015	0.12	0.070	**14**	**5.8**	0.080	0.080
PZ-02	7/20/2012	0.12	0.070	**1.6**	**0.37**	0.080	0.080
	1/9/2013	0.12	0.070	**2.7**	**1.7**	0.080	0.080
	4/16/2013	0.12	0.070	**1.1**	**1.1**	0.080	0.080
	6/19/2013	0.12	0.070	**1.1**	**1.3**	0.080	0.080
	7/23/2013	0.12	0.070	**1.1**	**1.3**	0.080	0.080
	11/18/2013	0.12	0.070	**1.5**	**0.93**	0.080	0.080
	2/10/2014	0.12	0.070	**1.2**	**0.48**	0.080	0.080
	5/14/2014	0.12	0.070	**0.87**	**0.21**	0.080	0.080
	8/6/2014	0.12	0.070	**1.1**	**0.63**	0.080	0.080
	11/18/2014	0.12	0.070	**1.0**	**0.50**	0.080	0.080
	2/18/2015	0.12	0.070	**0.61**	**0.35**	0.080	0.080
	5/14/2015	0.12	0.070	**0.46**	**0.87**	0.080	0.080
PZ-05	7/20/2012	0.12	0.070	**2.6**	**0.27**	0.080	0.080
	1/9/2013	0.12	0.070	**5.4**	**0.40**	0.080	0.080
	4/16/2013	0.12	0.070	**4.1**	**0.27**	0.080	0.080
	6/19/2013	0.12	0.070	**1.9**	0.050	0.080	0.080
	7/23/2013	0.12	0.070	**3.4**	**0.22**	0.080	0.080
	9/17/2013	0.12	0.070	**2.8**	**0.41**	0.080	0.080
	11/18/2013	0.12	0.070	**2.8**	**0.17**	0.080	0.080
	2/10/2014	0.12	0.070	**2.9**	**0.26**	0.080	0.080
	5/14/2014	0.12	0.070	**5.2**	**0.28**	0.080	0.080
	8/6/2014	0.12	0.070	**4.6**	0.050	0.080	0.080
	11/18/2014	0.12	0.070	**2.1**	0.050	0.080	0.080
	2/18/2015	0.12	0.070	**2.0**	0.050	0.080	0.080
	5/14/2015	0.12	0.070	**1.4**	0.050	0.080	0.080
PZ-06	7/20/2012	0.12	0.070	0.060	0.050	0.080	0.080
	1/9/2013	0.12	0.070	**16**	**0.24**	0.080	0.080
	4/16/2013	0.12	0.070	**6.8**	**0.22**	0.080	0.080
	6/19/2013	0.12	0.070	**8.5**	**0.20**	0.080	0.080
	7/23/2013	0.12	0.070	**5.4**	0.050	0.080	0.080
	9/17/2013	0.12	0.070	**2.9**	**0.18**	0.080	0.080
	11/18/2013	0.12	0.070	**6.6**	0.050	0.080	0.080
	2/10/2014	0.12	0.070	**5.4**	**0.20**	0.080	0.080
	5/14/2014	0.12	0.070	**4.8**	**0.26**	0.080	0.080
	8/6/2014	0.12	0.070	**5.6**	0.050	0.080	0.080
	11/18/2014	0.12	0.070	**5.3**	0.050	0.080	0.080
	2/19/2015	0.12	0.070	**6.4**	**0.26**	0.080	0.080
	5/14/2015	0.12	0.070	**16**	**0.33**	0.080	0.080
TSW-01	7/18/2012	0.12	**1.2**	**6,400**	**4.8**	0.080	0.080
	8/30/2012	0.12	**16**	**64,000**	**49**	**0.31**	0.080
	9/28/2012	0.12	**15**	**28,000**	**29**	0.080	0.080
	10/1/2012	3.0	**14**	**25,000**	**27**	2.0	2.0
	1/9/2013	0.12	**5.0**	**13,000**	**12**	0.080	0.080
	4/16/2013	0.12	**7.0**	**7,600**	**32**	0.080	0.080
	6/19/2013	24	14	**6,100**	**54**	16	16
	7/23/2013	12	7.0	**9,500**	**28**	8.0	8.0
	9/17/2013	24	14	**3,900**	**18**	16	16
	11/18/2013	60	35	**7,800**	**32**	40	40
	2/10/2014	0.12	**2.5**	**3,100**	**7.1**	0.080	0.080
	5/14/2014	0.12	**3.8**	**4,100**	**13**	0.080	0.080
	8/6/2014	6.0	**9.3**	**5,400**	**15**	4.0	4.0
	10/2/2014	12	7.0	**6,400**	**23**	8.0	8.0
	10/15/2014	12	7.0	**19,000**	5.0	8.0	8.0

Well ID	Sample Date	1,1-Dichloro-ethene µg/L	cis-1,2-Dichloroethene µg/L	Tetrachloro-ethene (PCE) µg/L	Trichloroethene (TCE) µg/L	trans-1,2-Dichloroethene µg/L	Vinyl chloride µg/L
	10/29/2014	24	14	**18,000**	10	16	16
	11/18/2014	12	7.0	**3,800**	5.0	8.0	8.0
	2/19/2015	0.60	0.35	**1,100**	**1.4**	0.40	0.40
	5/14/2015	3.0	1.8	**2,300**	**4.5**	2.0	2.0
TSW-03	7/20/2012	0.12	0.070	**1.9**	**0.97**	0.080	0.080
	8/30/2012	0.12	0.070	**3.1**	**0.63**	0.080	0.080
	10/1/2012	0.12	0.070	**12**	**0.25**	0.080	0.080
	4/16/2013	0.12	0.070	**4.1**	**3.4**	0.080	0.080
	6/19/2013	0.12	0.070	**2.5**	**2.4**	0.080	0.080
	7/23/2013	0.12	0.070	**1.4**	**2.4**	0.080	0.080
	9/17/2013	0.12	0.070	**3.1**	**0.65**	0.080	0.080
	11/18/2013	0.12	0.070	**5.3**	**1.4**	0.080	0.080
	2/10/2014	0.12	0.070	**1.0**	0.050	0.080	0.080
	5/14/2014	0.12	0.070	**1.1**	**0.68**	0.080	0.080
	8/6/2014	0.12	0.070	**3.6**	**0.98**	0.080	0.080
	11/18/2014	0.12	0.070	**2.5**	**1.9**	0.080	0.080
	2/19/2015	0.12	0.070	**1.2**	0.050	0.080	0.080
	5/14/2015	0.12	0.070	**1.1**	**1.1**	0.080	0.080
TSW-04	7/20/2012	0.12	0.070	**0.79**	**1.7**	0.080	0.080
	8/30/2012	0.12	0.070	**2.8**	**3.8**	0.080	0.080
	4/16/2013	0.12	0.070	**0.71**	**2.6**	0.080	0.080
	6/19/2013	0.12	0.070	**3.9**	**0.42**	0.080	0.080
	7/23/2013	0.12	0.070	**1.7**	0.050	0.080	0.080
	9/17/2013	0.12	0.070	**0.74**	**0.58**	0.080	0.080
	11/18/2013	0.12	0.070	**0.26**	0.050	0.080	0.080
	2/10/2014	0.12	0.070	**0.62**	0.050	0.080	0.080
	5/14/2014	0.12	0.070	**0.63**	0.050	0.080	0.080
	8/6/2014	0.12	0.070	**2.1**	**0.39**	0.080	0.080
	11/18/2014	0.12	0.070	**0.64**	0.050	0.080	0.080
	2/18/2015	0.12	0.070	0.060	0.050	0.080	0.080
	5/14/2015	0.12	0.070	**0.50**	0.050	0.080	0.080
TSW-05	7/20/2012	0.12	0.070	**24**	0.050	0.080	0.080
	8/14/2012	0.12	0.070	**16**	0.050	0.080	0.080
	8/30/2012	0.12	0.070	**14**	**0.18**	0.080	0.080
	10/1/2012	0.12	0.070	**15**	**0.28**	0.080	0.080
	1/9/2013	0.12	0.070	**42**	**0.61**	0.080	0.080
	4/18/2013	0.12	0.070	**44**	**0.50**	0.080	0.080
	6/19/2013	0.12	0.070	**94**	**0.37**	0.080	0.080
	7/23/2013	0.12	0.070	**220**	**0.34**	0.080	0.080
	9/17/2013	0.12	0.070	**82**	**0.34**	0.080	0.080
	11/18/2013	0.12	0.070	**61**	**0.43**	0.080	0.080
	2/10/2014	0.12	0.070	**37**	**0.39**	0.080	0.080
	5/14/2014	0.12	0.070	**29**	**0.26**	0.080	0.080
	8/6/2014	0.12	0.070	**150**	**0.35**	0.080	0.080
	10/2/2014	0.12	0.070	**81**	**0.32**	0.080	0.080
	10/15/2014	0.24	0.14	**120**	**0.36**	0.16	0.16
	10/29/2014	0.12	0.070	**82**	**0.32**	0.080	0.080
	11/18/2014	0.12	0.070	**220**	**0.40**	0.080	0.080
	2/18/2015	0.60	0.35	**270**	**0.37**	0.40	0.40
	5/14/2015	0.60	0.35	**680**	0.25	0.40	0.40
TSW-07	7/20/2012	0.12	0.070	0.060	**1.5**	0.080	0.080
	8/30/2012	0.12	0.070	**0.49**	**3.2**	0.080	0.080
	4/16/2013	0.12	0.070	0.060	**1.5**	0.080	0.080
	6/19/2013	0.12	0.070	**0.99**	**1.7**	0.080	0.080
	7/23/2013	0.12	0.070	**0.84**	**3.6**	0.080	0.080
	9/17/2013	0.12	0.070	**0.98**	**4.8**	0.080	0.080
	11/18/2013	0.12	0.070	**0.64**	**2.0**	0.080	0.080
	2/10/2014	0.12	0.070	**0.55**	**2.2**	0.080	0.080
	5/14/2014	0.12	0.070	**0.39**	**0.29**	0.080	0.080
	8/6/2014	0.12	0.070	**1.5**	**0.86**	0.080	0.080
	11/18/2014	0.12	0.070	**0.38**	**0.19**	0.080	0.080
	2/18/2015	0.12	0.070	0.060	**2.7**	0.080	0.080
	5/14/2015	0.12	0.070	**0.37**	**2.9**	0.080	0.080
VEW-15	7/18/2012	0.12	**30**	**57**	**11**	**0.37**	0.080
	8/14/2012	0.12	**21**	**24**	**6.8**	**0.20**	0.080
	8/30/2012	0.12	**21**	**36**	**9.4**	**0.29**	0.080
	10/1/2012	0.12	**19**	**25**	**7.7**	**0.15**	0.080
	4/17/2013	0.12	**7.7**	**19**	**6.1**	0.080	0.080

Well ID	Sample Date	1,1-Dichloro-ethene µg/L	cis-1,2-Dichloroethene µg/L	Tetrachloro-ethene (PCE) µg/L	Trichloroethene (TCE) µg/L	trans-1,2-Dichloroethene µg/L	Vinyl chloride µg/L
	6/19/2013	0.12	**14**	**22**	**8.0**	**0.25**	0.080
	7/23/2013	0.12	**15**	**27**	**8.3**	**0.41**	0.080
	9/17/2013	0.12	**16**	**49**	**12**	**0.30**	0.080
	11/18/2013	0.12	**16**	**36**	**15**	**0.46**	0.080
	2/10/2014	0.12	**5.2**	**13**	**4.8**	0.080	0.080
	5/14/2014	0.12	**8.6**	**25**	**6.0**	0.080	0.080
	8/6/2014	0.12	**22**	**41**	**12**	0.080	0.080
	11/18/2014	0.12	**25**	**40**	**18**	**0.30**	0.080
	2/18/2015	0.12	**5.2**	**11**	**4.2**	**0.21**	0.080
	5/14/2015	0.12	**11**	**16**	**7.7**	**0.20**	0.080
VEW-19	7/18/2012	0.12	**27**	**89**	**16**	**0.80**	0.080
	8/30/2012	0.12	**24**	**150**	**18**	**1.4**	0.080
	1/9/2013	0.12	**31**	**140**	**22**	**1.2**	0.080
	4/16/2013	0.12	**17**	**100**	**13**	**0.69**	0.080
	6/19/2013	0.12	**3.5**	**130**	**2.6**	0.080	0.080
	7/23/2013	0.12	**2.5**	**22**	**0.96**	0.080	0.080
	9/17/2013	0.12	**5.9**	**22**	**2.3**	**0.27**	0.080
	11/18/2013	0.24	**21**	**170**	**11**	**0.92**	0.16
	2/10/2014	0.12	**7.8**	**57**	**4.4**	**0.53**	0.080
	8/6/2014	0.12	**43**	**150**	**20**	**1.8**	0.080
	11/18/2014	0.12	0.070	**3.3**	0.050	0.080	0.080
	2/19/2015	0.12	0.070	**1.5**	0.050	0.080	0.080
	5/14/2015	0.60	**4.7**	**24**	0.25	**1.0**	0.40
VEW-25	7/18/2012	0.12	**0.69**	**29**	**1.3**	0.080	0.080
	10/1/2012	0.30	**5.5**	**280**	**15**	0.20	0.20
	1/9/2013	0.12	**3.8**	**350**	**14**	0.080	0.080
	6/19/2013	0.12	0.070	**28**	**0.34**	0.080	0.080
	7/23/2013	0.12	0.070	**5.9**	0.050	0.080	0.080
	9/17/2013	0.12	0.070	**4.4**	0.050	0.080	0.080
	11/18/2013	0.12	**2.3**	**120**	**5.9**	0.080	0.080
	2/10/2014	0.12	**2.2**	**100**	**4.6**	0.080	0.080
	5/14/2014	0.12	**1.5**	**71**	**3.1**	0.080	0.080
	8/6/2014	0.12	**3.8**	**160**	**7.7**	**0.24**	0.080
	10/2/2014	0.24	**1.3**	**160**	**2.2**	0.16	0.16
	10/15/2014	0.60	0.35	**67**	0.25	0.40	0.40
	10/29/2014	0.12	0.070	**11**	0.050	0.080	0.080
	11/18/2014	0.12	0.070	**17**	0.050	0.080	0.080
	2/19/2015	0.12	0.070	**2.0**	0.050	0.080	0.080
	5/14/2015	0.12	**0.19**	**4.1**	**0.28**	0.080	0.080
VEW-27	7/18/2012	0.12	**7.0**	**5,000**	**31**	**0.30**	0.080
	8/30/2012	0.12	**53**	**3,400**	**57**	**2.4**	0.080
	9/28/2012	0.12	**69**	**2,400**	**64**	**3.2**	0.080
	10/1/2012	0.24	**52**	**2,400**	**48**	**4.9**	0.16
	1/9/2013	0.12	**82**	**1,500**	**66**	**2.8**	0.080
	4/16/2013	0.12	**17**	**540**	**22**	**0.77**	0.080
	6/19/2013	0.12	0.070	**15**	0.050	0.080	0.080
	7/23/2013	0.12	0.070	**7.8**	0.050	0.080	0.080
	9/17/2013	0.12	0.070	**7.6**	0.050	0.080	0.080
	11/18/2013	0.12	0.070	**14**	0.050	0.080	0.080
	2/10/2014	0.12	0.070	**64**	0.050	0.080	0.080
	5/14/2014	0.12	0.070	**31**	0.050	0.080	0.080
	8/6/2014	0.12	0.070	**47**	**0.47**	0.080	0.080
	11/18/2014	0.12	0.070	**3.2**	0.050	0.080	0.080
	2/19/2015	0.12	0.070	**2.0**	0.050	0.080	0.080
	5/14/2015	0.24	0.14	**68**	0.10	0.16	0.16
VEW-32	7/18/2012	0.12	**0.60**	**1,300**	**1.7**	0.080	0.080
	8/14/2012	0.12	**0.48**	**1,500**	**2.1**	0.080	0.080
	8/30/2012	0.12	**0.78**	**11,000**	**3.3**	0.080	0.080
	9/28/2012	0.12	**0.36**	**1,100**	**0.97**	0.080	0.080
	10/1/2012	0.60	0.35	**510**	0.25	0.40	0.40
	1/9/2013	0.12	0.070	**1,400**	**8.1**	0.080	0.080
	4/18/2013	0.12	**0.83**	**2,600**	**15**	0.080	0.080
	6/19/2013	12	7.0	**2,900**	5.0	8.0	8.0
	7/23/2013	6.0	3.5	**9,900**	**7.8**	4.0	4.0
	9/17/2013	24	14	**3,800**	**12**	16	16
	11/18/2013	6.0	3.5	**1,600**	2.5	4.0	4.0
	2/10/2014	0.12	**0.47**	**1,600**	**22**	0.080	0.080
	5/14/2014	1.2	0.70	**2,000**	**4.5**	0.80	0.80

Well ID	Sample Date	1,1-Dichloro-ethene µg/L	cis-1,2-Dichloroethene µg/L	Tetrachloro-ethene (PCE) µg/L	Trichloroethene (TCE) µg/L	trans-1,2-Dichloroethene µg/L	Vinyl chloride µg/L
	8/6/2014	0.12	**1.1**	**6,800**	**2.7**	0.080	0.080
	11/18/2014	1.2	0.70	**580**	0.50	0.80	0.80
	2/18/2015	2.4	1.4	**1,300**	**7.8**	1.6	1.6
	5/14/2015	0.12	0.070	**78**	0.050	0.080	0.080
CS-WB01-LGR-01	7/31/2012	0.12	0.070	**3.8**	**0.19**	0.080	0.080
	9/4/2012	0.12	0.070	**3.5**	**0.18**	0.080	0.080
	4/29/2013	0.12	0.070	**2.0**	**0.18**	0.080	0.080
	6/13/2013	0.12	0.070	**2.8**	**0.28**	0.080	0.080
	7/22/2013	0.12	0.070	**1.6**	**0.25**	0.080	0.080
	9/23/2013	0.12	0.070	**1.7**	**0.21**	0.080	0.080
	12/4/2013	0.12	0.070	**3.4**	**0.20**	0.080	0.080
	3/20/2014	0.12	0.070	**3.3**	0.050	0.080	0.080
	6/25/2014	0.12	0.070	**3.9**	**0.30**	0.080	0.080
	9/16/2014	0.12	0.070	**4.2**	**0.20**	0.080	0.080
	12/9/2014	0.12	0.070	**1.7**	**0.25**	0.080	0.080
	3/23/2015	0.12	0.070	**1.2**	**0.45**	0.080	0.080
	6/17/2015	0.12	0.070	**3.0**	0.050	0.080	0.080
CS-WB02-LGR-01	7/30/2012	0.12	0.070	**0.29**	**0.76**	0.080	0.080
	9/4/2012	0.12	0.070	**0.55**	**1.2**	0.080	0.080
	4/30/2013	0.12	0.070	**0.85**	**0.81**	0.080	0.080
	6/12/2013	0.12	0.070	**2.4**	**0.36**	0.080	0.080
	7/22/2013	0.12	0.070	**0.73**	**0.58**	0.080	0.080
	9/18/2013	0.12	0.070	**14**	**0.47**	0.080	0.080
	12/4/2013	0.12	0.070	**5.1**	**0.35**	0.080	0.080
	6/24/2014	0.12	0.070	**7.0**	**0.48**	0.080	0.080
	12/10/2014	0.12	0.070	**0.70**	**0.090**	0.080	0.080
	3/23/2015	0.12	0.070	**0.20**	0.050	0.080	0.080
	6/22/2015	0.12	0.070	**1.0**	0.050	0.080	0.080
CS-WB03-LGR-01	7/24/2012	0.12	0.070	**640**	**50**	0.080	0.080
	12/4/2013	0.12	**0.50**	**540**	**15**	0.080	0.080
	3/17/2014	0.12	**0.64**	**1,000**	**23**	0.080	0.080
	6/24/2014	0.24	**0.65**	**370**	**17**	0.16	0.16
	12/3/2014	0.60	**1.1**	**530**	**27**	0.40	0.40
	3/24/2015	0.12	**1.1**	**380**	**36**	0.080	0.080
	6/19/2015	1.2	0.70	**300**	**17**	0.80	0.80
CS-WB03-UGR-01	7/24/2012	0.12	0.070	**5.4**	**0.64**	0.080	0.080
	8/30/2012	0.12	**1.5**	**6,300**	**85**	0.080	0.080
	9/5/2012	0.12	**1.5**	**8,100**	**99**	0.080	0.080
	10/2/2012	0.12	**1.2**	**7,000**	**78**	0.080	0.080
	12/12/2012	0.12	**2.1**	**30,000**	**180**	0.080	0.080
	4/22/2013	0.12	**2.7**	**13,000**	**140**	0.080	0.080
	6/12/2013	3.0	1.8	**8,700**	**71**	2.0	2.0
	7/22/2013	24	14	**9,100**	**94**	16	16
	9/18/2013	24	14	**9,900**	**100**	16	16
	12/4/2013	120	70	**21,000**	**200**	80	80
	3/17/2014	0.12	**2.9**	**20,000**	**110**	0.080	0.080
	6/24/2014	6.0	3.5	**14,000**	**110**	4.0	4.0
	9/16/2014	24	14	**30,000**	**170**	16	16
	10/2/2014	12	7.0	**20,000**	**170**	8.0	8.0
	10/15/2014	60	35	**21,000**	**170**	40	40
	10/29/2014	60	35	**22,000**	**110**	40	40
	11/13/2014	120	70	**32,000**	**260**	80	80
	12/3/2014	12	7.0	**7,600**	**90**	8.0	8.0
	3/24/2015	120	70	**22,000**	**180**	80	80
	6/19/2015	60	35	**14,000**	**100**	40	40

Detections are bolded. Results not highlighted are detections above the RL.
Not detected. Reported result is reported as the MDL and flagged U.
Trace value. Reported result is a value between the MDL and the RL and is flagged F.

Table A.4 **Observation Wells - Metals Concentrations**

Well ID	Sample Date	Antimony µg/L	Arsenic µg/L	Beryllium µg/L	Cadmium µg/L	Chromium µg/L	Copper µg/L	Lead µg/L	Mercury µg/L	Nickel µg/L	Selenium µg/L	Silver µg/L	Thallium µg/L	Zinc µg/L
LS-5	3/7/2012	1.8	0.20	0.20	0.30	1.0	16	1.9	0.10	1.0	3.2	0.081	1.0	43
	3/7/2012	5.7	0.20	0.20	0.30	1.0	9.3	1.9	0.10	1.0	3.2	0.081	1.0	30
	8/3/2012	3.2	0.20	0.20	0.30	1.0	31	6.3	0.10	1.0	3.2	0.081	1.0	82
	8/6/2012	2.2	0.20	0.20	0.30	1.0	18	4.7	0.10	1.0	3.2	0.081	1.0	48
	8/16/2012	1.8	0.20	0.20	0.30	1.0	13	1.9	0.10	1.0	3.2	0.081	1.0	32
	8/30/2012	1.8	0.20	0.20	0.30	1.0	9.0	1.9	0.10	1.0	3.2	0.081	1.0	14
	10/1/2012	1.8	0.20	0.20	0.30	1.0	9.0	1.9	0.10	1.0	3.2	0.27	1.0	49
	4/23/2013	1.8	0.20	0.20	0.30	1.0	25	1.9	0.10	1.0	3.2	0.081	1.0	52
	6/19/2013	1.8	0.20	0.20	0.30	1.0	19	1.9	0.10	1.0	3.2	0.14	1.0	44
	7/19/2013	1.8	0.20	0.20	0.30	1.0	11	1.9	0.10	1.0	3.2	0.46	1.0	37
	9/17/2013	1.9	0.20	0.20	0.50	1.0	13	2.1	0.10	1.0	3.2	1.0	1.0	40
	12/9/2013	1.8	0.20	0.20	0.50	1.0	18	1.9	0.10	1.0	3.2	1.0	1.0	34
	3/5/2014	1.8	0.90	0.20	0.50	1.0	10	1.9	0.10	1.0	3.2	1.0	1.0	35
	6/2/2014	3.0	0.20	0.20	0.50	1.0	14	1.9	0.10	1.0	3.2	1.0	1.0	53
	9/3/2014	2.3	1.8	0.20	0.50	1.0	18	1.9	0.10	1.0	3.2	1.0	1.0	44
	12/1/2014	1.8	2.7	0.20	0.50	1.0	17	1.9	0.10	1.0	3.2	1.0	1.1	34
	3/2/2015	4.0	0.20	0.20	1.2	1.4	34	1.9	0.10	1.0	3.2	1.0	1.0	90
	6/1/2015	1.8	2.1	0.20	0.50	1.0	11	1.9	0.10	1.0	3.2	1.0	1.0	30
LS-6	3/7/2012	1.8	0.20	0.20	0.30	1.0	6.0	1.9	0.10	1.0	3.2	0.081	1.0	16
	3/7/2012	5.9	0.20	0.20	0.30	1.0	3.1	1.9	0.10	1.0	3.2	0.56	1.0	20
	8/3/2012	2.7	0.20	0.20	0.30	1.0	5.0	2.6	0.10	1.0	3.2	0.081	1.0	24
	8/6/2012	3.1	0.20	0.20	0.30	1.0	3.6	2.1	0.10	1.0	3.2	0.081	1.0	29
	8/16/2012	1.8	0.20	0.20	0.30	1.0	8.5	1.9	0.10	1.0	3.2	0.081	1.0	93
	8/30/2012	1.8	0.20	0.20	0.30	1.0	4.6	1.9	0.10	1.0	3.2	0.081	1.0	8.9
	10/1/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.29	1.0	29
	4/23/2013	1.8	0.20	38	0.30	1.0	7.0	1.9	0.10	1.0	3.2	0.081	1.0	54
	6/19/2013	1.8	0.20	0.20	0.30	1.0	10	1.9	0.10	1.0	3.2	0.081	1.0	28
	7/19/2013	1.8	0.20	0.20	0.30	1.0	12	2.7	0.10	1.0	3.2	0.66	1.0	41
	9/17/2013	1.8	0.20	0.20	0.50	1.0	3.0	1.9	0.10	1.0	3.2	1.0	1.0	22
	12/9/2013	1.8	0.20	0.20	0.50	1.0	3.0	1.9	0.20	1.0	3.2	1.0	1.0	13
	3/5/2014	1.8	0.20	0.20	0.50	1.0	3.0	1.9	0.10	1.0	3.2	1.0	1.0	18
	6/2/2014	1.8	0.90	0.20	0.50	1.0	4.0	1.9	0.10	1.0	3.2	1.0	1.0	18
	9/3/2014	2.8	1.0	0.20	0.50	1.0	4.0	1.9	0.10	1.0	3.2	1.0	1.0	21
	12/1/2014	1.8	2.6	0.20	0.50	1.0	11	1.9	0.10	1.0	3.2	1.0	1.0	29
	3/2/2015	4.2	0.20	0.20	1.5	1.0	11	1.9	0.10	1.0	3.2	1.0	1.0	46
	6/1/2015	1.8	2.0	0.20	0.50	1.0	19	1.9	0.10	1.0	3.2	1.0	1.0	46
LS-7	3/7/2012	1.8	0.20	0.20	0.30	1.0	7.0	1.9	0.10	1.0	3.2	0.081	1.0	13
	3/7/2012	5.0	0.20	0.20	0.30	1.0	6.1	1.9	0.10	1.0	3.2	0.081	1.0	21
	8/3/2012	3.1	0.20	0.20	0.30	1.0	5.5	2.1	0.10	1.0	3.2	0.081	1.0	15
	8/6/2012	3.5	0.20	0.20	0.30	1.0	12	3.1	0.10	1.0	3.2	0.081	1.0	21
	8/16/2012	1.8	0.20	0.20	0.30	1.0	7.1	1.9	0.10	1.0	3.2	0.081	1.0	14
	8/30/2012	1.8	0.20	0.20	0.30	1.0	6.3	1.9	0.10	1.0	3.2	0.081	1.1	8.0
	10/1/2012	1.8	0.20	0.20	0.30	1.0	4.2	1.9	0.10	1.0	3.2	0.081	1.0	29
	4/23/2013	1.8	0.20	0.20	0.30	1.0	8.0	1.9	0.10	1.0	3.2	0.081	1.0	43
	6/19/2013	1.8	0.20	0.20	0.30	1.0	7.0	1.9	0.10	1.0	3.2	0.15	1.0	13
	7/19/2013	1.8	0.20	0.20	0.30	1.0	8.0	1.9	0.10	1.0	3.2	0.99	1.0	17
	9/17/2013	1.8	0.20	0.20	0.50	1.0	6.0	1.9	0.10	1.0	3.2	1.0	1.0	16
	12/9/2013	1.8	0.20	0.20	0.50	1.0	8.0	1.9	0.20	1.0	3.2	1.0	1.0	12
	3/5/2014	1.8	0.20	0.20	0.50	1.0	7.0	1.9	0.10	1.0	3.2	1.0	1.0	33
	6/2/2014	2.7	0.20	0.20	0.50	1.0	4.0	1.9	0.10	1.0	3.2	1.0	1.0	13
	9/3/2014	1.8	2.2	0.20	0.50	1.0	8.0	1.9	0.10	1.0	3.2	1.0	1.0	9.0
	12/1/2014	1.8	2.6	0.20	0.50	1.0	7.0	1.9	0.10	1.0	3.2	1.0	2.9	14
	3/2/2015	3.8	0.20	0.20	1.9	1.0	6.0	1.9	0.10	1.0	3.2	1.0	1.0	32
	6/1/2015	1.9	2.4	0.20	0.50	1.0	5.0	1.9	0.10	1.0	3.2	1.0	1.2	8.0
OFR-3	3/8/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	79
	3/8/2012	5.5	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	82
	8/3/2012	2.8	0.20	0.20	0.30	1.0	4.1	1.9	0.10	1.0	3.2	0.081	1.0	78
	8/6/2012	2.8	0.20	0.20	0.30	1.1	3.0	1.9	0.10	1.0	3.2	0.081	1.0	83
	8/16/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	82
	8/30/2012	1.8	0.20	0.20	0.30	1.0	4.3	1.9	0.10	1.0	3.6	0.081	1.0	78
	4/23/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.27	1.0	110
	4/3/2015	1.8	1.7	0.20	0.50	1.1	3.0	1.9	0.10	1.0	3.2	1.0	1.0	100
	6/1/2015	1.8	2.0	0.20	0.50	1.0	8.0	1.9	0.10	1.0	3.2	1.0	1.0	240
RFR-10	3/8/2012	2.3	0.20	0.20	0.30	1.0	13	1.9	0.10	1.0	3.2	0.081	1.0	16
	3/8/2012	9.1	0.20	0.20	0.30	1.0	6.8	1.9	0.10	1.0	3.2	0.081	1.0	12
	8/3/2012	2.5	0.20	0.20	0.30	1.0	3.7	3.0	0.10	2.3	3.2	0.081	1.0	9.5
	8/6/2012	2.6	0.20	0.20	0.30	1.0	3.0	3.1	0.10	1.0	3.2	0.081	1.0	11
	8/16/2012	1.8	0.20	0.20	0.30	1.0	4.0	1.9	0.10	1.0	3.2	0.081	1.0	9.5
	8/30/2012	1.8	0.20	0.20	0.30	1.0	11	3.9	0.10	5.5	4.0	0.081	1.7	9.5
	10/1/2012	1.8	0.20	0.20	0.30	1.0	3.8	1.9	0.10	1.0	3.2	0.16	1.0	16
	4/23/2013	1.8	0.20	0.20	0.30	1.0	8.0	1.9	0.10	1.0	3.2	0.11	1.0	39
	6/19/2013	1.8	0.20	0.20	0.30	1.0	7.0	1.9	0.10	1.0	3.2	0.16	1.0	11
	7/19/2013	1.8	0.20	0.20	0.30	1.0	13	1.9	0.10	1.4	3.2	0.081	1.0	26
	9/17/2013	1.8	0.20	0.20	0.50	1.0	3.0	1.9	0.10	1.0	3.2	1.0	1.0	14
	12/9/2013	1.8	0.20	0.20	0.50	1.0	4.0	1.9	0.10	1.0	3.2	1.0	1.3	15
	3/5/2014	1.8	0.70	0.20	0.50	1.0	3.0	1.9	0.10	1.0	3.2	1.0	1.0	20
	6/2/2014	2.6	0.20	0.20	0.50	1.0	4.0	1.9	0.10	1.0	3.2	1.0	1.2	11
	9/3/2014	1.8	1.8	0.20	0.50	1.0	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
	12/1/2014	1.8	2.1	0.20	0.50	1.0	23	1.9	0.10	1.0	3.2	1.0	1.0	31
	3/2/2015	3.1	0.20	0.20	1.7	1.0	8.0	1.9	0.10	1.0	3.2	1.0	1.0	35
	5/19/2015	1.8	0.20	0.20	0.50	1.1	9.0	1.9	0.10	1.0	3.2	1.0	1.0	17
	6/1/2015	1.8	2.1	0.20	0.50	1.0	31	1.9	0.10	1.0	3.2	1.0	1.0	40
RFR-11	3/8/2012	1.8	0.20	0.20	0.30	1.0	33	6.8	0.10	1.0	3.2	0.081	1.0	120
	3/8/2012	7.9	0.20	0.20	0.30	1.0	4.2	1.9	0.10	1.0	3.2	0.081	1.0	74
	8/3/2012	2.6	0.20	0.20	0.30	1.0	20	2.8	0.10	1.0	3.2	0.081	1.0	110

Well ID	Sample Date	Antimony µg/L	Arsenic µg/L	Beryllium µg/L	Cadmium µg/L	Chromium µg/L	Copper µg/L	Lead µg/L	Mercury µg/L	Nickel µg/L	Selenium µg/L	Silver µg/L	Thallium µg/L	Zinc µg/L
	8/6/2012	3.0	0.20	0.20	0.30	1.0	8.0	2.6	0.10	1.0	3.2	0.081	1.0	73
	8/16/2012	1.8	0.20	0.20	0.30	1.0	9.3	1.9	0.10	1.0	3.2	0.081	1.0	67
	8/30/2012	1.8	0.20	0.20	0.30	1.0	4.4	1.9	0.10	1.0	5.0	0.081	1.0	36
	4/23/2013	1.8	0.20	0.20	0.30	1.0	7.0	1.9	0.10	1.0	3.2	0.081	1.0	78
	6/19/2013	1.8	0.20	0.20	0.30	1.0	8.0	1.9	0.10	1.0	3.2	0.28	1.0	76
	7/19/2013	1.8	0.20	0.20	0.30	1.0	7.0	1.9	0.10	1.0	3.2	0.62	1.0	65
	9/17/2013	1.8	0.20	0.20	0.50	1.0	4.0	1.9	0.10	1.0	3.2	1.0	1.0	51
	12/9/2013	1.8	0.20	0.20	0.50	1.0	8.0	1.9	0.20	1.0	3.2	1.0	1.0	44
	3/5/2014	1.8	0.20	0.20	0.50	1.0	19	1.9	0.10	1.0	3.2	1.0	1.0	90
	6/2/2014	2.3	0.80	0.20	0.50	1.0	11	1.9	0.10	1.0	3.2	1.0	2.5	66
	9/3/2014	2.0	2.2	0.20	0.50	1.0	8.0	1.9	0.10	1.0	3.2	1.0	1.0	53
	12/1/2014	1.8	2.0	0.20	0.50	1.0	9.0	1.9	0.10	1.0	3.2	1.0	1.3	65
	3/2/2015	3.3	0.20	0.20	1.4	1.0	13	1.9	0.10	1.0	3.2	1.0	1.0	86
	6/1/2015	1.8	0.60	0.20	0.50	1.2	10	1.9	0.10	2.0	3.2	1.0	1.0	35
CS-MW6-LGR	3/20/2012	2.5	0.20	0.20	0.50	1.0	5.0	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	3/20/2012	1.8	0.20	0.20	0.30	1.0	6.4	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	8/2/2012	3.3	0.20	0.20	0.30	1.0	3.0	2.9	0.10	4.8	3.2	0.081	1.0	8.0
	8/6/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	9.7	3.2	0.081	1.0	15
	8/16/2012	230	0.20	0.20	0.30	4.3	3.0	1.9	0.10	7.8	3.2	0.081	1.0	8.0
	8/31/2012	700	1.8	0.20	0.30	5.3	6.2	1.9	0.10	12	3.2	0.081	1.0	8.0
	10/2/2012	1.8	0.20	0.20	0.30	1.2	3.0	1.9	0.10	2.2	3.2	0.081	1.0	8.0
	12/13/2012	1.8	#N/A	#N/A	0.50	11	#N/A	1.9	0.10	#N/A	#N/A	#N/A	#N/A	#N/A
	4/22/2013	15	0.20	0.20	0.30	77	3.0	1.9	0.10	19	3.2	0.081	1.0	13
	6/19/2013	1.8	0.20	0.20	0.30	5.2	3.0	1.9	0.10	3.8	3.2	0.13	1.0	8.0
	7/19/2013	2.0	0.20	0.20	0.30	8.4	3.0	1.9	0.10	6.4	3.2	0.33	1.0	8.0
	9/17/2013	2.5	0.20	0.20	0.50	2.3	3.0	1.9	0.10	3.0	3.2	1.0	1.0	8.0
	11/20/2013	5.1	0.20	0.20	1.0	1.0	3.0	1.9	0.10	1.0	3.2	1.0	9.8	8.0
	2/13/2014	1.8	0.30	0.20	0.50	1.7	3.0	1.9	0.20	2.0	3.2	1.0	1.0	8.0
	6/17/2014	2.0	0.20	0.20	0.50	1.5	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
	9/4/2014	3.2	2.4	0.20	0.50	1.5	3.0	1.9	0.10	3.0	3.2	1.0	1.0	8.0
	11/13/2014	1.8	2.3	0.20	0.50	1.5	3.0	1.9	0.10	3.0	3.2	2.0	1.0	8.0
	3/10/2015	1.8	0.20	0.20	0.50	1.6	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
	6/10/2015	3.6	1.8	0.20	0.50	1.5	3.0	1.9	0.10	2.0	3.2	1.0	1.0	8.0
CS-MW7-LGR	3/20/2012	1.8	0.20	0.20	0.50	1.0	5.0	1.9	0.20	1.0	3.2	0.16	1.0	8.0
	3/20/2012	1.8	0.20	0.20	0.30	1.0	6.0	1.9	0.10	1.0	3.2	0.55	1.0	8.0
	8/2/2012	2.9	0.20	0.20	0.30	1.3	3.0	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	8/6/2012	1.8	0.60	0.20	0.30	1.3	3.0	1.9	0.10	5.2	3.2	0.081	1.0	24
	8/16/2012	1.8	0.20	0.20	0.30	1.2	3.0	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	8/31/2012	1.8	0.20	0.20	0.30	1.2	3.1	1.9	0.10	1.0	3.2	0.081	1.0	9.5
	12/17/2012	#N/A	#N/A	#N/A	0.50	3.0	#N/A	1.9	0.10	#N/A	#N/A	#N/A	#N/A	#N/A
	4/22/2013	1.8	0.20	0.20	0.30	1.7	3.0	1.9	0.10	1.0	3.2	0.24	1.0	13
	6/19/2013	1.8	0.20	0.20	0.30	1.5	3.0	1.9	0.10	1.0	3.2	0.11	1.0	8.0
	7/19/2013	1.8	0.20	0.20	0.30	2.3	3.0	1.9	0.10	1.0	3.2	0.68	1.0	8.0
	9/19/2013	1.8	0.20	0.20	0.50	1.6	3.0	1.9	0.10	1.0	3.2	1.0	1.0	9.0
	11/20/2013	4.2	0.20	0.20	1.5	1.0	3.0	1.9	0.10	1.0	3.2	1.0	14	9.0
	2/13/2014	1.8	0.60	0.20	0.50	2.2	3.0	1.9	0.20	1.0	3.2	1.0	1.0	8.0
	6/20/2014	1.8	0.20	0.20	0.50	1.4	3.0	1.9	0.10	1.0	6.1	1.0	1.0	8.0
	9/4/2014	1.8	0.80	0.20	0.50	2.3	3.0	1.9	0.10	4.0	3.2	1.0	1.0	8.0
	11/13/2014	1.8	3.4	0.20	0.50	1.7	3.0	1.9	0.10	3.0	3.2	1.0	1.1	8.0
	3/10/2015	1.8	0.20	0.20	0.50	2.4	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
	6/10/2015	1.8	1.5	0.20	0.50	1.5	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
CS-MW8-LGR	3/20/2012	3.4	0.20	0.20	0.50	1.0	6.0	1.9	0.10	1.0	3.2	0.44	1.0	8.0
	3/20/2012	1.8	0.20	0.20	0.30	1.0	5.6	1.9	0.10	1.0	3.2	0.24	1.0	14
	8/2/2012	3.5	0.20	0.20	0.30	11	15	2.1	0.10	2.9	3.2	0.081	1.0	8.0
	8/6/2012	1.8	0.20	0.20	0.30	1.0	4.1	1.9	0.10	3.7	3.2	0.081	1.0	17
	8/16/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	8/30/2012	1.8	0.50	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	9/11/2012	#N/A	#N/A	#N/A	0.50	6.0	#N/A	1.9	0.20	#N/A	#N/A	#N/A	#N/A	#N/A
	12/13/2012	#N/A	#N/A	#N/A	0.50	4.0	#N/A	1.9	0.10	#N/A	#N/A	#N/A	#N/A	#N/A
	4/22/2013	1.8	0.20	0.20	0.30	4.4	3.0	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	6/19/2013	1.8	0.20	0.20	0.50	1.2	3.0	1.9	0.10	1.0	3.2	0.44	1.0	8.0
	7/19/2013	1.8	0.20	0.20	0.30	1.5	3.0	1.9	0.10	1.0	3.2	0.22	1.0	8.0
	9/17/2013	1.8	0.20	0.20	0.50	1.4	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
	11/20/2013	2.3	0.20	0.20	1.3	1.0	3.0	1.9	0.10	1.0	3.2	1.0	13	8.0
	3/6/2014	1.8	0.20	0.20	0.50	1.0	3.0	1.9	0.10	1.0	3.2	1.0	1.0	23
	6/17/2014	1.8	0.20	0.20	0.50	1.1	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
	9/4/2014	1.8	1.6	0.20	0.50	1.6	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
	11/13/2014	1.8	2.2	0.20	0.50	1.4	3.0	1.9	0.10	1.0	3.2	1.0	1.4	8.0
	3/10/2015	1.8	0.20	0.20	0.50	2.1	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
	6/10/2015	2.1	2.0	0.20	0.50	1.0	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
CS-MW36-LGR	3/19/2012	1.8	0.20	0.20	0.50	1.0	7.0	1.9	0.10	3.4	3.2	0.36	1.0	25
	3/19/2012	1.8	0.20	0.20	0.30	1.0	6.7	1.9	0.10	4.0	3.2	0.62	1.0	22
	6/11/2012	#N/A	#N/A	#N/A	0.50	1.0	#N/A	2.7	0.10	#N/A	#N/A	#N/A	#N/A	#N/A
	8/2/2012	2.8	0.20	0.20	0.30	1.0	3.0	2.4	0.10	2.2	3.2	0.081	1.0	8.0
	8/6/2012	1.8	0.40	0.20	0.30	2.0	3.0	1.9	0.10	4.6	3.2	0.081	1.0	14
	8/16/2012	1.8	0.20	0.20	0.30	1.5	3.0	1.9	0.10	2.1	3.2	0.081	1.0	8.0
	8/30/2012	1.8	0.90	0.20	0.30	1.0	3.0	1.9	0.10	1.1	3.2	0.081	1.0	8.0
	8/30/2012	#N/A	#N/A	#N/A	0.50	1.0	#N/A	1.9	0.10	#N/A	#N/A	#N/A	#N/A	#N/A
	12/13/2012	#N/A	#N/A	#N/A	0.50	2.0	#N/A	1.9	0.10	#N/A	#N/A	#N/A	#N/A	#N/A
	3/5/2013	#N/A	#N/A	#N/A	0.50	1.0	#N/A	1.9	0.10	#N/A	#N/A	#N/A	#N/A	#N/A
	4/22/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	22
	6/19/2013	1.8	0.20	0.20	0.50	1.0	3.0	1.9	0.10	1.0	3.2	0.28	1.0	8.0
	7/19/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.56	1.0	8.0
	9/17/2013	1.9	0.20	0.20	0.50	1.0	3.0	1.9	0.10	2.0	3.2	1.0	1.0	8.0
	12/2/2013	1.8	0.20	0.20	0.50	1.0	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
	3/6/2014	1.8	0.20	0.20	0.50	1.0	3.0	1.9	0.10	1.0	3.2	1.0	1.0	18
	6/17/2014	1.8	0.20	0.20	0.50	1.0	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0

Well ID	Sample Date	Antimony µg/L	Arsenic µg/L	Beryllium µg/L	Cadmium µg/L	Chromium µg/L	Copper µg/L	Lead µg/L	Mercury µg/L	Nickel µg/L	Selenium µg/L	Silver µg/L	Thallium µg/L	Zinc µg/L
	9/9/2014	1.8	**1.7**	0.20	0.50	**1.1**	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
	12/2/2014	1.8	**2.4**	0.20	0.50	1.0	3.0	1.9	0.10	**2.0**	3.2	1.0	1.0	**9.0**
	3/10/2015	1.8	0.20	0.20	0.50	**1.6**	3.0	1.9	0.10	1.0	3.2	1.0	1.0	**9.0**
	6/10/2015	**1.9**	**1.7**	0.20	0.50	1.0	3.0	1.9	0.10	1.0	3.2	1.0	1.0	**9.0**
CS-WB01-LGR-09	3/12/2012	1.8	0.20	0.20	0.30	**1.1**	3.0	1.9	0.10	1.0	3.2	0.081	1.0	**34**
	3/12/2012	1.8	0.20	0.20	0.30	**3.8**	3.0	1.9	0.10	**1.2**	3.2	0.081	1.0	**48**
	8/3/2012	**2.7**	0.20	0.20	0.30	1.0	3.0	**2.5**	0.10	1.0	3.2	0.081	1.0	**28**
	8/6/2012	1.8	0.20	0.20	0.30	**1.4**	**3.4**	1.9	0.10	**5.8**	3.2	0.081	1.0	**46**
	8/17/2012	1.8	0.20	0.20	0.30	**1.3**	**3.9**	1.9	0.10	1.0	3.2	0.081	1.0	**13**
	8/30/2012	1.8	**0.50**	0.20	0.30	1.0	**4.5**	1.9	0.10	1.0	3.2	0.081	1.0	**25**
	4/23/2013	1.8	0.20	0.20	0.30	**2.2**	3.0	1.9	0.10	1.0	3.2	**0.48**	1.0	**35**
	6/13/2013	1.8	0.20	0.20	0.30	**2.4**	**4.0**	1.9	0.10	1.0	3.2	**0.79**	1.0	8.0
	7/22/2013	1.8	0.20	0.20	0.30	**3.4**	3.0	1.9	0.10	1.0	3.2	**0.37**	1.0	**27**
	9/23/2013	1.8	0.20	0.20	0.50	**2.7**	3.0	1.9	0.10	1.0	3.2	1.0	1.0	**17**
	12/4/2013	1.8	0.20	0.20	0.50	**1.5**	3.0	1.9	0.10	**3.0**	3.2	1.0	**2.7**	**10**
	3/20/2014	1.8	0.20	0.20	0.50	**1.7**	**6.0**	1.9	0.10	1.0	3.2	1.0	1.0	**22**
	6/25/2014	1.8	0.20	0.20	0.50	**2.1**	3.0	1.9	0.10	1.0	3.2	1.0	1.0	**26**
	9/11/2014	1.8	**1.0**	0.20	0.50	**2.1**	3.0	1.9	0.10	1.0	3.2	1.0	1.0	**19**
	12/9/2014	1.8	0.20	0.20	**1.4**	**1.2**	3.0	1.9	0.10	1.0	3.2	1.0	1.0	**18**
	3/23/2015	1.8	0.20	0.20	**0.60**	**4.1**	3.0	1.9	0.10	**8.0**	3.2	1.0	**2.5**	**2,900**
	6/17/2015	1.8	**2.0**	0.20	0.50	**1.4**	3.0	1.9	0.10	1.0	3.2	1.0	**1.1**	**9.0**
CS-WB02-LGR-09	3/12/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	**14**
	3/12/2012	1.8	0.20	0.20	0.30	**2.4**	3.0	1.9	0.10	1.0	3.2	0.081	1.0	**14**
	8/3/2012	**2.6**	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	**14**
	8/6/2012	1.8	0.20	0.20	0.30	**83**	**3.9**	1.9	0.10	**38**	3.2	0.081	1.0	**31**
	8/17/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	**9.6**
	8/30/2012	1.8	**0.90**	0.20	0.30	1.0	**4.0**	1.9	0.10	1.0	3.2	0.081	1.0	**10**
	4/29/2013	1.8	0.20	0.20	0.30	**1.5**	3.0	1.9	0.10	1.0	3.2	**1.2**	1.0	**9.0**
	6/12/2013	1.8	0.20	0.20	0.30	**4.3**	3.0	1.9	0.10	**1.5**	3.2	**0.96**	1.0	8.0
	7/22/2013	1.8	0.20	0.20	0.30	**3.3**	3.0	1.9	0.10	1.0	3.2	**0.69**	1.0	**13**
	9/18/2013	**2.2**	0.20	0.20	0.50	**2.7**	3.0	1.9	0.10	1.0	3.2	1.0	1.0	**9.0**
	12/4/2013	1.8	0.20	0.20	0.50	**1.4**	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
	3/19/2014	1.8	0.20	0.20	0.50	1.0	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
	6/24/2014	1.8	0.20	0.20	0.50	**3.4**	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
	9/11/2014	1.8	**1.1**	0.20	0.50	**1.7**	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
	12/10/2014	1.8	**0.50**	0.20	**1.6**	**1.3**	3.0	1.9	0.10	**4.0**	3.2	1.0	1.0	**34**
	3/23/2015	1.8	0.20	0.20	0.50	**2.1**	3.0	1.9	0.10	1.0	3.2	1.0	1.0	**21**
	6/22/2015	1.8	**1.2**	0.20	0.50	**3.5**	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
CS-WB03-LGR-09	3/13/2012	1.8	0.20	0.20	0.30	**3.6**	3.0	1.9	0.10	1.0	3.2	0.081	1.0	**17**
	3/13/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	**30**
	8/2/2012	**3.0**	0.20	0.20	0.30	1.0	3.0	**2.5**	0.10	1.0	3.2	0.081	1.0	**18**
	8/6/2012	1.8	0.20	0.20	0.30	**1.6**	**3.4**	1.9	0.10	**24**	3.2	0.081	1.0	**28**
	8/16/2012	1.8	**0.40**	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	**8.5**
	8/30/2012	1.8	**0.70**	0.20	0.30	1.0	**3.7**	1.9	0.10	1.0	3.2	0.081	1.0	**8.3**
	4/23/2013	1.8	0.20	0.20	0.30	**1.7**	3.0	1.9	0.10	1.0	3.2	0.081	1.0	**13**
	6/12/2013	1.8	0.20	0.20	0.30	**5.8**	3.0	1.9	0.10	**2.8**	3.2	**0.53**	1.0	**14**
	7/22/2013	1.8	0.20	0.20	0.30	**2.8**	3.0	1.9	0.10	1.0	3.2	**0.23**	1.0	**15**
	9/18/2013	1.8	0.20	0.20	0.50	**7.3**	3.0	1.9	0.10	**4.0**	3.2	1.0	1.0	**15**
	12/4/2013	1.8	0.20	0.20	0.50	**1.4**	3.0	1.9	0.10	1.0	3.2	1.0	1.0	**10**
	3/17/2014	1.8	0.20	0.20	0.50	**1.7**	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
	6/24/2014	1.8	0.20	0.20	0.50	**3.0**	**4.0**	1.9	0.10	**2.0**	3.2	1.0	1.0	**16**
	9/10/2014	1.8	0.20	0.20	0.50	**1.3**	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
	12/3/2014	1.8	**2.7**	0.20	0.50	1.0	3.0	1.9	0.10	**2.0**	3.2	1.0	1.0	8.0
	3/24/2015	1.8	**0.60**	0.20	0.50	**2.8**	3.0	1.9	0.10	1.0	3.2	1.0	**2.2**	8.0
	6/18/2015	1.8	**1.1**	0.20	0.50	**2.6**	3.0	1.9	0.10	1.0	3.2	1.0	**1.6**	8.0
CS-WB04-LGR-11	3/13/2012	1.8	0.20	0.20	0.30	**2.4**	3.0	1.9	0.10	1.0	3.2	0.081	1.0	**33**
	3/13/2012	1.8	0.20	0.20	0.30	**1.2**	3.0	1.9	0.10	1.0	3.2	0.081	1.0	**28**
	8/2/2012	**3.5**	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	**16**
	8/6/2012	1.8	0.20	0.20	0.30	1.0	**3.1**	1.9	0.10	**6.7**	3.2	0.081	1.0	**30**
	8/16/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	**11**
	8/30/2012	1.8	0.20	0.20	0.30	1.0	3.0	**2.6**	0.10	1.0	3.2	0.081	1.0	8.0
	10/2/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	**0.29**	1.0	**15**
	4/24/2013	1.8	0.20	0.20	0.30	**1.6**	3.0	1.9	0.10	1.0	3.2	0.081	1.0	**21**
	6/20/2013	1.8	0.20	0.20	0.30	**2.4**	3.0	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	7/22/2013	1.8	0.20	0.20	0.30	**4.0**	3.0	1.9	0.10	**1.3**	3.2	**0.45**	1.0	8.0
	9/23/2013	**2.2**	0.20	0.20	0.50	**1.8**	3.0	1.9	0.10	1.0	3.2	1.0	1.0	**18**
	12/2/2013	1.8	0.20	0.20	0.50	**4.0**	3.0	1.9	0.10	1.0	**4.4**	1.0	1.0	8.0
	3/6/2014	1.8	0.20	0.20	0.50	**2.2**	3.0	1.9	0.10	**2.0**	3.2	1.0	1.0	**820**
	6/25/2014	1.8	0.20	0.20	0.50	**2.5**	3.0	1.9	0.10	1.0	3.2	1.0	1.0	**14**
	9/10/2014	1.8	**1.4**	0.20	0.50	**2.0**	3.0	1.9	0.10	1.0	3.2	1.0	1.0	**13**
	12/8/2014	1.8	0.20	0.20	**1.4**	**1.1**	3.0	1.9	0.10	1.0	3.2	1.0	1.0	**13**
	3/24/2015	1.8	0.20	0.20	0.50	**2.3**	3.0	1.9	0.10	1.0	3.2	1.0	**1.1**	**14**
	5/18/2015	1.8	0.20	0.20	0.50	**1.8**	3.0	1.9	0.10	**2.0**	3.2	1.0	1.0	8.0

Detections are bolded. Results not highlighted are detections above the RL.
Not detected. Reported result is reported as the MDL and flagged U.
Trace value. Reported result is a value between the MDL and the RL and is flagged F.
Red text indicates dissolved metals analysis.
Black text indicates total metals analysis.
#N/A indicates that the metal was not tested.

Table A.5 **Performance Monitoring Wells - Metals Concentrations**

Well ID	Sample Date	Antimony µg/L	Arsenic µg/L	Beryllium µg/L	Cadmium µg/L	Chromium µg/L	Copper µg/L	Lead µg/L	Mercury µg/L	Nickel µg/L	Selenium µg/L	Silver µg/L	Thallium µg/L	Zinc µg/L
PZ-01	7/20/2012	3.1	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	7/20/2012	1.8	0.20	0.20	0.30	1.0	4.4	1.9	0.10	1.0	3.2	0.081	1.0	12
	4/16/2013	1.8	1.7	0.20	0.30	1.4	3.0	1.9	0.10	1.0	3.2	0.28	1.0	41
	6/19/2013	2.5	0.20	0.20	0.30	1.3	3.0	1.9	0.10	1.0	3.2	0.081	1.0	14
	7/23/2013	2.3	0.30	0.20	0.30	1.3	3.0	1.9	0.10	1.0	3.2	0.30	1.0	30
	9/17/2013	2.9	0.20	0.20	0.50	1.2	3.0	1.9	0.10	1.0	3.2	1.0	1.0	24
	11/18/2013	2.8	0.20	0.30	2.2	1.7	6.0	1.9	0.10	2.0	3.2	2.0	1.0	78
	2/10/2014	1.8	1.0	0.20	0.50	1.1	3.0	1.9	0.20	1.0	3.2	1.0	1.0	35
	5/14/2014	2.6	0.60	0.20	0.50	3.3	5.0	1.9	0.10	1.0	3.2	1.0	1.0	70
	8/6/2014	3.0	0.30	0.20	0.50	1.6	3.0	1.9	0.10	1.0	3.2	1.0	1.0	71
	11/18/2014	2.8	1.8	0.20	0.50	1.0	4.0	1.9	0.10	1.0	3.2	1.0	1.0	26
	2/19/2015	1.8	0.20	0.20	1.5	1.0	3.0	1.9	0.10	1.0	3.2	1.0	1.0	31
	5/14/2015	1.8	0.20	0.20	0.50	1.2	3.0	1.9	0.10	1.0	3.2	1.0	1.0	15
PZ-02	7/20/2012	2.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	7/20/2012	1.8	0.20	0.20	0.30	1.0	3.2	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	4/16/2013	1.8	0.40	0.20	0.30	30	3.0	1.9	0.10	1.2	3.2	0.20	1.0	8.0
	6/19/2013	1.9	0.20	0.20	0.30	84	3.0	1.9	0.10	1.0	3.2	0.72	1.0	8.0
	7/23/2013	3.8	4.7	0.40	0.30	93	12	1.9	0.10	6.3	3.2	1.8	1.0	16
	11/18/2013	4.0	0.20	0.20	16	150	3.0	1.9	0.10	2.0	3.2	2.0	1.0	10
	2/10/2014	3.1	4.4	0.80	0.50	170	9.0	1.9	0.20	10	3.2	2.0	1.0	34
	5/14/2014	7.3	11	2.0	0.50	250	17	4.1	0.30	21	3.2	1.0	1.1	45
	8/6/2014	6.8	7.2	0.90	0.50	270	8.0	1.9	0.10	10	3.2	1.0	1.0	33
	11/18/2014	13	7.7	0.20	0.50	340	8.0	1.9	0.70	1.0	3.2	1.0	1.3	8.0
	2/18/2015	1.8	0.20	0.20	6.5	190	3.0	1.9	0.30	1.0	3.7	1.0	1.0	27
	5/14/2015	3.6	0.20	0.20	3.7	160	3.0	11	0.30	3.0	3.2	1.0	1.0	38
PZ-05	7/20/2012	3.7	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.74	1.0	8.0
	7/20/2012	1.8	0.20	0.20	0.30	1.0	3.9	1.9	0.10	1.0	3.2	0.12	1.0	8.0
	4/16/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.72	1.0	8.0
	6/19/2013	1.8	0.20	0.20	0.30	5.0	3.0	1.9	0.10	1.0	3.2	0.18	1.0	8.0
	7/23/2013	1.8	0.20	0.20	0.30	2.5	3.0	1.9	0.10	1.0	3.2	0.35	1.0	8.0
	9/17/2013	2.1	1.0	0.20	0.50	3.6	3.0	1.9	0.10	1.0	3.2	1.0	1.0	24
	11/18/2013	2.3	0.20	0.20	3.4	4.3	3.0	1.9	0.10	1.0	3.2	1.0	1.0	9.0
	2/10/2014	1.8	0.40	0.20	0.50	5.4	4.0	1.9	0.10	1.0	3.2	1.0	1.0	24
	5/14/2014	1.8	0.20	0.20	0.50	5.8	3.0	1.9	0.10	1.0	3.2	1.0	3.0	10
	8/6/2014	5.3	0.40	0.20	0.50	2.0	3.0	1.9	0.10	1.0	3.2	1.0	1.0	22
	11/18/2014	2.3	0.80	0.20	0.50	5.2	4.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
	2/18/2015	1.8	0.20	0.20	2.6	18	3.0	1.9	0.10	1.0	3.2	1.0	1.0	18
	5/14/2015	1.8	0.20	0.20	0.60	24	3.0	2.5	0.10	5.0	3.2	1.0	1.0	9.0
PZ-06	7/20/2012	1.8	0.20	0.20	0.30	1.4	4.0	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	7/20/2012	1.8	0.20	0.20	0.30	1.0	4.1	1.9	0.10	2.3	3.2	0.081	1.0	8.0
	4/16/2013	2.5	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.98	1.0	8.0
	6/19/2013	1.8	0.20	0.20	0.30	1.3	3.0	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	7/23/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.73	1.0	8.0
	9/17/2013	2.2	0.20	0.20	0.50	1.3	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
	11/18/2013	1.8	0.20	0.20	2.9	1.2	3.0	1.9	0.10	2.0	3.2	1.0	1.0	8.0
	2/10/2014	1.8	0.20	0.20	0.50	1.0	3.0	1.9	0.20	1.0	3.2	1.0	1.0	8.0
	5/14/2014	1.9	0.20	0.20	0.50	1.0	3.0	1.9	0.10	1.0	3.2	1.0	1.7	8.0
	8/6/2014	2.6	0.30	0.20	0.50	1.0	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
	11/18/2014	1.8	0.20	0.20	0.50	1.0	4.0	1.9	0.10	1.0	3.2	1.0	1.1	8.0
	2/19/2015	1.8	0.20	0.30	3.3	4.4	3.0	1.9	0.10	1.0	3.2	1.0	1.0	18
	5/14/2015	1.8	0.20	0.20	0.50	2.1	3.0	1.9	0.10	2.0	3.2	1.0	1.0	8.0
TSW-01	7/18/2012	1.8	1.5	0.20	0.30	3.1	3.0	1.9	0.20	10	3.2	1.1	1.0	14
	7/18/2012	1.8	0.20	0.20	0.30	1.0	5.2	1.9	0.20	6.6	3.2	0.44	1.9	8.0
	8/30/2012	1.8	1.2	0.20	0.30	1.0	5.3	1.9	0.10	1.4	3.2	0.081	1.0	11
	9/28/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.66	1.0	8.0
	10/1/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.43	1.0	12
	4/16/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.72	1.0	8.0
	6/19/2013	1.8	0.20	0.20	0.30	3.6	3.0	1.9	0.10	2.4	3.2	0.82	1.0	8.0
	7/23/2013	1.8	3.7	0.20	0.30	3.1	8.0	1.9	0.10	5.3	3.2	2.5	1.0	8.0
	9/17/2013	2.2	3.4	0.20	0.50	2.4	5.0	1.9	0.10	3.0	3.2	3.0	1.0	8.0
	11/18/2013	1.8	0.20	0.20	14	5.4	3.0	1.9	0.10	5.0	3.2	1.0	1.0	8.0
	2/10/2014	1.8	0.60	0.20	0.50	2.5	3.0	1.9	0.30	2.0	3.2	1.0	1.0	8.0
	5/14/2014	1.8	0.20	0.20	0.50	3.4	4.0	1.9	0.10	3.0	3.2	1.0	1.0	8.0
	8/6/2014	2.6	2.4	0.20	0.50	1.1	3.0	1.9	0.10	2.0	3.2	1.0	1.0	8.0
	11/18/2014	2.0	28	0.20	0.50	54	23	1.9	0.50	70	8.5	3.0	1.8	8.0
	2/19/2015	1.8	0.40	0.20	15	47	3.0	1.9	0.20	65	14	1.0	1.0	28
	5/14/2015	1.8	0.20	0.20	6.4	34	3.0	19	0.30	75	3.2	1.0	1.0	62
TSW-03	7/20/2012	1.8	0.20	0.20	0.30	3.4	3.0	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	7/20/2012	1.8	0.20	0.20	0.30	2.1	3.0	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	8/30/2012	3.6	11	0.20	0.30	95	3.0	1.9	0.50	20	3.2	3.8	1.0	18
	10/1/2012	1.9	12	0.20	0.30	150	3.0	1.9	1.1	7.6	3.2	3.0	1.0	31
	1/9/2013	6.3	17	0.20	0.30	390	3.0	1.9	4.0	6.7	15	4.2	1.0	49
	4/16/2013	5.8	34	0.20	0.30	360	3.0	1.9	1.4	7.4	23	0.081	1.0	8.0
	6/19/2013	3.8	47	0.20	0.30	340	3.0	1.9	1.2	2.6	17	2.9	1.0	8.0
	7/23/2013	5.8	63	0.20	0.30	390	5.0	1.9	3.0	3.6	22	3.9	1.0	8.0
	9/17/2013	7.5	200	0.20	0.50	540	3.0	1.9	5.1	4.0	23	2.0	1.0	8.0
	11/18/2013	9.8	77	0.20	78	870	3.0	1.9	1.8	3.0	30	2.0	1.0	15
	2/10/2014	6.7	76	0.20	0.50	600	4.0	1.9	2.6	7.0	3.2	3.0	1.0	17
	5/14/2014	13	56	0.20	0.50	770	4.0	1.9	2.8	9.0	37	1.0	1.0	19
	8/6/2014	12	60	0.20	5.1	750	4.0	1.9	1.6	9.0	34	1.0	1.0	19
	11/18/2014	18	47	0.20	0.50	630	7.0	1.9	3.0	2.0	29	1.0	1.0	8.0
	2/19/2015	4.6	250	0.60	12	900	3.0	1.9	4.1	26	31	1.0	1.0	65
	5/14/2015	13	370	0.50	5.7	770	3.0	12	1.5	1.0	39	3.0	1.0	57
TSW-04	7/20/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.6	3.2	0.081	1.0	8.0
	7/20/2012	1.8	0.20	0.20	0.30	1.0	4.7	1.9	0.10	2.4	3.2	0.081	1.0	8.0

Well ID	Sample Date	Antimony µg/L	Arsenic µg/L	Beryllium µg/L	Cadmium µg/L	Chromium µg/L	Copper µg/L	Lead µg/L	Mercury µg/L	Nickel µg/L	Selenium µg/L	Silver µg/L	Thallium µg/L	Zinc µg/L
	8/30/2012	2.3	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.1	5.9	0.081	1.0	8.0
	4/16/2013	2.0	9.7	0.20	0.30	89	3.0	1.9	0.10	31	3.2	1.8	1.0	23
	6/19/2013	2.2	16	0.20	0.30	180	3.0	1.9	0.40	9.5	3.2	3.5	1.0	8.0
	7/23/2013	4.5	27	0.20	0.30	250	13	1.9	0.90	30	6.8	3.1	1.0	14
	9/17/2013	3.0	24	0.20	0.50	63	8.0	1.9	0.10	75	6.6	4.0	1.0	11
	11/18/2013	12	0.20	0.20	87	1,400	3.0	1.9	1.7	15	36	3.0	1.0	8.0
	2/10/2014	16	910	1.1	0.50	1,200	3.0	1.9	1.7	1.0	3.2	3.0	1.0	8.0
	5/14/2014	17	330	0.20	0.50	1,300	3.0	1.9	1.7	5.0	41	1.0	1.0	10
	8/6/2014	11	1,200	0.80	0.50	1,100	3.0	1.9	1.3	1.0	36	2.0	1.0	11
	11/18/2014	12	890	0.20	0.50	710	3.0	1.9	1.7	1.0	44	1.0	1.0	8.0
	2/18/2015	1.8	320	0.20	15	680	3.0	1.9	1.2	45	46	1.0	1.0	50
	5/14/2015	1.8	880	1.3	5.7	660	3.0	11	0.60	11	34	1.0	1.0	54
TSW-05	7/20/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	5.6	3.2	0.081	1.0	8.0
	7/20/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	7.7	3.2	0.45	1.0	36
	8/14/2012	1.8	0.20	0.20	0.30	1.6	6.7	2.9	0.10	4.2	3.2	0.081	1.0	620
	8/30/2012	1.8	0.30	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	15
	4/18/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.62	1.0	8.0
	6/19/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	7/23/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.74	1.0	8.0
	9/17/2013	1.8	0.20	0.20	0.50	1.4	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
	11/18/2013	1.8	0.20	0.20	2.9	1.0	3.0	1.9	0.10	2.0	3.2	1.0	1.0	8.0
	2/10/2014	1.8	0.20	0.20	0.50	1.0	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
	5/14/2014	1.8	0.20	0.20	0.50	4.5	3.0	1.9	0.10	1.0	3.2	1.0	1.0	17
	8/6/2014	2.0	0.50	0.20	0.50	1.0	3.0	1.9	0.10	2.0	3.2	1.0	1.0	19
	11/18/2014	1.8	1.6	0.20	0.50	1.0	4.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
	2/18/2015	1.8	0.20	0.20	3.2	1.0	3.0	1.9	0.10	1.0	3.2	1.0	1.0	10
	5/14/2015	1.8	0.20	0.20	0.50	1.4	3.0	1.9	0.10	2.0	3.2	1.0	1.0	8.0
TSW-07	7/20/2012	1.8	0.20	0.20	0.30	2.1	3.0	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	7/20/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	8/30/2012	1.8	0.40	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	4/16/2013	1.8	0.20	0.20	0.30	1.5	3.0	2.2	0.10	1.0	3.2	0.081	1.0	18
	6/19/2013	1.8	0.80	0.20	0.30	29	3.0	1.9	0.10	1.0	3.2	1.3	1.0	8.0
	7/23/2013	2.4	8.5	0.20	0.30	62	11	1.9	0.90	5.9	3.2	4.0	1.0	31
	9/17/2013	1.8	2.2	0.20	0.50	16	4.0	3.0	0.50	2.0	3.2	1.0	1.0	29
	11/18/2013	3.0	0.20	0.30	40	140	3.0	1.9	5.8	7.0	7.3	6.0	1.0	35
	2/10/2014	2.4	9.5	0.20	0.50	330	4.0	1.9	5.6	3.0	3.2	4.0	1.0	17
	5/14/2014	9.3	14	0.30	0.50	610	6.0	1.9	4.1	12	3.2	2.0	1.0	24
	8/6/2014	11	12	0.20	0.50	630	4.0	1.9	6.3	2.0	3.2	2.0	1.0	75
	11/18/2014	5.0	6.5	0.20	0.50	130	9.0	1.9	1.1	1.0	3.2	2.0	1.0	53
	2/18/2015	1.8	1.8	0.70	18	210	3.0	1.9	2.8	24	8.9	1.0	1.0	41
	5/14/2015	2.0	0.20	0.20	5.1	150	3.0	15	1.8	5.0	3.2	2.0	1.0	50
VEW-15	7/18/2012	1.9	0.40	0.40	0.93	5.3	8.0	5.8	0.20	3.8	3.2	0.93	1.0	9,800
	7/18/2012	1.8	0.20	0.20	0.30	1.0	4.1	1.9	0.20	3.2	3.2	0.081	1.0	3,800
	8/14/2012	1.8	0.20	0.20	0.50	15	6.2	1.9	0.10	9.0	3.2	0.081	1.0	2,500
	8/30/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	2,100
	10/1/2012	1.8	0.20	0.20	0.40	1.0	3.0	1.9	0.10	1.0	3.2	0.17	1.0	2,200
	1/9/2013	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	1,100
	4/17/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.39	1.0	1,900
	6/19/2013	1.8	0.20	0.20	0.40	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	1,600
	7/23/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.3	3.2	0.76	1.0	2,300
	9/17/2013	1.8	0.20	0.20	0.50	1.0	3.0	1.9	0.10	1.0	3.2	1.0	1.0	2,600
	11/18/2013	3.2	0.20	0.20	2.2	1.0	3.0	1.9	0.10	2.0	3.2	2.0	1.0	1,800
	2/10/2014	1.8	0.20	0.20	0.50	1.0	3.0	1.9	0.20	1.0	3.2	1.0	1.0	1,600
	5/14/2014	1.8	0.20	0.20	0.50	1.3	3.0	1.9	0.10	1.0	3.2	1.0	1.0	1,300
	8/6/2014	1.8	0.60	0.20	0.50	1.0	3.0	1.9	0.10	2.0	3.2	1.0	1.0	1,800
	11/18/2014	1.8	2.1	0.20	0.50	1.0	4.0	1.9	0.10	1.0	3.2	1.0	3.1	1,800
	2/18/2015	1.8	3.4	1.0	2.1	7.5	16	34	0.10	5.0	3.2	1.0	1.0	14,000
	5/14/2015	1.8	0.30	0.20	0.50	1.0	3.0	2.4	0.10	2.0	3.2	1.0	1.0	1,100
VEW-19	7/18/2012	2.1	0.20	0.20	0.30	1.1	3.0	1.9	0.20	1.0	3.2	0.21	1.0	57
	7/18/2012	2.8	0.20	0.20	0.30	1.0	4.3	1.9	0.20	1.0	3.2	0.61	2.0	42
	8/30/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.7	0.081	1.0	70
	4/16/2013	1.8	0.80	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.30	1.0	54
	6/19/2013	1.8	450	0.40	0.30	130	64	1.9	0.10	1.0	38	0.94	1.0	160
	7/23/2013	1.8	250	0.20	0.30	110	33	1.9	0.10	1.2	40	0.63	1.0	220
	9/17/2013	2.2	53	0.20	0.50	41	16	1.9	0.10	2.0	26	1.0	1.0	110
	11/18/2013	1.8	0.20	0.20	13	5.6	7.0	1.9	0.10	3.0	3.2	2.0	1.0	75
	2/10/2014	1.8	14	0.80	0.50	16	30	1.9	0.30	4.0	3.2	1.0	1.0	390
	8/6/2014	1.8	14	1.4	0.50	14	45	6.5	0.10	8.0	3.2	1.0	1.0	780
	11/18/2014	1.8	580	0.20	0.50	360	6.0	10	0.60	1.0	64	1.0	1.0	220
	2/19/2015	4.6	770	1.4	0.70	890	140	1.9	0.10	17	110	1.0	1.0	1,800
	5/14/2015	4.9	33	0.20	4.9	170	3.0	9.1	0.10	1.0	14	1.0	1.0	66
VEW-25	7/18/2012	1.8	5.9	0.20	0.30	11	3.0	1.9	0.20	12	3.2	18	1.0	8.0
	7/18/2012	1.8	0.20	0.20	0.30	1.0	3.9	1.9	0.20	1.0	3.2	0.24	1.0	8.0
	6/19/2013	3.2	78	0.20	0.30	180	14	1.9	3.2	1.7	3.2	5.1	1.0	8.0
	7/23/2013	2.1	320	5.0	0.30	260	190	14	3.9	80	3.2	17	1.0	430
	9/17/2013	2.9	130	6.8	0.50	170	110	43	1.4	100	3.2	6.0	1.0	720
	11/18/2013	3.1	11	1.7	76	52	18	1.9	0.90	32	3.6	14	1.0	250
	2/10/2014	1.8	30	5.7	0.50	40	52	4.9	1.1	60	3.2	21	1.0	620
	5/14/2014	1.8	39	5.1	0.50	69	53	17	0.70	62	3.2	7.0	1.0	460
	8/6/2014	1.8	17	3.5	0.50	36	27	6.4	0.70	27	3.2	5.0	1.0	520
	11/18/2014	9.0	48	0.20	0.50	230	14	1.9	4.1	1.0	17	5.0	1.8	8.0
	2/19/2015	1.8	440	0.60	19	760	7.0	1.9	1.4	17	20	1.0	1.0	170
	5/14/2015	11	120	0.60	1.0	490	3.0	2.0	0.90	2.0	12	2.0	1.0	23
VEW-27	7/18/2012	2.4	1.2	0.20	0.30	1.6	4.0	1.9	0.20	1.0	3.2	1.2	1.0	8.0
	7/18/2012	1.8	0.70	0.20	0.30	1.0	3.5	1.9	0.20	1.0	3.2	0.11	1.0	8.0
	8/30/2012	1.8	0.20	0.20	0.30	1.0	3.7	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	9/28/2012	1.8	0.20	0.20	0.40	1.0	3.0	1.9	0.10	1.0	3.2	0.69	1.0	8.0

Well ID	Sample Date	Antimony µg/L	Arsenic µg/L	Beryllium µg/L	Cadmium µg/L	Chromium µg/L	Copper µg/L	Lead µg/L	Mercury µg/L	Nickel µg/L	Selenium µg/L	Silver µg/L	Thallium µg/L	Zinc µg/L
	4/16/2013	1.8	**0.50**	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	**0.24**	1.0	8.0
	6/19/2013	1.8	**560**	**0.30**	0.30	**190**	**4.0**	1.9	0.10	1.0	**31**	**0.79**	1.0	8.0
	7/23/2013	**2.9**	**210**	0.20	0.30	**240**	**9.0**	1.9	0.10	**1.3**	**40**	**1.1**	1.0	8.0
	9/17/2013	**3.2**	**62**	0.20	0.50	**120**	3.0	1.9	0.10	**2.0**	**33**	1.0	1.0	**11**
	11/18/2013	**8.9**	0.20	0.20	**72**	**110**	3.0	1.9	0.10	**5.0**	**22**	1.0	1.0	**11**
	2/10/2014	1.8	**21**	0.20	0.50	**46**	3.0	1.9	**0.20**	**2.0**	3.2	**2.0**	1.0	8.0
	5/14/2014	1.8	**25**	**0.30**	0.50	**23**	3.0	1.9	0.10	**19**	3.2	1.0	1.0	**12**
	8/6/2014	**3.1**	**27**	**0.40**	0.50	**13**	3.0	1.9	0.10	**41**	**5.9**	1.0	1.0	**15**
	11/18/2014	**12**	**460**	0.20	0.50	**560**	**5.0**	1.9	**0.70**	1.0	**38**	1.0	1.0	8.0
	2/19/2015	1.8	**570**	**1.3**	**2.5**	**380**	**28**	**18**	**0.40**	**33**	**27**	1.0	1.0	**61**
	5/14/2015	**5.2**	**40**	0.20	**4.9**	**250**	3.0	**9.7**	**1.3**	1.0	**14**	1.0	1.0	**47**
VEW-32	7/18/2012	1.8	0.20	0.20	0.30	**1.6**	**4.0**	1.9	0.20	1.0	3.2	**0.66**	1.0	8.0
	7/18/2012	**2.6**	0.20	0.20	0.30	1.0	**6.6**	1.9	0.20	1.0	3.2	**0.12**	1.0	8.0
	8/14/2012	1.8	0.20	0.20	0.30	1.0	**7.1**	**7.4**	0.10	**1.8**	3.2	0.081	1.0	**13**
	8/30/2012	1.8	**0.40**	0.20	0.30	1.0	**5.5**	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	9/28/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	**0.11**	1.0	**15**
	4/18/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	**0.48**	1.0	**12**
	6/19/2013	1.8	0.20	0.20	0.30	**1.2**	3.0	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	7/23/2013	1.8	0.20	0.20	0.30	**3.9**	**5.0**	1.9	0.10	**1.7**	3.2	**0.26**	1.0	**51**
	9/17/2013	**2.0**	0.20	0.20	0.50	**1.8**	**4.0**	1.9	0.10	1.0	3.2	1.0	1.0	**50**
	11/18/2013	1.8	0.20	0.20	**0.80**	1.0	3.0	1.9	0.10	1.0	3.2	1.0	1.0	**22**
	2/10/2014	1.8	0.20	0.20	0.50	**1.1**	3.0	1.9	**0.20**	1.0	3.2	1.0	1.0	**23**
	5/14/2014	1.8	0.20	0.20	0.50	**4.0**	3.0	1.9	0.10	1.0	3.2	**2.0**	1.0	**20**
	8/6/2014	**2.4**	**0.60**	0.20	0.50	1.0	3.0	1.9	0.10	1.0	3.2	1.0	1.0	**28**
	11/18/2014	1.8	**1.9**	0.20	0.50	**1.9**	**4.0**	1.9	0.10	1.0	3.2	1.0	**1.6**	**27**
	2/18/2015	1.8	**2.7**	**0.60**	**8.4**	**15**	3.0	1.9	0.10	**9.0**	3.2	1.0	1.0	**65**
	5/14/2015	1.8	**0.50**	0.20	0.50	**1.5**	3.0	**2.5**	0.10	**2.0**	3.2	1.0	1.0	**54**
CS-WB01-LGR-01	7/31/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	**2.2**	3.2	**0.21**	1.0	8.0
	7/31/2012	1.8	0.20	0.20	0.30	**1.6**	3.0	1.9	0.10	**14**	3.2	0.081	1.0	**23**
	4/29/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	**1.6**	3.2	**0.18**	1.0	8.0
	6/13/2013	1.8	0.20	0.20	0.30	**19**	3.0	1.9	0.10	**13**	3.2	**0.39**	1.0	8.0
	7/22/2013	1.8	0.20	0.20	0.30	**3.0**	3.0	1.9	0.10	**1.2**	3.2	0.081	1.0	8.0
	9/23/2013	1.8	0.20	0.20	0.50	**1.8**	3.0	1.9	0.10	**2.0**	3.2	1.0	1.0	8.0
	12/4/2013	1.8	0.20	0.20	0.50	**3.5**	3.0	1.9	0.10	**4.0**	3.2	1.0	1.0	8.0
	3/20/2014	1.8	0.20	0.20	0.50	**1.5**	3.0	1.9	0.10	**2.0**	**3.8**	**2.0**	1.0	8.0
	6/25/2014	1.8	0.20	0.20	0.50	**3.9**	3.0	1.9	0.10	**2.0**	3.2	1.0	1.0	8.0
	9/11/2014	1.8	**1.8**	0.20	0.50	**1.2**	3.0	1.9	0.10	**2.0**	3.2	1.0	1.0	8.0
	12/9/2014	1.8	0.20	0.20	**1.5**	**1.7**	3.0	1.9	0.10	**3.0**	3.2	1.0	1.0	8.0
	3/23/2015	1.8	0.20	0.20	0.50	**9.1**	3.0	1.9	0.10	**6.0**	3.2	1.0	1.0	**29**
	6/17/2015	1.8	**1.2**	0.20	0.50	**1.3**	3.0	1.9	0.10	**2.0**	3.2	1.0	1.0	8.0
CS-WB02-LGR-01	7/30/2012	1.8	0.20	0.20	0.30	**13**	3.0	1.9	0.10	**9.2**	3.2	0.081	1.0	8.0
	7/30/2012	1.8	0.20	0.20	0.30	**1.4**	3.0	1.9	0.10	**1.9**	3.2	0.081	1.0	8.0
	4/30/2013	**4.1**	**4.9**	0.20	0.30	**170**	3.0	1.9	0.10	**3.0**	3.2	**0.53**	1.0	**23**
	6/12/2013	**3.1**	**5.9**	0.20	0.30	**140**	3.0	1.9	0.10	**3.1**	3.2	**2.4**	1.0	**16**
	7/22/2013	1.8	**4.8**	0.20	0.30	**140**	3.0	1.9	0.10	**3.1**	3.2	**1.9**	1.0	**17**
	9/18/2013	**4.6**	**3.2**	0.70	0.50	**200**	**4.0**	1.9	0.10	**5.0**	3.2	1.0	1.0	**18**
	12/4/2013	**4.7**	0.20	0.20	0.50	**440**	3.0	1.9	0.10	**5.0**	**6.7**	**2.0**	1.0	**12**
	6/24/2014	**7.6**	**2.0**	0.20	0.50	**450**	**4.0**	1.9	0.10	**4.0**	3.2	1.0	1.0	**9.0**
	12/10/2014	1.8	0.20	0.20	**7.6**	**150**	3.0	1.9	0.10	**7.0**	**5.7**	1.0	1.0	**10**
	3/23/2015	**6.5**	0.20	0.20	**1.7**	**320**	3.0	**4.7**	**0.20**	**8.0**	3.2	1.0	**8.8**	**31**
	6/22/2015	**5.2**	**6.9**	0.20	0.50	**86**	**8.0**	1.9	0.10	**8.0**	3.2	**2.0**	1.0	8.0
CS-WB03-LGR-01	7/24/2012	**4.4**	0.20	0.20	0.30	**2.1**	3.0	1.9	0.10	**2.8**	3.2	0.081	1.0	8.0
	7/24/2012	**3.3**	0.20	0.20	0.30	1.0	3.0	1.9	0.10	**1.9**	3.2	0.081	1.0	8.0
	12/4/2013	1.8	0.20	0.20	0.50	**6.4**	3.0	1.9	0.10	**7.0**	**3.5**	1.0	**2.5**	8.0
	3/17/2014	1.8	0.20	0.20	0.50	**3.0**	3.0	1.9	0.10	**3.0**	3.2	**2.0**	1.0	8.0
	6/24/2014	1.8	0.20	0.20	0.50	**3.5**	3.0	1.9	0.10	**4.0**	3.2	1.0	1.0	8.0
	12/3/2014	1.8	**1.9**	0.20	0.50	**3.3**	3.0	1.9	0.10	**5.0**	3.2	1.0	1.0	**12**
	3/24/2015	1.8	0.20	0.20	0.50	**4.5**	3.0	1.9	0.10	**4.0**	3.2	1.0	**1.7**	**13**
	6/19/2015	1.8	**1.7**	0.20	0.50	**3.7**	3.0	1.9	0.10	**4.0**	3.2	**2.0**	1.0	8.0
CS-WB03-UGR-01	7/24/2012	**5.1**	0.20	0.20	0.30	**3.0**	3.0	1.9	0.10	**2.0**	3.2	**0.69**	1.0	**62**
	7/24/2012	**3.3**	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	**5.7**	**0.40**	1.0	**9.0**
	8/30/2012	**2.7**	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	**5.7**	0.081	**1.4**	8.0
	4/22/2013	1.8	0.20	0.20	0.30	**1.7**	3.0	1.9	0.10	1.0	3.2	0.081	1.0	**19**
	6/12/2013	1.8	0.20	0.20	0.30	**19**	3.0	1.9	0.10	**11**	3.2	**0.43**	1.0	8.0
	7/22/2013	1.8	0.20	0.20	0.30	**3.8**	3.0	1.9	0.10	**2.2**	3.2	**0.28**	1.0	8.0
	9/18/2013	**1.9**	0.20	0.20	0.50	**5.1**	3.0	1.9	0.10	**3.0**	3.2	1.0	1.0	**19**
	12/4/2013	1.8	0.20	0.20	0.50	**2.8**	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
	3/17/2014	1.8	0.20	0.20	0.50	**5.0**	**10**	1.9	0.10	**4.0**	3.2	**2.0**	1.0	**9.0**
	6/24/2014	1.8	0.20	0.20	0.50	**1.6**	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
	9/10/2014	1.8	**1.4**	0.20	0.50	**1.6**	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
	12/3/2014	1.8	**2.8**	0.20	0.50	**14**	**4.0**	1.9	0.10	**11**	3.2	1.0	**2.2**	**12**
	3/24/2015	1.8	0.20	0.20	0.50	**4.7**	3.0	1.9	0.10	**3.0**	3.2	1.0	**3.0**	8.0
	6/19/2015	1.8	**1.5**	0.20	0.50	**4.1**	3.0	1.9	0.10	**2.0**	3.2	1.0	1.0	8.0

Detections are bolded. Results not highlighted are detections above the RL.
Not detected. Reported result is reported as the MDL and flagged U.
Trace value. Reported result is a value between the MDL and the RL and is flagged F.
Red text indicates dissolved metals analysis.
Black text indicates total metals analysis.
#N/A indicates that the metal was not tested.

Table A.6 **Observation Wells - Anion Concentrations**

Well ID	Sample Date	Chloride mg/L	Sulfate mg/L
LS-5	3/7/2012	**11**	**23**
	8/3/2012	**12**	**22**
	8/6/2012	**11**	**23**
	8/16/2012	**11**	**22**
	8/30/2012	**11**	**21**
	4/23/2013	**11**	**22**
	6/19/2013	**13**	**21**
	7/19/2013	**12**	**23**
	9/17/2013	**11**	**21**
	12/9/2013	**12**	**22**
	3/5/2014	**12**	**19**
	6/2/2014	**11**	**20**
	9/3/2014	**11**	**20**
	12/1/2014	**11**	**19**
	3/2/2015	**11**	**19**
	6/1/2015	**11**	**17**
LS-6	3/7/2012	**13**	**20**
	8/3/2012	**12**	**20**
	8/6/2012	**12**	**20**
	8/16/2012	**12**	**22**
	8/30/2012	**12**	**20**
	4/23/2013	**11**	**22**
	6/19/2013	**13**	**17**
	7/19/2013	**11**	**19**
	9/17/2013	**12**	**20**
	12/9/2013	**12**	**20**
	3/5/2014	**12**	**18**
	6/2/2014	**11**	**17**
	9/3/2014	**11**	**17**
	12/1/2014	**11**	**17**
	3/2/2015	**11**	**17**
	6/1/2015	**22**	**39**
LS-7	3/7/2012	**9.0**	**17**
	8/3/2012	**9.0**	**17**
	8/6/2012	**8.8**	**16**
	8/16/2012	**8.7**	**15**
	8/30/2012	**8.9**	**16**
	4/23/2013	**8.2**	**15**
	6/19/2013	**9.9**	**16**
	7/19/2013	**11**	**15**
	9/17/2013	**8.2**	**15**
	12/9/2013	**9.1**	**16**
	3/5/2014	**9.2**	**14**
	6/2/2014	**8.7**	**15**
	9/3/2014	**8.7**	**15**
	12/1/2014	**8.2**	**15**
	3/2/2015	**8.3**	**15**
	6/1/2015	**5.6**	**12**
OFR-3	3/8/2012	**11**	**14**
	8/3/2012	**11**	**15**
	8/6/2012	**11**	**14**
	8/16/2012	**11**	**14**
	8/30/2012	**11**	**15**
	4/23/2013	**10**	**15**
	4/3/2015	**11**	**14**

Well ID	Sample Date	Chloride mg/L	Sulfate mg/L
	6/1/2015	**11**	**13**
RFR-10	3/8/2012	**14**	**17**
	8/3/2012	**18**	**54**
	8/6/2012	**16**	**15**
	8/16/2012	**16**	**15**
	8/30/2012	**16**	**25**
	4/23/2013	**16**	**27**
	6/19/2013	**16**	**16**
	7/19/2013	**17**	**46**
	9/17/2013	**15**	**15**
	12/9/2013	**15**	**17**
	3/5/2014	**16**	**14**
	6/2/2014	**15**	**14**
	9/3/2014	**15**	**15**
	12/1/2014	**14**	**15**
	3/2/2015	**12**	**17**
	5/19/2015	**15**	**15**
	6/1/2015	**14**	**14**
RFR-11	3/8/2012	**12**	**24**
	8/3/2012	**11**	**17**
	8/6/2012	**11**	**21**
	8/16/2012	**11**	**18**
	8/30/2012	**11**	**18**
	4/23/2013	**11**	**18**
	6/19/2013	**13**	**22**
	7/19/2013	**11**	**18**
	9/17/2013	**19**	**22**
	12/9/2013	**12**	**17**
	3/5/2014	**12**	**18**
	6/2/2014	**12**	**21**
	9/3/2014	**11**	**16**
	12/1/2014	**11**	**17**
	3/2/2015	**11**	**17**
	6/1/2015	**42**	**48**
CS-MW6-LGR	3/20/2012	**12**	**16**
	8/2/2012	**10**	**17**
	8/6/2012	**10**	**17**
	8/16/2012	**10**	**17**
	8/31/2012	**9.8**	**18**
	10/2/2012	**12**	**16**
	4/22/2013	**9.9**	**18**
	6/19/2013	**11**	**17**
	7/19/2013	**15**	**18**
	9/17/2013	**9.7**	**18**
	11/20/2013	**10**	**19**
	2/13/2014	**22**	**7.7**
	6/17/2014	**9.6**	**17**
	9/4/2014	**9.9**	**17**
	11/13/2014	**10**	**17**
	3/10/2015	**9.9**	**17**
	6/10/2015	**12**	**15**
CS-MW7-LGR	3/20/2012	**19**	**8.2**
	8/2/2012	**19**	**8.0**
	8/6/2012	**19**	**7.9**
	8/16/2012	**19**	**8.0**
	8/31/2012	**19**	**8.0**
	4/22/2013	**19**	**8.4**

Well ID	Sample Date	Chloride mg/L	Sulfate mg/L
	6/19/2013	**22**	**9.0**
	7/19/2013	**32**	**9.6**
	9/19/2013	**20**	**11**
	11/20/2013	**20**	**8.7**
	2/13/2014	**22**	**7.7**
	6/20/2014	**20**	**8.2**
	9/4/2014	**20**	**8.1**
	11/13/2014	**21**	**8.4**
	3/10/2015	**19**	**8.1**
	6/10/2015	**19**	**7.5**
CS-MW8-LGR	3/20/2012	**18**	**9.1**
	8/2/2012	**19**	**9.2**
	8/6/2012	**18**	**9.3**
	8/16/2012	**18**	**9.4**
	8/30/2012	**18**	**9.7**
	4/22/2013	**17**	**9.8**
	6/19/2013	**20**	**9.7**
	7/19/2013	**21**	**9.3**
	9/17/2013	**17**	**10**
	11/20/2013	**18**	**9.7**
	3/6/2014	**18**	**9.0**
	6/17/2014	**17**	**9.0**
	9/4/2014	**18**	**9.8**
	11/13/2014	**18**	**9.6**
	3/10/2015	**16**	**8.0**
	6/10/2015	**17**	**8.7**
CS-MW36-LGR	3/19/2012	**15**	**16**
	8/2/2012	**14**	**19**
	8/6/2012	**13**	**21**
	8/16/2012	**13**	**21**
	8/30/2012	**14**	**23**
	4/22/2013	**13**	**20**
	6/19/2013	**17**	**16**
	7/19/2013	**17**	**18**
	9/17/2013	**13**	**20**
	12/2/2013	**16**	**15**
	3/6/2014	**14**	**19**
	6/17/2014	**15**	**12**
	9/9/2014	**14**	**18**
	11/13/2014	**14**	**16**
	3/10/2015	**14**	**18**
	6/10/2015	**13**	**19**
CS-WB01-LGR-09	3/12/2012	**12**	**15**
	8/3/2012	**13**	**16**
	8/6/2012	**12**	**14**
	8/17/2012	**12**	**15**
	8/30/2012	**12**	**15**
	4/23/2013	**13**	**14**
	6/13/2013	**14**	**22**
	7/22/2013	**13**	**14**
	9/23/2013	**12**	**20**
	12/4/2013	**13**	**16**
	3/20/2014	**13**	**15**
	6/25/2014	**12**	**15**
	9/11/2014	**13**	**15**
	12/9/2014	**12**	**14**
	3/23/2015	**17**	**10**

Well ID	Sample Date	Chloride mg/L	Sulfate mg/L
	6/17/2015	**13**	**15**
CS-WB02-LGR-09	3/12/2012	**14**	**15**
	8/3/2012	**14**	**16**
	8/6/2012	**13**	**15**
	8/17/2012	**13**	**15**
	8/30/2012	**13**	**15**
	4/29/2013	**14**	**15**
	6/12/2013	**14**	**16**
	7/22/2013	**13**	**16**
	9/18/2013	**13**	**17**
	12/4/2013	**14**	**17**
	3/19/2014	**13**	**16**
	6/24/2014	**13**	**16**
	9/11/2014	**13**	**16**
	12/10/2014	**13**	**16**
	3/23/2015	**13**	**15**
	6/22/2015	**13**	**15**
CS-WB03-LGR-09	3/13/2012	**14**	**15**
	8/2/2012	**13**	**19**
	8/6/2012	**13**	**18**
	8/16/2012	**13**	**17**
	8/30/2012	**13**	**19**
	4/23/2013	**12**	**19**
	6/12/2013	**18**	**15**
	7/22/2013	**14**	**20**
	9/18/2013	**12**	**19**
	12/4/2013	**12**	**22**
	3/17/2014	**12**	**20**
	6/24/2014	**14**	**17**
	9/10/2014	**13**	**17**
	12/3/2014	**14**	**17**
	3/24/2015	**14**	**29**
	6/18/2015	**17**	**14**
CS-WB04-LGR-11	3/13/2012	**13**	**14**
	8/2/2012	**13**	**14**
	8/6/2012	**12**	**14**
	8/16/2012	**12**	**13**
	8/30/2012	**13**	**14**
	4/24/2013	**13**	**14**
	6/20/2013	**14**	**15**
	7/22/2013	**13**	**14**
	9/23/2013	**12**	**15**
	12/2/2013	**13**	**15**
	3/6/2014	**18**	**7.6**
	6/25/2014	**12**	**14**
	9/10/2014	**13**	**14**
	12/8/2014	**12**	**13**
	3/24/2015	**13**	**13**
	5/18/2015	**13**	**13**

Detections are bolded. Results not highlighted are detections above the RL.
Not detected. Reported result is reported as the MDL and flagged U.
Trace value. Reported result is a value between the MDL and the RL and is flagged F.

Table A.7 Performance Monitoring Wells - Anion Concentrations

Well ID	Sample Date	Chloride mg/L	Sulfate mg/L
PZ-01	7/20/2012	**14**	**18**
	4/16/2013	**13**	**19**
	6/19/2013	**15**	**18**
	7/23/2013	**15**	**30**
	9/17/2013	**13**	**20**
	11/18/2013	**15**	**18**
	2/10/2014	**14**	**19**
	5/14/2014	**13**	**17**
	8/6/2014	**13**	**18**
	11/18/2014	**14**	**18**
	2/19/2015	**13**	**17**
	5/14/2015	**15**	**20**
PZ-02	7/20/2012	**23**	**20**
	4/16/2013	**51**	**56**
	6/19/2013	**63**	**330**
	7/23/2013	**66**	5.2
	11/18/2013	**54**	**860**
	2/10/2014	**63**	**1,200**
	5/14/2014	**73**	**1,700**
	8/6/2014	**61**	**2,100**
	11/18/2014	**53**	**3,100**
	2/18/2015	**41**	**2,300**
	5/14/2015	**37**	**3,000**
PZ-05	7/20/2012	**20**	**19**
	4/16/2013	**19**	**19**
	6/19/2013	**23**	**63**
	7/23/2013	**22**	**27**
	9/17/2013	**17**	**51**
	11/18/2013	**17**	**63**
	2/10/2014	**19**	**84**
	5/14/2014	**18**	**52**
	8/6/2014	**19**	**35**
	11/18/2014	**17**	**69**
	2/18/2015	**17**	**200**
	5/14/2015	**15**	**360**
PZ-06	7/20/2012	**6.2**	**19**
	4/16/2013	**4.6**	**17**
	6/19/2013	**4.7**	**12**
	7/23/2013	**5.2**	**43**
	9/17/2013	**4.8**	**25**
	11/18/2013	**3.8**	**14**
	2/10/2014	**5.1**	**43**
	5/14/2014	**5.1**	**31**
	8/6/2014	**4.5**	**17**
	11/18/2014	**4.2**	**12**
	2/19/2015	**4.1**	**12**

Well ID	Sample Date	Chloride mg/L	Sulfate mg/L
	5/14/2015	**4.0**	**12**
TSW-01	7/18/2012	**15**	**240**
	8/30/2012	**14**	**140**
	9/28/2012	**14**	**100**
	10/1/2012	**12**	**88**
	4/16/2013	**10**	**67**
	6/19/2013	**24**	**560**
	7/23/2013	**31**	**820**
	9/17/2013	**31**	**800**
	11/18/2013	**29**	**990**
	2/10/2014	**24**	**690**
	5/14/2014	**20**	**580**
	8/6/2014	**21**	**470**
	11/18/2014	**68**	**7,200**
	2/19/2015	**250**	**7,400**
	5/14/2015	**43**	**6,000**
TSW-03	7/20/2012	**3.9**	**17**
	8/30/2012	**55**	**1,400**
	10/1/2012	**47**	**2,000**
	1/9/2013	**100**	**6,600**
	4/16/2013	**120**	**7,600**
	6/19/2013	**120**	**7,100**
	7/23/2013	**150**	**9,300**
	9/17/2013	**120**	**15,000**
	11/18/2013	**110**	**14,000**
	2/10/2014	**110**	**12,000**
	5/14/2014	**100**	**11,000**
	8/6/2014	**95**	**12,000**
	11/18/2014	**88**	**11,000**
	2/19/2015	**270**	**16,000**
	5/14/2015	**67**	**22,000**
TSW-04	7/20/2012	**7.1**	**25**
	8/30/2012	**13**	**49**
	4/16/2013	**76**	**5,000**
	6/19/2013	**130**	**6,800**
	7/23/2013	**120**	**8,600**
	9/17/2013	**98**	**8,700**
	11/18/2013	**110**	**24,000**
	2/10/2014	**150**	**21,000**
	5/14/2014	**140**	**23,000**
	8/6/2014	**120**	**19,000**
	11/18/2014	**87**	**25,000**
	2/18/2015	**1,100**	**37,000**
	5/14/2015	**43**	**32,000**
TSW-05	7/20/2012	**8.4**	**160**
	8/14/2012	**6.9**	**58**
	8/30/2012	**7.0**	**61**
	10/1/2012	**6.2**	**43**

Well ID	Sample Date	Chloride mg/L	Sulfate mg/L
	4/18/2013	**6.5**	**29**
	6/19/2013	**5.7**	**22**
	7/23/2013	**6.7**	**36**
	9/17/2013	**5.4**	**45**
	11/18/2013	**4.4**	**20**
	2/10/2014	**6.1**	**23**
	5/14/2014	**5.3**	**29**
	8/6/2014	**6.0**	**28**
	11/18/2014	**6.6**	**27**
	2/18/2015	**8.1**	**33**
	5/14/2015	**7.2**	**29**
TSW-07	7/20/2012	**80**	**27**
	8/30/2012	**86**	**24**
	10/1/2012	**48**	**18**
	4/16/2013	**83**	**33**
	6/19/2013	**18**	**850**
	7/23/2013	**80**	**1,800**
	9/17/2013	**36**	**300**
	11/18/2013	**68**	**2,000**
	2/10/2014	**90**	**3,800**
	5/14/2014	**100**	**7,200**
	8/6/2014	**93**	**6,900**
	11/18/2014	**58**	**4,700**
	2/18/2015	**46**	**5,100**
	5/14/2015	**44**	**6,100**
VEW-15	7/18/2012	**4.1**	**24**
	8/14/2012	**4.2**	**21**
	8/30/2012	**4.0**	**20**
	4/17/2013	**4.7**	**49**
	6/19/2013	**5.7**	**40**
	7/23/2013	**7.7**	**47**
	9/17/2013	**5.0**	**35**
	11/18/2013	**4.0**	**43**
	2/10/2014	**4.7**	**50**
	5/14/2014	**4.6**	**51**
	8/6/2014	**4.7**	**50**
	11/18/2014	**4.3**	**38**
	2/18/2015	**4.5**	**50**
	5/14/2015	**4.2**	**46**
VEW-19	7/18/2012	**9.0**	**29**
	8/30/2012	**9.5**	**47**
	10/1/2012	**10**	**58**
	4/16/2013	**11**	**80**
	6/19/2013	**130**	**3,700**
	7/23/2013	**130**	**9,600**
	9/17/2013	**100**	**10,000**
	11/18/2013	**16**	**970**
	2/10/2014	**30**	**2,400**

Well ID	Sample Date	Chloride mg/L	Sulfate mg/L
	8/6/2014	**25**	**1,500**
	11/18/2014	**81**	**30,000**
	2/19/2015	**1,600**	**24,000**
	5/14/2015	**15**	**3,300**
VEW-25	7/18/2012	**7.9**	**20**
	6/19/2013	**120**	**5,100**
	7/23/2013	**100**	**4,500**
	9/17/2013	**81**	**3,200**
	11/18/2013	**22**	**1,500**
	2/10/2014	**21**	**1,300**
	5/14/2014	**23**	**1,500**
	8/6/2014	**20**	**1,400**
	11/18/2014	**49**	**8,700**
	2/19/2015	**250**	**12,000**
	5/14/2015	**30**	**8,900**
VEW-27	7/18/2012	**7.6**	**54**
	8/30/2012	**8.2**	**97**
	9/28/2012	**9.1**	**140**
	10/1/2012	**8.4**	**180**
	4/16/2013	**9.0**	**290**
	6/19/2013	**120**	**14,000**
	7/23/2013	**130**	**37,000**
	9/17/2013	**14**	**23,000**
	11/18/2013	**62**	**18,000**
	2/10/2014	**69**	**11,000**
	5/14/2014	**63**	**9,800**
	8/6/2014	**67**	**15,000**
	11/18/2014	**87**	**19,000**
	2/19/2015	**250**	**16,000**
	5/14/2015	**29**	**11,000**
VEW-32	7/18/2012	**2.7**	**12**
	8/14/2012	**3.3**	**16**
	8/30/2012	**3.9**	**20**
	9/28/2012	**2.8**	**12**
	4/18/2013	**4.9**	**35**
	6/19/2013	**3.3**	**15**
	7/23/2013	**4.2**	**18**
	9/17/2013	**4.7**	0.26
	11/18/2013	**2.2**	**11**
	2/10/2014	**4.4**	**29**
	5/14/2014	**3.6**	**20**
	8/6/2014	**3.0**	**12**
	11/18/2014	**3.3**	**150**
	2/18/2015	**4.7**	**220**
	5/14/2015	**2.3**	**30**
CS-WB01-LGR-01	7/31/2012	**9.2**	**24**
	4/29/2013	**9.5**	**23**
	6/13/2013	**9.0**	**28**

Well ID	Sample Date	Chloride mg/L	Sulfate mg/L
	7/22/2013	**8.3**	**19**
	9/23/2013	**8.6**	**24**
	12/4/2013	**8.6**	**22**
	3/20/2014	**9.2**	**21**
	6/25/2014	**8.0**	**22**
	9/11/2014	**8.9**	**22**
	12/9/2014	**7.6**	**25**
	3/23/2015	**8.1**	**23**
	6/17/2015	**9.0**	**53**
CS-WB02-LGR-01	7/30/2012	**200**	**31**
	4/30/2013	**170**	**3,100**
	6/12/2013	**160**	**2,400**
	7/22/2013	**140**	**1,800**
	9/18/2013	**100**	**1,700**
	12/4/2013	**86**	**3,200**
	6/24/2014	**59**	**2,400**
	12/10/2014	**28**	**1,700**
	3/23/2015	**25**	**5,500**
	6/22/2015	**46**	**3,100**
CS-WB03-LGR-01	7/24/2012	**13**	**27**
	3/17/2014	**13**	**28**
	6/24/2014	**12**	**29**
	12/3/2014	**13**	**29**
	3/24/2015	**12**	**28**
	6/19/2015	**13**	**30**
CS-WB03-UGR-01	7/24/2012	**8.0**	**90**
	8/30/2012	**7.9**	**79**
	10/2/2012	**7.7**	**67**
	4/22/2013	**7.5**	**67**
	6/12/2013	**8.7**	**72**
	7/22/2013	**9.5**	**76**
	9/18/2013	**7.5**	**70**
	12/4/2013	**8.2**	**75**
	3/17/2014	**8.1**	**75**
	6/24/2014	**7.8**	**77**
	9/10/2014	**8.2**	**77**
	3/24/2015	**12**	**100**
	6/19/2015	**13**	**99**

Detections are bolded. Results not highlighted are detections above the RL.
Not detected. Reported result is reported as the MDL and flagged U.
Trace value. Reported result is a value between the MDL and the RL and is flagged F.

Table A.8 **Additional Monitoring Wells - VOC Concentrations**

Well ID	Sample Date	1,1-Dichloro-ethene µg/L	cis-1,2-Dichloroethene µg/L	Tetrachloro-ethene (PCE) µg/L	Trichloroethene (TCE) µg/L	trans-1,2-Dichloroethene µg/L	Vinyl chloride µg/L
PZ-03	7/20/2012	0.12	0.070	**1.2**	**1.6**	0.080	0.080
	1/9/2013	0.12	0.070	**1.6**	**1.7**	0.080	0.080
	4/16/2013	0.12	0.070	**0.79**	**1.0**	0.080	0.080
PZ-04	7/20/2012	0.12	0.070	**0.67**	0.050	0.080	0.080
	1/9/2013	0.12	0.070	**2.0**	**0.10**	0.080	0.080
	4/16/2013	0.12	0.070	**2.5**	0.050	0.080	0.080
TSW-02	4/16/2013	0.12	0.070	**31**	**2.6**	0.080	0.080
	11/18/2014	0.12	0.070	**9.9**	0.050	0.080	0.080
TSW-06	7/20/2012	0.12	0.070	0.060	0.050	0.080	0.080
	4/18/2013	0.12	0.070	**1.4**	**0.27**	0.080	0.080
VEW-13	4/16/2013	0.12	0.070	**17**	**0.67**	0.080	0.080
VEW-16	7/18/2012	0.12	0.070	**0.93**	0.050	0.080	0.080
	4/17/2013	0.12	0.070	**16**	**0.22**	0.080	0.080
VEW-18	7/18/2012	0.12	**2.2**	**6.7**	**1.1**	0.080	0.080
	4/18/2013	0.12	**0.23**	**13**	**0.42**	0.080	0.080
VEW-20	7/18/2012	0.12	**96**	**5.8**	**190**	**10**	0.080
	4/16/2013	0.12	**8.2**	**0.43**	**19**	**0.72**	0.080
VEW-21	4/16/2013	0.12	0.070	0.060	**1.4**	0.080	0.080
VEW-23	4/16/2013	0.12	0.070	**7.0**	**1.6**	0.080	0.080
VEW-26	7/18/2012	0.12	0.070	**1.6**	**0.40**	0.080	0.080
VEW-28A	7/18/2012	0.12	0.070	**11**	**5.2**	0.080	0.080
	4/18/2013	0.12	0.070	**11**	**5.1**	0.080	0.080
VEW-28B	7/18/2012	0.12	0.070	**46**	**2.1**	0.080	0.080
	8/30/2012	0.12	0.070	**20**	**1.6**	0.080	0.080
	10/1/2012	0.12	0.070	**4.8**	**0.66**	0.080	0.080
	4/18/2013	0.12	0.070	**15**	**1.5**	0.080	0.080
VEW-29	7/18/2012	0.12	0.070	**4.5**	**0.19**	0.080	0.080
	4/17/2013	0.12	**0.41**	**56**	**0.32**	0.080	0.080
VEW-31	7/18/2012	0.12	0.070	**3.5**	0.050	0.080	0.080
	4/17/2013	0.12	**0.22**	**60**	**0.51**	0.080	0.080
I10-4	3/7/2012	0.12	0.070	**4.5**	**1.9**	0.080	0.080
	6/4/2012	0.12	0.070	**5.2**	**2.5**	0.080	0.080
	8/3/2012	0.12	0.070	**3.8**	**1.6**	0.080	0.080
	8/6/2012	0.12	0.070	**5.2**	**2.0**	0.080	0.080
	8/16/2012	0.12	0.070	**3.9**	**1.7**	0.080	0.080
	8/30/2012	0.12	0.070	**4.5**	**2.2**	0.080	0.080
	12/3/2012	0.12	0.070	**4.1**	**1.9**	0.080	0.080
	3/12/2013	0.12	0.070	**4.8**	**2.0**	0.080	0.080
	4/23/2013	0.12	0.070	**4.3**	**1.9**	0.080	0.080
	6/26/2013	0.12	0.070	**3.9**	**1.6**	0.080	0.080
	9/9/2013	0.12	0.070	**3.4**	**1.7**	0.080	0.080
	12/9/2013	0.12	0.070	**4.0**	**1.6**	0.080	0.080
CS-MW35-LGR	3/20/2012	0.12	0.070	**1.3**	0.050	0.080	0.080
	6/11/2012	0.12	0.070	**2.8**	0.050	0.080	0.080
	9/12/2012	0.12	0.070	**1.2**	0.050	0.080	0.080
	12/13/2012	0.12	0.070	**1.5**	0.050	0.080	0.080
	6/25/2013	0.12	0.070	**0.79**	0.050	0.080	0.080
	9/5/2013	0.12	0.070	**0.69**	0.050	0.080	0.080
	3/6/2014	0.12	0.070	**0.46**	0.050	0.080	0.080
	6/18/2014	0.12	0.070	**0.51**	0.050	0.080	0.080
	9/9/2014	0.12	0.070	**0.35**	0.050	0.080	0.080
	3/18/2015	0.12	0.070	**0.24**	0.050	0.080	0.080
	6/9/2015	0.12	0.070	**0.91**	0.050	0.080	0.080
CS-WB01-LGR-02	7/31/2012	0.12	0.070	**20**	**5.3**	0.080	0.080
	9/4/2012	0.12	0.070	**14**	**4.0**	0.080	0.080
	4/29/2013	0.12	0.070	**5.8**	**1.8**	0.080	0.080
	6/13/2013	0.12	0.070	**9.3**	**2.8**	0.080	0.080
	3/20/2014	0.12	0.070	**11**	**2.5**	0.080	0.080
	12/9/2014	0.12	0.070	**13**	**2.9**	0.080	0.080

Well ID	Sample Date	1,1-Dichloro-ethene µg/L	cis-1,2-Dichloroethene µg/L	Tetrachloro-ethene (PCE) µg/L	Trichloroethene (TCE) µg/L	trans-1,2-Dichloroethene µg/L	Vinyl chloride µg/L
	6/17/2015	0.12	0.070	**6.9**	**1.6**	0.080	0.080
CS-WB01-LGR-03	7/31/2012	0.12	0.070	**2.1**	**10**	0.080	0.080
	9/4/2012	0.12	0.070	**2.3**	**8.5**	0.080	0.080
	4/29/2013	0.12	0.070	**1.1**	**3.8**	0.080	0.080
	6/13/2013	0.12	0.070	**2.5**	**9.8**	0.080	0.080
	3/20/2014	0.12	0.070	**2.3**	**6.5**	0.080	0.080
	12/9/2014	0.12	0.070	**5.0**	**15**	0.080	0.080
	6/17/2015	0.12	0.070	**5.4**	**16**	0.080	0.080
CS-WB01-LGR-04	7/31/2012	0.12	0.070	0.060	0.050	0.080	0.080
	9/4/2012	0.12	0.070	0.060	**0.14**	0.080	0.080
	4/25/2013	0.12	0.070	0.060	0.050	0.080	0.080
	6/13/2013	0.12	**0.11**	0.060	**0.13**	0.080	0.080
	3/20/2014	0.12	**0.23**	0.060	0.050	0.080	0.080
	12/9/2014	0.12	**0.35**	0.060	0.050	0.080	0.080
	6/17/2015	0.12	**0.83**	0.060	0.050	0.080	0.080
CS-WB01-LGR-05	7/31/2012	0.12	0.070	0.060	0.050	0.080	0.080
	9/4/2012	0.12	0.070	**0.12**	**0.20**	0.080	0.080
	4/25/2013	0.12	0.070	**0.18**	0.050	0.080	0.080
	6/13/2013	0.12	0.070	**0.33**	0.050	0.080	0.080
	3/20/2014	0.12	0.070	**0.31**	**0.16**	0.080	0.080
	12/9/2014	0.12	0.070	**0.51**	**0.16**	0.080	0.080
	6/17/2015	0.12	**0.45**	0.060	**3.0**	0.080	0.080
CS-WB01-LGR-06	7/30/2012	0.12	**0.41**	**0.25**	**2.4**	0.080	0.080
	9/4/2012	0.12	**0.31**	**0.20**	**1.9**	0.080	0.080
	4/25/2013	0.12	**0.24**	**0.70**	**0.75**	0.080	0.080
	6/13/2013	0.12	**0.55**	**0.29**	**0.82**	0.080	0.080
	3/20/2014	0.12	**0.30**	**0.34**	**0.37**	0.080	0.080
	12/9/2014	0.12	**0.49**	**0.29**	**0.41**	0.080	0.080
	6/17/2015	0.12	**1.4**	0.060	**0.80**	0.080	0.080
CS-WB01-LGR-07	7/30/2012	0.12	**0.19**	**18**	**16**	0.080	0.080
	9/4/2012	0.12	**0.20**	**15**	**12**	0.080	0.080
	4/25/2013	0.12	**0.18**	**8.6**	**8.0**	0.080	0.080
	6/13/2013	0.12	**0.21**	**11**	**12**	0.080	0.080
	3/20/2014	0.12	**0.18**	**14**	**11**	0.080	0.080
	12/9/2014	0.12	**0.19**	**16**	**12**	0.080	0.080
	6/17/2015	0.12	**0.28**	**12**	**11**	0.080	0.080
CS-WB01-LGR-08	7/30/2012	0.12	**1.5**	**2.3**	**7.9**	0.080	0.080
	9/4/2012	0.12	**0.95**	**3.1**	**6.8**	0.080	0.080
	4/25/2013	0.12	**0.87**	**2.2**	**4.4**	0.080	0.080
	6/13/2013	0.12	**1.6**	**5.6**	**9.4**	0.080	0.080
	3/20/2014	0.12	**1.2**	**5.2**	**7.0**	0.080	0.080
	12/9/2014	0.12	**1.3**	**6.2**	**7.3**	0.080	0.080
	6/17/2015	0.12	**4.3**	**4.1**	**6.3**	0.080	0.080
CS-WB02-LGR-03	7/30/2012	0.12	0.070	**5.5**	**0.56**	0.080	0.080
	9/4/2012	0.12	0.070	**5.0**	**2.8**	0.080	0.080
	4/30/2013	0.12	0.070	**5.3**	**2.5**	0.080	0.080
	6/12/2013	0.12	0.070	**4.7**	**1.9**	0.080	0.080
	3/19/2014	0.12	0.070	**6.1**	**2.2**	0.080	0.080
	12/10/2014	0.12	0.070	**8.7**	**5.5**	0.080	0.080
	6/22/2015	0.12	0.070	**2.0**	0.050	0.080	0.080
CS-WB02-LGR-04	7/30/2012	0.12	0.070	**4.6**	**13**	0.080	0.080
	9/4/2012	0.12	0.070	**3.1**	**9.5**	0.080	0.080
	4/30/2013	0.12	0.070	**3.6**	**8.8**	0.080	0.080
	6/12/2013	0.12	0.070	**4.2**	**8.8**	0.080	0.080
	3/19/2014	0.12	0.070	**4.0**	**8.0**	0.080	0.080
	12/10/2014	0.12	0.070	**4.8**	**9.1**	0.080	0.080
	6/22/2015	0.12	0.070	**2.7**	**4.3**	0.080	0.080
CS-WB02-LGR-05	7/27/2012	0.12	0.070	**1.4**	**4.4**	0.080	0.080
	9/4/2012	0.12	0.070	**1.0**	**3.7**	0.080	0.080
	4/29/2013	0.12	0.070	**0.44**	**1.3**	0.080	0.080
	6/12/2013	0.12	0.070	**2.6**	**2.7**	0.080	0.080

Well ID	Sample Date	1,1-Dichloro-ethene µg/L	cis-1,2-Dichloroethene µg/L	Tetrachloro-ethene (PCE) µg/L	Trichloroethene (TCE) µg/L	trans-1,2-Dichloroethene µg/L	Vinyl chloride µg/L
	3/19/2014	0.12	0.070	**1.1**	**2.2**	0.080	0.080
	12/10/2014	0.12	0.070	**1.3**	**2.3**	0.080	0.080
	6/22/2015	0.12	0.070	**2.2**	**1.6**	0.080	0.080
CS-WB02-LGR-06	7/27/2012	0.12	**0.24**	**2.2**	**4.0**	**0.21**	0.080
	9/4/2012	0.12	0.070	**1.5**	**4.0**	0.080	0.080
	4/29/2013	0.12	0.070	**0.62**	**1.5**	0.080	0.080
	6/12/2013	0.12	**0.23**	**3.0**	**3.4**	**0.21**	0.080
	3/19/2014	0.12	**0.17**	**1.1**	**2.1**	**0.19**	0.080
	12/10/2014	0.12	**0.30**	**5.6**	**3.0**	**0.24**	0.080
	6/22/2015	0.12	**0.35**	**6.6**	**2.6**	**0.24**	0.080
CS-WB02-LGR-07	7/27/2012	0.12	**0.48**	**0.35**	**0.36**	0.080	0.080
	9/4/2012	0.12	**0.55**	0.060	**0.47**	0.080	0.080
	4/29/2013	0.12	**0.60**	0.060	**0.22**	0.080	0.080
	6/12/2013	0.12	**0.32**	**2.1**	**0.72**	0.080	0.080
	3/19/2014	0.12	**0.69**	**0.44**	**0.55**	0.080	0.080
	12/10/2014	0.12	**0.47**	**0.48**	**0.81**	0.080	0.080
	6/22/2015	0.12	**0.26**	**2.5**	**2.5**	0.080	0.080
CS-WB02-LGR-08	7/27/2012	0.12	**3.0**	**0.45**	**0.89**	**0.78**	0.080
	9/4/2012	0.12	**2.4**	**0.68**	**0.89**	**0.66**	0.080
	4/29/2013	0.12	**1.2**	**0.58**	**0.66**	**0.23**	0.080
	6/12/2013	0.12	**2.0**	**4.0**	**0.73**	**0.54**	0.080
	3/19/2014	0.12	**1.3**	**0.87**	**0.66**	**0.30**	0.080
	12/10/2014	0.12	**1.5**	**0.82**	**0.67**	**0.26**	0.080
	6/22/2015	0.12	**2.1**	**1.6**	**0.62**	**0.28**	0.080
CS-WB03-LGR-03	7/24/2012	0.12	0.070	0.060	0.050	0.080	0.080
	9/5/2012	0.12	**0.26**	**18**	**9.3**	0.080	0.080
	4/22/2013	0.12	**0.27**	**35**	**12**	0.080	0.080
	6/12/2013	0.12	**0.15**	**13**	**7.2**	0.080	0.080
	3/17/2014	0.12	0.070	**31**	**8.2**	0.080	0.080
	12/3/2014	0.12	0.070	**18**	**8.2**	0.080	0.080
	6/19/2015	0.12	0.070	**8.7**	**3.5**	0.080	0.080
CS-WB03-LGR-04	7/24/2012	0.12	0.070	**26**	**8.6**	0.080	0.080
	9/5/2012	0.12	0.070	**15**	**8.4**	0.080	0.080
	4/22/2013	0.12	0.070	**30**	**10**	0.080	0.080
	6/12/2013	0.12	0.070	**12**	**5.9**	0.080	0.080
	3/17/2014	0.12	0.070	**18**	**6.5**	0.080	0.080
	12/3/2014	0.12	0.070	**21**	**8.2**	0.080	0.080
	6/19/2015	0.12	0.070	**12**	**4.5**	0.080	0.080
CS-WB03-LGR-05	7/24/2012	0.12	0.070	**11**	**4.3**	0.080	0.080
	9/5/2012	0.12	0.070	**15**	**5.5**	0.080	0.080
	4/22/2013	0.12	0.070	**19**	**5.1**	0.080	0.080
	6/12/2013	0.12	0.070	**14**	**5.3**	0.080	0.080
	3/17/2014	0.12	0.070	**16**	**3.8**	0.080	0.080
	12/3/2014	0.12	0.070	**20**	**4.8**	0.080	0.080
	6/18/2015	0.12	0.070	**10**	**2.6**	0.080	0.080
CS-WB03-LGR-06	7/24/2012	0.12	0.070	**22**	**5.3**	0.080	0.080
	9/5/2012	0.12	**0.71**	**3.3**	**0.56**	0.080	0.080
	4/23/2013	0.12	**0.24**	**4.3**	**0.91**	0.080	0.080
	6/12/2013	0.12	**0.75**	**1.6**	**1.2**	0.080	0.080
	3/17/2014	0.12	**1.3**	**5.0**	**0.93**	0.080	0.080
	12/3/2014	0.12	**2.2**	0.060	0.050	0.080	0.080
	6/18/2015	0.12	**3.7**	0.060	0.050	0.080	0.080
CS-WB03-LGR-07	7/25/2012	0.12	**6.4**	**1.6**	**3.0**	0.080	0.080
	9/5/2012	0.12	**6.5**	**1.0**	**2.5**	0.080	0.080
	4/23/2013	0.12	**9.0**	**0.52**	**1.5**	0.080	0.080
	6/12/2013	0.12	**9.8**	**0.48**	**1.9**	0.080	0.080
	3/17/2014	0.12	**4.6**	**0.83**	**0.34**	0.080	0.080
	12/3/2014	0.12	**2.6**	0.060	**0.20**	0.080	**0.45**
	6/18/2015	0.12	**2.9**	**9.1**	**27**	0.080	0.080
CS-WB03-LGR-08	7/25/2012	0.12	**6.9**	**1.3**	**1.7**	0.080	0.080
	9/5/2012	0.12	**6.1**	**1.1**	**2.1**	0.080	0.080

Well ID	Sample Date	1,1-Dichloro-ethene µg/L	cis-1,2-Dichloroethene µg/L	Tetrachloro-ethene (PCE) µg/L	Trichloroethene (TCE) µg/L	trans-1,2-Dichloroethene µg/L	Vinyl chloride µg/L
	4/23/2013	0.12	**5.1**	**0.95**	**1.5**	0.080	**0.37**
	6/12/2013	0.12	**4.5**	**0.21**	**0.96**	0.080	**0.42**
	3/17/2014	0.12	**2.0**	**1.1**	**0.69**	0.080	0.080
	12/3/2014	0.12	**1.6**	0.060	**0.62**	0.080	**0.33**
	6/18/2015	0.12	**2.7**	0.060	**0.47**	0.080	**0.67**
CS-WB04-BS-01	9/6/2012	0.12	0.070	**0.19**	0.050	0.080	0.080
	3/6/2014	0.12	0.070	0.060	0.050	0.080	0.080
	5/18/2015	0.12	0.070	0.060	0.050	0.080	0.080
CS-WB04-BS-02	9/6/2012	0.12	**0.10**	**0.33**	0.050	0.080	0.080
	3/6/2014	0.12	0.070	0.060	0.050	0.080	0.080
	5/18/2015	0.12	0.070	0.060	0.050	0.080	0.080
CS-WB04-CC-01	9/6/2012	0.12	**0.60**	**0.26**	0.050	0.080	0.080
	3/6/2014	0.12	**0.69**	0.060	0.050	0.080	0.080
	5/18/2015	0.12	**1.2**	0.060	**0.20**	0.080	0.080
CS-WB04-CC-02	9/6/2012	0.12	0.070	**0.47**	0.050	0.080	0.080
	3/6/2014	0.12	0.070	0.060	0.050	0.080	0.080
	5/18/2015	0.12	0.070	0.060	0.050	0.080	0.080
CS-WB04-CC-03	9/6/2012	0.12	0.070	**2.7**	0.050	0.080	0.080
	3/6/2014	0.12	0.070	0.060	0.050	0.080	0.080
	5/18/2015	0.12	0.070	**0.20**	0.050	0.080	0.080
CS-WB04-LGR-01	7/26/2012	0.12	0.070	**0.37**	0.050	0.080	0.080
	9/6/2012	0.12	0.070	**0.57**	0.050	0.080	0.080
	4/24/2013	0.12	0.070	**0.58**	0.050	0.080	0.080
	12/2/2013	0.12	0.070	**0.31**	0.050	0.080	0.080
	3/6/2014	0.12	0.070	**0.50**	0.050	0.080	0.080
	6/25/2014	0.12	0.070	**0.94**	0.050	0.080	0.080
	9/17/2014	0.12	0.070	**0.89**	0.050	0.080	0.080
	12/8/2014	0.12	0.070	**1.1**	0.050	0.080	0.080
	3/24/2015	0.12	0.070	**4.2**	0.050	0.080	0.080
	5/19/2015	0.12	0.070	**0.57**	0.050	0.080	0.080
CS-WB04-LGR-03	7/26/2012	0.12	0.070	0.060	0.050	0.080	0.080
	9/6/2012	0.12	0.070	**0.25**	0.050	0.080	0.080
	4/24/2013	0.12	0.070	0.060	0.050	0.080	0.080
	3/6/2014	0.12	0.070	0.060	0.050	0.080	0.080
	5/19/2015	0.12	0.070	0.060	0.050	0.080	0.080
CS-WB04-LGR-04	7/26/2012	0.12	**0.19**	0.060	0.050	0.080	0.080
	9/6/2012	0.12	**0.10**	**0.41**	**0.22**	0.080	0.080
	4/24/2013	0.12	0.070	**0.35**	**0.24**	0.080	0.080
	3/6/2014	0.12	0.070	0.060	0.050	0.080	0.080
	5/19/2015	0.12	**0.13**	**0.23**	**0.14**	0.080	0.080
CS-WB04-LGR-06	3/13/2012	0.12	**3.2**	**35**	**11**	0.080	0.080
	7/26/2012	0.12	**2.2**	**20**	**6.4**	0.080	0.080
	9/6/2012	0.12	**2.6**	**26**	**8.6**	**0.20**	0.080
	12/12/2012	0.12	**3.2**	**38**	**11**	0.080	0.080
	4/24/2013	0.12	**2.9**	**35**	**11**	**0.25**	0.080
	6/20/2013	0.12	**3.5**	**39**	**13**	**0.40**	0.080
	9/23/2013	0.12	**2.7**	**28**	**9.4**	**0.25**	0.080
	3/6/2014	0.12	**2.9**	**34**	**10**	**0.28**	0.080
	6/25/2014	0.12	**2.6**	**32**	**7.8**	**0.23**	0.080
	12/8/2014	0.12	**3.1**	**45**	**10**	**0.33**	0.080
	3/24/2015	0.12	**3.6**	**55**	**13**	**0.40**	0.080
	5/18/2015	0.12	**3.2**	**40**	**11**	**0.30**	0.080
CS-WB04-LGR-07	3/13/2012	0.12	**3.2**	**32**	**11**	0.080	0.080
	7/26/2012	0.12	**1.8**	**12**	**5.2**	0.080	0.080
	9/6/2012	0.12	**2.2**	**23**	**8.1**	**0.20**	0.080
	12/12/2012	0.12	**2.5**	**28**	**9.6**	**0.27**	0.080
	4/24/2013	0.12	**2.3**	**12**	**4.7**	0.080	0.080
	6/20/2013	0.12	**2.5**	**19**	**7.0**	**0.23**	0.080
	9/23/2013	0.12	**2.1**	**20**	**7.0**	**0.18**	0.080
	3/6/2014	0.12	**2.5**	**26**	**9.2**	**0.21**	0.080
	6/25/2014	0.12	**2.6**	**33**	**8.7**	**0.22**	0.080

Well ID	Sample Date	1,1-Dichloro-ethene µg/L	cis-1,2-Dichloroethene µg/L	Tetrachloro-ethene (PCE) µg/L	Trichloroethene (TCE) µg/L	trans-1,2-Dichloroethene µg/L	Vinyl chloride µg/L
	12/8/2014	0.12	**2.6**	**30**	**8.0**	**0.26**	0.080
	3/24/2015	0.12	**3.2**	**36**	**11**	**0.26**	0.080
	5/18/2015	0.12	**3.6**	**24**	**12**	**0.23**	0.080
CS-WB04-LGR-08	7/26/2012	0.12	0.070	**0.31**	**1.1**	0.080	0.080
	9/6/2012	0.12	0.070	**0.38**	**0.69**	0.080	0.080
	4/24/2013	0.12	0.070	**0.40**	**0.65**	0.080	0.080
	6/20/2013	0.12	0.070	**0.39**	**0.98**	0.080	0.080
	3/6/2014	0.12	0.070	**0.33**	**0.74**	0.080	0.080
	12/8/2014	0.12	0.070	**0.69**	**0.81**	0.080	0.080
	5/18/2015	0.12	0.070	**0.94**	**1.1**	0.080	0.080
CS-WB04-LGR-09	3/13/2012	0.12	0.070	**10**	**7.8**	0.080	0.080
	7/25/2012	0.12	0.070	**8.5**	**7.0**	0.080	0.080
	9/6/2012	0.12	0.070	**7.3**	**5.7**	0.080	0.080
	12/12/2012	0.12	0.070	**8.6**	**6.4**	0.080	0.080
	4/24/2013	0.12	0.070	**3.8**	**3.5**	0.080	0.080
	6/20/2013	0.12	0.070	**6.0**	**5.9**	0.080	0.080
	9/23/2013	0.12	0.070	**8.4**	**8.3**	0.080	0.080
	3/6/2014	0.12	0.070	**5.6**	**4.7**	0.080	0.080
	6/25/2014	0.12	0.070	**11**	**7.1**	0.080	0.080
	12/8/2014	0.12	0.070	**11**	**7.3**	0.080	0.080
	3/24/2015	0.12	**0.14**	**16**	**10**	0.080	0.080
	5/18/2015	0.12	0.070	**6.0**	**5.0**	0.080	0.080
CS-WB04-LGR-10	3/13/2012	0.12	0.070	**1.1**	**0.66**	0.080	0.080
	7/25/2012	0.12	0.070	**1.6**	**0.63**	0.080	0.080
	9/6/2012	0.12	0.070	**1.2**	**0.54**	0.080	0.080
	12/12/2012	0.12	0.070	**1.4**	**0.60**	0.080	0.080
	4/24/2013	0.12	0.070	**1.1**	**0.51**	0.080	0.080
	6/20/2013	0.12	0.070	**1.4**	**0.73**	0.080	0.080
	9/23/2013	0.12	0.070	**1.2**	**0.58**	0.080	0.080
	3/6/2014	0.12	0.070	**1.7**	**0.65**	0.080	0.080
	6/25/2014	0.12	0.070	**2.4**	**0.87**	0.080	0.080
	12/8/2014	0.12	0.070	**2.5**	**0.55**	0.080	0.080
	3/24/2015	0.12	0.070	**7.5**	**0.54**	0.080	0.080
	5/18/2015	0.12	0.070	**1.3**	**0.43**	0.080	0.080

Detections are bolded. Results not highlighted are detections above the RL.
Not detected. Reported result is reported as the MDL and flagged U.
Trace value. Reported result is a value between the MDL and the RL and is flagged F.

Table A.9 **Additional Monitoring Wells - Metals Concentrations**

Well ID	Sample Date	Antimony µg/L	Arsenic µg/L	Beryllium µg/L	Cadmium µg/L	Chromium µg/L	Copper µg/L	Lead µg/L	Mercury µg/L	Nickel µg/L	Selenium µg/L	Silver µg/L	Thallium µg/L	Zinc µg/L
PZ-03	7/20/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	7/20/2012	1.8	0.20	0.20	0.30	1.0	5.6	1.9	0.10	9.9	3.2	0.081	1.0	22
	4/16/2013	1.8	1.4	0.20	0.30	1.0	4.0	7.5	0.10	1.0	3.2	2.1	1.0	120
PZ-04	7/20/2012	1.9	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	7/20/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.37	1.0	8.0
	4/16/2013	1.8	0.20	0.20	0.30	1.5	4.0	1.9	0.10	1.0	3.2	0.46	1.0	19
TSW-02	4/16/2013	1.8	0.40	0.20	0.30	1.0	3.0	1.9	0.10	1.9	#N/A	0.81	1.0	8.0
	11/18/2014	1.8	45	0.20	0.50	64	5.0	1.9	0.10	11	8.9	1.0	1.0	8.0
TSW-06	7/20/2012	1.8	0.20	0.20	0.30	1.2	3.0	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	7/20/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	13	3.2	0.081	1.0	41
	4/18/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.33	1.0	10
VEW-13	4/16/2013	1.8	0.70	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.56	1.0	8.0
VEW-16	7/18/2012	1.8	0.20	0.20	0.30	3.1	6.0	1.9	0.20	1.2	3.2	0.12	1.0	74
	7/18/2012	1.8	0.20	0.20	0.30	2.3	3.6	1.9	0.20	2.3	3.2	1.2	1.6	44
	4/17/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.84	1.0	40
VEW-18	7/18/2012	2.7	5.1	0.20	0.30	6.1	3.0	1.9	0.20	22	3.2	17	1.0	440
	7/18/2012	1.8	0.20	0.20	0.30	1.0	3.9	1.9	0.20	1.1	3.2	0.23	1.0	18
	4/18/2013	1.8	6.0	1.9	0.30	18	23	28	0.10	12	3.2	0.15	1.0	350
VEW-20	7/18/2012	3.2	17	3.9	0.30	79	29	12	0.20	49	3.2	4.1	1.0	130
	7/18/2012	1.9	0.20	0.20	0.30	1.0	3.8	1.9	0.20	1.0	3.2	0.73	1.3	8.0
	4/16/2013	1.8	1.0	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.22	1.0	8.0
VEW-21	4/16/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	8.0
VEW-23	4/16/2013	1.8	17	19	0.30	8.7	39	87	0.10	36	3.2	5.4	1.0	290
VEW-26	7/18/2012	2.5	0.20	0.20	0.30	1.5	4.0	1.9	0.20	2.4	3.2	0.84	1.0	8.0
	7/18/2012	1.9	0.20	0.20	0.30	1.0	3.3	1.9	0.20	2.0	3.2	1.2	1.0	8.0
VEW-28A	7/18/2012	2.4	6.1	2.2	0.30	8.8	12	6.4	0.20	5.2	3.2	1.3	1.0	34
	7/18/2012	2.5	0.20	0.20	0.30	1.0	3.8	1.9	0.20	1.0	3.2	0.081	2.0	8.0
	4/18/2013	1.8	7.7	3.4	0.30	9.8	16	9.2	0.10	7.3	3.2	0.081	1.0	39
VEW-28B	7/18/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.20	1.6	3.2	0.081	1.0	100
	7/18/2012	2.1	0.40	0.20	0.30	1.0	5.2	1.9	0.20	11	3.2	0.081	1.0	380
	8/30/2012	1.8	0.70	0.20	0.30	1.0	3.2	1.9	0.10	1.4	3.2	0.081	1.0	130
VEW-29	7/18/2012	1.8	0.50	0.20	0.30	1.0	3.0	1.9	0.20	2.0	3.2	0.19	1.0	8.0
	7/18/2012	2.3	2.2	0.20	0.30	1.2	6.6	11	0.20	2.8	3.2	0.25	1.0	8.0
	4/17/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.2	3.2	0.45	1.0	11
VEW-31	7/18/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.20	1.0	3.2	0.55	1.2	8.0
	7/18/2012	2.5	0.50	0.20	0.30	1.0	5.9	1.9	0.20	1.3	3.2	0.61	1.0	8.0
	4/17/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.53	1.0	61
I10-4	3/7/2012	1.8	0.20	0.20	0.30	1.6	7.0	40	0.10	1.0	3.2	0.081	1.0	74
	3/7/2012	4.7	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	52
	8/3/2012	3.0	0.20	0.20	0.30	1.0	3.0	7.0	0.10	1.0	3.2	0.081	1.0	97
	8/6/2012	3.2	0.20	0.20	0.30	1.0	3.0	3.2	0.10	1.4	3.2	0.081	1.0	95
	8/16/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	86
	8/30/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.3	63
	4/23/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.12	1.0	86
CS-MW35-LGR	3/20/2012	#N/A	#N/A	#N/A	0.50	1.0	#N/A	1.9	0.10	#N/A	#N/A	#N/A	#N/A	#N/A
	6/11/2012	#N/A	#N/A	#N/A	0.50	1.0	#N/A	3.0	0.10	#N/A	#N/A	#N/A	#N/A	#N/A
	9/12/2012	#N/A	#N/A	#N/A	0.50	1.0	#N/A	1.9	0.10	#N/A	#N/A	#N/A	#N/A	#N/A
	12/13/2012	#N/A	#N/A	#N/A	0.50	1.0	#N/A	1.9	0.10	#N/A	#N/A	#N/A	#N/A	#N/A
	6/25/2013	#N/A	#N/A	#N/A	0.50	1.0	#N/A	1.9	0.10	#N/A	#N/A	#N/A	#N/A	#N/A
	9/5/2013	#N/A	#N/A	#N/A	0.50	2.5	#N/A	1.9	0.10	#N/A	#N/A	#N/A	#N/A	#N/A
	3/6/2014	#N/A	#N/A	#N/A	0.50	2.4	#N/A	1.9	0.10	#N/A	#N/A	#N/A	#N/A	#N/A
	3/13/2014	1.8	2.2	0.20	#N/A	#N/A	3.0	#N/A	#N/A	1.0	3.2	1.0	1.0	8.0
	6/18/2014	#N/A	#N/A	#N/A	0.50	1.7	#N/A	1.9	0.10	#N/A	#N/A	#N/A	#N/A	#N/A
	9/9/2014	1.8	1.3	0.20	0.50	2.0	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
	3/18/2015	#N/A	#N/A	#N/A	0.50	1.0	#N/A	1.9	0.10	#N/A	#N/A	#N/A	#N/A	#N/A
	6/9/2015	#N/A	#N/A	#N/A	0.50	1.0	#N/A	1.9	0.10	#N/A	#N/A	#N/A	#N/A	#N/A
CS-WB01-LGR-02	7/31/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	2.3	3.2	0.081	1.0	9.0
	7/31/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	8.0	3.2	0.081	1.0	24
	4/29/2013	2.2	0.20	0.20	0.30	1.8	3.0	1.9	0.10	1.0	3.2	0.60	1.0	23
	6/17/2015	1.8	2.1	0.20	0.50	1.6	3.0	1.9	0.10	6.0	3.2	1.0	1.5	8.0
CS-WB01-LGR-03	7/31/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.4	3.2	0.081	1.0	10
	7/31/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	7.4	3.2	0.081	1.0	10
	4/29/2013	1.8	0.20	0.20	0.30	1.3	3.0	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	6/17/2015	1.8	1.7	0.20	0.50	1.0	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
CS-WB01-LGR-04	7/31/2012	1.8	0.20	0.20	0.30	3.5	3.0	1.9	0.10	2.2	3.2	0.081	1.0	14
	7/31/2012	1.8	0.20	0.20	0.30	1.9	3.0	1.9	0.10	9.3	3.2	0.081	1.0	18
	4/25/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	26
	6/17/2015	1.8	2.6	0.20	0.50	2.1	3.0	1.9	0.10	2.0	3.2	1.0	1.0	8.0
CS-WB01-LGR-05	7/31/2012	1.8	0.20	0.20	0.30	1.9	3.0	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	7/31/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	17	3.2	0.081	1.0	15
	4/25/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.10	1.0	24
	6/17/2015	1.8	1.0	0.20	0.50	1.2	3.0	1.9	0.10	1.0	3.2	1.0	1.0	22
CS-WB01-LGR-06	7/30/2012	1.8	0.20	0.20	0.30	1.8	3.0	1.9	0.10	1.5	3.2	0.081	1.0	11
	7/30/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.1	3.2	0.081	1.0	22
	4/25/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.13	1.0	30
	6/17/2015	1.8	2.3	0.20	0.50	1.1	3.0	1.9	0.10	3.0	3.2	1.0	1.0	9.0
CS-WB01-LGR-07	7/30/2012	1.8	0.20	0.20	0.30	4.9	3.0	1.9	0.10	3.5	3.2	0.081	1.0	20
	7/30/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	7.8	3.2	0.081	1.0	16
	4/25/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	33
	6/17/2015	1.8	1.0	0.20	0.50	1.7	3.0	1.9	0.10	1.0	3.2	1.0	1.2	8.0
CS-WB01-LGR-08	7/30/2012	1.8	0.20	0.20	0.30	8.2	3.0	1.9	0.10	11	3.2	0.081	1.0	42
	7/30/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	8.7	3.2	0.081	1.0	32

Well ID	Sample Date	Antimony µg/L	Arsenic µg/L	Beryllium µg/L	Cadmium µg/L	Chromium µg/L	Copper µg/L	Lead µg/L	Mercury µg/L	Nickel µg/L	Selenium µg/L	Silver µg/L	Thallium µg/L	Zinc µg/L
	4/25/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	6.3	3.2	0.083	1.0	32
	6/17/2015	1.8	2.5	0.20	0.50	1.0	3.0	1.9	0.10	8.0	3.2	1.0	1.0	15
CS-WB02-LGR-03	7/30/2012	1.8	0.20	0.20	0.30	3.1	3.0	1.9	0.10	2.0	3.2	0.081	1.0	8.0
	7/30/2012	1.8	0.20	0.20	0.30	5.5	3.0	1.9	0.10	5.6	3.2	0.081	1.0	8.2
	4/30/2013	1.8	0.20	0.20	0.30	2.4	3.0	1.9	0.10	1.0	3.2	0.31	1.0	22
	6/22/2015	1.8	1.9	0.20	0.50	2.5	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
CS-WB02-LGR-04	7/30/2012	1.8	0.20	0.20	0.30	1.1	3.0	1.9	0.10	2.2	3.2	0.081	1.0	8.0
	7/30/2012	2.5	0.20	0.20	0.30	6.0	3.0	1.9	0.10	13	3.2	0.081	1.0	14
	4/30/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.28	1.0	20
	6/22/2015	1.8	0.70	0.20	0.50	2.0	3.0	1.9	0.10	2.0	3.2	1.0	1.0	8.0
CS-WB02-LGR-05	7/27/2012	1.8	0.20	0.20	0.30	1.3	3.0	1.9	0.20	4.6	3.2	0.081	1.0	12
	7/27/2012	4.1	0.20	0.20	0.30	1.6	8.8	1.9	0.10	4.1	3.2	0.14	1.0	11
	4/29/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.8	3.2	1.1	1.0	27
	6/22/2015	2.5	1.8	0.20	0.50	2.1	3.0	1.9	0.10	2.0	3.2	1.0	1.0	8.0
CS-WB02-LGR-06	7/27/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.20	3.9	3.2	0.081	1.0	11
	7/27/2012	4.1	0.20	0.20	0.30	2.0	6.4	1.9	0.10	3.9	3.2	0.081	1.0	8.0
	4/29/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.8	3.2	0.67	1.0	8.0
	6/22/2015	3.0	1.5	0.20	0.50	1.4	3.0	1.9	0.10	3.0	3.2	1.0	1.0	8.0
CS-WB02-LGR-07	7/27/2012	1.8	0.20	0.20	0.30	4.2	3.0	1.9	0.20	4.6	3.2	0.081	1.0	11
	7/27/2012	2.4	0.20	0.20	0.30	1.7	6.4	1.9	0.10	2.2	3.2	0.081	1.0	9.7
	4/29/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	2.1	1.0	8.0
	6/22/2015	2.9	1.4	0.20	0.50	1.4	3.0	1.9	0.10	1.0	3.2	2.0	1.0	8.0
CS-WB02-LGR-08	7/27/2012	1.8	0.20	0.20	0.30	1.9	3.0	1.9	0.20	4.5	3.2	0.081	1.0	13
	7/27/2012	3.6	0.20	0.20	0.30	2.7	6.7	1.9	0.10	4.1	3.2	0.081	1.0	12
	4/29/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.9	3.2	1.1	1.0	8.0
	6/22/2015	1.8	2.1	0.20	0.50	1.6	3.0	1.9	0.10	3.0	3.2	1.0	1.0	8.0
CS-WB03-LGR-03	7/24/2012	4.7	0.20	0.20	0.30	2.7	3.0	1.9	0.10	1.1	3.2	0.081	1.0	8.0
	7/24/2012	3.0	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	4/22/2013	1.8	0.20	0.20	0.30	1.5	3.0	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	6/19/2015	1.8	0.90	0.20	0.50	19	3.0	1.9	0.10	3.0	3.2	1.0	1.0	8.0
CS-WB03-LGR-04	7/24/2012	5.2	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.9	3.2	0.081	1.0	8.0
	7/24/2012	2.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.6	3.2	0.081	1.0	8.0
	4/22/2013	1.8	0.20	0.20	0.30	2.9	3.0	1.9	0.10	2.4	3.2	0.081	1.0	19
	6/19/2015	1.8	1.6	0.20	0.50	1.7	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
CS-WB03-LGR-05	7/24/2012	4.7	0.20	0.20	0.30	1.0	3.0	1.9	0.10	8.7	3.2	0.081	1.0	8.0
	7/24/2012	3.0	0.20	0.20	0.30	1.0	3.0	1.9	0.10	6.2	3.2	0.081	1.0	8.0
	4/22/2013	1.8	0.20	0.20	0.30	4.3	3.0	1.9	0.10	11	3.2	0.18	1.0	25
	6/18/2015	1.8	2.0	0.20	0.50	1.2	3.0	1.9	0.10	10	3.2	1.0	1.0	8.0
CS-WB03-LGR-06	7/24/2012	4.4	1.0	0.20	0.30	1.4	3.0	1.9	0.10	1.4	3.2	0.081	1.0	8.0
	7/24/2012	2.4	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	4/23/2013	1.8	0.20	0.20	0.30	1.3	3.0	1.9	0.10	1.0	3.2	1.4	1.0	8.0
	6/18/2015	1.8	1.7	0.20	0.50	1.2	3.0	1.9	0.10	1.0	3.3	2.0	1.0	8.0
CS-WB03-LGR-07	7/25/2012	4.8	0.20	0.20	0.30	1.9	3.0	1.9	0.10	1.9	3.2	0.081	1.0	8.0
	7/25/2012	2.7	0.20	0.20	0.30	1.0	10	1.9	0.20	1.3	3.2	0.081	1.1	8.0
	4/23/2013	1.8	0.20	0.20	0.30	3.9	3.0	1.9	0.10	1.7	3.2	0.76	1.0	32
	6/18/2015	1.8	1.2	0.20	0.50	2.7	3.0	1.9	0.10	2.0	3.2	2.0	1.0	8.0
CS-WB03-LGR-08	7/25/2012	3.7	0.60	0.20	0.30	1.3	3.0	1.9	0.10	1.0	3.2	0.081	1.0	14
	7/25/2012	4.5	0.20	0.20	0.30	1.0	10	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	4/23/2013	1.8	0.20	0.20	0.30	1.9	3.0	1.9	0.10	1.0	3.2	0.085	1.0	22
	6/18/2015	1.8	1.4	0.20	0.50	1.4	3.0	1.9	0.10	1.0	3.2	1.0	1.1	8.0
CS-WB04-BS-01	5/18/2015	1.8	1.6	0.20	0.50	3.1	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
CS-WB04-BS-02	5/18/2015	1.8	1.6	0.20	0.50	2.2	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
CS-WB04-CC-01	5/18/2015	1.8	1.7	0.20	0.50	2.3	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
CS-WB04-CC-02	5/18/2015	1.8	1.5	0.20	0.50	2.5	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
CS-WB04-CC-03	5/18/2015	1.8	2.0	0.20	0.50	1.6	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
CS-WB04-LGR-01	7/26/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.1	3.2	0.081	1.0	8.0
	7/26/2012	4.0	0.20	0.20	0.30	1.0	7.3	1.9	0.10	1.0	3.2	0.44	1.0	8.0
	4/24/2013	1.8	0.20	0.20	0.30	1.7	3.0	1.9	0.10	1.0	3.2	0.081	1.0	24
	12/2/2013	1.8	0.20	0.20	0.50	2.4	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
	3/6/2014	1.8	0.20	0.20	0.50	3.6	3.0	1.9	0.10	2.0	3.2	1.0	1.0	58
	6/25/2014	1.8	0.20	0.20	0.50	3.5	3.0	1.9	0.10	1.0	3.2	1.0	1.0	12
	9/10/2014	1.8	1.0	0.20	0.50	1.6	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
	12/8/2014	1.8	0.20	0.20	1.2	6.8	3.0	1.9	0.10	4.0	3.2	1.0	1.0	8.0
	3/24/2015	1.8	0.20	0.20	0.50	4.4	3.0	1.9	0.10	2.0	3.2	1.0	1.0	8.0
	5/19/2015	1.8	2.2	0.20	0.50	1.6	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
CS-WB04-LGR-03	7/26/2012	1.8	0.20	0.20	0.30	1.4	3.0	1.9	0.20	1.0	3.2	0.081	1.0	8.0
	7/26/2012	3.8	0.20	0.20	0.30	1.0	6.8	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	4/24/2013	1.8	0.20	0.20	0.30	1.2	3.0	1.9	0.10	1.0	3.2	0.081	1.0	20
	5/19/2015	1.8	2.3	0.20	0.50	2.0	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
CS-WB04-LGR-04	7/26/2012	2.4	0.20	0.20	0.30	1.0	3.0	1.9	0.20	1.0	3.2	0.081	1.0	8.0
	7/26/2012	3.8	0.20	0.20	0.30	1.0	7.3	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	4/24/2013	1.8	0.20	0.20	0.30	2.0	3.0	1.9	0.10	1.0	3.2	0.98	1.0	26
	5/19/2015	1.8	2.2	0.20	0.50	4.5	3.0	1.9	0.10	1.0	3.2	1.0	1.0	11
CS-WB04-LGR-06	7/26/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.5	3.2	0.081	1.0	8.0
	7/26/2012	4.5	0.20	0.20	0.30	1.0	7.0	1.9	0.10	1.3	3.2	0.081	1.0	9.0
	4/24/2013	1.8	0.20	0.20	0.30	1.4	3.0	1.9	0.10	1.7	5.6	0.47	1.0	83
	5/18/2015	3.0	3.0	0.20	0.50	1.4	3.0	1.9	0.10	2.0	5.3	1.0	1.0	8.0
CS-WB04-LGR-07	7/26/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.7	3.2	0.081	1.0	8.0
	7/26/2012	4.8	0.20	0.20	0.30	1.0	6.5	1.9	0.10	1.1	3.2	0.081	1.0	9.1
	4/24/2013	1.8	0.20	0.20	0.30	1.3	3.0	1.9	0.10	1.5	3.2	0.41	1.0	11
	5/18/2015	3.6	1.9	0.20	0.50	1.7	3.0	1.9	0.10	2.0	3.2	1.0	1.0	12
CS-WB04-LGR-08	7/26/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.20	6.4	3.2	0.081	1.0	12
	7/26/2012	3.5	0.20	0.20	0.30	1.9	7.5	1.9	0.10	6.3	3.2	0.14	1.0	16
	4/24/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	5.0	3.2	0.081	1.0	26

Well ID	Sample Date	Antimony µg/L	Arsenic µg/L	Beryllium µg/L	Cadmium µg/L	Chromium µg/L	Copper µg/L	Lead µg/L	Mercury µg/L	Nickel µg/L	Selenium µg/L	Silver µg/L	Thallium µg/L	Zinc µg/L
	5/18/2015	1.8	**0.80**	0.20	0.50	**2.1**	3.0	1.9	0.10	**7.0**	3.2	1.0	1.0	**18**
CS-WB04-LGR-09	7/25/2012	**3.9**	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	7/25/2012	**3.9**	0.20	0.20	0.30	1.0	**8.3**	1.9	0.10	1.0	3.2	0.081	1.0	**15**
	4/24/2013	1.8	0.20	0.20	0.30	**2.1**	3.0	1.9	0.10	1.0	3.2	0.081	1.0	**24**
	5/18/2015	1.8	**2.0**	0.20	0.50	**3.3**	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
CS-WB04-LGR-10	7/25/2012	**3.9**	0.20	0.20	0.30	**2.6**	3.0	1.9	0.10	**1.2**	3.2	0.081	1.0	**30**
	7/25/2012	**3.9**	0.20	0.20	0.30	1.0	**9.5**	1.9	**0.20**	1.0	3.2	0.081	1.0	**13**
	4/24/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	**26**
	5/18/2015	1.8	**1.7**	0.20	0.50	**2.2**	3.0	1.9	0.10	1.0	3.2	1.0	1.0	**13**

Detections are bolded. Results not highlighted are detections above the RL.
Not detected. Reported result is reported as the MDL and flagged U.
Trace value. Reported result is a value between the MDL and the RL and is flagged F.
Red text indicates dissolved metals analysis.
Black text indicates total metals analysis.
#N/A indicates that the metal was not tested.

Table A.10 **Additional Monitoring Wells - Anion Concentrations**

Well ID	Sample Date	Chloride mg/L	Sulfate mg/L
PZ-03	7/20/2012	**13**	**10**
	4/16/2013	**13**	**11**
PZ-04	7/20/2012	**19**	**32**
	4/16/2013	**19**	**28**
TSW-02	4/16/2013	**7.4**	**190**
	11/18/2014	**39**	**6,700**
TSW-06	7/20/2012	**14**	**32**
	4/18/2013	**24**	**19**
VEW-13	4/16/2013	**4.9**	**79**
VEW-16	7/18/2012	**5.5**	**24**
	4/17/2013	**5.3**	**15**
VEW-18	7/18/2012	**5.1**	**35**
	4/18/2013	**6.7**	**140**
VEW-20	7/18/2012	**11**	**230**
	4/16/2013	**11**	**290**
VEW-21	4/16/2013	**10**	**110**
VEW-23	4/16/2013	**10**	**310**
VEW-26	7/18/2012	**6.3**	**24**
VEW-28A	7/18/2012	**13**	**18**
	4/18/2013	**13**	**18**
VEW-28B	7/18/2012	**11**	**58**
	8/30/2012	**11**	**53**
	4/18/2013	**13**	**55**
VEW-29	7/18/2012	**6.9**	**110**
	4/17/2013	**5.3**	**71**
VEW-31	7/18/2012	**14**	**26**
	4/17/2013	**22**	**330**
I10-4	3/7/2012	**11**	**16**
	8/3/2012	**12**	**17**
	8/6/2012	**12**	**16**
	8/16/2012	**11**	**16**
	8/30/2012	**11**	**16**
	4/23/2013	**11**	**17**
CS-MW35-LGR	3/13/2014	**26**	**130**
	9/9/2014	**21**	**100**
CS-WB01-LGR-02	7/31/2012	**14**	**17**
	4/29/2013	**13**	**16**
	6/17/2015	**13**	**26**
CS-WB01-LGR-03	7/31/2012	**11**	**19**
	4/29/2013	**13**	**17**
	6/17/2015	**13**	**15**
CS-WB01-LGR-04	7/31/2012	**12**	**41**
	4/25/2013	**13**	**37**

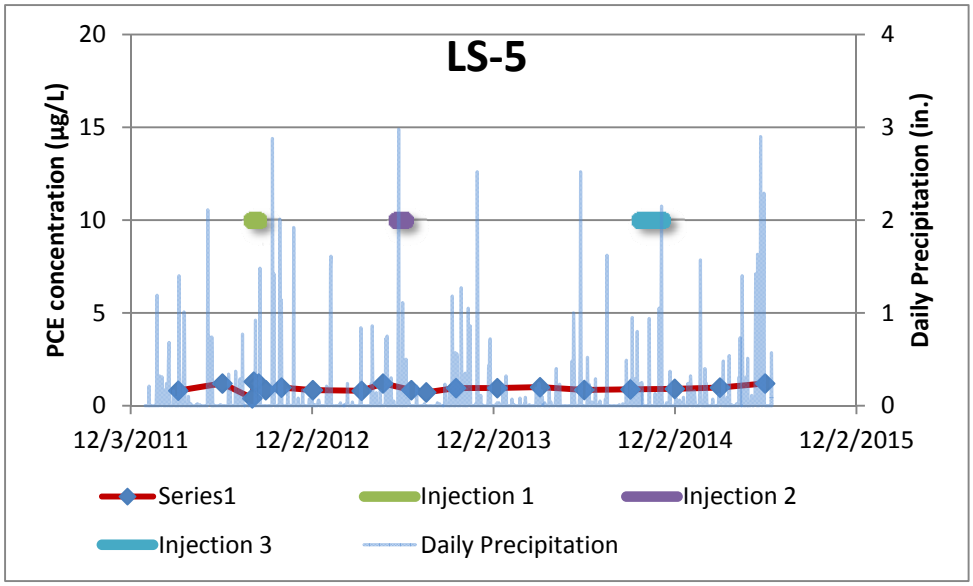
Well ID	Sample Date	Chloride mg/L	Sulfate mg/L
	6/17/2015	**12**	**34**
CS-WB01-LGR-05	7/31/2012	**12**	**42**
	4/25/2013	**13**	**41**
	6/17/2015	**12**	**32**
CS-WB01-LGR-06	7/30/2012	**12**	**40**
	4/25/2013	**13**	**39**
	6/17/2015	**12**	**37**
CS-WB01-LGR-07	7/30/2012	**12**	**16**
	4/25/2013	**13**	**15**
	6/17/2015	**14**	**17**
CS-WB01-LGR-08	7/30/2012	**13**	**26**
	4/25/2013	**13**	**25**
	6/17/2015	**13**	**28**
CS-WB02-LGR-03	7/30/2012	**17**	**23**
	4/30/2013	**17**	**20**
	6/22/2015	**19**	**44**
CS-WB02-LGR-04	7/30/2012	**12**	**23**
	4/30/2013	**13**	**22**
	6/22/2015	**12**	**23**
CS-WB02-LGR-05	7/27/2012	**12**	**26**
	4/29/2013	**12**	**24**
	6/22/2015	**11**	**23**
CS-WB02-LGR-06	7/27/2012	**12**	**27**
	4/29/2013	**13**	**24**
	6/22/2015	**12**	**21**
CS-WB02-LGR-07	7/27/2012	**15**	**39**
	4/29/2013	**12**	**36**
	6/22/2015	**13**	**31**
CS-WB02-LGR-08	7/27/2012	**18**	**32**
	4/29/2013	**17**	**29**
	6/22/2015	**16**	**27**
CS-WB03-LGR-03	7/24/2012	**14**	**17**
	4/22/2013	**13**	**16**
	6/19/2015	**14**	**240**
CS-WB03-LGR-04	7/24/2012	**14**	**24**
	4/22/2013	**13**	**24**
	6/19/2015	**13**	**41**
CS-WB03-LGR-05	7/24/2012	**14**	**39**
	4/22/2013	**13**	**37**
	6/18/2015	**14**	**35**
CS-WB03-LGR-06	7/24/2012	**14**	**51**
	4/23/2013	**13**	**48**
	6/18/2015	**14**	**50**
CS-WB03-LGR-07	7/25/2012	**18**	**59**
	4/23/2013	**13**	**52**

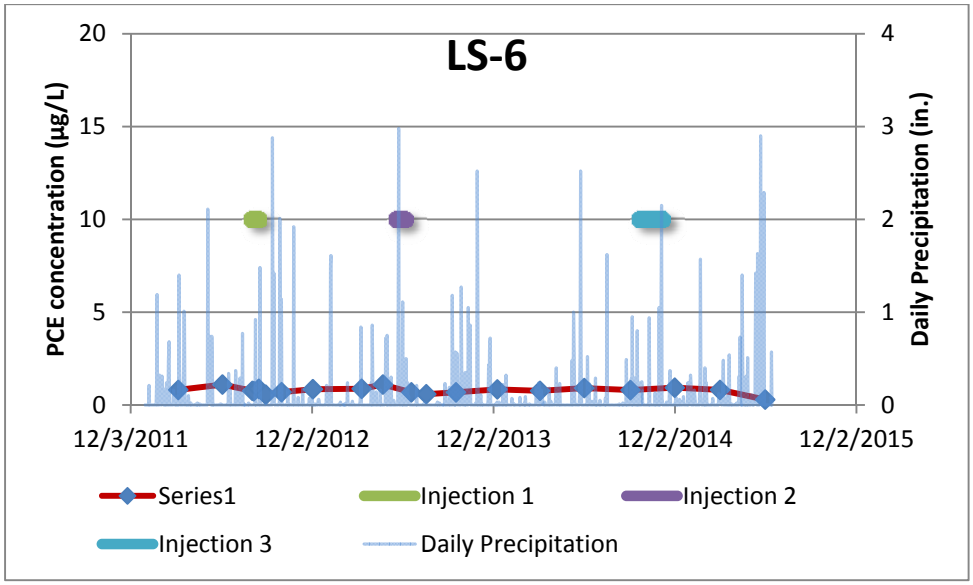
Well ID	Sample Date	Chloride mg/L	Sulfate mg/L
	6/18/2015	**13**	**45**
CS-WB03-LGR-08	7/25/2012	**12**	**37**
	4/23/2013	**9.8**	**29**
	6/18/2015	**11**	**28**
CS-WB04-BS-01	5/18/2015	**17**	**35**
CS-WB04-BS-02	5/18/2015	**23**	**60**
CS-WB04-CC-01	5/18/2015	**20**	**86**
CS-WB04-CC-02	5/18/2015	**26**	**130**
CS-WB04-CC-03	5/18/2015	**32**	**140**
CS-WB04-LGR-01	7/26/2012	**15**	**75**
	4/24/2013	**11**	**68**
	12/2/2013	**12**	**77**
	3/6/2014	**11**	0.26
	6/25/2014	**11**	**74**
	9/10/2014	**11**	**73**
	12/8/2014	**11**	**69**
	3/24/2015	**11**	**71**
	5/19/2015	**11**	**65**
CS-WB04-LGR-03	7/26/2012	**14**	**54**
	4/24/2013	**15**	**49**
	5/19/2015	**14**	**50**
CS-WB04-LGR-04	7/26/2012	**14**	**50**
	4/24/2013	**14**	**46**
	5/19/2015	**15**	**49**
CS-WB04-LGR-06	7/26/2012	**11**	**22**
	4/24/2013	**11**	**21**
	5/18/2015	**11**	**21**
CS-WB04-LGR-07	7/26/2012	**17**	**47**
	4/24/2013	**12**	**22**
	5/18/2015	**11**	**22**
CS-WB04-LGR-08	7/26/2012	**11**	**26**
	4/24/2013	**12**	**23**
	5/18/2015	**11**	**25**
CS-WB04-LGR-09	7/25/2012	**15**	**16**
	4/24/2013	**15**	**16**
	5/18/2015	**15**	**15**
CS-WB04-LGR-10	7/25/2012	**18**	**15**
	4/24/2013	**19**	**14**
	5/18/2015	**18**	**13**

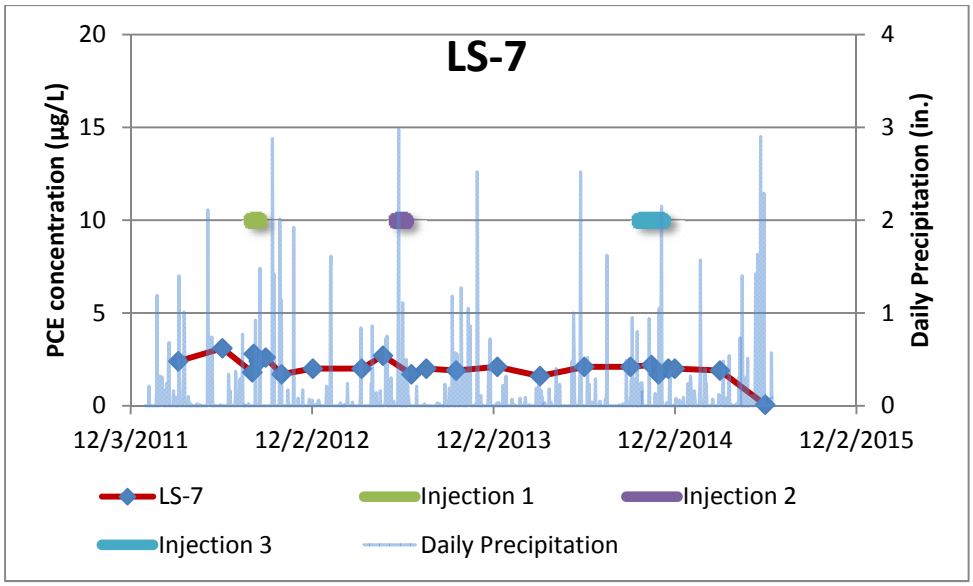
Detections are bolded. Results not highlighted are detections above the RL.
Not detected. Reported result is reported as the MDL and flagged U.
Trace value. Reported result is a value between the MDL and the RL and is flagged F.

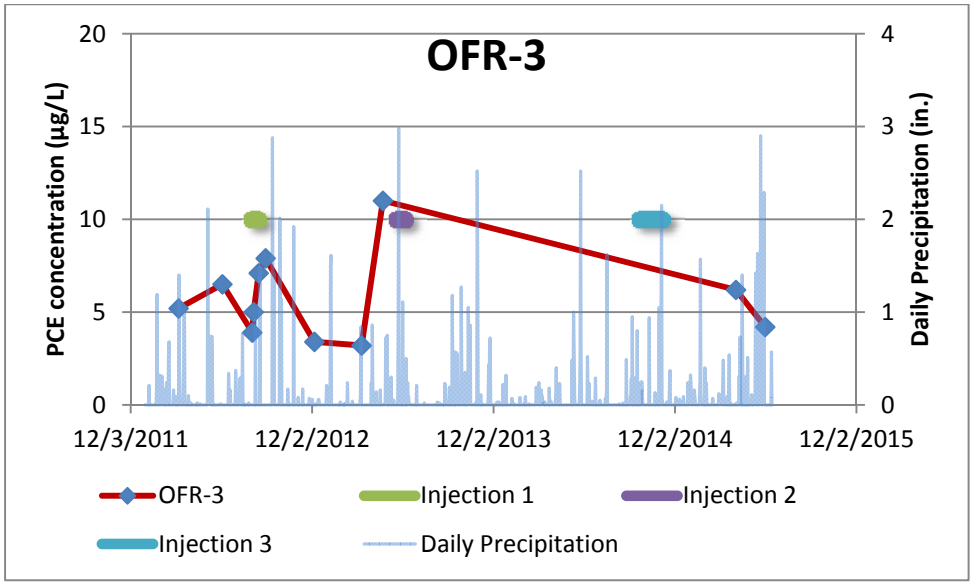
Figures

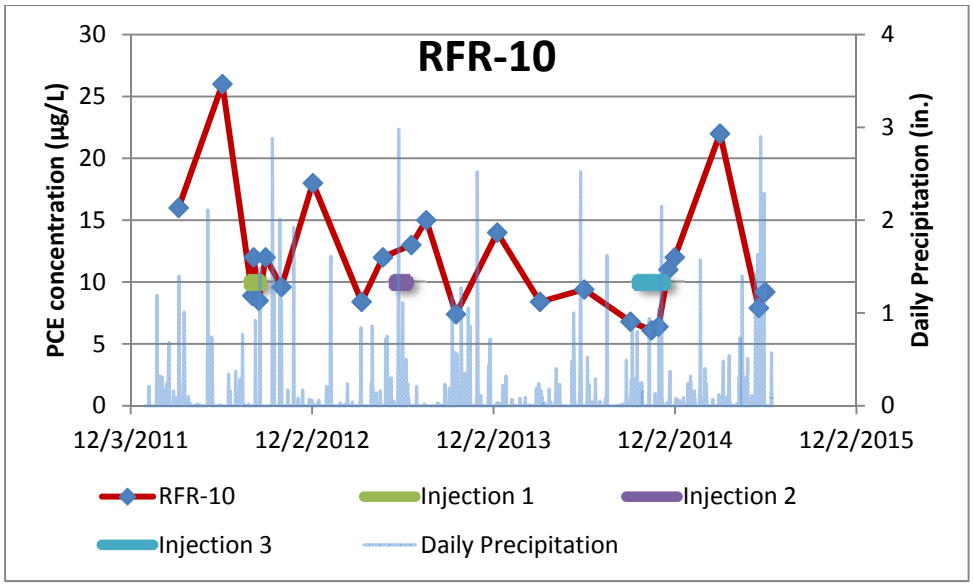
Observation Well PCE

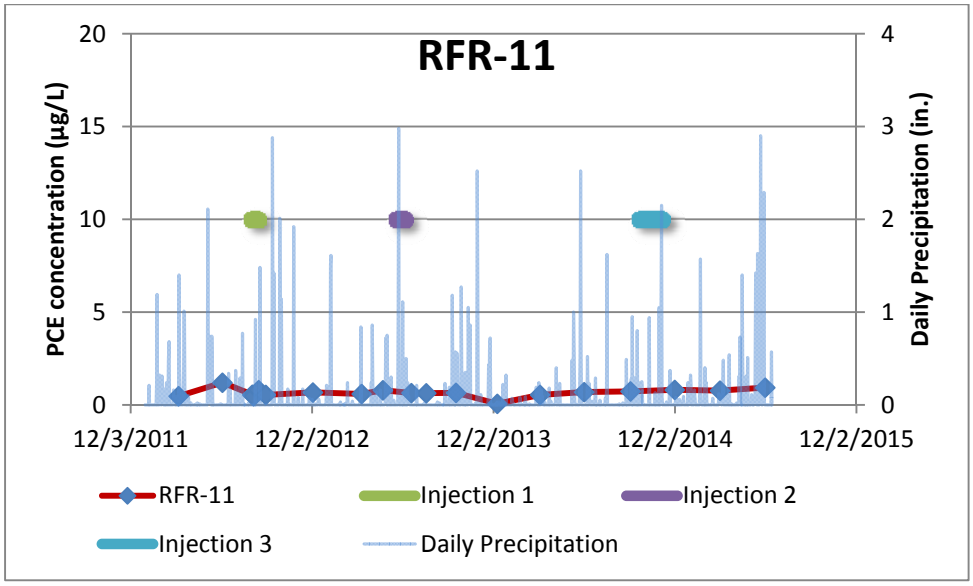


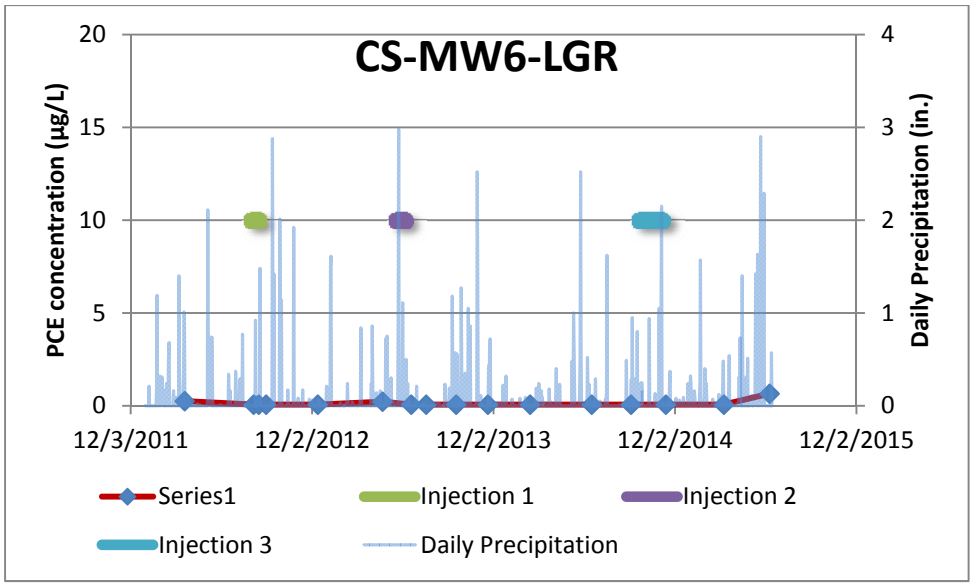


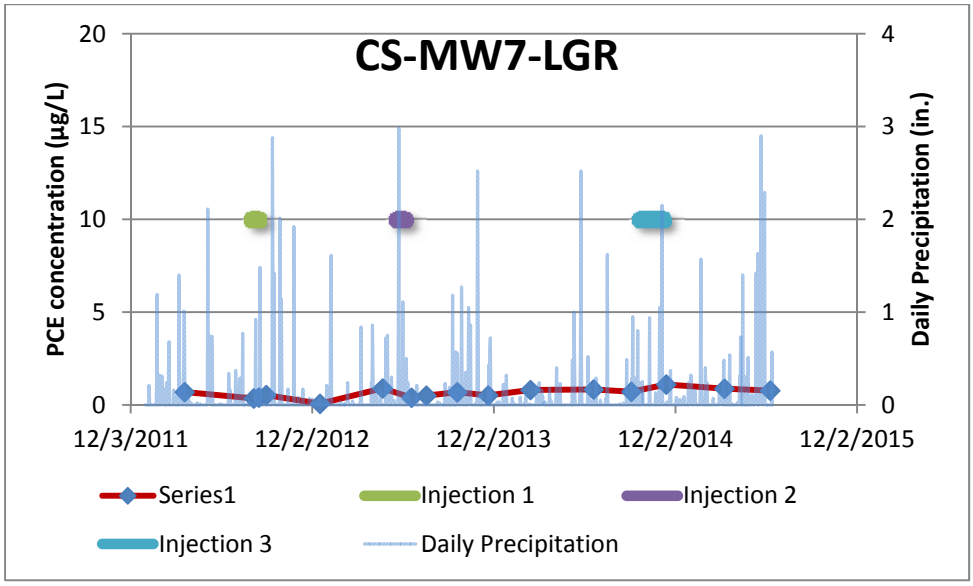

LS-7
PCE concentration (µg/L)
Daily Precipitation (in.)
20
15
10
5
0
4
3
2
1
0
12/3/2011
12/2/2012
12/2/2013
12/2/2014
12/2/2015
LS-7
Injection 1
Injection 2
Injection 3
Daily Precipitation

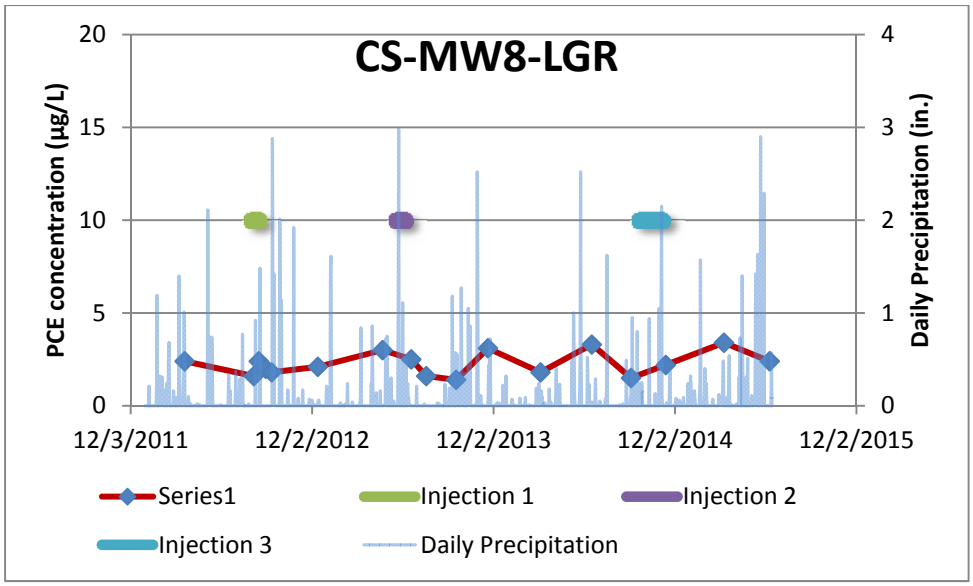

OFR-3
PCE concentration (µg/L)
Daily Precipitation (in.)
20
15
10
5
0
4
3
2
1
0
12/3/2011
12/2/2012
12/2/2013
12/2/2014
12/2/2015
OFR-3
Injection 1
Injection 2
Injection 3
Daily Precipitation

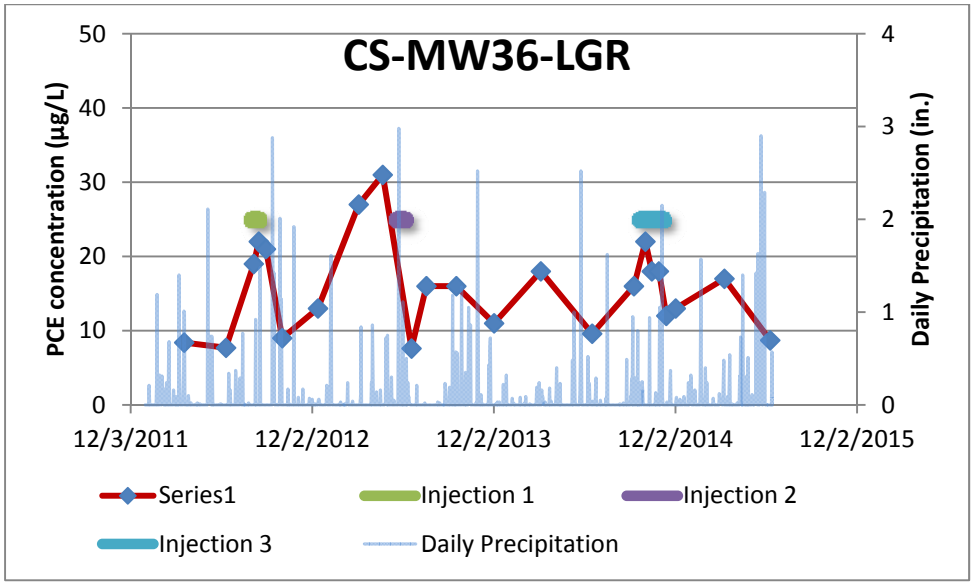

RFR-10
PCE concentration (µg/L)
Daily Precipitation (in.)
30
25
20
15
10
5
0
4
3
2
1
0
12/3/2011
12/2/2012
12/2/2013
12/2/2014
12/2/2015
RFR-10
Injection 1
Injection 2
Injection 3
Daily Precipitation

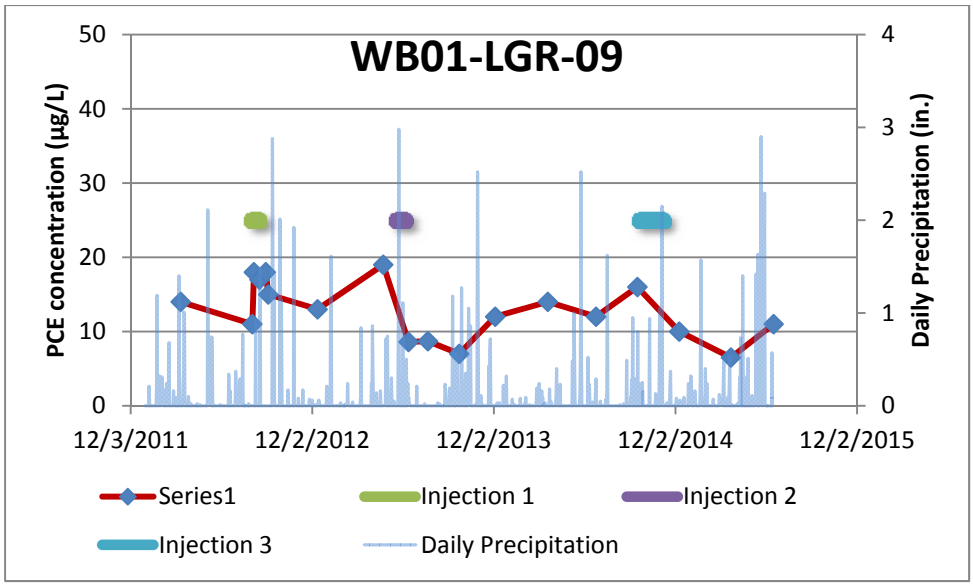

RFR-11
PCE concentration (µg/L)
Daily Precipitation (in.)
20
15
10
5
0
4
3
2
1
0
12/3/2011
12/2/2012
12/2/2013
12/2/2014
12/2/2015
RFR-11
Injection 1
Injection 2
Injection 3
Daily Precipitation

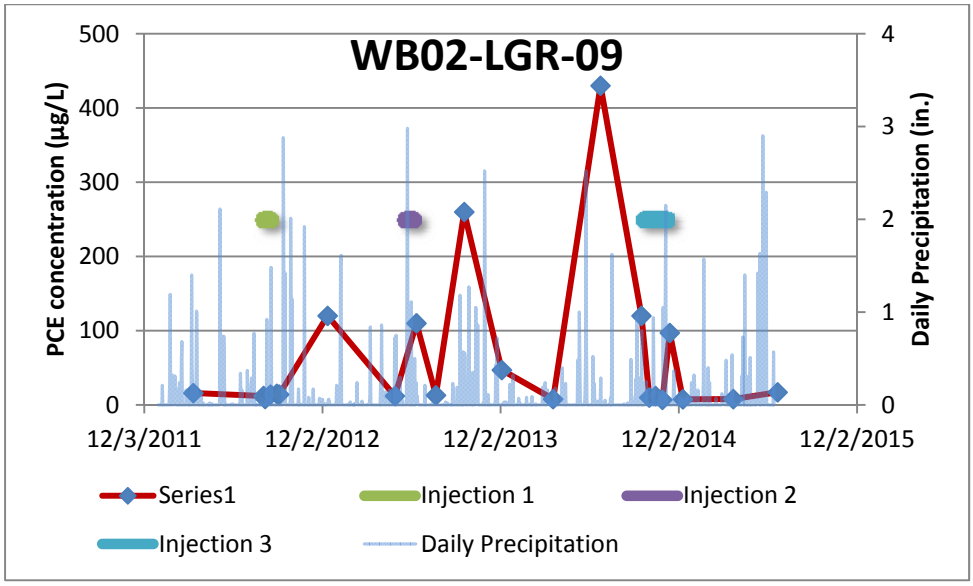

CS-MW6-LGR
PCE concentration (µg/L)
Daily Precipitation (in.)
20
15
10
5
0
4
3
2
1
0
12/3/2011
12/2/2012
12/2/2013
12/2/2014
12/2/2015
Series1
Injection 1
Injection 2
Injection 3
Daily Precipitation

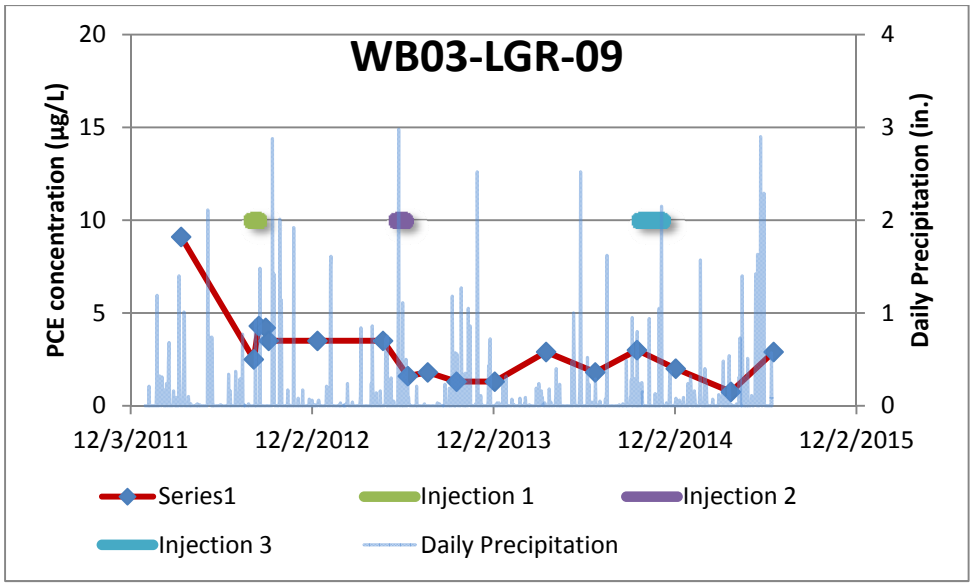

CS-MW7-LGR
PCE concentration (µg/L)
Daily Precipitation (in.)
20
15
10
5
0
4
3
2
1
0
12/3/2011
12/2/2012
12/2/2013
12/2/2014
12/2/2015
Series1
Injection 1
Injection 2
Injection 3
Daily Precipitation

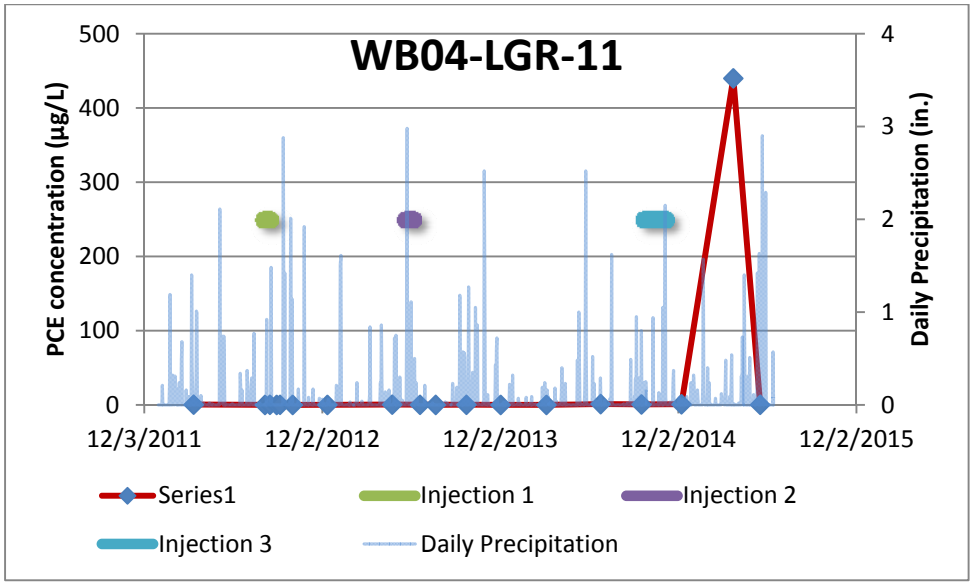

CS-MW8-LGR
PCE concentration (µg/L)
Daily Precipitation (in.)
20
15
10
5
0
4
3
2
1
0
12/3/2011
12/2/2012
12/2/2013
12/2/2014
12/2/2015
Series1
Injection 1
Injection 2
Injection 3
Daily Precipitation


CS-MW36-LGR
PCE concentration (µg/L)
Daily Precipitation (in.)
50
40
30
20
10
0
4
3
2
1
0
12/3/2011
12/2/2012
12/2/2013
12/2/2014
12/2/2015
Series1
Injection 1
Injection 2
Injection 3
Daily Precipitation

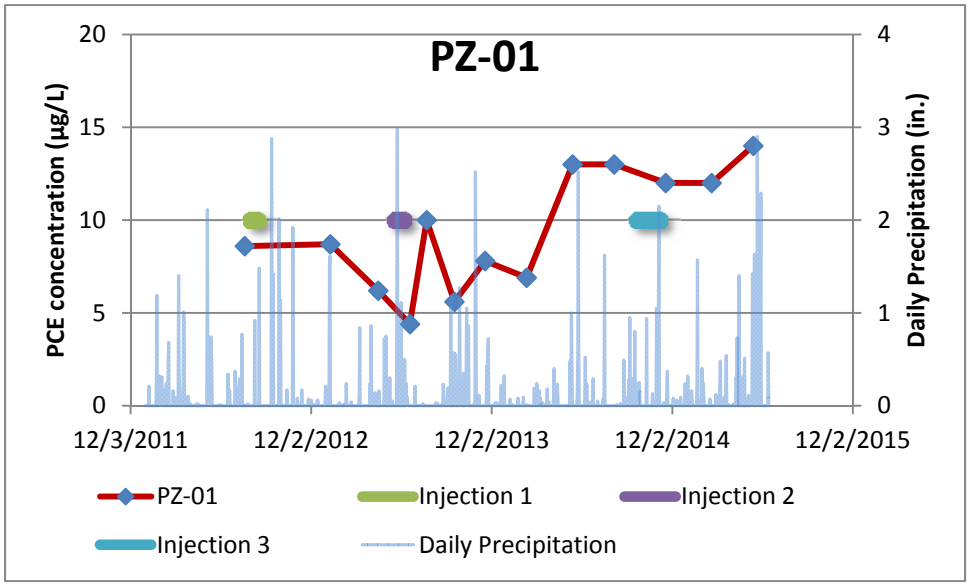

WB01-LGR-09
PCE concentration (µg/L)
Daily Precipitation (in.)
50
40
30
20
10
0
4
3
2
1
0
12/3/2011
12/2/2012
12/2/2013
12/2/2014
12/2/2015
Series1
Injection 1
Injection 2
Injection 3
Daily Precipitation

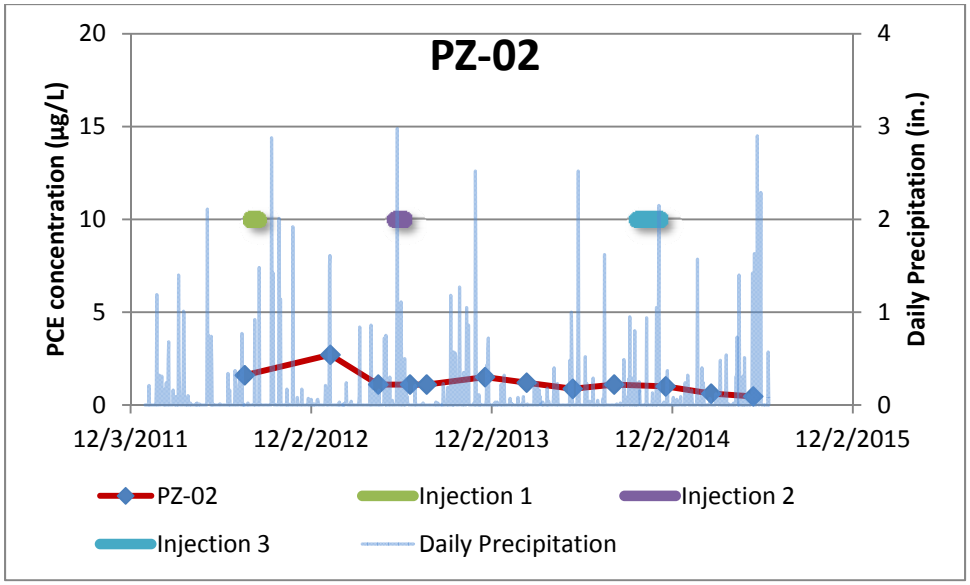

WB02-LGR-09
PCE concentration (µg/L)
Daily Precipitation (in.)
500
400
300
200
100
0
4
3
2
1
0
12/3/2011
12/2/2012
12/2/2013
12/2/2014
12/2/2015
Series1
Injection 1
Injection 2
Injection 3
Daily Precipitation

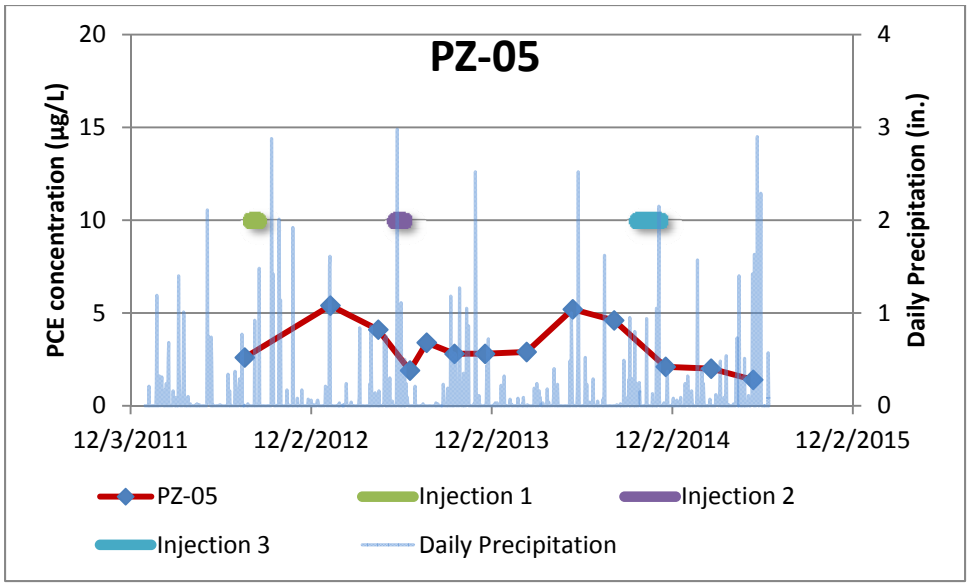

WB03-LGR-09
PCE concentration (µg/L)
Daily Precipitation (in.)
20
15
10
5
0
4
3
2
1
0
12/3/2011
12/2/2012
12/2/2013
12/2/2014
12/2/2015
Series1
Injection 1
Injection 2
Injection 3
Daily Precipitation

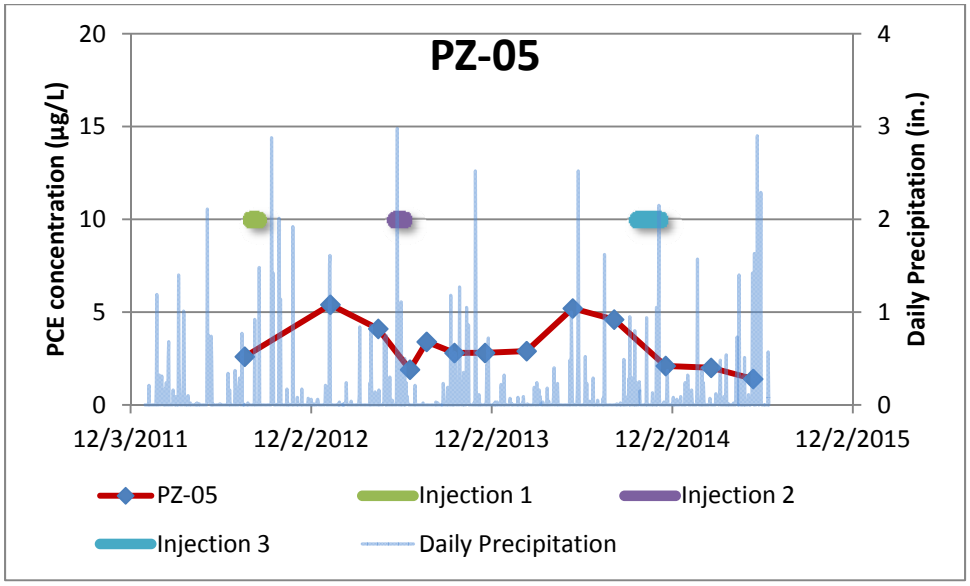

WB04-LGR-11
PCE concentration (µg/L)
Daily Precipitation (in.)
500
400
300
200
100
0
4
3
2
1
0
12/3/2011
12/2/2012
12/2/2013
12/2/2014
12/2/2015
Series1
Injection 1
Injection 2
Injection 3
Daily Precipitation

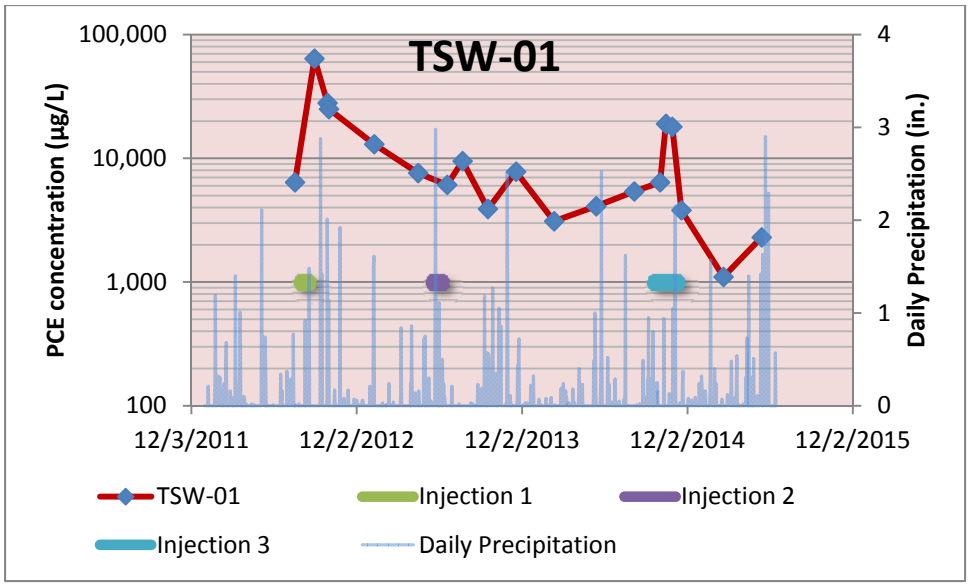
Performance Monitoring Well PCE

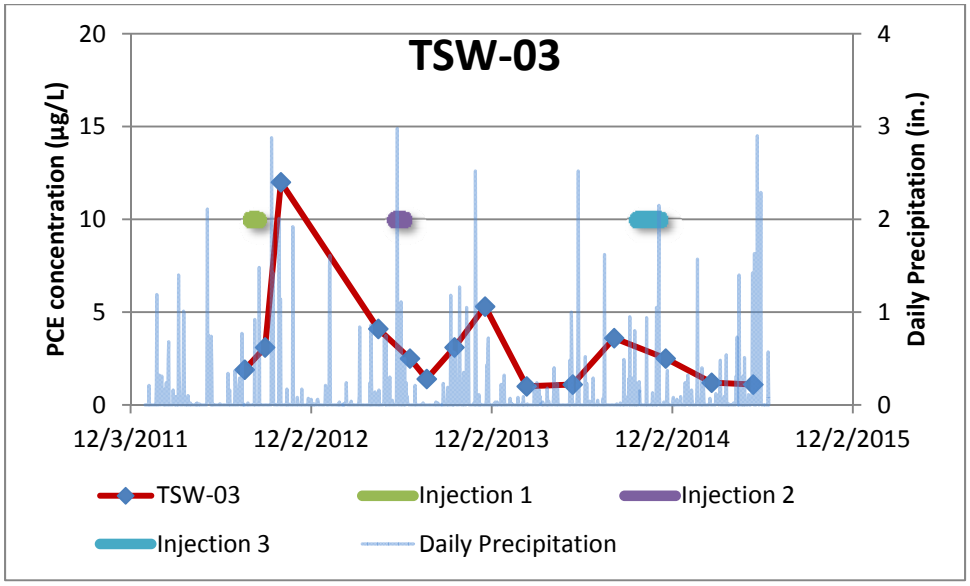


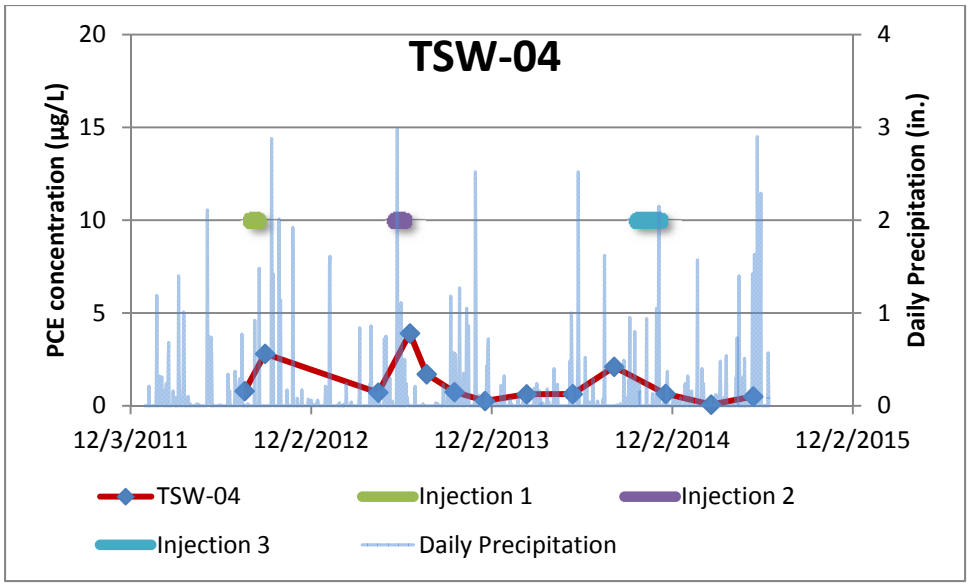


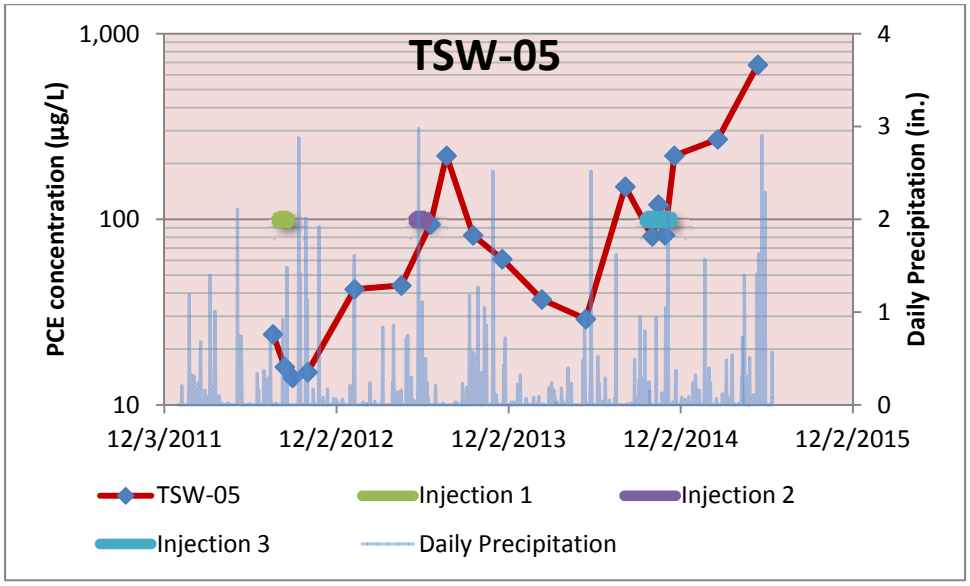

PZ-05
PCE concentration (µg/L)
Daily Precipitation (in.)
20
15
10
5
0
4
3
2
1
0
12/3/2011
12/2/2012
12/2/2013
12/2/2014
12/2/2015
PZ-05
Injection 1
Injection 2
Injection 3
Daily Precipitation

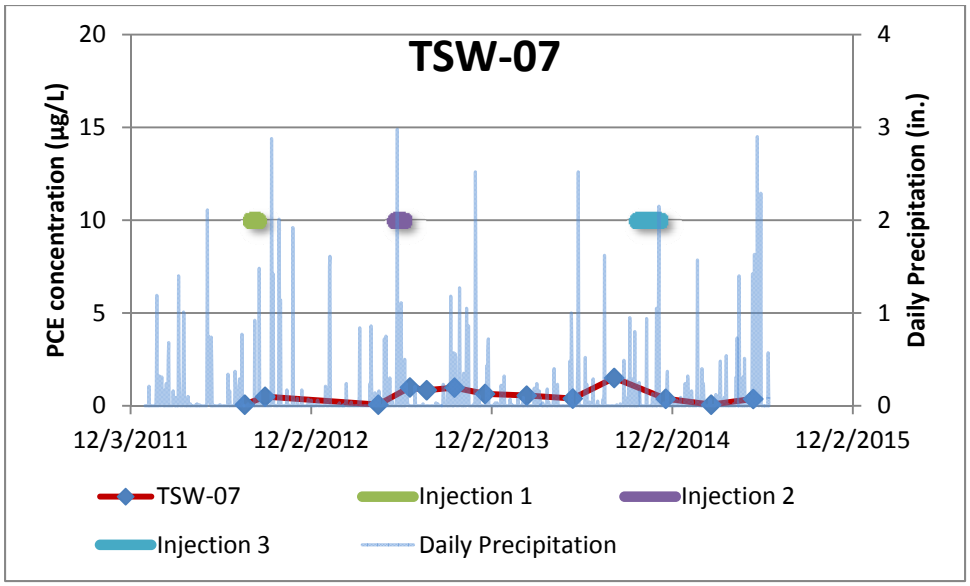

PZ-05
PCE concentration (µg/L)
Daily Precipitation (in.)
20
15
10
5
0
4
3
2
1
0
12/3/2011
12/2/2012
12/2/2013
12/2/2014
12/2/2015
PZ-05
Injection 1
Injection 2
Injection 3
Daily Precipitation

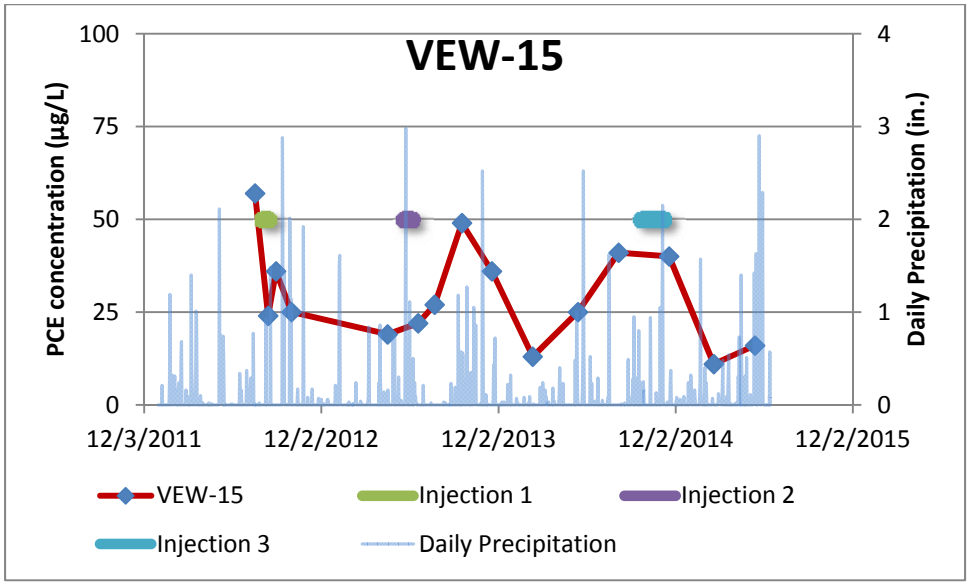

TSW-01
PCE concentration (µg/L)
Daily Precipitation (in.)
100,000
10,000
1,000
100
4
3
2
1
0
12/3/2011
12/2/2012
12/2/2013
12/2/2014
12/2/2015
TSW-01
Injection 1
Injection 2
Injection 3
Daily Precipitation

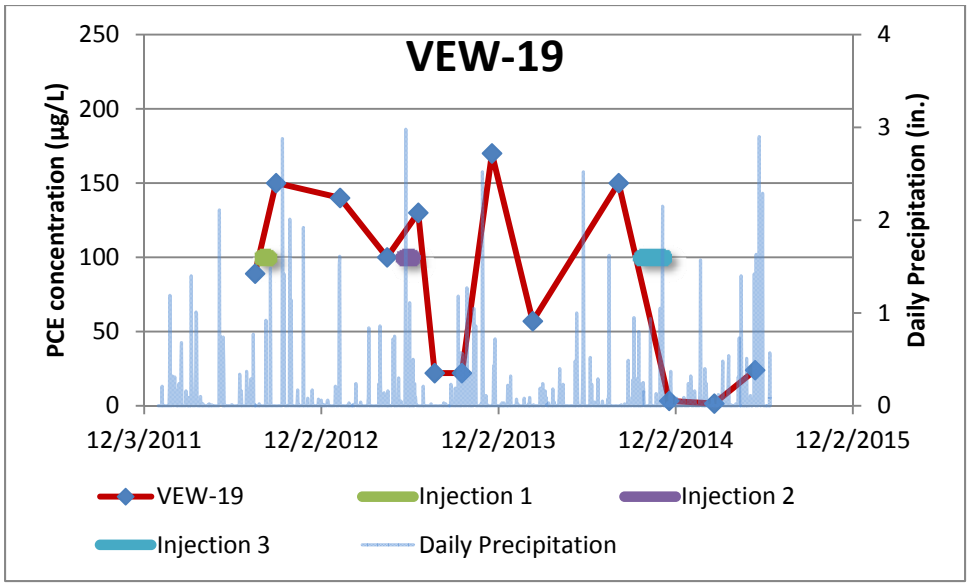

TSW-03
PCE concentration (µg/L)
Daily Precipitation (in.)
20
15
10
5
0
4
3
2
1
0
12/3/2011
12/2/2012
12/2/2013
12/2/2014
12/2/2015
TSW-03
Injection 1
Injection 2
Injection 3
Daily Precipitation

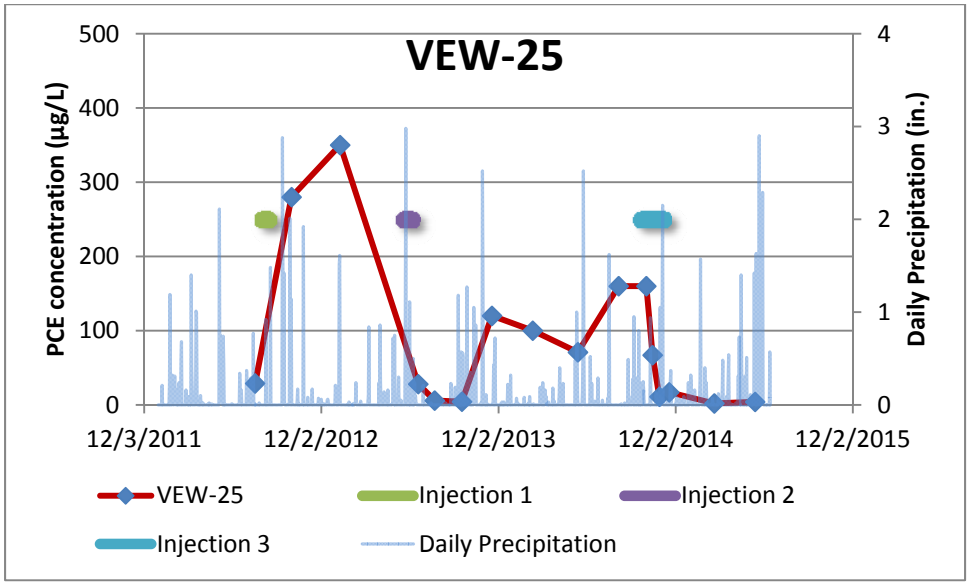

TSW-04
PCE concentration (µg/L)
Daily Precipitation (in.)
20
15
10
5
0
4
3
2
1
0
12/3/2011
12/2/2012
12/2/2013
12/2/2014
12/2/2015
TSW-04
Injection 1
Injection 2
Injection 3
Daily Precipitation

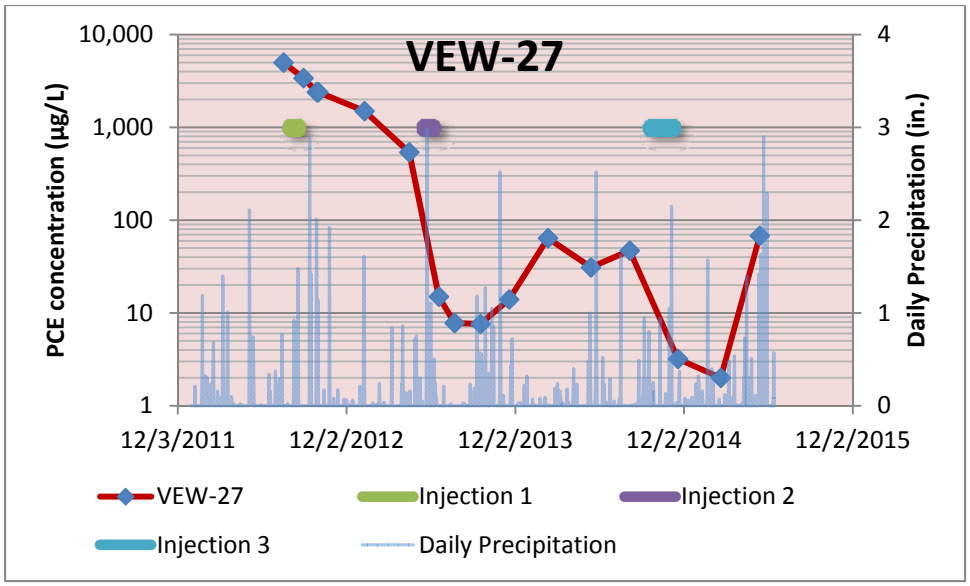

TSW-05
PCE concentration (µg/L)
Daily Precipitation (in.)
1,000
100
10
4
3
2
1
0
12/3/2011
12/2/2012
12/2/2013
12/2/2014
12/2/2015
TSW-05
Injection 1
Injection 2
Injection 3
Daily Precipitation

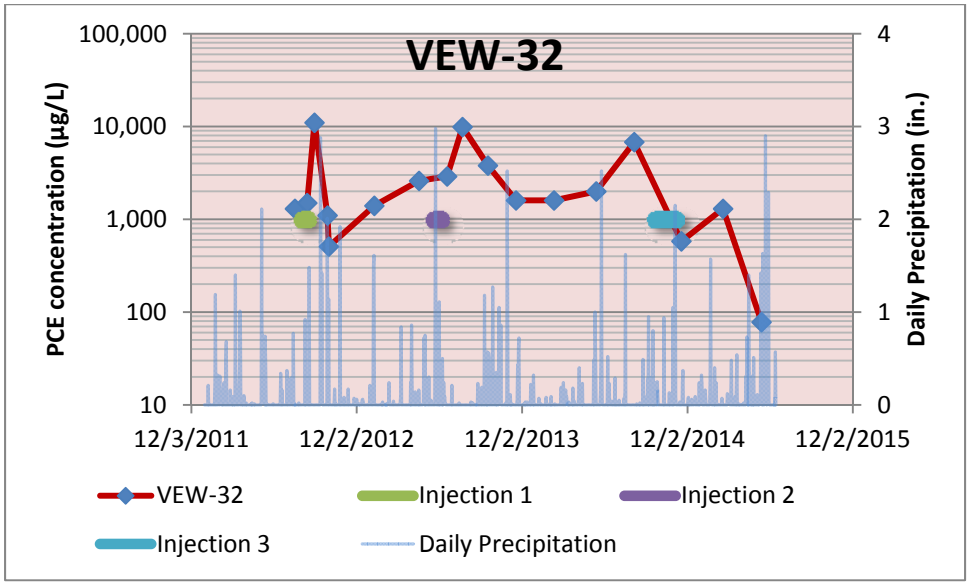

TSW-07
PCE concentration (µg/L)
Daily Precipitation (in.)
20
15
10
5
0
4
3
2
1
0
12/3/2011
12/2/2012
12/2/2013
12/2/2014
12/2/2015
TSW-07
Injection 1
Injection 2
Injection 3
Daily Precipitation

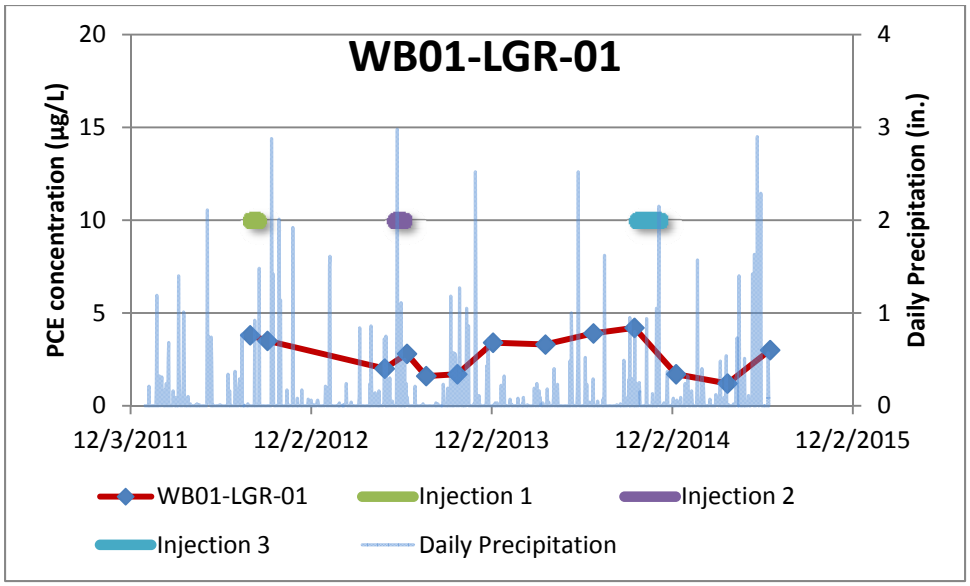

VEW-15
PCE concentration (µg/L)
Daily Precipitation (in.)
100
75
50
25
0
4
3
2
1
0
12/3/2011
12/2/2012
12/2/2013
12/2/2014
12/2/2015
VEW-15
Injection 1
Injection 2
Injection 3
Daily Precipitation

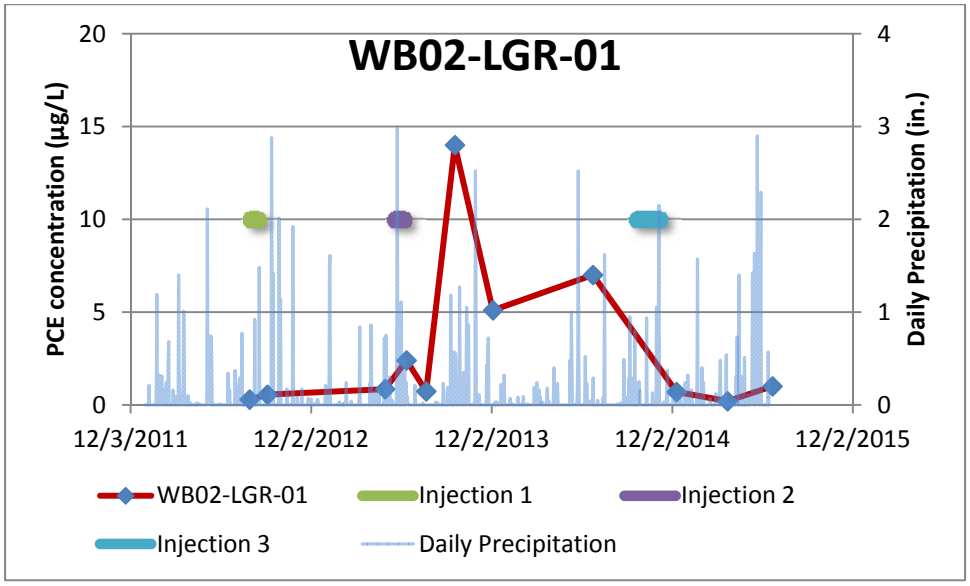

VEW-19
PCE concentration (µg/L)
Daily Precipitation (in.)
250
200
150
100
50
0
4
3
2
1
0
12/3/2011
12/2/2012
12/2/2013
12/2/2014
12/2/2015
VEW-19
Injection 1
Injection 2
Injection 3
Daily Precipitation

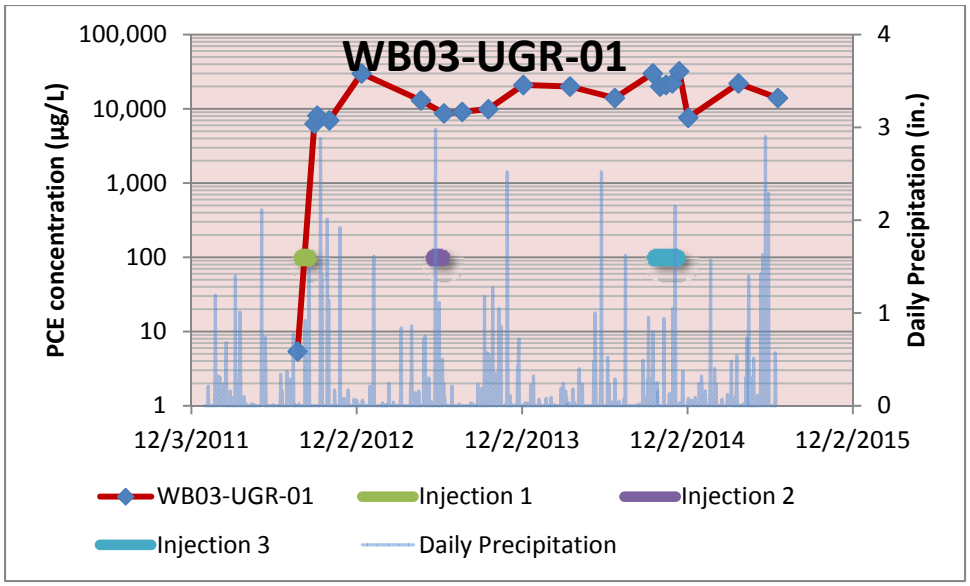

VEW-25
PCE concentration (µg/L)
Daily Precipitation (in.)
500
400
300
200
100
0
4
3
2
1
0
12/3/2011
12/2/2012
12/2/2013
12/2/2014
12/2/2015
VEW-25
Injection 1
Injection 2
Injection 3
Daily Precipitation

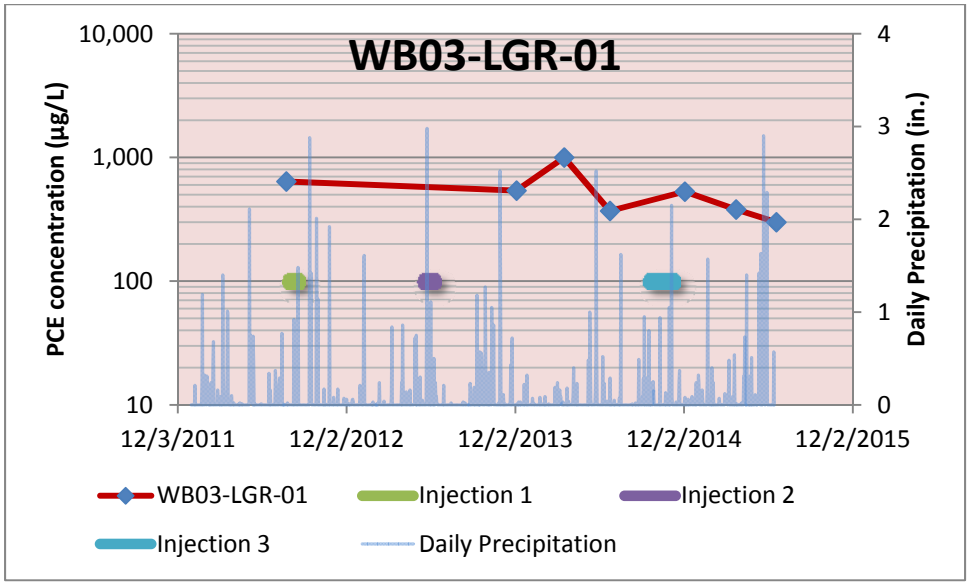

VEW-27
PCE concentration (µg/L)
Daily Precipitation (in.)
10,000
1,000
100
10
1
4
3
2
1
0
12/3/2011
12/2/2012
12/2/2013
12/2/2014
12/2/2015
VEW-27
Injection 1
Injection 2
Injection 3
Daily Precipitation


VEW-32
PCE concentration (µg/L)
Daily Precipitation (in.)
100,000
10,000
1,000
100
10
4
3
2
1
0
12/3/2011
12/2/2012
12/2/2013
12/2/2014
12/2/2015
VEW-32
Injection 1
Injection 2
Injection 3
Daily Precipitation

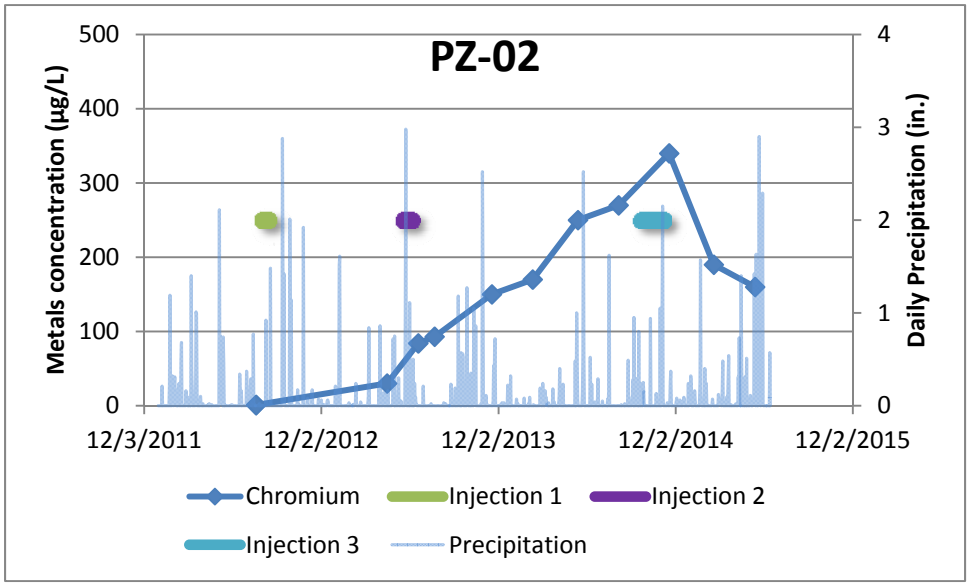

WB01-LGR-01
PCE concentration (µg/L)
Daily Precipitation (in.)
20
15
10
5
0
4
3
2
1
0
12/3/2011
12/2/2012
12/2/2013
12/2/2014
12/2/2015
WB01-LGR-01
Injection 1
Injection 2
Injection 3
Daily Precipitation

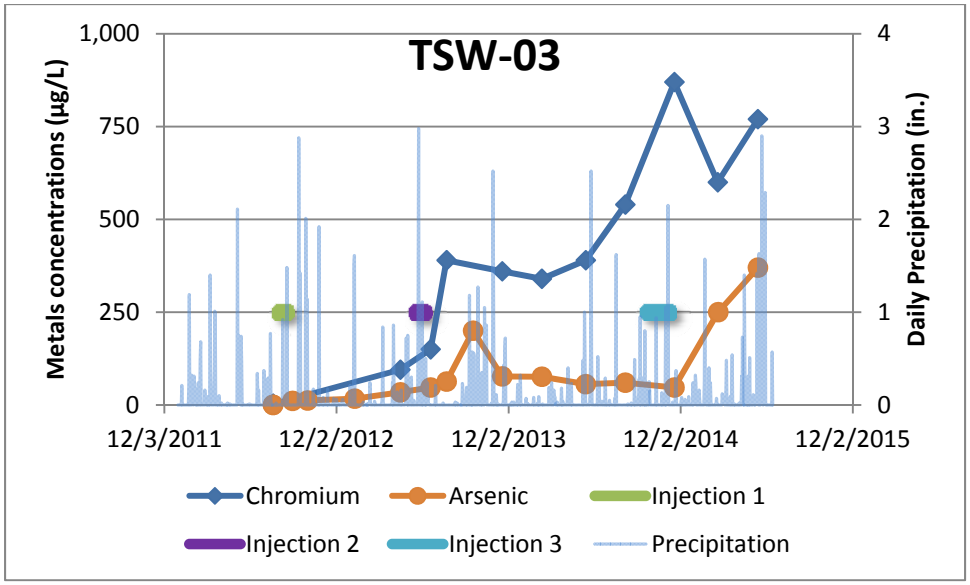

WB02-LGR-01
PCE concentration (µg/L)
Daily Precipitation (in.)
20
15
10
5
0
4
3
2
1
0
12/3/2011
12/2/2012
12/2/2013
12/2/2014
12/2/2015
WB02-LGR-01
Injection 1
Injection 2
Injection 3
Daily Precipitation

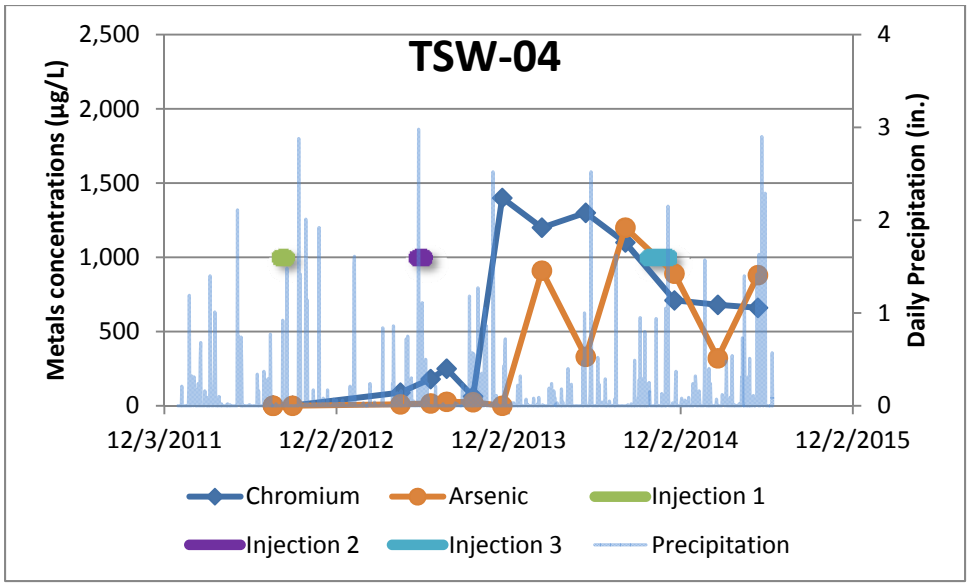

WB03-UGR-01
PCE concentration (µg/L)
Daily Precipitation (in.)
100,000
10,000
1,000
100
10
1
4
3
2
1
0
12/3/2011
12/2/2012
12/2/2013
12/2/2014
12/2/2015
WB03-UGR-01
Injection 1
Injection 2
Injection 3
Daily Precipitation

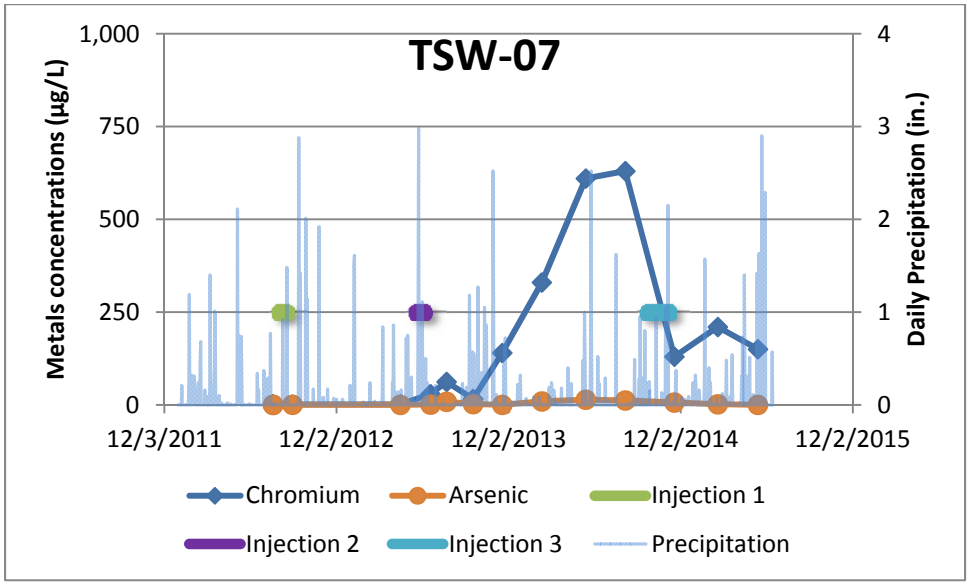

WB03-LGR-01
PCE concentration (µg/L)
Daily Precipitation (in.)
10,000
1,000
100
10
4
3
2
1
0
12/3/2011
12/2/2012
12/2/2013
12/2/2014
12/2/2015
WB03-LGR-01
Injection 1
Injection 2
Injection 3
Daily Precipitation

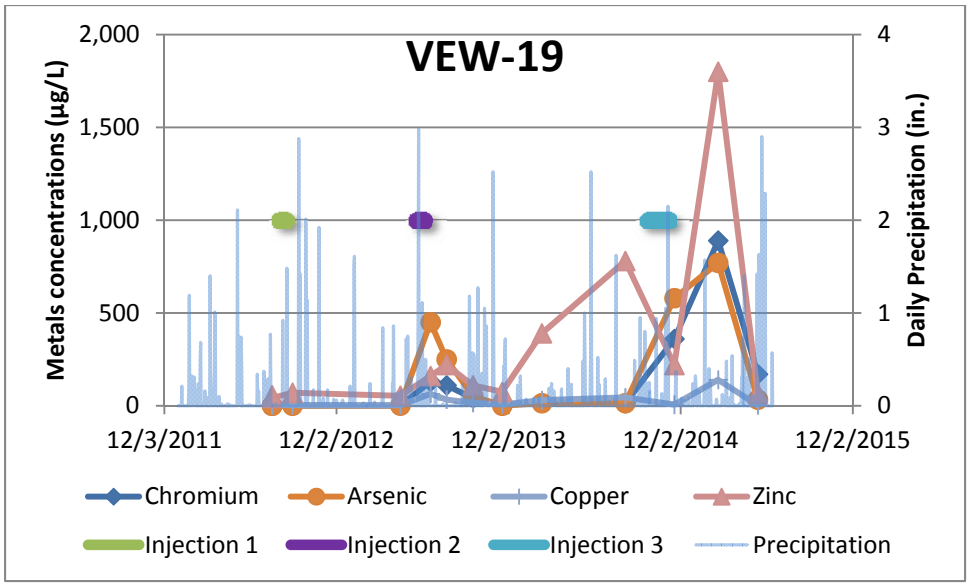
Performance Monitoring Well Metals

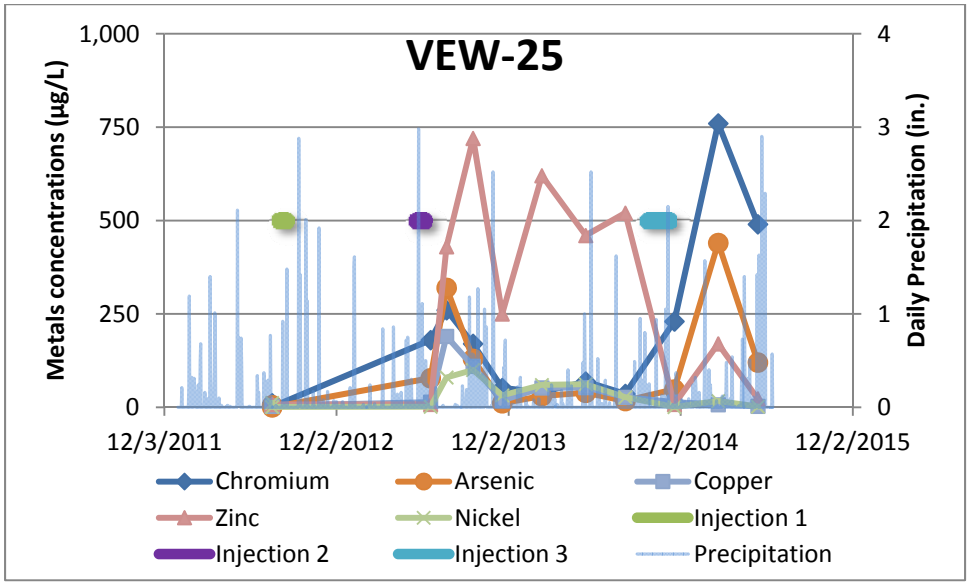


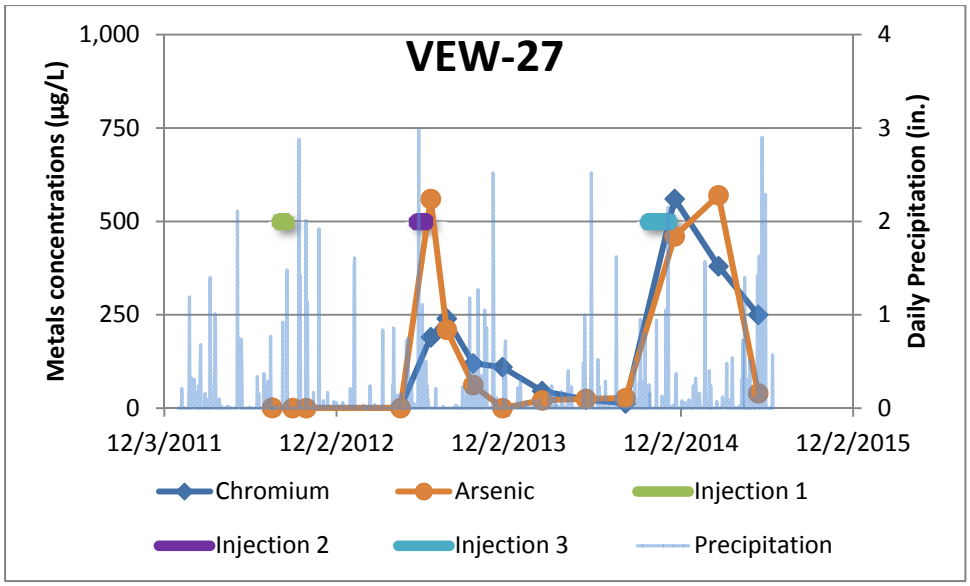


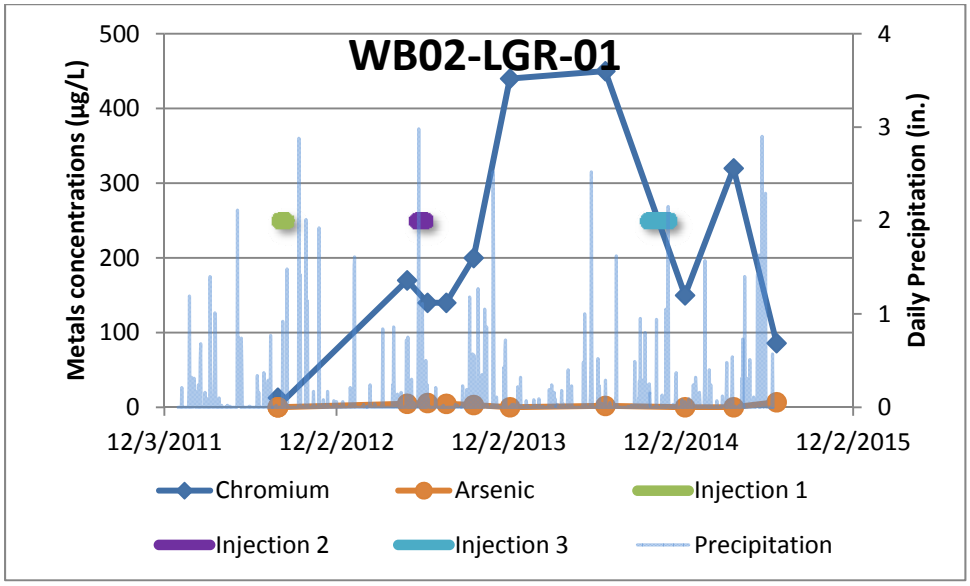

TSW-04
Metals concentrations (µg/L)
Daily Precipitation (in.)
2,500
2,000
1,500
1,000
500
0
4
3
2
1
0
12/3/2011
12/2/2012
12/2/2013
12/2/2014
12/2/2015
Chromium
Arsenic
Injection 1
Injection 2
Injection 3
Precipitation


TSW-07
Metals concentrations (µg/L)
Daily Precipitation (in.)
1,000
750
500
250
0
4
3
2
1
0
12/3/2011
12/2/2012
12/2/2013
12/2/2014
12/2/2015
Chromium
Arsenic
Injection 1
Injection 2
Injection 3
Precipitation

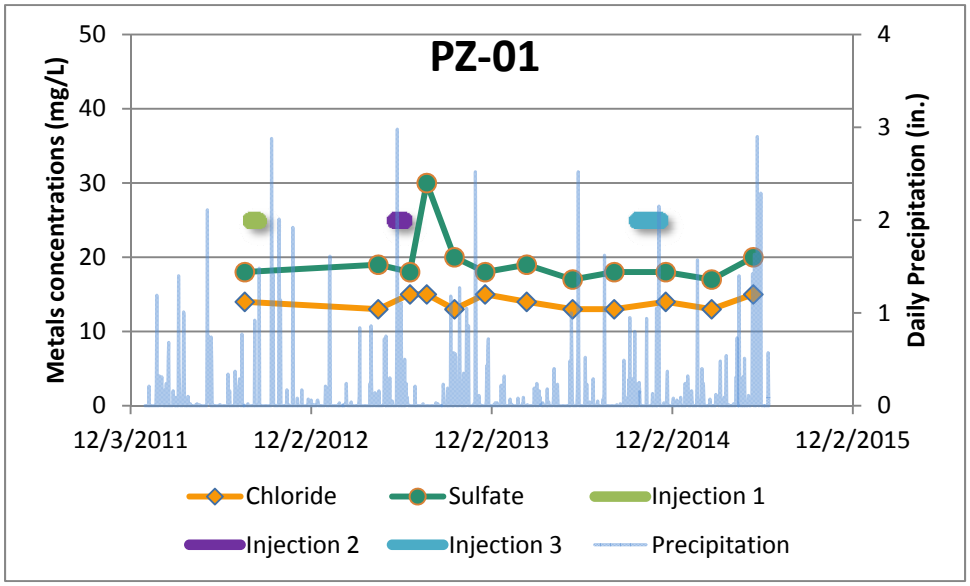

VEW-19
Metals concentrations (µg/L)
Daily Precipitation (in.)
2,000
1,500
1,000
500
0
4
3
2
1
0
12/3/2011
12/2/2012
12/2/2013
12/2/2014
12/2/2015
Chromium
Arsenic
Copper
Zinc
Injection 1
Injection 2
Injection 3
Precipitation

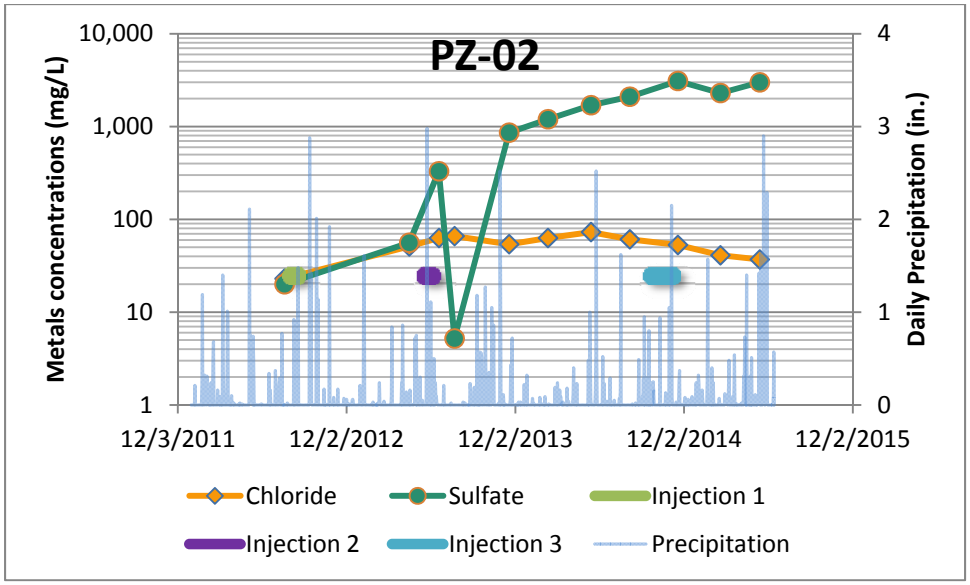

VEW-25
Metals concentrations (µg/L)
Daily Precipitation (in.)
1,000
750
500
250
0
4
3
2
1
0
12/3/2011
12/2/2012
12/2/2013
12/2/2014
12/2/2015
Chromium
Arsenic
Copper
Zinc
Nickel
Injection 1
Injection 2
Injection 3
Precipitation

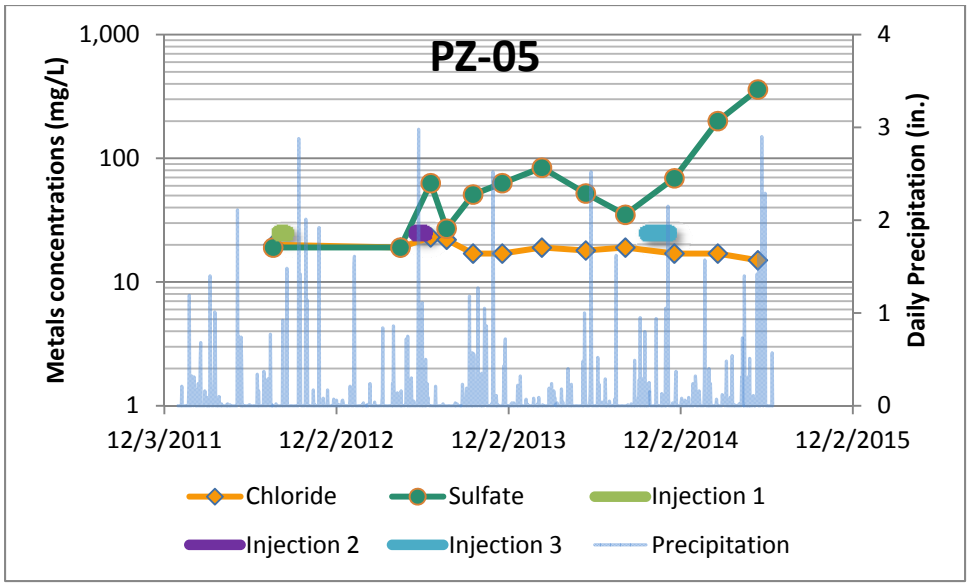

VEW-27
Metals concentrations (µg/L)
Daily Precipitation (in.)
1,000
750
500
250
0
4
3
2
1
0
12/3/2011
12/2/2012
12/2/2013
12/2/2014
12/2/2015
Chromium
Arsenic
Injection 1
Injection 2
Injection 3
Precipitation

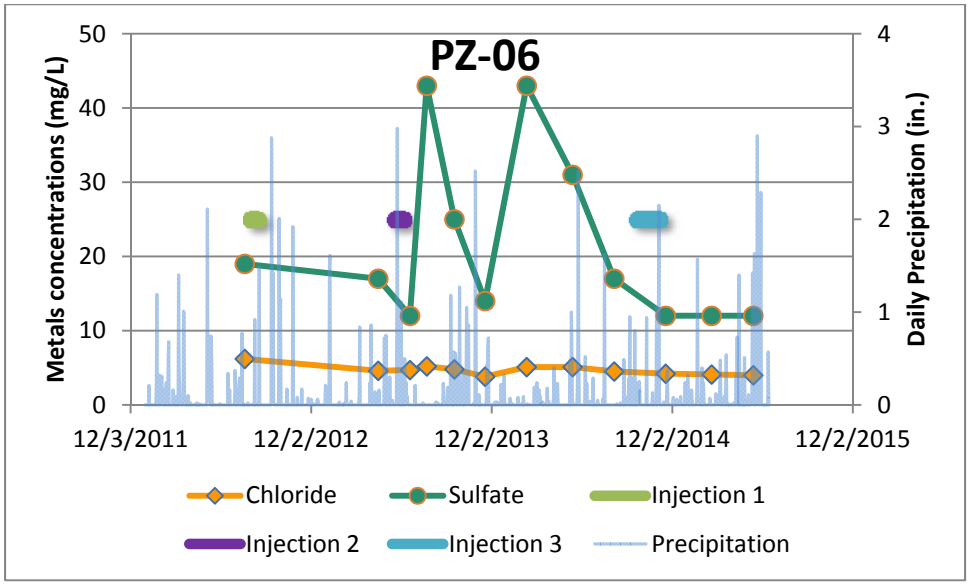

WB02-LGR-01
Metals concentrations (µg/L)
Daily Precipitation (in.)
500
400
300
200
100
0
4
3
2
1
0
12/3/2011
12/2/2012
12/2/2013
12/2/2014
12/2/2015
Chromium
Arsenic
Injection 1
Injection 2
Injection 3
Precipitation

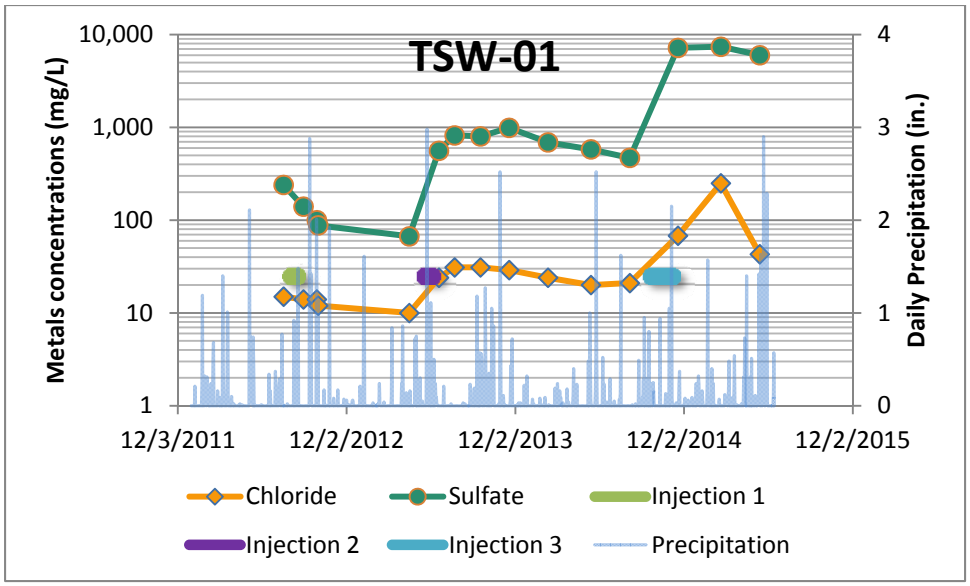
Performance Monitoring Well Anions

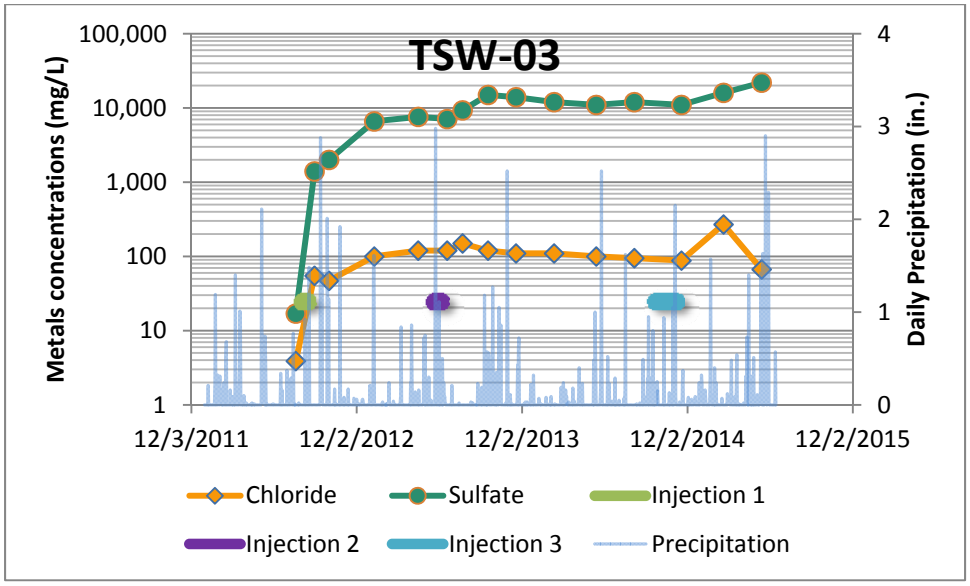


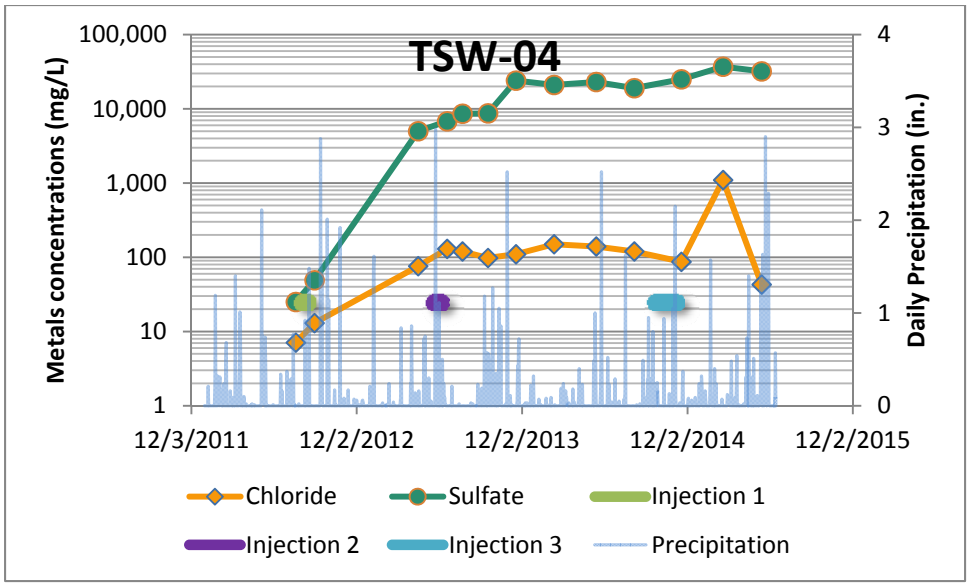


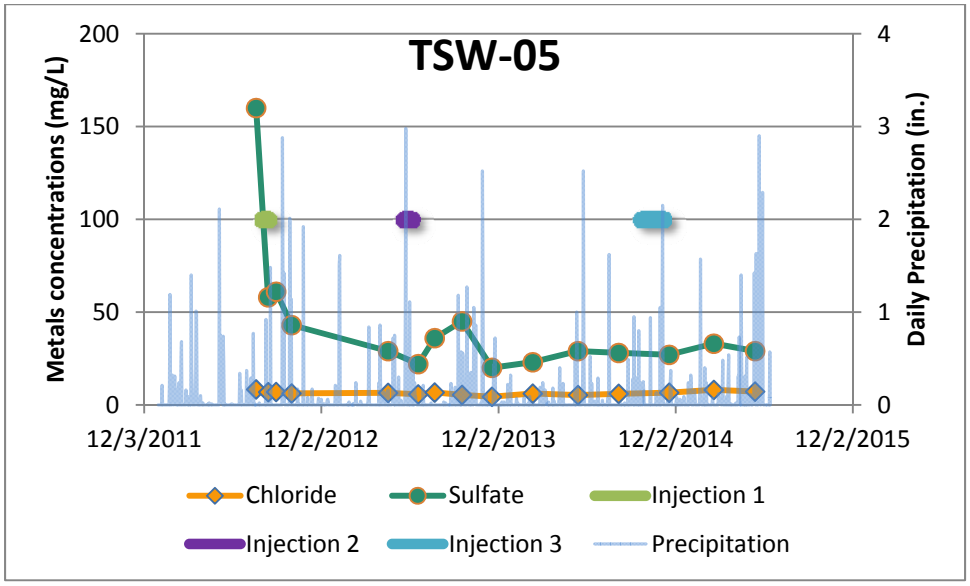

PZ-05
Metals concentrations (mg/L)
Daily Precipitation (in.)
1,000
100
10
1
4
3
2
1
0
12/3/2011
12/2/2012
12/2/2013
12/2/2014
12/2/2015
Chloride
Sulfate
Injection 1
Injection 2
Injection 3
Precipitation

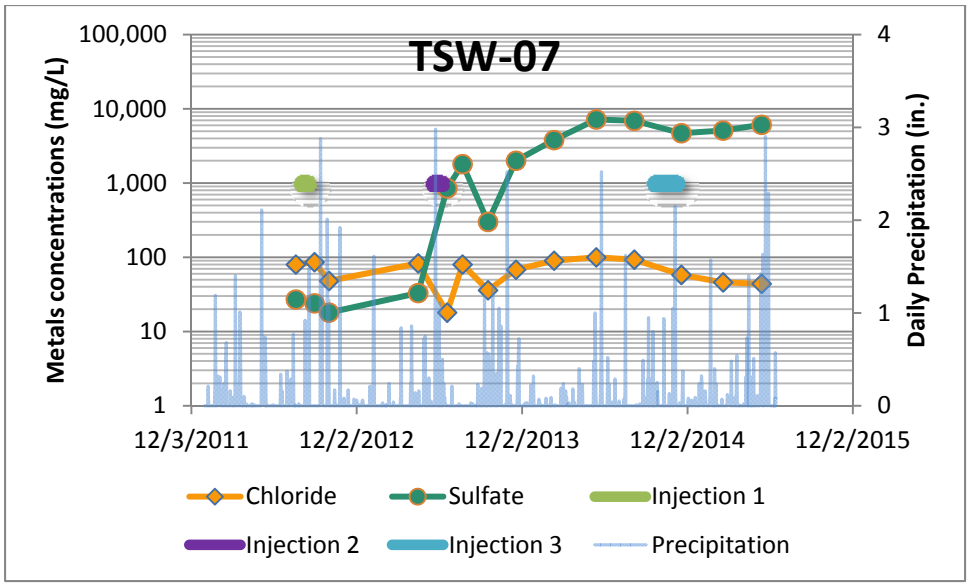

PZ-06
Metals concentrations (mg/L)
Daily Precipitation (in.)
50
40
30
20
10
0
4
3
2
1
0
12/3/2011
12/2/2012
12/2/2013
12/2/2014
12/2/2015
Chloride
Sulfate
Injection 1
Injection 2
Injection 3
Precipitation

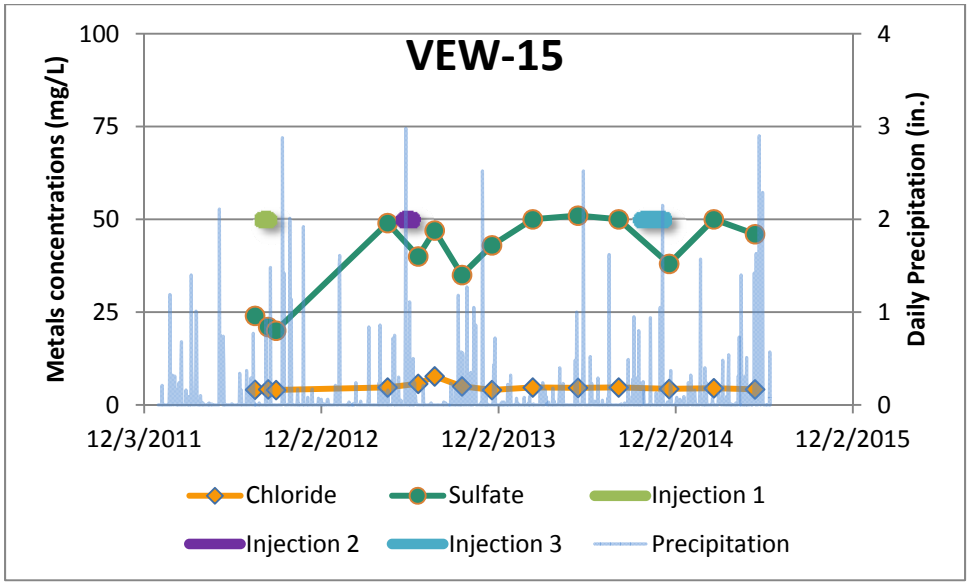

TSW-01
Metals concentrations (mg/L)
Daily Precipitation (in.)
10,000
1,000
100
10
1
4
3
2
1
0
12/3/2011
12/2/2012
12/2/2013
12/2/2014
12/2/2015
Chloride
Sulfate
Injection 1
Injection 2
Injection 3
Precipitation

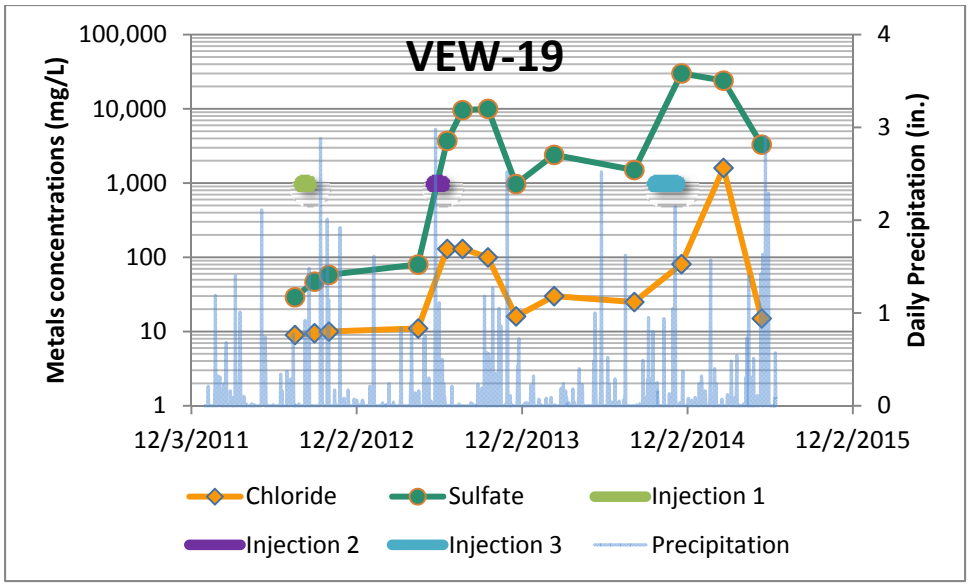

TSW-03
Metals concentrations (mg/L)
Daily Precipitation (in.)
100,000
10,000
1,000
100
10
1
4
3
2
1
0
12/3/2011
12/2/2012
12/2/2013
12/2/2014
12/2/2015
Chloride
Sulfate
Injection 1
Injection 2
Injection 3
Precipitation

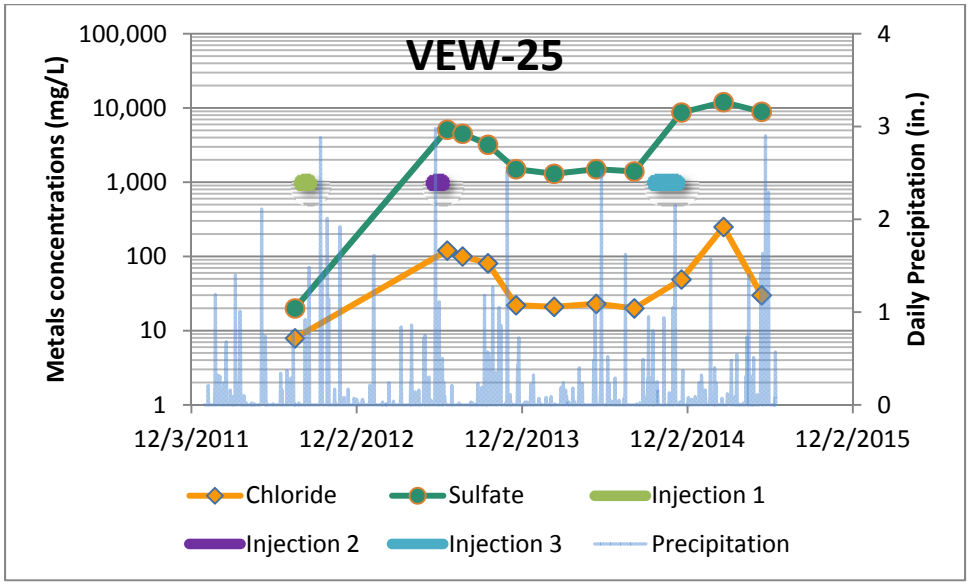

TSW-04
Metals concentrations (mg/L)
Daily Precipitation (in.)
100,000
10,000
1,000
100
10
1
4
3
2
1
0
12/3/2011
12/2/2012
12/2/2013
12/2/2014
12/2/2015
Chloride
Sulfate
Injection 1
Injection 2
Injection 3
Precipitation

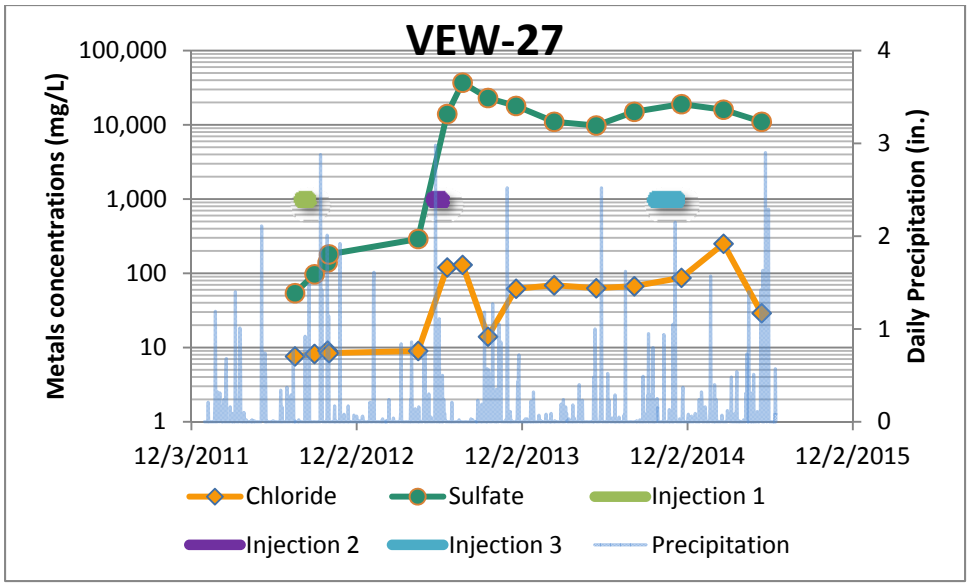

TSW-05
Metals concentrations (mg/L)
Daily Precipitation (in.)
200
150
100
50
0
4
3
2
1
0
12/3/2011
12/2/2012
12/2/2013
12/2/2014
12/2/2015
Chloride
Sulfate
Injection 1
Injection 2
Injection 3
Precipitation

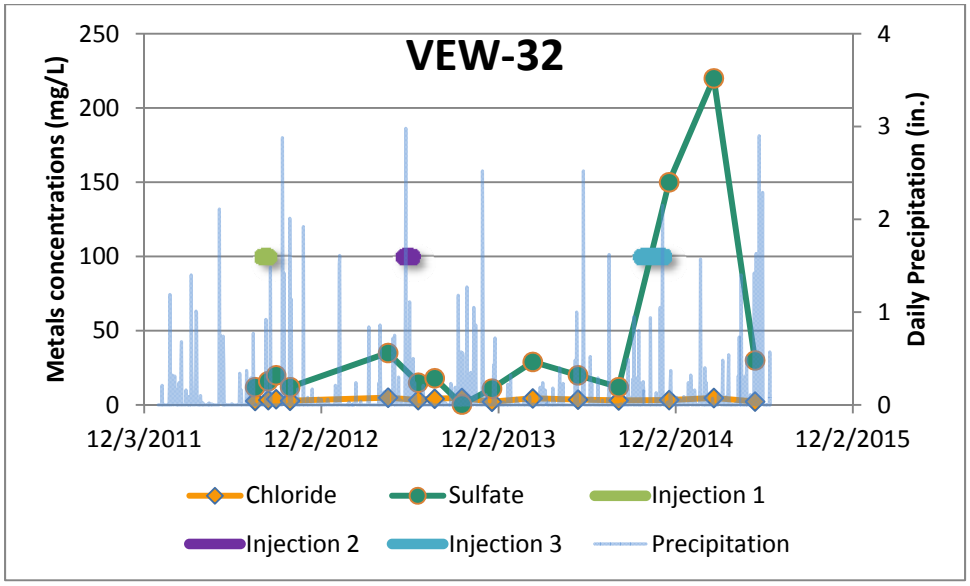

TSW-07
Metals concentrations (mg/L)
Daily Precipitation (in.)
100,000
10,000
1,000
100
10
1
4
3
2
1
0
12/3/2011
12/2/2012
12/2/2013
12/2/2014
12/2/2015
Chloride
Sulfate
Injection 1
Injection 2
Injection 3
Precipitation

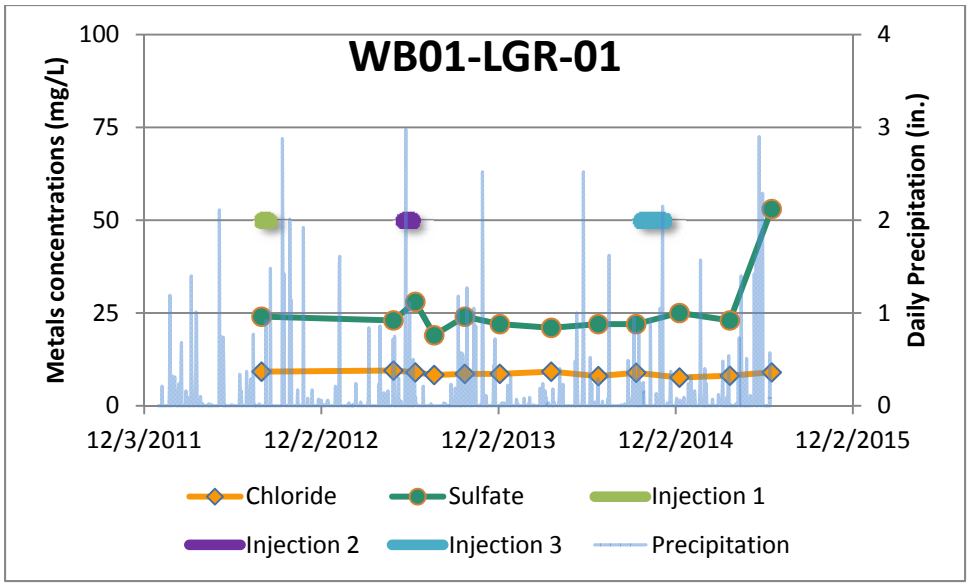

VEW-15
Metals concentrations (mg/L)
Daily Precipitation (in.)
100
75
50
25
0
4
3
2
1
0
12/3/2011
12/2/2012
12/2/2013
12/2/2014
12/2/2015
Chloride
Sulfate
Injection 1
Injection 2
Injection 3
Precipitation

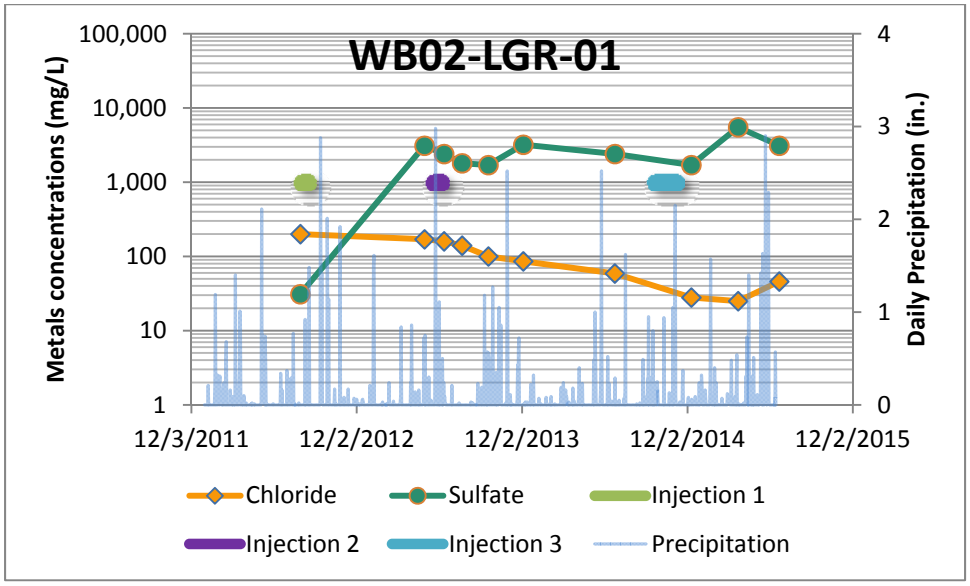

VEW-19
Metals concentrations (mg/L)
Daily Precipitation (in.)
100,000
10,000
1,000
100
10
1
4
3
2
1
0
12/3/2011
12/2/2012
12/2/2013
12/2/2014
12/2/2015
Chloride
Sulfate
Injection 1
Injection 2
Injection 3
Precipitation

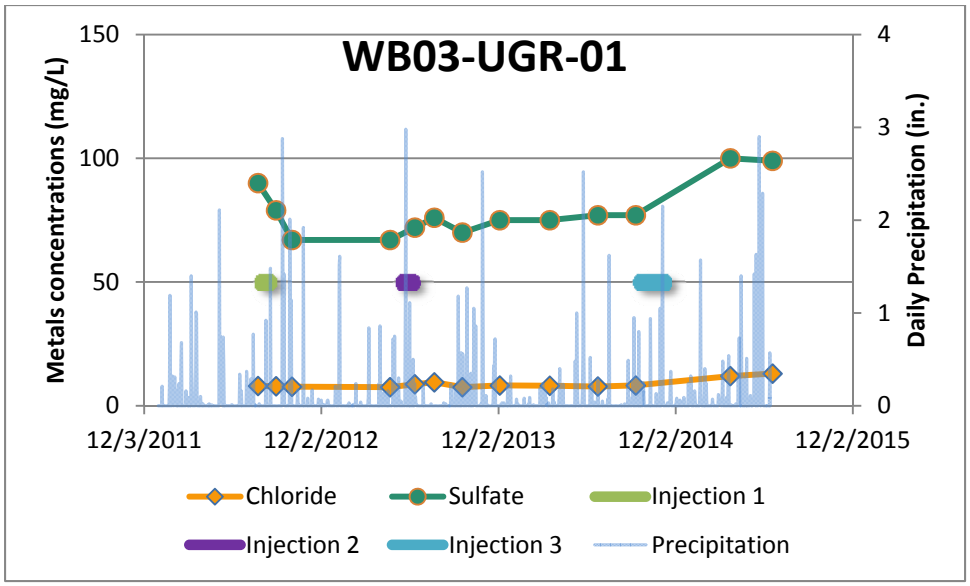

VEW-25
Metals concentrations (mg/L)
Daily Precipitation (in.)
100,000
10,000
1,000
100
10
1
4
3
2
1
0
12/3/2011
12/2/2012
12/2/2013
12/2/2014
12/2/2015
Chloride
Sulfate
Injection 1
Injection 2
Injection 3
Precipitation

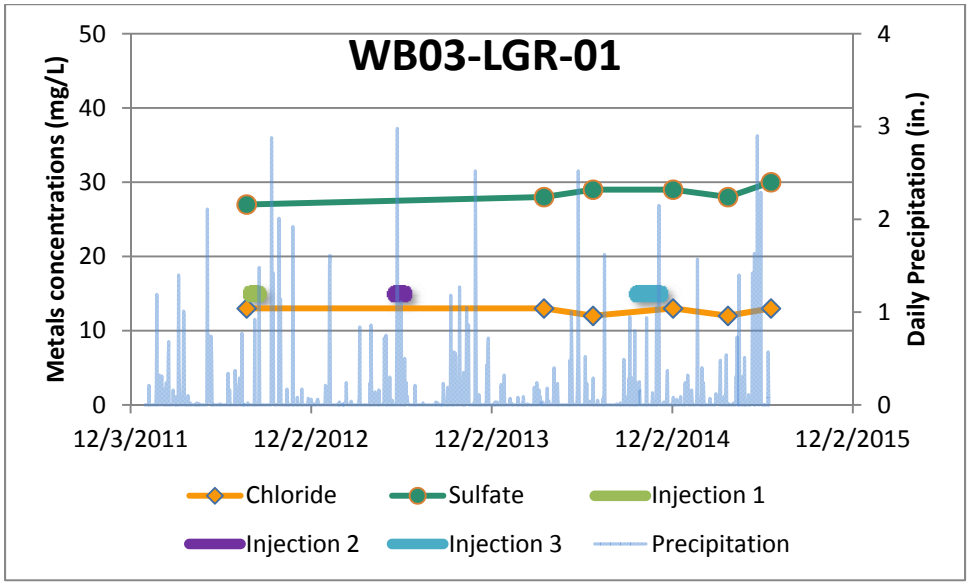

VEW-27
Metals concentrations (mg/L)
100,000
10,000
1,000
100
10
1
Daily Precipitation (in.)
4
3
2
1
0
12/3/2011
12/2/2012
12/2/2013
12/2/2014
12/2/2015
Chloride
Sulfate
Injection 1
Injection 2
Injection 3
Precipitation


VEW-32
Metals concentrations (mg/L)
250
200
150
100
50
0
Daily Precipitation (in.)
4
3
2
1
0
12/3/2011
12/2/2012
12/2/2013
12/2/2014
12/2/2015
Chloride
Sulfate
Injection 1
Injection 2
Injection 3
Precipitation


WB01-LGR-01
Metals concentrations (mg/L)
Daily Precipitation (in.)
100
75
50
25
0
4
3
2
1
0
12/3/2011
12/2/2012
12/2/2013
12/2/2014
12/2/2015
Chloride
Sulfate
Injection 1
Injection 2
Injection 3
Precipitation


WB02-LGR-01
Metals concentrations (mg/L)
Daily Precipitation (in.)
100,000
10,000
1,000
100
10
1
4
3
2
1
0
12/3/2011
12/2/2012
12/2/2013
12/2/2014
12/2/2015
Chloride
Sulfate
Injection 1
Injection 2
Injection 3
Precipitation


WB03-UGR-01
Metals concentrations (mg/L)
Daily Precipitation (in.)
150
100
50
0
4
3
2
1
0
12/3/2011
12/2/2012
12/2/2013
12/2/2014
12/2/2015
Chloride
Sulfate
Injection 1
Injection 2
Injection 3
Precipitation


WB03-LGR-01
Metals concentrations (mg/L)
Daily Precipitation (in.)
50
40
30
20
10
0
4
3
2
1
0
12/3/2011
12/2/2012
12/2/2013
12/2/2014
12/2/2015
Chloride
Sulfate
Injection 1
Injection 2
Injection 3
Precipitation