

**First Five-Year Review Report
Camp Stanley Storage Activity
Bexar County, Texas**



**Prepared for:
Camp Stanley Storage Activity
Bexar County, Texas**

July 2020

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Acronyms and Abbreviations

AOC	Area of Concern
BFZ	Balcones Fault Zone
BS	Bexar Shale
CAO	Corrective Action Objective
CC	Cow Creek
COC	contaminant of concern
CSSA	Camp Stanley Storage Activity
CY	cubic yard
DCE	dichloroethene
DD	Decision Document
DQO	data quality objectives
GAC	granular activated carbon
GIS	geographic information system
HHRA	human health risk assessment
ISCO	<i>in-situ</i> chemical oxidation
LGR	Lower Glen Rose
LTMO	long-term monitoring optimization
MCL	Maximum Contaminant Level
mg/kg	milligram(s) per kilogram
OB/OD	open burn/open detonation
PCE	tetrachloroethene
PCL	Protective Concentration Limit
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
RMU	Range Management Unit
SAWS	San Antonio Water System
SCADA	Supervisory Control and Data Acquisition
SWMU	Solid Waste Management Unit
SVE	soil vapor extraction
SVOC	semi-volatile organic compound
TAC	Texas Administrative Code
TBC	to be considered
TCE	trichloroethene
TCEQ	Texas Commission on Environmental Quality
TDH	Texas Department of Health
TRRP	Texas Risk Reduction Program
UGR	Upper Glen Rose
UIC	Underground Injection Control
USEPA	United States Environmental Protection Agency
UU/UE	unrestricted use/unrestricted exposure
VOC	volatile organic compound
XRF	x-ray fluorescence

Executive Summary

This document summarizes the first five-year review for Camp Stanley Storage Activity (CSSA) in Boerne, TX. While the Resource Conservation and Recovery Act (RCRA) does not legally require five-year reviews, CSSA is preparing this report at the request of U.S. Environmental Protection Agency (USEPA) and as outlined in the 2017 Corrective Measures Implementation Report (Parsons, 2017; [Volume 7 of the Environmental Encyclopedia](#)), to evaluate and document the performance of corrective measures put in place to address contaminated groundwater at the facility, and to ensure that CSSA and their neighbors have safe drinking water. As a result of groundwater contamination discovered in 1991 and the USEPA findings on a former open burn/open detonation (OB/OD) area in CSSA's North Pasture, USEPA issued an Administrative Order on Consent (the Order) under Section 3008(h) of RCRA on May 5, 1999. With the Order, USEPA is the lead agency for investigation and remediation of groundwater.

A release of solvents to the environment occurred at several locations, including leaks, spills, and discharges from Building 90 (Area of Concern 65 [AOC-65]) where degreasing operations occurred, and at landfill/surface impoundments (Solid Waste Management Units [SWMUs] B-3 and O-1) where solvents were discharged. The release of the solvents resulted in two groundwater contamination plumes within the Middle Trinity aquifer, which is the primary drinking water source for the area, and therefore posed an unacceptable risk to human health and the environment.

The contaminants of concern (COCs) at CSSA are based on historically detected analytes (since the inception of the groundwater monitoring program in 1991) and process knowledge. Analytes detected above regulatory standards in soil and groundwater at CSSA are limited to a short list of chlorinated volatile organic compounds (VOCs) including tetrachloroethene (PCE), trichloroethene (TCE), *cis*- and *trans*-1,2-dichloroethene (DCE), and vinyl chloride.

Following completion of the RCRA Facility Investigation and Corrective Measures Study in 2014, the following corrective measures were documented in the 2015 Decision Document (DD), approved by USEPA in July 2015:

- Source area treatment at SWMU B-3 (*in situ* bioreactor) and AOC-65 (*in situ* chemical oxidation [ISCO]);
- Point of use treatment (granular activated carbon [GAC] units on six off-post private drinking water wells;
- Long-term monitoring of on- and off-post groundwater; and
- Land use controls (restricted entry to CSSA and intrusive activity permits).

These corrective measures, which were already in place when approved in 2015 as the final remedies for groundwater protection and source areas SWMU B-3 and AOC-65. Those approved corrective measures have been continued over the past five years. The purpose of this review is to evaluate the implementation and performance of these remedies to determine if they continue to be protective of human health and the environment.

Results of this review indicate that the approved corrective measures are performing as intended and are protective of human health and the environment. Exposure to contaminated groundwater is mitigated through a combination of access controls associated with the active mission of the site, and wellhead GAC filtration at affected off-post drinking water wells. Corrective measures also remain focused on reducing contaminant concentrations contributing to the two contaminated groundwater plumes underlying the site. To achieve long-term protectiveness of human health and the environment, operations and maintenance (O&M) of the corrective measures systems/programs must continue and enhancements to existing systems and should continue to be evaluated, planned, and implemented to address potential current or future issues. Potential system enhancements identified in this review include updating the CSSA Quality Assurance Program Plan (QAPP), changing out ISCO delivery cylinders at AOC-65 on a more regular basis, and evaluating a recent well survey to identify any new wells that could be included in the long-term monitoring program.

1 Introduction

The purpose of a five-year review is to evaluate the implementation and performance of a remedy to determine if the remedy is and will continue to remain protective of human health and the environment. The methods, findings, and conclusions of reviews of the remedy performance are documented in five-year review reports such as this one. In addition, five-year review reports identify issues found during performance evaluations, if any, and document recommendations to address issues detrimental to performance or and/or offer suggestions for improving upon remedy implementation.

While the Resource Conservation and Recovery Act (RCRA) does not legally require five-year reviews, Camp Stanley Storage Activity (CSSA) is preparing this report, at the request of U.S. Environmental Protection Agency (USEPA) and as outlined in the 2017 Corrective Measures Implementation Report (Parsons, 2017; [Volume 7 of the Environmental Encyclopedia](#)) to evaluate and document the performance of corrective measures put in place to address contaminated groundwater at the facility, and to ensure that CSSA and their neighbors have safe drinking water.

Including this introduction, this document is presented in the following sections:

- Section 2 outlines the basis for remedial actions at CSSA and summarizes remedial actions performed and corrective measures implemented to date;
- Section 3 serves as a placeholder for subsequent five-year reviews;
- Section 4 describes community involvement activities, presents a review of groundwater data, and presents a plan for future site inspections;
- Section 5 provides a technical assessment of the data review;
- Section 6 itemizes issues identified in the five-year review process that may affect current and/or future protectiveness and associated recommendations; and
- Section 7 includes a Protectiveness Statement for the corrective measures in place at CSSA;
- Section 8 notes the date of the next five-year review.

1.1 SITE BACKGROUND AND CHRONOLOGY

CSSA is in northwestern Bexar County, Texas about 19 miles northwest of downtown San Antonio and 11 miles southeast of Boerne (**Figure 1.1**).

In 1991, routine water well testing by the Texas Department of Health (TDH) detected the presence of dissolved cleaning solvent tetrachloroethene (PCE) and related degradation products at concentrations above maximum contaminant levels (MCLs) in a CSSA water supply well (Well 16 [CS-16]). Consequently, the well was taken out of service. Subsequent sampling showed volatile organic compound (VOC) contaminant concentrations greater than MCLs in several other wells. The potential sources of the contamination were believed to be from the former oxidation pond (Solid Waste Management Unit O-1 [SWMU O-1]) and Burn Area 3 (SWMU B-3); this area is referred to as Plume 1 (**Figure 1.2**). Later, Area of Concern 65 (AOC-65), an area of past solvent use, was identified as another source of groundwater contamination, referred to as Plume 2 (**Figure 1.2**). In 1999, VOCs were detected in privately owned wells off-post. A synopsis of historical use and remedial activities at each of these sites is provided in the RCRA Facility Investigation (RFI) Report (Parsons, 2014; [Volume 7 of the Environmental Encyclopedia](#)). A summarized chronology of remedial activities is included as **Table 1.1**.

As a result of the groundwater contamination and the USEPA findings on an open burn/open detonation (OB/OD) area in CSSA's North Pasture (SWMU B-20), USEPA issued CSSA an Administrative Order on Consent (the Order) under Section 3008(h) of the RCRA on May 5, 1999. With the Order, USEPA is the lead agency for investigation and remediation of groundwater. As a result of the Order, the following documents were completed ([Volume 7 of the Environmental Encyclopedia](#)):

- January 2014: Baseline Risk Assessment
- April 2014: RFI Work Plan
- December 2014: RFI Report

- October 2014: Corrective Measures Study Report
- March 2015: Statement of Basis
- July 2015: Decision Document
- November 2015: Corrective Measures Implementation Program Plan
- November 2015: Corrective Measures Design Report
- August 2016: Construction Quality Assurance Plan
- September 2017: Corrective Measures Implementation Report

Since the Order was issued in 1999, CSSA has closed or obtained delisting status for 78 waste disposal sites to unrestricted use/unrestricted exposure (UU/UE) in accordance with Texas Commission on Environmental Quality (TCEQ) requirements. A summary of past investigations and findings is provided in the RFI Report.

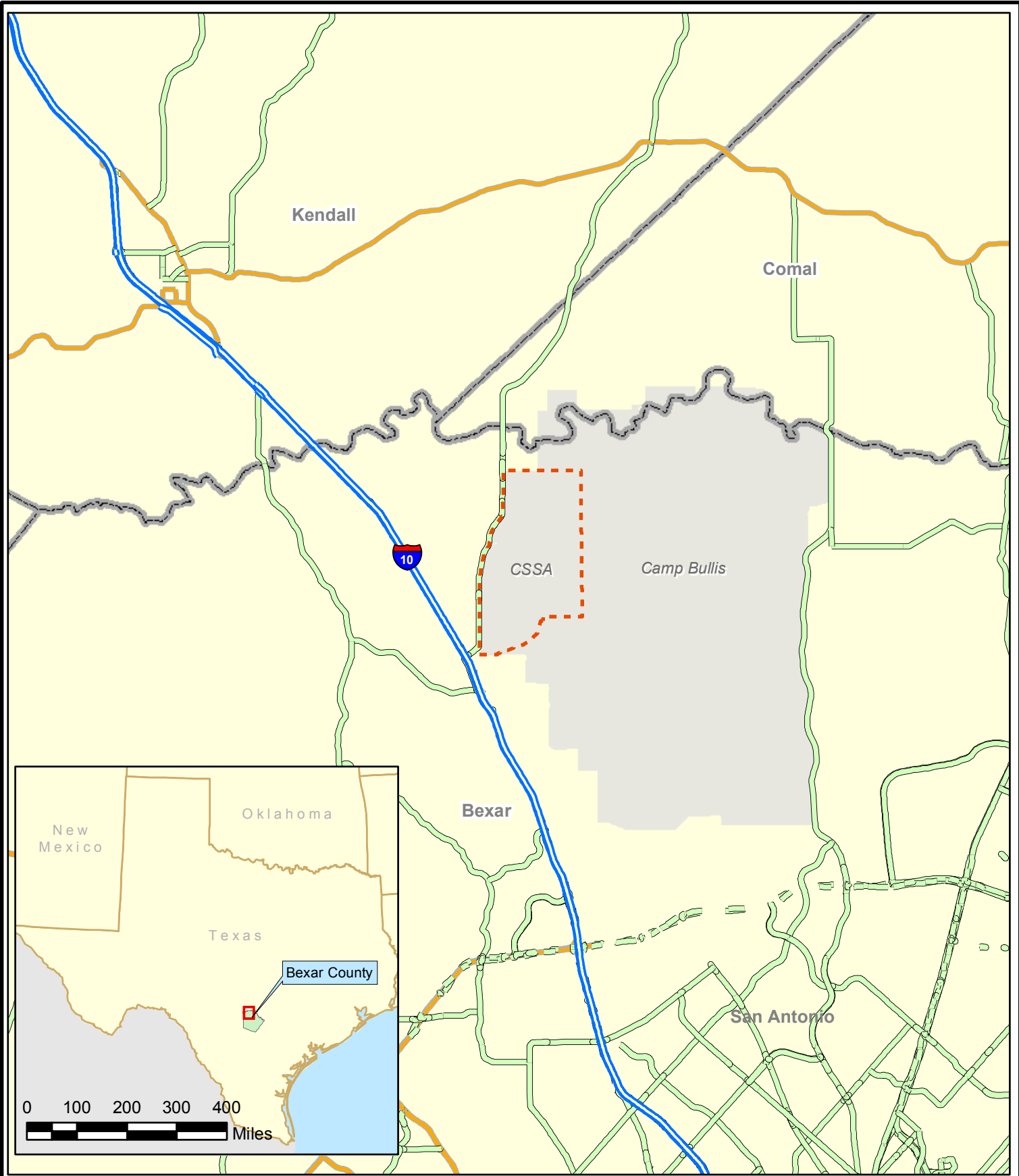
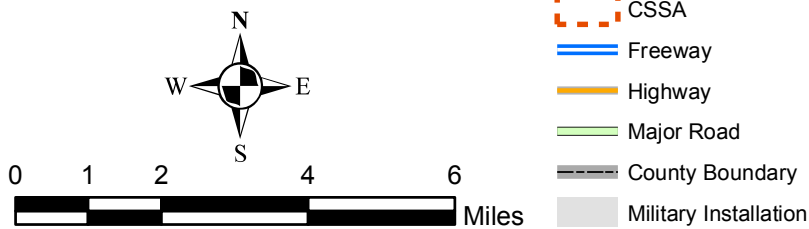


Figure 1.1

CSSA Location Map
Camp Stanley Storage Activity

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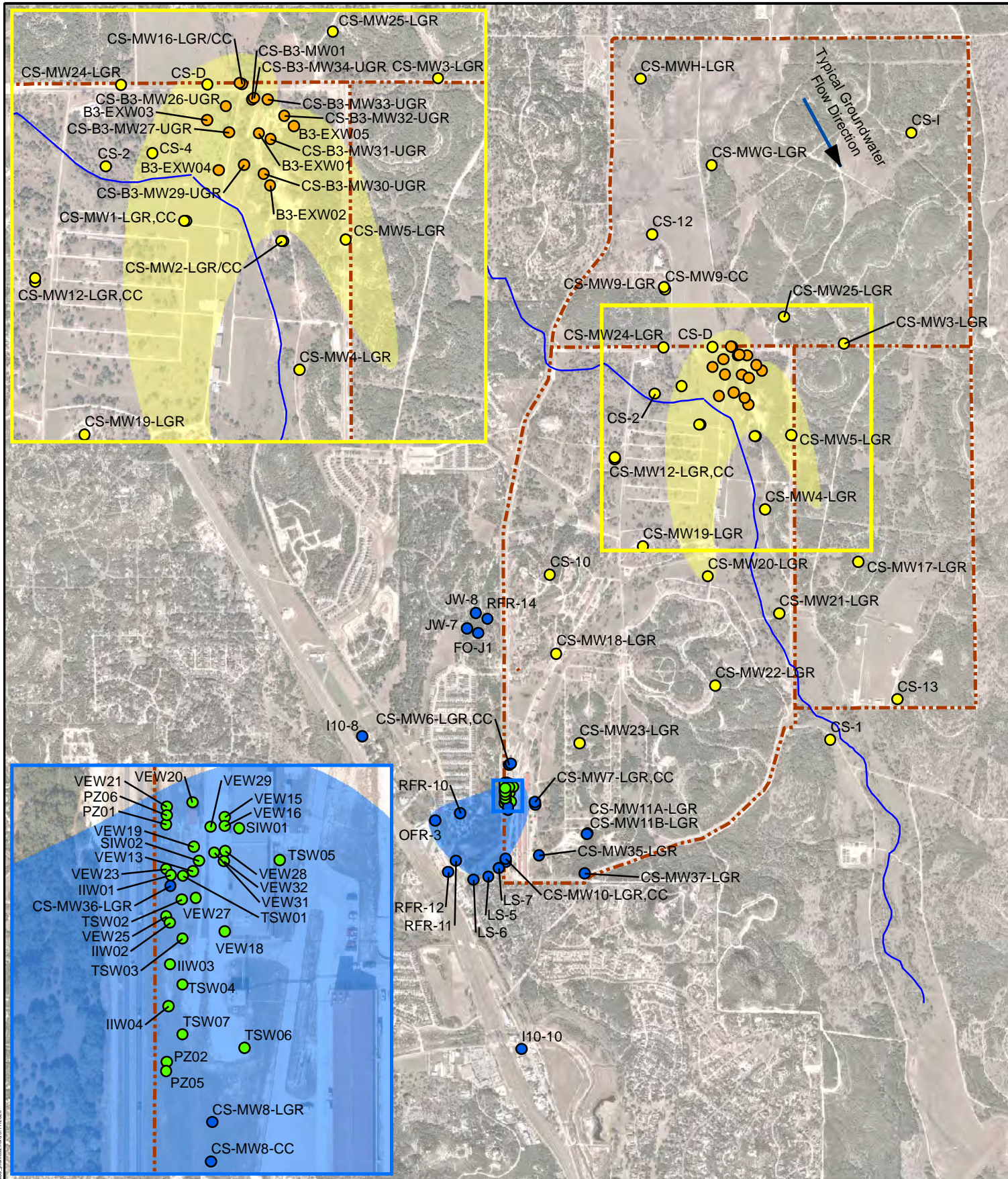


Figure 1.2
 Groundwater Wells and
 Associated Plumes
 Camp Stanley Storage Activity
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Table 1.1
Chronology of Remedial Activities at CSSA

	1980	1981-1983	1984	1985-1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000		
General	Hazardous waste permit submitted by CSSA.					Environmental Assessment (EA) site inspections begin.	EA completed; draft Administrative Order issued by USEPA.		Closure or Delisting of Soil Remediation Sites						USEPA issues Administrative Order on Consent to CSSA.	
Groundwater					Routine water testing detects presence of VOCs in a CSSA water supply well.	Investigation of groundwater contamination begins at CSSA.		On-post groundwater monitoring initiated in 1994 and continued on a quarterly basis.							Groundwater contamination found in off-post private well in 1999; off-site monitoring program initiated and continued quarterly.	
										Installation of monitoring wells to delineate plumes						
SWMU B-3					Landfill area used for burning trash. Filled in circa 1991.				Geophysical survey, soil gas survey, soil and groundwater sampling.	SVE treatability studies conducted.					SWMU O-1 oxidation pond excavated (1,515 CY removed)	
AOC-65									Removal of solvent vat at Building 90							

Table 1.1 (cont)
Chronology of Remedial Activities at CSSA

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014		
General	Remediation and Closure or Delisting of Soil Waste Sites															
	Public meeting	Public meeting				Public meeting			Public meeting					Public meeting; RFI Work Plan approved		
Groundwater	Quarterly on-post monitoring continues.															
	Quarterly off-post monitoring continues.															
					LTMO Evaluation						LTMO Evaluation					
SWMU B-3		Interim removal of 696 cubic yards (CY) of hazardous and 1,242 CY of non-hazardous soil; TCEQ closure of surface soil at SWMU O-1.			Bioreactor treatability study initiated.	Bioreactor treatability study continues.										
					Approximately 15,000 CY of contaminated soil removed.	Bioreactor construction complete; Underground Injection Control (UIC) permit authorized.						Building 260 constructed to house bioreactor controls.				
AOC-65	Soil gas survey conducted.	Interim removal of VOC- and lead-impacted soils; SVE treatability study begins.	SVE treatability study continues.									Additional interim removal; ISCO treatability study begins; UIC permit authorized.	ISCO treatability study continues			

Table 1.1 (cont)
Chronology of Remedial Activities at CSSA

	2015	2016	2017	2018	2019	2020
General	Remediation and Closure or Delisting of Soil Waste Sites					First Five-Year Review
	Public meeting; USEPA issues Statement of Basis and Decision Document					
Groundwater	Quarterly on-post monitoring continues.					
	Quarterly off-post monitoring continues.					
	LTMO Evaluation					LTMO Evaluation
SWMU B-3	Bioreactor corrective measure continues.					
	Bioreactor designated as source area corrective measure.		3 injection wells installed; lactate and Evo injections in 4 injection wells; lactate applied to bioreactor trenches		Decidious mulch refresh in trenches 1, 2, and 6	
AOC-65	ISCO corrective measure continues.					
	ISCO designated as source area corrective measure.	Oxidant cylinders installed in 6 wells	Additional cylinders installed in original wells	All cylinders replaced in original wells, cylinders installed in 4 additional wells	Injection of sodium permanganate in 3 injection wells and 2 infiltration cells	

1.2 FIVE-YEAR REVIEW SUMMARY FORM

SITE IDENTIFICATION		
Site Name: Camp Stanley Storage Activity		
EPA ID: RCRA ID No. TX2210020739		
Region: 6	State: TX	City/County: Boerne/Bexar
SITE STATUS		
NPL Status: Non-NPL		
Multiple Sites? Yes	Has the site achieved construction completion? Yes	
REVIEW STATUS		
Lead agency: U.S. EPA, Region 6		
Author name (Federal or State Project Manager): Gregory Lyssy, Senior Project Manager		
Author affiliation: US EPA, Region 6		
Review period: July 29, 2015 – July 28, 2020		
Date of site inspection: TBD		
Type of review: 5-Year Review		
Review number: 1		
Triggering action date: July 29, 2015 Approval of Decision Document		
Due date (five years after triggering action date): July 29, 2020		

2 Remedial Action Summaries

2.1 BASIS FOR TAKING ACTION

The release of solvents to the environment occurred at several locations, including leaks, spills, and discharges from Building 90 (AOC-65) where degreasing operations occurred, and at landfill/surface impoundments (SWMUs B-3 and O-1) where solvents were managed. The release of the solvents resulted in contamination of the Middle Trinity aquifer, which is the primary drinking water source for the facility and some of the surrounding residences, and therefore posed an unacceptable risk to human health and the environment.

The contaminants of concern (COCs) at CSSA are based on historically detected analytes (since the inception of the groundwater monitoring program in 1991) and process knowledge. Analytes detected above regulatory standards in groundwater at CSSA are limited to a short list of chlorinated VOCs including PCE, trichloroethene (TCE), *cis*- and *trans*-1,2-dichloroethene (DCE), and vinyl chloride (**Table 2.1**).

Based on the results of the human health risk assessment (HHRA) (Parsons, 2014a; [Volume 7 of the Environmental Encyclopedia](#)), and a review of the risk assessment objectives, unacceptable risks to human health may occur in some off-post private wells from exposure to contaminants in groundwater at CSSA. This risk is mitigated using point-of-use GAC treatment systems. The risk assessment also concluded that there are no complete exposure pathways for ecological receptors at CSSA related to exposure to impacted groundwater.

Table 2.1. COCs Detected in Groundwater at CSSA

COC	MCL (µg/L)
PCE	5
TCE	5
<i>cis</i> -1,2-DCE	70
<i>trans</i> -1,2-DCE	100
Vinyl chloride	2

µg/L = micrograms per liter

2.2 CORRECTIVE ACTION OBJECTIVES

Corrective action objectives (CAOs) were developed to identify goals for reducing hazards to ensure protection of human health, safety, and the environment. CAOs are intended to be as specific as possible, without limiting the range of alternatives that can be developed or to prescribe a particular alternative. Typically, these objectives are identified for hazardous substances at a site and for a specific medium, such as soil or groundwater, by which humans and the environment can become exposed. Regulations often require that CAOs achieve certain mandated criteria (e.g., drinking water maximum contaminant level regulations). CAOs specify:

- Contaminant(s) and media of concern;
- Exposure route(s) and receptor(s); and
- Remediation goal(s) for each exposure route.

The typical method for developing CAOs at waste sites involves considering the nature and extent of contamination, the potential exposure pathways, current and future receptors, and current and future land use.

CAOs for groundwater at CSSA include:

1. Prevent or minimize migration of COCs in groundwater within the source area at concentrations exceeding the MCLs and restore groundwater to its most beneficial use in a reasonable timeframe.
2. Prevent human exposure to groundwater containing COCs at concentrations that exceed MCLs in water supply wells.
3. Prevent on-site worker dermal contact and/or ingestion of COCs in shallow groundwater at concentrations exceeding acceptable human health risk values.

Corrective measures have been installed to reduce contaminant concentrations and minimize migration of COCs within the Source Areas to groundwater toward the goal of restoring groundwater to its most beneficial use. Bioremediation (an *in-situ* bioreactor) is being applied to treat the source area at SWMU B-3 and *in-situ* chemical oxidation (ISCO) is being applied to treat source area contamination at AOC-65. Institutional and engineering land use controls (LUCs) including intrusive activity permits, fencing, and security are in place to prevent contact with contaminated media. Off-post GAC units installed on private drinking water wells to remove COCs from impacted groundwater prior to use by consumers continue to be operated and monitored. Monitoring will be continued at additional off-post drinking water wells and new GAC units focused to treat COCs will be installed if COC concentrations exceeding the MCLs are detected during the long-term monitoring program. This approach is consistent with USEPA guidance on final cleanup goals for RCRA corrective action (USEPA, 2004).

2.3 REGULATORY REQUIREMENTS

As a result of groundwater contamination discovered in 1991 and USEPA's findings on the SWMU B-20 former OB/OD area in CSSA's North Pasture (SWMU B-20), USEPA issued CSSA an Administrative Order on Consent (the Order) under Section 3008(h) of the RCRA on May 5, 1999. With the Order, USEPA is the lead agency for investigation and remediation of groundwater. The TCEQ is the lead agency for investigation and closure of waste disposal sites, although USEPA provides input.

The Order requires CSSA to: (1) perform interim/stabilization measures (IM) at the facility to prevent or minimize the further migration of contaminants due to releases of hazardous constituents to the environment, or to mitigate current or potential threats to human health or the environment; (2) perform an RFI to determine the nature and extent of any release(s) of hazardous waste or hazardous constituents at or from the facility; (3) perform a CMS to identify and evaluate alternatives for corrective action(s) to prevent or mitigate any migration of release(s) of hazardous wastes or hazardous constituents at or from the facility, and to collect any other information necessary to support the selection of corrective measures at the facility; and (4) implement the corrective measures (Corrective Measure Implementation [CMI]) selected by the USEPA for the facility.

2.4 STATUS OF IMPLEMENTATION

Corrective measures are implemented in three areas: 1) SWMU B-3, the source area for groundwater contamination plume 1; 2) AOC-65, the source area for groundwater contamination plume 2; and 3) groundwater.

SWMU B-3 and the neighboring abandoned oxidation pond, SWMU O-1, both located in the northeast corner of the Inner Cantonment, were identified as VOC source areas for contamination in plume 1 in the RFI. The pond once held waste fluids and sludge from CSSA's weapons bluing operations. The oxidation pond was abandoned and filled in 1985. Multiple trenches were used at SWMU B-3 for the disposal and burning of solid and liquid wastes. The trenches were backfilled in the early 1990's. Geophysical surveys were performed throughout to investigate potential sources for the VOCs. RFI results indicated that SWMU B-3 and O-1 contained significantly higher concentrations of VOC contaminants than other sites. AOC-65, located in the southwest corner of the Inner Cantonment, was also identified as a potential source area for VOC releases at plume 2. The SWMU B-3/O-1 area and AOC-65 were both source areas for groundwater contamination.

The following subsections detail implementation of corrective measures for each of the three areas: AOC-65, SWMU B-3, and groundwater monitoring and wellhead treatment.

2.4.1 GROUNDWATER

Pre-Decision Document Corrective Measures

A total of 60 monitoring wells were installed on-post between 1996 and 2013 to identify the extent of groundwater contamination on-post. Off-post contamination was first reported by CSSA in December 1999 at a private well adjacent to the post. CSSA has identified and sampled more than 60 off-post private, commercial, and public supply wells surrounding the post. Contamination is most widespread within the Lower Glen Rose (LGR) water-bearing unit. Locally, the Bexar Shale (BS) serves as a confining unit between the water-bearing LGR and Cow Creek (CC) Limestone. Faults of the Balcones Fault Zone (BFZ) structurally influence and re-direct the groundwater flow paths. Environmental studies demonstrate that most of the contamination resides within the LGR.

Plume 1 has advectively migrated primarily south-southeast toward Camp Bullis (Figure 1.2). A component of the plume has also migrated west-southwest toward CSSA well fields (CS-9, CS-10, and CS-11) and several off-post public and private wells. VOC concentrations over 500 micrograms per liter ($\mu\text{g}/\text{L}$) are present in Middle Trinity aquifer wells near the source area. However, contaminant concentrations are below $1 \mu\text{g}/\text{L}$ over most of the Plume 1 area. In contrast to the UGR and LGR, little to no contamination has been consistently identified within Plume 1 limits within the BS and CC Limestone units except in wells constructed with open borehole completions.

Contamination at Plume 2 originated at AOC-65 and spread southward and westward from the post (Figure 1.2). The greatest concentrations of solvents are reported within the UGR adjacent to the source area. Deeper in the subsurface within the LGR, concentrations in excess of $100 \mu\text{g}/\text{L}$ have been reported in perched intervals above the main aquifer body in the LGR. However, as evidenced by multi-port wells installed directly in the source area, once the COCs penetrate into the main saturated intervals of the aquifer body, the concentrations are mostly diluted to trace levels. Off-post, concentrations in excess of MCLs have been detected in private and public wells with open borehole completions. In wells with solvents present at concentrations greater than 90 percent of the MCL, GAC units have been installed. Four GAC units were installed in October 2001 (RFR-10 (two units), RFR-11, and LS-5), two additional units were installed in August 2001 (LS-6 and LS-7), and a GAC unit was installed in OFR-3 in April 2002. As of 2020, a total of six off-post domestic supply wells are equipped with GAC filtration units.

CSSA has an active data quality objectives (DQO) review process which serves as planning tool for groundwater data collection activities and Long-Term Monitoring Optimization (LTMO) process which is used to critically evaluate network parameters with the objective of reducing monitoring locations and/or sampling frequencies without sacrificing the monitoring objectives of preventing exposure to COCs by off-post receptors.

The DQOs for CSSA's groundwater monitoring program were formally developed in April 2002 using USEPA's *Guidance for the Data Quality Objectives Process* (EPA/600/R-96/055). DQO updates were performed in 2003, 2006, 2010, 2015, and 2020. With each update, the DQOs were revised to incorporate changes to the groundwater monitoring program. DQOs are typically reviewed and updated every five years, and the most recent DQOs are included in Parsons (2020b).

The LTMO process was initiated in 2004 and has been performed at five-year intervals since 2010 to evaluate if statistical and spatial parameters support a reduction in monitoring locations and/or sampling frequencies without sacrificing the monitoring objectives, as well as to identify data gaps. The most recent LTMO evaluation was performed in 2020 and is included in Parsons (2020a). The three-tiered LTMO (3TMO) process involves performing a Mann-Kendall temporal trend analysis on the analytical data, a spatial evaluation of well locations, and a qualitative evaluation of the well parameters. Mann-Kendall statistical analyses of COC concentrations over time are also used to gauge changes in contaminant concentrations. The Mann-Kendall test statistic can be used to evaluate whether a statistically significant temporal trend is exhibited by contaminant concentrations detected through time in samples from an individual well. The analytes considered in the evaluation included PCE, TCE, *cis*-1,2-DCE, *trans*-1,2-DCE, VC, and 1,1-DCE. In 2005, the evaluation was performed using validated analytical data from the monitoring well network spanning from 1992 through December 2004.

In general, since the inception of the LTMO process, pre-Decision Document (DD) modifications to the groundwater monitoring program, were documented in the *2010 Groundwater Monitoring Program DQOs* (Parsons, 2010; [Volume 5 of the Environmental Encyclopedia](#)), and include a revision of the metals analyte list for on-post wells, the addition of a 9-month 'snapshot' event, implementation of the updated 2010 LTMO recommendations both on- and off-post, and the addition of one drinking water well. The addition of the snapshot event, in which all on- and off-post wells were sampled, was adopted to provide an area-wide status of the two VOC plumes and to provide long-term assurance that seasonal changes associated with the hydrologic cycle were identified.

Post-Decision Document Corrective Measures

The current groundwater monitoring program at CSSA provides a broad view of conditions within the Middle Trinity Aquifer (LGR and CC) in the general vicinity of CSSA, delineates the extent of the two groundwater plumes located on- and off-post, monitors off-post migration of contaminants, and monitors the performance of the wellhead protective measures (GAC filtration systems) at impacted off-post domestic water supply wells. The groundwater monitoring network consists of 102 monitoring locations including on-post monitoring wells (40), water supply wells (4), and individual Westbay® multi-port monitoring well zones (46), as well as off-post domestic

water supply wells (13) to determine the nature and extent (laterally and vertically) of contaminant concentrations within the Middle Trinity Aquifer locally.

Sampling at groundwater monitoring locations varies between quarterly (drinking water wells and off-post GAC wells) and every 30 months depending on risk to receptors, variability of COC concentrations, and location. Typical data collected from each monitoring location during sampling events include water level information and groundwater samples for COC analysis. Plume maps generated from the collected groundwater data are compared between snapshot events to determine whether the plumes are increasing, decreasing, or remaining stable as conditions change through time (**Figure 2.1**).

Additional sampling was performed when CS-13 was commissioned in May 2017. The TCEQ mandated a 12-month monitoring program that included monthly and quarterly monitoring of CS-13 and five surrounding wells (CS-MW17, CS-MW4-LGR, CS-MW21-LGR, CS-MW1-CC, and CS-MW2-CC) for organics, inorganics, microbes, VOCs, and metals. There were no exceedances of regulatory standards in the groundwater samples collected during this effort (Parsons, 2018).

Based on the results of the *2015 LTMO Update* (Parsons, 2016a; [Volume 5 of the Environmental Encyclopedia](#)), the following changes were made to CSSA’s groundwater monitoring program:

- Groundwater wells were excluded from future monitoring based on their distance from the CSSA border or by exhibiting five years of non-detection history.
- The sampling frequency was extended from 9-month to a 15-month basis for normal on-post monitoring wells with secondary well sampling frequency extended from 18-month to 30-month, and
- Monitoring at wells closely associated with active remediation sites (AOC-65 and B-3) occurring on a more frequent basis (quarterly at AOC-65, and every 9 months at B-3).

The implemented modifications resulted in an overall reduction in 43% of Plume 1 sampling events and 54% of Plume 2 sampling events (**Table 2.2**).

Table 2.2. Sampling Event Reductions Implemented based on 2015 LTMO Update Recommendations

Frequency	Plume 1 Sampling Events Over 5-Year Period		Plume 2 Sampling Events Over 5-Year Period	
	Pre - 2015 LTMO	Post - 2015 LTMO	Pre - 2015 LTMO	Post - 2015 LTMO
Every 30 months	0	40	0	36
Every 18 months	21	0	42	0
Every 15 months	0	28	0	196
Every 9 months	84	252	558	0
As needed	As needed	0	0	0
Quarterly	80	80	120	120
Semi-annual	420	0	0	0
Semi-annual + snapshot	91	0	52	0
Total	696	400	772	352

Reduction over 5 Years:

43%

54%

The following specific changes to the DQOs were addressed in the *2015 Groundwater Monitoring Program DQOs* (Parsons, 2016b; [Volume 5 of the Environmental Encyclopedia](#)):

- An off-post decision tree was developed to provide for a monitoring point to be dropped from the program if it is greater than 1.5 miles from the CSSA boundary or has consecutive ND results over the last 5 years;

- On/off-post short-list VOCs were reduced from six compounds to four (dropping 1,1-DCE/*trans*-1,2-DCE and retaining PCE/TCE/VC/*cis*-1,2-DCE), in accordance with Baseline Risk Assessment COCs;
- Metals would no longer be sampled as part of the monitoring program with the exception of drinking water wells, and monitoring wells associated with the SWMU B-3 bioreactor and AOC-65 *in-situ* ISCO remediation sites; and
- Drinking water well analyses were reduced to the on-post short list of four VOCs (PCE/TCE/VC/*cis*-1,2-DCE), but will continue to be sampled for arsenic, barium, cadmium, chromium, copper, lead, mercury, and zinc.

Operations & Maintenance

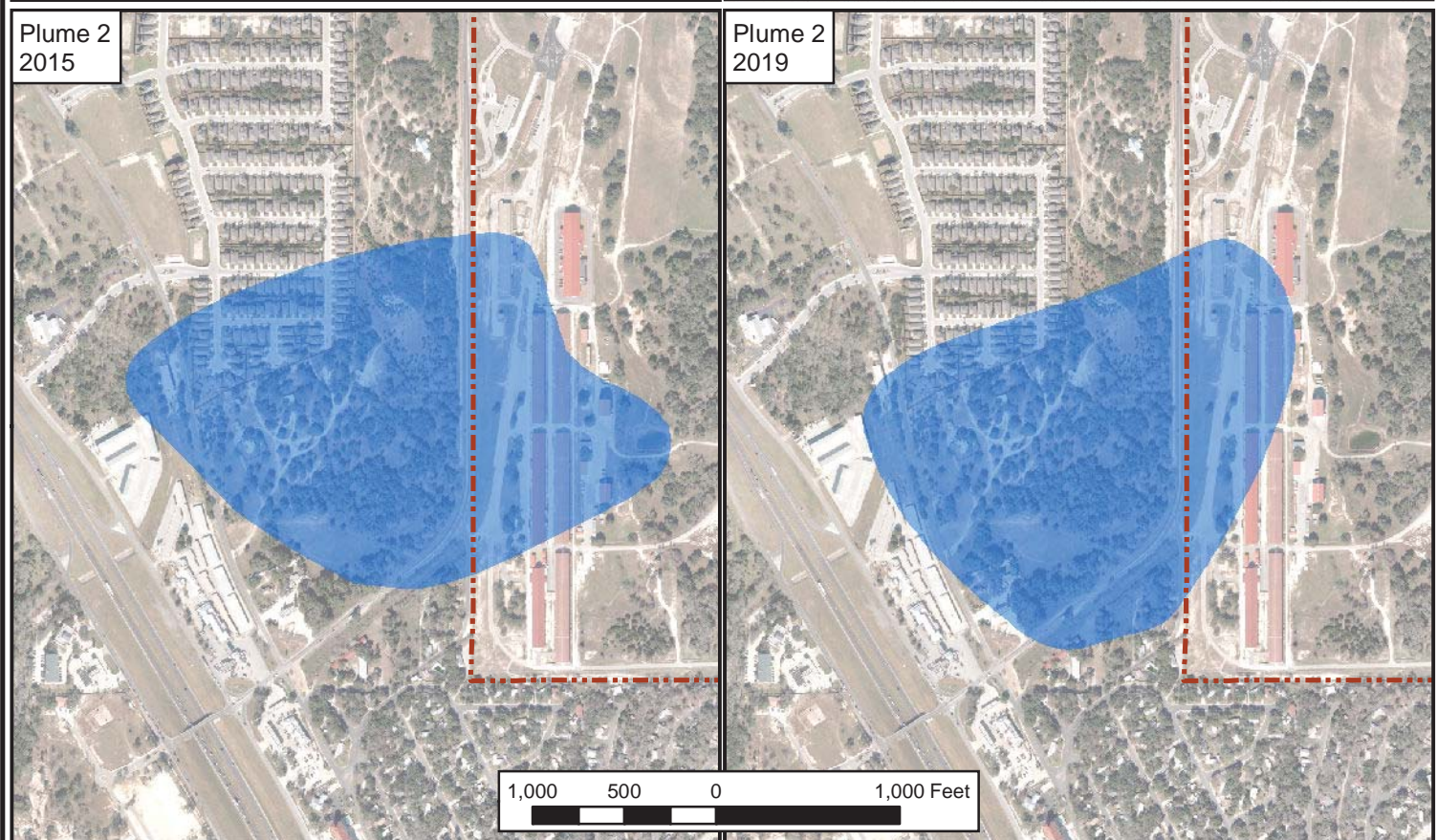
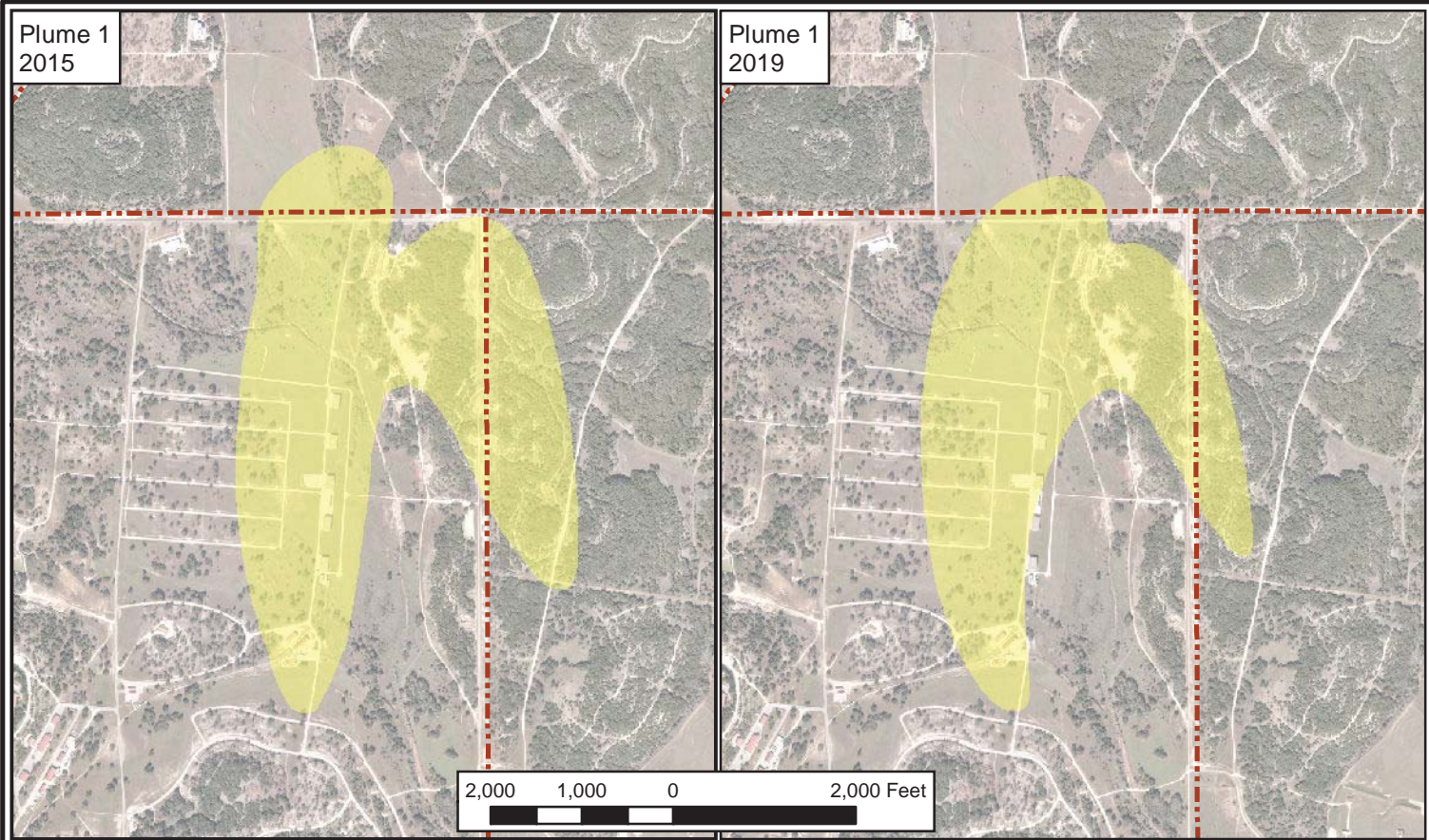
The number of GAC filtration units installed on off-post domestic supply wells remained unchanged from 2015 with a total of six wells - RFR-10, RFR-11, LS-5, LS-6, LS-7, and OFR-3 included in the GAC program. RFR-10 supplies two households so two separate GAC systems, running in parallel, are in operation. Regularly scheduled GAC maintenance was performed at both three week and 6-month intervals as follows:

- Every three weeks, pre- and post-carbon particulate filters are changed, and a visual inspection is conducted to include the inspection of plumbing, system components, and protective structure to identify any necessary repairs
- Every six months, one of the two carbon vessels at each GAC and the associated glass sleeve are replaced, additional system checks included the UV light. Once the six-month maintenance is performed, post-GAC samples are collected from all seven units.

In August and September 2015, CS-9 and CS-11, two former drinking water wells, were plugged and abandoned due to inorganic and microbial contamination problems (documented in Notification of Plugging and Abandonment of Inactive Wells CS-9 and CS-11 letter to TCEQ). Based on updates to CSSA's DQO's in 2015, modifications were also made to the number of wells included in the groundwater monitoring program.

A total of 48 wells were removed from the monitoring program between 2015 and 2020 for the following reasons:

Reason for Exclusion from Monitoring Program	Number of Wells
Well was consistently dry	1
The producing zone, the BS, was determined to not be a viable portion of the aquifer to monitor	3
Distance from CSSA was greater than 1.5 miles	5
History of non-detects	35
Location redundancy	1



- - - Fence Line
- Plume 1
- Plume 2

Figure 2.1
Plume Comparison Map
2015-2019
Camp Stanley Storage Activity

PARSONS

CU:\w\p08562\Delkay\TMO\MO2\PlumeComparison.mxd 3/31/2020

2.4.2 SWMU B-3 AND SWMU O-1

Pre-Decision Document Corrective Measures

SWMU B-3 was a landfill area thought to have been used primarily for garbage disposal and trash burning, prior to 1990 when landfill operations were discontinued. Subsequent source investigations identified an area of open burn pits and disposal trenches containing PCE and its degradation products. The six trenches varied in depth from 5 to 15 feet and were approximately 350 to 400 feet long and 12 to 20 feet wide. Numerous environmental investigations have occurred at SWMU B-3, including soil gas surveys, geophysical surveys, soil boring and groundwater well installations, and a soil vapor extraction (SVE) pilot study.

To remediate contaminated groundwater, an *in situ* “bioreactor” was constructed in 2006 by removing the waste in the disposal trenches and backfilling with a gravel/mulch mixture to facilitate natural infiltration of *dehalococcoides* with pumped contaminated water into the underlying contaminated aquifer (**Figure 2.2**). In addition, microbial activity was augmented with addition of the KB-1 commercial culture of *dehalococcoides*. The SWMU B-3 Bioreactor Construction Report (Parsons, 2007) is available in [Volume 4 of the Environmental Encyclopedia](#).

The former oxidation pond, also referred to as SWMU O-1, was constructed in the mid-1970s to receive waste from Building 90-1, a former gun bluing facility. The frequency of waste delivery to the pond varied upon the level of bluing activity. During the fall of 1985, the pond liner was damaged during bulldozing activities. No records are available to indicate whether or not removal and disposal of the sludge or residue contained in the oxidation pond occurred before destruction of the liner. Several environmental investigations were conducted at the site, including soil gas surveys, geophysics, soil borings, and an electrokinetic treatability study. In 2000, the contents of the oxidation pond were excavated, resulting in the removal of approximately 1,515 cubic yards of contaminated soil to a depth of 5 feet, where bedrock was encountered, and a lateral extent covering approximately 7,000 square feet. After confirmation samples were collected, the excavation was backfilled in lifts and a low-permeability clay liner was constructed over the site. The clay liner prevents infiltration of precipitation into and through the former pond and into the underlying bedrock, thereby serving to mitigate, control, abate, and minimize spread of contamination in the groundwater below. The partial facility closure of the surface soil zone was approved by the TCEQ in April 2002, and the underlying limestone and groundwater-bearing zones are being addressed as part of the neighboring SWMU B-3 bioreactor system.

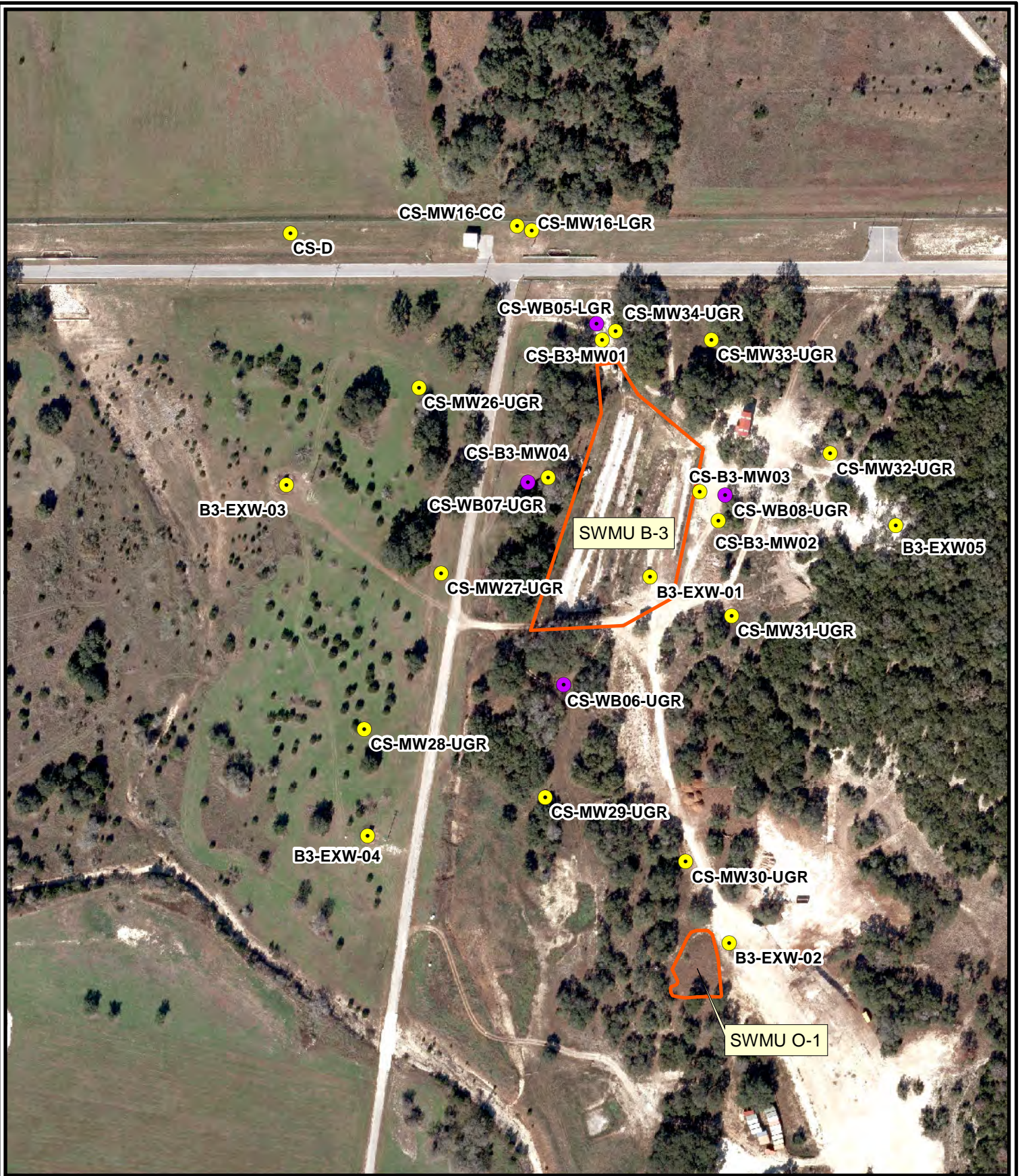
The underlying limestone and the groundwater-bearing zones were not included in the partial facility closure. The impacted limestone/groundwater zone underlying SWMU O-1 is being addressed as part of the remedial approach being implemented at the neighboring SWMU B-3 bioreactor system, described further in the following paragraphs. A groundwater extraction well (B3-EXW02-LGR) has been drilled immediately adjacent to the closed pond and is actively capturing contaminated groundwater which is managed/treated through the SMWU B-3 bioreactor system. Going forward in this document, discussion of groundwater corrective actions addressing SWMU O-1 are included as part of SWMU B-3.

Post-Decision Document Corrective Measures

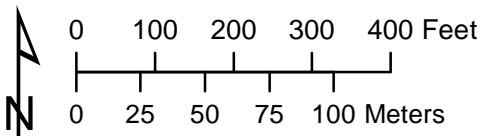
The bioreactor was selected as the final remedy for SWMU B-3 in July 2015. Groundwater applications in Trench 1 began in 2006 as the bioreactor became operable and have been ongoing for 14 years. Applications in Trench 2 began in 2009 (eleven years of application), followed by applications in Trench 6 in 2010 (10 years), and injections in trenches 3, 4, and 5 began in 2016 (four years of application) and ceased in 2018 due to low water availability during drought conditions. Groundwater contaminant concentrations are monitored at surrounding monitoring wells including seven extraction wells, four Westbay multi-port wells, four LGR wells, and eight UGR wells, as shown on Figure 2.2. A *Bioreactor Performance Status Report* is issued annually that summarizes current conditions, field observations, analytical results, and an anticipated schedule of activities for the next reporting period ([Volume 4 of the Environmental Encyclopedia](#)).

A number of activities were completed in 2017 to improve and enhance system effectiveness:

- Three injection wells were installed in March 2017; B3-MW02 and B3-MW04 in the LGR to depths of 300 feet bgs, and B3-MW03 was installed in the UGR to a depth of 38 feet bgs;
- Application of lactate and emulsified vegetable oil (EVO) into B3-MW01 through B3-MW04 to promote the growth of *dehalococcoides* at the air-water interface to treat contaminants migrating vertically from the dissolved phase within the aquifer.



Aerial Photo Date: 2013



- Westbay Multi-port Well
- Supply/Monitoring Well
- SWMU Boundary

Figure 2.2

Bioreactor Layout and
Extraction Wells
Camp Stanley Storage Activity

PARSONS

- Application of 1,325 gallons of lactate to bioreactor trenches. Five 265-gallon totes of lactate were connected to the conveyance and distribution system at the bioreactor building via an educator and applied to Trenches 1 (2 totes), 6 (2 totes) and 2-5 (1 tote), along with recovered groundwater from the bioreactor extraction well network.

Operations & Maintenance

Ongoing operations and maintenance (O&M) activities have continued since 2015 and will continue until the contamination in groundwater is reduced to below MCLs. Daily and/or monthly O&M of the bioreactor includes:

- O&M of recovery (extraction) wells as specified by equipment manufacturers to reduce potential for unexpected shutdowns;
- Performance monitoring to include documentation of data such as flowmeter readings, water levels, and pressure throughout the system;
- Inspection of distribution piping and condition of storage tanks;
- Inspection of trenches, sumps, and overall treatment area;
- Replacement of bag filters, as necessary; and
- Monitoring bioreactor system via SCADA system.

During normal operation, the system pumps groundwater from seven wells, CS MW16-LGR, CS-MW16-CC, and B3-EXW01 through B3-EXW05. The extracted groundwater is pumped into the storage tanks which are pre-treated by a bag filter unit to remove suspended solids. All of the filtration, storage, and transferring activities occur within Building 260 located on the northeast corner of SWMU B-3. The intent of operating and controlling the groundwater recovery system (CS-MW16 and B3-EXW wells) and the bioreactor transfer pumping system (two 10,000-gallon storage tanks) is to maximize the throughput of water to the bioreactor. Up to 50,000 gallons of extracted groundwater is applied to the trenches daily.

Several major revisions to the bioreactor system have occurred since 2015, including recharging the trenches with substrate material, configuration changes to the distribution system, extraction well pump maintenance, installation of three injection wells and subsequent injection of substrates, and automated control upgrades to the Supervisory Control and Data Acquisition (SCADA) system.

YEAR	O&M ACTIVITIES
2016	<ul style="list-style-type: none"> • Groundwater application initiated in Trenches 3, 4, and 5.
2017	<ul style="list-style-type: none"> • Pump replacements at extraction wells B3-EXW05 and CS-MW16-LGR
2018	<ul style="list-style-type: none"> • Normal operational activities as well as pump replacement and well maintenance at extraction wells CS-MW16-CC, B3-EXW01-LGR, and B3-EXW03-LGR • Groundwater application discontinued in Trenches 3, 4, and 5 due to drought conditions.

The current system consists of seven extraction wells located around the perimeter of SWMU B-3, temporary storage tanks, and a distribution system within the bioreactor trenches (Figure 2.2). VOC-impacted groundwater (with PCE and TCE generally in the 100 ug/L range) is recovered from extraction wells, conveyed to temporary storage tanks, and is then gravity fed or pumped to the trenches where microbes reductively dechlorinate COCs. On average, 50,000 gallons of contaminated groundwater from extraction wells is reinjected into bioreactor trenches daily.

The bioreactor performance monitoring program at SWMU B-3 and surrounding areas builds upon the data collected for the more broad groundwater monitoring program and focuses on defining the core of Plume 1 laterally and vertically as well as providing operational feedback to ensure the system is operating as intended. The bioreactor performance monitoring network consists of 7 extraction wells, 12 trench sumps, 4 Westbay wells (containing 27 individual monitoring locations), and 11 monitoring wells installed within vadose zone (UGR) and main aquifer body (LGR). Additional sampling is performed quarterly of extracted water prior to reinjection to meet Class V Underground Injection Control (UIC) permit requirements, and 4 injection wells are sampled on an “as-needed” basis to determine baseline conditions prior to the injection of substrates.

The *SWMU B-3 Bioreactor Operation and Maintenance Manual* outlines the sampling requirements used to ensure the bioreactor is operating efficiently and as designed ([Volume 4 of the Environmental Encyclopedia](#)). The O&M manual is typically updated biannually but may be updated annually if substantive changes to system operation are required. Semi-annual performance monitoring of microbial population and dissolved hydrogen concentrations within trench sumps is used to evaluate overall bioreactor “health,” and may be used to determine if and when addition of supplementary carbon or bioaugmentation (with *dehalococcoides*) is required. Bioreactor O&M is further outlined in Section 2.5.

Additionally, the reintroduction of contaminated groundwater into bioreactor trenches requires a Class V UIC permit. The UIC permit requires the monitoring of injection volumes, pressures, and concentrations of contaminants (including pH and total dissolved solids) of the injected water which is sampled on a quarterly basis at the point of reinjection. Additionally, the contaminant concentrations within the bioreactor trench sumps and surrounding monitoring wells are sampled semi-annually, and results are reported to the UIC Permits Team on an annual basis as specified by the UIC permit (Authorization No. 5X2600431).

As of February 29, 2020, approximately 243 million gallons of groundwater, extracted from CS-MW16-LGR, CS-MW16-CC, CS-B3-EXW01, CS-B3-EXW02, CS-B3-EXW03, CS-B3-EXW04, and CS-B3-EXW05, have been injected into the bioreactor trenches since the start of injection in 2007. A UIC report is submitted to the TCEQ annually in June in accordance with CSSA's Class V Aquifer Remediation Injection Well Permit (TCEQ Authorization No. 5X2600431; WWC12002216).

2.4.3 AOC-65

Pre-Decision Document Corrective Measures

AOC-65, located along the southwest corner of CSSA boundary (Figure 1.2), consists of Building 90 and potential source areas associated with Building 90. Prior to 1966, a vat used for cleaning weapons with chlorinated liquid solvents such as PCE and TCE, was installed in the western vault at Building 90 (main portion of AOC-65). Later, a metal plate was welded over the vat, and PCE and TCE solvents were replaced with a citrus-based cleaner system.

In 1999, CSSA identified PCE-impacted drinking water off-post near AOC-65. The fractured nature of the underlying bedrock aquifer provided flow paths for contamination within the vadose zone at AOC-65 to migrate laterally and vertically. Off-post VOC contamination in excess of the MCL was identified in both private and public water well systems. In response, CSSA installed GACs on impacted wells and engaged in aggressive remedial investigations and treatability studies to mitigate impacts from AOC-65. These studies included source area identifications, soil boring and well installations, and pilot scale treatability studies. Additionally, CSSA initiated a community relations program to communicate to the public on issues related to contaminated groundwater and progress toward achieving the objectives of the Order. This program includes holding public meetings, distributing annual fact sheets to the CSSA community mailing list, regular communication with local well owners, and a publicly accessible online Environmental Encyclopedia containing the administrative record for the site.

An SVE system was installed in 2002 and removed approximately 160 kg of contaminant mass but was determined to be largely ineffective at removing sufficient contaminant mass to mitigate contamination migration to groundwater, in part due to large fluctuations in water levels within the aquifer. Extraction well screens and flow paths (fractures) were flooded during periods of higher groundwater elevations. Due to the poor performance of SVE, it was decided to discontinue SVE operations and evaluate the effectiveness of other remedial alternatives that could prove much more effective at reducing contaminant mass migration to and within the groundwater.

An approach was designed to apply ISCO within AOC-65 by taking advantage of lessons learned from successful operation of the SWMU B-3 bioreactor. In 2012, the approach for injecting ISCO material at AOC-65 included the creation of a trench within a suspected point of release (i.e., drainage ditch) and backfilling this trench with alternating layers of ½-inch-sized gravel and compacted clay. Irrigation lines were installed within each of the gravel layers creating three separate infiltration galleries within the 15-foot-deep, 4.5-foot-wide, 320-foot-long trench. The infiltration galleries were configured to target injection of ISCO solution in multiple fractures, some solutionally enlarged, that had been identified on the exposed trench walls.

The ISCO system applies oxidants within the vadose zone to destroy VOCs in groundwater. Applied oxidants infiltrate the subsurface along the same flow paths as the COCs. The ISCO solution migrates laterally and vertically to the saturated portion of the aquifer, encountering and oxidizing contaminants within fractures and

sorbed to bedrock along fracture walls. Sodium persulfate activated via high pH was selected for application within the discrete galleries due to reaction lifespan, solution density, and oxidation potential. Sodium persulfate is more stable than many other oxidants used in ISCO applications (e.g., ozone or hydrogen peroxide) yet has a relatively high oxidation potential (2.1 V). The sulfate radical is more stable than the hydroxyl radical upon catalysis. Sodium persulfate has a high solubility, and the densities of injection fluids are greater than water which allows for more effective vertical transport of oxidants in fractures or within the porous media. The reaction rate for persulfate is generally slow, up to a few weeks. The slow reaction rate/long persistence of persulfate also allows for greater dispersal and thus, affects a greater volume of contaminated media. Finally, sodium persulfate is less likely than some oxidants to leave undesirable reaction products or precipitate solids reducing permeability and contact with contaminants and foul the formation. In 2013, four ISCO injection wells (IIWs) were installed in the vadose zone along the post boundary to intercept migrating contaminants and treat the upper portion of the aquifer just above the saturated zone (**Figure 2.3**).

Post-Decision Document Corrective Measures

The application of chemical oxidants at AOC-65 is performed both passively, via the installation of oxidant infused cylinders within wells, and actively, via the periodic injection of permanganate solutions within infiltration cells and IIWs. Liquid injections occur on an as needed basis (when PCE/TCE concentrations above trace are detected within infiltration cells – indicating previously injected oxidant has either infiltrated or been consumed). Additional sampling and monitoring are also performed on the active infiltration cells.

ISCO performance monitoring at AOC-65 helps determine the distribution of VOCs within the core of Plume 2 laterally and vertically and provides operational feedback to ensure the system is operating as intended. The current ISCO performance monitoring network at AOC-65 consists of 51 monitoring locations including: 23 shallow wells installed within the UGR or upper portion of the LGR formations, 4 wells installed within the lower portion of the LGR (the productive portion of the aquifer), 6 off-post domestic water supply wells, 10 Westbay wells zones, 4 piezometers, and 4 IIWs (**Figure 2.3**). In August 2015, five additional infiltration cells were excavated and constructed within the UGR zone of limestone bedrock to help facilitate the application of ISCO chemicals.

Three ISCO injections of 10, 22, and 66 tons of sodium persulfate as a 20 percent solution activated via elevated pH occurred between 2012 and 2014. Groundwater samples collected at AOC-65 indicated injected ISCO solution follows preferential flow paths. This was inferred by the positive field identification of persulfate (oxidant) and elevated pH (activator), and the presence of reaction by-products within the monitoring well network.

Although sodium persulfate was found to be an effective oxidant, injecting large volumes of persulfate solution caused artificial mounding in the injection area, and pushed contamination east of the potential source area. In 2015, the ISCO remedial approach at AOC-65 was modified with the introduction of a new oxidant: sodium permanganate. Permanganate does not auto-decompose like persulfate, which increases the oxidant/contaminant contact time and is effective at lower concentrations; therefore, smaller volumes are required for injection. In August 2015, a small-scale injection of 3,500 gallons of 0.45 gram per liter (g/L) sodium permanganate was applied to the new infiltration cells and the infiltration galleries to monitor for detrimental effects. No detrimental effects were observed, so in November 2015 7,000 gallons of 1.0 g/L sodium permanganate was applied to the new infiltration cells and the infiltration galleries.

In order to increase the distribution of the oxidant further, the remedial approach was modified again in December 2016 with passive oxidant delivery via oxidant-infused paraffin wax cylinders. Deploying oxidant-infused cylinders allows for the continuous application of oxidants throughout the year under varying hydrologic conditions. Twelve persulfate/permanganate cylinders were installed in 6 wells at AOC-65 at the base of respective well screens (**Figure 2.3**). In 2017, an additional cylinder was installed within each well (total of 18 cylinders) to increase the concentration of oxidant in the wells. The oxidant-infused wax cylinders degrade over the course of 15-24 months, and in 2018 all cylinders were replaced, and three cylinders were installed in four additional wells (10 wells total). Cylinder installation locations were chosen by contaminant concentrations, location, well screen interval, and water levels to maximize the distribution of oxidant across the site. Additional information regarding the oxidant-infused wax cylinders can be found in [Volume 4 of the Environmental Encyclopedia](#).

A number of activities were completed following the selection of ISCO in the DD to evaluate and improve system effectiveness:

YEAR	ACTIVITIES
2015	<ul style="list-style-type: none"> A chemical tracer study was performed July to determine the migration pathways within the UGR and upper portions of the LGR limestone formations. Results from the study indicated few positive detections, making the results of the dye tracing mostly inconclusive.
2016	<ul style="list-style-type: none"> Twelve persulfate/permanganate cylinders were installed in six wells in December
2017	<ul style="list-style-type: none"> Vertical profiling of VOCs and permanganate concentrations within two of the oxidant-infused cylinder-containing wells indicated untreated groundwater occurring above the installed cylinders, and was potentially flowing through the screened interval, bypassing treatment. To remedy this, the cylinders were redistributed within well screen intervals in November and an additional cylinder was installed in each of the six cylinder-installed wells.
2018	<ul style="list-style-type: none"> In October, all 18 oxidant-infused wax cylinders were replaced with new RemOx Sr+ cylinders. Four additional wells were selected to receive oxidant-infused wax cylinders, and these were installed in November 2018.
2019	<ul style="list-style-type: none"> Approximately 600 gallons of 6.6% liquid sodium permanganate solution was injected into three IOWs and two infiltration cells in January

Groundwater contaminant concentrations were monitored monthly for the first three months following injections and quarterly thereafter at a selection of monitoring wells located within AOC-65. Groundwater samples are analyzed for VOCs, metals, total manganese, and anions (sulfate and chloride). Analytical results and additional performance parameters provide direct and indirect evidence of ISCO solution distribution, oxidizing geochemical conditions, and chlorinated solvent destruction.

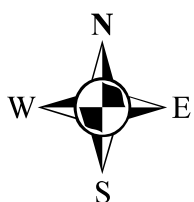
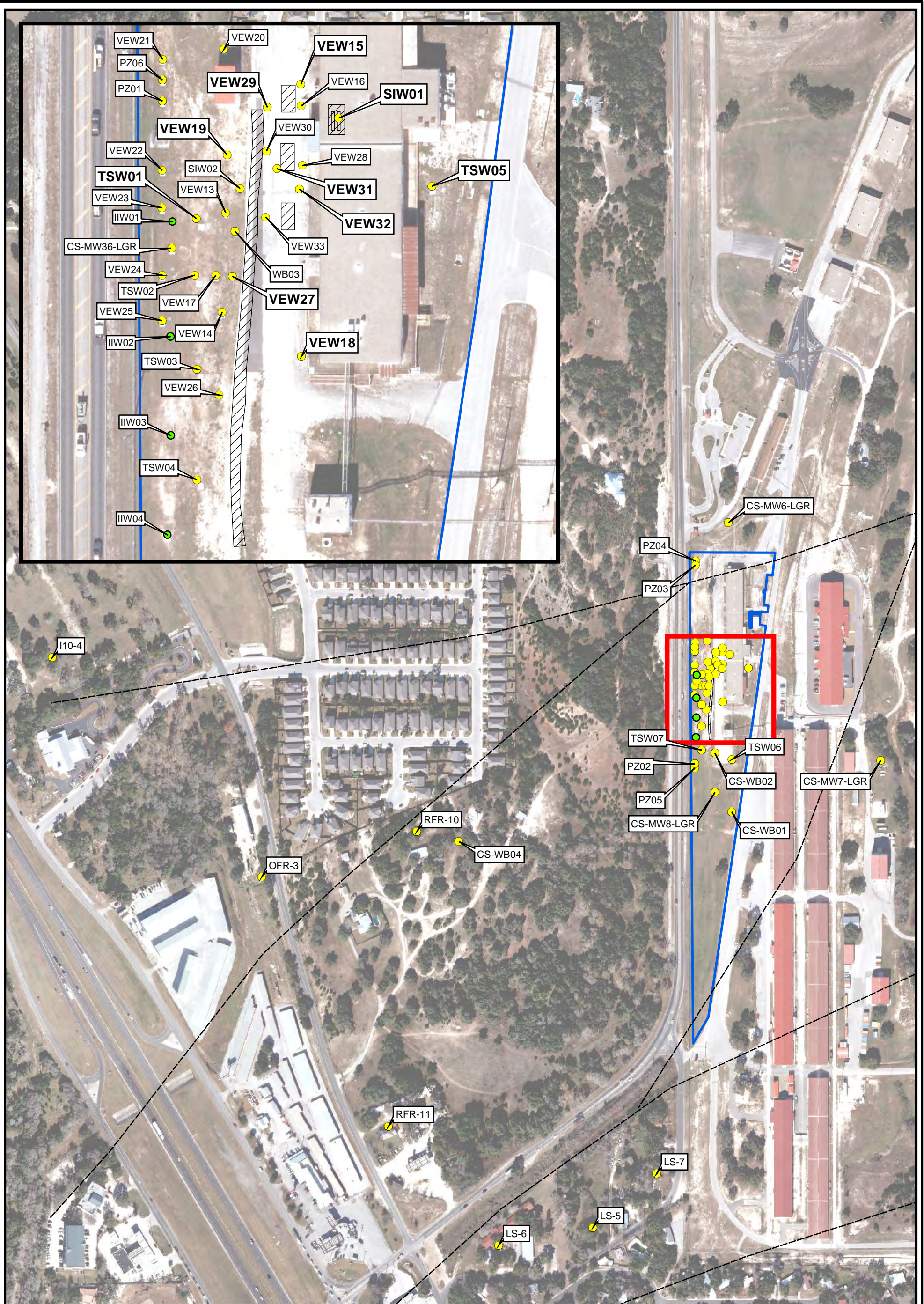
An update to the *ISCO Assessment Report* ([Volume 4 of the Environmental Encyclopedia](#)) is performed annually to summarize current conditions, field observations, analytical results, and an anticipated schedule of activities for the next reporting period. Additionally, an Annual UIC Status Report that provides a summary of ISCO activities conducted at AOC-65 during the prior year is prepared and submitted annually to TCEQ as required by the UIC permit (Authorization No. 5X2600645).

Operations & Maintenance

Oxidant applications at AOC-65 are completed by suspending oxidant-infused wax cylinders within ten monitoring wells known to have VOC concentrations near Building 90. To maintain a consistent source of oxidant in groundwater, cylinders are visually inspected during each quarterly groundwater sampling event and are replaced when the permanganate-crystal color is noticeably faded, or if significant increases in VOC concentrations are observed in groundwater samples collected from cylinder-installed wells.

Performance sampling is conducted quarterly, or on an as-needed basis based if changes in field conditions (torrential rains, etc.) or monitoring results (abnormally high VOC concentrations) require more frequent sampling.

The injection of ISCO chemicals at AOC-65 requires a Class V UIC permit. The UIC permit requires the monitoring of injection volumes, pressures, and concentrations of contaminants (including VOCs, metals, and sulfate) of the injected water which is sampled on a quarterly basis at the point of injection. Analytical results are reported to the UIC Permits Team on an annual basis as specified by the UIC permit (Authorization No. 5X2600645).



0 200 400 800 Feet

- USGS Mapped Faults
- Monitoring Location
- ISCO Injection Wells
- AOC-65 Boundary
- ▨ ISCO Infiltration Gallery/Cells
- Label** = ISCO Cylinder Installation Well

Figure 2.3
 AOC-65 ISCO
 Monitoring Locations
 Camp Stanley Storage Activity

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3 Progress Since the Last Five-Year Review

This section is intended to provide an overview of the protectiveness determinations and statements from the prior five-year review as well as the recommendations from that review and the current status of those recommendations. As this is the first five-year review, this section serves as a placeholder for the next five-year review.

4 Five-year Review Process

This five-year review was conducted in keeping with the Comprehensive Five-Year Review Guidance (OSWER Directive 9355.7-03B-P, June 2001). Corrective measure protectiveness for the three sites at CSSA was evaluated through community involvement activities and data reviews.

4.1 COMMUNITY NOTIFICATION, INVOLVEMENT & PERSONAL INTERVIEWS

A number of methods are used to provide information to the public regarding CSSA's environmental program, including:

- A Community Relations Plan updated every five years;
- Online Administrative Record (Environmental Encyclopedia) available to the public;
- Public meetings;
- Annual fact sheets; and
- Quarterly letters to off-post well owners summarizing the monitoring and treatment of their wells.

A public notice in the form of a two-sided post card was mailed out to all 190 community members on the CSSA mailing list on February 28, 2020 informing them that CSSA is performing a five-year review to determine whether the corrective measures being implemented in accordance with the DD issued for SWMU B-3, AOC-65, and associated groundwater plumes remain protective of human health and the environment. The mailing list includes local residents, community organizations, and state and local government officials. In addition to announcing the five-year review, the notice included a summary of the remedies in place at CSSA, contact information for the Installation Manager, and an invitation for the public to contact CSSA if they have questions, comments, or concerns regarding the remedies or the review process. A copy of the post card is included in **Appendix B**.

As part of the five-year review, in-person interviews were conducted on February 26-27, 2020 with five local residents who have a well equipped with a GAC. These community members were chosen because they are most directly affected by the groundwater corrective actions implemented by CSSA. Interviews were conducted to evaluate public perception of the effectiveness of the remedies implemented for groundwater in protecting human health and the environment.

Specific interview questions and responses are provided in Appendix B of this report. Interview responses are summarized as follows:

- The well owners' overall impression of how CSSA is managing the groundwater plumes was positive. They felt comfortable with CSSA's presence and willingness to answer any questions they have about the program.
- None of the well owners said they had concerns nor were they aware of concerns in the community about CSSA's groundwater program. One well owner indicated he does not want to shut down his well in the future and hook up to San Antonio Water System (SAWS), as he wants to keep his well.
- All five well owners feel adequately informed about project activities and progress.
- None of the well owners had concerns related to the operation and handling of their GAC units.
- The well owners did not have any additional comments, suggestions, or recommendations for CSSA related to the groundwater program. One well owner said she would bring up the interview questions at her next [church] meeting and let CSSA know if she receives any additional feedback.

USEPA recommended a public meeting be held only if significant questions or comments were received from the community following the post card mailing. To date, no responses to the notice have been received from the public. A public meeting may be reconsidered following publication of the draft five-year review report.

4.2 DATA REVIEW

This section includes an overview of data collected since the DD that is relevant to corrective measure performance and progress towards meeting CAOs. Data relevant to remedy performance and progress towards meeting CAOs will be discussed, including data trends to evaluate whether CAOs being achieved, data relevant to support engineering performance, and data related to the potential optimization strategies for the remedies.

The groundwater monitoring program and associated corrective measure (wellhead GAC filtration) focus on reducing risk to potential receptors and determining broad aspects of plume dynamics. The corrective measures at SWMU B-3 (bioreactor) and AOC-65 (ISCO) focus on contaminant reduction, and containment and source area plume core characterization. Analytical data used to determine contaminant trends associated with Plume 1 and 2 groundwater monitoring, SWMU B-3 bioreactor corrective measure performance, and AOC-65 ISCO corrective measure performance are provided in **Tables 4.1 through 4.3**, respectively, which are provided in Appendix C.

Groundwater Monitoring Program

As described in Section 2.4.1, an LTMO evaluation was performed in 2020 to identify groundwater concentration trends and potential data gaps. Statistical and spatial parameters are also assessed for potential opportunities to reduce monitoring locations and/or sampling frequencies without sacrificing the monitoring objectives. The three-tiered LTMO (3TMO) process involves performing a Mann-Kendall temporal trend analysis on the analytical data, a spatial evaluation of well locations, and a qualitative evaluation of the well parameters. Temporal trend analysis results in one of the following outcomes as shown in **Table 4.4**.

Table 4.4. 3TMO Temporal Trend Outcomes

3TMO Temporal Trend	Definition
Increasing	Statistically significant (>95% confidence) increasing trend in concentrations
Probably Increasing	Statistically significant (90-95% confidence) increasing trend in concentrations
Stable	No statistically significant (<90% confidence) temporal trend in concentrations; low variability of results (coefficient of variation [COV] <1)
No Trend	No statistically significant (<90% confidence) temporal trend in concentrations; high variability of results (coefficient of variation COV > 1)
Probably Decreasing	Statistically significant (90-95% confidence) decreasing trend in concentrations
Decreasing	Statistically significant (>95% confidence) decreasing trend in concentrations
ND	Constituent has not been detected during the history of monitoring at the indicated well
< PQL	All sample results have a qualifier of "J" or the results are a mixture of non-detects and results having a "J" qualifier
<4 Results	Fewer than four measurements for COC; no trend evaluated

For this (2020) LTMO evaluation, wells associated with corrective measures monitoring at SWMU B-3 and AOC-65 were evaluated separately from groundwater monitoring program wells. Specific monitoring locations were then evaluated separately for SWMU B-3 and AOC-65. This differs from the 2015 LTMO evaluation where all monitoring locations were considered for the entire Plume 1 or Plume 2 areas without the separate SWMU B-3 and AOC-65 evaluations.

Temporal trend analysis of PCE concentrations in on- and off-post groundwater wells over the last five years (or last four sampling results if fewer than four of samples are collected in the last five years) generally indicate stable or decreasing trends for wells containing concentrations above the reporting limit. Details regarding the data inputs and methods for determining the Mann-Kendall trends are provided in the *LTMO 2020 Update* (Parsons, 2020a). Results of the Mann-Kendall trend analyses for PCE are summarized as follows and are depicted on **Figure 4.1** and listed in **Table 4.5**.

Table 4.5. 3TMO Temporal Trends for PCE in Groundwater Wells Associated with Plumes 1 and 2

3TMO Temporal Trend	Number of Monitoring Locations (Wells or Westbay Zones)
Increasing	1 ^{a/}
Probably Increasing	0
Stable	22
No Trend	9
Probably Decreasing	5
Decreasing	6
ND	32
< PQL	25
<4 Results	2 ^{b/}

^{a/} Uppermost LGR zone in WB01 near the source area. PCE concentrations in this zone are below the MCL of 5 µg/L.

^{b/} Uppermost UGR zone in WB02 and WB04 are typically dry due to their shallow depths and therefore were not sampled.

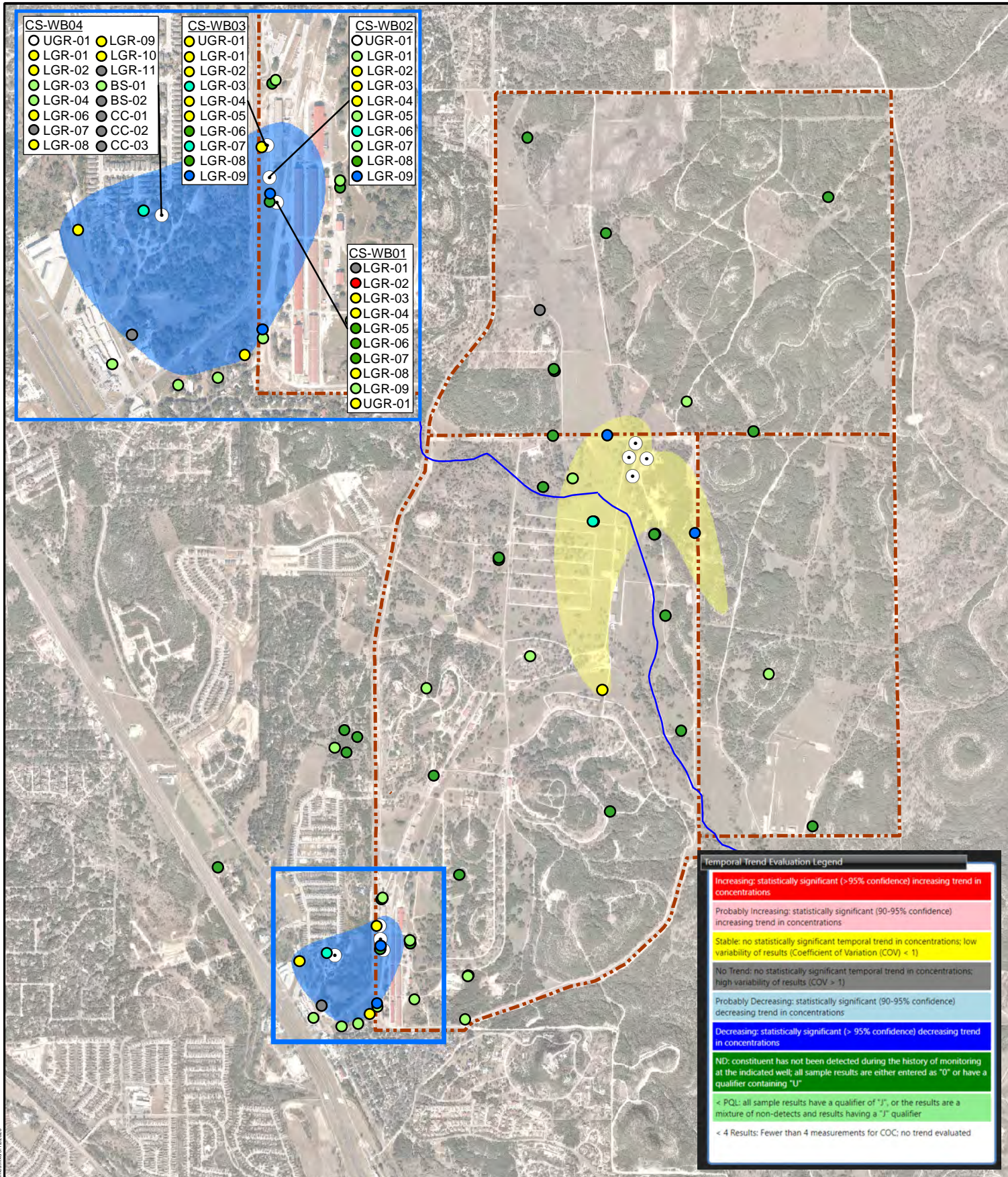
Examining data from specific monitoring locations also provides insight into how aspects of the corrective measures are functioning as well as giving an overall sense of the effectiveness of the corrective measure. Currently, six off-post domestic water supply wells are impacted by VOCs originating from on-post source area(s). These six wells are monitored quarterly, and while COC concentrations in some wells are above MCLs prior to GAC filtration, the systems remove all VOCs from the water prior to consumptions and reduce potential exposure to contaminants and are protective of human health. All off-post wells currently show decreasing or ND temporal trends (**Figure 4.1**).

Raw water samples collected from one of the six GAC-equipped private drinking water wells, RFR-10, exhibit a wide range of VOC concentrations. Samples collected after water has passed through the filtration system (prior to distribution) indicate that all contaminants have been removed (**Figure 4.2**). Similar data for the remaining 5 wells and post-GAC sampling points are available in quarterly and annual groundwater reports ([Volume 5 of the Environmental Encyclopedia](#)).

SWMU B-3

Bioreactor performance at SWMU B-3 is monitored by the collection and analysis of groundwater data. Monitoring locations include: sumps (installed within each of the bioreactor trenches), extraction wells (source of impacted groundwater applied to the bioreactor), Westbay wells (provide vertical context of contaminant distribution adjacent to the bioreactor), UGR monitoring wells (provide lateral context of contaminant distribution within the vadose zone around the bioreactor), and LGR monitoring wells (provide lateral context of contaminant distribution within the main aquifer body).

Sampling at bioreactor monitoring locations occurs quarterly or semi-annually (to satisfy UIC permit requirements) or every 9 months (performance monitoring). UIC permit requirements include monitoring frequency (quarterly and semi-annual), monitoring location (holding tank prior to injection, sumps, and LGR-03B zones of surrounding Westbay wells), and analytes (VOC, TDS, field collected pH). Typical data collected from each monitoring location for performance monitoring include water level, field parameters (including pH, ORP, conductivity, dissolved oxygen, and temperature), and groundwater samples for COC and other geochemical and performance indicator analyses. The full list of analyses and monitoring locations and results is provided in the most recent Annual Bioreactor Performance Report ([Volume 4 of the Environmental Encyclopedia](#)).



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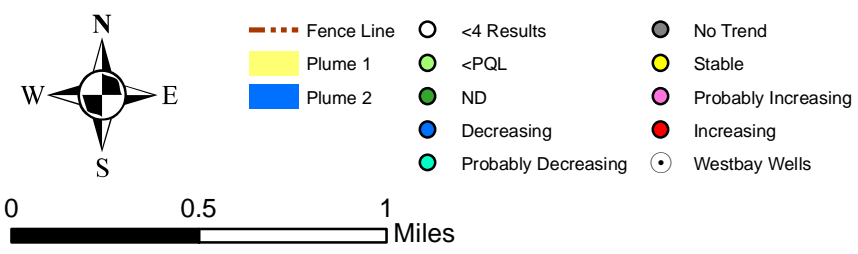


Figure 4.1
 Temporal Trends for PCE in Groundwater Wells Associated with Plumes 1 and 2
 Camp Stanley Storage Activity
PARSONS

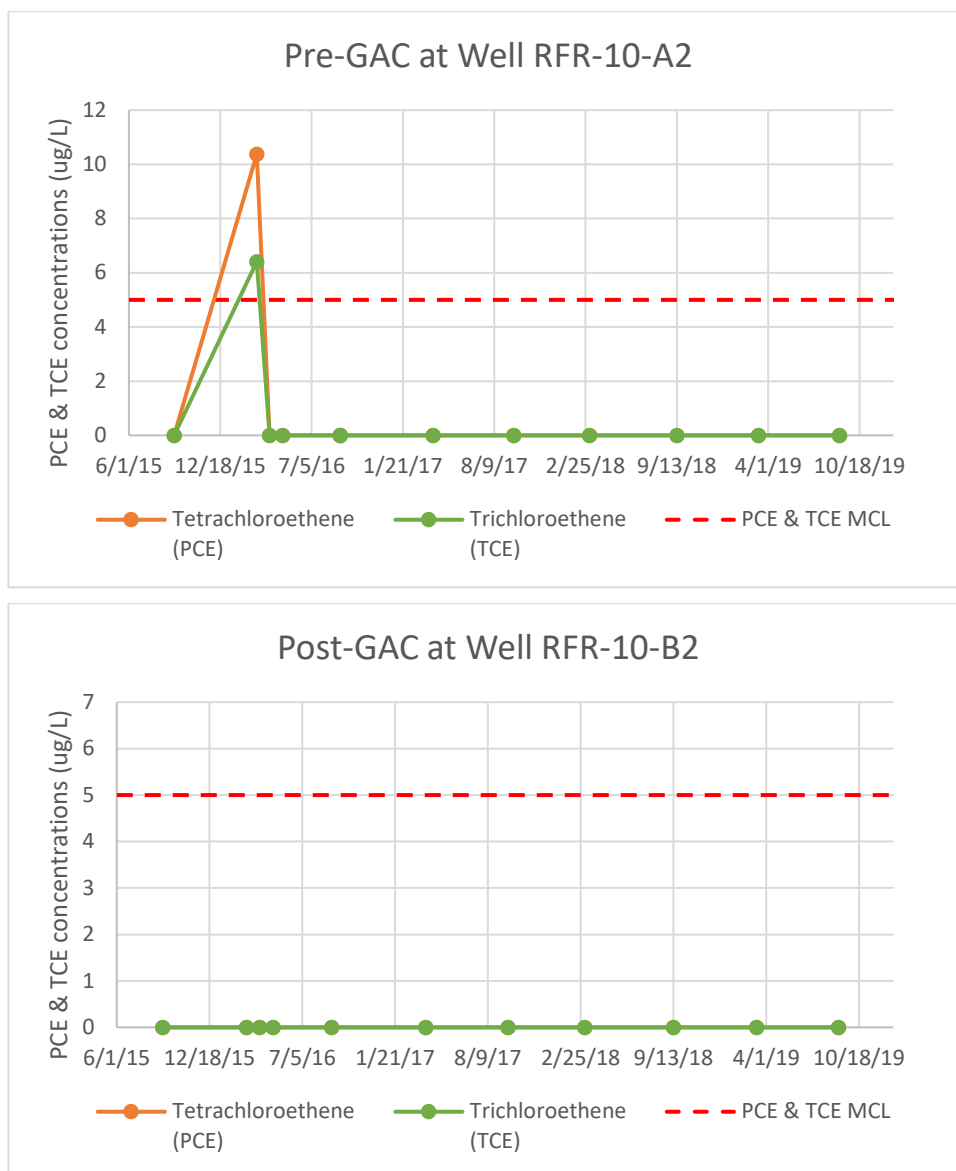
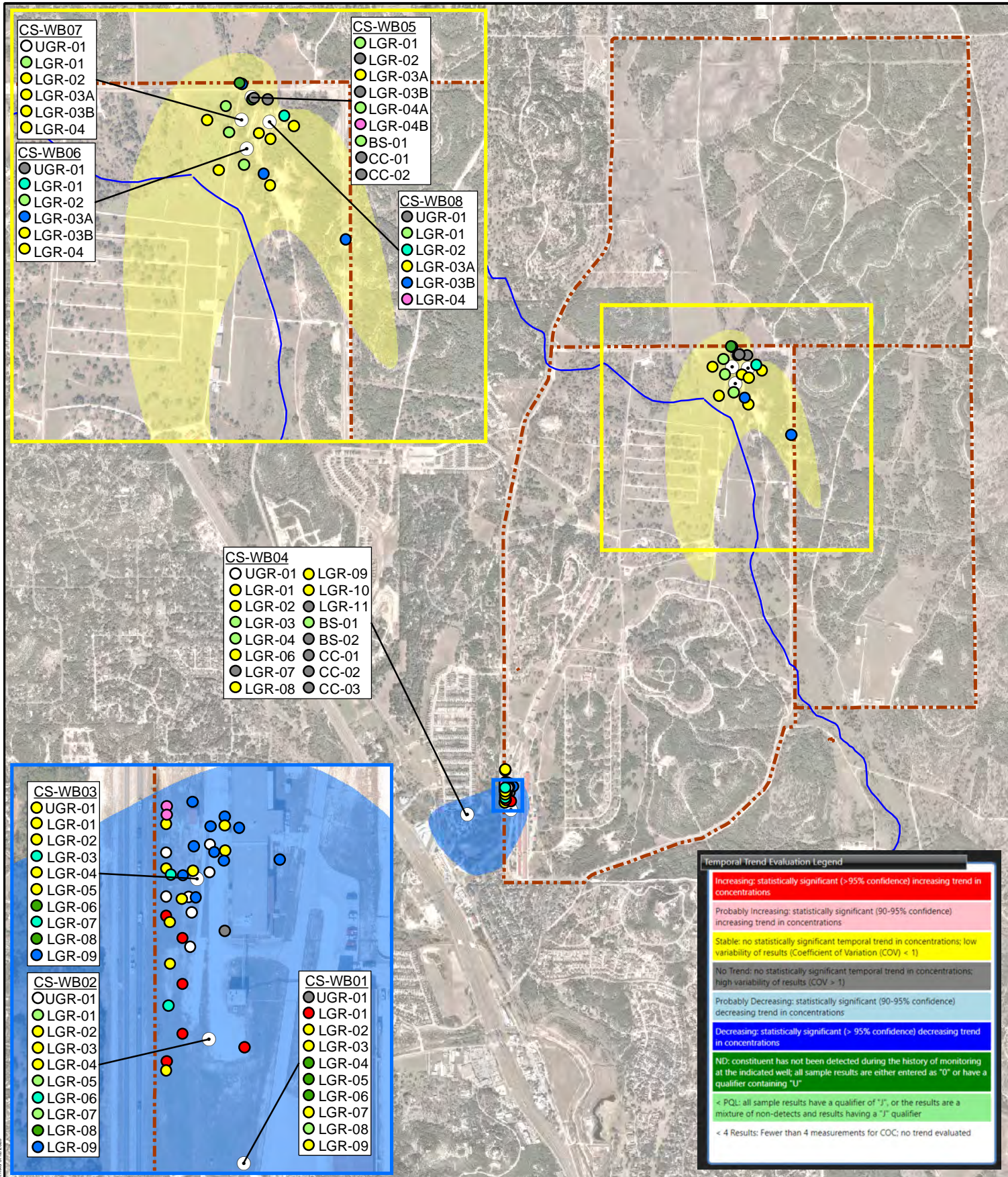


Figure 4.2 PCE and TCE Concentrations at Well RFR-10 Pre- (A2) and Post-GAC Filtration (B2)

Trend analysis of VOC concentrations within bioreactor monitoring locations over the last five years was performed as part of the 2020 LTMO evaluation (Parsons, 2020a). Results generally indicate decreasing or stable trends of parent compounds (PCE and TCE) and stable, increasing, and decreasing trends of daughter products (DCE and vinyl chloride). Results of the Mann-Kendall trend analyses for COCs in wells associated with SWMU B-3 monitoring are listed in **Table 4.6** and PCE trends are depicted on **Figure 4.3**. Details regarding the data inputs and methods for determining the Mann-Kendall trends are provided in the *LTMO 2020 Update* (Parsons, 2020a).



Temporal Trend Evaluation Legend	
Increasing: statistically significant (>95% confidence) increasing trend in concentrations	Increasing trend in concentrations
Probably Increasing: statistically significant (90-95% confidence) increasing trend in concentrations	Probably increasing trend in concentrations
Stable: no statistically significant temporal trend in concentrations; low variability of results (Coefficient of Variation (COV) < 1)	Stable
No Trend: no statistically significant temporal trend in concentrations; high variability of results (COV > 1)	No trend
Probably Decreasing: statistically significant (90-95% confidence) decreasing trend in concentrations	Probably decreasing trend in concentrations
Decreasing: statistically significant (> 95% confidence) decreasing trend in concentrations	Decreasing trend in concentrations
ND: constituent has not been detected during the history of monitoring at the indicated well; all sample results are either entered as "0" or have a qualifier containing "U"	Not Detected (ND)
< PQL: all sample results have a qualifier of "J", or the results are a mixture of non-detects and results having a "J" qualifier	Below PQL
< 4 Results: Fewer than 4 measurements for COC; no trend evaluated	< 4 Results

--- Fence Line

■ Plume 1

■ Plume 2

○ <4 Results

● <PQL

● ND

● Decreasing

● Probably Decreasing

● No Trend

● Stable

● Probably Increasing

● Increasing

○ Westbay Wells

Figure 4.3
Temporal Trends for PCE
in Corrective Measures Wells
Camp Stanley Storage Activity
PARSONS

Table 4.6. 3TMO Temporal Trends for COCs in SWMU B-3 Monitoring Locations

3TMO Temporal Trend	Number of Monitoring Locations (Wells, Sumps, or Westbay Zones) with Trend			
	PCE	TCE	cis-1,2-DCE	Vinyl Chloride
Increasing	0	2 ^{a/}	3	2
Probably Increasing	2 ^{b/}	1 ^{c/}	0	1
Stable	17	26	32	13
No Trend	14	7	9	20
Probably Decreasing	4	2	2	1
Decreasing	6	10	9	4
ND	2	2	1	16
< PQL	12	9	1	0
<4 Results	4	4	4	4

^{a/} Two locations indicated *Increasing* temporal trends in 3TMO for TCE - WB08-LGR-04 and B3-T1-1. The Increasing temporal trend at WB08-LGR-04 is likely related to its location between the bioreactor and an extraction well pulling contaminated groundwater toward the trenches. The Increasing trend at trench sump location B3-T1-1 is due to the application of extracted contaminated groundwater into the active trench.

^{b/} Two locations indicated *Probably Increasing* temporal trends in 3TMO for PCE - WB05-LGR-04B and WB08-LGR-04. The Probably Increasing trend these locations are likely related to their locations between the bioreactor and extraction wells.

^{c/} One location indicated a *Probably Increasing* temporal trends in 3TMO for TCE - B3-T1-1. The Probably Increasing trend at this trench sump location is due to the application of extracted contaminated groundwater into the active trench.

Examining data from specific monitoring locations also provides insight into how aspects of the corrective measure are functioning as well as giving an overall sense of the effectiveness of the corrective measure. Well CS-MW16-LGR was the first well in which PCE was detected (1996) and has since been incorporated into the bioreactor system as one of the extraction wells that feed VOC impacted groundwater to the trenches. Since bioreactor operations began, VOC concentrations within this well have steadily declined as contaminant mass is reduced (**Figure 4.4**).

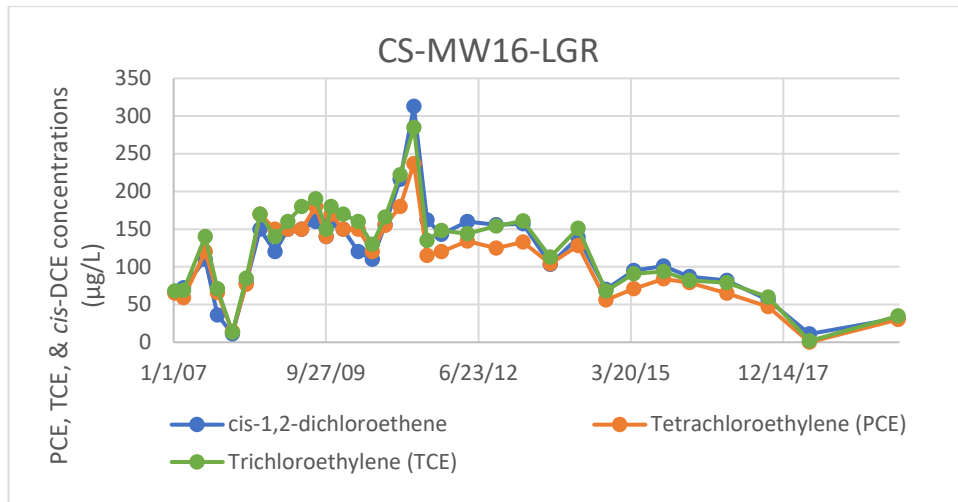


Figure 4.4 VOC Concentrations at Well CS-MW16-LGR Since Bioreactor Construction

A comparison of VOC concentrations collected from samples from Sump T1-3 (located within the trench) prior to reinjection and from operable trenches (**Figure 4.5**). Additionally, reduction products (vinyl chloride) are observed at depth within samples collected from the WB05-LGR-04B zone (located within the plume. This zone is located within the productive portion of the main aquifer body, indicating that reducing conditions generated within the trenches are infiltrating into deeper portions of the aquifer and are actively reducing contaminants (**Figure 4.6**).

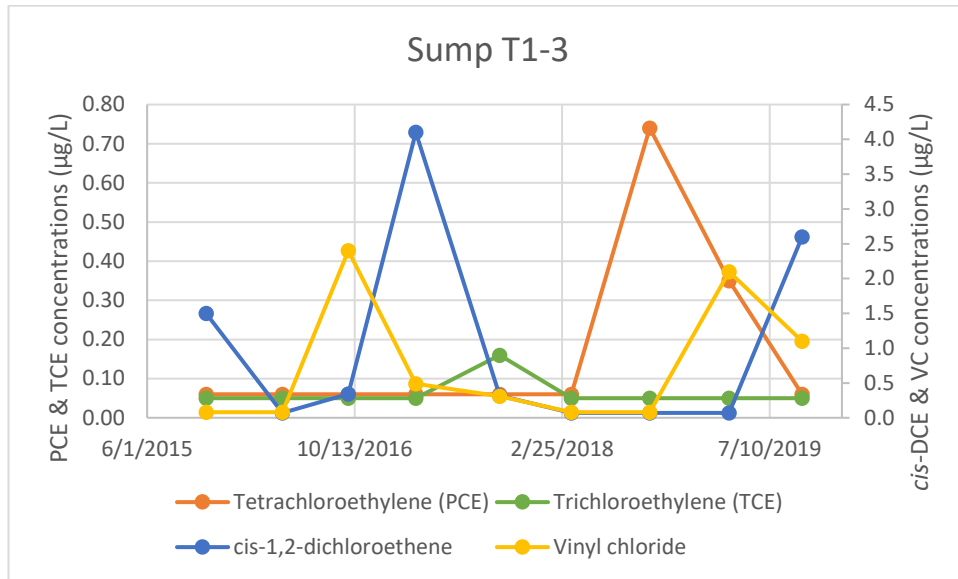


Figure 4.5 VOC Concentrations in Sump T1-3 Past Five Years

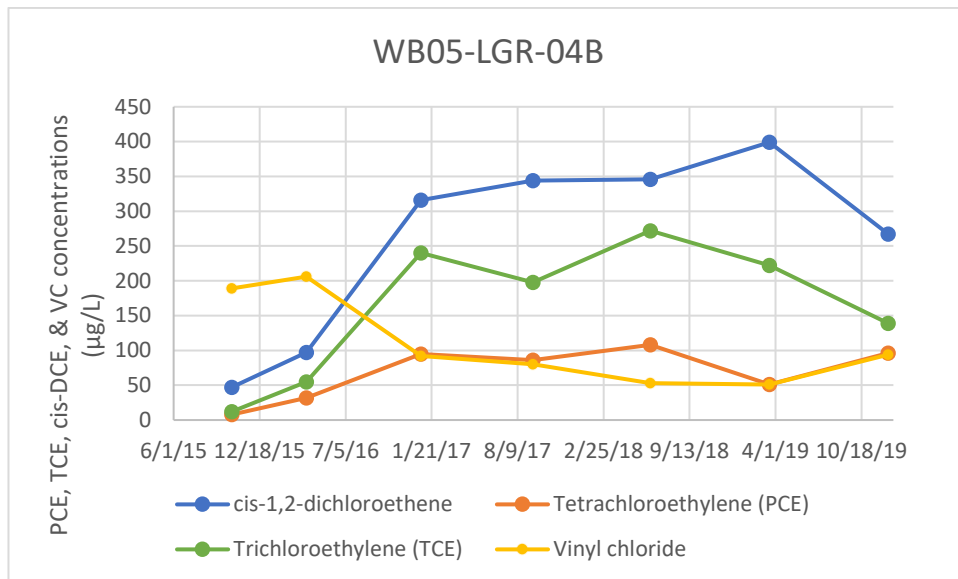


Figure 4.6 VOC Concentrations at Westbay Well/Zone WB05-LGR-04B

Data from monitoring efforts indicate that the SWMU B-3 bioreactor has continued to maintain appropriate geochemical conditions for effective anaerobic dechlorination of COCs in groundwater. Analytical results from trench sumps samples provides evidence that biotic and abiotic dechlorination of PCE and TCE is occurring. The presence of ethene indicates that the biotic reductive dechlorination process appears to be the major degradation pathway for COCs within the trenches and that complete reductive dechlorination is occurring.

To evaluate the effectiveness of the bioreactor corrective measure, concentrations of PCE measured at SWMU B-3 monitoring locations in 2015 (prior to the DD) were compared to post-DD concentrations from 2019 (**Figure 4.7**). Concentrations of PCE decreased or remained stable at most monitoring locations. Exceptions include specific zones within WB05 and WB06, where increases in concentrations are observed. Both of these monitoring locations lie directly between the bioreactor and the extraction well network. Pumping from extraction wells CS-MW16-LGR to the north and CS-B3-EXW01 and CS-B3-EXW02 to the south draws contamination from the bioreactor and toward WB05 and WB06, respectively. The increase in concentration between 2015 and 2019 at sump T6-1 is due to its location within Trench 6 where extracted contaminated groundwater is reinjected into the bioreactor.

AOC-65

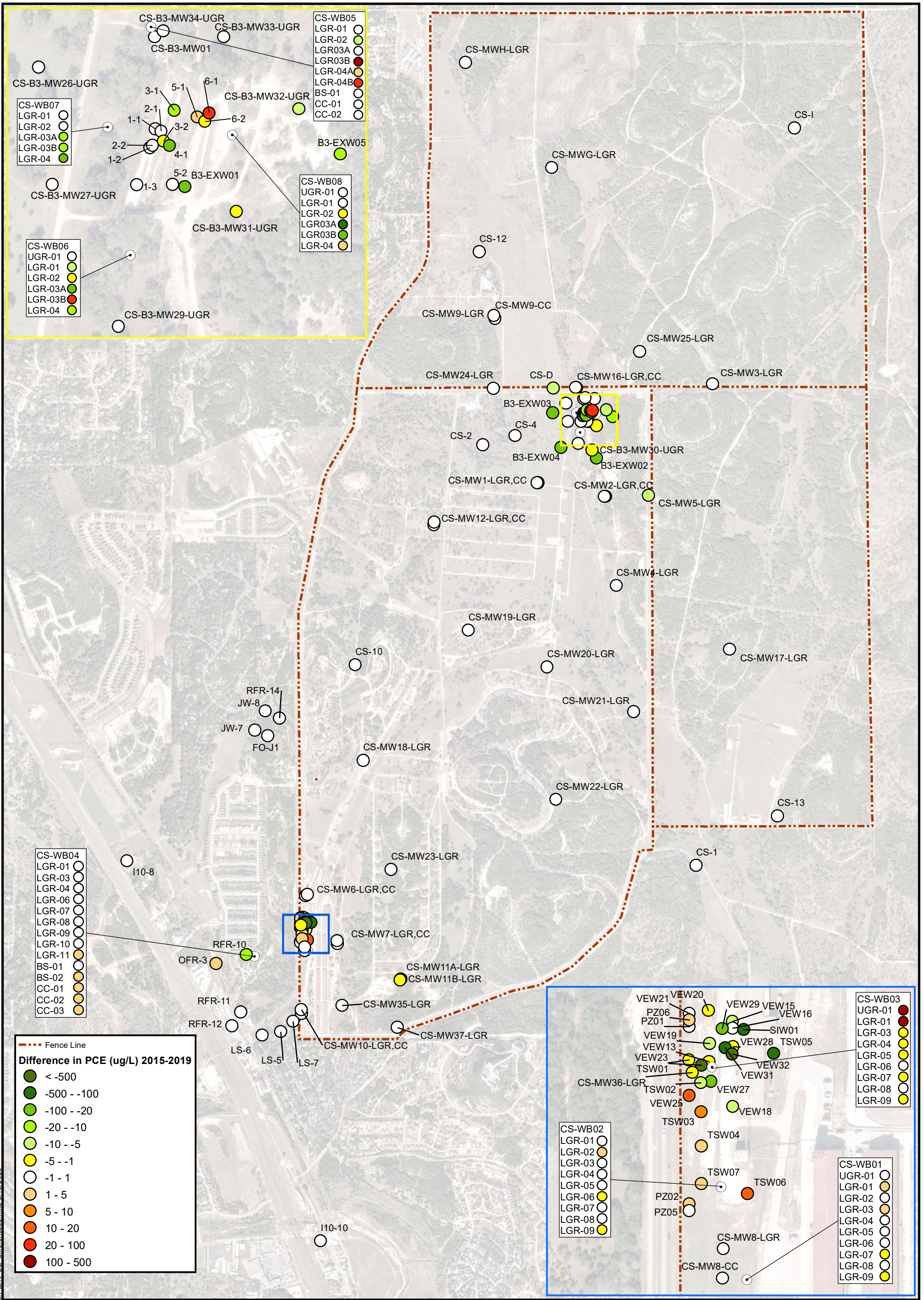
ISCO performance at AOC-65 is monitored by the collection and analysis of groundwater data. Monitoring locations include: wells installed within the UGR (VEWs, SIWs, TSWs, and Piezometers) to determine contaminant concentrations within the treatment area near the release point, wells installed within the LGR (MWs and VEWs, and off-post supply wells) to monitor distribution of contaminants within the main aquifer body, and Westbay wells to provide context of vertical distribution of contaminants. Typical data collected from each monitoring location include water level, field parameters (including pH, ORP, conductivity, dissolved oxygen, and temperature), and groundwater samples for COC, as well as a selection of metals. The full list of analyses and monitoring locations and results is provided in the most recent Annual ISCO Performance Report ([Volume 4 of the Environmental Encyclopedia](#)).

Mann-Kendall statistical analysis of COC concentrations over time were used to gauge changes in contaminant concentrations and determine the effectiveness of ISCO applications as part of the 2020 LTMO evaluation (Parsons, 2020a). Trend analysis of VOC concentrations within ISCO monitoring locations over the last five years generally indicate decreasing or stable VOC trends. Unsurprisingly, many of the wells where oxidant cylinders are installed include decreasing, probably decreasing trends or include results below the PQL or have no detections. If significant VOC concentrations are observed within these wells, it is an indication that the oxidant within installed cylinders has been consumed and require replacing, or water levels have changed and an adjustment of the cylinder placement within well screens is required. Results of the Mann-Kendall trend analyses for COCs in wells associated with SWMU B-3 monitoring are listed in **Table 4.7** and are PCE trends are depicted on **Figure 4.3**. Details regarding the data inputs and methods for determining the Mann-Kendall trends are provided within the *LTMO 2020 Update* (Parsons, 2020a).

Table 4.7. 3TMO Temporal Trends for COCs in AOC-65 Monitoring Locations

3TMO Temporal Trend	Number of Monitoring Locations (Wells or Westbay Zones) with Trend			
	PCE	TCE	<i>cis</i> -1,2-DCE	Vinyl Chloride
Increasing ^{a/}	7	7	0	0
Probably Increasing ^{a/}	2	2	0	1
Stable	17	10	4	0
No Trend	4	3	4	4
Probably Decreasing	3	6	3	0
Decreasing	13	8	4	0
ND	0	0	0	0
< PQL	5	12	10	0
<4 Results	0	0	0	0

^{a/} *Increasing* and *Probably Increasing* temporal trends in AOC-65 monitoring locations are likely due to COCs coming in contact with the oxidant and desorbing from the bedrock matrix.



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Figure 4.7
 Differences in Pre-DD (2015) and Post-DD (2019) PCE Concentrations
 Camp Stanley Storage Activity
PARSONS

Examining data from specific monitoring locations also provides insight into how aspects of the corrective measure are functioning as well as giving an overall sense of the effectiveness of the corrective measure. VOC concentrations within wells AOC65-TSW-01 show ISCO effectiveness as concentrations pre-application are quickly reduced to non-detect or near non-detect as shown in **Figure 4.8** after permanganate cylinders were installed and adjusted to ensure treatment of inflowing groundwater. Monitoring locations without cylinders, such as WB03-UGR-01, demonstrate ISCO effectiveness across AOC-65 with similar reductions of VOC concentrations immediately after permanganate cylinders were installed or adjusted (**Figure 4.9**).

No significant changes associated with ISCO activities in VOC concentrations were observed at any of the off-post private supply wells. However, analytical results from samples collected at AOC-65 indicate a spike in manganese concentrations following cylinder installation and subsequent decreases in manganese concentrations. The full list of analyses and results is provided in the most recent Annual ISCO Performance Report ([Volume 4 of the Environmental Encyclopedia](#)).

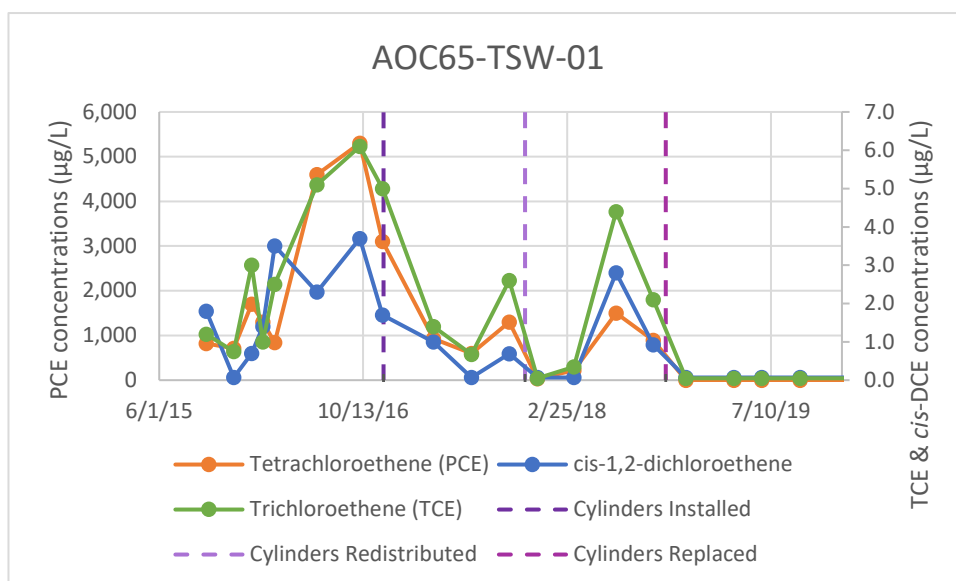


Figure 4.8 VOC Concentrations at Well AOC65-TSW-01

To evaluate the effectiveness of the ISCO corrective measure, concentrations of PCE measured at AOC-65 monitoring locations in 2015 (prior to the DD) were compared to post-DD concentrations from 2019 (**Figure 4.7**). Changes in PCE concentrations over this time period varied based on the location of oxidant application. Wells containing ISCO cylinders exhibited the greatest decreases in PCE concentrations (AOC65-VEW-15, AOC65-VEW-18, AOC65-VEW-19, AOC65-VEW-27, AOC65-VEW-29, AOC65-VEW-31, AOC65-VEW-32, AOC65-SIW-01, AOC65-TSW-01, and AOC65-TSW-05). This is to be expected because the oxidant is directly applied to these wells. PCE concentrations in the uppermost zones for Westbay well WB03 have historically demonstrated dramatic fluctuations from year to year, as depicted on Figure 4.9 (UGR-01). Due to the fluctuations consistently observed in these two zones, WB03 is not a reliable location for contaminant comparisons over time. Smaller increases in PCE concentration in other AOC-65 monitoring locations are most likely a result of desorption and mobilization of contaminants from the source area during treatment.

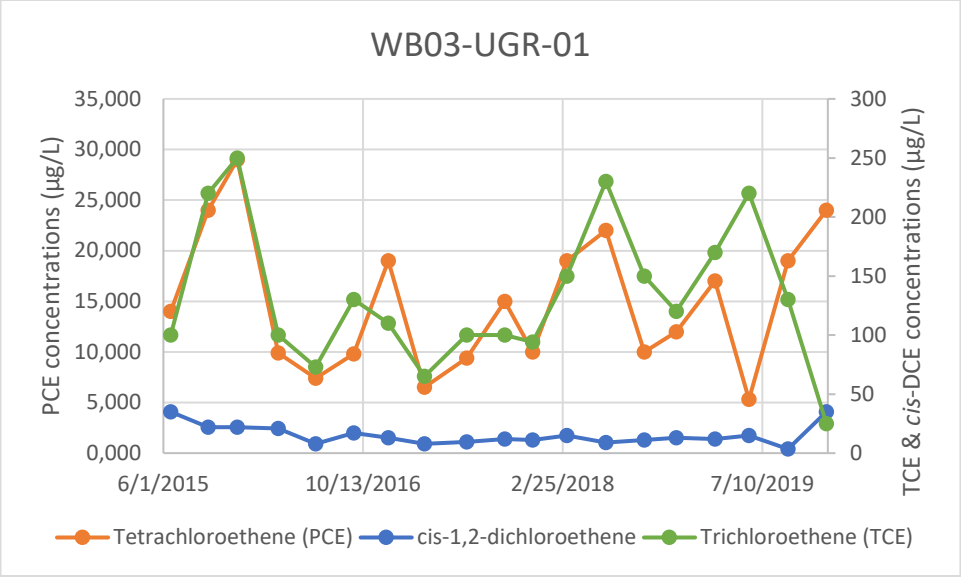


Figure 4.9 VOC Concentrations at Westbay Well/Zone WB03-UGR-01

5 Technical Assessment

Three questions are examined in the technical assessment to evaluate whether the remedy at CSSA is protective of human health and the environment:

- Question A – Is the Corrective measure functioning as intended by the DD?
- Question B - Are the exposure assumptions, toxicity data, cleanup levels, and CAOs used at the time of corrective measure selection still valid?
- Question C - Has any other information come to light that could call into question the protectiveness of the corrective measure?

Each of these questions is addressed in the following subsections.

5.1 QUESTION A – IS THE CORRECTIVE MEASURE FUNCTIONING AS INTENDED BY THE DD?

The USEPA (2001) guidance document for five-year reviews identifies several areas to be considered in evaluating whether the remedy selected in the DD is functioning as intended. Areas of consideration include:

- Corrective Measure Performance – Is the corrective measure operating as designed? Does the current monitoring provide adequate information to assess the protectiveness and effectiveness of the corrective measure implemented?
- System O&M – Will the system and current O&M activities maintain the effectiveness of the response actions?
- Implementation of Institutional Controls and Other Measures – Are these elements functioning as planned?
- Optimization opportunities – Are there any areas for improvement?
- Early indications of potential issues – Are there problems that could indicate that the remedy may not be protective or suggest protectiveness is at risk unless changes are made?

A review of documents, monitoring data, and LTMO analyses indicates that the corrective measures in place for groundwater and the SWMU B-3 and AOC-65 source areas as outlined in the 2015 DD/Statement of Basis are functioning as designed. O&M activities, with routine evaluation and modification as needed, have been effective in keeping the corrective measures performing efficiently. Institutional controls remain in place including restricted access to the CSSA facility and the requirement for intrusive work permits. Based on the assessment of the performance of the selected corrective measures, there were no problems identified that could indicate that the remedies for groundwater, SWMU B-3, and AOC-65 may not be protective or suggest protectiveness is at risk unless changes are made. The areas of consideration for Question A listed above are summarized in **Table 5.1**.

Table 5.1. Technical Assessment Question A

Question A Considerations		Groundwater	SWMU B-3 Bioreactor	AOC-65 ISCO
Corrective Measure Performance	Is the corrective measure operating as designed?	Yes; the system consists of 102 monitoring wells and 7 GAC units, all operating as designed	Yes; migration of COCs in groundwater from the source area is being prevented or minimized due to the ongoing operation of the Bioreactor treatment system.	Yes; the application of chemical oxidants to the groundwater performed as part of the ISCO program destroys VOCs in groundwater
	Does the current monitoring provide adequate information to assess the protectiveness and effectiveness of the corrective measure implemented?	Yes; sampling at groundwater monitoring locations varies between quarterly (drinking water wells and off-post GAC wells) and every 30 months depending on risk to receptors, variability of COC concentrations, and location.	Yes; the bioreactor performance monitoring network consists of 7 extraction wells, 12 trench sumps, 4 Westbay wells, and 11 monitoring wells	Yes; the current ISCO performance monitoring network consists of 51 monitoring locations which are sampled on a quarterly basis.
System O&M	Will the system and current O&M activities maintain the effectiveness of the response actions?	Yes; GAC units undergo regular maintenance to ensure effectiveness. Regular updates to the LTMO and groundwater DQOs identify wells that can be removed from the groundwater monitoring program.	Yes; weekly and monthly O&M of the bioreactor ensures early identification of any issues and necessary equipment updates.	Yes; the wax cylinders are visually inspected during each quarterly groundwater sampling event and are evaluated for replaced based on changes in the wax color or to the VOC concentrations in the well.
Implementation of Institutional Controls and Other Measures	Are these elements functioning as planned?	Yes; biannual GAC samples confirm that the POU filtration systems are working effectively and that VOCs are reduced to concentrations below drinking water MCLs. In addition, the bioreactor, AOC-65, and the surrounding area are undisturbed, and the fence and security around CSSA are intact.		
Early indications of potential issues	Are there problems that could indicate that the remedy may not be protective or suggest protectiveness is at risk unless changes are made?	No; no problems were identified.		

Table 5.1. Technical Assessment Question A (cont.)

Question A Considerations		Groundwater	SWMU B-3 Bioreactor	AOC-65 ISCO
Optimization opportunities	Are there any areas for improvement?	No; optimizations to the groundwater monitoring program are identified and implemented on a regular basis through the LTMO and DQO process.	No; potential enhancements to the system are identified in the annual Bioreactor Performance Status reporting process.	<p>Yes; there are still groundwater monitoring locations with high levels of PCE & TCE. Additional oxidant-infused wax cylinders could be installed in these monitoring locations and/or liquid injections performed.</p> <p>Due to a potential lag between the end of a cylinder lifespan and the groundwater monitoring schedule, it's possible that there is a gap of limited application. Replacing the cylinders on a more regular basis will ensure a continuous supply of oxidant in cylinder-installed wells. Potential enhancements to the system are also identified in the annual ISCO Performance Status reporting process.</p>

5.2 QUESTION B - ARE THE EXPOSURE ASSUMPTIONS, TOXICITY DATA, CLEANUP LEVELS, AND CAOS USED AT THE TIME OF CORRECTIVE MEASURE SELECTION STILL VALID?

USEPA (2001) also identifies several areas to be considered in evaluating whether the exposure assumptions, toxicity data, cleanup levels, and CAOs used at the time of remedy selection remain valid. Areas of consideration include:

- Changes to standards and 'to be considered' (TBC) analytes - Are there standards identified as relevant and appropriate, newly promulgated standards, and/or changes in TBCs that could call into question the protectiveness of the remedy?
- Changes to Toxicity and other Contaminant Characteristics - Have new contaminants or contaminant sources been identified? Are there unanticipated toxic byproducts of the remedy not previously addressed by the DD? Are there changes in the toxicity factors for the contaminants of concern?
- Changes to Risk Assessment Methods - Have USEPA's standardized risk assessment methodologies or guidance have changed in a way that could affect the protectiveness of the remedy?
- Changes in Exposure Pathways - Are there changes in land use or the anticipated land use on or near the site? Have new human health or ecological exposure pathways or receptors been identified? Are there changes in the physical site conditions?
- Expected Progress Towards Meeting CAOs - Is the remedy progressing as expected towards meeting CAOs? Have new site conditions (e.g., discovery of new contaminants) impacted CAOs and remedy protectiveness?

Overall, the exposure assumptions, toxicity data, cleanup levels, and CAOs used at the time of remedy selection are still valid. There have been no changes in the physical conditions of the site over the past five years that affect the protectiveness of the remedy. The remedy for the site addressed risks related to on-site and off-site exposure to VOCs in groundwater.

5.2.1 CHANGES TO STANDARDS AND TBCS

No changes in cleanup standards or TBC analytes for groundwater were identified during this review.

5.2.2 CHANGES TO TOXICITY AND OTHER CONTAMINANT CHARACTERISTICS

In December 2016, CSSA collected groundwater samples from three on-post public water supply wells (CS-1, CS-10, CS-12) for analysis of emerging contaminants categorized as Perfluoroalkyl Substances (PFAS). The purpose of the sampling to assess the presence or absence of PFAS in groundwater as a result of any firefighting training activities that may have occurred at CSSA in the past.

Three drinking water well samples, one duplicate sample (from CS-1), one trip blank, and one field blank were collected. None of the results exceeded either the TRRP Residential Groundwater Protective Concentration Limit (PCL) or the USEPA Health Advisory level. A full letter report (Parsons, 2017a) including the laboratory analytical results of the PFAS investigation is included in [Volume 5 of the Environmental Encyclopedia](#).

5.2.3 CHANGES TO RISK ASSESSMENT METHODS

There have been no changes in the standard risk assessment methods used to support the DD. The 2013 HHRA concluded that there is no risk to off-post receptors, because private wells with VOC concentrations greater than 90% of the MCL are fitted with GAC treatment units. Risk to on-post workers from direct contact exposure groundwater is mitigated by use of PPE when sampling monitoring wells.

5.2.4 CHANGES IN EXPOSURE PATHWAYS

No changes in exposure pathways were identified during this review. Land use on or near the site has not changed from the industrial use considered in the DD. Conditions at CSSA have not changed the human health or ecological routes of exposure or receptors in a way that could affect the protectiveness of the remedy. Since the remedy has been in place, no unanticipated toxic byproducts have been generated.

5.2.5 EXPECTED PROGRESS TOWARDS MEETING CAOS

The CAOs outlined in the RFI and finalized by the DD are still valid for SWMU B-3, AOC-65, and the off-post groundwater program. The bioreactor and ISCO are treating source area groundwater via reductive dechlorination, and institutional controls at the site are preventing human exposure to contaminated groundwater.

5.3 QUESTION C – HAS ANY OTHER INFORMATION COME TO LIGHT THAT COULD CALL INTO QUESTION THE PROTECTIVENESS OF THE CORRECTIVE MEASURE?

USEPA (2001) directs the answer to this question to include information not addressed in Questions A or B. It is reserved for addressing site changes or vulnerabilities related to natural disasters or natural disasters not apparent during remedy selection, remedy implementation or O&M.

No additional information related to natural disasters, weather related incidents or trends, or other related incidents were identified during this five-year review to have affected the protectiveness of the remedies at AOC-65, SWMU B-3, or off-post groundwater.

6 Issues/Recommendations and Other Findings

Issues and Recommendations Identified in the Five-Year Review:		
Site(s): All - Groundwater, AOC-65, SWMU B-3	Issue Category: Monitoring	
	Issue: The current Quality Assurance Project Plan (QAPP) for the groundwater monitoring program was approved in January 2003. The QAPP specifies required reporting limits and control limits for all site-specific parameters. Given the age of the document, providing an update in content may be appropriate.	
	Recommendation: Evaluate and update the QAPP. Explore whether a revised format, such as in a UFP-QAPP, may better serve the needs of the program. The revised QAPP would incorporate performance and regulatory (i.e., UIC permit) data quality requirements for the bioreactor and ISCO.	
Affect Current Protectiveness	Affect Future Protectiveness	Milestone Date
Yes	Yes	TBD

Issues and Recommendations Identified in the Five-Year Review:		
Site(s): Groundwater	Issue Category: Changed Site Condition	
	Issue: The residential development surrounding CSSA has grown over the last five years and newly installed groundwater wells could potentially be included within the groundwater monitoring network.	
	Recommendation: Evaluate the 2020 well assessment data to determine if any additional off-post wells should be considered for inclusion in the groundwater monitoring network. This process should be repeated leading up to every five-year review so that the resulting data can be incorporated into the review recommendations.	
Affect Current Protectiveness	Affect Future Protectiveness	Milestone Date
Yes	Yes	12/31/2020

Issues and Recommendations Identified in the Five-Year Review:		
Site(s): AOC-65	Issue Category: O&M	
	Issue: Oxidant-infused wax cylinders are replaced after showing signs of increasing PCE/TCE and/or decreasing manganese concentrations. Quarterly monitoring could result in up to 3 months of limited application of oxidant to the system following the 15- to 24-month lifespan of the cylinder.	
	Recommendation: Evaluate the replacement schedule to assess if the cylinders should be replaced on a more regular basis (i.e. every 15 to 24 months from the date of cylinder installation) to provide a continuous supply of oxidant in cylinder-installed wells.	
Affect Current Protectiveness	Affect Future Protectiveness	Milestone Date
Yes	Yes	TBD

Issues and Recommendations Identified in the Five-Year Review:		
Site(s): AOC-65	Issue Category: O&M	
	Issue: There are still monitoring locations with high levels of PCE & TCE.	
	Recommendation: Evaluate the benefits and potential drawbacks of both installing oxidant-infused wax cylinders within these monitoring locations and/or performing liquid injections at multiple locations on a more regular basis/frequency.	
Affect Current Protectiveness	Affect Future Protectiveness	Milestone Date
Yes	Yes	TBD

7 Protectiveness Statements

Protectiveness Statement(s)	
Site: Groundwater	Protectiveness Determination: Protective
Protectiveness Statement: Long-term groundwater monitoring is in place and progressing as expected. LUCs are in place to restrict public access and potential for exposure on-post, and GAC filtration is in place on affected off-post drinking water wells. The corrective measures are currently meeting CAOs intended to protect human health and the environment.	

Protectiveness Statement(s)	
Site: AOC-65	Protectiveness Determination: Protective
Protectiveness Statement: The groundwater corrective measure (ISCO) is in place and progressing as expected. It is currently meeting CAOs intended to protect human health and the environment and to prevent or minimize migration of COCs to off-post receptors. This is being accomplished through reduction of COC concentrations. LUCs are in place to restrict public access and potential for exposure.	

Protectiveness Statement(s)	
Site: SWMU B-3	Protectiveness Determination: Protective
Protectiveness Statement: The groundwater corrective measure (bioreactor) is in place and progressing as expected. It is currently meeting CAOs intended to protect human health and the environment and to prevent or minimize migration of COCs to off-post receptors. This is being accomplished through concentration reduction. LUCs are in place to restrict public access and potential for exposure.	

Sitewide Protectiveness Statement	
Protectiveness Determination: Protective	
Protectiveness Statement: Results of the five-year review indicate that the selected corrective measures are performing as intended and are protective of human health and the environment. Access to contaminated groundwater is prevented through a combination of access controls associated with the active mission of the site, and wellhead GAC filtration at affected off-post drinking water wells. In order to achieve long-term protectiveness of human health and the environment, O&M of the corrective measures systems/programs must continue and enhancements to existing systems and should continue to be evaluated, planned, and implemented to address potential current or future issues.	

8 Next Review

The next five-year review report is required five years from the completion date of this review.

Appendix A – Reference List

- USEPA, 2001. *Comprehensive Five-Year Review Guidance*. Office of Solid Waste and Emergency Responses, Washington, DC, EPA 540-R-01-007. June. <https://semspub.epa.gov/work/HQ/128607.pdf>
- USEPA, 2004. *Handbook of Groundwater Protection and Cleanup Policies for RCRA Corrective Action for Facilities Subject to Corrective Action Under Subtitle C of the Resource Conservation and Recovery Act*. Office of Solids Waste and Emergency Response, Washington, DC, EPA 530-R-04-030. April. <https://archive.epa.gov/epawaste/hazard/web/pdf/gwhb041404.pdf>
- Parsons, 2007. *SWMU B-3 Bioreactor Construction Report*. Prepared for Camp Stanley Storage Activity, Boerne, TX. February. <https://www.stanley.army.mil/Volume1/volume1-2/B-3/BioreactorConstructionReport.pdf>
- Parsons, 2010. *Data Quality Objectives, Groundwater Monitoring Program*. Prepared for Camp Stanley Storage Activity, Boerne, TX. November. <https://www.stanley.army.mil/Volume5/DQO-Investigation/2010-Update.pdf>
- Parsons 2014a. *Baseline Risk Assessment*. Prepared for Camp Stanley Storage Activity, Boerne, TX. January 7, 2014. <https://www.stanley.army.mil/Volume7/BaselineRiskAssessment/Report.pdf>
- Parsons 2014b. *RCRA Facility Investigation Work Plan*. Prepared for Camp Stanley Storage Activity, Boerne, TX. April 2014. https://www.stanley.army.mil/Volume1/volume1-1/Work_Plan/2014.pdf
- Parsons, 2014c. *RCRA Facility Investigation Report for Camp Stanley Storage Activity*. Prepared for Camp Stanley Storage Activity, Boerne, TX by Parsons, Austin, TX. December. <https://www.stanley.army.mil/Volume7/RFI.pdf>
- Parsons, 2014d. *Corrective Measures Study for Camp Stanley Storage Activity*. Prepared for Camp Stanley Storage Activity, Boerne, TX by Parsons, Austin, TX. October. <https://www.stanley.army.mil/Volume7/CMS%20Report.pdf>
- Parsons 2015a. *Corrective Measures Implementation Program Plan*. Prepared for Camp Stanley Storage Activity, Boerne, TX by Parsons, Austin, TX. November. <https://www.stanley.army.mil/Volume7/CMIPP.pdf>
- Parsons 2015b. *Corrective Measures Design Report*. Prepared for Camp Stanley Storage Activity, Boerne, TX by Parsons, Austin, TX. November. <https://www.stanley.army.mil/Volume7/CMDR.pdf>
- Parsons, 2016a. *2015 Update: Three-Tiered Long-Term Monitoring Network Optimization Evaluation*. Prepared for Camp Stanley Storage Activity, Boerne, TX by Parsons, Austin, TX. January. <https://www.stanley.army.mil/Volume5/Groundwater%20Monitoring/LTMO.pdf>
- Parsons, 2016b. *Data Quality Objectives, Groundwater Monitoring Program*. Prepared for Camp Stanley Storage Activity, Boerne, TX by Parsons, Austin, TX. February. <https://www.stanley.army.mil/Volume5/Groundwater%20Monitoring/DQOs.pdf>
- Parsons, 2017a. Letter from Parsons to Mr. Greg J. Lyssy, USEPA Region 6, re: December 2016 Results of PFAS Sampling at Camp Stanley Storage Activity, Boerne, Texas EPA Identification Number: TXD2210020739, US EPA Docket Number: RCRA-VI 002(h)99-H FY99. January.
- Parsons, 2017b. *Corrective Measures Implementation Report*. Prepared for Camp Stanley Storage Activity, Boerne, TX. September. <https://www.stanley.army.mil/Volume7/CMI.pdf>
- Parsons 2018. Letter from Parsons to Mr. David Smith, TCEQ Water Supply Division, re: 12-month Sampling Program of Supply Well CS-13 (G01501171) at Camp Stanley Storage Activity (CSSA) – Boerne, TX, dated June 15, 2018.

Appendix B – Public Involvement



Camp Stanley Storage Activity Notice Of Five-Year Review

The U.S. Army is currently conducting a review of its corrective measures to determine if they remain protective of human health and the environment.

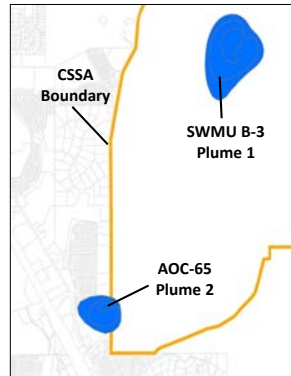
The Army is currently conducting a Five-Year Review for CSSA in Boerne, Texas. The review is being conducted to determine whether the corrective measures being implemented in accordance with the Decision Document issued for Solid Waste Management B-3 (SWMU B-3), Area of Concern 65 (AOC-65), and associated groundwater plumes remain protective of human health and the environment. The Army plans to issue a Draft Report to the U.S. Environmental Protection Agency in May 2020. After addressing their comments, the Army will complete a final version by July 31, 2020. USEPA is the lead agency for investigation and remediation of groundwater under the 3008(h) RCRA Order.

Additional documents pertaining to CSSA's environmental program are available on the CSSA Environmental Encyclopedia at <http://www.stanley.army.mil/>. If you have any questions or wish to comment on or discuss the project, contact Mr. Jason D. Shirley, CSSA Installation Manager, at (210) 295-7416.



Corrective measures in place at CSSA are currently remediating the source areas of two groundwater plumes.

Plume 1 originates from SWMU B-3 and is being treated using an in-ground bioreactor. Contaminants in groundwater are pumped out of the ground and into the bioreactor where they are broken down by natural bacteria into nonhazardous substances.



Locations and Source Areas of Plumes

Plume 2 originates from AOC-65 and is being treated using in-situ chemical oxidation (ISCO), a process by which a substance called an oxidant is applied to the surrounding groundwater where it reacts with contaminants to break them down into nonhazardous substances.

On- and off-post groundwater monitoring has been conducted for nearly 30 years and continues on a regular basis. Samples collected during monitoring events are analyzed by a laboratory, and the results are evaluated to determine if the corrective measures in place at CSSA remain protective of human health and the environment.



**For more information, contact Mr. Jason D. Shirley,
CSSA Installation Manager, at (210) 295-7416**

Date: 2/27/20 Time: 11:05

Off-post Well Owner: [REDACTED]

Address: 25617 Old Fredericksburg Rd,

Well ID: OFR-3

- What is your overall impression of how Camp Stanley is managing the contaminated groundwater plumes?

No concerns, our presence makes him feel like we are taking care of things.

- Do you have any related concerns or are you aware of any community concerns?

No

- Do you feel well informed about project activities and progress?

Yes, he reads the fact sheets & results letters for his well.

- Do you have any concerns related to the operation and handling of your GAC unit or the units in general?

No, when he first took ownership of the property we helped him get his well online and understand how GAC works. If he has questions he calls.

- Do you have any additional comments, suggestions, or recommendations?

No.

2/26/20 - 1434 - left message

Date: 2/26/20 Time: 1450

Off-post Well Owner: [REDACTED]

Address: 7655 Curves Creek Rd.

Well ID: LS-5 + LS-6

- What is your overall impression of how Camp Stanley is managing the contaminated groundwater plumes?

Has no idea about the history of the program or the groundwater plume.

- Do you have any related concerns or are you aware of any community concerns?

No.

- Do you feel well informed about project activities and progress?

She did know we sampled the well and that the water is good.

- Do you have any concerns related to the operation and handling of your GAC unit or the units in general?

No

- Do you have any additional comments, suggestions, or recommendations?

She will bring this up in their next meeting and call me back if she receives any feedback.

Date: 2/26/20 Time: 1420

Off-post Well Owner: [REDACTED]
Address: 25490 Old Fredericksburg Rd.
Well ID: RFR-10

- What is your overall impression of how Camp Stanley is managing the contaminated groundwater plumes?

Always have been very good about taking care of them, very responsible when questions come up.

- Do you have any related concerns or are you aware of any community concerns?

Very pleased that she can continue to use her well and not switch to SAWS.

- Do you feel well informed about project activities and progress?

Doesn't really understand the science about what is going on ~~but~~ ~~and relies~~ but gets letters and fact sheets. Is comfortable w/ not knowing the facts and trusts that we are providing them w/ good water.

- Do you have any concerns related to the operation and handling of your GAC unit or the units in general?

No, very satisfied. ^{she has} No issues with the water, if she has questions she calls.

- Do you have any additional comments, suggestions, or recommendations?

keep doing what you are doing.

Date: 2/26/20 Time: 1330

Off-post Well Owner: [REDACTED]
Address: 7529 Curres Creek Rd.
Well ID: LS-7

- What is your overall impression of how Camp Stanley is managing the contaminated groundwater plumes?

on a scale of 1-10 our work is a 10, very happy with that CSSA is taking a proactive approach

- Do you have any related concerns or are you aware of any community concerns?

Concerned about having to shut down his well and switch to SAWS, he loves his well and does not want SAWS service

- Do you feel well informed about project activities and progress?

Yes, if he ever has questions he calls me (Sam).

- Do you have any concerns related to the operation and handling of your GAC unit or the units in general?

No, same response as above. Everyone who has worked on his well has been very respectful of his property and has taken good care of him and his family.

- Do you have any additional comments, suggestions, or recommendations?

As long as his wife is happy, he is happy. (He really said this) She is very happy with our work.

Date: 2/26/20 Time: 1405

Off-post Well Owner: [REDACTED]
Address: 25360 Old Fredericksburg Rd.
Well ID: RFR-11

- What is your overall impression of how Camp Stanley is managing the contaminated groundwater plumes?

doing a swell job.

- Do you have any related concerns or are you aware of any community concerns?

No, he doesn't think about it that much.

- Do you feel well informed about project activities and progress?

Yes, he gets our letters and usually reviews them, then files them away.

- Do you have any concerns related to the operation and handling of your GAC unit or the units in general?

No concerns,

- Do you have any additional comments, suggestions, or recommendations?

Very pleased with everyone involved.

Appendix C – Tables 4.1, 4.2, and 4.3

Table 4.1
LTMO Data for Groundwater Wells Associated with Plumes 1 and 2

Well ID	Sample Date	PCE	TCE	cis- 1,2-DCE
		µg/L	µg/L	µg/L
CS-1	09/15/2015	0.06	0.05	0.07
	12/18/2015	0.06	0.05	0.07
	03/16/2016	0.06	0.05	0.07
	06/17/2016	0.27	0.05	0.07
	07/21/2016	0.06	0.05	0.07
	09/27/2016	0.06	0.05	0.07
	12/13/2016	0.08	0.05	0.07
	04/04/2017	0.06	0.05	0.07
	06/27/2017	0.06	0.19	0.07
	09/26/2017	0.06	0.05	0.07
	12/06/2017	0.06	0.05	0.07
	03/14/2018	0.06	0.05	0.07
	06/11/2018	0.06	0.05	0.07
	09/07/2018	0.06	0.05	0.07
	12/03/2018	0.06	0.05	0.07
	03/04/2019	0.06	0.05	0.07
06/05/2019	0.06	0.05	0.07	
09/06/2019	0.06	0.05	0.07	
12/10/2019	0.06	0.05	0.07	
CS-2	12/14/2015	0.06	0.05	0.07
	09/09/2016	0.06	0.05	0.07
	06/16/2017	0.06	0.05	0.07
	12/04/2019	0.06	0.05	0.07
CS-4	12/14/2015	0.65	0.85	0.39
	09/09/2016	0.68	0.64	0.09
	06/16/2017	0.61	0.25	0.07
	09/07/2018	0.06	0.47	0.07
CS-10	09/15/2015	0.06	0.05	0.07
	12/18/2015	0.06	0.05	0.07
	03/16/2016	0.06	0.05	0.07
	06/17/2016	0.16	0.05	0.07
	07/21/2016	0.06	0.05	0.07
	09/27/2016	0.06	0.05	0.07
	12/13/2016	0.09	0.05	0.07
	03/30/2017	0.18	0.05	0.07
	06/27/2017	0.06	0.05	0.07
	09/26/2017	0.06	0.05	0.07
	12/06/2017	0.06	0.05	0.07
	03/15/2018	0.06	0.05	0.07
	06/11/2018	0.06	0.05	0.07
	09/07/2018	0.06	0.05	0.07
	12/03/2018	0.06	0.05	0.07
	03/04/2019	0.06	0.05	0.07
06/05/2019	0.06	0.05	0.07	
09/06/2019	0.06	0.05	0.07	
12/10/2019	0.06	0.05	0.07	
CS-12	09/15/2015	0.06	0.05	0.07
	12/18/2015	0.06	0.05	0.07
	03/16/2016	0.06	0.05	0.07
	06/17/2016	0.35	0.05	0.07
	07/21/2016	0.06	0.05	0.07
	09/27/2016	0.06	0.05	0.07

Table 4.1 (cont)

LTMO Data for Groundwater Wells Associated with Plumes 1 and 2

Well ID	Sample Date	PCE	TCE	cis- 1,2-DCE
		µg/L	µg/L	µg/L
	12/13/2016	0.08	0.05	0.07
	03/30/2017	0.28	0.05	0.07
	06/27/2017	0.06	0.05	0.07
	09/26/2017	0.06	0.05	0.07
	12/06/2017	0.06	0.05	0.07
	03/14/2018	0.06	0.05	0.07
	06/11/2018	0.06	0.05	0.07
	09/07/2018	0.06	0.05	0.07
	12/03/2018	1.83	0.05	0.07
	01/10/2019	0.06	0.05	0.07
	03/04/2019	0.06	0.05	0.07
	06/05/2019	0.06	0.05	0.07
	09/06/2019	0.06	0.05	0.07
	12/10/2019	0.06	0.05	0.07
CS-13	09/14/2015	0.06	0.05	0.07
	12/18/2015	0.06	0.05	0.07
	03/16/2016	0.06	0.05	0.07
	06/20/2016	0.06	0.05	0.07
	10/03/2016	0.06	0.05	0.07
	06/28/2017	0.06	0.05	0.07
	09/25/2017	0.06	0.05	0.07
	12/06/2017	0.06	0.05	0.07
	03/14/2018	0.06	0.05	0.07
	06/11/2018	0.06	0.05	0.07
	09/07/2018	0.06	0.05	0.07
	12/03/2018	0.06	0.05	0.07
	03/04/2019	0.06	0.05	0.07
	06/05/2019	0.06	0.05	0.07
	09/06/2019	0.06	0.05	0.07
	12/10/2019	0.06	0.05	0.07
CS-D	12/17/2015	16.19	20.96	14.95
	04/14/2016	12.89	14.39	10.2
	09/22/2016	13.14	18.9	12.71
	03/06/2017	8.09	10.42	6.61
	06/19/2017	5.32	6.56	4.47
	09/06/2018	3.07	4.02	2.75
	03/06/2019	2.96	3.34	2.1
	09/05/2019	4.28	5.34	3.4
	12/04/2019	6.66	9.03	5.96
CS-I	06/11/2014	0.06	0.05	0.07
	02/03/2016	0.06	0.05	0.07
	06/20/2017	0.06	0.05	0.07
	12/03/2019	0.06	0.05	0.07
CS-MW1-CC	09/08/2014	0.06	0.05	0.07
	12/07/2015	0.1	0.05	0.07
	06/28/2017	0.06	0.05	0.07
	12/04/2019	0.06	0.05	0.07
CS-MW1-LGR	10/20/2015	14.28	28.88	20.4
	12/07/2015	24.31	28	33.28
	04/14/2016	16.42	27.64	21.09
	09/21/2016	15.1	24.46	24.14
	03/07/2017	16.9	16.89	26.5

Table 4.1 (cont)

LTMO Data for Groundwater Wells Associated with Plumes 1 and 2

Well ID	Sample Date	PCE	TCE	cis- 1,2-DCE
		µg/L	µg/L	µg/L
	06/19/2017	13.98	24.73	20.49
	10/03/2017	12.54	24.89	19.05
	03/05/2018	8.9	13.05	10.18
	09/06/2018	11.06	12.05	17.27
	03/06/2019	12.3	17.1	17.39
	09/05/2019	15.54	28.56	19.44
	12/04/2019	14.27	29.16	19.63
CS-MW2-CC	06/16/2014	0.06	0.05	0.07
	12/08/2015	0.06	0.05	0.07
	06/28/2017	0.06	0.05	0.07
	12/05/2019	0.06	0.05	0.07
CS-MW2-LGR	12/08/2015	0.06	0.05	0.37
	09/09/2016	0.06	0.05	0.49
	06/19/2017	0.06	0.05	0.36
	12/05/2019	0.06	0.05	0.38
CS-MW3-LGR	12/08/2015	0.06	0.05	0.07
	09/13/2016	0.06	0.05	0.07
	06/19/2017	0.06	0.05	0.07
	12/03/2019	0.06	0.05	0.07
CS-MW4-LGR	12/08/2015	0.06	0.05	0.07
	09/09/2016	0.06	0.05	0.07
	06/28/2017	0.06	0.05	0.07
	12/05/2019	0.06	0.05	0.07
CS-MW5-LGR	02/03/2016	7.68	17.93	16.12
	03/08/2016	6.99	18.68	16.94
	06/07/2016	4.18	10.96	10.5
	09/09/2016	5.2	12.32	10.89
	12/12/2016	5.26	12.91	12.86
	03/06/2017	5.62	12.43	11.07
	06/16/2017	5.87	13.16	11.65
	10/03/2017	0.2	1.44	8.21
	03/21/2018	0.81	2.49	4.33
	09/06/2018	1.14	2.73	4.58
	03/06/2019	0.06	1.14	1.95
	09/05/2019	1.17	4.72	6.15
	12/05/2019	2.67	8.29	10.77
CS-MW6-CC	06/19/2014	0.06	0.05	0.07
	12/09/2015	0.06	0.05	0.07
	06/08/2017	0.06	0.05	0.07
	12/11/2019	0.06	0.05	0.07
CS-MW6-LGR	09/11/2015	0.06	0.05	0.07
	12/09/2015	0.26	0.05	0.07
	03/08/2016	0.06	0.05	0.07
	06/07/2016	0.7	0.05	0.07
	09/12/2016	0.06	0.05	0.07
	12/12/2016	0.33	0.05	0.07
	03/06/2017	0.06	0.05	0.07
	06/08/2017	0.06	0.05	0.07
	09/22/2017	0.06	0.05	0.07
	12/06/2017	0.06	0.05	0.07
	03/05/2018	0.06	0.05	0.07
	06/07/2018	0.06	0.05	0.07

Table 4.1 (cont)

LTMO Data for Groundwater Wells Associated with Plumes 1 and 2

Well ID	Sample Date	PCE	TCE	cis- 1,2-DCE
		µg/L	µg/L	µg/L
	09/05/2018	0.88	0.05	0.07
	12/05/2018	0.46	0.05	0.07
	03/06/2019	0.06	0.05	0.07
	06/05/2019	0.06	0.05	0.07
	09/06/2019	0.06	0.05	0.07
	12/11/2019	0.06	0.05	0.07
CS-MW7-CC	06/19/2014	0.06	0.05	0.07
	12/09/2015	0.06	0.05	0.07
	06/26/2017	0.06	0.05	0.07
	12/11/2019	0.06	0.05	0.07
CS-MW7-LGR	09/14/2015	0.78	0.05	0.07
	12/09/2015	0.81	0.05	0.07
	03/08/2016	0.93	0.05	0.07
	06/07/2016	0.72	0.05	0.07
	09/12/2016	0.72	0.05	0.07
	12/12/2016	0.91	0.08	0.07
	03/06/2017	0.76	0.05	0.07
	06/20/2017	0.88	0.05	0.07
	09/22/2017	1.15	0.05	0.07
	12/06/2017	0.95	0.05	0.07
	03/05/2018	1.22	0.05	0.07
	06/07/2018	1.19	0.32	0.07
	09/05/2018	1.07	0.05	0.07
	12/05/2018	1.14	0.05	0.07
	03/07/2019	0.95	0.05	0.07
	06/05/2019	1	0.05	0.07
	09/09/2019	1.25	0.05	0.07
	12/11/2019	1.37	0.05	0.07
CS-MW8-CC	12/09/2015	0.06	0.05	0.07
	06/08/2017	0.06	0.05	0.07
	09/05/2018	0.06	0.05	0.07
	12/11/2019	0.06	0.05	0.07
CS-MW8-LGR	09/11/2015	2.4	0.05	0.07
	12/09/2015	2.74	0.05	0.07
	03/08/2016	3.2	0.05	0.07
	06/07/2016	2.79	0.05	0.07
	09/12/2016	2.66	0.05	0.07
	12/12/2016	2.79	0.05	0.07
	03/06/2017	2.45	0.05	0.07
	06/08/2017	2.62	0.05	0.07
	09/22/2017	3.13	0.05	0.07
	12/06/2017	0.06	0.05	0.07
	03/05/2018	2.11	0.05	0.07
	06/07/2018	1.57	0.05	0.07
	09/05/2018	2.44	0.05	0.07
	12/05/2018	2.69	0.05	0.07
	03/07/2019	1.94	0.05	0.07
	06/05/2019	1.96	0.05	0.07
	09/09/2019	2.28	0.05	0.07
	12/11/2019	2.47	0.05	0.07
CS-MW9-CC	06/11/2014	0.06	0.05	0.07
	12/15/2015	0.06	0.05	0.07

Table 4.1 (cont)

LTMO Data for Groundwater Wells Associated with Plumes 1 and 2

Well ID	Sample Date	PCE	TCE	cis- 1,2-DCE
		µg/L	µg/L	µg/L
	06/19/2017	0.06	0.05	0.07
	12/04/2019	0.06	0.05	0.07
CS-MW9-LGR	12/15/2015	0.06	0.05	0.07
	09/13/2016	0.06	0.05	0.07
	06/19/2017	0.06	0.05	0.07
	12/04/2019	0.06	0.05	0.07
CS-MW10-CC	01/10/2013	0.18	0.05	0.07
	12/09/2015	0.06	0.05	0.07
	06/26/2017	0.06	0.05	0.07
	12/09/2019	0.06	0.05	0.07
CS-MW10-LGR	12/10/2015	2.02	0.43	0.07
	09/12/2016	2.02	0.41	0.07
	06/26/2017	1.89	0.05	0.07
	09/05/2018	1.54	0.31	0.07
	12/11/2019	1.47	0.33	0.07
CS-MW11A-LGR	12/10/2015	0.81	0.05	0.07
	09/12/2016	0.6	0.05	0.07
	06/26/2017	0.89	0.05	0.07
	09/05/2018	0.71	0.05	0.07
	12/11/2019	0.78	0.05	0.07
CS-MW11B-LGR	12/14/2015	1.12	0.05	0.07
	09/13/2016	0.9	0.05	0.07
	06/26/2017	0.98	0.05	0.07
	09/24/2018	0.06	0.05	0.07
CS-MW12-CC	06/12/2014	0.06	0.05	0.07
	12/14/2015	0.06	0.05	0.07
	06/16/2017	0.06	0.05	0.07
	12/05/2019	0.06	0.05	0.07
CS-MW12-LGR	12/14/2015	0.06	0.05	0.07
	09/08/2016	0.06	0.05	0.07
	06/16/2017	0.06	0.05	0.07
	09/06/2018	0.06	0.05	0.07
	12/05/2019	0.06	0.05	0.07
CS-MW17-LGR	12/16/2015	0.66	0.05	0.39
	09/21/2016	0.74	0.05	0.07
	06/28/2017	0.76	0.05	0.07
	09/07/2018	0.4	0.05	0.07
	12/04/2019	0.7	0.05	0.07
CS-MW18-LGR	12/14/2015	0.06	0.05	0.07
	09/09/2016	0.06	0.05	0.07
	06/16/2017	0.06	0.05	0.07
	12/11/2019	0.06	0.05	0.07
CS-MW19-LGR	12/14/2015	0.67	0.05	0.07
	09/08/2016	0.06	0.05	0.07
	06/16/2017	0.68	0.05	0.07
	12/09/2019	0.79	0.05	0.07
CS-MW20-LGR	12/17/2015	1.55	0.05	0.32
	09/13/2016	1.47	0.05	0.07
	06/26/2017	1.23	0.05	0.07
	12/09/2019	1.52	0.05	0.07
CS-MW21-LGR	12/17/2015	0.06	0.05	0.25
	09/13/2016	0.06	0.05	0.07

Table 4.1 (cont)

LTMO Data for Groundwater Wells Associated with Plumes 1 and 2

Well ID	Sample Date	PCE	TCE	cis- 1,2-DCE
		µg/L	µg/L	µg/L
	06/28/2017	0.06	0.05	0.07
	12/09/2019	0.06	0.05	0.07
CS-MW22-LGR	12/18/2015	0.06	0.05	0.07
	09/13/2016	0.06	0.05	0.07
	06/26/2017	0.06	0.05	0.07
	12/09/2019	0.06	0.05	0.07
CS-MW23-LGR	12/14/2015	0.06	0.05	0.07
	09/13/2016	0.06	0.05	0.07
	06/26/2017	0.06	0.05	0.07
	12/09/2019	0.06	0.05	0.07
CS-MW24-LGR	12/14/2015	0.06	0.05	0.07
	09/14/2016	0.06	0.05	0.07
	06/19/2017	0.06	0.05	0.07
	12/04/2019	0.06	0.05	0.07
CS-MW25-LGR	02/03/2016	0.06	0.05	0.07
	09/13/2016	0.07	0.05	0.07
	06/27/2017	0.06	0.05	0.07
	12/03/2019	0.06	0.05	0.07
CS-MW35-LGR	12/14/2015	0.85	0.05	0.07
	09/12/2016	0.96	0.05	0.07
	06/26/2017	0.66	0.05	0.07
	09/05/2018	0.64	0.05	0.07
	12/09/2019	0.54	0.05	0.07
CS-MW36-LGR	09/11/2015	13.21	12.01	0.36
	12/09/2015	6.71	2.34	0.07
	03/08/2016	8.26	7.86	0.28
	06/07/2016	4.12	1.53	0.07
	09/12/2016	5.35	2.35	0.07
	12/12/2016	5.54	3.13	0.09
	03/06/2017	4.87	1.56	0.07
	06/08/2017	5.43	4.2	0.07
	09/22/2017	4.28	7.41	0.24
	12/12/2017	28.59	17.88	0.44
	03/05/2018	14.13	26.71	0.58
	06/07/2018	16.73	34.72	0.9
	09/05/2018	10.04	18.11	0.56
	12/05/2018	9.04	8.03	0.07
	03/07/2019	5.89	3.88	0.07
	06/05/2019	4.27	1.96	0.07
	09/06/2019	7.51	5.87	0.07
	12/11/2019	9.09	10.25	0.28
CS-MW37-LGR	07/12/2017	0.06	0.05	0.07
	09/22/2017	0.06	0.05	0.07
	12/06/2017	0.06	0.05	0.07
	03/05/2018	0.06	0.05	0.07
	09/05/2018	0.28	0.36	0.07
	12/12/2019	0.06	0.05	0.07
CS-MWG-LGR	06/11/2014	0.06	0.05	0.07
	02/03/2016	0.06	0.05	0.07
	06/26/2017	0.06	0.05	0.07
	12/03/2019	0.06	0.05	0.07
CS-MWH-LGR	12/18/2012	0.06	0.05	0.07

Table 4.1 (cont)

LTMO Data for Groundwater Wells Associated with Plumes 1 and 2

Well ID	Sample Date	PCE	TCE	cis- 1,2-DCE
		µg/L	µg/L	µg/L
	06/11/2014	0.06	0.05	0.07
	02/03/2016	0.06	0.05	0.07
	06/20/2017	0.06	0.05	0.07
CS-WB01-UGR-01	11/18/2004	6.58	0.6	0.2
	12/02/2004	1.5	1.39	0.2
	06/08/2016	0.99	0.05	0.07
	09/12/2018	1.29	0.05	0.07
CS-WB01-LGR-01	09/16/2015	1.3	0.26	0.07
	12/02/2015	0.06	0.05	0.07
	03/09/2016	1.39	0.23	0.07
	06/08/2016	1.36	0.22	0.07
	09/15/2016	0.93	0.53	0.07
	12/14/2016	3.26	0.83	0.07
	03/15/2017	1.47	0.45	0.07
	06/21/2017	1.2	0.43	0.07
	10/02/2017	1.46	0.42	0.07
	12/11/2017	2.05	0.42	0.07
	03/07/2018	1.85	0.34	0.07
	06/11/2018	3.07	0.45	0.07
	09/12/2018	2.17	0.05	0.07
	12/05/2018	3.7	0.4	0.07
	03/13/2019	1.49	0.5	0.07
	06/06/2019	2.02	0.53	0.07
	09/09/2019	1.73	0.54	0.07
	12/16/2019	2.84	0.99	0.07
CS-WB01-LGR-02	09/16/2015	11.09	2.26	0.07
	06/08/2016	9.6	2.05	0.07
	09/15/2016	11.55	2.46	0.07
	06/21/2017	11.08	2.34	0.07
	09/12/2018	8.53	1.8	0.07
	12/16/2019	12.03	1.87	0.07
CS-WB01-LGR-03	09/16/2015	2.87	8.37	0.07
	06/08/2016	7.06	19.59	0.07
	09/15/2016	4.26	12.67	0.07
	06/21/2017	4.02	10.45	0.07
	09/12/2018	4.03	9.76	0.07
	12/16/2019	3.89	8.09	0.07
CS-WB01-LGR-04	09/16/2015	0.06	0.05	0.61
	06/08/2016	0.06	0.05	0.28
	09/15/2016	0.06	0.05	0.49
	06/21/2017	0.06	0.05	0.07
	09/12/2018	0.06	0.05	2.37
	12/16/2019	0.06	0.05	0.84
CS-WB01-LGR-05	09/16/2015	0.06	0.88	0.24
	06/08/2016	0.06	2.6	0.41
	09/14/2016	0.06	1.36	0.6
	06/21/2017	0.06	0.05	1.48
	09/11/2018	0.06	0.05	0.07
	12/16/2019	0.06	0.05	2.81
CS-WB01-LGR-06	09/16/2015	0.06	1.58	0.92
	06/08/2016	0.06	3.03	1.58
	09/14/2016	0.06	3.11	2.1

Table 4.1 (cont)

LTMO Data for Groundwater Wells Associated with Plumes 1 and 2

Well ID	Sample Date	PCE	TCE	cis- 1,2-DCE
		µg/L	µg/L	µg/L
	06/21/2017	0.06	4.37	1.6
	09/11/2018	0.06	4.08	1.17
	12/16/2019	0.06	6.83	3.55
CS-WB01-LGR-07	09/16/2015	14.83	13.68	5.23
	06/08/2016	14.3	13.78	0.29
	09/14/2016	13.07	13.99	0.23
	06/21/2017	14.07	14.11	0.07
	09/11/2018	16.12	14.72	0.22
	12/16/2019	13.32	12.64	0.07
CS-WB01-LGR-08	09/16/2015	0.68	7.86	8.57
	06/08/2016	0.79	4.59	18.31
	09/14/2016	0.06	2.81	20.78
	06/21/2017	0.06	1.23	19.78
	09/11/2018	0.41	1.48	16.12
	12/16/2019	0.06	0.05	17.81
CS-WB01-LGR-09	09/16/2015	12.41	14.37	0.6
	12/02/2015	16.96	19.05	0.58
	03/09/2016	10.23	12.3	0.44
	06/08/2016	9.55	12.56	0.69
	09/14/2016	7.95	10.89	0.49
	12/14/2016	17.56	18.25	0.61
	03/15/2017	8.57	11.36	0.61
	06/21/2017	0.06	0.05	0.49
	10/02/2017	8.83	10.51	0.07
	12/11/2017	8.87	10.38	0.07
	03/07/2018	9.27	11.36	0.32
	06/11/2018	7.77	10.07	0.07
	09/11/2018	7.61	10.07	0.36
	12/05/2018	10.03	13.54	0.72
	03/13/2019	9.24	10.78	0.44
	06/06/2019	8.57	11.93	0.63
	09/09/2019	9.79	11.04	0.44
	12/16/2019	9.79	11.07	0.07
CS-WB02-LGR-01	06/22/2015	1.05	0.05	0.07
	12/02/2015	0.32	0.1	0.07
	06/14/2016	0.59	0.05	0.07
	09/12/2018	1.02	0.05	0.07
CS-WB02-LGR-02	03/11/2010	2.2	0.37	0.16
	06/22/2015	2.13	0.05	0.07
	06/14/2016	0.22	0.05	0.07
	09/12/2018	1.46	0.05	0.07
CS-WB02-LGR-03	09/23/2015	2.47	0.26	0.07
	06/14/2016	3.28	0.47	0.07
	09/15/2016	2.35	0.05	0.07
	06/22/2017	2.93	0.47	0.07
	09/12/2018	0.06	0.05	0.07
	12/16/2019	1.96	0.05	0.07
CS-WB02-LGR-04	09/23/2015	3.38	5.74	0.07
	06/14/2016	2.86	5.03	0.07
	09/15/2016	2.8	5.04	0.07
	06/22/2017	2.6	4.65	0.07
	09/12/2018	2.72	4.63	0.07

Table 4.1 (cont)

LTMO Data for Groundwater Wells Associated with Plumes 1 and 2

Well ID	Sample Date	PCE	TCE	cis- 1,2-DCE
		µg/L	µg/L	µg/L
	12/16/2019	2.99	4.27	0.07
CS-WB02-LGR-05	09/23/2015	0.79	1.84	0.17
	06/14/2016	0.66	1.92	0.23
	09/15/2016	0.06	1.79	0.28
	06/22/2017	0.06	1.66	0.61
	09/12/2018	0.85	1.45	0.07
	12/16/2019	0.35	1.11	0.43
CS-WB02-LGR-06	09/23/2015	4.61	2.39	0.43
	06/14/2016	5.38	2.27	0.07
	09/15/2016	3.81	1.93	0.07
	06/22/2017	4.24	2.33	0.72
	09/12/2018	0.93	1.35	0.07
	12/16/2019	1.76	1.64	1.03
CS-WB02-LGR-07	09/23/2015	0.34	1.22	0.29
	06/14/2016	0.52	1.57	0.31
	09/15/2016	0.48	1.34	0.4
	06/22/2017	0.06	1.14	0.59
	09/12/2018	0.06	1.01	0.6
	12/16/2019	0.06	0.05	1.22
CS-WB02-LGR-08	09/23/2015	0.06	0.54	2.45
	06/14/2016	0.06	0.28	3.1
	09/15/2016	0.06	0.05	4.38
	06/22/2017	0.06	0.05	3.08
	09/12/2018	0.06	0.05	2.3
	12/16/2019	0.06	0.05	3.43
CS-WB02-LGR-09	09/23/2015	9.43	7.31	0.2
	12/02/2015	14.18	11.24	0.18
	03/14/2016	5.74	6.19	0.07
	06/14/2016	7.31	7.42	0.07
	09/15/2016	7.05	6.81	0.07
	12/15/2016	12.55	10.47	0.18
	03/15/2017	7.62	7.24	0.07
	06/22/2017	7.14	6.82	0.07
	10/02/2017	6.37	6.43	0.07
	12/11/2017	5.79	5.93	0.07
	03/07/2018	6.66	6.2	0.07
	06/11/2018	5.62	5.63	0.07
	09/12/2018	5.03	5.21	0.07
	12/05/2018	6.96	7.69	0.07
	03/13/2019	6.08	6.22	0.07
	06/06/2019	9.16	8.15	0.07
	09/11/2019	4.18	4.2	0.07
	12/16/2019	5.44	5.18	0.07
CS-WB03-UGR-01	09/21/2015	23,737	216.25	21.7
	12/02/2015	28,943	250.91	22.09
	03/14/2016	9,873	101.51	20.94
	06/16/2016	7,444	73.39	7.94
	09/19/2016	9,817	129.76	16.67
	12/15/2016	18,548	114.43	12.65
	03/15/2017	6,503	64.64	7.8
	06/29/2017	9,356	103.64	9.56
	10/02/2017	14,706	103.15	11.65

Table 4.1 (cont)

LTMO Data for Groundwater Wells Associated with Plumes 1 and 2

Well ID	Sample Date	PCE	TCE	cis- 1,2-DCE
		µg/L	µg/L	µg/L
	12/11/2017	10,110	93.78	10.8
	03/07/2018	19,396	147.92	14.89
	06/13/2018	22,058	225.2	9.03
	09/17/2018	10,368	150.39	10.53
	12/06/2018	12,434	119.29	12.59
	03/13/2019	16,567	170.48	12.24
	06/06/2019	5,341	219.7	15.46
	09/12/2019	19,046	132.5	3.5
	12/17/2019	23,894	25	35
CS-WB03-LGR-01	09/21/2015	621.09	26.33	0.85
	12/02/2015	863.13	31.21	0.92
	03/14/2016	329.44	15.62	0.35
	06/16/2016	314.33	17.22	0.89
	09/19/2016	337.86	15.75	0.71
	12/15/2016	744.68	30.32	0.93
	03/15/2017	324	15.03	0.65
	06/29/2017	365.8	16.79	0.54
	10/02/2017	738.82	16.2	0.07
	12/11/2017	308.41	16.59	0.9
	12/06/2018	392.48	26.62	1.19
	03/13/2019	920.7	41.51	1.05
	06/06/2019	366.31	24.08	0.83
	09/11/2019	501.49	36.13	0.35
	12/17/2019	923.88	53.94	1.39
CS-WB03-LGR-02	05/25/2005	279	7.64	0.2
	06/29/2005	306	8.84	0.2
	10/04/2007	140	11	0.16
	06/16/2016	146.66	4.7	0.07
CS-WB03-LGR-03	09/21/2015	7.28	1.96	0.07
	06/16/2016	3.79	1.13	0.07
	09/19/2016	4.47	1.21	0.07
	06/29/2017	3.79	0.52	0.07
	09/17/2018	3.86	0.71	0.07
	12/17/2019	2.61	0.05	0.07
CS-WB03-LGR-04	09/21/2015	18.61	5.67	0.07
	06/16/2016	17.97	6.59	0.25
	09/19/2016	15.06	5.57	0.3
	06/29/2017	15.87	4.9	0.07
	09/17/2018	12.45	4.88	0.52
	12/17/2019	15.95	5.5	2.17
CS-WB03-LGR-05	09/21/2015	16.74	2.44	0.07
	06/15/2016	14.1	2.48	0.07
	09/19/2016	15.71	2.67	0.07
	06/22/2017	13.38	2.18	0.07
	09/17/2018	10.93	3.91	4.95
	12/17/2019	14.48	6.16	3.52
CS-WB03-LGR-06	09/21/2015	0.06	0.05	5.53
	06/15/2016	0.06	0.13	6.83
	09/19/2016	0.06	0.05	8.87
	06/22/2017	0.06	0.05	7.01
	09/17/2018	0.06	0.05	2.82
	12/17/2019	0.06	0.05	5.82

Table 4.1 (cont)

LTMO Data for Groundwater Wells Associated with Plumes 1 and 2

Well ID	Sample Date	PCE	TCE	cis- 1,2-DCE
		µg/L	µg/L	µg/L
CS-WB03-LGR-07	09/21/2015	1.71	5.43	2.6
	06/15/2016	6.22	21.75	3.09
	09/19/2016	2.82	10.62	3.47
	06/22/2017	2.31	5.89	2.38
	09/17/2018	1.68	5.04	2.48
	12/17/2019	0.06	2.17	2.81
CS-WB03-LGR-08	09/21/2015	0.06	0.39	2.4
	06/15/2016	0.06	0.27	2.73
	09/19/2016	0.06	0.41	3.14
	06/22/2017	0.06	0.05	2
	09/17/2018	0.06	0.05	2.23
	12/16/2019	0.06	0.05	2.05
CS-WB03-LGR-09	09/17/2015	4.61	4.39	0.49
	12/02/2015	3.25	3.84	0.2
	03/14/2016	2.3	2.59	0.07
	06/15/2016	1.94	2.69	0.07
	09/19/2016	2.64	2.87	0.07
	12/15/2016	4.91	4.92	0.07
	03/15/2017	2.61	2.89	0.07
	06/22/2017	2.57	2.29	0.07
	10/02/2017	2.38	2.14	0.07
	12/11/2017	1.56	1.86	0.74
	03/07/2018	1.84	2.17	0.95
	06/13/2018	2.5	3.11	1.12
	09/17/2018	2.22	2.12	0.07
	12/06/2018	2.58	3.51	0.07
	03/13/2019	2.61	2.83	0.07
	06/06/2019	2.52	3.2	0.07
09/11/2019	1.53	1.85	0.07	
12/16/2019	2.01	1.53	0.07	
CS-WB04-BS-01	05/18/2015	0.06	0.05	0.07
	09/22/2015	0.46	0.05	0.07
	07/10/2017	0.06	0.05	0.07
	12/18/2019	1.15	0.05	0.07
CS-WB04-BS-02	05/18/2015	0.06	0.05	0.07
	09/22/2015	0.94	0.05	0.07
	07/10/2017	0.06	0.05	0.07
	12/18/2019	2.3	0.05	0.07
CS-WB04-CC-01	05/18/2015	0.06	0.2	1.21
	09/22/2015	0.84	0.05	1.02
	07/10/2017	0.06	0.05	1.15
	12/18/2019	1.89	0.05	1.33
CS-WB04-CC-02	05/18/2015	0.06	0.05	0.07
	09/22/2015	1.29	0.05	0.21
	07/10/2017	0.24	0.05	0.07
	12/18/2019	3.77	0.05	0.07
CS-WB04-CC-03	05/18/2015	0.2	0.05	0.07
	09/22/2015	6.66	0.05	0.17
	07/10/2017	0.44	0.05	0.07
	12/18/2019	9.2	0.05	0.07
CS-WB04-LGR-01	09/22/2015	1.67	0.05	0.07
	12/03/2015	0.06	0.05	0.07

Table 4.1 (cont)

LTMO Data for Groundwater Wells Associated with Plumes 1 and 2

Well ID	Sample Date	PCE	TCE	cis- 1,2-DCE
		µg/L	µg/L	µg/L
	03/08/2016	0.06	0.05	0.07
	06/09/2016	0.32	0.05	0.07
	09/20/2016	1.11	0.05	0.07
	12/14/2016	0.91	0.05	0.07
	03/22/2017	0.65	0.05	0.07
	07/10/2017	0.68	0.05	0.07
	10/04/2017	0.41	0.05	0.07
	12/13/2017	0.81	0.05	0.07
	03/08/2018	0.06	0.05	0.07
	06/13/2018	0.74	0.05	0.07
	09/17/2018	0.87	0.05	0.07
	12/10/2018	0.74	0.05	0.07
	03/14/2019	1.09	0.05	0.07
	06/10/2019	0.06	0.05	0.07
	09/11/2019	0.06	0.05	0.07
	12/18/2019	1.25	0.05	0.07
CS-WB04-LGR-02	10/03/2007	0.3	0.16	0.16
	03/19/2008	0.25	0.16	0.16
	03/10/2010	0.33	0.16	0.16
	05/19/2015	0.53	0.05	0.07
CS-WB04-LGR-03	05/19/2015	0.06	0.05	0.07
	09/22/2015	0.34	0.05	0.07
	07/10/2017	0.06	0.05	0.07
	12/18/2019	0.06	0.05	0.07
CS-WB04-LGR-04	05/19/2015	0.23	0.14	0.13
	09/22/2015	0.4	0.16	0.27
	07/10/2017	0.06	0.05	0.31
	12/18/2019	0.06	0.05	0.07
CS-WB04-LGR-06	09/22/2015	16.68	12.09	5.1
	12/03/2015	36.28	11.62	3.32
	06/09/2016	13.96	13.37	3.83
	09/20/2016	12.8	18.38	5.53
	07/10/2017	16.87	12.69	3.74
	09/17/2018	23.78	7.24	2.98
	12/18/2019	17.37	9.18	3.59
CS-WB04-LGR-07	09/22/2015	2.01	13.03	35.47
	12/03/2015	2.72	20.36	22
	06/09/2016	0.06	1.15	37.11
	09/20/2016	0.4	2.15	40.9
	07/10/2017	0.06	4.71	32.58
	09/17/2018	25.87	11.29	3.39
	12/18/2019	1.88	15.65	15.38
CS-WB04-LGR-08	09/22/2015	0.82	0.75	0.47
	06/09/2016	0.51	0.86	0.07
	09/20/2016	1.41	1.29	0.42
	07/10/2017	0.74	1.05	0.53
	09/17/2018	0.58	1.06	0.07
	12/18/2019	0.86	0.05	0.07
CS-WB04-LGR-09	09/22/2015	10.03	6.33	0.07
	12/03/2015	11.64	7.94	0.08
	06/09/2016	7.6	6.02	0.07
	09/20/2016	14.72	7.84	0.07

Table 4.1 (cont)

LTMO Data for Groundwater Wells Associated with Plumes 1 and 2

Well ID	Sample Date	PCE	TCE	cis- 1,2-DCE
		µg/L	µg/L	µg/L
	07/10/2017	8.75	6.93	0.07
	09/17/2018	7.36	5.51	0.07
	12/18/2019	10.03	6.89	0.07
CS-WB04-LGR-10	09/22/2015	2.2	0.59	0.07
	12/03/2015	2.37	0.53	0.07
	06/09/2016	1.71	0.73	0.07
	09/20/2016	4.34	0.57	0.07
	07/10/2017	2.02	0.46	0.07
	09/17/2018	2.2	0.47	0.07
	12/18/2019	2.67	0.05	0.07
CS-WB04-LGR-11	09/22/2015	1.5	0.05	0.07
	12/03/2015	22.11	0.12	0.07
	03/08/2016	0.06	0.05	0.07
	06/09/2016	0.06	0.05	0.07
	09/20/2016	1.41	0.1	0.14
	12/14/2016	0.64	0.05	0.07
	03/22/2017	0.62	0.05	0.07
	07/10/2017	0.45	0.05	0.07
	10/04/2017	0.72	0.05	0.07
	12/13/2017	0.84	0.05	0.07
	03/08/2018	1.2	0.05	0.07
	06/13/2018	0.06	0.05	0.07
	09/17/2018	0.93	0.05	0.07
	12/10/2018	0.61	0.05	0.07
	03/14/2019	1.27	0.05	0.07
	06/10/2019	1.59	0.05	0.07
	09/11/2019	0.06	0.05	0.07
	12/18/2019	2.99	0.05	0.07
FO-J1	03/05/2015	0.06	0.05	0.07
	12/01/2015	0.06	0.05	0.07
	06/27/2017	0.06	0.05	0.07
	12/02/2019	0.06	0.05	0.07
I10-10	09/07/2016	0.06	0.05	0.07
	06/07/2017	0.06	0.05	0.07
	09/10/2018	0.06	0.05	0.07
	12/02/2019	0.06	0.05	0.07
I10-8	12/02/2015	0.06	0.05	0.07
	09/14/2016	0.06	0.05	0.07
	06/07/2017	0.06	0.05	0.07
	12/02/2019	0.06	0.05	0.07
JW-7	03/03/2015	0.06	0.05	0.07
	12/01/2015	0.28	0.05	0.07
	09/08/2016	0.06	0.05	0.07
	06/07/2017	0.06	0.05	0.07
JW-8	12/02/2015	0.06	0.05	0.07
	09/08/2016	0.06	0.05	0.07
	07/12/2017	0.06	0.05	0.07
	12/11/2019	0.06	0.05	0.07
LS-5	09/08/2015	0.83	2.43	0.07
	11/30/2015	1.02	2.15	0.07
	03/07/2016	1.12	2.5	0.07
	06/06/2016	0.88	1.79	0.07

Table 4.1 (cont)

LTMO Data for Groundwater Wells Associated with Plumes 1 and 2

Well ID	Sample Date	PCE	TCE	cis- 1,2-DCE
		µg/L	µg/L	µg/L
	09/06/2016	0.75	1.85	0.07
	12/05/2016	1.06	2.16	0.07
	03/28/2017	1.18	2.24	0.07
	06/05/2017	1.07	2.4	0.07
	09/21/2017	0.99	2.85	0.07
	12/04/2017	0.06	2.84	0.07
	03/06/2018	1.05	3.56	0.07
	06/06/2018	1.02	3.57	0.07
	09/13/2018	0.79	2.59	0.07
	12/03/2018	0.77	3.1	0.07
	03/11/2019	0.86	2.79	0.07
	06/03/2019	0.9	2.74	0.07
	09/04/2019	0.59	2.34	0.07
	12/02/2019	0.97	3.02	0.07
LS-6	09/08/2015	0.62	2.04	0.07
	11/30/2015	0.06	0.05	0.07
	03/07/2016	0.76	1.47	0.07
	06/06/2016	0.72	0.89	0.07
	09/06/2016	0.88	0.05	0.07
	12/05/2016	0.06	0.05	0.07
	03/28/2017	0.84	0.05	0.07
	06/05/2017	0.8	0.52	0.07
	09/21/2017	0.06	1.65	0.07
	12/04/2017	0.06	1.39	0.07
	03/06/2018	0.85	2.4	0.07
	06/06/2018	0.61	1.91	0.07
	09/13/2018	0.66	0.05	0.07
	12/03/2018	0.87	0.05	0.07
	03/11/2019	0.83	0.05	0.07
	06/03/2019	0.95	0.05	0.07
	09/04/2019	0.77	0.05	0.07
	12/02/2019	1.07	1.05	0.07
LS-7	09/08/2015	1.26	0.05	0.07
	11/30/2015	0.24	0.05	0.07
	03/07/2016	1.63	0.28	0.07
	06/06/2016	0.62	0.05	0.07
	09/06/2016	0.57	0.05	0.07
	12/05/2016	0.06	0.05	0.07
	12/29/2016	0.97	0.24	0.07
	03/28/2017	1.11	0.25	0.07
	06/05/2017	1.14	0.05	0.07
	09/21/2017	1.79	0.5	0.07
	12/04/2017	1.06	0.2	0.07
	03/06/2018	1.7	0.58	0.07
	06/06/2018	1.43	0.53	0.07
	09/13/2018	1.04	0.05	0.07
	12/03/2018	0.06	0.05	0.07
	03/11/2019	0.06	0.05	0.07
	06/03/2019	0.65	0.05	0.07
	09/04/2019	1.35	0.05	0.07
	12/02/2019	1.42	0.33	0.07
OFR-3	09/08/2015	6.88	3.64	0.07

Table 4.1 (cont)

LTMO Data for Groundwater Wells Associated with Plumes 1 and 2

Well ID	Sample Date	PCE	TCE	cis- 1,2-DCE
		µg/L	µg/L	µg/L
	11/30/2015	3.51	1.86	0.07
	03/07/2016	2.86	2.38	0.07
	06/06/2016	3.34	3.03	0.07
	09/06/2016	3.14	2.02	0.07
	12/05/2016	6.59	3.02	0.07
	03/28/2017	6.98	3.58	0.07
	06/05/2017	6.29	3.62	0.07
	09/27/2017	3.69	2.06	0.07
	12/04/2017	0.06	0.75	0.07
	03/06/2018	4.79	2.85	0.07
	06/06/2018	4.78	3.85	0.07
	09/13/2018	2.32	1.72	0.07
	12/03/2018	0.06	0.05	0.07
	03/11/2019	3.52	2.12	0.07
	06/03/2019	4.3	2.35	0.07
	09/04/2019	5.89	3.21	0.07
	12/02/2019	7.99	4.09	0.07
RFR-10	09/08/2015	19.71	7.93	0.07
	11/30/2015	6.27	3.5	0.07
	03/07/2016	13.85	7.4	0.18
	04/04/2016	11.89	6.73	0.17
	05/03/2016	6.53	4.48	0.07
	06/06/2016	7.7	4.9	0.07
	09/06/2016	6.95	4.27	0.18
	12/05/2016	7.99	3.62	0.07
	03/28/2017	9.49	4.55	0.37
	06/05/2017	9.67	5.3	0.07
	09/21/2017	17.63	11.03	0.35
	12/04/2017	7.47	5.03	0.07
	03/06/2018	8.22	4.51	0.07
	06/06/2018	10.84	6.1	0.07
	09/13/2018	4.52	2.73	0.07
	12/03/2018	4.12	2.42	0.07
	03/11/2019	4.05	2.02	0.07
	06/03/2019	8.75	5.52	0.07
	09/04/2019	5.9	3.39	0.07
	12/02/2019	8.62	3.7	0.44
RFR-11	09/08/2015	0.84	1.71	0.07
	11/30/2015	1.22	0.05	0.07
	03/07/2016	0.96	1.62	0.07
	06/06/2016	0.94	0.3	0.07
	09/06/2016	1.49	0.47	0.07
	12/05/2016	0.91	1.28	0.07
	03/28/2017	1.1	1.82	0.07
	06/05/2017	0.87	1.63	0.07
	09/21/2017	0.68	2.12	0.07
	12/04/2017	0.06	1.87	0.07
	03/06/2018	0.69	2.25	0.07
	06/06/2018	0.7	2.25	0.07
	09/13/2018	3.06	0.05	0.07
	12/03/2018	8.73	4.96	0.07
	03/11/2019	0.91	0.05	0.07

Table 4.1 (cont)

LTMO Data for Groundwater Wells Associated with Plumes 1 and 2

Well ID	Sample Date	PCE	TCE	cis- 1,2-DCE
		µg/L	µg/L	µg/L
	06/03/2019	1.28	0.05	0.07
	09/04/2019	1.42	1.46	0.07
	12/02/2019	1.43	2.01	0.07
RFR-12	12/02/2015	0.29	0.8	0.07
	09/07/2016	0.06	0.49	0.07
	06/07/2017	0.06	0.69	0.07
	09/10/2018	0.22	0.82	0.07
	12/04/2019	0.06	0.63	0.07
RFR-14	12/04/2015	0.06	0.05	0.07
	09/08/2016	0.06	0.05	0.07
	06/07/2017	0.06	0.05	0.07
	12/02/2019	0.06	0.05	0.07

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.

µg/L = milligrams per liter

Table 4.2
LTMO Data for SWMU B-3 Monitoring Wells

Well ID	Sample Date	PCE	TCE	<i>cis</i> -1,2-DCE	<i>trans</i> -1,2-DCE	Vinyl chloride
		µg/L	µg/L	µg/L	µg/L	µg/L
B3-EW-A2	10/29/2012	0.060	0.050	0.070	0.080	0.080
	4/9/2014	0.060	0.050	0.070	0.080	0.080
	9/20/2017	4.8	4.9	7.7	0.080	0.080
B3-EXW01	5/12/2009	5.8	8.3	160	4.5	34
	7/20/2009	88	140	180	22	15
	9/24/2009	62	160	160	5.4	1.3
	10/29/2009	130	180	180	0.19	0.81
	1/18/2010	170	210	230	1.7	0.23
	4/26/2010	150	210	190	1.2	0.74
	7/23/2010	140	170	190	2.0	0.23
	10/20/2010	196	116	138	1.1	0.080
	1/27/2011	230	224	280	1.9	0.080
	4/25/2011	309	327	367	3.8	0.080
	7/20/2011	168	159	180	1.5	0.080
	10/24/2011	107	137	190	0.86	0.080
	4/10/2012	138	141	189	0.70	0.080
	10/16/2012	128	162	211	0.94	0.080
	4/7/2014	117	123	158	1.5	0.080
	10/8/2014	145	132	184	0.88	0.080
	4/7/2015	116	143	205	1.5	0.16
	10/19/2015	102	112	153	0.98	0.080
	4/8/2016	104	116	163	0.92	0.080
	12/8/2016	118	135	172	0.84	0.080
9/5/2017	110	138	160	0.74	0.080	
6/4/2018	17	18	8.7	0.080	0.080	
3/6/2019	87	105	127	0.59	0.080	
1/6/2020	81	91	112	0.080	0.080	
B3-EXW02	5/19/2010	15	3.8	12	0.19	0.23
	6/2/2010	12	5.8	10	0.19	0.23
	1/27/2011	101	127	115	1.3	0.080
	4/25/2011	137	180	154	10	0.080
	7/20/2011	77	90	83	0.88	0.080
	10/24/2011	80	105	100	0.66	0.080
	4/10/2012	84	103	111	0.81	0.080
	10/16/2012	90	111	110	0.55	0.080
	10/7/2013	79	92	87	0.67	0.080
	4/7/2014	93	131	125	0.98	0.080
	10/8/2014	96	124	114	0.97	0.080
	4/7/2015	58	88	92	0.87	0.16
	10/19/2015	78	98	97	0.080	0.080
	4/8/2016	56	84	70	0.57	0.080
	12/8/2016	59	89	75	0.51	0.080
9/5/2017	0.060	80	60	0.58	0.080	
6/4/2018	9.9	11	8.7	0.080	0.080	
12/31/2019	44	63	47	0.47	0.080	
B3-EXW03	1/16/2013	107	102	104	2.4	0.080
	4/5/2013	96	99	122	0.74	0.080
	10/7/2013	140	150	144	0.63	0.080
	4/7/2014	140	165	162	1.1	0.080
	10/8/2014	144	140	133	1.0	0.080
	4/7/2015	65	84	100	0.53	0.16
	10/19/2015	84	97	108	0.080	0.080
	4/8/2016	3.4	3.3	19	0.42	0.080
	12/8/2016	0.74	0.73	2.3	0.080	0.080
9/5/2017	49	61	56	0.41	0.080	

Table 4.2 (cont)
LTMO Data for SWMU B-3 Monitoring Wells

Well ID	Sample Date	PCE	TCE	<i>cis</i> -1,2-DCE	<i>trans</i> -1,2-DCE	Vinyl chloride
		µg/L	µg/L	µg/L	µg/L	µg/L
	6/4/2018	96	126	162	0.40	0.080
	3/4/2019	26	31	28	0.080	0.080
	12/31/2019	64	66	63	0.41	0.080
B3-EXW04	1/16/2013	163	255	185	3.2	0.080
	4/5/2013	157	220	206	1.4	0.080
	10/7/2013	195	224	202	1.1	0.080
	4/7/2014	119	154	126	0.65	0.080
	10/8/2014	185	200	214	1.3	0.080
	4/8/2015	135	201	225	0.85	0.080
	10/19/2015	132	156	179	0.080	0.080
	4/8/2016	100	128	150	0.81	0.080
	12/8/2016	1.0	1.2	3.5	0.080	0.080
	9/5/2017	105	146	153	1.1	0.080
	6/4/2018	55	66	66	0.56	0.080
	3/4/2019	41	57	43	0.64	0.080
	12/31/2019	90	102	108	0.81	0.080
B3-EXW05	1/16/2013	17	51	23	0.22	0.080
	4/5/2013	22	50	28	0.35	0.080
	10/7/2013	44	63	47	0.28	0.080
	4/7/2014	31	47	30	0.19	0.080
	10/8/2014	34	49	42	0.31	0.080
	4/8/2015	37	52	43	0.080	0.080
	10/27/2015	67	94	81	0.33	0.080
	4/8/2016	44	60	49	0.30	0.080
	9/5/2017	55	79	73	0.54	0.080
	6/4/2018	92	126	135	0.76	0.080
	3/4/2019	51	62	53	0.080	0.080
	12/31/2019	51	60	55	0.080	0.080
B3-MW26-UGR	6/23/2010	0.19	8.4	46	3.1	35
	8/2/2010	0.49	2.6	36	2.6	13
	10/20/2010	0.18	0.77	62	2.1	48
	1/20/2011	0.24	0.69	51	2.2	41
	4/26/2011	0.44	1.7	311	9.8	85
	7/21/2011	0.060	0.25	265	2.5	107
	10/24/2011	0.060	0.76	100	0.66	19
	4/16/2012	0.060	1.6	66	1.6	39
	10/15/2012	4.4	5.7	67	4.9	18
	4/12/2013	0.32	2.4	87	2.5	15
	10/9/2013	0.060	0.16	40	2.6	36
	4/10/2014	0.25	0.28	7.1	2.8	7.6
	10/14/2014	0.060	0.050	9.6	2.7	8.2
	4/6/2015	0.060	0.050	6.8	3.8	6.3
	10/26/2015	0.060	0.18	6.2	1.8	4.7
	4/18/2016	0.060	0.050	8.0	1.8	7.2
	12/7/2016	0.27	0.23	1.4	0.43	0.82
	9/6/2017	0.27	0.30	3.6	1.4	4.4
	6/4/2018	0.060	0.050	7.3	2.2	15
	3/7/2019	0.060	0.050	10.0	1.0	4.8
	1/2/2020	0.68	0.52	6.9	1.2	5.1
B3-MW27-UGR	2/24/2010	0.15	0.68	17	1.6	23
	3/23/2010	0.44	1.4	26	1.4	32
	4/20/2010	0.83	2.1	23	1.0	23
	5/19/2010	0.18	0.42	2.9	0.37	3.4
	6/23/2010	0.15	0.61	9.7	2.2	15
	8/2/2010	0.15	0.49	12	1.1	4.0

Table 4.2 (cont)
LTMO Data for SWMU B-3 Monitoring Wells

Well ID	Sample Date	PCE	TCE	<i>cis</i> -1,2-DCE	<i>trans</i> -1,2-DCE	Vinyl chloride
		µg/L	µg/L	µg/L	µg/L	µg/L
	10/22/2010	0.060	0.050	0.46	0.90	0.87
	1/20/2011	0.060	0.050	1.7	2.2	3.4
	4/26/2011	0.060	0.050	0.40	0.20	0.39
	7/21/2011	0.060	0.81	1.6	0.61	4.4
	10/24/2011	0.060	2.4	6.1	0.98	10
	4/16/2012	0.060	0.050	0.48	0.22	0.76
	10/15/2012	0.060	0.050	10	1.6	8.1
	4/12/2013	0.060	0.050	31	1.3	19
	10/9/2013	0.060	0.050	7.7	3.0	14
	4/10/2014	0.060	0.32	30	4.6	33
	10/14/2014	0.060	0.050	7.2	1.5	8.5
	4/6/2015	0.060	0.050	15	2.9	11
	10/26/2015	0.060	0.050	10	1.8	12
	4/18/2016	0.060	0.050	4.7	1.7	4.6
	12/7/2016	0.26	0.26	2.0	0.78	3.0
	9/6/2017	0.060	0.050	0.24	0.99	0.080
	6/4/2018	0.060	0.050	42	0.98	14
	3/7/2019	0.060	0.050	7.2	1.1	8.4
	1/2/2020	0.060	0.050	0.070	1.1	0.54
B3-MW29-UGR	6/23/2010	0.70	0.49	0.16	0.19	0.23
	8/2/2010	0.38	0.56	0.16	0.19	0.23
	4/16/2012	0.52	0.27	0.070	0.080	0.080
	10/15/2012	1.4	1.1	0.070	0.080	0.080
	10/26/2015	0.30	0.050	0.070	0.080	0.080
	4/18/2016	0.060	0.050	0.070	0.080	0.080
	12/7/2016	0.27	0.050	0.070	0.080	0.080
	9/6/2017	0.34	0.22	0.070	0.080	0.080
	3/7/2019	0.060	0.050	0.070	0.080	0.080
B3-MW30-UGR	6/23/2010	3.8	0.38	0.64	0.19	0.23
	8/2/2010	4.3	0.63	1.4	0.19	0.23
	10/22/2010	8.4	1.8	4.1	0.080	0.080
	4/16/2012	11	4.1	5.9	0.080	0.080
	10/15/2012	17	6.3	6.0	0.080	0.080
	4/12/2013	5.8	0.77	0.22	0.080	0.080
	10/26/2015	5.8	0.36	0.070	0.080	0.080
	4/18/2016	4.2	2.2	3.7	0.080	0.080
	12/7/2016	4.3	0.86	0.39	0.080	0.080
	9/6/2017	2.8	0.43	0.070	0.080	0.080
	6/4/2018	0.060	10	0.070	0.080	0.080
	3/7/2019	3.2	2.8	2.7	0.080	0.080
	1/2/2020	2.6	0.54	0.070	0.080	0.080
B3-MW31-UGR	6/23/2010	23	6.5	21	1.4	0.23
	8/3/2010	11	3.9	11	0.53	0.23
	10/22/2010	13	3.6	16	0.66	0.080
	1/20/2011	18	13	58	2.0	0.080
	4/26/2011	3.5	5.4	29	1.8	0.080
	7/20/2011	12	4.1	8.6	0.47	0.080
	10/24/2011	8.6	3.3	13	0.080	0.080
	4/16/2012	6.7	4.1	15	1.6	0.080
	10/15/2012	11	4.9	9.6	2.2	0.080
	4/12/2013	8.0	3.2	10	1.2	0.080
	10/9/2013	1.3	1.2	12	0.76	0.87
	4/10/2014	6.7	5.4	19	2.3	0.080
	10/14/2014	5.6	3.4	2.8	0.40	0.080
	4/6/2015	0.58	1.6	8.7	0.45	0.55

Table 4.2 (cont)
LTMO Data for SWMU B-3 Monitoring Wells

Well ID	Sample Date	PCE	TCE	<i>cis</i> -1,2-DCE	<i>trans</i> -1,2-DCE	Vinyl chloride
		µg/L	µg/L	µg/L	µg/L	µg/L
	10/26/2015	4.3	5.9	51	1.9	4.5
	4/18/2016	1.4	2.8	32	1.7	2.4
	12/7/2016	3.5	7.7	32	1.1	0.63
	9/6/2017	3.0	2.8	8.4	0.61	0.080
	6/4/2018	2.8	2.4	3.8	0.39	0.23
	3/7/2019	2.4	1.7	5.0	0.080	0.080
	1/2/2020	2.6	1.5	3.0	0.58	0.080
B3-MW32-UGR	6/23/2010	67	19	89	2.2	0.23
	8/3/2010	29	12	79	0.71	0.23
	10/22/2010	27	9.7	77	0.81	0.080
	1/20/2011	36	39	279	1.1	0.67
	4/26/2011	49	24	107	2.2	0.080
	7/21/2011	40	16	80	2.3	0.080
	10/24/2011	35	16	78	1.4	0.080
	4/16/2012	6.0	2.5	16	0.080	0.46
	10/15/2012	13	6.0	32	0.080	0.080
	4/12/2013	28	21	178	0.81	0.43
	10/9/2013	18	6.0	8.4	0.23	0.080
	4/10/2014	14	6.7	16	0.35	0.080
	4/7/2015	5.5	3.3	6.2	0.080	0.080
	10/26/2015	6.6	4.2	21	0.080	0.080
	4/18/2016	5.1	7.2	36	0.61	2.1
	12/7/2016	3.5	2.6	30	0.39	2.8
	9/6/2017	0.87	1.1	3.6	0.19	0.080
	3/7/2019	0.95	0.85	11	0.080	0.080
	1/2/2020	1.1	0.85	7.0	0.080	0.080
B3-MW33-UGR	6/23/2010	26	9.4	4.9	0.19	0.34
	8/3/2010	13	4.6	3.3	0.19	0.23
	10/22/2010	10	3.0	6.3	0.080	0.080
	1/20/2011	10	3.6	7.3	0.080	0.080
	4/26/2011	15	4.2	4.7	0.16	0.080
	7/21/2011	18	6.3	16	0.080	0.080
	4/16/2012	18	9.4	24	0.54	1.3
	10/15/2012	15	8.0	16	1.9	2.1
	4/12/2013	12	4.2	7.0	0.21	0.080
	10/9/2013	13	6.4	11	0.73	0.28
	4/10/2014	15	7.7	2.8	0.080	0.080
	10/14/2014	0.61	1.8	13	0.37	0.080
	4/6/2015	9.7	13	50	0.84	8.6
	10/26/2015	2.2	4.7	29	1.1	2.0
	4/18/2016	5.9	15	86	1.7	11
	12/7/2016	7.9	10	105	1.3	12
	9/6/2017	0.060	0.050	0.60	0.68	0.080
	6/4/2018	0.060	0.050	51	1.7	21
	3/7/2019	15	21	34	0.080	0.080
	1/2/2020	3.2	3.4	8.3	0.080	0.68
B3-MW34-UGR	6/23/2010	1.5	1.3	8.5	3.6	47
	8/3/2010	0.58	10	250	3.8	43
	10/20/2010	0.30	0.25	63	4.0	3.8
	1/20/2011	0.30	0.23	83	3.1	43
	4/26/2011	1.2	2.5	573	10	148
	7/21/2011	0.060	0.35	162	2.7	134
	10/24/2011	0.72	0.79	185	1.5	76
	4/16/2012	1.6	4.4	64	2.0	35
	10/15/2012	79	96	639	8.5	63

Table 4.2 (cont)
LTMO Data for SWMU B-3 Monitoring Wells

Well ID	Sample Date	PCE	TCE	<i>cis</i> -1,2-DCE	<i>trans</i> -1,2-DCE	Vinyl chloride
		µg/L	µg/L	µg/L	µg/L	µg/L
	4/12/2013	0.35	0.16	87	2.9	54
	10/9/2013	0.060	0.050	35	4.5	63
	4/10/2014	0.060	0.050	0.66	3.4	2.2
	10/14/2014	0.060	0.050	7.7	8.2	24
	4/7/2015	0.43	0.050	0.29	0.86	0.080
	10/26/2015	0.060	0.42	10	0.78	5.2
	4/18/2016	0.060	0.74	41	1.7	14
	12/7/2016	0.060	1.4	11	0.080	0.46
	9/6/2017	0.060	0.050	7.6	0.79	7.3
	6/4/2018	2.4	0.050	0.070	0.080	0.080
	3/7/2019	0.060	1.2	22	0.080	0.080
	1/2/2020	0.060	0.050	1.2	1.3	1.6
B3-T1-1	4/18/2007	0.15	2.7	230	3.9	6.2
	5/16/2007	0.53	1.4	130	0.46	0.28
	6/21/2007	0.15	1.1	55	0.22	0.76
	8/2/2007	0.15	0.88	230	3.4	52
	8/23/2007	0.15	0.96	120	1.4	500
	9/17/2007	0.15	0.20	10	0.81	45
	10/16/2007	0.15	0.30	8.3	2.0	42
	11/19/2007	0.15	0.16	2.4	11	38
	12/18/2007	0.15	0.77	7.9	3.1	37
	1/25/2008	0.30	18	41	0.20	7.1
	2/19/2008	1.5	0.73	19	0.91	170
	3/26/2008	0.15	0.16	0.29	1.4	69
	4/22/2008	0.15	0.16	0.16	1.8	54
	5/20/2008	1.2	12	24	8.8	70
	6/16/2008	0.15	0.16	0.78	12	130
	7/22/2008	0.15	0.16	0.26	12	23
	8/20/2008	0.15	0.16	0.80	7.6	28
	9/24/2008	0.15	3.0	17	9.8	44
	10/29/2008	0.55	0.27	0.52	10	46
	11/18/2008	0.16	0.16	0.16	5.7	15
	12/17/2008	9.8	36	36	0.24	0.23
	1/21/2009	3.9	11	36	0.60	6.3
	2/19/2009	1.4	25	55	4.0	18
	3/19/2009	0.36	6.6	55	6.8	25
	4/21/2009	0.15	0.32	20	4.5	21
	5/19/2009	0.15	0.16	16	2.2	45
	6/17/2009	0.15	0.16	10	3.0	32
	7/21/2009	0.20	0.86	8.2	11	54
	8/18/2009	0.15	3.5	55	5.9	64
	9/16/2009	0.15	1.7	8.1	5.8	43
	9/23/2009	0.15	0.16	0.98	1.3	26
	9/30/2009	0.15	0.16	0.46	0.19	18
	10/7/2009	0.15	0.29	4.0	0.19	16
	10/19/2009	5.6	15	18	0.19	2.6
	11/18/2009	5.9	11	120	1.8	5.5
	12/15/2009	18	28	110	0.62	50
	1/19/2010	1.7	2.5	9.9	0.23	3.7
	2/23/2010	2.8	4.0	6.2	0.24	18
	3/23/2010	0.26	5.8	12	0.47	7.1
	4/20/2010	1.2	8.8	14	0.19	0.49
	5/19/2010	9.5	19	29	2.1	9.3
	6/22/2010	0.54	1.1	58	2.2	21
	7/20/2010	0.24	0.37	6.5	1.0	8.9

Table 4.2 (cont)
LTMO Data for SWMU B-3 Monitoring Wells

Well ID	Sample Date	PCE	TCE	<i>cis</i> -1,2-DCE	<i>trans</i> -1,2-DCE	Vinyl chloride
		µg/L	µg/L	µg/L	µg/L	µg/L
	8/17/2010	2.8	0.16	0.61	0.79	6.6
	9/21/2010	0.060	0.34	5.6	0.080	6.1
	10/19/2010	0.060	0.20	0.82	0.55	1.9
	11/18/2010	0.060	0.050	0.38	0.47	0.080
	12/21/2010	2.8	8.4	17	0.41	0.080
	1/19/2011	6.3	16	75	0.25	0.56
	2/24/2011	3.1	8.2	65	0.71	3.5
	3/22/2011	0.53	6.2	76	1.1	0.080
	4/19/2011	1.3	0.86	1,530	10	134
	5/18/2011	0.060	0.050	339	11	175
	6/20/2011	0.39	0.28	4.0	9.6	24
	7/19/2011	0.060	1.6	23	1.5	10
	8/17/2011	0.060	0.52	24	1.5	0.080
	9/19/2011	4.3	2.5	16	1.2	16
	10/18/2011	0.060	0.61	2.0	0.22	2.8
	1/18/2012	0.060	0.30	7.3	0.24	0.080
	4/11/2012	0.060	1.2	48	0.65	7.2
	10/17/2012	0.18	3.6	10	0.080	6.5
	4/15/2013	1.1	2.0	47	0.71	2.9
	10/10/2013	8.9	24	45	1.2	7.5
	4/9/2014	0.15	0.39	19	0.80	9.5
	10/7/2014	0.060	0.57	0.95	1.5	0.080
	4/13/2015	9.9	25	65	1.4	2.7
	10/21/2015	0.060	0.050	1.6	0.78	4.8
	4/21/2016	0.060	0.050	15	0.99	6.2
	9/28/2016	0.060	0.18	5.6	1.6	7.6
	3/9/2017	0.060	0.61	2.7	0.080	0.54
	9/27/2017	0.060	0.21	8.0	0.88	11
	3/19/2018	0.060	0.050	12	0.79	2.4
	9/20/2018	2.7	5.3	9.0	0.080	0.080
	4/3/2019	0.76	2.8	45	1.1	1.1
	9/26/2019	0.060	1.5	20	0.080	5.8
B3-T1-2	4/18/2007	0.15	3.5	290	5.7	5.8
	5/16/2007	0.15	0.44	120	0.57	0.23
	6/21/2007	0.15	0.46	68	0.32	0.60
	8/2/2007	0.15	1.6	2,100	41	11
	8/23/2007	0.15	0.19	220	1.4	630
	9/17/2007	0.15	0.40	29	0.51	44
	10/16/2007	0.36	0.44	17	0.71	47
	11/19/2007	0.15	0.16	11	2.1	38
	12/18/2007	0.15	0.27	6.9	1.1	48
	1/25/2008	0.15	1.1	11	0.19	3.9
	2/19/2008	0.60	0.70	130	1.1	12
	3/26/2008	0.25	0.16	1.2	0.39	170
	4/22/2008	0.18	0.16	0.23	4.2	31
	6/16/2008	0.15	0.29	1.6	8.0	51
	7/22/2008	0.15	0.16	0.28	13	7.4
	8/20/2008	0.15	0.16	0.54	9.1	7.7
	9/24/2008	0.15	3.4	8.6	6.3	30
	10/29/2008	0.32	0.16	2.0	8.5	23
	11/18/2008	0.15	0.16	0.16	6.2	1.4
	12/17/2008	0.64	3.1	2.7	3.9	22
	1/21/2009	0.26	1.1	3.9	3.4	34
	2/19/2009	0.15	1.2	3.8	3.4	19
	3/19/2009	0.15	0.42	2.8	3.2	21

Table 4.2 (cont)
LTMO Data for SWMU B-3 Monitoring Wells

Well ID	Sample Date	PCE	TCE	<i>cis</i> -1,2-DCE	<i>trans</i> -1,2-DCE	Vinyl chloride
		µg/L	µg/L	µg/L	µg/L	µg/L
	4/21/2009	0.15	0.16	1.7	2.5	0.23
	5/19/2009	0.15	0.16	1.9	2.7	14
	6/17/2009	0.15	0.16	1.1	5.6	3.2
	7/21/2009	0.15	0.37	2.2	7.4	9.8
	8/18/2009	0.15	0.44	3.2	4.5	4.1
	9/16/2009	0.15	0.16	2.2	6.9	11
	9/23/2009	0.15	0.36	4.8	2.1	24
	9/30/2009	0.35	0.94	6.3	0.19	28
	10/7/2009	0.15	0.16	5.0	0.19	6.4
	10/19/2009	0.32	3.0	27	0.19	3.1
	11/18/2009	8.1	16	91	1.9	0.96
	12/15/2009	20	30	52	0.36	2.7
	1/19/2010	4.4	6.8	7.6	0.53	1.4
	2/23/2010	1.1	1.3	1.7	0.19	1.8
	3/23/2010	0.55	0.39	2.0	0.23	1.3
	4/20/2010	0.28	1.6	9.3	1.1	8.4
	5/19/2010	0.15	0.74	2.8	4.8	9.4
	6/22/2010	0.15	1.4	26	3.3	49
	7/20/2010	0.15	0.26	2.1	5.1	3.2
	8/17/2010	2.7	0.16	0.87	3.7	11
	9/21/2010	0.060	0.050	0.070	0.86	0.080
	10/19/2010	0.060	0.050	0.070	1.9	0.080
	11/18/2010	0.060	0.050	0.070	0.95	0.080
	12/21/2010	0.060	2.2	17	0.56	2.4
	1/19/2011	0.060	1.1	68	0.62	5.8
	2/24/2011	0.060	0.050	1.3	1.0	1.0
	3/22/2011	0.33	0.19	0.29	0.65	0.080
	4/19/2011	0.060	0.23	13	1.6	0.83
	5/18/2011	0.060	0.050	3.2	1.7	0.080
	6/20/2011	0.53	2.7	35	2.4	30
	7/19/2011	0.060	0.64	3.6	0.93	4.7
	8/17/2011	0.060	0.050	0.59	1.4	0.080
	9/19/2011	3.1	8.8	93	3.8	30
	10/18/2011	0.84	4.5	53	0.080	14
	1/18/2012	39	51	88	0.80	0.71
	4/11/2012	63	74	96	1.5	0.080
	10/17/2012	57	72	106	0.35	3.0
	4/15/2013	0.060	0.050	5.2	3.0	7.6
	10/10/2013	0.060	3.9	31	5.6	25
	4/9/2014	0.23	2.6	72	9.3	23
	10/7/2014	15	48	90	2.5	6.1
	4/13/2015	26	32	84	4.2	13
	10/21/2015	0.060	0.050	0.20	0.66	0.080
	4/21/2016	0.060	0.050	34	5.2	21
	9/29/2016	0.50	5.7	18	0.90	4.9
	3/9/2017	0.060	0.050	1.1	1.3	2.3
	9/26/2017	0.060	0.050	2.6	1.7	5.8
	3/21/2018	0.93	1.4	37	1.2	16
	9/24/2018	0.060	0.050	0.070	0.080	0.080
	3/27/2019	0.52	1.7	13	4.4	7.7
	9/25/2019	0.060	0.050	13	1.1	19
B3-T1-3	4/18/2007	0.15	1.5	35	2.8	0.29
	5/16/2007	0.17	1.4	61	0.39	0.23
	6/21/2007	0.15	0.61	49	0.55	0.63
	8/2/2007	0.15	2.1	210	1.7	4.0

Table 4.2 (cont)
LTMO Data for SWMU B-3 Monitoring Wells

Well ID	Sample Date	PCE	TCE	<i>cis</i> -1,2-DCE	<i>trans</i> -1,2-DCE	Vinyl chloride
		µg/L	µg/L	µg/L	µg/L	µg/L
	8/23/2007	0.15	0.30	10	0.19	5.7
	9/17/2007	0.15	0.16	23	0.19	4.3
	10/16/2007	0.34	0.38	15	0.19	34
	11/19/2007	0.15	0.16	9.6	0.94	27
	12/18/2007	0.15	0.21	5.7	0.76	29
	1/25/2008	0.17	6.2	18	0.19	6.8
	2/19/2008	3.5	4.5	120	0.59	5.0
	3/26/2008	0.79	0.89	33	0.52	87
	4/22/2008	0.29	0.16	1.9	1.0	44
	5/20/2008	13	35	91	0.65	1.6
	6/16/2008	0.36	2.5	9.8	29	100
	7/22/2008	0.15	0.16	0.45	39	28
	8/20/2008	0.15	0.16	2.2	21	35
	9/24/2008	0.15	0.66	5.0	29	74
	10/29/2008	0.23	0.16	0.56	20	44
	11/18/2008	0.15	0.17	0.16	13	5.7
	12/17/2008	0.29	0.94	0.63	8.6	19
	1/21/2009	0.15	0.35	0.69	11	27
	2/19/2009	0.15	0.34	1.6	8.1	16
	3/19/2009	0.15	0.33	1.2	6.1	25
	4/21/2009	0.15	0.16	2.0	3.9	4.1
	5/19/2009	0.15	0.16	0.81	7.3	24
	6/17/2009	0.15	0.16	0.78	5.8	2.7
	7/21/2009	0.31	0.55	1.7	15	29
	8/18/2009	0.15	0.26	1.3	6.5	9.1
	9/16/2009	0.15	0.51	1.3	5.9	0.23
	9/23/2009	0.15	0.28	0.61	2.6	0.31
	9/30/2009	0.15	0.28	0.61	0.19	0.23
	10/7/2009	0.15	0.19	0.42	0.19	0.23
	10/19/2009	23	35	39	0.19	0.62
	11/18/2009	1.5	2.4	65	1.5	6.6
	12/15/2009	14	20	45	0.19	0.54
	1/19/2010	2.7	4.9	26	0.43	4.3
	2/23/2010	1.7	3.5	8.0	0.19	4.3
	3/23/2010	2.6	9.2	7.5	0.19	0.51
	4/20/2010	3.1	15	19	0.31	0.54
	5/19/2010	15	24	29	1.7	2.3
	6/22/2010	14	28	51	1.6	4.8
	7/21/2010	1.3	5.8	33	4.2	14
	8/17/2010	0.74	1.7	21	3.3	11
	9/21/2010	1.6	5.9	38	0.87	4.1
	10/19/2010	0.84	3.5	21	2.8	4.0
	11/18/2010	0.25	2.1	8.6	1.3	0.080
	12/21/2010	14	27	38	0.57	0.080
	1/19/2011	43	75	86	0.67	0.080
	2/24/2011	6.5	8.7	51	0.88	2.1
	3/22/2011	0.72	1.8	19	1.6	0.080
	4/19/2011	1.4	0.88	1,060	8.5	38
	5/18/2011	0.060	0.050	164	6.6	69
	6/20/2011	0.060	0.050	1.4	3.9	3.3
	7/19/2011	6.9	17	112	2.5	30
	8/17/2011	0.060	0.050	61	2.3	46
	9/19/2011	2.3	0.54	2.3	1.2	3.2
	10/18/2011	0.38	0.72	4.7	0.080	2.4
	1/18/2012	1.5	4.3	26	0.88	5.3

Table 4.2 (cont)
LTMO Data for SWMU B-3 Monitoring Wells

Well ID	Sample Date	PCE	TCE	<i>cis</i> -1,2-DCE	<i>trans</i> -1,2-DCE	Vinyl chloride
		µg/L	µg/L	µg/L	µg/L	µg/L
	4/11/2012	2.4	4.2	18	0.30	3.4
	10/17/2012	1.1	2.3	9.1	0.42	16
	4/15/2013	0.060	0.050	0.19	1.6	0.080
	10/10/2013	0.19	0.32	1.4	1.5	1.8
	4/9/2014	0.060	0.22	2.7	4.1	0.080
	10/7/2014	0.060	0.050	0.40	3.8	2.3
	4/13/2015	0.40	0.85	1.5	2.9	0.080
	10/21/2015	0.060	0.050	0.070	0.34	0.080
	4/22/2016	0.060	0.050	0.34	0.51	0.080
	9/28/2016	0.060	0.050	4.1	0.67	2.4
	3/9/2017	0.060	0.050	0.32	0.080	0.49
	9/27/2017	0.060	0.16	0.070	0.51	0.31
	3/19/2018	0.060	0.050	0.070	0.87	0.080
	9/24/2018	0.74	0.050	0.070	0.080	0.080
	4/3/2019	0.35	0.050	2.6	1.2	2.1
	9/26/2019	0.060	0.050	1.0	0.59	1.1
B3-T2-1	3/26/2008	0.15	0.16	0.16	0.64	67
	12/16/2008	0.79	6.8	7.2	0.19	0.23
	1/21/2009	3.5	1.9	23	0.48	0.47
	2/19/2009	1.5	0.82	47	0.19	0.23
	3/19/2009	0.97	1.1	74	0.81	0.98
	4/21/2009	1.3	1.1	54	4.8	0.23
	5/19/2009	0.15	0.16	36	0.66	9.8
	6/17/2009	0.23	2.9	41	1.7	7.1
	7/21/2009	0.39	3.3	57	6.0	22
	8/18/2009	0.47	2.9	44	5.0	17
	9/16/2009	0.15	0.16	12	3.5	110
	9/24/2009	0.15	0.16	4.3	0.84	32
	10/7/2009	0.15	0.38	3.0	0.19	25
	10/19/2009	0.44	1.1	6.9	0.19	14
	11/18/2009	0.43	1.4	5.9	0.19	3.1
	12/15/2009	1.2	2.3	4.4	0.19	1.5
	1/19/2010	0.26	0.39	0.98	0.19	0.23
	2/23/2010	0.20	0.32	1.7	0.19	2.2
	3/23/2010	1.4	5.0	8.1	0.19	0.25
	4/20/2010	0.95	9.0	21	0.45	1.0
	5/19/2010	0.52	1.6	12	1.1	6.9
	6/22/2010	0.26	1.8	41	4.5	64
	10/21/2015	0.060	0.050	1.2	0.35	1.9
	4/21/2016	26	30	36	0.26	1.8
	9/28/2016	18	26	29	0.73	5.2
	3/13/2017	11	13	22	0.52	1.6
	9/26/2017	4.1	12	25	1.2	4.9
	3/27/2019	0.86	7.4	24	0.72	0.080
	9/25/2019	0.54	1.4	6.2	0.080	0.92
B3-T2-2	3/26/2008	0.15	0.16	0.16	0.19	13
	9/23/2009	0.15	0.16	1.4	0.47	29
	10/7/2009	0.15	0.16	1.8	0.19	19
	10/19/2009	0.18	0.32	70	0.19	16
	11/18/2009	0.48	1.5	4.3	0.57	80
	12/15/2009	1.6	3.5	3.0	0.47	6.2
	1/19/2010	0.25	0.26	0.22	0.19	0.77
	2/23/2010	0.15	0.16	0.30	0.21	1.0
	3/23/2010	0.15	0.30	0.18	0.19	0.23
	4/20/2010	0.15	0.50	0.47	0.19	0.23

Table 4.2 (cont)
LTMO Data for SWMU B-3 Monitoring Wells

Well ID	Sample Date	PCE	TCE	<i>cis</i> -1,2-DCE	<i>trans</i> -1,2-DCE	Vinyl chloride
		µg/L	µg/L	µg/L	µg/L	µg/L
	5/19/2010	0.15	0.16	0.79	0.19	0.23
	6/22/2010	0.15	0.16	1.1	0.19	0.23
	10/21/2015	0.060	0.050	0.070	0.22	0.080
	4/21/2016	0.060	0.050	2.8	1.9	4.6
	9/28/2016	0.060	0.30	10	2.8	19
	3/13/2017	0.060	0.050	0.47	1.5	1.1
	9/19/2017	0.060	0.40	0.53	0.58	0.080
	4/3/2019	0.27	0.37	2.1	0.080	0.93
	9/26/2019	0.060	0.050	0.94	0.080	2.2
B3-T3-1	9/30/2009	0.15	0.16	0.33	0.19	0.23
	10/7/2009	0.15	0.16	0.16	0.19	0.23
	10/19/2009	0.24	0.51	1.2	0.19	0.23
	11/17/2009	0.15	0.20	0.72	0.19	0.53
	4/21/2016	37	60	86	0.59	1.3
	9/26/2016	62	73	87	0.99	0.080
	3/13/2017	55	77	80	1.1	0.080
	9/19/2017	20	31	43	0.38	0.080
B3-T3-2	11/17/2009	0.15	0.37	1.2	0.19	0.23
	4/20/2016	24	32	43	0.24	0.080
	9/26/2016	28	30	42	0.44	3.5
	3/13/2017	27	43	53	0.080	0.080
	9/19/2017	23	41	55	0.62	2.6
B3-T4-1	11/17/2009	0.15	0.30	0.20	0.19	0.23
	4/20/2016	29	38	54	0.31	1.4
	9/26/2016	1.2	7.7	98	2.3	7.1
	3/21/2017	1.9	2.9	5.2	0.29	0.87
	9/19/2017	4.9	18	36	0.55	3.7
B3-T5-1	9/16/2009	0.15	0.16	0.72	0.78	3.2
	9/24/2009	0.15	0.16	0.82	0.19	0.87
	9/30/2009	0.46	0.16	0.39	0.19	0.23
	10/7/2009	0.15	0.16	0.16	0.19	0.23
	10/20/2009	0.15	0.22	0.52	0.19	0.23
	11/17/2009	0.15	0.16	0.16	0.19	0.23
	4/20/2016	3.0	10	42	0.63	5.8
	9/26/2016	11	18	84	1.4	13
	3/13/2017	21	32	102	1.2	4.5
	9/18/2017	6.3	25	63	1.1	5.0
B3-T5-2	10/7/2009	0.15	0.16	0.16	0.19	0.23
	11/17/2009	0.21	0.36	0.45	0.19	0.23
	4/19/2016	0.060	0.29	0.56	0.080	0.080
	9/22/2016	0.060	0.050	0.52	0.30	0.080
	3/13/2017	2.6	3.9	17	0.080	2.7
	9/18/2017	0.060	0.050	0.22	0.080	0.080
B3-T6-1	7/24/2007	10	14	1,500	1.5	0.67
	9/24/2009	0.15	0.16	0.28	0.19	0.40
	10/20/2009	0.15	0.16	0.25	0.19	0.23
	11/17/2009	0.15	0.16	0.16	0.19	0.23
	10/19/2010	19	29	95	5.3	2.7
	11/18/2010	2.3	3.8	78	1.1	0.080
	12/21/2010	11	17	102	1.4	0.64
	1/19/2011	4.6	5.4	122	0.52	0.71
	2/24/2011	3.7	6.9	107	0.67	11
	3/22/2011	2.0	4.8	154	1.2	0.080
	4/19/2011	3.4	11	193	0.61	7.9
	5/18/2011	3.4	11	133	0.99	5.8

Table 4.2 (cont)
LTMO Data for SWMU B-3 Monitoring Wells

Well ID	Sample Date	PCE	TCE	<i>cis</i> -1,2-DCE	<i>trans</i> -1,2-DCE	Vinyl chloride
		µg/L	µg/L	µg/L	µg/L	µg/L
	6/20/2011	0.060	0.050	0.52	0.61	0.080
	7/19/2011	0.76	2.6	4.6	0.080	0.080
	9/19/2011	24	38	69	0.74	3.5
	10/18/2011	28	38	60	0.84	0.77
	1/18/2012	7.3	6.6	8.9	0.080	0.080
	4/11/2012	41	53	97	1.3	2.0
	10/17/2012	1.0	1.7	17	0.80	23
	4/15/2013	54	80	95	1.5	0.080
	10/10/2013	54	77	91	1.5	0.45
	4/9/2014	31	45	90	2.1	9.4
	10/7/2014	4.3	7.2	9.9	1.2	6.1
	4/13/2015	0.060	0.71	13	1.5	18
	10/21/2015	2.3	9.9	60	1.8	17
	4/19/2016	12	18	25	0.24	1.1
	9/22/2016	0.53	0.45	3.2	0.33	0.50
	3/13/2017	0.92	3.3	13	0.080	0.42
	9/18/2017	0.060	0.98	4.2	0.080	1.5
	3/19/2018	2.0	4.2	65	1.1	11
	9/20/2018	2.5	12	32	0.080	3.6
	3/27/2019	25	41	48	0.65	0.080
	9/26/2019	23	33	39	0.080	0.69
B3-T6-2	7/24/2007	2.5	15	150	0.27	0.23
	8/2/2007	0.15	0.18	480	4.8	5.4
	9/24/2009	0.15	0.16	0.43	0.19	0.89
	10/20/2009	0.16	0.16	0.41	0.19	0.23
	11/17/2009	0.15	0.16	0.16	0.19	0.23
	7/22/2010	0.15	0.16	5.0	0.31	6.9
	8/17/2010	0.15	0.16	0.41	0.36	3.4
	9/21/2010	0.060	0.050	1.1	0.52	4.7
	10/19/2010	0.060	0.51	5.4	0.93	9.3
	11/18/2010	0.060	0.24	2.8	1.2	0.080
	12/21/2010	0.060	0.66	3.3	0.56	3.5
	1/19/2011	0.25	0.40	20	0.50	11
	2/24/2011	0.060	0.050	1.2	0.75	4.5
	3/22/2011	0.060	0.35	6.2	1.0	0.080
	4/19/2011	0.060	0.050	7.3	2.5	0.27
	5/18/2011	0.060	0.050	1.4	1.3	0.080
	6/20/2011	11	25	36	0.29	2.9
	7/19/2011	0.060	0.050	0.70	0.28	0.080
	8/17/2011	0.060	0.050	1.2	0.080	0.080
	9/19/2011	2.5	0.25	0.75	0.080	0.080
	10/18/2011	0.060	2.1	13	0.080	5.0
	1/18/2012	0.060	0.050	0.40	0.080	0.080
	4/11/2012	1.0	1.6	15	0.25	4.1
	10/17/2012	0.42	0.69	2.1	0.82	5.4
	4/15/2013	17	34	51	0.82	2.4
	10/10/2013	0.060	1.3	15	0.94	15
	4/9/2014	0.060	0.34	7.9	2.0	24
	10/7/2014	0.060	0.050	0.40	1.5	0.080
	4/13/2015	1.1	3.8	63	2.4	25
	10/21/2015	2.1	2.1	12	1.8	8.8
	4/19/2016	0.27	0.26	0.26	0.53	0.080
	9/22/2016	0.70	0.42	1.1	0.88	0.080
	3/14/2017	3.9	8.3	35	0.62	0.080
	9/18/2017	0.060	0.26	2.9	0.68	3.8

Table 4.2 (cont)
LTMO Data for SWMU B-3 Monitoring Wells

Well ID	Sample Date	PCE	TCE	<i>cis</i> -1,2-DCE	<i>trans</i> -1,2-DCE	Vinyl chloride
		µg/L	µg/L	µg/L	µg/L	µg/L
	3/21/2018	0.41	0.97	49	0.90	16
	9/20/2018	13	26	33	0.080	0.080
	3/27/2019	21	28	35	0.080	0.080
	9/25/2019	0.060	0.050	16	0.55	25
B3-UIC	4/26/2007	35	41	41	0.42	0.23
	5/3/2007	71	81	76	1.8	0.23
	5/14/2007	82	82	74	0.46	0.23
	6/7/2007	9.6	74	84	3.2	0.23
	6/21/2007	14	79	71	2.7	0.23
	7/2/2007	18	90	88	3.3	0.37
	7/19/2007	16	67	66	2.0	0.23
	9/6/2007	21	70	65	2.2	0.23
	9/18/2007	25	82	79	2.5	0.23
	10/5/2007	27	90	78	3.7	0.23
	10/15/2007	14	59	54	2.0	0.23
	11/8/2007	19	67	60	1.6	0.23
	11/19/2007	28	95	89	4.5	0.23
	12/3/2007	27	28	21	0.19	0.23
	12/18/2007	71	78	67	1.6	0.23
	1/9/2008	88	96	93	1.5	0.23
	1/22/2008	31	59	46	0.71	0.23
	2/7/2008	110	100	110	0.45	0.23
	2/18/2008	110	110	110	0.68	0.23
	3/4/2008	110	130	120	0.27	0.23
	3/19/2008	140	150	130	0.26	0.23
	4/10/2008	15	67	58	2.4	0.23
	4/22/2008	19	78	66	2.3	0.23
	5/5/2008	18	68	56	1.9	0.22
	5/19/2008	86	120	110	1.3	0.23
	6/5/2008	67	110	84	1.1	0.23
	6/18/2008	70	100	85	3.2	0.23
	7/9/2008	75	100	92	1.9	0.23
	7/22/2008	60	110	95	1.7	0.23
	8/5/2008	40	76	66	1.6	0.23
	8/19/2008	52	88	85	1.6	0.23
	9/24/2008	62	92	84	2.7	0.23
	10/21/2008	45	78	80	1.6	0.23
	11/18/2008	68	92	84	4.8	0.23
	12/18/2008	45	79	68	1.4	0.23
	1/21/2009	42	78	77	1.4	0.23
	2/19/2009	39	79	65	1.6	0.23
	3/19/2009	45	76	68	1.8	0.23
	4/21/2009	45	72	44	16	0.23
	5/19/2009	49	72	58	1.8	0.23
	6/17/2009	54	80	70	1.6	0.23
	7/21/2009	66	110	120	16	4.6
	8/18/2009	60	93	87	6.3	0.89
	10/7/2009	3.4	39	32	2.5	0.23
	11/18/2009	110	150	150	3.1	0.23
	12/15/2009	150	160	180	1.4	0.31
	1/26/2010	52	78	70	2.4	0.23
	2/23/2010	68	100	92	2.2	0.23
	3/23/2010	2.9	32	29	4.0	0.23
	4/20/2010	50	89	73	2.3	0.23
	5/19/2010	57	86	75	4.6	0.23

Table 4.2 (cont)
LTMO Data for SWMU B-3 Monitoring Wells

Well ID	Sample Date	PCE	TCE	<i>cis</i> -1,2-DCE	<i>trans</i> -1,2-DCE	Vinyl chloride
		µg/L	µg/L	µg/L	µg/L	µg/L
	6/22/2010	79	110	110	5.0	0.23
	7/20/2010	72	100	100	5.6	0.23
	8/17/2010	76	100	100	15	0.23
	9/21/2010	52	84	92	1.5	0.080
	10/19/2010	65	81	83	6.3	0.080
	11/18/2010	68	79	82	1.7	0.080
	12/21/2010	87	114	109	2.2	0.080
	1/19/2011	86	134	137	2.0	0.080
	2/24/2011	94	126	156	1.6	0.080
	3/22/2011	68	100	118	2.3	0.16
	4/19/2011	80	164	181	2.8	0.080
	5/18/2011	70	98	101	3.1	0.080
	6/20/2011	81	117	118	2.7	0.080
	7/19/2011	77	98	105	2.8	0.080
	8/17/2011	84	110	138	2.2	0.080
	9/19/2011	83	109	113	3.4	0.080
	10/18/2011	87	100	107	2.4	0.080
	11/21/2011	102	116	132	3.1	0.080
	12/19/2011	102	113	122	2.5	0.080
	1/18/2012	85	100	111	3.5	0.080
	2/22/2012	79	93	99	2.8	0.080
	3/22/2012	91	108	96	1.6	0.080
	4/11/2012	91	95	115	2.1	0.080
	5/29/2012	93	107	114	3.2	0.080
	6/26/2012	69	84	94	2.8	0.080
	7/26/2012	49	60	80	4.2	0.080
	10/29/2012	55	71	76	3.3	0.080
	1/16/2013	86	113	117	3.4	0.080
	4/15/2013	89	116	120	2.3	0.080
	7/23/2013	79	92	104	2.3	0.080
	10/10/2013	81	106	108	1.9	0.080
	1/22/2014	58	82	85	3.0	0.080
	4/9/2014	79	104	114	3.4	0.080
	7/17/2014	108	125	141	0.84	0.080
	10/7/2014	100	95	130	0.96	0.16
	1/29/2015	87	104	107	1.1	0.16
	4/13/2015	88	123	97	1.2	0.080
	7/29/2015	67	82	88	1.5	0.080
	10/21/2015	53	66	76	2.0	0.080
	1/6/2016	72	88	96	1.5	0.080
	4/20/2016	99	129	147	0.69	0.080
	7/12/2016	0.060	76	75	1.3	0.080
	9/14/2016	104	130	152	0.91	0.080
	12/8/2016	74	92	91	0.57	0.080
	3/14/2017	79	101	96	0.53	0.080
	6/20/2017	64	82	81	0.49	0.080
	9/20/2017	67	87	92	2.1	0.080
	12/20/2017	58	83	84	2.2	0.080
	3/21/2018	45	57	53	1.9	0.080
	6/7/2018	46	56	64	2.1	0.080
	9/10/2018	17	19	18	0.080	0.080
	12/6/2018	74	90	102	1.9	0.080
	3/27/2019	49	68	66	1.2	0.080
	6/3/2019	21	27	26	0.80	0.080
	9/18/2019	55	70	75	1.1	0.080

Table 4.2 (cont)
LTMO Data for SWMU B-3 Monitoring Wells

Well ID	Sample Date	PCE	TCE	<i>cis</i> -1,2-DCE	<i>trans</i> -1,2-DCE	Vinyl chloride
		µg/L	µg/L	µg/L	µg/L	µg/L
	12/30/2019	68	79	88	0.83	0.080
CS-4	2/24/2010	3.0	4.0	2.5	0.19	0.23
	4/26/2010	3.8	5.4	2.8	0.19	0.23
	1/31/2011	3.3	4.4	1.4	0.080	0.080
	10/18/2012	1.3	1.1	0.32	0.080	0.080
	9/9/2016	0.68	0.64	0.070	#N/A	0.080
	9/7/2018	0.060	0.47	0.070	#N/A	0.080
CS-B3-MW01	7/27/2007	0.21	0.45	200	2.9	5.3
	10/15/2007	0.15	0.29	160	0.59	5.2
	1/21/2008	0.29	0.36	80	2.3	4.0
	4/21/2008	0.15	0.16	120	0.37	6.1
	7/21/2008	0.15	0.33	140	0.59	4.2
	10/27/2008	0.24	0.17	170	7.1	2.2
	1/20/2009	0.15	0.16	160	0.37	2.2
	4/20/2009	0.15	0.16	160	9.6	3.7
	7/20/2009	0.15	0.16	180	17	2.7
	10/29/2009	0.15	1.5	510	0.19	5.0
	1/18/2010	0.15	3.2	470	3.4	5.1
	4/26/2010	0.43	0.44	360	2.3	14
	7/29/2010	0.15	0.16	2.2	1.3	220
	10/20/2010	0.33	0.22	0.34	1.1	187
	1/31/2011	0.060	0.050	0.21	0.66	53
	4/27/2011	0.060	0.050	0.23	0.080	22
	7/20/2011	0.77	0.59	0.48	0.31	36
	10/25/2011	0.060	0.050	0.070	0.080	5.4
	4/12/2012	0.060	1.5	60	2.5	209
	10/18/2012	0.060	0.050	0.49	1.4	69
	4/11/2013	0.060	0.050	0.21	0.30	16
	10/17/2013	0.060	0.050	0.070	0.38	13
	4/11/2014	0.060	0.050	0.070	0.54	13
	10/9/2014	0.060	0.050	0.20	0.42	18
	4/9/2015	0.060	0.050	0.070	0.83	23
	10/21/2015	0.060	0.050	0.070	1.4	40
	4/14/2016	0.060	0.050	0.070	2.8	87
	12/28/2016	0.060	0.45	4.9	3.9	129
CS-B3-MW02	3/21/2017	17	22	39	0.25	0.080
CS-B3-MW04	3/28/2017	2.0	3.5	16	0.81	4.5
CS-D	7/27/2007	71	120	92	4.1	0.23
	10/15/2007	120	150	140	1.3	0.23
	1/21/2008	160	220	200	5.4	0.23
	4/21/2008	160	210	190	1.1	0.23
	7/21/2008	140	170	130	1.7	0.23
	10/28/2008	60	39	34	1.2	0.23
	10/29/2009	65	93	71	0.19	0.24
	1/18/2010	120	150	120	0.55	0.23
	4/26/2010	94	120	88	0.56	0.23
	7/29/2010	130	160	140	1.6	0.23
	10/20/2010	147	175	154	1.0	0.30
	1/31/2011	144	179	138	1.6	0.080
	4/10/2012	47	49	61	0.40	0.080
	4/14/2016	13	14	10	0.080	0.080
	9/22/2016	13	19	13	#N/A	0.080
	3/6/2017	8.1	10	6.6	0.080	0.080
	9/6/2018	3.1	4.0	2.8	#N/A	0.080
	3/6/2019	3.0	3.3	2.1	0.080	0.080

Table 4.2 (cont)
LTMO Data for SWMU B-3 Monitoring Wells

Well ID	Sample Date	PCE	TCE	<i>cis</i> -1,2-DCE	<i>trans</i> -1,2-DCE	Vinyl chloride
		µg/L	µg/L	µg/L	µg/L	µg/L
	9/5/2019	4.3	5.3	3.4	0.080	0.080
CS-MW16-CC	3/6/2007	2.1	59	90	7.8	0.57
	7/27/2007	17	110	110	9.1	0.33
	10/15/2007	24	91	75	2.5	0.23
	1/21/2008	15	75	65	5.3	0.23
	4/21/2008	20	84	69	2.6	0.25
	7/21/2008	11	73	68	2.5	0.34
	10/27/2008	12	52	42	2.2	0.23
	1/20/2009	10	54	44	2.4	0.23
	4/20/2009	7.7	48	34	3.4	0.23
	7/20/2009	9.4	61	45	7.5	0.23
	9/28/2009	2.7	43	41	5.2	0.23
	10/29/2009	5.3	41	39	0.19	0.23
	1/18/2010	4.6	38	29	3.8	0.23
	4/26/2010	2.7	34	31	5.1	0.23
	7/27/2010	4.3	35	29	3.6	0.23
	10/20/2010	3.0	30	26	3.4	0.080
	1/27/2011	3.7	37	34	6.6	0.080
	4/26/2011	1.5	24	22	5.1	0.080
	7/21/2011	1.3	22	25	6.5	0.080
	10/25/2011	1.1	20	21	5.5	0.080
	4/10/2012	1.2	14	20	5.9	0.080
	10/16/2012	0.74	13	22	6.8	0.080
	4/11/2013	0.62	11	20	7.9	0.080
	10/7/2013	0.34	7.5	15	6.0	0.080
	4/7/2014	0.45	8.3	18	9.1	0.080
	10/8/2014	0.060	5.6	17	7.5	0.080
	4/7/2015	0.060	5.1	15	6.3	0.080
	10/19/2015	0.060	4.5	15	6.6	0.080
	4/8/2016	0.060	3.3	11	6.4	0.080
	12/8/2016	0.060	1.3	12	5.9	0.080
	9/5/2017	0.060	0.050	12	6.5	0.080
	6/4/2018	0.060	0.050	0.74	0.080	0.080
	3/4/2019	0.060	1.7	8.7	4.8	0.080
	12/31/2019	0.060	1.3	10.0	5.2	0.080
CS-MW16-LGR	1/10/2007	65	68	67	2.3	0.23
	3/6/2007	59	69	72	0.76	0.078
	7/27/2007	120	140	110	1.2	0.23
	10/15/2007	66	71	36	0.19	0.23
	1/21/2008	14	13	11	0.20	0.23
	4/21/2008	77	85	79	0.46	0.23
	7/21/2008	170	170	150	0.54	0.23
	10/27/2008	150	140	120	0.98	0.23
	1/20/2009	150	160	150	0.55	0.23
	4/20/2009	150	180	150	1.7	0.23
	7/20/2009	180	190	160	12	0.23
	9/28/2009	140	150	140	0.98	0.23
	10/29/2009	170	180	160	0.19	0.23
	1/18/2010	150	170	150	0.39	0.23
	4/26/2010	150	160	120	0.31	0.23
	7/27/2010	120	130	110	0.51	0.23
	10/20/2010	155	166	156	0.20	0.080
	1/27/2011	180	222	216	0.42	0.080
	4/26/2011	237	285	313	0.080	0.080
	7/21/2011	115	135	162	0.44	0.080

Table 4.2 (cont)
LTMO Data for SWMU B-3 Monitoring Wells

Well ID	Sample Date	PCE	TCE	<i>cis</i> -1,2-DCE	<i>trans</i> -1,2-DCE	Vinyl chloride
		µg/L	µg/L	µg/L	µg/L	µg/L
	10/25/2011	120	148	143	0.080	0.080
	4/10/2012	134	144	160	0.23	0.080
	10/16/2012	125	154	156	0.19	0.40
	4/11/2013	133	161	157	0.30	0.080
	10/7/2013	104	113	103	0.19	0.080
	4/7/2014	128	151	139	0.28	0.080
	10/8/2014	56	68	70	0.28	0.080
	4/7/2015	71	91	95	0.50	0.080
	10/19/2015	84	94	101	0.080	0.080
	4/8/2016	79	82	87	0.30	0.080
	12/8/2016	65	79	82	0.21	0.080
	9/5/2017	47	60	56	0.52	0.080
	6/4/2018	0.060	1.7	11	5.2	0.080
	1/6/2020	30	35	32	0.080	0.080
CS-MW1-LGR	1/11/2007	10	25	15	0.19	0.23
	7/27/2007	50	68	82	2.9	0.23
	10/15/2007	35	47	52	0.70	0.23
	1/21/2008	15	27	16	1.8	0.23
	4/21/2008	14	31	20	0.38	0.23
	7/21/2008	19	27	17	0.19	0.23
	10/27/2008	10	24	14	0.19	0.23
	1/20/2009	2.5	9.4	7.2	0.19	0.23
	4/20/2009	13	28	17	1.4	0.23
	7/20/2009	16	36	18	1.2	0.23
	10/29/2009	33	47	46	0.19	0.23
	1/18/2010	43	54	51	0.76	0.23
	4/26/2010	45	49	48	0.73	0.23
	7/29/2010	19	34	25	0.38	0.23
	10/20/2010	16	30	20	0.22	0.080
	1/31/2011	16	39	22	0.38	0.080
	4/27/2011	13	30	18	0.16	0.29
	7/20/2011	14	30	15	0.21	0.080
	10/25/2011	14	32	17	0.080	0.080
	4/10/2012	14	25	18	0.23	0.080
	10/18/2012	13	31	20	0.18	0.080
	4/11/2013	15	33	20	0.20	0.080
	10/17/2013	13	28	18	0.26	0.080
	4/11/2014	17	38	26	0.57	0.080
	10/9/2014	31	35	48	0.81	0.080
	4/9/2015	13	31	22	0.27	0.080
	10/20/2015	14	29	20	0.080	0.080
	4/14/2016	16	28	21	0.080	0.080
	9/21/2016	15	24	24	#N/A	0.080
	3/7/2017	17	17	26	0.61	0.080
	10/3/2017	13	25	19	0.28	0.080
	3/5/2018	8.9	13	10	0.080	0.080
	9/6/2018	11	12	17	#N/A	0.080
	3/6/2019	12	17	17	0.080	0.080
	9/5/2019	16	29	19	0.080	0.080
CS-MW5-LGR	3/6/2017	5.6	12	11	0.46	0.080
	10/3/2017	0.20	1.4	8.2	3.0	0.080
	3/21/2018	0.81	2.5	4.3	1.0	0.080
	9/6/2018	1.1	2.7	4.6	#N/A	0.080
	3/6/2019	0.060	1.1	2.0	0.67	0.080
	9/5/2019	1.2	4.7	6.2	1.4	0.080

Table 4.2 (cont)
LTMO Data for SWMU B-3 Monitoring Wells

Well ID	Sample Date	PCE	TCE	<i>cis</i> -1,2-DCE	<i>trans</i> -1,2-DCE	Vinyl chloride
		µg/L	µg/L	µg/L	µg/L	µg/L
CS-WB05-BS-01	7/16/2007	0.21	43	66	0.32	0.23
	10/23/2007	0.15	23	40	0.50	0.23
	1/22/2008	0.17	20	23	0.19	0.23
	4/28/2008	0.20	17	27	0.24	0.23
	7/21/2008	0.49	12	18	0.40	0.23
	10/23/2008	0.55	13	19	0.35	0.23
	1/22/2009	0.25	9.8	18	0.50	0.23
	4/29/2009	0.15	7.3	17	0.64	0.23
	7/28/2009	0.19	2.5	48	7.3	0.23
	10/26/2009	1.5	8.8	59	0.30	0.23
	1/21/2010	0.15	3.9	48	0.19	0.84
	4/21/2010	0.15	1.5	59	0.39	0.99
	7/22/2010	0.15	0.16	54	2.1	2.1
	10/25/2010	0.060	0.25	53	0.43	2.8
	1/24/2011	0.060	0.31	34	0.080	1.9
	4/25/2011	0.060	0.20	60	0.080	3.9
	7/25/2011	0.060	0.18	31	0.37	5.9
	10/26/2011	0.060	0.050	33	0.24	12
	4/17/2012	0.060	0.33	31	0.25	7.7
	10/22/2012	0.060	0.18	24	0.080	2.2
	4/4/2013	0.060	0.050	15	0.080	2.2
	10/28/2013	0.060	0.050	19	0.080	3.0
	4/22/2014	0.060	0.050	22	0.26	7.7
	10/24/2014	0.62	0.71	16	0.080	6.2
	4/23/2015	0.060	0.63	29	0.23	4.3
	10/14/2015	0.060	0.18	20	0.080	1.4
4/5/2016	0.060	0.050	23	0.080	2.8	
12/22/2016	0.060	0.29	34	0.46	3.4	
9/13/2017	0.060	0.050	24	0.27	2.9	
6/14/2018	0.47	0.050	19	0.19	3.8	
3/18/2019	0.060	0.050	28	0.080	2.8	
12/19/2019	0.89	0.050	17	0.080	2.7	
CS-WB05-CC-01	7/16/2007	180	280	280	3.2	0.23
	10/23/2007	180	270	240	5.7	0.23
	1/22/2008	62	99	96	2.2	0.23
	4/28/2008	43	56	53	0.40	0.23
	7/21/2008	34	36	23	0.25	0.23
	10/24/2008	21	22	12	0.30	0.23
	1/22/2009	12	17	7.4	0.19	0.23
	4/28/2009	4.6	18	5.7	0.19	0.23
	7/27/2009	4.5	14	4.8	0.84	0.23
	10/27/2009	0.31	19	5.6	0.19	0.23
	1/21/2010	0.84	11	3.2	0.19	0.23
	4/21/2010	0.92	9.2	4.3	0.26	0.23
	7/21/2010	0.62	5.6	3.0	0.28	0.74
	10/25/2010	1.0	6.1	2.5	0.27	0.080
	1/24/2011	1.8	6.0	2.4	0.080	0.080
	4/25/2011	1.0	7.8	2.9	0.66	0.080
	7/25/2011	0.25	2.4	1.6	0.38	0.080
	10/26/2011	0.060	3.2	1.6	0.56	0.080
	4/17/2012	0.32	2.4	1.5	0.76	0.080
	10/22/2012	0.35	2.6	2.0	0.80	0.080
4/4/2013	0.060	1.6	1.1	0.64	0.080	
10/28/2013	0.060	2.0	1.5	1.2	0.080	
4/22/2014	0.060	0.60	0.78	0.54	0.080	

Table 4.2 (cont)
LTMO Data for SWMU B-3 Monitoring Wells

Well ID	Sample Date	PCE	TCE	<i>cis</i> -1,2-DCE	<i>trans</i> -1,2-DCE	Vinyl chloride
		µg/L	µg/L	µg/L	µg/L	µg/L
	10/24/2014	0.060	0.57	0.74	0.58	0.080
	4/23/2015	0.060	0.38	1.0	0.65	0.080
	10/14/2015	0.060	0.31	0.47	0.36	0.080
	4/4/2016	0.060	0.050	0.070	0.080	0.080
	12/22/2016	0.060	0.050	0.95	1.2	0.080
	9/12/2017	0.060	0.050	0.78	0.72	0.080
	6/14/2018	1.8	0.050	0.42	0.46	0.080
	3/18/2019	0.060	0.050	0.070	0.080	0.080
	12/18/2019	0.58	0.050	0.76	0.080	0.080
CS-WB05-CC-02	7/16/2007	63	210	270	2.5	0.23
	10/23/2007	24	420	320	3.3	0.23
	1/22/2008	0.20	240	240	8.1	0.61
	4/28/2008	52	250	250	1.8	0.44
	7/21/2008	25	170	120	1.1	0.23
	10/24/2008	21	110	81	1.1	0.23
	1/22/2009	5.4	84	61	0.91	0.23
	4/28/2009	0.33	63	45	3.3	0.66
	7/27/2009	1.1	130	63	9.0	0.23
	10/27/2009	0.42	92	71	2.6	6.5
	1/21/2010	0.26	81	69	3.1	10
	4/21/2010	0.22	52	63	2.5	4.8
	7/21/2010	0.15	39	37	1.3	1.1
	10/25/2010	0.61	56	41	2.6	1.7
	1/24/2011	0.38	23	15	0.89	0.080
	4/25/2011	0.46	36	29	5.1	0.28
	7/25/2011	0.060	25	25	4.5	2.0
	10/26/2011	0.060	19	31	4.4	0.080
	4/17/2012	0.26	13	25	8.5	0.43
	10/22/2012	0.27	8.2	22	9.8	0.080
	4/4/2013	0.060	4.6	17	9.9	0.080
	10/28/2013	0.060	1.5	12	6.4	0.080
	4/22/2014	0.060	1.9	14	9.8	0.080
	10/27/2014	0.060	1.0	12	8.4	0.080
	4/23/2015	0.060	0.52	9.7	5.5	0.080
	10/13/2015	0.060	1.3	11	6.8	1.1
	4/4/2016	0.060	0.35	9.2	6.3	0.080
	12/22/2016	0.060	0.050	12	8.7	0.080
	9/12/2017	0.060	0.050	7.1	4.4	0.080
	6/13/2018	20	0.37	8.9	6.6	0.080
	3/18/2019	0.060	0.050	7.9	5.6	0.080
	12/18/2019	0.95	0.050	8.1	5.4	0.080
CS-WB05-LGR-01	7/17/2007	2.8	1.6	0.64	0.19	0.23
	10/24/2007	3.2	2.1	1.1	0.19	0.23
	1/24/2008	1.8	2.2	1.6	0.19	0.23
	4/28/2008	0.69	0.48	0.16	0.19	0.23
	7/22/2008	1.0	1.4	0.85	0.19	0.23
	10/23/2008	0.37	1.7	1.1	0.19	0.23
	1/26/2009	0.83	2.3	1.6	0.30	0.23
	4/29/2009	0.15	2.4	1.5	0.19	0.23
	7/29/2009	0.28	1.3	1.0	0.31	0.23
	10/15/2009	1.2	2.3	1.9	0.19	0.23
	1/20/2010	0.15	2.2	1.5	0.19	0.23
	4/22/2010	0.15	2.3	1.5	0.19	0.23
	7/26/2010	0.15	1.0	1.1	0.19	0.23
	10/26/2010	0.060	1.2	1.9	0.33	0.080

Table 4.2 (cont)
LTMO Data for SWMU B-3 Monitoring Wells

Well ID	Sample Date	PCE	TCE	<i>cis</i> -1,2-DCE	<i>trans</i> -1,2-DCE	Vinyl chloride
		µg/L	µg/L	µg/L	µg/L	µg/L
	1/25/2011	0.060	1.3	2.0	0.65	0.080
	4/26/2011	0.060	0.81	1.8	0.29	0.080
	7/26/2011	0.060	1.9	2.8	0.68	0.080
	10/27/2011	0.060	1.9	3.4	0.96	0.080
	4/19/2012	0.15	0.73	2.3	0.84	0.080
	10/23/2012	0.78	1.6	2.7	0.68	0.43
	4/8/2013	0.20	0.74	2.1	0.83	0.080
	10/29/2013	0.50	0.84	3.6	1.2	0.42
	4/23/2014	0.22	0.55	2.2	0.89	0.080
	10/23/2014	0.060	0.050	3.0	0.60	0.080
	4/27/2015	0.060	0.46	2.8	0.70	0.080
	10/19/2015	1.1	1.5	3.3	0.67	0.080
	4/6/2016	0.34	0.43	3.1	0.76	0.080
	12/28/2016	0.060	0.47	3.7	0.87	0.080
	9/13/2017	0.45	0.79	4.5	1.2	0.080
	6/18/2018	0.54	0.94	5.0	1.4	1.5
	3/20/2019	0.060	0.050	4.7	1.6	0.080
	12/19/2019	0.76	0.83	5.6	1.4	0.48
CS-WB05-LGR-02	7/17/2007	0.41	6.4	5.6	0.25	0.23
	10/24/2007	0.15	4.4	12	0.77	0.23
	1/24/2008	0.15	8.9	45	6.6	0.23
	11/2/2009	0.15	0.99	26	0.19	0.23
	1/20/2010	0.15	0.35	11	2.0	0.23
	4/22/2010	0.15	0.75	28	5.2	0.23
	7/26/2010	0.15	2.3	33	5.4	0.23
	10/26/2010	0.060	11	53	4.4	0.080
	12/28/2016	5.5	10	22	2.7	0.080
	3/20/2019	0.060	0.050	32	9.2	2.9
CS-WB05-LGR03A	7/17/2007	40	87	63	1.8	0.23
	10/24/2007	0.15	98	59	2.9	0.23
	1/23/2008	0.76	66	34	0.97	0.23
	4/29/2008	1.5	91	72	2.3	0.23
	10/15/2009	25	46	56	0.19	0.23
	1/20/2010	11	22	74	4.0	0.23
	4/22/2010	2.6	18	85	6.3	0.23
	7/26/2010	0.16	5.7	130	18	1.3
	10/26/2010	0.52	18	96	8.4	1.7
	1/25/2011	0.30	1.6	97	16	2.3
	4/18/2012	7.2	31	110	12	23
	4/5/2016	1.2	25	51	4.5	9.1
	12/27/2016	4.6	31	90	6.9	8.1
	3/20/2019	0.34	12	90	10	15
CS-WB05-LGR03B	5/15/2007	0.94	75	41	1.6	0.23
	6/18/2007	0.28	67	36	1.3	0.23
	7/17/2007	2.4	79	47	1.6	0.23
	8/22/2007	4.7	95	54	1.6	0.23
	9/18/2007	0.23	88	43	1.5	0.23
	10/15/2007	0.15	88	46	1.5	0.23
	11/20/2007	0.15	92	49	2.3	0.23
	12/17/2007	0.15	98	56	2.3	0.23
	1/21/2008	0.15	73	40	3.5	0.23
	2/18/2008	0.36	66	42	1.7	0.23
	3/25/2008	1.7	60	53	1.5	0.23
	4/21/2008	2.7	87	57	2.4	0.23
	5/19/2008	0.26	61	55	2.1	0.23

Table 4.2 (cont)
LTMO Data for SWMU B-3 Monitoring Wells

Well ID	Sample Date	PCE	TCE	<i>cis</i> -1,2-DCE	<i>trans</i> -1,2-DCE	Vinyl chloride
		µg/L	µg/L	µg/L	µg/L	µg/L
	6/17/2008	2.9	58	45	3.9	0.23
	7/23/2008	8.2	46	45	1.6	0.23
	8/18/2008	12	64	63	3.5	0.23
	9/22/2008	0.29	42	49	2.2	0.23
	10/15/2008	0.19	24	35	2.5	0.23
	11/17/2008	0.15	23	60	4.2	0.23
	12/18/2008	0.15	2.1	63	5.9	0.23
	1/20/2009	0.15	0.54	100	13	0.23
	2/17/2009	0.15	0.16	100	16	0.23
	3/18/2009	0.15	0.18	60	8.3	0.23
	4/20/2009	0.15	0.16	45	11	0.23
	5/18/2009	0.15	0.20	77	9.3	0.23
	6/15/2009	0.15	0.23	85	11	0.23
	7/20/2009	0.15	0.22	98	26	0.23
	10/26/2009	0.27	4.2	100	5.4	0.23
	11/16/2009	6.5	26	120	9.1	0.38
	12/14/2009	0.50	41	120	8.3	0.23
	1/20/2010	7.0	26	130	10	0.24
	2/22/2010	11	51	110	7.0	0.23
	3/22/2010	0.78	59	140	15	0.63
	4/19/2010	0.53	17	100	9.3	0.48
	5/17/2010	0.94	8.1	77	6.3	0.31
	6/21/2010	0.15	7.0	130	19	1.5
	7/19/2010	0.15	4.4	120	13	0.94
	8/16/2010	0.15	1.5	270	21	3.0
	9/20/2010	15	29	128	16	2.3
	10/18/2010	0.21	19	101	14	1.2
	11/17/2010	0.060	9.1	111	19	0.080
	12/20/2010	0.060	2.0	120	19	2.1
	1/17/2011	0.060	1.2	98	17	1.9
	2/22/2011	0.30	7.9	112	12	1.5
	3/31/2011	2.6	55	152	26	3.0
	4/18/2011	0.060	14	71	11	1.3
	5/17/2011	0.060	5.4	190	41	7.0
	6/21/2011	2.3	3.0	85	20	3.6
	7/18/2011	0.060	0.33	119	22	11
	10/19/2011	0.060	2.0	125	19	15
	1/19/2012	0.27	0.39	118	20	25
	4/18/2012	6.0	32	118	8.0	25
	10/23/2012	0.060	4.1	72	7.5	6.3
	4/27/2015	1.2	2.6	44	4.4	11
	10/15/2015	6.5	30	62	6.0	12
	4/5/2016	1.2	28	55	5.2	11
	9/21/2016	1.1	31	83	7.0	10
	3/8/2017	2.5	36	86	7.8	10
	9/13/2017	0.46	39	105	11	13
	3/15/2018	0.060	0.050	88	13	18
	9/18/2018	8.0	20	79	8.1	22
	3/20/2019	0.47	10	87	10	16
	9/12/2019	414	5.6	76	10	15
CS-WB05-LGR-04A	7/17/2007	1.3	150	150	0.80	0.23
	10/23/2007	0.64	97	130	4.0	0.23
	1/23/2008	1.9	140	150	3.1	0.23
	4/28/2008	52	180	230	1.2	0.40
	10/23/2008	22	190	340	8.4	0.87

Table 4.2 (cont)
LTMO Data for SWMU B-3 Monitoring Wells

Well ID	Sample Date	PCE	TCE	<i>cis</i> -1,2-DCE	<i>trans</i> -1,2-DCE	Vinyl chloride
		µg/L	µg/L	µg/L	µg/L	µg/L
	1/26/2009	5.9	220	410	4.2	0.81
	4/29/2009	0.65	170	430	12	0.23
	7/28/2009	0.34	110	570	80	0.62
	10/26/2009	34	140	490	5.6	0.66
	1/20/2010	90	190	400	4.8	2.4
	4/22/2010	55	250	570	7.7	28
	7/22/2010	25	150	470	16	16
	10/26/2010	27	183	387	4.1	33
	1/24/2011	44	188	511	5.2	26
	4/26/2011	25	245	529	20	26
	7/25/2011	0.62	136	486	4.9	29
	4/18/2012	26	75	407	5.3	49
	10/23/2012	2.5	73	410	11	40
	4/8/2013	0.060	4.8	405	9.9	86
	10/29/2013	1.8	4.0	418	13	60
	4/22/2014	1.5	1.7	342	15	93
	10/24/2014	0.060	0.34	252	11	25
	4/27/2015	0.060	0.62	196	16	34
	10/15/2015	0.060	13	435	15	69
	4/5/2016	0.32	3.6	409	11	64
	12/27/2016	1.2	31	485	13	62
	9/13/2017	0.060	0.44	367	14	59
	6/14/2018	0.98	0.82	174	17	54
	3/18/2019	0.45	1.1	321	16	54
	12/19/2019	1.1	0.96	167	13	42
CS-WB05-LGR-04B	7/16/2007	380	440	560	0.63	0.23
	10/23/2007	6.2	6.8	22	0.19	0.23
	1/23/2008	92	99	600	4.6	3.2
	4/28/2008	24	31	630	1.2	1.9
	7/22/2008	130	130	650	1.4	2.3
	10/23/2008	81	82	640	16	2.4
	1/26/2009	69	97	740	2.3	1.3
	4/29/2009	63	120	800	15	2.4
	7/28/2009	160	160	640	61	2.6
	10/26/2009	64	240	860	1.5	2.3
	1/21/2010	150	270	630	0.19	0.95
	4/21/2010	51	160	820	5.2	3.1
	7/22/2010	15	19	260	13	300
	10/26/2010	18	21	71	2.1	283
	1/24/2011	49	63	81	5.6	242
	4/26/2011	12	28	48	9.4	274
	7/25/2011	31	91	108	3.6	110
	10/27/2011	6.0	82	133	5.1	233
	4/18/2012	20	27	45	4.0	220
	10/22/2012	0.35	3.0	16	5.3	223
	4/4/2013	59	100	191	2.5	72
	10/29/2013	129	241	289	5.3	140
	4/22/2014	125	155	185	2.9	53
	10/24/2014	125	270	402	3.6	25
	4/27/2015	88	200	328	5.6	60
	10/14/2015	7.8	12	47	8.8	189
	4/5/2016	32	55	97	8.3	206
	12/27/2016	95	240	316	10	92
	9/14/2017	86	198	344	18	80
	6/14/2018	108	272	346	20	53

Table 4.2 (cont)
LTMO Data for SWMU B-3 Monitoring Wells

Well ID	Sample Date	PCE	TCE	<i>cis</i> -1,2-DCE	<i>trans</i> -1,2-DCE	Vinyl chloride
		µg/L	µg/L	µg/L	µg/L	µg/L
	3/18/2019	51	222	399	30	51
	12/19/2019	96	139	267	14	94
CS-WB06-LGR-01	7/25/2007	16	23	87	4.0	0.23
	10/17/2007	8.0	23	75	3.5	0.23
	1/29/2008	34	33	65	1.2	0.23
	4/24/2008	12	16	78	1.9	0.23
	7/30/2008	8.6	11	40	1.8	0.73
	10/21/2008	13	20	52	3.7	9.7
	1/29/2009	11	22	33	2.2	5.0
	4/23/2009	22	27	27	2.4	1.4
	7/22/2009	49	42	33	2.8	2.2
	10/5/2009	48	41	30	0.19	0.23
	10/15/2009	32	32	26	0.62	0.23
	1/27/2010	20	19	21	0.74	0.43
	4/29/2010	4.4	6.6	13	0.19	0.23
	7/28/2010	27	27	49	0.64	0.35
	10/29/2010	6.4	9.4	33	0.26	0.080
	1/26/2011	24	26	51	1.0	0.080
	4/28/2011	27	30	37	0.67	0.080
	7/27/2011	13	18	37	0.58	0.080
	11/1/2011	16	18	41	0.63	0.080
	4/24/2012	4.6	7.5	32	0.22	0.080
	10/29/2012	21	18	28	0.48	0.080
	4/9/2013	20	17	30	0.080	0.080
	10/24/2013	7.7	8.6	21	0.26	0.080
	4/16/2014	15	17	28	1.2	0.080
	10/28/2014	5.4	6.2	9.5	0.44	0.080
	4/22/2015	3.1	9.8	18	0.76	0.90
	10/7/2015	12	12	12	0.080	0.080
	4/11/2016	5.7	5.0	18	0.080	0.080
	12/20/2016	7.2	6.5	10	0.080	0.080
	9/7/2017	3.5	3.6	5.1	0.20	0.080
	6/20/2018	1.1	3.5	16	0.45	0.30
	3/22/2019	1.3	0.050	18	0.080	0.24
	12/23/2019	5.3	4.5	3.5	0.080	0.080
CS-WB06-LGR-02	7/23/2007	5.5	8.4	24	1.6	0.23
	10/17/2007	4.9	7.5	21	1.6	0.23
	1/29/2008	0.25	0.16	0.16	0.19	0.23
	4/24/2008	5.4	9.7	34	1.5	0.23
	7/28/2008	13	16	41	2.2	0.23
	10/21/2008	8.8	13	38	1.8	0.23
	1/29/2009	12	14	30	1.6	0.23
	4/23/2009	13	15	33	3.1	0.23
	7/22/2009	9.7	12	28	4.0	0.23
	10/5/2009	12	16	49	0.19	0.44
	10/15/2009	5.0	7.4	21	0.96	0.23
	1/27/2010	8.4	8.0	16	0.85	0.30
	4/29/2010	7.5	8.3	19	0.19	0.23
	7/28/2010	5.4	7.6	18	1.0	0.23
	10/29/2010	6.1	8.1	19	0.75	0.080
	1/26/2011	6.4	8.3	14	0.95	0.27
	4/28/2011	4.9	8.8	25	0.77	0.32
	7/27/2011	4.0	10	29	0.72	0.080
	11/1/2011	4.5	11	28	0.77	0.080
	4/24/2012	3.0	9.8	20	0.61	0.45

Table 4.2 (cont)
LTMO Data for SWMU B-3 Monitoring Wells

Well ID	Sample Date	PCE	TCE	<i>cis</i> -1,2-DCE	<i>trans</i> -1,2-DCE	Vinyl chloride
		µg/L	µg/L	µg/L	µg/L	µg/L
	10/29/2012	4.9	10	21	0.30	0.080
	4/9/2013	4.3	11	24	0.51	0.58
	10/24/2013	4.6	10	26	0.45	0.54
	4/16/2014	0.50	2.9	17	0.39	0.43
	10/28/2014	0.060	0.67	10	0.080	0.080
	4/22/2015	0.28	1.2	14	0.27	0.42
	10/7/2015	1.1	2.3	28	0.38	0.080
	4/11/2016	0.28	0.97	12	0.080	0.52
	12/20/2016	0.53	1.8	17	0.080	1.1
	9/7/2017	0.060	0.62	12	0.23	0.080
	6/20/2018	0.39	0.76	24	0.64	1.6
	3/22/2019	0.060	0.050	33	0.080	1.1
	12/23/2019	0.060	1.0	23	0.65	2.0
CS-WB06-LGR03A	7/23/2007	170	200	270	2.6	0.26
	10/17/2007	150	190	280	2.3	0.23
	1/29/2008	56	67	140	1.1	0.23
	4/24/2008	93	140	220	2.3	0.23
	7/28/2008	39	51	130	1.1	0.23
	10/21/2008	82	110	190	2.7	0.23
	1/29/2009	55	68	130	0.95	0.23
	4/22/2009	87	120	210	9.0	0.23
	7/22/2009	190	200	300	20	0.23
	10/5/2009	180	170	240	0.19	0.23
	10/22/2009	180	200	270	0.19	0.23
	1/27/2010	150	170	230	2.3	0.23
	4/29/2010	170	180	260	0.38	0.23
	7/28/2010	75	100	190	1.9	0.23
	10/29/2010	47	71	166	0.90	0.080
	1/26/2011	107	144	272	3.1	0.080
	4/28/2011	56	83	180	1.2	0.080
	7/26/2011	101	86	178	2.5	0.080
	11/1/2011	88	119	237	1.4	0.080
	4/24/2012	50	73	171	0.93	0.080
	10/29/2012	71	94	166	1.7	0.080
	4/9/2013	97	133	186	1.7	0.080
	10/24/2013	53	86	143	1.1	0.080
	4/15/2014	55	91	182	1.7	0.080
	10/27/2014	36	50	112	0.76	0.080
	4/21/2015	24	47	107	0.75	0.080
	10/7/2015	38	67	125	0.080	0.080
	4/11/2016	25	56	108	0.080	0.080
	12/20/2016	24	91	137	1.3	0.080
	9/7/2017	11	74	109	1.4	0.080
	6/20/2018	16	58	106	2.5	0.080
	3/22/2019	13	82	139	3.7	0.26
	12/23/2019	5.3	54	96	6.1	0.080
CS-WB06-LGR03B	5/15/2007	140	180	270	2.7	0.23
	6/18/2007	120	170	260	1.9	0.23
	7/23/2007	98	150	240	2.4	0.26
	8/21/2007	130	170	250	3.2	0.23
	9/18/2007	170	220	260	2.7	0.23
	10/16/2007	140	170	250	2.3	0.41
	11/26/2007	320	370	340	3.9	0.23
	12/17/2007	68	96	220	1.6	0.23
	1/21/2008	96	120	190	2.3	0.34

Table 4.2 (cont)
LTMO Data for SWMU B-3 Monitoring Wells

Well ID	Sample Date	PCE	TCE	<i>cis</i> -1,2-DCE	<i>trans</i> -1,2-DCE	Vinyl chloride
		µg/L	µg/L	µg/L	µg/L	µg/L
	2/18/2008	92	99	160	1.5	0.23
	3/25/2008	130	150	160	2.9	0.23
	4/21/2008	98	120	180	2.0	0.23
	5/19/2008	120	130	200	2.4	0.24
	6/17/2008	44	73	160	1.2	0.23
	7/23/2008	51	79	160	1.6	0.23
	8/19/2008	76	96	140	1.9	0.23
	9/23/2008	61	75	100	0.25	0.23
	10/15/2008	87	100	170	2.8	0.23
	11/17/2008	92	110	190	2.5	0.23
	12/18/2008	63	91	150	1.3	0.23
	1/21/2009	110	130	210	3.8	0.24
	2/18/2009	72	110	170	1.5	0.23
	3/18/2009	87	130	150	1.8	0.23
	4/20/2009	59	82	150	11	0.23
	5/19/2009	79	100	180	3.5	0.23
	6/15/2009	120	130	180	2.3	0.23
	7/20/2009	150	170	230	26	0.23
	8/17/2009	190	200	200	11	0.23
	10/5/2009	190	190	260	0.19	0.23
	10/22/2009	180	200	250	0.38	0.23
	11/16/2009	170	170	270	3.5	0.23
	12/14/2009	140	170	270	2.4	0.23
	1/27/2010	120	160	230	2.3	0.23
	2/22/2010	150	180	260	2.0	0.23
	3/22/2010	190	200	220	4.8	0.23
	4/19/2010	52	81	160	0.90	0.23
	5/17/2010	100	130	230	2.4	0.23
	6/21/2010	130	150	230	5.7	0.23
	7/19/2010	73	97	180	7.9	0.23
	8/16/2010	63	86	170	18	0.23
	9/20/2010	28	43	91	0.41	0.080
	10/18/2010	73	99	174	15	0.080
	11/17/2010	127	128	179	3.7	0.080
	12/20/2010	111	153	137	3.2	0.080
	1/18/2011	114	157	216	2.4	0.080
	2/23/2011	95	133	230	1.8	0.080
	3/21/2011	89	140	233	2.0	0.080
	4/18/2011	83	114	283	2.0	0.080
	5/17/2011	91	221	319	2.1	0.080
	6/21/2011	84	104	196	2.2	0.080
	7/18/2011	83	93	179	2.0	0.080
	8/16/2011	39	64	139	2.2	0.080
	9/20/2011	83	129	211	1.4	0.080
	10/20/2011	70	105	124	1.2	0.080
	1/19/2012	119	147	208	2.0	0.080
	4/23/2012	94	130	260	1.9	0.080
	10/29/2012	79	89	182	1.5	0.080
	4/9/2013	118	154	246	1.8	0.080
	10/23/2013	58	98	188	1.2	0.080
	4/15/2014	67	101	199	3.3	0.080
	10/27/2014	59	75	137	0.98	0.080
	4/21/2015	60	109	107	1.7	0.080
	10/6/2015	0.060	74	134	0.080	0.080
	4/11/2016	27	63	113	0.99	0.080

Table 4.2 (cont)
LTMO Data for SWMU B-3 Monitoring Wells

Well ID	Sample Date	PCE	TCE	<i>cis</i> -1,2-DCE	<i>trans</i> -1,2-DCE	Vinyl chloride
		µg/L	µg/L	µg/L	µg/L	µg/L
	9/19/2016	83	76	129	1.1	0.080
	3/8/2017	14	85	119	1.2	0.080
	9/7/2017	6.6	71	104	1.6	0.080
	3/15/2018	16	66	108	2.5	0.080
	9/19/2018	28	79	120	3.9	0.080
	3/21/2019	13	74	124	4.4	0.080
	9/23/2019	33	28	64	0.080	0.080
CS-WB06-LGR-04	7/23/2007	260	240	410	4.2	0.23
	10/17/2007	130	120	280	2.9	0.23
	1/29/2008	370	280	460	4.7	0.23
	4/24/2008	260	220	370	3.4	0.23
	7/28/2008	190	160	300	12	0.23
	10/21/2008	300	200	430	22	0.23
	1/29/2009	140	110	310	1.6	0.23
	4/22/2009	200	160	310	28	0.23
	7/21/2009	360	240	440	37	0.23
	10/5/2009	220	180	450	0.19	0.23
	10/22/2009	190	160	310	0.19	0.23
	1/27/2010	210	140	380	2.6	0.23
	4/29/2010	110	80	320	0.19	0.23
	7/28/2010	150	140	260	3.4	0.23
	10/29/2010	209	173	344	3.3	0.080
	1/26/2011	128	121	339	3.2	0.080
	4/28/2011	150	97	214	2.5	0.080
	7/26/2011	173	117	330	4.8	0.080
	11/1/2011	103	93	305	2.6	0.080
	4/23/2012	105	70	209	1.9	0.84
	10/25/2012	66	54	174	1.4	1.4
	4/8/2013	83	50	143	1.2	0.080
	10/23/2013	67	56	142	1.6	0.26
	4/15/2014	43	34	145	1.1	0.080
	10/27/2014	41	31	108	0.74	0.080
	4/21/2015	41	31	94	1.4	3.7
	10/6/2015	39	34	105	1.1	2.5
	4/11/2016	35	31	92	0.080	0.080
	12/19/2016	74	61	129	1.7	0.72
	9/7/2017	39	34	89	1.0	0.080
	6/18/2018	137	166	257	1.6	1.2
	3/21/2019	42	38	86	1.3	1.9
	12/23/2019	22	17	51	0.080	0.080
CS-WB06-UGR-01	7/25/2007	11	4.8	40	0.21	0.23
	10/17/2007	1.6	2.0	54	0.47	6.3
	1/29/2008	1.2	1.4	16	0.19	1.6
	4/24/2008	0.15	0.48	100	2.9	53
	7/30/2008	0.48	0.46	4.9	15	53
	10/21/2008	1.3	0.79	22	9.3	18
	1/29/2009	0.34	0.21	24	8.5	20
	4/23/2009	0.53	0.43	2.6	3.2	1.2
	7/22/2009	0.28	1.2	14	11	12
	10/5/2009	190	63	220	0.19	16
	10/15/2009	120	31	84	0.19	5.5
	1/27/2010	150	37	80	0.19	3.9
	4/29/2010	21	6.3	36	0.19	0.23
	7/28/2010	27	34	290	1.5	3.5
	10/29/2010	26	36	71	0.54	0.24

Table 4.2 (cont)
LTMO Data for SWMU B-3 Monitoring Wells

Well ID	Sample Date	PCE	TCE	<i>cis</i> -1,2-DCE	<i>trans</i> -1,2-DCE	Vinyl chloride
		µg/L	µg/L	µg/L	µg/L	µg/L
	1/26/2011	18	31	79	0.86	0.080
	4/28/2011	23	34	68	0.47	0.080
	7/27/2011	7.3	27	63	1.6	6.4
	11/1/2011	50	68	96	0.85	0.080
	4/25/2012	13	17	117	0.27	0.080
	10/29/2012	2.0	2.1	28	0.37	2.2
	4/9/2013	20	26	169	0.36	1.0
	10/24/2013	9.9	15	109	0.37	0.080
	4/16/2014	0.25	3.7	60	5.3	9.8
	10/28/2014	0.060	0.050	1.0	3.0	1.6
	4/22/2015	0.51	0.050	8.9	0.22	1.8
	10/8/2015	0.70	9.7	81	1.1	18
	4/12/2016	0.060	5.7	75	2.3	14
	12/20/2016	1.6	5.1	58	0.65	5.6
	9/7/2017	0.060	0.21	0.84	0.64	0.080
	6/20/2018	0.060	0.27	7.1	1.1	3.6
	3/22/2019	0.50	4.4	42	0.080	2.2
	12/30/2019	0.060	0.050	9.1	0.56	2.8
CS-WB07-LGR-01	7/19/2007	0.36	0.78	0.19	0.19	0.23
	10/18/2007	1.3	1.5	0.76	0.19	0.23
	1/28/2008	1.5	2.2	7.0	0.45	0.23
	4/30/2008	0.58	1.8	5.5	0.44	8.6
	7/31/2008	0.70	1.5	3.0	0.28	0.23
	10/22/2008	1.2	1.8	2.7	0.30	0.23
	1/27/2009	1.2	1.7	2.0	0.22	0.23
	4/28/2009	0.24	1.0	1.5	0.19	0.23
	7/27/2009	0.32	1.1	1.5	0.49	0.23
	10/14/2009	0.22	1.7	3.0	0.58	2.3
	1/25/2010	0.15	1.3	2.9	0.43	3.0
	4/28/2010	0.29	0.89	0.28	0.19	0.23
	7/29/2010	0.24	0.40	0.16	0.19	0.23
	10/27/2010	0.24	0.39	0.070	0.080	0.080
	2/1/2011	0.37	0.56	0.070	0.080	0.080
	7/29/2011	0.060	1.4	2.4	0.080	0.080
	11/2/2011	0.060	1.6	52	1.5	15
	4/23/2012	0.47	27	123	1.7	27
	10/25/2012	0.060	13	69	4.7	24
	4/3/2013	0.060	5.3	86	2.8	11
	10/23/2013	0.060	4.1	78	5.2	8.4
	4/14/2014	0.060	21	92	4.8	7.6
	10/22/2014	0.060	0.050	44	0.79	4.3
	4/21/2015	0.12	7.6	225	18	74
	10/13/2015	0.060	5.2	103	2.7	13
	4/7/2016	0.060	7.0	97	1.6	17
	12/19/2016	0.50	3.8	96	1.6	17
	9/11/2017	0.060	0.41	73	2.3	12
	6/18/2018	0.36	2.6	125	2.5	20
	3/21/2019	0.060	0.050	105	2.5	22
	12/23/2019	0.45	0.26	0.44	1.8	0.080
CS-WB07-LGR-02	7/18/2007	0.50	0.86	0.20	0.19	0.23
	10/18/2007	0.97	1.1	0.32	0.19	0.23
	1/28/2008	0.49	0.82	17	0.29	0.23
	4/30/2008	0.15	0.20	0.16	0.19	0.23
	7/31/2008	0.15	0.16	0.16	0.19	0.23
	10/22/2008	0.15	0.20	0.16	0.19	0.23

Table 4.2 (cont)
LTMO Data for SWMU B-3 Monitoring Wells

Well ID	Sample Date	PCE	TCE	<i>cis</i> -1,2-DCE	<i>trans</i> -1,2-DCE	Vinyl chloride
		µg/L	µg/L	µg/L	µg/L	µg/L
	1/27/2009	0.82	0.16	0.16	0.19	0.23
	4/27/2009	0.15	0.26	0.16	0.19	0.23
	7/23/2009	0.62	1.6	0.40	0.19	0.23
	10/14/2009	0.83	2.4	0.89	0.19	0.23
	1/25/2010	0.21	0.57	0.18	0.19	0.23
	4/28/2010	0.15	0.18	0.26	0.19	0.23
	7/29/2010	0.15	0.16	0.16	0.19	0.23
	10/27/2010	0.060	0.050	0.070	0.080	0.080
	2/1/2011	0.060	0.050	0.30	0.080	0.080
	7/29/2011	2.3	2.4	2.6	0.080	0.080
	11/2/2011	0.89	1.4	2.0	0.080	0.080
	4/23/2012	0.060	16	159	5.0	48
	10/24/2012	0.060	0.050	5.1	0.64	5.1
	4/3/2013	0.060	0.050	1.1	0.080	0.68
	10/23/2013	0.56	1.8	7.0	0.37	1.3
	4/14/2014	2.4	5.5	6.3	0.44	0.70
	10/22/2014	1.6	3.3	3.0	0.080	0.080
	4/16/2015	2.7	0.050	3.0	0.080	0.080
	10/13/2015	2.0	2.2	1.9	0.080	0.080
	4/7/2016	0.50	0.65	21	0.47	4.1
	12/19/2016	2.4	2.3	30	0.60	5.9
	9/11/2017	1.0	1.0	6.7	0.42	3.5
	6/18/2018	3.0	3.7	5.7	0.080	0.88
	3/21/2019	0.060	0.050	1.4	0.080	0.75
	12/23/2019	1.7	1.4	2.3	0.080	1.8
CS-WB07-LGR03A	7/18/2007	0.26	1.3	24	0.50	0.23
	10/18/2007	0.52	0.91	30	0.92	0.23
	1/28/2008	2.4	3.2	13	0.67	0.23
	4/30/2008	0.15	2.5	25	0.46	0.23
	7/31/2008	1.1	2.4	17	0.39	0.23
	10/22/2008	5.8	5.3	23	0.42	0.23
	1/27/2009	5.8	6.9	22	0.19	0.23
	4/27/2009	0.33	4.3	24	1.8	0.23
	7/23/2009	0.69	5.2	26	2.7	0.23
	10/27/2009	0.33	4.8	27	0.19	0.23
	1/25/2010	0.64	4.6	30	0.64	0.23
	4/28/2010	4.2	5.8	31	0.19	0.23
	7/29/2010	0.40	0.91	29	0.41	0.23
	10/27/2010	3.2	4.2	26	0.080	0.080
	2/1/2011	3.0	4.3	28	0.40	0.080
	4/20/2012	55	75	129	2.1	0.080
	10/13/2015	39	61	94	1.5	0.58
	4/7/2016	23	36	51	1.0	1.1
	12/19/2016	101	151	199	1.6	0.080
	3/21/2019	26	44	65	0.96	0.64
CS-WB07-LGR03B	5/15/2007	0.20	1.6	33	0.96	0.23
	6/19/2007	0.15	1.2	30	0.65	0.23
	7/18/2007	0.15	1.2	30	0.71	0.23
	8/22/2007	0.15	1.1	29	0.62	0.23
	9/18/2007	0.15	0.80	29	0.72	0.23
	10/15/2007	0.15	0.59	19	0.19	0.23
	11/20/2007	0.15	0.62	25	0.63	0.23
	12/17/2007	0.15	1.3	36	0.89	0.23
	1/21/2008	0.15	1.0	26	0.59	0.23
	2/18/2008	0.15	1.5	23	0.45	0.23

Table 4.2 (cont)
LTMO Data for SWMU B-3 Monitoring Wells

Well ID	Sample Date	PCE	TCE	<i>cis</i> -1,2-DCE	<i>trans</i> -1,2-DCE	Vinyl chloride
		µg/L	µg/L	µg/L	µg/L	µg/L
	3/25/2008	0.15	1.9	27	0.54	0.23
	4/22/2008	0.15	2.3	21	0.55	0.23
	5/19/2008	0.15	2.8	30	0.62	0.23
	6/17/2008	0.15	2.5	24	1.5	0.23
	7/23/2008	0.15	4.0	32	0.78	0.23
	8/18/2008	0.38	5.0	32	0.82	0.23
	9/22/2008	0.15	3.6	26	0.99	0.23
	10/15/2008	0.15	3.9	27	0.82	0.23
	11/17/2008	0.15	1.7	14	0.19	0.23
	12/18/2008	0.53	4.1	22	0.59	0.23
	1/21/2009	0.78	1.9	15	0.28	0.23
	2/18/2009	0.15	4.3	25	0.85	0.23
	3/18/2009	1.6	4.2	23	0.51	0.23
	4/20/2009	0.15	1.6	14	2.6	0.23
	5/18/2009	1.2	4.1	21	0.81	0.23
	6/16/2009	0.15	2.0	14	0.73	0.23
	7/20/2009	0.29	2.6	22	1.7	0.23
	8/17/2009	0.15	1.9	14	1.4	0.23
	10/22/2009	7.1	5.9	26	0.19	0.23
	11/16/2009	0.79	4.4	30	0.94	0.23
	12/14/2009	0.15	3.0	31	0.61	0.23
	1/25/2010	2.4	4.4	23	0.32	0.23
	2/22/2010	1.2	4.4	22	0.44	0.23
	3/22/2010	0.15	2.4	29	0.67	0.23
	4/19/2010	0.15	1.5	33	0.59	0.23
	5/17/2010	0.50	2.0	32	0.55	0.23
	6/21/2010	0.15	0.77	23	0.81	0.23
	7/20/2010	0.15	1.1	37	0.72	0.23
	8/16/2010	3.0	1.1	36	0.74	0.23
	9/20/2010	0.33	1.8	21	0.52	0.080
	10/18/2010	0.060	1.4	27	1.6	0.080
	11/17/2010	0.060	1.6	32	0.84	0.080
	12/20/2010	0.73	2.3	27	0.53	0.080
	1/18/2011	0.71	3.2	38	0.61	0.080
	2/23/2011	0.13	2.2	32	0.47	0.080
	7/28/2011	0.060	1.2	10	0.080	0.080
	8/16/2011	0.62	2.7	14	0.080	0.080
	9/20/2011	5.4	7.0	22	0.69	0.080
	10/20/2011	14	23	50	0.78	0.080
	1/19/2012	2.7	4.9	17	0.83	0.080
	4/20/2012	40	53	110	1.3	0.080
	10/24/2012	23	33	44	1.1	0.080
	4/2/2013	2.6	8.9	15	0.45	0.080
	10/22/2013	7.0	12	19	0.28	0.080
	4/14/2014	1.7	2.3	15	0.43	0.080
	10/22/2014	3.7	4.3	12	0.080	0.080
	4/16/2015	2.4	8.2	18	0.080	1.3
	10/8/2015	39	63	92	1.5	1.0
	4/6/2016	30	40	50	0.99	1.1
	9/20/2016	70	107	145	2.2	1.1
	3/8/2017	59	86	99	1.7	0.35
	9/11/2017	27	43	54	1.4	0.080
	3/19/2018	19	40	52	1.2	0.080
	9/19/2018	95	141	171	0.080	0.080
	3/20/2019	55	84	97	1.5	1.3

Table 4.2 (cont)
LTMO Data for SWMU B-3 Monitoring Wells

Well ID	Sample Date	PCE	TCE	<i>cis</i> -1,2-DCE	<i>trans</i> -1,2-DCE	Vinyl chloride
		µg/L	µg/L	µg/L	µg/L	µg/L
	9/12/2019	26	29	34	0.73	0.080
CS-WB07-LGR-04	7/18/2007	270	310	360	2.4	0.23
	10/18/2007	260	280	430	1.2	0.23
	1/28/2008	390	320	440	3.9	0.23
	4/29/2008	300	260	360	3.7	0.23
	7/30/2008	130	120	160	2.6	0.46
	10/22/2008	140	160	280	7.7	0.23
	1/27/2009	200	210	300	2.4	0.23
	4/23/2009	200	210	310	18	0.23
	7/23/2009	360	340	430	36	0.23
	10/22/2009	210	220	250	0.19	0.23
	1/25/2010	140	170	250	0.55	0.23
	4/28/2010	280	310	410	0.31	0.23
	7/29/2010	380	440	500	3.3	0.23
	10/27/2010	189	254	389	3.6	0.080
	2/1/2011	445	452	572	1.7	0.080
	7/29/2011	155	209	325	3.5	0.080
	11/2/2011	226	314	418	0.43	0.080
	4/20/2012	259	294	443	0.87	0.080
	10/24/2012	142	173	248	0.75	0.080
	4/2/2013	350	401	496	3.0	0.080
	10/22/2013	282	349	454	3.2	0.080
	4/14/2014	210	256	391	1.9	0.080
	10/22/2014	145	168	281	1.3	0.40
	4/16/2015	85	129	221	1.2	0.40
	10/8/2015	262	289	384	1.9	1.2
	4/6/2016	168	205	283	0.080	0.080
	12/19/2016	282	338	456	2.5	0.080
	9/11/2017	176	234	341	0.87	1.9
	6/18/2018	241	310	348	1.5	0.26
	3/20/2019	259	347	414	1.5	0.080
	12/23/2019	178	232	277	0.65	0.080
CS-WB07-UGR-01	7/19/2007	0.15	0.83	280	1.4	33
	10/18/2007	0.32	0.46	250	2.0	76
	1/25/2010	0.15	0.77	42	3.3	56
	4/28/2010	0.15	0.50	8.7	0.19	21
	7/29/2010	0.15	0.45	2.1	4.5	17
	10/27/2010	0.060	0.050	0.61	1.2	1.4
	2/1/2011	0.060	0.29	1.3	4.0	9.6
CS-WB08-LGR-01	7/26/2007	4.3	21	140	2.2	0.23
	10/25/2007	7.6	31	88	3.2	0.23
	1/30/2008	0.15	10	150	2.8	0.26
	4/23/2008	2.8	19	40	0.97	0.23
	7/28/2008	2.0	6.2	22	1.1	0.23
	10/20/2008	0.72	4.7	27	2.7	0.23
	1/28/2009	0.53	5.4	23	1.8	0.23
	4/22/2009	0.16	1.3	19	5.1	0.23
	7/21/2009	2.0	5.8	22	7.8	0.23
	9/24/2009	2.2	7.0	18	2.7	0.23
	10/14/2009	0.15	0.63	16	3.2	0.23
	1/26/2010	0.42	4.3	110	9.8	1.3
	4/27/2010	0.20	0.23	45	3.4	0.23
	7/27/2010	3.3	6.3	87	4.4	0.33
	10/28/2010	0.060	0.46	76	6.1	0.080
	1/25/2011	0.51	0.61	67	4.6	0.080

Table 4.2 (cont)
LTMO Data for SWMU B-3 Monitoring Wells

Well ID	Sample Date	PCE	TCE	<i>cis</i> -1,2-DCE	<i>trans</i> -1,2-DCE	Vinyl chloride
		µg/L	µg/L	µg/L	µg/L	µg/L
	4/27/2011	0.060	0.31	43	3.8	0.080
	7/28/2011	0.060	1.2	54	4.5	0.080
	11/3/2011	0.56	2.6	51	4.9	0.080
	5/1/2012	0.060	1.2	32	2.7	0.080
	10/30/2012	0.060	0.22	26	3.0	0.080
	4/1/2013	0.060	0.050	25	1.9	0.080
	10/25/2013	1.4	1.1	42	4.2	0.81
	4/17/2014	0.060	0.17	28	3.0	0.34
	10/21/2014	0.060	0.050	19	1.3	0.41
	4/15/2015	0.060	0.050	30	2.4	1.2
	10/5/2015	0.060	0.050	25	1.6	0.080
	4/12/2016	0.060	0.050	24	1.7	1.1
	12/21/2016	0.34	0.32	22	1.5	1.3
	9/8/2017	0.060	0.25	19	1.1	0.080
	6/21/2018	0.59	0.50	17	1.0	1.9
	3/26/2019	0.060	0.050	13	0.080	0.88
	12/30/2019	0.060	0.050	12	0.49	0.47
CS-WB08-LGR-02	7/26/2007	0.18	1.1	8.3	0.19	0.23
	10/25/2007	0.15	0.64	7.0	0.23	0.23
	1/30/2008	0.64	0.83	5.0	0.19	0.23
	4/23/2008	0.15	0.27	5.9	0.19	0.23
	7/24/2008	0.15	0.16	12	0.19	0.23
	10/20/2008	4.7	2.7	17	0.32	0.23
	1/28/2009	4.8	5.6	25	0.28	0.23
	4/21/2009	3.9	4.6	11	5.1	0.23
	7/21/2009	0.15	0.16	29	1.7	0.23
	9/24/2009	0.15	0.23	25	0.81	0.23
	10/14/2009	0.15	0.16	33	0.41	0.23
	1/26/2010	0.22	0.49	2.4	0.19	0.23
	4/27/2010	0.50	0.73	2.1	0.19	0.23
	7/27/2010	2.7	2.9	4.2	0.19	0.23
	10/28/2010	1.4	1.8	2.5	0.080	0.080
	1/25/2011	3.7	3.3	3.3	0.080	0.080
	4/27/2011	0.060	0.20	5.5	0.13	0.080
	7/27/2011	0.060	0.050	6.6	0.080	0.080
	11/3/2011	0.060	0.050	7.4	0.080	0.080
	5/1/2012	0.060	0.14	2.6	0.080	0.080
	10/30/2012	6.2	5.6	6.1	0.080	0.080
	4/1/2013	3.5	2.0	14	0.27	0.30
	10/25/2013	3.6	1.7	20	0.50	0.42
	4/17/2014	0.060	0.23	7.6	0.080	0.45
	10/21/2014	12	6.1	13	0.32	0.080
	4/15/2015	0.060	0.050	13	0.25	0.44
	10/5/2015	3.0	2.4	7.1	0.080	0.080
	4/12/2016	1.6	1.6	6.6	0.080	0.46
	12/21/2016	0.96	0.73	6.5	0.080	1.0
	9/8/2017	5.9	4.9	15	0.36	0.080
	6/21/2018	0.060	0.32	22	0.66	0.33
	3/26/2019	0.060	1.3	5.2	0.080	0.080
	12/30/2019	0.90	1.1	8.5	0.38	0.28
CS-WB08-LGR03A	7/26/2007	90	110	170	1.3	0.23
	10/24/2007	91	120	180	2.6	0.23
	1/30/2008	170	270	260	2.5	0.23
	4/23/2008	160	170	190	2.8	0.23
	1/26/2010	56	55	96	1.4	0.23

Table 4.2 (cont)
LTMO Data for SWMU B-3 Monitoring Wells

Well ID	Sample Date	PCE	TCE	<i>cis</i> -1,2-DCE	<i>trans</i> -1,2-DCE	Vinyl chloride
		µg/L	µg/L	µg/L	µg/L	µg/L
	4/27/2010	25	28	49	0.56	0.23
	7/27/2010	95	120	150	1.9	0.23
	10/28/2010	196	203	187	2.7	0.080
	1/25/2011	107	134	206	3.9	0.080
	4/12/2016	106	131	159	1.4	0.080
	12/21/2016	149	138	127	1.3	0.080
	3/26/2019	5.6	95	126	0.72	0.080
CS-WB08-LGR03B	5/15/2007	180	180	240	1.4	0.23
	6/19/2007	100	120	170	1.6	0.23
	7/26/2007	90	110	180	1.0	0.23
	8/21/2007	92	92	130	1.6	0.23
	9/18/2007	71	140	180	1.2	0.23
	10/16/2007	140	150	180	1.4	0.23
	11/26/2007	110	120	150	32	0.23
	12/17/2007	97	210	250	1.3	0.23
	1/21/2008	170	200	220	2.0	0.23
	2/18/2008	180	190	200	3.8	0.23
	3/25/2008	12	37	110	5.3	0.23
	4/22/2008	200	250	220	2.2	0.23
	5/19/2008	270	310	320	2.2	0.23
	6/18/2008	140	190	240	7.3	0.23
	7/23/2008	86	130	160	2.7	0.23
	8/19/2008	93	110	140	2.5	0.23
	9/23/2008	99	120	140	0.19	0.23
	10/16/2008	130	150	150	2.9	0.23
	11/17/2008	48	47	55	1.0	0.23
	12/18/2008	43	47	46	1.3	0.23
	1/20/2009	33	37	46	1.1	0.23
	2/18/2009	27	36	40	0.94	0.23
	3/18/2009	20	23	28	2.1	0.23
	4/21/2009	110	160	170	10	0.23
	5/18/2009	60	70	90	3.4	0.23
	6/15/2009	68	72	86	1.6	0.23
	9/24/2009	73	57	49	2.2	0.23
	10/21/2009	180	210	200	0.19	0.23
	11/16/2009	130	170	190	2.5	0.23
	12/14/2009	140	160	180	1.4	0.23
	1/26/2010	19	19	49	0.40	0.23
	2/22/2010	62	65	100	1.3	0.23
	3/22/2010	73	66	89	1.8	0.23
	4/19/2010	14	16	45	0.34	0.23
	5/17/2010	74	76	120	1.9	0.23
	6/21/2010	130	130	130	4.1	0.23
	7/19/2010	150	180	180	8.4	0.23
	8/16/2010	220	230	210	22	0.23
	9/20/2010	47	61	83	0.71	0.080
	10/18/2010	56	60	81	5.7	0.080
	11/17/2010	216	213	185	3.8	0.080
	12/20/2010	185	233	217	6.7	0.080
	1/17/2011	140	162	184	1.7	0.080
	2/22/2011	261	308	351	2.5	0.080
	3/21/2011	147	197	226	3.9	0.080
	4/18/2011	184	191	205	3.6	0.080
	5/17/2011	107	94	116	2.4	0.080
	10/19/2011	53	70	105	1.3	0.080

Table 4.2 (cont)
LTMO Data for SWMU B-3 Monitoring Wells

Well ID	Sample Date	PCE	TCE	<i>cis</i> -1,2-DCE	<i>trans</i> -1,2-DCE	Vinyl chloride
		µg/L	µg/L	µg/L	µg/L	µg/L
	4/25/2012	76	98	131	1.2	0.080
	10/30/2012	34	41	66	1.6	0.080
	10/5/2015	54	68	76	0.080	0.080
	4/12/2016	107	134	158	1.6	0.080
	9/21/2016	91	113	132	1.3	0.080
	3/8/2017	46	58	57	0.57	0.080
	9/8/2017	89	116	133	1.7	0.080
	9/19/2018	23	38	56	0.080	0.080
	3/22/2019	4.2	96	141	0.080	0.080
	9/23/2019	34	122	177	0.41	0.080
CS-WB08-LGR-04	7/26/2007	1.6	1.3	7.3	0.19	0.23
	10/24/2007	24	17	96	1.5	0.23
	1/30/2008	9.7	8.6	230	0.97	2.0
	4/22/2008	3.3	4.0	160	3.7	0.71
	7/24/2008	4.1	4.3	43	5.0	0.23
	10/20/2008	1.7	1.5	25	2.4	0.23
	1/28/2009	2.5	2.1	58	1.4	0.23
	4/21/2009	8.9	6.7	44	18	0.23
	7/21/2009	2.4	3.2	38	8.3	0.23
	9/24/2009	80	39	140	2.3	0.76
	10/21/2009	25	16	57	0.19	0.23
	1/26/2010	16	9.6	23	0.19	0.23
	4/27/2010	4.4	2.5	15	0.19	0.23
	7/27/2010	11	20	120	0.71	0.40
	10/28/2010	7.6	14	57	0.080	0.080
	1/25/2011	31	51	81	1.1	0.080
	4/27/2011	14	22	51	0.29	0.080
	7/27/2011	2.7	5.9	31	0.080	0.080
	11/3/2011	13	21	33	0.080	0.080
	4/25/2012	15	21	75	0.26	0.44
	10/30/2012	2.4	3.9	31	0.77	0.080
	4/1/2013	3.0	7.3	66	0.28	0.080
	10/24/2013	2.3	5.4	50	0.30	0.080
	4/16/2014	0.77	1.8	31	0.88	0.21
	10/21/2014	1.1	0.80	3.6	0.20	0.080
	4/15/2015	1.1	1.8	23	0.59	0.080
	10/5/2015	0.060	0.050	2.4	0.080	0.080
	4/12/2016	1.1	1.9	25	0.36	0.67
	12/21/2016	4.1	3.1	8.3	0.080	0.080
	9/8/2017	1.7	2.0	4.0	0.080	0.080
	6/21/2018	4.8	5.6	16	0.23	0.080
	3/22/2019	4.6	5.9	18	0.080	0.080
	12/30/2019	2.6	2.8	5.3	0.080	0.080
CS-WB08-UGR-01	7/26/2007	50	28	110	0.46	0.23
	9/24/2009	25	22	320	3.1	21
	10/14/2009	8.7	15	170	0.59	11
	1/26/2010	3.7	1.5	83	0.39	7.3
	4/27/2010	41	16	45	0.27	0.23
	7/27/2010	5.7	10	1,700	10	69
	10/28/2010	2.4	8.6	543	3.2	39
	1/25/2011	11	20	128	1.2	0.080
	4/27/2011	0.77	4.5	386	1.7	100
	7/28/2011	0.84	2.4	259	1.7	57
	11/3/2011	7.3	26	375	2.0	86
	5/1/2012	0.35	2.2	565	2.4	56

Table 4.2 (cont)
 LTMO Data for SWMU B-3 Monitoring Wells

Well ID	Sample Date	PCE	TCE	<i>cis</i> -1,2-DCE	<i>trans</i> -1,2-DCE	Vinyl chloride
		µg/L	µg/L	µg/L	µg/L	µg/L
	10/30/2012	0.060	0.45	102	2.1	41
	4/1/2013	0.060	1.2	97	1.8	68
	10/25/2013	0.36	0.61	167	1.5	49
	4/17/2014	0.060	0.44	127	5.4	85
	10/21/2014	0.27	0.47	52	2.3	94
	4/15/2015	0.060	0.26	67	1.9	29
	10/6/2015	0.060	0.95	100	2.4	48
	4/13/2016	0.45	1.4	193	2.7	73
	12/21/2016	1.8	1.0	262	2.7	70
	9/8/2017	0.060	0.29	33	3.0	23
	6/21/2018	0.060	0.41	140	1.8	39
	3/26/2019	1.0	0.66	80	1.3	19
	12/30/2019	0.060	0.050	1.5	0.62	0.85

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 4.3
LTMO Data for AOC-65 Monitoring Wells

Well ID	Sample Date	cis-1,2-Dichloroethene	Tetrachloroethene (PCE)	Trichloroethene (TCE)
Unit		µg/L	µg/L	µg/L
AOC65-IIW-01	09/26/2018	4.65	249.5	5.91
	12/12/2018	0.07	19.7	0.05
	04/08/2019	0.07	0.06	0.05
	06/11/2019	0.07	10.98	0.05
	09/16/2019	0.07	2.03	0.05
	01/06/2020	0.07	0.81	0.05
AOC65-IIW-02	09/26/2018	0.07	3.14	0.42
	12/12/2018	0.07	3	0.15
	04/08/2019	0.07	0.32	0.05
	06/11/2019	0.07	2.31	0.05
	09/16/2019	0.07	4.76	0.05
	01/06/2020	0.07	2.98	0.05
AOC65-IIW-03	09/26/2018	1.81	109.6	3.23
	12/12/2018	3.1	102.25	4.35
	04/04/2019	0.07	10.1	1.17
	06/11/2019	0.07	10.41	0.89
	09/16/2019	0.07	43.51	1.49
	01/06/2020	0.07	13.94	0.85
AOC65-IIW-04	09/26/2018	0.07	1.82	5.47
	12/12/2018	0.07	2.41	6.93
	04/04/2019	0.07	0.06	0.05
	06/11/2019	0.07	1.06	0.5
	09/16/2019	0.25	0.06	0.1
	01/06/2020	0.07	0.06	0.05
AOC65-PZ01-LGR	09/24/2015	0.07	4.42	1.66
	12/01/2015	0.07	3.61	1.55
	01/13/2016	0.07	4	1.51
	02/10/2016	0.07	4.43	1.96
	03/10/2016	0.07	5.16	2.06
	06/20/2016	0.07	12.05	4.13
	10/04/2016	0.07	6	2.38
	11/29/2016	0.07	5.49	2.34
	03/23/2017	0.07	6.1	2.44
	10/04/2017	0.07	4.22	1.81
	12/13/2017	0.07	1.97	0.71
	03/12/2018	0.07	2.6	0.83
	06/25/2018	0.07	3.98	1.53
	09/26/2018	0.07	3.69	1.68
	12/11/2018	0.07	4.69	2.08
	04/04/2019	0.07	5.38	2.55
06/11/2019	0.07	5.89	2.66	
09/16/2019	0.07	7.87	3.24	
01/06/2020	0.07	5.21	2.25	
AOC65-PZ02-LGR	09/24/2015	0.07	0.71	1.42
	12/01/2015	0.07	1.26	1.25
	01/13/2016	0.07	0.85	0.62
	02/10/2016	0.07	0.77	0.78
	03/10/2016	0.07	0.56	0.9
	06/20/2016	0.07	0.39	1.42
	10/04/2016	0.07	0.85	2.25
	11/29/2016	0.07	1.99	2.15

Table 4.3 (cont)
LTMO Data for AOC-65 Monitoring Wells

Well ID	Sample Date	cis-1,2-Dichloroethene	Tetrachloroethene (PCE)	Trichloroethene (TCE)
Unit		µg/L	µg/L	µg/L
	03/23/2017	0.07	1.18	2.62
	10/04/2017	0.07	1.95	2.62
	12/13/2017	0.07	6.31	2.49
	03/12/2018	0.07	1.91	1.95
	06/25/2018	0.07	3.44	4.01
	09/26/2018	0.07	3.16	1.93
	12/11/2018	0.07	4.74	2.94
	04/04/2019	0.07	2.82	4.16
	06/11/2019	0.07	2.65	3.8
	09/16/2019	0.07	2.54	4.32
	01/06/2020	0.07	3.49	3.55
AOC65-PZ03-LGR	08/31/2011	0.07	3.13	2.74
	07/20/2012	0.07	1.19	1.58
	01/09/2013	0.07	1.6	1.68
	04/16/2013	0.07	0.79	1
AOC65-PZ04-LGR	08/31/2011	0.07	1.68	0.05
	07/20/2012	0.07	0.67	0.05
	01/09/2013	0.07	1.97	0.1
	04/16/2013	0.07	2.49	0.05
AOC65-PZ05-LGR	09/24/2015	0.07	3.12	0.35
	12/01/2015	0.07	1.4	0.19
	01/13/2016	0.07	2.05	0.25
	02/10/2016	0.07	3.53	0.81
	03/10/2016	0.07	3.91	0.71
	06/20/2016	0.07	0.85	0.05
	10/04/2016	0.07	0.75	0.26
	11/29/2016	0.07	2	0.58
	03/23/2017	0.07	1.6	0.19
	07/05/2017	0.07	4.23	1.41
	10/04/2017	0.07	2.25	0.05
	12/13/2017	0.07	2.58	0.42
	03/12/2018	0.07	3.51	0.62
	06/25/2018	0.07	3.35	0.96
	09/26/2018	0.07	1.86	0.2
	12/11/2018	0.07	1.9	0.42
	04/04/2019	0.07	2.46	0.6
	06/11/2019	0.07	3.12	0.9
	09/16/2019	0.07	2.97	1.3
	01/06/2020	0.07	3.83	0.74
AOC65-PZ06-LGR	09/24/2015	0.07	5.47	0.17
	12/01/2015	0.07	8.31	0.13
	01/13/2016	0.07	13.77	0.05
	02/10/2016	0.07	9.55	0.21
	03/10/2016	0.07	10.32	0.27
	06/20/2016	0.07	10.13	0.18
	10/04/2016	0.07	6.13	0.05
	11/29/2016	0.07	10.64	0.26
	03/23/2017	0.07	12.65	0.24
	07/05/2017	0.07	11.75	0.05
	10/04/2017	0.07	8.47	0.05
	12/13/2017	0.07	11.82	0.19

Table 4.3 (cont)
LTMO Data for AOC-65 Monitoring Wells

Well ID	Sample Date	cis-1,2-Dichloroethene	Tetrachloroethene (PCE)	Trichloroethene (TCE)
Unit		µg/L	µg/L	µg/L
	03/12/2018	0.07	14.79	0.18
	06/25/2018	0.07	10.81	0.05
	09/26/2018	0.07	4.25	0.29
	12/11/2018	0.07	18.42	0.05
	04/04/2019	0.07	16.43	0.25
	06/11/2019	0.07	18.31	0.05
	09/16/2019	0.07	7.72	0.05
	01/06/2020	0.39	8.31	0.81
AOC65-SIW-01	09/03/2015	0.07	100.65	0.05
	09/09/2015	0.07	122.31	0.05
	09/24/2015	3.46	2,208	10.49
	12/01/2015	0.07	1,189	1
	01/14/2016	0.07	1,764	1.12
	02/10/2016	35.71	2,342	43.74
	03/11/2016	22.38	723.6	13.28
	06/22/2016	5.36	398.09	5.84
	10/05/2016	91.7	3,194	96.17
	11/30/2016	6.34	445.01	5.04
	04/03/2017	0.07	18.36	0.05
	07/06/2017	0.07	1.83	0.05
	10/06/2017	0.07	0.06	0.05
	12/14/2017	0.07	0.06	0.05
	03/13/2018	0.07	190.1	0.05
	06/25/2018	0.07	1.46	0.05
	09/27/2018	0.07	0.06	0.05
	12/13/2018	0.07	0.06	0.05
	04/10/2019	0.07	0.06	0.05
	06/17/2019	0.07	0.06	0.05
	09/19/2019	0.07	0.06	0.05
	01/09/2020	0.07	0.06	0.05
AOC65-TSW-01	09/24/2015	1.75	822.41	1.25
	11/30/2015	0.07	713.12	0.75
	01/13/2016	0.7	1,702	2.99
	02/10/2016	1.4	1,288	1
	03/10/2016	3.5	838.43	2.5
	06/21/2016	2.32	4,609	5.06
	10/04/2016	3.67	5,264	6.1
	11/29/2016	1.68	3,134	5.02
	04/03/2017	1.03	926.32	1.42
	07/05/2017	0.07	595.73	0.67
	10/06/2017	0.69	1,273	2.61
	12/14/2017	0.07	34.43	0.05
	03/13/2018	0.07	215.56	0.35
	06/25/2018	2.77	1,471	4.44
	09/24/2018	0.92	890.94	2.12
	12/13/2018	0.07	0.06	0.05
	04/10/2019	0.07	0.06	0.05
	06/17/2019	0.07	0.06	0.05
	09/19/2019	0.07	0.06	0.05
	01/09/2020	0.07	0.06	0.05
AOC65-TSW-02	09/26/2018	2.91	109.78	12.63

Table 4.3 (cont)
LTMO Data for AOC-65 Monitoring Wells

Well ID	Sample Date	cis-1,2-Dichloroethene	Tetrachloroethene (PCE)	Trichloroethene (TCE)
Unit		µg/L	µg/L	µg/L
	12/11/2018	2.74	131.55	16.19
	04/08/2019	2.45	116.71	14.43
	06/12/2019	2.39	151.66	13.38
	09/18/2019	3.45	215.2	19.39
	01/08/2020	1.59	99.99	8.08
AOC65-TSW-03	09/24/2015	0.07	2.28	0.05
	11/30/2015	0.07	3.9	0.05
	01/13/2016	0.07	0.96	0.05
	02/10/2016	0.07	0.06	0.05
	03/10/2016	0.07	0.06	0.05
	06/21/2016	0.07	6.91	0.05
	10/04/2016	0.07	7.4	0.05
	11/29/2016	0.07	5.61	1.01
	03/23/2017	0.07	7.02	0.17
	07/05/2017	0.07	12.12	2.25
	10/05/2017	0.07	30.83	0.84
	12/13/2017	0.12	20.49	0.54
	03/12/2018	0.07	22.22	1.1
	06/25/2018	0.07	8.2	0.61
	09/26/2018	0.55	44.33	1.78
	12/11/2018	0.62	48.32	1.48
	04/08/2019	0.07	22.91	0.19
	06/12/2019	0.07	6.18	0.42
	09/18/2019	0.07	16.83	0.84
	01/08/2020	0.07	8.93	0.48
AOC65-TSW-04	09/24/2015	0.07	0.27	0.05
	11/30/2015	0.07	0.24	0.05
	01/13/2016	0.07	0.33	0.05
	02/10/2016	0.07	0.27	0.05
	03/10/2016	0.07	0.06	0.05
	06/21/2016	0.07	0.32	0.05
	10/04/2016	0.07	0.06	0.21
	11/29/2016	0.07	1.38	0.41
	03/23/2017	0.07	2.01	0.53
	07/05/2017	0.07	5.07	0.79
	10/05/2017	0.07	10.89	1.03
	12/13/2017	0.07	6.8	1.25
	03/12/2018	0.07	2.24	0.6
	06/25/2018	0.07	2.41	0.92
	09/26/2018	0.07	2.48	1.17
	12/11/2018	0.07	7.51	2.71
	04/08/2019	0.07	4.03	2.36
	06/11/2019	0.07	1.38	1.01
	09/16/2019	0.07	5.02	3.94
	01/08/2020	0.07	3.96	3.23
AOC65-TSW-05	09/24/2015	0.14	174.23	0.1
	11/30/2015	0.07	105.12	0.22
	01/13/2016	0.07	124.27	0.37
	02/10/2016	0.07	98.6	0.37
	03/11/2016	0.07	157.5	0.43
	06/21/2016	0.07	626.49	0.51

Table 4.3 (cont)
LTMO Data for AOC-65 Monitoring Wells

Well ID	Sample Date	cis-1,2-Dichloroethene	Tetrachloroethene (PCE)	Trichloroethene (TCE)
Unit		µg/L	µg/L	µg/L
	10/05/2016	0.07	224.14	0.37
	11/30/2016	0.07	136.73	0.05
	04/03/2017	0.07	178.39	0.31
	07/06/2017	0.07	88.63	0.05
	10/06/2017	0.07	133.3	0.29
	12/14/2017	0.07	8.84	0.05
	03/13/2018	0.07	79.26	0.05
	06/25/2018	0.07	76.71	0.21
	09/24/2018	0.07	27.48	0.05
	12/13/2018	0.07	0.06	0.05
	04/10/2019	0.07	3.92	0.05
	06/17/2019	0.07	18.87	0.05
	09/19/2019	0.07	2.08	0.05
	01/09/2020	0.07	0.06	0.05
AOC65-TSW-06	09/24/2015	0.07	2.09	0.16
	11/30/2015	0.07	2.34	0.05
	01/13/2016	0.07	2.03	0.24
	02/10/2016	0.07	1.95	0.23
	03/10/2016	0.07	1.78	0.27
	06/22/2016	0.07	1.37	0.05
	10/05/2016	0.07	2.26	0.05
	11/30/2016	0.07	2.99	0.05
	04/03/2017	0.07	2.04	0.05
	07/06/2017	0.07	2	0.28
	10/05/2017	0.07	2.28	0.05
	12/14/2017	0.07	2.22	0.22
	03/12/2018	0.07	2.02	0.05
	06/25/2018	0.07	2.44	0.26
	09/26/2018	0.07	2.63	0.22
	12/12/2018	0.07	23.4	0.91
	04/08/2019	0.07	7.05	0.05
	06/12/2019	0.07	3.26	0.05
	09/18/2019	0.07	13	0.44
	01/08/2020	0.07	21.79	0.05
AOC65-TSW-07	09/24/2015	0.07	0.31	1.74
	11/30/2015	0.07	0.91	2.24
	01/13/2016	0.07	0.33	2.25
	02/10/2016	0.07	0.06	2.69
	03/10/2016	0.07	0.24	3.39
	06/21/2016	0.07	0.38	4.16
	10/04/2016	0.07	1.91	4
	11/29/2016	0.07	1.24	4.87
	03/23/2017	0.07	1.24	5
	07/05/2017	0.07	1.72	8.51
	10/05/2017	0.07	3.12	6.07
	12/13/2017	0.07	0.51	1.91
	03/12/2018	0.07	0.8	1.87
	06/25/2018	0.07	5.57	7.91
	09/26/2018	0.07	4.22	2.57
	12/11/2018	0.07	5.61	6.7
	04/08/2019	0.07	3.21	8.98

Table 4.3 (cont)
LTMO Data for AOC-65 Monitoring Wells

Well ID	Sample Date	cis-1,2-Dichloroethene	Tetrachloroethene (PCE)	Trichloroethene (TCE)
Unit		µg/L	µg/L	µg/L
	06/11/2019	0.07	2.83	5.35
	09/16/2019	0.07	1.49	7.63
	01/08/2020	0.07	3.65	10.42
AOC65-VEW13-LGR	09/26/2018	0.07	14.83	0.2
	12/12/2018	0.07	20.04	0.54
	04/08/2019	0.07	14.56	0.05
	06/12/2019	0.07	9.3	0.05
	09/18/2019	0.07	11.19	0.05
	01/08/2020	0.07	12.27	0.85
AOC65-VEW15-UGR	09/24/2015	15.22	7.46	7.42
	12/01/2015	0.07	16.37	9.7
	01/14/2016	18.71	23.33	15.46
	02/10/2016	10.91	12.73	8.7
	03/11/2016	13.55	10.76	8.62
	06/21/2016	30.44	27.79	17.94
	10/04/2016	45.56	42.62	24.83
	11/30/2016	48.52	44.13	32.57
	04/03/2017	14.49	16.14	10.28
	10/05/2017	29.95	24.43	14
	12/14/2017	28.91	27.86	22.5
	03/12/2018	9.73	9.95	6.48
	06/25/2018	19.35	15.88	13.5
	09/27/2018	34.36	29.79	25.53
	12/13/2018	0.07	0.06	0.05
	04/10/2019	0.07	0.06	0.05
	06/17/2019	0.07	0.06	0.05
	09/19/2019	0.07	0.06	0.05
	01/09/2020	0.07	0.06	0.05
AOC65-VEW16-LGR	09/27/2018	0.07	8.07	0.22
	12/12/2018	0.07	18.26	0.05
	04/08/2019	0.07	8.59	0.05
	06/12/2019	0.07	9.29	0.05
	09/18/2019	0.07	5.76	0.05
	01/08/2020	0.07	7.4	0.05
AOC65-VEW18-LGR	09/24/2015	0.07	12.58	0.05
	11/30/2015	0.07	8.78	0.05
	01/13/2016	0.07	2.24	0.05
	02/10/2016	0.07	0.37	0.05
	03/11/2016	0.07	2.42	0.05
	03/11/2016	0.07	1.09	0.05
	06/22/2016	0.07	37.27	0.05
	10/05/2016	0.07	34.19	0.05
	11/30/2016	0.07	24.22	0.05
	04/03/2017	0.07	5.57	0.25
	10/05/2017	0.07	59.42	0.27
	12/14/2017	0.07	13.78	0.26
	03/12/2018	0.07	4.95	0.23
	06/25/2018	0.07	83.29	0.4
	09/27/2018	0.07	35.45	0.3
	12/13/2018	0.07	7.72	0.05
	04/10/2019	0.07	0.57	0.05

Table 4.3 (cont)
LTMO Data for AOC-65 Monitoring Wells

Well ID	Sample Date	cis-1,2-Dichloroethene	Tetrachloroethene (PCE)	Trichloroethene (TCE)
Unit		µg/L	µg/L	µg/L
	06/17/2019	0.07	9.29	0.05
	09/19/2019	0.07	47.02	0.05
	01/09/2020	0.07	2.71	0.05
AOC65-VEW19-UGR	09/24/2015	1.93	9.15	0.38
	11/30/2015	4.1	22.72	2.71
	01/13/2016	10.58	37.35	6.61
	02/10/2016	1.27	6.64	0.39
	03/10/2016	7.93	31.28	3.35
	06/21/2016	17.51	58.57	11.06
	10/04/2016	30.47	90.88	14.45
	11/30/2016	38.06	115.19	19.12
	04/03/2017	8.17	48.82	5.68
	10/06/2017	22.55	42.26	9.75
	12/14/2017	0.07	0.06	0.05
	03/13/2018	0.07	0.4	0.05
	06/25/2018	0.07	0.75	0.05
	09/27/2018	3.47	13.21	2.07
	12/13/2018	0.07	0.06	0.05
	04/10/2019	0.07	0.06	0.05
	06/17/2019	0.07	0.06	0.05
	09/19/2019	0.07	0.06	0.05
	01/09/2020	0.07	0.06	0.05
AOC65-VEW20	09/26/2018	32.08	3.73	112.4
	12/12/2018	21.14	0.72	119.12
	04/08/2019	19.27	0.2	55.09
	06/12/2019	28.37	0.28	71.61
	09/18/2019	80.95	0.06	230.67
	01/08/2020	38.65	0.06	133.25
AOC65-VEW21	09/26/2018	0.07	1.11	1.32
	12/11/2018	0.07	1.26	1.41
	04/04/2019	0.07	0.82	0.94
	06/11/2019	0.07	1.3	0.05
	09/16/2019	0.07	1.69	2.96
	01/06/2020	0.07	1.43	2.54
AOC65-VEW23	11/30/2015	0.9	6.32	2.72
	01/13/2016	1.38	9.31	3.44
	10/04/2016	3.32	15.71	8.71
	11/29/2016	2.98	24.08	9.54
	10/04/2017	0.07	1.79	1.38
	12/13/2017	0.37	1.04	0.95
	09/26/2018	3.89	22.98	4.9
	12/11/2018	4.47	24.61	7.3
	04/04/2019	0.07	2.51	0.4
	06/11/2019	1.15	23.78	3.57
	09/16/2019	4.26	8.26	3.93
	01/06/2020	3.63	2.78	1.8
AOC65-VEW25	09/24/2015	0.07	0.93	0.05
	11/30/2015	0.07	0.33	0.05
	01/13/2016	0.07	2.45	0.05
	02/10/2016	0.07	2.37	0.05
	03/10/2016	0.07	1.52	0.05

Table 4.3 (cont)
LTMO Data for AOC-65 Monitoring Wells

Well ID	Sample Date	cis-1,2-Dichloroethene	Tetrachloroethene (PCE)	Trichloroethene (TCE)
Unit		µg/L	µg/L	µg/L
	06/21/2016	0.07	8.1	0.2
	10/04/2016	0.07	5.27	0.05
	11/29/2016	0.07	6.37	0.05
	03/23/2017	0.07	5.5	0.24
	10/04/2017	0.07	6.24	0.36
	12/13/2017	0.07	3.41	0.19
	03/12/2018	0.07	5.25	0.3
	06/25/2018	0.07	8.66	0.55
	09/26/2018	0.07	5.59	0.22
	12/11/2018	0.07	10.36	0.48
	04/04/2019	0.07	13.12	0.55
	06/11/2019	0.07	19.67	0.05
	09/16/2019	0.07	18.71	1.42
	01/06/2020	0.07	20.6	1.14
AOC65-VEW26	11/09/2010	2.5	100	31
	03/10/2011	0.73	34	16
	08/31/2011	0.07	1.26	0.8
	07/18/2012	0.07	1.61	0.4
AOC65-VEW27	09/24/2015	0.28	59.35	0.77
	11/30/2015	0.07	0.91	0.05
	01/13/2016	0.25	144.48	2.81
	02/10/2016	0.07	246.5	8.89
	03/10/2016	0.35	384.89	4.74
	06/21/2016	0.07	95.97	1.74
	10/04/2016	0.07	10.7	0.05
	11/30/2016	17.96	550.69	102.68
	04/03/2017	26.29	148.86	59.22
	10/06/2017	6.44	57.46	16.06
	12/14/2017	0.07	7.32	0.05
	03/13/2018	0.07	0.53	0.05
	06/25/2018	0.07	102.37	0.05
	09/27/2018	0.07	10.52	0.05
	12/13/2018	0.07	0.06	0.05
	04/10/2019	0.07	0.06	0.05
	06/17/2019	0.07	0.06	0.05
	09/19/2019	0.07	0.06	0.05
	01/09/2020	0.07	0.06	0.05
AOC65-VEW28A	09/27/2018	0.07	5.59	2.1
	12/12/2018	0.07	3.33	0.77
	04/08/2019	0.07	3.8	0.72
	06/12/2019	0.07	3.07	1
	09/18/2019	0.07	2.85	1.41
	01/08/2020	0.07	4.34	1.35
AOC65-VEW28B	09/27/2018	0.07	45.63	1.63
	12/12/2018	0.07	11.84	0.99
	04/08/2019	0.07	17.22	0.43
	06/12/2019	0.07	24.84	0.85
	09/18/2019	0.07	31.18	0.98
	01/08/2020	0.07	39.45	0.71
AOC65-VEW29	09/24/2015	1.24	24.87	1.46
	12/01/2015	0.07	67.48	0.05

Table 4.3 (cont)
LTMO Data for AOC-65 Monitoring Wells

Well ID	Sample Date	cis-1,2-Dichloroethene	Tetrachloroethene (PCE)	Trichloroethene (TCE)
Unit		µg/L	µg/L	µg/L
	01/14/2016	0.07	50.57	0.35
	02/10/2016	0.07	48.89	0.42
	03/11/2016	0.07	58.61	0.49
	06/21/2016	0.07	52.33	0.18
	10/04/2016	0.27	50.63	0.26
	11/30/2016	0.23	97.48	0.79
	04/03/2017	0.07	167.32	0.55
	10/05/2017	16.53	9.74	4.87
	12/14/2017	15.21	34.26	5.47
	03/12/2018	2.81	33.31	1.96
	06/25/2018	0.46	74.26	0.59
	09/27/2018	0.07	20.97	0.34
	12/13/2018	0.07	31.83	0.05
	04/10/2019	0.07	0.21	0.05
	06/17/2019	0.07	0.06	0.05
	09/19/2019	0.07	0.06	0.05
	01/09/2020	0.07	0.06	0.05
AOC65-VEW31	09/24/2015	2.67	134.43	23.24
	12/01/2015	0.07	64.01	2.02
	01/14/2016	0.27	48.86	2.03
	02/10/2016	0.07	39.19	1.88
	03/11/2016	0.07	31.92	1.07
	06/21/2016	0.31	82.51	1.12
	10/04/2016	0.07	63.77	0.42
	11/30/2016	0.07	37.37	0.58
	04/03/2017	0.19	69.7	0.59
	10/05/2017	0.07	170.54	0.55
	12/14/2017	0.08	50.73	0.36
	03/12/2018	0.07	39.78	0.05
	06/25/2018	0.42	284.34	0.92
	09/27/2018	0.07	120.07	0.59
	12/13/2018	0.07	6.59	0.24
	04/10/2019	0.07	0.06	0.05
	06/17/2019	0.07	1.04	0.05
	09/19/2019	0.07	0.06	0.05
	01/09/2020	0.07	0.06	0.05
AOC65-VEW32	09/24/2015	7	11,437	5
	12/01/2015	0.07	656.25	0.24
	01/13/2016	5.51	3,271	33.15
	02/10/2016	7	5,320	36.57
	03/11/2016	16.95	7,488	42.61
	06/21/2016	1.97	660.39	3.51
	10/04/2016	0.61	333.44	1.58
	11/30/2016	0.81	1,144	3.08
	04/03/2017	0.07	4,909	2.37
	10/06/2017	0.5	2,370	6.68
	12/14/2017	0.07	401.47	1.25
	03/13/2018	0.07	642.26	0.84
	06/25/2018	0.95	630.69	3.6
	09/24/2018	0.07	71.04	0.27
	12/13/2018	0.07	50.65	0.29

Table 4.3 (cont)
LTMO Data for AOC-65 Monitoring Wells

Well ID	Sample Date	cis-1,2-Dichloroethene	Tetrachloroethene (PCE)	Trichloroethene (TCE)
Unit		µg/L	µg/L	µg/L
	04/10/2019	0.07	12.67	0.05
	06/17/2019	0.07	10.57	0.05
	09/19/2019	0.07	3.75	0.05
	01/09/2020	0.07	90.05	0.05
CS-MW6-LGR	09/11/2015	0.07	0.06	0.05
	12/09/2015	0.07	0.26	0.05
	03/08/2016	0.07	0.06	0.05
	06/07/2016	0.07	0.7	0.05
	09/12/2016	0.07	0.06	0.05
	12/12/2016	0.07	0.33	0.05
	03/06/2017	0.07	0.06	0.05
	06/08/2017	0.07	0.06	0.05
	09/22/2017	0.07	0.06	0.05
	12/06/2017	0.07	0.06	0.05
	03/05/2018	0.07	0.06	0.05
	06/07/2018	0.07	0.06	0.05
	09/05/2018	0.07	0.88	0.05
	12/05/2018	0.07	0.46	0.05
	03/06/2019	0.07	0.06	0.05
	06/05/2019	0.07	0.06	0.05
	09/06/2019	0.07	0.06	0.05
	12/11/2019	0.07	0.06	0.05
CS-MW7-LGR	09/14/2015	0.07	0.78	0.05
	12/09/2015	0.07	0.81	0.05
	03/08/2016	0.07	0.93	0.05
	06/07/2016	0.07	0.72	0.05
	09/12/2016	0.07	0.72	0.05
	12/12/2016	0.07	0.91	0.08
	03/06/2017	0.07	0.76	0.05
	06/20/2017	0.07	0.88	0.05
	09/22/2017	0.07	1.15	0.05
	12/06/2017	0.07	0.95	0.05
	03/05/2018	0.07	1.22	0.05
	06/07/2018	0.07	1.19	0.32
	09/05/2018	0.07	1.07	0.05
	12/05/2018	0.07	1.14	0.05
	03/07/2019	0.07	0.95	0.05
	06/05/2019	0.07	1	0.05
	09/09/2019	0.07	1.25	0.05
	12/11/2019	0.07	1.37	0.05
CS-MW8-LGR	09/11/2015	0.07	2.4	0.05
	12/09/2015	0.07	2.74	0.05
	03/08/2016	0.07	3.2	0.05
	06/07/2016	0.07	2.79	0.05
	09/12/2016	0.07	2.66	0.05
	12/12/2016	0.07	2.79	0.05
	03/06/2017	0.07	2.45	0.05
	06/08/2017	0.07	2.62	0.05
	09/22/2017	0.07	3.13	0.05
	12/06/2017	0.07	0.06	0.05
	03/05/2018	0.07	2.11	0.05

Table 4.3 (cont)
LTMO Data for AOC-65 Monitoring Wells

Well ID	Sample Date	cis-1,2-Dichloroethene	Tetrachloroethene (PCE)	Trichloroethene (TCE)
Unit		µg/L	µg/L	µg/L
	06/07/2018	0.07	1.57	0.05
	09/05/2018	0.07	2.44	0.05
	12/05/2018	0.07	2.69	0.05
	03/07/2019	0.07	1.94	0.05
	06/05/2019	0.07	1.96	0.05
	09/09/2019	0.07	2.28	0.05
	12/11/2019	0.07	2.47	0.05
CS-MW36-LGR	09/11/2015	0.36	13.21	12.01
	12/09/2015	0.07	6.71	2.34
	03/08/2016	0.28	8.26	7.86
	06/07/2016	0.07	4.12	1.53
	09/12/2016	0.07	5.35	2.35
	12/12/2016	0.09	5.54	3.13
	03/06/2017	0.07	4.87	1.56
	06/08/2017	0.07	5.43	4.2
	09/22/2017	0.24	4.28	7.41
	12/12/2017	0.44	28.59	17.88
	03/05/2018	0.58	14.13	26.71
	06/07/2018	0.9	16.73	34.72
	09/05/2018	0.56	10.04	18.11
	12/05/2018	0.07	9.04	8.03
	03/07/2019	0.07	5.89	3.88
	06/05/2019	0.07	4.27	1.96
	09/06/2019	0.07	7.51	5.87
	12/11/2019	0.28	9.09	10.25
LS-5	09/08/2015	0.07	0.83	2.43
	11/30/2015	0.07	1.02	2.15
	03/07/2016	0.07	1.12	2.5
	06/06/2016	0.07	0.88	1.79
	09/06/2016	0.07	0.75	1.85
	12/05/2016	0.07	1.06	2.16
	03/28/2017	0.07	1.18	2.24
	06/05/2017	0.07	1.07	2.4
	09/21/2017	0.07	0.99	2.85
	12/04/2017	0.07	0.06	2.84
	03/06/2018	0.07	1.05	3.56
	06/06/2018	0.07	1.02	3.57
	09/13/2018	0.07	0.79	2.59
	12/03/2018	0.07	0.77	3.1
	03/11/2019	0.07	0.86	2.79
	06/03/2019	0.07	0.9	2.74
	09/04/2019	0.07	0.59	2.34
	12/02/2019	0.07	0.97	3.02
LS-6	09/08/2015	0.07	0.62	2.04
	11/30/2015	0.07	0.06	0.05
	03/07/2016	0.07	0.76	1.47
	06/06/2016	0.07	0.72	0.89
	09/06/2016	0.07	0.88	0.05
	12/05/2016	0.07	0.06	0.05
	03/28/2017	0.07	0.84	0.05
	06/05/2017	0.07	0.8	0.52

Table 4.3 (cont)
 LTMO Data for AOC-65 Monitoring Wells

Well ID	Sample Date	cis-1,2-Dichloroethene	Tetrachloroethene (PCE)	Trichloroethene (TCE)
Unit		µg/L	µg/L	µg/L
	09/21/2017	0.07	0.06	1.65
	12/04/2017	0.07	0.06	1.39
	03/06/2018	0.07	0.85	2.4
	06/06/2018	0.07	0.61	1.91
	09/13/2018	0.07	0.66	0.05
	12/03/2018	0.07	0.87	0.05
	03/11/2019	0.07	0.83	0.05
	06/03/2019	0.07	0.95	0.05
	09/04/2019	0.07	0.77	0.05
	12/02/2019	0.07	1.07	1.05

Table 4.3 (cont)
LTMO Data for AOC-65 Monitoring Wells

Well ID	Sample Date	cis-1,2-Dichloroethene	Tetrachloroethene (PCE)	Trichloroethene (TCE)
Unit		µg/L	µg/L	µg/L
LS-7	09/08/2015	0.07	1.26	0.05
	11/30/2015	0.07	0.24	0.05
	03/07/2016	0.07	1.63	0.28
	06/06/2016	0.07	0.62	0.05
	09/06/2016	0.07	0.57	0.05
	12/05/2016	0.07	0.06	0.05
	12/29/2016	0.07	0.97	0.24
	03/28/2017	0.07	1.11	0.25
	06/05/2017	0.07	1.14	0.05
	09/21/2017	0.07	1.79	0.5
	12/04/2017	0.07	1.06	0.2
	03/06/2018	0.07	1.7	0.58
	06/06/2018	0.07	1.43	0.53
	09/13/2018	0.07	1.04	0.05
	12/03/2018	0.07	0.06	0.05
	03/11/2019	0.07	0.06	0.05
	06/03/2019	0.07	0.65	0.05
09/04/2019	0.07	1.35	0.05	
12/02/2019	0.07	1.42	0.33	
OFR-3	09/08/2015	0.07	6.88	3.64
	11/30/2015	0.07	3.51	1.86
	03/07/2016	0.07	2.86	2.38
	06/06/2016	0.07	3.34	3.03
	09/06/2016	0.07	3.14	2.02
	12/05/2016	0.07	6.59	3.02
	03/28/2017	0.07	6.98	3.58
	06/05/2017	0.07	6.29	3.62
	09/27/2017	0.07	3.69	2.06
	12/04/2017	0.07	0.06	0.75
	03/06/2018	0.07	4.79	2.85
	06/06/2018	0.07	4.78	3.85
	09/13/2018	0.07	2.32	1.72
	12/03/2018	0.07	0.06	0.05
	03/11/2019	0.07	3.52	2.12
06/03/2019	0.07	4.3	2.35	
09/04/2019	0.07	5.89	3.21	
12/02/2019	0.07	7.99	4.09	
RFR-10	09/08/2015	0.07	19.71	7.93
	11/30/2015	0.07	6.27	3.5
	03/07/2016	0.18	13.85	7.4
	04/04/2016	0.17	11.89	6.73
	05/03/2016	0.07	6.53	4.48
	06/06/2016	0.07	7.7	4.9
	09/06/2016	0.18	6.95	4.27
	12/05/2016	0.07	7.99	3.62
	03/28/2017	0.37	9.49	4.55
	06/05/2017	0.07	9.67	5.3
	09/21/2017	0.35	17.63	11.03
	12/04/2017	0.07	7.47	5.03
	03/06/2018	0.07	8.22	4.51
06/06/2018	0.07	10.84	6.1	

Table 4.3 (cont)
 LTMO Data for AOC-65 Monitoring Wells

Well ID	Sample Date	cis-1,2-Dichloroethene	Tetrachloroethene (PCE)	Trichloroethene (TCE)
Unit		µg/L	µg/L	µg/L
	09/13/2018	0.07	4.52	2.73
	12/03/2018	0.07	4.12	2.42
	03/11/2019	0.07	4.05	2.02
	06/03/2019	0.07	8.75	5.52
	09/04/2019	0.07	5.9	3.39
	12/02/2019	0.44	8.62	3.7
RFR-11	09/08/2015	0.07	0.84	1.71
	11/30/2015	0.07	1.22	0.05
	03/07/2016	0.07	0.96	1.62
	06/06/2016	0.07	0.94	0.3
	09/06/2016	0.07	1.49	0.47
	12/05/2016	0.07	0.91	1.28
	03/28/2017	0.07	1.1	1.82
	06/05/2017	0.07	0.87	1.63
	09/21/2017	0.07	0.68	2.12
	12/04/2017	0.07	0.06	1.87
	03/06/2018	0.07	0.69	2.25
	06/06/2018	0.07	0.7	2.25
	09/13/2018	0.07	3.06	0.05
	12/03/2018	0.07	8.73	4.96
	03/11/2019	0.07	0.91	0.05
	06/03/2019	0.07	1.28	0.05
	09/04/2019	0.07	1.42	1.46
	12/02/2019	0.07	1.43	2.01

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.