

Sites 2 and 12

Site Closure Exit Strategy

Former Fort Ord, California

Prepared for:



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On behalf of:



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Acronyms and Abbreviations

µg/L	micrograms per liter
ACL	aquifer cleanup level
Army	U.S. Department of the Army
bgs	below ground surface
COC	chemical of concern
DOL	Directorate of Logistics
DTSC	California Department of Toxic Substances Control
ESD	Explanation of Significant Differences
EW	extraction well
FO-SVA	Fort Ord-Salinas Valley Aquitard
GAC	granular activated carbon
gpm	gallons per minute
GW	groundwater
GWMP	groundwater monitoring program
GWE	groundwater extraction
GWTP	groundwater treatment plant
GWTS	groundwater treatment system
INF	infiltration gallery
MCL	Maximum Contaminant Level
MGSTP	Main Garrison Sewage Treatment Plant
O&M	operations and maintenance
OU2	Operable Unit 2
PCE	tetrachloroethene
QAPP	Quality Assurance Project Plan
RAO	remedial action objective
RI	Remedial Investigation
ROD	Record of Decision
SGCL	soil gas cleanup level
SGMP	soil gas monitoring program
Sites 2/12	Sites 2 and 12
SVE	soil vapor extraction
SVETS	soil vapor extraction treatment system
SVTU	soil vapor treatment unit
TCE	trichloroethene
USACE	U. S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency

1.0 Introduction

Ahtna Global, LLC prepared this *Sites 2 and 12 Site Closure Exit Strategy* on behalf of the U.S. Army Corps of Engineers (USACE) Sacramento District, per Contract W91238-19-C-0027 to define the exit strategy for reaching final site closure of Sites 2 and 12 (Sites 2/12) at the former Fort Ord, California (Figure 1). This Exit Strategy includes:

- A brief site history, including past groundwater and soil gas monitoring and remediation activities.
- A comparison of historical and current groundwater analytical data to aquifer cleanup levels (ACLs).
- A description of the procedures for evaluating if Sites 2/12 meets the remedial action objectives (RAOs) documented in the *Final Record of Decision, Basewide Remedial Investigation Sites, Fort Ord, California* (RI Sites ROD; Army, 1997) and the *Explanation of Significant Differences No. 1, Basewide Remedial Investigation Sites 2 and 12, Former Fort Ord, California* (ESD No. 1; Army, 2016).

Sites 2/12 project activities are performed according to the following documents:¹

- *Quality Assurance Project Plan, Former Fort Ord, California, Volume I, Appendix A, Final Revision 8, Groundwater Remedies and Monitoring at Operable Unit 2, Sites 2 and 12, and Operable Unit Carbon Tetrachloride Plume* (Groundwater QAPP; Ahtna, 2021a)
- *Quality Assurance Project Plan, Former Fort Ord, California, Volume I, Appendix C, Final Revision 5, Soil Gas Monitoring at Sites 2 and 12* (Soil Gas QAPP; Ahtna, 2020b)
- *Quality Assurance Project Plan, Former Fort Ord, California, Volume I, Appendix C, Addendum No. 1, Soil Gas Monitoring at Sites 2 and 12* (Soil Gas QAPP Addendum No. 1; Ahtna, 2020a)
- *Final Operations and Maintenance Manual Volume II, Sites 2 and 12 (Sites 2/12) Groundwater Remedy, Former Fort Ord, California* (AES, 2009) including Section 2.5.3 Replacement Pages (AEI, 2015a)
- *Final Operations and Maintenance Manual Volume III, Sites 2 and 12 Soil Vapor Extraction and Treatment System, Former Fort Ord, California* (SVETS O&M Manual; AEI, 2015b)
- *Accident Prevention Plan, Groundwater Remedies and Monitoring at Operable Unit 2, Sites 2 and 12, and Operable Unit Carbon Tetrachloride Plume; and Soil Gas Remedy and Monitoring at Sites 2 and 12, Former Fort Ord, California* (Ahtna, 2019) and associated Activity Hazard Analyses

¹ As of the end of Second Quarter 2021 (June 30, 2021).

2.0 Site Description and Background

The former Fort Ord, located in northern Monterey County, California (Figure 1) was an active U.S. Army base from 1917 to 1994 encompassing approximately 28,000 acres. The U.S. Environmental Protection Agency (USEPA) added Fort Ord to the National Priorities List primarily on the basis of groundwater contamination discovered in 1990 beneath the Fort Ord Landfills area, which was subsequently designated as Operable Unit 2 (OU2). Fort Ord was placed on the Base Realignment and Closure list in 1991. As the lead agency, the U.S. Department of the Army (Army) manages the cleanup of the former Fort Ord in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act, commonly known as Superfund. Activities include conducting risk assessments, remedial investigations, feasibility studies, and implementation of selected remedies for site cleanup of hazardous substances released into the environment as a result of previous Army activities. The remedial alternative and cleanup goals are selected in a decision document, and remedial activities are initiated accordingly. Monitoring of remedial activities ensures the remedy is operating properly and successfully to achieve cleanup goals.

When the former Fort Ord was an active military facility, Site 2, the Main Garrison Sewage Treatment Plant (MGSTP), was the primary sewage treatment facility for Fort Ord, serving the majority of the housing areas and the main industrial areas from the late 1930s until May 1990, when it was decommissioned. Site 12 consisted of four areas: the Lower Meadow, the Directorate of Logistics (DOL) Automotive Yard, the Cannibalization Yard, and a portion of the Southern Pacific Railroad spur. The Lower Meadow is a former disposal area that was reportedly formerly used for waste such as scrap metal, oil, and batteries generated by the DOL. The DOL Automotive Yard included buildings used for transmission repair, degreasing, engine testing, steam cleaning and washing of vehicles, petroleum and oil/lubricant storage, and painting. The Cannibalization Yard was primarily used to dismantle decommissioned military vehicles.

The source of the Sites 2/12 groundwater chemical of concern (COC) plume is assumed to be historical use and improper disposal of solvents in the Site 12 area. The Upper 180-Foot Aquifer COC plume appeared to have originated from Site 12 and was subsequently transported over 3,000 feet to the southwest by groundwater flow, passing beneath State Route 1 and into the Site 2 area. The Sites 2/12 groundwater plume is characterized by the presence of eight COCs at concentrations above their respective ACLs. Table 1 presents the ACLs and treated water discharge limits as stated in ESD No. 1 (Army, 2016). The Sites 2/12 COC ACLs are equivalent to Federal or State drinking water Maximum Contaminant Levels (MCLs), whichever is lower, except for chloroform and vinyl chloride, which are risk-based levels that are lower than MCLs (Army, 1997). These levels were determined by estimating combined excess cancer risk from exposure to all chemicals at the levels listed in Table 1 of the RI Sites ROD (Army, 1997) based on risk calculations in the *Baseline Risk Assessment, Remedial Investigation/Feasibility Study, Site 2 Landfills, Fort Ord, California* (Dames & Moore, 1993). The primary groundwater COCs, tetrachloroethene (PCE) and trichloroethene (TCE), are the constituents used to define the extent of the groundwater plume. The PCE and TCE ACLs are both 5 micrograms per liter ($\mu\text{g/L}$).

The groundwater aquifer of interest within Sites 2/12 is the unconfined Upper 180-Foot Aquifer, which consists primarily of sandy deposits with some gravel. Depth to groundwater in the Upper 180-Foot Aquifer is between 45 and 95 feet below ground surface (bgs) in the Sites 2/12 area and the vadose zone thickness at Site 12 (excluding Site 2) varies with the depth to groundwater at approximately 65 to 86 feet bgs. Groundwater in the Upper 180-Foot Aquifer generally flows southwest. A north-trending groundwater divide in the unconfined Upper 180-Foot Aquifer occurs about midway between the Fort Ord Salinas Valley Aquitard (FO-SVA) edge and Monterey Bay. The source area of the Sites 2/12 groundwater COC plume is west of this divide. Groundwater west of this Upper 180-Foot Aquifer divide flows west to discharge into Monterey Bay, and groundwater to the east flows beneath the FO-SVA (confined) toward the Salinas Valley.

3.0 Remedy Description and Status

Groundwater at Sites 2/12 is considered a potential drinking water, industrial water, and agricultural water source under the *Water Quality Control Plan for the Central Coastal Basin* (CCRWQCB, 2019), although the water is not currently being used for these purposes. Accordingly, the Sites 2/12 groundwater remedy goals are to protect human health and comply with Federal and State law by returning groundwater to a condition that will allow beneficial use, including potential future use as a drinking water source as described in the RI Sites ROD (Army, 1997) and the subsequent ESD No. 1 (Army, 2016). Specifically, the RAO is to remediate COCs in the Upper 180-Foot Aquifer to Federal or State drinking water MCLs, whichever is lower, and risk-based levels that are lower than MCLs for chloroform and vinyl chloride (Army, 1997). The RAO is accomplished through hydraulic control and containment of contaminated groundwater and extraction and treatment of groundwater with COC concentrations exceeding ACLs. The treated water is injected to recharge the aquifer and maintain a groundwater mound to minimize saltwater intrusion at Site 2. The RAO is also met by soil vapor extraction (SVE) and treatment at Site 12 to reduce COC concentrations in soil gas to levels that will not result in concentrations of COCs in groundwater that continue to exceed ACLs. It is further stated in the RI Sites ROD that the achievement of the RAO would restore the beneficial uses of groundwater within and adjacent to Sites 2/12 and the ACLs are acceptable contaminant concentrations that, when achieved, would reduce potential risks and comply with applicable or relevant and appropriate requirements.

3.1 Groundwater Treatment System

Groundwater extraction and treatment first occurred at Sites 2/12 on April 13, 1999. Continuous operation of the groundwater treatment system (GWTS) began on May 3, 1999 and continues to date.² The GWTS (Figure 2) extracts groundwater from the unconfined Upper 180-Foot Aquifer and treats it with liquid-phase granular activated carbon (GAC) and air stripping at the Sites 2/12 groundwater treatment plant (GWTP) shown in Figure 3. Diversion of treated effluent water from the OU2 GWTP to the Site 2 aquifer recharge structures began on June 23, 1999. Construction of the original Sites 2/12 groundwater remedy is documented in the *Final Construction Completion Report, Sites 2 and 12 Groundwater Remedy, Fort Ord, California* (IT, 1999b). In a letter dated July 3, 2002, the USEPA concurred with the Army's determination that the Sites 2/12 groundwater remedy is "operating properly and successfully" (USEPA, 2002). The Sites 2/12 groundwater remedy currently consists of the GWTP, eight groundwater extraction (GWE) wells located at Site 12, and two injection wells and three infiltration galleries located at Site 2 (Figure 2).

GWE wells at Sites 2/12 are screened either in the upper or lower part of the Upper 180-Foot Aquifer. GWE wells, designated with a "U" suffix, extract groundwater from the upper portion of the aquifer. Wells designated with an "M" suffix extract groundwater from the lower portion of the aquifer. Eight GWE wells, four in the upper portion of the aquifer (EW-12-01-180U through EW-12-04-180U) and four

² The GWTS is comprised of the groundwater extraction system (extraction wells and conveyance), the groundwater treatment plant (GWTP), including controls and treatment equipment, and the treated groundwater conveyance and injection/infiltration systems.

in the lower portion of the aquifer (EW-12-01-180M through EW-12-04-180M), were installed in 1997 and 1998 as the original GWE network. Ongoing development activities in the Site 12 area were accommodated by decommissioning four GWE wells (EW-12-01-180U, EW-12-01-180M, EW-12-02-180U, and EW-12-02-180M), and installing three GWE wells (EW-12-05-180M, EW-12-06-180M, and EW-12-07-180M) in 2006. One GWE well (EW-12-08-180U) was installed in 2015 to provide additional capture of the PCE groundwater plume.

The Sites 2/12 GWTP consists of two 10,000-pound liquid-phase GAC vessels and an air stripper (Figure 3).³ During treatment, groundwater is pumped from the GWE wells and piped directly through one of the GAC vessels and the air stripper operated in series to remove COCs. The treated water flows to an effluent storage tank that discharges, with the aid of pumps controlled by variable frequency drives, to the Site 2 aquifer recharge structures, which consist of two injection wells (IW-02-01-180 and IW-02-02-180) and three infiltration galleries (INF-02-01-180, INF-02-02-180, and INF-02-03-180) (Figure 2).

The capacity of the Sites 2/12 GWTP with the GAC vessels and air stripper in series (225 gallons per minute [gpm]) is the practical maximum flow rate that allows for adequate residence time in the air stripper. The air stream effluent from the air stripper is treated by potassium permanganate prior to discharge to the atmosphere.

Between April 1999 and June 2021, the GWTS treated 2.224 billion gallons of water and removed 493.8 pounds of COCs from the Upper 180-Foot Aquifer (Army, 2021). Decision rules outlined in the Groundwater QAPP (Ahtna, 2021a) are used to determine the operational status for GWE wells with respect to plume remediation. As of Second Quarter 2021, two GWE wells remain online: EW-12-08-180U (due to PCE concentrations above the ACL) and EW-12-05-180M (to enhance the capture area of EW-12-08-180U). In the Second Quarter 2021, PCE concentrations at EW-12-08-180U decreased to below the ACL for the first time and the data indicate a downward trend of PCE concentrations at this well. COC concentrations at all other Sites 2/12 wells are below ACLs (Appendix A).

3.2 Soil Vapor Extraction and Treatment System

Soil vapor extraction and treatment first occurred at Sites 2/12 on May 9, 2014, as part of a pilot study performed with five SVE wells (VE-12-01 through VE-12-05) over 38 days (AES, 2015). Continuous operation of the full-scale soil vapor extraction and treatment system (SVETS) began on September 14, 2015. The SVETS (Figure 4) extracts soil gas from the vadose zone and treats it with vapor-phase GAC at the Sites 2/12 soil vapor treatment unit (SVTU) shown in Figure 5.⁴ Construction of the Sites 2/12 soil gas remedy is documented in the SVETS O&M Manual (AEI, 2015b). The Sites 2/12 SVETS is a component of the groundwater remedy and currently consists of the SVTU and ten SVE wells located at Site 12 (Figure 4).

SVE wells at Sites 2/12 are screened either in the middle or lower part of the vadose zone. Five SVE wells, three screened in the lower portion of the vadose zone (VE-12-01 through VE-12-03) and two

³ One GAC vessel is inoperable due to an underdrain assembly failure that occurred in April 2017.

⁴ The SVETS is comprised of the soil vapor extraction system (extraction wells and conveyance) and the SVTU, including controls and treatment equipment including the GAC vessels.

screened in the middle portion of the vadose zone (VE-12-04 and VE-12-05), were installed in 2014. Five SVE wells screened in the lower portion of the vadose zone (VE-12-06 through VE-12-10) were installed in 2015 as part of the full-scale soil gas remedial system and are located to the north of the original network.

System operations consist of vadose zone soil gas extraction from SVE wells at Site 12. Extracted soil gas is piped to the 2/12 SVTU where, prior to treatment, the soil gas undergoes condensate removal via liquid separation (Figure 5). COCs are then removed by adsorption to vapor-phase GAC and treated soil gas is vented to the atmosphere. The 2/12 SVTU is located in a compound adjacent to the Sites 2/12 GWTP and consists of a positive displacement blower (vacuum pump) and two 3,000-pound vapor-phase GAC vessels operated in series (Figure 5).

The SVETS operated continuously from September 14, 2015 until February 11, 2019 when the SVTU was turned off because soil gas COC concentrations were below soil gas cleanup levels (SGCLs) (Ahtna, 2020a).⁵ The SVETS was operated from April 27, 2020 to June 16, 2020 because TCE concentrations exceeded the SGCL in two soil gas probes (SG-12-04-10 and SG-12-04-20) during the First Quarter 2020. After June 16, 2020, the SVTU remained offline with the concurrence of the USEPA, the California Department of Toxic Substances Control (DTSC), and the Central Coast Regional Water Quality Control Board (collectively the “regulatory agencies”) because soil gas COC concentrations were below SGCLs (Army, 2020). In the Second Quarter 2021, TCE concentrations in soil gas probes SG-12-04-10 and SG-12-04-20 again exceeded the SGCL and TCE concentrations in SG-12-04-65 increased to the SGCL. However, the SVETS was not operated because there was no evidence of adverse effects to groundwater (Ahtna, 2021c).

3.3 Other Remedy Components

As specified in the RI Sites ROD (Army, 1997), the remedy includes institutional controls (i.e., deed restrictions) to prevent the use of groundwater within the contaminant plume for domestic or agricultural purposes.

⁵ The COCs for soil gas at Sites 2/12 are PCE and TCE, with SGCLs determined by calculating the concentrations of these chemicals in soil gas that will not partition into groundwater at concentrations exceeding the ACLs (Army, 2016).

4.0 Remedy Data Evaluation

As described in the RI Sites ROD (Army, 1997), the goals of the Sites 2/12 groundwater remedy are to protect human health and comply with Federal and State law by returning groundwater to a condition that will allow beneficial use, including potential future use as a drinking water source. These goals are accomplished through hydraulic control and containment of contaminated groundwater, extraction and treatment of groundwater exceeding ACLs, and recharge of the aquifer to minimize saltwater intrusion at Site 2. Remediation of Sites 2/12 groundwater is affected by the partitioning of COCs between soil gas and groundwater; however, removal of COCs in soil gas through operation of the SVETS contributed to reducing the plume size significantly and progress toward the RAO.

Progress toward short-term and long-term remedy goals is determined through evaluation of site data for groundwater and soil gas. The quarterly groundwater monitoring program (GWMP) at the former Fort Ord began in 1993 and includes measuring depth to water and collecting groundwater samples for chemical analysis from groundwater monitoring and GWE wells at Sites 2/12 (Figure 2).⁶ The presence and concentration of groundwater COCs in wells associated with Sites 2/12 are compared with each COC's ACL to determine their horizontal and vertical distribution in the aquifers. Table 1 lists the ACLs for Sites 2/12 groundwater COCs as stated in ESD No. 1 (Army, 2016). Groundwater elevations and flow directions are determined using depth to water measurements collected during the quarterly GWMP events.

The quarterly soil gas monitoring program (SGMP) at Sites 2/12 began in the First Quarter 2015 after a Remedial Investigation/Feasibility Study Addendum was conducted at Sites 2/12 (AES, 2015). The SGMP includes collecting soil gas samples for chemical analysis from soil gas probes and SVE wells associated with Sites 2/12.⁷ The presence and concentration of soil gas COCs in wells associated with Sites 2/12 are compared with each COC's SGCL to determine their horizontal and vertical distribution in the vadose zone. Table 2 lists the SGCLs for Sites 2/12 soil gas COCs, as stated in ESD No. 1 (Army, 2016).

⁶ Groundwater well names are referenced throughout this report according to a Fort Ord-specific naming convention (ST-SS-00-XXX), where ST = monitoring station type, SS = site identification code, 00 = monitoring station number, and XXX = monitoring depth or aquifer designation. Monitoring station type codes (ST) are EW = extraction well, MW = monitoring well, PZ = piezometer, and TS = treatment system. Site identification codes are 02 = Site 2 and 12 = Site 12. Monitoring depths are expressed as feet bgs or aquifer designations, which are 180 = Upper 180-Foot Aquifer generally, 180U = the upper zone of the unconfined Upper 180-Foot Aquifer, 180M = the middle zone of the unconfined Upper 180-Foot Aquifer, and 180L = the lower zone of the unconfined Upper 180-Foot Aquifer. For example, well name EW-12-08-180U represents Site 12 extraction well number 8 that is screened in the upper zone of the unconfined Upper 180-Foot Aquifer.

⁷ Soil gas well names are referenced throughout this report according to a Fort Ord-specific naming convention (ST-SS-00-XX), where ST = monitoring station type, SS = site identification code, 00 = monitoring station number, and XX = monitoring depth (if applicable). Monitoring station type codes (ST) are SG = soil gas probe, VE = soil vapor extraction well, and TS = treatment system. The site identification code 12 = Site 12. Monitoring depths are expressed as feet bgs. For example, well name SG-12-01-10 represents Site 12 soil gas probe number 1 that is screened at 10 feet bgs.

4.1 Soil and Soil Gas Remediation

The soil remedy was implemented in accordance with the approved plan (IT, 1997), including a series of soil removal actions, as documented in the June 1999 *Draft Final Remedial Action Confirmation Report and Post-Remediation Health Risk Assessment, Site 12 Remedial Action, Basewide Remediation Sites, Fort Ord, California* (IT, 1999a). Based on completion of the soil remediation activities, the site is available for unrestricted reuse (Army, 2012).

A short-term goal for Sites 2/12 is the closure of the soil gas remedial unit. This goal includes monitoring to evaluate whether soil gas COCs are partitioning into groundwater at concentrations greater than ACLs and remediation of soil gas to reduce concentrations of COCs to levels that will not result in concentrations of COCs in groundwater that continue to exceed ACLs and thereby prolong the period of unacceptable human health risk due to contamination in groundwater. The Sites 2/12 soil gas plume is characterized by the presence of PCE and TCE in soil gas at concentrations above their respective SGCLs (Table 2). Soil gas PCE and TCE concentrations from Fourth Quarter 2019 through Second Quarter 2021 are presented in Table 3. Figure 6 shows soil gas PCE/TCE concentrations and SGCL exceedances in Third Quarter 2020. Figure 7 shows current and historical soil gas PCE/TCE SGCL exceedance plume areas at 70 feet bgs as of Third Quarter 2020.

After the SVETS was turned off in February 2019, there was minimal rebound in PCE soil gas concentrations observed at three northern soil gas probe locations (SG-12-01, SG-12-04, and SG-12-06), which are within the radius of influence for SVE well VE-12-09. However, TCE concentrations exceeded the SGCL at SG-12-04-10 and SG-12-04-20 in the First Quarter 2020, and VE-12-09 was operated in the Second Quarter 2020. After operation of VE-12-09 was discontinued in June 2020, soil gas COC concentrations remained below SGCLs at SG-12-01, SG-12-04, and SG-12-06 (Table 3). These soil gas probes are not within the PCE groundwater plume extent, indicating there is no significant partitioning of COCs from groundwater to soil gas. The soil gas rebound study was completed in the Fourth Quarter 2020 and concentrations of PCE and TCE were below SGCLs in most soil gas probes during First Quarter 2021 (Table 3 and Figure 8) and Second Quarter 2021 (Table 3 and Figure 9). A summary of the rebound study results and recommendations is presented in Section 6.0.

As depicted on Figure 7, operation of the SVETS at Sites 2/12 from September 2015 to February 2019 reduced concentrations of COCs (PCE and TCE) in soil gas to below SGCLs, successfully remediated the soil gas PCE and TCE plumes, and facilitated progress towards groundwater remediation.

4.2 Groundwater Remedy Evaluation

The long-term goal is the closure of the Sites 2/12 groundwater remedial unit. This goal includes attainment monitoring to evaluate whether concentrations of groundwater COCs will remain below ACLs.

Progress toward achieving long-term goals is being accomplished through continued operation of the GWTS and collection of data through the GWMP, which supports the implementation of decision rules for GWTS operations and modification of the GWMP. The COC plume in the groundwater was reduced significantly during SVETS operation and the plume was defined by PCE concentrations above the ACL in only groundwater monitoring well MW-12-20-180U and GWE well EW-12-08-180U.

Groundwater monitoring well MW-12-20-180U had variable PCE concentrations historically and an overall declining trend (Figure 10). The extent of the PCE groundwater plume decreased in size significantly due to PCE concentrations declining below the ACL at MW-12-20-180U between Fourth Quarter 2019 (Figure 11) and First Quarter 2020 (Figure 12).

From Fourth Quarter 2019 through First Quarter 2021, PCE was the only COC detected at concentrations exceeding the ACL and then only in GWE well EW-12-08-180U as of First Quarter 2020. The remaining seven Sites 2/12 groundwater COCs were detected at concentrations at or below their respective ACLs or were not detected (Appendix A) and PCE and TCE concentrations at all monitored locations were below the ACL in Second Quarter 2021 (Table 4).

GWE well EW-12-08-180U has historically had consistent PCE concentrations an order of magnitude above the ACL, with PCE concentrations periodically increasing as pumping from this well effectively removed PCE mass from the groundwater (Figure 13). Detected concentrations of PCE at EW-12-08-180U had been above the ACL since operation of this GWE well began in 2015. However, during the Second Quarter 2021, the PCE concentration in GWE well EW-12-08-180U decreased to 3.4 µg/L, which is below the ACL (5 µg/L), indicating successful PCE plume remediation. The extent of the PCE plume in the Second Quarter 2021 is depicted in Figure 14.

The Mann-Kendall statistical analysis for PCE at EW-12-08-180U, since well installation in the Third Quarter 2015 through the Second Quarter 2021 (25 data points; Appendix B), showed a decreasing trend with an S value of -151. The trend was statistically significant at the 95 percent confidence level. EW-12-08-180U will continue to be operated and sampled quarterly per the Groundwater QAPP to monitor for remedial progress. A Mann-Kendall statistical analysis was conducted for six other monitoring locations where at least eight data points were available. If at least ten data points were available, a 95 percent upper confidence limit was also calculated. The results are provided in Appendix B.

From Fourth Quarter 2019 through Second Quarter 2021, the highest TCE concentration detected was at EW-12-03-180M with a concentration of 2.4 µg/L in the Third Quarter 2020 (Figure 15). TCE was not detected at a concentration above the ACL during this period. Figure 16 shows historical and current PCE and TCE ACL exceedance contours.

COC concentrations have been declining at GWE well EW-12-05-180M since 2011 and all COC concentrations have been below ACLs since 2015 (Figure 17 and Appendix A). This well is operated to maintain sufficient flow rate at the Sites 2/12 GWTP for sustainable operations and to optimize the capture area of GWE well EW-12-08-180U (Ahtna, 2021b).

The results of annual (Third Quarter 2020) analyses for chloride at four wells located at Sites 2/12 are summarized in Table 5. Chloride is not identified as a COC for groundwater in the RI Sites ROD and does not have an ACL. However, these results are used to determine if seawater intrusion is occurring during Sites 2/12 groundwater remediation activities and are compared to threshold values and typical seawater concentrations. Because treated water is pumped to the aquifer recharge structures at Site 2, seawater intrusion is not expected to be an issue at Sites 2/12. Maximum chloride concentrations during

Third Quarter 2020 show chloride concentrations above threshold values, but well below typical seawater concentrations (Ahtna, 2021b).

5.0 Rebound Testing and Monitoring

The SVETS began operation in September 2015. Based on the results of quarterly soil gas and groundwater monitoring, SVE wells were operated to optimize the removal of COCs that might otherwise partition into groundwater. Operation of the SVETS reduced COC concentrations in soil gas to below the SGCLs described in ESD No. 1 (Army, 2016) as of June 2017 (AEI, 2017).⁸ In February 2019, with the concurrence of the regulatory agencies, the SVETS was shut down to evaluate whether COCs were continuing to partition between soil gas and groundwater and whether concentrations of COCs in soil gas would remain below SGCLs (Army, 2019a). After two quarters of monitoring, no significant changes in COC concentrations were observed and the regulatory agencies concurred the SVETS could remain offline (Army, 2019b and Army, 2019c). However, concentrations of COCs in groundwater remained above ACLs; therefore, the goals of the rebound study were to 1) evaluate if COC concentrations have stabilized or are declining in both soil gas and groundwater with the SVETS offline, and 2) to confirm the RAO for soil gas continues to be met with the SVETS offline.

Sampling events performed during the rebound study occurred in First Quarter 2020, Third Quarter 2020, and Fourth Quarter 2020 while the SVETS was offline. Per Soil Gas QAPP Addendum No. 1, soil gas probes and groundwater wells were to be sampled for three consecutive quarters (First Quarter 2020, Second Quarter 2020, and Third Quarter 2020). However, an increase in TCE concentrations in soil gas to levels above the SGCL required operation of the SVETS during the Second Quarter 2020 from April 27 through June 16, 2020, resulting in postponement of completion of the rebound study until Fourth Quarter 2020.

Statistical analyses and non-statistical review of soil gas and groundwater monitoring data indicate rebound is not occurring in most soil gas probes and is not occurring in any groundwater wells (Ahtna, 2021c). Statistically significant evidence of increasing TCE concentration trends at soil gas probes SG-12-04-10 and SG-12-04-65 indicate TCE rebound is occurring in this localized area; however, there is no evidence of adverse impacts to groundwater related to this rebound. Rebound might be occurring in isolated areas associated with specific soil gas probes (e.g., SG-12-06-10, SG-12-17-60, and SG-12-20-70); however, detections of PCE and TCE have been consistently less than SGCLs in these probes (Ahtna, 2021c).

Per the analytic approach in Soil Gas QAPP Addendum No. 1, operation of the SVETS may be considered and further monitoring may be conducted if there are increasing COC concentration trends in soil gas (i.e., rebound is occurring). However, COCs in soil gas do not appear to be partitioning into groundwater at concentrations above ACLs (Ahtna, 2021c). Additionally, soil gas COC concentrations have historically remained less than SGCLs across the majority of the site when the SVETS is offline and none exceeded SGCLs in the Third and Fourth Quarters of 2020.

Based on this information, it is recommended the SVETS remain offline (Ahtna, 2021c). However, the quarterly SGMP should be continued per the Soil Gas QAPP (Ahtna, 2020b) and the quarterly GWMP should be continued per the Groundwater QAPP (Ahtna, 2021a) to confirm groundwater is not being

⁸ The SGCL for PCE is 1,800 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) and the SGCL for TCE is 1,000 $\mu\text{g}/\text{m}^3$.

adversely impacted. If soil gas COC concentrations near the water table exceed the SGCLs and there is a corresponding increase in groundwater COC concentrations greater than ACLs, the SVETS may be operated.

6.0 Decision Rule Analyses for Site Closure

Based on the findings of soil gas and groundwater remediation as of Second Quarter 2021 and this Closure Exit Strategy, no further remedial action is required. Therefore, it is recommended that a closure process be implemented for Sites 2/12. Site closure depends on decision criteria for completion of the groundwater restoration remedial action per the Groundwater QAPP (Ahtna, 2021a). Per the Soil Gas QAPP (Ahtna, 2020b), the analytic approach for soil gas plume remediation is subordinate to the analytic approach for groundwater plume remediation and was therefore not considered during development of the exit strategy.

Criteria for terminating the groundwater remedy are based on decision rules identified in the Groundwater QAPP (Ahtna, 2021a). Groundwater monitoring wells and extraction wells are sampled quarterly during the remediation monitoring phase.⁹ The remediation monitoring phase is complete, and the attainment monitoring phase begins when four consecutive quarters of monitoring data show concentrations of all COCs in a well are less than or equal to their respective ACLs. The attainment monitoring phase for a well is complete when concentrations of all COCs in the well meet one of the following statements:

- COC concentrations are less than or equal to their respective ACLs in eight consecutive monitoring events and data analysis indicates COC concentrations are stable or declining,¹⁰ or
- COC concentrations are below their respective limits of quantitation or below 10 percent of their respective ACLs, whichever is greater, in six consecutive monitoring events.

When the attainment monitoring phase for a well is completed, the well may be removed from the sampling program. If the well is no longer needed for groundwater elevation data, it will be proposed for decommissioning. The groundwater remedy termination metric to be evaluated will be whether the attainment monitoring phase is complete for all wells at Sites 2/12.

6.1 Decision Rule Analysis for Groundwater Extraction Well Operation

There are eight existing GWE wells at Sites 2/12; however, only two (EW-12-05-180M and EW-12-08-180U) are operating per Groundwater QAPP decision rules (Ahtna, 2021a). The decision rules for determining the operational status of these two GWE wells with respect to plume remediation are:

1. An extraction well will continue to operate if any COC detected is greater than the corresponding ACL (Table 1).
 - EW-12-05-180M: no COCs have been detected at concentrations exceeding ACLs since 2015; however, this GWE well is operated to enhance plume capture by GWE well EW-12-08-180U.
 - EW-12-08-180U: PCE was detected at 3.4 µg/L in Second Quarter 2021, which is below the ACL of 5 µg/L; however, this GWE well continues to operate per Decision Rule 3.

⁹ As defined in *Recommended Approach for Evaluating Completion of Groundwater Restoration Remedial Actions at a Groundwater Monitoring Well* (USEPA, 2014b).

¹⁰ The eight consecutive monitoring events may include monitoring events completed during the remediation monitoring phase.

2. An extraction well will continue to operate if the extraction well flow rate data and analytical data from nearby wells, in conjunction with groundwater flow modeling, indicate operation of the extraction well is necessary for hydraulic containment of the plume.
 - EW-12-05-180M: continues to operate per this decision rule.
 - EW-12-08-180U: continues to operate per this decision rule.
3. An extraction well will be shut off if COCs detected are less than the ACL for two consecutive quarterly monitoring events, and if the extraction well flow rate data and analytical data from nearby wells, in conjunction with groundwater flow modeling, indicate operation of the extraction well is no longer necessary for hydraulic containment of the plume.
 - EW-12-05-180M: no COCs have been detected at concentrations exceeding ACLs since 2015; however, this GWE well is operated to enhance plume capture by GWE well EW-12-08-180U.
 - EW-12-08-180U: PCE was detected at 3.4 µg/L in Second Quarter 2021, which is below the ACL of 5 µg/L; however, this GWE well continues to operate per this decision rule.
4. Following termination of pumping at a GWE well, the well will be incorporated into the GWMP.
 - EW-12-05-180M: termination of pumping for this GWE well will be concurrent with termination of pumping for GWE well EW-12-08-180U and both wells will be incorporated into the GWMP.
 - EW-12-08-180U: termination of pumping for this GWE well will occur per Decision Rule 3 and the well will be incorporated into the GWMP.

6.2 Decision Rule Analysis for Completion of Groundwater Restoration Remedial Actions¹¹

Per the Groundwater QAPP, the decision rules for determining when groundwater remedial actions are complete at Sites 2/12, are:

1. If data collected during the GWMP indicate potential uncertainties regarding the remedy's effectiveness and/or current site conditions, or potential key data gaps, then the conceptual site model will be re-evaluated and updated.

There are no uncertainties regarding the remedy's effectiveness and/or current site conditions, or potential key data gaps, and the conceptual site model does not need to be re-evaluated or updated.

2. If COC concentrations in a well are above ACLs, then the well and its respective hydraulic zone will remain in the remediation monitoring phase.¹²

¹¹ Adapted from USEPA, 2014a and USEPA, 2014b.

¹² The remediation monitoring phase refers to the phase of the remedy where remedial activities are being implemented to reach groundwater cleanup levels selected in a remedy decision document. During this phase, groundwater sampling and monitoring data are collected to evaluate COC migration and changes in COC concentrations over time. The completion of this phase at a monitoring well typically occurs when the data collected and evaluated demonstrate that the groundwater has reached the cleanup levels for all COCs, as they are stated in the remedy decision document (USEPA, 2013).

As of Second Quarter 2021, PCE concentrations in GWE well EW-12-08-180U are below the ACL; however, this GWE well continues to operate and Sites 2/12 remains in the remediation monitoring phase per Groundwater Plume Remediation Decision Rule 3 (Section 7.1).

3. If four consecutive quarters of monitoring data show concentrations of COCs in a well are less than or equal to their respective ACLs, the well may be evaluated for completion of the remediation monitoring phase.
 - If non-statistical data review shows all COCs in the well are not detected, all detected COC concentrations are less than or equal to the ACLs, or a combination of the two, then the remediation monitoring phase is complete in the well.
 - If groundwater monitoring data do not lend themselves to a non-statistical review, then statistical analysis of the data set may be used (e.g., mean test or trend test).
 - If the selected statistical method demonstrates the 95 percent upper confidence limit value is equal to or less than the ACL for the COCs where statistical analysis was used, then the remediation monitoring phase is complete in the well.

Evaluation for completion of the remediation monitoring phase will occur after four consecutive quarters of monitoring data show concentrations of COCs in GWE well EW-12-08-180U are less than or equal to their respective ACLs.

4. If a well has completed the remediation monitoring phase, then the well will enter the attainment monitoring phase.¹³

As of Second Quarter 2021, 18 Sites 2/12 wells remain in the remediation monitoring phase; however, per Decision Rule 3, the status of these wells will be evaluated for completion of the remediation monitoring phase after there are four consecutive quarters of monitoring data showing concentrations of COCs in GWE well EW-12-08-180U are less than or equal to their respective ACLs .

5. If monitoring data show concentrations of COCs in a well are less than or equal to their respective ACLs, and it can be demonstrated COC concentrations will continue to be less than or equal to ACLs in the future, then the attainment monitoring phase is complete under any of the following conditions.
 - If all COCs in the well are not detected, the limit of quantitation is below the ACL, or a combination of non-detect sampling results and all detected COC concentrations are below the ACLs for eight consecutive sampling events, then a non-statistical or visual review of the COC data will be sufficient to conclude the attainment monitoring phase is complete in the well.
 - If all COCs in the well are less than or equal to their respective ACLs for eight consecutive sampling events, and statistical analysis (i.e., trend analysis) demonstrates COCs will remain less than or equal to ACLs in the future (the trend line has a statistically significant zero

¹³ The attainment monitoring phase typically occurs after it is determined the remediation monitoring phase is complete. When the attainment phase begins, data are collected to evaluate if the well has reached post remediation conditions (i.e., steady state conditions) where remediation activities, if employed, are no longer influencing the groundwater in the well (USEPA, 2013).

- [steady state] or negative [decreasing] slope, and the 95 percent upper confidence limit value is less than or equal to the ACL), then the attainment monitoring phase is complete in the well.
- If the well is removed from the sampling program in accordance with the decision rules applicable to the GWMP, then the attainment monitoring phase is complete for the well.

Evaluation for completion of the attainment monitoring phase for wells still remaining in the GWMP will occur after the remediation monitoring phase for GWE well EW-12-08-180U is complete per Decision Rule 3.

6. If a well has completed the attainment monitoring phase and it is not needed for groundwater elevation data, then it will be proposed for decommissioning.

Proposals for decommissioning wells will be included in the next Sites 2/12 annual groundwater and soil gas monitoring and treatment system report issued after completion of the attainment monitoring phase.

7. If all the wells at Sites 2/12 have completed the attainment monitoring phase, then the attainment monitoring phase is complete for Sites 2/12, and the decision rules for the GWMP no longer apply (i.e., sampling for COC analysis may be discontinued and the wells may be proposed for decommissioning unless needed for groundwater elevation data).

To be implemented after completion of the attainment monitoring phase per Decision Rule 5.

8. If the attainment monitoring phase is complete at Sites 2/12, then Sites 2/12 will be proposed for closure in a remedial action completion report.

To be implemented after completion of the attainment monitoring phase per Decision Rule 7.

The decision rules for the GWMP and for *Completion of Groundwater Restoration Remedial Actions* will be implemented concurrently; however, the decision rules for determining when groundwater remedial actions are complete take precedence over the decision rules applicable to groundwater monitoring (e.g., if the attainment monitoring phase is complete at all wells in a hydraulic zone, then sampling for COC analysis is no longer necessary).

7.0 Groundwater Remedy Exit Strategy

Per the information presented above and consistent with the Groundwater QAPP (Ahtna, 2021a), the exit strategy for the Sites 2/12 groundwater remedy includes the following steps:

1. Continue non-operation of the SVETS because COCs in soil gas do not appear to be partitioning into groundwater at concentrations above ACLs (Ahtna, 2021c).
2. Continue operation of the GWTS until all COC concentrations in EW-12-08-180U are less than or equal to ACLs for two consecutive quarters per Groundwater QAPP *Plume Remediation* Decision Rule 3 (Section 7.1).
3. After GWTS shutdown per Step 2, continue the quarterly GWMP per the Groundwater QAPP (Ahtna, 2021a) until all COC concentrations in EW-12-08-180U are less than or equal to ACLs for four consecutive quarters (i.e., the remediation monitoring phase is complete per Groundwater QAPP *Completion of Groundwater Restoration Remedial Actions* Decision Rule 3 [Section 7.2]).
4. After GWTS shutdown per Step 2, continue the quarterly SGMP per the Soil Gas QAPP (Ahtna, 2020b) until all COC concentrations in EW-12-08-180U are less than or equal to ACLs for four consecutive quarters (i.e., the remediation monitoring phase is complete per Groundwater QAPP *Completion of Groundwater Restoration Remedial Actions* Decision Rule 3 [Section 7.2]).
5. After the remediation monitoring phase is complete for EW-12-08-180U, confirm completion of the attainment monitoring phase per Groundwater QAPP *Completion of Groundwater Restoration Remedial Actions* Decision Rule 5 (Section 7.2). Only groundwater wells still being monitored quarterly per the current revision of the Groundwater QAPP at the time Step 5 is implemented will be included in the attainment monitoring phase. If a well was removed from the GWMP in accordance with Groundwater QAPP decision rules, then the attainment monitoring phase is complete for that well.
 - a. If it is determined the attainment monitoring phase for Sites 2/12 is complete per Section 7.2, Decision Rule 5 (i.e., it can be demonstrated COC concentrations will continue to be less than or equal to ACLs in the future), then discontinue the Sites 2/12 GWMP and discontinue the Sites 2/12 SGMP.
 - b. If it cannot be demonstrated through statistical analyses that COC concentrations will continue to be less than or equal to ACLs in the future, then a determination will be made as to what additional groundwater monitoring or remediation efforts are needed to reach site closure.
 - i. If concentrations for all COCs in all wells are below the ACLs for 12 consecutive sampling events (four more events plus the original eight consecutive events) and PCE and TCE concentration trends are not increasing, remediation will be determined to be complete.¹⁴
 - ii. If one or more samples contain COC concentrations exceeding ACLs, the data will be reviewed to determine if the attainment monitoring phase should be extended, additional remediation efforts are warranted, or if site closure is

¹⁴ Additional groundwater sampling may occur more frequently than quarterly for this purpose.

warranted based on other factors (e.g., human health risk assessment results, contaminant fate and transport, future groundwater use).

6. After completion of the attainment monitoring phase, Sites 2/12 will be proposed for closure and the Sites 2/12 GWTS and SVETS will be proposed for decommissioning in a remedial action completion report.
7. After finalization of the remedial action completion report:
 - a. A work plan will be prepared and the Sites 2/12 GWTS, SVETS, groundwater monitoring and extraction wells and piezometers, soil gas probes and SVE wells will be decommissioned.
 - b. Per the Monterey County Code of Ordinances, Title 15 – Public Services, Chapter 15.08 – Water Wells, Section 15.08.140 – Special groundwater protection, the Fort Ord Special Groundwater Protection Zone Map will be updated to remove the Sites 2/12 area from the Prohibition Zone and include the Sites 2/12 area in the Consultation Zone.
 - c. The Army will prepare an appropriate recordable instrument for the property to document the change in land use restrictions associated with the change from the Prohibition Zone to the Consultation Zone.
 - d. Sites 2/12 will be proposed for deletion from the National Priorities List.

8.0 References¹⁵

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- Ahtna, 2021c. *Sites 2 and 12 Soil Gas Rebound Study Technical Memorandum, Former Fort Ord, California*. November. AR# [BW-2905](#).

¹⁵ At the end of references included in the Fort Ord Administrative Record are the Administrative Record Numbers (AR#s) (e.g. BW-1234). To find the referenced document, this number may be typed into the Online Search tool at: <http://www.fortordcleanup.com/documents/search/>. Please note the referenced documents were available in the Fort Ord Administrative Record at the time this document was issued; however, some may have been superseded by more current versions and were subsequently withdrawn. TBD: to be determined.

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TABLES

Table 1. COCs in Groundwater, ACLs, and Discharge Limits

Sites 2/12 Upper 180-Foot Aquifer		
Groundwater Chemical of Concern (COC) ¹	Aquifer Cleanup Levels (ACLs) ¹ (µg/L)	Treated Water Discharge Limits ² (µg/L)
1,1-Dichloroethene (1,1-DCE)	6.0	6.0
1,2-Dichloroethane (1,2-DCA)	0.5	0.5
Chloroform	2.0	2.0
cis-1,2-Dichloroethene (cis-1,2-DCE)	6.0	6.0
Tetrachloroethene (PCE)	5.0	5.0
Total 1,3-Dichloropropene (Total 1,3-DCP)	0.5	0.5
Trichloroethene (TCE)	5.0	5.0
Vinyl Chloride (VC)	0.1	0.1

Notes:

¹ Groundwater COCs and ACLs, with the exception of PCE, are from the Record of Decision, Basewide Remedial Investigation Sites (Army, 1997); the PCE ACL is from the Explanation of Significant Differences No. 1 (Army, 2016).

² Concentrations of COCs in treated water discharged within the historic extent of the contaminated groundwater plume need only meet ACLs.

Acronyms and Abbreviations:

µg/L: micrograms per liter

Sites 2/12: Sites 2 and 12

Table 2. COCs in Soil Gas and SGCLs

Soil Gas Chemical of Concern (COC)	Soil Gas Cleanup Levels (SGCLs) ($\mu\text{g}/\text{m}^3$)
Tetrachloroethene (PCE)	1,800
Trichloroethene (TCE)	1,000

Notes:

Soil gas COCs and SGCLs are from the Explanation of Significant Differences No. 1 (Army, 2016).

Acronyms and Abbreviations:

$\mu\text{g}/\text{m}^3$: micrograms per cubic meter

Table 3. PCE and TCE Concentrations in Soil Gas, Fourth Quarter 2019 through Second Quarter 2021

Soil Gas Probe ID	4Q19	1Q20	2Q20	3Q20	4Q20	1Q21	2Q21	4Q19	1Q20	2Q20	3Q20	4Q20	1Q21	2Q21	Monitoring Schedule
	Tetrachloroethene (PCE) (µg/m ³)							Trichloroethene (TCE) (µg/m ³)							
SG-12-01-30	230	230	ND	450	370	270	NS	ND	ND	ND	ND	ND	ND	NS	RB
SG-12-01-58	230	230	ND	410	ND	NS	NS	ND	ND	ND	ND	ND	NS	NS	RB
SG-12-01-65	210	210	ND	330	270	220	280	ND	ND	ND	ND	ND	ND	ND	Q ²
SG-12-02-10	<i>790</i>	<i>790</i>	<i>970</i>	<i>1,200</i>	<i>1,200</i>	540	770	ND	ND	ND	ND	ND	ND	ND	Q ¹
SG-12-02-20	NS	NS	NS	<i>940</i>	NS	NS	NS	NS	NS	NS	ND	NS	NS	NS	A
SG-12-02-30	NS	NS	NS	<i>760</i>	NS	NS	NS	NS	NS	NS	ND	NS	NS	NS	A
SG-12-02-40	NS	NS	NS	<i>830</i>	NS	NS	NS	NS	NS	NS	ND	NS	NS	NS	A
SG-12-02-50	NS	NS	NS	<i>820</i>	NS	NS	NS	NS	NS	NS	ND	NS	NS	NS	A
SG-12-02-57	NS	NS	NS	<i>760</i>	NS	NS	NS	NS	NS	NS	ND	NS	NS	NS	A
SG-12-02-65	NS	NS	NS	600	NS	NS	NS	NS	NS	NS	ND	NS	NS	NS	A
SG-12-04-10	120	120	ND	100	120	100	150	1,300	1,300	ND	360	620	780	1,400	Q ¹
SG-12-04-20	110	110	ND	100	130	99	150	1,100	1,100	52 J	350	510	770	1,300	Q ³
SG-12-04-40	92	92	ND	83 J	87	89	NS	90	90	ND	ND	56 J	88	NS	INV
SG-12-04-50	92	92	52 J	85	110	100	120	630	630	140	180	230	530	720	INV
SG-12-04-58	110	110	ND	81 J	120	NS	NS	440	440	46 J	170	250	NS	NS	RB
SG-12-04-65	97	97	ND	88	130	100	140	<i>890</i>	<i>890</i>	150	220	440	560	<i>1,000</i>	Q ²
SG-12-06-10	120	120	ND	110	180	100	140	ND	ND	ND	ND	ND	ND	ND	Q ¹
SG-12-06-70	160	160	NS	160	210	180	190	ND	ND	NS	ND	ND	ND	ND	Q ²

Notes:

Concentrations in **bold** exceed the SGCL

Concentrations in *italics* exceed the SG-SL

¹ Quarterly probe due to proximity of store front in an area of historic soil gas concentrations above the SGCL.

² Sample probe quarterly if in vicinity of current groundwater plume above ACL (probe vertically adjacent to deepest probe will be sampled if deepest probe is in saturated zone).

³ Quarterly probe due to concentration above SGCL.

Acronyms and Abbreviations:

µg/m³: micrograms per cubic meter

A: Annual

INV: investigation (adjacent probe above SGCL/SG-SL)

J: estimated result below the limit of quantitation (LOQ)

ND: not detected above the limit of detection (LOD)

NS: not sampled

Q: Quarterly

RB: Rebound Study

Table 4. PCE and TCE Concentrations in Groundwater, Fourth Quarter 2019 through Second Quarter 2021

Well Identification ³	3Q 2019	4Q 2019	1Q 2020	2Q 2020	3Q 2020	4Q 2020	1Q 2021	2Q 2021	3Q 2019	4Q 2019	1Q 2020	2Q 2020	3Q 2020	4Q 2020	1Q 2021	2Q 2021
	Tetrachloroethene (PCE) (µg/L)								Trichloroethene (TCE) (µg/L)							
EW-12-03-180M	ND (0.25)	0.25 J	ND (0.25)	ND (0.25)	0.18 J	0.16 J	ND (0.25)	ND (0.25)	1.7	1.3	2.1	0.62	2.4	2.3	0.14 J	0.7
EW-12-05-180M	0.71	0.66	0.68	0.95	0.65	0.79	0.71	0.73	1.9	2.1	0.6	2.1	1.9	2.4	2	2.3
EW-12-07-180M	0.28 J	0.27 J	0.24 J	0.19 J	0.12 J	0.14 J	0.16 J	0.12 J	1.1	0.81	0.78	0.63	0.54	0.59	0.56 J+	0.45 J
EW-12-08-180U	14.1	13.5	8.4	13.1	11.6	6.1	5.3 J+	3.4	0.47 J	0.36 J	0.31 J	0.35 J	0.36 J	0.16 J	0.27 J	0.25 J
MW-12-09R-180	0.28 J	0.29 J	0.34 J	0.30 J	0.21 J	0.26 J	0.27 J	0.21 J	1.9	1.7	2.3	1.4	1.2	1.6	1.7	1.4
MW-12-14-180M	0.28 J	0.34 J	0.31 J	0.43 J	0.36 J	0.32 J	0.34 J	0.31 J	2.4	1.5	1.6	1.9	2.1	1.2	1.4 J+	1.4
MW-12-16-180M	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.25)	0.089 J	0.11 J	ND (0.25)	1.2	1.5	1.8	1.8	1.7	2	2.6	2.1
MW-12-20-180U	2.7	5.6	0.94	2	3.1	0.87	0.81	0.75	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.066)	ND (0.25)	ND (0.25)
MW-12-21-180U	0.28 J	0.38 J	0.35 J	0.23 J	0.41 J	0.38 J	0.38 J	0.36 J	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.066)	ND (0.25)	ND (0.25)
MW-12-24-180U	1.8	3.1	0.6	0.94	0.33 J	0.36 J	0.68	0.29 J	0.13 J	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.066)	ND (0.25)	ND (0.25)
MW-12-28-180U	0.33 J	0.31 J	0.52	0.42 J	0.39 J	0.36 J	0.29 J	0.32 J	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.066)	ND (0.25)	ND (0.25)
MW-12-32-180U	0.41 J	0.54	0.71	0.48 J	0.64	0.73	0.5	0.52	0.42 J	0.54	0.84	0.57	0.64	0.7	0.55	0.62

Notes:

Results in **bold** are concentrations above the Aquifer Cleanup Level (ACL; 5 µg/L for both PCE and TCE).

Results in *gray* are not detected concentrations (result reported as <limit of detection [LOD]).

Acronyms and Abbreviations:

µg/L: micrograms per liter

Data Validation Qualifiers:

J: Laboratory qualifier, estimated result between the detection limit (DL) and the limit of quantification (LOQ) with a possible high (+) or low (-) bias.

Table 5. Chloride Concentrations in Groundwater, Third Quarter 2020

Station	Depth (ft btoc)	Analyte:	Chloride (as Cl)	
		Units:	mg/L	
		Seawater Value:	19,000	
		Threshold Value:	500	
		Date	Value	Qual
EW-12-05-180M	--	9/2/2020	270	
EW-12-07-180M	--	9/2/2020	413	
EW-12-08-180U	--	9/2/2020	34.7	
MW-02-13-180M	127	9/4/2020	5,120	

Notes:

--: sample collected from an extraction well spigot, therefore no sample depth is given.

Results in **bold** are concentrations above the threshold value.

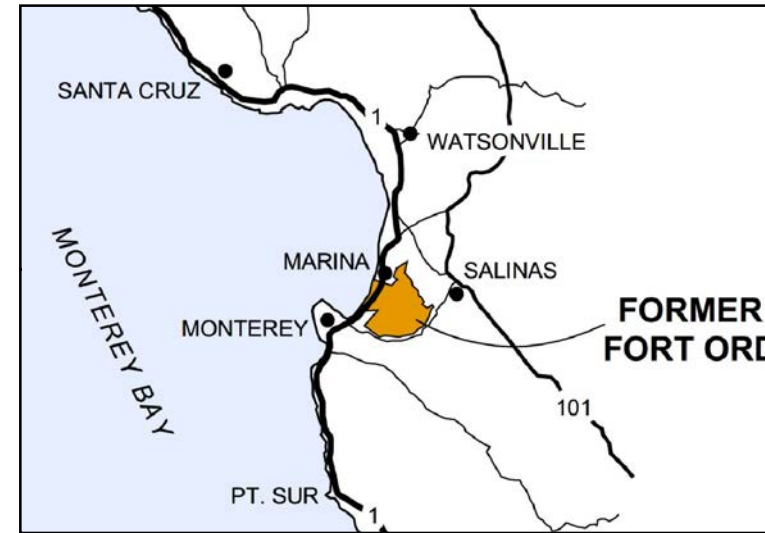
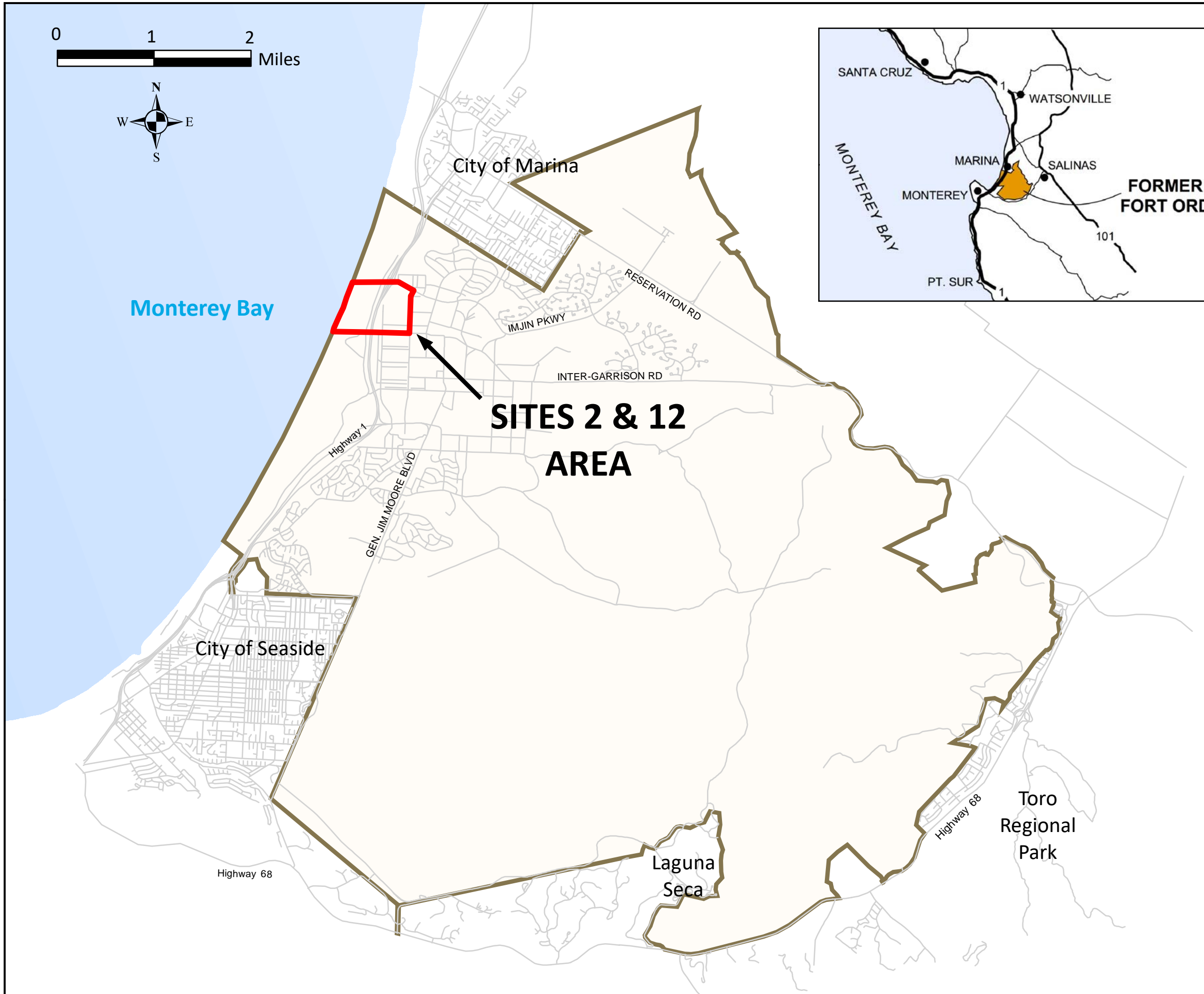
Acronyms and Abbreviations:

mg/L: milligrams per liter

ft btoc: feet below top of casing

Qual: qualifier

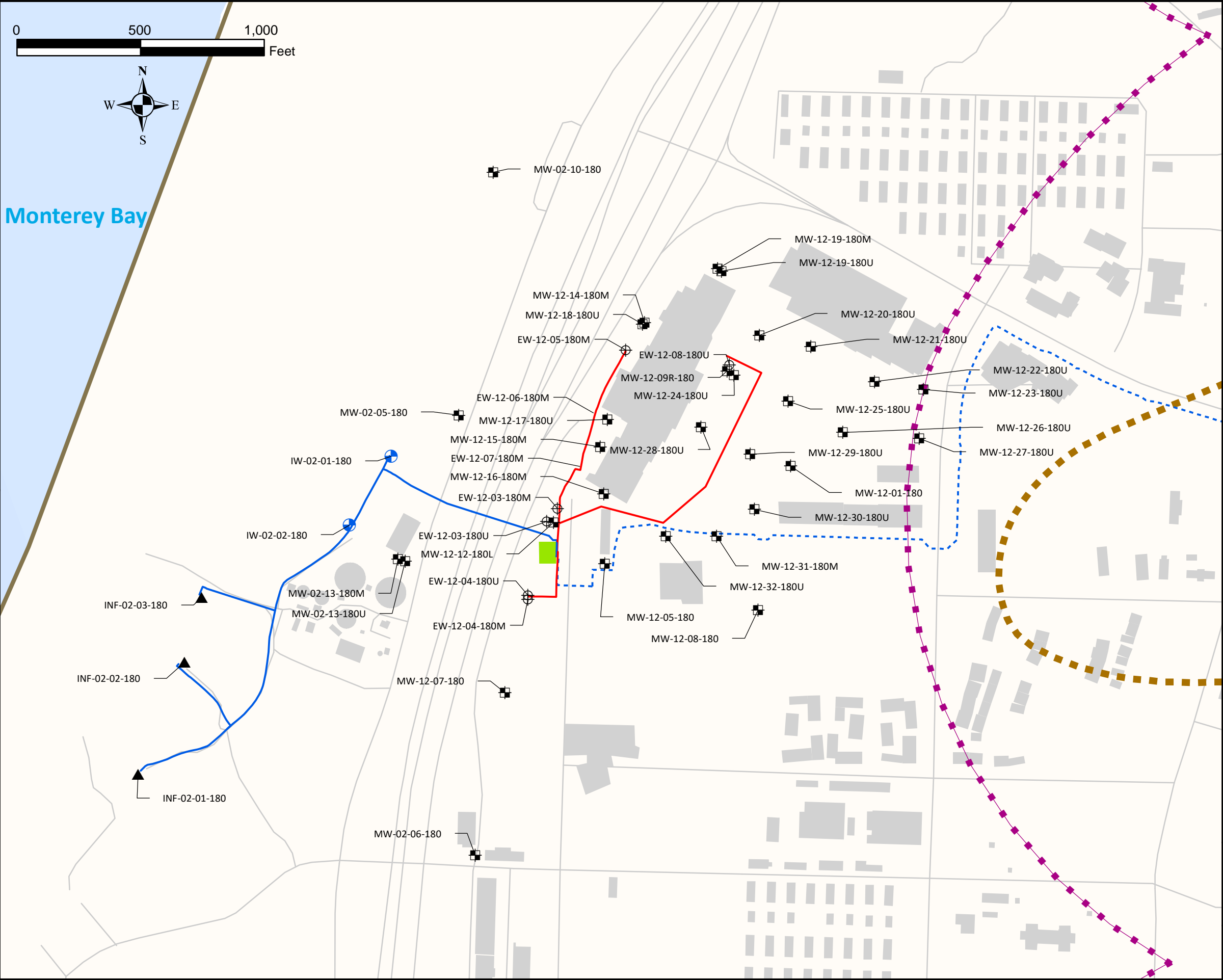
FIGURES
















EXPLANATION

- Roads
- ▭ Former Fort Ord Boundary
- ▭ Sites 2 and 12 Area Boundary

LOCATION MAP
Sites 2 and 12
Site Closure Exit Strategy
Former Fort Ord, California

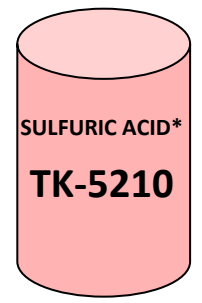
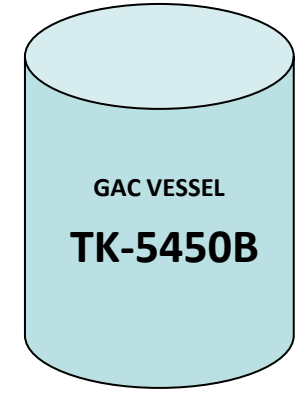
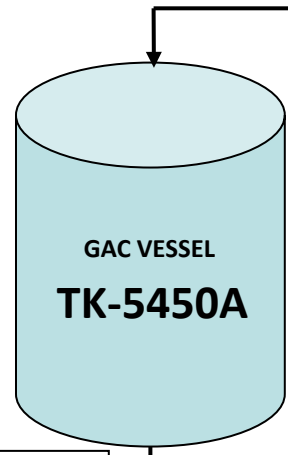
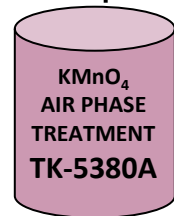
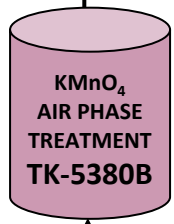


EXPLANATION

-  Monitoring well
-  Extraction well
-  Injection well
-  Infiltration well
-  Site 12 Groundwater Collection Pipeline
-  OU2 Treated Water Injection Pipeline
-  Treated Water Injection Pipeline
-  Approximate location of the Upper 180-Foot Aquifer Groundwater Divide
-  Sites 2 and 12 Groundwater Treatment Plant
-  Approximate edge of the Fort Ord - Salinas Valley Aquitard
-  Facilities
-  Road
-  Former Fort Ord Boundary

GROUNDWATER TREATMENT SYSTEM AND WELL LOCATIONS
 Sites 2 and 12
 Site Closure Exit Strategy
 Former Fort Ord, California

VENT TO ATMOSPHERE



TS-212-GAC-A

TS-212-EFF

TS-212-INF

FROM EXTRACTION PIPELINE



P5490A/B INJECTION PUMP w/VFD

SITE 2 INJECTION PIPELINE

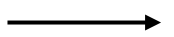
TS-212-INJ

TREATED WATER FROM OU2

EXPLANATION

TS-212-INF

Sample Port Location



Flow Path

GAC

Granular Activated Carbon

VFD

Variable Frequency Drive

KMnO₄

Potassium Permanganate

The GWTP operated with TK-5450A online during the reporting period. TK-5450B was bypassed and not operated during this time.

* Sulfuric Acid Tank TK-5210 is empty.

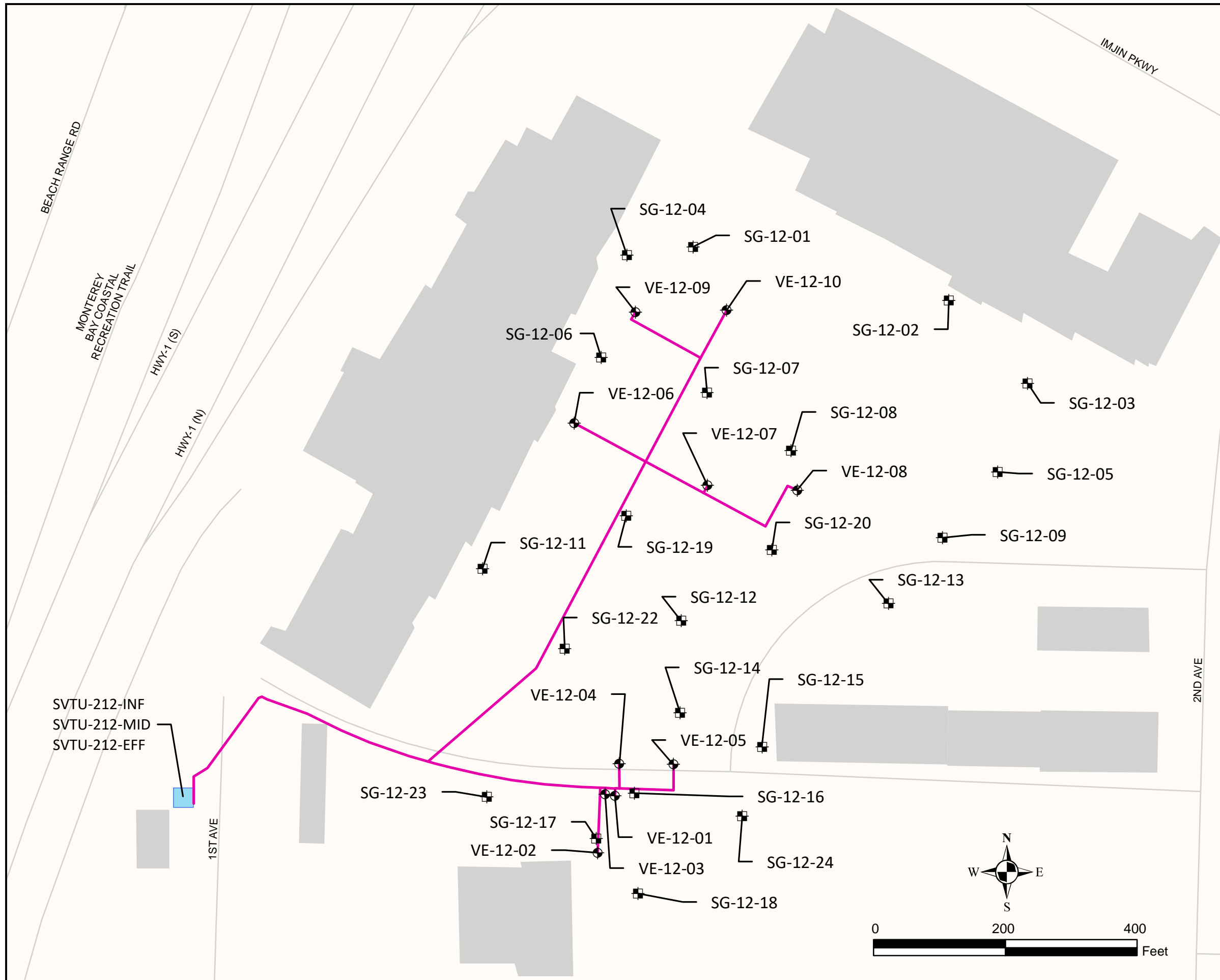


Groundwater Treatment Plant Schematic







Sites 2 and 12
Site Closure Exit Strategy
Former Fort Ord, California

Figure:

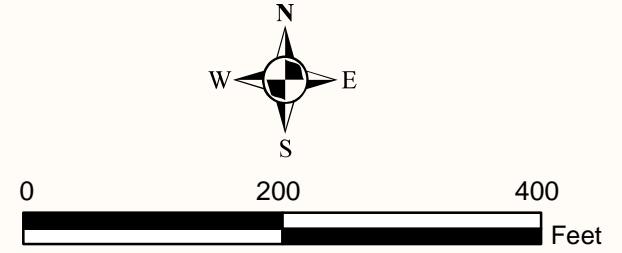
3



EXPLANATION

-  Site 12 Soil Gas Probe Cluster
-  Site 12 Soil Vapor Extraction Well
-  Site 12 Soil Vapor Extraction Pipeline
-  Roads
-  Facilities
-  Soil Vapor Treatment Unit

SOIL GAS PROBE AND SVE WELL LOCATIONS
 Sites 2 and 12
 Site Closure Exit Strategy
 Former Fort Ord, California



AC-2330
AIR COOLER
HEAT EXCHANGER

DF-2104
DILUTION AIR FILTER
4 INCH

DS-2302
DISCHARGE SILENCER
8 INCH

DS-2321
DISCHARGE SILENCER
8 INCH

M/B-2320
BLOWER—POSITIVE DISPLACEMENT
W/SOUND ENCLOSURE
60 HP, 480V, 3Ø 1,100 CFM

M/P-2220
TRANSFER PUMP
2 HP, 120V, 1Ø
25 GPM @ 26 FT

M/P-2420
TRANSFER PUMP
¼ HP, 120V, 1Ø
2 GPM @ 26 FT

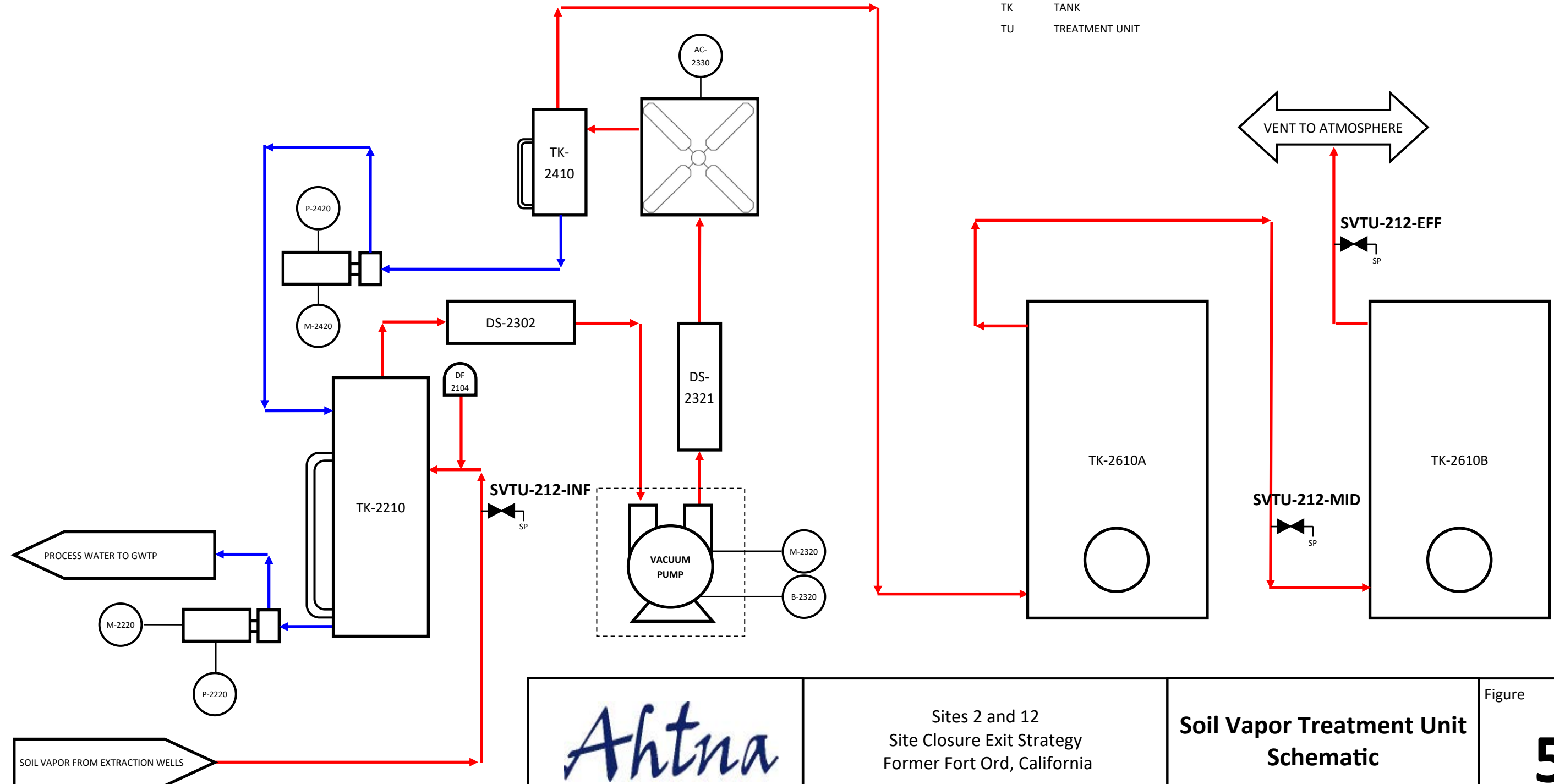
TK-2210
SEPERATOR—LIQUID
100 GAL

TK-2410
SEPERATOR—LIQUID
10 GAL

TK-2610A/B
VAPOR-PHASE CARBON VESSEL
3,000 LB GRANULAR ACTIVATED CARBON EACH

AC	AIR COOLER
B	BLOWER
DF	DILUTION AIR FILTER
DS	DISCHARGE SILENCER
EFF	EFFLUENT
GWTP	GROUNDWATER TREATMENT PLANT
INF	INFLUENT
M	MOTOR
MID	MID-POINT
P	PUMP
SP	SAMPLE PORT
TK	TANK
TU	TREATMENT UNIT

→ PROCESS AIR (SOIL VAPOR)
→ PROCESS WATER (CONDENSATE)
—●— SAMPLE PORT



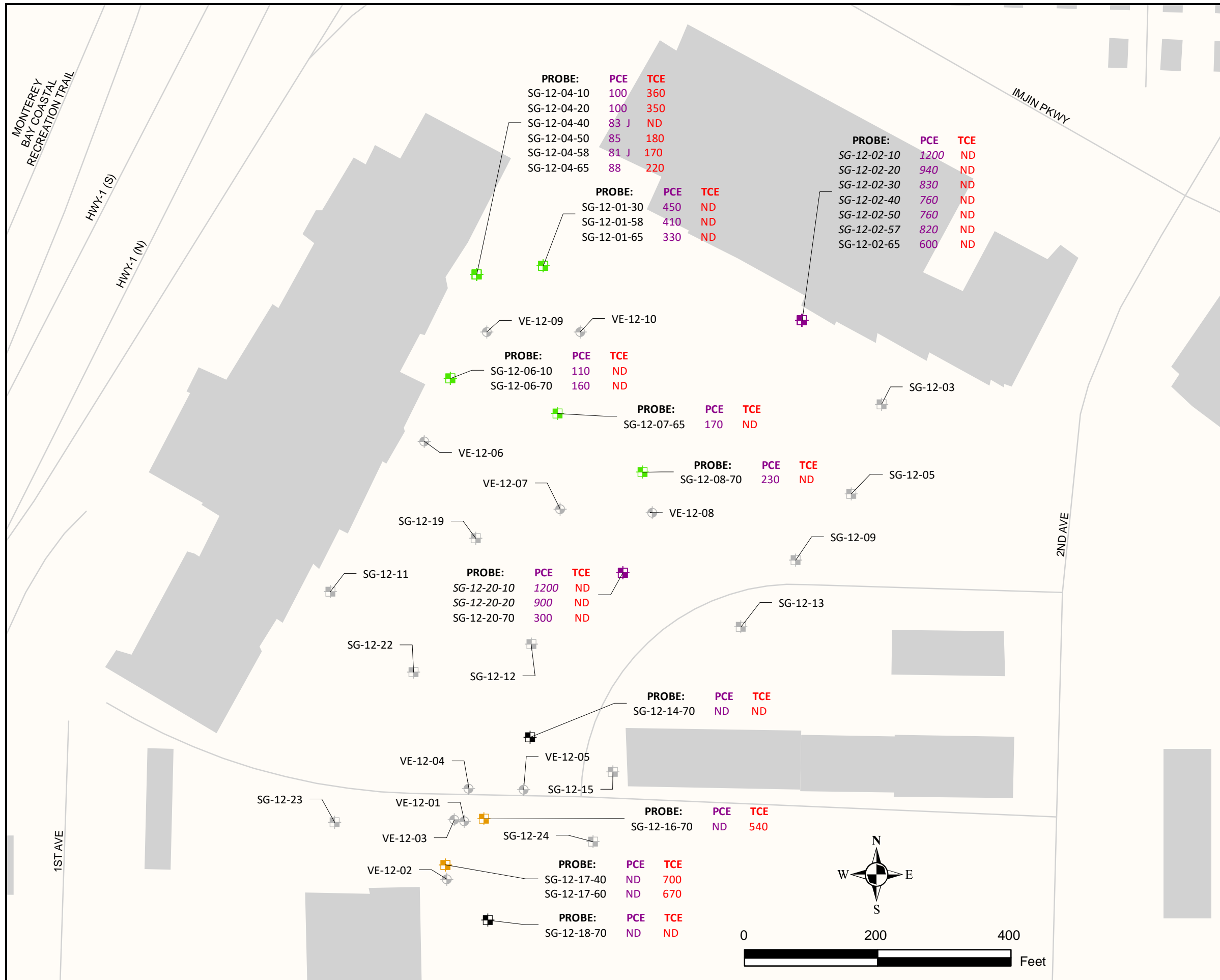
Ahtna

Sites 2 and 12
Site Closure Exit Strategy
Former Fort Ord, California

Soil Vapor Treatment Unit
Schematic

Figure

5



PROBE:	PCE	TCE
SG-12-04-10	100	360
SG-12-04-20	100	350
SG-12-04-40	83 J	ND
SG-12-04-50	85	180
SG-12-04-58	81 J	170
SG-12-04-65	88	220

PROBE:	PCE	TCE
SG-12-02-10	1200	ND
SG-12-02-20	940	ND
SG-12-02-30	830	ND
SG-12-02-40	760	ND
SG-12-02-50	760	ND
SG-12-02-57	820	ND
SG-12-02-65	600	ND

PROBE:	PCE	TCE
SG-12-01-30	450	ND
SG-12-01-58	410	ND
SG-12-01-65	330	ND

PROBE:	PCE	TCE
SG-12-06-10	110	ND
SG-12-06-70	160	ND

PROBE:	PCE	TCE
SG-12-07-65	170	ND

PROBE:	PCE	TCE
SG-12-08-70	230	ND

PROBE:	PCE	TCE
SG-12-20-10	1200	ND
SG-12-20-20	900	ND
SG-12-20-70	300	ND

PROBE:	PCE	TCE
SG-12-14-70	ND	ND

PROBE:	PCE	TCE
SG-12-16-70	ND	540

PROBE:	PCE	TCE
SG-12-17-40	ND	700
SG-12-17-60	ND	670

PROBE:	PCE	TCE
SG-12-18-70	ND	ND

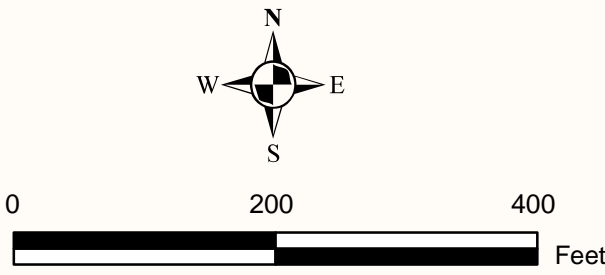
EXPLANATION

- Soil Gas Probe Cluster: PCE is above SG-SL and TCE is ND
- Soil Gas Probe Cluster: TCE is at or below SG-SL and PCE is ND
- Soil Gas Probe Cluster: PCE and TCE are at or below SG-SL
- Soil Gas Probe Cluster: PCE and TCE are ND
- Soil Gas Probe Cluster: Probes Not Sampled
- Soil Vapor Extraction Well: Not Sampled
- Roads
- Facilities
- ND Chemical of Concern is not detected.

Well ID - Sample Location and Probe Depth
 TCE and PCE concentration (µg/L) with validation/lab qualifier.
 Italics when exceeds the SG-SL
 Bold when exceeds the SGCL.






NOTES:
 (1) Samples were collected between September 9, 2020 and October 16, 2020.

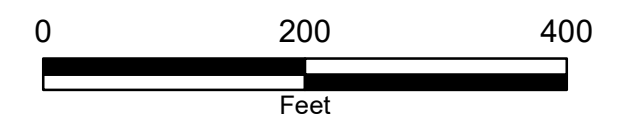
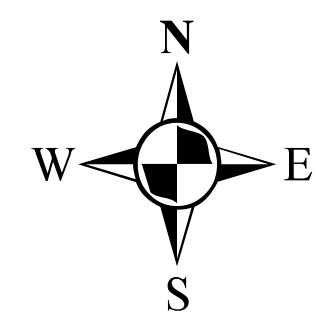
SOIL GAS PCE/TCE CONCENTRATIONS AND SGCL EXCEDANCES
THIRD QUARTER, 2020
 Sites 2 and 12
 Site Closure Exit Strategy
 Former Fort Ord, California










EXPLANATION

-  Site 12: Soil Gas Probe Cluster
-  Site 12: Soil Vapor Extraction Well
-  PCE above SGCL (June 2014) - no current plume (September 2020)
-  TCE above SGCL (June 2014) - no current plume (September 2020)
-  SVE Treatment Unit



CURRENT AND HISTORICAL SOIL GAS
 PCE/TCE SGCL EXCEEDANCE PLUME AREAS
 70 Feet Below Ground Surface June 2014
 and September 2020
 Sites 2 and 12 Closure Exit Strategy Report, Former Fort
 Ord, California

EXPLANATION

-  Site 12 Soil Gas Probe: PCE and TCE are below SG-SL
-  Site 12 Soil Gas Cluster: Probes are not sampled
-  Site 12 Soil Vapor Extraction Well: Extraction well not sampled
-  Roads
-  Facilities
- ND Chemical of Concern (COC) is non-detect

Well ID - Sample Location and Probe Depth
 TCE and PCE concentration (µg/L) with validation/lab qualifier.
 Italics when exceeds the SG-SL
 Bold when exceeds the SGCL.

Probe
 SG-12-02-10

PCE
 540

TCE
 ND

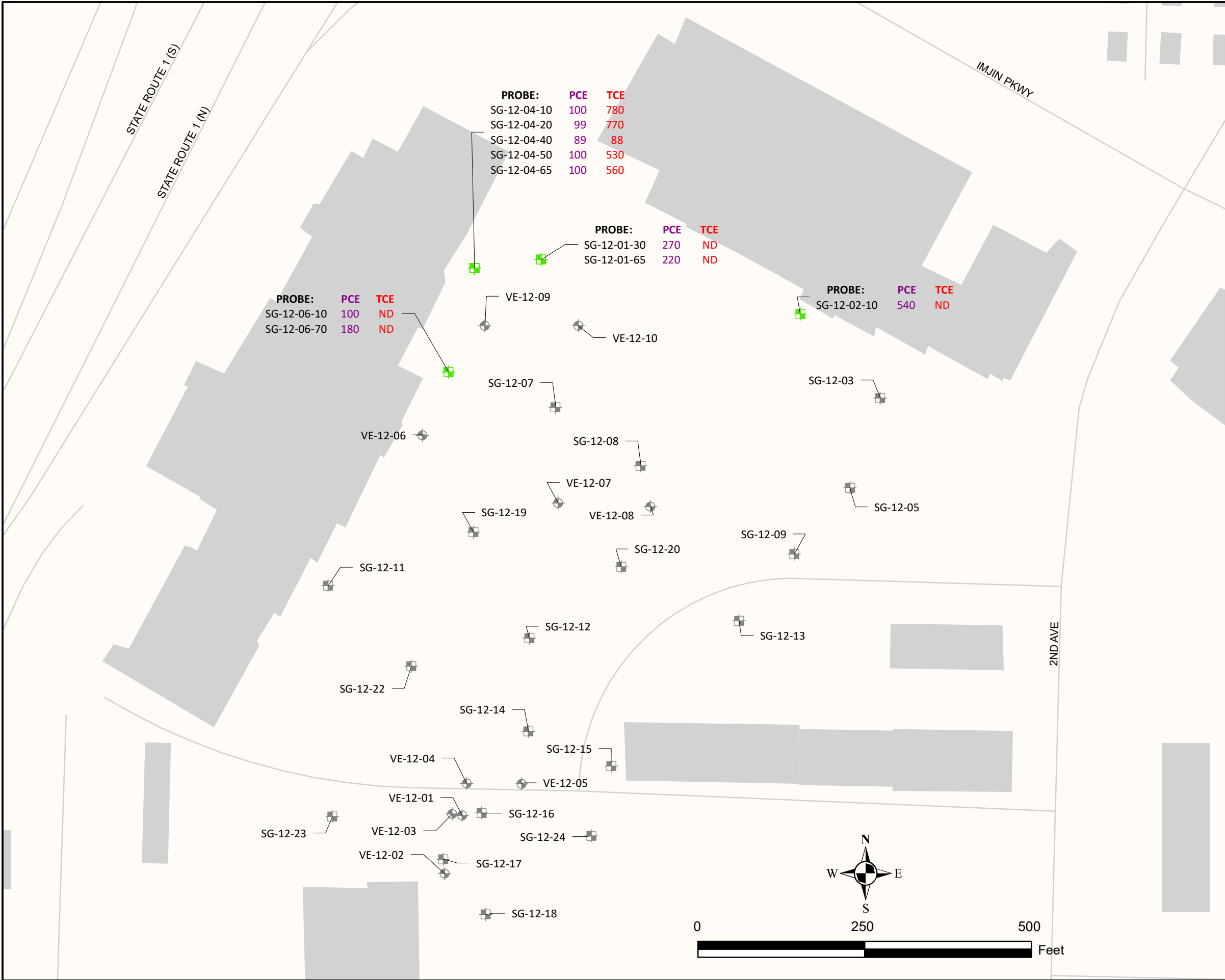
NOTES:
 (1) Samples were collected between February 16, 2021 and February 19, 2021.

**SOIL GAS PCE/TCE CONCENTRATIONS AND SGCL EXCEEDANCES
 FIRST QUARTER 2021**
 Sites 2 and 12
 Site Closure Exit Strategy
 Former Fort Ord, California



Date: 5/26/2021

Figure: 8



PROBE: PCE TCE
 SG-12-06-10 100 ND
 SG-12-06-70 180 ND

PROBE: PCE TCE
 SG-12-04-10 100 780
 SG-12-04-20 99 770
 SG-12-04-40 89 88
 SG-12-04-50 100 530
 SG-12-04-65 100 560

PROBE: PCE TCE
 SG-12-01-30 270 ND
 SG-12-01-65 220 ND

PROBE: PCE TCE
 SG-12-02-10 540 ND

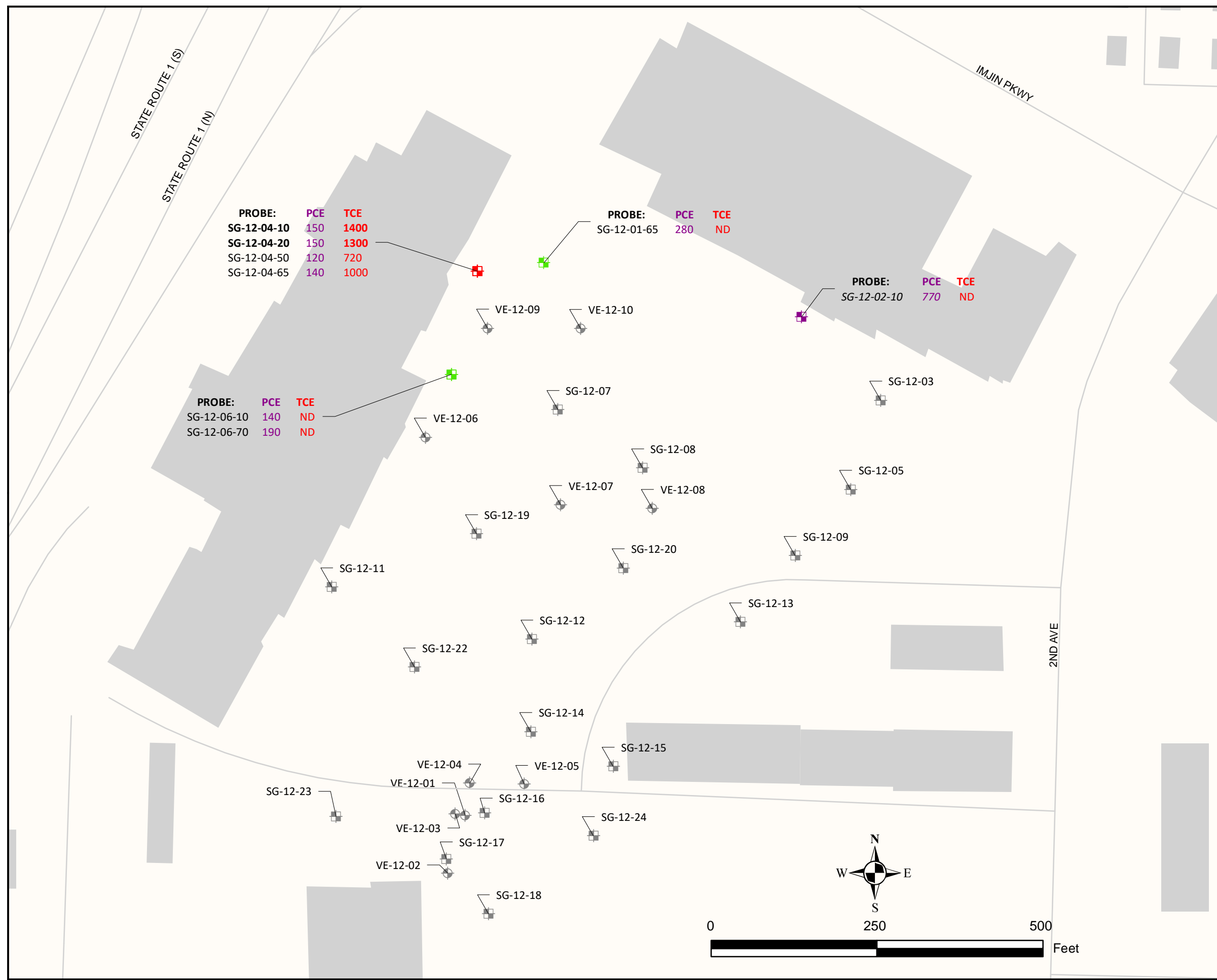
EXPLANATION

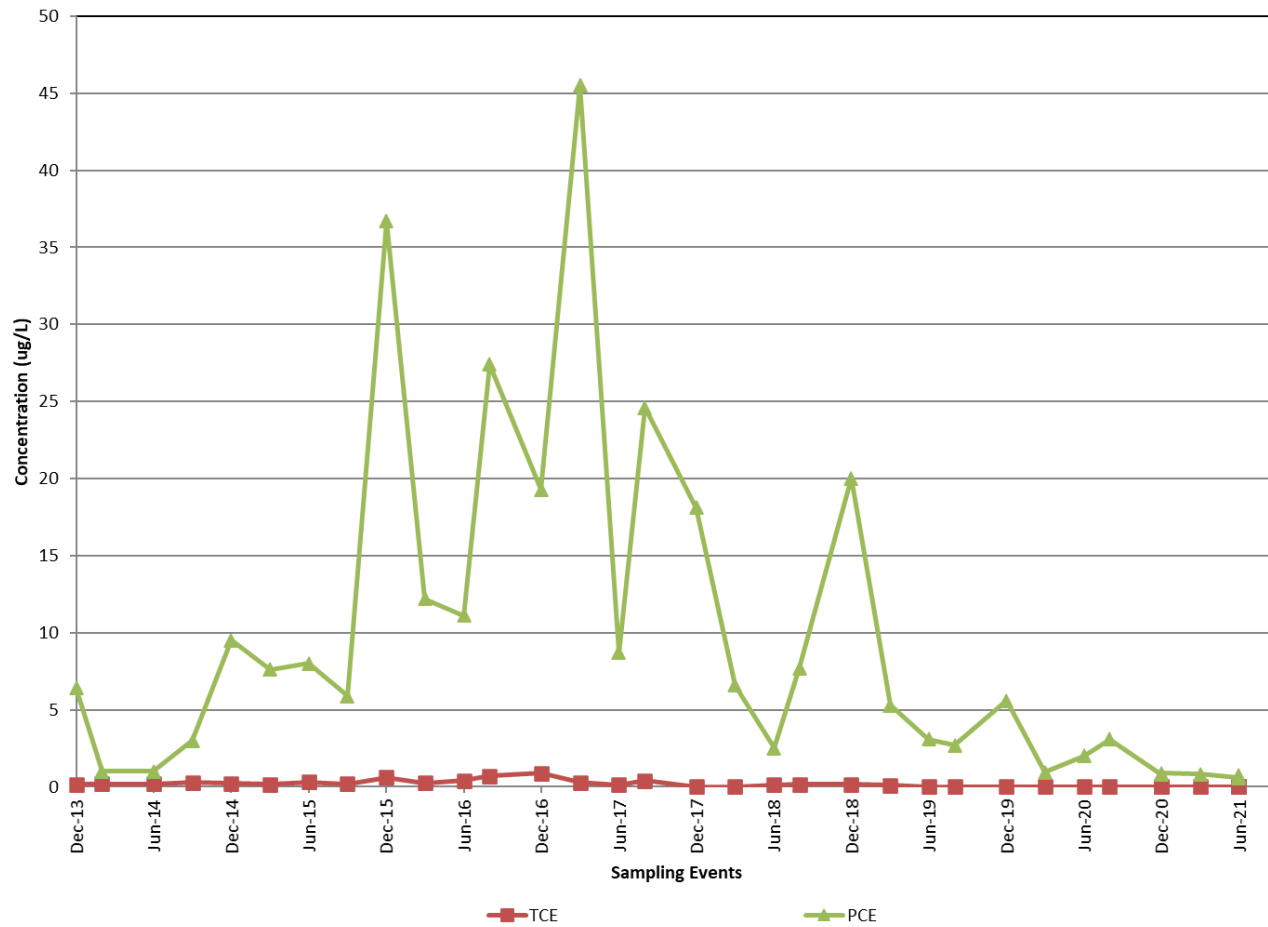
- Site 12 Soil Gas Probe: PCE and TCE are below SG-SL
- Site 12 Soil Gas Probe: PCE is above SG-SL and TCE is ND
- Site 12 Soil Gas Probe: TCE is above SGCL levels and PCE is below SG-SL
- Site 12 Soil Gas Cluster: Probes are not sampled
- Site 12 Soil Vapor Extraction Well: Extraction well not sampled
- Roads
- Facilities
- ND Chemical of Concern (COC) is non-detect

Well ID - Sample Location and Probe Depth
 Probe PCE TCE
 SG-12-02-10 770 ND
 TCE and PCE concentration (µg/L) with validation/lab qualifier.
 Italics when exceeds the SG-SL
 Bold when exceeds the SGCL.

- NOTES:**
- (1) Samples were collected between May 17, 2021 and May 18, 2021.
 - (2) SGCL refers to Soil Gas Cleanup Level
 - (3) SG-SL refers to Soil Gas Screening Level

SOIL GAS PCE/TCE CONCENTRATIONS AND SGCL EXCEEDANCES
SECOND QUARTER 2021
 Sites 2 and 12
 Site Closure Exit Strategy
 Former Fort Ord, California

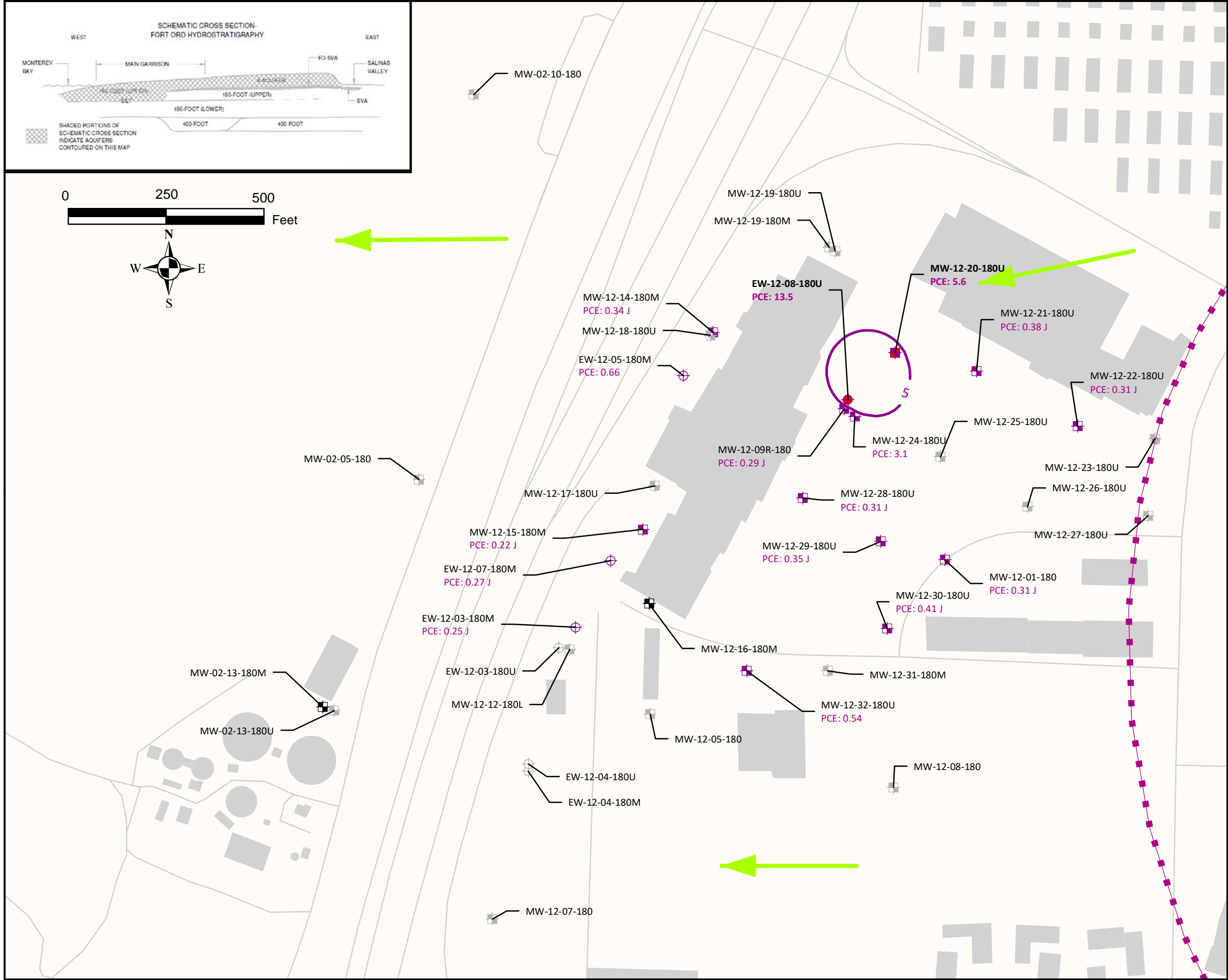
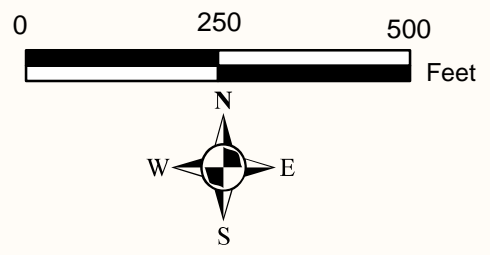
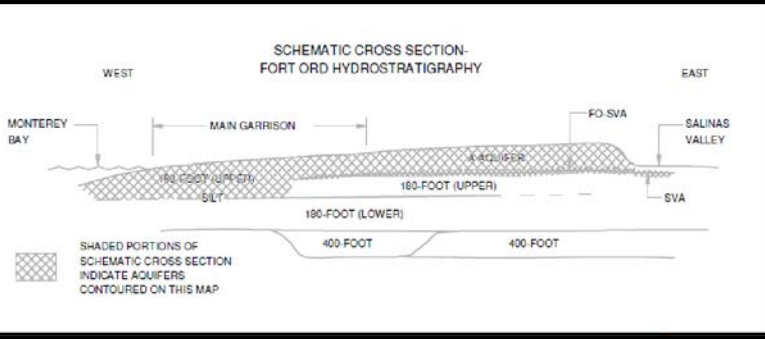




PCE/TCE Concentrations at
Groundwater Extraction Well MW-12-20-180U
 Sites 2 and 12 Site
 Closure Exit Strategy
 Former Fort Ord, California

Figure:

10

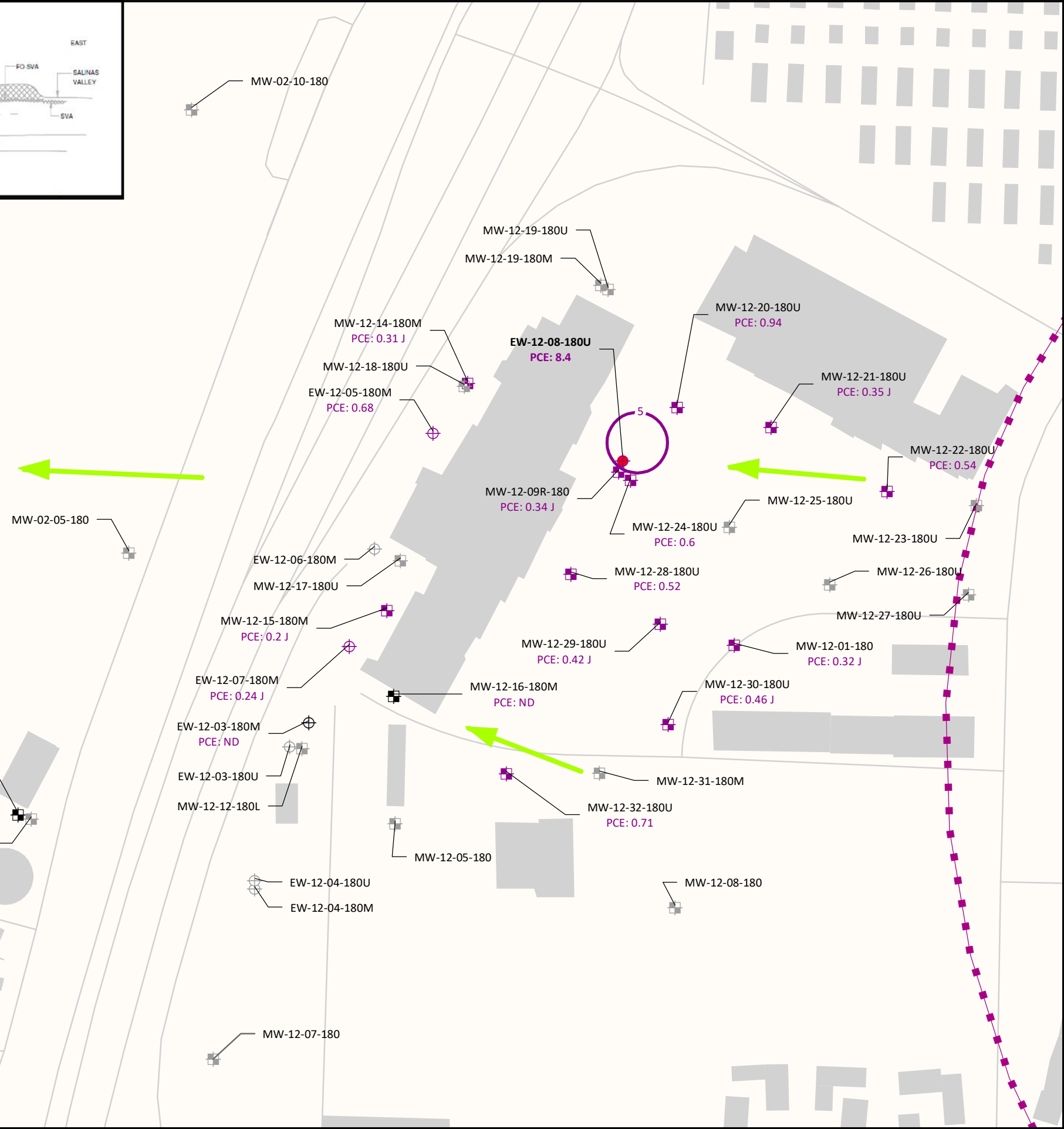
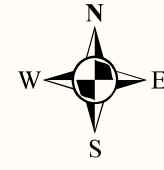
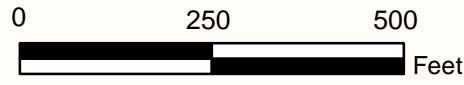
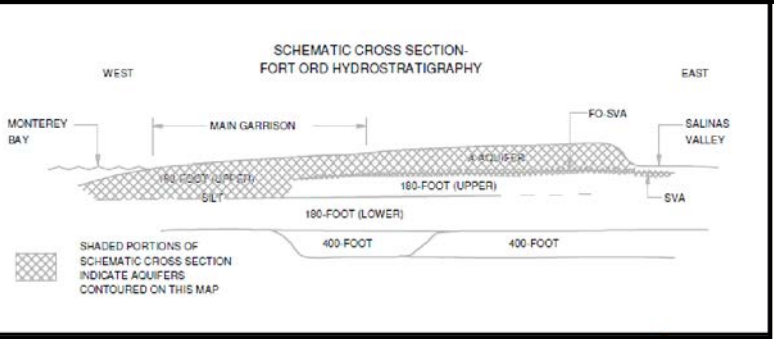


EXPLANATION

- Monitoring Well Not Sampled
 - Monitoring Well with No PCE Detection
 - Monitoring Well with PCE Less than ACL
 - Monitoring Well with PCE Detection Above or Equal to ACL
 - Extraction Well Not Sampled
 - Extraction Well with PCE Less than ACL
 - Extraction Well with PCE Detection Above or Equal to ACL
 - Well ID - Bold when ACL Exceeded TCE and/or PCE concentration (µg/L) with validation/lab qualifier.
- Chemical of Concern (COC) Aquifer Cleanup Level (ACL) Exceedance Contour in µg/L.**
- 5 Tetrachloroethene (PCE)
 - General Groundwater Flow Direction
 - Roads
 - Approximate location of the Upper 180-Foot Aquifer Groundwater Divide
 - Facilities

- NOTES:**
- (1) Samples were collected between December 2, 2019 and December 6, 2019.
 - (2) Contour is based on one interpretation of the data that was available at the time this report was prepared; other interpretations may be possible.
 - (3) Contours based on highest value obtained from multiple bags where applicable.
 - (4) Other COC ACL Exceedances detected beyond the extent of the PCE Plume are illustrated when present.

**GROUNDWATER PCE CONCENTRATIONS
UPPER 180-FOOT AQUIFER
FOURTH QUARTER 2019**
Sites 2 and 12
Site Closure Exit Strategy
Former Fort Ord, California

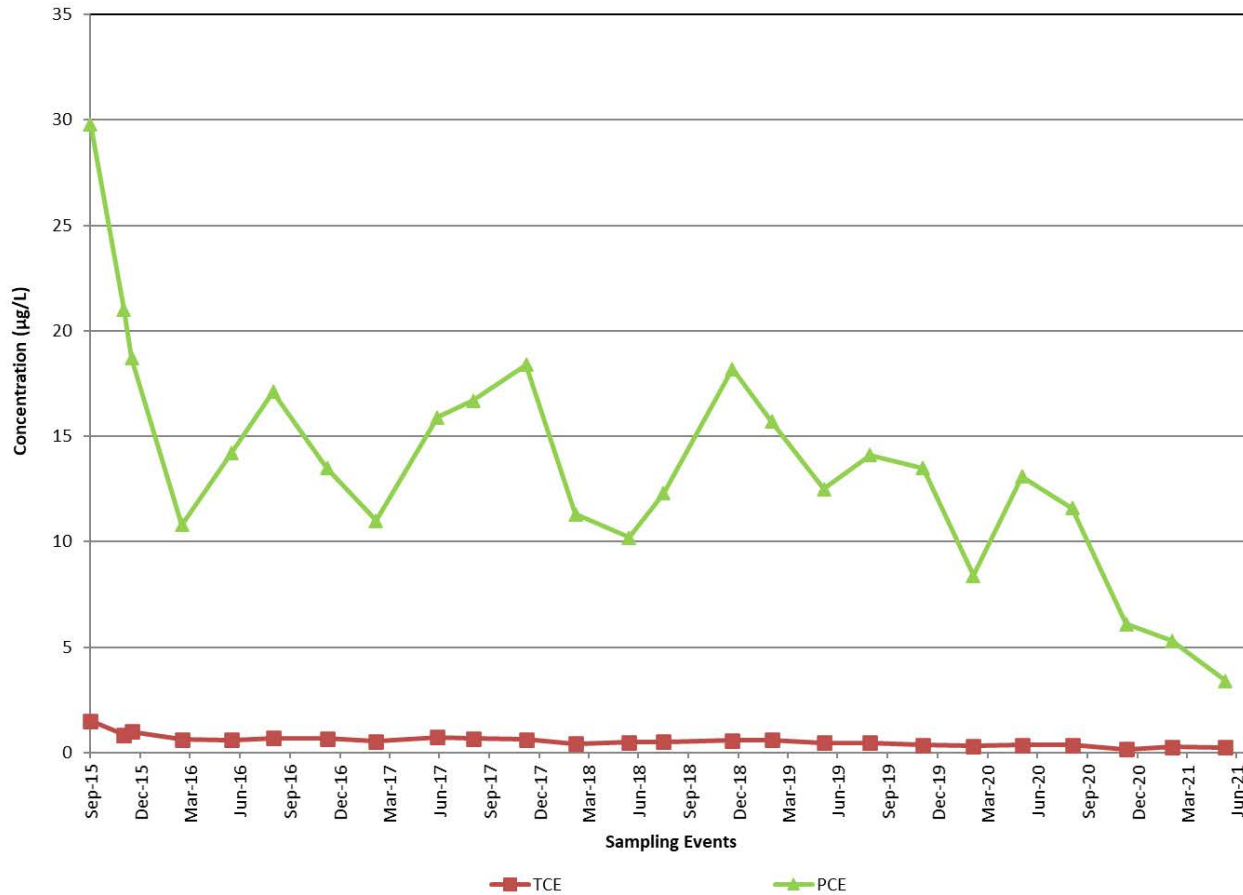


EXPLANATION

- Monitoring Well Not Sampled
- Monitoring Well with No PCE Detection
- Monitoring Well with PCE Less than ACL
- Extraction Well with no detection of PCE
- Extraction Well Not Sampled
- Extraction Well with PCE Less than ACL
- Extraction Well with PCE Detection Above or Equal to ACL
- Well ID - Bold when ACL Exceeded TCE and/or PCE concentration (µg/L) with validation/lab qualifier.
- Chemical of Concern (COC) Aquifer Cleanup Level (ACL) Exceedance Contour in µg/L.**
- 5** Tetrachloroethene (PCE)
- General Groundwater Flow Direction
- Roads
- Approximate location of the Upper 180-Foot Aquifer Groundwater Divide
- Facilities
- ND Chemical of Concern (COC) is non-detect

NOTES:
 (1) Samples were collected between March 2, 2020 and March 4, 2020.
 (2) Contour is based on one interpretation of the data that was available at the time this report was prepared; other interpretations may be possible.
 (3) Contours based on highest value obtained from multiple bags where applicable.
 (4) Other COC ACL Exceedances detected beyond the extent of the PCE Plume are illustrated when present.

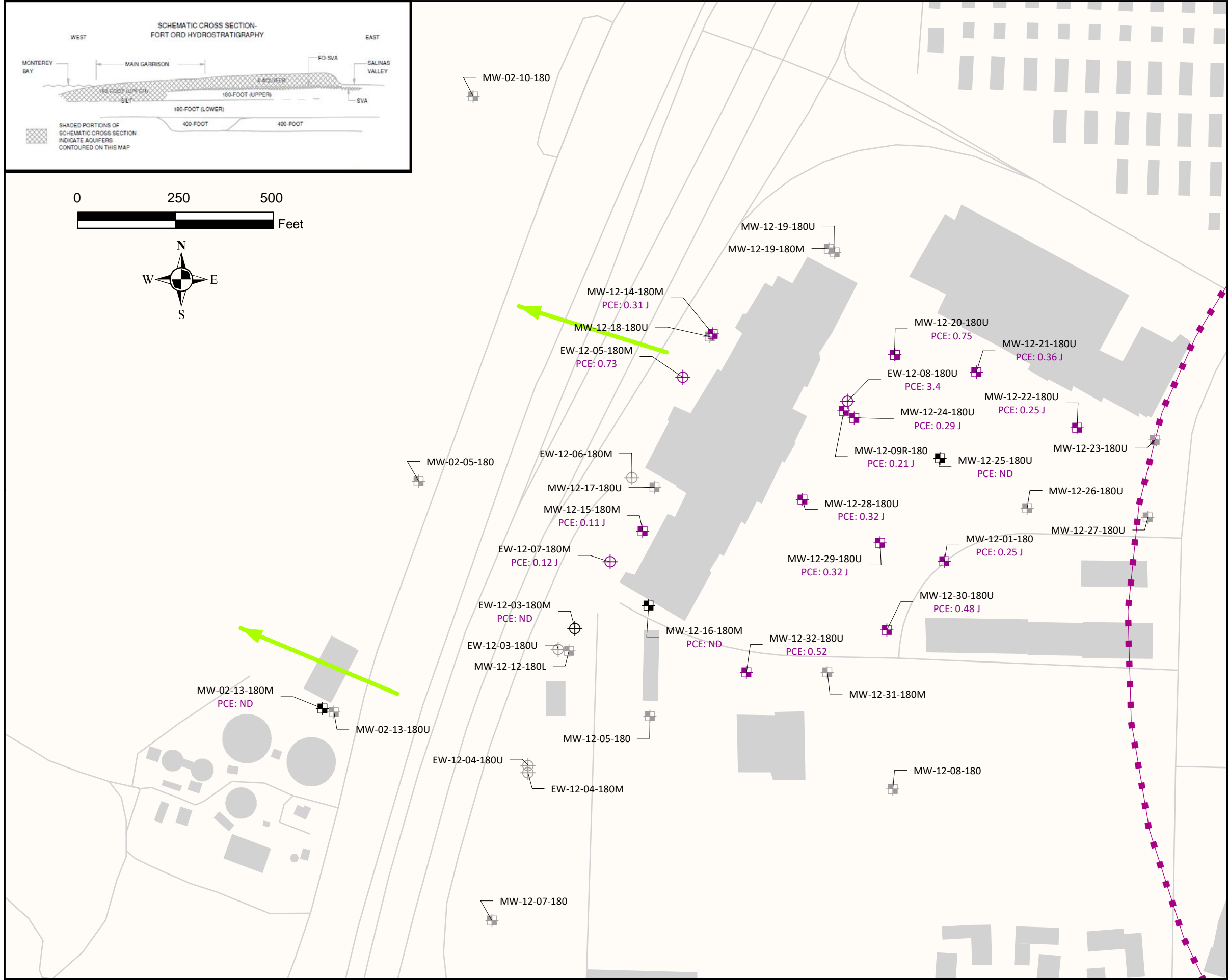
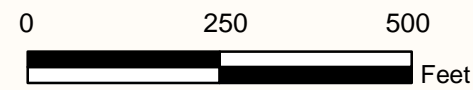
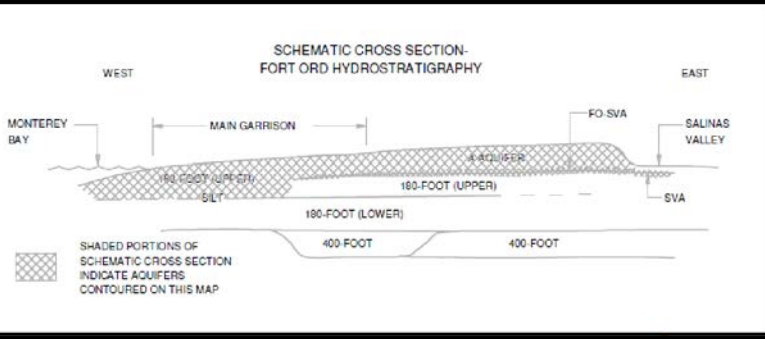
**GROUNDWATER PCE CONCENTRATIONS
 UPPER 180-FOOT AQUIFER
 FIRST QUARTER 2020**
 Sites 2 and 12
 Site Closure Exit Strategy
 Former Fort Ord, California



PCE/TCE Concentrations at
Groundwater Extraction Well EW-12-08-180U
 Sites 2 and 12 Site
 Closure Exit Strategy
 Former Fort Ord, California

Figure:

13

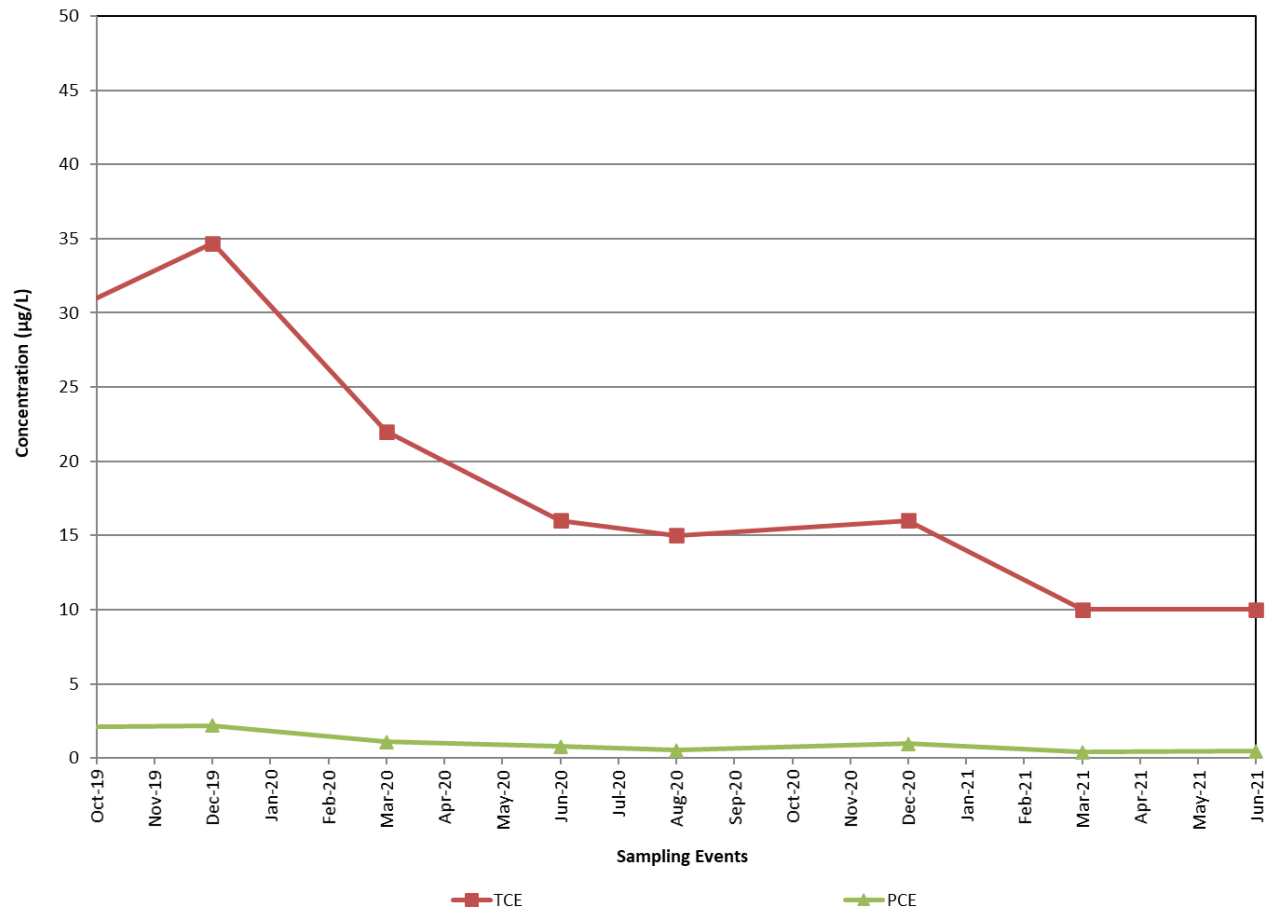


EXPLANATION

- Monitoring well with PCE detection less than ACL
- Monitoring well with no PCE
- Extraction well with PCE detection less than ACL
- Extraction well with no PCE
- Extraction well not
- Monitoring well not
- Well ID - Bold when ACL exceeded PCE and/or TCE concentration (µg/L) with validation/lab qualifier.
- ND Chemical of Concern (COC) is non-detect
- Approximate location of the Upper 180-Footer Aquifer Groundwater Divide
- General groundwater flow
- Roads
- Facilities

NOTES:
 (1) Samples were collected between June 7, 2021 and June 11, 2021.
 (3) PCE and other COC ACL exceedances plumes are illustrated when present.

GROUNDWATER PCE CONCENTRATIONS
UPPER 180-FOOT AQUIFER
SECOND QUARTER 2021
 Sites 2 and 12
 Site Closure Exit Strategy
 Former Fort Ord, California



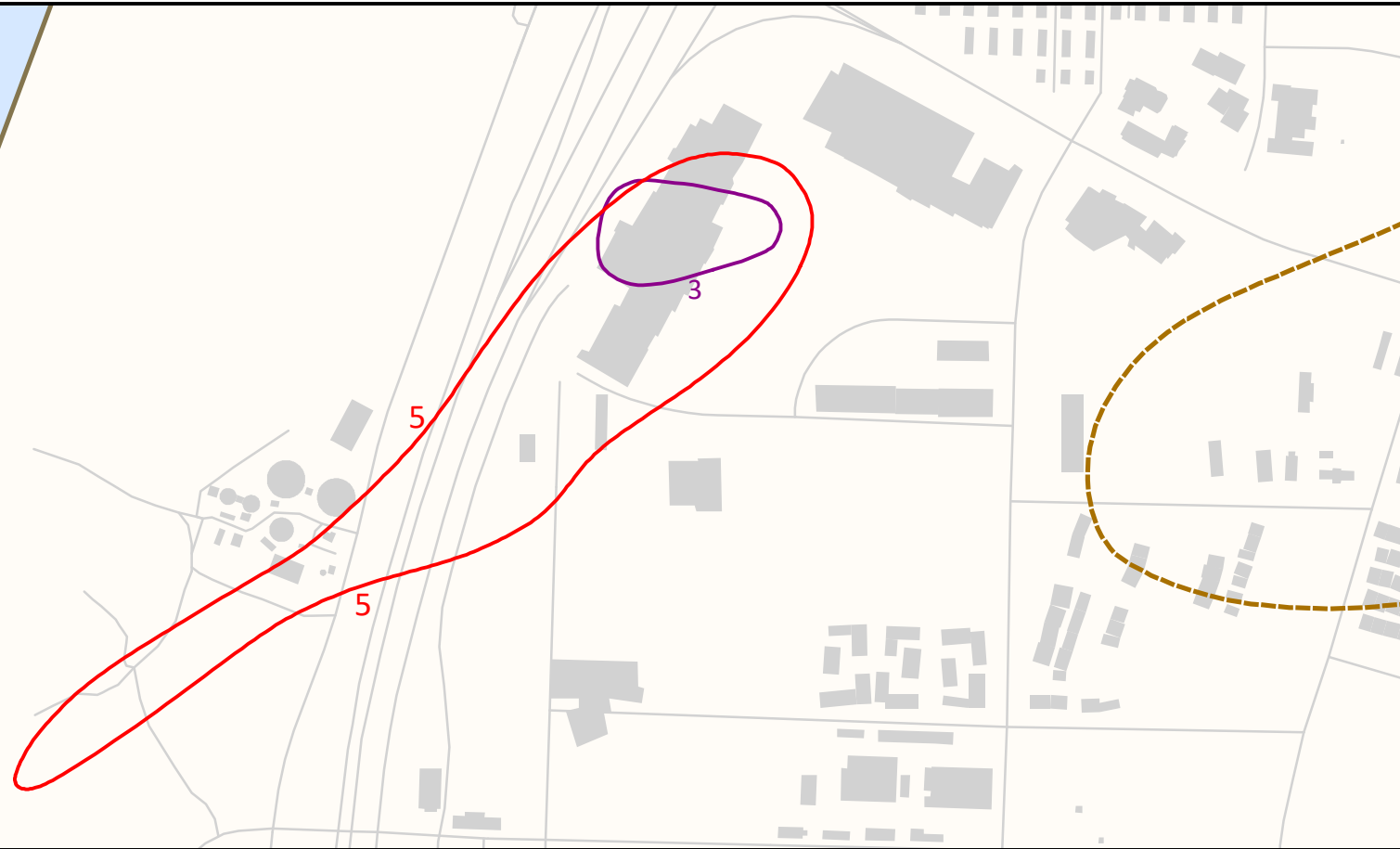
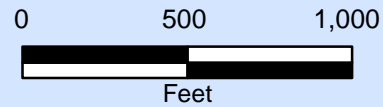
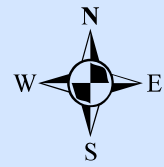
**PCE/TCE Concentrations at
 Groundwater Extraction Well EW-12-03-180M**
 Sites 2 and 12 Site
 Closure Exit Strategy
 Former Fort Ord, California

Figure:

15

Historical:
TCE: December 2000
PCE: March 2011

Monterey Bay

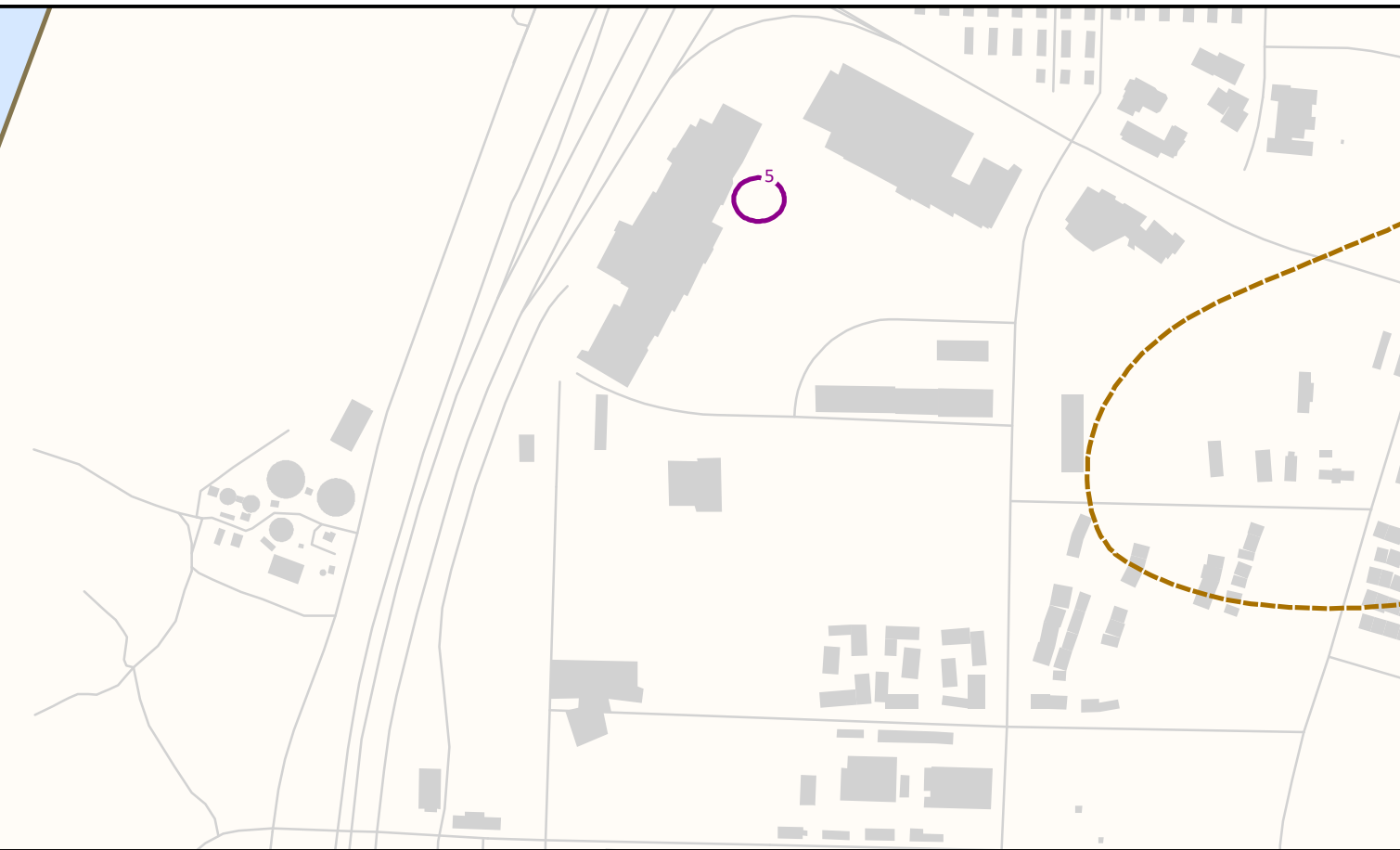
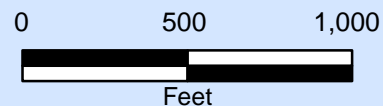
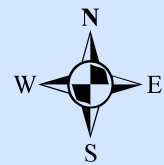


EXPLANATION

- 5 — Tetrachloroethene (PCE) Aquifer Cleanup Level (ACL) Exceedance Contour in $\mu\text{g/L}$.
- 5 — Trichloroethene (TCE) Aquifer Cleanup Level (ACL) Exceedance Contour in $\mu\text{g/L}$.
- Approximate edge of Fort Ord - Salinas Valley Aquitard (FO-SVA)
- Roads
- Facilities

Current:
PCE: September 2020

Monterey Bay



NOTES:

- (1) Contours are based on one interpretation of the data that were available at the time this report was prepared; other interpretations may be possible.
- (2) ACL for PCE was revised from 3.0 $\mu\text{g/L}$ to 5.0 $\mu\text{g/L}$ as per the Explanation of Significant Differences No 1, Basewide Remedial Investigation, Sites 2 and 12, Former Fort Ord, California.

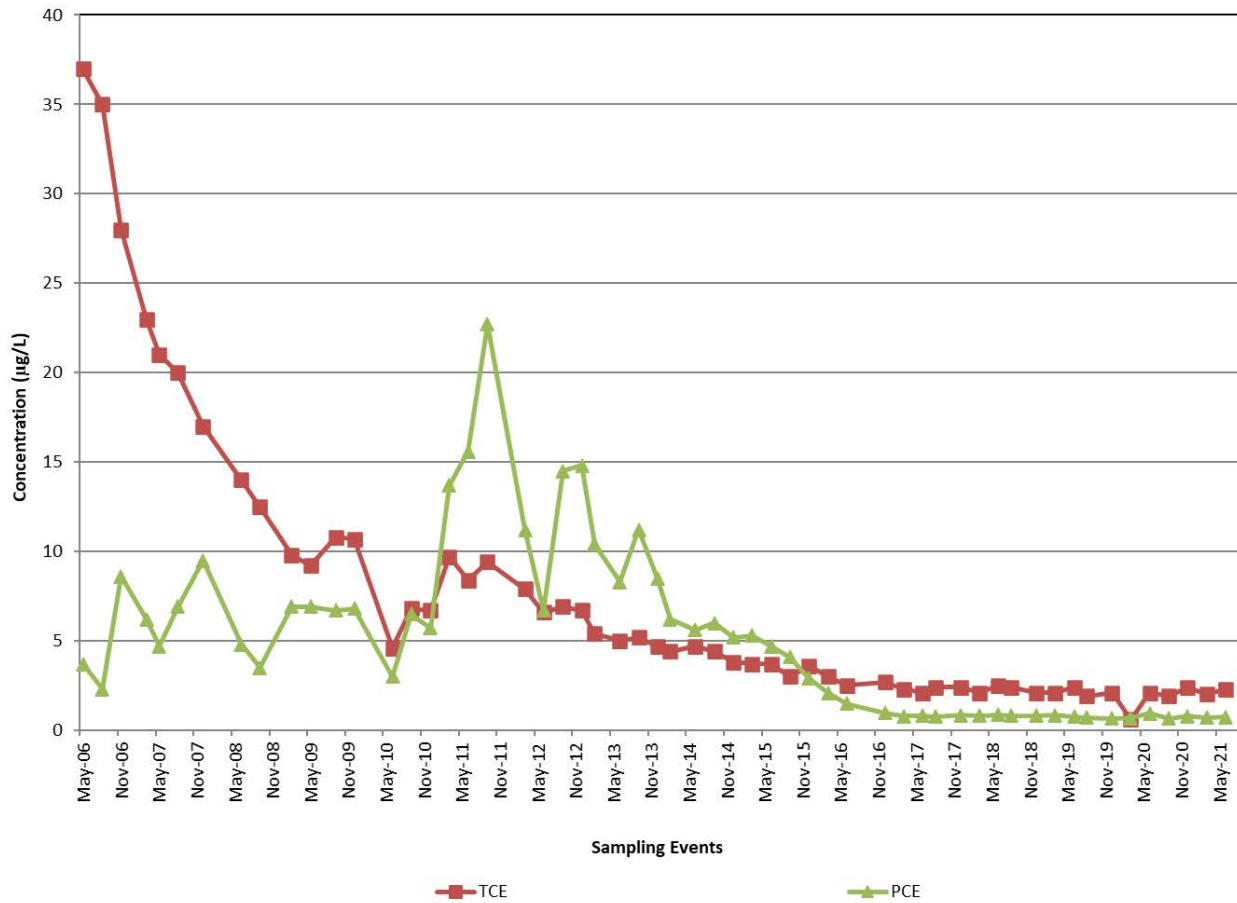
**CURRENT AND HISTORICAL PCE/TCE ACL EXCEEDANCE CONTOURS
 UPPER 180-FOOT AQUIFER,
 DECEMBER 2000/MARCH 2011 AND SEPTEMBER 2020**

Sites 2 and 12
 Site Closure Exit Strategy
 Former Fort Ord, California

Ahtna

Date: 10/26/2020

Figure: 16



**PCE/TCE Concentrations at
 Groundwater Extraction Well EW-12-05-180M**
 Sites 2 and 12 Site
 Closure Exit Strategy
 Former Fort Ord, California

Figure:

17

APPENDICES

APPENDIX A

Chemical of Concern Concentrations in Groundwater Fourth Quarter 2019 through Second Quarter 2021

Table A1. Summary of Groundwater Monitoring Analytical Results, Fourth Quarter 2019

Station	Depth (ft btoc)	Analyte:	1,1-DCE (µg/L)		1,2-DCA (µg/L)		Total 1,3-DCP (µg/L)		Chloroform (µg/L)		cis-1,2-DCE (µg/L)		PCE (µg/L)		TCE (µg/L)		Vinyl chloride (µg/L)	
		Units:	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
EW-12-03-180M	125	12/3/2019	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.45	J	0.25	J	1.3		<0.050	U
EW-12-05-180M	--	12/3/2019	<0.25	U	<0.25	U	<0.25	U	0.15	J	0.61		0.66		2.1		<0.050	U
EW-12-07-180M	--	12/3/2019	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.31	J	0.27	J	0.81		<0.050	U
EW-12-08-180U	--	12/3/2019	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	13.5		0.36	J	<0.050	U
MW-02-13-180M	127	12/6/2019	<0.25	U	<0.25	U	<0.25	U	0.13	J	0.14	J	<0.25	U	1.7		<0.050	U
MW-12-01-180	91	12/3/2019	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.31	J	0.33	J	<0.050	U
MW-12-09R-180	124	12/2/2019	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.83		0.29	J	1.7		<0.050	U
MW-12-14-180M	121	12/2/2019	<0.25	U	<0.25	U	<0.25	U	0.11	J	<0.25	U	0.34	J	1.5		<0.050	U
MW-12-15-180M	135	12/3/2019	<0.25	U	0.18	J	<0.25	U	0.22	J	1.9		0.22	J	1.5		<0.050	U
MW-12-16-180M	140	12/3/2019	<0.25	U	0.24	J	<0.25	U	0.23	J	1.8		<0.25	U	1.5		<0.050	U
MW-12-20-180U	76	12/2/2019	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	5.6		<0.25	U	<0.050	U
MW-12-21-180U	70	12/2/2019	<0.25	U	<0.25	U	<0.25	U	0.21	J	<0.25	U	0.38	J	<0.25	U	<0.050	U
MW-12-22-180U	75	12/2/2019	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.31	J	<0.25	U	<0.050	U
MW-12-24-180U	70	12/2/2019	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	3.1		<0.25	U	<0.050	U
MW-12-28-180U	73	12/2/2019	<0.25	U	<0.25	U	<0.25	U	0.13	J	<0.25	U	0.31	J	<0.25	U	<0.050	U
MW-12-29-180U	86	12/2/2019	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.35	J	<0.25	U	<0.050	U
MW-12-30-180U	92	12/2/2019	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.41	J	<0.25	U	<0.050	U
MW-12-32-180U	95	12/4/2019	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.54		0.54		<0.050	U
Maximum Concentration (µg/L):			<0.25	U	0.24	J	<0.25	U	0.23	J	1.9		13.5		2.1		<0.050	U
Number of Sampling Locations:			18		18		18		18		18		18		18		18	
Number of Locations above ACL:			0		0		0		0		0		2		0		0	
Percent of Locations with Detections:			0%		11%		0%		39%		39%		89%		61%		0%	

Table A1. Summary of Groundwater Monitoring Analytical Results, Fourth Quarter 2019

Notes:

--: sample collected from an extraction well spigot, therefore no sample depth is given.
Results in **bold** are concentrations above the Aquifer Cleanup Level (ACL).
Results in *gray* are not detected concentrations (result reported as <limit of detection [LOD]).

Analyte Names:

1,1-DCE: 1,1-dichloroethene
1,2-DCA: 1,2-dichloroethane
cis-1,2-DCE: cis-1,2-dichloroethene
PCE: tetrachloroethene
TCE: trichloroethene
total 1,3-DCP: total 1,3-dichloropropene

Acronyms and Abbreviations:

µg/L: micrograms per liter
ACL: aquifer cleanup level
ft btoc: feet below top of casing
Qual: qualifier

Data Validation Qualifiers:

J: Laboratory qualifier, estimated result between the detection limit (DL) and the limit of quantification (LOQ) with a possible high (+) or low (-) bias.
U: Laboratory or validation qualifier, concentration not detected (reported as <LOD).

Table A2. Summary of Groundwater Monitoring Analytical Results, First Quarter 2020

Station	Depth (ft btoc)	Analyte:	1,1-DCE (µg/L)		1,2-DCA (µg/L)		Total 1,3-DCP (µg/L)		Chloroform (µg/L)		cis-1,2-DCE (µg/L)		PCE (µg/L)		TCE (µg/L)		Vinyl chloride (µg/L)	
		Units:	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
EW-12-03-180M	130	3/3/2020	<0.25	U	<0.25	U	<0.25	U	<0.25	U	1.2		<0.25	U	2.1		<0.050	U
EW-12-05-180M	--	3/4/2020	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.26	J	0.68		0.60		<0.050	U
EW-12-07-180M	--	3/4/2020	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.31	J	0.24	J	0.78		<0.050	U
EW-12-08-180U	--	3/4/2020	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	8.4		0.31	J	<0.050	U
MW-02-13-180M	127	3/3/2020	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	2.0		<0.050	U
MW-12-01-180	96	3/4/2020	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.32	J	0.29	J	<0.050	U
MW-12-09R-180	119	3/3/2020	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.93		0.34	J	2.3		<0.050	U
MW-12-14-180M	121	3/2/2020	<0.25	U	<0.25	U	<0.25	U	0.11	J	<0.25	U	0.31	J	1.6		<0.050	U
MW-12-15-180M	135	3/2/2020	<0.25	U	0.15	J	<0.25	U	0.19	J	1.4		0.20	J	1.3		<0.050	U
MW-12-16-180M	135	3/2/2020	<0.25	U	0.32	J	<0.25	U	0.24	J	2.4		<0.25	U	1.8		<0.050	U
MW-12-20-180U	76	3/2/2020	<0.25	U	<0.25	U	<0.25	U	0.43	J	<0.25	U	0.94		<0.25	U	<0.050	U
MW-12-21-180U	75	3/3/2020	<0.25	UJ	<0.25	UJ	<0.25	UJ	0.40	J	<0.25	UJ	0.35	J	<0.25	UJ	<0.050	U
MW-12-22-180U	70	3/4/2020	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.54		<0.25	U	<0.050	U
MW-12-24-180U	70	3/3/2020	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.60		<0.25	U	<0.050	U
MW-12-28-180U	73	3/3/2020	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.52		<0.25	U	<0.050	U
MW-12-29-180U	76	3/3/2020	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.42	J	<0.25	U	<0.050	U
MW-12-30-180U	92	3/3/2020	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.46	J	<0.25	U	<0.050	U
MW-12-32-180U	95	3/3/2020	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.71		0.84		<0.050	U
Maximum Concentration (µg/L):			<0.25	U	0.32	J	<0.25	U	0.43	J	2.4		8.4		2.3		<0.050	U
Number of Sampling Locations:			18		18		18		18		18		18		18		18	
Number of Locations above ACL:			0		0		0		0		0		1		0		0	
Percent of Locations with Detections:			0%		11%		0%		28%		33%		83%		61%		0%	

Table A2. Summary of Groundwater Monitoring Analytical Results, First Quarter 2020

Notes:

--: sample collected from an extraction well spigot, therefore no sample depth is given.

Results in **bold** are concentrations above the Aquifer Cleanup Level (ACL).

Results in *gray* are not detected concentrations (result reported as <limit of detection [LOD]).

Analyte Names:

1,1-DCE: 1,1-dichloroethene

1,2-DCA: 1,2-dichloroethane

cis-1,2-DCE: cis-1,2-dichloroethene

PCE: tetrachloroethene

TCE: trichloroethene

total 1,3-DCP: total 1,3-dichloropropene

Acronyms and Abbreviations:

µg/L: micrograms per liter

ACL: aquifer cleanup level

ft btoc: feet below top of casing

Qual: qualifier

Data Validation Qualifiers:

J: Laboratory qualifier, estimated result between the detection limit (DL) and the limit of quantification (LOQ) with a possible high (+) or low (-) bias.

U: Laboratory or validation qualifier, concentration not detected (reported as <LOD).

UJ: Validation qualifier, The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Table A3. Summary of Groundwater Monitoring Analytical Results, Second Quarter 2020

Station	Depth (ft btoc)	Analyte:	1,1-DCE (µg/L)		1,2-DCA (µg/L)		Total 1,3-DCP (µg/L)		Chloroform (µg/L)		cis-1,2-DCE (µg/L)		PCE (µg/L)		TCE (µg/L)		Vinyl chloride (µg/L)	
		Units:	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
EW-12-03-180M	125	6/1/2020	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.22	J	<0.25	U	0.62		<0.050	U
EW-12-05-180M	--	6/2/2020	<0.25	U	<0.25	U	<0.25	U	0.17	J	0.75		0.95		2.1		<0.050	U
EW-12-07-180M	--	6/2/2020	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.25	J	0.19	J	0.63		<0.050	U
EW-12-08-180U	--	6/2/2020	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	13.1		0.35	J	<0.050	U
MW-02-13-180M	127	6/2/2020	<0.25	U	<0.25	U	<0.25	U	0.12	J	0.10	J	<0.25	U	2.0		<0.050	U
MW-12-01-180	81	6/2/2020	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.49	J	0.22	J	<0.050	U
MW-12-09R-180	124	6/1/2020	<0.25	U	<0.25	U	<0.25	U	0.12	J	0.62		0.30	J	1.4		<0.050	U
MW-12-14-180M	121	6/1/2020	<0.25	U	<0.25	U	<0.25	U	0.12	J	<0.25	U	0.43	J	1.9		<0.050	U
MW-12-15-180M	125	6/1/2020	<0.25	U	0.14	J	<0.25	U	0.22	J	1.4		0.16	J	1.2		<0.050	U
MW-12-16-180M	140	6/1/2020	<0.25	U	0.25	J	<0.25	U	0.26	J	2.2		<0.25	U	1.8		<0.050	U
MW-12-20-180U	76	6/1/2020	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	2.0		<0.25	U	<0.050	U
MW-12-21-180U	70	6/1/2020	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.23	J	<0.25	U	<0.050	U
MW-12-22-180U	75	6/1/2020	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.42	J	<0.25	U	<0.050	U
MW-12-24-180U	80	6/1/2020	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.94		<0.25	U	<0.050	U
MW-12-28-180U	73	6/1/2020	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.42	J	<0.25	U	<0.050	U
MW-12-29-180U	81	6/1/2020	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.43	J	<0.25	U	<0.050	U
MW-12-30-180U	92	6/1/2020	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.63		0.13	J	<0.050	U
MW-12-32-180U	95	6/1/2020	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.57		0.48	J	<0.050	U
Maximum Concentration (µg/L):			<0.25	U	0.25	J	<0.25	U	0.26	J	2.2		13.1		2.1		<0.050	U
Number of Sampling Locations:			18		18		18		18		18		18		18		18	
Number of Locations above ACL:			0		0		0		0		0		1		0		0	
Percent of Locations with Detections:			0%		11%		0%		33%		39%		83%		67%		0%	

Table A3. Summary of Groundwater Monitoring Analytical Results, Second Quarter 2020

Notes:

--: sample collected from an extraction well spigot, therefore no sample depth is given.

Results in **bold** are concentrations above the Aquifer Cleanup Level (ACL).

Results in *gray* are not detected concentrations (result reported as <limit of detection [LOD]).

Analyte Names:

1,1-DCE: 1,1-dichloroethene

1,2-DCA: 1,2-dichloroethane

cis-1,2-DCE: cis-1,2-dichloroethene

PCE: tetrachloroethene

TCE: trichloroethene

total 1,3-DCP: total 1,3-dichloropropene

Acronyms and Abbreviations:

µg/L: micrograms per liter

ACL: aquifer cleanup level

ft btoc: feet below top of casing

Qual: qualifier

Data Validation Qualifiers:

J: Laboratory qualifier, estimated result between the detection limit (DL) and the limit of quantification (LOQ) with a possible high (+) or low (-) bias.

U: Laboratory or validation qualifier, concentration not detected (reported as <LOD).

Table A4. Summary of Groundwater Monitoring Analytical Results, Third Quarter 2020

Station	Depth (ft btoc)	Analyte:	1,1-DCE		1,2-DCA		Total 1,3-DCP		Chloroform		cis-1,2-DCE		PCE		TCE		Vinyl Chloride	
		Units:	µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L	
		Date	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
EW-12-03-180M	130	8/31/2020	<0.25	U	<0.25	U	<0.25	U	<0.25	U	1.2		0.18	J	2.4		<0.050	U
EW-12-05-180M	--	9/2/2020	<0.25	U	<0.25	U	<0.25	UJ	0.16	J	0.64		0.65		1.9		<0.050	U
EW-12-07-180M	--	9/2/2020	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.16	J	0.12	J	0.54		<0.050	U
EW-12-08-180U	--	9/2/2020	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	11.6		0.36	J	<0.050	U
MW-02-13-180M	127	9/1/2020	<0.25	U	<0.25	U	<0.25	U	0.12	J	0.11	J	<0.25	U	1.5		<0.050	U
MW-12-01-180	86	8/31/2020	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.38	J	0.22	J	<0.050	U
MW-12-09R-180	119	8/31/2020	<0.25	U	<0.25	U	<0.25	U	0.12	J	0.52		0.21	J	1.2		<0.050	U
MW-12-14-180M	121	8/31/2020	<0.25	U	<0.25	U	<0.25	U	0.14	J	0.10	J	0.36	J	2.1		<0.050	U
MW-12-15-180M	130	8/31/2020	<0.25	U	0.15	J	<0.25	U	0.22	J	1.4		0.16	J	1.4		<0.050	U
MW-12-16-180M	140	9/1/2020	<0.25	U	0.24	J	<0.25	U	0.27	J	1.9		<0.25	U	1.7		<0.050	U
MW-12-20-180U	76	8/31/2020	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	3.1		<0.25	U	<0.050	U
MW-12-21-180U	75	8/31/2020	<0.25	U	<0.25	U	<0.25	U	0.53		<0.25	U	0.41	J	<0.25	U	<0.050	U
MW-12-22-180U	80	8/31/2020	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.31	J	<0.25	U	<0.050	U
MW-12-24-180U	70	8/31/2020	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.33	J	<0.25	U	<0.050	U
MW-12-25-180U	80	8/31/2020	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.14	J	<0.25	U	<0.050	U
MW-12-26-180U	91	8/31/2020	<0.25	U	<0.25	U	<0.25	U	0.12	J	<0.25	U	0.36	J	<0.25	U	<0.050	U
MW-12-28-180U	73	8/31/2020	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.39	J	<0.25	U	<0.050	U
MW-12-29-180U	86	8/31/2020	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.37	J	<0.25	U	<0.050	U
MW-12-30-180U	92	8/31/2020	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.56		<0.25	U	<0.050	U
MW-12-31-180M	97	8/31/2020	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.30	J	<0.25	U	<0.050	U
MW-12-32-180U	95	8/31/2020	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.64		0.64		<0.050	U
Maximum Concentration (µg/L):			<0.25	U	0.24	J	<0.25	U	0.53		1.9		11.6		2.4		<0.050	U
Number of Sampling Locations:			21		21		21		21		21		21		21		21	
Number of Locations above ACL:			0		0		0		0		0		1		0		0	
Percent of Locations with Detections:			0%		10%		0%		38%		38%		90%		52%		0%	

Table A4. Summary of Groundwater Monitoring Analytical Results, Third Quarter 2020

Notes:

--: sample collected from an extraction well spigot, therefore no sample depth is given.

Results in **bold** are concentrations above the Aquifer Cleanup Level (ACL).

Results in **gray** are not detected concentrations (result reported as <limit of detection [LOD]).

Analyte Names:

1,1-DCE: 1,1-dichloroethene

1,2-DCA: 1,2-dichloroethane

cis-1,2-DCE: cis-1,2-dichloroethene

PCE: tetrachloroethene

TCE: trichloroethene

total 1,3-DCP: total 1,3-dichloropropene

Acronyms and Abbreviations:

µg/L: micrograms per liter

ACL: aquifer cleanup level

ft btoc: feet below top of casing

PDB: passive diffusion bag

Qual: qualifier

Data Validation Qualifiers:

J: Laboratory qualifier, estimated result between the detection limit (DL) and the limit of quantification (LOQ) with a possible high (+) or low (-) bias.

U: Laboratory or validation qualifier, concentration not detected (reported as <LOD).

UJ: Validation qualifier, The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Table A5. Summary of Groundwater Monitoring Analytical Results, Fourth Quarter 2020

Station	Depth (ft btoc)	Analyte: Units: Date:	1,1-DCE (µg/L)		1,2-DCA (µg/L)		trans-1,3- DCP (µg/L)		cis-1,3- DCP (µg/L)		Chloroform (µg/L)		cis-1,2-DCE (µg/L)		PCE (µg/L)		TCE (µg/L)		Vinyl chloride (µg/L)		
			Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	
			Total 1,3-DCP*																		
EW-12-03-180M	130	12/7/2020	<0.070	U	<0.15	U	<0.1	U	<0.1	U	0.031	J	0.93		0.16	J	2.3		<0.015	U	
EW-12-05-180M	--	12/9/2020	<0.070	U	<0.15	U	<0.1	U	<0.1	U	0.17	J	0.53		0.79		2.4		<0.015	UJ	
EW-12-07-180M	--	12/9/2020	<0.070	U	<0.15	U	<0.1	U	<0.1	U	<0.070	U	0.15	J	0.14	J	0.59		<0.015	UJ	
EW-12-08-180U	--	12/9/2020	<0.070	U	<0.15	U	<0.1	U	<0.1	U	0.067	J	<0.15	U	6.1		0.16	J	<0.015	U	
MW-02-13-180M	127	12/8/2020	<0.070	U	<0.15	U	<0.1	U	<0.1	U	0.12	J	0.12	J	<0.25	U	1.6		<0.015	U	
MW-12-01-180	91	12/7/2020	<0.070	U	<0.15	U	<0.1	U	<0.1	U	0.065	J	<0.15	U	0.3	J	0.24		<0.015	U	
MW-12-09R-180	119	12/7/2020	<0.070	U	<0.15	U	<0.1	U	<0.1	U	0.11	J	0.52		0.26	J	1.6		<0.015	U	
MW-12-14-180M	121	12/7/2020	<0.070	U	<0.15	U	<0.1	U	<0.1	U	0.12	J	<0.15	U	0.32	J	1.2		<0.015	U	
MW-12-15-180M	135	12/7/2020	<0.070	U	<0.16	U	<0.1	U	<0.1	U	0.21		1.2		0.20	J	1.4		<0.015	U	
MW-12-16-180M	140	12/7/2020	<0.070	U	0.24		<0.1	U	<0.1	U	0.29		1.9		0.089	J	2.0		0.016	J	
MW-12-20-180U	76	12/7/2020	<0.070	U	<0.15	U	<0.1	U	<0.1	U	0.39		<0.15	U	0.78		<0.15	U	<0.015	U	
	81	12/7/2020	<0.070	U	<0.15	U	<0.1	U	<0.1	U	0.39		<0.15	U	0.87		<0.15	U	<0.015	U	
MW-12-21-180U	70	12/7/2020	<0.070	U	<0.15	U	<0.1	U	<0.1	U	0.43		<0.15	U	0.38	J	<0.15	U	<0.015	U	
	85	12/7/2020	<0.070	U	<0.15	U	<0.1	U	<0.1	U	0.40		<0.15	U	0.36	J	<0.15	U	<0.015	U	
MW-12-22-180U	70	12/7/2020	<0.070	U	<0.15	U	<0.1	U	<0.1	U	<0.070	U	<0.15	U	0.32	J	<0.15	U	<0.015	U	
MW-12-24-180U	75	12/7/2020	<0.070	U	<0.15	U	<0.1	U	<0.1	U	<0.070	U	<0.15	U	0.36	J	<0.15	U	<0.015	U	
MW-12-25-180U	80	12/21/202	<0.070	U	<0.15	U	<0.1	U	<0.1	U	0.046	J	<0.15	U	0.12	J	<0.15	U	<0.015	UJ	
MW-12-28-180U	73	12/7/2020	<0.070	U	<0.15	U	<0.1	U	<0.1	U	0.031	J	<0.15	U	0.36	J	<0.15	U	<0.015	U	
MW-12-29-180U	76	12/7/2020	<0.070	U	<0.15	U	<0.1	U	<0.1	U	<0.070	U	<0.15	U	0.37	J	<0.15	U	<0.015	U	
MW-12-30-180U	92	12/7/2020	<0.070	U	<0.15	U	<0.1	U	<0.1	U	0.13	J	<0.15	U	0.63		0.16	J	<0.015	U	
MW-12-32-180U	95	12/7/2020	<0.070	U	<0.15	U	<0.1	U	<0.1	U	<0.070	U	<0.15	U	0.73		0.70		<0.015	U	
Maximum Concentration (µg/L):			<0.070	U	0.24		<0.1	U	<0.1	U	0.43		1.9		6.1		2.4		0.016	J	
Number of Sampling Locations:			19		19		19		19		19		19		19		19		19		
Number of Locations above ACL:			0		0		0		0		0		0		1		0		0		
Percent of Locations with Detections:			0%		5%		0%		0%		74%		37%		95%		63%		5%		

Table A5. Summary of Groundwater Monitoring Analytical Results, Fourth Quarter 2020

Notes:

Results in **bold** are concentrations above the Aquifer Cleanup Level (ACL).

Results in *gray* are not detected concentrations (result reported as <limit of detection [LOD]).

*Total 1,3-DCP was represented by analyzing the isomers trans-1,3-DCP and cis-1,3-DCP

Analyte Names:

1,1-DCE: 1,1-dichloroethene

1,2-DCA: 1,2-dichloroethane

cis-1,2-DCE: cis-1,2-dichloroethene

DCP: dichloropropene

PCE: tetrachloroethene

TCE: trichloroethene

Acronyms and Abbreviations:

µg/L: micrograms per liter

ft btoc: feet below top of casing

Qual: qualifier

Data Validation Qualifiers:

J: Laboratory qualifier, estimated result between the detection limit (DL) and the limit of quantification (LOQ) with a possible high (+) or low (-) bias.

U: Laboratory or validation qualifier, concentration not detected (reported as <LOD).

UJ: Validation qualifier, The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Table A6. Summary of Groundwater Monitoring Analytical Results, First Quarter 2021

Station	Depth (ft btoc)	Analyte: Units:	1,1-DCE (µg/L)		1,2-DCA (µg/L)		1,3-DCP (µg/L)		Chloroform (µg/L)		cis-1,2-DCE (µg/L)		PCE (µg/L)		TCE (µg/L)		Vinyl chloride (µg/L)	
		Date:	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
EW-12-03-180M	125	3/2/2021	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.14	J	<0.050	U
EW-12-05-180M	--	3/3/2021	<0.25	U	<0.25	U	<0.25	U	0.17	J	0.69		0.71		2.0		<0.050	U
EW-12-07-180M	--	3/3/2021	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.25	J	0.16	J	0.56	J+	<0.050	U
EW-12-08-180U	--	3/3/2021	<0.25	U	<0.25	U	<0.25	U	0.11	J	<0.25	U	5.3	J+	0.27	J	<0.050	U
MW-02-13-180M	127	3/2/2021	<0.25	U	<0.25	U	<0.25	U	<0.25	U	4.2		<0.25	U	0.53		<0.050	U
MW-12-01-180	96	3/1/2021	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.36	J	0.28	J	<0.050	U
MW-12-09R-180	124	3/1/2021	<0.25	U	<0.25	U	<0.25	U	0.12	J	0.76		0.27	J	1.7		<0.050	U
MW-12-14-180M	121	3/1/2021	<0.25	U	<0.25	U	<0.25	U	0.16	J	<0.25	U	0.34	J	1.4	J+	<0.050	U
MW-12-15-180M	140	3/1/2021	<0.25	U	0.14	J	<0.25	U	0.24	J	1.4	J+	0.23	J	1.5	J+	<0.050	U
MW-12-16-180M	140	3/2/2021	<0.25	U	0.31	J	<0.25	U	0.31	J	2.7		0.11	J	2.6		<0.050	U
MW-12-20-180U	76	3/1/2021	<0.25	U	<0.25	U	<0.25	U	0.36	J	<0.25	U	0.81		<0.25	U	<0.050	U
MW-12-21-180U	70	3/2/2021	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.32	J	<0.25	U	<0.050	U
	75	3/2/2021	<0.25	U	<0.25	U	<0.25	U	0.51		<0.25	U	0.38	J	<0.25	U	<0.050	U
MW-12-22-180U	75	3/1/2021	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.35	J	<0.25	U	<0.050	U
MW-12-24-180U	80	3/1/2021	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.68		<0.25	U	<0.050	U
MW-12-28-180U	73	3/1/2021	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.29	J	<0.25	U	<0.050	U
MW-12-29-180U	81	3/1/2021	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.38	J	<0.25	U	<0.050	U
MW-12-30-180U	92	3/1/2021	<0.25	U	<0.25	U	<0.25	U	0.15	J	<0.25	U	0.62		0.21	J	<0.050	U
MW-12-32-180U	95	3/1/2021	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.50		0.55		<0.050	U
Maximum Concentration (µg/L):			<0.25	U	0.31	J	<0.25	U	0.51		4.2		5.3	J+	2.6		<0.050	U
Number of Sampling Locations:			18		18		18		18		18		18		18		18	
Number of Locations above ACL:			0		0		0		0		0		1		0		0	
Percent of Locations with Detections:			0%		11%		0%		50%		33%		89%		67%		0%	

Table A6. Summary of Groundwater Monitoring Analytical Results, First Quarter 2021

Notes:

Results in **bold** are concentrations above the Aquifer Cleanup Level (ACL).

Results in *gray* are not detected concentrations (result reported as <limit of detection [LOD]).

--: sample collected from an extraction well pump spigot, therefore no sample depth is given.

Analyte Names:

1,1-DCE: 1,1-dichloroethene

1,2-DCA: 1,2-dichloroethane

cis-1,2-DCE: cis-1,2-dichloroethene

PCE: tetrachloroethene

TCE: trichloroethene

1,3-DCP: 1,3-dichloropropene

Acronyms and Abbreviations:

µg/L: micrograms per liter

ft btoc: feet below top of casing

Qual: qualifier

Data Validation Qualifiers:

J: Laboratory qualifier, estimated result between the detection limit (DL) and the limit of quantification (LOQ) with a possible high (+) or low (-) bias.

U: Laboratory or validation qualifier, concentration not detected (reported as <LOD).

Table A7. Summary of Groundwater Monitoring Analytical Results, Second Quarter 2021

Station	Depth (ft btoc)	Analyte: Units:	1,1-DCE (µg/L)		1,2-DCA (µg/L)		1,3-DCP (µg/L)		Chloroform (µg/L)		cis-1,2-DCE (µg/L)		PCE (µg/L)		TCE (µg/L)		Vinyl chloride (µg/L)	
		Date:	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
EW-12-03-180M	125	6/7/2021	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.20	J	<0.25	U	0.70		<0.050	U
EW-12-05-180M	--	6/9/2021	<0.25	U	<0.25	U	<0.25	U	0.16	J	0.65		0.73		2.3		<0.050	U
EW-12-07-180M	--	6/9/2021	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.17	J	0.12	J	0.45	J	<0.050	U
EW-12-08-180U	--	6/9/2021	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	3.4		0.25	J	<0.050	U
MW-02-13-180M	127	6/7/2021	<0.25	U	<0.25	U	<0.25	U	0.10	J	0.12	J	<0.25	U	1.7		<0.050	U
MW-12-01-180	101	6/7/2021	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.25	J	0.25	J	<0.050	U
MW-12-09R-180	119	6/7/2021	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.63		0.21	J	1.4		<0.050	U
MW-12-14-180M	121	6/7/2021	<0.25	U	<0.25	U	<0.25	U	0.12	J	<0.25	U	0.31	J	1.4		<0.050	U
MW-12-15-180M	125	6/7/2021	<0.25	U	<0.25	U	<0.25	U	0.16	J	1.2		0.11	J	1.2		<0.050	U
MW-12-16-180M	135	6/8/2021	<0.25	U	0.25	J	<0.25	U	0.27	J	2.3		<0.25	U	2.1		<0.050	U
MW-12-20-180U	66	6/7/2021	<0.25	U	<0.25	U	<0.25	U	0.13	J	<0.25	U	0.59		<0.25	U	<0.050	U
MW-12-20-180U	71	6/7/2021	<0.25	U	<0.25	U	<0.25	U	0.25	J	<0.25	U	0.61		<0.25	U	<0.050	U
MW-12-20-180U	81	6/7/2021	<0.25	U	<0.25	U	<0.25	U	0.35	J	<0.25	U	0.75		<0.25	U	<0.050	U
MW-12-21-180U	75	6/8/2021	<0.25	U	<0.25	U	<0.25	U	0.54		<0.25	U	0.36	J	<0.25	U	<0.050	U
MW-12-21-180U	80	6/8/2021	<0.25	U	<0.25	U	<0.25	U	0.53		<0.25	U	0.25	J	<0.25	U	<0.050	U
MW-12-22-180U	70	6/7/2021	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.25	J	<0.25	U	<0.050	U
MW-12-24-180U	70	6/7/2021	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.29	J	<0.25	U	<0.050	U
MW-12-25-180U	75	6/9/2021	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.050	U
MW-12-28-180U	73	6/7/2021	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.32	J	<0.25	U	<0.050	U
MW-12-29-180U	86	6/7/2021	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.32	J	<0.25	U	<0.050	U
MW-12-30-180U	92	6/7/2021	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.48	J	0.18	J	<0.050	U
MW-12-32-180U	95	6/7/2021	<0.25	U	<0.25	U	<0.25	U	<0.25	U	<0.25	U	0.52		0.62		<0.050	U
Maximum Concentration (µg/L):			<0.25	U	0.25	J	<0.25	U	0.54		2.3		3.4		2.3		<0.050	U
Number of Sampling Locations:			22		22		22		22		22		22		22		22	
Number of Locations above ACL:			0		0		0		0		0		0		0		0	
Percent of Locations with Detections:			0%		5%		0%		45%		32%		82%		55%		0%	

Table A7. Summary of Groundwater Monitoring Analytical Results, Second Quarter 2021

Notes:

Results in **bold** are concentrations above the Aquifer Cleanup Level (ACL).

Results in *gray* are not detected concentrations (result reported as <limit of detection [LOD]).

--: sample collected from an extraction well pump spigot, therefore no sample depth is given.

Analyte Names:

1,1-DCE: 1,1-dichloroethene

1,2-DCA: 1,2-dichloroethane

cis-1,2-DCE: cis-1,2-dichloroethene

PCE: tetrachloroethene

TCE: trichloroethene

1,3-DCP: 1,3-dichloropropene

Acronyms and Abbreviations:

µg/L: micrograms per liter

ft btoc: feet below top of casing

Qual: qualifier

Data Validation Qualifiers:

J: Laboratory qualifier, estimated result between the detection limit (DL) and the limit of quantification (LOQ) with a possible high (+) or low (-) bias.

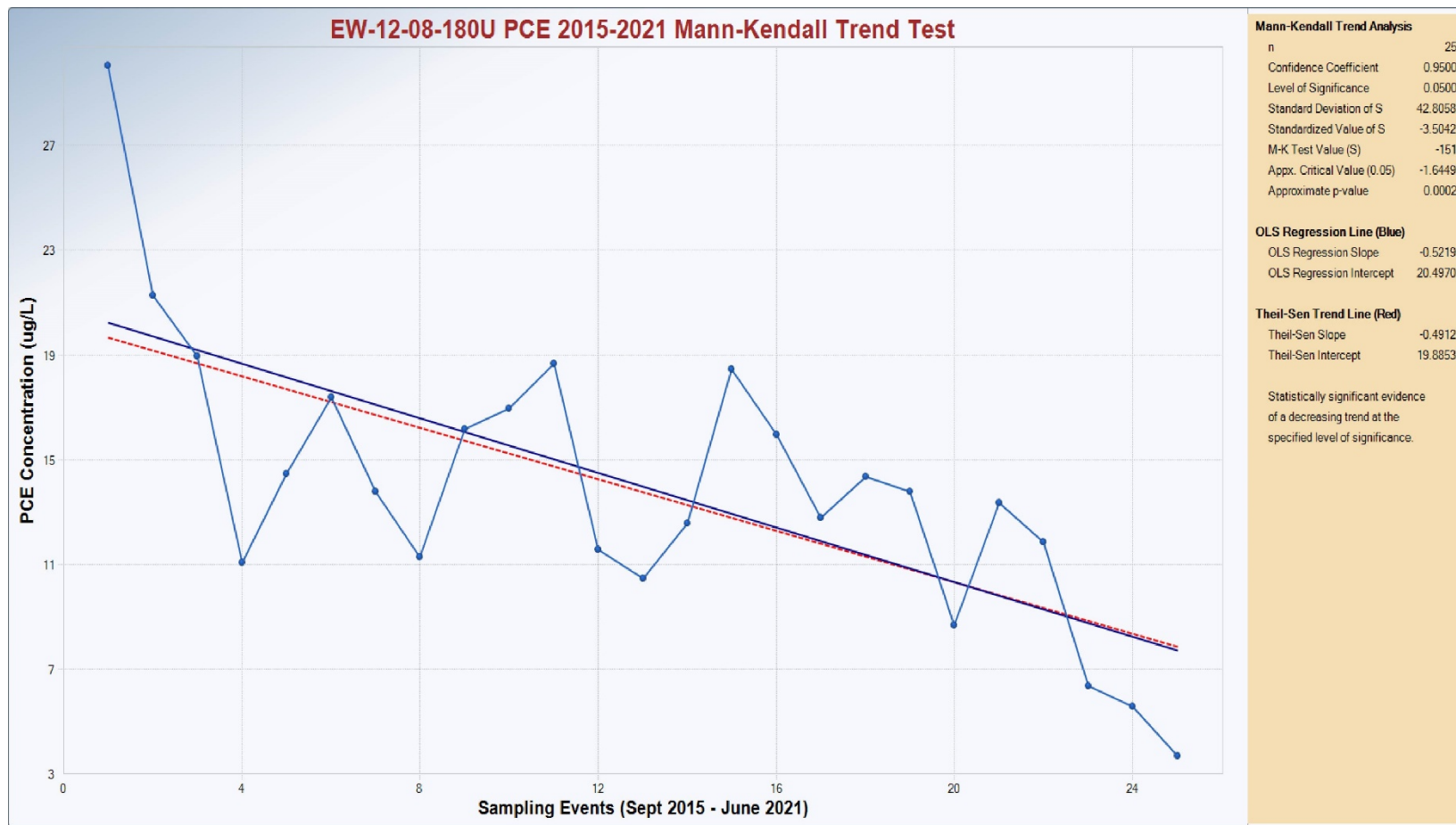
U: Laboratory or validation qualifier, concentration not detected (reported as <LOD).

APPENDIX B

Mann-Kendall Trend Analyses for Select Groundwater Wells

Table B-1. 95% UCL for Select Well Sites 2/12

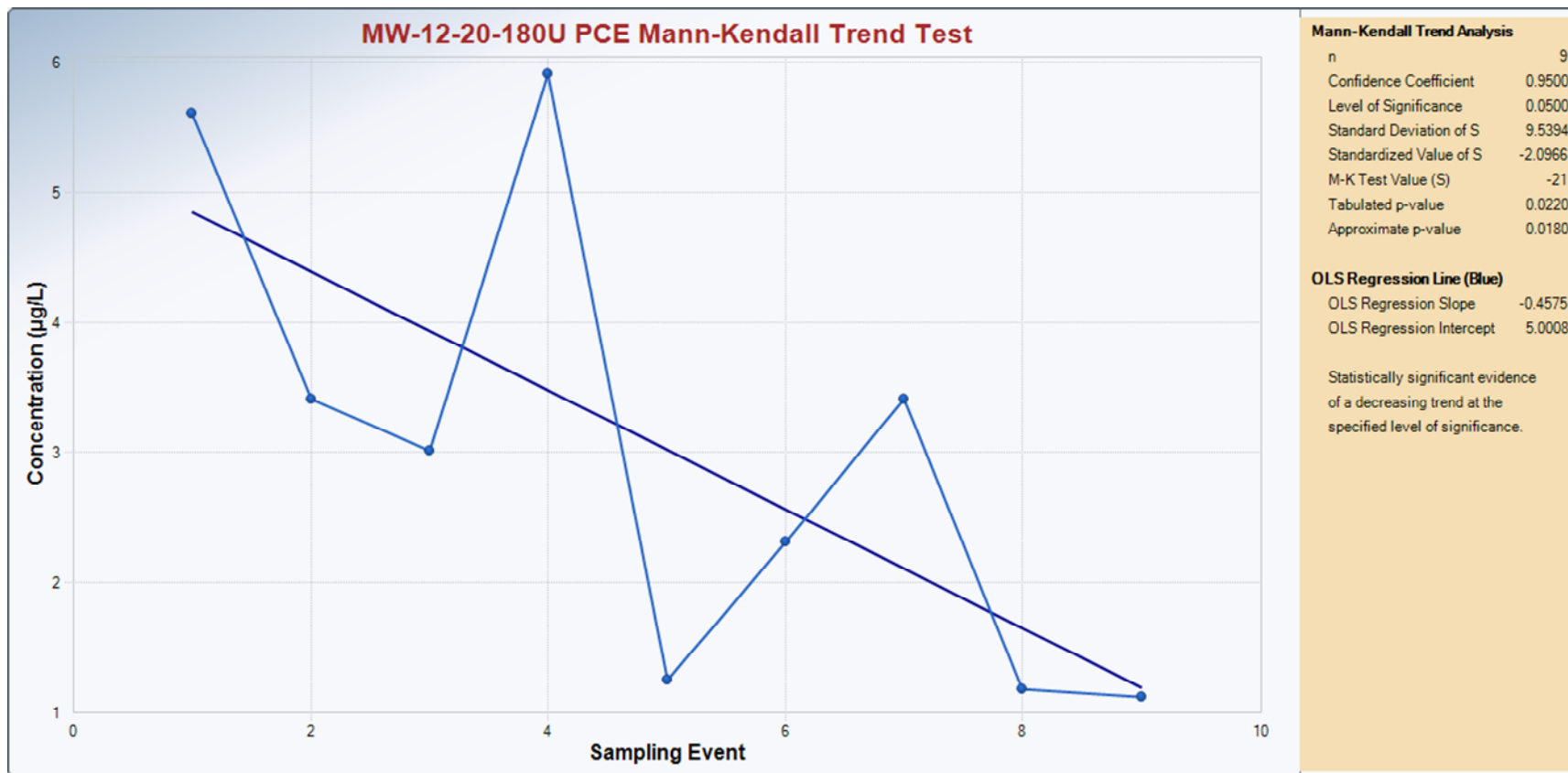
Well	Number of Data Points	COC	95% UCL	
			Result	≥ ACL
EW-12-08-180U	10	PCE	12.83	Yes
MW-12-20-180U	9	PCE	-	-
		TCE	-	-
MW-12-21-180U	10	PCE	0.398	No
MW-12-22-180U	10	PCE	0.475	No
MW-12-24-180U	10	PCE	1.753	No
MW-12-28-180U	10	PCE	0.443	No
MW-12-29-180U	10	PCE	0.446	No



PCE Mann-Kendall Trend Test
EW-12-08-180U
September 2015 – June 2021
 Sites 2 and 12
 Site Exit Strategy
 Former Fort Ord, CA

Figure

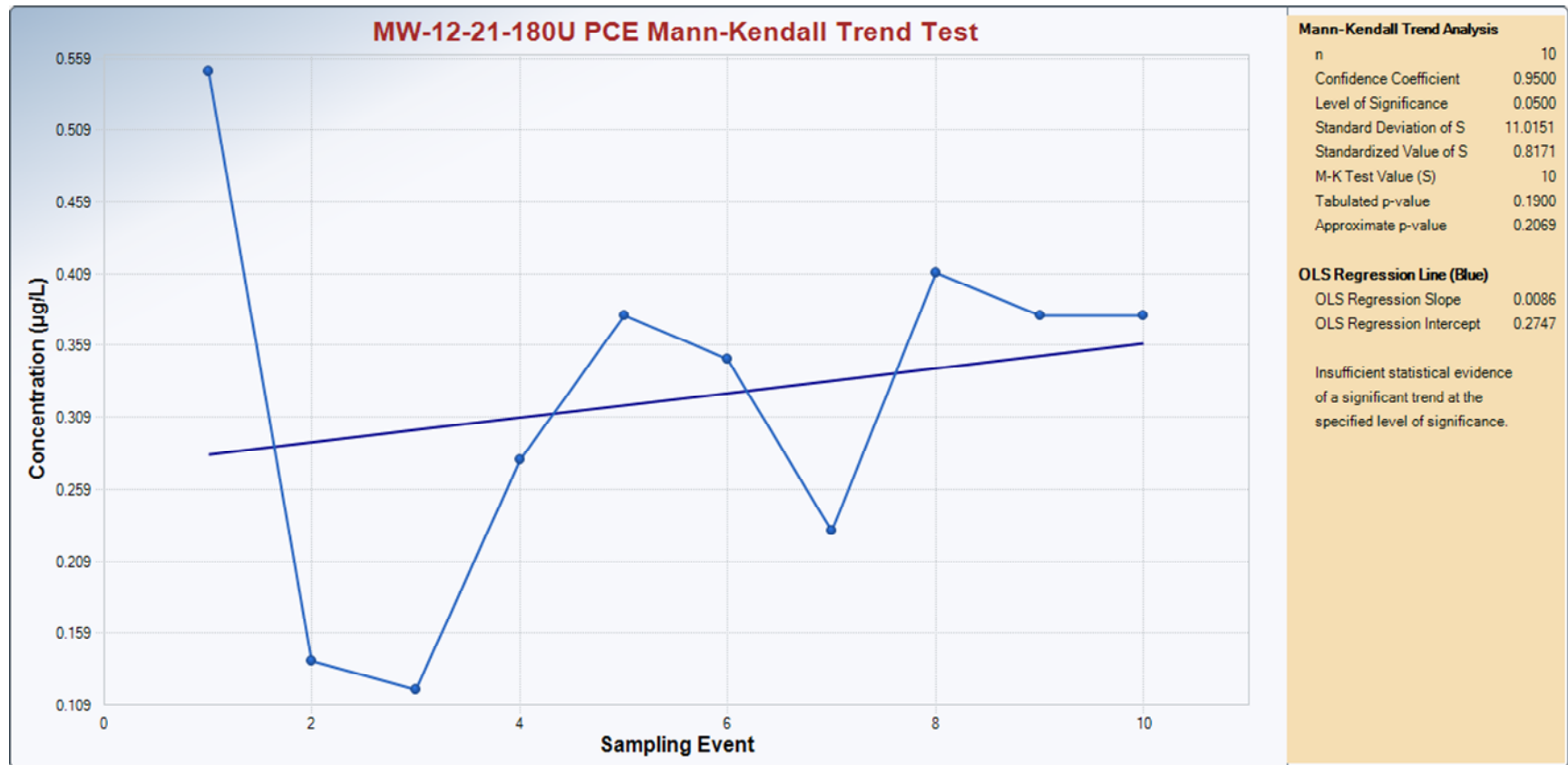
B1



**PCE Mann-Kendall Trend Test
MW-12-20-180U
February 2019 – May 2021
Sites 2 and 12
Site Exit Strategy
Former Fort Ord, CA**

Figure:

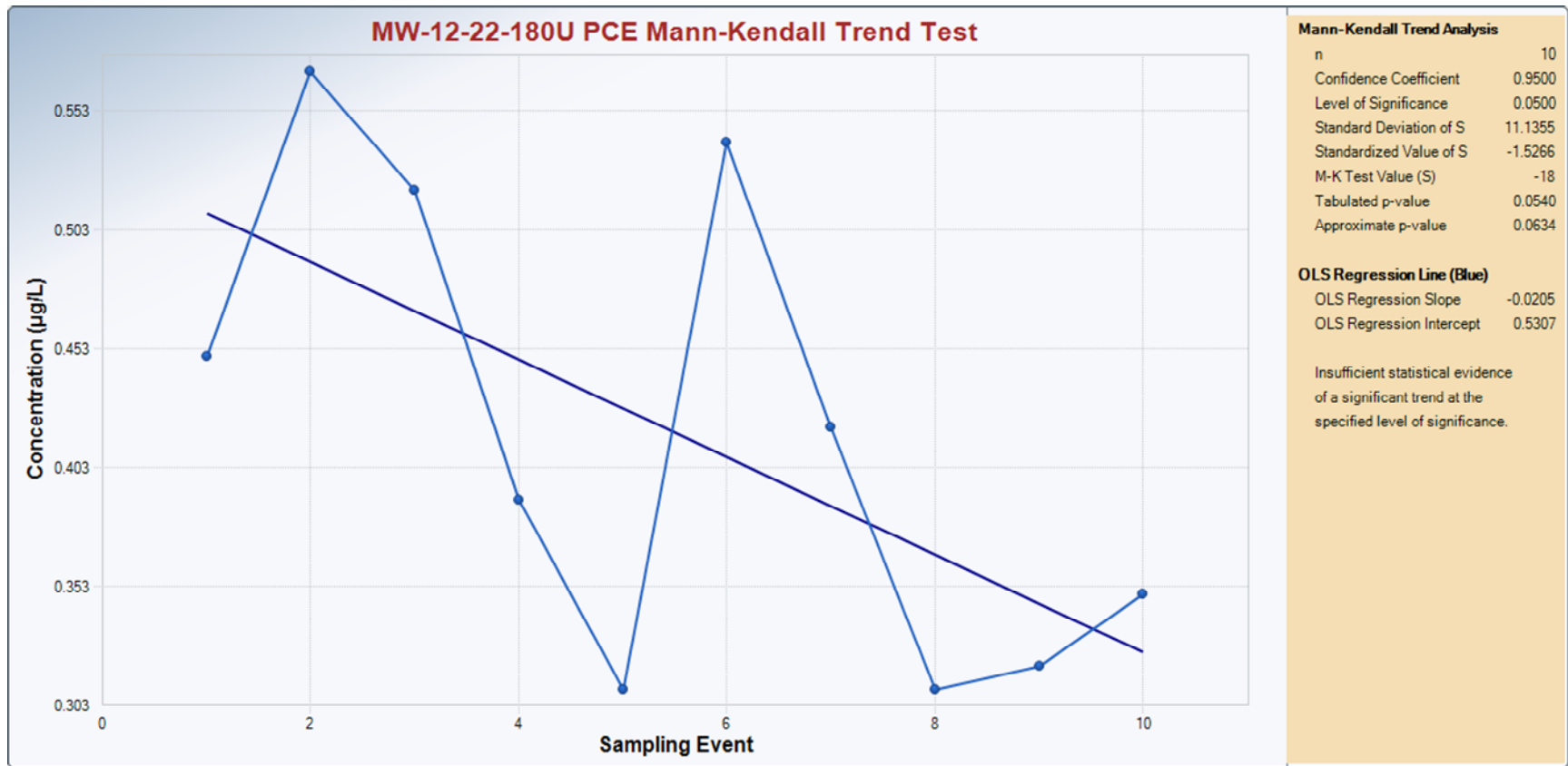
B2



**PCE Mann-Kendall Trend Test
MW-12-21-180U
February 2019 – May 2021
Sites 2 and 12
Site Exit Strategy
Former Fort Ord, CA**

Figure:

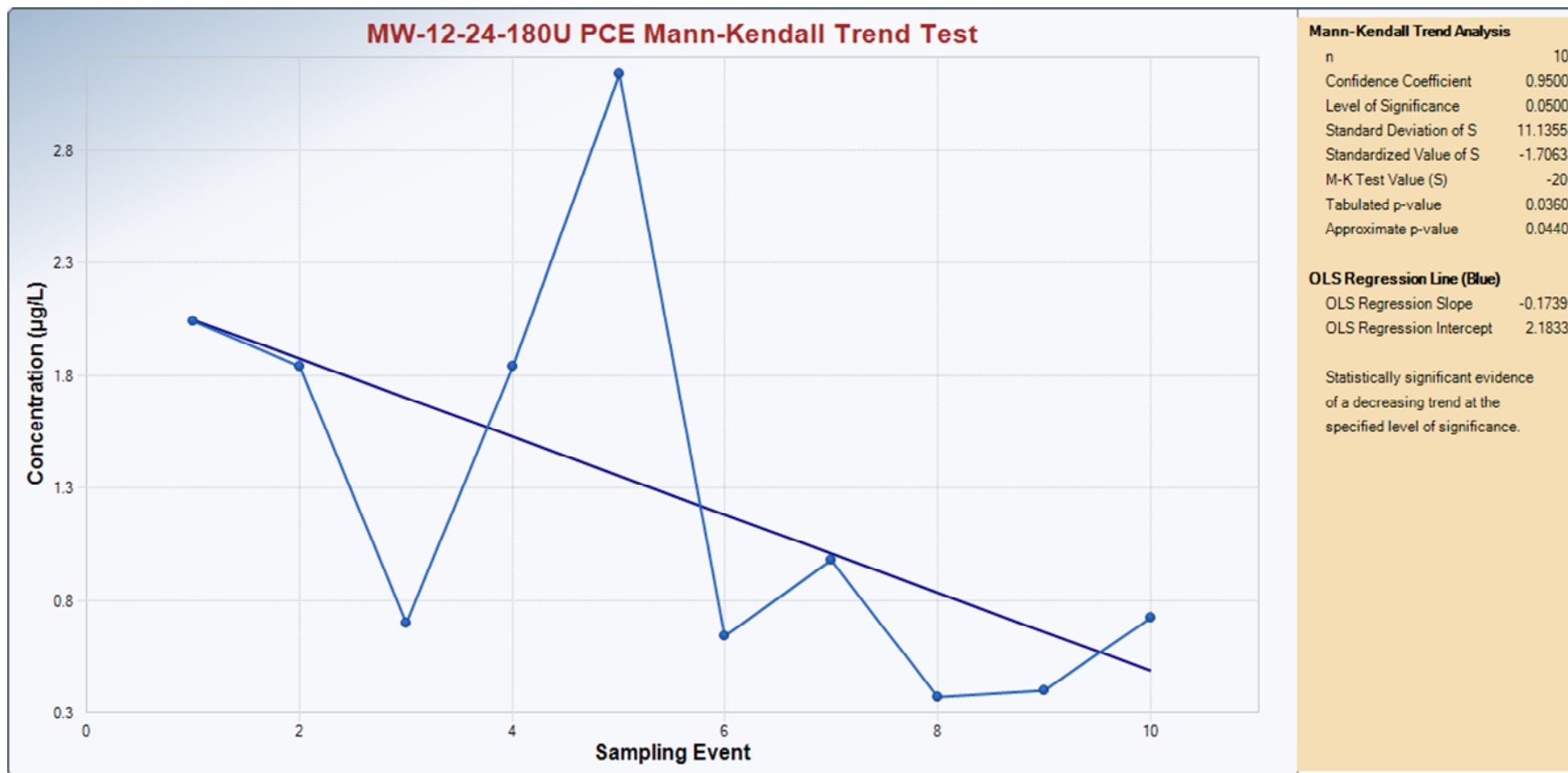
B3



PCE Mann-Kendall Trend Test
MW-12-22-180U
February 2019 – May 2021
 Sites 2 and 12
 Site Exit Strategy
 Former Fort Ord, CA

Figure:

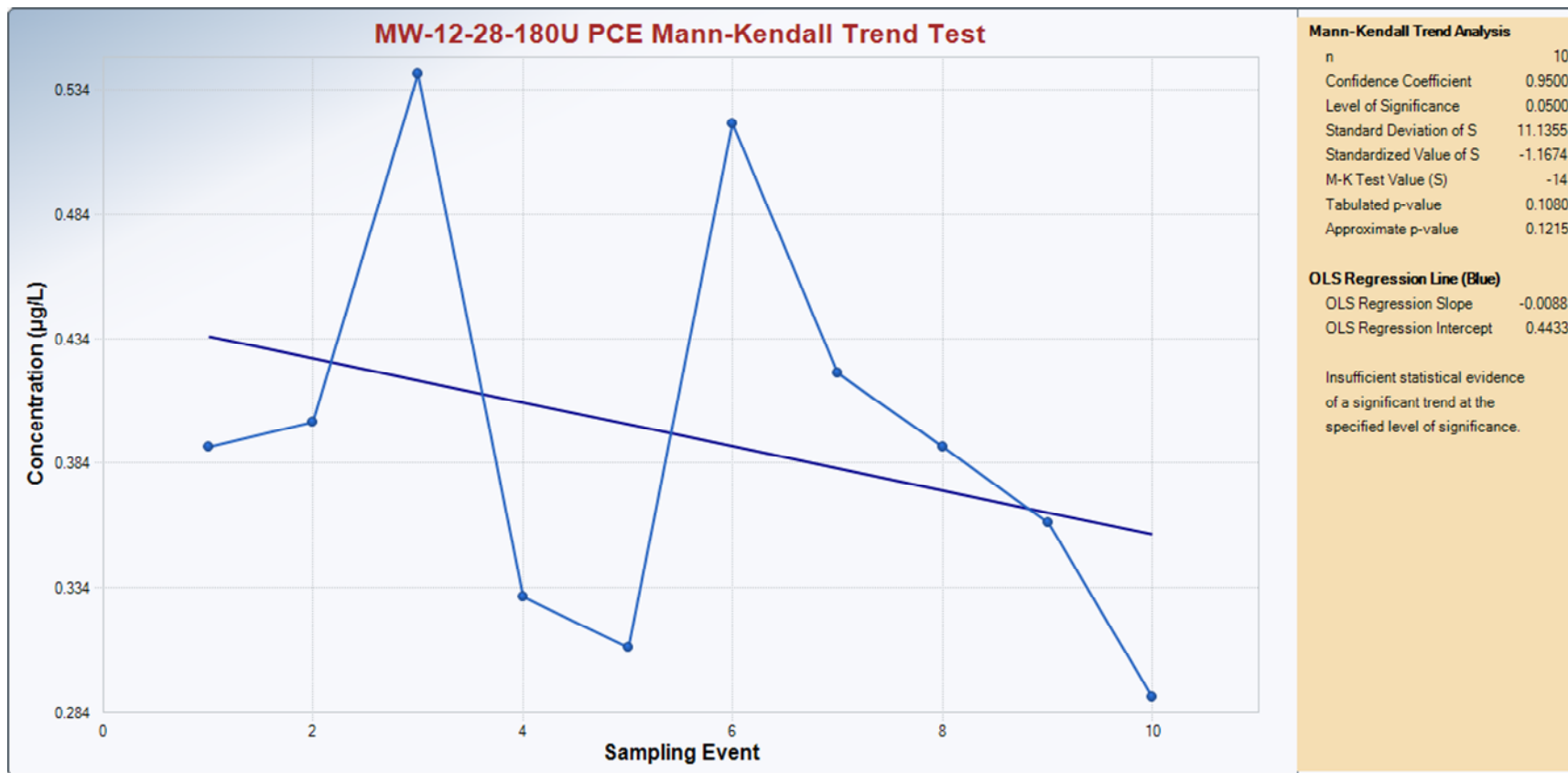
B4



PCE Mann-Kendall Trend Test
MW-12-24-180U
February 2019 – May 2021
Sites 2 and 12
Site Exit Strategy
Former Fort Ord, CA

Figure:

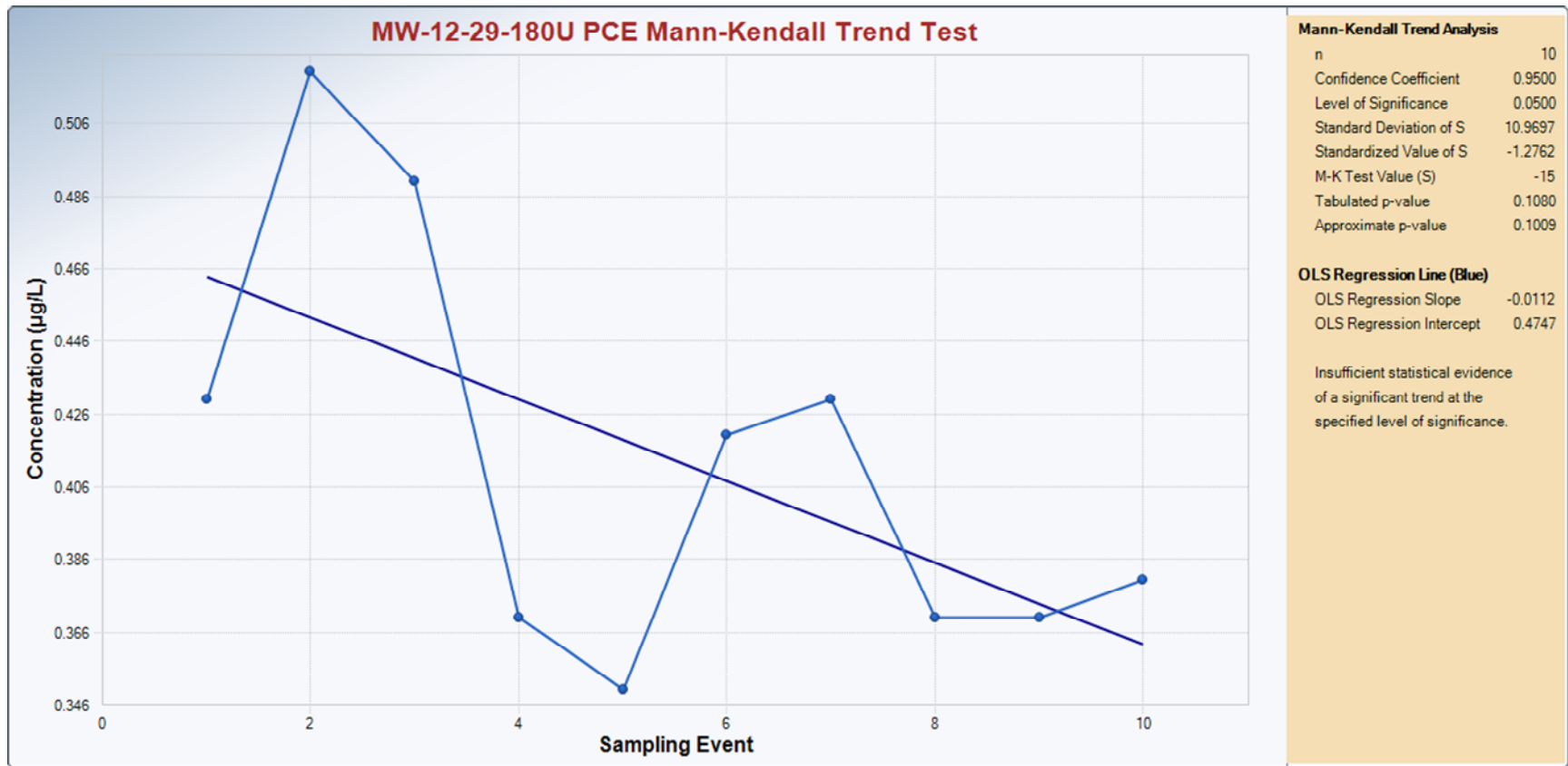
B5



PCE Mann-Kendall Trend Test
MW-12-28-180U
February 2019 – May 2021
Sites 2 and 12
Site Exit Strategy
Former Fort Ord, CA

Figure:

B6



PCE Mann-Kendall Trend Test
MW-12-29-180U
February 2019 – May 2021
 Sites 2 and 12
 Site Exit Strategy
 Former Fort Ord, CA

Figure:

B7