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Memorandum

To: Sunny Becker, Washington State Department of Ecology
Copies: Scott Adamek and Ryan Robert, City of Bothell
From: Gabe Cisneros and Danielle Gallaher, Floyd|Snider
Date: April 3, 2025
Project ID: COB-OnCall 2717
Re: **2024 Annual Groundwater Monitoring**

INTRODUCTION

This annual groundwater monitoring memorandum presents the results of the 2024 annual groundwater monitoring and sampling events conducted in April and September 2024 at the City of Bothell's (City's) Bothell Service Center (BSC) Simon & Son Site (Site) located at 9911 Main Street, formerly identified as 18107 Bothell Way NE in Bothell, Washington (Figure 1). Annual performance monitoring at the Site was conducted in accordance with the Consent Decree (CD) No. 18-2-02852-3 SEA (first and latest amendment entered into King County Superior Court on October 31, 2019). Annual groundwater sampling is conducted to monitor the performance of selected remedy in reducing chlorinated volatile organic compounds (CVOCs) concentrations in groundwater. The sections below include the following:

- A brief summary of the Site background
- Timeline of the selected remedy
- A review of the previous data
- System optimization adjustments
- Field activities performed during monitoring events
- Analytical results
- Evaluation of the results based on system adjustments
- Conclusions and next steps

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SITE BACKGROUND AND HISTORY

The property containing the source of contamination was previously owned by Bothell Service Center Associates. The Site was once three separate parcels that included the following:

- A former dry cleaning facility, BSC, located in the northwestern portion of the Site
- A former gasoline station and automotive repair facility, Al's Auto Bothell Wexler (Wexler), in the northeastern portion of the Site
- A former automotive repair, Bothell Former Hertz/AARenco/AA Rentals of Bothell Inc. (Hertz), in the southern portion of the Site

All three former parcels are currently located within one city block (Bothell Lot D) that consists of one parcel (King County Tax Parcel No. 945720-0050) totaling approximately 2.6 acres. The Site has been developed into an approximate 105,000-square foot mixed-use, six-story multi-family apartment building, with occupancy beginning in 2025. The ground floor consists of an open-air parking garage, residential apartments to the north and west, and commercial tenant spaces to the east (along Bothell Way Northeast). The second floor consists of an open-air parking garage and residential apartments, and the third through sixth floors consist of residential apartments.

From the 1990s to present, numerous subsurface investigations and remedial actions have been performed at the Site. Historical investigation results indicated that total petroleum hydrocarbons, metals, and CVOCs were present in soil and groundwater.

Summarize Cleanup Action Plan Remedial Action Objectives

The 2015 Remedial Investigation/Feasibility Study identified exposure pathways of constituents of concern (COCs) at the Site, and based on the nature and the extent of contamination, the likely greatest potential risk to human receptors is dermal contact of soil and/or groundwater to construction workers during soil-disturbing activities (HWA Geosciences Inc. 2015). The Site COCs were determined to be tetrachloroethylene (PCE), trichloroethylene (TCE), *cis*-1,2-dichloroethylene (DCE), and vinyl chloride (VC). However, since the redevelopment of the properties, the most likely exposure risk is inhalation of vapors by commercial workers within the businesses and occupants of the residential dwellings on the ground floor. Additionally, another potential risk is to ecological receptors, which include incidental soil ingestion and dermal contact, as well as ingestion and direct contact with groundwater. Therefore, the remedial action objectives for the selected cleanup addressed these risks, which are currently being mitigated to remove the contaminants to levels that are protective to receptors, and institutional or engineering controls were placed to prevent exposure. The selected Model Toxics Control Act (MTCA) Methods A and B cleanup levels for soil and groundwater at the Site are shown in the tables below.

Site Soil Cleanup Levels (CULs) for Unrestricted Land Use

COC	MTCA Method A Soil CUL
PCE	0.05 mg/kg
TCE	0.03 mg/kg
DCE	0.00515 mg/kg (protection of groundwater saturated)
VC	0.0000885 mg/kg (protection of groundwater saturated)

Abbreviation:
mg/kg Milligrams per kilogram

Site Groundwater CULs

COC	MTCA Method A and B Groundwater CUL
PCE	5 µg/L
TCE	5 µg/L
DCE	16 µg/L (1)
VC	0.2 µg/L

Note:
1 MTCA Method B

Abbreviation:
µg/L Micrograms per liter

Remediation Timeline

Several environmental investigations were completed prior to 2016 at the Site. The findings of these investigations include the following:

- A release of an unknown quantity of PCE occurred at the Site between 1989 and 1999 during operation of Simon & Son Fine Drycleaning, and a residual source of PCE remains beneath the northwest corner of the Site.
- The PCE release(s) affected the soil above and below the water table as well as groundwater at the Site.
- PCE as dense non-aqueous phase liquid has been encountered on the Site at depths of approximately 45 to 50 feet below ground surface (bgs).

- Groundwater is affected to a depth of at least 50 feet, where a silty stratum occurs in the source area, and at a depth of 30 to 40 feet downgradient and across much of the Site.
- The groundwater plume of CVOCs (i.e., PCE and its breakdown products) migrated from the source area with east and east-southeasterly flowing groundwater.

Prior to 2016, the following interim actions were taken to address high PCE concentrations at the site:

- Injection of potassium permanganate into the source for in situ chemical oxidation; rebound was observed.
- A soil vapor extraction (SVE) system was installed to address soil vapor contamination.
- More chemical oxidation injections were performed with hydrogen peroxide and in well cells containing chelated iron and sodium persulfate.
- After additional data was collected, bioremediation was found to be a suitable solution and several rounds of EOS Remediation products were injected at the Site, along with bioaugmentation of *Dehalococcoides* (DHC), which was found to be successful.

Thermal and Soil Vapor Extraction System

To address soil contamination in the source area on the western side of the property, an electric resistance heating in situ remediation technique was constructed. In total, 27 heating well locations were installed primarily in the 5 to 25 foot bgs range, with some locations advancing to 55 feet bgs. This system operated for approximately 6 months in 2018 in conjunction with the SVE system installed as an interim action. The process was successful in reducing soil concentrations on the west side of the property to less than CULs for PCE. Additionally, two small, targeted areas of soil were excavated on the eastern side of the property for removal of PCE source material.

Bioremediation and Recirculation Commenced in 2020

Since the completion of the electric resistance heating, a groundwater bioremediation and recirculation system has been operating to address the remaining extent of the CVOC plume. This system consists of 12 extraction wells and 12 injection wells at three different intervals of the saturated zone: shallow, intermediate, and deep. The groundwater recirculation system is an automated, programmable treatment process to extract contaminated groundwater, run the groundwater through activated carbon to remove CVOCs, add an organic carbon remedial substrate, and reinject the groundwater/substrate mixture back into the aquifer. This recirculation provides a continuous supply of remedial substrate to be utilized by the established microbial community responsible for the enhanced reductive dechlorination process. The recirculation loop is also intended to provide a degree of hydraulic control to mitigate downgradient migration of the contaminated groundwater plume.

Initially after startup, a reduction in PCE concentrations in groundwater was observed, with some of the most highly contaminated portions of the plume experiencing a significant decrease in PCE. However, monitoring event results after 2021 indicate a slight rebound near the northwest quadrant of the property, which is attributed to sorbed PCE in saturated soil diffusing back to groundwater more quickly than it is degraded by enhanced reductive dechlorination.

New Alexan Multi-Use Building Construction and Vapor Barrier

The development of the Site into the Alexan Main Street Apartments (Alexan Multi-Use) began in 2022 and was substantially completed in 2024. Alexan Multi-Use is a six-story apartment building with residential and commercial spaces. The first level of the building consists of a parking garage on the interior, residential apartments along 98th Avenue and Main Street, and commercial space along Bothell Way NE. During the construction of the foundation and vapor barrier of the building, groundwater bioremediation treatment system operation was paused to bury all treatment system piping between the injection and extraction wells and the treatment system. The bioremediation treatment system shed is now located in the northwest corner of the garage level contained within a fenced-off area consisting of three parking spaces. Figure 2 is a Site map that shows the building footprint, layout, and the monitoring, injection, and extraction wells.

In accordance with the restrictions and requirements outlined in the environmental covenant implemented for the property, and as part of the redevelopment of the Site, Terracon oversaw the installation of a Vapor Intrusion Mitigation System that consists of subgrade vent piping and two vapor membranes rated to mitigate vapor intrusion of CVOCs.

At the request of the Washington State Department of Ecology (Ecology) that was conveyed through the City, Terracon prepared the sampling work plan to perform indoor air and subslab soil gas sampling via existing sampling ports prior to occupancy of the Site building in general accordance with the CD.

Once redevelopment activities were completed inside and outside the building, the groundwater monitoring and injection/extraction well casings and well boxes were brought to grade at the garage level through the foundation, through surrounding sidewalks, and within roadways along 98th Avenue and Main Street.

SUMMARY OF OPTIMIZATION

Since the transfer of this project to Floyd|Snider at the beginning of March 2024, steps have been taken to understand and optimize the treatment system by reviewing the analytical data and understanding the system operation. The spring sampling event, the first semiannual event of the year, was conducted in April, and all significant operational changes to help optimize the system occurred after the April 2024 sampling event.

Data Review and Assessment

A review of the existing groundwater sampling data (Tables 1 through 4) between the startup of the bioremediation system and prior to 2024 (Attachment 4) indicate that CVOC concentrations were not declining as quickly as projected. Oxidation–reduction potential (ORP) and dissolved oxygen (DO) readings provide insight on whether anaerobic conditions are present. ORP readings should be negative, and DO must be depleted in an anaerobic bioremediation system. DO readings of <0.5 milligrams per liter (mg/L) generally indicate an anaerobic pathway suitable for anaerobic dechlorination to occur. Data show that ORP and DO readings are within ideal ranges across the Site for anaerobic biodegradation but could be lower in some areas of the Site.

In addition to ORP and DO total organic carbon (TOC) concentrations are an indicator of substrate distribution during performance monitoring. The TOC data indicated that TOC concentrations are generally not within the desired range for anaerobic biodegradation across most of the Site. TOC concentrations between 20 and 50 mg/L are the ideal range for anaerobic biodegradation (USEPA 2023). Data prior to 2024 indicate that one well, MW-6, recorded TOC concentrations between 49 and 60 mg/L, DO concentrations of <0.5 mg/L, and negative ORP, which coincided with a decline in PCE concentrations from 3,800 micrograms per liter (µg/L) to 0.91 µg/L. Therefore, it is likely that additional CarBstrate™, which provides TOC, is required to assist with anaerobic biodegradation across the Site. The method used to implement this was to limit the CarBstrate injections to the areas of the PCE plume with the greatest PCE concentrations located underneath the building. This method involved considering the geometry of the injection and extraction well configuration when deciding which wells to leave on and which ones to shut off to create the largest flux of CarBstrate mixture to areas of the plume with the greatest PCE concentrations. This would help to increase TOC concentrations to be within the ideal range and promote biodegradation.

System Upgrades and Optimization

The system optimization goal is to obtain negative ORP values in conjunction with low levels of DO and provide a sufficient amount of TOC to promote anaerobic biodegradation. Therefore, a variety of system upgrades, including system modifications and operational changes, have been implemented in 2024. System modifications are components that were added to the treatment system to improve and monitor performance. Operational changes are additional actions or adjustments to the treatment system or supplemental monitoring at Site wells.

System modifications included the following:

- In April 2024:
    - Pressure gauges added to each carbon vessel to monitor transfer pump operation and back pressure
    - Sample port added after injection pump to monitor water quality parameters of the injected water, as a combined flow of granular activated carbon (GAC)- treated water and CarBstrate mixture

  - New, larger y-strainers added to more efficiently remove larger particulates from extracted water flow
- In September 2024:
  - Drop hoses added to Holding Tank 2 to limit the addition of DO to the injected water supply
  - New transfer pump installed to improve the efficiency of the carbon vessels and achieve desired flow rates

Routine Operation and Maintenance (O&M) Adjustments:

- Regular backflushing will prevent buildup and clogging of the carbon vessels and extend the life of the GAC.
- Carbon changeout, triggered by volatile organic compound (VOC) detections in the effluent sample, occurred in October 2024 after lab results were obtained earlier that month. Conducting carbon changeouts as necessary improved effectiveness of the GAC.
- O&M tracking forms include regular documentation of the following operational items:
  - Y-strainer maintenance, cleaning, and condition
  - CarBstrate mixing tank maintenance and monitoring
  - Investigation-derived waste management
  - Carbon vessel pressure monitoring
  - Injection and extraction well totalizer logs
    - Completed O&M tracking forms are included in Attachment 1.

Operational Changes:

- Focused Injections
  - The number of active injection wells was reduced from 13 to 6 to target wells with higher CVOC concentrations, as described previously.
  - CarBstrate™ is applied in a more concentrated areas instead of being diluted across the whole Site.
  - With more CarBstrate injected into key locations, more electron donors are present to facilitate the breakdown of the chlorinated solvents.
- TOC Monitoring
  - Monitoring was conducted to ensure that the focused injections were effective in increasing TOC concentrations to target levels
  - MW-4R, MW-7, and MW-12 were sampled on a bimonthly basis in between semiannual monitoring events for TOC (Figure 2).

GROUNDWATER MONITORING EVENTS

April 2024 Groundwater Monitoring Activities

Semiannual groundwater monitoring was completed at the Site during April 2024. Prior to collecting groundwater samples, synoptic depth-to-water (DTW) measurements were collected from a total of 27 site monitoring wells in April 2024 (all collected within an hour) while the bioremediation and recirculation system (treatment system) was operating (September 8, 2024) and while it had been off for 3 days (September 11, 2024). There are a total of 33 site monitoring wells that are specified in the CD/CAP and are sampled for analytes specified in the CD/CAP semiannually, but two of these wells (MW-6 and HZ-MW-33R) have angled elbow couplings that do not allow for the DTW meter to pass through. Therefore, they could not be measured. All wells, including injection and extraction wells that are not sampled are shown in Figure 2, and Figures 3 through 5 show the monitoring, injection, and extraction wells for each aquifer zone: shallow, intermediate, and deep, respectively. Groundwater elevations and field parameters for all events are presented in Table 4. All laboratory analytical reports for this groundwater monitoring event are provided in Attachment 2. April 2024 groundwater elevations with the system on and off are presented by water-bearing zone in Figures 6a through 6d, which also show potentiometric groundwater contours and groundwater flow directions. The well HZ-MW-19R is located within the Site area but is not part of the sampling requirements; therefore, its location is included in the site maps, but has no data associated with it for the purposes of this report. Groundwater samples were collected using low-flow sampling techniques in accordance with Floyd|Snider standard guidelines (Attachment 3). A data validation summary was prepared for this event and can be found in Attachment 6, and the Quality Assurance Project Plan (QAPP) is included as Attachment 7.

Groundwater contours were developed for the shallow and intermediate zones. Groundwater contours could not be prepared for the deep zone because there were only measurements for two wells; the third well, MW-29, was inaccessible during the April 2024 sampling event.

Shallow Zone (System On): Groundwater elevations collected on April 8, 2024, while the system was operating, show that the shallow zone wells ranged from 39.34 to 34.98 feet North American Vertical Datum of 1988 ([NAVD 88] Figure 6a). Groundwater in the shallow zone appears to be mounded around monitoring and injection wells MW-45R, 2i, MW-27, and 18iR, and groundwater generally flows to the southeast and to the south, with gradients ranging between 0.02 and 0.04 feet per foot.

Shallow Zone (System Off): Groundwater elevations were also collected on April 11, 2024, while the system had been off for at least 3 days. Groundwater elevations show that the shallow zone wells ranged from 39.45 to 35.01 feet NAVD 88 (Figure 6c). However, even after 3 days of shutting off the system, groundwater in the shallow zone was still mounded around monitoring and injection wells MW-45R, 2i, MW-27, and 18iR. Groundwater flow was to the southeast and to the south, with gradients ranging between 0.02 and 0.05 feet per foot.

Intermediate Zone (System On): The intermediate zone groundwater elevations ranged from 38.28 to 34.12 feet NAVD 88 (Figure 6b). Groundwater in the intermediate zone generally flows to the southeast with a gradient ranging between approximately 0.01 and 0.06 feet per foot, and there appears to be some influence from the system around MW-12.

Intermediate Zone (System Off): The intermediate zone groundwater elevations ranged from 38.29 to 34.19 feet NAVD 88 (Figure 6d). Groundwater in the intermediate zone generally flows to the southeast with a gradient of approximately 0.025 feet per foot; however, the system's influence on the groundwater contours around MW-12 is absent after 3 days of not running the system.

There are no extraction or injection wells in the deep aquifer; therefore, no impact is expected between system operation or nonoperation.

April 2024 Groundwater Sampling Results

Tables 1 through 4 provide semiannual groundwater analytical results for CVOCs compared with their respective MTCA Method A CULs. Figures 7a through 10c show CVOC groundwater concentrations at each monitoring well location by each aquifer zone.

Shallow Aquifer

PCE was detected in 14 out of the 16 shallow aquifer wells sampled, with 9 wells containing concentrations greater than the MTCA Method A CUL of 5 µg/L during the spring sampling event. Shallow wells HZ-MW-31 and S-MW-1 were not located or accessible during the sampling event due to construction activities; therefore, these wells were not sampled during the April 2024 monitoring event. PCE concentrations ranged from less than the practical quantitation limit (PQL) to 1,900 µg/L at MW-40. Figure 7a shows the April 2024 PCE isocontours and concentrations within the shallow aquifer. The area of the greatest concentration beneath the building is centered around MW-7 (having a concentration of 1,600 µg/L).There are separate areas of exceedances around MW-43R and MW-40 on the west side of the Site, outside the building along 98th Avenue NE.

TCE was detected in 13 out of the 16 shallow aquifer wells sampled, with 7 wells containing concentrations greater than the MTCA Method A CUL of 5 µg/L during the spring sampling event. TCE concentrations ranged from less than the PQL to 3,700 µg/L at MW-40. Figure 8a shows TCE isocontours and concentrations within the shallow zone: two separate areas of exceedance beneath the building centered around MW-7 and one in the western portion of the property outside the building.

DCE was detected in 14 out of the 16 shallow aquifer wells sampled, with seven wells containing concentrations greater than the MTCA CUL of 16 µg/L during the spring sampling event. DCE concentrations ranged from less than the PQL to 590 µg/L at MW-4R. Figure 9a shows DCE isocontours and concentrations within the shallow zone. The area with the greatest concentration

beneath the building is centered around MW-4R, with a separate plume centered around MW-40 on the west side of the Site outside the building and along 98th Avenue NE.

VC was detected in 11 out of the 16 shallow aquifer wells sampled, and all detections contained concentrations greater than the MTCA Method A CUL of 0.2 µg/L during the spring sampling event. VC concentrations ranged from less than the PQL to 130 µg/L at MW-40. Figure 10a shows VC isocontours and concentrations within the shallow zone. The area with the greatest concentration beneath the building is centered around MW-4R, with a concentration of 13 µg/L. There are two other separate plumes with exceedances centered around HZ-MW-34 beneath the northeastern portion of the Site and centered around MW-40 located the on the west side of the Site outside the building and along 98th Avenue NE.

Generally, April 2024 CVOC concentrations within the shallow zone have remained consistent with previous analytical results; however, PCE and TCE concentrations at MW-40 have increased when compared with the 2023 sampling results.

Intermediate Aquifer

PCE was detected in 7 out of the 11 intermediate aquifer wells sampled, with four wells containing concentrations greater than the MTCA Method A CUL of 5 µg/L during the spring sampling event. PCE concentrations ranged from less than the PQL to 1,500 µg/L at HZ-MW-15D. Figure 7b shows the April 2024 PCE isocontours and concentrations within the intermediate aquifer. The area with the greatest concentration beneath the building is centered around HZ-MW-15D with a concentration of 1,500 µg/L. A separate area of exceedances occurs around MW-20R on the west side of the Site, inside the building near the location of the treatment shed.

TCE was detected in 8 out of the 11 intermediate aquifer wells sampled, with 2 wells containing concentrations greater than the MTCA Method A CUL of 5 µg/L during the spring sampling event. TCE concentrations ranged from less than the PQL to 220 µg/L at HZ-MW-15D. Figure 8b shows TCE isocontours and concentrations within the intermediate zone, with an area of exceedance beneath the building between HZ-MW-15D and MW-20R.

DCE was detected in 10 out of the 11 intermediate aquifer wells sampled, with 4 wells containing concentrations greater than the MTCA CUL of 16 µg/L during the spring sampling event. DCE concentrations ranged from less than the PQL to 260 µg/L at HZ-MW-15D. Figure 9b shows DCE isocontours and concentrations within the intermediate zone. The area with the greatest concentration beneath the building is centered around HZ-MW-15D, with a separate plume centered around HZ-MW-29 on the northeastern portion of the Site inside the building.

VC was detected in 9 out of the 11 intermediate aquifer wells sampled, and all detections contained concentrations greater than the MTCA Method A CUL of 0.2 µg/L during the spring sampling event. VC concentrations ranged from less than the PQL to 72 µg/L at MW-20R. Figure 10b shows VC isocontours and concentrations within the intermediate zone. The area with the greatest concentration beneath the building is centered around MW-20R with a

concentration of 72 µg/L, and there is a lobe extending to the east at HZ-MW-29 beneath the northeastern portion of the Site.

Intermediate well MW-44R was not located during the spring sampling event due to construction activities and therefore was not sampled during this semiannual monitoring event. Generally, April 2024 CVOC concentrations within the intermediate zone have remained consistent with previous analytical results; however, CVOC concentrations at MW-12 have decreased when compared with the 2023 sampling results.

Deep Aquifer

PCE was detected in both deep aquifer wells that were sampled, with one location containing concentrations greater than the MTCA Method A CUL of 5 µg/L during the spring sampling event. PCE concentrations ranged from less than the PQL to 220 µg/L at MW-39. Figure 7c shows the April 2024 PCE isocontours and concentrations within the deep aquifer. The well with the greatest concentration outside of the building within 98th Avenue is MW-39.

TCE was detected in both deep aquifer wells that were sampled, with one location containing concentrations greater than the MTCA Method A CUL of 5 µg/L during the spring sampling event. TCE concentrations ranged from less than the PQL to 56 µg/L at MW-39. Figure 8c shows TCE isocontours and concentrations within the deep zone; the only exceedance is outside the building within 98th Avenue.

DCE was detected in one out of the two deep aquifer wells that were sampled, MW-34, but the detection did not exceed MTCA CUL of 16 µg/L during the spring sampling event. Figure 9c shows DCE isocontours and concentrations within the deep zone. None of the deep aquifer wells exceed the respective CUL.

VC was detected in one out of the two deep aquifer wells that were sampled, MW-34, which resulted in a concentration greater than the MTCA Method A CUL of 0.2 µg/L during the spring sampling event. VC concentrations ranged from less than the PQL to 0.57 µg/L at MW-34. Figure 10c shows VC isocontours and concentrations within the deep zone. The only well with an exceedance is located beneath the building at MW-34, near the location of the treatment shed.

Deep well MW-29 was not located during the spring sampling event due to construction activities and therefore was not sampled during this semiannual monitoring event. Generally, April 2024 CVOC concentrations within the deep zone have remained consistent with previous analytical results.

September 2024 Groundwater Monitoring Activities

Semiannual groundwater monitoring was completed at the Site during September 2024. Prior to collecting groundwater samples, synoptic DTW measurements were collected from a total of 31 site monitoring wells only while the treatment system was operating. There are a total of

33 site monitoring wells that are sampled semiannually, but two of these wells, MW-6 and HZ-MW-33R, have angled elbow couplings that do not allow the DTW meter to pass through and therefore cannot be measured.

Groundwater contours were developed for all three zones during the September 2024 sampling event using the synoptic DTW measurements collected while the system was running. However, these measurements were collected 6 months after system optimization adjustments were in place, which included limiting injections and extractions to wells 1iR, 4i, 6iR, 9iR, 11i, 3e, 7e, and 13eR.

Figures 11a through 11c show potentiometric groundwater contours and groundwater flow directions for all three aquifers. Groundwater elevations for all events are presented in Table 4**.** Groundwater samples were collected using low-flow sampling techniques in accordance with Floyd|Snider standard guidelines (Attachment 3). A data validation summary was prepared for this event and can be found in Attachment 6, and the QAPP is included as Attachment 7.

Shallow Zone (System On): Groundwater elevations collected on September 23, 2024, while the system was operating, show that the shallow zone wells ranged from 38.80 to 28.30 feet NAVD 88 (Figure 11a). Groundwater generally flows to the southeast from MW-43R to HZ-MW-1 and to the south from MW-40 to HZ-MW-31. The greatest gradient is in the southwestern portion of the Site, with a gradient of approximately 0.04 feet per foot to the south. The gradient for the flow direction to the southeast is approximately 0.02 feet per foot. Groundwater in the shallow zone no longer displays obvious mounding; however, injection wells 1iR, 4i, and 6iR have a slight influence on groundwater contours.

Intermediate Zone (System On): The intermediate zone groundwater elevations ranged from 38.14 to 33.34 feet NAVD 88 (Figure 11b). Groundwater in the intermediate zone generally flows to the southeast, with a gradient ranging between approximately 0.008 and 0.03 feet per foot.

Deep Zone (System On): The deep zone groundwater elevations ranged from 37.42 to 36.90 feet NAVD 88 (Figure 11c). Groundwater in the deep zone flows to the south-southeast, with a gradient of 0.009 feet per foot.

September 2024 Groundwater Sampling Results

Tables 1 through 4 provide semiannual groundwater analytical results for CVOCs compared with their respective MTCA Method A CULs. Figures 12a through 15c show CVOC groundwater concentrations at each monitoring well location by each aquifer zone.

Shallow Aquifer

PCE was detected in 13 out of the 18 shallow aquifer wells, with 7 wells containing concentrations greater than the MTCA Method A CUL of 5 µg/L during the fall sampling event. PCE concentrations ranged from less than the PQL to 890 µg/L at MW-40. Figure 12a shows the

September 2024 PCE isocontours and concentrations within the shallow aquifer. Two areas with the greatest concentration beneath the building are S-MW-5R and HZ-MW-14S with concentrations of 350 µg/L and 170 µg/L, respectively. A separate area of exceedance occurs around MW-40 on the west side of the Site outside the building along 98th Avenue NE.

TCE was detected in 13 out of the 18 shallow aquifer wells, with three wells containing concentrations greater than the MTCA Method A CUL of 5 µg/L during the fall sampling event. TCE concentrations ranged from less than the PQL to 1,600 µg/L at MW-40. Figure 13a shows TCE isocontours and concentrations within the shallow zone, with two separate areas of exceedance beneath the building and one in the western portion of the Site outside the building.

DCE was detected in 16 out of the 18 shallow aquifer wells, with 7 wells containing concentrations greater than the MTCA CUL of 16 µg/L during the fall sampling event. DCE concentrations ranged from less than the PQL to 330 µg/L at MW-40. Figure 14a shows DCE isocontours and concentrations within the shallow zone. The area with the greatest concentration beneath the building is centered around MW-4R. Two areas of exceedances are centered around MW-40 and HS-MW-31 located on the west side and southwest corner of the Site outside the building along 98th Avenue NE.

VC was detected in 12 out of the 18 shallow aquifer wells, and all detections contained concentrations greater than the MTCA Method A CUL of 0.2 µg/L during the fall sampling event. VC concentrations ranged from less than the PQL to 97 µg/L at MW-40. Figure 15a shows VC isocontours and concentrations within the shallow zone. The area with the greatest concentration beneath the building is centered around MW-4R, with a concentration of 42 µg/L. There are four other separate hot spots with exceedances centered around HZ-MW-34 beneath the northeastern portion of the Site, HZ-MW-1 in the center of the building, and centered around MW-40 and HZ-MW-31 located the on the west side of the Site outside the building along 98th Avenue NE.

Generally, PCE, TCE, and DCE concentrations declined within the area of influence of the system when compared with the April 2024 sampling. However, observed VC concentrations within the area of the bioremediation system's influence can be attributed to breakdown of PCE to VC. This observation indicates that the system optimization changes that were made are effective in helping with the anaerobic bioremediation and reductive dechlorination process. CVOC concentrations increased in locations (1) near where injection wells had been turned off or (2) were outside the system's influence. Concentrations at each shallow monitoring well are shown in Table 1.

Intermediate Aquifer

PCE was detected in 8 out of the 12 intermediate aquifer wells, with 5 wells containing concentrations greater than the MTCA Method A CUL of 5 µg/L during the fall sampling event. PCE concentrations ranged from less than the PQL to 1,100 µg/L at HZ-MW-15D. Figure 12b shows the September 2024 PCE isocontours and concentrations within the intermediate aquifer.

The area with the greatest concentration beneath the building is centered around HZ-MW-15D, with a concentration of 1,100 µg/L, and an area of exceedances around MW-20R on the west side of the Site, which is inside the building near the location of the treatment shed.

TCE was detected in 9 out of the 12 intermediate aquifer wells, with 3 wells containing concentrations greater than the MTCA Method A CUL of 5 µg/L during the fall sampling event. TCE concentrations ranged from less than the PQL to 450 µg/L at HZ-MW-15D. Figure 13b shows TCE isocontours and concentrations within the intermediate zone, with an area of exceedance beneath the building between HZ-MW-15D and MW-20R.

DCE was detected in 10 out of the 12 intermediate aquifer wells, with five wells containing concentrations greater than the MTCA CUL of 16 µg/L during the fall sampling event. DCE concentrations ranged from less than the PQL to 520 µg/L at MW-12. Figure 14b shows DCE isocontours and concentrations within the intermediate zone. The area with the greatest concentration beneath the building is centered around MW-12, with a separate, smaller plume centered around HZ-MW-29 on the northeastern portion of the Site inside the building.

VC was detected in 8 out of the 12 intermediate aquifer wells, with all detections containing concentrations greater than the MTCA Method A CUL of 0.2 µg/L during the fall sampling event. VC concentrations ranged from less than the PQL to 90 µg/L at MW-12. Figure 15b shows VC isocontours and concentrations within the intermediate zone. The area with the greatest concentration beneath the building is centered around MW-20R and MW-12, and there is one other hot spot with exceedances centered around HZ-MW-29 beneath the northeastern portion of the Site.

Generally, CVOC concentrations remained consistent with previous analytical results; however, VC concentrations in MW-12 have increased when compared with the April 2024 results. MW-12 is located near injection well 11i, and the increase in VC concentrations indicate that (1) MW-12 is within the radius of the bioremediation system's influence and (2) can be attributed to breakdown of PCE to VC. CVOC concentrations at each intermediate monitoring well are shown in Table 2.

Deep Aquifer

PCE was detected in two out of the three deep aquifer wells, with one containing a concentration greater than the MTCA Method A CUL of 5 µg/L during the fall sampling event. PCE concentrations ranged from less than the PQL to 200 µg/L at MW-39. Figure 12c shows the September 2024 PCE isocontours and concentrations within the deep aquifer. The well with the greatest concentration outside of the building within 98th Avenue is MW-39.

TCE was detected in two out of the three deep aquifer wells, with one containing a concentration greater than the MTCA Method A CUL of 5 µg/L during the fall sampling event. TCE concentrations ranged from less than the PQL to 53 µg/L at MW-39. Figure 13c shows TCE isocontours and concentrations within the deep zone with the only exceedance outside the building within 98th Avenue.

DCE was detected in one out of the three deep aquifer wells, MW-34, but it did not exceed the MTCA CUL of 16 µg/L during the fall sampling event. Figure 14c shows DCE isocontours and concentrations within the deep zone.

VC was detected in one out of the three deep aquifer wells and contained a concentration greater than the MTCA Method A CUL of 0.2 µg/L during the fall sampling event. In the monitoring well samples, VC concentrations ranged from less than the PQL to 0.37 µg/L at MW-34. Figure 15c shows VC isocontours and concentrations within the deep zone. The only well with an exceedance is under the building at MW-34, near the area where the treatment shed is located.

Generally, CVOC concentrations detected during the September 2024 event have slightly decreased when compared with the previous sampling results. Concentrations at each deep monitoring well are shown in Table 3.

Microbial Deoxyribonucleic Acid Analyses

Conducted on an annual basis, microbial deoxyribonucleic acid (DNA) samples are collected from five site wells. In September 2024, DNA samples were collected from MW-6, MW-5R, MW-7, MW-4R, and MW-12 after standard semiannual sample bottle ware had been filled. The results are presented in Attachment 5. The process of collecting these DNA samples consisted of slowing the peristaltic pump flow as much as possible, attaching the provided adaptor from the low-density polyethylene tubing to the provided DNA filter flow through cell, and then allowing approximately 1 liter of water to flow through the filter. The total flow through the filter is recorded in milliliters and included on the sample label. To meet required hold times, the samples were then shipped in a cooler for next-day delivery to Microbial Insights for analysis.

The results show that there is a sustained microbial population that is present in all wells sampled. This indicates that the microbial population is thriving and helping in the reductive dechlorination process; therefore, introducing an additional microbial population is not required at the Site. According to the interpretation section of the Microbial Insights report, a DHC concentration of 1×10^4 cells per milliliter is used as a screening criterion to identify sites where biological reductive dechlorination is predicted to proceed at “generally useful” rates. Some of the analyzed Site wells show concentrations above this level or just below it, indicating that supporting these populations will yield positive results.

OBSERVATIONS, CONCLUSIONS, AND NEXT STEPS

In an assessment of all the data collected, the Contaminated Site Clean-Up Information (USEPA 2023) regarding anaerobic bioremediation was used as a reference to evaluate the performance of the bioremediation system. Therefore, in addition to reviewing the CVOC concentrations, the select indictor parameters below were reviewed to determine whether (1) there is remedial progress or success within the source zone mass and (2) any additional optimization adjustments

are needed for anaerobic dechlorination to occur. The results for the parameters discussed below are presented in Table 4.

- **Methane, ethane, and ethene:** Elevated levels of methane (>1 mg/L) indicate fermentation is occurring in a highly anaerobic environment and that reducing conditions are appropriate for anaerobic degradation. Elevated levels of ethane and ethene (above background) can be used to infer anaerobic dechlorination. Note that ethane and ethene can be subjected to rapid biodegradation, so their absence in a sample does not necessarily mean that degradation is not occurring. In the hot spot wells of the Site where optimization activities have occurred, the majority of hot spot wells have methane concentrations above 1 mg/L, and some have shown ethene detections within the past year (Table 4).
- **TOC:** TOC concentrations >20 to 50 mg/L are desired in the anaerobic treatment zone. Stable or declining TOC levels (<20 mg/L) in conjunction with elevated levels of VOCs and alternate electron acceptors indicate additional substrate is required to sustain the anaerobic treatment zone. TOC has been increasing to optimal concentrations between 20 and 50 mg/L in some of the key hot spot wells (i.e., MW-4R and MW-7). TOC concentrations in the other hot spot wells, MW-5R, MW-21R, and HZ-MW-14S, show a slow increase in concentrations but still less than the desired range. However, PCE, TCE, and DCE concentrations have been decreasing in these wells despite the less-than-ideal TOC concentrations (Table 4). An increase in substrate dosage and application would likely help to further reduce CVOC concentrations and is recommended.
- **ORP:** ORP of groundwater provides data on whether anaerobic conditions are present. Reducing conditions are required for anaerobic dechlorination. ORP is used in conjunction with other geochemical parameters to determine whether groundwater conditions are optimal for anerobic biodegradation. ORP has been negative or seen to be decreasing over time in the majority of key wells at the time of sampling.
- **DO:** DO should be depleted in an anaerobic bioremediation system. DO of <0.5 mg/L generally indicates an anaerobic pathway suitable for anaerobic dechlorination to occur. DO has been <0.5 mg/L in all key wells at time of sampling.
    - A low DO in conjunction with a negative ORP (refer to above bullet point) indicates that the substrate is at an ideal environment for additional injections of TOC to be effective in reductive dechlorination.
- **DHC:** DHC is a group of bacteria that can break down chlorinated organic compounds that can be detected. This group of bacteria can experience an increase in population as a consequence of adding electron donors to create anaerobic conditions. Microbial DNA testing has been conducted annually for the past 3 years, including 2024, and results show that there is a sustained microbial population capable of biodegradation (Attachment 5).

- **Ammonia:** Ammonia can represent a form of biologically available nitrogen. Used to determine whether groundwater environment is sufficiently reducing nitrogen and is an indicator parameter only. Since optimization changes were made, ammonia concentrations are less than the PQL for all the hot spot wells and detected at very low levels in wells outside the radius of influence. This indicates that the nitrogen is being reduced and there is ongoing natural attenuation at locations outside the radius of influence.
- **Alternate Electron Acceptors:** Nitrate, manganese, and ferrous iron are alternate electron acceptors for microbial respiration in the absence of oxygen.
    - **Nitrate:** Depleted levels of nitrate (relative to background, <1 mg/L) indicate that the groundwater environment is sufficiently reducing nitrate. Key hot spot wells at the Site have decreasing, low-level, or nondetect results for nitrate. Wells outside the CVOC plume, such as S-MW-1 and MW-23, have elevated nitrate concentrations when compared with wells within the CVOC plume.
    - **Manganese**: An increase in dissolved manganese or total manganese indicates that the groundwater environment is sufficiently reducing to sustain manganese reduction and for anaerobic dechlorination to occur. Key hot spot wells at the Site are overall increasing in dissolved manganese concentrations.
    - **Ferrous iron**: Elevated levels of ferrous iron indicate that the groundwater environment is sufficiently reducing to sustain iron reduction and for anaerobic dechlorination to occur. All key hot spot wells at the Site have detections of ferrous iron at elevated concentrations when compared with wells outside the CVOC plume.
- **Sulfate:** Sulfate is an alternate electron acceptor for microbial respiration in the absence of oxygen, nitrate, manganese, and ferrous iron. Depleted concentrations of sulfate (<20 mg/L) relative to background indicates that the groundwater environment is sufficiently reducing to sustain sulfate reduction and for anaerobic dechlorination to occur. Hot spot wells, such as MW-4R, MW-5R, HZ-MW-14S, and HZ-MW-15D, have sulfate concentrations less than 20 mg/L, while the remaining hotspot wells have sulfate concentrations at or greater than 20 mg/L. However, while sulfate concentrations less than 20 mg/L are desirable, those concentrations are not required for anaerobic dechlorination to occur.

CVOC Composition Profile and Total Molar Mass Concentrations

Understanding changes in CVOC compositional profiles and total molar concentrations are crucial for understanding if biodegradation is occurring. Changes in compositional profiles and molar mass can be used to show the decline of moles over time using data collected from one well over multiple years.

CVOCs go through chemical degradation processes that produce daughter compounds, and the dechlorination process progressively lowers the molecular weight as chlorine atoms are removed. It is important to note that these reactions occur at various rates depending on geochemical conditions, and geochemical conditions can vary laterally and vertically. Typically, CVOC concentrations for PCE, TCE, DCE, and VC are shown in µg/L—either individually, or sometimes summed as total CVOCs. If the dechlorination process is faster for PCE to degrade to TCE and the degradation process for TCE is slow, then TCE concentrations will continue to increase as PCE becomes TCE; however, the total mass concentration (in µg/L) appears to decrease because heavier contaminants continue to be converted to lighter contaminants via dechlorination. To verify that the total amount of contamination (i.e., PCE, TCE, DCE, and VC) is actually decreasing, molar concentrations must be considered. To do this, one can convert the mass concentrations (µg/L) to molar concentrations (micromoles per liter).

Furthermore, changes in molar concentrations and relative proportions of CVOCs can be visualized by using stacked bar charts, where the relative proportions of each constituent (PCE, TCE, DCE, and VC) is consistently represented in the same color and constituents are stacked in the same order with PCE at the bottom and VC at the top. Plotting CVOC data in this method can demonstrate the system's influence on the CVOC plume. The following sections use this schematic tool to illustrate the effect that the system optimization adjustments have had on CVOC concentrations at the Site.

Shallow Aquifer

To better understand the relationship between TOC concentrations, CVOC concentrations, and molar mass present at the Site, the data from three key wells in the shallow aquifer was plotted into stack charts using the method described above. The first well that was identified as a good example for the dechlorination process facilitated by the bioremediation and recirculation system was MW-6, presented in Figure 16. In this figure, PCE and its daughter products are shown in different colors over time as a percentage of the total molecular concentration. The total molar mass is plotted as a dark blue line. The green line shows the TOC concentrations over time, and the shaded region between 20 to 50 mg/L shows the optimal TOC concentrations. Figure 16 illustrates that between May 2019 and January 2021, the TOC concentrations are within the optimal range (20 to 50 mg/L) that coincide with a significant decline of total molar concentrations, and there is a greater proportion of daughter products DCE and VC, which indicate that the dechlorination process is occurring. While the TOC concentration may not currently be in the ideal range, the conditions in the well are overall as they should be with low DO and negative ORP. Given these conditions, it is expected that the total molar concentration of the VOCs will continue to decrease.

The data from MW-6 suggest that the system is effective but only if optimal TOC concentrations are achieved. In April 2024, none of the other wells contained TOC concentrations within the desired range; therefore, it was concluded that the CarBstrate was being injected at too low of a concentration across the Site to be effective. System optimization changes included injecting

CarBstrate in a more concentrated area and focused on an area with the greatest CVOC concentrations instead of being diluted across the whole Site. This change was made immediately after the April 2024 sampling event.

Stacked molar composition charts were developed for two wells, MW-7 and MW-4R, that were within the area with the greatest CVOC concentrations and have positively responded to optimization of the treatment system. Results for MW-7 and MW-4R are presented in Figures 17 and 18, respectively. In Figure 17, showing MW-7, the line representing the total molecular concentration shows a decline in total molar mass beginning in 2014; however, there was a rebound in total CVOC molar mass in 2022, which is likely related to the system being offline during the initial construction of the building. Prior September 2024 sampling event, TOC concentrations were not within the desired range. However, after system adjustments were made in late April 2024, the TOC concentration shows a sharp increase, reaching the ideal TOC range for the first time. As a result, the total molar concentrations declined to an all-time low, with PCE concentrations decreasing from 1,600 µg/L in April 2024 to 2.2 µg/L in September 2024 for MW-7. In addition, Figure 17 shows that anaerobic biodegradation of chlorinated compounds is occurring due to the total molar composition consisting of a larger percentage of DCE and VC, as shown during the September 2024 event. Despite the increase in DCE and VC concentrations, the total molar concentration has declined significantly and ethene concentrations are detected (Table 1), which indicates that VC is being dechlorinated to the final degradation product, ethene. The conditions in this well are overall as they should be with low DO, negative ORP, and increasing TOC. Given these conditions, it is expected that the total molecular concentration of the CVOCs will continue to biodegrade to ethene.

TOC and total molar data for MW-4R show similar results in Figure 18. The total molecular concentration shows a gradual decline in total mass from 2019 to 2021, with a slight rebound in total molar concentration in 2022 related to the system being offline during construction. However, a significant decline in total CVOC molar mass shown for the September 2024 sampling event, reaching an all-time low. The decline in total molar concentration coincides with a sharp increase of TOC concentrations, since the April sampling event, which are slightly higher but meet the ideal TOC range for the first time. Similar to MW-7, Figure 18 shows that anaerobic biodegradation of chlorinated compounds is occurring due to the larger percentage of DCE and VC shown during the September 2024 event. Furthermore, the detection of ethene in MW-4R indicate that VC is being dechlorinated. The conditions in this well are overall as they should be with low DO, negative ORP, and increasing TOC. Given these conditions, it is expected that the total molecular concentration of the VOCs will continue to biodegrade to ethene.

Intermediate Aquifer

Compared with the shallow aquifer, the intermediate aquifer has fewer injection and extraction wells that are more spread out from each other and nearby monitoring. Because of these factors, there has been slower plume degradation within this aquifer. Generally, the water quality conditions are supportive of anerobic dechlorination, with negative ORP and low DO, but require

higher concentrations of TOC to increase the rate of breakdown. TOC concentrations in intermediate wells remain fairly stable over the last couple of years and have not shown the same increase in concentration as the shallow aquifer wells. In particular, HZ-MW-15D has consistently contained the highest concentration of CVOCs, and while those concentrations are decreasing, there is more progress to be made. Proposed optimization steps to address this hot spot are described in further detail below.

Between the April and September monitoring events, it was determined that well S-MW-3RR had been damaged and was no longer screened across the intermediate aquifer. The depth of the well was consistently measured as 19 feet; however, the boring log for this well indicates that the total depth was down to 39 feet. It is unknown exactly when this well was cut off from its intended depth and aquifer, but it is likely that the groundwater results collected during the April monitoring event time are not representative of the intermediate aquifer. Prior to the September monitoring event, this well was redrilled and replaced with S-MW-3RRR nearby, maintaining the original angle under the building of 30 degrees from vertical and installed at a depth of 39 feet with a 15-foot screen.

Deep Aquifer

A slight decrease in concentrations was observed in MW-39 which remains the only deep well with concentrations above CULs for PCE and TCE. MW-34 only exceeds the VC CUL by less than an order of magnitude, but concentrations have also continued to trend downward. The remaining deep well, MW-29, was only sampled once in 2024 due to construction activities blocking access during the April sampling event, but CVOC results at MW-29 were less than their respected PQLs.

There are no injection or extraction wells in the deep aquifer to apply CarBstrate to the affected areas via the treatment system, but the recommendations below outline potential options for these locations.

Recommendations

The current system operation appears to be effective in addressing the area with the greatest CVOC concentrations in the shallow aquifer, and it is recommended that this operation continues to achieve dechlorination of DCE and VC within this area. To address the remaining areas of contamination, the following options have been compiled and can be implemented individually or in combination without impacting the success of the current operations.

On a weekly or every 2 weeks schedule, an additional batch of CarBstrate can be prepared in the mixing tank inside the remediation shed for use in targeted injections at Injection Well 22i, to address the hotspot at MW-40, and at Injection Well 18iR, to address CVOC concentrations in MW-27. Two 50-pound bags would be mixed with about 150 gallons of water and slowly metered directly into the two wells over a couple of hours. MW-40 already shows agreeable conditions (DO less than 1 mg/L and negative ORP) for anaerobic degradation and will benefit from the

supplemental TOC injections. MW-27 does not currently have desired reducing conditions (ORP is positive), but can be monitored and sampled on a routine basis after injections commence in this areas to ensure improving conditions are taking place. The CarBstrate injections in Injection Well 18iR will likely assist in achieving negative ORP at MW-27. This addition would be the simplest to implement during weekly O&M.

Because of the construction of the building, no additional injection or extraction wells can be added at this point, and the limited configuration of the bioremediation recirculation system can only reach so much of the site. To address remaining hotspots, other options have been brainstormed with the treatment system subcontractor, ETEC, Inc. There are three well locations that are not strategically placed close to an injection well or extraction well in the associated aquifer: S-MW-5R, HZ-MW-15D, and MW-39.

S-MW-5R is screened in the shallow aquifer and located inside the northern perimeter of the building in a room that appears to be a loading bay. There are no injection or extraction wells in the vicinity of this well; the concentrations in this well appear to be stagnant, and TOC concentrations are low or not detected. A solution to address contamination at this location is to gravity feed a 55-gallon batch of CarBstrate into the well over the course of several hours after each semiannual groundwater monitoring event.

HZ-MW-15D is screened in the intermediate aquifer and located inside the public garage level near the north-center of the building. Despite the nearby active injection well and extraction well on the opposite sides of HZ-MW-15D, the radius of influence may not be great enough to properly impact the well. A slight decrease in concentration has been observed, but a gravity feed of CarBstrate as described above conducted twice annually may further assist in the anaerobic degradation in this location.

MW-39 is screened in the deep aquifer and located in the north bound lane of 98th Avenue on the west side of the building. While there is an adjacent injection well (22i), it is screened in the shallow aquifer, and the injections do not affect TOC concentrations within the intermediate or deep aquifers. As described above, this is a good candidate for CarBstrate being gravity fed into the well, as it already shows reducing conditions with low DO and negative ORP. Because this well is in the roadway, the CarBstrate mixture could be added while the road is closed for semiannual groundwater monitoring and after the well has been sampled.

Lastly, one intermediate well, MW-20R, has recently shown an increase in PCE concentration. There are two nearby injection wells that can be turned on if needed later once the shallow aquifer has been more fully addressed.

The three pillars of Interstate Technology & Regulatory Council guidance on Optimizing Injection Strategies and In Situ Remediation (2022) are dose, delivery, and amendment. At this site, the amendment appears to be effective under the optimized operation, which includes an increased

dose to a focused delivery area. The above recommendations would increase dosage and improve delivery of the amendment in the areas that continue to have concentrations exceeding the CULs.

The above recommendations were discussed with Ecology and the City on November 13, 2024. It was agreed that the current optimization changes to the system are effective, and these recommendations will likely be effective as well. These additional optimization recommendations will be initiated in April 2025 in coordination with the City and ETEC, Inc.

Floyd|Snider will continue to perform semiannual groundwater monitoring and weekly operations and maintenance, which will be documented in an annual groundwater memorandum.

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Tables

Table 1
Shallow Aquifer Data

Analyte Class	VOCs												Field Parameters		Conventionals	Dissolved Gases	
Analyte	Tetrachloroethene		Trichloroethene		1,1-Dichloroethene		cis-1,2-Dichloroethene		trans-1,2-Dichloroethene		Vinyl Chloride		Dissolved Oxygen	ORP	Total Organic Carbon	Ethane	Ethene
CAS No.	127-18-4		79-01-6		75-35-4		156-59-2		156-60-5		75-01-4		--	--	TOC	74-84-0	74-85-1
MTCA Method A CUL [1]	5.0	--	5.0	--	--	--	16	--	160	--	0.20	--	--	--	--	--	--
Unit	µg/L	µmol/L	µg/L	µmol/L	µg/L	µmol/L	µg/L	µmol/L	µg/L	µmol/L	µg/L	µmol/L	mg/L	mV	mg/L	mg/L	mg/L
Sample Date																	
BSCSS-MW-4R																	
8/2/2021	**2,000**	12	**120**	0.91	10 U	NC	**230**	2.4	10 U	NC	**20**	0.32	0.29	51.2	3.8	0.00022 U	0.00029 U
8/30/2022	**1,300**	7.8	**220**	1.7	8.0 U	NC	**640**	6.6	8.0 U	NC	**40**	0.64	0.03	-8.2	6.1	0.00022 U	0.00029 U
2/20/2023	**490**	3.0	**110**	0.84	10 U	NC	**1,200**	12	10 U	NC	**52**	0.83	0.10	-13.9	3.0	0.00022 U	0.00029 U
9/15/2023	**390**	2.4	**70**	0.53	2.0 U	NC	**380**	3.9	2.0 U	NC	**18**	0.29	0.16	170.9	2.4	0.00022 U	0.0037
4/9/2024	**130**	0.78	**63**	0.48	4.0 U	NC	**590**	6.1	4.0 U	NC	**13**	0.21	0.61	-47.5	3.2	0.00056 U	0.00058 U
9/25/2024	1.9	0.011	1.9	0.014			**150**	1.5	0.88	0.0091	**42**	0.67	0.46	-105	59	0.00056 U	0.022
BSCSS-MW-5R																	
8/3/2021	**1,800**	11	**38**	0.29	10 U	NC	**34**	0.35	10 U	NC	**2.2**	0.035	0.28	158.6	2.1	0.00022 U	0.00029 U
9/1/2022	**2,300**	14	**57**	0.43	10 U	NC	**85**	0.88	10 U	NC	**4.4**	0.070	0.07	11.3	1.4	0.00022 U	0.00029 U
2/20/2023	**1,700**	10	**50**	0.38	10 U	NC	**140**	1.4	10 U	NC	**2.3**	0.037	0.17	116.4	1.2	0.00022 U	0.00029 U
9/20/2023	**2,000**	12	**48**	0.37	0.24	0.0025	**54**	0.56	0.57	0.0059	**0.94**	0.015	0.03	181.8	1.1	0.00022 U	0.00029 U
4/9/2024	**810**	4.9	**23**	0.18	4.0 U	NC	**23**	0.24	4.0 U	NC	**0.59**	0.0094	0.47	119.4	1.7	0.00056 U	0.00058 U
9/25/2024	**48**	0.29	4.0	0.030			13	0.13	0.20 U	NC	**0.29**	0.0046	0.34	128.7	2.1	0.00056 U	0.00058 U
BSCSS-MW-6																	
12/21/2018	**2,700**	16	**1,000**	7.6	1.0 U	NC	**2,600**	27	40	0.41	**26**	0.42	0.23	-65.4	14	0.16 U	0.15 U
2/22/2019	**1,800**	11	**570**	4.3	10 U	NC	**1,000**	10	14	0.14	**14**	0.22	0.15	-52	13	0.016 U	0.015 U
5/22/2019	**3,800**	23	**1,800**	14	20 U	NC	**750**	7.7	20 U	NC	*20 U*	NC	0.04	-70.8	20	0.0012	0.00050 U
7/25/2019	**3,600**	22	**1,100**	8.4	20 U	NC	**490**	5.1	20 U	NC	**7.4**	0.12	0.04	-108.1	22	0.00050 U	0.019
10/21/2019	**74**	0.45	**38**	0.29	10 U	NC	**1,200**	12	10 U	NC	**3.2**	0.051	0.04	-74.6	19	0.00050 U	0.00094
1/22/2020	**9.8**	0.059	**5.2**	0.040	0.38	0.0039	**170**	1.8	0.91	0.0094	**74**	1.2		-77.8	8.4	0.00022 U	0.028
4/17/2020	**23**	0.14	**7.4**	0.056	1.4	0.014	**38**	0.39	0.47	0.0048	**50**	0.80	0.12	-7.4	10	0.00022 U	0.015
7/20/2020	0.97	0.0058	1.1	0.0084	0.44	0.0045	**47**	0.48	0.43	0.0044	**58**	0.93	0.25	-60.4	49	0.00022 U	0.071
10/19/2020	2.3	0.014	0.61	0.0046	0.20 U	NC	3.8	0.039	0.20 U	NC	**8.2**	0.13	0.11	-51	63	0.00022 U	0.026
2/23/2021	0.20 U	NC	0.20 U	NC	0.20 U	NC	10	0.10	0.20 U	NC	**14**	0.22		-88.5	14	0.00022 U	0.016
6/15/2021	0.20 U	NC	0.20 U	NC	0.20 U	NC	1.9	0.020	0.20 U	NC	**8.0**	0.13	0.09	-125.1	10	0.00022 U	0.0048
9/12/2022	**17**	0.10	**12**	0.091	0.49	0.0051	11	0.11	0.20 U	NC	**0.35**	0.0056	0.12	2.9	8.0	0.0023	0.00029 U
2/20/2023	4.0	0.024	4.8	0.037	0.42	0.0043	7.9	0.081	0.20 U	NC	**3.1**	0.050	0.20	-124.2	14	0.00022 U	0.00029 U
9/14/2023	**7.0**	0.042	**7.0**	0.053	0.42	0.0043	8.3	0.086	0.20 U	NC	**8.1**	0.13	0.23	-43.4	14	0.00022 U	0.0019
4/9/2024	2.1	0.013	4.0	0.030	0.35	0.0036	5.5	0.057	0.20 U	NC	**9.4**	0.15	-0.01	-134.9	13	0.00056 U	0.0023
9/25/2024	0.20 U	NC	0.20 U	NC			0.86	0.0089	0.20 U	NC	**7.0**	0.11	0.10	-126.7	9.4	0.00056 U	0.0028
BSCSS-MW-7																	
5/24/2019	**1,000**	6.0	**84**	0.64	10 U	NC	**240**	2.5	10 U	NC	*10 U*	NC	0.16	-9.2	2.3	0.0030 U	0.0030 U
6/18/2021	**190**	1.1	**35**	0.27	2.0 U	NC	**140**	1.4	2.0 U	NC	**17**	0.27	0.05	-132.2	2.5	0.00022 U	0.00029 U
9/28/2022	**2,100**	13	**220**	1.7	10 U	NC	**1,100**	11	10 U	NC	**130**	2.1	0.15	16.8	3.1	0.00022 U	0.0032
2/21/2023	**1,300**	7.8	**210**	1.6	10 U	NC	**420**	4.3	10 U	NC	**2.6**	0.042	0.23	-7.1	3.2	0.00022 U	0.00029 U
9/15/2023	**5,100**	31	**300**	2.3	20 U	NC	**780**	8.0	20 U	NC	**2.7**	0.043	0.24	130.5	12	0.00022 U	0.00029 U
4/9/2024	**1,600**	9.6	**230**	1.8	10 U	NC	**430**	4.4	10 U	NC	**1.9**	0.030	0.45	-6.8	2.9	0.00056 U	0.00058 U
9/25/2024	2.2	0.013	2.8	0.021			**130**	1.3	0.80 U	NC	**18**	0.29	0.41	-120	28	0.00056 U	0.0017

Table 1
Shallow Aquifer Data

Analyte Class	VOCs												Field Parameters		Conventionals	Dissolved Gases	
Analyte	Tetrachloroethene		Trichloroethene		1,1-Dichloroethene		cis-1,2-Dichloroethene		trans-1,2-Dichloroethene		Vinyl Chloride		Dissolved Oxygen	ORP	Total Organic Carbon	Ethane	Ethene
CAS No.	127-18-4		79-01-6		75-35-4		156-59-2		156-60-5		75-01-4		--	--	TOC	74-84-0	74-85-1
MTCA Method A CUL [1]	5.0	--	5.0	--	--	--	16	--	160	--	0.20	--	--	--	--	--	--
Unit	µg/L	µmol/L	µg/L	µmol/L	µg/L	µmol/L	µg/L	µmol/L	µg/L	µmol/L	µg/L	µmol/L	mg/L	mV	mg/L	mg/L	mg/L
Sample Date																	
BSCSS-MW-21R																	
8/3/2021	**7,000**	42	**260**	2.0	10 U	NC	**150**	1.5	10 U	NC	*1.0 U*	NC	1.54	136.7	2.0	0.00022 U	0.00029 U
8/30/2022	**240**	1.4	**15**	0.11	1.0 U	NC	**21**	0.22	1.0 U	NC	0.13	0.0021	0.48	8	3.2	0.00022 U	0.00029 U
2/3/2023	**16**	0.096	1.7	0.013	0.20 U	NC	4.2	0.043	0.20 U	NC	**0.41**	0.0066	0.08	60.6	2.9	0.00022 U	0.00029 U
9/19/2023	**2,500**	15	**120**	0.91	20 U	NC	**150**	1.5	20 U	NC	**1.9**	0.030	0.15	64.1	1.7	0.00022 U	0.00029 U
4/9/2024	**410**	2.5	**26**	0.20	2.0 U	NC	**20**	0.21	2.0 U	NC	**2.2**	0.035	0.46	66	2.5	0.00056 U	0.00058 U
9/24/2024	**7.4**	0.045	1.3	0.0099			4.1	0.042	0.20 U	NC	**0.21**	0.0034	0.44	-22.3	8.7	0.00056 U	0.00058 U
BSCSS-MW-23																	
12/5/2018	1.1	0.0066	0.50 U	NC	1.0 U	NC	1.0 U	NC	1.0 U	NC	0.20 U	NC	1.24	49.8	2.4	0.016 U	0.015 U
2/12/2019	2.1	0.013	0.50 U	NC	1.0 U	NC	1.0 U	NC	1.0 U	NC	0.20 U	NC	5.16	128.7	1.2	0.016 U	0.015 U
6/4/2019	0.94	0.0057	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.87	19.1	1.6	0.0075 U	0.0075 U
6/17/2021	0.20 U	NC	0.57	0.0043	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.020 U	NC	0.15	-109	3.4	0.00022 U	0.00029 U
10/14/2022	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.020 U	NC	1.81	190.2	3.0	0.00022 U	0.00029 U
2/6/2023	0.35	0.0021	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.020 U	NC	2.13	126.7	1.9	0.00022 U	0.00029 U
9/27/2023	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC		182.8	1.5	0.00022 U	0.00029 U
4/11/2024	0.24	0.0014	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	6.16	215.9	2.0	0.00056 U	0.00058 U
9/23/2024	0.20 U	NC	0.20 U	NC			0.20 U	NC	0.20 U	NC	0.20 U	NC	4.31	174.3	1.7	0.00056 U	0.00058 U
BSCSS-MW-27																	
12/12/2018	**170**	1.0	0.71	0.0054	1.0 U	NC	1.0 U	NC	1.0 U	NC	0.20 U	NC	7.04	48.3	0.79	0.016 U	0.015 U
5/24/2019	**110**	0.66	1.0 U	NC	1.0 U	NC	1.0 U	NC	1.0 U	NC	*1.0 U*	NC	8.54	41.5	1.0 U	0.00050 U	0.00050 U
7/16/2019	**91**	0.55	0.40 U	NC	0.40 U	NC	0.40 U	NC	0.40 U	NC	0.040 U	NC	6.39	155.7	1.0 U	0.00050 U	0.00050 U
10/18/2019	**130**	0.78	1.0 U	NC	1.0 U	NC	1.0 U	NC	1.0 U	NC	0.10 U	NC	7.17	243.9	8.7	0.00050 U	0.00050 U
1/29/2020	**90**	0.54	1.2	0.0091	0.40 U	NC	1.5	0.015	0.40 U	NC	0.040 U	NC	6.26	166.3	1.3	0.00022 U	0.00029 U
4/16/2020	**75**	0.45	0.51	0.0039	0.40 U	NC	0.89	0.0092	0.40 U	NC	0.040 U	NC	3.53	59.6	1.0 U	0.00022 U	0.00029 U
7/27/2020	**60**	0.36	0.40 U	NC	0.40 U	NC	0.40 U	NC	0.40 U	NC	0.040 U	NC	3.75	105.3	1.2	0.00022 U	0.00029 U
10/19/2020	**69**	0.42	0.40 U	NC	0.40 U	NC	0.40 U	NC	0.40 U	NC	0.040 U	NC	3.67	76.3	1.0	0.00022 U	0.00029 U
2/26/2021	**54**	0.33	0.40 U	NC	0.40 U	NC	0.40 U	NC	0.40 U	NC	0.040 U	NC	0.48	81.8	1.0 U	0.0033 U	0.0043 U
6/17/2021	**39**	0.24	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.020 U	NC	1.55	138.2	1.0 U	0.00022 U	0.00029 U
9/22/2022	**35**	0.21	**6.4**	0.049	0.20 U	NC	1.4	0.014	0.20 U	NC	0.020 U	NC	0.59	109.9	3.9	0.00022 U	0.00029 U
2/21/2023	**25**	0.15	**6.7**	0.051	0.20 U	NC	8.1	0.084	0.20 U	NC	0.020 U	NC	0.28	108.3	1.5	0.00022 U	0.00029 U
9/7/2023	**19**	0.11	**7.6**	0.058	0.20 U	NC	10	0.10	0.20 U	NC	0.20 U	NC	0.32	142.6	1.6	0.00022 U	0.00029 U
4/11/2024	**29**	0.17	1.6	0.012	0.20 U	NC	2.6	0.027	0.20 U	NC	0.20 U	NC	0.22	191.6	1.3	0.00056 U	0.00058 U
9/25/2024	**33**	0.20	2.9	0.022			2.1	0.022	0.20 U	NC	0.20 U	NC	0.69	116.6	1.2	0.00056 U	0.00058 U
BSCSS-MW-40																	
12/17/2018	**210**	1.3	**46**	0.35	1.0 U	NC	**57**	0.59	1.0 U	NC	0.20 U	NC	2.39	52.6	1.1	0.016 U	0.015 U
3/13/2019	**210**	1.3	**150**	1.1	1.5	0.015	**750**	7.7	1.3	0.013	0.20 U	NC	1.33	82.2	2.0	0.016 U	0.015 U
5/29/2019	**560**	3.4	**600**	4.6	20 U	NC	**4,300**	44	20 U	NC	*20 U*	NC	0.23	3.8	11	0.011	0.025 U
7/23/2019	**530**	3.2	**380**	2.9	20 U	NC	**4,700**	48	20 U	NC	**11**	0.18	0.05	-112.4	12	0.0082	0.00050 U
10/25/2019	**65**	0.39	**84**	0.64	10 U	NC	**1,500**	15	10 U	NC	**1.6**	0.026	0.06	35.6	13	0.00050 U	0.0016
1/28/2020	**150**	0.90	**130**	0.99	10 U	NC	**2,300**	24	10 U	NC	**1,600**	26	0.01	-60.6	10	0.00022 U	0.12
4/27/2020	*10 U*	NC	*10 U*	NC	10 U	NC	**150**	1.5	10 U	NC	**930**	15	0.09	26	9.9	0.00022 U	0.13
7/29/2020	0.20 U	NC	0.20 U	NC			0.52	0.0054			**26**	0.42	0.14	-47.7	69	0.00022 U	0.48
10/29/2020	**7.7**	0.046	3.8	0.029	2.0 U	NC	**93**	0.96	2.0 U	NC	**490**	7.8	0.17	-43.6	7.4	0.016	0.36
3/5/2021	**130**	0.78	**69**	0.53	3.5	0.036	**210**	2.2	2.0 U	NC	**440**	7.0			4.9	0.024	0.25

Table 1
Shallow Aquifer Data

Analyte Class	VOCs												Field Parameters		Conventionals	Dissolved Gases	
Analyte	Tetrachloroethene		Trichloroethene		1,1-Dichloroethene		cis-1,2-Dichloroethene		trans-1,2-Dichloroethene		Vinyl Chloride		Dissolved Oxygen	ORP	Total Organic Carbon	Ethane	Ethene
CAS No.	127-18-4		79-01-6		75-35-4		156-59-2		156-60-5		75-01-4		--	--	TOC	74-84-0	74-85-1
MTCA Method A CUL [1]	5.0	--	5.0	--	--	--	16	--	160	--	0.20	--	--	--	--	--	--
Unit	µg/L	µmol/L	µg/L	µmol/L	µg/L	µmol/L	µg/L	µmol/L	µg/L	µmol/L	µg/L	µmol/L	mg/L	mV	mg/L	mg/L	mg/L
Sample Date																	
BSCSS-MW-40 (cont.)																	
3/12/2021	**160**	0.96	**93**	0.71	4.8	0.050	**280**	2.9	2.1	0.022	**320**	5.1	0.88	-35.9	4.9	0.00022 U	0.14
6/21/2021	**19**	0.11	**64**	0.49	3.9	0.040	**110**	1.1	1.2	0.012	**190**	3.0	0.10	-130	4.8	0.0042	0.050
9/29/2022	**11**	0.066	**510**	3.9	120	1.2	**240**	2.5	10 U	NC	**150**	2.4	0.18	-48.1	5.4	0.0012	0.063
2/6/2023	**6.3**	0.038	**340**	2.6	26	0.27	**160**	1.7	3.4	0.035	**73**	1.2	1.12	37.5	2.1	0.00038	0.038
9/26/2023	4.0 U	NC	**43**	0.33	23	0.24	**470**	4.8	4.0 U	NC	**140**	2.2	0.21	99.3	5.5	0.0066	0.15
4/11/2024	**1,900**	11	**3,700**	28	88	0.91	**450**	4.6	20 U	NC	**130**	2.1	0.96	-57.6	7.2	0.00056 U	0.049
9/26/2024	**890**	5.4	**1,600**	12			**330**	3.4	10 U	NC	**97**	1.6	0.40	-91.5	6.0	0.0026	0.096
BSCSS-MW-43R																	
6/23/2021	**15**	0.090	2.4	0.018	0.20 U	NC	**22**	0.23	0.21	0.0022	**4.9**	0.078	0.13	-143.6	26	0.00022 U	0.0045
9/29/2022	4.3	0.026	2.2	0.017	0.20 U	NC	9.0	0.093	0.20 U	NC	**0.59**	0.0094	0.22	7.9	3.2	0.00022 U	0.00029 U
2/8/2023	**8.7**	0.052	2.5	0.019	0.20 U	NC	6.4	0.066	0.20 U	NC	**0.73**	0.012	0.69	31.4	4.3	0.00022 U	0.00029 U
9/22/2023	2.6	0.016	2.6	0.020	0.20 U	NC	6.9	0.071	0.20 U	NC	**0.24**	0.0038	0.04	73.7	2.4	0.00022 U	0.00029 U
4/10/2024	**6.1**	0.037	3.9	0.030	0.20 U	NC	14	0.14	0.20 U	NC	**1.7**	0.027	0.45	4	3.9	0.00056 U	0.00058 U
9/26/2024	4.2	0.025	2.1	0.016			12	0.12	0.20 U	NC	**0.81**	0.013	0.30	26.7	3.1	0.00056 U	0.00058 U
BSCSS-MW-45R																	
6/23/2021	**15**	0.090	3.5	0.027	0.20 U	NC	4.0	0.041	0.20 U	NC	**0.92**	0.015	0.02	-95.3	3.3	0.00022 U	0.00058
9/1/2022	**11**	0.066	2.7	0.021	0.20 U	NC	0.59	0.0061	0.20 U	NC	0.020 U	NC	3.17	62.1	18	0.00022 U	0.00029 U
2/2/2023	3.0	0.018	0.96	0.0073	0.20 U	NC	0.69	0.0071	0.20 U	NC	0.020 U	NC	0.39	112.4	8.9	0.00022 U	0.00029 U
9/19/2023	2.1	0.013	4.2	0.032	0.20 U	NC	2.0	0.021	0.20 U	NC	0.20 U	NC	0.21	176.7	5.9	0.00022 U	0.00029 U
4/9/2024	0.20 U	NC	0.20 U	NC	0.20 U	NC	3.8	0.039	0.20 U	NC	0.20 U	NC	0.51	-75.8	310	0.00056 U	0.00058 U
9/24/2024	0.20 U	NC	0.20 U	NC			3.0	0.031	0.20 U	NC	**9.4**	0.15	0.09	-92.1	14	0.00056 U	0.00058 U
BSCSS-HZ-MW-1																	
12/19/2018	**7.8**	0.047	0.50 U	NC	1.0 U	NC	1.0 U	NC	1.0 U	NC	0.20 U	NC	5.00	45	1.2	0.016 U	0.015 U
5/30/2019	**11**	0.066	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	7.81	15.2	1.1	0.00050 U	0.00050 U
7/29/2019	**14**	0.084	0.20 U	NC	0.20 U	NC	1.1	0.011	0.20 U	NC	0.020 U	NC	4.08	-70.1	1.0	0.00050 U	0.00050 U
10/21/2019	**15**	0.090	0.20 U	NC	0.20 U	NC	0.61	0.0063	0.20 U	NC	0.020 U	NC	4.58	200	1.1	0.00050 U	0.00050 U
1/24/2020	**5.9**	0.036	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.020 U	NC	24	86.3	1.2	0.00022 U	0.00029 U
4/14/2020	**33**	0.20	1.1	0.0084	0.20 U	NC	1.2	0.012	0.20 U	NC	0.15	0.0024	1.14	-3.8	1.6	0.00022 U	0.00029 U
7/17/2020	**40**	0.24	2.6	0.020	0.20 U	NC	4.5	0.046	0.20 U	NC	**2.1**	0.034	0.48	71.9	1.7	0.00022 U	0.00029 U
10/27/2020	**8.6**	0.052	0.53	0.0040	0.20 U	NC	3.2	0.033	0.20 U	NC	**0.89**	0.014		74.3	1.7	0.00022 U	0.00029 U
3/4/2021	**11**	0.066	3.6	0.027	1.0 U	NC	**120**	1.2	1.0 U	NC	**3.1**	0.050	1.14	-18.6	2.7	0.00022 U	0.0012
6/15/2021	**42**	0.25	**5.3**	0.040	0.40 U	NC	13	0.13	0.40 U	NC	**0.56**	0.0090	0.86	52.3	2.7	0.00022 U	0.00085
9/12/2022	2.4	0.014	3.2	0.024	0.40 U	NC	**31**	0.32	0.40 U	NC	**2.8**	0.045	8.83	-32	2.2	0.00022 U	0.00029 U
2/15/2023	3.7	0.022	3.3	0.025	0.40 U	NC	**67**	0.69	0.52	0.0054	**19**	0.30	0.19	-6.9	3.3	0.00022 U	0.00029 U
9/20/2023	2.7	0.016	2.2	0.017	0.27	0.0028	**110**	1.1	0.68	0.0070	**17**	0.27	0.27	129.2	3.6	0.00022 U	0.00029 U
4/10/2024	0.76	0.0046	1.0	0.0076	0.20 U	NC	**44**	0.45	0.63	0.0065	**21**	0.34	0.39	-47.1	2.7	0.00056 U	0.0013
9/24/2024	0.43	0.0026	0.52	0.0040			**24**	0.25	0.49	0.0051	**14**	0.22	0.43	-69.6	5.9	0.00056 U	0.00089
BSCSS-HZ-MW-14S																	
12/13/2018	**240**	1.4	**7.3**	0.056	1.0 U	NC	6.1	0.063	1.0 U	NC	0.20 U	NC	0.17	20.4	1.9	0.016 U	0.015 U
5/21/2019	**240**	1.4	**7.0**	0.053	2.0 U	NC	3.2	0.033	2.0 U	NC	*2.0 U*	NC	0.11	-26.3	1.7	0.0050 U	0.0050 U
7/25/2019	**160**	0.96	**6.8**	0.052	1.0 U	NC	7.0	0.072	1.0 U	NC	0.10 U	NC	0.23	-57.4	1.8	0.00050 U	0.00050 U
10/16/2019	**78**	0.47	**5.9**	0.045	0.40 U	NC	3.6	0.037	0.40 U	NC	0.040 U	NC	0.05	103.9	1.9	0.00050 U	0.00050 U

Table 1
Shallow Aquifer Data

Analyte Class	VOCs												Field Parameters		Conventionals	Dissolved Gases	
Analyte	Tetrachloroethene		Trichloroethene		1,1-Dichloroethene		cis-1,2-Dichloroethene		trans-1,2-Dichloroethene		Vinyl Chloride		Dissolved Oxygen	ORP	Total Organic Carbon	Ethane	Ethene
CAS No.	127-18-4		79-01-6		75-35-4		156-59-2		156-60-5		75-01-4		--	--	TOC	74-84-0	74-85-1
MTCA Method A CUL [1]	5.0	--	5.0	--	--	--	16	--	160	--	0.20	--	--	--	--	--	--
Unit	µg/L	µmol/L	µg/L	µmol/L	µg/L	µmol/L	µg/L	µmol/L	µg/L	µmol/L	µg/L	µmol/L	mg/L	mV	mg/L	mg/L	mg/L
Sample Date																	
BSCSS-HZ-MW-14S (cont.)																	
1/22/2020	**23**	0.14	4.2	0.032	0.20 U	NC	15	0.15	0.20 U	NC	0.069	0.0011	2.22	115	2.8	0.00022 U	0.00029 U
4/15/2020	**55**	0.33	3.5	0.027	0.40 U	NC	4.3	0.044	0.40 U	NC	**3.0**	0.048	0.24	11.5	2.1	0.00022 U	0.019
7/21/2020	**160**	0.96	**15**	0.11	1.0 U	NC	**88**	0.91	1.0 U	NC	**26**	0.42	0.25	79.6	2.0	0.00022 U	0.015
10/23/2020	**270**	1.6	**37**	0.28	2.0 U	NC	**120**	1.2	2.0 U	NC	**34**	0.54	0.17	114	2.0	0.00022 U	0.015
3/3/2021	**210**	1.3	**22**	0.17	2.0 U	NC	**28**	0.29	2.0 U	NC	**15**	0.24	0.57	96.5	2.5	0.00022 U	0.016
6/15/2021	**550**	3.3	**120**	0.91	4.0 U	NC	**260**	2.7	4.0 U	NC	**17**	0.27	0.44	-4.9	2.7	0.00022 U	0.0043
9/6/2022	**250**	1.5	**100**	0.76	4.0 U	NC	**60**	0.62	4.0 U	NC	**0.42**	0.0067	0.04	5.9	3.0	0.00022 U	0.00029 U
2/21/2023	**1,000**	6.0	**170**	1.3	10 U	NC	**220**	2.3	10 U	NC	**23**	0.37	0.42	66.1	1.9	0.00022 U	0.00029 U
9/21/2023	**1,200**	7.2	**250**	1.9	10 U	NC	**270**	2.8	10 U	NC	**34**	0.54	0.09	208.6	2.1	0.00022 U	0.00029 U
4/9/2024	**710**	4.3	**180**	1.4	8.0 U	NC	**150**	1.5	8.0 U	NC	**15**	0.24	0.52	30	2.8	0.00056 U	0.00058 U
9/24/2024	**170**	1.0	**40**	0.30			**23**	0.24	1.0 U	NC	*1.0 U*	NC	0.32	44.4	2.3	0.00056 U	0.00058 U
BSCSS-HZ-MW-15S																	
12/27/2018	**12**	0.072	0.50 U	NC	1.0 U	NC	1.0 U	NC	1.0 U	NC	0.20 U	NC	0.68	38.5	1.4	0.016 U	0.015 U
6/4/2019	**8.9**	0.054	0.34	0.0026	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.33	-10.7	1.1	0.0010 U	0.0010 U
7/23/2019	**11**	0.066	0.41	0.0031	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.020 U	NC	0.38	-69.1	1.0	0.00050 U	0.00050 U
10/17/2019	**9.8**	0.059	0.39	0.0030	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.020 U	NC	0.23	189	1.2	0.00050 U	0.00050 U
1/22/2020	4.2	0.025	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.020 U	NC	6.00	129.5	1.4	0.00022 U	0.00029 U
4/15/2020	3.6	0.022	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.020 U	NC	1.43	17.6	1.3	0.00022 U	0.00029 U
7/22/2020	4.7	0.028	0.20	0.0015	0.20 U	NC	0.35	0.0036	0.20 U	NC	0.020 U	NC	1.19	66.2	1.2	0.00022 U	0.00029 U
10/23/2020	4.6	0.028	0.27	0.0021	0.20 U	NC	11	0.11	0.20 U	NC	**0.43**	0.0069	0.35	112.3	1.3	0.0022 U	0.0029 U
3/3/2021	3.8	0.023	0.43	0.0033	0.20 U	NC	10	0.10	0.20 U	NC	**1.2**	0.019		111.3	1.2	0.00022 U	0.00039
6/22/2021	**5.1**	0.031	0.62	0.0047	0.20 U	NC	**19**	0.20	0.20 U	NC	**1.4**	0.022	0.38	-5.8	1.6	0.00022 U	0.00029 U
9/6/2022	1.6	0.0096	0.89	0.0068	0.40 U	NC	**71**	0.73	1.2	0.012	**4.8**	0.077	0.16	-9.7	36	0.00022 U	0.00029 U
2/15/2023	1.8	0.011	0.84	0.0064	0.20 U	NC	**27**	0.28	0.63	0.0065	**2.9**	0.046	0.30	44.6	3.3	0.00022 U	0.00029 U
9/20/2023	1.6	0.0096	0.69	0.0053	0.20 U	NC	9.9	0.10	0.28	0.0029	**0.68**	0.011	0.04	169.9	2.5	0.00022 U	0.00029 U
4/9/2024	1.2	0.0072	0.72	0.0055	0.20 U	NC	5.3	0.055	0.20 U	NC	**0.32**	0.0051	0.34	90.5	3.5	0.00056 U	0.00058 U
9/23/2024	**9.8**	0.059	4.0	0.030			9.0	0.093	0.20 U	NC	**0.29**	0.0046	0.53	67.2	3.0	0.00056 U	0.00058 U
BSCSS-HZ-MW-31																	
12/18/2018	1.0 U	NC	0.50 U	NC	1.0 U	NC	1.0 U	NC	1.0 U	NC	0.20 U	NC	0.07	2	5.0	0.016 U	0.015 U
5/29/2019	0.78	0.0047	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.23	19.8	4.6	0.025 U	0.025 U
7/23/2019	2.5	0.015	0.20 U	NC	0.20 U	NC	0.69	0.0071	0.20 U	NC	0.048	0.00077	0.21	-64	4.4	0.00050 U	0.00050 U
10/25/2019	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.048	0.00077	0.10	23.1	4.8	0.00050 U	0.00050 U
1/28/2020	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.054	0.00086	0.24	69.1	4.8	0.00022 U	0.00029 U
4/27/2020	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.049	0.00078	0.25	33.6	4.7	0.00022 U	0.00029 U
7/29/2020	0.20 U	NC	0.20 U	NC			0.20 U	NC			0.049	0.00078	0.20	-4.3	4.9	0.00022 U	0.00029 U
10/29/2020	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.060	0.00096	0.17	-18.3	4.6	0.00022 U	0.00029 U
3/5/2021	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.021	0.00034	3.10	-24.8	6.0	0.00022 U	0.00037
6/21/2021	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.046	0.00074	0.13	-94.7	5.6	0.00022 U	0.00029 U
9/29/2022	0.41	0.0025	0.47	0.0036	0.20 U	NC	2.0	0.021	0.20 U	NC	**20**	0.32	0.17	-24.53	6.2	0.00022 U	0.027
2/6/2023	0.80 U	NC	0.80 U	NC	0.80 U	NC	16	0.17	0.80 U	NC	**94**	1.5	0.10	-47.9	6.0	0.00022 U	0.024
9/26/2023	2.0 U	NC	2.0 U	NC	2.0 U	NC	**22**	0.23	2.0 U	NC	**110**	1.8	0.12	111.2	4.8	0.00022 U	0.011
9/26/2024	2.0 U	NC	0.40 U	NC			**45**	0.46	0.40 U	NC	**62**	0.99	0.33	-78.6	6.1	0.00056 U	0.0028

Table 1
Shallow Aquifer Data

Analyte Class	VOCs												Field Parameters		Conventionals	Dissolved Gases	
Analyte	Tetrachloroethene		Trichloroethene		1,1-Dichloroethene		cis-1,2-Dichloroethene		trans-1,2-Dichloroethene		Vinyl Chloride		Dissolved Oxygen	ORP	Total Organic Carbon	Ethane	Ethene
CAS No.	127-18-4		79-01-6		75-35-4		156-59-2		156-60-5		75-01-4		--	--	TOC	74-84-0	74-85-1
MTCA Method A CUL [1]	5.0	--	5.0	--	--	--	16	--	160	--	0.20	--	--	--	--	--	--
Unit	µg/L	µmol/L	µg/L	µmol/L	µg/L	µmol/L	µg/L	µmol/L	µg/L	µmol/L	µg/L	µmol/L	mg/L	mV	mg/L	mg/L	mg/L
Sample Date																	
BSCSS-HZ-MW-34																	
12/7/2018	4.4	0.027	**13**	0.099	1.0 U	NC	**33**	0.34	1.0 U	NC	0.20 U	NC	0.10	0.9	4.0	0.016 U	0.015 U
5/31/2019	0.83	0.0050	3.3	0.025	0.20 U	NC	**24**	0.25	0.29	0.0030	**0.26**	0.0042	0.16	-17.2	42	0.050 U	0.050 U
7/17/2019	1.4	0.0084	3.3	0.025	0.20 U	NC	**20**	0.21	0.27	0.0028	**0.28**	0.0045	0.08	-158.7	24	0.00050 U	0.00050 U
10/23/2019	1.0 U	NC	1.0 U	NC	1.0 U	NC	**110**	1.1	1.0 U	NC	**0.97**	0.016	0.07	24.7	5.8	0.00050 U	0.00050 U
1/27/2020	1.0 U	NC	2.6	0.020	1.0 U	NC	**120**	1.2	1.0 U	NC	**31**	0.50	0.14	48.8	2.3	0.00022 U	0.00029 U
4/14/2020	1.0 U	NC	1.6	0.012	1.0 U	NC	**100**	1.0	1.0 U	NC	**130**	2.1	0.21	-21.8	2.1	0.00022 U	0.0043
7/21/2020	0.20 U	NC	0.20 U	NC	0.20 U	NC	12	0.12	0.32	0.0033	**16**	0.26	0.20	-42.7	4.4	0.00022 U	0.014
10/28/2020	0.20 U	NC	0.24	0.0018	0.20 U	NC	13	0.13	0.29	0.0030	**20**	0.32	0.21	-19.7	1.9	0.00022 U	0.012
3/2/2021	0.20 U	NC	0.24	0.0018	0.20 U	NC	11	0.11	0.21	0.0022	**12**	0.19		-43.5	1.7	0.00022 U	0.0055
6/18/2021	0.34	0.0021	0.88	0.0067	0.20 U	NC	4.2	0.043	0.20 U	NC	**1.2**	0.019	0.05	-135.1	14	0.00022 U	0.00029 U
9/20/2022	0.48	0.0029	1.6	0.012	0.20 U	NC	13	0.13	0.20 U	NC	**5.0**	0.080	0.25	-4.2	1.6	0.00022 U	0.00082
2/7/2023	0.35	0.0021	1.0	0.0076	0.20 U	NC	14	0.14	0.20 U	NC	**4.6**	0.074	0.45	-22.4	1.1	0.00022 U	0.00034
9/8/2023	0.66	0.0040	1.8	0.014	0.20 U	NC	8.4	0.087	0.20 U	NC	**2.0**	0.032	0.20	75.8	1.2	0.00022 U	0.00029 U
4/10/2024	0.53	0.0032	1.5	0.011	0.20 U	NC	7.2	0.074	0.20 U	NC	**0.92**	0.015	0.40	-13	1.8	0.00056 U	0.00058 U
9/24/2024	0.33	0.0020	1.4	0.011			6.5	0.067	0.20 U	NC	**1.3**	0.021	0.29	46.6	1.4	0.00056 U	0.00058 U
BSCSS-S-MW-1																	
6/6/2019	**8.9**	0.054	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	3.46	5	1.4	0.00050 U	0.00050 U
7/23/2019	**6.5**	0.039	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.020 U	NC	3.10	-74.5	1.0 U	0.00050 U	0.00050 U
10/23/2019	**7.3**	0.044	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.020 U	NC	3.82	164.3	1.0 U	0.00050 U	0.00050 U
1/21/2020	3.4	0.021	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.020 U	NC	4.38	105.9	1.0 U	0.00022 U	0.00029 U
4/23/2020	3.5	0.021	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.020 U	NC	4.58	1.3	1.0 U	0.00022 U	0.00029 U
7/28/2020	**5.1**	0.031	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.020 U	NC	3.71	87.5	1.1	0.00022 U	0.00029 U
11/2/2020	4.5	0.027	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.020 U	NC	3.18	88.9	1.0	0.00022 U	0.00029 U
3/1/2021	1.7	0.010	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.020 U	NC	4.59	73.2	1.0 U	0.00022 U	0.00029 U
6/14/2021	1.2	0.0072	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.020 U	NC	7.73	60.2	1.0 U	0.00022 U	0.00029 U
9/27/2022	2.9	0.017	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.020 U	NC	3.80	204.4	1.2	0.00022 U	0.00029 U
2/16/2023	2.6	0.016	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.020 U	NC	3.68	193.5	1.0 U	0.00022 U	0.00029 U
9/7/2023	3.5	0.021	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	1.31	167.3	1.0 U	0.00022 U	0.00029 U
9/25/2024	2.4	0.014	0.20 U	NC			0.20 U	NC	0.20 U	NC	0.20 U	NC	3.23	125	1.5	0.00056 U	0.00058 U
BSCSS-S-MW-2RR																	
8/5/2021	0.20 U	NC	0.20 U	NC	0.20 U	NC	12	0.12	0.21	0.0022	**3.6**	0.058	0.99	-41.3	2.8	0.00022 U	0.00030
9/8/2022	0.20 U	NC	0.25	0.0019	0.20 U	NC	0.37	0.0038	0.20 U	NC	**0.59**	0.0094	0.05	-61.1	3.8	0.00022 U	0.00029 U
2/10/2023	0.20 U	NC	0.39	0.0030	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.084	0.0013	0.06	-58.2	24	0.00022 U	0.00029 U
9/12/2023	0.20 U	NC	0.35	0.0027	0.20 U	NC	0.20 U	NC	0.20 U	NC	**0.37**	0.0059	0.15	68.6	3.0	0.00022 U	0.00029 U
4/10/2024	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.31	-60.6	1.1	0.00056 U	0.00058 U
9/23/2024	0.20 U	NC	0.56	0.0043			0.32	0.0033	0.20 U	NC	0.20 U	NC	0.43	-97.1	2.3	0.00056 U	0.00058 U

Table 1
Shallow Aquifer Data

Analyte Class	VOCs												Field Parameters		Conventionals	Dissolved Gases	
Analyte	Tetrachloroethene		Trichloroethene		1,1-Dichloroethene		cis-1,2-Dichloroethene		trans-1,2-Dichloroethene		Vinyl Chloride		Dissolved Oxygen	ORP	Total Organic Carbon	Ethane	Ethene
CAS No.	127-18-4		79-01-6		75-35-4		156-59-2		156-60-5		75-01-4		--	--	TOC	74-84-0	74-85-1
MTCA Method A CUL [1]	5.0	--	5.0	--	--	--	16	--	160	--	0.20	--	--	--	--	--	--
Unit	µg/L	µmol/L	µg/L	µmol/L	µg/L	µmol/L	µg/L	µmol/L	µg/L	µmol/L	µg/L	µmol/L	mg/L	mV	mg/L	mg/L	mg/L
Sample Date																	
BSCSS-S-MW-5R																	
8/11/2021	**630**	3.8	4.0 U	NC	4.0 U	NC	4.0 U	NC	4.0 U	NC	*0.40 U*	NC	1.97	109	1.0 U	0.00022 U	0.00029 U
10/3/2022	**450**	2.7	3.9	0.030	0.20 U	NC	5.3	0.055	0.20 U	NC	0.081	0.0013	3.50	108.3	1.0 U	0.00022 U	0.00029 U
2/10/2023	**270**	1.6	**6.8**	0.052	2.0 U	NC	14	0.14	2.0 U	NC	**0.70**	0.011	0.14	113.7	1.2	0.00022 U	0.00029 U
9/12/2023	**510**	3.1	3.9	0.030	2.0 U	NC	3.7	0.038	2.0 U	NC	0.20 U	NC	0.29	346.9	1.0 U	0.00022 U	0.00029 U
4/10/2024	**360**	2.2	**6.6**	0.050	2.0 U	NC	13	0.13	2.0 U	NC	0.20 U	NC	0.50	124	1.0	0.00056 U	0.00058 U
9/23/2024	**350**	2.1	**7.8**	0.059			**17**	0.18	2.0 U	NC	*2.0 U*	NC	0.37	72.8	1.0 U	0.00056 U	0.00058 U

Notes:

All blank cells are intentional.
All chemistry results are rounded to two significant figures.
Field parameters are reported as displayed by the sampling equipment.
-- Not available.
Italic Analyte was not detected at a reporting limit greater than the CUL.
RED/BOLD Analyte was detected at a concentration greater than the CUL.
1 CULs are based on MTCA Method A values, except for cis- and trans-1,2-dichloroethene, which use MTCA Method B.

Abbreviations:

°C Degrees Celsius
CAS Chemical Abstracts Service
CUL Cleanup level
µg/L Micrograms per liter
µg/L Micromoles per liter
mg/L Milligrams per kilogram
MTCA Model Toxics Control Act
mV Millivolts
NC Molar concentration not calculated, analyte was not detected
ORP Oxidation–reduction potential
VOC Volatile organic compound

Qualifiers:

J Analyte was detected; concentration is an estimate.
U Analyte was not detected at the associated reporting limit.

Table 2
Intermediate Aquifer Data

Analyte Class	VOCs												Field Parameters		Conventionals	Dissolved Gases	
Analyte	Tetrachloroethene		Trichloroethene		1,1-Dichloroethene		cis-1,2-Dichloroethene		trans-1,2-Dichloroethene		Vinyl Chloride		Dissolved Oxygen	ORP	Total Organic Carbon	Ethane	Ethene
CAS No.	127-18-4		79-01-6		75-35-4		156-59-2		156-60-5		75-01-4		--	--	TOC	74-84-0	74-85-1
MTCA Method A CUL [1]	5.0	--	5.0	--	--	--	16	--	160	--	0.20	--	--	--	--	--	--
Unit	µg/L	µmol/L	µg/L	µmol/L	µg/L	µmol/L	µg/L	µmol/L	µg/L	µmol/L	µg/L	µmol/L	mg/L	mV	mg/L	mg/L	mg/L
Sample Date																	
BSCSS-MW-11																	
12/20/2018	**41**	0.25	**12**	0.091	1.0 U	NC	4.9	0.051	1.0 U	NC	0.20 U	NC	0.16	14.3	9.0	0.16 U	0.15 U
2/21/2019	**17**	0.10	**15**	0.11	1.0 U	NC	9.6	0.099	1.0 U	NC	0.20 U	NC	0.16	-70	24	0.016 U	0.015 U
5/22/2019	**75**	0.45	**69**	0.53	2.3	0.024	14	0.14	0.77	0.0079	*0.40 U*	NC	0.04	-18	27	0.00050 U	0.00050 U
7/25/2019	**39**	0.24	**41**	0.31	1.9	0.020	7.7	0.079	0.46	0.0047	**0.34**	0.0054	0.04	-43.8	26	0.00050 U	0.00050 U
10/21/2019	3.5	0.021	3.8	0.029	1.0 U	NC	**220**	2.3	1.0 U	NC	**1.5**	0.024	0.08	-59.4	34	0.00050 U	0.00050 U
1/22/2020	2.5	0.015	2.7	0.021	1.0 U	NC	**230**	2.4	1.0 U	NC	**70**	1.1	1.10	-35.1	11	0.00022 U	0.0052
4/17/2020	**8.0**	0.048	**20**	0.15	3.2	0.033	**130**	1.3	1.4	0.014	**140**	2.2	0.20	-15.1	17	0.00022 U	0.0068
7/20/2020	0.20 U	NC	0.20 U	NC	0.20 U	NC	1.1	0.011	0.20 U	NC	**18**	0.29	0.17	-38.7	92	0.00022 U	0.050
10/19/2020	**13**	0.078	**15**	0.11	0.46	0.0047	**79**	0.81	0.51	0.0053	**30**	0.48	0.08	-91.3	60	0.00022 U	0.019
2/26/2021	0.40 U	NC	0.92	0.0070	0.40 U	NC	**22**	0.23	0.40 U	NC	**49**	0.78		-110.1	7.4	0.00022 U	0.018
6/15/2021	1.5	0.0090	**23**	0.18	2.8	0.029	**49**	0.51	1.1	0.011	**89**	1.4	0.04	-132.2	6.7	0.00022 U	0.0049
9/28/2022	0.40 U	NC	0.45	0.0034	0.40 U	NC	**21**	0.22	0.40 U	NC	**48**	0.77	0.16	-41.7	3.8	0.00022 U	0.0032
2/20/2023	0.20 U	NC	0.20 U	NC	0.20 U	NC	5.0	0.052	0.20 U	NC	**34**	0.54	0.40	-67.7	4.1	0.00022 U	0.0039
9/14/2023	0.20 U	NC	0.66	0.0050	0.35	0.0036	6.1	0.063	0.20 U	NC	**30**	0.48	0.16	18.6	3.0	0.00022 U	0.0016
4/9/2024	0.20 U	NC	0.59	0.0045	0.20 U	NC	4.0	0.041	0.20 U	NC	**17**	0.27	-0.04	-75.5	4.0	0.00056 U	0.0024
9/24/2024	0.20 U	NC	0.59	0.0045			4.4	0.045	0.20 U	NC	**19**	0.30	0.15	-82.1	3.9	0.00056 U	0.0011
BSCSS-MW-12																	
5/24/2019	**5,400**	33	**400**	3.0	30 U	NC	**780**	8.0	30 U	NC	*30 U*	NC	0.30	-89.5	2.5	0.25 U	0.25 U
7/22/2019	**910**	5.5	**240 `**	1.8	5.0 U	NC	**630**	6.5	5.0 U	NC	**6.2**	0.099	0.05	-341	2.8	0.00050 U	0.00050 U
10/18/2019	**360**	2.2	**68**	0.52	2.0 U	NC	**240**	2.5	2.0 U	NC	**0.84**	0.013	0.12	40	2.1	0.00050 U	0.00050 U
1/27/2020	**260**	1.6	**120**	0.91	2.0 U	NC	**450**	4.6	2.0 U	NC	**1.9**	0.030	0.31	38.2	2.3	0.00022 U	0.00029 U
4/21/2020	**330**	2.0	**84**	0.64	2.0 U	NC	**52**	0.54	2.0 U	NC	**0.82**	0.013	0.18	27.5	2.9	0.00022 U	0.00029 U
7/22/2020	**250**	1.5	**93**	0.71	2.0 U	NC	**85**	0.88	2.0 U	NC	**2.7**	0.043	0.19	31.4	3.3	0.00022 U	0.00029 U
10/21/2020	**450**	2.7	**81**	0.62	2.0 U	NC	**93**	0.96	2.0 U	NC	**3.6**	0.058	0.17	30.6	3.4	0.033 U	0.043 U
3/3/2021	**650**	3.9	**65**	0.49	4.0 U	NC	**140**	1.4	4.0 U	NC	**20**	0.32		12.5	3.9	0.00022 U	0.00069
6/15/2021	**820**	4.9	**170**	1.3	4.0 U	NC	**180**	1.9	4.0 U	NC	**5.1**	0.082	0.10	-60.7	3.6	0.00022 U	0.00029 U
9/27/2022	**20**	0.12	**12**	0.091	2.0 U	NC	**330**	3.4	2.0 U	NC	**49**	0.78	0.19	-30.9	23	0.00022 U	0.014
2/20/2023	**59**	0.36	**33**	0.25	2.0 U	NC	**130**	1.3	2.0 U	NC	**18**	0.29	0.11	-61.5	11	0.00022 U	0.013
9/15/2023	0.20 U	NC	0.20 U	NC	0.20 U	NC	1.2	0.012	0.20 U	NC	**2.5**	0.040	0.19	129	4.0	0.00022 U	0.00029 U
4/9/2024	0.36	0.0022	2.9	0.022	0.20 U	NC	15	0.15	0.20 U	NC	**4.4**	0.070	-0.04	-59.3	7.5	0.00056 U	0.00058 U
9/25/2024	**27**	0.16	**37**	0.28			**520**	5.4	4.0 U	NC	**90**	1.4	0.32	-28.6	4.0	0.00056 U	0.0048
BSCSS-MW-20R																	
6/22/2021	**430**	2.6	**220**	1.7	4.0 U	NC	**230**	2.4	12	0.12	**40**	0.64	0.07	-97.2	12	0.00022 U	0.011
9/1/2022	**67**	0.40	**96**	0.73	6.9	0.071	**160**	1.7	6.0	0.062	**72**	1.2	0.34	-45.5	9.2	0.0036	0.077
2/2/2023	**150**	0.90	**140**	1.1	8.1	0.084	**120**	1.2	6.3	0.065	**87**	1.4	0.11	-73.4	6.2	0.0040	0.066
9/19/2023	**60**	0.36	**61**	0.46	5.7	0.059	**74**	0.76	3.4	0.035	**94**	1.5	0.13	42.9	4.2	0.0032	0.032
4/9/2024	**69**	0.42	**94**	0.72	9.0	0.093	**45**	0.46	3.0	0.031	**72**	1.2	0.31	-86.4	4.8	0.00056 U	0.014
9/24/2024	**99**	0.60	**88**	0.67			**33**	0.34	2.9	0.030	**77**	1.2	0.29	-70.9	4.4	0.00056 U	0.020

Table 2
Intermediate Aquifer Data

Analyte Class	VOCs												Field Parameters		Conventionals	Dissolved Gases	
Analyte	Tetrachloroethene		Trichloroethene		1,1-Dichloroethene		cis-1,2-Dichloroethene		trans-1,2-Dichloroethene		Vinyl Chloride		Dissolved Oxygen	ORP	Total Organic Carbon	Ethane	Ethene
CAS No.	127-18-4		79-01-6		75-35-4		156-59-2		156-60-5		75-01-4		--	--	TOC	74-84-0	74-85-1
MTCA Method A CUL [1]	5.0	--	5.0	--	--	--	16	--	160	--	0.20	--	--	--	--	--	--
Unit	µg/L	µmol/L	µg/L	µmol/L	µg/L	µmol/L	µg/L	µmol/L	µg/L	µmol/L	µg/L	µmol/L	mg/L	mV	mg/L	mg/L	mg/L
Sample Date																	
BSCSS-MW-42																	
12/14/2018	**460**	2.8	**23**	0.18	1.0 U	NC	1.9	0.020	1.0 U	NC	0.20 U	NC			5.3	0.016 U	0.015 U
1/3/2019	1.0 U	NC	0.50 U	NC	1.0 U	NC	1.0 U	NC	1.0 U	NC	0.20 U	NC					
3/18/2019	1.0 U	NC	0.50 U	NC	1.0 U	NC	1.0 U	NC	1.0 U	NC	0.20 U	NC	0.06	76.4	1.9	0.016 U	0.015 U
6/5/2019	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.13	5	2.3	0.25 U	0.25 U
7/29/2019	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.72	0.0074	0.20 U	NC	0.053	0.00085	0.05	-321.9	1.7	0.00050 U	0.00050 U
10/22/2019	0.20 U	NC	0.20 U	NC	0.20 U	NC	1.9	0.020	0.20 U	NC	0.056	0.00090	0.10	-10.2	3.9		
1/29/2020	0.20 U	NC	0.20 U	NC	0.20 U	NC	**20**	0.21	0.20 U	NC	**3.3**	0.053	0.02	-24.8	6.3	0.00022 U	0.00029 U
4/16/2020	0.20 U	NC	0.20 U	NC	0.20 U	NC	**26**	0.27	0.20 U	NC	**27**	0.43	0.47	-19.2	3.5	0.00022 U	0.012
7/24/2020	0.20 U	NC	0.20 U	NC	0.20 U	NC	5.3	0.055	0.20 U	NC	**15**	0.24	0.23	-34.7	5.5	0.00022 U	0.037
10/26/2020	0.42	0.0025	0.24	0.0018	0.20 U	NC	9.9	0.10	0.20 U	NC	**4.5**	0.072	0.25	-57.1	46	0.00022 U	0.014
3/1/2021	0.20 U	NC	0.20 U	NC	0.20 U	NC	1.7	0.018	0.20 U	NC	**1.4**	0.022		-82.6	7.7	0.022 U	0.029 U
6/11/2021	0.20 U	NC	0.23	0.0018	0.20 U	NC	1.4	0.014	0.20 U	NC	**1.4**	0.022	0.07	-96.4	3.8	0.00022 U	0.00029 U
9/29/2022	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.27	0.0028	4.7	0.048	**0.31**	0.0050	0.23	-57.5	3.4	0.00022 U	0.00029 U
2/8/2023	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	**0.72**	0.012	0.32	-78.5	2.7	0.00022 U	0.00029 U
9/22/2023	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.97	0.010	0.20 U	NC	**0.65**	0.010	0.07	102.7	2.6	0.00022 U	0.00029 U
4/10/2024	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.62	0.0064	0.20 U	NC	**0.60**	0.0096	0.32	-78.2	4.3	0.00056 U	0.00058 U
9/26/2024	1.0 U	NC	0.20 U	NC			0.66	0.0068	0.20 U	NC	**0.73**	0.012	0.48	-101.2	2.9	0.00056 U	0.00058 U
BSCSS-MW-44R																	
6/23/2021	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	**0.82**	0.013	0.09	-143.2	4.2	0.00022 U	0.0050
9/27/2022	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	**0.56**	0.0090	0.16	-47.8	4.8	0.00057	0.00030
2/8/2023	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	**0.72**	0.012	0.11	-49.8	4.5	0.00023	0.00046
9/22/2023	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	**0.47**	0.0075	0.05	175.8	5.7	0.00022 U	0.00029 U
9/26/2024	3.7	0.022	2.8	0.021			0.20 U	NC	0.20 U	NC	**0.47**	0.0075	0.44	-81.2	6.6	0.00056 U	0.00058 U
BSCSS-HZ-MW-14D																	
12/13/2018	**44**	0.27	3.3	0.025	1.0 U	NC	14	0.14	1.0 U	NC	0.20 U	NC	0.07	36	0.97	0.016 U	0.015 U
5/21/2019	**65**	0.39	2.9	0.022	0.20 U	NC	12	0.12	0.20 U	NC	0.20 U	NC	0.06	-40.7	1.0 U	0.010 U	0.010 U
7/29/2019	**100**	0.60	4.7	0.036	0.80 U	NC	**28**	0.29	0.80 U	NC	**0.30**	0.0048	0.22	-86.5	1.0	0.00050 U	0.00050 U
10/16/2019	**190**	1.1	**7.9**	0.060	1.0 U	NC	**48**	0.50	1.0 U	NC	**0.51**	0.0082	0.02	143.8	1.0 U	0.00050 U	0.00050 U
1/22/2020	**400**	2.4	**24**	0.18	2.0 U	NC	**140**	1.4	2.0 U	NC	**1.1**	0.018	2.10	132.8	1.2	0.00022 U	0.00029 U
4/15/2020	**400**	2.4	**24**	0.18	2.0 U	NC	**110**	1.1	2.0 U	NC	**0.76**	0.012	0.28	14.4	1.2	0.00022 U	0.00029 U
7/21/2020	**210**	1.3	**15**	0.11	1.0 U	NC	**61**	0.63	1.0 U	NC	**0.35**	0.0056	0.32	104.2	1.2	0.00022 U	0.00029 U
10/28/2020	**110**	0.66	**9.9**	0.075	0.80 U	NC	**27**	0.28	0.80 U	NC	**0.91**	0.015	0.25	135.5	1.2	0.00022 U	0.00029 U
3/4/2021	**110**	0.66	**12**	0.091	1.0 U	NC	**35**	0.36	1.0 U	NC	**2.4**	0.038	0.46	39.4	1.4	0.00022 U	0.00029 U
6/15/2021	**56**	0.34	**9.7**	0.074	0.40 U	NC	**27**	0.28	0.78	0.0080	**3.0**	0.048	0.38	-9.2	1.6	0.00022 U	0.00029 U
9/6/2022	**15**	0.090	2.1	0.016	0.40 U	NC	**35**	0.36	0.40 U	NC	**14**	0.22	0.08	44.1	2.6	0.00091	0.00043
2/3/2023	**8.5**	0.051	2.3	0.018	0.24	0.0025	**34**	0.35	0.30	0.0031	**6.7**	0.11	0.10	70.8	2.5	0.0011	0.00029 U
9/21/2023	2.3	0.014	3.4	0.026	0.30	0.0031	**31**	0.32	0.28	0.0029	**2.5**	0.040	0.12	234.8	2.1	0.00022 U	0.00029 U
4/9/2024	3.8	0.023	2.9	0.022	0.34	0.0035	**26**	0.27	0.23	0.0024	**3.9**	0.062	0.34	82.6	2.8	0.00056 U	0.00058 U
9/24/2024	2.5	0.015	3.8	0.029			**24**	0.25	0.26	0.0027	**1.8**	0.029	0.18	56.7	2.5	0.00056 U	0.00058 U

Table 2
Intermediate Aquifer Data

Analyte Class	VOCs												Field Parameters		Conventionals	Dissolved Gases	
Analyte	Tetrachloroethene		Trichloroethene		1,1-Dichloroethene		cis-1,2-Dichloroethene		trans-1,2-Dichloroethene		Vinyl Chloride		Dissolved Oxygen	ORP	Total Organic Carbon	Ethane	Ethene
CAS No.	127-18-4		79-01-6		75-35-4		156-59-2		156-60-5		75-01-4		--	--	TOC	74-84-0	74-85-1
MTCA Method A CUL [1]	5.0	--	5.0	--	--	--	16	--	160	--	0.20	--	--	--	--	--	--
Unit	µg/L	µmol/L	µg/L	µmol/L	µg/L	µmol/L	µg/L	µmol/L	µg/L	µmol/L	µg/L	µmol/L	mg/L	mV	mg/L	mg/L	mg/L
Sample Date																	
BSCSS-HZ-MW-15D																	
12/27/2018	**6,400**	39	**230**	1.8	50 U	NC	**200**	2.1	50 U	NC	*10 U*	NC	0.09	52.4	1.1	0.16 U	0.15 U
6/4/2019	**10,000**	60	**390**	3.0	100 U	NC	**260**	2.7	100 U	NC	*100 U*	NC	0.12	20.9	1.5	0.25 U	0.25 U
7/23/2019	**9,200**	55	**390**	3.0	50 U	NC	**340**	3.5	50 U	NC	*5.0 U*	NC	0.24	-56.6	1.6	0.00050 U	0.00050 U
10/17/2019	**7,700**	46	**410**	3.1	50 U	NC	**360**	3.7	50 U	NC	*5.0 U*	NC	0.12	173.5	1.3	0.00050 U	0.00050 U
1/22/2020	**4,000**	24	**280**	2.1	20 U	NC	**410**	4.2	20 U	NC	*2.0 U*	NC	0.11	88.9	1.2	0.00022 U	0.00029 U
4/15/2020	**3,300**	20	**240**	1.8	20 U	NC	**400**	4.1	20 U	NC	*2.0 U*	NC	0.27	32.4	1.2	0.00022 U	0.00029 U
7/22/2020	**2,000**	12	**170**	1.3	10 U	NC	**340**	3.5	10 U	NC	*1.0 U*	NC	0.33	80.8	1.4	0.00022 U	0.00029 U
10/23/2020	**2,200**	13	**170**	1.3	10 U	NC	**330**	3.4	10 U	NC	**1.3**	0.021	0.21	108.6	1.0 U	0.022 U	0.029 U
3/3/2021	**2,200**	13	**190**	1.4	10 U	NC	**200**	2.1	10 U	NC	**4.3**	0.069		109.4	1.0 U	0.00022 U	0.00029 U
6/22/2021	**3,000**	18	**230**	1.8	20 U	NC	**290**	3.0	20 U	NC	**4.3**	0.069	0.11	-34.9	1.6	0.00022 U	0.00029 U
9/8/2022	**2,700**	16	**130**	0.99	10 U	NC	**150**	1.5	10 U	NC	**3.0**	0.048	0.12	19	1.3	0.00022 U	0.00029 U
2/21/2023	**4,400**	27	**190**	1.4	10 U	NC	**210**	2.2	10 U	NC	**1.1**	0.018	0.16	89.9	1.2	0.00022 U	0.00029 U
9/20/2023	**2,200**	13	**160**	1.2	20 U	NC	**160**	1.7	20 U	NC	**0.82**	0.013	0.20	204.9	1.3	0.00022 U	0.00029 U
4/10/2024	**1,500**	9.0	**220**	1.7	8.0 U	NC	**260**	2.7	8.0 U	NC	**0.84**	0.013	0.49	85	1.6	0.00056 U	0.00058 U
9/24/2024	**1,100**	6.6	**450**	3.4			**380**	3.9	8.0 U	NC	*8.0 U*	NC	0.45	76.5	1.4	0.00056 U	0.00058 U
BSCSS-HZ-MW-24																	
12/10/2018	2.8	0.017	0.91	0.0069	1.0 U	NC	5.4	0.056	1.0 U	NC	0.20 U	NC	0.08	-1.4	7.0	0.016 U	0.015 U
5/31/2019	2.0	0.012	0.92	0.0070	0.20 U	NC	**21**	0.22	0.20	0.0021	**0.77**	0.012	0.13	-11.7	3.5	0.25 U	0.25 U
7/17/2019	2.7	0.016	1.1	0.0084	0.20 U	NC	16	0.17	0.20 U	NC	**0.58**	0.0093	0.07	-167.7	3.8	0.00050 U	0.00050 U
10/24/2019	0.40 U	NC	0.40 U	NC	0.40 U	NC	**93**	0.96	0.40 U	NC	**0.76**	0.012	0.16	10	4.7	0.00050 U	0.00050 U
1/27/2020	2.2	0.013	1.3	0.0099	1.0 U	NC	**150**	1.5	1.0 U	NC	**3.2**	0.051	0.13	35.3	4.9	0.00022 U	0.00029 U
4/14/2020	0.40 U	NC	0.40 U	NC	0.40 U	NC	**73**	0.75	0.40 U	NC	**30**	0.48	0.22	-13.9	5.4	0.00022 U	0.0027
7/22/2020	0.94	0.0057	1.8	0.014	0.20 U	NC	**28**	0.29	0.20 U	NC	**2.6**	0.042	0.30	3.7	4.5	0.0022 U	0.0076
10/28/2020	1.3	0.0078	1.3	0.0099	0.20 U	NC	**35**	0.36	0.27	0.0028	**2.0**	0.032	0.20	26.6	3.8	0.00022 U	0.00029 U
3/2/2021	0.20 U	NC	0.35	0.0027	0.20 U	NC	6.1	0.063	0.20 U	NC	0.17	0.0027		19.9	2.8	0.00022 U	0.00029 U
6/18/2021	0.20 U	NC	0.21	0.0016	0.20 U	NC	5.0	0.052	0.20 U	NC	0.13	0.0021	0.09	-154.6	4.9	0.0022 U	0.0029 U
9/20/2022	3.8	0.023	4.1	0.031	0.20 U	NC	**25**	0.26	0.20 U	NC	**0.80**	0.013	0.18	-53	5.3	0.00022 U	0.00029 U
2/7/2023	2.7	0.016	2.3	0.018	0.20 U	NC	15	0.15	0.20 U	NC	**0.55**	0.0088	0.09	-7	2.3	0.00022 U	0.00029 U
9/8/2023	2.0	0.012	2.0	0.015	0.20 U	NC	11	0.11	0.20 U	NC	**0.61**	0.0098	0.25	80.3	2.6	0.00022 U	0.00029 U
4/10/2024	1.0	0.0060	1.3	0.0099	0.20 U	NC	9.0	0.093	0.20 U	NC	**0.26**	0.0042	0.30	-30.4	1.9	0.00056 U	0.00058 U
9/24/2024	3.6	0.022	2.8	0.021			14	0.14	0.20 U	NC	**0.42**	0.0067	0.47	-47.8	2.7	0.00056 U	0.00058 U
BSCSS-HZ-MW-26																	
12/4/2018	**6.2**	0.037	0.50 U	NC	1.0 U	NC	1.0	0.010	1.0 U	NC	0.20 U	NC	0.10	75.6	2.3	0.016 U	0.015 U
5/30/2019	**9.7**	0.058	0.20 U	NC	0.20 U	NC	1.4	0.014	0.20 U	NC	0.20 U	NC	0.18	17	1.0 U	0.00050 U	0.00050 U
7/29/2019	5.0	0.030	0.20 U	NC	0.20 U	NC	1.0	0.010	0.20 U	NC	0.053	0.00085	0.21	-96.7	1.0 U	0.00050 U	0.00050 U
10/16/2019	2.8	0.017	0.20 U	NC	0.20 U	NC	0.53	0.0055	0.20 U	NC	0.055	0.00088	0.03	152.3	1.0 U	0.00050 U	0.00050 U
1/24/2020	1.5	0.0090	0.20 U	NC	0.20 U	NC	0.42	0.0043	0.20 U	NC	0.041	0.00066	0.10	36.3	1.0 U	0.00022 U	0.00052

Table 2
Intermediate Aquifer Data

Analyte Class	VOCs												Field Parameters		Conventionals	Dissolved Gases	
Analyte	Tetrachloroethene		Trichloroethene		1,1-Dichloroethene		cis-1,2-Dichloroethene		trans-1,2-Dichloroethene		Vinyl Chloride		Dissolved Oxygen	ORP	Total Organic Carbon	Ethane	Ethene
CAS No.	127-18-4		79-01-6		75-35-4		156-59-2		156-60-5		75-01-4		--	--	TOC	74-84-0	74-85-1
MTCA Method A CUL [1]	5.0	--	5.0	--	--	--	16	--	160	--	0.20	--	--	--	--	--	--
Unit	µg/L	µmol/L	µg/L	µmol/L	µg/L	µmol/L	µg/L	µmol/L	µg/L	µmol/L	µg/L	µmol/L	mg/L	mV	mg/L	mg/L	mg/L
Sample Date																	
BSCSS-HZ-MW-26 (cont.)																	
4/13/2020	**73**	0.44	2.5	0.019	0.40 U	NC	4.9	0.051	0.40 U	NC	0.040 U	NC	0.66	-4.8	1.0 U	0.00022 U	0.00029 U
7/17/2020	**15**	0.090	0.84	0.0064	0.20 U	NC	2.2	0.023	0.20 U	NC	0.026	0.00042	0.31	-13.7	1.0 U	0.00022 U	0.00029 U
10/27/2020	**14**	0.084	0.34	0.0026	0.20 U	NC	1.8	0.019	0.20 U	NC	0.034	0.00054	0.22	110.7	1.0 U	0.00022 U	0.00029 U
3/5/2021	1.7	0.010	0.20 U	NC	0.20 U	NC	0.26	0.0027	0.20 U	NC	0.020 U	NC	2.65	84.4	1.0 U	0.00022 U	0.00029 U
6/14/2021	5.0	0.030	0.20 U	NC	0.20 U	NC	1.2	0.012	0.20 U	NC	0.020	0.00032	0.15	13	1.0 U	0.00022 U	0.00029 U
6/22/2021	4.8	0.029	0.20 U	NC	0.20 U	NC	1.1	0.011	0.20 U	NC	0.020 U	NC			1.1	0.00022 U	0.00029 U
9/8/2022	**22**	0.13	0.43	0.0033	0.20 U	NC	2.0	0.021	0.20 U	NC	0.048	0.00077	0.15	43.3	1.0 U	0.00022 U	0.00029 U
2/21/2023	**7.4**	0.045	0.20 U	NC	0.20 U	NC	1.6	0.017	0.20 U	NC	0.076	0.0012	0.14	121.7	1.0 U	0.00022 U	0.00029 U
9/12/2023	**11**	0.066	0.20 U	NC	0.20 U	NC	1.2	0.012	0.20 U	NC	0.20 U	NC	0.15	315.8	1.0 U	0.00022 U	0.00029 U
4/10/2024	**18**	0.11	0.22	0.0017	0.20 U	NC	2.0	0.021	0.20 U	NC	0.20 U	NC	0.39	102.9	1.6	0.00056 U	0.00058 U
9/23/2024	**32**	0.19	0.35	0.0027	`		3.5	0.036	0.20 U	NC	0.20 U	NC	0.24	146.4	1.0 U	0.00056 U	0.00058 U
BSCSS-HZ-MW-29																	
12/10/2018	**14**	0.084	4.1	0.031	1.0 U	NC	11	0.11	1.0 U	NC	0.20 U	NC	0.07	3.5	2.7	0.016 U	0.015 U
5/31/2019	1.4	0.0084	0.60	0.0046	0.20 U	NC	**32**	0.33	0.22	0.0023	**0.26**	0.0042	0.35	-2.3	52	0.25 U	0.25 U
7/17/2019	1.2	0.0072	0.58	0.0044	0.20 U	NC	**32**	0.33	0.32	0.0033	**0.47**	0.0075	0.09	-93.7	15	0.00050 U	0.00050 U
10/24/2019	1.0 U	NC	1.0 U	NC	1.0 U	NC	**100**	1.0	1.0 U	NC	**0.94**	0.015	0.14	-9.6	2.1	0.00050 U	0.00050 U
1/27/2020	1.0 U	NC	1.5	0.011	1.0 U	NC	**100**	1.0	1.0 U	NC	**1.5**	0.024	0.17	42.1	1.8	0.00022 U	0.00029 U
4/13/2020	1.0 U	NC	**5.2**	0.040	1.0 U	NC	**130**	1.3	1.0 U	NC	**5.8**	0.093	0.28	-76.4	3.2	0.00022 U	0.00029 U
7/17/2020	1.0 U	NC	1.0 U	NC	1.0 U	NC	**190**	2.0	1.0	0.010	**40**	0.64	0.24	-49.1	12	0.00022 U	0.014
10/28/2020	0.20 U	NC	0.27	0.0021	0.20 U	NC	**21**	0.22	0.55	0.0057	**9.2**	0.15	0.20	-52.5	5.8	0.00022 U	0.026
3/5/2021	0.20 U	NC	0.29	0.0022	0.20 U	NC	**19**	0.20	0.36	0.0037	**5.1**	0.082	0.21	-144.6	1.9	0.0022 U	0.0029 U
6/22/2021	0.20 U	NC	0.32	0.0024	0.20 U	NC	**20**	0.21	0.30	0.0031	**9.7**	0.16	0.10	-130.1	2.1	0.00022 U	0.0017
9/20/2022	0.20 U	NC	0.24	0.0018	0.20 U	NC	**30**	0.31	0.25	0.0026	**15**	0.24	0.21	-35.4	1.3	0.00022 U	0.0018
2/7/2023	0.20 U	NC	0.20 U	NC	0.20 U	NC	**32**	0.33	0.29	0.0030	**16**	0.26	0.10	-37.7	1.1	0.00022 U	0.00029 U
9/8/2023	0.20 U	NC	0.20 U	NC	0.20 U	NC	**32**	0.33	0.24	0.0025	**13**	0.21	0.12	35.7	1.1	0.00022 U	0.00029 U
4/10/2024	0.20 U	NC	0.20 U	NC	0.20 U	NC	**29**	0.30	0.22	0.0023	**10**	0.16	0.40	-48.5	7.7	0.00056 U	0.00058 U
9/24/2024	0.20 U	NC	0.20 U	NC			**22**	0.23	0.20 U	NC	**8.4**	0.13	0.15	-70.8	1.6	0.00056 U	0.00058 U
BSCSS-HZ-MW-33R																	
8/11/2021	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.064	0.0010	0.35	102.6	2.2	0.00022 U	0.00029 U
10/3/2022	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.039	0.00062	0.40	106.3	1.0 U	0.00022 U	0.00029 U
2/7/2023	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.033	0.00053	0.12	146.8	1.0 U	0.00022 U	0.00029 U
9/21/2023	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.10	216.1	1.0 U	0.00022 U	0.00029 U
4/11/2024	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.36	105.9	1.0 U	0.00056 U	0.00058 U
9/24/2024	0.20 U	NC	0.20 U	NC			0.20 U	NC	0.20 U	NC	0.20 U	NC	0.45	82.5	1.0 U	0.00056 U	0.00058 U

Table 2
Intermediate Aquifer Data

Analyte Class	VOCs												Field Parameters		Conventionals	Dissolved Gases	
Analyte	Tetrachloroethene		Trichloroethene		1,1-Dichloroethene		cis-1,2-Dichloroethene		trans-1,2-Dichloroethene		Vinyl Chloride		Dissolved Oxygen	ORP	Total Organic Carbon	Ethane	Ethene
CAS No.	127-18-4		79-01-6		75-35-4		156-59-2		156-60-5		75-01-4		--	--	TOC	74-84-0	74-85-1
MTCA Method A CUL [(1)]	5.0	--	5.0	--	--	--	16	--	160	--	0.20	--	--	--	--	--	--
Unit	µg/L	µmol/L	µg/L	µmol/L	µg/L	µmol/L	µg/L	µmol/L	µg/L	µmol/L	µg/L	µmol/L	mg/L	mV	mg/L	mg/L	mg/L
Sample Date																	
BSCSS-S-MW-3RR																	
8/20/2021	**94**	0.57	0.72	0.0055	0.40 U	NC	0.40 U	NC	0.40 U	NC	0.040 U	NC	16.7	-317.2	1.0	0.00022 U	0.00029 U
10/14/2022	**37**	0.22	0.41	0.0031	0.20 U	NC	0.69	0.0071	0.20 U	NC	0.020 U	NC	0.54	192.1	1.3	0.00022 U	0.00029 U
2/10/2023	**76**	0.46	0.94	0.0072	0.40 U	NC	2.4	0.025	0.40 U	NC	0.040 U	NC	0.12	44.7	1.0 U	0.00022 U	0.00029 U
2/17/2024	**89**	0.54	1.9	0.014	0.40 U	NC	5.5	0.057	0.40 U	NC	**0.47**	0.0075	1.60	11.6	9.1	0.00056 U	0.00058 U
4/10/2024	**85**	0.51	3.5	0.027	0.40 U	NC	10	0.10	0.40 U	NC	**1.6**	0.026	0.27	-9.3	11	0.00056 U	0.00058 U
BSCSS-S-MW-3RRR																	
9/26/2024	**270**	1.6	0.82	0.0062			0.55	0.0057	0.20 U	NC	0.20 U	NC	2.86	-44.1	1.1	0.00056 U	0.00058 U

Notes:

All blank cells are intentional.
All chemistry results are rounded to two significant figures.
Field parameters are reported as displayed by the sampling equipment.
-- Not available.
Italic Analyte was not detected at a reporting limit greater than the CUL.
RED/BOLD Analyte was detected at a concentration greater than the CUL.
Well is inactive or decommissioned.
1 CULs are based on MTCA Method A values, except for cis- and trans-1,2-dichloroethene, which use MTCA Method B.

Abbreviations:

°C Degrees Celsius
CAS Chemical Abstracts Service
CUL Cleanup level
µg/L Micrograms per liter
µmol/L Micromoles per liter
mg/L Milligrams per kilogram
MTCA Model Toxics Control Act
mV Millivolts
NC Molar concentration not calculated, analyte was not detected
ORP Oxidation–reduction potential
VOC Volatile organic compound

Qualifiers:

J Analyte was detected; concentration is an estimate.
U Analyte was not detected at the associated reporting limit.

Table 3
Deep Aquifer Data

Analyte Class	VOCs												Field Parameters		Conventionals	Dissolved Gases	
Analyte	Tetrachloroethene		Trichloroethene		1,1-Dichloroethene		cis-1,2-Dichloroethene		trans-1,2-Dichloroethene		Vinyl Chloride		Dissolved Oxygen	ORP	Total Organic Carbon	Ethane	Ethene
CAS No.	127-18-4		79-01-6		75-35-4		156-59-2		156-60-5		75-01-4		--	--	TOC	74-84-0	74-85-1
MTCA Method A CUL [1]	5.0	--	5.0	--	--	--	16	--	160	--	0.20	--	--	--	--	--	--
Unit	µg/L	µmol/L	µg/L	µmol/L	µg/L	µmol/L	µg/L	µmol/L	µg/L	µmol/L	µg/L	µmol/L	mg/L	mV	mg/L	mg/L	mg/L
Sample Date																	
BSCSS-MW-29																	
12/12/2018	1.1	0.0066	0.50 U	NC	1.0 U	NC	1.0 U	NC	1.0 U	NC	0.20 U	NC	0.15	-16.7	3.0	0.016 U	0.015 U
6/4/2019	0.26	0.0016	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.25	15	2.2	0.015 U	0.015 U
7/16/2019	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.020 U	NC	0.11	-106.2	2.1	0.00050 U	0.00050 U
10/18/2019	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.020 U	NC	0.11	7.4	2.2	0.00050 U	0.00050 U
1/29/2020	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.020 U	NC	0.04	-82	1.9	0.00022 U	0.00029 U
4/16/2020	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.020 U	NC	0.31	-11.6	2.0	0.00022 U	0.00029 U
7/24/2020	**9.0**	0.054	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.020 U	NC			1.0 U	0.00022 U	0.00029 U
8/10/2020	1.9	0.011	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.020 U	NC	0.14	176.4	2.0	0.00022 U	0.00029 U
10/19/2020	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.020 U	NC	0.17	-62.8	2.0	0.00044 U	0.00058 U
2/26/2021	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.020 U	NC		-60.1	2.3	0.00022 U	0.00029 U
6/17/2021	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.020 U	NC	0.12	-147.7	2.3	0.00022 U	0.00029 U
9/22/2022	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.020 U	NC	0.21	-77.4	1.9	0.00022 U	0.00029 U
2/10/2023	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.020 U	NC	0.11	-24.9	1.8	0.00022 U	0.00029 U
9/7/2023	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.15	5.5	1.7	0.00022 U	0.00029 U
9/23/2024	0.20 U	NC	0.20 U	NC			0.20 U	NC	0.20 U	NC	0.20 U	NC	0.36	-73.7	1.7	0.00056 U	0.00058 U
BSCSS-MW-34																	
12/11/2018	1.0 U	NC	0.50 U	NC	1.0 U	NC	1.0 U	NC	1.0 U	NC	0.20 U	NC	0.09	44.3	1.2	0.016 U	0.015 U
2/21/2019	1.3	0.0078	0.50 U	NC	1.0 U	NC	1.5	0.015	1.0 U	NC	0.20 U	NC	0.22	91.9	1.5	0.016 U	0.015 U
6/3/2019	1.3	0.0078	0.20 U	NC	0.20 U	NC	3.2	0.033	0.20 U	NC	0.20 U	NC	0.19	18.6	1.8	0.0075 U	0.0075 U
6/15/2021	0.30	0.0018	0.34	0.0026	0.20 U	NC	0.44	0.0045	0.20 U	NC	0.11	0.0018	0.11	-22.3	1.8	0.00022 U	0.00029 U
9/1/2022	0.20	0.0012	0.20 U	NC	0.20 U	NC	0.20	0.0021	0.20 U	NC	**0.67**	0.011	0.42	12.4	1.9	0.00022 U	0.00029 U
2/3/2023	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	**2.6**	0.042	0.09	32.6	1.6	0.00022 U	0.00029 U
9/14/2023	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	0.20 U	NC	1.03	81.8	1.5	0.00022 U	0.00029 U
4/9/2024	0.35	0.0021	0.33	0.0025	0.20 U	NC	0.28	0.0029	0.20 U	NC	**0.57**	0.0091	0.02	16.3	2.8	0.00056 U	0.00058 U
9/24/2024	0.25	0.0015	0.28	0.0021			0.25	0.0026	0.20 U	NC	**0.37**	0.0059	0.3	64.5	1.9	0.00056 U	0.00058 U
BSCSS-MW-39																	
12/17/2018	2.3	0.014	2.6	0.020	1.0 U	NC	6.8	0.070	1.0 U	NC	0.20 U	NC	0.15	-3.5	3.4	0.016 U	0.015 U
3/13/2019	1.0 U	NC	0.50 U	NC	1.0 U	NC	2.0	0.021	1.0 U	NC	0.20 U	NC	1.33	82.2	4.2	0.016 U	0.015 U
5/29/2019	0.33	0.0020	0.34	0.0026	0.20 U	NC	1.2	0.012	0.20 U	NC	0.20 U	NC	0.14	1.8	3.3	0.10 U	0.10 U
7/23/2019	0.52	0.0031	0.63	0.0048	0.20 U	NC	1.3	0.013	0.20 U	NC	0.020 U	NC	0.25	-96.6	2.9	0.00050 U	0.00050 U
10/24/2019	0.52	0.0031	0.52	0.0040	0.20 U	NC	1.6	0.017	0.20 U	NC	0.020 U	NC	0.24	19.8	3.1	0.00050 U	0.00050 U
1/28/2020	0.20 U	NC	0.20 U	NC	0.20 U	NC	1.8	0.019	0.20 U	NC	0.020 U	NC	0.21	57.1	3.2	0.00022 U	0.00029 U
4/27/2020	3.1	0.019	2.2	0.017	0.20 U	NC	8.9	0.092	0.20 U	NC	0.024	0.00038	4.4	48.5	2.1	0.00022 U	0.00029 U
7/29/2020	0.20 U	NC	0.20	0.0015			0.77	0.0079			0.042	0.00067	0.13	-30	3.6	0.00022 U	0.00029 U

Table 3
Deep Aquifer Data

Analyte Class	VOCs												Field Parameters		Conventionals	Dissolved Gases	
Analyte	Tetrachloroethene		Trichloroethene		1,1-Dichloroethene		cis-1,2-Dichloroethene		trans-1,2-Dichloroethene		Vinyl Chloride		Dissolved Oxygen	ORP	Total Organic Carbon	Ethane	Ethene
CAS No.	127-18-4		79-01-6		75-35-4		156-59-2		156-60-5		75-01-4		--	--	TOC	74-84-0	74-85-1
MTCA Method A CUL [1]	5.0	--	5.0	--	--	--	16	--	160	--	0.20	--	--	--	--	--	--
Unit	µg/L	µmol/L	µg/L	µmol/L	µg/L	µmol/L	µg/L	µmol/L	µg/L	µmol/L	µg/L	µmol/L	mg/L	mV	mg/L	mg/L	mg/L
Sample Date																	
BSCSS-MW-39 (cont.)																	
10/22/2020	1.3	0.0078	0.42	0.0032	0.20 U	NC	1.2	0.012	0.20 U	NC	0.063	0.0010	0.36	13.3	3.3	0.0022 U	0.0029 U
3/5/2021	**70**	0.42	**10**	0.076	0.40 U	NC	1.1	0.011	0.40 U	NC	0.040 U	NC			3.2	0.0022 U	0.0029 U
3/12/2021	**46**	0.28	**7.7**	0.059	0.20 U	NC	1.5	0.015	0.20 U	NC	0.020 U	NC	0.43	-53.3	2.9	0.00022 U	0.00029 U
6/21/2021	**280**	1.7	**40**	0.30	2.0 U	NC	2.0 U	NC	2.0 U	NC	0.20 U	NC	0.13	-106.1	3.9	0.00022 U	0.00029 U
9/29/2022	**270**	1.6	**61**	0.46	2.0 U	NC	2.0 U	NC	2.0 U	NC	**0.85**	0.014	0.19	-10.8	5.0	0.00022 U	0.0020
2/6/2023	**210**	1.3	**60**	0.46	1.0 U	NC	1.0 U	NC	1.0 U	NC	0.10	0.0016	0.28	-34.4	4.8	0.00022 U	0.00029 U
9/26/2023	**460**	2.8	**100**	0.76	2.0 U	NC	2.0 U	NC	2.0 U	NC	0.20 U	NC	0.12	128.8	4.5	0.00022 U	0.0031
4/11/2024	**220**	1.3	**56**	0.43	2.0 U	NC	2.0 U	NC	2.0 U	NC	0.20 U	NC	0.35	-33.3	5.8	0.00056 U	0.00058 U
9/26/2024	**200**	1.2	**53**	0.40			1.0 U	NC	1.0 U	NC	*1.0 U*	NC	0.35	-53.1	4.7	0.00056 U	0.00058 U

Notes:

All blank cells are intentional.
All chemistry results are rounded to two significant figures.
Field parameters are reported as displayed by the sampling equipment.
-- Not available.
Italic Analyte was not detected at a reporting limit greater than the CUL.
RED/BOLD Analyte was detected at a concentration greater than the CUL.
1 CULs are based on MTCA Method A values, except for cis- and trans-1,2-dichloroethene, which use MTCA Method B.

Abbreviations:

°C Degrees Celsius
CAS Chemical Abstracts Service
CUL Cleanup level
µg/L Micrograms per liter
µmol/L Micromoles per liter
mg/L Milligrams per kilogram
MTCA Model Toxics Control Act
mV Millivolts
NC Molar concentration not calculated, analyte was not detected
ORP Oxidation–reduction potential
VOC Volatile organic compound

Qualifiers:

J Analyte was detected; concentration is an estimate.
U Analyte was not detected at the associated reporting limit.

Table 4
All Wells: GW Elevations and Field Parameters

Analyte Class						VOCs						Field Parameters				
Analyte						Tetrachloroethene	Trichloroethene	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	pH	Temperature	Conductivity	Specific Conductance	Dissolved Oxygen
CAS No.						127-18-4	79-01-6	75-35-4	156-59-2	156-60-5	75-01-4	pH	--	--	--	--
MTCA Method A CUL [1]						5.0	5.0	--	16	160	0.20	--	--	--	--	--
Unit						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pH	°C	µS/cm	µS/cm	mg/L
Sample Date	Aquifer Zone	Screen Interval	Elevation TOC (feet NAVD 88)	Depth to Water (feet BTOC)	GW Elevation (feet NAVD 88)											
BSCSS-MW-4R																
8/2/2021	Shallow	10–25	42	9.33	32.67	**2,000**	**120**	10 U	**230**	10 U	**20**	6.14	20.2	393.4		0.29
8/30/2022	Shallow	10–25	42	7.68	34.32	**1,300**	**220**	8.0 U	**640**	8.0 U	**40**	6.17	18.8	571.0		0.03
2/20/2023	Shallow	10–25	42	6.46	35.54	**490**	**110**	10 U	**1,200**	10 U	**52**	6.35	15.2	453.7		0.10
9/15/2023	Shallow	10–25	42	7.89	34.11	**390**	**70**	2.0 U	**380**	2.0 U	**18**	6.04	15.5	377.6		0.16
4/9/2024	Shallow	10–25	44.56	6.9	37.66	**130**	**63**	4.0 U	**590**	4.0 U	**13**	6.50	13.0		367.4	0.61
9/25/2024	Shallow	10–25	44.56	7.58	36.98	1.9	1.9		**150**	0.88	**42**	6.41	14.8		918.0	0.46
BSCSS-MW-5R																
8/3/2021	Shallow	10–25	42	8.3	33.7	**1,800**	**38**	10 U	**34**	10 U	**2.2**	5.80	17.9	255.4		0.28
9/1/2022	Shallow	10–25	42	8.64	33.36	**2,300**	**57**	10 U	**85**	10 U	**4.4**	5.59	16.9	209.0		0.07
2/20/2023	Shallow	10–25	42	8.9	33.1	**1,700**	**50**	10 U	**140**	10 U	**2.3**	6.03	14.9	197.9		0.17
9/20/2023	Shallow	10–25	42	8.63	33.37	**2,000**	**48**	0.24	**54**	0.57	**0.94**	5.53	15.0	185.9		0.03
4/9/2024	Shallow	10–25	44.68	7.7	36.98	**810**	**23**	4.0 U	**23**	4.0 U	**0.59**	6.28	12.6		133.7	0.47
9/25/2024	Shallow	10–25	44.68	7.9	36.78	**48**	4.0		13	0.20 U	**0.29**	6.28	15.2		343.5	0.34
BSCSS-MW-6																
12/21/2018	Shallow	10–25	47.567	8.79	38.777	**2,700**	**1,000**	1.0 U	**2,600**	40	**26**	5.96	49.4	378.0		0.23
2/22/2019	Shallow	10–25	47.567	7.79	39.777	**1,800**	**570**	10 U	**1,000**	14	**14**	6.16	42.6	295.1		0.15
5/22/2019	Shallow	10–25	47.567	8.46	39.107	**3,800**	**1,800**	20 U	**750**	20 U	*20 U*	6.14	43.7	407.0		0.04
7/25/2019	Shallow	10–25	47.567	9.06	38.507	**3,600**	**1,100**	20 U	**490**	20 U	**7.4**	6.16	41.5	401.0		0.04
10/21/2019	Shallow	10–25	47.567	8.76	38.807	**74**	**38**	10 U	**1,200**	10 U	**3.2**	6.08	31.3	562.0		0.04
1/22/2020	Shallow	10–25	47.567	7.77	39.797	**9.8**	**5.2**	0.38	**170**	0.91	**74**	6.62	20.9	364.9		
4/17/2020	Shallow	10–25	47.567	8.19	39.377	**23**	**7.4**	1.4	**38**	0.47	**50**	6.46	22.1	360.7		0.12
7/20/2020	Shallow	10–25	47.567	8.28	39.287	0.97	1.1	0.44	**47**	0.43	**58**	6.32	22.7	639.0		0.25
10/19/2020	Shallow	10–25	47.567	8.83	38.737	2.3	0.61	0.20 U	3.8	0.20 U	**8.2**	6.00	21.5	654.0		0.11
2/23/2021	Shallow	10–25	47.567	8.23	39.337	0.20 U	0.20 U	0.20 U	10	0.20 U	**14**	5.94	15.4	629.0		
6/15/2021	Shallow	10–25	47.567	9.37	38.197	0.20 U	0.20 U	0.20 U	1.9	0.20 U	**8.0**	6.27	17.5	726.0		0.09
9/12/2022	Shallow	10–25	47.567	--	--	**17**	**12**	0.49	11	0.20 U	**0.35**	6.36	18.6	787.0		0.12
2/20/2023	Shallow	10–25	47.567	--	--	4.0	4.8	0.42	7.9	0.20 U	**3.1**	6.73	14.5	783.0		0.20
9/14/2023	Shallow	10–25	47.567	--	--	**7.0**	**7.0**	0.42	8.3	0.20 U	**8.1**	6.40	15.3	785.0		0.23
4/9/2024	Shallow	10–25	44.77	--	--	2.1	4.0	0.35	5.5	0.20 U	**9.4**	6.59	12.9		572.0	-0.01
9/25/2024	Shallow	10–25	44.77	--	--	0.20 U	0.20 U		0.86	0.20 U	**7.0**	6.69	15.1		663.0	0.10
BSCSS-MW-7																
5/24/2019	Shallow	10–25	45.957	7.96	37.997	**1,000**	**84**	10 U	**240**	10 U	*10 U*	6.68	13.6	409.5		0.16
6/18/2021	Shallow	10–25	45.957	8.73	37.227	**190**	**35**	2.0 U	**140**	2.0 U	**17**	6.59	19.2	607.0		0.05
9/28/2022	Shallow	10–25	45.957	8.41	37.547	**2,100**	**220**	10 U	**1,100**	10 U	**130**	6.03	17.5	562.7		0.15
2/21/2023	Shallow	10–25	45.957	7.05	38.907	**1,300**	**210**	10 U	**420**	10 U	**2.6**	6.40	14.6	489.7		0.23
9/15/2023	Shallow	10–25	45.957	8.34	37.617	**5,100**	**300**	20 U	**780**	20 U	**2.7**	6.20	16.3	561.6		0.24
4/9/2024	Shallow	10–25	44.51	7.33	37.18	**1,600**	**230**	10 U	**430**	10 U	**1.9**	6.48	13.3		359.3	0.45
9/25/2024	Shallow	10–25	44.51	8.23	36.28	2.2	2.8		**130**	0.80 U	**18**	6.45	15.2		643.0	0.41

Table 4
All Wells: GW Elevations and Field Parameters

Analyte Class						VOCs						Field Parameters				
Analyte						Tetrachloroethene	Trichloroethene	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	pH	Temperature	Conductivity	Specific Conductance	Dissolved Oxygen
CAS No.						127-18-4	79-01-6	75-35-4	156-59-2	156-60-5	75-01-4	pH	--	--	--	--
MTCA Method A CUL [1]						5.0	5.0	--	16	160	0.20	--	--	--	--	--
Unit						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pH	°C	µS/cm	µS/cm	mg/L
Sample Date	Aquifer Zone	Screen Interval	Elevation TOC (feet NAVD 88)	Depth to Water (feet BTOC)	GW Elevation (feet NAVD 88)											
BSCSS-MW-11																
12/20/2018	Intermediate	25–33	47.677	8.56	39.117	**41**	**12**	1.0 U	4.9	1.0 U	0.20 U	5.72	45.7	287.0		0.16
2/21/2019	Intermediate	25–33	47.677	7.9	39.777	**17**	**15**	1.0 U	9.6	1.0 U	0.20 U	5.96	47.2	316.3		0.16
5/22/2019	Intermediate	25–33	47.677	8.48	39.197	**75**	**69**	2.3	14	0.77	*0.40 U*	6.13	45.7	468.0		0.04
7/25/2019	Intermediate	25–33	47.677	9.12	38.557	**39**	**41**	1.9	7.7	0.46	**0.34**	6.20	40.8	407.0		0.04
10/21/2019	Intermediate	25–33	47.677	8.92	38.757	3.5	3.8	1.0 U	**220**	1.0 U	**1.5**	6.33	27.8	522.0		0.08
1/22/2020	Intermediate	25–33	47.677	8.09	39.587	2.5	2.7	1.0 U	**230**	1.0 U	**70**	6.66	20.4	388.6		1.10
4/17/2020	Intermediate	25–33	47.677	8.49	39.187	**8.0**	**20**	3.2	**130**	1.4	**140**	6.79	22.5	515.3		0.20
7/20/2020	Intermediate	25–33	47.677	8.74	38.937	0.20 U	0.20 U	0.20 U	1.1	0.20 U	**18**	6.34	23.1	729.0		0.17
10/19/2020	Intermediate	25–33	47.677	9	38.677	**13**	**15**	0.46	**79**	0.51	**30**	6.18	20.2	745.0		0.08
2/26/2021	Intermediate	25–33	47.677	8.02	39.657	0.40 U	0.92	0.40 U	**22**	0.40 U	**49**	6.27	15.5	651.0		
6/15/2021	Intermediate	25–33	47.677	9.24	38.437	1.5	**23**	2.8	**49**	1.1	**89**	6.54	17.8	521.0		0.04
9/28/2022	Intermediate	25–33	47.677	7.5	40.177	0.40 U	0.45	0.40 U	**21**	0.40 U	**48**	6.50	16.5	433.2		0.16
2/20/2023	Intermediate	25–33	47.677	6.1	41.577	0.20 U	0.20 U	0.20 U	5.0	0.20 U	**34**	6.93	14.6	342.0		0.40
9/14/2023	Intermediate	25–33	47.677	7.51	40.167	0.20 U	0.66	0.35	6.1	0.20 U	**30**	6.79	15.2	391.4		0.16
4/9/2024	Intermediate	25–33	44.75	6.52	38.23	0.20 U	0.59	0.20 U	4.0	0.20 U	**17**	6.92	13.6		309.0	-0.04
9/24/2024	Intermediate	25–33	44.75	7.12	37.63	0.20 U	0.59		4.4	0.20 U	**19**	6.92	15.3		443.9	0.15
BSCSS-MW-12																
5/24/2019	Intermediate	25–33	45.837	7.92	37.917	**5,400**	**400**	30 U	**780**	30 U	*30 U*	6.25	14.1	383.9		0.30
7/22/2019	Intermediate	25–33	45.837	8.4	37.437	**910**	**240**	5.0 U	**630**	5.0 U	**6.2**	6.12	18.6	672.0		0.05
10/18/2019	Intermediate	25–33	45.837	9.07	36.767	**360**	**68**	2.0 U	**240**	2.0 U	**0.84**	5.85	16.2	361.6		0.12
1/27/2020	Intermediate	25–33	45.837	7.8	38.037	**260**	**120**	2.0 U	**450**	2.0 U	**1.9**	6.28	15.5	459.0		0.31
4/21/2020	Intermediate	25–33	45.837	7.64	38.197	**330**	**84**	2.0 U	**52**	2.0 U	**0.82**	6.26	16.1	472.9		0.18
7/22/2020	Intermediate	25–33	45.837	6.45	39.387	**250**	**93**	2.0 U	**85**	2.0 U	**2.7**	6.16	19.1	488.0		0.19
10/21/2020	Intermediate	25–33	45.837	8.83	37.007	**450**	**81**	2.0 U	**93**	2.0 U	**3.6**	5.86	18.8	456.8		0.17
3/3/2021	Intermediate	25–33	45.837	8	37.837	**650**	**65**	4.0 U	**140**	4.0 U	**20**	5.95	17.4	478.6		
6/15/2021	Intermediate	25–33	45.837	8.77	37.067	**820**	**170**	4.0 U	**180**	4.0 U	**5.1**	6.28	18.5	468.3		0.10
9/27/2022	Intermediate	25–33	45.837	7.9	37.937	**20**	**12**	2.0 U	**330**	2.0 U	**49**	6.22	17.6	1,057.0		0.19
2/20/2023	Intermediate	25–33	45.837	6.55	39.287	**59**	**33**	2.0 U	**130**	2.0 U	**18**	6.52	15.8	855.0		0.11
9/15/2023	Intermediate	25–33	45.837	7.91	37.927	0.20 U	0.20 U	0.20 U	1.2	0.20 U	**2.5**	6.19	16.1	316.6		0.19
4/9/2024	Intermediate	25–33	44.22	6.98	37.24	0.36	2.9	0.20 U	15	0.20 U	**4.4**	6.33	14.4		454.6	-0.04
9/25/2024	Intermediate	25–33	44.22	7.92	36.30	**27**	**37**		**520**	4.0 U	**90**	6.26	15.2		706.0	0.32
BSCSS-MW-20R																
6/22/2021	Intermediate	25–30	43	8.32	34.68	**430**	**220**	4.0 U	**230**	12	**40**	6.60	21.4	896.0		0.07
9/1/2022	Intermediate	25–30	43	7.8	35.2	**67**	**96**	6.9	**160**	6.0	**72**	6.48	17.5	405.0		0.34
2/2/2023	Intermediate	25–30	43	6.52	36.48	**150**	**140**	8.1	**120**	6.3	**87**	6.48	15.5	397.1		0.11
9/19/2023	Intermediate	25–30	43	7.96	35.04	**60**	**61**	5.7	**74**	3.4	**94**	6.55	15.4	412.1		0.13
4/9/2024	Intermediate	25–30	44.779143	6.91	36.09	**69**	**94**	9.0	**45**	3.0	**72**	6.62	13.9		238.5	0.31
9/24/2024	Intermediate	25–30	44.779143	7.39	35.61	**99**	**88**		**33**	2.9	**77**	6.62	14.7		356.8	0.29

Table 4
All Wells: GW Elevations and Field Parameters

Analyte Class						VOCs						Field Parameters				
Analyte						Tetrachloroethene	Trichloroethene	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	pH	Temperature	Conductivity	Specific Conductance	Dissolved Oxygen
CAS No.						127-18-4	79-01-6	75-35-4	156-59-2	156-60-5	75-01-4	pH	--	--	--	--
MTCA Method A CUL [1]						5.0	5.0	--	16	160	0.20	--	--	--	--	--
Unit						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pH	°C	µS/cm	µS/cm	mg/L
Sample Date	Aquifer Zone	Screen Interval	Elevation TOC (feet NAVD 88)	Depth to Water (feet BTOC)	GW Elevation (feet NAVD 88)											
BSCSS-MW-21R																
8/3/2021	Shallow	10–15	42	8.74	33.26	**7,000**	**260**	10 U	**150**	10 U	*1.0 U*	6.49	19.1	370.2		1.54
8/30/2022	Shallow	10–15	42	8.5	33.5	**240**	**15**	1.0 U	**21**	1.0 U	0.13	6.34	21.0	367.0		0.48
2/3/2023	Shallow	10–15	42	7.5	34.5	**16**	1.7	0.20 U	4.2	0.20 U	**0.41**	6.27	14.3	389.3		0.08
9/19/2023	Shallow	10–15	42	8.55	33.45	**2,500**	**120**	20 U	**150**	20 U	**1.9**	6.41	15.8	343.5		0.15
4/9/2024	Shallow	10–15	44.71	7.49	37.22	**410**	**26**	2.0 U	**20**	2.0 U	**2.2**	6.64	12.2		215.7	0.46
9/24/2024	Shallow	10–15	44.71	7.45	37.26	**7.4**	1.3		4.1	0.20 U	**0.21**	6.33	15.2		577.0	0.44
BSCSS-MW-23																
12/5/2018	Shallow	6–16	48.027	8.7	39.327	1.1	0.50 U	1.0 U	1.0 U	1.0 U	0.20 U	5.65	14.4	112.4		1.24
2/12/2019	Shallow	6–16	48.027	8.18	39.847	2.1	0.50 U	1.0 U	1.0 U	1.0 U	0.20 U	5.34	11.6	75.1		5.16
6/4/2019	Shallow	6–16	48.027	8.57	39.457	0.94	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	6.13	14.9	113.4		0.87
6/17/2021	Shallow	6–16	48.027	8.91	39.117	0.20 U	0.57	0.20 U	0.20 U	0.20 U	0.020 U	6.04	14.6	191.6		0.15
10/14/2022	Shallow	6–16	48.027	10.45	37.577	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.020 U	5.31	16.2	148.1		1.81
2/6/2023	Shallow	6–16	48.027	10	38.027	0.35	0.20 U	0.20 U	0.20 U	0.20 U	0.020 U	5.88	12.1	216.0		2.13
9/27/2023	Shallow	6–16	48.027	10.23	37.797	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	5.30	15.4	126.3		
4/11/2024	Shallow	6–16	48.027	10.44	37.587	0.24	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	5.86	11.7		115.5	6.16
9/23/2024	Shallow	6–16	49.31	11.25	38.06	0.20 U	0.20 U		0.20 U	0.20 U	0.20 U	5.74	15.7		164.3	4.31
BSCSS-MW-27																
12/12/2018	Shallow	6–16	48.487	10.09	38.397	**170**	0.71	1.0 U	1.0 U	1.0 U	0.20 U	5.17	14.5	133.3		7.04
5/24/2019	Shallow	6–16	48.487	9.65	38.837	**110**	1.0 U	1.0 U	1.0 U	1.0 U	*1.0 U*	5.73	13.1	131.9		8.54
7/16/2019	Shallow	6–16	48.487	10.39	38.097	**91**	0.40 U	0.40 U	0.40 U	0.40 U	0.040 U	4.53	16.3	120.9		6.39
10/18/2019	Shallow	6–16	48.487	10.05	38.437	**130**	1.0 U	1.0 U	1.0 U	1.0 U	0.10 U	5.20	16.0	97.3		7.17
1/29/2020	Shallow	6–16	48.487	8.22	40.267	**90**	1.2	0.40 U	1.5	0.40 U	0.040 U	5.01	12.2	134.2		6.26
4/16/2020	Shallow	6–16	48.487	8.87	39.617	**75**	0.51	0.40 U	0.89	0.40 U	0.040 U	5.47	14.6	139.6		3.53
7/27/2020	Shallow	6–16	48.487	9.95	38.537	**60**	0.40 U	0.40 U	0.40 U	0.40 U	0.040 U	5.20	17.1	147.1		3.75
10/19/2020	Shallow	6–16	48.487	9.98	38.507	**69**	0.40 U	0.40 U	0.40 U	0.40 U	0.040 U	4.95	16.9	105.6		3.67
2/26/2021	Shallow	6–16	48.487	7.87	40.617	**54**	0.40 U	0.40 U	0.40 U	0.40 U	0.040 U	4.92	11.8	88.0		0.48
6/17/2021	Shallow	6–16	48.487	9.87	38.617	**39**	0.20 U	0.20 U	0.20 U	0.20 U	0.020 U	5.62	16.4	85.3		1.55
9/22/2022	Shallow	6–16	48.487	10.22	38.267	**35**	**6.4**	0.20 U	1.4	0.20 U	0.020 U	5.15	17.2	185.9		0.59
2/21/2023	Shallow	6–16	48.487	8.59	39.897	**25**	**6.7**	0.20 U	8.1	0.20 U	0.020 U	5.31	10.6	139.1		0.28
9/7/2023	Shallow	6–16	48.487	10.33	38.157	**19**	**7.6**	0.20 U	10	0.20 U	0.20 U	5.41	16.0	184.8		0.32
4/11/2024	Shallow	6–16	48.487	9.15	39.337	**29**	1.6	0.20 U	2.6	0.20 U	0.20 U	5.57	10.6		148.4	0.22
9/25/2024	Shallow	6–16	47.49	10.01	37.48	**33**	2.9		2.1	0.20 U	0.20 U	5.39	15.2		184.9	0.69
BSCSS-MW-29																
12/12/2018	Deep	45–55	48.497	10.25	38.247	1.1	0.50 U	1.0 U	1.0 U	1.0 U	0.20 U	7.05	13.8	276.8		0.15
6/4/2019	Deep	45–55	48.497	10.08	38.417	0.26	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	7.40	16.3	265.3		0.25
7/16/2019	Deep	45–55	48.497	10.61	37.887	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.020 U	6.88	16.2	274.4		0.11
10/18/2019	Deep	45–55	48.497	10.48	38.017	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.020 U	6.99	14.5	207.7		0.11
1/29/2020	Deep	45–55	48.497	9.61	38.887	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.020 U	7.29	13.7	249.5		0.04
4/16/2020	Deep	45–55	48.497	9.71	38.787	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.020 U	7.23	16.2	312.9		0.31

Table 4
All Wells: GW Elevations and Field Parameters

Analyte Class						VOCs						Field Parameters				
Analyte						Tetrachloroethene	Trichloroethene	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	pH	Temperature	Conductivity	Specific Conductance	Dissolved Oxygen
CAS No.						127-18-4	79-01-6	75-35-4	156-59-2	156-60-5	75-01-4	pH	--	--	--	--
MTCA Method A CUL [1]						5.0	5.0	--	16	160	0.20	--	--	--	--	--
Unit						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pH	°C	µS/cm	µS/cm	mg/L
Sample Date	Aquifer Zone	Screen Interval	Elevation TOC (feet NAVD 88)	Depth to Water (feet BTOC)	GW Elevation (feet NAVD 88)											
BSCSS-MW-29 (cont.)																
7/24/2020	Deep	45–55	48.497	--	--	**9.0**	0.20 U	0.20 U	0.20 U	0.20 U	0.020 U					
8/10/2020	Deep	45–55	48.497	10.54	37.957	1.9	0.20 U	0.20 U	0.20 U	0.20 U	0.020 U	6.28	17.5	236.5		0.14
10/19/2020	Deep	45–55	48.497	10.4	38.097	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.020 U	6.84	15.6	263.5		0.17
2/26/2021	Deep	45–55	48.497	9.36	39.137	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.020 U	6.56	13.9	255.1		
6/17/2021	Deep	45–55	48.497	10.43	38.067	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.020 U	7.25	16.2	266.3		0.12
9/22/2022	Deep	45–55	48.497	10.1	38.397	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.020 U	6.72	16.2	270.8		0.21
2/10/2023	Deep	45–55	48.497	8.71	39.787	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.020 U	6.87	13.6	264.3		0.11
9/7/2023	Deep	45–55	48.497	10.2	38.297	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	6.89	14.8	269.3		0.15
9/23/2024	Deep	45–55	48.03	10.61	37.42	0.20 U	0.20 U		0.20 U	0.20 U	0.20 U	7.24	14.3		260.9	0.36
BSCSS-MW-34																
12/11/2018	Deep	40–50	47.187	8.5	38.687	1.0 U	0.50 U	1.0 U	1.0 U	1.0 U	0.20 U	5.92	22.9	284.6		0.09
2/21/2019	Deep	40–50	47.187	7.59	39.597	1.3	0.50 U	1.0 U	1.5	1.0 U	0.20 U	5.95	27.5	255.8		0.22
6/3/2019	Deep	40–50	47.187	8.28	38.907	1.3	0.20 U	0.20 U	3.2	0.20 U	0.20 U	6.16	32.4	263.9		0.19
6/15/2021	Deep	40–50	47.187	8.65	38.537	0.30	0.34	0.20 U	0.44	0.20 U	0.11	6.32	19.0	183.8		0.11
9/1/2022	Deep	40–50	47.187	7.7	39.487	0.20	0.20 U	0.20 U	0.20	0.20 U	**0.67**	6.25	18.7	276.0		0.42
2/3/2023	Deep	40–50	47.187	6.65	40.537	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	**2.6**	6.19	15.3	305.8		0.09
9/14/2023	Deep	40–50	47.187	7.55	39.637	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	6.01	15.8	252.7		1.03
4/9/2024	Deep	40–50	44.48	6.65	37.83	0.35	0.33	0.20 U	0.28	0.20 U	**0.57**	6.26	13.7		284.2	0.02
9/24/2024	Deep	40–50	44.48	7.41	37.07	0.25	0.28		0.25	0.20 U	**0.37**	6.20	14.9		343.5	0.30
BSCSS-MW-39																
12/17/2018	Deep	40–50	44.885	6.33	38.555	2.3	2.6	1.0 U	6.8	1.0 U	0.20 U	6.39	24.1	225.4		0.15
3/13/2019	Deep	40–50	44.885	6.32	38.565	1.0 U	0.50 U	1.0 U	2.0	1.0 U	0.20 U	6.08	26.6	63.3		1.33
5/29/2019	Deep	40–50	44.885	6.49	38.395	0.33	0.34	0.20 U	1.2	0.20 U	0.20 U	6.61	28.4	219.2		0.14
7/23/2019	Deep	40–50	44.885	7.02	37.865	0.52	0.63	0.20 U	1.3	0.20 U	0.020 U	6.33	28.2	215.5		0.25
10/24/2019	Deep	40–50	44.885	6.94	37.945	0.52	0.52	0.20 U	1.6	0.20 U	0.020 U	6.10	26.2	250.0		0.24
1/28/2020	Deep	40–50	44.885	5.53	39.355	0.20 U	0.20 U	0.20 U	1.8	0.20 U	0.020 U	6.50	20.2	272.1		0.21
4/27/2020	Deep	40–50	44.885	6.17	38.715	3.1	2.2	0.20 U	8.9	0.20 U	0.024	6.43	21.2	236.2		4.40
7/29/2020	Deep	40–50	44.885	6.92	37.965	0.20 U	0.20		0.77		0.042	6.49	22.5	335.3		0.13
10/22/2020	Deep	40–50	44.885	6.99	37.895	1.3	0.42	0.20 U	1.2	0.20 U	0.063	6.12	19.1	274.8		0.36
3/5/2021	Deep	40–50	44.885	--	--	**70**	**10**	0.40 U	1.1	0.40 U	0.040 U					
3/12/2021	Deep	40–50	44.885	6.29	38.595	**46**	**7.7**	0.20 U	1.5	0.20 U	0.020 U	6.79	17.5	259.6		0.43
6/21/2021	Deep	40–50	44.885	7.34	37.545	**280**	**40**	2.0 U	2.0 U	2.0 U	0.20 U	6.57	20.9	296.9		0.13
9/29/2022	Deep	40–50	44.885	7.86	37.025	**270**	**61**	2.0 U	2.0 U	2.0 U	**0.85**	6.16	16.6	386.5		0.19
2/6/2023	Deep	40–50	44.885	7.15	37.735	**210**	**60**	1.0 U	1.0 U	1.0 U	0.10	6.39	14.1	401.5		0.28
9/26/2023	Deep	40–50	44.885	7.68	37.205	**460**	**100**	2.0 U	2.0 U	2.0 U	0.20 U	6.13	15.6	418.1		0.12
4/11/2024	Deep	40–50	44.885	6.77	38.115	**220**	**56**	2.0 U	2.0 U	2.0 U	0.20 U	6.54	14.0		220.0	0.35
9/26/2024	Deep	40–50	44.54	7.64	36.90	**200**	**53**		1.0 U	1.0 U	*1.0 U*	6.53	15.6		377.2	0.35

Table 4
All Wells: GW Elevations and Field Parameters

Analyte Class						VOCs						Field Parameters				
Analyte						Tetrachloroethene	Trichloroethene	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	pH	Temperature	Conductivity	Specific Conductance	Dissolved Oxygen
CAS No.						127-18-4	79-01-6	75-35-4	156-59-2	156-60-5	75-01-4	pH	--	--	--	--
MTCA Method A CUL [1]						5.0	5.0	--	16	160	0.20	--	--	--	--	--
Unit						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pH	°C	µS/cm	µS/cm	mg/L
Sample Date	Aquifer Zone	Screen Interval	Elevation TOC (feet NAVD 88)	Depth to Water (feet BTOC)	GW Elevation (feet NAVD 88)											
BSCSS-MW-40																
12/17/2018	Shallow	15–25	45.001	6.28	38.721	210	46	1.0 U	57	1.0 U	0.20 U	6.43	34.3	69.2		2.39
3/13/2019	Shallow	15–25	45.001	6.29	38.711	210	150	1.5	750	1.3	0.20 U	6.08	29.5	63.3		1.33
5/29/2019	Shallow	15–25	45.001	6.49	38.511	560	600	20 U	4,300	20 U	*20 U*	6.41	30.7	268.1		0.23
7/23/2019	Shallow	15–25	45.001	7	38.001	530	380	20 U	4,700	20 U	11	6.29	30.5	319.8		0.05
10/25/2019	Shallow	15–25	45.001	6.82	38.181	65	84	10 U	1,500	10 U	1.6	5.82	23.7	163.6		0.06
1/28/2020	Shallow	15–25	45.001	5.51	39.491	150	130	10 U	2,300	10 U	1,600	6.89	21.2	368.4		0.01
4/27/2020	Shallow	15–25	45.001	6.48	38.521	*10 U*	*10 U*	10 U	150	10 U	930	6.53	19.9	239.8		0.09
7/29/2020	Shallow	15–25	45.001	7.01	37.991	0.20 U	0.20 U		0.52		26	6.03	22.2	565.0		0.14
10/29/2020	Shallow	15–25	45.001	7.04	37.961	7.7	3.8	2.0 U	93	2.0 U	490	6.13	19.7	482.7		0.17
3/5/2021	Shallow	15–25	45.001	--	--	130	69	3.5	210	2.0 U	440					
3/12/2021	Shallow	15–25	45.001	6.5	38.501	160	93	4.8	280	2.1	320	6.51	16.0	449.6		0.88
6/21/2021	Shallow	15–25	45.001	6.98	38.021	19	64	3.9	110	1.2	190	6.51	19.0	516.0		0.10
9/29/2022	Shallow	15–25	45.001	8.18	36.821	11	510	120	240	10 U	150	6.12	16.8	412.4		0.18
2/6/2023	Shallow	15–25	45.001	6.4	38.601	6.3	340	26	160	3.4	73	6.22	14.3	220.5		1.12
9/26/2023	Shallow	15–25	45.001	7.44	37.561	4.0 U	43	23	470	4.0 U	140	6.31	15.7	448.5		0.21
4/11/2024	Shallow	15–25	45.001	7.73	37.27	1,900	3,700	88	450	20 U	130	6.69	12.8		283.2	0.96
9/26/2024	Shallow	15–25	44.57	9.6	34.97	890	1,600		330	10 U	97	6.46	15.3		401.6	0.40
BSCSS-MW-42																
12/14/2018	Intermediate	30–45	--	--	--	460	23	1.0 U	1.9	1.0 U	0.20 U					
1/3/2019	Intermediate	30–45	--	--	--	1.0 U	0.50 U	1.0 U	1.0 U	1.0 U	0.20 U					
3/18/2019	Intermediate	30–45	--	8.79	--	1.0 U	0.50 U	1.0 U	1.0 U	1.0 U	0.20 U	6.63	32.8	155.4		0.06
6/5/2019	Intermediate	30–45	--	9.11	--	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	6.92	22.9	216.9		0.13
7/29/2019	Intermediate	30–45	--	9.65	--	0.20 U	0.20 U	0.20 U	0.72	0.20 U	0.053	6.49	26.4	713.0		0.05
10/22/2019	Intermediate	30–45	--	9.29	--	0.20 U	0.20 U	0.20 U	1.9	0.20 U	0.056	6.04	18.3	254.0		0.10
1/29/2020	Intermediate	30–45	--	8.49	--	0.20 U	0.20 U	0.20 U	20	0.20 U	3.3	6.52	14.1	454.1		0.02
4/16/2020	Intermediate	30–45	--	8.88	--	0.20 U	0.20 U	0.20 U	26	0.20 U	27	6.46	14.7	567.6		0.47
7/24/2020	Intermediate	30–45	--	9.08	--	0.20 U	0.20 U	0.20 U	5.3	0.20 U	15	6.20	16.4	570.9		0.23
10/26/2020	Intermediate	30–45	--	9.26	--	0.42	0.24	0.20 U	9.9	0.20 U	4.5	6.18	15.6	549.0		0.25
3/1/2021	Intermediate	30–45	--	8.33	--	0.20 U	0.20 U	0.20 U	1.7	0.20 U	1.4	5.86	14.4	626.1		
6/11/2021	Intermediate	30–45	--	9.37	--	0.20 U	0.23	0.20 U	1.4	0.20 U	1.4	5.98	14.5	614.0		0.07
9/29/2022	Intermediate	30–45	--	12.63	--	0.20 U	0.20 U	0.20 U	0.27	4.7	0.31	5.79	15.9	310.0		0.23
2/8/2023	Intermediate	30–45	--	10.73	--	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.72	6.17	12.8	316.6		0.32
9/22/2023	Intermediate	30–45	--	12.15	--	0.20 U	0.20 U	0.20 U	0.97	0.20 U	0.65	6.15	14.5	309.2		0.07
4/10/2024	Intermediate	30–45	--	11.19	--	0.20 U	0.20 U	0.20 U	0.62	0.20 U	0.60	6.36	13.5		190.7	0.32
9/26/2024	Intermediate	30–45	50.11	11.97	38.14	1.0 U	0.20 U		0.66	0.20 U	0.73	6.39	14.7		281.1	0.48

Table 4
All Wells: GW Elevations and Field Parameters

Analyte Class						VOCs						Field Parameters				
Analyte						Tetrachloroethene	Trichloroethene	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	pH	Temperature	Conductivity	Specific Conductance	Dissolved Oxygen
CAS No.						127-18-4	79-01-6	75-35-4	156-59-2	156-60-5	75-01-4	pH	--	--	--	--
MTCA Method A CUL [1]						5.0	5.0	--	16	160	0.20	--	--	--	--	--
Unit						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pH	°C	µS/cm	µS/cm	mg/L
Sample Date	Aquifer Zone	Screen Interval	Elevation TOC (feet NAVD 88)	Depth to Water (feet BTOC)	GW Elevation (feet NAVD 88)											
BSCSS-MW-43R																
6/23/2021	Shallow	10–25	47	7.65	39.35	**15**	2.4	0.20 U	**22**	0.21	**4.9**	6.48	15.9	482.9		0.13
9/29/2022	Shallow	10–25	47	11.22	35.78	4.3	2.2	0.20 U	9.0	0.20 U	**0.59**	5.99	16.5	388.6		0.22
2/8/2023	Shallow	10–25	47	7.89	39.11	**8.7**	2.5	0.20 U	6.4	0.20 U	**0.73**	6.51	12.2	493.7		0.69
9/22/2023	Shallow	10–25	47	10.5	36.5	2.6	2.6	0.20 U	6.9	0.20 U	**0.24**	6.30	15.3	375.6		0.04
4/10/2024	Shallow	10–25	47	9.47	37.53	**6.1**	3.9	0.20 U	14	0.20 U	**1.7**	6.78	12.1		361.6	0.45
9/26/2024	Shallow	10–25	49.79	10.99	38.80	4.2	2.1		12	0.20 U	**0.81**	6.41	15.5		408.2	0.30
BSCSS-MW-44R																
6/23/2021	Intermediate	20–30	44	8.07	35.93	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	**0.82**	6.60	19.2	395.7		0.09
9/27/2022	Intermediate	20–30	44	8.14	35.86	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	**0.56**	6.18	19.2	417.8		0.16
2/8/2023	Intermediate	20–30	44	6.7	37.3	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	**0.72**	6.45	14.0	430.2		0.11
9/22/2023	Intermediate	20–30	44	8.15	35.85	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	**0.47**	6.31	14.8	489.3		0.05
9/26/2024	Intermediate	20–30	44.85	7.79	37.06	3.7	2.8		0.20 U	0.20 U	**0.47**	6.42	15.3		396.5	0.44
BSCSS-MW-45R																
6/23/2021	Shallow	7–17	43	8.07	34.93	**15**	3.5	0.20 U	4.0	0.20 U	**0.92**	6.66	22.1	514.0		0.02
9/1/2022	Shallow	7–17	43	7.95	35.05	**11**	2.7	0.20 U	0.59	0.20 U	0.020 U	6.40	21.3	630.0		3.17
2/2/2023	Shallow	7–17	43	5.54	37.46	3.0	0.96	0.20 U	0.69	0.20 U	0.020 U	6.75	13.7	543.0		0.39
9/19/2023	Shallow	7–17	43	8.04	34.96	2.1	4.2	0.20 U	2.0	0.20 U	0.20 U	6.26	16.4	448.0		0.21
4/9/2024	Shallow	7–17	44.55	5.67	38.88	0.20 U	0.20 U	0.20 U	3.8	0.20 U	0.20 U	6.64	12.2		1,104.0	0.51
9/24/2024	Shallow	7–17	44.55	7.85	36.70	0.20 U	0.20 U		3.0	0.20 U	**9.4**	6.62	16.1		1,255.0	0.09
BSCSS-HZ-MW-1																
12/19/2018	Shallow	5–15	41.997	6.94	35.057	**7.8**	0.50 U	1.0 U	1.0 U	1.0 U	0.20 U	6.21	13.5	159.8		5.00
5/30/2019	Shallow	5–15	41.997	6.81	35.187	**11**	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	6.55	14.0	190.5		7.81
7/29/2019	Shallow	5–15	41.997	7.2	34.797	**14**	0.20 U	0.20 U	1.1	0.20 U	0.020 U	6.17	17.3	189.6		4.08
10/21/2019	Shallow	5–15	41.997	7.45	34.547	**15**	0.20 U	0.20 U	0.61	0.20 U	0.020 U	5.65	15.9	172.5		4.58
1/24/2020	Shallow	5–15	41.997	6.39	35.607	**5.9**	0.20 U	0.20 U	0.20 U	0.20 U	0.020 U	5.85	12.6	173.1		24.00
4/14/2020	Shallow	5–15	41.997	6.33	35.667	**33**	1.1	0.20 U	1.2	0.20 U	0.15	6.20	12.9	301.4		1.14
7/17/2020	Shallow	5–15	41.997	6.88	35.117	**40**	2.6	0.20 U	4.5	0.20 U	**2.1**	5.91	17.9	305.0		0.48
10/27/2020	Shallow	5–15	41.997	7.42	34.577	**8.6**	0.53	0.20 U	3.2	0.20 U	**0.89**	6.50	16.6	295.6		
3/4/2021	Shallow	5–15	41.997	5.34	36.657	**11**	3.6	1.0 U	**120**	1.0 U	**3.1**	6.24	12.4	334.2		1.14
6/15/2021	Shallow	5–15	41.997	7.15	34.847	**42**	**5.3**	0.40 U	13	0.40 U	**0.56**	5.93	15.8	283.3		0.86
9/12/2022	Shallow	5–15	41.997	9.9	32.097	2.4	3.2	0.40 U	**31**	0.40 U	**2.8**	6.78	19.4	520.6		8.83
2/15/2023	Shallow	5–15	41.997	8.64	33.357	3.7	3.3	0.40 U	**67**	0.52	**19**	6.05	13.3	749.0		0.19
9/20/2023	Shallow	5–15	41.997	9.81	32.187	2.7	2.2	0.27	**110**	0.68	**17**	6.17	15.2	1,052.0		0.27
4/10/2024	Shallow	5–15	43.71	8.81	34.90	0.76	1.0	0.20 U	**44**	0.63	**21**	6.38	12.4		1,209.0	0.39
9/24/2024	Shallow	5–15	43.71	8.94	34.77	0.43	0.52		**24**	0.49	**14**	6.34	15.1		1,177.0	0.43

Table 4
All Wells: GW Elevations and Field Parameters

Analyte Class						VOCs						Field Parameters				
Analyte						Tetrachloroethene	Trichloroethene	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	pH	Temperature	Conductivity	Specific Conductance	Dissolved Oxygen
CAS No.						127-18-4	79-01-6	75-35-4	156-59-2	156-60-5	75-01-4	pH	--	--	--	--
MTCA Method A CUL [1]						5.0	5.0	--	16	160	0.20	--	--	--	--	--
Unit						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pH	°C	µS/cm	µS/cm	mg/L
Sample Date	Aquifer Zone	Screen Interval	Elevation TOC (feet NAVD 88)	Depth to Water (feet BTOC)	GW Elevation (feet NAVD 88)											
BSCSS-HZ-MW-14D																
12/13/2018	Intermediate	30–40	42.777	6.7	36.077	44	3.3	1.0 U	14	1.0 U	0.20 U	5.87	14.9	523.1		0.07
5/21/2019	Intermediate	30–40	42.777	6.16	36.617	65	2.9	0.20 U	12	0.20 U	0.20 U	6.09	14.7	500.3		0.06
7/29/2019	Intermediate	30–40	42.777	6.92	35.857	100	4.7	0.80 U	28	0.80 U	0.30	5.84	19.6	454.8		0.22
10/16/2019	Intermediate	30–40	42.777	7.7	35.077	190	7.9	1.0 U	48	1.0 U	0.51	6.13	16.3	443.8		0.02
1/22/2020	Intermediate	30–40	42.777	5.98	36.797	400	24	2.0 U	140	2.0 U	1.1	5.99	13.0	453.7		2.10
4/15/2020	Intermediate	30–40	42.777	6.14	36.637	400	24	2.0 U	110	2.0 U	0.76	6.13	14.2	443.4		0.28
7/21/2020	Intermediate	30–40	42.777	6.78	35.997	210	15	1.0 U	61	1.0 U	0.35	5.86	18.0	415.7		0.32
10/28/2020	Intermediate	30–40	42.777	7.34	35.437	110	9.9	0.80 U	27	0.80 U	0.91	5.62	15.7	370.9		0.25
3/4/2021	Intermediate	30–40	42.777	5.84	36.937	110	12	1.0 U	35	1.0 U	2.4	6.08	14.8	347.8		0.46
6/15/2021	Intermediate	30–40	42.777	6.88	35.897	56	9.7	0.40 U	27	0.78	3.0	5.97	17.9	320.2		0.38
9/6/2022	Intermediate	30–40	42.777	9.3	33.477	15	2.1	0.40 U	35	0.40 U	14	5.95	17.9	532.3		0.08
2/3/2023	Intermediate	30–40	42.777	8.36	34.417	8.5	2.3	0.24	34	0.30	6.7	6.07	15.8	515.3		0.10
9/21/2023	Intermediate	30–40	42.777	9.6	33.177	2.3	3.4	0.30	31	0.28	2.5	6.04	15.8	474.2		0.12
4/9/2024	Intermediate	30–40	44.49	8.55	35.94	3.8	2.9	0.34	26	0.23	3.9	6.17	14.7		280.5	0.34
9/24/2024	Intermediate	30–40	44.49	9.51	34.98	2.5	3.8		24	0.26	1.8	6.23	15.4		621.0	0.18
BSCSS-HZ-MW-14S																
12/13/2018	Shallow	5–15	42.767	6.23	36.537	240	7.3	1.0 U	6.1	1.0 U	0.20 U	6.11	15.5	327.3		0.17
5/21/2019	Shallow	5–15	42.767	6.43	36.337	240	7.0	2.0 U	3.2	2.0 U	*2.0 U*	6.47	14.7	339.2		0.11
7/25/2019	Shallow	5–15	42.767	6.31	36.457	160	6.8	1.0 U	7.0	1.0 U	0.10 U	6.15	20.8	303.6		0.23
10/16/2019	Shallow	5–15	42.767	6.99	35.777	78	5.9	0.40 U	3.6	0.40 U	0.040 U	6.41	18.7	295.1		0.05
1/22/2020	Shallow	5–15	42.767	5.65	37.117	23	4.2	0.20 U	15	0.20 U	0.069	6.31	11.6	265.0		2.22
4/15/2020	Shallow	5–15	42.767	5.76	37.007	55	3.5	0.40 U	4.3	0.40 U	3.0	6.12	13.0	320.4		0.24
7/21/2020	Shallow	5–15	42.767	7.45	35.317	160	15	1.0 U	88	1.0 U	26	6.04	18.7	315.7		0.25
10/23/2020	Shallow	5–15	42.767	7.13	35.637	270	37	2.0 U	120	2.0 U	34	5.76	17.0	280.3		0.17
3/3/2021	Shallow	5–15	42.767	4.33	38.437	210	22	2.0 U	28	2.0 U	15	5.88	13.1	255.7		0.57
6/15/2021	Shallow	5–15	42.767	6.8	35.967	550	120	4.0 U	260	4.0 U	17	6.08	18.3	285.2		0.44
9/6/2022	Shallow	5–15	42.767	9.45	33.317	250	100	4.0 U	60	4.0 U	0.42	6.03	17.9	287.0		0.04
2/21/2023	Shallow	5–15	42.767	8.5	34.267	1,000	170	10 U	220	10 U	23	5.98	13.3	319.4		0.42
9/21/2023	Shallow	5–15	42.767	9.63	33.137	1,200	250	10 U	270	10 U	34	5.91	15.9	344.0		0.09
4/9/2024	Shallow	5–15	44.61	8.7	35.91	710	180	8.0 U	150	8.0 U	15	6.10	12.9		236.1	0.52
9/24/2024	Shallow	5–15	44.61	9.23	35.38	170	40		23	1.0 U	*1.0 U*	6.22	15.6		342.0	0.32
BSCSS-HZ-MW-15D																
12/27/2018	Intermediate	20–30	41.997	4.23	37.767	6,400	230	50 U	200	50 U	*10 U*	5.95		315.5		0.09
6/4/2019	Intermediate	20–30	41.997	6.11	35.887	10,000	390	100 U	260	100 U	*100 U*	6.25	15.1	337.4		0.12
7/23/2019	Intermediate	20–30	41.997	6.83	35.167	9,200	390	50 U	340	50 U	*5.0 U*	5.93	16.9	324.0		0.24
10/17/2019	Intermediate	20–30	41.997	7.02	34.977	7,700	410	50 U	360	50 U	*5.0 U*	5.83	15.1	292.1		0.12
1/22/2020	Intermediate	20–30	41.997	6.05	35.947	4,000	280	20 U	410	20 U	*2.0 U*	6.21	12.3	430.0		0.11
4/15/2020	Intermediate	20–30	41.997	6.67	35.327	3,300	240	20 U	400	20 U	*2.0 U*	6.19	14.9	505.3		0.27

Table 4
All Wells: GW Elevations and Field Parameters

Analyte Class						VOCs						Field Parameters				
Analyte						Tetrachloroethene	Trichloroethene	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	pH	Temperature	Conductivity	Specific Conductance	Dissolved Oxygen
CAS No.						127-18-4	79-01-6	75-35-4	156-59-2	156-60-5	75-01-4	pH	--	--	--	--
MTCA Method A CUL [1]						5.0	5.0	--	16	160	0.20	--	--	--	--	--
Unit						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pH	°C	µS/cm	µS/cm	mg/L
Sample Date	Aquifer Zone	Screen Interval	Elevation TOC (feet NAVD 88)	Depth to Water (feet BTOC)	GW Elevation (feet NAVD 88)											
BSCSS-HZ-MW-15D (cont.)																
7/22/2020	Intermediate	20–30	41.997	6.45	35.547	**2,000**	**170**	10 U	**340**	10 U	*1.0 U*	6.03	17.1	466.5		0.33
10/23/2020	Intermediate	20–30	41.997	6.79	35.207	**2,200**	**170**	10 U	**330**	10 U	**1.3**	5.73	14.4	399.9		0.21
3/3/2021	Intermediate	20–30	41.997	6.23	35.767	**2,200**	**190**	10 U	**200**	10 U	**4.3**	6.00	14.1	383.7		
6/22/2021	Intermediate	20–30	41.997	5.8	36.197	**3,000**	**230**	20 U	**290**	20 U	**4.3**	6.27	17.9	418.1		0.11
9/8/2022	Intermediate	20–30	41.997	9.44	32.557	**2,700**	**130**	10 U	**150**	10 U	**3.0**	5.78	15.6	423.6		0.12
2/21/2023	Intermediate	20–30	41.997	8.3	33.697	**4,400**	**190**	10 U	**210**	10 U	**1.1**	6.11	14.0	437.7		0.16
9/20/2023	Intermediate	20–30	41.997	9.68	32.317	**2,200**	**160**	20 U	**160**	20 U	**0.82**	6.08	14.8	436.0		0.20
4/10/2024	Intermediate	20–30	44.60	8.61	35.99	**1,500**	**220**	8.0 U	**260**	8.0 U	**0.84**	6.29	13.2		347.1	0.49
9/24/2024	Intermediate	20–30	44.60	9.58	35.02	**1,100**	**450**		**380**	8.0 U	*8.0 U*	6.06	14.3		524.0	0.45
BSCSS-HZ-MW-15S																
12/27/2018	Shallow	10–15	42.067	4.4	37.667	**12**	0.50 U	1.0 U	1.0 U	1.0 U	0.20 U	6.07		278.8		0.68
6/4/2019	Shallow	10–15	42.067	4.92	37.147	**8.9**	0.34	0.20 U	0.20 U	0.20 U	0.20 U	6.32	15.9	256.6		0.33
7/23/2019	Shallow	10–15	42.067	5.66	36.407	**11**	0.41	0.20 U	0.20 U	0.20 U	0.020 U	6.06	18.7	227.5		0.38
10/17/2019	Shallow	10–15	42.067	5.87	36.197	**9.8**	0.39	0.20 U	0.20 U	0.20 U	0.020 U	6.01	16.3	202.4		0.23
1/22/2020	Shallow	10–15	42.067	4.02	38.047	4.2	0.20 U	0.20 U	0.20 U	0.20 U	0.020 U	5.99	10.4	295.5		6.00
4/15/2020	Shallow	10–15	42.067	4.51	37.557	3.6	0.20 U	0.20 U	0.20 U	0.20 U	0.020 U	6.34	13.6	267.0		1.43
7/22/2020	Shallow	10–15	42.067	5.85	36.217	4.7	0.20	0.20 U	0.35	0.20 U	0.020 U	6.07	18.1	239.2		1.19
10/23/2020	Shallow	10–15	42.067	6.23	35.837	4.6	0.27	0.20 U	11	0.20 U	**0.43**	5.66	16.3	279.2		0.35
3/3/2021	Shallow	10–15	42.067	4.82	37.247	3.8	0.43	0.20 U	10	0.20 U	**1.2**	5.87	11.3	246.1		
6/22/2021	Shallow	10–15	42.067	5.77	36.297	**5.1**	0.62	0.20 U	**19**	0.20 U	**1.4**	6.24	19.2	254.9		0.38
9/6/2022	Shallow	10–15	42.067	9.3	32.767	1.6	0.89	0.40 U	**71**	1.2	**4.8**	6.04	19.1	938.0		0.16
2/15/2023	Shallow	10–15	42.067	7.95	34.117	1.8	0.84	0.20 U	**27**	0.63	**2.9**	6.04	12.9	632.6		0.30
9/20/2023	Shallow	10–15	42.067	9.33	32.737	1.6	0.69	0.20 U	9.9	0.28	**0.68**	6.11	15.3	507.5		0.04
4/9/2024	Shallow	10–15	44.73	8.33	36.40	1.2	0.72	0.20 U	5.3	0.20 U	**0.32**	6.27	12.0		303.5	0.34
9/23/2024	Shallow	10–15	44.73	8.82	35.91	**9.8**	4.0		9.0	0.20 U	**0.29**	6.25	15.1		6.3	0.53
BSCSS-HZ-MW-24																
12/10/2018	Intermediate	25–35	41.527	6.04	35.487	2.8	0.91	1.0 U	5.4	1.0 U	0.20 U	6.26	15.0	273.7		0.08
5/31/2019	Intermediate	25–35	41.527	6.06	35.467	2.0	0.92	0.20 U	**21**	0.20	**0.77**	6.61	15.3	533.7		0.13
7/17/2019	Intermediate	25–35	41.527	7.1	34.427	2.7	1.1	0.20 U	16	0.20 U	**0.58**	6.39	17.1	557.4		0.07
10/24/2019	Intermediate	25–35	41.527	6.82	34.707	0.40 U	0.40 U	0.40 U	**93**	0.40 U	**0.76**	6.21	16.0	442.3		0.16
1/27/2020	Intermediate	25–35	41.527	5.71	35.817	2.2	1.3	1.0 U	**150**	1.0 U	**3.2**	6.47	13.0	452.3		0.13
4/14/2020	Intermediate	25–35	41.527	6.01	35.517	0.40 U	0.40 U	0.40 U	**73**	0.40 U	**30**	6.36	15.7	493.7		0.22
7/22/2020	Intermediate	25–35	41.527	6.78	34.747	0.94	1.8	0.20 U	**28**	0.20 U	**2.6**	6.26	16.6	452.1		0.30
10/28/2020	Intermediate	25–35	41.527	6.91	34.617	1.3	1.3	0.20 U	**35**	0.27	**2.0**	6.02	16.2	417.0		0.20
3/2/2021	Intermediate	25–35	41.527	5.18	36.347	0.20 U	0.35	0.20 U	6.1	0.20 U	0.17	6.06	13.3	277.2		
6/18/2021	Intermediate	25–35	41.527	6.5	35.027	0.20 U	0.21	0.20 U	5.0	0.20 U	0.13	6.39	16.2	244.1		0.09

Table 4
All Wells: GW Elevations and Field Parameters

Analyte Class						VOCs						Field Parameters				
Analyte						Tetrachloroethene	Trichloroethene	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	pH	Temperature	Conductivity	Specific Conductance	Dissolved Oxygen
CAS No.						127-18-4	79-01-6	75-35-4	156-59-2	156-60-5	75-01-4	pH	--	--	--	--
MTCA Method A CUL [1]						5.0	5.0	--	16	160	0.20	--	--	--	--	--
Unit						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pH	°C	µS/cm	µS/cm	mg/L
Sample Date	Aquifer Zone	Screen Interval	Elevation TOC (feet NAVD 88)	Depth to Water (feet BTOC)	GW Elevation (feet NAVD 88)											
BSCSS-HZ-MW-24 (cont.)																
9/20/2022	Intermediate	25–35	41.527	5.6	35.927	3.8	4.1	0.20 U	**25**	0.20 U	**0.80**	6.06	16.3	363.9		0.18
2/7/2023	Intermediate	25–35	41.527	1.9	39.627	2.7	2.3	0.20 U	15	0.20 U	**0.55**	6.24	13.2	410.8		0.09
9/8/2023	Intermediate	25–35	41.527	5.61	35.917	2.0	2.0	0.20 U	11	0.20 U	**0.61**	6.23	15.0	473.6		0.25
4/10/2024	Intermediate	25–35	39.78	4.78	35.00	1.0	1.3	0.20 U	9.0	0.20 U	**0.26**	6.42	13.0		771.3	0.30
9/24/2024	Intermediate	25–35	39.78	5.59	34.19	3.6	2.8		14	0.20 U	**0.42**	6.36	14.3		404.8	0.47
BSCSS-HZ-MW-26																
12/4/2018	Intermediate	25–35	41.302	7.23	34.072	**6.2**	0.50 U	1.0 U	1.0	1.0 U	0.20 U	6.38	14.2	334.2		0.10
5/30/2019	Intermediate	25–35	41.302	6.85	34.452	**9.7**	0.20 U	0.20 U	1.4	0.20 U	0.20 U	6.70	16.6	329.9		0.18
7/29/2019	Intermediate	25–35	41.302	7.34	33.962	5.0	0.20 U	0.20 U	1.0	0.20 U	0.053	6.42	16.5	327.9		0.21
10/16/2019	Intermediate	25–35	41.302	7.91	33.392	2.8	0.20 U	0.20 U	0.53	0.20 U	0.055	6.61	15.1	322.7		0.03
1/24/2020	Intermediate	25–35	41.302	6.86	34.442	1.5	0.20 U	0.20 U	0.42	0.20 U	0.041	6.55	13.1	334.4		0.10
4/13/2020	Intermediate	25–35	41.302	6.33	34.972	**73**	2.5	0.40 U	4.9	0.40 U	0.040 U	6.52	14.6	396.4		0.66
7/17/2020	Intermediate	25–35	41.302	6.82	34.482	**15**	0.84	0.20 U	2.2	0.20 U	0.026	6.29	15.7	370.0		0.31
10/27/2020	Intermediate	25–35	41.302	7.34	33.962	**14**	0.34	0.20 U	1.8	0.20 U	0.034	6.15	15.5	346.9		0.22
3/5/2021	Intermediate	25–35	41.302	6.66	34.642	1.7	0.20 U	0.20 U	0.26	0.20 U	0.020 U	6.51	13.9	180.9		2.65
6/14/2021	Intermediate	25–35	41.302	6.99	34.312	5.0	0.20 U	0.20 U	1.2	0.20 U	0.020	6.41	14.9	337.4		0.15
6/22/2021	Intermediate	25–35	41.302	--	--	4.8	0.20 U	0.20 U	1.1	0.20 U	0.020 U					
9/8/2022	Intermediate	25–35	41.302	11.98	29.322	**22**	0.43	0.20 U	2.0	0.20 U	0.048	6.23	15.5	365.0		0.15
2/21/2023	Intermediate	25–35	41.302	9.83	31.472	**7.4**	0.20 U	0.20 U	1.6	0.20 U	0.076	6.44	13.9	366.5		0.14
9/12/2023	Intermediate	25–35	41.302	11.14	30.162	**11**	0.20 U	0.20 U	1.2	0.20 U	0.20 U	6.07	14.5	385.6		0.15
4/10/2024	Intermediate	25–35	44.48	10.16	34.32	**18**	0.22	0.20 U	2.0	0.20 U	0.20 U	6.51	13.2		221.2	0.39
9/23/2024	Intermediate	25–35	44.48	11.14	33.34	**32**	0.35		3.5	0.20 U	0.20 U	6.45	14.4		344.8	0.24
BSCSS-HZ-MW-29																
12/10/2018	Intermediate	25–35	40.739	5.68	35.059	**14**	4.1	1.0 U	11	1.0 U	0.20 U	6.18	14.3	330.7		0.07
5/31/2019	Intermediate	25–35	40.739	6.29	34.449	1.4	0.60	0.20 U	**32**	0.22	**0.26**	6.52	15.8	705.0		0.35
7/17/2019	Intermediate	25–35	40.739	7.03	33.709	1.2	0.58	0.20 U	**32**	0.32	**0.47**	6.20	15.9	627.0		0.09
10/24/2019	Intermediate	25–35	40.739	7.98	32.759	1.0 U	1.0 U	1.0 U	**100**	1.0 U	**0.94**	6.15	15.2	466.6		0.14
1/27/2020	Intermediate	25–35	40.739	6.41	34.329	1.0 U	1.5	1.0 U	**100**	1.0 U	**1.5**	6.33	13.4	579.5		0.17
4/13/2020	Intermediate	25–35	40.739	6.31	34.429	1.0 U	**5.2**	1.0 U	**130**	1.0 U	**5.8**	6.31	13.3	595.4		0.28
7/17/2020	Intermediate	25–35	40.739	10.22	30.519	1.0 U	1.0 U	1.0 U	**190**	1.0	**40**	6.22	15.7	655.0		0.24
10/28/2020	Intermediate	25–35	40.739	6.88	33.859	0.20 U	0.27	0.20 U	**21**	0.55	**9.2**	6.21	16.7	723.0		0.20
3/5/2021	Intermediate	25–35	40.739	5.47	35.269	0.20 U	0.29	0.20 U	**19**	0.36	**5.1**	6.46	13.8	641.0		0.21
6/22/2021	Intermediate	25–35	40.739	6.7	34.039	0.20 U	0.32	0.20 U	**20**	0.30	**9.7**	6.45	15.9	551.0		0.10
9/20/2022	Intermediate	25–35	40.739	6.35	34.389	0.20 U	0.24	0.20 U	**30**	0.25	**15**	5.97	15.8	403.7		0.21
2/7/2023	Intermediate	25–35	40.739	5.16	35.579	0.20 U	0.20 U	0.20 U	**32**	0.29	**16**	6.22	14.5	410.6		0.10
9/8/2023	Intermediate	25–35	40.739	6.44	34.299	0.20 U	0.20 U	0.20 U	**32**	0.24	**13**	6.13	14.6	396.6		0.12
4/10/2024	Intermediate	25–35	39.672327	5.48	35.259	0.20 U	0.20 U	0.20 U	**29**	0.22	**10**	6.34	12.7		263.7	0.40
9/24/2024	Intermediate	25–35	39.672327	6.3	34.439	0.20 U	0.20 U		**22**	0.20 U	**8.4**	6.43	14.4		337.6	0.15

Table 4
All Wells: GW Elevations and Field Parameters

Analyte Class						VOCs						Field Parameters				
Analyte						Tetrachloroethene	Trichloroethene	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	pH	Temperature	Conductivity	Specific Conductance	Dissolved Oxygen
CAS No.						127-18-4	79-01-6	75-35-4	156-59-2	156-60-5	75-01-4	pH	--	--	--	--
MTCA Method A CUL [1]						5.0	5.0	--	16	160	0.20	--	--	--	--	--
Unit						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pH	°C	µS/cm	µS/cm	mg/L
Sample Date	Aquifer Zone	Screen Interval	Elevation TOC (feet NAVD 88)	Depth to Water (feet BTOC)	GW Elevation (feet NAVD 88)											
BSCSS-HZ-MW-31																
12/18/2018	Shallow	15–25	37	9.4	27.6	1.0 U	0.50 U	1.0 U	1.0 U	1.0 U	0.20 U	6.33	14.2	331.1		0.07
5/29/2019	Shallow	15–25	37	9.34	27.66	0.78	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	6.58	15.0	320.7		0.23
7/23/2019	Shallow	15–25	37	9.45	27.55	2.5	0.20 U	0.20 U	0.69	0.20 U	0.048	6.33	16.9	295.9		0.21
10/25/2019	Shallow	15–25	37	9.16	27.84	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.048	6.22	15.1	232.9		0.10
1/28/2020	Shallow	15–25	37	8.75	28.25	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.054	6.27	12.9	298.6		0.24
4/27/2020	Shallow	15–25	37	24.75	12.25	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.049	6.50	14.3	347.3		0.25
7/29/2020	Shallow	15–25	37	9.02	27.98	0.20 U	0.20 U		0.20 U		0.049	6.32	16.1	336.7		0.20
10/29/2020	Shallow	15–25	37	9.21	27.79	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.060	6.11	15.1	276.1		0.17
3/5/2021	Shallow	15–25	37	8.3	28.7	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.021	6.61	10.6	230.1		3.10
6/21/2021	Shallow	15–25	37	6.35	30.65	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.046	6.53	20.1	275.4		0.13
9/29/2022	Shallow	15–25	37	9.06	27.94	0.41	0.47	0.20 U	2.0	0.20 U	**20**	6.08	16.7	304.0		0.17
2/6/2023	Shallow	15–25	37	8.2	28.8	0.80 U	0.80 U	0.80 U	16	0.80 U	**94**	6.33	13.7	318.2		0.10
9/26/2023	Shallow	15–25	37	8.61	28.39	2.0 U	2.0 U	2.0 U	**22**	2.0 U	**110**	6.11	16.1	343.0		0.12
9/26/2024	Shallow	15–25	37	8.7	28.3	2.0 U	0.40 U		**45**	0.40 U	**62**	6.42	16.3		370.8	0.33
BSCSS-HZ-MW-33R																
8/11/2021	Intermediate	25–35	35	7.93	27.07	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.064	6.55	17.2	188.0		0.35
10/3/2022	Intermediate	25–35	35	--	--	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.039	5.84	16.1	252.1		0.40
2/7/2023	Intermediate	25–35	35	--	--	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.033	6.33	13.2	177.7		0.12
9/21/2023	Intermediate	25–35	35	--	--	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	6.17	14.8	180.8		0.10
4/11/2024	Intermediate	25–35	35	--	--	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	6.57	13.4		105.8	0.36
9/24/2024	Intermediate	25–35	38.38	--	--	0.20 U	0.20 U		0.20 U	0.20 U	0.20 U	6.63	14.9		163.3	0.45
BSCSS-HZ-MW-34																
12/7/2018	Shallow	15–25	37	5.77	31.23	4.4	**13**	1.0 U	**33**	1.0 U	0.20 U	6.18	15.9	383.7		0.10
5/31/2019	Shallow	15–25	37	5.88	31.12	0.83	3.3	0.20 U	**24**	0.29	**0.26**	6.46	14.7	550.0		0.16
7/17/2019	Shallow	15–25	37	6.41	30.59	1.4	3.3	0.20 U	**20**	0.27	**0.28**	6.24	17.3	508.5		0.08
10/23/2019	Shallow	15–25	37	6.6	30.4	1.0 U	1.0 U	1.0 U	**110**	1.0 U	**0.97**	6.25	16.2	258.4		0.07
1/27/2020	Shallow	15–25	37	5.22	31.78	1.0 U	2.6	1.0 U	**120**	1.0 U	**31**	6.25	14.0	570.1		0.14
4/14/2020	Shallow	15–25	37	5.83	31.17	1.0 U	1.6	1.0 U	**100**	1.0 U	**130**	6.50	13.8	646.0		0.21
7/21/2020	Shallow	15–25	37	6.78	30.22	0.20 U	0.20 U	0.20 U	12	0.32	**16**	6.22	19.3	587.0		0.20
10/28/2020	Shallow	15–25	37	6.74	30.26	0.20 U	0.24	0.20 U	13	0.29	**20**	6.07	17.2	520.8		0.21
3/2/2021	Shallow	15–25	37	5.15	31.85	0.20 U	0.24	0.20 U	11	0.21	**12**	6.10	13.6	465.0		
6/18/2021	Shallow	15–25	37	6.35	30.65	0.34	0.88	0.20 U	4.2	0.20 U	**1.2**	6.39	15.9	350.3		0.05
9/20/2022	Shallow	15–25	37	5.5	31.5	0.48	1.6	0.20 U	13	0.20 U	**5.0**	5.90	16.6	310.7		0.25
2/7/2023	Shallow	15–25	37	2.4	34.6	0.35	1.0	0.20 U	14	0.20 U	**4.6**	6.24	14.1	303.4		0.45
9/8/2023	Shallow	15–25	37	5.54	31.46	0.66	1.8	0.20 U	8.4	0.20 U	**2.0**	6.17	14.7	319.3		0.20
4/10/2024	Shallow	15–25	39.69	4.64	35.05	0.53	1.5	0.20 U	7.2	0.20 U	**0.92**	6.53	12.4		223.1	0.40
9/24/2024	Shallow	15–25	39.69	5.52	34.17	0.33	1.4		6.5	0.20 U	**1.3**	6.21	14.3		331.1	0.29

Table 4
All Wells: GW Elevations and Field Parameters

Analyte Class						VOCs						Field Parameters				
Analyte						Tetrachloroethene	Trichloroethene	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	pH	Temperature	Conductivity	Specific Conductance	Dissolved Oxygen
CAS No.						127-18-4	79-01-6	75-35-4	156-59-2	156-60-5	75-01-4	pH	--	--	--	--
MTCA Method A CUL [1]						5.0	5.0	--	16	160	0.20	--	--	--	--	--
Unit						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pH	°C	µS/cm	µS/cm	mg/L
Sample Date	Aquifer Zone	Screen Interval	Elevation TOC (feet NAVD 88)	Depth to Water (feet BTOC)	GW Elevation (feet NAVD 88)											
BSCSS-S-MW-1																
6/6/2019	Shallow	5.5–15.5	43.527	6	37.527	**8.9**	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	6.25	14.4	256.6		3.46
7/23/2019	Shallow	5.5–15.5	43.527	6.61	36.917	**6.5**	0.20 U	0.20 U	0.20 U	0.20 U	0.020 U	6.01	18.8	200.8		3.10
10/23/2019	Shallow	5.5–15.5	43.527	6.18	37.347	**7.3**	0.20 U	0.20 U	0.20 U	0.20 U	0.020 U	5.92	15.4	162.8		3.82
1/21/2020	Shallow	5.5–15.5	43.527	4.78	38.747	3.4	0.20 U	0.20 U	0.20 U	0.20 U	0.020 U	6.32	11.0	236.2		4.38
4/23/2020	Shallow	5.5–15.5	43.527	5.01	38.517	3.5	0.20 U	0.20 U	0.20 U	0.20 U	0.020 U	6.13	11.1	324.2		4.58
7/28/2020	Shallow	5.5–15.5	43.527	6.97	36.557	**5.1**	0.20 U	0.20 U	0.20 U	0.20 U	0.020 U	6.02	17.5	312.3		3.71
11/2/2020	Shallow	5.5–15.5	43.527	7.3	36.227	4.5	0.20 U	0.20 U	0.20 U	0.20 U	0.020 U	5.76	16.5	313.3		3.18
3/1/2021	Shallow	5.5–15.5	43.527	4.99	38.537	1.7	0.20 U	0.20 U	0.20 U	0.20 U	0.020 U	5.83	11.2	197.7		4.59
6/14/2021	Shallow	5.5–15.5	43.527	7.23	36.297	1.2	0.20 U	0.20 U	0.20 U	0.20 U	0.020 U	6.48	14.3	212.1		7.73
9/27/2022	Shallow	5.5–15.5	43.527	8.55	34.977	2.9	0.20 U	0.20 U	0.20 U	0.20 U	0.020 U	5.66	18.0	216.2		3.80
2/16/2023	Shallow	5.5–15.5	43.527	6.87	36.657	2.6	0.20 U	0.20 U	0.20 U	0.20 U	0.020 U	6.30	9.9	326.3		3.68
9/7/2023	Shallow	5.5–15.5	43.527	8.71	34.817	3.5	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	5.81	15.9	287.1		1.31
9/25/2024	Shallow	5.5–15.5	45.25	8.29	36.96	2.4	0.20 U		0.20 U	0.20 U	0.20 U	6.29	15.2		402.8	3.23
BSCSS-S-MW-2RR																
8/5/2021	Shallow	5–15	39	6.65	32.35	0.20 U	0.20 U	0.20 U	12	0.21	**3.6**	6.64	21.5	589.0		0.99
9/8/2022	Shallow	5–15	39	8.6	30.4	0.20 U	0.25	0.20 U	0.37	0.20 U	**0.59**	6.73	19.9	606.0		0.05
2/10/2023	Shallow	5–15	39	6.85	32.15	0.20 U	0.39	0.20 U	0.20 U	0.20 U	0.084	6.88	12.9	769.0		0.06
9/12/2023	Shallow	5–15	39	8.88	30.12	0.20 U	0.35	0.20 U	0.20 U	0.20 U	**0.37**	6.74	15.0	831.0		0.15
4/10/2024	Shallow	5–15	44.65	7.51	37.14	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	6.80	11.5		670.0	0.31
9/23/2024	Shallow	5–15	44.65	8.93	35.72	0.20 U	0.56		0.32	0.20 U	0.20 U	6.64	14.5		594.0	0.43
BSCSS-S-MW-3RR																
8/20/2021	Intermediate	24–39	40	11.12	28.88	**94**	0.72	0.40 U	0.40 U	0.40 U	0.040 U	6.29	16.4	207.6		16.70
10/14/2022	Intermediate	24–39	40	--	--	**37**	0.41	0.20 U	0.69	0.20 U	0.020 U	5.30	15.6	150.0		0.54
2/10/2023	Intermediate	24–39	40	13.9	26.1	**76**	0.94	0.40 U	2.4	0.40 U	0.040 U	5.66	14.1	159.4		0.12
2/17/2024	Intermediate	24–39	40	9.11	30.89	**89**	1.9	0.40 U	5.5	0.40 U	**0.47**	5.92	12.0	230.0		1.60
4/10/2024	Intermediate	24–39	40	10.58	29.42	**85**	3.5	0.40 U	10	0.40 U	**1.6**	6.53	11.4		408.3	0.27
BSCSS-S-MW-3RRR																
9/26/2024	Intermediate	-	45.91	11.3	34.61	**270**	0.82		0.55	0.20 U	0.20 U	6.13	14.0		249.0	2.86

Table 4
All Wells: GW Elevations and Field Parameters

Analyte Class						VOCs						Field Parameters				
Analyte						Tetrachloroethene	Trichloroethene	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	pH	Temperature	Conductivity	Specific Conductance	Dissolved Oxygen
CAS No.						127-18-4	79-01-6	75-35-4	156-59-2	156-60-5	75-01-4	pH	--	--	--	--
MTCA Method A CUL [1]						5.0	5.0	--	16	160	0.20	--	--	--	--	--
Unit						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pH	°C	µS/cm	µS/cm	mg/L
Sample Date	Aquifer Zone	Screen Interval	Elevation TOC (feet NAVD 88)	Depth to Water (feet BTOC)	GW Elevation (feet NAVD 88)											
BSCSS-S-MW-5R																
8/11/2021	Shallow	15–25	39	8.3	30.7	**630**	4.0 U	4.0 U	4.0 U	4.0 U	*0.40 U*	6.56	19.1	178.4		1.97
10/3/2022	Shallow	15–25	39	10.88	28.12	**450**	3.9	0.20 U	5.3	0.20 U	0.081	5.83	16.2	396.5		3.50
2/10/2023	Shallow	15–25	39	7.14	31.86	**270**	**6.8**	2.0 U	14	2.0 U	**0.70**	6.26	13.6	480.3		0.14
9/12/2023	Shallow	15–25	39	8.59	30.41	**510**	3.9	2.0 U	3.7	2.0 U	0.20 U	6.18	14.3	277.5		0.29
4/10/2024	Shallow	15–25	43.66	7.56	36.10	**360**	**6.6**	2.0 U	13	2.0 U	0.20 U	6.68	11.7		286.7	0.50
9/23/2024	Shallow	15–25	43.66	8.39	35.27	**350**	**7.8**		**17**	2.0 U	*2.0 U*	6.30	13.9		480.9	0.37

Notes:

All blank cells are intentional.
All chemistry results are rounded to two significant figures.
Field parameters are reported as displayed by the sampling equipment.
-- Not available.
Italic Analyte was not detected at a reporting limit greater than the CUL.
RED/BOLD Analyte was detected at a concentration greater than the CUL.
Well is inactive or decommissioned.
1 CULs are based on MTCA Method A values, except for cis- and trans-1,2-dichloroethene, which use MTCA Method B.

Abbreviations:

BTOC Below top of casing
°C Degrees Celsius
CAS Chemical Abstracts Service
CUL Cleanup level
ft Feet
GW Groundwater
µg/L Micrograms per liter
µS/cm Microsiemens per centimeter
mg/L Milligrams per kilogram
MTCA Model Toxics Control Act
mV Millivolts
NAVD 88 North American Vertical Datum of 1988
ntu Nephelometric turbidity unit
ORP Oxidation–reduction potential
TOC Top of casing
TPH Total petroleum hydrocarbons
VOC Volatile organic compound

Qualifiers:

J Analyte was detected; concentration is an estimate.
U Analyte was not detected at the associated reporting limit.
UJ Analyte was not detected at the associated reporting limit, which is an estimate.

Table 4
All Wells: GW Elevations and Field Parameters

						Analyte Class	Field Parameters (cont.)			Total Metals					Dissolved Metals		Conventionals			
						Analyte	ORP	Turbidity	Ferrous iron	Calcium	Iron	Magnesium	Manganese	Sodium	Iron	Manganese	Sulfate	Chloride	Ammonia	Ammonia
						CAS No.	--	--	15438-31-0	7440-70-2	7439-89-6	7439-95-4	7439-96-5	7440-23-5	7439-89-6	7439-96-5	14808-79-8	16887-00-6	7664-41-7	7664-41-7
						MTCA Method A CUL [1]	--	--	--	--	--	--	--	--	--	--	--	--	--	--
						Unit	mV	ntu	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg-N/L
Sample Date	Aquifer Zone	Screen Interval	Elevation TOC (feet NAVD 88)	Depth to Water (feet BTOC)	GW Elevation (feet NAVD 88)															
BSCSS-MW-4R																				
8/2/2021	Shallow	10–25	42	9.33	32.67	51.2				3,000							25	8.9		
8/30/2022	Shallow	10–25	42	7.68	34.32	-8.2				3,700							28	4.7		
2/20/2023	Shallow	10–25	42	6.46	35.54	-13.9			45,000	2,900	21,000	2,100	20,000				25	3.8		
9/15/2023	Shallow	10–25	42	7.89	34.11	170.9									4,200		24	3.0		
4/9/2024	Shallow	10–25	44.56	6.90	37.66	-47.5	2.29	3.5							3,300	2,100	21		0.053 U	
9/25/2024	Shallow	10–25	44.56	7.58	36.98	-105	2.34	5.0	130,000		62,000		33,000		15,000	4,400	5.0 U	7.3	0.053 U	
BSCSS-MW-5R																				
8/3/2021	Shallow	10–25	42	8.3	33.7	158.6				56 U							21	12		
9/1/2022	Shallow	10–25	42	8.64	33.36	11.3				74							25	5.7		
2/20/2023	Shallow	10–25	42	8.9	33.1	116.4			17,000	56 U	6,200	160	12,000				26	5.7		
9/20/2023	Shallow	10–25	42	8.63	33.37	181.8									130		25	4.1		
4/9/2024	Shallow	10–25	44.68	7.70	36.98	119.4	1.83	0							74	250	24		0.053 U	
9/25/2024	Shallow	10–25	44.68	7.90	36.78	128.7	1.38	1.0	33,000		18,000		17,000		580	800	17	3.3	0.053 U	
BSCSS-MW-6																				
12/21/2018	Shallow	10–25	47.567	8.79	38.777	-65.4									5,300		8.7	11	0.41	
2/22/2019	Shallow	10–25	47.567	7.79	39.777	-52									5,800		13	7.7	0.10 U	
5/22/2019	Shallow	10–25	47.567	8.46	39.107	-70.8									8,800		5.0 U	14		0.16
7/25/2019	Shallow	10–25	47.567	9.06	38.507	-108.1									9,200		5.0 U	14		0.18
10/21/2019	Shallow	10–25	47.567	8.76	38.807	-74.6				13,000							5.0 U	16		
1/22/2020	Shallow	10–25	47.567	7.77	39.797	-77.8				12,000							5.0 U	10		
4/17/2020	Shallow	10–25	47.567	8.19	39.377	-7.4				1,500							13	6.3		
7/20/2020	Shallow	10–25	47.567	8.28	39.287	-60.4				38,000							5.0 U	12		
10/19/2020	Shallow	10–25	47.567	8.83	38.737	-51				11,000							5.0 U	11		
2/23/2021	Shallow	10–25	47.567	8.23	39.337	-88.5											5.0 U	11		
6/15/2021	Shallow	10–25	47.567	9.37	38.197	-125.1				30,000							5.0 U	8.3		
9/12/2022	Shallow	10–25	47.567	--	--	2.9				5,500							18	6.7		
2/20/2023	Shallow	10–25	47.567	--	--	-124.2			69,000	41,000	33,000	6,400	23,000				23	8.2		
9/14/2023	Shallow	10–25	47.567	--	--	-43.4									56 U		23	8.5		
4/9/2024	Shallow	10–25	44.77	--	--	-134.9	1.37	3.0							46,000	5,600	21		2.2	
9/25/2024	Shallow	10–25	44.77	--	--	-126.7	2.69	2.5	53,000		32,000		32,000		32,000	4,400	33	4.3	2.0	
BSCSS-MW-7																				
5/24/2019	Shallow	10–25	45.957	7.96	37.997	-9.2									3,900		37	6.1		0.050 U
6/18/2021	Shallow	10–25	45.957	8.73	37.227	-132.2				13,000							27	11		
9/28/2022	Shallow	10–25	45.957	8.41	37.547	16.8									8,200		17	8.8		
2/21/2023	Shallow	10–25	45.957	7.05	38.907	-7.1			56,000	7,400	22,000	470	20,000				26	6.8		
9/15/2023	Shallow	10–25	45.957	8.34	37.617	130.5									3,200		20	8.9		
4/9/2024	Shallow	10–25	44.51	7.33	37.18	-6.8	2.93	5.5							4,800	430	22		0.053 U	
9/25/2024	Shallow	10–25	44.51	8.23	36.28	-120	2.79	5.0	80,000		44,000		23,000		15,000	720	20	5.2	0.053 U	

Table 4
All Wells: GW Elevations and Field Parameters

						Analyte Class	Field Parameters (cont.)			Total Metals					Dissolved Metals		Conventionals			
						Analyte	ORP	Turbidity	Ferrous iron	Calcium	Iron	Magnesium	Manganese	Sodium	Iron	Manganese	Sulfate	Chloride	Ammonia	Ammonia
						CAS No.	--	--	15438-31-0	7440-70-2	7439-89-6	7439-95-4	7439-96-5	7440-23-5	7439-89-6	7439-96-5	14808-79-8	16887-00-6	7664-41-7	7664-41-7
						MTCA Method A CUL [1]	--	--	--	--	--	--	--	--	--	--	--	--	--	--
						Unit	mV	ntu	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg-N/L
Sample Date	Aquifer Zone	Screen Interval	Elevation TOC (feet NAVD 88)	Depth to Water (feet BTOC)	GW Elevation (feet NAVD 88)															
BSCSS-MW-11																				
12/20/2018	Intermediate	25–33	47.677	8.56	39.117	14.3								610		37	14	0.10 U	
2/21/2019	Intermediate	25–33	47.677	7.9	39.777	-70								1,200		10	14	0.10 U	
5/22/2019	Intermediate	25–33	47.677	8.48	39.197	-18								810		13	13		0.050 U
7/25/2019	Intermediate	25–33	47.677	9.12	38.557	-43.8								660		10	11		0.068
10/21/2019	Intermediate	25–33	47.677	8.92	38.757	-59.4				1,500						5.0 U	15		
1/22/2020	Intermediate	25–33	47.677	8.09	39.587	-35.1				4,500						5.0 U	12		
4/17/2020	Intermediate	25–33	47.677	8.49	39.187	-15.1				580						62	8.9		
7/20/2020	Intermediate	25–33	47.677	8.74	38.937	-38.7				6,900						5.0 U	12		
10/19/2020	Intermediate	25–33	47.677	9	38.677	-91.3				8,600						7.6	14		
2/26/2021	Intermediate	25–33	47.677	8.02	39.657	-110.1				16,000						11	12		
6/15/2021	Intermediate	25–33	47.677	9.24	38.437	-132.2				4,700						35	7.6		
9/28/2022	Intermediate	25–33	47.677	7.5	40.177	-41.7								1,000		23	2.9		
2/20/2023	Intermediate	25–33	47.677	6.1	41.577	-67.7				30,000	1,800	13,000	830	25,000		31	2.1		
9/14/2023	Intermediate	25–33	47.677	7.51	40.167	18.6								1,700		21	2.2		
4/9/2024	Intermediate	25–33	44.75	6.52	38.23	-75.5	2.72	1.5						1,500	880	21		0.19	
9/24/2024	Intermediate	25–33	44.75	7.12	37.63	-82.1	1.32	2.6						2,000	1,300	28		0.20	
BSCSS-MW-12																				
5/24/2019	Intermediate	25–33	45.837	7.92	37.917	-89.5								530		24	9.5		0.050 U
7/22/2019	Intermediate	25–33	45.837	8.4	37.437	-341								3,400		18	42		0.050 U
10/18/2019	Intermediate	25–33	45.837	9.07	36.767	40				6,000						14	36		
1/27/2020	Intermediate	25–33	45.837	7.8	38.037	38.2				6,100						12	32		
4/21/2020	Intermediate	25–33	45.837	7.64	38.197	27.5				5,100						21	30		
7/22/2020	Intermediate	25–33	45.837	6.45	39.387	31.4				6,500						29	19		
10/21/2020	Intermediate	25–33	45.837	8.83	37.007	30.6				5,200						35	14		
3/3/2021	Intermediate	25–33	45.837	8	37.837	12.5				8,200						19	12		
6/15/2021	Intermediate	25–33	45.837	8.77	37.067	-60.7				6,900						16	12		
9/27/2022	Intermediate	25–33	45.837	7.9	37.937	-30.9				7,400						5.0 U	8.7		
2/20/2023	Intermediate	25–33	45.837	6.55	39.287	-61.5				99,000	9,100	43,000	2,900	18,000		5.0 U	6.9		
9/15/2023	Intermediate	25–33	45.837	7.91	37.927	129								7,700		13	9.4		
4/9/2024	Intermediate	25–33	44.22	6.98	37.24	-59.3	1.62	4.5						14,000	3,000	5.0 U		0.061	
9/25/2024	Intermediate	25–33	44.22	7.92	36.30	-28.6	1.38	4.0		82,000		42,000		18,000	14,000	2,900	6.7	7.5	0.053 U	
BSCSS-MW-20R																				
6/22/2021	Intermediate	25–30	43	8.32	34.68	-97.2					16,000						9.2	11		
9/1/2022	Intermediate	25–30	43	7.8	35.2	-45.5					3,500						15	9.9		
2/2/2023	Intermediate	25–30	43	6.52	36.48	-73.4					6,200						15	15		
9/19/2023	Intermediate	25–30	43	7.96	35.04	42.9									4,900		10	15		
4/9/2024	Intermediate	25–30	43	6.91	36.09	-86.4	1.13	2.5							6,200	260	13		0.11	
9/24/2024	Intermediate	25–30	43	7.39	35.61	-70.9	0.50	4.0							6,200	260	18		0.17	

Table 4
All Wells: GW Elevations and Field Parameters

						Analyte Class	Field Parameters (cont.)			Total Metals					Dissolved Metals		Conventionals			
						Analyte	ORP	Turbidity	Ferrous iron	Calcium	Iron	Magnesium	Manganese	Sodium	Iron	Manganese	Sulfate	Chloride	Ammonia	Ammonia
						CAS No.	--	--	15438-31-0	7440-70-2	7439-89-6	7439-95-4	7439-96-5	7440-23-5	7439-89-6	7439-96-5	14808-79-8	16887-00-6	7664-41-7	7664-41-7
						MTCA Method A CUL [1]	--	--	--	--	--	--	--	--	--	--	--	--	--	--
						Unit	mV	ntu	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg-N/L
Sample Date	Aquifer Zone	Screen Interval	Elevation TOC (feet NAVD 88)	Depth to Water (feet BTOC)	GW Elevation (feet NAVD 88)															
BSCSS-MW-21R																				
8/3/2021	Shallow	10–15	42	8.74	33.26	136.7				56 U						22	16		
8/30/2022	Shallow	10–15	42	8.5	33.5	8				59						23	2.7		
2/3/2023	Shallow	10–15	42	7.5	34.5	60.6				92						24	3.5		
9/19/2023	Shallow	10–15	42	8.55	33.45	64.1									56 U		21	8.0		
4/9/2024	Shallow	10–15	44.71	7.49	37.22	66	4.93	0							260	990	22		0.053 U	
9/24/2024	Shallow	10–15	44.71	7.45	37.26	-22.3	1.26	2.5							2,200	2,600	40		0.053 U	
BSCSS-MW-23																				
12/5/2018	Shallow	6–16	48.027	8.7	39.327	49.8									120		11	2.2	0.10 U	
2/12/2019	Shallow	6–16	48.027	8.18	39.847	128.7									100 U		6.0	1.5	0.10 U	
6/4/2019	Shallow	6–16	48.027	8.57	39.457	19.1									720		6.7	3.3		0.050 U
6/17/2021	Shallow	6–16	48.027	8.91	39.117	-109					3,100						6.7	2.1		
10/14/2022	Shallow	6–16	48.027	10.45	37.577	190.2					790						20	2.6		
2/6/2023	Shallow	6–16	48.027	10	38.027	126.7					250						17	6.5		
9/27/2023	Shallow	6–16	48.027	10.23	37.797	182.8									360		17	7.1		
4/11/2024	Shallow	6–16	48.027	10.44	37.587	215.9	2.03	0							56 U	180	9.8		0.053 U	
9/23/2024	Shallow	6–16	49.31	11.25	38.06	174.3	3.15								56 U	50	29		0.053 U	
BSCSS-MW-27																				
12/12/2018	Shallow	6–16	48.487	10.09	38.397	48.3									100 U		35	2.7	0.10 U	
5/24/2019	Shallow	6–16	48.487	9.65	38.837	41.5									56 U		24	4.7		0.050 U
7/16/2019	Shallow	6–16	48.487	10.39	38.097	155.7									56 U		23	3.6		0.050 U
10/18/2019	Shallow	6–16	48.487	10.05	38.437	243.9					56 U						24	4.5		
1/29/2020	Shallow	6–16	48.487	8.22	40.267	166.3					180						17	5.2		
4/16/2020	Shallow	6–16	48.487	8.87	39.617	59.6					91						17	2.0 U		
7/27/2020	Shallow	6–16	48.487	9.95	38.537	105.3					74						21	2.0 U		
10/19/2020	Shallow	6–16	48.487	9.98	38.507	76.3					56 U						26	2.0 U		
2/26/2021	Shallow	6–16	48.487	7.87	40.617	81.8					56 U						18	2.0 U		
6/17/2021	Shallow	6–16	48.487	9.87	38.617	138.2					56 U						15	2.0 U		
9/22/2022	Shallow	6–16	48.487	10.22	38.267	109.9					3,300						16	2.0		
2/21/2023	Shallow	6–16	48.487	8.59	39.897	108.3				9,600	1,400	2,100	1,100	9,700			27	2.0 U		
9/7/2023	Shallow	6–16	48.487	10.33	38.157	142.6									1,200		22	3.8		
4/11/2024	Shallow	6–16	48.487	9.15	39.337	191.6	2.59	0							140	1,200	32		0.053 U	
9/25/2024	Shallow	6–16	47.49	10.01	37.48	116.6	1.39								440	2,500	36		0.053 U	
BSCSS-MW-29																				
12/12/2018	Deep	45–55	48.497	10.25	38.247	-16.7									100 U		6.7	5.3	0.24	
6/4/2019	Deep	45–55	48.497	10.08	38.417	15									450		5.0 U	26		0.25
7/16/2019	Deep	45–55	48.497	10.61	37.887	-106.2									460		5.0 U	5.2		0.30
10/18/2019	Deep	45–55	48.497	10.48	38.017	7.4					610						5.0 U	6.4		
1/29/2020	Deep	45–55	48.497	9.61	38.887	-82					570						5.0 U	6.3		
4/16/2020	Deep	45–55	48.497	9.71	38.787	-11.6					1,100						5.0 U	5.5		

Table 4
All Wells: GW Elevations and Field Parameters

						Analyte Class	Field Parameters (cont.)			Total Metals					Dissolved Metals		Conventionals			
						Analyte	ORP	Turbidity	Ferrous iron	Calcium	Iron	Magnesium	Manganese	Sodium	Iron	Manganese	Sulfate	Chloride	Ammonia	Ammonia
						CAS No.	--	--	15438-31-0	7440-70-2	7439-89-6	7439-95-4	7439-96-5	7440-23-5	7439-89-6	7439-96-5	14808-79-8	16887-00-6	7664-41-7	7664-41-7
						MTCA Method A CUL [1]	--	--	--	--	--	--	--	--	--	--	--	--	--	--
						Unit	mV	ntu	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg-N/L
Sample Date	Aquifer Zone	Screen Interval	Elevation TOC (feet NAVD 88)	Depth to Water (feet BTOC)	GW Elevation (feet NAVD 88)															
BSCSS-MW-29 (cont.)																				
7/24/2020	Deep	45–55	48.497	--	--					270							7.3	2.8		
8/10/2020	Deep	45–55	48.497	10.54	37.957	176.4				390							5.1	5.5		
10/19/2020	Deep	45–55	48.497	10.4	38.097	-62.8				56 U							5.2	6.1		
2/26/2021	Deep	45–55	48.497	9.36	39.137	-60.1				1,700							7.0	6.9		
6/17/2021	Deep	45–55	48.497	10.43	38.067	-147.7				320							6.1	6.5		
9/22/2022	Deep	45–55	48.497	10.1	38.397	-77.4				56 U							5.0 U	5.9		
2/10/2023	Deep	45–55	48.497	8.71	39.787	-24.9				1,300							5.0 U	4.8		
9/7/2023	Deep	45–55	48.497	10.2	38.297	5.5									1,100		5.0 U	5.6		
9/23/2024	Deep	45–55	48.03	10.61	37.42	-73.7	2.67	1.5							1,200	95	5.0 U		0.29	
BSCSS-MW-34																				
12/11/2018	Deep	40–50	47.187	8.5	38.687	44.3									560		14	32	0.10 U	
2/21/2019	Deep	40–50	47.187	7.59	39.597	91.9									370		15	33	0.10 U	
6/3/2019	Deep	40–50	47.187	8.28	38.907	18.6									440		15	29		0.050 U
6/15/2021	Deep	40–50	47.187	8.65	38.537	-22.3				900							11	9.5		
9/1/2022	Deep	40–50	47.187	7.7	39.487	12.4				1,600							18	11		
2/3/2023	Deep	40–50	47.187	6.65	40.537	32.6				2,000							20	11		
9/14/2023	Deep	40–50	47.187	7.55	39.637	81.8									2,400		14	12		
4/9/2024	Deep	40–50	44.48	6.65	37.83	16.3	1.04	2.0							2,100	280	31		0.068	
9/24/2024	Deep	40–50	44.48	7.41	37.07	64.5	0.28	2.3							2,100	320	31		0.053 U	
BSCSS-MW-39																				
12/17/2018	Deep	40–50	44.885	6.33	38.555	-3.5									4,600		2.1	3.5	0.56	
3/13/2019	Deep	40–50	44.885	6.32	38.565	82.2									4,400		0.30 U	3.8	0.45	
5/29/2019	Deep	40–50	44.885	6.49	38.395	1.8									4,500		5.0 U	4.3		0.48
7/23/2019	Deep	40–50	44.885	7.02	37.865	-96.6									4,300		5.0 U	4.3		0.44
10/24/2019	Deep	40–50	44.885	6.94	37.945	19.8				4,600							5.0 U	4.5		
1/28/2020	Deep	40–50	44.885	5.53	39.355	57.1				5,000							5.0 U	4.8		
4/27/2020	Deep	40–50	44.885	6.17	38.715	48.5				440							5.0 U	4.3		
7/29/2020	Deep	40–50	44.885	6.92	37.965	-30									5,500		5.0 U	4.9		
10/22/2020	Deep	40–50	44.885	6.99	37.895	13.3				100							5.0 U	4.6		
3/5/2021	Deep	40–50	44.885	--	--					4,600							5.0 U	6.3		
3/12/2021	Deep	40–50	44.885	6.29	38.595	-53.3				4,800							5.0 U	4.4		
6/21/2021	Deep	40–50	44.885	7.34	37.545	-106.1				6,800							7.5	5.3		
9/29/2022	Deep	40–50	44.885	7.86	37.025	-10.8				8,600							24	8.5		
2/6/2023	Deep	40–50	44.885	7.15	37.735	-34.4				9,000							21	7.8		
9/26/2023	Deep	40–50	44.885	7.68	37.205	128.8									9,600		22	7.8		
4/11/2024	Deep	40–50	44.885	6.77	38.115	-33.3	2.57	3.5							7,700	130	15		0.60	
9/26/2024	Deep	40–50	44.54	7.64	36.90	-53.1	3.40	5.5							8,200	160	15		0.57	

Table 4
All Wells: GW Elevations and Field Parameters

						Analyte Class	Field Parameters (cont.)			Total Metals					Dissolved Metals		Conventionals			
						Analyte	ORP	Turbidity	Ferrous iron	Calcium	Iron	Magnesium	Manganese	Sodium	Iron	Manganese	Sulfate	Chloride	Ammonia	Ammonia
						CAS No.	--	--	15438-31-0	7440-70-2	7439-89-6	7439-95-4	7439-96-5	7440-23-5	7439-89-6	7439-96-5	14808-79-8	16887-00-6	7664-41-7	7664-41-7
						MTCA Method A CUL [1]	--	--	--	--	--	--	--	--	--	--	--	--	--	--
						Unit	mV	ntu	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg-N/L
Sample Date	Aquifer Zone	Screen Interval	Elevation TOC (feet NAVD 88)	Depth to Water (feet BTOC)	GW Elevation (feet NAVD 88)															
BSCSS-MW-40																				
12/17/2018	Shallow	15–25	45.001	6.28	38.721	52.6								100 U		1.6	0.59	0.10 U	
3/13/2019	Shallow	15–25	45.001	6.29	38.711	82.2								100 U		0.82	2.1	0.10 U	
5/29/2019	Shallow	15–25	45.001	6.49	38.511	3.8								7,600		5.0 U	11		0.35
7/23/2019	Shallow	15–25	45.001	7	38.001	-112.4								19,000		5.0 U	12		0.39
10/25/2019	Shallow	15–25	45.001	6.82	38.181	35.6				4,600						5.0 U	4.9		
1/28/2020	Shallow	15–25	45.001	5.51	39.491	-60.6				9,800						5.0 U	19		
4/27/2020	Shallow	15–25	45.001	6.48	38.521	26				5,600						5.0 U	7.9		
7/29/2020	Shallow	15–25	45.001	7.01	37.991	-47.7								27,000		5.0 U	24		
10/29/2020	Shallow	15–25	45.001	7.04	37.961	-43.6				22,000						5.0 U	18		
3/5/2021	Shallow	15–25	45.001	--	--					22,000						5.0 U	18		
3/12/2021	Shallow	15–25	45.001	6.5	38.501	-35.9				24,000						5.0 U	16		
6/21/2021	Shallow	15–25	45.001	6.98	38.021	-130				26,000						5.0 U	13		
9/29/2022	Shallow	15–25	45.001	8.18	36.821	-48.1				21,000						5.0 U	12		
2/6/2023	Shallow	15–25	45.001	6.4	38.601	37.5				3,600						5.0 U	5.9		
9/26/2023	Shallow	15–25	45.001	7.44	37.561	99.3								21,000		5.0 U	11		
4/11/2024	Shallow	15–25	45.001	7.73	37.27	-57.6	16.70	3.0						24,000	370	5.0 U		0.71	
9/26/2024	Shallow	15–25	44.57	9.60	34.97	-91.5	4.57	6.5						26,000	430	5.0 U		1.7	
BSCSS-MW-42																				
12/14/2018	Intermediate	30–45	--	--	--									850		1.5	3.5	1.2	
1/3/2019	Intermediate	30–45	--	--	--					2,300				720					
3/18/2019	Intermediate	30–45	--	8.79	--	76.4								820		2.0	3.6	0.27	
6/5/2019	Intermediate	30–45	--	9.11	--	5								5,500		5.0 U	6.3		0.20
7/29/2019	Intermediate	30–45	--	9.65	--	-321.9								5,300		8.0	8.1		0.27
10/22/2019	Intermediate	30–45	--	9.29	--	-10.2				7,600						7.3	13		
1/29/2020	Intermediate	30–45	--	8.49	--	-24.8				19,000						5.0 U	14		
4/16/2020	Intermediate	30–45	--	8.88	--	-19.2				25,000						5.0 U	14		
7/24/2020	Intermediate	30–45	--	9.08	--	-34.7				36,000						5.0 U	13		
10/26/2020	Intermediate	30–45	--	9.26	--	-57.1				43,000						5.0 U	15		
3/1/2021	Intermediate	30–45	--	8.33	--	-82.6				42,000						5.0 U	14		
6/11/2021	Intermediate	30–45	--	9.37	--	-96.4				28,000						5.0 U	10		
9/29/2022	Intermediate	30–45	--	12.63	--	-57.5				14,000						6.9	8.1		
2/8/2023	Intermediate	30–45	--	10.73	--	-78.5				20,000						5.0 U	7.5		
9/22/2023	Intermediate	30–45	--	12.15	--	102.7								13,000		5.0 U	5.2		
4/10/2024	Intermediate	30–45	--	11.19	--	-78.2	3.08	5.5						16,000	350	5.0 U		11	
9/26/2024	Intermediate	30–45	50.11	11.97	38.14	-101.2	7.98	5.5						14,000	370	5.4		9.0	

Table 4
All Wells: GW Elevations and Field Parameters

						Analyte Class	Field Parameters (cont.)			Total Metals					Dissolved Metals		Conventionals			
						Analyte	ORP	Turbidity	Ferrous iron	Calcium	Iron	Magnesium	Manganese	Sodium	Iron	Manganese	Sulfate	Chloride	Ammonia	Ammonia
						CAS No.	--	--	15438-31-0	7440-70-2	7439-89-6	7439-95-4	7439-96-5	7440-23-5	7439-89-6	7439-96-5	14808-79-8	16887-00-6	7664-41-7	7664-41-7
						MTCA Method A CUL [1]	--	--	--	--	--	--	--	--	--	--	--	--	--	--
						Unit	mV	ntu	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg-N/L
Sample Date	Aquifer Zone	Screen Interval	Elevation TOC (feet NAVD 88)	Depth to Water (feet BTOC)	GW Elevation (feet NAVD 88)															
BSCSS-MW-43R																				
6/23/2021	Shallow	10–25	47	7.65	39.35	-143.6				8,900							14	9.2		
9/29/2022	Shallow	10–25	47	11.22	35.78	7.9				7,000							35	13		
2/8/2023	Shallow	10–25	47	7.89	39.11	31.4				330							51	7.4		
9/22/2023	Shallow	10–25	47	10.5	36.5	73.7									8,200		22	20		
4/10/2024	Shallow	10–25	47	9.47	37.53	4	3.11	1.5							2,200	1,800	33		0.053 U	
9/26/2024	Shallow	10–25	49.79	10.99	38.80	26.7	8.41	4.0							4,000	2,000	22		0.057	
BSCSS-MW-44R																				
6/23/2021	Intermediate	20–30	44	8.07	35.93	-143.2				1,600							5.4	6.7		
9/27/2022	Intermediate	20–30	44	8.14	35.86	-47.8				4,100							20	7.2		
2/8/2023	Intermediate	20–30	44	6.7	37.3	-49.8				6,200							16	8.3		
9/22/2023	Intermediate	20–30	44	8.15	35.85	175.8									7,900		14	7.5		
9/26/2024	Intermediate	20–30	44.85	7.79	37.06	-81.2	3.97	4.5							9,800	340	14		3.2	
BSCSS-MW-45R																				
6/23/2021	Shallow	7–17	43	8.07	34.93	-95.3				56 U							17	26		
9/1/2022	Shallow	7–17	43	7.95	35.05	62.1				65							110	4.9		
2/2/2023	Shallow	7–17	43	5.54	37.46	112.4				56 U							87	8.7		
9/19/2023	Shallow	7–17	43	8.04	34.96	176.7									56 U		71	6.9		
4/9/2024	Shallow	7–17	44.55	5.67	38.88	-75.8	1.70	5.5							33,000	15,000	5.0 U		1.4	
9/24/2024	Shallow	7–17	44.55	7.85	36.70	-92.1	1.80	1.2							32,000	8,400	5.0 U		0.56	
BSCSS-HZ-MW-1																				
12/19/2018	Shallow	5–15	41.997	6.94	35.057	45									100 U		8.5	3.4	0.10 U	
5/30/2019	Shallow	5–15	41.997	6.81	35.187	15.2									56 U		7.4	5.9		0.050 U
7/29/2019	Shallow	5–15	41.997	7.2	34.797	-70.1									56 U		6.6	4.4		0.050 U
10/21/2019	Shallow	5–15	41.997	7.45	34.547	200				56 U							6.5	5.1		
1/24/2020	Shallow	5–15	41.997	6.39	35.607	86.3				56 U							16	4.0		
4/14/2020	Shallow	5–15	41.997	6.33	35.667	-3.8				56 U							16	6.3		
7/17/2020	Shallow	5–15	41.997	6.88	35.117	71.9				56 U							12	6.0		
10/27/2020	Shallow	5–15	41.997	7.42	34.577	74.3				56 U							15	8.5		
3/4/2021	Shallow	5–15	41.997	5.34	36.657	-18.6				9,000							5.0 U	6.4		
6/15/2021	Shallow	5–15	41.997	7.15	34.847	52.3				56 U							27	8.8		
9/12/2022	Shallow	5–15	41.997	9.9	32.097	-32				5,300							20	8.3		
2/15/2023	Shallow	5–15	41.997	8.64	33.357	-6.9				13,000							18	9.2		
9/20/2023	Shallow	5–15	41.997	9.81	32.187	129.2									18,000		12	10		
4/10/2024	Shallow	5–15	43.71	8.81	34.90	-47.1	5.02	3.5							24,000	5,900	5.0 U		0.059	
9/24/2024	Shallow	5–15	43.71	8.94	34.77	-69.6	6.34	3.0							16,000	5,800	5.0 U		0.074	

Table 4
All Wells: GW Elevations and Field Parameters

						Analyte Class	Field Parameters (cont.)			Total Metals					Dissolved Metals		Conventionals			
						Analyte	ORP	Turbidity	Ferrous iron	Calcium	Iron	Magnesium	Manganese	Sodium	Iron	Manganese	Sulfate	Chloride	Ammonia	Ammonia
						CAS No.	--	--	15438-31-0	7440-70-2	7439-89-6	7439-95-4	7439-96-5	7440-23-5	7439-89-6	7439-96-5	14808-79-8	16887-00-6	7664-41-7	7664-41-7
						MTCA Method A CUL [1]	--	--	--	--	--	--	--	--	--	--	--	--	--	--
						Unit	mV	ntu	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg-N/L
Sample Date	Aquifer Zone	Screen Interval	Elevation TOC (feet NAVD 88)	Depth to Water (feet BTOC)	GW Elevation (feet NAVD 88)															
BSCSS-HZ-MW-14D																				
12/13/2018	Intermediate	30–40	42.777	6.7	36.077	36									100 U		16	91	0.10 U	
5/21/2019	Intermediate	30–40	42.777	6.16	36.617	-40.7									56 U		10	87		0.050 U
7/29/2019	Intermediate	30–40	42.777	6.92	35.857	-86.5									56 U		11	69		0.050 U
10/16/2019	Intermediate	30–40	42.777	7.7	35.077	143.8					56 U						9.3	75		
1/22/2020	Intermediate	30–40	42.777	5.98	36.797	132.8					56 U						11	65		
4/15/2020	Intermediate	30–40	42.777	6.14	36.637	14.4					56 U						13	52		
7/21/2020	Intermediate	30–40	42.777	6.78	35.997	104.2					76						14	44		
10/28/2020	Intermediate	30–40	42.777	7.34	35.437	135.5					180						13	29		
3/4/2021	Intermediate	30–40	42.777	5.84	36.937	39.4					260						14	27		
6/15/2021	Intermediate	30–40	42.777	6.88	35.897	-9.2					650						20	17		
9/6/2022	Intermediate	30–40	42.777	9.3	33.477	44.1					170						12	9.5		
2/3/2023	Intermediate	30–40	42.777	8.36	34.417	70.8					380						10	11		
9/21/2023	Intermediate	30–40	42.777	9.6	33.177	234.8									390		10	9.6		
4/9/2024	Intermediate	30–40	44.49	8.55	35.94	82.6	1.10	-10,000							440	440	7.8		0.053 U	
9/24/2024	Intermediate	30–40	44.49	9.51	34.98	56.7	2.88	1.2							720	810	8.7		0.053 U	
BSCSS-HZ-MW-14S																				
12/13/2018	Shallow	5–15	42.767	6.23	36.537	20.4									100 U		22	7.3	0.10 U	
5/21/2019	Shallow	5–15	42.767	6.43	36.337	-26.3									490		21	7.2		0.050 U
7/25/2019	Shallow	5–15	42.767	6.31	36.457	-57.4									160		18	7.8		0.53
10/16/2019	Shallow	5–15	42.767	6.99	35.777	103.9					56 U						17	8.0		
1/22/2020	Shallow	5–15	42.767	5.65	37.117	115					56 U						19	9.5		
4/15/2020	Shallow	5–15	42.767	5.76	37.007	11.5					56 U						18	8.1		
7/21/2020	Shallow	5–15	42.767	7.45	35.317	79.6					56 U						19	8.6		
10/23/2020	Shallow	5–15	42.767	7.13	35.637	114					56 U						19	7.4		
3/3/2021	Shallow	5–15	42.767	4.33	38.437	96.5					56 U						13	4.1		
6/15/2021	Shallow	5–15	42.767	6.8	35.967	-4.9					510						13	6.7		
9/6/2022	Shallow	5–15	42.767	9.45	33.317	5.9					650						18	10		
2/21/2023	Shallow	5–15	42.767	8.5	34.267	66.1				36,000	2,900	14,000	520	12,000			15	6.6		
9/21/2023	Shallow	5–15	42.767	9.63	33.137	208.6									3,900		15	8.3		
4/9/2024	Shallow	5–15	44.61	8.70	35.91	30	2.21	4.5							6,400	690	17		0.053 U	
9/24/2024	Shallow	5–15	44.61	9.23	35.38	44.4	16.30	4.0							4,600	870	13		0.053 U	
BSCSS-HZ-MW-15D																				
12/27/2018	Intermediate	20–30	41.997	4.23	37.767	52.4									100 U		26	14	0.10 U	
6/4/2019	Intermediate	20–30	41.997	6.11	35.887	20.9									56 U		23	14		0.050 U
7/23/2019	Intermediate	20–30	41.997	6.83	35.167	-56.6									56 U		21	13		0.050 U
10/17/2019	Intermediate	20–30	41.997	7.02	34.977	173.5					100						18	13		
1/22/2020	Intermediate	20–30	41.997	6.05	35.947	88.9					56 U						13	16		
4/15/2020	Intermediate	20–30	41.997	6.67	35.327	32.4					120						9.6	16		

Table 4
All Wells: GW Elevations and Field Parameters

						Analyte Class	Field Parameters (cont.)			Total Metals					Dissolved Metals		Conventionals			
						Analyte	ORP	Turbidity	Ferrous iron	Calcium	Iron	Magnesium	Manganese	Sodium	Iron	Manganese	Sulfate	Chloride	Ammonia	Ammonia
						CAS No.	--	--	15438-31-0	7440-70-2	7439-89-6	7439-95-4	7439-96-5	7440-23-5	7439-89-6	7439-96-5	14808-79-8	16887-00-6	7664-41-7	7664-41-7
						MTCA Method A CUL [1]	--	--	--	--	--	--	--	--	--	--	--	--	--	--
						Unit	mV	ntu	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg-N/L
Sample Date	Aquifer Zone	Screen Interval	Elevation TOC (feet NAVD 88)	Depth to Water (feet BTOC)	GW Elevation (feet NAVD 88)															
BSCSS-HZ-MW-15D (cont.)																				
7/22/2020	Intermediate	20–30	41.997	6.45	35.547	80.8				150						12	14		
10/23/2020	Intermediate	20–30	41.997	6.79	35.207	108.6				56 U						11	15		
3/3/2021	Intermediate	20–30	41.997	6.23	35.767	109.4				56 U						18	13		
6/22/2021	Intermediate	20–30	41.997	5.8	36.197	-34.9				120						15	14		
9/8/2022	Intermediate	20–30	41.997	9.44	32.557	19				56 U						14	9.4		
2/21/2023	Intermediate	20–30	41.997	8.3	33.697	89.9			48,000	56 U	20,000	120	15,000			15	8.8		
9/20/2023	Intermediate	20–30	41.997	9.68	32.317	204.9								56 U		16	7.6		
4/10/2024	Intermediate	20–30	44.60	8.61	35.99	85	1.11	0.50						160	200	15		0.053 U	
9/24/2024	Intermediate	20–30	44.60	9.58	35.02	76.5	3.88	0.50						200	290	11		0.053 U	
BSCSS-HZ-MW-15S																				
12/27/2018	Shallow	10–15	42.067	4.4	37.667	38.5								100 U		20	2.9	0.10 U	
6/4/2019	Shallow	10–15	42.067	4.92	37.147	-10.7								56 U		16	3.0		0.050 U
7/23/2019	Shallow	10–15	42.067	5.66	36.407	-69.1								56 U		13	3.6		0.050 U
10/17/2019	Shallow	10–15	42.067	5.87	36.197	189				56 U						13	5.1		
1/22/2020	Shallow	10–15	42.067	4.02	38.047	129.5				56 U						12	3.0		
4/15/2020	Shallow	10–15	42.067	4.51	37.557	17.6				56 U						14	2.1		
7/22/2020	Shallow	10–15	42.067	5.85	36.217	66.2				56 U						14	2.3		
10/23/2020	Shallow	10–15	42.067	6.23	35.837	112.3				56 U						14	3.3		
3/3/2021	Shallow	10–15	42.067	4.82	37.247	111.3				56 U						12	3.7		
6/22/2021	Shallow	10–15	42.067	5.77	36.297	-5.8				56 U						9.5	4.0		
9/6/2022	Shallow	10–15	42.067	9.3	32.767	-9.7				11,000						5.0 U	6.1		
2/15/2023	Shallow	10–15	42.067	7.95	34.117	44.6				6,500						8.3	6.9		
9/20/2023	Shallow	10–15	42.067	9.33	32.737	169.9								1,500		18	9.1		
4/9/2024	Shallow	10–15	44.73	8.33	36.40	90.5	1.79	0.50						430	740	32		0.053 U	
9/23/2024	Shallow	10–15	44.73	8.82	35.91	67.2	0.85	0.50						310	690	25		0.053 U	
BSCSS-HZ-MW-24																				
12/10/2018	Intermediate	25–35	41.527	6.04	35.487	-1.4								830		10	7.2	0.10 U	
5/31/2019	Intermediate	25–35	41.527	6.06	35.467	-11.7								8,500		5.0 U	13		0.19
7/17/2019	Intermediate	25–35	41.527	7.1	34.427	-167.7								15,000		7.8	13		0.39
10/24/2019	Intermediate	25–35	41.527	6.82	34.707	10				20,000						5.0 U	14		
1/27/2020	Intermediate	25–35	41.527	5.71	35.817	35.3				14,000						5.0 U	15		
4/14/2020	Intermediate	25–35	41.527	6.01	35.517	-13.9				14,000						13	19		
7/22/2020	Intermediate	25–35	41.527	6.78	34.747	3.7				11,000						22	17		
10/28/2020	Intermediate	25–35	41.527	6.91	34.617	26.6				10,000						23	14		
3/2/2021	Intermediate	25–35	41.527	5.18	36.347	19.9				6,000						23	9.7		
6/18/2021	Intermediate	25–35	41.527	6.5	35.027	-154.6				8,000						23	6.1		

Table 4
All Wells: GW Elevations and Field Parameters

						Analyte Class	Field Parameters (cont.)			Total Metals					Dissolved Metals		Conventionals			
						Analyte	ORP	Turbidity	Ferrous iron	Calcium	Iron	Magnesium	Manganese	Sodium	Iron	Manganese	Sulfate	Chloride	Ammonia	Ammonia
						CAS No.	--	--	15438-31-0	7440-70-2	7439-89-6	7439-95-4	7439-96-5	7440-23-5	7439-89-6	7439-96-5	14808-79-8	16887-00-6	7664-41-7	7664-41-7
						MTCA Method A CUL [1]	--	--	--	--	--	--	--	--	--	--	--	--	--	--
						Unit	mV	ntu	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg-N/L
Sample Date	Aquifer Zone	Screen Interval	Elevation TOC (feet NAVD 88)	Depth to Water (feet BTOC)	GW Elevation (feet NAVD 88)															
BSCSS-HZ-MW-24 (cont.)																				
9/20/2022	Intermediate	25–35	41.527	5.6	35.927	-53				4,400							18	11		
2/7/2023	Intermediate	25–35	41.527	1.9	39.627	-7				7,600							23	7.0		
9/8/2023	Intermediate	25–35	41.527	5.61	35.917	80.3									9,500		26	8.0		
4/10/2024	Intermediate	25–35	39.78	4.78	35.00	-30.4	0.59	6.5							9,900	5,200	13		0.48	
9/24/2024	Intermediate	25–35	39.78	5.59	34.19	-47.8	1.87	4.0							10,000	4,400	30		0.33	
BSCSS-HZ-MW-26																				
12/4/2018	Intermediate	25–35	41.302	7.23	34.072	75.6									100 U		25	8.1	0.10 U	
5/30/2019	Intermediate	25–35	41.302	6.85	34.452	17									56 U		28	9.3		0.050 U
7/29/2019	Intermediate	25–35	41.302	7.34	33.962	-96.7									56 U		23	9.3		0.063
10/16/2019	Intermediate	25–35	41.302	7.91	33.392	152.3					56 U						24	11		
1/24/2020	Intermediate	25–35	41.302	6.86	34.442	36.3					56 U						23	14		
4/13/2020	Intermediate	25–35	41.302	6.33	34.972	-4.8					56 U						24	14		
7/17/2020	Intermediate	25–35	41.302	6.82	34.482	-13.7					56 U						24	13		
10/27/2020	Intermediate	25–35	41.302	7.34	33.962	110.7					56 U						27	13		
3/5/2021	Intermediate	25–35	41.302	6.66	34.642	84.4					56 U						13	7.0		
6/14/2021	Intermediate	25–35	41.302	6.99	34.312	13					56 U						23	13		
6/22/2021	Intermediate	25–35	41.302	--	--						120						23	12		
9/8/2022	Intermediate	25–35	41.302	11.98	29.322	43.3					56 U						23	11		
2/21/2023	Intermediate	25–35	41.302	9.83	31.472	121.7				34,000	56 U	17,000	63	12,000			21	13		
9/12/2023	Intermediate	25–35	41.302	11.14	30.162	315.8									56 U		22	14		
4/10/2024	Intermediate	25–35	44.48	10.16	34.32	102.9	2.33	0							56 U	63	22		0.053 U	
9/23/2024	Intermediate	25–35	44.48	11.14	33.34	146.4	0.55	0							56 U	75	23		0.053 U	
BSCSS-HZ-MW-29																				
12/10/2018	Intermediate	25–35	40.739	5.68	35.059	3.5									2,100		18	17	0.10 U	
5/31/2019	Intermediate	25–35	40.739	6.29	34.449	-2.3									10,000		5.0 U	18		0.65
7/17/2019	Intermediate	25–35	40.739	7.03	33.709	-93.7									9,300		5.0 U	16		0.76
10/24/2019	Intermediate	25–35	40.739	7.98	32.759	-9.6					9,500						5.0 U	13		
1/27/2020	Intermediate	25–35	40.739	6.41	34.329	42.1					12,000						6.9	14		
4/13/2020	Intermediate	25–35	40.739	6.31	34.429	-76.4					11,000						8.3	14		
7/17/2020	Intermediate	25–35	40.739	10.22	30.519	-49.1					10,000						5.0 U	13		
10/28/2020	Intermediate	25–35	40.739	6.88	33.859	-52.5					17,000						5.0 U	15		
3/5/2021	Intermediate	25–35	40.739	5.47	35.269	-144.6					17,000						5.4	15		
6/22/2021	Intermediate	25–35	40.739	6.7	34.039	-130.1					13,000						10	11		
9/20/2022	Intermediate	25–35	40.739	6.35	34.389	-35.4					9,200						16	10		
2/7/2023	Intermediate	25–35	40.739	5.16	35.579	-37.7					9,700						20	8.1		
9/8/2023	Intermediate	25–35	40.739	6.44	34.299	35.7									8,700		23	7.2		
4/10/2024	Intermediate	25–35	40.739	5.48	35.259	-48.5	1.50	-10,000							13,000	2,900	30		0.40	
9/24/2024	Intermediate	25–35	40.739	6.3	34.439	-70.8	1.49	3.6							8,400	2,100	18		0.28	

Table 4
All Wells: GW Elevations and Field Parameters

						Analyte Class	Field Parameters (cont.)			Total Metals					Dissolved Metals		Conventionals			
						Analyte	ORP	Turbidity	Ferrous iron	Calcium	Iron	Magnesium	Manganese	Sodium	Iron	Manganese	Sulfate	Chloride	Ammonia	Ammonia
						CAS No.	--	--	15438-31-0	7440-70-2	7439-89-6	7439-95-4	7439-96-5	7440-23-5	7439-89-6	7439-96-5	14808-79-8	16887-00-6	7664-41-7	7664-41-7
						MTCA Method A CUL [1]	--	--	--	--	--	--	--	--	--	--	--	--	--	--
						Unit	mV	ntu	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg-N/L
Sample Date	Aquifer Zone	Screen Interval	Elevation TOC (feet NAVD 88)	Depth to Water (feet BTOC)	GW Elevation (feet NAVD 88)															
BSCSS-HZ-MW-31																				
12/18/2018	Shallow	15–25	37	9.4	27.6	2								1,900		8.7	8.8	0.30	
5/29/2019	Shallow	15–25	37	9.34	27.66	19.8								20,000		5.0 U	8.7		0.26
7/23/2019	Shallow	15–25	37	9.45	27.55	-64								19,000		5.0 U	8.3		0.27
10/25/2019	Shallow	15–25	37	9.16	27.84	23.1				19,000						5.0 U	6.3		
1/28/2020	Shallow	15–25	37	8.75	28.25	69.1				18,000						5.0 U	6.7		
4/27/2020	Shallow	15–25	37	24.75	12.25	33.6				19,000						5.0 U	5.8		
7/29/2020	Shallow	15–25	37	9.02	27.98	-4.3								19,000		5.0 U	6.7		
10/29/2020	Shallow	15–25	37	9.21	27.79	-18.3				19,000						5.0 U	6.5		
3/5/2021	Shallow	15–25	37	8.3	28.7	-24.8				210						5.0 U	11		
6/21/2021	Shallow	15–25	37	6.35	30.65	-94.7				19,000						5.0 U	6.1		
9/29/2022	Shallow	15–25	37	9.06	27.94	-24.53				23,000						5.0 U	9.5		
2/6/2023	Shallow	15–25	37	8.2	28.8	-47.9				24,000						5.0 U	8.3		
9/26/2023	Shallow	15–25	37	8.61	28.39	111.2								23,000		7.9	7.1		
9/26/2024	Shallow	15–25	37	8.7	28.3	-78.6	21.00	3.6						28,000	430	26		0.40	
BSCSS-HZ-MW-33R																				
8/11/2021	Intermediate	25–35	35	7.93	27.07	102.6					56 U					11	6.3		
10/3/2022	Intermediate	25–35	35	--	--	106.3					190					12	5.2		
2/7/2023	Intermediate	25–35	35	--	--	146.8					56 U					11	4.7		
9/21/2023	Intermediate	25–35	35	--	--	216.1								56 U		9.7	4.0		
4/11/2024	Intermediate	25–35	35	--	--	105.9	0.92	0						56 U	65	10		0.053 U	
9/24/2024	Intermediate	25–35	38.38	--	--	82.5	0.88	0						3,900	1,400	6.9		0.053 U	
BSCSS-HZ-MW-34																				
12/7/2018	Shallow	15–25	37	5.77	31.23	0.9								5,800		7.8	14	0.10 U	
5/31/2019	Shallow	15–25	37	5.88	31.12	-17.2								10,000		5.7	13		0.050 U
7/17/2019	Shallow	15–25	37	6.41	30.59	-158.7								11,000		5.2	13		0.050 U
10/23/2019	Shallow	15–25	37	6.6	30.4	24.7				4,900						17	9.0		
1/27/2020	Shallow	15–25	37	5.22	31.78	48.8				6,200						5.0 U	14		
4/14/2020	Shallow	15–25	37	5.83	31.17	-21.8				11,000						5.1	13		
7/21/2020	Shallow	15–25	37	6.78	30.22	-42.7				6,700						5.0 U	12		
10/28/2020	Shallow	15–25	37	6.74	30.26	-19.7				9,300						11	9.5		
3/2/2021	Shallow	15–25	37	5.15	31.85	-43.5				11,000						17	8.8		
6/18/2021	Shallow	15–25	37	6.35	30.65	-135.1				3,700						71	4.1		
9/20/2022	Shallow	15–25	37	5.5	31.5	-4.2				4,500						21	7.0		
2/7/2023	Shallow	15–25	37	2.4	34.6	-22.4				4,000						21	11		
9/8/2023	Shallow	15–25	37	5.54	31.46	75.8								3,900		20	15		
4/10/2024	Shallow	15–25	39.69	4.64	35.05	-13	4.25	2.0						2,100	730	23		0.053 U	
9/24/2024	Shallow	15–25	39.69	5.52	34.17	46.6	3.98	2.0						1,900	590	27		0.056	

Table 4
All Wells: GW Elevations and Field Parameters

						Analyte Class	Field Parameters (cont.)			Total Metals					Dissolved Metals		Conventionals			
						Analyte	ORP	Turbidity	Ferrous iron	Calcium	Iron	Magnesium	Manganese	Sodium	Iron	Manganese	Sulfate	Chloride	Ammonia	Ammonia
						CAS No.	--	--	15438-31-0	7440-70-2	7439-89-6	7439-95-4	7439-96-5	7440-23-5	7439-89-6	7439-96-5	14808-79-8	16887-00-6	7664-41-7	7664-41-7
						MTCA Method A CUL [1]	--	--	--	--	--	--	--	--	--	--	--	--	--	--
						Unit	mV	ntu	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg-N/L
Sample Date	Aquifer Zone	Screen Interval	Elevation TOC (feet NAVD 88)	Depth to Water (feet BTOC)	GW Elevation (feet NAVD 88)															
BSCSS-S-MW-1																				
6/6/2019	Shallow	5.5–15.5	43.527	6	37.527	5									56 U		50	4.6		0.050 U
7/23/2019	Shallow	5.5–15.5	43.527	6.61	36.917	-74.5									56 U		26	4.8		0.15
10/23/2019	Shallow	5.5–15.5	43.527	6.18	37.347	164.3					56 U						23	4.2		
1/21/2020	Shallow	5.5–15.5	43.527	4.78	38.747	105.9					56 U						42	3.7		
4/23/2020	Shallow	5.5–15.5	43.527	5.01	38.517	1.3					56 U						57	4.4		
7/28/2020	Shallow	5.5–15.5	43.527	6.97	36.557	87.5					56 U						39	4.3		
11/2/2020	Shallow	5.5–15.5	43.527	7.3	36.227	88.9					56 U						64	3.6		
3/1/2021	Shallow	5.5–15.5	43.527	4.99	38.537	73.2					56 U						28	2.3		
6/14/2021	Shallow	5.5–15.5	43.527	7.23	36.297	60.2					56 U						25	2.7		
9/27/2022	Shallow	5.5–15.5	43.527	8.55	34.977	204.4					110						33	2.7		
2/16/2023	Shallow	5.5–15.5	43.527	6.87	36.657	193.5					56 U						40	2.8		
9/7/2023	Shallow	5.5–15.5	43.527	8.71	34.817	167.3									180		37	5.2		
9/25/2024	Shallow	5.5–15.5	45.25	8.29	36.96	125	7.99								56 U	11 U	76		0.053 U	
BSCSS-S-MW-2RR																				
8/5/2021	Shallow	5–15	39	6.65	32.35	-41.3					500						21	4.8		
9/8/2022	Shallow	5–15	39	8.6	30.4	-61.1					760						58	2.0 U		
2/10/2023	Shallow	5–15	39	6.85	32.15	-58.2					1,200						76	54		
9/12/2023	Shallow	5–15	39	8.88	30.12	68.6									2,000		84	34		
4/10/2024	Shallow	5–15	44.65	7.51	37.14	-60.6	1.64	3.5							3,000	3,100	430		6.6	
9/23/2024	Shallow	5–15	44.65	8.93	35.72	-97.1	0.82	2.0							2,500	1,900	120		6.0	
BSCSS-S-MW-3RR																				
8/20/2021	Intermediate	24–39	40	11.12	28.88	-317.2					56 U						17	10		
10/14/2022	Intermediate	24–39	40	--	--	192.1					56 U						19	3.3		
2/10/2023	Intermediate	24–39	40	13.9	26.1	44.7					120						18	3.7		
2/17/2024	Intermediate	24–39	40	9.11	30.89	11.6									56 U		29	4.1		
4/10/2024	Intermediate	24–39	40	10.58	29.42	-9.3	32.20	2.0							1,400	2,400	21		0.054	
BSCSS-S-MW-3RRR																				
9/26/2024	Intermediate	-	45.91	11.30	34.61	-44.1	45.20	0							56 U	510	27		0.053 U	

Table 4
All Wells: GW Elevations and Field Parameters

						Analyte Class	Field Parameters (cont.)			Total Metals					Dissolved Metals		Conventionals			
						Analyte	ORP	Turbidity	Ferrous iron	Calcium	Iron	Magnesium	Manganese	Sodium	Iron	Manganese	Sulfate	Chloride	Ammonia	Ammonia
						CAS No.	--	--	15438-31-0	7440-70-2	7439-89-6	7439-95-4	7439-96-5	7440-23-5	7439-89-6	7439-96-5	14808-79-8	16887-00-6	7664-41-7	7664-41-7
						MTCA Method A CUL [1]	--	--	--	--	--	--	--	--	--	--	--	--	--	--
						Unit	mV	ntu	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg-N/L
Sample Date	Aquifer Zone	Screen Interval	Elevation TOC (feet NAVD 88)	Depth to Water (feet BTOC)	GW Elevation (feet NAVD 88)															
BSCSS-S-MW-5R																				
8/11/2021	Shallow	15–25	39	8.3	30.7	109					56 U						14	4.8		
10/3/2022	Shallow	15–25	39	10.88	28.12	108.3					56 U						20	4.6		
2/10/2023	Shallow	15–25	39	7.14	31.86	113.7					56 U						20	4.5		
9/12/2023	Shallow	15–25	39	8.59	30.41	346.9									56 U		20	2.5		
4/10/2024	Shallow	15–25	43.66	7.56	36.10	124	0.64	0							56 U	170	22		0.053 U	
9/23/2024	Shallow	15–25	43.66	8.39	35.27	72.8	1.87	0							56 U	220	25		0.053 U	

Notes:

All blank cells are intentional.
All chemistry results are rounded to two significant figures.
Field parameters are reported as displayed by the sampling equipment.
-- Not available.
Italic Analyte was not detected at a reporting limit greater than the CUL.
RED/BOLD Analyte was detected at a concentration greater than the CUL.
Well is inactive or decommissioned.
1 CULs are based on MTCA Method A values, except for cis- and trans-1,2-Dichloroethene, which use MTCA Method B.

Abbreviations:

BTOC Below top of casing
°C Degrees Celsius
CAS Chemical Abstracts Service
CUL Cleanup level
ft Feet
GW Groundwater
µg/L Micrograms per liter
µS/cm Microsiemens per centimeter
mg/L Milligrams per kilogram
MTCA Model Toxics Control Act
mV Millivolts
NAVD 88 North American Vertical Datum of 1988
ntu Nephelometric turbidity unit
ORP Oxidation–reduction potential
TOC Top of casing
TPH Total petroleum hydrocarbons
VOC Volatile organic compound

Qualifiers:

J Analyte was detected; concentration is an estimate.
U Analyte was not detected at the associated reporting limit.
UJ Analyte was not detected at the associated reporting limit, which is an estimate.

Table 4
All Wells: GW Elevations and Field Parameters

Analyte Class						Conventionals (cont.)					Dissolved Gases		
Analyte						Ammonia (total as nitrogen)	Nitrate	Sulfide	Total Organic Carbon	Orthophosphate	Methane	Ethane	Ethene
CAS No.						--	14797-55-8	18496-25-8	TOC	14265-44-2	74-82-8	74-84-0	74-85-1
MTCA Method A CUL [1]						--	--	--	--	--	--	--	--
Unit						mg/L	mg-N/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Sample Date	Aquifer Zone	Screen Interval	Elevation TOC (feet NAVD 88)	Depth to Water (feet BTOC)	GW Elevation (feet NAVD 88)								
BSCSS-MW-4R													
8/2/2021	Shallow	10–25	42	9.33	32.67	0.050 U			3.8		3.4	0.00022 U	0.00029 U
8/30/2022	Shallow	10–25	42	7.68	34.32	0.050 U			6.1		15	0.00022 U	0.00029 U
2/20/2023	Shallow	10–25	42	6.46	35.54	0.050 U			3.0		9.9	0.00022 U	0.00029 U
9/15/2023	Shallow	10–25	42	7.89	34.11	0.061			2.4		11	0.00022 U	0.0037
4/9/2024	Shallow	10–25	44.56	6.90	37.66		0.069		3.2	0.096	6.1	0.00056 U	0.00058 U
9/25/2024	Shallow	10–25	44.56	7.58	36.98		0.050 U	0.46 J	59	0.23	6.3	0.00056 U	0.022
BSCSS-MW-5R													
8/3/2021	Shallow	10–25	42	8.3	33.7	0.050 U			2.1		1.3	0.00022 U	0.00029 U
9/1/2022	Shallow	10–25	42	8.64	33.36	0.050 U			1.4		6.5	0.00022 U	0.00029 U
2/20/2023	Shallow	10–25	42	8.9	33.1	0.050 U			1.2		7.1	0.00022 U	0.00029 U
9/20/2023	Shallow	10–25	42	8.63	33.37	0.050 U			1.1		8.6	0.00022 U	0.00029 U
4/9/2024	Shallow	10–25	44.68	7.70	36.98		0.25		1.7	0.012 U	5.6	0.00056 U	0.00058 U
9/25/2024	Shallow	10–25	44.68	7.90	36.78		0.050 U	0.050 U	2.1	0.061	6.7	0.00056 U	0.00058 U
BSCSS-MW-6													
12/21/2018	Shallow	10–25	47.567	8.79	38.777				14		0.081 UJ	0.16 U	0.15 U
2/22/2019	Shallow	10–25	47.567	7.79	39.777				13		0.71	0.016 U	0.015 U
5/22/2019	Shallow	10–25	47.567	8.46	39.107				20		1.0	0.0012	0.00050 U
7/25/2019	Shallow	10–25	47.567	9.06	38.507				22		0.73	0.00050 U	0.019
10/21/2019	Shallow	10–25	47.567	8.76	38.807	0.12			19		2.3	0.00050 U	0.00094
1/22/2020	Shallow	10–25	47.567	7.77	39.797	0.11			8.4		4.3	0.00022 U	0.028
4/17/2020	Shallow	10–25	47.567	8.19	39.377	0.10			10		0.76	0.00022 U	0.015
7/20/2020	Shallow	10–25	47.567	8.28	39.287	0.16			49		10	0.00022 U	0.071
10/19/2020	Shallow	10–25	47.567	8.83	38.737	3.9			63		8.8	0.00022 U	0.026
2/23/2021	Shallow	10–25	47.567	8.23	39.337	2.3			14		13	0.00022 U	0.016
6/15/2021	Shallow	10–25	47.567	9.37	38.197	4.0			10		2.9	0.00022 U	0.0048
9/12/2022	Shallow	10–25	47.567	--	--	3.5			8.0		4.3	0.0023	0.00029 U
2/20/2023	Shallow	10–25	47.567	--	--	4.0			14		6.6	0.00022 U	0.00029 U
9/14/2023	Shallow	10–25	47.567	--	--	2.6			14		9.8	0.00022 U	0.0019
4/9/2024	Shallow	10–25	44.77	--	--		0.11		13	0.92	6.5	0.00056 U	0.0023
9/25/2024	Shallow	10–25	44.77	--	--		0.050 U	0.18 J	9.4	1.3	4.8	0.00056 U	0.0028
BSCSS-MW-7													
5/24/2019	Shallow	10–25	45.957	7.96	37.997				2.3		0.049	0.0030 U	0.0030 U
6/18/2021	Shallow	10–25	45.957	8.73	37.227	0.056			2.5		3.2	0.00022 U	0.00029 U
9/28/2022	Shallow	10–25	45.957	8.41	37.547	0.078			3.1		12	0.00022 U	0.0032
2/21/2023	Shallow	10–25	45.957	7.05	38.907	0.050 U			3.2		4.6	0.00022 U	0.00029 U
9/15/2023	Shallow	10–25	45.957	8.34	37.617	0.050 U			12		9.2	0.00022 U	0.00029 U
4/9/2024	Shallow	10–25	44.51	7.33	37.18		0.064		3.0	0.015	6.6	0.00056 U	0.00058 U
9/25/2024	Shallow	10–25	44.51	8.23	36.28		0.065	0.53 J	28	0.092	6.2	0.00056 U	0.0017

Table 4
All Wells: GW Elevations and Field Parameters

Analyte Class						Conventionals (cont.)					Dissolved Gases		
Analyte						Ammonia (total as nitrogen)	Nitrate	Sulfide	Total Organic Carbon	Orthophosphate	Methane	Ethane	Ethene
CAS No.						--	14797-55-8	18496-25-8	TOC	14265-44-2	74-82-8	74-84-0	74-85-1
MTCA Method A CUL [1]						--	--	--	--	--	--	--	--
Unit						mg/L	mg-N/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Sample Date	Aquifer Zone	Screen Interval	Elevation TOC (feet NAVD 88)	Depth to Water (feet BTOC)	GW Elevation (feet NAVD 88)								
BSCSS-MW-11													
12/20/2018	Intermediate	25–33	47.677	8.56	39.117				9.0		0.11	0.16 U	0.15 U
2/21/2019	Intermediate	25–33	47.677	7.9	39.777				24		0.87	0.016 U	0.015 U
5/22/2019	Intermediate	25–33	47.677	8.48	39.197				27		0.49	0.00050 U	0.00050 U
7/25/2019	Intermediate	25–33	47.677	9.12	38.557				26		1.1	0.00050 U	0.00050 U
10/21/2019	Intermediate	25–33	47.677	8.92	38.757	0.050 U			34		1.0	0.00050 U	0.00050 U
1/22/2020	Intermediate	25–33	47.677	8.09	39.587	1.3			11		2.0	0.00022 U	0.0052
4/17/2020	Intermediate	25–33	47.677	8.49	39.187	0.25			17		0.062	0.00022 U	0.0068
7/20/2020	Intermediate	25–33	47.677	8.74	38.937	0.28			92		15	0.00022 U	0.050
10/19/2020	Intermediate	25–33	47.677	9	38.677	5.1			60		9.7	0.00022 U	0.019
2/26/2021	Intermediate	25–33	47.677	8.02	39.657	3.5			7.4		11	0.00022 U	0.018
6/15/2021	Intermediate	25–33	47.677	9.24	38.437	1.5			6.7		1.6	0.00022 U	0.0049
9/28/2022	Intermediate	25–33	47.677	7.5	40.177	0.27			3.8		3.0	0.00022 U	0.0032
2/20/2023	Intermediate	25–33	47.677	6.1	41.577	0.20			4.1		1.6	0.00022 U	0.0039
9/14/2023	Intermediate	25–33	47.677	7.51	40.167	0.17			3.0		0.81	0.00022 U	0.0016
4/9/2024	Intermediate	25–33	44.75	6.52	38.23		0.050 U		4.0	0.31	1.1	0.00056 U	0.0024
9/24/2024	Intermediate	25–33	44.75	7.12	37.63		0.050 U		3.9	0.23	2.0	0.00056 U	0.0011
BSCSS-MW-12													
5/24/2019	Intermediate	25–33	45.837	7.92	37.917				2.5		3.7	0.25 U	0.25 U
7/22/2019	Intermediate	25–33	45.837	8.4	37.437				2.8		3.2	0.00050 U	0.00050 U
10/18/2019	Intermediate	25–33	45.837	9.07	36.767	0.050 U			2.1		3.3	0.00050 U	0.00050 U
1/27/2020	Intermediate	25–33	45.837	7.8	38.037	0.050 U			2.3		2.4	0.00022 U	0.00029 U
4/21/2020	Intermediate	25–33	45.837	7.64	38.197	0.050 U			2.9		3.6	0.00022 U	0.00029 U
7/22/2020	Intermediate	25–33	45.837	6.45	39.387	0.050 U			3.3		7.5	0.00022 U	0.00029 U
10/21/2020	Intermediate	25–33	45.837	8.83	37.007	0.050 U			3.4		7.4	0.033 U	0.043 U
3/3/2021	Intermediate	25–33	45.837	8	37.837	0.050 U			3.9		10	0.00022 U	0.00069
6/15/2021	Intermediate	25–33	45.837	8.77	37.067	0.050 U			3.6		1.8	0.00022 U	0.00029 U
9/27/2022	Intermediate	25–33	45.837	7.9	37.937	0.050 U			23		11	0.00022 U	0.014
2/20/2023	Intermediate	25–33	45.837	6.55	39.287	0.050 U			11		8.3	0.00022 U	0.013
9/15/2023	Intermediate	25–33	45.837	7.91	37.927	0.054			4.0		14	0.00022 U	0.00029 U
4/9/2024	Intermediate	25–33	44.22	6.98	37.24		0.14		7.5	0.36	7.3	0.00056 U	0.00058 U
9/25/2024	Intermediate	25–33	44.22	7.92	36.30		0.059	0.050 U	4.0	0.31	6.7	0.00056 U	0.0048
BSCSS-MW-20R													
6/22/2021	Intermediate	25–30	43	8.32	34.68	0.17			12		4.1	0.00022 U	0.011
9/1/2022	Intermediate	25–30	43	7.8	35.2	0.16			9.2		7.1	0.0036	0.077
2/2/2023	Intermediate	25–30	43	6.52	36.48	0.10			6.2		4.7	0.0040	0.066
9/19/2023	Intermediate	25–30	43	7.96	35.04	0.093			4.2		5.0	0.0032	0.032
4/9/2024	Intermediate	25–30	43	6.91	36.09		0.050 U		4.8	1.8	3.0	0.00056 U	0.014
9/24/2024	Intermediate	25–30	43	7.39	35.61		0.050 U		4.4	1.2	2.8	0.00056 U	0.020

Table 4
All Wells: GW Elevations and Field Parameters

Analyte Class						Conventionals (cont.)					Dissolved Gases		
Analyte						Ammonia (total as nitrogen)	Nitrate	Sulfide	Total Organic Carbon	Orthophosphate	Methane	Ethane	Ethene
CAS No.						--	14797-55-8	18496-25-8	TOC	14265-44-2	74-82-8	74-84-0	74-85-1
MTCA Method A CUL [1]						--	--	--	--	--	--	--	--
Unit						mg/L	mg-N/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Sample Date	Aquifer Zone	Screen Interval	Elevation TOC (feet NAVD 88)	Depth to Water (feet BTOC)	GW Elevation (feet NAVD 88)								
BSCSS-MW-21R													
8/3/2021	Shallow	10–15	42	8.74	33.26	0.050 U			2.0		4.1	0.00022 U	0.00029 U
8/30/2022	Shallow	10–15	42	8.5	33.5	0.050 U			3.2		0.22	0.00022 U	0.00029 U
2/3/2023	Shallow	10–15	42	7.5	34.5	0.050 U			2.9		1.2	0.00022 U	0.00029 U
9/19/2023	Shallow	10–15	42	8.55	33.45	0.083			1.7		0.56	0.00022 U	0.00029 U
4/9/2024	Shallow	10–15	44.71	7.49	37.22		0.087		2.5	0.033	2.5	0.00056 U	0.00058 U
9/24/2024	Shallow	10–15	44.71	7.45	37.26		0.050 U		8.7	0.064	0.59	0.00056 U	0.00058 U
BSCSS-MW-23													
12/5/2018	Shallow	6–16	48.027	8.7	39.327				2.4		0.085	0.016 U	0.015 U
2/12/2019	Shallow	6–16	48.027	8.18	39.847				1.2		0.0086 U	0.016 U	0.015 U
6/4/2019	Shallow	6–16	48.027	8.57	39.457				1.6		0.14	0.0075 U	0.0075 U
6/17/2021	Shallow	6–16	48.027	8.91	39.117	0.050 U			3.4		1.4	0.00022 U	0.00029 U
10/14/2022	Shallow	6–16	48.027	10.45	37.577	0.050 U			3.0		0.41	0.00022 U	0.00029 U
2/6/2023	Shallow	6–16	48.027	10	38.027	0.050 U			1.9		3.4	0.00022 U	0.00029 U
9/27/2023	Shallow	6–16	48.027	10.23	37.797	0.050 U			1.5		0.40	0.00022 U	0.00029 U
4/11/2024	Shallow	6–16	48.027	10.44	37.587		3.7		2.0	0.012 U	0.11	0.00056 U	0.00058 U
9/23/2024	Shallow	6–16	49.31	11.25	38.06		4.5		1.7	0.012 U	0.00055 U	0.00056 U	0.00058 U
BSCSS-MW-27													
12/12/2018	Shallow	6–16	48.487	10.09	38.397				0.79		0.0086 U	0.016 U	0.015 U
5/24/2019	Shallow	6–16	48.487	9.65	38.837				1.0 U		0.0010 U	0.00050 U	0.00050 U
7/16/2019	Shallow	6–16	48.487	10.39	38.097				1.0 U		0.0010 U	0.00050 U	0.00050 U
10/18/2019	Shallow	6–16	48.487	10.05	38.437	0.050 U			8.7		0.0010 U	0.00050 U	0.00050 U
1/29/2020	Shallow	6–16	48.487	8.22	40.267	0.050 U			1.3		0.00055 U	0.00022 U	0.00029 U
4/16/2020	Shallow	6–16	48.487	8.87	39.617	0.050 U			1.0 U		0.00055 U	0.00022 U	0.00029 U
7/27/2020	Shallow	6–16	48.487	9.95	38.537	0.050 U			1.2		0.00055 U	0.00022 U	0.00029 U
10/19/2020	Shallow	6–16	48.487	9.98	38.507	0.050 U			1.0		0.0036	0.00022 U	0.00029 U
2/26/2021	Shallow	6–16	48.487	7.87	40.617	0.050 U			1.0 U		1.3	0.0033 U	0.0043 U
6/17/2021	Shallow	6–16	48.487	9.87	38.617	0.050 U			1.0 U		0.68	0.00022 U	0.00029 U
9/22/2022	Shallow	6–16	48.487	10.22	38.267	0.056			3.9		0.46	0.00022 U	0.00029 U
2/21/2023	Shallow	6–16	48.487	8.59	39.897	0.050 U			1.5		2.3	0.00022 U	0.00029 U
9/7/2023	Shallow	6–16	48.487	10.33	38.157	0.050 U			1.6		0.70	0.00022 U	0.00029 U
4/11/2024	Shallow	6–16	48.487	9.15	39.337		0.90		1.3	0.012 U	1.2	0.00056 U	0.00058 U
9/25/2024	Shallow	6–16	47.49	10.01	37.48		0.34		1.2	0.012 U	0.60	0.00056 U	0.00058 U
BSCSS-MW-29													
12/12/2018	Deep	45–55	48.497	10.25	38.247				3.0		0.040	0.016 U	0.015 U
6/4/2019	Deep	45–55	48.497	10.08	38.417				2.2		0.32	0.015 U	0.015 U
7/16/2019	Deep	45–55	48.497	10.61	37.887				2.1		0.35	0.00050 U	0.00050 U
10/18/2019	Deep	45–55	48.497	10.48	38.017	0.29			2.2		0.39	0.00050 U	0.00050 U
1/29/2020	Deep	45–55	48.497	9.61	38.887	0.24			1.9		0.36	0.00022 U	0.00029 U
4/16/2020	Deep	45–55	48.497	9.71	38.787	0.25			2.0		0.093	0.00022 U	0.00029 U

Table 4
All Wells: GW Elevations and Field Parameters

Analyte Class						Conventionals (cont.)					Dissolved Gases		
Analyte						Ammonia (total as nitrogen)	Nitrate	Sulfide	Total Organic Carbon	Orthophosphate	Methane	Ethane	Ethene
CAS No.						--	14797-55-8	18496-25-8	TOC	14265-44-2	74-82-8	74-84-0	74-85-1
MTCA Method A CUL [1]						--	--	--	--	--	--	--	--
Unit						mg/L	mg-N/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Sample Date	Aquifer Zone	Screen Interval	Elevation TOC (feet NAVD 88)	Depth to Water (feet BTOC)	GW Elevation (feet NAVD 88)								
BSCSS-MW-29 (cont.)													
7/24/2020	Deep	45–55	48.497	--	--	0.050 U			1.0 U		0.00055 U	0.00022 U	0.00029 U
8/10/2020	Deep	45–55	48.497	10.54	37.957	0.29			2.0		0.17	0.00022 U	0.00029 U
10/19/2020	Deep	45–55	48.497	10.4	38.097	0.28			2.0		0.20	0.00044 U	0.00058 U
2/26/2021	Deep	45–55	48.497	9.36	39.137	0.27			2.3		0.11	0.00022 U	0.00029 U
6/17/2021	Deep	45–55	48.497	10.43	38.067	0.30			2.3		0.059	0.00022 U	0.00029 U
9/22/2022	Deep	45–55	48.497	10.1	38.397	0.27			1.9		0.22	0.00022 U	0.00029 U
2/10/2023	Deep	45–55	48.497	8.71	39.787	0.21			1.8		0.23	0.00022 U	0.00029 U
9/7/2023	Deep	45–55	48.497	10.2	38.297	0.28			1.7		0.18	0.00022 U	0.00029 U
9/23/2024	Deep	45–55	48.03	10.61	37.42		0.050 U		1.7	0.27	0.30	0.00056 U	0.00058 U
BSCSS-MW-34													
12/11/2018	Deep	40–50	47.187	8.5	38.687				1.2		0.010	0.016 U	0.015 U
2/21/2019	Deep	40–50	47.187	7.59	39.597				1.5		0.027	0.016 U	0.015 U
6/3/2019	Deep	40–50	47.187	8.28	38.907				1.8		0.14	0.0075 U	0.0075 U
6/15/2021	Deep	40–50	47.187	8.65	38.537	0.050 U			1.8		0.29	0.00022 U	0.00029 U
9/1/2022	Deep	40–50	47.187	7.7	39.487	0.050 U			1.9		0.30	0.00022 U	0.00029 U
2/3/2023	Deep	40–50	47.187	6.65	40.537	0.050 U			1.6		0.34	0.00022 U	0.00029 U
9/14/2023	Deep	40–50	47.187	7.55	39.637	0.078			1.5		0.0017	0.00022 U	0.00029 U
4/9/2024	Deep	40–50	44.48	6.65	37.83		0.055		2.8	0.030	0.026	0.00056 U	0.00058 U
9/24/2024	Deep	40–50	44.48	7.41	37.07		0.050 U		1.9	0.029	0.044	0.00056 U	0.00058 U
BSCSS-MW-39													
12/17/2018	Deep	40–50	44.885	6.33	38.555				3.4		0.36	0.016 U	0.015 U
3/13/2019	Deep	40–50	44.885	6.32	38.565				4.2		0.55	0.016 U	0.015 U
5/29/2019	Deep	40–50	44.885	6.49	38.395				3.3		1.1	0.10 U	0.10 U
7/23/2019	Deep	40–50	44.885	7.02	37.865				2.9		1.0	0.00050 U	0.00050 U
10/24/2019	Deep	40–50	44.885	6.94	37.945	0.48			3.1		0.91	0.00050 U	0.00050 U
1/28/2020	Deep	40–50	44.885	5.53	39.355	0.53			3.2		0.67	0.00022 U	0.00029 U
4/27/2020	Deep	40–50	44.885	6.17	38.715	0.050 U			2.1		0.0011	0.00022 U	0.00029 U
7/29/2020	Deep	40–50	44.885	6.92	37.965	0.64			3.6		0.68	0.00022 U	0.00029 U
10/22/2020	Deep	40–50	44.885	6.99	37.895	0.56			3.3		0.66	0.0022 U	0.0029 U
3/5/2021	Deep	40–50	44.885	--	--	0.27			3.2		0.56	0.0022 U	0.0029 U
3/12/2021	Deep	40–50	44.885	6.29	38.595	0.50			2.9		0.11	0.00022 U	0.00029 U
6/21/2021	Deep	40–50	44.885	7.34	37.545	0.59			3.9		0.19	0.00022 U	0.00029 U
9/29/2022	Deep	40–50	44.885	7.86	37.025	0.57			5.0		0.30	0.00022 U	0.0020
2/6/2023	Deep	40–50	44.885	7.15	37.735	0.44			4.8		0.41	0.00022 U	0.00029 U
9/26/2023	Deep	40–50	44.885	7.68	37.205	0.38			4.5		0.26	0.00022 U	0.0031
4/11/2024	Deep	40–50	44.885	6.77	38.115		0.050 U		5.8	0.17	0.33	0.00056 U	0.00058 U
9/26/2024	Deep	40–50	44.54	7.64	36.90		0.054		4.7	0.14	0.37	0.00056 U	0.00058 U

Table 4
All Wells: GW Elevations and Field Parameters

Analyte Class						Conventionals (cont.)					Dissolved Gases		
Analyte						Ammonia (total as nitrogen)	Nitrate	Sulfide	Total Organic Carbon	Orthophosphate	Methane	Ethane	Ethene
CAS No.						--	14797-55-8	18496-25-8	TOC	14265-44-2	74-82-8	74-84-0	74-85-1
MTCA Method A CUL [1]						--	--	--	--	--	--	--	--
Unit						mg/L	mg-N/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Sample Date	Aquifer Zone	Screen Interval	Elevation TOC (feet NAVD 88)	Depth to Water (feet BTOC)	GW Elevation (feet NAVD 88)								
BSCSS-MW-40													
12/17/2018	Shallow	15–25	45.001	6.28	38.721				1.1		0.0086 U	0.016 U	0.015 U
3/13/2019	Shallow	15–25	45.001	6.29	38.711				2.0		0.0096	0.016 U	0.015 U
5/29/2019	Shallow	15–25	45.001	6.49	38.511				11		0.47	0.011	0.025 U
7/23/2019	Shallow	15–25	45.001	7	38.001				12		0.49	0.0082	0.00050 U
10/25/2019	Shallow	15–25	45.001	6.82	38.181	0.14			13		0.51	0.00050 U	0.0016
1/28/2020	Shallow	15–25	45.001	5.51	39.491	0.33			10		10	0.00022 U	0.12
4/27/2020	Shallow	15–25	45.001	6.48	38.521	0.24			9.9		5.6	0.00022 U	0.13
7/29/2020	Shallow	15–25	45.001	7.01	37.991	11			69		11	0.00022 U	0.48
10/29/2020	Shallow	15–25	45.001	7.04	37.961	0.64			7.4		10	0.016	0.36
3/5/2021	Shallow	15–25	45.001	--	--	0.49			4.9		8.8	0.024	0.25
3/12/2021	Shallow	15–25	45.001	6.5	38.501	0.42			4.9		5.0	0.00022 U	0.14
6/21/2021	Shallow	15–25	45.001	6.98	38.021	0.54			4.8		2.3	0.0042	0.050
9/29/2022	Shallow	15–25	45.001	8.18	36.821	0.58			5.4		0.97	0.0012	0.063
2/6/2023	Shallow	15–25	45.001	6.4	38.601	0.23			2.1		0.80	0.00038	0.038
9/26/2023	Shallow	15–25	45.001	7.44	37.561	0.69			5.5		1.8	0.0066	0.15
4/11/2024	Shallow	15–25	45.001	7.73	37.27		0.11		7.0	0.27	0.26	0.00056	0.049
9/26/2024	Shallow	15–25	44.57	9.60	34.97		0.054		6.0	0.49	0.42	0.0026	0.096
BSCSS-MW-42													
12/14/2018	Intermediate	30–45	--	--	--				5.3		0.71	0.016 U	0.015 U
1/3/2019	Intermediate	30–45	--	--	--								
3/18/2019	Intermediate	30–45	--	8.79	--				1.9		0.18	0.016 U	0.015 U
6/5/2019	Intermediate	30–45	--	9.11	--				2.3		4.1	0.25 U	0.25 U
7/29/2019	Intermediate	30–45	--	9.65	--				1.7		2.5	0.00050 U	0.00050 U
10/22/2019	Intermediate	30–45	--	9.29	--				3.9				
1/29/2020	Intermediate	30–45	--	8.49	--	0.16			6.3		7.1	0.00022 U	0.00029 U
4/16/2020	Intermediate	30–45	--	8.88	--	0.21			3.5		8.9	0.00022 U	0.012
7/24/2020	Intermediate	30–45	--	9.08	--	0.41			5.5		5.0	0.00022 U	0.037
10/26/2020	Intermediate	30–45	--	9.26	--	0.39			46		14	0.00022 U	0.014
3/1/2021	Intermediate	30–45	--	8.33	--	1.3			7.7		5.9	0.022 U	0.029 U
6/11/2021	Intermediate	30–45	--	9.37	--	1.7			3.8		6.1	0.00022 U	0.00029 U
9/29/2022	Intermediate	30–45	--	12.63	--	6.5			3.4		2.6	0.00022 U	0.00029 U
2/8/2023	Intermediate	30–45	--	10.73	--	6.9			2.7		4.2	0.00022 U	0.00029 U
9/22/2023	Intermediate	30–45	--	12.15	--	6.5			2.6		8.2	0.00022 U	0.00029 U
4/10/2024	Intermediate	30–45	--	11.19	--		0.19		4.3	4.2	6.7	0.00056 U	0.00058 U
9/26/2024	Intermediate	30–45	50.11	11.97	38.14		0.061		2.9	3.6	5.0	0.00056 U	0.00058 U

Table 4
All Wells: GW Elevations and Field Parameters

Analyte Class						Conventionals (cont.)					Dissolved Gases		
Analyte						Ammonia (total as nitrogen)	Nitrate	Sulfide	Total Organic Carbon	Orthophosphate	Methane	Ethane	Ethene
CAS No.						--	14797-55-8	18496-25-8	TOC	14265-44-2	74-82-8	74-84-0	74-85-1
MTCA Method A CUL [1]						--	--	--	--	--	--	--	--
Unit						mg/L	mg-N/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Sample Date	Aquifer Zone	Screen Interval	Elevation TOC (feet NAVD 88)	Depth to Water (feet BTOC)	GW Elevation (feet NAVD 88)								
BSCSS-MW-43R													
6/23/2021	Shallow	10–25	47	7.65	39.35	0.18			26		3.1	0.00022 U	0.0045
9/29/2022	Shallow	10–25	47	11.22	35.78	0.21			3.2		2.9	0.00022 U	0.00029 U
2/8/2023	Shallow	10–25	47	7.89	39.11	0.050 U			4.3		1.5	0.00022 U	0.00029 U
9/22/2023	Shallow	10–25	47	10.5	36.5	0.14			2.4		3.0	0.00022 U	0.00029 U
4/10/2024	Shallow	10–25	47	9.47	37.53		0.79		3.9	0.12	2.4	0.00056 U	0.00058 U
9/26/2024	Shallow	10–25	49.79	10.99	38.80		0.12		3.1	0.14	2.7	0.00056 U	0.00058 U
BSCSS-MW-44R													
6/23/2021	Intermediate	20–30	44	8.07	35.93	3.2			4.2		2.3	0.00022 U	0.0050
9/27/2022	Intermediate	20–30	44	8.14	35.86	4.1			4.8		0.69	0.00057	0.00030
2/8/2023	Intermediate	20–30	44	6.7	37.3	4.2			4.5		1.2	0.00023	0.00046
9/22/2023	Intermediate	20–30	44	8.15	35.85	3.0			5.7		0.62	0.00022 U	0.00029 U
9/26/2024	Intermediate	20–30	44.85	7.79	37.06		0.050 U		6.6	1.7	1.7	0.00056 U	0.00058 U
BSCSS-MW-45R													
6/23/2021	Shallow	7–17	43	8.07	34.93	0.053			3.3		0.39	0.00022 U	0.00058
9/1/2022	Shallow	7–17	43	7.95	35.05	0.088			18		0.0022	0.00022 U	0.00029 U
2/2/2023	Shallow	7–17	43	5.54	37.46	0.050 U			8.9		0.0016	0.00022 U	0.00029 U
9/19/2023	Shallow	7–17	43	8.04	34.96	0.050 U			5.9		0.42	0.00022 U	0.00029 U
4/9/2024	Shallow	7–17	44.55	5.67	38.88		0.052		310	0.031	3.5	0.00056 U	0.00058 U
9/24/2024	Shallow	7–17	44.55	7.85	36.70		0.050 U		14	0.022	6.5	0.00056 U	0.00058 U
BSCSS-HZ-MW-1													
12/19/2018	Shallow	5–15	41.997	6.94	35.057				1.2		0.0086 U	0.016 U	0.015 U
5/30/2019	Shallow	5–15	41.997	6.81	35.187				1.1		0.0014	0.00050 U	0.00050 U
7/29/2019	Shallow	5–15	41.997	7.2	34.797				1.0		0.0010 U	0.00050 U	0.00050 U
10/21/2019	Shallow	5–15	41.997	7.45	34.547	0.050 U			1.1		0.0010 U	0.00050 U	0.00050 U
1/24/2020	Shallow	5–15	41.997	6.39	35.607	0.050 U			1.2		1.5	0.00022 U	0.00029 U
4/14/2020	Shallow	5–15	41.997	6.33	35.667	0.050 U			1.6		12	0.00022 U	0.00029 U
7/17/2020	Shallow	5–15	41.997	6.88	35.117	0.050 U			1.7		18	0.00022 U	0.00029 U
10/27/2020	Shallow	5–15	41.997	7.42	34.577	0.13			1.7		7.4	0.00022 U	0.00029 U
3/4/2021	Shallow	5–15	41.997	5.34	36.657	0.31			2.7		8.4	0.00022 U	0.0012
6/15/2021	Shallow	5–15	41.997	7.15	34.847	0.14			2.7		1.9	0.00022 U	0.00085
9/12/2022	Shallow	5–15	41.997	9.9	32.097	0.14			2.2		0.30	0.00022 U	0.00029 U
2/15/2023	Shallow	5–15	41.997	8.64	33.357	0.050 U			3.3		6.2	0.00022 U	0.00029 U
9/20/2023	Shallow	5–15	41.997	9.81	32.187	0.058			3.6		7.3	0.00022 U	0.00029 U
4/10/2024	Shallow	5–15	43.71	8.81	34.90		0.052		2.7	0.21	7.3	0.00056 U	0.0013
9/24/2024	Shallow	5–15	43.71	8.94	34.77		0.050 U		5.9	0.14	3.2	0.00056 U	0.00089

Table 4
All Wells: GW Elevations and Field Parameters

Analyte Class						Conventionals (cont.)					Dissolved Gases		
Analyte						Ammonia (total as nitrogen)	Nitrate	Sulfide	Total Organic Carbon	Orthophosphate	Methane	Ethane	Ethene
CAS No.						--	14797-55-8	18496-25-8	TOC	14265-44-2	74-82-8	74-84-0	74-85-1
MTCA Method A CUL [1]						--	--	--	--	--	--	--	--
Unit						mg/L	mg-N/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Sample Date	Aquifer Zone	Screen Interval	Elevation TOC (feet NAVD 88)	Depth to Water (feet BTOC)	GW Elevation (feet NAVD 88)								
BSCSS-HZ-MW-14D													
12/13/2018	Intermediate	30–40	42.777	6.7	36.077				0.97		0.052	0.016 U	0.015 U
5/21/2019	Intermediate	30–40	42.777	6.16	36.617				1.0 U		0.18	0.010 U	0.010 U
7/29/2019	Intermediate	30–40	42.777	6.92	35.857				1.0		0.92	0.00050 U	0.00050 U
10/16/2019	Intermediate	30–40	42.777	7.7	35.077	0.050 U			1.0 U		1.5	0.00050 U	0.00050 U
1/22/2020	Intermediate	30–40	42.777	5.98	36.797	0.050 U			1.2		2.6	0.00022 U	0.00029 U
4/15/2020	Intermediate	30–40	42.777	6.14	36.637	0.050 U			1.2		1.8	0.00022 U	0.00029 U
7/21/2020	Intermediate	30–40	42.777	6.78	35.997	0.050 U			1.2		2.6	0.00022 U	0.00029 U
10/28/2020	Intermediate	30–40	42.777	7.34	35.437	0.050 U			1.2		1.7	0.00022 U	0.00029 U
3/4/2021	Intermediate	30–40	42.777	5.84	36.937	0.050 U			1.4		2.4	0.00022 U	0.00029 U
6/15/2021	Intermediate	30–40	42.777	6.88	35.897	0.050 U			1.6		0.40	0.00022 U	0.00029 U
9/6/2022	Intermediate	30–40	42.777	9.3	33.477	0.050 U			2.6		0.39	0.00091	0.00043
2/3/2023	Intermediate	30–40	42.777	8.36	34.417	0.050 U			2.5		0.15	0.0011	0.00029 U
9/21/2023	Intermediate	30–40	42.777	9.6	33.177	0.050 U			2.1		0.072	0.00022 U	0.00029 U
4/9/2024	Intermediate	30–40	44.49	8.55	35.94		0.050 U		2.8	0.024	0.20	0.00056 U	0.00058 U
9/24/2024	Intermediate	30–40	44.49	9.51	34.98		0.050 U		2.5	0.026	0.21	0.00056 U	0.00058 U
BSCSS-HZ-MW-14S													
12/13/2018	Shallow	5–15	42.767	6.23	36.537				1.9		0.0086 U	0.016 U	0.015 U
5/21/2019	Shallow	5–15	42.767	6.43	36.337				1.7		0.053	0.0050 U	0.0050 U
7/25/2019	Shallow	5–15	42.767	6.31	36.457				1.8		0.018	0.00050 U	0.00050 U
10/16/2019	Shallow	5–15	42.767	6.99	35.777	0.050 U			1.9		0.29	0.00050 U	0.00050 U
1/22/2020	Shallow	5–15	42.767	5.65	37.117	0.050 U			2.8		0.014	0.00022 U	0.00029 U
4/15/2020	Shallow	5–15	42.767	5.76	37.007	0.050 U			2.1		6.9	0.00022 U	0.019
7/21/2020	Shallow	5–15	42.767	7.45	35.317	0.050 U			2.0		8.6	0.00022 U	0.015
10/23/2020	Shallow	5–15	42.767	7.13	35.637	0.051			2.0		9.5	0.00022 U	0.015
3/3/2021	Shallow	5–15	42.767	4.33	38.437	0.050 U			2.5		9.5	0.00022 U	0.016
6/15/2021	Shallow	5–15	42.767	6.8	35.967	0.10			2.7		2.3	0.00022 U	0.0043
9/6/2022	Shallow	5–15	42.767	9.45	33.317	0.066			3.0		4.0	0.00022 U	0.00029 U
2/21/2023	Shallow	5–15	42.767	8.5	34.267	0.050 U			1.9		7.9	0.00022 U	0.00029 U
9/21/2023	Shallow	5–15	42.767	9.63	33.137	0.050 U			2.1		11	0.00022 U	0.00029 U
4/9/2024	Shallow	5–15	44.61	8.70	35.91		0.065		2.8	0.057	8.9	0.00056 U	0.00058 U
9/24/2024	Shallow	5–15	44.61	9.23	35.38		0.12		2.3	0.088	0.27	0.00056 U	0.00058 U
BSCSS-HZ-MW-15D													
12/27/2018	Intermediate	20–30	41.997	4.23	37.767				1.1		0.046 UJ	0.16 U	0.15 U
6/4/2019	Intermediate	20–30	41.997	6.11	35.887				1.5		5.0	0.25 U	0.25 U
7/23/2019	Intermediate	20–30	41.997	6.83	35.167				1.6		5.0	0.00050 U	0.00050 U
10/17/2019	Intermediate	20–30	41.997	7.02	34.977	0.050 U			1.3		5.0	0.00050 U	0.00050 U
1/22/2020	Intermediate	20–30	41.997	6.05	35.947	0.050 U			1.2		2.4	0.00022 U	0.00029 U
4/15/2020	Intermediate	20–30	41.997	6.67	35.327	0.050 U			1.2		3.0	0.00022 U	0.00029 U

Table 4
All Wells: GW Elevations and Field Parameters

						Analyte Class	Conventionals (cont.)					Dissolved Gases		
						Analyte	Ammonia (total as nitrogen)	Nitrate	Sulfide	Total Organic Carbon	Orthophosphate	Methane	Ethane	Ethene
						CAS No.	--	14797-55-8	18496-25-8	TOC	14265-44-2	74-82-8	74-84-0	74-85-1
						MTCA Method A CUL [1]	--	--	--	--	--	--	--	--
						Unit	mg/L	mg-N/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Sample Date	Aquifer Zone	Screen Interval	Elevation TOC (feet NAVD 88)	Depth to Water (feet BTOC)	GW Elevation (feet NAVD 88)									
BSCSS-HZ-MW-15D (cont.)														
7/22/2020	Intermediate	20–30	41.997	6.45	35.547		0.050 U			1.4		4.0	0.00022 U	0.00029 U
10/23/2020	Intermediate	20–30	41.997	6.79	35.207		0.050 U			1.0 U		4.6	0.022 U	0.029 U
3/3/2021	Intermediate	20–30	41.997	6.23	35.767		0.050 U			1.0 U		6.1	0.00022 U	0.00029 U
6/22/2021	Intermediate	20–30	41.997	5.8	36.197		0.050 U			1.6		1.9	0.00022 U	0.00029 U
9/8/2022	Intermediate	20–30	41.997	9.44	32.557		0.050 U			1.3		8.2	0.00022 U	0.00029 U
2/21/2023	Intermediate	20–30	41.997	8.3	33.697		0.050 U			1.2		6.5	0.00022 U	0.00029 U
9/20/2023	Intermediate	20–30	41.997	9.68	32.317		0.050 U			1.3		5.7	0.00022 U	0.00029 U
4/10/2024	Intermediate	20–30	44.60	8.61	35.99			0.050 U		1.6	0.020	7.4	0.00056 U	0.00058 U
9/24/2024	Intermediate	20–30	44.60	9.58	35.02			0.050 U		1.4	0.018	4.8	0.00056 U	0.00058 U
BSCSS-HZ-MW-15S														
12/27/2018	Shallow	10–15	42.067	4.4	37.667					1.4		0.0086 U	0.016 U	0.015 U
6/4/2019	Shallow	10–15	42.067	4.92	37.147					1.1		0.019	0.0010 U	0.0010 U
7/23/2019	Shallow	10–15	42.067	5.66	36.407					1.0		0.020	0.00050 U	0.00050 U
10/17/2019	Shallow	10–15	42.067	5.87	36.197		0.050 U			1.2		0.0076	0.00050 U	0.00050 U
1/22/2020	Shallow	10–15	42.067	4.02	38.047		0.050 U			1.4		0.0086	0.00022 U	0.00029 U
4/15/2020	Shallow	10–15	42.067	4.51	37.557		0.050 U			1.3		0.0012	0.00022 U	0.00029 U
7/22/2020	Shallow	10–15	42.067	5.85	36.217		0.050 U			1.2		0.0089	0.00022 U	0.00029 U
10/23/2020	Shallow	10–15	42.067	6.23	35.837		0.050 U			1.3		0.36	0.0022 U	0.0029 U
3/3/2021	Shallow	10–15	42.067	4.82	37.247		0.050 U			1.2		0.56	0.00022 U	0.00039
6/22/2021	Shallow	10–15	42.067	5.77	36.297		0.050 U			1.6		0.28	0.00022 U	0.00029 U
9/6/2022	Shallow	10–15	42.067	9.3	32.767		0.14			36		3.5	0.00022 U	0.00029 U
2/15/2023	Shallow	10–15	42.067	7.95	34.117		0.050 U			3.3		5.7	0.00022 U	0.00029 U
9/20/2023	Shallow	10–15	42.067	9.33	32.737		0.050 U			2.5		2.2	0.00022 U	0.00029 U
4/9/2024	Shallow	10–15	44.73	8.33	36.40			0.050 U		3.5	0.050	0.39	0.00056 U	0.00058 U
9/23/2024	Shallow	10–15	44.73	8.82	35.91			0.050 U		3.0	0.060	0.52	0.00056 U	0.00058 U
BSCSS-HZ-MW-24														
12/10/2018	Intermediate	25–35	41.527	6.04	35.487					7.0		0.0086 U	0.016 U	0.015 U
5/31/2019	Intermediate	25–35	41.527	6.06	35.467					3.5		5.4	0.25 U	0.25 U
7/17/2019	Intermediate	25–35	41.527	7.1	34.427					3.8		6.3	0.00050 U	0.00050 U
10/24/2019	Intermediate	25–35	41.527	6.82	34.707		1.1			4.7		9.7	0.00050 U	0.00050 U
1/27/2020	Intermediate	25–35	41.527	5.71	35.817		2.5			4.9		9.5	0.00022 U	0.00029 U
4/14/2020	Intermediate	25–35	41.527	6.01	35.517		4.1			5.4		4.0	0.00022 U	0.0027
7/22/2020	Intermediate	25–35	41.527	6.78	34.747		2.5			4.5		2.1	0.0022 U	0.0076
10/28/2020	Intermediate	25–35	41.527	6.91	34.617		1.9			3.8		1.6	0.00022 U	0.00029 U
3/2/2021	Intermediate	25–35	41.527	5.18	36.347		0.96			2.8		0.20	0.00022 U	0.00029 U
6/18/2021	Intermediate	25–35	41.527	6.5	35.027		0.96			4.9		0.31	0.0022 U	0.0029 U

Table 4
All Wells: GW Elevations and Field Parameters

Analyte Class						Conventionals (cont.)					Dissolved Gases		
Analyte						Ammonia (total as nitrogen)	Nitrate	Sulfide	Total Organic Carbon	Orthophosphate	Methane	Ethane	Ethene
CAS No.						--	14797-55-8	18496-25-8	TOC	14265-44-2	74-82-8	74-84-0	74-85-1
MTCA Method A CUL [1]						--	--	--	--	--	--	--	--
Unit						mg/L	mg-N/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Sample Date	Aquifer Zone	Screen Interval	Elevation TOC (feet NAVD 88)	Depth to Water (feet BTOC)	GW Elevation (feet NAVD 88)								
BSCSS-HZ-MW-24 (cont.)													
9/20/2022	Intermediate	25–35	41.527	5.6	35.927	0.51			5.3		0.30	0.00022 U	0.00029 U
2/7/2023	Intermediate	25–35	41.527	1.9	39.627	0.47			2.3		0.46	0.00022 U	0.00029 U
9/8/2023	Intermediate	25–35	41.527	5.61	35.917	0.52			2.6		1.7	0.00022 U	0.00029 U
4/10/2024	Intermediate	25–35	39.78	4.78	35.00		0.050 U		1.9	0.076	3.2	0.00056 U	0.00058 U
9/24/2024	Intermediate	25–35	39.78	5.59	34.19		0.050 U		2.7	0.057	0.21	0.00056 U	0.00058 U
BSCSS-HZ-MW-26													
12/4/2018	Intermediate	25–35	41.302	7.23	34.072				2.3		0.0086 U	0.016 U	0.015 U
5/30/2019	Intermediate	25–35	41.302	6.85	34.452				1.0 U		0.0042	0.00050 U	0.00050 U
7/29/2019	Intermediate	25–35	41.302	7.34	33.962				1.0 U		0.010	0.00050 U	0.00050 U
10/16/2019	Intermediate	25–35	41.302	7.91	33.392	0.050 U			1.0 U		0.022	0.00050 U	0.00050 U
1/24/2020	Intermediate	25–35	41.302	6.86	34.442	0.050 U			1.0 U		0.035	0.00022 U	0.00052
4/13/2020	Intermediate	25–35	41.302	6.33	34.972	0.050 U			1.0 U		0.059	0.00022 U	0.00029 U
7/17/2020	Intermediate	25–35	41.302	6.82	34.482	0.050 U			1.0 U		0.090	0.00022 U	0.00029 U
10/27/2020	Intermediate	25–35	41.302	7.34	33.962	0.050 U			1.0 U		0.038	0.00022 U	0.00029 U
3/5/2021	Intermediate	25–35	41.302	6.66	34.642	0.050 U			1.0 U		0.0015	0.00022 U	0.00029 U
6/14/2021	Intermediate	25–35	41.302	6.99	34.312	0.050 U			1.0 U		0.0032	0.00022 U	0.00029 U
6/22/2021	Intermediate	25–35	41.302	--	--	0.050 U			1.1		0.0033	0.00022 U	0.00029 U
9/8/2022	Intermediate	25–35	41.302	11.98	29.322	0.050 U			1.0 U		0.18	0.00022 U	0.00029 U
2/21/2023	Intermediate	25–35	41.302	9.83	31.472	0.050 U			1.0 U		0.14	0.00022 U	0.00029 U
9/12/2023	Intermediate	25–35	41.302	11.14	30.162	0.072			1.0 U		0.15	0.00022 U	0.00029 U
4/10/2024	Intermediate	25–35	44.48	10.16	34.32		0.26		1.6	0.045	0.065	0.00056 U	0.00058 U
9/23/2024	Intermediate	25–35	44.48	11.14	33.34		0.36		1.0 U	0.048	0.067	0.00056 U	0.00058 U
BSCSS-HZ-MW-29													
12/10/2018	Intermediate	25–35	40.739	5.68	35.059				2.7		0.0086 U	0.016 U	0.015 U
5/31/2019	Intermediate	25–35	40.739	6.29	34.449				52		3.9	0.25 U	0.25 U
7/17/2019	Intermediate	25–35	40.739	7.03	33.709				15		9.5	0.00050 U	0.00050 U
10/24/2019	Intermediate	25–35	40.739	7.98	32.759	1.6			2.1		9.9	0.00050 U	0.00050 U
1/27/2020	Intermediate	25–35	40.739	6.41	34.329	3.2			1.8		8.6	0.00022 U	0.00029 U
4/13/2020	Intermediate	25–35	40.739	6.31	34.429	3.0			3.2		19	0.00022 U	0.00029 U
7/17/2020	Intermediate	25–35	40.739	10.22	30.519	1.8			12		14	0.00022 U	0.014
10/28/2020	Intermediate	25–35	40.739	6.88	33.859	2.0			5.8		14	0.00022 U	0.026
3/5/2021	Intermediate	25–35	40.739	5.47	35.269	1.8			1.9		0.82	0.0022 U	0.0029 U
6/22/2021	Intermediate	25–35	40.739	6.7	34.039	1.8			2.1		2.6	0.00022 U	0.0017
9/20/2022	Intermediate	25–35	40.739	6.35	34.389	0.75			1.3		4.9	0.00022 U	0.0018
2/7/2023	Intermediate	25–35	40.739	5.16	35.579	0.37			1.1		8.2	0.00022 U	0.00029 U
9/8/2023	Intermediate	25–35	40.739	6.44	34.299	0.58			1.1		7.3	0.00022 U	0.00029 U
4/10/2024	Intermediate	25–35	40.739	5.48	35.259		0.050 U		7.7	1.0	12	0.00056 U	0.00058 U
9/24/2024	Intermediate	25–35	40.739	6.3	34.439		0.050 U		1.6	0.94	1.5	0.00056 U	0.00058 U

Table 4
All Wells: GW Elevations and Field Parameters

Analyte Class						Conventionals (cont.)					Dissolved Gases		
Analyte						Ammonia (total as nitrogen)	Nitrate	Sulfide	Total Organic Carbon	Orthophosphate	Methane	Ethane	Ethene
CAS No.						--	14797-55-8	18496-25-8	TOC	14265-44-2	74-82-8	74-84-0	74-85-1
MTCA Method A CUL [1]						--	--	--	--	--	--	--	--
Unit						mg/L	mg-N/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Sample Date	Aquifer Zone	Screen Interval	Elevation TOC (feet NAVD 88)	Depth to Water (feet BTOC)	GW Elevation (feet NAVD 88)								
BSCSS-HZ-MW-31													
12/18/2018	Shallow	15–25	37	9.4	27.6				5.0		0.15	0.016 U	0.015 U
5/29/2019	Shallow	15–25	37	9.34	27.66				4.6		0.34	0.025 U	0.025 U
7/23/2019	Shallow	15–25	37	9.45	27.55				4.4		0.62	0.00050 U	0.00050 U
10/25/2019	Shallow	15–25	37	9.16	27.84	0.30			4.8		0.90	0.00050 U	0.00050 U
1/28/2020	Shallow	15–25	37	8.75	28.25	0.29			4.8		0.76	0.00022 U	0.00029 U
4/27/2020	Shallow	15–25	37	24.75	12.25	0.29			4.7		0.84	0.00022 U	0.00029 U
7/29/2020	Shallow	15–25	37	9.02	27.98	0.40			4.9		0.92	0.00022 U	0.00029 U
10/29/2020	Shallow	15–25	37	9.21	27.79	0.44			4.6		0.84	0.00022 U	0.00029 U
3/5/2021	Shallow	15–25	37	8.3	28.7	0.37			6.0		0.11	0.00022 U	0.00037
6/21/2021	Shallow	15–25	37	6.35	30.65	0.38			5.6		0.22	0.00022 U	0.00029 U
9/29/2022	Shallow	15–25	37	9.06	27.94	0.38			6.2		1.5	0.00022 U	0.027
2/6/2023	Shallow	15–25	37	8.2	28.8	0.30			6.0		1.4	0.00022 U	0.024
9/26/2023	Shallow	15–25	37	8.61	28.39	0.23			4.8		0.95	0.00022 U	0.011
9/26/2024	Shallow	15–25	37	8.7	28.3		0.050 U		6.1	0.29	0.41	0.00056 U	0.0028
BSCSS-HZ-MW-33R													
8/11/2021	Intermediate	25–35	35	7.93	27.07	0.050 U			2.2		0.0098	0.00022 U	0.00029 U
10/3/2022	Intermediate	25–35	35	--	--	0.050 U			1.0 U		0.12	0.00022 U	0.00029 U
2/7/2023	Intermediate	25–35	35	--	--	0.050 U			1.0 U		0.23	0.00022 U	0.00029 U
9/21/2023	Intermediate	25–35	35	--	--	0.050 U			1.0 U		0.26	0.00022 U	0.00029 U
4/11/2024	Intermediate	25–35	35	--	--		0.28		1.0 U	0.012 U	0.20	0.00056 U	0.00058 U
9/24/2024	Intermediate	25–35	38.38	--	--		0.30		1.0 U	0.012 U	0.37	0.00056 U	0.00058 U
BSCSS-HZ-MW-34													
12/7/2018	Shallow	15–25	37	5.77	31.23				4.0		0.0086 U	0.016 U	0.015 U
5/31/2019	Shallow	15–25	37	5.88	31.12				42		1.1	0.050 U	0.050 U
7/17/2019	Shallow	15–25	37	6.41	30.59				24		3.1	0.00050 U	0.00050 U
10/23/2019	Shallow	15–25	37	6.6	30.4	0.69			5.8		7.7	0.00050 U	0.00050 U
1/27/2020	Shallow	15–25	37	5.22	31.78	0.67			2.3		11	0.00022 U	0.00029 U
4/14/2020	Shallow	15–25	37	5.83	31.17	0.68			2.1		16	0.00022 U	0.0043
7/21/2020	Shallow	15–25	37	6.78	30.22	1.4			4.4		20	0.00022 U	0.014
10/28/2020	Shallow	15–25	37	6.74	30.26	1.1			1.9		11	0.00022 U	0.012
3/2/2021	Shallow	15–25	37	5.15	31.85	0.47			1.7		14	0.00022 U	0.0055
6/18/2021	Shallow	15–25	37	6.35	30.65	5.6			14		1.2	0.00022 U	0.00029 U
9/20/2022	Shallow	15–25	37	5.5	31.5	0.17			1.6		0.25	0.00022 U	0.00082
2/7/2023	Shallow	15–25	37	2.4	34.6	0.15			1.1		0.15	0.00022 U	0.00034
9/8/2023	Shallow	15–25	37	5.54	31.46	0.19			1.2		0.14	0.00022 U	0.00029 U
4/10/2024	Shallow	15–25	39.69	4.64	35.05		0.050 U		1.8	0.20	0.15	0.00056 U	0.00058 U
9/24/2024	Shallow	15–25	39.69	5.52	34.17		0.050 U		1.4	0.16	0.18	0.00056 U	0.00058 U

Table 4
All Wells: GW Elevations and Field Parameters

Analyte Class						Conventionals (cont.)					Dissolved Gases		
Analyte						Ammonia (total as nitrogen)	Nitrate	Sulfide	Total Organic Carbon	Orthophosphate	Methane	Ethane	Ethene
CAS No.						--	14797-55-8	18496-25-8	TOC	14265-44-2	74-82-8	74-84-0	74-85-1
MTCA Method A CUL [1]						--	--	--	--	--	--	--	--
Unit						mg/L	mg-N/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Sample Date	Aquifer Zone	Screen Interval	Elevation TOC (feet NAVD 88)	Depth to Water (feet BTOC)	GW Elevation (feet NAVD 88)								
BSCSS-S-MW-1													
6/6/2019	Shallow	5.5–15.5	43.527	6	37.527				1.4		0.0010 U	0.00050 U	0.00050 U
7/23/2019	Shallow	5.5–15.5	43.527	6.61	36.917				1.0 U		0.0010 U	0.00050 U	0.00050 U
10/23/2019	Shallow	5.5–15.5	43.527	6.18	37.347	0.050 U			1.0 U		0.0010 U	0.00050 U	0.00050 U
1/21/2020	Shallow	5.5–15.5	43.527	4.78	38.747	0.050 U			1.0 U		0.00055 U	0.00022 U	0.00029 U
4/23/2020	Shallow	5.5–15.5	43.527	5.01	38.517	0.050 U			1.0 U		0.00055 U	0.00022 U	0.00029 U
7/28/2020	Shallow	5.5–15.5	43.527	6.97	36.557	0.050 U			1.1		0.00096	0.00022 U	0.00029 U
11/2/2020	Shallow	5.5–15.5	43.527	7.3	36.227	0.050 U			1.0		0.0012	0.00022 U	0.00029 U
3/1/2021	Shallow	5.5–15.5	43.527	4.99	38.537	0.050 U			1.0 U		0.0061	0.00022 U	0.00029 U
6/14/2021	Shallow	5.5–15.5	43.527	7.23	36.297	0.050 U			1.0 U		0.0011	0.00022 U	0.00029 U
9/27/2022	Shallow	5.5–15.5	43.527	8.55	34.977	0.050 U			1.2		0.0016	0.00022 U	0.00029 U
2/16/2023	Shallow	5.5–15.5	43.527	6.87	36.657	0.050 U			1.0 U		0.0051	0.00022 U	0.00029 U
9/7/2023	Shallow	5.5–15.5	43.527	8.71	34.817	0.050 U			1.0 U		0.086	0.00022 U	0.00029 U
9/25/2024	Shallow	5.5–15.5	45.25	8.29	36.96		2.1		1.5	0.060	0.030	0.00056 U	0.00058 U
BSCSS-S-MW-2RR													
8/5/2021	Shallow	5–15	39	6.65	32.35	5.2			2.8		0.78	0.00022 U	0.00030
9/8/2022	Shallow	5–15	39	8.6	30.4	11			3.8		2.1	0.00022 U	0.00029 U
2/10/2023	Shallow	5–15	39	6.85	32.15	4.7			24		0.40	0.00022 U	0.00029 U
9/12/2023	Shallow	5–15	39	8.88	30.12	7.1			3.0		0.83	0.00022 U	0.00029 U
4/10/2024	Shallow	5–15	44.65	7.51	37.14		0.050 U		1.1	1.5	0.23	0.00056 U	0.00058 U
9/23/2024	Shallow	5–15	44.65	8.93	35.72		0.050 U		2.3	2.4	0.30	0.00056 U	0.00058 U
BSCSS-S-MW-3RR													
8/20/2021	Intermediate	24–39	40	11.12	28.88	0.050 U			1.0		1.3	0.00022 U	0.00029 U
10/14/2022	Intermediate	24–39	40	--	--	0.050 U			1.3		14	0.00022 U	0.00029 U
2/10/2023	Intermediate	24–39	40	13.9	26.1	0.050 U			1.0 U		11	0.00022 U	0.00029 U
2/17/2024	Intermediate	24–39	40	9.11	30.89	0.053 U			9.1		6.9	0.00056 U	0.00058 U
4/10/2024	Intermediate	24–39	40	10.58	29.42		0.11		11	0.11	15	0.00056 U	0.00058 U
BSCSS-S-MW-3RRR													
9/26/2024	Intermediate	-	45.91	11.30	34.61		2.6		1.1	0.12	1.8	0.00056 U	0.00058 U

Table 4
All Wells: GW Elevations and Field Parameters

Analyte Class						Conventionals (cont.)					Dissolved Gases		
Analyte						Ammonia (total as nitrogen)	Nitrate	Sulfide	Total Organic Carbon	Orthophosphate	Methane	Ethane	Ethene
CAS No.						--	14797-55-8	18496-25-8	TOC	14265-44-2	74-82-8	74-84-0	74-85-1
MTCA Method A CUL [1]						--	--	--	--	--	--	--	--
Unit						mg/L	mg-N/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Sample Date	Aquifer Zone	Screen Interval	Elevation TOC (feet NAVD 88)	Depth to Water (feet BTOC)	GW Elevation (feet NAVD 88)								
BSCSS-S-MW-5R													
8/11/2021	Shallow	15–25	39	8.3	30.7	0.050 U			1.0 U		0.0029	0.00022 U	0.00029 U
10/3/2022	Shallow	15–25	39	10.88	28.12	0.050 U			1.0 U		0.30	0.00022 U	0.00029 U
2/10/2023	Shallow	15–25	39	7.14	31.86	0.050 U			1.2		1.3	0.00022 U	0.00029 U
9/12/2023	Shallow	15–25	39	8.59	30.41	0.096			1.0 U		0.40	0.00022 U	0.00029 U
4/10/2024	Shallow	15–25	43.66	7.56	36.10		0.41		1.0	0.026	0.41	0.00056 U	0.00058 U
9/23/2024	Shallow	15–25	43.66	8.39	35.27		0.47		1.0 U	0.031	0.56	0.00056 U	0.00058 U

Notes:

All blank cells are intentional.
All chemistry results are rounded to two significant figures.
Field parameters are reported as displayed by the sampling equipment.
-- Not available.
Italic Analyte was not detected at a reporting limit greater than the CUL.
RED/BOLD Analyte was detected at a concentration greater than the CUL.
Well is inactive or decommissioned.
1 CULs are based on MTCA Method A values, except for cis- and trans-1,2-Dichloroethene, which use MTCA Method B.

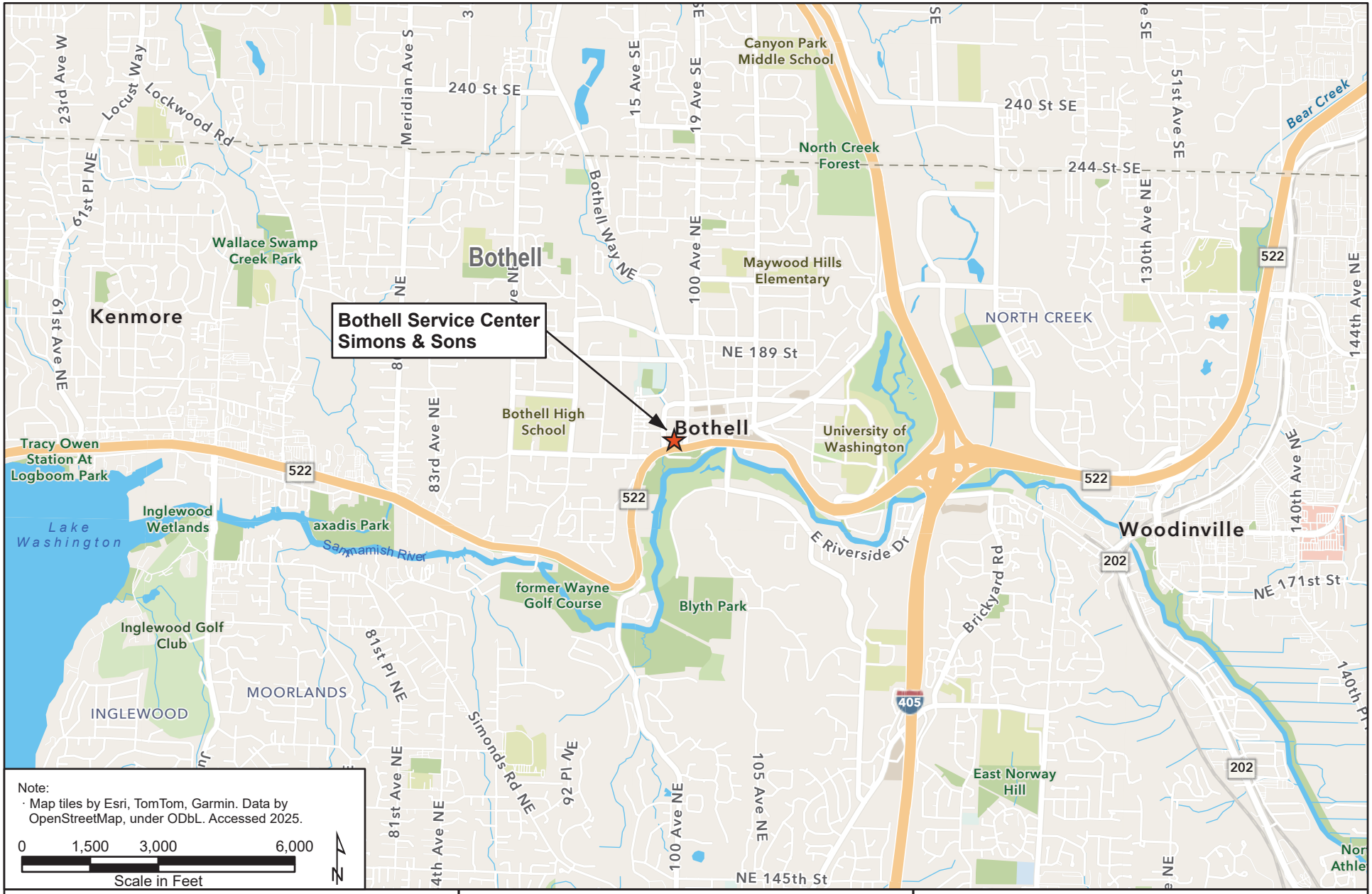
Abbreviations:

BTOC Below top of casing
°C Degrees Celsius
CAS Chemical Abstracts Service
CUL Cleanup level
ft Feet
GW Groundwater
µg/L Micrograms per liter
µS/cm Microsiemens per centimeter
mg/L Milligrams per kilogram
MTCA Model Toxics Control Act
mV Millivolts
NAVD 88 North American Vertical Datum of 1988
ntu Nephelometric turbidity unit
ORP Oxidation–reduction potential
TOC Top of casing
TPH Total petroleum hydrocarbons
VOC Volatile organic compound

Qualifiers:

J Analyte was detected; concentration is an estimate.
U Analyte was not detected at the associated reporting limit.
U Analyte was not detected at the associated reporting limit.

Figures

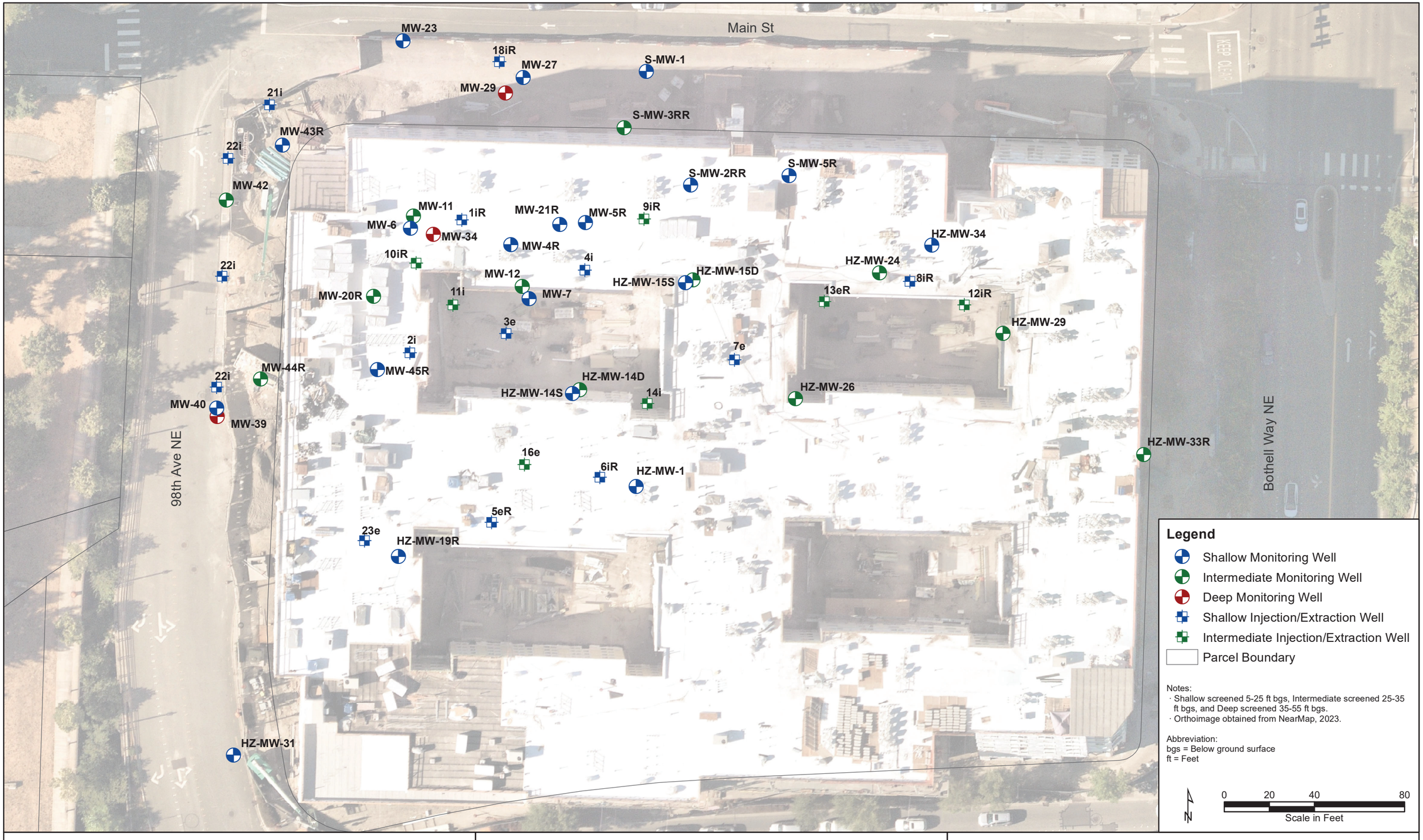


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Figure 1
Vicinity Map

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4/3/2025



Legend

- Shallow Monitoring Well
- Intermediate Monitoring Well
- Deep Monitoring Well
- Shallow Injection/Extraction Well
- Intermediate Injection/Extraction Well
- Parcel Boundary

Notes:
- Shallow screened 5-25 ft bgs, Intermediate screened 25-35 ft bgs, and Deep screened 35-55 ft bgs.
- Orthoimage obtained from NearMap, 2023.

Abbreviation:
bgs = Below ground surface
ft = Feet

N

0 20 40 80

Scale in Feet

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Figure 2
Site Map

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4/3/2025



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Figure 3
Shallow Aquifer Zone Wells (5-25 ft bgs)

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4/3/2025



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Figure 4
Intermediate Aquifer Zone Wells (25-35 ft bgs)

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4/3/2025

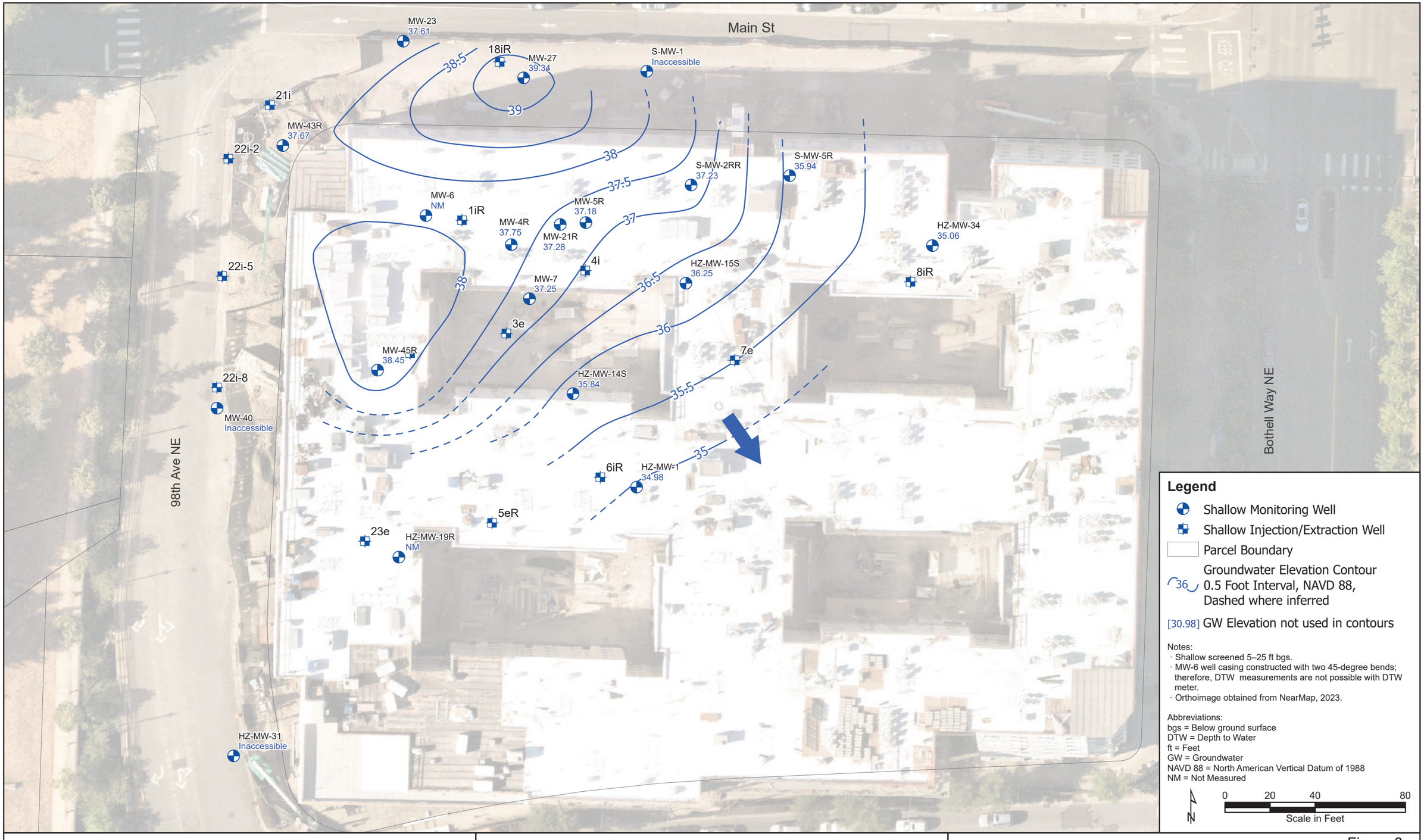


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Figure 5
Deep Aquifer Zone Wells (35-55 ft bgs)

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4/3/2025



Legend

- Shallow Monitoring Well
- Shallow Injection/Extraction Well
- Parcel Boundary
- Groundwater Elevation Contour (36) 0.5 Foot Interval, NAVD 88, Dashed where inferred
- [30.98] GW Elevation not used in contours

Notes:
- Shallow screened 5–25 ft bgs.
- MW-6 well casing constructed with two 45-degree bends; therefore, DTW measurements are not possible with DTW meter.
- Orthoimage obtained from NearMap, 2023.

Abbreviations:
bgs = Below ground surface
DTW = Depth to Water
ft = Feet
GW = Groundwater
NAVD 88 = North American Vertical Datum of 1988
NM = Not Measured

N

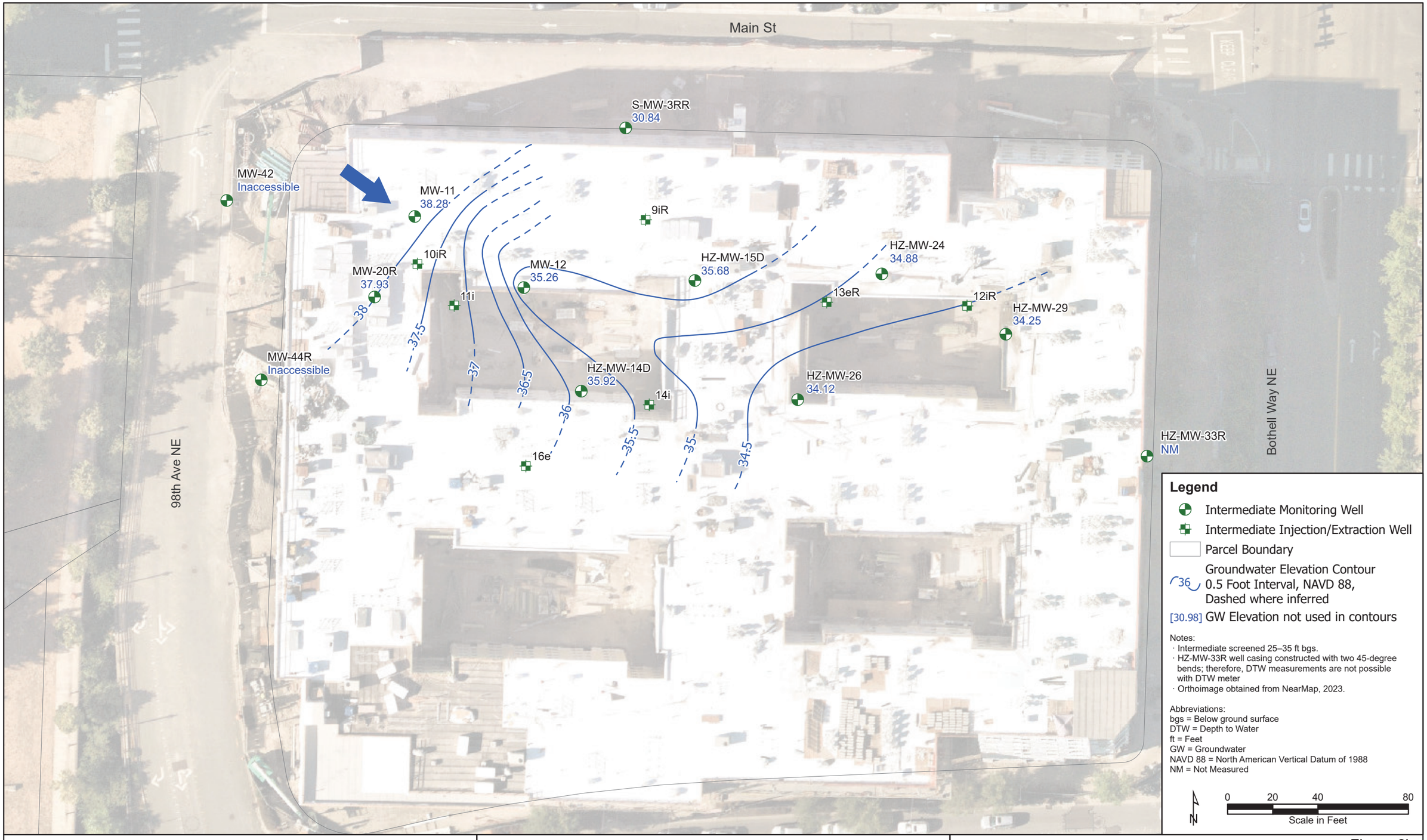
0 20 40 80
Scale in Feet

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Figure 6a
Groundwater Elevation & Contour Map
Shallow Aquifer Zone Wells (5–25 ft bgs)
April 8, 2024 (System On)

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4/3/2025



Legend

- Intermediate Monitoring Well
- Intermediate Injection/Extraction Well
- Parcel Boundary
- Groundwater Elevation Contour 0.5 Foot Interval, NAVD 88, Dashed where inferred
- [30.98] GW Elevation not used in contours

Notes:
- Intermediate screened 25–35 ft bgs.
- HZ-MW-33R well casing constructed with two 45-degree bends; therefore, DTW measurements are not possible with DTW meter
- Orthoimage obtained from NearMap, 2023.

Abbreviations:
bgs = Below ground surface
DTW = Depth to Water
ft = Feet
GW = Groundwater
NAVD 88 = North American Vertical Datum of 1988
NM = Not Measured

N

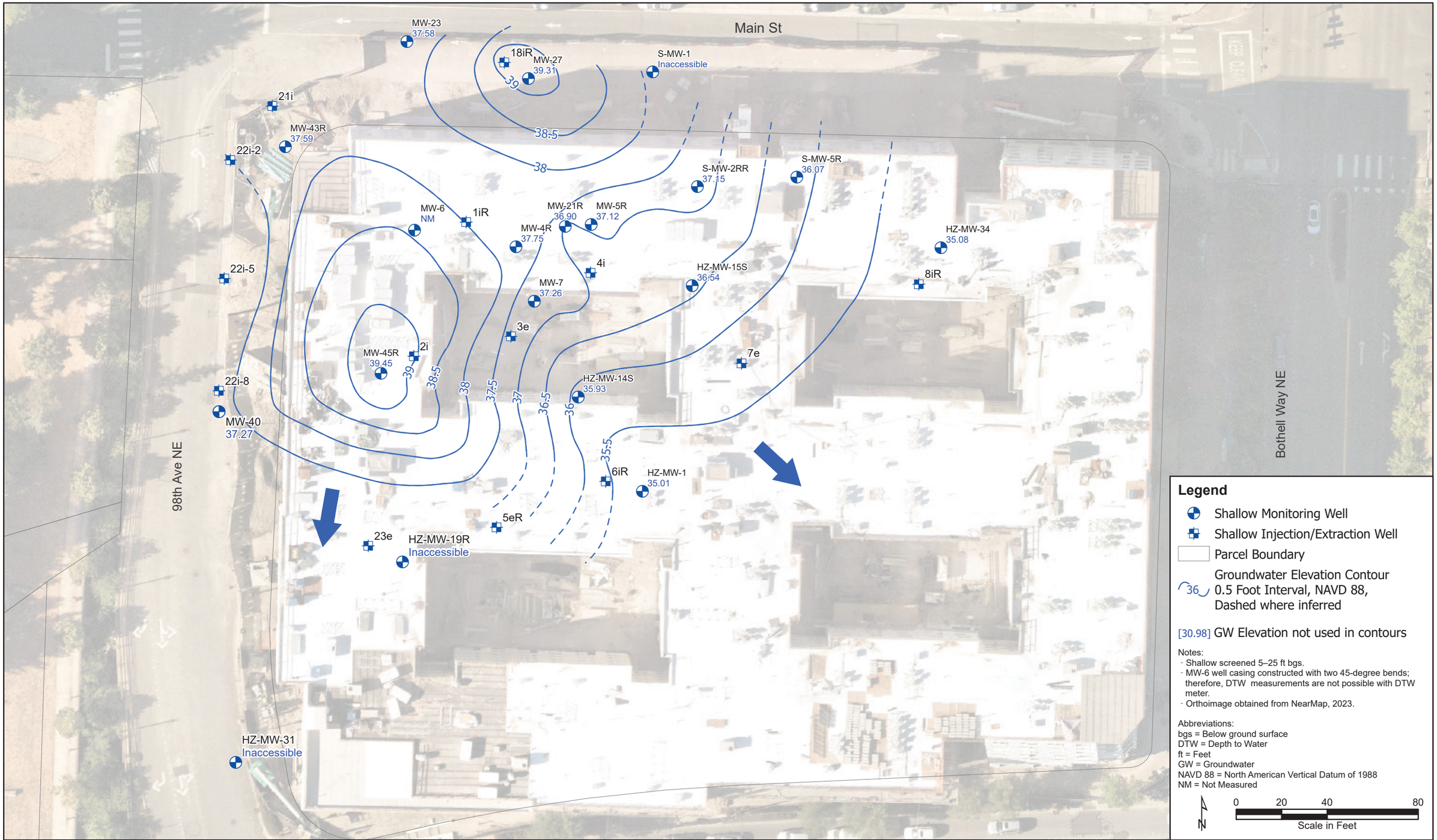
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Scale in Feet

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Bothell, Washington

Figure 6b
Groundwater Elevations & Contour Map
Intermediate Aquifer Zone Wells (25–35 ft bgs)
April 8, 2024 (System On)

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4/3/2025



Legend

- Shallow Monitoring Well
- Shallow Injection/Extraction Well
- Parcel Boundary
- Groundwater Elevation Contour 0.5 Foot Interval, NAVD 88, Dashed where inferred
- [30.98] GW Elevation not used in contours

Notes:
- Shallow screened 5–25 ft bgs.
- MW-6 well casing constructed with two 45-degree bends; therefore, DTW measurements are not possible with DTW meter.
- Orthoimage obtained from NearMap, 2023.

Abbreviations:
bgs = Below ground surface
DTW = Depth to Water
ft = Feet
GW = Groundwater
NAVD 88 = North American Vertical Datum of 1988
NM = Not Measured

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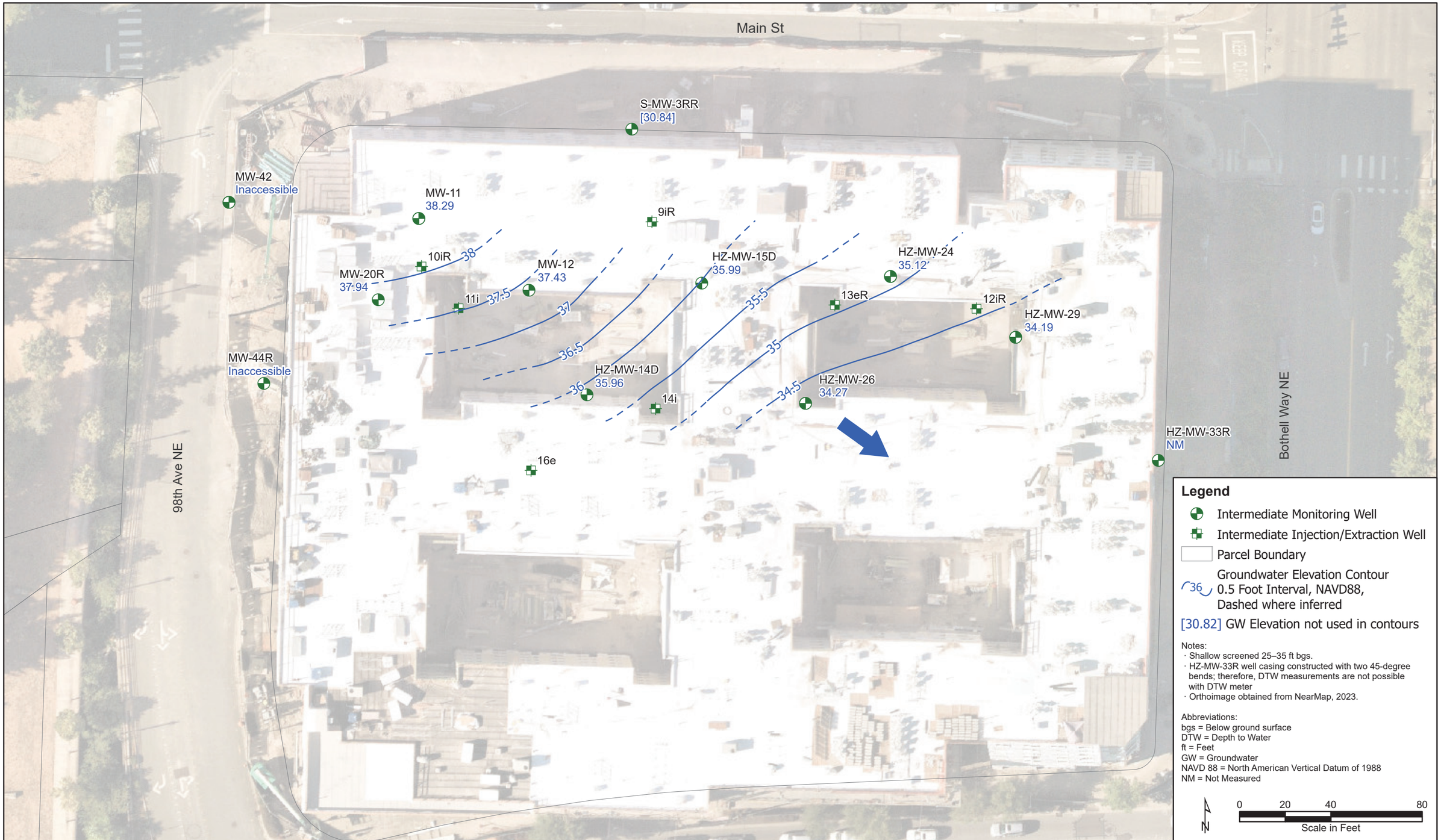
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Scale in Feet

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Figure 6c
Groundwater Elevation & Contour Map
Shallow Aquifer Zone Wells (5–25 ft bgs)
April 11, 2024 (System Off)

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4/3/2025



Legend

- Intermediate Monitoring Well
- Intermediate Injection/Extraction Well
- Parcel Boundary
- 36 Groundwater Elevation Contour 0.5 Foot Interval, NAVD88, Dashed where inferred
- [30.82] GW Elevation not used in contours

Notes:
- Shallow screened 25–35 ft bgs.
- HZ-MW-33R well casing constructed with two 45-degree bends; therefore, DTW measurements are not possible with DTW meter
- Orthoimage obtained from NearMap, 2023.

Abbreviations:
bgs = Below ground surface
DTW = Depth to Water
ft = Feet
GW = Groundwater
NAVD 88 = North American Vertical Datum of 1988
NM = Not Measured

N

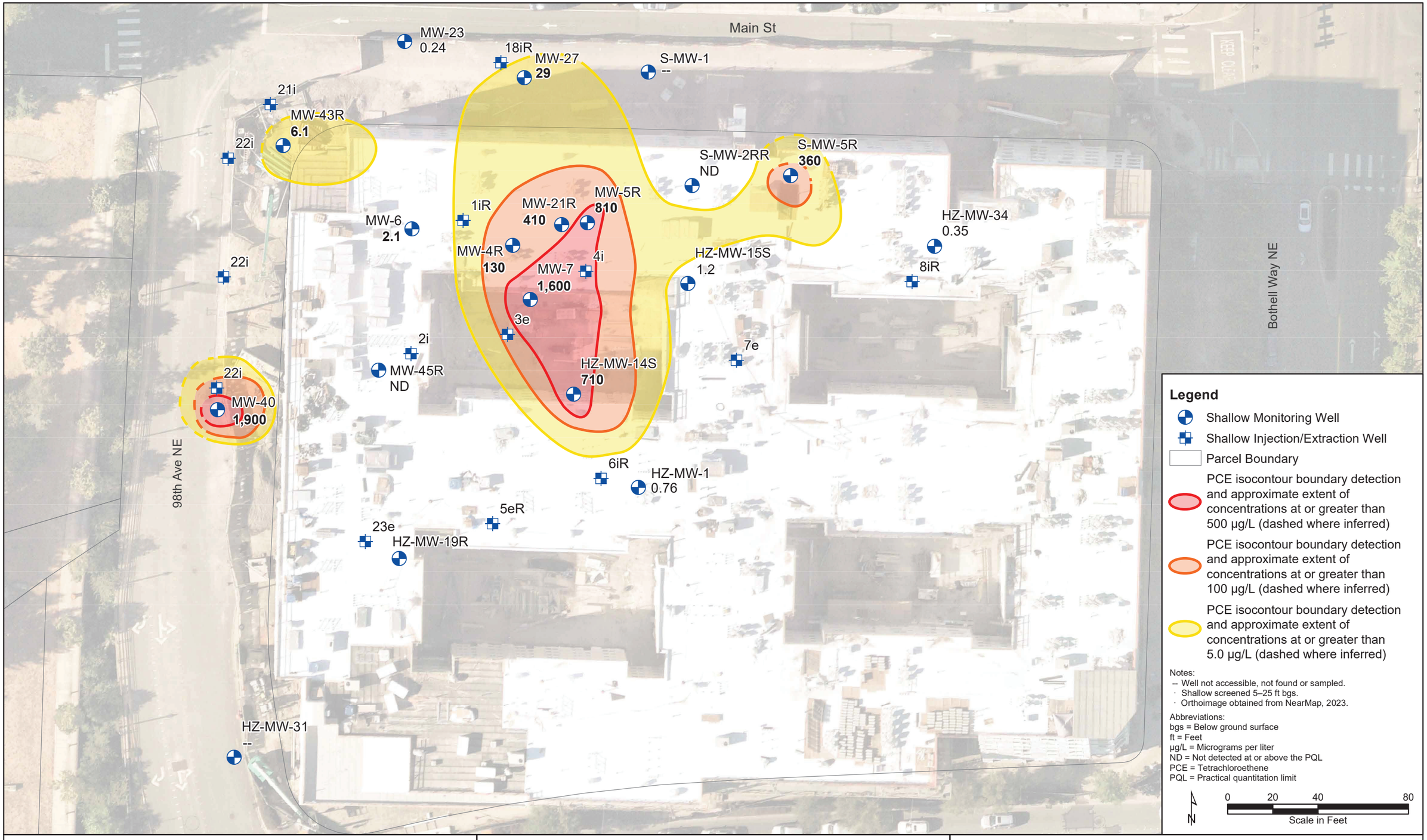
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Scale in Feet

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Figure 6d
Groundwater Elevations & Contour Map
Intermediate Aquifer Zone Wells (25–35 ft bgs)
April 11, 2024 (System Off)

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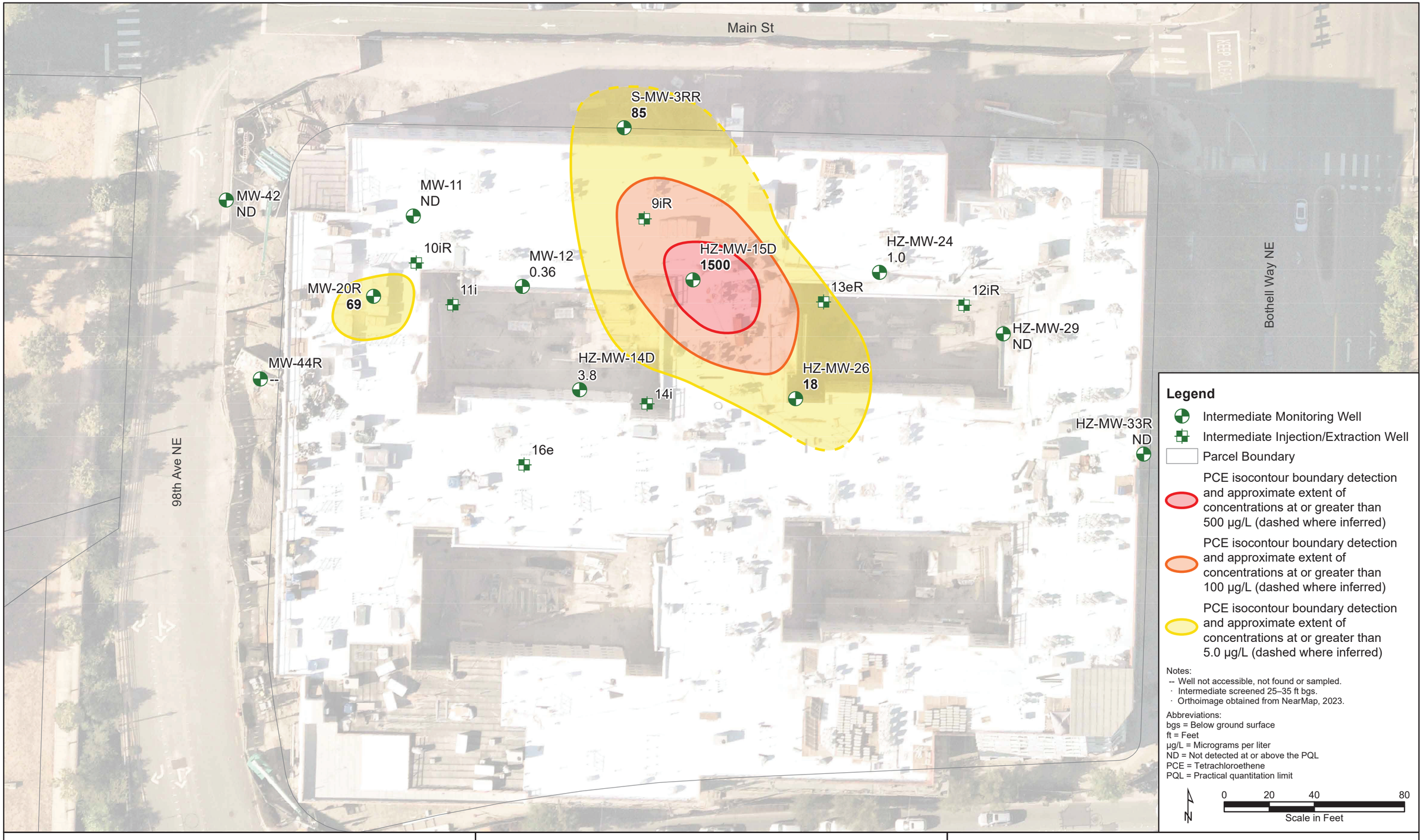


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Figure 7a
April 2024 PCE Isocontours and Concentrations
Shallow Aquifer Zone Wells (5–25 ft bgs)

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1/27/2025

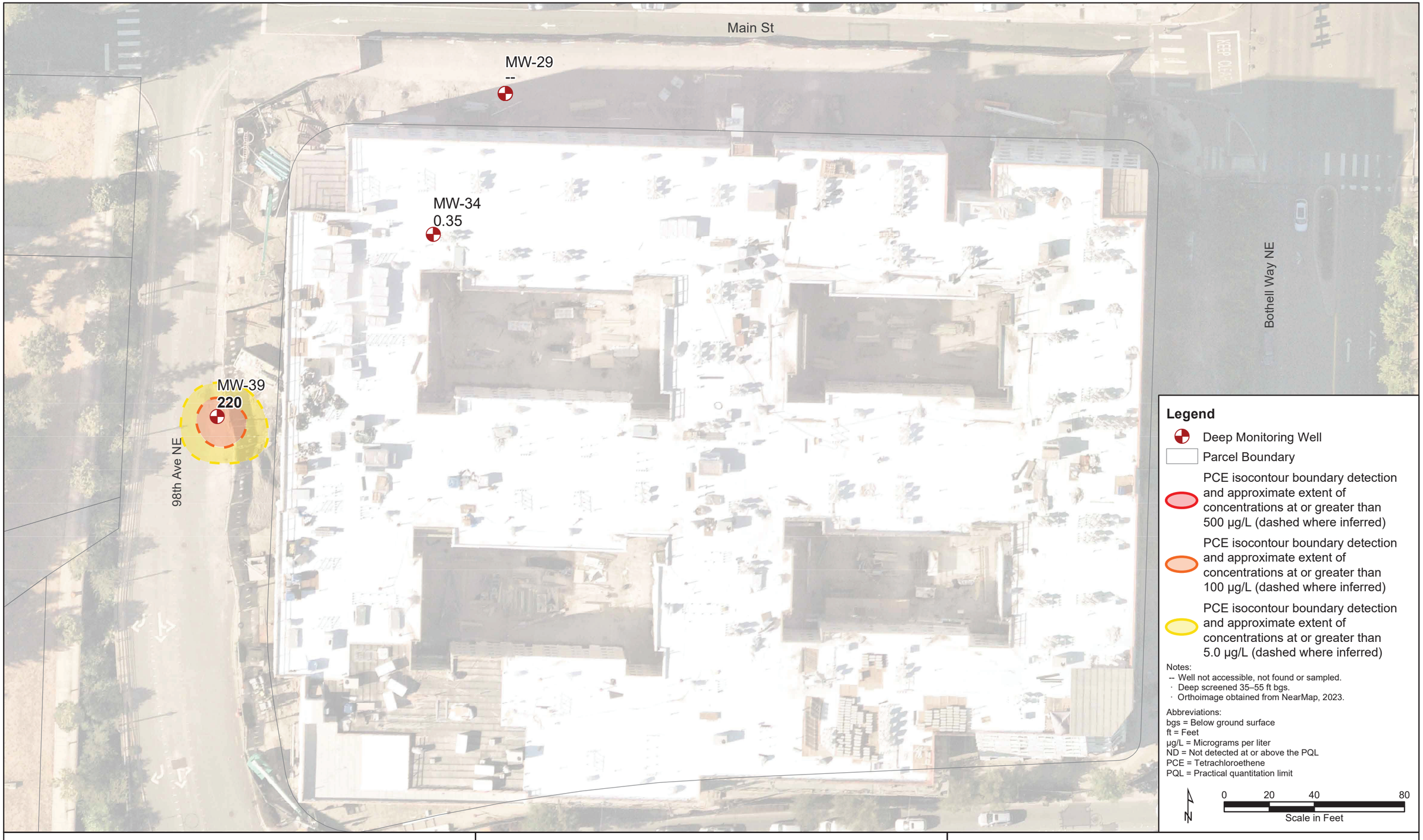


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Figure 7b
April 2024 PCE Isocontours and Concentrations
Intermediate Aquifer Zone Wells (25–35 ft bgs)

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1/27/2025

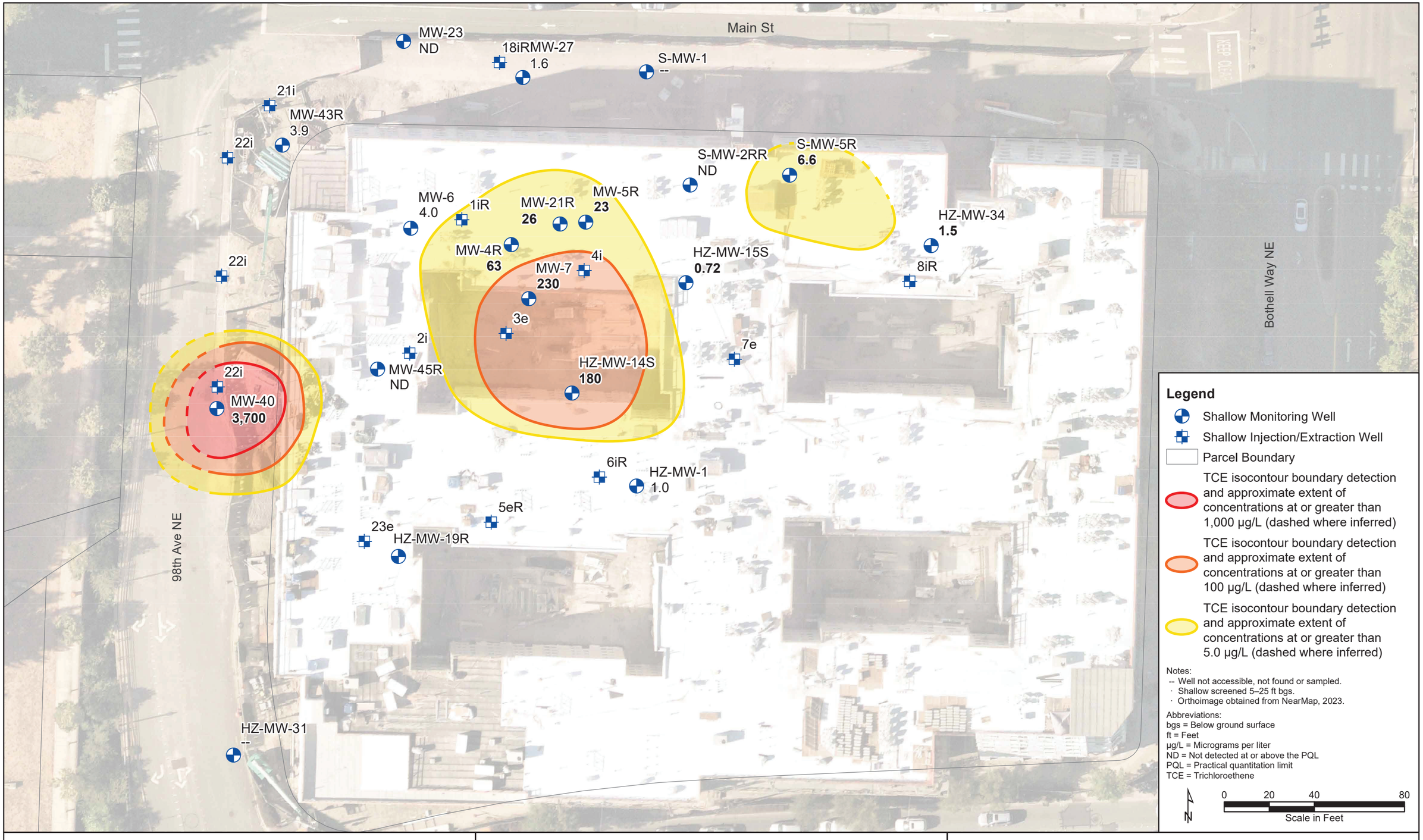


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Figure 7c
April 2024 PCE Isocontours and Concentrations
Deep Aquifer Zone Wells (35–55 ft bgs)

I:\GIS\Projects\COB-BSC\00-AI\2024 Annual GW Monitoring Memo\Figure 7c April 2024 PCE Isocontours and Concentrations Deep Aquifer Zone Wells (35–55 ft bgs).ai
1/27/2025

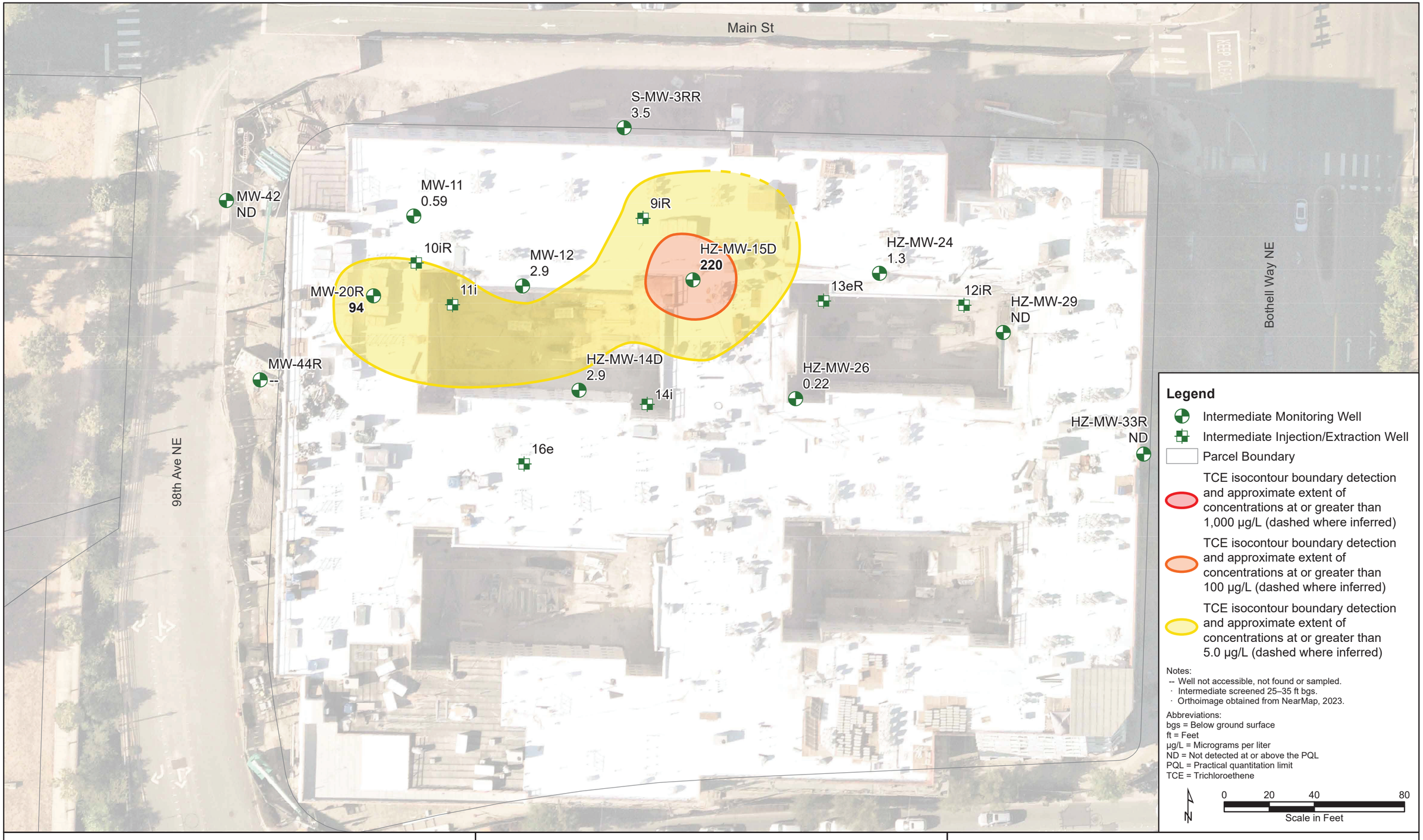


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Bothell, Washington

Figure 8a
April 2024 TCE Isocontours and Concentrations
Shallow Aquifer Zone Wells (5–25 ft bgs)

I:\GIS\Projects\COB-BSC\00-AI\2024 Annual GW Monitoring Memo\Figure 8a April 2024 TCE Isocontours and Concentrations Shallow Aquifer Zone Wells (5–25 ft bgs).ai
1/27/2025

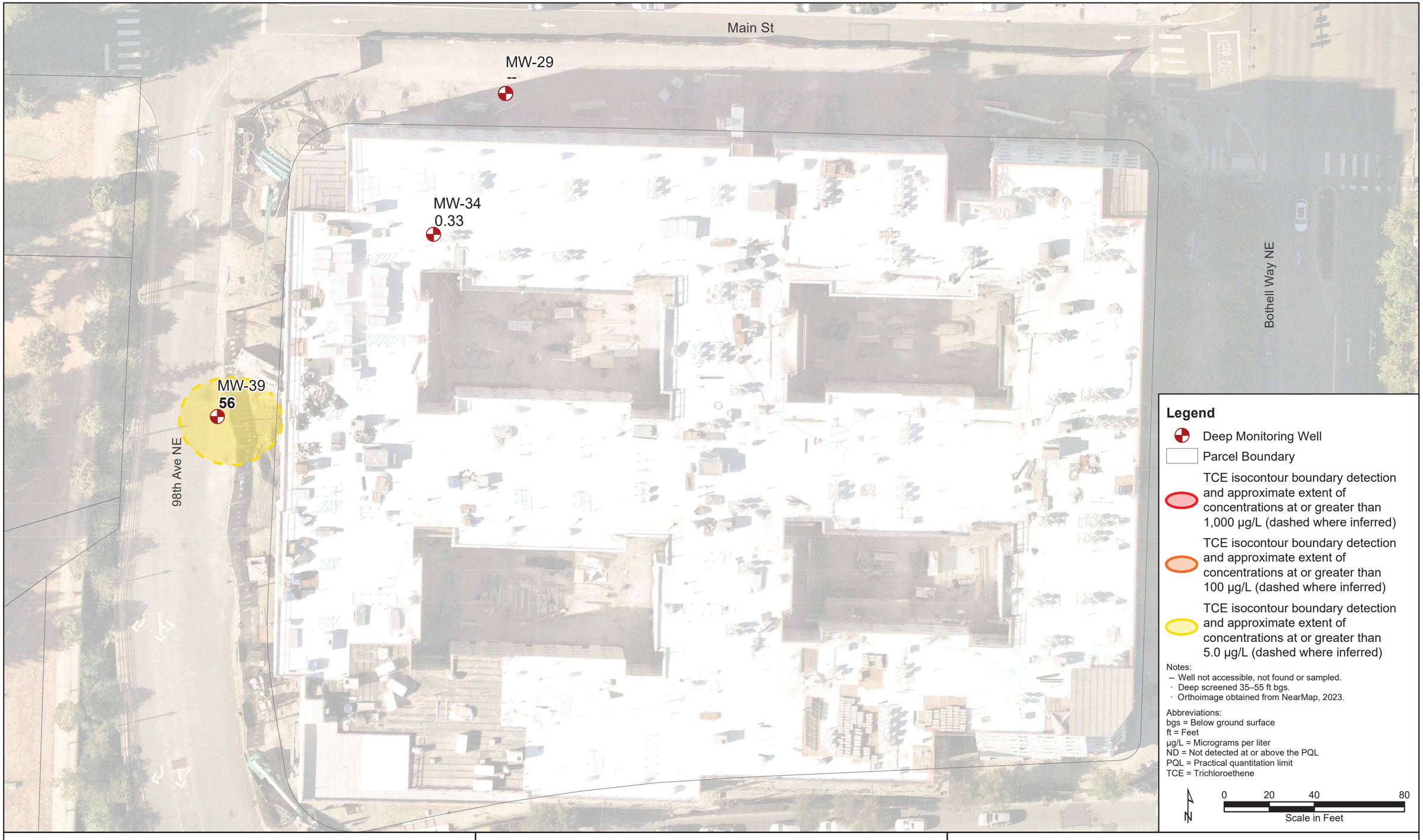


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Bothell, Washington

Figure 8b
April 2024 TCE Isocontours and Concentrations
Intermediate Aquifer Zone Wells (25–35 ft bgs)

I:\GIS\Projects\COB-BSC\00-AI\2024 Annual GW Monitoring Memo\Figure 8b April 2024 TCE Isocontours and Concentrations Intermediate Aquifer Zone Wells (25–35 ft bgs).ai
1/27/2025

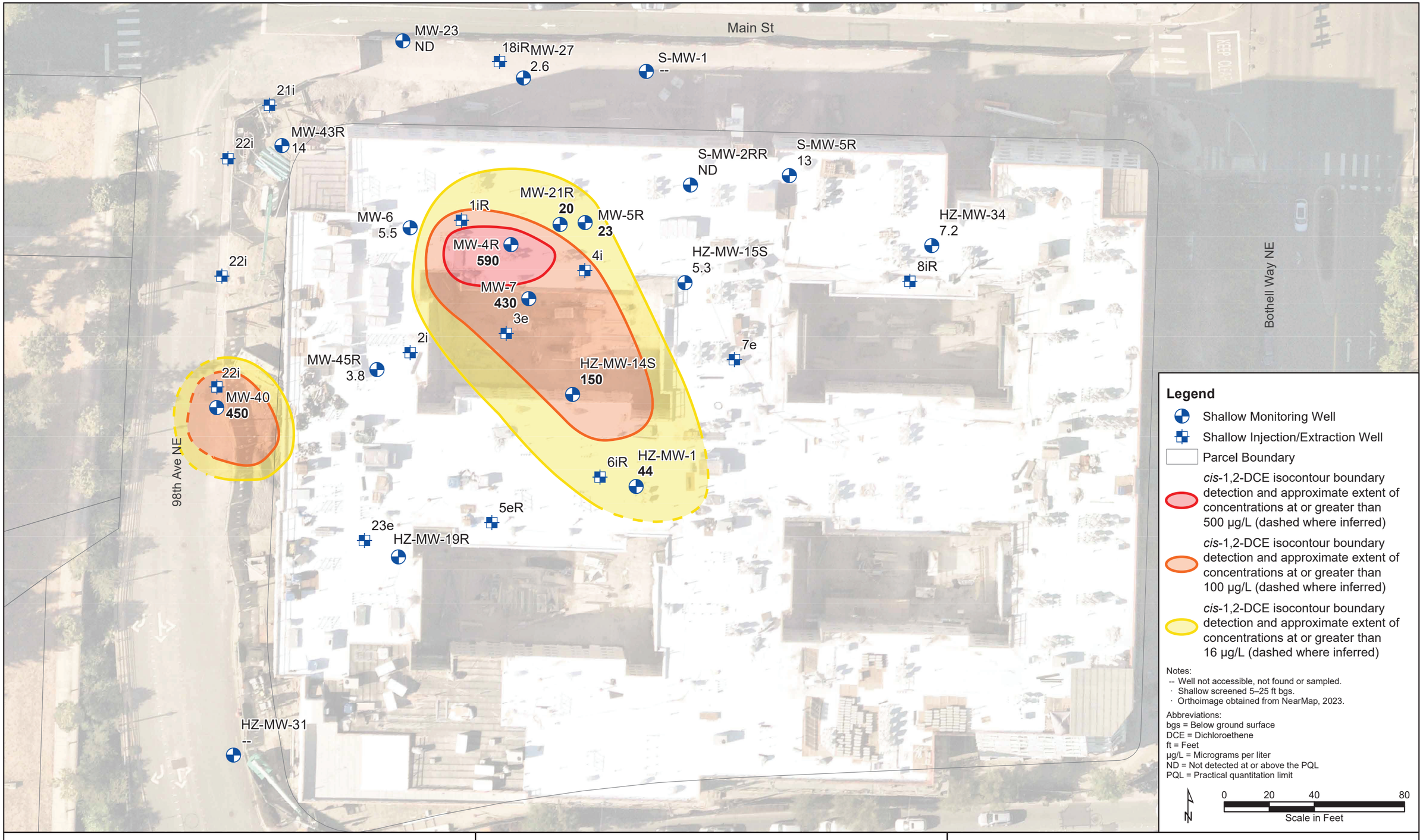


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Figure 8c
April 2024 TCE Isocontours and Concentrations
Deep Aquifer Zone Wells (35–55 ft bgs)

I:\GIS\Projects\COB-BSC\00-AI\2024 Annual GW Monitoring Memo\Figure 8c April 2024 TCE Isocontours and Concentrations Deep Aquifer Zone Wells (35–55 ft bgs).ai
1/27/2025



Legend

- Shallow Monitoring Well
- Shallow Injection/Extraction Well
- Parcel Boundary
- *cis*-1,2-DCE isocontour boundary detection and approximate extent of concentrations at or greater than 500 µg/L (dashed where inferred)
- *cis*-1,2-DCE isocontour boundary detection and approximate extent of concentrations at or greater than 100 µg/L (dashed where inferred)
- *cis*-1,2-DCE isocontour boundary detection and approximate extent of concentrations at or greater than 16 µg/L (dashed where inferred)

Notes:
-- Well not accessible, not found or sampled.
· Shallow screened 5–25 ft bgs.
· Orthoimage obtained from NearMap, 2023.

Abbreviations:
bgs = Below ground surface
DCE = Dichloroethene
ft = Feet
µg/L = Micrograms per liter
ND = Not detected at or above the PQL
PQL = Practical quantitation limit

N

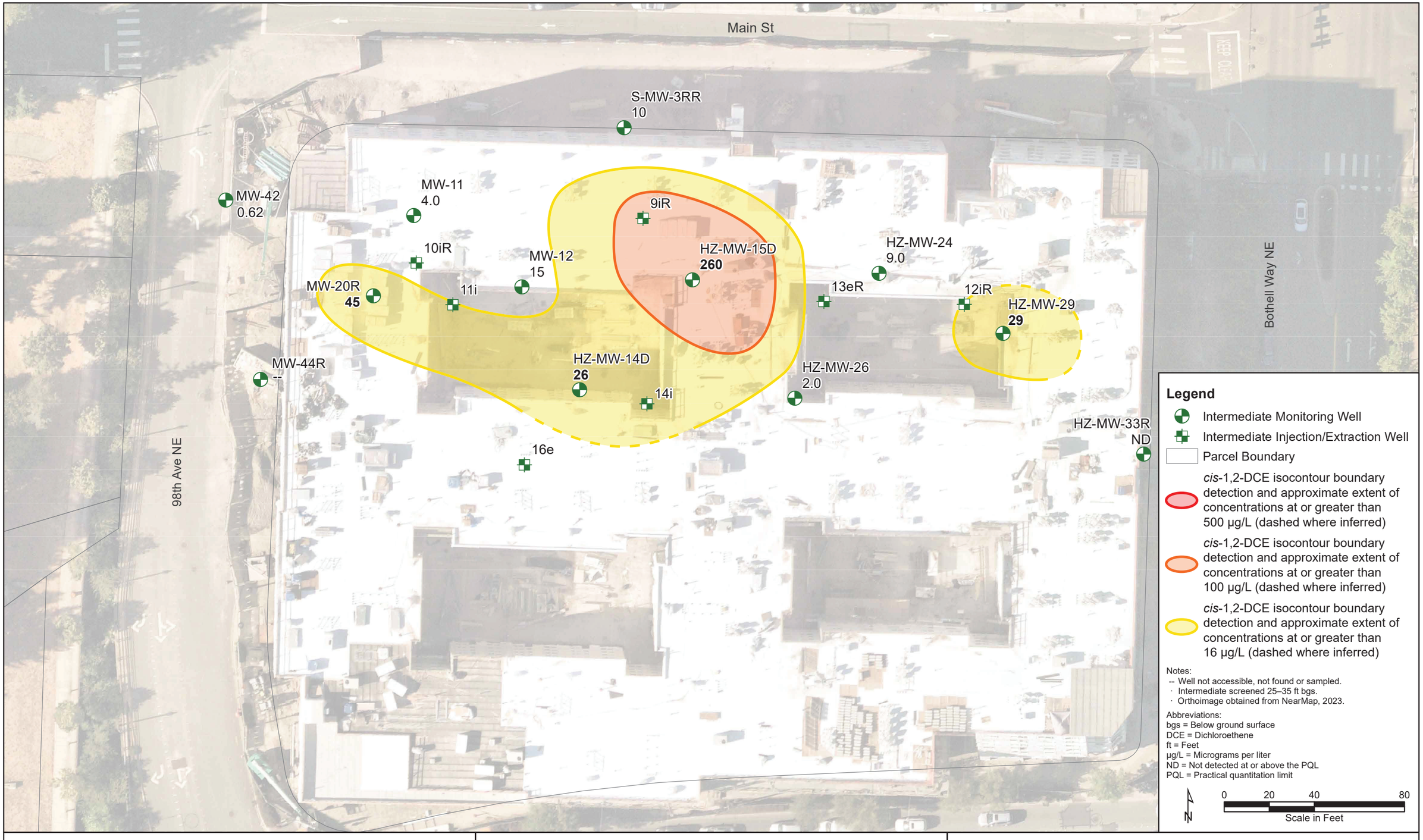
0 20 40 80
Scale in Feet

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Figure 9a
April 2024 *cis*-1,2-DCE Isocontours and Concentrations
Shallow Aquifer Zone Wells (5–25 ft bgs)

I:\GIS\Projects\COB-BSC\00-AI\2024 Annual GW Monitoring Memo\Figure 9a April 2024 cis-1,2-DCE Isocontours and Concentrations Shallow Aquifer Zone Wells (5–25 ft bgs).ai
3/12/2025

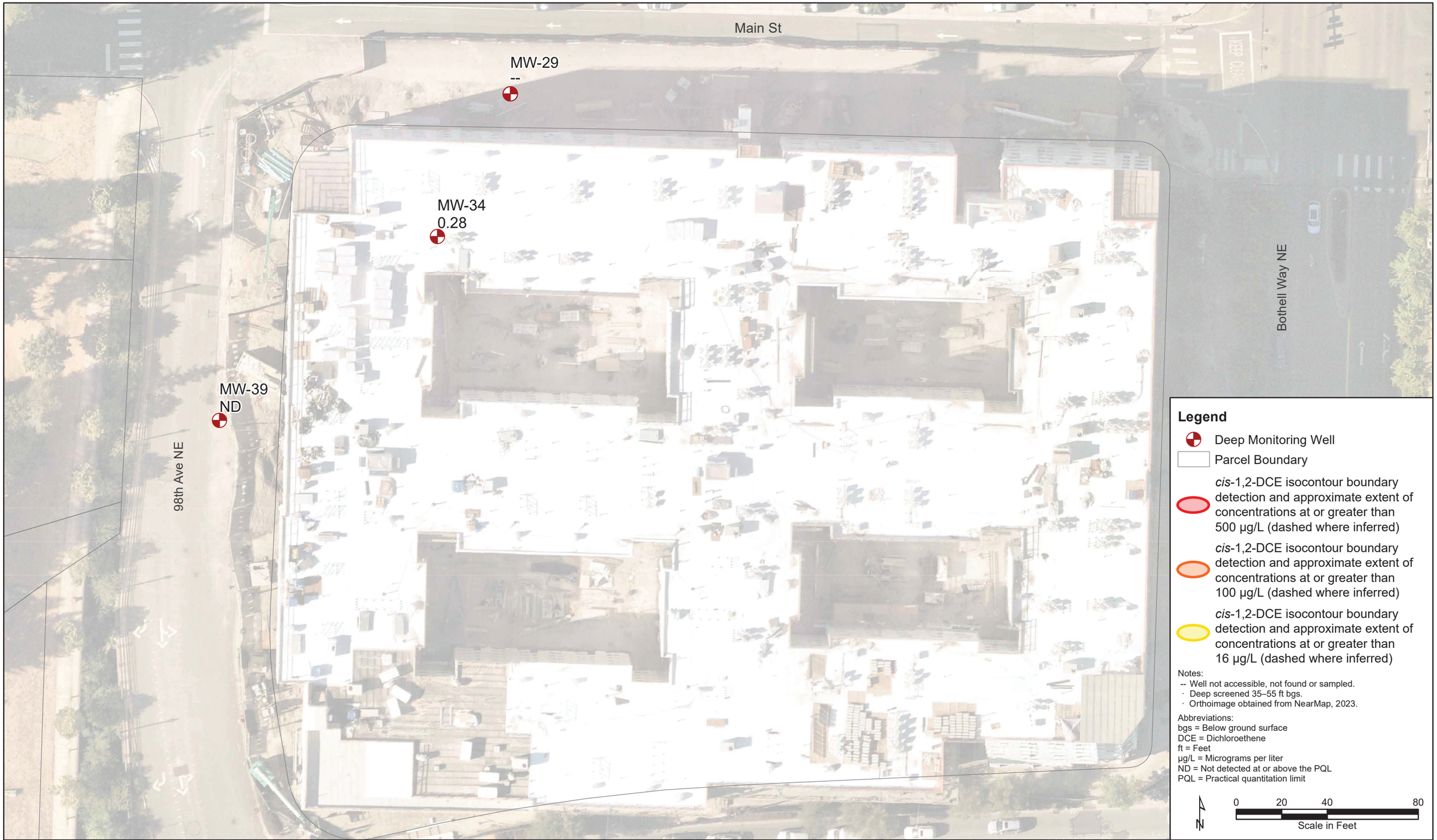


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Figure 9b
April 2024 *cis*-1,2-DCE Isocontours and Concentrations
Intermediate Aquifer Zone Wells (25–35 ft bgs)

I:\GIS\Projects\COB-BSC\00-AI\2024 Annual GW Monitoring Memo\Figure 9b April 2024 cis-1,2-DCE Isocontours and Concentrations Intermediate Aquifer Zone Wells (25–35 ft bgs).ai
3/12/2025

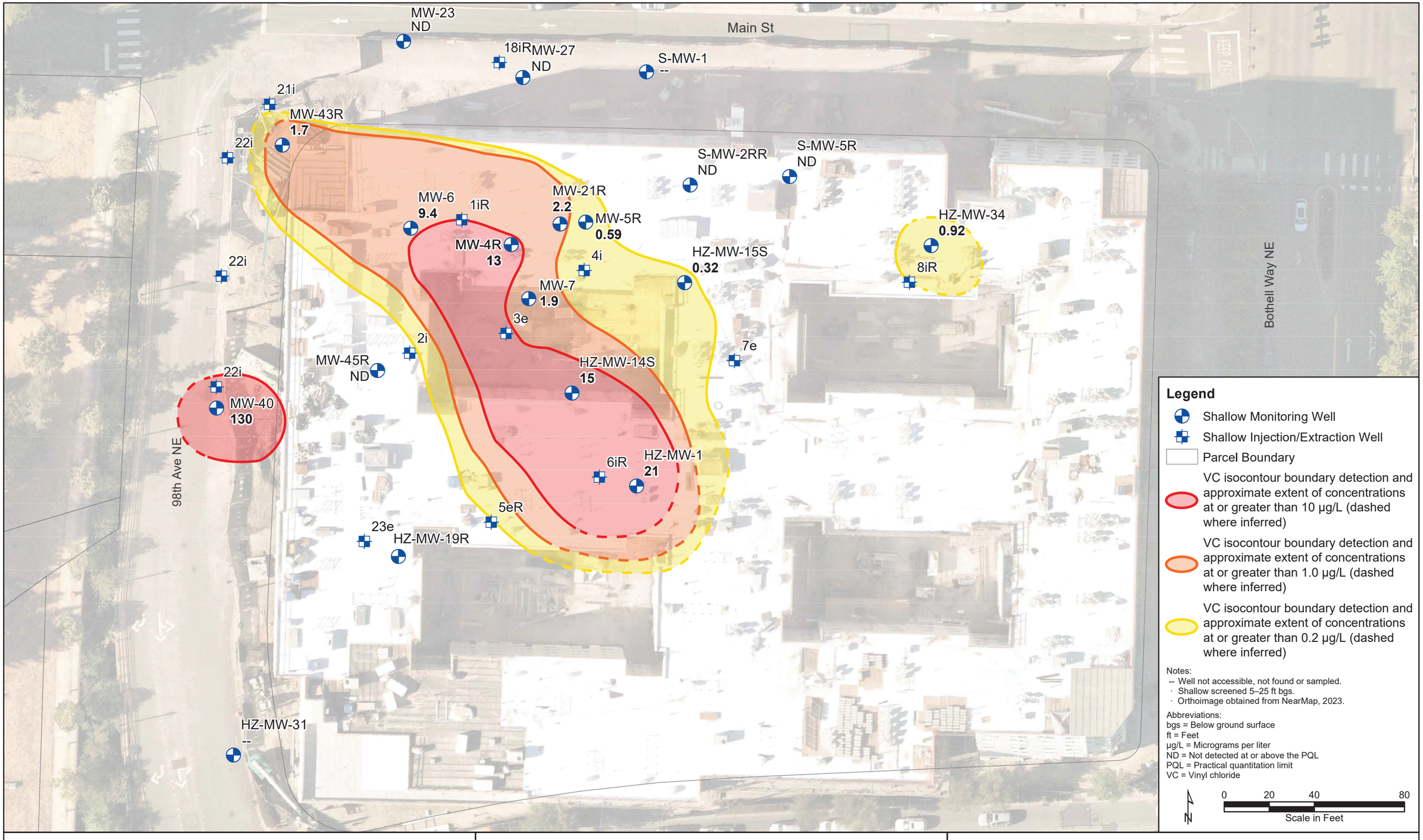


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Figure 9c
April 2024 *cis*-1,2-DCE Isocontours and Concentrations
Deep Aquifer Zone Wells (35–55 ft bgs)

I:\GIS\Projects\COB-BSC\00-AI\2024 Annual GW Monitoring Memo\Figure 9c April 2024 cis-1,2-DCE Isocontours and Concentrations Deep Aquifer Zone Wells (35–55 ft bgs).ai
3/12/2025

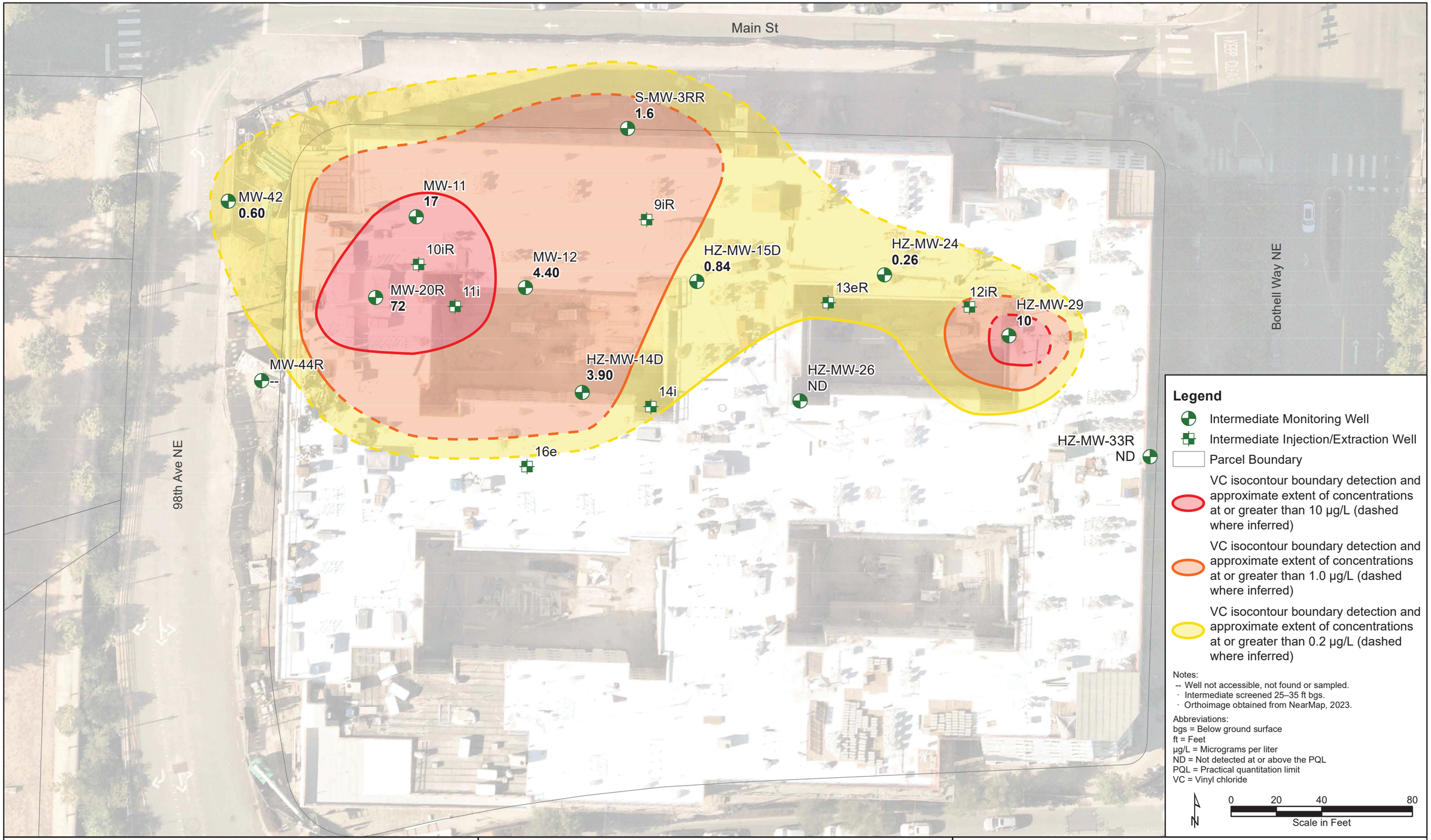


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Bothell, Washington

Figure 10a
April 2024 Vinyl Chloride Isocontours and Concentrations
Shallow Aquifer Zone Wells (5–25 ft bgs)

I:\GIS\Projects\COB-BSC\00-AI\2024 Annual GW Monitoring Memo\Figure 10a April 2024 Vinyl Chloride Shallow Aquifer Zone Wells (5-25 bgs).ai
1/27/2025

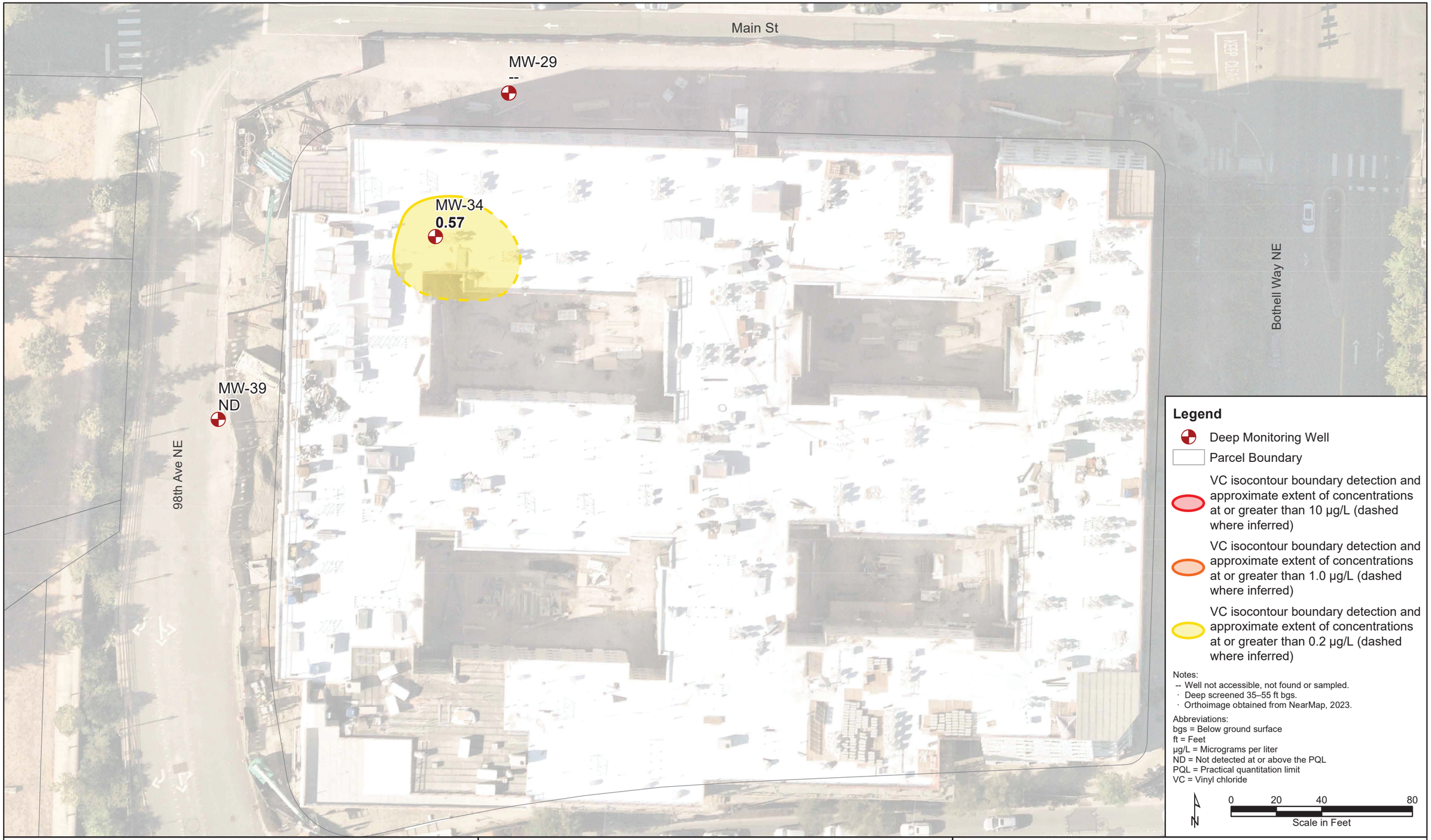


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Figure 10b
April 2024 Vinyl Chloride Isocontours and Concentrations
Intermediate Aquifer Zone Wells (25–35 ft bgs)

I:\GIS\Projects\COB-BSC\00-AI\2024 Annual GW Monitoring Memo\Figure 10b April 2024 Vinyl Chloride Intermediate Aquifer Zone Wells (25-35 ft bgs).ai
1/27/2025

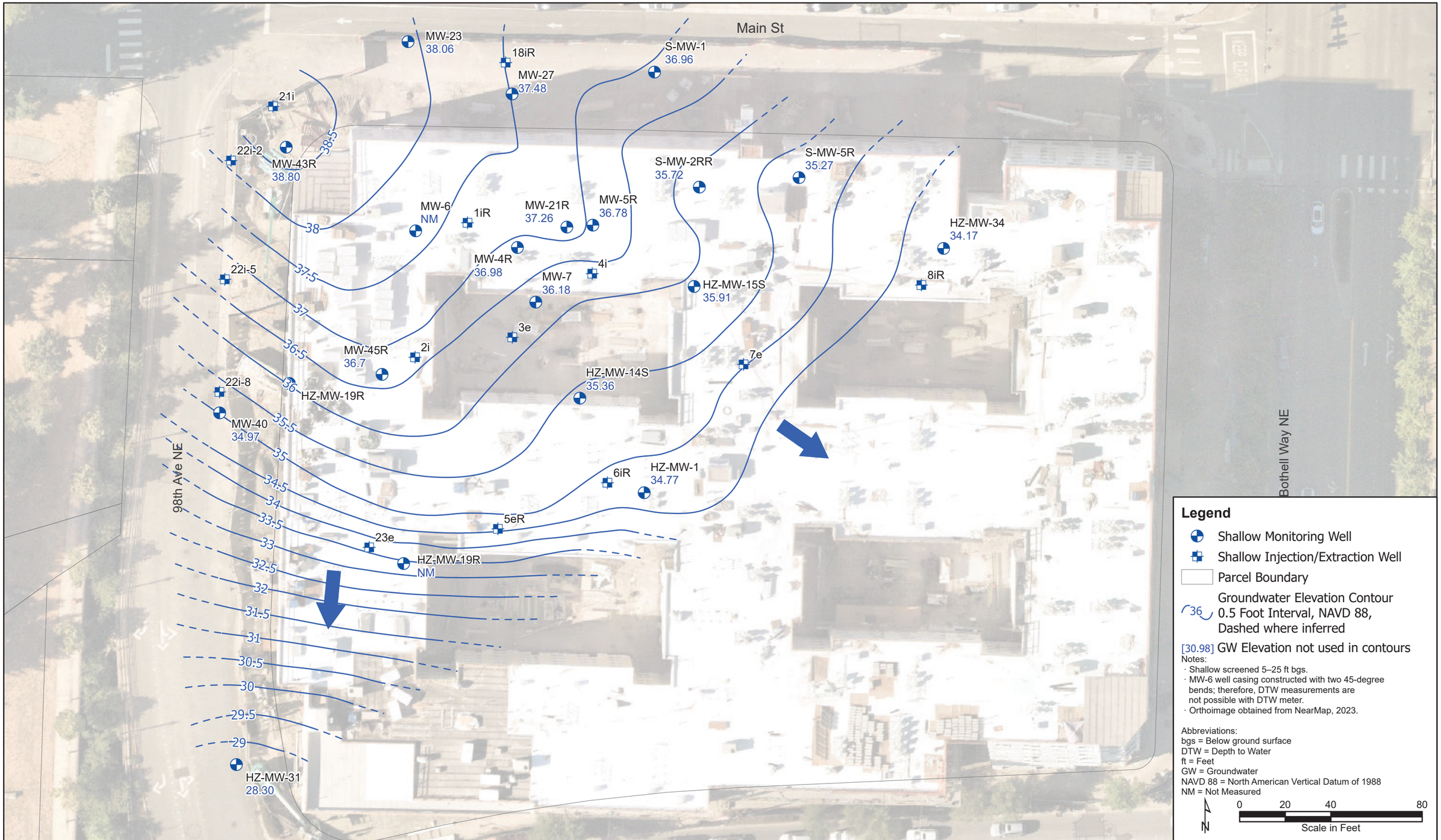


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Figure 10c
April 2024 Vinyl Chloride Isocontours and Concentrations
Deep Aquifer Zone Wells (35–55 ft bgs)

I:\GIS\Projects\COB-BSC\00-AI\2024 Annual GW Monitoring Memo\Figure 10c April 2024 Vinyl Chloride Deep Aquifer Zone Wells (35-55 ft bgs).ai
1/27/2025



Legend

- Shallow Monitoring Well
- Shallow Injection/Extraction Well
- Parcel Boundary
- 36 Groundwater Elevation Contour 0.5 Foot Interval, NAVD 88, Dashed where inferred
- [30.98] GW Elevation not used in contours

Notes:
- Shallow screened 5–25 ft bgs.
- MW-6 well casing constructed with two 45-degree bends; therefore, DTW measurements are not possible with DTW meter.
- Orthoimage obtained from NearMap, 2023.

Abbreviations:
bgs = Below ground surface
DTW = Depth to Water
ft = Feet
GW = Groundwater
NAVD 88 = North American Vertical Datum of 1988
NM = Not Measured

N

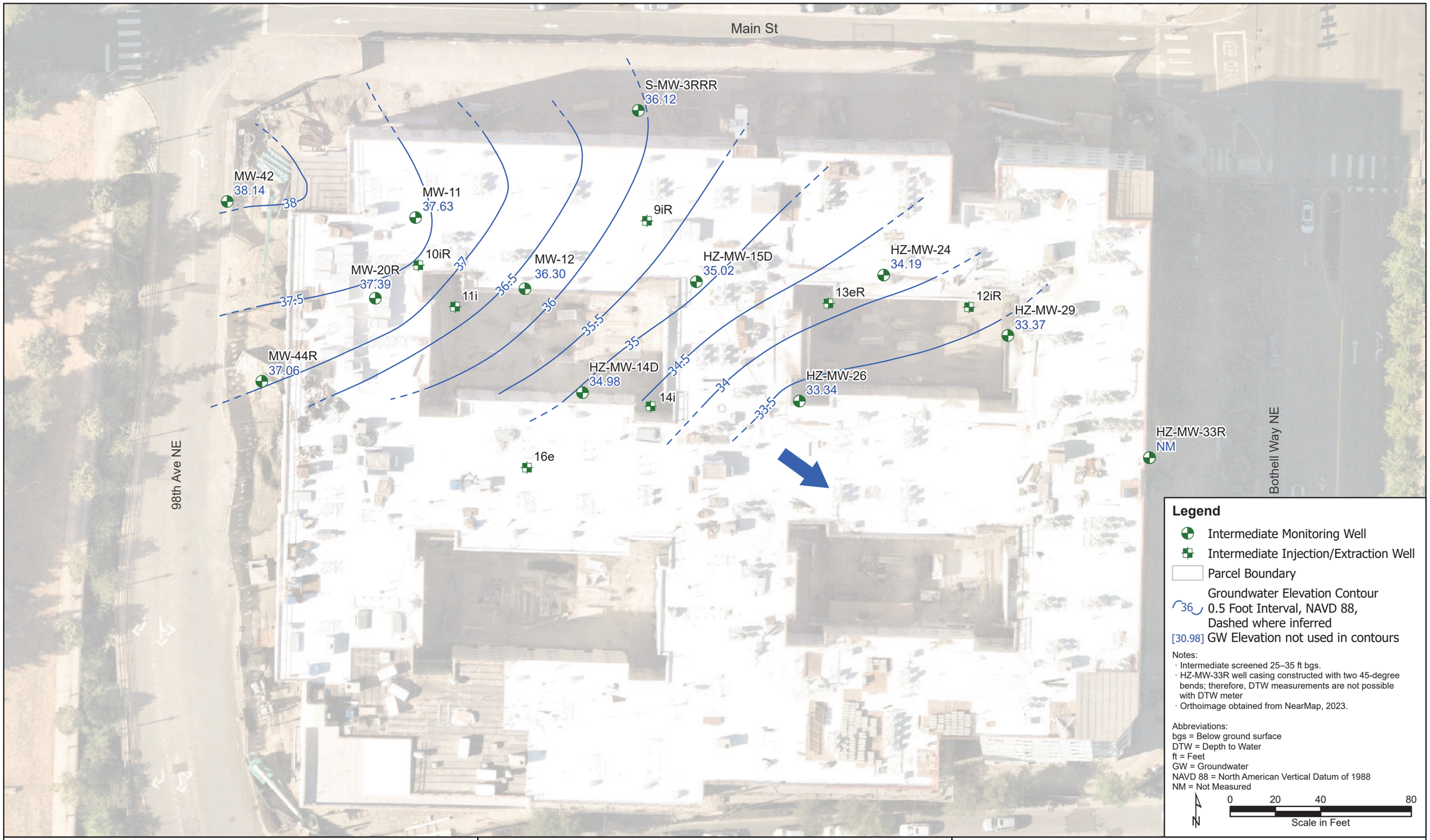
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Scale in Feet

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Figure 11a
Groundwater Elevation & Contour Map
Shallow Aquifer Zone Wells (5–25 ft bgs)
September 23, 2024 (System On)

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4/3/2025

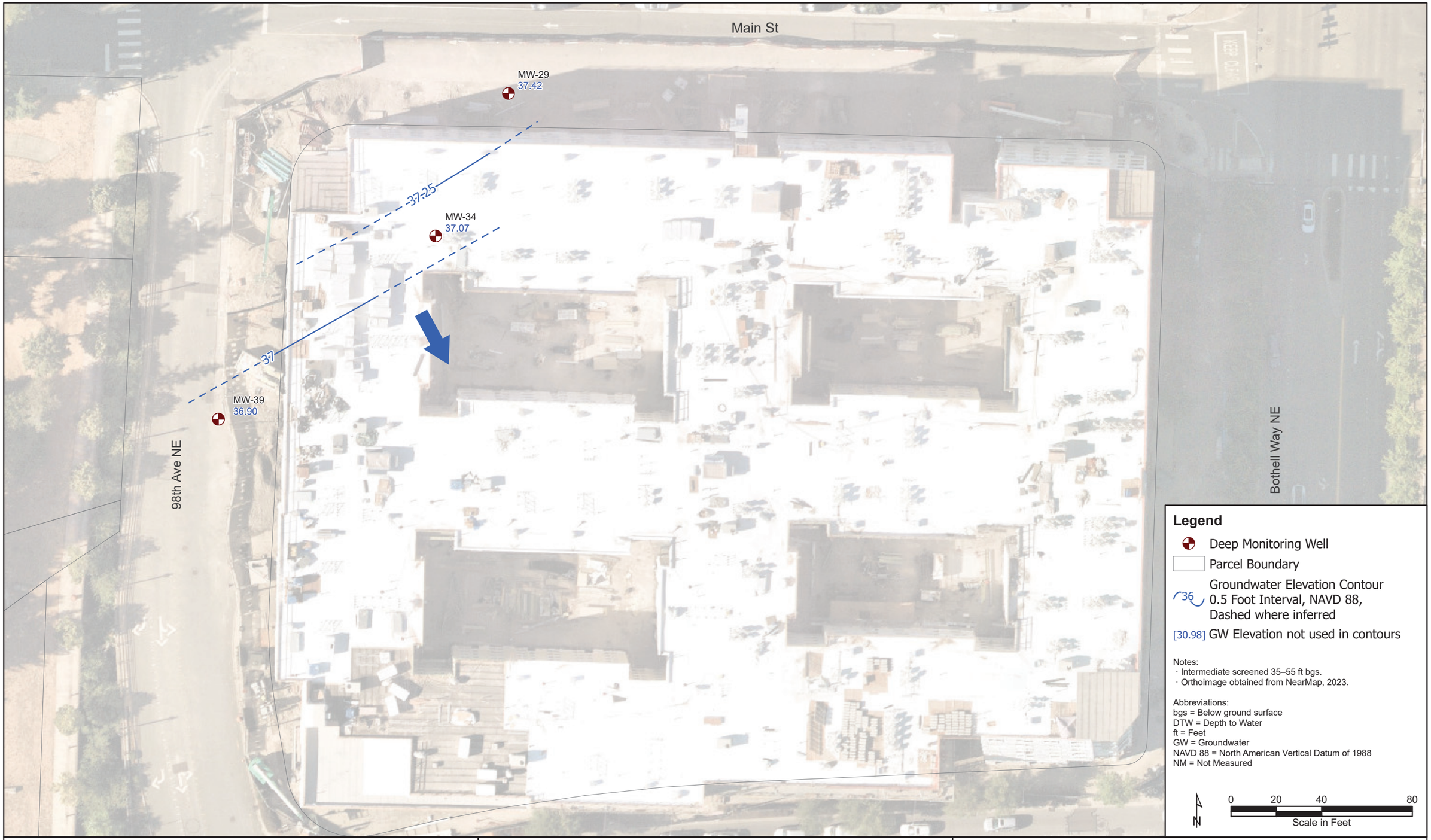


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Figure 11b
Groundwater Elevations & Contour Map
Intermediate Aquifer Zone Wells (25–35 ft bgs)
September 23, 2024 (System On)

I:\GIS\Projects\COB-BSC\01-Tasks\01-Annual GW Monitoring Report\01-2024\01-MapFiles\2024GWMonitoring\GWMonitoring2024.aprx
4/3/2025

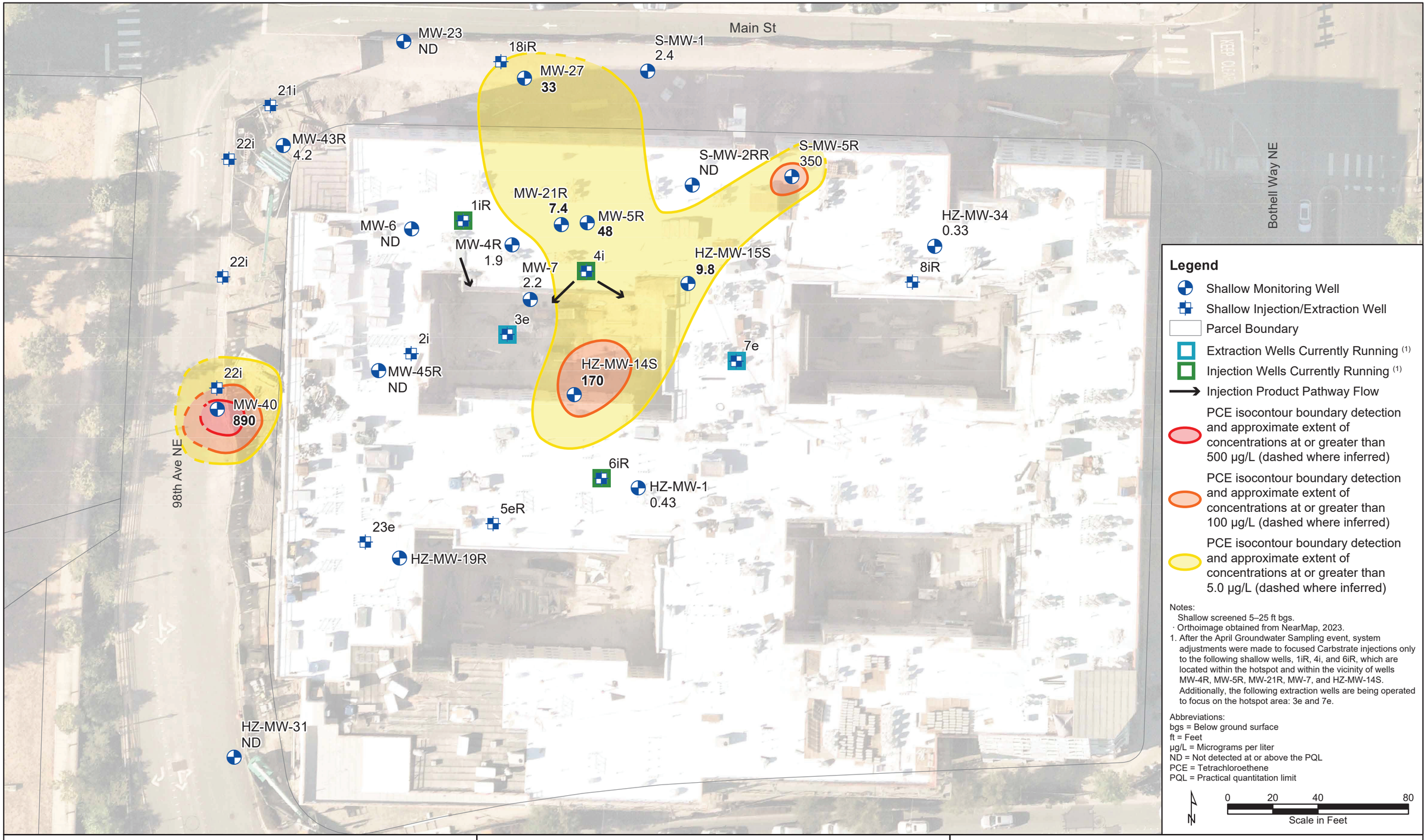


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Figure 11c
Groundwater Elevations & Contour Map
Deep Aquifer Zone Wells (35–55 ft bgs)
September 23, 2024 (System On)

I:\GIS\Projects\COB-BSC\01-Tasks\01-Annual GW Monitoring Report\01-2024\01-MapFiles\2024GWMonitoring\GWMonitoring2024.aprx
4/3/2025



Legend

- Shallow Monitoring Well
- Shallow Injection/Extraction Well
- Parcel Boundary
- Extraction Wells Currently Running (1)
- Injection Wells Currently Running (1)
- Injection Product Pathway Flow
- PCE isocontour boundary detection and approximate extent of concentrations at or greater than 500 µg/L (dashed where inferred)
- PCE isocontour boundary detection and approximate extent of concentrations at or greater than 100 µg/L (dashed where inferred)
- PCE isocontour boundary detection and approximate extent of concentrations at or greater than 5.0 µg/L (dashed where inferred)

Notes:
Shallow screened 5–25 ft bgs.
· Orthoimage obtained from NearMap, 2023.
1. After the April Groundwater Sampling event, system adjustments were made to focused Carbstrate injections only to the following shallow wells, 1iR, 4i, and 6iR, which are located within the hotspot and within the vicinity of wells MW-4R, MW-5R, MW-21R, MW-7, and HZ-MW-14S. Additionally, the following extraction wells are being operated to focus on the hotspot area: 3e and 7e.

Abbreviations:
bgs = Below ground surface
ft = Feet
µg/L = Micrograms per liter
ND = Not detected at or above the PQL
PCE = Tetrachloroethene
PQL = Practical quantitation limit

N

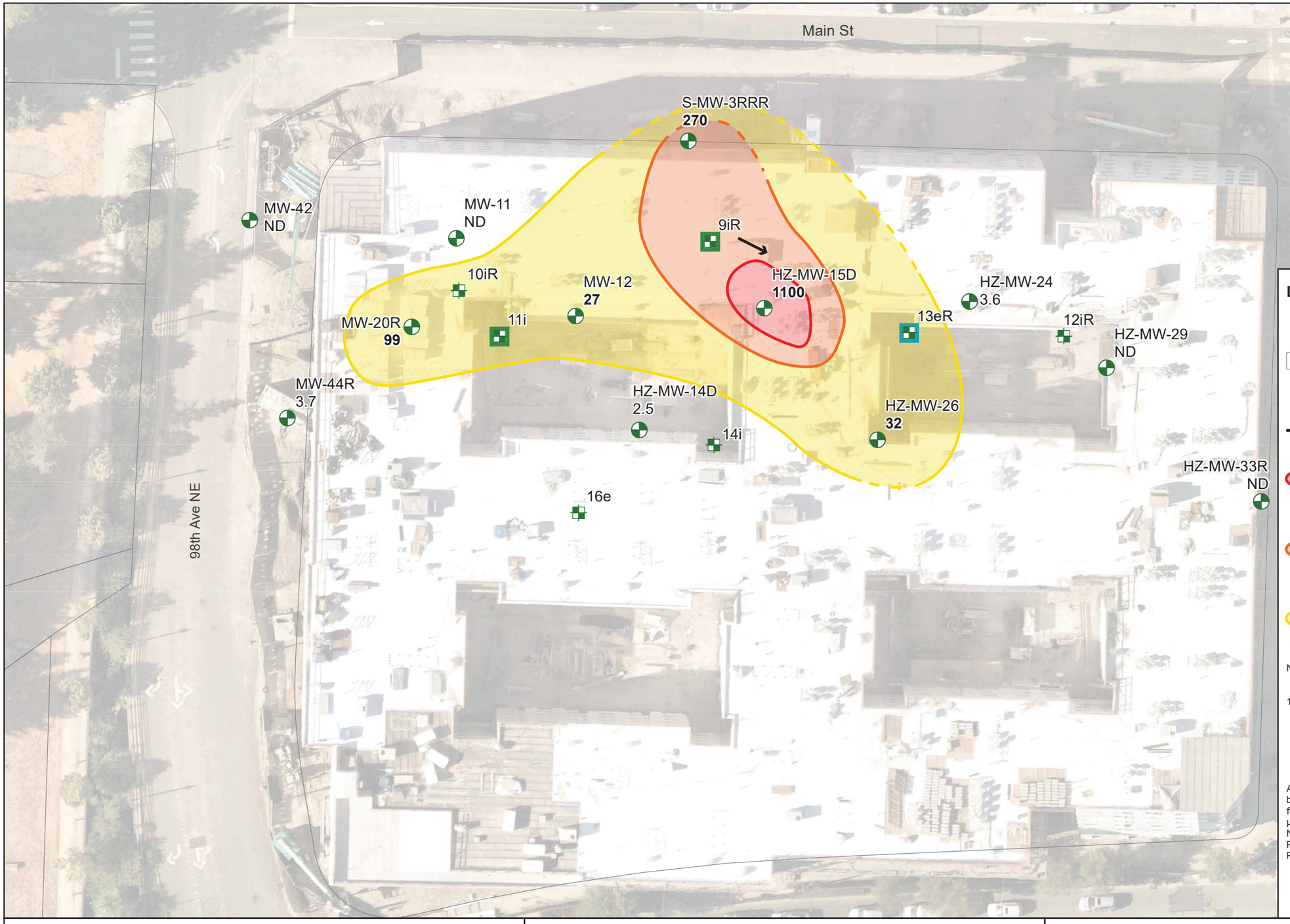
0 20 40 80
Scale in Feet

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Figure 12a
September 2024 PCE Isocontours and Concentrations
Shallow Aquifer Zone Wells (5–25 ft bgs)

I:\GIS\Projects\COB-BSC\00-AI\2024 Annual GW Monitoring Memo\Figure 12a September 2024 PCE Shallow Aquifer Zone Wells (5-25 ft bgs).ai
1/27/2025



Legend

- Intermediate Monitoring Well
- Intermediate Injection/Extraction Well
- Parcel Boundary
- Extraction Wells Currently Running (1)
- Injection Wells Currently Running (1)
- Injection Product Pathway Flow
- PCE isocontour boundary detection and approximate extent of concentrations at or greater than 500 µg/L (dashed where inferred)
- PCE isocontour boundary detection and approximate extent of concentrations at or greater than 100 µg/L (dashed where inferred)
- PCE isocontour boundary detection and approximate extent of concentrations at or greater than 5.0 µg/L (dashed where inferred)

Notes:
· Intermediate screened 25–35 ft bgs.
· Orthoimage obtained from NearMap, 2023.
1. After the April Groundwater Sampling event, system adjustments were made to focused Carbstrate injections only to the following intermediate injection wells, 9iR and 11i, which are located within the hotspot and within the vicinity of wells MW-12 and HZ-MW-15D. Additionally, the following extraction well is being operated to focus on the hotspot area: 13eR.

Abbreviations:
bgs = Below ground surface
ft = Feet
µg/L = Micrograms per liter
ND = Not detected at or above the PQL
PCE = Tetrachloroethene
PQL = Practical quantitation limit

N

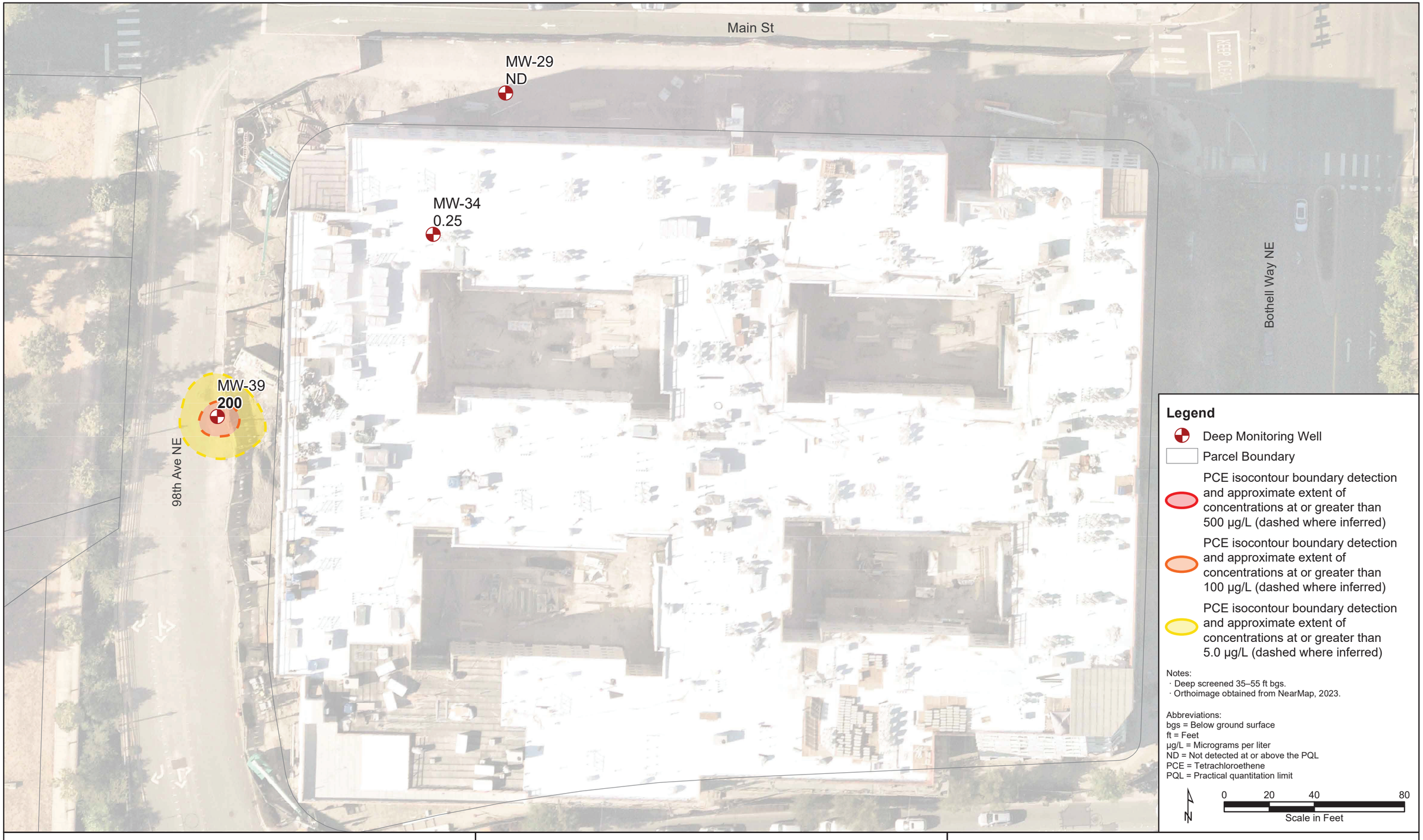
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Scale in Feet

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Figure 12b
September 2024 PCE Isocontours and Concentrations
Intermediate Aquifer Zone Wells (25–35 ft bgs)

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1/27/2025

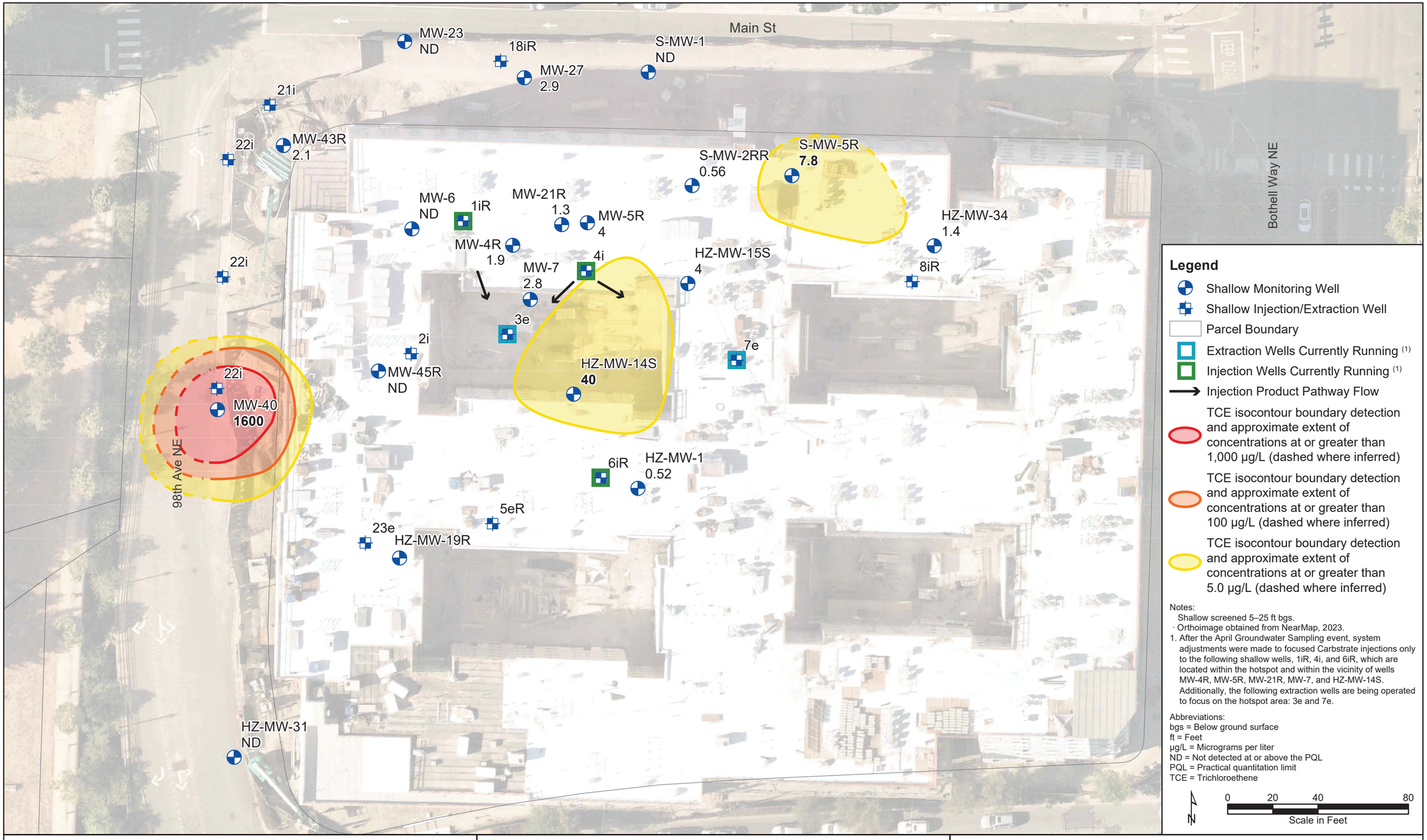


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Figure 12c
September 2024 PCE Isocontours and Concentrations
Deep Aquifer Zone Wells (35–55 ft bgs)

I:\GIS\Projects\COB-BSC\00-AI\2024 Annual GW Monitoring Memo\Figure 12c September 2024 PCE Isocontours and Concentrations Deep Aquifer Zone Wells (35–55 ft bgs).ai
1/27/2025



Legend

- Shallow Monitoring Well
- Shallow Injection/Extraction Well
- Parcel Boundary
- Extraction Wells Currently Running (1)
- Injection Wells Currently Running (1)
- Injection Product Pathway Flow
- TCE isocontour boundary detection and approximate extent of concentrations at or greater than 1,000 µg/L (dashed where inferred)
- TCE isocontour boundary detection and approximate extent of concentrations at or greater than 100 µg/L (dashed where inferred)
- TCE isocontour boundary detection and approximate extent of concentrations at or greater than 5.0 µg/L (dashed where inferred)

Notes:
Shallow screened 5–25 ft bgs.
· Orthoimage obtained from NearMap, 2023.
1. After the April Groundwater Sampling event, system adjustments were made to focused Carbstrate injections only to the following shallow wells, 1iR, 4i, and 6iR, which are located within the hotspot and within the vicinity of wells MW-4R, MW-5R, MW-21R, MW-7, and HZ-MW-14S. Additionally, the following extraction wells are being operated to focus on the hotspot area: 3e and 7e.

Abbreviations:
bgs = Below ground surface
ft = Feet
µg/L = Micrograms per liter
ND = Not detected at or above the PQL
PQL = Practical quantitation limit
TCE = Trichloroethene

N

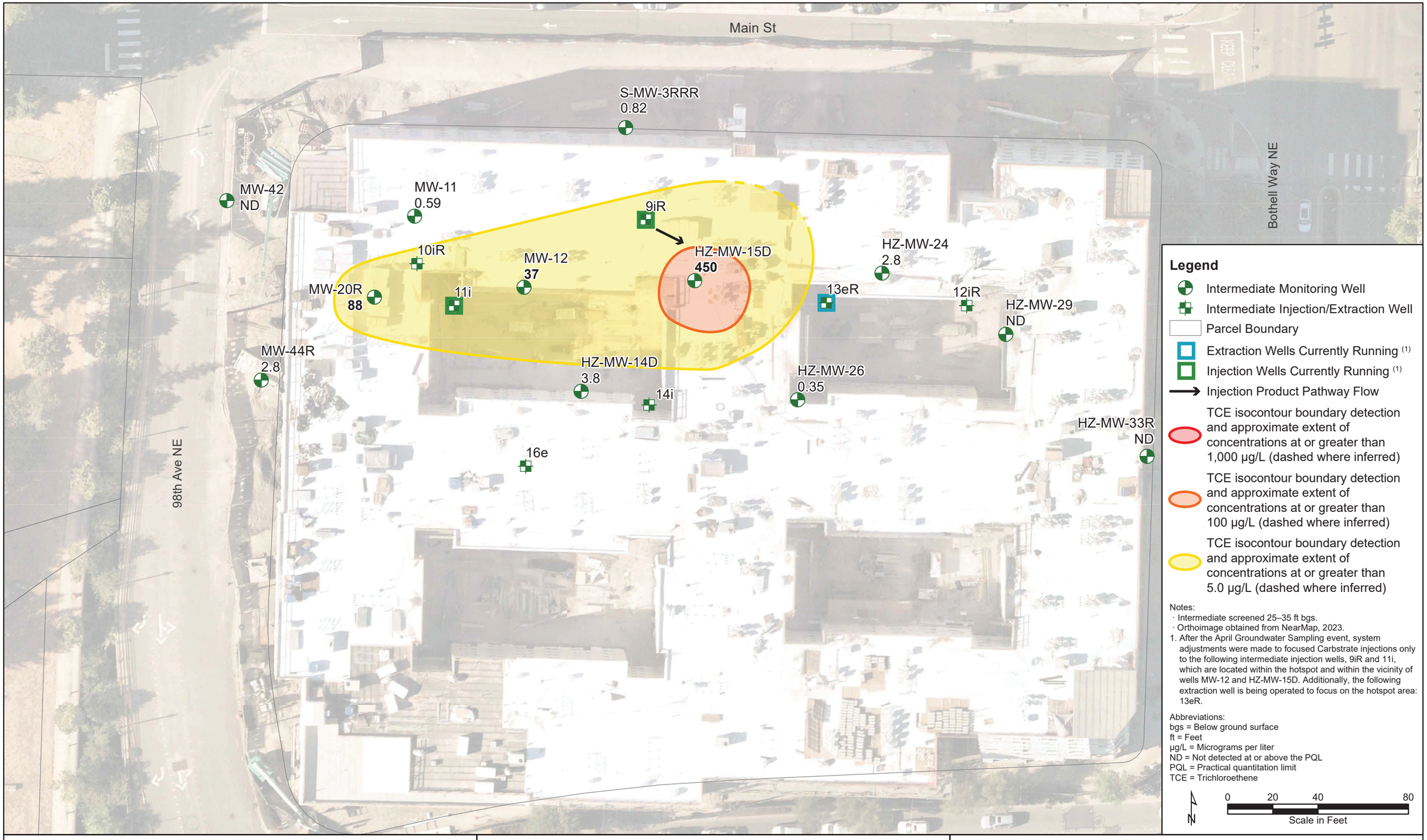
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Scale in Feet

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Figure 13a
September 2024 TCE Isocontours and Concentrations
Shallow Aquifer Zone Wells (5–25 ft bgs)

I:\GIS\Projects\COB-BSC\00-AI\2024 Annual GW Monitoring Memo\Figure 13a September 2024 TCE Shallow Aquifer Zone Wells (5-25 ft bgs).ai
1/27/2025



Legend

- Intermediate Monitoring Well
- Intermediate Injection/Extraction Well
- Parcel Boundary
- Extraction Wells Currently Running (1)
- Injection Wells Currently Running (1)
- Injection Product Pathway Flow
- TCE isocontour boundary detection and approximate extent of concentrations at or greater than 1,000 µg/L (dashed where inferred)
- TCE isocontour boundary detection and approximate extent of concentrations at or greater than 100 µg/L (dashed where inferred)
- TCE isocontour boundary detection and approximate extent of concentrations at or greater than 5.0 µg/L (dashed where inferred)

Notes:
· Intermediate screened 25–35 ft bgs.
· Orthoimage obtained from NearMap, 2023.
1. After the April Groundwater Sampling event, system adjustments were made to focused Carbstrate injections only to the following intermediate injection wells, 9iR and 11i, which are located within the hotspot and within the vicinity of wells MW-12 and HZ-MW-15D. Additionally, the following extraction well is being operated to focus on the hotspot area: 13eR.

Abbreviations:
bgs = Below ground surface
ft = Feet
µg/L = Micrograms per liter
ND = Not detected at or above the PQL
PQL = Practical quantitation limit
TCE = Trichloroethene

N

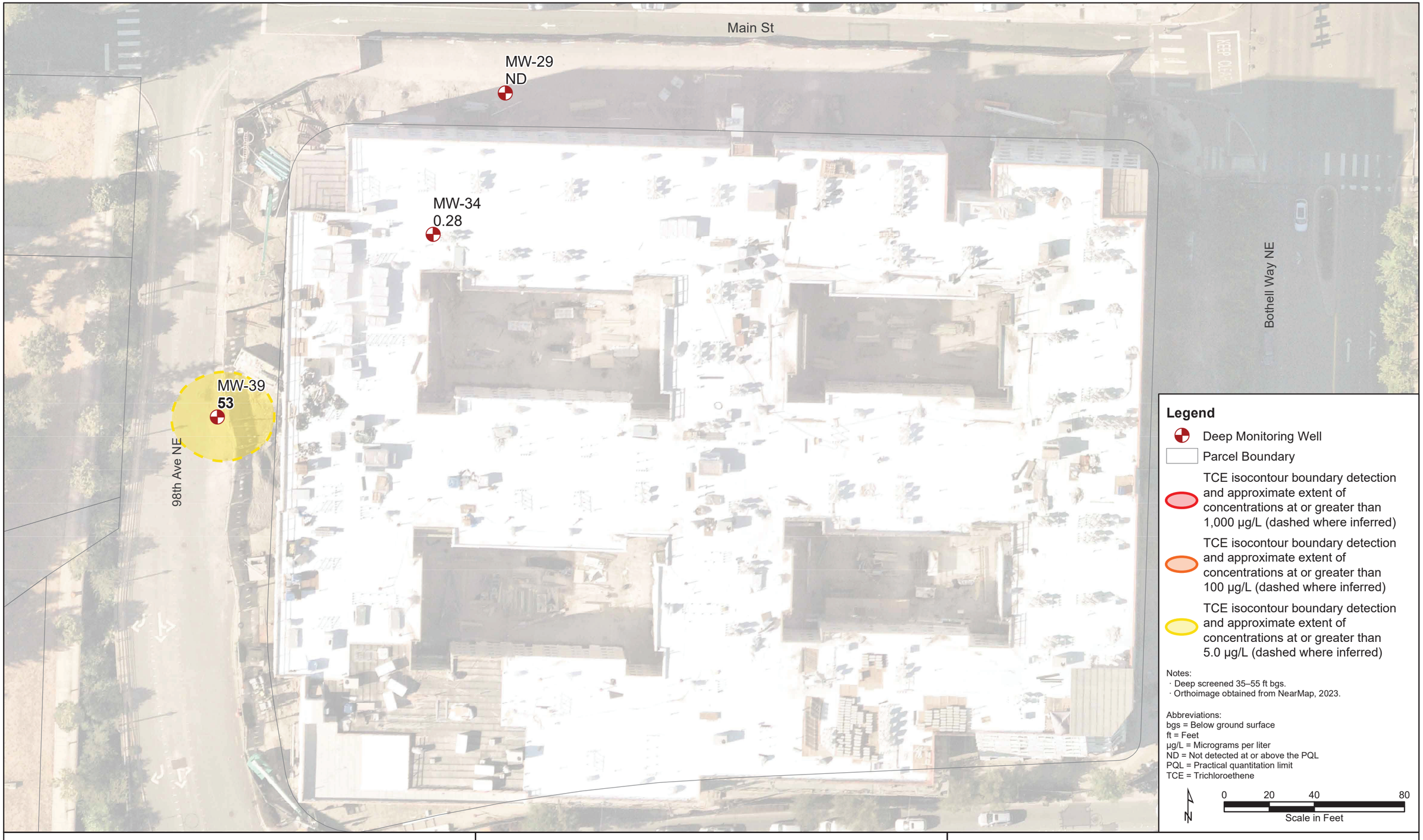
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Scale in Feet

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Figure 13b
September 2024 TCE Isocontours and Concentrations
Intermediate Aquifer Zone Wells (25–35 ft bgs)

I:\GIS\Projects\COB-BSC\00-AI\2024 Annual GW Monitoring Memo\Figure 13b September 2024 TCE Isocontours and Concentrations Intermediate Aquifer Zone Wells (25–35 ft bgs).ai
1/27/2025

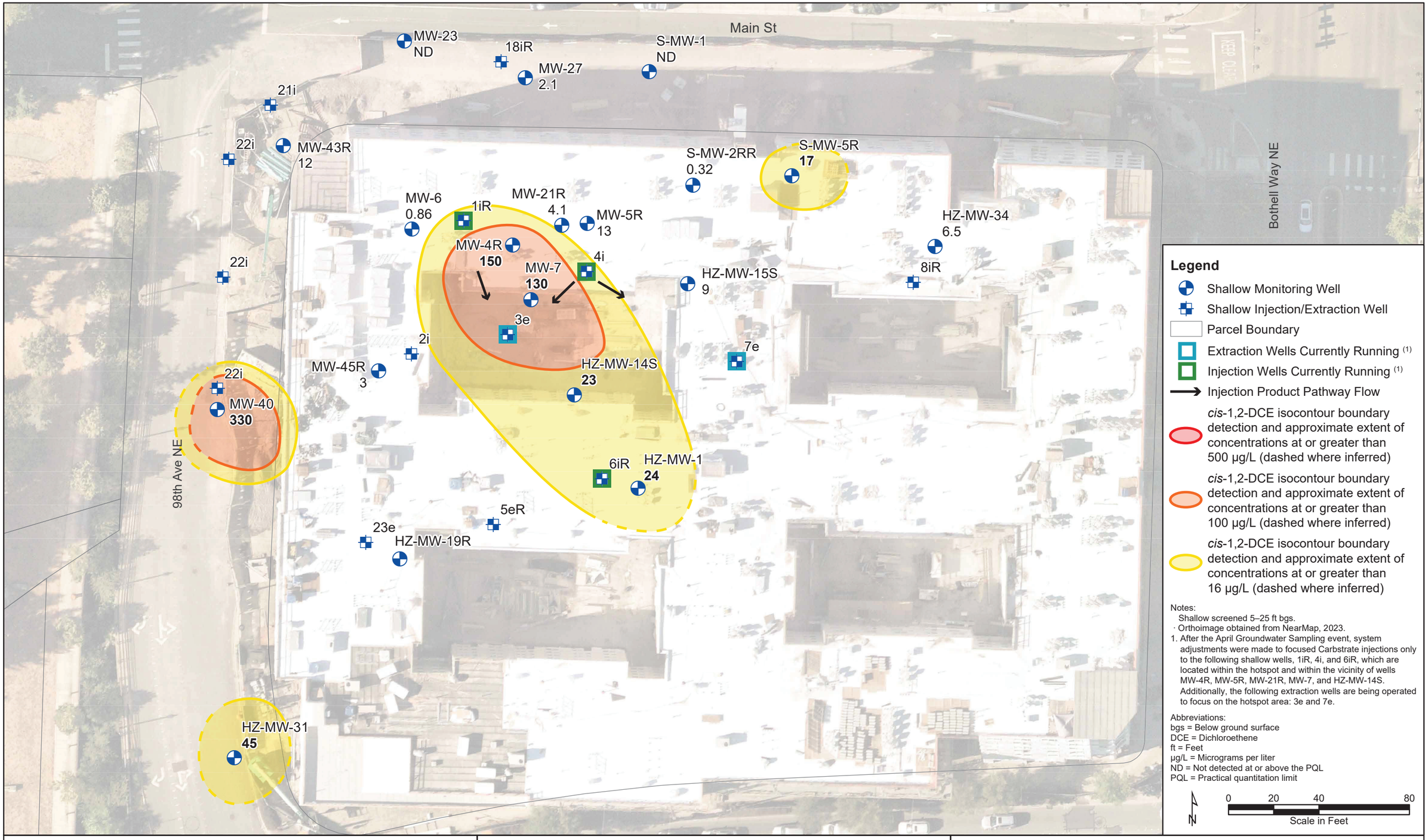


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Figure 13c
September 2024 TCE Isocontours and Concentrations
Deep Aquifer Zone Wells (35–55 ft bgs)

I:\GIS\Projects\COB-BSC\00-AI\2024 Annual GW Monitoring Memo\Figure 13c September 2024 TCE Isocontours and Concentrations Deep Aquifer Zone Wells (35–55 ft bgs).ai
1/27/2025



Legend

- Shallow Monitoring Well
- Shallow Injection/Extraction Well
- Parcel Boundary
- Extraction Wells Currently Running (1)
- Injection Wells Currently Running (1)
- Injection Product Pathway Flow
- *cis*-1,2-DCE isocontour boundary detection and approximate extent of concentrations at or greater than 500 µg/L (dashed where inferred)
- *cis*-1,2-DCE isocontour boundary detection and approximate extent of concentrations at or greater than 100 µg/L (dashed where inferred)
- *cis*-1,2-DCE isocontour boundary detection and approximate extent of concentrations at or greater than 16 µg/L (dashed where inferred)

Notes:
Shallow screened 5–25 ft bgs.
· Orthoimage obtained from NearMap, 2023.
1. After the April Groundwater Sampling event, system adjustments were made to focused Carbstrate injections only to the following shallow wells, 1iR, 4i, and 6iR, which are located within the hotspot and within the vicinity of wells MW-4R, MW-5R, MW-21R, MW-7, and HZ-MW-14S. Additionally, the following extraction wells are being operated to focus on the hotspot area: 3e and 7e.

Abbreviations:
bgs = Below ground surface
DCE = Dichloroethene
ft = Feet
µg/L = Micrograms per liter
ND = Not detected at or above the PQL
PQL = Practical quantitation limit

N

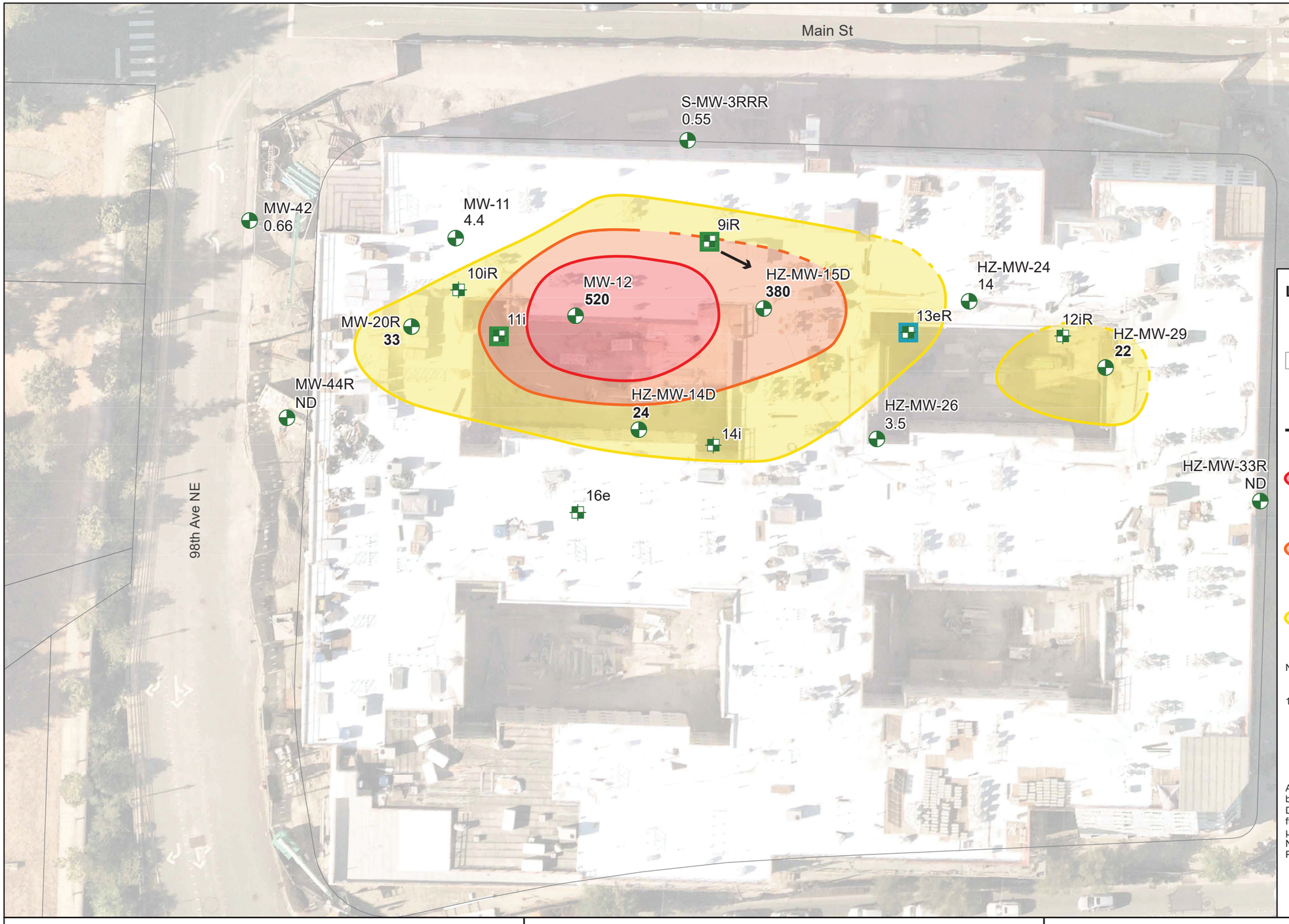
0 20 40 80
Scale in Feet

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Bothell, Washington

Figure 14a
September 2024 *cis*-1,2-DCE Isocontours and Concentrations
Shallow Aquifer Zone Wells (5–25 ft bgs)

I:\GIS\Projects\COB-BSC\00-AI\2024 Annual GW Monitoring Memo\Figure 14a September 2024 cis-1,2-DCE Isocontours and Concentrations Shallow Aquifer Zone Wells (5–25 ft bgs).ai
3/12/2025



Legend

- Intermediate Monitoring Well
- Intermediate Injection/Extraction Well
- Parcel Boundary
- Extraction Wells Currently Running (1)
- Injection Wells Currently Running (1)
- Injection Product Pathway Flow
- *cis*-1,2-DCE isocontour boundary detection and approximate extent of concentrations at or greater than 500 µg/L (dashed where inferred)
- *cis*-1,2-DCE isocontour boundary detection and approximate extent of concentrations at or greater than 100 µg/L (dashed where inferred)
- *cis*-1,2-DCE isocontour boundary detection and approximate extent of concentrations at or greater than 16 µg/L (dashed where inferred)

Notes:
· Intermediate screened 25–35 ft bgs.
· Orthoimage obtained from NearMap, 2023.
1. After the April Groundwater Sampling event, system adjustments were made to focused Carbstrate injections only to the following intermediate injection wells, 9iR and 11i, which are located within the hotspot and within the vicinity of wells MW-12 and HZ-MW-15D. Additionally, the following extraction well is being operated to focus on the hotspot area: 13eR.

Abbreviations:
bgs = Below ground surface
DCE = Dichloroethene
ft = Feet
µg/L = Micrograms per liter
ND = Not detected at or above the PQL
PQL = Practical quantitation limit

N

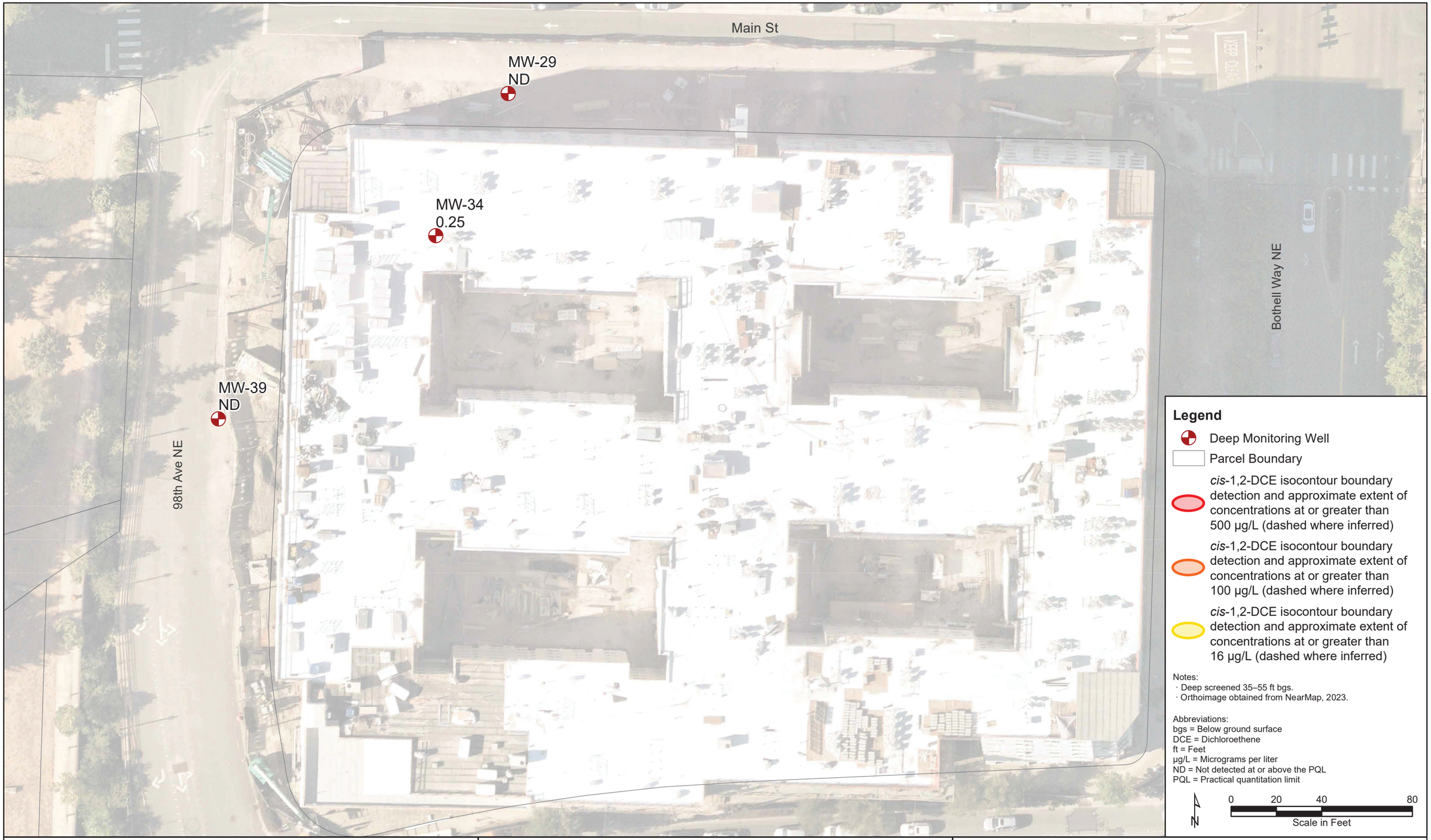
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Scale in Feet

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Figure 14b
September 2024 *cis*-1,2-DCE Isocontours and Concentrations
Intermediate Aquifer Zone Wells (25–35 ft bgs)

I:\GIS\Projects\COB-BSC\00-AI\2024 Annual GW Monitoring Memo\Figure 14b September 2024 cis-1,2-DCE Isocontours and Concentrations Intermediate Aquifer Zone Wells (25–35 ft bgs).ai
3/12/2025

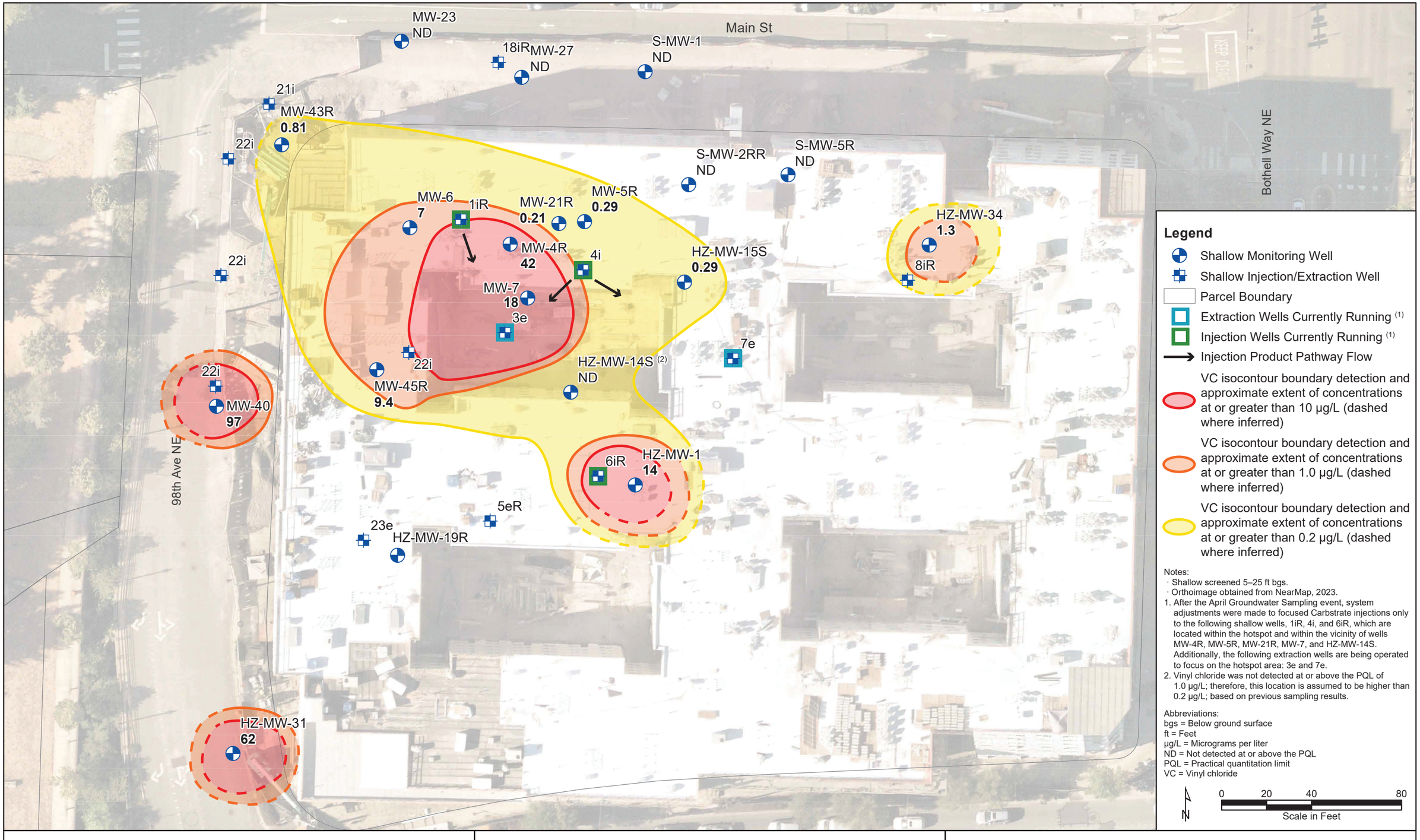


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2024 Annual Groundwater Monitoring
City of Bothell Service Center
Bothell, Washington

Figure 14c
September 2024 *cis*-1,2-DCE Isocontours and Concentrations
Deep Aquifer Zone Wells (35–55 ft bgs)

I:\GIS\Projects\COB-BSC\00-AI\2024 Annual GW Monitoring Memo\Figure 14c September 2024 cis-1,2-DCE Isocontours and Concentrations Deep Aquifer Zone Wells (35–55 ft bgs).ai
3/12/2025



Legend

- Shallow Monitoring Well
- Shallow Injection/Extraction Well
- Parcel Boundary
- Extraction Wells Currently Running (1)
- Injection Wells Currently Running (1)
- Injection Product Pathway Flow
- VC isocontour boundary detection and approximate extent of concentrations at or greater than 10 µg/L (dashed where inferred)
- VC isocontour boundary detection and approximate extent of concentrations at or greater than 1.0 µg/L (dashed where inferred)
- VC isocontour boundary detection and approximate extent of concentrations at or greater than 0.2 µg/L (dashed where inferred)

Notes:
· Shallow screened 5–25 ft bgs.
· Orthoimage obtained from NearMap, 2023.
1. After the April Groundwater Sampling event, system adjustments were made to focused Carbstrate injections only to the following shallow wells, 1iR, 4i, and 6iR, which are located within the hotspot and within the vicinity of wells MW-4R, MW-5R, MW-21R, MW-7, and HZ-MW-14S. Additionally, the following extraction wells are being operated to focus on the hotspot area: 3e and 7e.
2. Vinyl chloride was not detected at or above the PQL of 1.0 µg/L; therefore, this location is assumed to be higher than 0.2 µg/L; based on previous sampling results.

Abbreviations:
bgs = Below ground surface
ft = Feet
µg/L = Micrograms per liter
ND = Not detected at or above the PQL
PQL = Practical quantitation limit
VC = Vinyl chloride

N

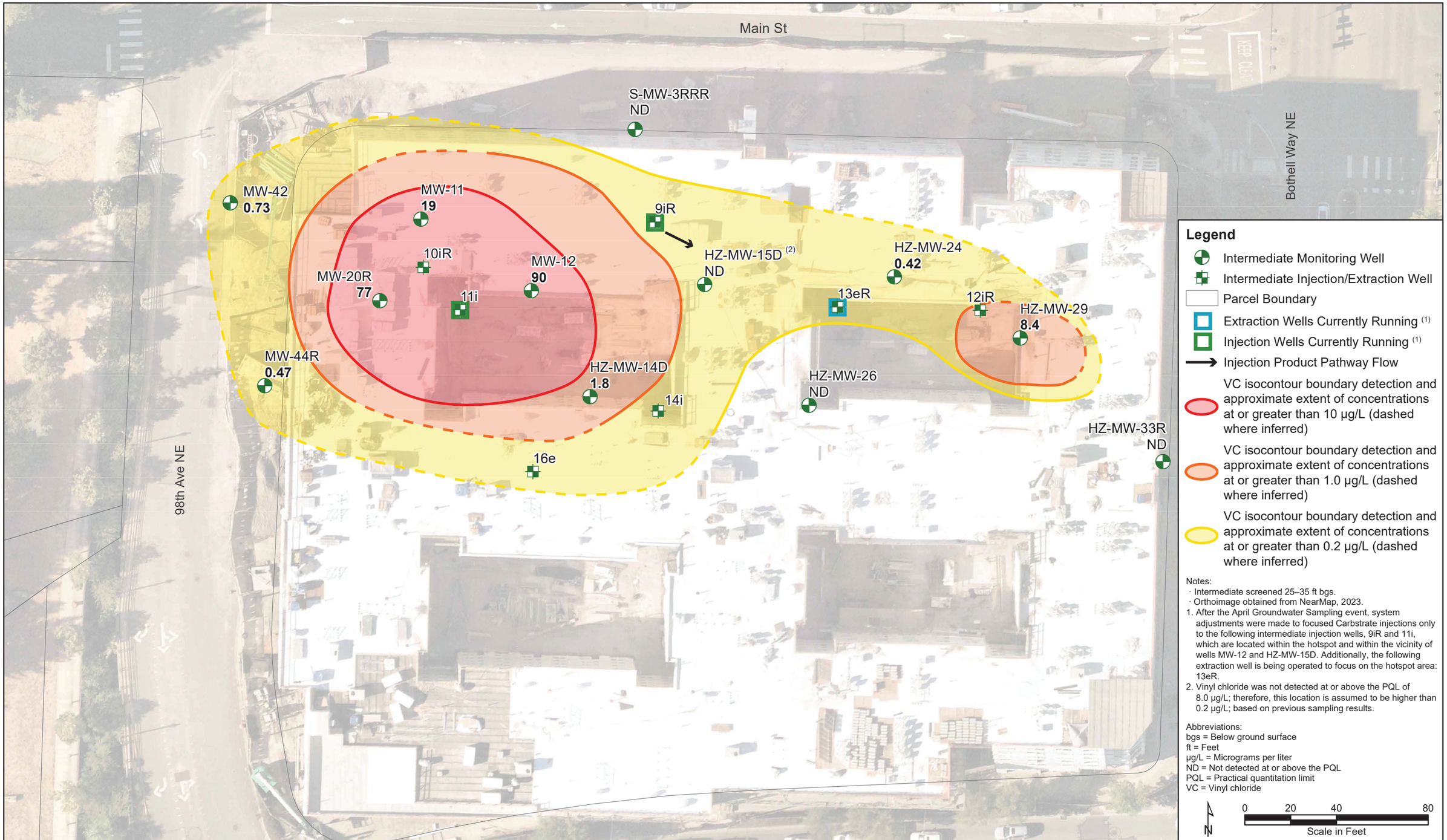
0 20 40 80
Scale in Feet

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Bothell, Washington

Figure 15a
September 2024 Vinyl Chloride Isocontours and Concentrations
Shallow Aquifer Zone Wells (5–25 ft bgs)

I:\GIS\Projects\COB-BSC\00-AI\2024 Annual GW Monitoring Memo\Figure 15a September 2024 Vinyl Chloride Shallow Aquifer Zone Wells (5-25 ft bgs).ai
1/27/2025

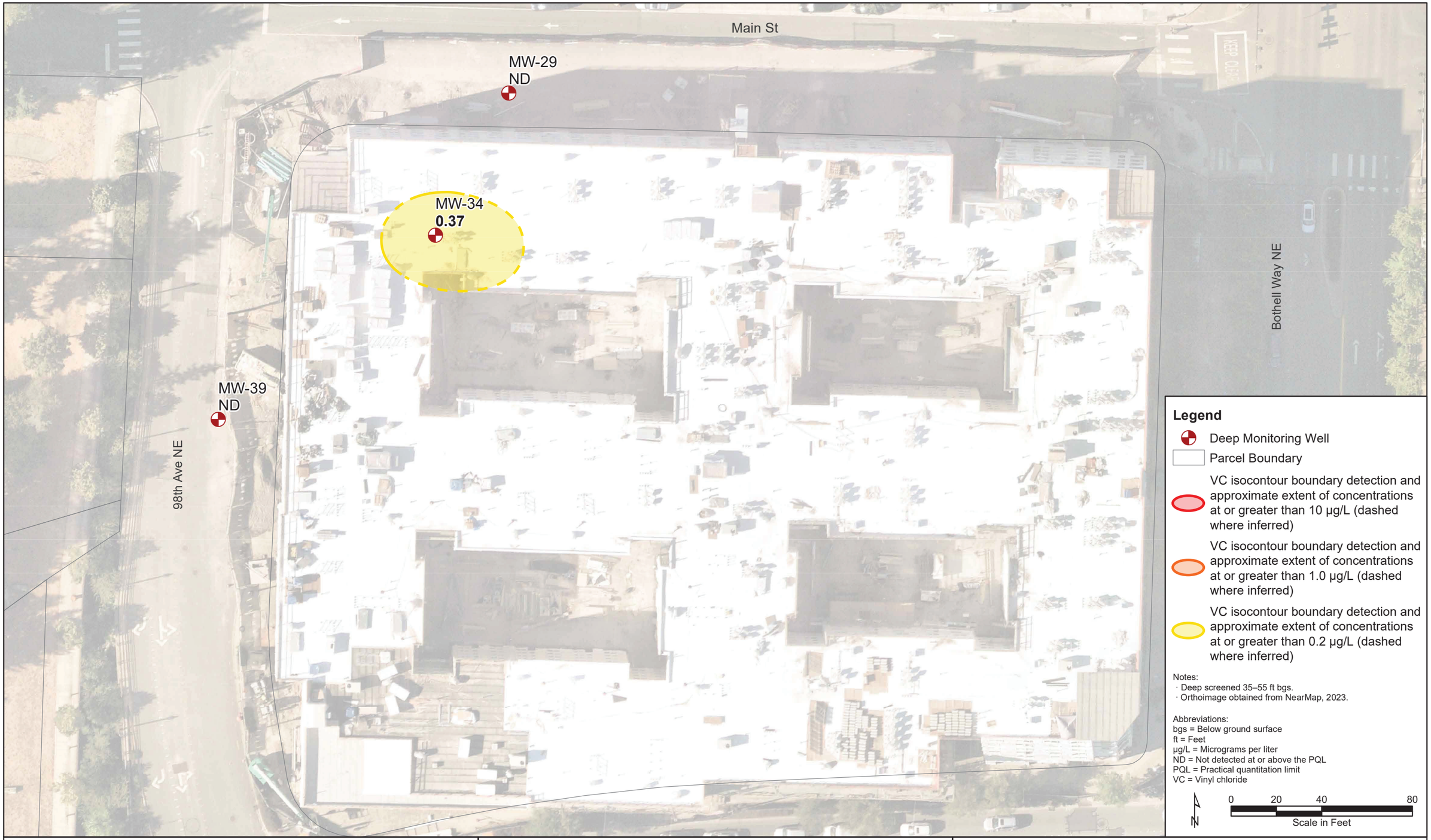


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Figure 15b
September 2024 Vinyl Chloride Isocontours and Concentrations
Intermediate Aquifer Zone Wells (25–35 ft bgs)

I:\GIS\Projects\COB-BSC\00-AI\2024 Annual GW Monitoring Memo\Figure 15b Septemeber 2024 Vinyl Chloride Intermediate Aquifer Zone Wells (25-35 ft bgs).ai
1/27/2025

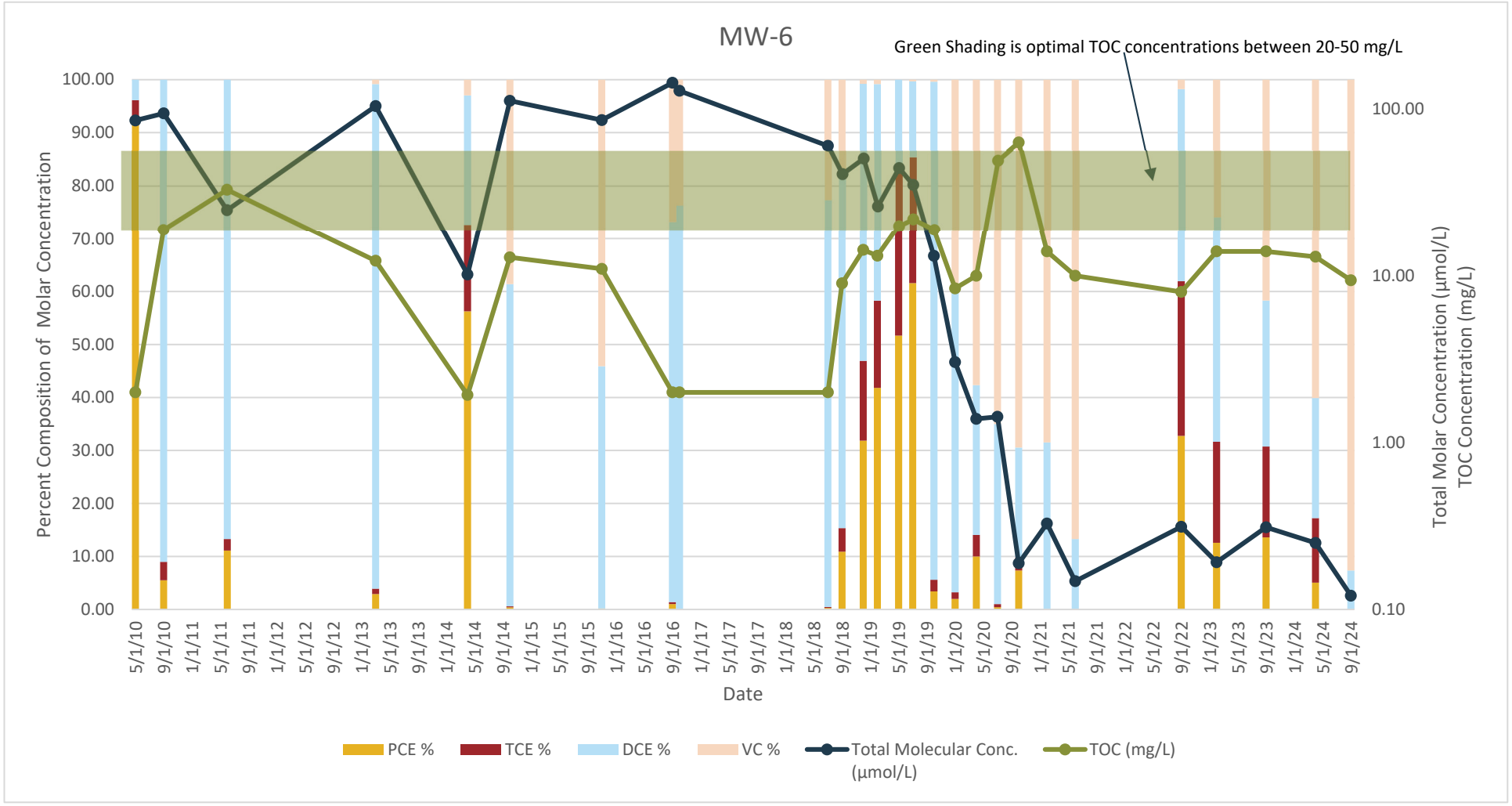


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Figure 15c
September 2024 Vinyl Chloride Isocontours and Concentrations
Deep Aquifer Zone Wells (35–55 ft bgs)

I:\GIS\Projects\COB-BSC\00-AI\2024 Annual GW Monitoring Memo\Figure 15c September 2024 Vinyl Chloride Deep Aquifer Zone Wells (35-55 ft bgs).ai
1/27/2025



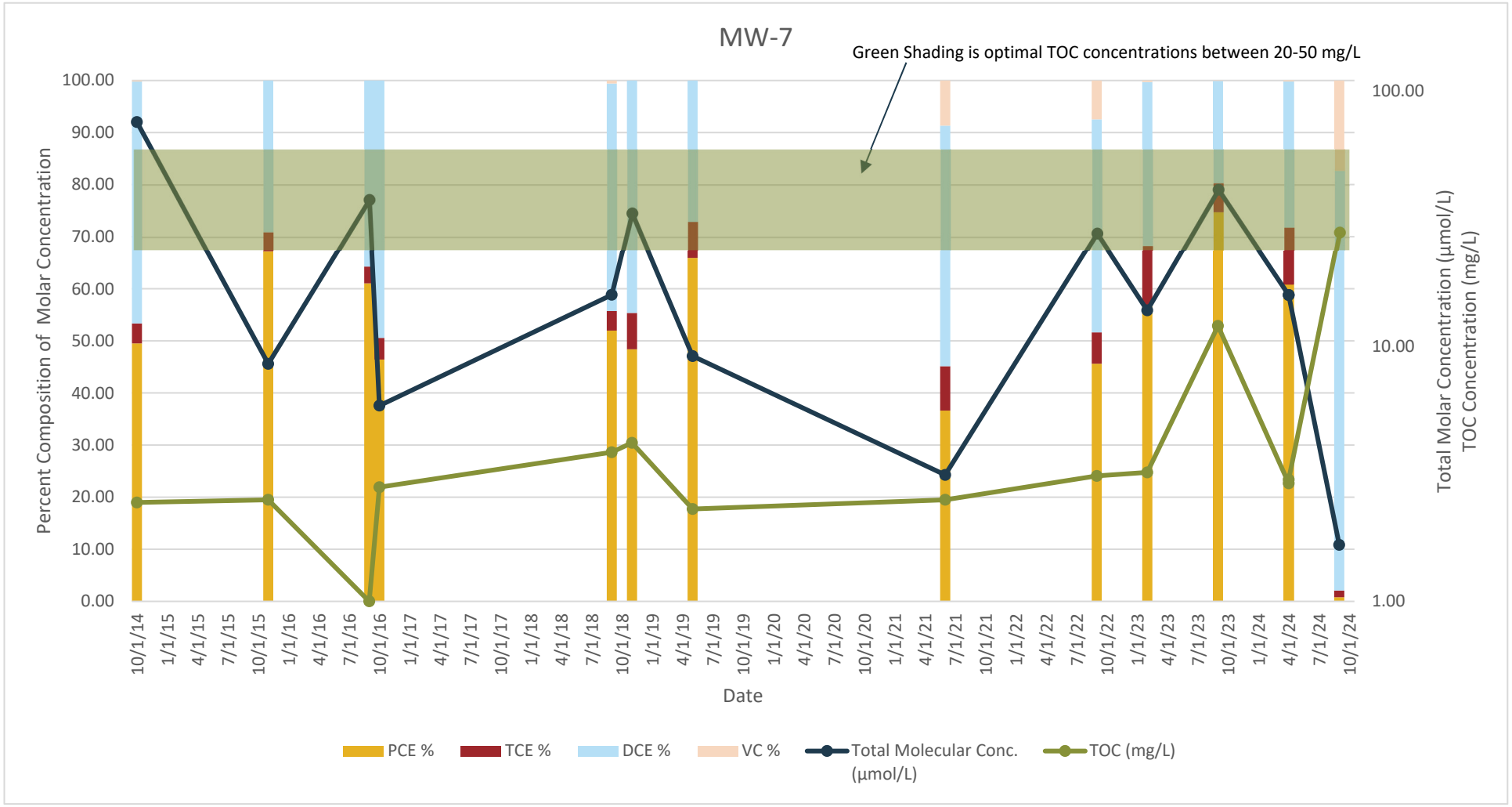
Abbreviations:
DCE = Dichloroethene, µmol/L = Micromoles per liter, mg/L = Milligrams per liter, PCE = Tetrachloroethene, TCE = Trichloroethene, TOC = Total organic carbon

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Figure 16
MW-6 Molar Composition

4/3/2025



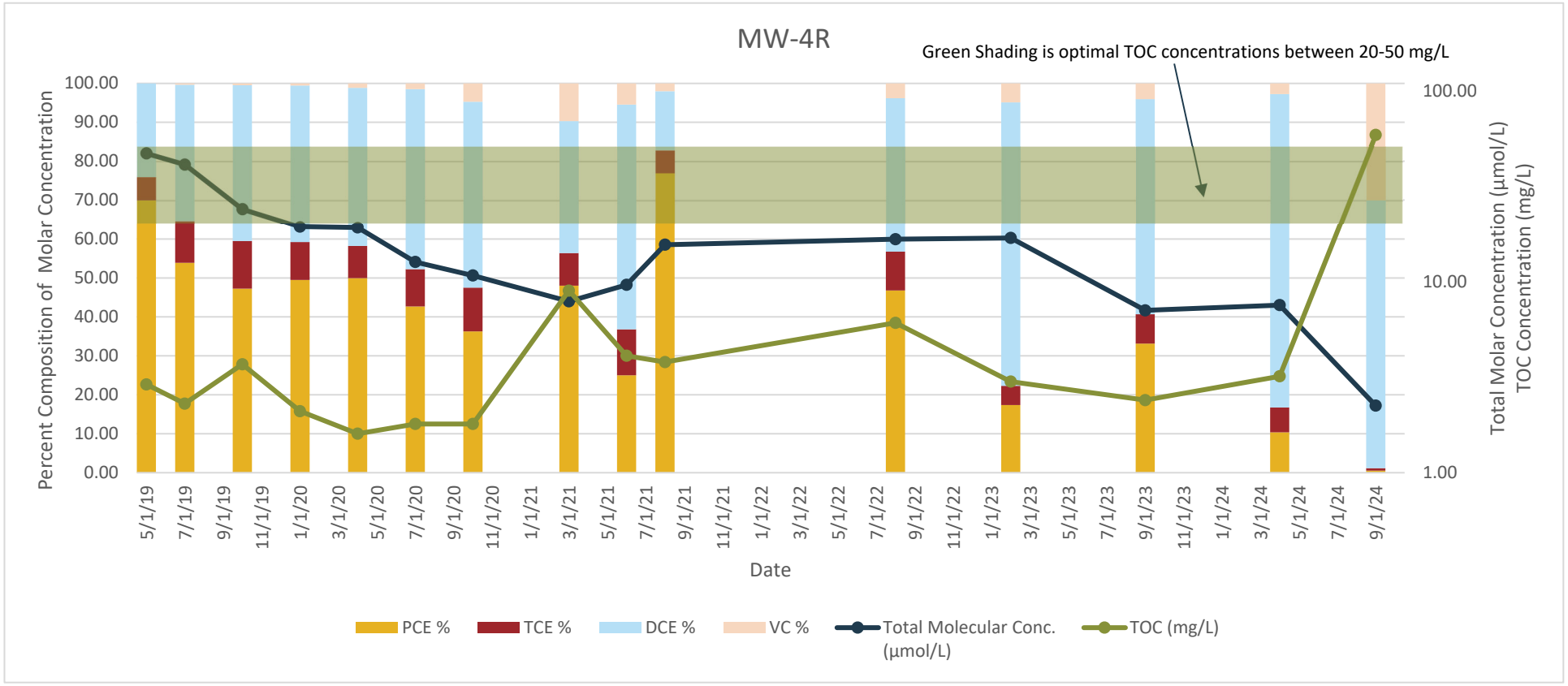
Abbreviations:
DCE = Dichloroethene, µmol/L = Micromoles per liter, mg/L = Milligrams per liter, PCE = Tetrachloroethene, TCE = Trichloroethene, TOC = Total organic carbon

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Figure 17
MW-7 Molar Composition

4/3/2025



Abbreviations:
DCE = Dichloroethene, µmol/L = Micromoles per liter, mg/L = Milligrams per liter, PCE = Tetrachloroethene, TCE = Trichloroethene, TOC = Total organic carbon

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Figure 18
MW-4R Molar Composition

4/3/2025

Attachment 1
Groundwater Sampling Field Forms and O&M Forms

April 2024 Groundwater Sampling Forms

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 4/9/24

Task: 4 - Groundwater Sampling Field Personnel: GS, CO, DG

Purge Data

Well ID: MW-7 Secure: ☑ Yes ☐ No Ecology Tag #: _____ Casing Type/Diameter/Screened Interval 15"

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☑ Bolts: Missing (#) ____ Stripped (#) ____ Other Damage: _____

Depth Sounder decontaminated Prior to Placement in Well: ☑ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from TOC): 7.33 Time: 1405

Total Depth (from log or field measurement): 23.93

After 5 minutes of purging (from top of casing): 7.53

Begin purge (time): 14:15 End purge (time): 1548

Volume purged: 7L Purge water disposal method onsite

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	pH (s.u.) +/- 0.1	DO (mg/L) +/- 10% or <0.5	Specific Conductivity (µs/cm) +/- 3%	Turbidity (NTU)	Temp (°C) +/- 3%	ORP (mV) +/- 10 mV	Comments
1420	7.53	.5	6.41	1.10	356.1	2.27	13.3	4.6	
1425	7.64	2	6.46	.60	359.3	2.47	13.3	-0.7	
1430	7.64	2.5	6.47	.57	359.5	2.41	13.2	-3.0	
1435	7.69	3	6.48	.50	359.4	2.24	13.2	-4.6	
1440	7.73	3.5	6.48	.47	359.3	2.81	13.2	-5.6	
1445	7.76	4	6.48	.45	359.3	2.93	13.3	-6.8	

Sampling Data

Sample No: MW-7-040924 Location and Depth: _____

Date Collected (mo/dy/yr): 4/9/24 Time Collected: 1450 Weather: _____

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☑ Filtered ☐ Unfiltered Filter Type: 45m

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: _____

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☑ Turbidity Meter ☐ Other: _____

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): clear, no odor,

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement				Result: 5.5 mg/L

QC samples

Duplicate Sample No: MW-107-040924 Duplicate Time: 1500 MS/MSD: ☐ Yes ☑ No

Signature: _____ **Date:** 4/9/24

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 4/9/24

Task: 4 - Groundwater Sampling Field Personnel: DV

Purge Data

Well ID: MW-20R Secure: ☐ Yes ☒ No Ecology Tag #: _____ Casing Type/Diameter/Screened Interval _____

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☑ Bolts: Missing (#) 3 Stripped (#) ____ Other Damage: _____

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from TOC): 6.91 Time: 0854

Total Depth (from log or field measurement): 28.83

After 5 minutes of purging (from top of casing): 7.18

Begin purge (time): 0856 End purge (time): Tank 0945

Volume purged: 10L Purge water disposal method Tank

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	pH (s.u.) +/- 0.1	DO (mg/L) +/- 10% or <0.5	Specific Conductivity (µs/cm) +/- 3%	Turbidity (NTU)	Temp (°C) +/- 3%	ORP (mV) +/- 10 mV	Comments
0902	7.14	2.0	6.56	0.7	242.8	1.12	13.7	-57.9	300mL/min
0907	7.12	3.0	6.57	0.46	242.3	2.47	13.8	-69.0	
0912	7.17	4.5	6.59	0.37	240.9	1.17	13.8	-77.4	
0917	7.17	6.0	6.62	0.33	238.3	1.10	13.8	-83.4	
0922	7.17	7.5	6.62	0.31	238.5	1.13	13.9	-86.4	
									Fe+3 = 2.5

Sampling Data

Sample No: MW-20R-040924 Location and Depth: _____

Date Collected (mo/dy/yr): 4/9/24 Time Collected: 0926 Weather: —

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☒ Filtered ☐ Unfiltered Filter Type: 0.45µm

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: _____

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☑ Turbidity Meter ☐ Other: _____

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): clear, no odor

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement	2.5 mg/L			Result:

QC samples

Duplicate Sample No: — Duplicate Time: — MS/MSD: ☐ Yes ☒ No

Signature: _____ **Date:** 4/9/24

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 4/9/24

Task: 4 - Groundwater Sampling Field Personnel: GS, DG, CO

Purge Data

Well ID: MW-4R Secure: ☐ Yes ☐ No Ecology Tag #: _____ Casing Type/Diameter/Screened Interval PVC 2", 5-25, 15'

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☑ Bolts: Missing (#) ____ Stripped (#) ____ Other Damage: _____

Depth Sounder decontaminated Prior to Placement in Well: ☑ ~~Yes~~ ☐ No One Casing Volume (gal): _____

Depth of water (from TOC): 6.90 Time: 845

Total Depth (from log or field measurement): 9 23944

After 5 minutes of purging (from top of casing): 7.10 9:18

Begin purge (time): 9:00 9:10 End purge (time): ~~Onsite tank~~ 10:35

Volume purged: 7L Purge water disposal method Onsite tank

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	pH (s.u.) +/- 0.1	DO (mg/L) +/- 10% or <0.5	Specific Conductivity (µs/cm) +/- 3%	Turbidity (NTU)	Temp (°C) +/- 3%	ORP (mV) +/- 10 mV	Comments
9:20	7.10	1	6.45	1.93	400.0	2.67	12.6	-33.4	
9:25	7.13	2	6.46	.83	376.9	2.40	13.0	-41.6	
9:30	7.05	2.5	6.48	.78	376.1	2.54	~~13.8~~ 12.9	-43.5	
9:35	7.06	2.75	6.49	.72	373.6	2.52	12.9	-45.4	
9:40	7.08	3	6.50	.65	371.0	-	12.9	-46.9	
9:45	7.09	3.5	6.50	.64	369.6	2.40	12.9	-47.2	
9:50	7.11	4	6.50	.61	367.4	2.79	13.0	-47.5	

Sampling Data

Sample No: MW-4R-040924 Location and Depth: int, garage

Date Collected (mo/dy/yr): 4/9/24 Time Collected: 9:55 Weather: int, partly 50°

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☒ Filtered ☐ Unfiltered Filter Type: .45 µ

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: _____

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☑ Turbidity Meter ☐ Other: _____

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): Clear, no odor

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement				Result: 3.5 mg/L

QC samples

Duplicate Sample No: —— Duplicate Time: —— MS/MSD: ☐ ~~Yes~~ ☐ ~~No~~

Signature: _____ **Date:** 4/9/24

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 4/9/24

Task: 4 - Groundwater Sampling Field Personnel: CO

Purge Data

Well ID: MW-45R Secure: ☐ Yes ☒ No Ecology Tag #: _____ Casing Type/Diameter/Screened Interval _____

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☒ Bolts: Missing (#) 3 Stripped (#) ____ Other Damage: _____

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from TOC): 5.67 Time: 1008

Total Depth (from log or field measurement): 14.94

After 5 minutes of purging (from top of casing): 6.09

Begin purge (time): 1009 End purge (time): 1108

Volume purged: 10L Purge water disposal method Tank

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	pH (s.u.) +/- 0.1	DO (mg/L) +/- 10% or <0.5	Specific Conductivity (µs/cm) +/- 3%	Turbidity (NTU)	Temp (°C) +/- 3%	ORP (mV) +/- 10 mV	Comments
1015	6.23	1.0	6.53	1.65	1119	2.47	12.3	-49.6	200mL/min
1020	6.66	2.0	6.60	1.40	1117	2.37	12.2	-60.5	
1025	6.98	3.0	6.61	1.18	1114	2.17	12.2	-62.9	
1030	7.37	4.0	6.61	0.97	1109	1.95	12.1	-65.2	
1035	7.74	5.0	6.62	0.75	1105	—	12.1	-68.6	
1040	8.05	6.0	6.63	0.64	1106	1.71	12.2	-71.0	150mL/min
1045	8.34	7.0	6.63	0.56	1106	1.53	12.1	-73.3	
1050	8.58	8.0	6.64	0.51	1104	1.70	12.2	-75.8	

Sampling Data

Sample No: MW-45R-040924 Location and Depth: _____

Date Collected (mo/dy/yr): 4/9/24 Time Collected: 1055 Weather: —

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☒ Filtered ☐ Unfiltered Filter Type: 0.45µm

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: _____

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☑ Turbidity Meter ☐ Other: _____

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): clear, no odor

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement 5.5	mg/L			Result:

QC samples

Duplicate Sample No: — Duplicate Time: — MS/MSD: ☐ Yes ☒ No

Signature: _____ **Date:** 4/9/24

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 4/9/24

Task: 4 - Groundwater Sampling Field Personnel: DG

Purge Data

Well ID: MW-34 Secure: ☑ Yes ☐ No Ecology Tag #: _____ Casing Type/Diameter/Screened Interval PVC/2"/50-35'

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☑ Bolts: Missing (#) 3 Stripped (#) ____ Other Damage: _____

Depth Sounder decontaminated Prior to Placement in Well: ☑ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from TOC): 6.65 Time: 10:35

Total Depth (from log or field measurement): 48.79

After 5 minutes of purging (from top of casing): 6.75

Begin purge (time): 10:39 End purge (time): 11:30

Volume purged: 6L Purge water disposal method Poly Tank

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	pH (s.u.) +/- 0.1	DO (mg/L) +/- 10% or <0.5	Specific Conductivity (µs/cm) +/- 3%	Turbidity (NTU)	Temp (°C) +/- 3%	ORP (mV) +/- 10 mV	Comments
10:42	6.75	0.5	6.34	1.90	289.3	2.21	13.4	25.3	
10:47	6.76	1.0	6.27	0.44	288.3	2.17	13.4	21.9	
10:52	6.79	2.0	6.25	0.15	283.6	1.52	13.6	19.2	
10:57	6.80	3.0	6.27	0.05	281.6	1.24	13.6	17.1	
11:02	6.80	3.5	6.26	0.02	284.2	1.04	13.7	16.3	

Sampling Data

Sample No: MW-34-040924 Location and Depth: MW-34 @ 44'

Date Collected (mo/dy/yr): 04/09/24 Time Collected: 11:10 Weather: inside

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☑ Filtered ☑ Unfiltered Filter Type: _____

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: Dissolved Iron/Manganese Field Filtered

Water Quality Instrument Data Collected with: Type: ☑ YSI ProDSS ☑ Turbidity Meter ☐ Other: _____

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): Clear

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement				Result: 2.0 mg/L

QC samples

Duplicate Sample No: _____ Duplicate Time: _____ MS/MSD: ☐ Yes ☑ No

Signature: [signature] **Date:** 4/9/24

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 4/9/24

Task: 4 - Groundwater Sampling Field Personnel: GS, DG, CC

Purge Data

Well ID: MW-21R Secure: ☐ Yes ☐ No Ecology Tag #: _____ Casing Type/Diameter/Screened Interval 2" PVC 2", 10ft

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☑ Bolts: Missing (#) ____ Stripped (#) ____ Other Damage: _____

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from TOC): 7.49 Time: 10:57

Total Depth (from log or field measurement): 14.84

After 5 minutes of purging (from top of casing): 8.09

Begin purge (time): 10:58 End purge (time): 12:14

Volume purged: ~~10~~ 5L Purge water disposal method: onsite Tank

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	pH (s.u.) +/- 0.1	DO (mg/L) +/- 10% or <0.5	Specific Conductivity (µs/cm) +/- 3%	Turbidity (NTU)	Temp (°C) +/- 3%	ORP (mV) +/- 10 mV	Comments
11:03	8.09	1	6.81	1.18	218.1	6.74	12.1	71.1	
11:08	8.21	1.5	6.72	.76	217.7	6.22	12.2	79.8	
11:13	8.30	2	6.67	.59	217.1	6.38	12.2	82.7	
11:18	8.25	2.5	~~6.70~~ 6.65	.56	216.7	5.65	12.2	80.3	
11:23	8.26	2.75	6.65	.51	216.6	5.05	12.2	76.4	
11:28	8.29	3.25	6.64	.48	215.7	4.55	12.2	72.4	
11:33	8.30	3.75	6.64	.46	215.7	4.92	12.82	66.0	

Sampling Data

Sample No: MW-21R-040924 Location and Depth: MW 10ft

Date Collected (mo/dy/yr): 04/09/24 Time Collected: 11:35 Weather: mostly · 50° Rain

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☑ Filtered ☐ Unfiltered Filter Type: 45um

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: _____

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☑ Turbidity Meter ☐ Other: _____

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): Clear, no odor

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement				Result: 0 mg/L

QC samples

Duplicate Sample No: — Duplicate Time: — MS/MSD: ☐ Yes ☒ No

Signature: _____ **Date:** 4/9/24

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 4/9/24

Task: 4 - Groundwater Sampling Field Personnel: CO

Purge Data

Well ID: HZ-MW-14S Secure: ☐ Yes ☒ No Ecology Tag #: _____ Casing Type/Diameter/Screened Interval _____

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☒ Bolts: Missing (#) 3 Stripped (#) ____ Other Damage: _____

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from TOC): 8.70 Time: 1137

Total Depth (from log or field measurement): 14.83

After 5 minutes of purging (from top of casing): 9.24

Begin purge (time): 1138 End purge (time): 1223

Volume purged: 7.5 Purge water disposal method Tank

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	pH (s.u.) +/- 0.1	DO (mg/L) +/- 10% or <0.5	Specific Conductivity (µs/cm) +/- 3%	Turbidity (NTU)	Temp (°C) +/- 3%	ORP (mV) +/- 10 mV	Comments
1145	9.38	2.0	6.16	0.79	239.3	1.29	12.9	8.3	200ml/min
1150	9.62	3.0	6.13	0.66	237.9	1.21	13.0	23.3	
1155	9.76	4.0	6.11	0.60	236.9	1.29	12.9	28.3	
1200	9.87	5.0	6.11	0.55	236.3	1.46	13.0	29.6	
1205	9.92	6.0	6.10	0.52	236.1	2.21	12.9	30.0	

Sampling Data

Sample No: HZ-MW-14S-040924 Location and Depth: _____

Date Collected (mo/dy/yr): 4/9/24 Time Collected: 1208 Weather: —

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☒ Filtered ☐ Unfiltered Filter Type: 0.45µm

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: _____

Water Quality Instrument Data Collected with: Type: ☒ YSI ProDSS ☑ Turbidity Meter ☐ Other: _____

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): _____

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement	4.5 mg/L			Result:

QC samples

Duplicate Sample No: — Duplicate Time: — MS/MSD: ☐ Yes ☒ No

Signature: _____ **Date:** 4/9/24

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 4/9/24

Task: 4 - Groundwater Sampling Field Personnel: DG

Purge Data

Well ID: MW-6 Secure: ☑ Yes ☐ No Ecology Tag #: _____ Casing Type/Diameter/Screened Interval PVC/2"/15-25'

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☑ Bolts: Missing (#) 3 Stripped (#) ____ Other Damage: _____

Depth Sounder decontaminated Prior to Placement in Well: ☑ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from TOC): – Time: –

Total Depth (from log or field measurement): –

After 5 minutes of purging (from top of casing): –

Begin purge (time): 12:10 End purge (time): 12:52

Volume purged: 5L Purge water disposal method Poly Tank

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	pH (s.u.) +/- 0.1	DO (mg/L) +/- 10% or <0.5	Specific Conductivity (µs/cm) +/- 3%	Turbidity (NTU)	Temp (°C) +/- 3%	ORP (mV) +/- 10 mV	Comments
12:13	*	0.25	6.55	1.66	568	2.04	12.5	-106.6	
12:18		1.75	6.56	0.30	574	1.89	12.6	-123.5	
12:23		3.0	6.57	0.09	573	1.63	12.8	-131.4	
12:28		4.0	6.58	0.04	573	1.51	12.8	-132.6	
12:33		5.0	6.59	-0.01	572	1.37	12.9	-134.9	

* single well case: no WLM done

Sampling Data

Sample No: MW-6-040924 Location and Depth: MW-6 @

Date Collected (mo/dy/yr): 04/09/24 Time Collected: 12:40 Weather: Inside

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☑ Filtered ☑ Unfiltered Filter Type: Dissolved Iron/Manganese Field Filtered

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: _____

Water Quality Instrument Data Collected with: Type: ☑ YSI ProDSS ☑ Turbidity Meter ☐ Other: _____

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): Clear w/yellow tint

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement				Result: 3.0 mg/L

QC samples

Duplicate Sample No: – Duplicate Time: – MS/MSD: ☐ Yes ☑ No

Signature: [signature] **Date:** 4/9/24

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 4/9/24

Task: 4 - Groundwater Sampling Field Personnel: GS, DG, CO

Purge Data

Well ID: MW-5R Secure: ☐ Yes ☐ No Ecology Tag #: _____ Casing Type/Diameter/Screened Interval _____ 15"

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☑ Bolts: Missing (#) ____ Stripped (#) ____ Other Damage: _____

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from TOC): 7.70 Time: 12:22

Total Depth (from log or field measurement): 25.36

After 5 minutes of purging (from top of casing): 7.93

Begin purge (time): 12:30 End purge (time): 13:37

Volume purged: 6L Purge water disposal method ONSITE tank

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	pH (+/- 0.1 s.u.)	DO (+/- 10% or <0.5 mg/L)	Specific Conductivity (+/- 3% µs/cm)	Turbidity (NTU)	Temp (+/- 3% °C)	ORP (+/- 10 mV mV)	Comments
1235	7.93	1	6.75	2.10	132.9	1.31	17.4	80.7	
1240	7.98	2.0	6.49	.95	133.5	1.72	17.5	102.7	
1245	7.91	2.5	6.34	.65	133.5	1.80	17.5	113.6	
1250	7.93	3.0	6.30	.56	133.2	1.63	17.5	117.4	
1255	7.95	3.5	6.28	.50	135.6	1.73	17.6	119.1	
13:00	7.94	4.5	6.28	.47	133.7	1.83	17.6	120.1	

Sampling Data

Sample No: MW-5R-040924 Location and Depth: 15'

Date Collected (mo/dy/yr): 4/9/24 Time Collected: 1305 Weather: Sof, irish, Rain

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☑ Filtered ☐ Unfiltered Filter Type: 45 u

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: _____

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☑ Turbidity Meter ☐ Other: _____

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): _____

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement				Result: 0 mg/L

QC samples

Duplicate Sample No: _____ Duplicate Time: _____ MS/MSD: ☐ Yes ☒ No

Signature: _____ **Date:** 4/5/24

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 4/9/24

Task: 4 - Groundwater Sampling Field Personnel: CO

Purge Data

Well ID: HZ-MW-14D Secure: ☐ Yes ☒ No Ecology Tag #: _____ Casing Type/Diameter/Screened Interval _____

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☒ Bolts: Missing (#) 3 Stripped (#) ____ Other Damage: _____

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from TOC): 8.55 Time: 1258

Total Depth (from log or field measurement): 46.99

After 5 minutes of purging (from top of casing): 9.60

Begin purge (time): 1259 End purge (time): 1345

Volume purged: 8L Purge water disposal method Tank

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	pH (s.u.) +/- 0.1	DO (mg/L) +/- 10% or <0.5	Specific Conductivity (µs/cm) +/- 3%	Turbidity (NTU)	Temp (°C) +/- 3%	ORP (mV) +/- 10 mV	Comments
1305	9.72	1.0	6.14	0.77	287.6	1.26	14.5	83.9	
1310	10.23	2.75	6.16	0.51	286.6	1.16	14.6	83.7	
1315	10.50	3.75	6.17	0.42	284.3	0.94	14.7	83.3	
1320	10.66	4.75	6.17	0.37	281.6	1.22	14.7	82.9	
1325	10.73	5.5	6.17	0.34	280.5	1.10	14.7	82.6	
00 4/9/24 1330									

Sampling Data

Sample No: HZ-MW-14D-040924 Location and Depth: _____

Date Collected (mo/dy/yr): 4/9/24 Time Collected: 1329 Weather: —

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☐ Filtered ☒ Unfiltered Filter Type: 0.45 µm

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: _____

Water Quality Instrument Data Collected with: Type: ☒ YSI ProDSS ☑ Turbidity Meter ☐ Other: _____

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): _____

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement				Result:

QC samples

Duplicate Sample No: — Duplicate Time: — MS/MSD: ☐ Yes ☒ No

Signature: _____ **Date:** 4/9/24

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 4/9/24

Task: 4 - Groundwater Sampling Field Personnel: DG

Purge Data

Well ID: MW-11 Secure: ☑ Yes ☐ No Ecology Tag #: _____ Casing Type/Diameter/Screened Interval PVC/2"/25-38

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☑ Bolts: Missing (#) 3 Stripped (#) ____ Other Damage: _____

Depth Sounder decontaminated Prior to Placement in Well: ☑ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from TOC): 6.52 Time: 13:35

Total Depth (from log or field measurement): 32.91

After 5 minutes of purging (from top of casing): _____

Begin purge (time): 13:40 End purge (time): 14:20

Volume purged: 3.5L Purge water disposal method: Poly Tank

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	pH (s.u.) +/- 0.1	DO (mg/L) +/- 10% or <0.5	Specific Conductivity (µs/cm) +/- 3%	Turbidity (NTU)	Temp (°C) +/- 3%	ORP (mV) +/- 10 mV	Comments
13:45	6.71	1.0	6.93	0.97	313.6	1.15	13.4	-45.6	
13:50	6.72	2.0	6.94	0.27	308.3	0.83	13.5	-56.3	
13:55	6.73	3.0	6.93	0.06	307.2	0.68	13.5	-66.3	
14:00	6.74	4.25	6.92	-0.01	307.8	1.39	13.6	-71.2	
14:05	6.75	6.5	6.92	-0.04	309	2.72	13.6	-75.5	

Sampling Data

Sample No: MW-11-040924 Location and Depth: MW-11 @ 28'

Date Collected (mo/dy/yr): 04/09/24 Time Collected: 14:15 Weather: Inside

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☐ Filtered ☐ Unfiltered Filter Type: _____

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: _____

Water Quality Instrument Data Collected with: Type: ☑ YSI ProDSS ☑ Turbidity Meter ☐ Other: _____

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): clear

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement				Result: 1.5 mg/L

QC samples

Duplicate Sample No: — Duplicate Time: — MS/MSD: ☐ Yes ☑ No

Signature: [signature] **Date:** 4/9/24

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 4/9/24

Task: 4 - Groundwater Sampling Field Personnel: CD

Purge Data

Well ID: HZ-MW-15S Secure: ☐ Yes ☒ No Ecology Tag #: _____ Casing Type/Diameter/Screened Interval _____

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☒ Bolts: Missing (#) 3 Stripped (#) ____ Other Damage: _____

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from TOC): 8.33 Time: 1405

Total Depth (from log or field measurement): 15.17

After 5 minutes of purging (from top of casing): 8.74

Begin purge (time): 1407 End purge (time): 1453

Volume purged: 8.5 Purge water disposal method Tank

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	pH (+/- 0.1 s.u.)	DO (+/- 10% or <0.5 mg/L)	Specific Conductivity (+/- 3% µs/cm)	Turbidity (NTU)	Temp (+/- 3% °C)	ORP (+/- 10 mV)	Comments
1415	8.90	2.5	6.23	0.60	303.9	1.98	11.9	101.1	
1420	9.06	3.5	6.22	0.48	300.5	1.75	11.9	102.4	
1425	9.14	4.5	6.24	0.42	302.1	1.54	12.0	100.0	
1430	9.22	5.5	6.26	0.37	302.5	1.51	12.0	95.6	
1435	9.29	6.5	6.27	0.34	303.5	1.79	12.0	90.5	

Sampling Data

Sample No: HZ-MW-15S-040924 Location and Depth: _____

Date Collected (mo/dy/yr): 4/9/24 Time Collected: 1437 Weather: —

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☒ Filtered ☐ Unfiltered Filter Type: 0.45 µm

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: _____

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☑ Turbidity Meter ☐ Other: _____

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): _____

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement	0.5 mg/L			Result:

QC samples

Duplicate Sample No: — Duplicate Time: — MS/MSD: ☐ Yes ☒ No

Signature: _____ **Date:** 4/9/24

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 4/9/24

Task: 4 - Groundwater Sampling Field Personnel: DG

Purge Data

Well ID: MW-12 Secure: ☑ Yes ☐ No Ecology Tag #: _____ Casing Type/Diameter/Screened Interval PVC/2"/25-33'

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☑ Bolts: Missing (#) 3 Stripped (#) ____ Other Damage: _____

Depth Sounder decontaminated Prior to Placement in Well: ☑ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from TOC): 6.98 Time: 14:40

Total Depth (from log or field measurement): 32.04

After 5 minutes of purging (from top of casing): _____

Begin purge (time): 14:42 End purge (time): 15:32

Volume purged: 8 L Purge water disposal method Poly Tank

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	pH (s.u.) +/- 0.1	DO (mg/L) +/- 10% or <0.5	Specific Conductivity (µs/cm) +/- 3%	Turbidity (NTU)	Temp (°C) +/- 3%	ORP (mV) +/- 10 mV	Comments
14:45	7.31	0.5	6.32	0.98	391.4	2.21	14.3	-39.2	
14:50	7.35	1.75	6.31	0.25	404	1.72	14.3	-46.1	
14:55	7.38	2.75	6.32	0.07	419.7	2.01	14.4	-51.9	
15:00	7.40	3.5	6.33	0.01	432.5	1.56	14.4	-55.3	
15:05	7.40	4.5	6.33	-0.03	446.1	1.62	14.4	-58.1	
15:10	7.41	5.25	6.33	-0.04	454.6		14.4	-59.3	

Sampling Data

Sample No: MW-12-040924 Location and Depth: MW-12 @ 28'

Date Collected (mo/dy/yr): 04/09/24 Time Collected: 1520 Weather: Inside

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☑ Filtered ☑ Unfiltered Filter Type: Dissolved Iron/Manganese Field Filtered

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: _____

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☑ Turbidity Meter ☐ Other: _____

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): Clear

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement				Result: 4.5 mg/L

QC samples

Duplicate Sample No: — Duplicate Time: — MS/MSD: ☐ Yes ☑ No

Signature: [signature] Date: 4/9/24

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 4/10/24

Task: 4 - Groundwater Sampling Field Personnel: HB

Purge Data

Well ID: MW-43R Secure: ☐ Yes ☑ No Ecology Tag #: – Casing Type/Diameter/Screened Interval PVC 2" 5-25

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☑ Bolts: Missing (#) 1 Stripped (#) ____ Other Damage: –

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No One Casing Volume (gal): ____

Depth of water (from TOC): 9.47 Time: 15:40

Total Depth (from log or field measurement): 25.5

After 5 minutes of purging (from top of casing): 9.52

Begin purge (time): 15:40 End purge (time): 16:30

Volume purged: 8L Purge water disposal method poly tank

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	pH (s.u.) +/- 0.1	DO (mg/L) +/- 10% or <0.5	Specific Conductivity (µs/cm) +/- 3%	Turbidity (NTU)	Temp (°C) +/- 3%	ORP (mV) +/- 10 mV	Comments
15:45	9.52	1	6.82	1.74	364.5	8.97	12.1	65.3	flocculant
15:50	9.53	2	6.88	1.22	366.2	9.39	12.2	57.2	
15:55	9.53	3	6.84	0.68	365.9	6.02	12.1	35.7	
16:00	9.53	4	6.81	0.54	365.7	4.66	12.1	16.9	
16:05	9.54	5	6.80	0.49	364.8	4.59	12.0	5.2	
16:10	9.55	6	6.78	0.45	361.6	3.11	12.1	0.4	

Sampling Data

Sample No: MW-43R-041024 Location and Depth: MW-43R

Date Collected (mo/dy/yr): 4/10/24 Time Collected: 16:20 Weather: 55°F cloudy

Type: ☑ Ground Water ☐ Surface Water Other: ____ Sample: ☑ Filtered ☐ Unfiltered Filter Type: 0.45 d.s metals

Sample Collected with: ☐ Bailer ☑ Pump Other: ____ Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: ____

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☑ Turbidity Meter ☐ Other: ____

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): clear no odor

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement				Result: 1.5 mg/L

QC samples

Duplicate Sample No: – Duplicate Time: – MS/MSD: ☐ Yes ☒ No

Signature: [signature] **Date:** 4/10/24

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 4/10/24

Task: 4 - Groundwater Sampling Field Personnel: DG

Purge Data

Well ID: S-MW-3RR Secure: ☑ Yes ☐ No Ecology Tag #: _____ Casing Type/Diameter/Screened Interval 2"/PVC/5-19'

Stick up only

Replacement Required: ☑ Monument ☐ Lid ☐ Lock ☐ Bolts: Missing (#) ____ Stripped (#) ____ Other Damage: _____

Depth Sounder decontaminated Prior to Placement in Well: ☑ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from TOC): 10.58 Time: 14:55

Total Depth (from log or field measurement): 19'

After 5 minutes of purging (from top of casing): _____

Begin purge (time): 15:00 End purge (time): 4.12

Volume purged: 6L Purge water disposal method Poly Tank

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	pH (+/- 0.1 s.u.)	DO (+/- 10% or <0.5 mg/L)	Specific Conductivity (+/- 3% µs/cm)	Turbidity (NTU)	Temp (+/- 3% °C)	ORP (+/- 10 mV mV)	Comments
15:02	11.75	0.25	6.62	0.53	457.9	25.0	11.0	-0.9	Excessive draw down, but flow as low as possible
15:07	12.55	1.00	6.61	0.32	452	27.1	10.9	-4.6	
15:12	13.34	2.00	6.60	0.20	451	27.0	10.9	-10.8	
15:17	13.97	2.50	6.59	0.12	450.9	21.9	11.0	-13.7	
15:22	14.25	3.0	6.59	0.08	450.4	21.8	11.0	-16.8	15:24 off to recharge
15:36	13.61	3.5	6.60	0.13	447.5	27.8	11.2	-18.7	
15:41	14.08	4.0	6.54	0.50	416.2	36.1	11.3	-10.4	
15:46	14.42	4.5	6.53	0.27	408.3	32.2	11.4	-9.3	

Sampling Data

Sample No: S-MW-3RR-041024 Location and Depth: S-MW-3RR @ 14'

Date Collected (mo/dy/yr): 04/10/24 Time Collected: 15:55 Weather: Clear + cool

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☑ Filtered ☑ Unfiltered Filter Type: Dissolved Iron/Manganese Field Filtered

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: _____

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☑ Turbidity Meter ☐ Other: _____

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): ~~Clear~~ Slightly cloudy

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement				Result: 2.0 mg/L

QC samples

Duplicate Sample No: — Duplicate Time: — MS/MSD: ☐ Yes ☑ No

Signature: [signature] **Date:** 4/10/24

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 4/10/24

Task: 4 - Groundwater Sampling Field Personnel: GS, DG, TH

Purge Data

Well ID: #7-MW-24 Secure: ☐ Yes ☐ No Ecology Tag #: _____ Casing Type/Diameter/Screened Interval 30'

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☐ Bolts: Missing (#) _____ Stripped (#) _____ Other Damage: _____

Depth Sounder decontaminated Prior to Placement in Well: ☑ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from TOC): 5.476 Time: ~~1311~~ 1411

Total Depth (from log or field measurement): _____

After 5 minutes of purging (from top of casing): 5.20

Begin purge (time): 1425 End purge (time): ~~1515~~ 1515

Volume purged: 9.5 Purge water disposal method TANK

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	pH (s.u.) +/- 0.1	DO (mg/L) +/- 10% or <0.5	Specific Conductivity (µs/cm) +/- 3%	Turbidity (NTU)	Temp (°C) +/- 3%	ORP (mV) +/- 10 mV	Comments
1430	5.20	1	6.36	1.02	769.5	0.68	12.8	.8	
1435	5.21	2.5	6.35	.53	770.5	0.65	12.8	-15.8	
1440	5.23	3.5	6.35	.41	771.3	0.68	12.8	-21.4	
1445	5.24	4.5	6.36	.32	771.6	0.70	12.9	-24.2	
1450	5.25	5.5	6.36	.33	772.1	0.62	12.9	-27.5	
1455	5.27	7	6.42	.30	771.3	0.59	13.0	-30.4	

Sampling Data

Sample No: #7-MW-24-041024 Location and Depth: 30', 2nd Flor.

Date Collected (mo/dy/yr): 4/10/24 Time Collected: 1500 Weather: Sunny, 50°

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☐ Filtered ☐ Unfiltered Filter Type: 0.45 µm

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: _____

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☑ Turbidity Meter ☐ Other: _____

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): no odor, clear

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement				Result: 6.5 mg/L

QC samples

Duplicate Sample No: F Duplicate Time: X MS/MSD: ☐ Yes ☑ No

Signature: _____ **Date:** 4/10/24

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 4/10/24

Task: 4 - Groundwater Sampling Field Personnel: HB

Purge Data

Well ID: HZ-MW-34 Secure: ☐ Yes ☒ No Ecology Tag #: – Casing Type/Diameter/Screened Interval 2" PVC 5-25

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☒ Bolts: Missing (#) 3 Stripped (#) ____ Other Damage: –

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No One Casing Volume (gal): ____

Depth of water (from TOC): 4.64 Time: 13:10

Total Depth (from log or field measurement): ~~48~~ 22.7)

After 5 minutes of purging (from top of casing): 5.49

Begin purge (time): 13:20 End purge (time): 14:15

Volume purged: 8 L Purge water disposal method poly tank

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	pH (s.u.) +/- 0.1	DO (mg/L) +/- 10% or <0.5	Specific Conductivity (µs/cm) +/- 3%	Turbidity (NTU)	Temp (°C) +/- 3%	ORP (mV) +/- 10 mV	Comments
13:25	5.49	1	6.80	1.85	221.9	7.40	12.2	50.5	
13:30	5.47	2.5	6.56	0.65	222.9	7.77	12.3	39.2	
13:35	5.43	4	6.53	0.50	223.1	10.02	12.4	16.1	
13:40	5.43	5	6.53	0.45	223.2	12.55	12.3	4.2	orange particulate
13:45	5.45	6	6.53	0.42	222.9	8.38	12.4	-5.5	
13:50	5.46	7	6.53	0.40	~~223~~ 223.1	4.25	12.4	-13	

Sampling Data

Sample No: HZ-MW-34-041024 Location and Depth: HZ-MW-24

Date Collected (mo/dy/yr): 4/10/24 Time Collected: 13:55 Weather: 55°F sunny

Type: ☒ Ground Water ☐ Surface Water Other: ____ Sample: ☒ Filtered ☐ Unfiltered Filter Type: dis metals 0.45

Sample Collected with: ☐ Bailer ☒ Pump Other: ____ Type: ☒ Peristaltic ☐ Bladder ☐ Submersible Other: ____

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☒ Turbidity Meter ☐ Other: ____

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☒ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): ____

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement				Result: 2.0 mg/L

QC samples

Duplicate Sample No: – Duplicate Time: – MS/MSD: ☐ Yes ☒ No

Signature: [signature] **Date:** 4/10/24

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 4/10/24

Task: 4 - Groundwater Sampling Field Personnel: CJS, DG, HB

Purge Data

Well ID: HZ-MW-29 Secure: ☐ Yes ☐ No Ecology Tag #: _____ Casing Type/Diameter/Screened Interval 2"

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☐ Bolts: Missing (#) ____ Stripped (#) ____ Other Damage: _____

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from TOC): 5.46 Time: 1218

Total Depth (from log or field measurement): 34.30

After 5 minutes of purging (from top of casing): 5.98

Begin purge (time): 12:38 End purge (time): _____

Volume purged: _____ Purge water disposal method _____

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	pH (s.u.) +/- 0.1	DO (mg/L) +/- 10% or <0.5	Specific Conductivity (µs/cm) +/- 3%	Turbidity (NTU)	Temp (°C) +/- 3%	ORP (mV) +/- 10 mV	Comments
1243	5.98	1.5	6.35	.81	270.2	—	12.7	-43.8	
1248	6.09	2.0	6.34	.68	269.0	1.63	12.7	-43.9	
1253	5.94	2.5	6.34	.54	266.3	1.89	12.6	-45.1	
1258	5.92	3.5	6.34	.44	265.4	1.40	12.6	-45.9	
1303	5.95	4.0	6.34	.43	264.0	1.47	12.7	-47.8	
1309	5.96	4.5	6.34	.40	263.7	1.56	12.7	-48.5	

Sampling Data

Sample No: HZ-MW-29-041024 Location and Depth: _____

Date Collected (mo/dy/yr): 4/10/24 Time Collected: 1310 Weather: _____

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☐ Filtered ☑ Unfiltered Filter Type: 45u

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: _____

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☑ Turbidity Meter ☐ Other: _____

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): _____

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement				Result:

QC samples

Duplicate Sample No: _____ Duplicate Time: _____ MS/MSD: ☐ Yes ☐ No

Signature: _____ **Date:** 4/10/24

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 4/10/24

Task: 4 - Groundwater Sampling Field Personnel: DG

Purge Data

Well ID: HZ-MW-1 Secure: ☑ Yes ☐ No Ecology Tag #: _____ Casing Type/Diameter/Screened Interval 1¼"/PVC/5-17'

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☐ Bolts: Missing (#) ____ Stripped (#) ____ Other Damage: —

Depth Sounder decontaminated Prior to Placement in Well: ☑ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from TOC): 8.81 Time: 09:55

Total Depth (from log or field measurement): 16.79

After 5 minutes of purging (from top of casing): _____

Begin purge (time): 09:57 End purge (time): 12:00

Volume purged: 3L Purge water disposal method: Poly Tank

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	✱ Depth to Water (ft)	Vol. Purged (L)	pH (s.u.) +/- 0.1	DO (mg/L) +/- 10% or <0.5	Specific Conductivity (µs/cm) +/- 3%	Turbidity (NTU)	Temp (°C) +/- 3%	ORP (mV) +/- 10 mV	Comments
10:00	11.89	0.25	6.36	0.65	1203	16.2	12.2	-29.9	
10:05	12.69	0.5	6.38	0.57	1204	10.0	12.2	-39.7	
10:10	14.11	1.0	6.40	0.78	1204	6.36	12.5	-48.1	10:12 off to recharge
10:25	11.00	1.25	6.46	1.74	1201	5.89	12.3	-49.6	
10:30	13.26	1.75	6.41	1.00	1208	3.48	12.7	-50.3	
10:35	~14.5	2.25	6.40	1.57	1205	3.81	12.6	-50.6	10:36 off to recharge
11:05	10.00	2.25	6.46	1.86	1196	3.56	12.3	-44.7	
11:05	12.79	2.25	6.39	0.68	1209	4.28	12.5	-47.6	
11:10	13.22	2.5	6.38	0.37	1209	5.02	12.4	-48.1	

Sampling Data

Sample No: HZ-MW-1-041024 Location and Depth: HZ-MW-1 @ 14'

Date Collected (mo/dy/yr): 04/10/24 Time Collected: 11:15 Weather: Inside

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☑ Filtered ☑ Unfiltered Filter Type: Dissolved Iron/Manganese Field Filtered

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: _____

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☑ Turbidity Meter ☐ Other: _____

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): Clear, ran dry, slow recharge 11:35 allowed well to recharge

Sample Analyses

Fe 3.5 mg/L

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement				Result: 3.5 mg/L

Tested at 11:45

QC samples

Duplicate Sample No: — Duplicate Time: — MS/MSD: ☐ Yes ☑ No

Signature: Danielle Gallo **Date:** 4/10/24

✱ lots of drawdown due to known issue of running dry + smaller diameter casing size

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 4/10/24

Task: 4 - Groundwater Sampling Field Personnel: GS, DG, HB

Purge Data

Well ID: S-MW-2RR Secure: ☐ Yes ☐ No Ecology Tag #: _____ Casing Type/Diameter/Screened Interval 10'

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☐ Bolts: Missing (#) ____ Stripped (#) ____ Other Damage: _____

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from TOC): 7.51 Time: 10:20

Total Depth (from log or field measurement): 17.64

After 5 minutes of purging (from top of casing): 7.61

Begin purge (time): 1025 End purge (time): 1125

Volume purged: 12L Purge water disposal method ONSITE tank

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	pH (s.u.) +/- 0.1	DO (mg/L) +/- 10% or <0.5	Specific Conductivity (µs/cm) +/- 3%	Turbidity (NTU)	Temp (°C) +/- 3%	ORP (mV) +/- 10 mV	Comments
10:30	7.61	1.5	6.79	.76	637	3.20	11.5	-36.5	
10:35	7.61	2.5	6.79	.53	646	2.46	11.5	-44.5	
10:40	7.66	3.5	6.80	.44	652	2.74	11.5	-49.3	
10:45	7.64	4.5	6.80	.36	660	2.14	11.5	-55.0	
10:50	7.65	5.5	6.80	.33	666	1.80	11.5	-58.6	
10:55	7.64	6.5	6.80	.31	670	1.60	11.5	-60.6	

Sampling Data

Sample No: S-MW-2RR-041024 Location and Depth: _____

Date Collected (mo/dy/yr): 4/10/24 Time Collected: 11:00 Weather: Sunny, 50°

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☑ Filtered ☐ Unfiltered Filter Type: 45u

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: _____

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☑ Turbidity Meter ☐ Other: _____

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): Clear, no odor

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement				Result: 3.5 mg/L

QC samples

Duplicate Sample No: X Duplicate Time: X MS/MSD: ☐ Yes ☑ No

Signature: _____ **Date:** 4/10/24

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 4/10/24

Task: 4 - Groundwater Sampling Field Personnel: HB

Purge Data

Well ID: S-MW-5R Secure: ☐ Yes ☑ No Ecology Tag #: ~ Casing Type/Diameter/Screened Interval: 2" PVC 5-25

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☒ Bolts: Missing (#) 3 Stripped (#) ____ Other Damage: —

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No One Casing Volume (gal): ____

Depth of water (from TOC): 7.56 Time: 9:55

Total Depth (from log or field measurement): 25.13

After 5 minutes of purging (from top of casing): 8.26

Begin purge (time): 10:00 End purge (time): 10:45

Volume purged: 6L Purge water disposal method: poly tank

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	pH (s.u.) +/- 0.1	DO (mg/L) +/- 10% or <0.5	Specific Conductivity (µs/cm) +/- 3%	Turbidity (NTU)	Temp (°C) +/- 3%	ORP (mV) +/- 10 mV	Comments
10:05	8.26	1	6.67	2.20	284.1	0.85	11.6	101.9	clear no odor
10:10	8.43	2	6.62	1.12	286.4	0.62	11.7	110.1	
10:15	8.46	2.5	6.60	0.65	287.2	0.61	11.7	118.0	
10:20	8.49	3	6.64	0.50	286.7	0.64	11.7	124.0	

Sampling Data

Sample No: S-MW-5R-041024 Location and Depth: S-MW-5R

Date Collected (mo/dy/yr): 4/10/24 Time Collected: 10:25 Weather: 50°F sunny

Type: ☑ Ground Water ☐ Surface Water Other: ____ Sample: ☒ Filtered ☐ Unfiltered Filter Type: 0.45 µm mesh

Sample Collected with: ☐ Bailer ☑ Pump Other: ____ Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: ____

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☑ Turbidity Meter ☐ Other: ____

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): clear no odor Fe 0.0

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement				Result: 0.0 mg/L

QC samples

Duplicate Sample No: ~ Duplicate Time: — MS/MSD: ☐ Yes ☒ No

Signature: [signature] **Date:** 4/10/24

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 4/10/24

Task: 4 - Groundwater Sampling Field Personnel: GS, DG, HS

Purge Data

Well ID: HZMW-26 Secure: ☐ Yes ☐ No Ecology Tag #: _____ Casing Type/Diameter/Screened Interval 2"

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☒ Bolts: Missing (#) ____ Stripped (#) ____ Other Damage: _____

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from TOC) 10.16 Time: 8:45

Total Depth (from log or field measurement): 38.70

After 5 minutes of purging (from top of casing): 11.19

Begin purge (time): 855 End purge (time): 10:00

Volume purged: 8L Purge water disposal method on site

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	pH (s.u.) +/- 0.1	DO (mg/L) +/- 10% or <0.5	Specific Conductivity (µs/cm) +/- 3%	Turbidity (NTU)	Temp (°C) +/- 3%	ORP (mV) +/- 10 mV	Comments
9:00	11.19	2L	6.52	.92	222.8	2.53	13.1	105.1	
9:05	11.01	2.5	6.50	.64	221.4	2.28	13.0	107.9	
9:15	10.98	3	6.50	.55	221.1	2.10	13.0	109.5	
9:20	10.97	3.5	6.50	.47	221.1	2.07	13.1	110.6	
9:25	11.04	4.5	6.51	.39	221.2	2.33	13.2	102.9	

Sampling Data

Sample No: HZ-MW-26-04/1024 Location and Depth: 30'

Date Collected (mo/dy/yr): 4/10/24 Time Collected: 9:30 Weather: 50° Rainy

Type: ☒ Ground Water ☐ Surface Water Other: _____ Sample: ☒ Filtered ☒ Unfiltered Filter Type: 45u

Sample Collected with: ☐ Bailer ☒ Pump Other: _____ Type: ☒ Peristaltic ☐ Bladder ☐ Submersible Other: _____

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☒ Turbidity Meter ☐ Other: _____

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☒ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): Clear, no odor

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement				Result: 0 mg/L

QC samples

Duplicate Sample No: X Duplicate Time: X MS/MSD: ☐ Yes ☒ No

Signature: _____ **Date:** 4/10/24

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 4/10/24

Task: 4 - Groundwater Sampling Field Personnel: HB

Purge Data

Well ID: HZ-MW-15D Secure: ☒ Yes ☐ No Ecology Tag #: - Casing Type/Diameter/Screened Interval 2" PVC 25-35

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☐ Bolts: Missing (#) ____ Stripped (#) ____ Other Damage: -

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No One Casing Volume (gal): ____

Depth of water (from TOC): 8.61 Time: 8:17

Total Depth (from log or field measurement): 35.14

After 5 minutes of purging (from top of casing): 10.00

Begin purge (time): 8:30 End purge (time): 9:15

Volume purged: 7 L Purge water disposal method: drum poly tank

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	pH (s.u.) +/- 0.1	DO (mg/L) +/- 10% or <0.5	Specific Conductivity (µs/cm) +/- 3%	Turbidity (NTU)	Temp (°C) +/- 3%	ORP (mV) +/- 10 mV	Comments
8:35	10.00	1	6.50	2.31	340.6	1.25	13.3	89.7	organic odor clear
8:40	10.10	2	6.33	0.93	336.6	0.66	13.2	91.6	
8:45	10.06	3	6.29	0.59	347.2	0.74	13.2	87.9	
8:50	10.09	4	6.29	0.49	347.1	1.11	13.2	85.0	

Sampling Data

Sample No: HZ-MW-15D-041024 Location and Depth: HZ-MW-15D

Date Collected (mo/dy/yr): 4/10/24 Time Collected: 8:55 Weather: cloudy 50°F

Type: ☑ Ground Water ☐ Surface Water Other: ____ Sample: ☒ Filtered ☐ Unfiltered Filter Type: 0.45 dis metals only

Sample Collected with: ☐ Bailer ☑ Pump Other: ____ Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: ____

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☑ Turbidity Meter ☐ Other: ____

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): Fe 0.5 clear

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement				Result: 0.5 mg/L

QC samples

Duplicate Sample No: - Duplicate Time: - MS/MSD: ☐ Yes ☒ No

Signature: [signature] **Date:** 4/10/24

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 4/10/24

Task: 4 - Groundwater Sampling Field Personnel: GS / DG, HB

Purge Data

Well ID: MW-42 Secure: ☐ Yes ☐ No Ecology Tag #: _____ Casing Type/Diameter/Screened Interval _____

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☐ Bolts: Missing (#) ____ Stripped (#) ____ Other Damage: _____

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from TOC): 11.19 Time: 1535

Total Depth (from log or field measurement): _____

After 5 minutes of purging (from top of casing): 11.22

Begin purge (time): 1547 End purge (time): 1642

Volume purged: 9L Purge water disposal method: tank

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	pH (s.u.) +/- 0.1	DO (mg/L) +/- 10% or <0.5	Specific Conductivity (µs/cm) +/- 3%	Turbidity (NTU)	Temp (°C) +/- 3%	ORP (mV) +/- 10 mV	Comments
1552	11.22	1.5	6.39	1.10	195.5	4.26	13.3	-52.9	
1557	11.23	2.5	6.36	.53	192.1	3.46	13.3	-66.4	Start sampling, 2 bottles sampled
1602	11.23	3.5	6.37	.40	191.5	3.97	13.4	-73.4	
1607	11.24	4	6.36	.36	190.8	—	13.5	-75.9	
1612	11.23	4.5	6.36	.32	190.7	3.08	13.5	-78.2	

Sampling Data

Sample No: MW-42-041024 Location and Depth: _____

Date Collected (mo/dy/yr): 4/10/24 Time Collected: 1615 Weather: overcast, 50°, sunny

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☑ Filtered ☑ Unfiltered Filter Type: 45

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: _____

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☑ Turbidity Meter ☐ Other: _____

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): flocculent, no odor

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement				Result: 5.5 mg/L

QC samples

Duplicate Sample No: ~~_____~~ Duplicate Time: ~~_____~~ MS/MSD: ☐ Yes ☑ No

Signature: _____ **Date:** 4/10/24

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 4/11/24

Task: 4 - Groundwater Sampling Field Personnel: DG

Purge Data

Well ID: MW-27 Secure: ☑ Yes ☐ No Ecology Tag #: _____ Casing Type/Diameter/Screened Interval PVC/2"/5-17'

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☐ Bolts: Missing (#) ____ Stripped (#) ____ Other Damage: _____

Depth Sounder decontaminated Prior to Placement in Well: ☑ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from TOC): ~~9.30~~ 9.15 Time: 10:40

Total Depth (from log or field measurement): _____

After 5 minutes of purging (from top of casing): 9.36

Begin purge (time): 10:43 End purge (time): 11:28

Volume purged: 6.5L Purge water disposal method Poly Tank

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	pH (s.u.) +/- 0.1	DO (mg/L) +/- 10% or <0.5	Specific Conductivity (µs/cm) +/- 3%	Turbidity (NTU)	Temp (°C) +/- 3%	ORP (mV) +/- 10 mV	Comments
10:45	9.31	0.5	5.87	21.8	158.0	5.44	10.6	182.8	
10:50	9.39	1.0	5.70	1.02	156.1	4.45	10.5	174.7	
10:55	9.45	1.5	5.63	1.14	149.4	3.71	10.5	181.3	
11:00	9.55	2.5	5.58	0.62	147.3	2.55	10.5	188.1	
11:05	9.64	3.5	5.57	0.35	147.9	—	10.5	191.2	
11:10	9.71	4.25	5.57	0.22	148.4	2.55	10.6	191.6	

Sampling Data

Sample No: MW-27-041124 Location and Depth: MW-27 @ 13'

Date Collected (mo/dy/yr): 04/11/24 Time Collected: 11:15 Weather: Clear & cool

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☐ Filtered ☑ Unfiltered Filter Type: Dissolved Iron/Manganese Field Filtered

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: _____

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☑ Turbidity Meter ☐ Other: _____

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): Clear

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement				Result: 0 mg/L

QC samples

Duplicate Sample No: _____ Duplicate Time: — MS/MSD: ☐ Yes ☑ No

Signature: [signature] **Date:** 4/11/24

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 4/11/24

Task: 4 - Groundwater Sampling Field Personnel: DG

Purge Data

Well ID: MW-23 Secure: ☑ Yes ☐ No Ecology Tag #: _____ Casing Type/Diameter/Screened Interval PVC/2"/5-18'

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☐ Bolts: Missing (#) ____ Stripped (#) ____ Other Damage: _____

Depth Sounder decontaminated Prior to Placement in Well: ☑ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from TOC): 10.44 Time: 11:53

Total Depth (from log or field measurement): _____

After 5 minutes of purging (from top of casing): _____

Begin purge (time): 11:58 End purge (time): Poly Tank

Volume purged: 7L Purge water disposal method 12:44L

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	pH (s.u.) +/- 0.1	DO (mg/L) +/- 10% or <0.5	Specific Conductivity (µs/cm) +/- 3%	Turbidity (NTU)	Temp (°C) +/- 3%	ORP (mV) +/- 10 mV	Comments
12:00	10.63	0.25	5.90	8.25	99.8	2.79	11.9	194.4	
12:05	10.67	0.75	5.82	6.85	98.1	3.07	11.9	201.0	
12:10	10.75	1.5	5.79	6.81	99.6	2.66	11.7	208.3	
12:15	10.79	2.25	5.81	6.63	106.9	2.69	11.7	212.4	
12:20	10.84	3.0	5.84	6.41	109.5	2.18	11.7	214.1	
12:25	10.87	3.75	5.86	6.16	115.5	2.03	11.7	215.9	

Sampling Data

Sample No: MW-23-041124 Location and Depth: MW-23 @15'

Date Collected (mo/dy/yr): 04/11/24 Time Collected: 12:30 Weather: Clear + cool

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☑ Filtered ☑ Unfiltered Filter Type: Dissolved Iron/Manganese Field Filtered

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: _____

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☑ Turbidity Meter ☐ Other: _____

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): Clear

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement				Result: 0 mg/L

QC samples

Duplicate Sample No: ~ Duplicate Time: ~ MS/MSD: ☐ Yes ☑ No

Signature: [signature] **Date:** 4/11/24

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 4/11/24

Task: 4 - Groundwater Sampling Field Personnel: GS, CO, DC

Purge Data

Well ID: MW-40 Secure: ☑ Yes ☐ No Ecology Tag #: _____ Casing Type/Diameter/Screened Interval _____ 15'

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☐ Bolts: Missing (#) ____ Stripped (#) ____ Other Damage: _____

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from TOC): 7.73 Time: 12:15

Total Depth (from log or field measurement): 25.20

After 5 minutes of purging (from top of casing): 7.39

Begin purge (time): 1214 End purge (time): 1325

Volume purged: 7L Purge water disposal method Final

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	pH (s.u.) +/- 0.1	DO (mg/L) +/- 10% or <0.5	Specific Conductivity (us/cm) +/- 3%	Turbidity (NTU)	Temp (°C) +/- 3%	ORP (mV) +/- 10 mV	Comments
1220	7.39	1	6.71	2.58	292.2	26.7	17.6	-62.7	
1225	7.46	2	6.67	1.42	282.1	23.3	17.7	-58.9	
1230	7.50	2.5	6.68	1.16	285.2	23.8	12.8	-58.4	
1235	7.49	3.5	6.68	1.08	282.9	20.3	12.8	-57.5	
1240	7.54	4	6.69	.96	283.5	22.0	12.8	-58.0	
1245	7.60	5	6.69	.96	288.2	16.7	12.8	-57.6	YSI disconnect

Sampling Data

Sample No: MW-40-041124 Location and Depth: Street, 6'

Date Collected (mo/dy/yr): 04/11/24 Time Collected: 1250 Weather: Sunny, 60's

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☐ Filtered ☑ Unfiltered Filter Type: CAS

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: _____

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☑ Turbidity Meter ☐ Other: _____

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): No odor, slight yellow, flocculent

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement				Result: 3.0 mg/L

QC samples

Duplicate Sample No: MW-1400-041124 Duplicate Time: 1500 MS/MSD: ☐ Yes ☑ No

Signature: _____ Date: 4/11/24

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 4/11/24

Task: 4 - Groundwater Sampling Field Personnel: CO

Purge Data

Well ID: MW-39 Secure: ☒ Yes ☐ No Ecology Tag #: _____ Casing Type/Diameter/Screened Interval _____

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☒ Bolts: Missing (#) 1 Stripped (#) ____ Other Damage: _____

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from TOC): 6.77 Time: 1207

Total Depth (from log or field measurement): 50.61

After 5 minutes of purging (from top of casing): 7.08

Begin purge (time): 1208 End purge (time): 1253

Volume purged: 7L Purge water disposal method: Tank

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	pH (s.u.) +/- 0.1	DO (mg/L) +/- 10% or <0.5	Specific Conductivity (µs/cm) +/- 3%	Turbidity (NTU)	Temp (°C) +/- 3%	ORP (mV) +/- 10 mV	Comments
1215	7.08	1.0	6.49	0.98	222.0	11.4	13.9	-4.2	
1220	7.10	1.75	6.50	0.54	222.1	8.76	13.9	-18.2	
1225	7.10	2.5	6.51	0.44	221.6	5.7	14.0	-25.2	
1230	7.11	3.5	6.52	0.39	221.7	3.0	14.0	-29.7	
1235	7.11	4.5	6.54	0.35	220.0	2.57	14.0	-33.3	

Sampling Data

Sample No: MW-39-041124 Location and Depth: _____

Date Collected (mo/dy/yr): 4/11/24 Time Collected: 1238 Weather: 62, clear

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☒ Filtered ☐ Unfiltered Filter Type: 0.45 µm

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: _____

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☑ Turbidity Meter ☐ Other: _____

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): clear, no odor

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement				Result: 3.5 mg/L

QC samples

Duplicate Sample No: — Duplicate Time: — MS/MSD: ☐ Yes ☒ No

Signature: _____ Date: 4/11/24

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 4/11/24

Task: 4 - Groundwater Sampling Field Personnel: CO, GS

Purge Data

Well ID: HZ-MW-33R Secure: ☐ Yes ☒ No Ecology Tag #: _____ Casing Type/Diameter/Screened Interval 30'

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☒ Bolts: Missing (#) 3 Stripped (#) ____ Other Damage: _____

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from TOC): — Time: —

Total Depth (from log or field measurement): 30'

After 5 minutes of purging (from top of casing): —

Begin purge (time): 1036 End purge (time): 1116

Volume purged: 6L Purge water disposal method: tank

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	pH (s.u.) +/- 0.1	DO (mg/L) +/- 10% or <0.5	Specific Conductivity (µs/cm) +/- 3%	Turbidity (NTU)	Temp (°C) +/- 3%	ORP (mV) +/- 10 mV	Comments
1041	—	1.5	6.61	.91	107.3	—	13.4	106.6	
1046	—	2.0	6.60	0.58	106.4	1.60	13.4	106.8	
1051	—	3.0	6.58	0.45	105.9	1.36	13.4	106.4	
1056	—	4.0	6.57	0.39	105.7	1.48	13.5	106.1	
1101		4.5	6.57	0.36	105.8	0.92	13.4	105.9	
~~1106~~									
W									

Sampling Data

Sample No: HZ-MW-33R-041124 Location and Depth: _____

Date Collected (mo/dy/yr): 4/11/24 Time Collected: 1106 Weather: 62°, clear

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☒ Filtered ☐ Unfiltered Filter Type: 0.45

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: _____

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☑ Turbidity Meter ☐ Other: _____

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): clear, no odor

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement				Result: 0 mg/L

QC samples

Duplicate Sample No: — Duplicate Time: — MS/MSD: ☐ Yes ☒ No

Signature: _____ **Date:** 4/11/24

September 2024 Groundwater Sampling Forms

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 9/23/24

Task: 4 - Groundwater Sampling Field Personnel: HB

Purge Data

Well ID: MW-29 Secure: ☑ Yes ☐ No Ecology Tag #: — Casing Type/Diameter/Screened Interval: PVC 2" 45-55

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☑ Bolts: Missing (#) 3 Stripped (#) ____ Other Damage: —

Depth Sounder decontaminated Prior to Placement in Well: ☑ Yes ☐ No One Casing Volume (gal): ____

Depth of water (from TOC): 10.64 Time: 11:29

Total Depth (from log or field measurement): 55 ft

After 5 minutes of purging (from top of casing): 10.79

Begin purge (time): 11:25 End purge (time): 1215

Volume purged: 6.0 L Purge water disposal method: poly tank

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	pH (s.u.) +/- 0.1	DO (mg/L) +/- 10% or <0.5	Specific Conductivity (µs/cm) +/- 3%	Turbidity (NTU)	Temp (°C) +/- 3%	ORP (mV) +/- 10 mV	Comments
1130	10.79	1.0	7.13	1.10	262.1	4.52	14.4	67.5	
1135	10.79	1.5	7.13	0.62	261.1	4.05	14.4	39.0	
1140	10.80	2.0	7.16	0.49	260.9	3.38	14.3	-2.1	
1145	10.80	2.5	7.19	0.43	260.9	3.18	14.3	-33.2	
1150	10.80	3.0	7.22	0.36	260.7	2.55	14.3	-60.3	
1153	10.81	3.5	7.23	0.37	260.7	2.65	14.4	-68.6	
1156	10.81	4.0	7.24	2.36	260.9	2.67	14.3	-73.7	

Sampling Data

Sample No: MW-29-092324 Location and Depth: MW-29

Date Collected (mo/dy/yr): 9/23/24 Time Collected: 1200 Weather: 60° cloudy

Type: ☑ Ground Water ☐ Surface Water Other: ____ Sample: ☑ Filtered ☐ Unfiltered Filter Type: dis metals 0.45

Sample Collected with: ☐ Bailer ☑ Pump Other: ____ Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: ____

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☑ Turbidity Meter ☐ Other: ____

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): clear no odor

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement				Result: 1.5 mg/L

QC samples

Duplicate Sample No: — Duplicate Time: — MS/MSD: ☐ Yes ☑ No

Signature: [signature] **Date:** 9/23/24

R SURFACE WATER SAMPLE COLLECTION FORM

nter _____ Date of Collection: 9/23/24

ing _____ Field Personnel: Jillian Sue, Healy, Dantle G.

☐ No Ecology Tag #: — Casing Type/Diameter/Screened Interval _____

ment ☐ Lid ☐ Lock ☑ Bolts: Missing (#) 3 Stripped (#) ____ Other Damage: _____

minated Prior to Placement in Well: ☐ Yes ☐ No One Casing Volume (gal): _____

(from TOC): 11.45 Time: 11:28

Depth (from log or field measurement): _____

After 5 minutes of purging (from top of casing): 11.51

Begin purge (time): 11:30 End purge (time): 1230

Volume purged: 5 Purge water disposal method Tank

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	pH (s.u.) +/- 0.1	DO (mg/L) +/- 10% or <0.5	Specific Conductivity (µs/cm) +/- 3%	Turbidity (NTU)	Temp (°C) +/- 3%	ORP (mV) +/- 10 mV	Comments
1135	11.61	1	6.05	5.96	188.4	4.62	15.7	117.7	
1140	11.61	2	5.84	5.06	181.1	4.01	15.6	146.5	
1145	11.59	3.5	5.77	4.55	170.6	2.98	15.7	163.9	
1150	11.69	4.5	5.76	4.43	166.5	2.90	15.5	168.3	
1155	11.60	5	5.74	4.31	164.3	3.15	15.7	174.3	
[redacted]									

Sampling Data

Sample No: MW-23-[redacted]092324 Location and Depth: _____

Date Collected (mo/dy/yr): 09/23/24 Time Collected: 1201 Weather: rain, overcast 60°

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☑ Filtered ☐ Unfiltered Filter Type: _____

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: _____

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☑ Turbidity Meter ☐ Other: _____

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): clear, no odor

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement				Result:

QC samples

Duplicate Sample No: — Duplicate Time: — MS/MSD: ☐ Yes ☑ No

Signature: [signature] **Date:** 9/23/24

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 9/23/24

Task: 4 - Groundwater Sampling Field Personnel: HB

Purge Data

Well ID: S-MW-5R Secure: ☐ Yes ☐ No Ecology Tag #: — Casing Type/Diameter/Screened Interval: 2" PVC 15-25

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☑ Bolts: Missing (#) 3 Stripped (#) ____ Other Damage: —

Depth Sounder decontaminated Prior to Placement in Well: ☑ Yes ☐ No One Casing Volume (gal): —

Depth of water (from TOC): 8.23 Time: ~~1250~~ 1300

Total Depth (from log or field measurement): 25.13

After 5 minutes of purging (from top of casing): ____

Begin purge (time): 1300 End purge (time): 1340

Volume purged: 6.0 L Purge water disposal method: poly tank

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	pH (s.u.) +/- 0.1	DO (mg/L) +/- 10% or <0.5	Specific Conductivity (µs/cm) +/- 3%	Turbidity (NTU)	Temp (°C) +/- 3%	ORP (mV) +/- 10 mV	Comments
1305	9.24	0.5	6.27	0.58	505	2.32	13.8	77.3	pump started
1310	9.24	1.0	6.26	0.51	505	1.61	14.1	76.8	
1315	9.23	1.5	6.27	0.44	496.9	2.52	14.0	75.7	
1320	9.25	2.0	6.29	0.38	485.4	1.62	13.9	73.4	
1325	9.26	2.5	6.30	0.37	480.4	1.87	13.9	72.8	

Sampling Data

Sample No: S-MW-5R-092324 Location and Depth: S-MW-5R

Date Collected (mo/dy/yr): 9/23/24 Time Collected: 1335 Weather: 60° cloudy

Type: ☑ Ground Water ☐ Surface Water Other: ____ Sample: ☑ Filtered ☐ Unfiltered Filter Type: 0.45 diss metals

Sample Collected with: ☐ Bailer ☑ Pump Other: ____ Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: ____

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☑ Turbidity Meter ☐ Other: ____

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☑ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): clear no odd

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement				Result: 0.0 mg/L

QC samples

Duplicate Sample No: — Duplicate Time: — MS/MSD: ☐ Yes ☑ No

Signature: [signature] **Date:** 9/23/24

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 9/23/24

Task: 4 - Groundwater Sampling Field Personnel: GS, HB, DG

Purge Data

Well ID: S-MW-2RR Secure: ☐ Yes ☒ No Ecology Tag #: — Casing Type/Diameter/Screened Interval

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☐ Bolts: Missing (#) ____ Stripped (#) ____ Other Damage:

Depth Sounder decontaminated Prior to Placement in Well: ☑ Yes ☐ No One Casing Volume (gal):

Depth of water (from TOC): 7.91 Time: 1300

Total Depth (from log or field measurement): 17.64 ft

After 5 minutes of purging (from top of casing):

Begin purge (time): 13:10 End purge (time): 14:01

Volume purged: 9. Purge water disposal method: Tank

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	+/- 0.1 pH (s.u.)	+/- 10% or <0.5 DO (mg/L)	+/- 3% Specific Conductivity (µs/cm)	Turbidity (NTU)	+/- 3% Temp (°C)	+/- 10 mV ORP (mV)	Comments
13:15	8.00	.5	6.54	1.12	596	1.03	14.6	-75.9	
13:20	8.00	1.5	6.59	.69	596	.76	14.6	-85.1	
13:25	8.01	3	6.62	.55	592	.99	14.6	-90.7	
13:30	8.03	4	6.63	.49	592	.72	14.5	-93.9	
13:35	8.03	~~5~~ 5.5	6.64	.43	594	.82	14.5	-97.1	
[redacted]									

Sampling Data

Sample No: SMW-2RR-092324 Location and Depth:

Date Collected (mo/dy/yr): 9/23/24 Time Collected: 1345 Weather: indoors - 60° overcast

Type: ☑ Ground Water ☐ Surface Water Other: Sample: ☐ Filtered ☐ Unfiltered Filter Type:

Sample Collected with: ☐ Bailer ☑ Pump Other: Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other:

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☑ Turbidity Meter ☐ Other:

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): Cle

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement				Result: 2.0

QC samples

Duplicate Sample No: — Duplicate Time: — MS/MSD: ☐ Yes ☒ No

Signature: Date: 9/23/24

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 9/23/24

Task: 4 - Groundwater Sampling Field Personnel: DG

Purge Data

Well ID: HZ-MW-26 Secure: ☐ Yes ☒ No Ecology Tag #: _____ Casing Type/Diameter/Screened Interval PVC/2"/30-40'

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☒ Bolts: Missing (#) 3 Stripped (#) ____ Other Damage: _____

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from TOC): 11.05 Time: 13:20

Total Depth (from log or field measurement): 38.71'

After 5 minutes of purging (from top of casing): 11.66

Begin purge (time): 13:22 End purge (time): 14:08

Volume purged: 5.5L Purge water disposal method Poly tank

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	pH (s.u.) +/- 0.1	DO (mg/L) +/- 10% or <0.5	Specific Conductivity (µs/cm) +/- 3%	Turbidity (NTU)	Temp (°C) +/- 3%	ORP (mV) +/- 10 mV	Comments
13:25	11.66	0.5	6.52	0.52	351.2	0.94	14.5	124.4	
13:30	11.80	1.5	6.44	0.38	346.3	0.69	14.5	136.6	
13:35	11.95	2.0	6.48	0.29	345.3	0.71	14.3	143.3	
13:40	12.0	3.0	6.41	0.27	345.1	–	14.4	148.6	
13:45	11.95	4.0	6.45	0.24	344.8	0.55	14.4	146.4	

Sampling Data

Sample No: HZ-MW-26-092324 Location and Depth: HZ-MW-26@34'

Date Collected (mo/dy/yr): 09/23/24 Time Collected: 13:50 Weather: Inside

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☒ Filtered ☒ Unfiltered Filter Type: 0.45 micron

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: _____

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☑ Turbidity Meter ☐ Other: _____

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): Clear

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement				Result: 0 mg/L

QC samples

Duplicate Sample No: – Duplicate Time: – MS/MSD: ☐ Yes ☒ No

Signature: [signature] **Date:** 9/23/24

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 9/23/24

Task: 4 - Groundwater Sampling Field Personnel: GS, DG, HB

Purge Data

Well ID: HZ-MW-15S Secure: ☐ Yes ☐ No Ecology Tag #: _____ Casing Type/Diameter/Screened Interval 10'

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☐ Bolts: Missing (#) ____ Stripped (#) ____ Other Damage: _____

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from TOC): 8.80 Time: 7:35

Total Depth (from log or field measurement): —

After 5 minutes of purging (from top of casing): 9.15

Begin purge (time): 1540 End purge (time): 1536

Volume purged: 6.0 Purge water disposal method: Tank

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged	pH (s.u.) +/- 0.1	DO (mg/L) +/- 10% or <0.5	Specific Conductivity (µs/cm) +/- 3%	Turbidity (NTU)	Temp (°C) +/- 3%	ORP (mV) +/- 10 mV	Comments
1545	9.13	1	6.25	1.97	471.2	1.63	15.3	74.2	
1550	9.29	2	6.17	.75	510	.95	15.2	85.2	
1555	9.35	3	6.21	1.20	570	.98	15.3	80.7	
1500	9.40	4	6.25	.70	625	.98	15.1	68.7	
1505	9.35	4.5	6.25	.53	6.29	.85	15.1	67.2	

Sampling Data

Sample No: HZMW-15S-092324 Location and Depth: _____

Date Collected (mo/dy/yr): 9/23/24 Time Collected: 1510 Weather: Mid 60's Cloudy

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☑ Filtered ☐ Unfiltered Filter Type: _____

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: _____

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☑ Turbidity Meter ☐ Other: _____

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): Clear, no odor

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement				Result: 0.5

QC samples

Duplicate Sample No: — Duplicate Time: — MS/MSD: ☐ Yes ☑ No

Signature: _____ Date: 9/23/24

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 9/24/24

Task: 4 - Groundwater Sampling Field Personnel: DG

Purge Data

Well ID: HZ-MW-145 Secure: ☒ Yes ☐ No Ecology Tag #: _____ Casing Type/Diameter/Screened Interval PVC/2"/5-15'

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☒ Bolts: Missing (#) 3 Stripped (#) ____ Other Damage: _____

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from TOC): 9.00 Time: 08:30

Total Depth (from log or field measurement): 14.63'

After 5 minutes of purging (from top of casing): 9.27

Begin purge (time): 08:34 End purge (time): 09:16

Volume purged: 10L Purge water disposal method Poly tank

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	+/- 0.1 pH (s.u.)	+/- 10% or <0.5 DO (mg/L)	+/- 3% Specific Conductivity (µs/cm)	Turbidity (NTU)	+/- 3% Temp (°C)	+/- 10 mV ORP (mV)	Comments
08:35	9.27	0.75	6.43	2.09	341.4	5.92	15.8	84.7	Flow es low
08:40	9.62	2.0	6.17	0.51	336.3	10.5	15.8	68.8	2s possible pump
08:45	9.81	3.0	6.16	0.41	339.2	13.4	15.7	62.0	
08:50	10.01	4.5	6.21	0.34	341.0	18.9	15.6	53.7	
08:53	10.20	5.5	6.22	0.33	341.2	19.6	15.7	49.6	
08:56	10.42	6.5	6.22	0.32	342.0	16.3	15.6	44.4	

Sampling Data

Sample No: HZ-MW-145-092424 Location and Depth: HZ-MW-145 @ ~11'

Date Collected (mo/dy/yr): 09/24/24 Time Collected: 09:00 Weather: Inside

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☒ Filtered ☒ Unfiltered Filter Type: 0.45 micron

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: _____

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☑ Turbidity Meter ☐ Other: _____

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): Clear, slight cloudyness

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement				Result: 4.0 mg/L

QC samples

Duplicate Sample No: _____ Duplicate Time: ____ MS/MSD: ☐ Yes ☒ No

Signature: [signature] Date: 9/24/24

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 9/24/24

Task: 4 - Groundwater Sampling Field Personnel: DG, GS, HB

Purge Data

Well ID: HZ-MW-14D Secure: ☐ Yes ☐ No Ecology Tag #: _____ Casing Type/Diameter/Screened Interval 35'

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☐ Bolts: Missing (#) ____ Stripped (#) ____ Other Damage: _____

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from TOC): 9.40 Time: 8:30

Total Depth (from log or field measurement): _____

After 5 minutes of purging (from top of casing): 9.91

Begin purge (time): 8:35 End purge (time): 9:40

Volume purged: .7 Purge water disposal method: Tank

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	pH (+/- 0.1 s.u.)	DO (+/- 10% or <0.5 mg/L)	Specific Conductivity (+/- 3% µs/cm)	Turbidity (NTU)	Temp (+/- 3% °C)	ORP (+/- 10 mV mV)	Comments
8:40	9.91	.5	6.23	.88	626	2.30	15.5	86.5	
8:45	10.50	1.5	6.21	.33	625	-	15.5	71.5	
8:50	10.60	2	6.22	.28	624	1.41	15.5	65.7	
8:55	10.71	3	6.23	.21	622	2.77	15.5	59.7	
9:00	10.79	4	6.23	.18	621	2.88	15.4	56.7	

Sampling Data

Sample No: HZ-MW-14D-092424 Location and Depth: _____

Date Collected (mo/dy/yr): 9/24/24 Time Collected: 9:05 Weather: Indoors, Rainy, 60's

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☑ Filtered ☐ Unfiltered Filter Type: _____

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: _____

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☑ Turbidity Meter ☐ Other: _____

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): Clear no odor

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement				Result: 1.2

QC samples

Duplicate Sample No: - Duplicate Time: - MS/MSD: ☐ Yes ☐ No

Signature: _____ **Date:** 9/24/24

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 9/24/24

Task: 4 - Groundwater Sampling Field Personnel: HB

Purge Data

Well ID: HZ-MW-1 Secure: ☑ Yes ☐ No Ecology Tag #: — Casing Type/Diameter/Screened Interval PVC 1" S-15ft

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☑ Bolts: Missing (#) 1 Stripped (#) ____ Other Damage: ____

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No One Casing Volume (gal): —

Depth of water (from TOC): 9.64 Time: 830

Total Depth (from log or field measurement): 16.79

After 5 minutes of purging (from top of casing): 12.14

Begin purge (time): 8:30 End purge (time): 9:50

Volume purged: 2.0 L Purge water disposal method: poly tank

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	pH (s.u.) +/- 0.1	DO (mg/L) +/- 10% or <0.5	Specific Conductivity (µs/cm) +/- 3%	Turbidity (NTU)	Temp (°C) +/- 3%	ORP (mV) +/- 10 mV	Comments
8:35	12.14	0.25	6.34	1.15	1141	6.19	15.2	-60.7	organic odor
840	14.05	0.5	6.35	2.63	1157	19.43	15.2	-65.3	
845	—	0.75	6.34	0.52	1168	9.94	15.2	-67.0	well dry
9:02	12.76	0.75	6.35	0.46	1198	7.35	15.2	-69.0	pump at 9:00
9:05	13.48	1.0	6.35	0.45	1182	6.04	15.1	-69.4	
9:06	14.04	1.0	6.34	0.43	1177	6.34	15.1	-69.6	

Sampling Data

Sample No: HZ-MW-1-092424 Location and Depth: HZ-MW-1

Date Collected (mo/dy/yr): 9/24/24 Time Collected: 0915 Weather: 55 Cloudy

Type: ☑ Ground Water ☐ Surface Water Other: ____ Sample: ☑ Filtered ☐ Unfiltered Filter Type: 0.45 Dis metals

Sample Collected with: ☐ Bailer ☑ Pump Other: ____ Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: ____

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☑ Turbidity Meter ☐ Other: ____

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): Clear organic odor

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement				Result: 3.0 mg/L

QC samples

Duplicate Sample No: — Duplicate Time: — MS/MSD: ☐ Yes ☑ No

Signature: [signature] **Date:** 9/24/24

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 9/24/24

Task: 4 - Groundwater Sampling Field Personnel: CS, DG / HB

Purge Data

Well ID: HZ-MW-29 Secure: ☐ Yes ☐ No Ecology Tag #: _____ Casing Type/Diameter/Screened Interval 20'

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☐ Bolts: Missing (#) ____ Stripped (#) ____ Other Damage: _____

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from TOC): 5.54 Time: 9:54

Total Depth (from log or field measurement): _____

After 5 minutes of purging (from top of casing): 6.51

Begin purge (time): 9:56 End purge (time): 10:47

Volume purged: 6 Purge water disposal method Tank

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	pH (s.u.) +/- 0.1	DO (mg/L) +/- 10% or <0.5	Specific Conductivity (µs/cm) +/- 3%	Turbidity (NTU)	Temp (°C) +/- 3%	ORP (mV) +/- 10 mV	Comments
10:00	6.51	0.5	6.49	.58	340.4	—	14.7	-57.9	
10:05	6.60	1.5	6.48	.39	341.1	2.37	14.6	-60.0	
10:10	6.65	2.5	6.45	.22	341.0	1.70	14.5	-63.5	
10:15	6.64	3.5	6.45	.17	339.4	1.51	14.5	-68.7	
10:20	6.71	4.5	6.43	.15	337.6	1.44	14.4	-70.8	

Sampling Data

Sample No: HZ-MW-29-092424 Location and Depth: _____

Date Collected (mo/dy/yr): 9/24/24 Time Collected: 1025 Weather: indoors, 60's

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☐ Filtered ☐ Unfiltered Filter Type: _____

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: _____

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☑ Turbidity Meter ☐ Other: _____

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): clear, no odor

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement				Result: 3.6

QC samples

Duplicate Sample No: — Duplicate Time: — MS/MSD: ☐ Yes ☐ No

Signature: _____ **Date:** 9/24/24

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 9/24/24

Task: 4 - Groundwater Sampling Field Personnel: DG

Purge Data

Well ID: HZ-MW-34 Secure: ☒ Yes ☐ No Ecology Tag #: _____ Casing Type/Diameter/Screened Interval PVC/2"/5-25

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☒ Bolts: Missing (#) 3 Stripped (#) ____ Other Damage: _____

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from TOC): 5.30 Time: 9:50

Total Depth (from log or field measurement): 22.72

After 5 minutes of purging (from top of casing): 6.05

Begin purge (time): 9:59 End purge (time): 10:45

Volume purged: 9.0L Purge water disposal method Poly tank

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	pH (s.u.) +/- 0.1	DO (mg/L) +/- 10% or <0.5	Specific Conductivity (µs/cm) +/- 3%	Turbidity (NTU)	Temp (°C) +/- 3%	ORP (mV) +/- 10 mV	Comments
10:03	6.05	1.5	6.23	0.76	325.2	9.16	14.6	70.7	
10:08	6.06	2.5	6.19	0.47	334.0	31.9	14.5	67.0	Particulates in tub
10:13	6.10	4.0	6.16	0.38	335.0	31.6	14.5	63.2	Sample
10:18	6.17	5.0	6.18	0.33	334.4	7.74	14.4	56.9	Rental turbidmeter
10:23	6.16	6.0	6.20	0.31	332.3	3.98	14.4	49.6	reading high
10:26	6.21	7.0	6.21	0.29	331.1		14.3	46.6	

Sampling Data

Sample No: HZMW-34-092424 Location and Depth: HZ-MW-34 @ ~17'

Date Collected (mo/dy/yr): 09/24/24 Time Collected: 10:30 Weather: Inside

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☒ Filtered ☒ Unfiltered Filter Type: 0.45 micron

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: _____

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☑ Turbidity Meter ☐ Other: _____

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): Clear w/ light colored particulates

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement				Result: 2.0 mg/L

QC samples

Duplicate Sample No: — Duplicate Time: — MS/MSD: ☐ Yes ☒ No

Signature: Daniel Gallo Date: 9/24/24

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center | Date of Collection: 9/24/24

Task: 4 - Groundwater Sampling | Field Personnel: HB

Purge Data

Well ID: HZ-MW-24 Secure: ☑ Yes ☐ No Ecology Tag #: — Casing Type/Diameter/Screened Interval PVC 2" 25-35

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☑ Bolts: Missing (#) 3 Stripped (#) — Other Damage: —

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No One Casing Volume (gal): —

Depth of water (from TOC): 5.40 Time: 1010

Total Depth (from log or field measurement): 32.48

After 5 minutes of purging (from top of casing): 5.79

Begin purge (time): 1010 End purge (time): 1055

Volume purged: 4.0 L Purge water disposal method poly tank

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	pH (s.u.) +/- 0.1	DO (mg/L) +/- 10% or <0.5	Specific Conductivity (µs/cm) +/- 3%	Turbidity (NTU)	Temp (°C) +/- 3%	ORP (mV) +/- 10 mV	Comments
1015	5.79	0.5	6.56	1.32	415.2	2.60	14.5	-42.5	
1020	5.90	1.0	6.48	0.82	412.5	2.13	14.3	-42.3	
1025	5.90	2.0	6.41	2.58	409.1	2.28	14.4	-45.3	
1030	5.90	2.5	6.36	0.59	406.6	1.71	14.3	-46.9	
1035	5.90	3.0	6.36	0.47	404.8	1.87	14.3	-47.8	

Sampling Data

Sample No: HZ-MW-24-092424 Location and Depth: HZ-MW-24

Date Collected (mo/dy/yr): 9/24/24 Time Collected: 1045 Weather: 60° cloudy

Type: ☑ Ground Water ☐ Surface Water Other: — Sample: ☑ Filtered ☐ Unfiltered Filter Type: 0.45 dis metals

Sample Collected with: ☐ Bailer ☑ Pump Other: — Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: —

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☑ Turbidity Meter ☐ Other: —

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): clear no odor

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement				Result: 4.0 mg/L

QC samples

Duplicate Sample No: — Duplicate Time: — MS/MSD: ☐ Yes ☑ No

Signature: [signature] **Date:** 9/24/24

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 9/24/24

Task: 4 - Groundwater Sampling Field Personnel: CS, DG, HP

Purge Data

Well ID: MW-11 Secure: ☐ Yes ☐ No Ecology Tag #: _____ Casing Type/Diameter/Screened Interval _____

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☐ Bolts: Missing (#)____ Stripped (#)____ Other Damage: _____

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from TOC): 7.25 Time: 1125

Total Depth (from log or field measurement): _____

After 5 minutes of purging (from top of casing): 7.34

Begin purge (time): 11:30 End purge (time): 1245

Volume purged: 9 Purge water disposal method: tank

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	pH (+/- 0.1 s.u.)	DO (+/- 10% or <0.5 mg/L)	Specific Conductivity (+/- 3% µs/cm)	Turbidity (NTU)	Temp (+/- 3% °C)	ORP (+/- 10 mV mV)	Comments
11:35	7.34	1.5	6.84	.32	453.7	1.47	15.3	-54.7	
11:40	7.55	2	6.92	.28	449.7	—	15.4	-73.5	
11:45	7.32	3	6.93	.18	441.0	1.27	15.3	-78.5	
11:50	7.24	3.5	6.92	.18	441.0	1.57	15.3	-76.7	
11:55	—	4.5	6.92	.15	443.9	1.32	15.3	-82.1	

Sampling Data

Sample No: MW-11-092424 Location and Depth: _____

Date Collected (mo/dy/yr): 09/24/24 Time Collected: 1200 Weather: Cloudy, windy

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☐ Filtered ☐ Unfiltered Filter Type: _____

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: _____

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☑ Turbidity Meter ☐ Other: _____

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): Clear, no odor

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement				Result: 2.6

QC samples

Duplicate Sample No: — Duplicate Time: — MS/MSD: ☐ Yes ☑ No

Signature: _____ Date: 9/24/24

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 9/24/24

Task: 4 - Groundwater Sampling Field Personnel: HB

Purge Data

Well ID: MW-21R Secure: ☑ Yes ☐ No Ecology Tag #: — Casing Type/Diameter/Screened Interval PVC 2" 10-15

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☐ Bolts: Missing (#) 3 Stripped (#) — Other Damage: —

Depth Sounder decontaminated Prior to Placement in Well: ☑ Yes ☐ No One Casing Volume (gal): —

Depth of water (from TOC): 7.58 Time: 1140

Total Depth (from log or field measurement): 14.84

After 5 minutes of purging (from top of casing): 8.64

Begin purge (time): 1140 End purge (time): 1220

Volume purged: 4 L Purge water disposal method poly tank

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	pH (s.u.) +/- 0.1	DO (mg/L) +/- 10% or <0.5	Specific Conductivity (µs/cm) +/- 3%	Turbidity (NTU)	Temp (°C) +/- 3%	ORP (mV) +/- 10 mV	Comments
1145	8.64	0.5	6.36	1.09	475.7	2.13	15.4	-7.0	
1150	8.99	1.5	6.33	0.63	583	1.25	15.3	-16.4	
1155	9.19	2.5	6.34	0.51	552	1.00	15.3	-19.2	
1200	9.35	3.5	6.34	0.47	567	1.13	15.2	-21.4	
1205	9.47	4.5	6.33	0.44	577	1.26	15.2	-22.3	

Sampling Data

Sample No: MW-24R-092424 Location and Depth: MW-24R

Date Collected (mo/dy/yr): 9/24/24 Time Collected: 1215 Weather: 60° sunny

Type: ☑ Ground Water ☐ Surface Water Other: — Sample: ☑ Filtered ☐ Unfiltered Filter Type: 0.45 d.s metals

Sample Collected with: ☐ Bailer ☑ Pump Other: — Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: —

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☑ Turbidity Meter ☐ Other: —

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): clear no odor

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement				Result: 2.5 mg/L

QC samples

Duplicate Sample No: — Duplicate Time: — MS/MSD: [ ] Yes ☑ No

Signature: [signature] Date: 9/24/24

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 9/24/24

Task: 4 - Groundwater Sampling Field Personnel: DG

Purge Data

Well ID: MW-34 Secure: ☒ Yes ☐ No Ecology Tag #: _____ Casing Type/Diameter/Screened Interval PVC/2"/35-45'

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☒ Bolts: Missing (#) 3 Stripped (#) ____ Other Damage: _____

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from TOC): 7.09 Time: 11:45

Total Depth (from log or field measurement): 47.75

After 5 minutes of purging (from top of casing): 7.60'

Begin purge (time): 11:50 End purge (time): 12:30

Volume purged: 12L Purge water disposal method: Poly tank

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	pH (s.u.) +/- 0.1	DO (mg/L) +/- 10% or <0.5	Specific Conductivity (µs/cm) +/- 3%	Turbidity (NTU)	Temp (°C) +/- 3%	ORP (mV) +/- 10 mV	Comments
11:55	7.60	0.5	6.30	2.34	282.8	1.34	15.0	97.4	
12:00	7.72	2.0	6.15	0.56	327.8	0.32	14.9	89.2	
12:05	7.70	3.5	6.16	0.40	337.8	0.24	14.9	81.6	
12:10	7.71	5.0	6.18	0.35	341.9	—	14.9	73.7	
12:15	7.70	7.0	6.18	0.32	340.9	0.23	14.9	69.2	
12:20	7.70	8.5	6.20	0.30	343.5	0.28	14.9	64.5	

Sampling Data

Sample No: MW-34-092424 Location and Depth: MW-34 @ ~40'

Date Collected (mo/dy/yr): 09/24/24 Time Collected: 12:25 Weather: Inside

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☒ Filtered ☒ Unfiltered Filter Type: 0.45 micron

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: _____

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☑ Turbidity Meter ☐ Other: _____

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): Clear

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement				Result: 2.25 mg/L

QC samples

Duplicate Sample No: — Duplicate Time: — MS/MSD: ☐ Yes ☒ No

Signature: [signature] **Date:** 9/24/24

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 9/24/24

Task: 4 - Groundwater Sampling Field Personnel: HB

Purge Data

Well ID: HZ-MW-15D Secure: ☑ Yes ☐ No Ecology Tag #: — Casing Type/Diameter/Screened Interval: PVC 2" 25-35

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☑ Bolts: Missing (#) 1 Stripped (#) 2 Other Damage: —

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No One Casing Volume (gal): —

Depth of water (from TOC): 9.15 Time: 12:49

Total Depth (from log or field measurement): 35.14

After 5 minutes of purging (from top of casing): 10.42

Begin purge (time): 9:45 End purge (time): 1325

Volume purged: 6.0L Purge water disposal method: poly tank

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged	pH (s.u.) +/- 0.1	DO (mg/L) +/- 10% or <0.5	Specific Conductivity (µs/cm) +/- 3%	Turbidity (NTU)	Temp (°C) +/- 3%	ORP (mV) +/- 10 mV	Comments
12:50	10.42	1.0	6.10	1.04	519	1.74	14.3	77.4	pump started
1255	10.56	2.0	6.08	0.66	518	1.68	14.4	76.3	
1300	10.63	3.0	6.07	0.53	520	1.81	14.4	75.7	
1305	10.81	4.0	6.06	0.48	521	2.43	14.3	75.4	
1310	10.86	5.0	6.06	0.45	524	3.86	14.3	76.5	

Sampling Data

Sample No: HZ-MW-15D-092424 Location and Depth: HZ-MW-15D

Date Collected (mo/dy/yr): 9/24/24 Time Collected: 1320 Weather: 65° sunny

Type: ☑ Ground Water ☐ Surface Water Other: — Sample: ☐ Filtered ☐ Unfiltered Filter Type: 0.45 dissolved

Sample Collected with: ☐ Bailer ☑ Pump Other: — Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: —

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☑ Turbidity Meter ☐ Other: —

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): clear no odor

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement				Result: 0.5 mg/L

QC samples

Duplicate Sample No: — Duplicate Time: — MS/MSD: ☐ Yes ☑ No

Signature: [signature] **Date:** 9/24/24

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 9/24/24

Task: 4 - Groundwater Sampling Field Personnel: CS/DG, HB

Purge Data

Well ID: MW45R Secure: ☐ Yes ☐ No Ecology Tag #: _____ Casing Type/Diameter/Screened Interval 6"

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☐ Bolts: Missing (#) ____ Stripped (#) ____ Other Damage: _____

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from TOC): 7.77 Time: 13:02

Total Depth (from log or field measurement): _____

After 5 minutes of purging (from top of casing): 8.01

Begin purge (time): 13:05 End purge (time): 14:25

Volume purged: 5 L Purge water disposal method Tank

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	pH (s.u.) +/- 0.1	DO (mg/L) +/- 10% or <0.5	Specific Conductivity (µs/cm) +/- 3%	Turbidity (NTU)	Temp (°C) +/- 3%	ORP (mV) +/- 10 mV	Comments
1310	8.01	1.5	6.53	.28	1204	2.05	16.2	-72.4	
1315	8.11	1.5	6.56	.42	1207	2.09	16.5	-78.8	
1320	8.11	2	6.58	.36	1225	1.92	16.8	-79.2	
1325	8.15a	#3	6.61	.09	1256	1.87	16.0	-90.4	
1330	8.16	3.5	6.62	.09	1255	1.80	16.1	-92.1	

Sampling Data

Sample No: MW-45R-092424 Location and Depth: _____

Date Collected (mo/dy/yr): 9/24/24 Time Collected: 13:35 Weather: Inside

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☑ Filtered ☐ Unfiltered Filter Type: _____

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: _____

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☑ Turbidity Meter ☐ Other: _____

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): organic odor, Clear, orange tint

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement				Result: 1 mg/L

QC samples

Duplicate Sample No: ~ Duplicate Time: ~ MS/MSD: ☐ Yes ☑ No

Signature: _____ Date: 9/24/24

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 9/24/24

Task: 4 - Groundwater Sampling Field Personnel: DG

Purge Data

Well ID: MW-20R Secure: ☒ Yes ☐ No Ecology Tag #: _____ Casing Type/Diameter/Screened Interval PVC/2"/20-30'

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☒ Bolts: Missing (#) 3 Stripped (#) ____ Other Damage: _____

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from TOC): 7.73 Time: 13:08

Total Depth (from log or field measurement): 28.83

After 5 minutes of purging (from top of casing): _____

Begin purge (time): 13:10 End purge (time): 13:55

Volume purged: 11.5L Purge water disposal method: Poly tank

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	+/- 0.1 pH (s.u.)	+/- 10% or <0.5 DO (mg/L)	+/- 3% Specific Conductivity (µs/cm)	Turbidity (NTU)	+/- 3% Temp (°C)	+/- 10 mV ORP (mV)	Comments
13:15	7.79	0.25	6.60	1.28	343.0	0.61	14.9	57.5	
1320	7.90	2.25	6.60	0.44	357.7	0.42	14.8	-20.4	
13:25	7.91	3.75	6.62	0.36	357.5	0.66	14.8	-48.0	
13:30	7.94	5.5	6.63	0.31	353.5	0.73	14.7	-65.6	
13:33	7.94	6.5	6.62	0.30	358.9	—	14.7	-68.0	
13:36	7.94	7.25	6.62	0.29	356.8	0.50	14.7	-70.9	

Sampling Data

Sample No: MW-20R-092424 Location and Depth: MW-20R @ 25'

Date Collected (mo/dy/yr): 09/24/24 Time Collected: 13:40 Weather: inside

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☒ Filtered ☒ Unfiltered Filter Type: 0.45 micron

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: _____

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☑ Turbidity Meter ☐ Other: _____

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): Light orange tint, no odor

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement				Result: 4.0 mg/L

QC samples

Duplicate Sample No: — Duplicate Time: — MS/MSD: ☐ Yes ☒ No

Signature: [signature] **Date:** 9/24/24

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 9/24/24

Task: 4 - Groundwater Sampling Field Personnel: HR

Purge Data

Well ID: HZ-MW-33R Secure: ☑ Yes ☐ No Ecology Tag #: — Casing Type/Diameter/Screened Interval PVC 2" 25-35

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☐ Bolts: Missing (#) 3 Stripped (#) ____ Other Damage: —

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No One Casing Volume (gal): ____

Depth of water (from TOC): — Time: — angled well

Total Depth (from log or field measurement): ~35

After 5 minutes of purging (from top of casing): —

Begin purge (time): 1400 End purge (time): 1440

Volume purged: 7.0 L Purge water disposal method: poly tank

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	pH (s.u.) +/- 0.1	DO (mg/L) +/- 10% or <0.5	Specific Conductivity (µs/cm) +/- 3%	Turbidity (NTU)	Temp (°C) +/- 3%	ORP (mV) +/- 10 mV	Comments
1405	—	0.75	7.07	3.09	168.5	1.99	15.5	53.6	no odor
1410	—	2.0	6.77	0.24	164.5	1.18	15.0	73.3	
1415	—	3.0	6.69	0.57	164.1	0.98	14.9	79.1	
1420	—	4.0	6.65	0.48	163.5	0.92	14.9	81.3	
1425	—	5.0	6.63	0.45	163.3	0.88	14.9	82.3	

Sampling Data

Sample No: HZ-MW-33R-092424 Location and Depth: HZ-MW-33R

Date Collected (mo/dy/yr): 9/24/24 Time Collected: 1435 Weather: 70° sunny

Type: ☑ Ground Water ☐ Surface Water Other: ____ Sample: ☑ Filtered ☐ Unfiltered Filter Type: 0.45 µm nylons

Sample Collected with: ☐ Bailer ☑ Pump Other: ____ Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: ____

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☑ Turbidity Meter ☐ Other: ____

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): clear no odor

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement				Result: 0.0 mg/L

QC samples

Duplicate Sample No: — Duplicate Time: — MS/MSD: ☐ Yes ☑ No

Signature: [signature] Date: 9/24/24

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 9/25/24

Task: 4 - Groundwater Sampling Field Personnel: HD

Purge Data

Well ID: S-MW-1 Secure: ☑ Yes ☐ No Ecology Tag #: — Casing Type/Diameter/Screened Interval: 2" PVC 5.5-15.5

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☐ Bolts: Missing (#)____ Stripped (#)____ Other Damage: ←

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No One Casing Volume (gal): —

Depth of water (from TOC): 8.26 Time: 835

Total Depth (from log or field measurement): 15.5

After 5 minutes of purging (from top of casing): 8.45

Begin purge (time): 835 End purge (time): 925

Volume purged: 3.5L Purge water disposal method: poly tank

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	pH (s.u.) +/- 0.1	DO (mg/L) +/- 10% or <0.5	Specific Conductivity (µs/cm) +/- 3%	Turbidity (NTU)	Temp (°C) +/- 3%	ORP (mV) +/- 10 mV	Comments
840	8.45	0.5	6.46	4.00	378.3	5.72	15.3	86.8	
845	8.67	1.0	6.24	3.23	388.7	8.97	15.3	107.0	
850	8.74	1.5	6.30	3.33	405.2	7.45	15.3	113.3	
855	8.82	2.0	6.32	3.50	412.4	6.58	15.3	117.0	
900	8.91	2.5	6.31	3.41	413.2	6.71	15.2	121.8	
905	8.99	3.0	6.29	3.23	402.8	7.99	15.2	125.0	

Sampling Data

Sample No: S-MW-1-092524 Location and Depth: S-MW-1

Date Collected (mo/dy/yr): 9/25/24 Time Collected: 915 Weather: 60° cloudy

Type: ☑ Ground Water ☐ Surface Water Other: ____ Sample: ☑ Filtered ☐ Unfiltered Filter Type: 0.45 dissolved metals

Sample Collected with: ☐ Bailer ☑ Pump Other: ____ Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: ____

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☑ Turbidity Meter ☐ Other: ____

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): clear no odor white/gray goop on tubing

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement				Result:

QC samples

Duplicate Sample No: — Duplicate Time: — MS/MSD: ☐ Yes ☑ No

Signature: [signature] **Date:** 9/25/24

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 9/25/24

Task: 4 - Groundwater Sampling Field Personnel: GS, DG, HB

Purge Data

Well ID: MW-27 Secure: ☐ Yes ☐ No Ecology Tag #: _____ Casing Type/Diameter/Screened Interval 12"

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☐ Bolts: Missing (#)____ Stripped (#)____ Other Damage: _____

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from TOC): 9.94 Time: 0840

Total Depth (from log or field measurement): _____

After 5 minutes of purging (from top of casing): _____

Begin purge (time): 0840 End purge (time): 0934

Volume purged: 7.5 Purge water disposal method _____

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	pH (s.u.) +/- 0.1	DO (mg/L) +/- 10% or <0.5	Specific Conductivity (µs/cm) +/- 3%	Turbidity (NTU)	Temp (°C) +/- 3%	ORP (mV) +/- 10 mV	Comments
0845	10.19	1.5	5.47	2.17	177.0	7.62	15.5	66.1	
0850	10.20	2	5.36	1.44	180.4	2.02	15.4	84.1	
0855	10.31	3	5.32	.93	174.5	—	15.3	104.8	
0900	10.39	4.5	5.35	.66	181.3	1.26	15.3	112.8	
0905	10.41	5.0	5.34	.64	184.9	1.34	15.2	116.6	
~~910~~									

Sampling Data

Sample No: MW-27-092524 Location and Depth: OverGST, 60's 2

Date Collected (mo/dy/yr): 9/25/24 Time Collected: 915 Weather: _____

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☑ Filtered ☐ Unfiltered Filter Type: _____

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: _____

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☑ Turbidity Meter ☐ Other: _____

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): Clear, no odor [Circular cutting of wood during Sample.

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement				Result:

QC samples

Duplicate Sample No: — Duplicate Time: — MS/MSD: ☐ Yes ☑ No

Signature: _____ **Date:** 9/25/24

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 9/25/24

Task: 4 - Groundwater Sampling Field Personnel: DG, GS, HB

Purge Data

Well ID: MW-5R Secure: ☐ Yes ☑ No Ecology Tag #: _____ Casing Type/Diameter/Screened Interval _____

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☐ Bolts: Missing (#) ____ Stripped (#) ____ Other Damage: _____

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from TOC): 8.00 Time: 1011

Total Depth (from log or field measurement): _____

After 5 minutes of purging (from top of casing): 8.50

Begin purge (time): 1018 End purge (time): 11:32

Volume purged: 10L Purge water disposal method: Tank

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	pH (s.u.) +/- 0.1	DO (mg/L) +/- 10% or <0.5	Specific Conductivity (µs/cm) +/- 3%	Turbidity (NTU)	Temp (°C) +/- 3%	ORP (mV) +/- 10 mV	Comments
10:23	8.50	1	6.22	1.17	336.8	1.55	15.0	160.7	
10:28	8.51	2.5	6.22	.45	341.9	—	15.3	148.1	
10:33	8.53	3	6.23	.42	342.7	.98	15.3	144.1	
10:38	8.55	4	6.26	.36	344.5	1.05	15.2	134.4	
10:43	8.59	5	6.28	.34	343.5	1.38	15.2	128.7	

Sampling Data

Sample No: MW-5R-092524 Location and Depth: _____

Date Collected (mo/dy/yr): 9/25/24 Time Collected: 1045 Weather: _____

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☐ Filtered ☐ Unfiltered Filter Type: _____

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: _____

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☑ Turbidity Meter ☐ Other: _____

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): Clear, No odor

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
(Total			2	HNO3	
			1	ZnOAc	
Ferrous Iron	Field Measurement				Result: 1.0

QC samples DNA Sample Start: 1138 Stop: 1146

Duplicate Sample No: _____ Duplicate Time: — MS/MSD: ☐ Yes ☑ No

Signature: _____ **Date:** 9/25/24

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 9/25/24

Task: 4 - Groundwater Sampling Field Personnel: HB

Purge Data

Well ID: MW-4R Secure: ☐ Yes ☐ No Ecology Tag #: ✓ Casing Type/Diameter/Screened Interval: PVC 2" 10-25

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☑ Bolts: Missing (#) 3 Stripped (#) — Other Damage: —

Depth Sounder decontaminated Prior to Placement in Well: ☑ Yes ☐ No One Casing Volume (gal):

Depth of water (from TOC): 7.48 Time: 1020

Total Depth (from log or field measurement): 23.94

After 5 minutes of purging (from top of casing): 7.83

Begin purge (time): 1020 End purge (time): 1140

Volume purged: 10.0 L Purge water disposal method: poly tank

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	pH (s.u.) +/- 0.1	DO (mg/L) +/- 10% or <0.5	Specific Conductivity (µs/cm) +/- 3%	Turbidity (NTU)	Temp (°C) +/- 3%	ORP (mV) +/- 10 mV	Comments
1025	7.83	0.5	6.42	1.30	905	2.93	15.0	-81.1	strong sulfur odor
1030	7.82	1.0	6.42	0.76	912	2.21	15.0	-89.4	
1035	7.84	1.5	6.42	0.58	915	1.89	14.4	-99.0	
1040	7.84	2.0	6.42	0.50	916	2.14	14.9	-102.9	
1045	7.84	3.0	6.41	2.46	918	2.34	14.8	-105.0	

Sampling Data

Sample No: MW-4R-092524 Location and Depth: MW-4R

Date Collected (mo/dy/yr): 9/25/24 Time Collected: 1055 Weather: 69° cloudy

Type: ☑ Ground Water ☐ Surface Water Other: — Sample: ☑ Filtered ☐ Unfiltered Filter Type: 0.45 dis nylon

Sample Collected with: ☐ Bailer ☑ Pump Other: — Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: —

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☑ Turbidity Meter ☐ Other: —

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): clear sulfur odor

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen -		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
DNA		vial	1		started 11:20
					end 11:40
Ferrous Iron	Field Measurement				Result: 5.0 mg/L

QC samples

Duplicate Sample No: — Duplicate Time: — MS/MSD: ☐ Yes ☑ No

Signature: [signature] **Date:** 9/25/24

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 9/25/24

Task: 4 - Groundwater Sampling Field Personnel: DG

Purge Data

Well ID: MW-6 Secure: ☒ Yes ☐ No Ecology Tag #: _____ Casing Type/Diameter/Screened Interval _____

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☒ Bolts: Missing (#) 3 Stripped (#) ____ Other Damage: _____

Depth Sounder decontaminated Prior to Placement in Well: ☒ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from TOC): N/A Time: — Angled well pipe (3-45° bends)

Total Depth (from log or field measurement): —

After 5 minutes of purging (from top of casing): —

Begin purge (time): 11:21 End purge (time): _____

Volume purged: 9L Purge water disposal method: Poly tank

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	pH (s.u.) +/- 0.1	DO (mg/L) +/- 10% or <0.5	Specific Conductivity (µs/cm) +/- 3%	Turbidity (NTU)	Temp (°C) +/- 3%	ORP (mV) +/- 10 mV	Comments
11:25		0.5	6.67	0.58	664	4.87	15.5	-117.4	
11:30		1.5	6.65	0.24	661	3.84	15.3	-121.6	
11:35		3.0	6.67	0.15	661	—	15.2	-124.6	
11:40		4.0	6.68	0.12	661	3.04	15.2	-125.8	
11:45		5.0	6.69	0.10	663	2.69	15.1	-126.7	

Sampling Data

Sample No: MW-6-092524 Location and Depth: MW-6 5' off bottom

Date Collected (mo/dy/yr): 09/25/24 Time Collected: 11:50 Weather: Inside

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☒ Filtered ☒ Unfiltered Filter Type: _____

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: _____

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☑ Turbidity Meter ☐ Other: _____

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): Brown tint w/ black particulates

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
MI DNA					
Ferrous Iron	Field Measurement				Result: 2.5 mg/L

QC samples

Duplicate Sample No: — Duplicate Time: — MS/MSD: ☐ Yes ☒ No

Signature: [signature] Date: 9/25/24

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 9/25/24

Task: 4 - Groundwater Sampling Field Personnel: HB

Purge Data

Well ID: MW-7 Secure: ☐ Yes ☐ No Ecology Tag #: _____ Casing Type/Diameter/Screened Interval PVC 2" 10-25

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☑ Bolts: Missing (#) 3 Stripped (#) 2 Other Damage: —

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from TOC): 7.86 Time: 1215

Total Depth (from log or field measurement): 23.93

After 5 minutes of purging (from top of casing): 5.06

Begin purge (time): 1215 End purge (time): 1355

Volume purged: 11.0L Purge water disposal method: Poly tank

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	pH (s.u.) +/- 0.1	DO (mg/L) +/- 10% or <0.5	Specific Conductivity (µs/cm) +/- 3%	Turbidity (NTU)	Temp (°C) +/- 3%	ORP (mV) +/- 10 mV	Comments
1220	8.08	0.5	6.53	1.66	690	3.0	15.4	-82.0	
1225	8.37	1.0	6.46	0.59	685	2.49	15.3	-126.2	
1230	8.52	2.0	6.45	0.47	671	2.89	15.3	-115.5	
1235	8.60	3.0	6.45	0.44	657	2.69	15.3	-118.6	
1240	8.69	4.0	6.45	0.41	643	2.79	15.2	-120.0	

Sampling Data

Sample No: MW-7-092524 Location and Depth: MW-7

Date Collected (mo/dy/yr): 9/25/24 Time Collected: 1250 Weather: 60° cloudy

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☑ Filtered ☐ Unfiltered Filter Type: 0.45 µm metals

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: _____

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☑ Turbidity Meter ☐ Other: _____

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): clear slt/fair odor

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
DNA					Start time 1325
					end time 1355
Ferrous Iron	Field Measurement				Result: 5.0 mg/L

QC samples

Duplicate Sample No: MW-107-092524 Dupl cate Time: 1255 MS/MSD: ☐ Yes ☑ No

Signature: _____ **Date:** 9/25/24

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center
Date of Collection: 9/25/24
Task: 4 - Groundwater Sampling
Field Personnel: DG, HB, GS

Purge Data

Well ID: MW-12 Secure: ☐ Yes ☐ No Ecology Tag #: _____ Casing Type/Diameter/Screened Interval 30'

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☐ Bolts: Missing (#) ____ Stripped (#) ____ Other Damage: _____

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from TOC): 7.55 Time: 1227

Total Depth (from log or field measurement): _____

After 5 minutes of purging (from top of casing): 8.23

Begin purge (time): 13.12 End purge (time): 1400

Volume purged: CL Purge water disposal method Trip

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	pH (s.u.) +/- 0.1	DO (mg/L) +/- 10% or <0.5	Specific Conductivity (µs/cm) +/- 3%	Turbidity (NTU)	Temp (°C) +/- 3%	ORP (mV) +/- 10 mV	Comments
1315	8.23	1.5	6.21	.73	764	1.43	15.3	45.8	
1320	8.00	2	6.19	.56	768	-	15.7	13.7	
1325	8.35	3	6.22	.38	748	1.90	15.3	-11.2	
1330	-	5.5	-	-	-	1.85	-	-	
1335	8.57	6	6.26	.32	706	1.38	15.2	-28.6	

Sampling Data

Sample No: MW-12-092524 Location and Depth: _____

Date Collected (mo/dy/yr): 9/25/24 Time Collected: 1340 Weather: _____

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☑ Filtered ☐ Unfiltered Filter Type: _____

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: _____

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☑ Turbidity Meter ☐ Other: _____

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): clear no odor

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement				Result: 4.0

QC samples

PNA Sample start: 1406 - 1416

Duplicate Sample No: _____ Duplicate Time: _____ MS/MSD: ☐ Yes ☐ No

Signature: _____ **Date:** 9/25/24

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 9/26/24

Task: 4 - Groundwater Sampling Field Personnel: HD

Purge Data

Well ID: MW-43R Secure: ☐ Yes ☐ No Ecology Tag #: — Casing Type/Diameter/Screened Interval: PVC 2" 10-25

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☐ Bolts: Missing (#) — Stripped (#) — Other Damage: —

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No One Casing Volume (gal): —

Depth of water (from TOC): 10.96 Time: 835

Total Depth (from log or field measurement): 25.50

After 5 minutes of purging (from top of casing): 11.10

Begin purge (time): 835 End purge (time): 930

Volume purged: 9.5L Purge water disposal method: poly tank

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	pH (s.u.) +/- 0.1	DO (mg/L) +/- 10% or <0.5	Specific Conductivity (µs/cm) +/- 3%	Turbidity (NTU)	Temp (°C) +/- 3%	ORP (mV) +/- 10 mV	Comments
840	11.10	1.0	6.52	1.33	441.2	31.9	15.6	84.7	orange FloCulant
845	11.11	2.0	6.43	0.60	437.2	27.7	15.5	72.7	
850	11.12	3.0	6.41	0.42	429.0	22.6	15.3	58.7	
855	11.11	4.0	6.44	0.37	422.3	16.3	15.5	49.7	
900	11.12	5.0	6.41	0.34	417.8	13.0	15.5	41.6	
905	11.11	6.0	6.41	0.32	413.6	8.86	15.5	35.1	
910	11.10	7.0	6.41	0.30	408.2	8.47	15.3	26.7	

Sampling Data

Sample No: MW-43R-092624 Location and Depth: MW-43R

Date Collected (mo/dy/yr): 9/26/24 Time Collected: 920 Weather: 55 cloudy

Type: ☑ Ground Water ☐ Surface Water Other: — Sample: ☑ Filtered ☐ Unfiltered Filter Type: 0.45 d.s metals

Sample Collected with: ☐ Bailer ☑ Pump Other: — Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: —

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☑ Turbidity Meter ☐ Other: —

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): clear no odor

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement				Result: 4.0 mg/L

QC samples

Duplicate Sample No: — Duplicate Time: — MS/MSD ☐ Yes ☑ No

Signature: [signature] **Date:** 9/26/24

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 9/26/24

Task: 4 - Groundwater Sampling Field Personnel: DG, GS, HB

Purge Data

Well ID: MW-42 Secure: ☐ Yes ☐ No Ecology Tag #: _____ Casing Type/Diameter/Screened Interval 35'

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☐ Bolts: Missing (#) ____ Stripped (#) ____ Other Damage: _____

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from TOC): 11.58 Time: ~~0845~~ 0835

Total Depth (from log or field measurement): _____

After 5 minutes of purging (from top of casing): 11.58

Begin purge (time): 8:40 End purge (time): 10:01

Volume purged: 11 Purge water disposal method: tank

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	pH (s.u.) +/- 0.1	DO (mg/L) +/- 10% or <0.5	Specific Conductivity (µs/cm) +/- 3%	Turbidity (NTU)	Temp (°C) +/- 3%	ORP (mV) +/- 10 mV	Comments
0900	11.58	2.5	6.39	.67	285.8	23.4	14.6	96.6	
0905 ~~0910~~	11.94	3	6.41	.55	282.6	~~3.35~~	14.5	-100.0	
0910 0910	11.95	4	6.47	.50	281.2	3.33	14.5	—	
0915	11.94	5	6.39	.48	281.1	5.90	14.7	-101.2	
0920	—	—	—	—	—	7.98	—	—	
~~0925~~									

Sampling Data

Sample No: MW-42-092624 Location and Depth: _____

Date Collected (mo/dy/yr): 9/26/24 Time Collected: 0925 Weather: 60's Rainy/Cloudy

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☑ Filtered ☐ Unfiltered Filter Type: _____

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: _____

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☑ Turbidity Meter ☐ Other: _____

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): Clear, no odor, black flecks

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement				Result: 5.5

QC samples

Duplicate Sample No: _____ Duplicate Time: _____ MS/MSD: ☐ Yes ☑ ~~No~~

Signature: _____ Date: 9/26/24

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center
Date of Collection: 9/26/24
Task: 4 - Groundwater Sampling
Field Personnel: DG, GS, HP

Purge Data

Well ID: MW-40 Secure: ☑ Yes ☐ No Ecology Tag #: _____ Casing Type/Diameter/Screened Interval _____

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☐ Bolts: Missing (#) ____ Stripped (#) ____ Other Damage: _____

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from TOC): 6.10 Time: 10:45

Total Depth (from log or field measurement): _____

After 5 minutes of purging (from top of casing): 8.11

Begin purge (time): 10:45 End purge (time): 12:01

Volume purged: 13 Purge water disposal method Tank

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	pH (s.u.) +/- 0.1	DO (mg/L) +/- 10% or <0.5	Specific Conductivity (µs/cm) +/- 3%	Turbidity (NTU)	Temp (°C) +/- 3%	ORP (mV) +/- 10 mV	Comments
10:50	8.40	1.5	6.41	.61	400.4	6.08	15.4	-71.7	
10:55	8.65	2.5	6.42	.51	400.8	7.24	15.3	-79.9	
11:00	8.56	4	6.44	.46	401.9	-	15.3	-84.9	
11:05	8.56	4.5	6.45	.44	401.8	4.54	15.3	-87.0	
11:10	8.57	6.0	6.46	.40	401.6	4.57	15.3	-91.5	

Sampling Data

Sample No: MW-40-092624 Location and Depth: _____

Date Collected (mo/dy/yr): 9/26/24 Time Collected: 1115 Weather: _____

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☑ Filtered ☐ Unfiltered Filter Type: _____

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: _____

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☑ Turbidity Meter ☐ Other: _____

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): Slight cloudy & yellow slight odor

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement				Result: 6.5

QC samples

Duplicate Sample No: MW-140-092624 Duplicate Time: 11:35 MS/MSD: ☐ Yes ☑ No

Signature: _____ Date: 9/26/24

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 9/26/24

Task: 4 - Groundwater Sampling Field Personnel: HB

Purge Data

Well ID: MW-39 Secure: ☑ Yes ☐ No Ecology Tag #: — Casing Type/Diameter/Screened Interval 40-50 PVC 2"

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☒ Bolts: Missing (#) 2 Stripped (#) ____ Other Damage: —

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No One Casing Volume (gal): —

Depth of water (from TOC): 7.60 Time: 1045

Total Depth (from log or field measurement): 50.64

After 5 minutes of purging (from top of casing): 7.93

Begin purge (time): 1045 End purge (time): 1130

Volume purged: 7.0L Purge water disposal method: poly tank

Volume of Schedule 40 PVC Pipe				
Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	pH (s.u.) +/- 0.1	DO (mg/L) +/- 10% or <0.5	Specific Conductivity (µs/cm) +/- 3%	Turbidity (NTU)	Temp (°C) +/- 3%	ORP (mV) +/- 10 mV	Comments
1059	7.93	1.0	6.58	0.78	379.7	4.16	15.7	-12.7	sulfur odor
1055	7.93	2.0	6.53	0.52	379.4	3.33	15.7	-32.9	
1100	7.94	3.0	6.55	0.43	379.0	3.85	15.6	-42.5	
1105	7.95	4.0	6.53	0.38	378.3	3.30	15.5	-48.9	
1110	7.95	5.0	6.53	0.35	377.2	3.40	15.6	-53.1	

Sampling Data

Sample No: MW-39-092624 Location and Depth: MW-39

Date Collected (mo/dy/yr): 9/26/24 Time Collected: 1120 Weather: 60° cloudy

Type: ☑ Ground Water ☐ Surface Water Other: — Sample: ☑ Filtered ☐ Unfiltered Filter Type: 0.45 µ.3 rets

Sample Collected with: ☐ Bailer ☑ Pump Other: — Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: —

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☑ Turbidity Meter ☐ Other: —

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing; ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): clear sulfur odor

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement				Result: 5.5 mg/L

QC samples

Duplicate Sample No: — Duplicate Time: — MS/MSD: ☐ Yes ☑ No

Signature: [signature] **Date:** 9/26/24

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 9/26/24

Task: 4 - Groundwater Sampling Field Personnel: GS, DG, HB

Purge Data

Well ID: MW-44R Secure: ☐ Yes ☐ No Ecology Tag #: _____ Casing Type/Diameter/Screened Interval _____

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☐ Bolts: Missing (#) ____ Stripped (#) ____ Other Damage: _____

Depth Sounder decontaminated Prior to Placement in Well: ☑ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from TOC): 7.69 Time: 12:27

Total Depth (from log or field measurement): _____

After 5 minutes of purging (from top of casing): 7.73

Begin purge (time): 12:28 End purge (time): 13:05

Volume purged: 5L Purge water disposal method: Tank

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	pH (+/- 0.1 s.u.)	DO (+/- 10% or <0.5 mg/L)	Specific Conductivity (+/- 3% µs/cm)	Turbidity (NTU)	Temp (+/- 3% °C)	ORP (+/- 10 mV mV)	Comments
1232	7.75	0.5	6.51	1.57	399.9	41.74	15.6	-59.2	
1237	7.72	1	6.42	.60	397.1	3.36	15.5	-76.1	
1242	7.75	2.5	6.42	.52	395.7	3.42	15.4	-79.3	
1247	7.73	3	6.42	.46	395.9	4.00	15.4	-80.2	
1252	7.74	4	6.42	.44	396.5	3.97	15.3	-81.2	

Sampling Data

Sample No: MW-44R-092624 Location and Depth: _____

Date Collected (mo/dy/yr): 9/26/24 Time Collected: 1258 Weather: Clear, 60s

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☑ Filtered ☐ Unfiltered Filter Type: _____

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: _____

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☑ Turbidity Meter ☐ Other: _____

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): Slight yellow, slight odor

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement				Result: High

QC samples

Duplicate Sample No: — Duplicate Time: — MS/MSD: ☐ Yes ☐ No

Signature: _____ **Date:** 9/26/24

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 9/26/24

Task: 4 - Groundwater Sampling Field Personnel: DG/HB

Purge Data

Well ID: HZ-MW-31 Secure: ☒ Yes ☐ No Ecology Tag #: _____ Casing Type/Diameter/Screened Interval PVC/2"/5-25'

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☐ Bolts: Missing (#) ____ Stripped (#) ____ Other Damage: _____

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from TOC): ~~8~~ 8.70 Time: 12:23

Total Depth (from log or field measurement): 24.95

After 5 minutes of purging (from top of casing): 9.25

Begin purge (time): 12:29 End purge (time): 13:05

Volume purged: 6.5 L Purge water disposal method Poly tank

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	pH (s.u.) +/- 0.1	DO (mg/L) +/- 10% or <0.5	Specific Conductivity (µs/cm) +/- 3%	Turbidity (NTU)	Temp (°C) +/- 3%	ORP (mV) +/- 10 mV	Comments
12:30	9.11	0	6.44	1.29	377.3	14.7	16.1	-70.3	
12:35	9.25	1.5	6.39	0.57	375.9	20.4	16.2	-72.1	
12:40	9.30	2.5	6.39	0.44	375.0	23.7	16.3	-73.8	
12:45	9.33	3.5	6.40	0.37	372.8	24.3	16.3	-76.5	
12:50	9.33	4.5	6.42	0.33	370.8	21.0	16.3	-78.6	

Sampling Data

Sample No: HZ-MW-31-092624 Location and Depth: HZ-MW-31 @ 20'

Date Collected (mo/dy/yr): 09/26/24 Time Collected: 13:00 Weather: Partly cloudy 60°

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☒ Filtered ☒ Unfiltered Filter Type: 0.45 micron

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: _____

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☑ Turbidity Meter ☐ Other: _____

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): Turbid red, no odor

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement				Result:

QC samples

Duplicate Sample No: — Duplicate Time: — MS/MSD: ☐ Yes ☒ No

Signature: [signature] Date: 9/26/25

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project: COB - Service Center Date of Collection: 9/26/24

Task: 4 - Groundwater Sampling Field Personnel: DG

Purge Data

Well ID: S-MW-3RRR Secure: ☒ Yes ☐ No Ecology Tag #: _____ Casing Type/Diameter/Screened Interval 2"/PVC/24-34'

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☐ Bolts: Missing (#) ____ Stripped (#) ____ Other Damage: _____

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from TOC): 11.49 Time: 13:28

Total Depth (from log or field measurement): ~40'

After 5 minutes of purging (from top of casing): _____

Begin purge (time): 13:30 End purge (time): 14:15

Volume purged: 7.5L Purge water disposal method Poly tank

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (L)	pH (s.u.) +/- 0.1	DO (mg/L) +/- 10% or <0.5	Specific Conductivity (µs/cm) +/- 3%	Turbidity (NTU)	Temp (°C) +/- 3%	ORP (mV) +/- 10 mV	Comments
13:35	12.17	1.0	6.22	3.25	247.7	73.3	14.3	-22.8	Well developed,
13:40	12.38	2.0	6.08	2.93	247.5	65.5	14.1	-28.8	memory of
13:45	12.52	3.0	6.08	2.82	246.9	56.8	14.1	-37.3	9/26/24
13:50	12.57	4.0	6.10	2.80	247.6	47.4	14.1	-41.2	
13:55	12.60	5.5	6.13	2.86	249.0	45.2	14.0	-44.1	

Sampling Data

Sample No: S-MW-3RRR-092624 Location and Depth: S-MW-3RRR @ ~32'

Date Collected (mo/dy/yr): 09/26/24 Time Collected: 14:00 Weather: Cloudy 65°

Type: ☑ Ground Water ☐ Surface Water Other: _____ Sample: ☒ Filtered ☒ Unfiltered Filter Type: 0.45 micron

Sample Collected with: ☐ Bailer ☑ Pump Other: _____ Type: ☑ Peristaltic ☐ Bladder ☐ Submersible Other: _____

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☑ Turbidity Meter ☐ Other: _____

Sample Decon Procedure: Sample collected with: ☐ decontaminated all tubing; ☑ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): brown & cloudy

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes
HVOCs	EPA 8260	40 mL VOA vials	3	HCl	
Ammonia-Nitrogen		500 mL Poly bottle	1	Sulfuric acid	
Ortho-phosphate/Sulfate/Nitrate		500 mL Poly bottle	1	N/A	Nitrate has a 48 hour holding time
Methane/Ethene/Ethane	RSK 175	40 mL VOA vials	2	HCl	
Total Organic Carbon	SM5310B	250 mL Poly bottle	1	HCl	
Dissolved Iron/Manganese		250 mL Poly bottle	1	HNO3	Field Filtered - label bottle with "FF"
Ferrous Iron	Field Measurement				Result: 0 mg/L

QC samples

Duplicate Sample No: — Duplicate Time: — MS/MSD: ☐ Yes ☒ No

Signature: _____ Date: 9/26/24

2024 O&M Forms

BSC Weekly O&M Form

Date: 3/11/2024

Sign-in time with Graham: 11:15AM Sign-out time with Graham: _____

System Status Upon Arrival: Running? ☐ Yes ☑ No
Alarms? ☐ Yes ☑ No
If Yes, list alarms: _____

List of Tools:

1. Bucket (optional)
2. Pipe wrench – for opening y-strainers
3. Knife – for opening carbstrate bags
4. Knee pad (optional)
5. Lighting
6. Others TBD

Required PPE and other H&S Considerations:

- Hard Hat, High Vis, Work Boots (chemical resistant), Work Pants, Nitrile Gloves, Safety Glasses, Ear Plugs (optional)
- First time visitors need to check in with Ben Conner at the Graham office to receive first time visit safety orientation
- Regular O&M staff must sign in and sign out at the Graham office across the street at every visit
- Work van will not be allowed to drive into the gated site unless for specific circumstances (likely GW monitoring) where advance notice is given to Graham (Ben Conner)

Emergency Contacts:

Ben Conner (Senior PM Graham): (206) 445-8163, ben.conner@grahamus.com
Tobias Joschko (Graham): (206) 678-6321
Rod (Foreman Graham): (509) 445-8163 – can assist in getting equipment/materials moved as needed
David Hazen (ETEC Contact): (503) 348-6185, david@etec.bio – primary ETEC contact, can help with alarm issues
Gavin Ihasz (ETEC): (360) 952-0285, gavin@etec.bio – can help with more technical system questions
Jeff Jensen (Former O&M tech - Kane): (425) 344-3707, jeff@kane-environmental.com – can help with general O&M questions and finding wells
Danielle Gallaher (O&M Tech Floyd Snider): (619) 302-6688
Adia Jumper (Engineer Floyd Snider): (937) 626-9312
Gabe Cisneros (Floyd Snider PM): (206) 582-8223

BSC Weekly O&M Form

Date: 3/18/24

Sign-in time with Graham: 11:11 Sign-out time with Graham: _____

System Status Upon Arrival: Running? ☑ Yes ☐ No
Alarms? ☐ Yes ☑ No
If Yes, list alarms: _____

List of Tools:

1. Bucket (optional) – small one in shed
2. Pipe wrench – for opening y-strainers – channel locks in shed
3. Knife – for opening carbstrate bags in shed
4. Knee pad (optional) – in shed
5. Lighting
6. Others TBD

Required PPE and other H&S Considerations:

- Hard Hat, High Vis, Work Boots (chemical resistant), Work Pants, Nitrile Gloves, Safety Glasses, Ear Plugs (optional)
- First time visitors need to check in with Ben Conner at the Graham office to receive first time visit safety orientation
- Regular O&M staff must sign in and sign out at the Graham office across the street at every visit
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BSC Weekly O&M Form – Lockbox Code: 1257

Date: 3/25/24

Sign-in time with Graham: 10:26 Sign-out time with Graham: 11:30

System Status Upon Arrival: Running? ☑ Yes ☐ No
Alarms? ☐ Yes ☑ No
If Yes, list alarms: _____

List of Tools:

1. Bucket (optional) – small one in shed
2. Channel locks – for opening y-strainers – in shed
3. Knife – for opening carbstrate bags in shed
4. Knee pad (optional) – in shed
5. Lighting
6. Others TBD

Required PPE and other H&S Considerations:

- Hard Hat, High Vis, Work Boots (chemical resistant), Work Pants, Nitrile Gloves, Safety Glasses, Ear Plugs (optional)
- First time visitors need to check in with Ben Conner at the Graham office to receive first time visit safety orientation
- Regular O&M staff must sign in and sign out at the Graham office across the street at every visit
- Work van will not be allowed to drive into the gated site unless for specific circumstances (likely GW monitoring) where advance notice is given to Graham (Ben Conner)

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Gabe Cisneros (Floyd Snider PM): (206) 582-8223

BSC Weekly O&M Form – Lockbox Code: 1257

Date: 4/1/24 Personnel: Danielle Gallagher

Sign-in time with Graham: 10:00 Sign-out time with Graham: _____

System Status Upon Arrival: Running? ☑ Yes ☐ No
Alarms? ☐ Yes ☑ No
If Yes, list alarms: _____

System Notes

Strainer 1: Pre- Carbon Filters (Circle):
IRB Buildup: Clean Noticeable Buildup Excessive Buildup
Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 2: Post- Carbon Filters (Circle):
IRB Buildup: Clean Noticeable Buildup Excessive Buildup
Strainer Condition: Okay Noticeable damage or tears

Notes: Seems to be clogged, see additional notes for ETEC call info

Strainer 3: Internal Strainer (Circle):
CarbStrate Buildup: Clean Noticeable Some Buildup Excessive Buildup
Strainer Condition: Okay Noticeable damage or tears

Notes: _____

CarbStrate & CarbStrate Mixer:
Two – 50 lb bags of CarbStrate Added ☑ Yes ☐ No
Mixing Tank Level Sensors Cleaned ☐ Yes ☑ No
Number of CarbStrate bags remaining: 11 (Notify ETEC when 4 bags are remaining)

Notes: _____

IDW Tank:
Tank Level: 150 gallons

Notes: _____

Security code?? 12345?

IW-18 total not moving

Call w/ ETEC Notes: After cleaning post-carbon y-strainer + opening valve up stream, no flow through y-strainer was observed. At end of injection dwell time, injection pump kicked on, but injection pressure was too low (2-3 psi). Normal psi is 35-45 psi. even with flow through the pipe from tank 2 to injection pump, no flow was observed through the post-carbon y-strainer.

Danielle called Gavin @ ETEC for ~~asst~~ assistance. He advised that injection pump may have air trapped in it + would need to be primed. Steps are as follows:

Open Injection Ball Valve (BV), leave to sit then crack open (slightly) the union just above the injection pump, you should be able to hear the release of air + then water should trickle out.

Close union fully then open one gallery valve, manually turn on injection pump on HMI screen + let run for full 60sec

Repeat until pressures return to normal

BSC Weekly O&M Form – Lockbox Code: 1257

Date: 4/8/24 Personnel: DG, GS

Sign-in time with Graham: 7:40 Sign-out time with Graham: _____

System Status Upon Arrival: Running? ☐ Yes ☒ No
Alarms? ☒ Yes ☐ No
If Yes, list alarms: Leak/Spill - on Shed floor

System Notes

Strainer 1: Pre- Carbon Filters (Circle):
IRB Buildup: Clean Noticeable Buildup Excessive Buildup
Strainer Condition: Okay Noticeable damage or tears

Notes: only Ran Friday - Sunday Morning

Strainer 2: Post- Carbon Filters (Circle):
IRB Buildup: Clean Noticeable Buildup Excessive Buildup
Strainer Condition: Okay Noticeable damage or tears

Notes: ↑ Snow glove

Strainer 3: Internal Strainer (Circle):
CarbStrate Buildup: Clean Noticeable Buildup Excessive Buildup
Strainer Condition: Okay Noticeable damage or tears

Notes: Carbon

CarbStrate & CarbStrate Mixer:
Two – 50 lb bags of CarbStrate Added ☐ Yes ☐ No
Mixing Tank Level Sensors Cleaned ☐ Yes ☐ No
Number of CarbStrate bags remaining: _____ (Notify ETEC when 4 bags are remaining)

Notes:

IDW Tank:
Tank Level: _____ gallons

Notes:

BSC Weekly O&M Form – Lockbox Code: 1257

Date: 4/15/24 Personnel: P.O.

Sign-in time with Graham: 10:15 Sign-out time with Graham: _____

System Status Upon Arrival: Running? ☑ Yes ☐ No
Alarms? ☐ Yes ☑ No
If Yes, list alarms: _____

System Notes

Strainer 1: Pre- Carbon Filters (Circle):
IRB Buildup: Clean Noticeable Buildup Excessive Buildup
Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 2: Post- Carbon Filters (Circle):
IRB Buildup: Clean Noticeable Buildup Excessive Buildup
Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 3: Internal Strainer (Circle):
CarbStrate Buildup: Clean Noticeable Buildup Excessive Buildup
Strainer Condition: Okay Noticeable damage or tears

Notes: _____

CarbStrate & CarbStrate Mixer:
Two – 50 lb bags of CarbStrate Added ☑ Yes ☐ No
Mixing Tank Level Sensors Cleaned ☑ Yes ☐ No
Number of CarbStrate bags remaining: 7 (Notify ETEC when 4 bags are remaining)

Notes: _____

IDW Tank:
Tank Level: ~210 gallons

Notes: _____

BSC Weekly O&M Form – Lockbox Code: 1257

Date: 4/22/24 Personnel: DG

Sign-in time with Graham: 10:35 Sign-out time with Graham: 13:40

System Status Upon Arrival: Running? ☑ Yes ☐ No
Alarms? ☐ Yes ☑ No
If Yes, list alarms: _____

System Notes

Strainer 1: Pre- Carbon Filters (Circle):
IRB Buildup: Clean Noticeable Buildup Excessive Buildup
Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 2: Post- Carbon Filters (Circle):
IRB Buildup: Clean Noticeable Buildup Excessive Buildup
Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 3: Internal Strainer (Circle):
CarbStrate Buildup: Clean Noticeable Buildup Excessive Buildup
Strainer Condition: Okay Noticeable damage or tears

Notes: _____

CarbStrate & CarbStrate Mixer:
Two – 50 lb bags of CarbStrate Added ☐ Yes ☐ No
Mixing Tank Level Sensors Cleaned ☐ Yes ☐ No
Number of CarbStrate bags remaining: 4 (Notify ETEC when 4 bags are remaining)

Notes: ETEC Notified

IDW Tank:
Tank Level: 210 gallons

Notes: _____

BSC Weekly O&M Form – Lockbox Code: 1257

Date: 4/29/24 Personnel: DG Sign-in time with Graham: 10:45 Sign-out time with Graham: 14:00 System Status Upon Arrival: Running? ☐ Yes ☑ No

Alarms? ☐ Yes ☑ No

If Yes, list alarms: _____

System Notes

Strainer 1: Pre- Carbon Filters (Circle):

IRB Buildup: Clean Noticeable Buildup Excessive Buildup

Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 2: Post- Carbon Filters (Circle):

IRB Buildup: Clean Noticeable Buildup Excessive Buildup

Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 3: Internal Strainer (Circle):

CarbStrate Buildup: Clean Noticeable Buildup Excessive Buildup

Strainer Condition: Okay Noticeable damage or tears

Notes: _____

CarbStrate & CarbStrate Mixer:

Two – 50 lb bags of CarbStrate Added ☑ Yes ☐ No

Mixing Tank Level Sensors Cleaned ☐ Yes ☑ No

Number of CarbStrate bags remaining: 22 (Notify ETEC when 4 bags are remaining)

Notes: Got ETEC CarbStrate delivery today

IDW Tank:

Tank Level: 210 gallons

Notes: _____

Carbon Vessel Pressure Gauge Readings (while transfer pump is running):

Front Train Left: 38 psi Right: 0 psi

Back Train Left: 38 psi Right: 0 psi

Backflush Needed? ☐ Yes ☑ No

For optimization
trial run, only operating
IWs 4, 9, 11, 1 -
Shutting off all other IWs
Close notes: Gallery 2 - IWs 8 Shut off entirely
IW-2 - 1 full rotation to close
IW-18 - 4/5 rotation to close
IW-10 - 4/5 rotation to close
IW-21 - 1 full rotation to close
IW-14 - 3/5 rotation to close
IW-12 - 6/5 rotation to close
IW-22 - 7 full rotation to close
In 1 - 1 minute injection force feed
~15 gallons can be pushed into 4 wells
IWs 4, ~~8~~, 11, 1 not building pressure
so opened 1/5 turn more
IW-~~8~~ 9 building pressure to 10 psi

leaving only
key IWs on during
week

BSC Weekly O&M Form – Lockbox Code: 1257

Date: 5/6/24 Personnel: DG Sign-in time with Graham: 09:40 Sign-out time with Graham: 11:15 System Status Upon Arrival: Running? ☐ Yes ☑ No
Alarms? ☐ Yes ☑ No
If Yes, list alarms: _____

System Notes

Strainer 1: Pre- Carbon Filters (Circle):
IRB Buildup: Clean Noticeable Buildup Excessive Buildup
Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 2: Post- Carbon Filters (Circle):
IRB Buildup: Clean Noticeable Buildup Excessive Buildup
Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 3: Internal Strainer (Circle):
CarbStrate Buildup: Clean Noticeable Buildup Excessive Buildup
Strainer Condition: Okay Noticeable damage or tears

Notes: _____

CarbStrate & CarbStrate Mixer:
Two – 50 lb bags of CarbStrate Added ☑ Yes ☐ No
Mixing Tank Level Sensors Cleaned ☑ Yes ☐ No
Number of CarbStrate bags remaining: 20 (Notify ETEC when 4 bags are remaining)

Notes: _____

IDW Tank:
Tank Level: 210 gallons
Notes: _____

Carbon Vessel Pressure Gauge Readings (while transfer pump is running):
Front Train Left: ~~0~~ psi Right: 0 psi
Back Train Left: ~~0~~ psi Right: 0 psi
Backflush Needed? ~~☒~~ Yes ~~☒~~ No
↳ to be performed when convenient next

~~0~~ same as transfer pump psi ~12

BSC Weekly O&M Form – Lockbox Code: 1257

Date: 5/13/24 Personnel: DG Sign-in time with Graham: 08:00 Sign-out time with Graham: _____ System Status Upon Arrival: Running? ☐ Yes ☒ No
Alarms? ☐ Yes ☒ No
If Yes, list alarms: _____

System Notes

Strainer 1: Pre- Carbon Filters (Circle):
IRB Buildup: Clean Noticeable Buildup Excessive Buildup
Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 2: Post- Carbon Filters (Circle):
IRB Buildup: Clean Noticeable Buildup Excessive Buildup
Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 3: Internal Strainer (Circle):
CarbStrate Buildup: Clean Noticeable Buildup Excessive Buildup
Strainer Condition: Okay Noticeable damage or tears

Notes: _____

CarbStrate & CarbStrate Mixer:
Two – 50 lb bags of CarbStrate Added ☒ Yes ☐ No
Mixing Tank Level Sensors Cleaned ☐ Yes ☒ No
Number of CarbStrate bags remaining: 12 (Notify ETEC when 4 bags are remaining)

Notes: _____

IDW Tank:
Tank Level: 215 gallons
Notes: _____

Carbon Vessel Pressure Gauge Readings (while transfer pump is running):
Front Train Left: ~10 psi* Right: 0 psi
Back Train Left: ~10 psi Right: 0 psi
Backflush Needed? ☐ Yes ☒ No

Backflush to be conducted during end of the month O&M visit

*Transfer pump pressure starts low but eventually builds to ~38 psi

BSC Weekly O&M Form – Lockbox Code: 1257

Date: 5/20/24 Personnel: Pamela Sign-in time with Graham: 9:30 Sign-out time with Graham: ~10:45 System Status Upon Arrival: Running? ☑ Yes ☐ No

Alarms? ☐ Yes ☑ No

If Yes, list alarms: _____

System Notes

Strainer 1: Pre- Carbon Filters (Circle):

IRB Buildup: Clean Noticeable Buildup Excessive Buildup

Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 2: Post- Carbon Filters (Circle):

IRB Buildup: Clean Noticeable Buildup Excessive Buildup

Strainer Condition: Okay Noticeable damage or tears

Notes: 3 solid chunks (pinky nail size) of IRB/carbon

Strainer 3: Internal Strainer (Circle):

CarbStrate Buildup: Clean Noticeable Buildup Excessive Buildup

Strainer Condition: Okay Noticeable damage or tears

Notes: Some black chunks

CarbStrate & CarbStrate Mixer:

Two – 50 lb bags of CarbStrate Added ☑ Yes ☐ No

Mixing Tank Level Sensors Cleaned ☑ Yes ☐ No

Number of CarbStrate bags remaining: ~16 (Notify ETEC when 4 bags are remaining)

Notes: _____

IDW Tank:

Tank Level: ~220 gallons

Notes: _____

Carbon Vessel Pressure Gauge Readings (while transfer pump is running):

Front Train Left: _____ psi Right: _____ psi

Back Train Left: _____ psi Right: _____ psi

Backflush Needed? ☐ Yes ☐ No

BSC Weekly O&M Form – Lockbox Code: 1257

Date: 5/28/24 Personnel: DG 10:23 Sign-in time with Graham: 12:00 Sign-out time with Graham: _____ System Status Upon Arrival: Running? ☐ Yes ☑ No

Alarms? ☐ Yes ☑ No

If Yes, list alarms: Power out!

System Notes

Strainer 1: Pre- Carbon Filters (Circle):

IRB Buildup: Clean Noticeable Buildup Excessive Buildup

Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 2: Post- Carbon Filters (Circle):

IRB Buildup: Clean Noticeable Buildup Excessive Buildup

Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 3: Internal Strainer (Circle):

CarbStrate Buildup: Clean Noticeable Buildup Excessive Buildup

Strainer Condition: Okay ~~Noticeable~~ damage or tears

Notes: _____

CarbStrate & CarbStrate Mixer:

Two – 50 lb bags of CarbStrate Added ☐ Yes ☑ No Returned on 5/30 to restore power + finish O+M

Mixing Tank Level Sensors Cleaned ☐ Yes ☑ No

Number of CarbStrate bags remaining: 16 (Notify ETEC when 4 bags are remaining)

Notes: _____

IDW Tank:

Tank Level: 215 gallons

Notes: _____

Carbon Vessel Pressure Gauge Readings (while transfer pump is running):

Front Train Left: 30 psi Right: 0 psi

Back Train Left: 30 psi Right: 0 psi

Backflush Needed? ☐ Yes ☒ No

Graham switched to permanent power but treatment system needs to remain on temporary power. Returning to finish O&M + collect TOC samples when power is restored

BSC Weekly O&M Form – Lockbox Code: 1257

Date: 6/10/24 Personnel: DG Sign-in time with Graham: 12:02 Sign-out time with Graham: _____ System Status Upon Arrival: Running? ☑ Yes ☐ No

Alarms? ☐ Yes ☑ No

If Yes, list alarms: _____

System Notes

Strainer 1: Pre- Carbon Filters (Circle):

IRB Buildup: Clean Noticeable Buildup Excessive Buildup

Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 2: Post- Carbon Filters (Circle):

IRB Buildup: Clean Noticeable Buildup Excessive Buildup

Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 3: Internal Strainer (Circle):

CarbStrate Buildup: Clean Noticeable Buildup Excessive Buildup

Strainer Condition: Okay Noticeable damage or tears

Notes: _____

CarbStrate & CarbStrate Mixer:

Two – 50 lb bags of CarbStrate Added ☑ Yes ☐ No

Mixing Tank Level Sensors Cleaned ☑ Yes ☐ No

Number of CarbStrate bags remaining: 10 (Notify ETEC when 4 bags are remaining)

Notes: _____

IDW Tank:

Tank Level: 220 gallons

Notes: _____

Carbon Vessel Pressure Gauge Readings (while transfer pump is running):

Front Train Left: 38 psi Right: 0 psi

Back Train Left: 35 psi Right: 0 psi

Backflush Needed? ☐ Yes ☑ No

DO & ORP data from:

Tank 2

DO(mg/L)	ORP(mV)
5.15 ↑ decreasing	167.3 ↑ increasing

Mixing Tank (after new Carbostrate added)

DO(mg/L)	ORP(mV)
1.81	-85.9

↑ ↑ both moving toward 0

BSC Weekly O&M Form – Lockbox Code: 1257

Date: 6/17/24 Personnel: DG Sign-in time with Graham: 10:40 Sign-out time with Graham: _____ System Status Upon Arrival: Running? ☑ Yes ☐ No

Alarms? ☐ Yes ☑ No

If Yes, list alarms: _____

System Notes

Strainer 1: Pre- Carbon Filters (Circle):

IRB Buildup: Clean Noticeable Buildup Excessive Buildup

Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 2: Post- Carbon Filters (Circle):

IRB Buildup: Clean Noticeable Buildup Excessive Buildup

Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 3: Internal Strainer (Circle):

CarbStrate Buildup: Clean Noticeable Buildup Excessive Buildup

Strainer Condition: Okay Noticeable damage or tears

Notes: _____

CarbStrate & CarbStrate Mixer:

Two – 50 lb bags of CarbStrate Added ☒ Yes ☐ No

Mixing Tank Level Sensors Cleaned ☐ Yes ☒ No

Number of CarbStrate bags remaining: 3 (Notify ETEC when 4 bags are remaining)

Notes: _____

IDW Tank:

Tank Level: 270 gallons

Notes: _____

Carbon Vessel Pressure Gauge Readings (while transfer pump is running):

Front Train Left: 30 psi Right: 0 psi

Back Train Left: 30 psi Right: 0 psi

Backflush Needed? ☐ Yes ☒ No

BSC Weekly O&M Form – Lockbox Code: 1257

Date: 10/24/24 Personnel: Pamela Sign-in time with Graham: 10:25 Sign-out time with Graham: _____ System Status Upon Arrival: Running? ☑ Yes ☐ No

Alarms? ☐ Yes ☑ No

If Yes, list alarms: _____

System Notes

Strainer 1: Pre- Carbon Filters (Circle):

IRB Buildup: Clean Noticeable Buildup Excessive Buildup

Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 2: Post- Carbon Filters (Circle):

IRB Buildup: Clean Noticeable Buildup Excessive Buildup

Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 3: Internal Strainer (Circle):

CarbStrate Buildup: Clean Noticeable Buildup Excessive Buildup

Strainer Condition: Okay Noticeable damage or tears

Notes: _____

CarbStrate & CarbStrate Mixer:

Two – 50 lb bags of CarbStrate Added ☑ Yes ☐ No

Mixing Tank Level Sensors Cleaned ☑ Yes ☐ No

Number of CarbStrate bags remaining: 6 (Notify ETEC when 4 bags are remaining)

Notes: _____

IDW Tank:

Tank Level: 240 gallons

Notes: _____

Carbon Vessel Pressure Gauge Readings (while transfer pump is running):

Front Train Left: 32 psi Right: 0 psi

Back Train Left: 33 psi Right: 0 psi

Backflush Needed? ☐ Yes ☐ No

BSC Weekly O&M Form – Lockbox Code: 1257

Date: 7/1/24 Personnel: DG Sign-in time with Graham: 10:05 Sign-out time with Graham: _____ System Status Upon Arrival: Running? ☒ Yes ☐ No
Alarms? ☐ Yes ☒ No
If Yes, list alarms: _____

System Notes

Strainer 1: Pre- Carbon Filters (Circle):
IRB Buildup: Clean Noticeable Buildup Excessive Buildup
Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 2: Post- Carbon Filters (Circle):
IRB Buildup: Clean Noticeable Buildup Excessive Buildup
Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 3: Internal Strainer (Circle):
CarbStrate Buildup: Clean Noticeable Buildup Excessive Buildup
Strainer Condition: Okay Noticeable damage or tears

Notes: _____

CarbStrate & CarbStrate Mixer:
Two – 50 lb bags of CarbStrate Added ☒ Yes ☐ No
Mixing Tank Level Sensors Cleaned ☒ Yes ☐ No
Number of CarbStrate bags remaining: 4 (Notify ETEC when 4 bags are remaining)

Notes: ETEC notified

IDW Tank:
Tank Level: 230 gallons
Notes: _____

Carbon Vessel Pressure Gauge Readings (while transfer pump is running):
Front Train Left: 30 psi Right: 0 psi
Back Train Left: 90 psi Right: 0 psi
Backflush Needed? ☐ Yes ☒ No

BSC Weekly O&M Form – Lockbox Code: 1257

Date: 7/8/24 Personnel: DG Sign-in time with Graham: 10:45 Sign-out time with Graham: _____ System Status Upon Arrival: Running? ☒ Yes ☐ No
Alarms? ☐ Yes ☒ No
If Yes, list alarms: _____

System Notes

Strainer 1: Pre- Carbon Filters (Circle):
IRB Buildup: Clean Noticeable Buildup Excessive Buildup
Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 2: Post- Carbon Filters (Circle):
IRB Buildup: Clean Noticeable Buildup Excessive Buildup
Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 3: Internal Strainer (Circle):
CarbStrate Buildup: Clean Noticeable Buildup Excessive Buildup
Strainer Condition: Okay Noticeable damage or tears

Notes: _____

CarbStrate & CarbStrate Mixer:
Two – 50 lb bags of CarbStrate Added ☒ Yes ☐ No
Mixing Tank Level Sensors Cleaned ☐ Yes ☒ No
Number of CarbStrate bags remaining: 2 (Notify ETEC when 4 bags are remaining)

Notes: ETEC notified

IDW Tank:
Tank Level: 230 gallons
Notes: _____

Carbon Vessel Pressure Gauge Readings (while transfer pump is running):
Front Train Left: 22 psi Right: 8 psi
Back Train Left: 22 psi Right: 3 psi
Backflush Needed? ☐ Yes ☒ No

BSC Weekly O&M Form – Lockbox Code: 1257

Date: 7/15/24 Personnel: P. Osterhout Sign-in time with Graham: 8:30 Sign-out time with Graham: _____ System Status Upon Arrival: Running? ☑ Yes ☐ No (Maybe?) Solution tank was empty on arrival. Possible issue w/ low-low tank float sensor?

Alarms? ☐ Yes ☑ No

If Yes, list alarms: _____

System Notes

Strainer 1: Pre- Carbon Filters (Circle):

IRB Buildup: Clean Noticeable Buildup Excessive Buildup

Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 2: Post- Carbon Filters (Circle):

IRB Buildup: Clean Noticeable Buildup Excessive Buildup

Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 3: Internal Strainer (Circle):

CarbStrate Buildup: Clean Noticeable Buildup Excessive Buildup

Strainer Condition: Okay Noticeable damage or tears

Notes: Stagnant condition + odor - likely b/c solution tank low

CarbStrate & CarbStrate Mixer:

Two – 50 lb bags of CarbStrate Added ☑ Yes ☐ No

Mixing Tank Level Sensors Cleaned ☑ Yes ☐ No

Number of CarbStrate bags remaining: 20 (Notify ETEC when 4 bags are remaining)

Notes: _____

IDW Tank:

Tank Level: 240 gallons

Notes: _____

Carbon Vessel Pressure Gauge Readings (while transfer pump is running):

Front Train Left: 18 psi Right: 0 psi

Back Train Left: 19 psi Right: 0 psi

Backflush Needed? ☐ Yes ☑ No

BSC Weekly O&M Form – Lockbox Code: 1257

Date: 7/22/24 Personnel: DG

Sign-in time with Graham: 09:20 Sign-out time with Graham: _____

System Status Upon Arrival: Running? ☒ Yes ☐ No

Alarms? ☐ Yes ☒ No

If Yes, list alarms: _____

System Notes

Strainer 1: Pre- Carbon Filters (Circle):

IRB Buildup: Clean Noticeable Buildup Excessive Buildup

Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 2: Post- Carbon Filters (Circle):

IRB Buildup: Clean Noticeable Buildup Excessive Buildup

Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 3: Internal Strainer (Circle):

CarbStrate Buildup: Clean Noticeable Buildup Excessive Buildup

Strainer Condition: Okay Noticeable damage or tears

Notes: _____

CarbStrate & CarbStrate Mixer:

Two – 50 lb bags of CarbStrate Added ☐ Yes ☐ No – Added by ETEC after visit

Mixing Tank Level Sensors Cleaned ☒ Yes ☐ No

Number of CarbStrate bags remaining: 18 (Notify ETEC when 4 bags are remaining)

Notes: _____

IDW Tank:

Tank Level: 240 gallons

Notes: _____

Carbon Vessel Pressure Gauge Readings (while transfer pump is running):

Front Train Left: _____ psi Right: _____ psi

Back Train Left: _____ psi Right: _____ psi

Backflush Needed? ☐ Yes ☐ No

EFFE visit 7/22 @ 11AM

check low float sensor in mixing tank + likely replace

Add drop hoses into Tank 2 to reduce DO from splashing

Refill mixing tank for week

IW-6 in gallery 2 turned on based on discussion

W/ Gabe about treatment area groundwater movement

BSC Weekly O&M Form – Lockbox Code: 1257

Date: 7/29/24 Personnel: DG + RA
Sign-in time with Graham: 09:05 Sign-out time with Graham: _____
System Status Upon Arrival: Running? ☐ Yes ☒ No
Alarms? ☒ Yes ☐ No
If Yes, list alarms: High float in solution tank

System Notes

Strainer 1: Pre- Carbon Filters (Circle):
IRB Buildup: Clean Noticeable Buildup (Excessive Buildup)
Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 2: Post- Carbon Filters (Circle):
IRB Buildup: (Clean) Noticeable Buildup Excessive Buildup
Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 3: Internal Strainer (Circle):
CarbStrate Buildup: Clean (Noticeable Buildup) Excessive Buildup
Strainer Condition: Okay Noticeable damage or tears

Notes: _____

CarbStrate & CarbStrate Mixer:
Two – 50 lb bags of CarbStrate Added ☐ Yes ☒ No System down over weekend
Mixing Tank Level Sensors Cleaned ☒ Yes ☐ No tank level too high will return
Number of CarbStrate bags remaining: 16 (Notify ETEC when 4 bags are remaining)

Notes: _____

IDW Tank:
Tank Level: 250 gallons
Notes: _____

Carbon Vessel Pressure Gauge Readings (while transfer pump is running):
Front Train Left: 20 psi Right: 0 psi
Back Train Left: 20 psi Right: 0 psi
Backflush Needed? ☐ Yes ☒ No Back flush conducted on both trains

BSC Weekly O&M Form – Lockbox Code: 1257

Date: 8/5/24 Personnel: DG
Sign-in time with Graham: 10:38 Sign-out time with Graham: _____
System Status Upon Arrival: Running? ☒ Yes ☐ No
Alarms? ☐ Yes ☒ No
If Yes, list alarms: _____

System Notes

Strainer 1: Pre- Carbon Filters (Circle):
IRB Buildup: Clean Noticeable Buildup Excessive Buildup
Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 2: Post- Carbon Filters (Circle):
IRB Buildup: Clean Noticeable Buildup Excessive Buildup
Strainer Condition: Okay Noticeable damage or tears

Notes: Some "slime" on filter

Strainer 3: Internal Strainer (Circle):
CarbStrate Buildup: Clean Noticeable Buildup Excessive Buildup
Strainer Condition: Okay Noticeable damage or tears

Notes: _____

CarbStrate & CarbStrate Mixer:
Two – 50 lb bags of CarbStrate Added ☒ Yes ☐ No
Mixing Tank Level Sensors Cleaned ☒ Yes ☐ No
Number of CarbStrate bags remaining: 14 (Notify ETEC when 4 bags are remaining)

Notes: _____

IDW Tank:
Tank Level: 250 gallons
Notes: _____

Carbon Vessel Pressure Gauge Readings (while transfer pump is running):
Front Train Left: 20 psi Right: 0 psi
Back Train Left: 20 psi Right: 0 psi
Backflush Needed? ☐ Yes ☒ No

BSC Weekly O&M Form – Lockbox Code: 1257

Date: 8/12/24 Personnel: DG

Sign-in time with Graham: 10:27 Sign-out time with Graham: _____

System Status Upon Arrival: Running? ☒ Yes ☐ No

Alarms? ☐ Yes ☒ No Carbostrate tank fully empty

If Yes, list alarms: _____

System Notes

Strainer 1: Pre- Carbon Filters (Circle):

IRB Buildup: Clean Noticeable Buildup Excessive Buildup

Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 2: Post- Carbon Filters (Circle):

IRB Buildup: Clean Noticeable Buildup Excessive Buildup

Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 3: Internal Strainer (Circle):

CarbStrate Buildup: Clean Noticeable Buildup Excessive Buildup

Strainer Condition: Okay Noticeable damage or tears

Notes: _____

CarbStrate & CarbStrate Mixer:

Two – 50 lb bags of CarbStrate Added ☒ Yes ☐ No

Mixing Tank Level Sensors Cleaned ☐ Yes ☒ No

Number of CarbStrate bags remaining: 12 (Notify ETEC when 4 bags are remaining)

Notes: _____

IDW Tank:

Tank Level: 260 gallons

Notes: _____

Carbon Vessel Pressure Gauge Readings (while transfer pump is running):

Front Train Left: 20 psi Right: 0 psi

Back Train Left: 20 psi Right: 0 psi

Backflush Needed? ☐ Yes ☒ No

YSI Data

Tank 2

DO (mg/L) 4.58

ORP (mV) 100.0

Mixing Tank

0.57

1598

Injection Line

7.26

129.5

BSC Weekly O&M Form – Lockbox Code: 1257

Date: 8/19/24 Personnel: DG/JL
Sign-in time with Graham: 08:11 Sign-out time with Graham: _____
System Status Upon Arrival: Running? ☒ Yes ☐ No
Alarms? ☐ Yes ☒ No
If Yes, list alarms: _____

System Notes

Strainer 1: Pre- Carbon Filters (Circle):
IRB Buildup: Clean (Noticeable Buildup) Excessive Buildup
Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 2: Post- Carbon Filters (Circle):
IRB Buildup: Clean (Noticeable Buildup) Excessive Buildup
Strainer Condition: Okay Noticeable damage or tears

Notes: Slime buildup

Strainer 3: Internal Strainer (Circle):
CarbStrate Buildup: Clean (Noticeable Buildup) Excessive Buildup
Strainer Condition: Okay Noticeable damage or tears

Notes: _____

CarbStrate & CarbStrate Mixer:
Two – 50 lb bags of CarbStrate Added ☒ Yes ☐ No
Mixing Tank Level Sensors Cleaned ☒ Yes ☐ No
Number of CarbStrate bags remaining: 10 (Notify ETEC when 4 bags are remaining)

Notes: _____

IDW Tank:
Tank Level: 250 gallons
Notes: _____

Carbon Vessel Pressure Gauge Readings (while transfer pump is running):
Front Train Left: 20 psi Right: 0 psi
Back Train Left: 20 psi Right: 0 psi
Backflush Needed? ☐ Yes ☒ No

BSC Weekly O&M Form – Lockbox Code: 1257

Date: 8/26/24 Personnel: DG
Sign-in time with Graham: 12:37 Sign-out time with Graham: _____
System Status Upon Arrival: Running? ☒ Yes ☐ No
Alarms? ☐ Yes ☒ No
If Yes, list alarms: _____

System Notes

Strainer 1: Pre- Carbon Filters (Circle):
IRB Buildup: Clean Noticeable Buildup Excessive Buildup
Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 2: Post- Carbon Filters (Circle):
IRB Buildup: Clean Noticeable Buildup Excessive Buildup
Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 3: Internal Strainer (Circle):
CarbStrate Buildup: Clean Noticeable Buildup Excessive Buildup
Strainer Condition: Okay Noticeable damage or tears

Notes: _____

CarbStrate & CarbStrate Mixer:
Two – 50 lb bags of CarbStrate Added ☒ Yes ☐ No
Mixing Tank Level Sensors Cleaned ☒ Yes ☐ No
Number of CarbStrate bags remaining: 8 (Notify ETEC when 4 bags are remaining)

Notes: _____

IDW Tank:
Tank Level: 256 gallons
Notes: _____

Carbon Vessel Pressure Gauge Readings (while transfer pump is running):
Front Train Left: _____ psi Right: _____ psi
Back Train Left: _____ psi Right: _____ psi
Backflush Needed? ☐ Yes ☒ No

BSC Weekly O&M Form – Lockbox Code: 1257

Date: 9/3/24 Personnel: DG
Sign-in time with Graham: 10:30 Sign-out time with Graham: _____
System Status Upon Arrival: Running? ☒ Yes ☐ No
Alarms? ☐ Yes ☒ No
If Yes, list alarms: _____

System Notes

Strainer 1: Pre- Carbon Filters (Circle):
IRB Buildup: Clean Noticeable Buildup Excessive Buildup
Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 2: Post- Carbon Filters (Circle):
IRB Buildup: Clean Noticeable Buildup Excessive Buildup
Strainer Condition: Okay Noticeable damage or tears

Notes: More biofouling

Strainer 3: Internal Strainer (Circle):
CarbStrate Buildup: Clean Noticeable Buildup Excessive Buildup
Strainer Condition: Okay Noticeable damage or tears

Notes: _____

CarbStrate & CarbStrate Mixer:
Two – 50 lb bags of CarbStrate Added ☒ Yes ☐ No
Mixing Tank Level Sensors Cleaned ☐ Yes ☒ No
Number of CarbStrate bags remaining: 6 (Notify ETEC when 4 bags are remaining)

Notes: _____

IDW Tank:
Tank Level: 250 gallons
Notes: _____

Carbon Vessel Pressure Gauge Readings (while transfer pump is running):
Front Train Left: 15 psi Right: 0 psi
Back Train Left: 15 psi Right: 0 psi
Backflush Needed? ☒ Yes ☐ No

Next week - load pressure through vessels

BSC Weekly O&M Form – Lockbox Code: 1257

Date: 9/9/24 Personnel: DG/RA

Sign-in time with Graham: 11:53 Sign-out time with Graham: _____

System Status Upon Arrival: Running? ☒ Yes ☐ No

Alarms? ☐ Yes ☒ No

If Yes, list alarms: _____

System Notes

Strainer 1: Pre- Carbon Filters (Circle):

IRB Buildup: Clean Noticeable Buildup Excessive Buildup

Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 2: Post- Carbon Filters (Circle):

IRB Buildup: Clean Noticeable Buildup Excessive Buildup

Strainer Condition: Okay Noticeable damage or tears

Notes: IRB-talk to ETEC about breakthrough

Strainer 3: Internal Strainer (Circle):

CarbStrate Buildup: Clean Noticeable Buildup Excessive Buildup

Strainer Condition: Okay Noticeable damage or tears

Notes: _____

CarbStrate & CarbStrate Mixer:

Two – 50 lb bags of CarbStrate Added ☐ Yes ☒ No - 1 bag added - high turbidity

Mixing Tank Level Sensors Cleaned ☒ Yes ☐ No

Number of CarbStrate bags remaining: 4 (Notify ETEC when 4 bags are remaining)

Notes: ETEC notified

2nd bag added on 9/10 @ 13:00 while impeding metering pump fault P.O.

IDW Tank:

Tank Level: 250 gallons

Notes: _____

Carbon Vessel Pressure Gauge Readings (while transfer pump is running):

Front Train Left: 15 psi Right: 0 psi

Back Train Left: 15 psi Right: _____ psi

Backflush Needed? ☐ Yes ☒ No

BSC Weekly O&M Form – Lockbox Code: 1257

Date: 9/10/24 Personnel: PD

Sign-in time with Graham: _____ Sign-out time with Graham: _____

System Status Upon Arrival: Running? ☐ Yes ☐ No

Alarms? ☐ Yes ☑ No

If Yes, list alarms: _____

System Notes

Strainer 1: Pre- Carbon Filters (Circle):

IRB Buildup: Clean Noticeable Buildup Excessive Buildup

Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 2: Post- Carbon Filters (Circle):

IRB Buildup: Clean Noticeable Buildup Excessive Buildup

Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 3: Internal Strainer (Circle):

CarbStrate Buildup: Clean Noticeable Buildup Excessive Buildup

Strainer Condition: Okay Noticeable damage or tears

Notes: _____

CarbStrate & CarbStrate Mixer:

Two – 50 lb bags of CarbStrate Added ☑ Yes ☐ No

Mixing Tank Level Sensors Cleaned ☑ Yes ☐ No

Number of CarbStrate bags remaining: 23(?) (Notify ETEC when 4 bags are remaining)

Notes: _____

IDW Tank:

Tank Level: 250 gallons

Notes: _____

Carbon Vessel Pressure Gauge Readings (while transfer pump is running):

Front Train Left: 43 psi Right: 0 psi

Back Train Left: 43 psi Right: 0 psi

Backflush Needed? ☐ Yes ☐ No

9/25/24 System shut down @ 11:00 for Semi-annual Grout

BSC Weekly O&M Form – Lockbox Code: 1257

Date: 09/26/24 Personnel: DG

Sign-in time with Graham: _____ Sign-out time with Graham: _____

System Status Upon Arrival: Running? ☐ Yes ☒ No

Alarms? ☐ Yes ☒ No

If Yes, list alarms: O&M conducted before system restart

9/26/24 System restarted @ 15:00

System Notes

Strainer 1: Pre- Carbon Filters (Circle):

IRB Buildup: Clean Noticeable Buildup Excessive Buildup

Strainer Condition: Okay Noticeable damage or tears

Notes: Green chunks?

Strainer 2: Post- Carbon Filters (Circle):

IRB Buildup: Clean Noticeable Buildup Excessive Buildup

Strainer Condition: Okay Noticeable damage or tears

Notes:

Strainer 3: Internal Strainer (Circle):

CarbStrate Buildup: Clean Noticeable Buildup Excessive Buildup

Strainer Condition: Okay Noticeable damage or tears

Notes:

CarbStrate & CarbStrate Mixer:

Two – 50 lb bags of CarbStrate Added ☐ Yes ☒ No 1 bag added

Mixing Tank Level Sensors Cleaned ☐ Yes ☒ No

Number of CarbStrate bags remaining: 40 (Notify ETEC when 4 bags are remaining)

Notes:

IDW Tank:

Tank Level: 350 gallons

Notes:

Carbon Vessel Pressure Gauge Readings (while transfer pump is running):

Front Train Left: 40 psi Right: 0 psi

Back Train Left: 40 psi Right: 0 psi

Backflush Needed? ☐ Yes ☒ No

BSC Weekly O&M Form – Lockbox Code: 1257

Date: 9/30/24 Personnel: DG
Sign-in time with Graham: 07:50 Sign-out time with Graham: _____
System Status Upon Arrival: Running? ☒ Yes ☐ No
Alarms? ☐ Yes ☒ No
If Yes, list alarms: _____

System Notes

Strainer 1: Pre- Carbon Filters (Circle):
IRB Buildup: Clean Noticeable Buildup Excessive Buildup
Strainer Condition: Okay ~~Noticeable damage or tears~~

Notes: _____

Strainer 2: Post- Carbon Filters (Circle):
IRB Buildup: Clean Noticeable Buildup Excessive Buildup
Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 3: Internal Strainer (Circle):
CarbStrate Buildup: Clean Noticeable Buildup Excessive Buildup
Strainer Condition: Okay Noticeable damage or tears

Notes: _____

CarbStrate & CarbStrate Mixer:
Two – 50 lb bags of CarbStrate Added ☐ Yes ☒ No 1 bag added
Mixing Tank Level Sensors Cleaned ☐ Yes ☒ No
Number of CarbStrate bags remaining: 40 (Notify ETEC when 4 bags are remaining)

Notes: _____

IDW Tank:
Tank Level: 350 gallons
Notes: off pallet on one side, talking to operations about options

Carbon Vessel Pressure Gauge Readings (while transfer pump is running):
Front Train Left: 42 psi Right: 0 psi
Back Train Left: 42 psi Right: 0 psi
Backflush Needed? ☐ Yes ☒ No

pumped 1400 gals into tank 1 on 10/2

BSC Weekly O&M Form – Lockbox Code: 1257

Date: 10/7/24 Personnel: DG

Sign-in time with Graham: 10:40 Sign-out time with Graham: _____

System Status Upon Arrival: Running? ☒ Yes ☐ No

Alarms? ☐ Yes ☒ No

If Yes, list alarms: _____

System Notes

Strainer 1: Pre- Carbon Filters (Circle):

IRB Buildup: Clean Noticeable Buildup Excessive Buildup

Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 2: Post- Carbon Filters (Circle):

IRB Buildup: Clean Noticeable Buildup Excessive Buildup

Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 3: Internal Strainer (Circle):

CarbStrate Buildup: Clean Noticeable Buildup Excessive Buildup

Strainer Condition: Okay Noticeable damage or tears

Notes: _____

CarbStrate & CarbStrate Mixer:

Two – 50 lb bags of CarbStrate Added ☒ Yes ☒ No added W/9 coming back later this week to pump down poly tanks & add Carbstrate

Mixing Tank Level Sensors Cleaned ☒ Yes ☐ No

Number of CarbStrate bags remaining: 38 (Notify ETEC when 4 bags are remaining)

Notes: _____

IDW Tank:

Tank Level: 240 gallons

Notes: Pumped about 50 gals into tank 1

10/9 - pumped ~ 80 gals into tank 1

Carbon Vessel Pressure Gauge Readings (while transfer pump is running):

Front Train Left: 40 psi Right: 0 psi

Back Train Left: 40 psi Right: 0 psi

Backflush Needed? ☐ Yes ☒ No

Carbon changeout may be needed

BSC Weekly O&M Form – Lockbox Code: 1257

Date: 10/14/24 Personnel: OG

Sign-in time with Graham: 0805 Sign-out time with Graham: _____

System Status Upon Arrival: Running? ☒ Yes ☐ No

Alarms? ☐ Yes ☒ No

If Yes, list alarms: _____

System Notes

Strainer 1: Pre- Carbon Filters (Circle):

IRB Buildup: Clean Noticeable Buildup Excessive Buildup

Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 2: Post- Carbon Filters (Circle):

IRB Buildup: ~~Clean~~ Noticeable Buildup Excessive Buildup

Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 3: Internal Strainer (Circle):

CarbStrate Buildup: Clean Noticeable Buildup Excessive Buildup

Strainer Condition: Okay Noticeable damage or tears

Notes: _____

CarbStrate & CarbStrate Mixer:

Two – 50 lb bags of CarbStrate Added ☒ Yes ☐ No

Mixing Tank Level Sensors Cleaned ☐ Yes ☒ No

Number of CarbStrate bags remaining: 36 (Notify ETEC when 4 bags are remaining)

Notes: _____

IDW Tank:

Tank Level: ~100 gallons

Notes: Transferred ~50 gals into tank 1

Carbon Vessel Pressure Gauge Readings (while transfer pump is running):

Front Train Left: 40 psi Right: 9 psi

Back Train Left: 40 psi Right: 0 psi

Backflush Needed? ☐ Yes ☒ No

Carbon change out being scheduled

BSC Weekly O&M Form – Lockbox Code: 1257

Date: 10/21/24 Personnel: DG

Sign-in time with Graham: 10:40 Sign-out time with Graham: 11:10

System Status Upon Arrival: Running? ☒ Yes ☐ No

Alarms? ☐ Yes ☒ No

If Yes, list alarms: _____

System Notes

Strainer 1: Pre- Carbon Filters (Circle):

IRB Buildup: Clean Noticeable Buildup Excessive Buildup

Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 2: Post- Carbon Filters (Circle):

IRB Buildup: Clean Noticeable Buildup Excessive Buildup

Strainer Condition: Okay Noticeable damage or tears

Notes: some carbon particulates

Strainer 3: Internal Strainer (Circle):

CarbStrate Buildup: Clean Noticeable Buildup Excessive Buildup

Strainer Condition: Okay Noticeable damage or tears

Notes: _____

CarbStrate & CarbStrate Mixer:

Two – 50 lb bags of CarbStrate Added ☒ Yes ☐ No

Mixing Tank Level Sensors Cleaned ☐ Yes ☒ No

Number of CarbStrate bags remaining: 34 (Notify ETEC when 4 bags are remaining)

Notes: _____

IDW Tank:

Tank Level: 100 gallons

Notes: _____

Carbon Vessel Pressure Gauge Readings (while transfer pump is running):

Front Train Left: 40 psi Right: 0 psi

Back Train Left: 40 psi Right: 0 psi

Backflush Needed? ☐ Yes ☒ No

Carbon change out needed

BSC Weekly O&M Form – Lockbox Code: 1257

Date: 10/28/2024 Personnel: Jake Lamb
Sign-in time with Graham: Yes Sign-out time with Graham: _____
System Status Upon Arrival: Running? ☒ Yes ☐ No
Alarms? ☐ Yes ☒ No
If Yes, list alarms: _____

System Notes

Strainer 1: Pre- Carbon Filters (Circle):
IRB Buildup: Clean Noticeable Buildup Excessive Buildup
Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 2: Post- Carbon Filters (Circle):
IRB Buildup: Clean Noticeable Buildup Excessive Buildup
Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 3: Internal Strainer (Circle):
CarbStrate Buildup: Clean Noticeable Buildup Excessive Buildup
Strainer Condition: Okay Noticeable damage or tears

Notes: _____

CarbStrate & CarbStrate Mixer:
Two – 50 lb bags of CarbStrate Added ☒ Yes ☐ No
Mixing Tank Level Sensors Cleaned ☒ Yes ☐ No
Number of CarbStrate bags remaining: 32 (Notify ETEC when 4 bags are remaining)

Notes: _____

IDW Tank:
Tank Level: ~100 gallons
Notes: _____

Carbon Vessel Pressure Gauge Readings (while transfer pump is running):
Front Train Left: _____ psi Right: _____ psi
Back Train Left: _____ psi Right: _____ psi
Backflush Needed? ☐ Yes ☐ No

BSC Weekly O&M Form – Lockbox Code: 1257

Date: 11/4/24 Personnel: P.O.
Sign-in time with Graham: _____ Sign-out time with Graham: _____
System Status Upon Arrival: Running? ☐ Yes ☒ No System off Wed–Mon b/c
Alarms? ☐ Yes ☐ No Carbon vessel leak following
If Yes, list alarms: _____ Carbon change out. PO Fixed 11/4.

System Notes

Strainer 1: Pre- Carbon Filters (Circle):
IRB Buildup: Clean Noticeable Buildup Excessive Buildup
Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 2: Post- Carbon Filters (Circle):
IRB Buildup: Clean Noticeable Buildup Excessive Buildup
Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 3: Internal Strainer (Circle):
CarbStrate Buildup: Clean Noticeable Buildup Excessive Buildup
Strainer Condition: Okay Noticeable damage or tears

Notes: _____

CarbStrate & CarbStrate Mixer:
Two – 50 lb bags of CarbStrate Added ☐ Yes ☑ No only one added
Mixing Tank Level Sensors Cleaned ☑ Yes ☐ No
Number of CarbStrate bags remaining: 11 (Notify ETEC when 4 bags are remaining)

Notes: _____

IDW Tank:
Tank Level: ~100 gallons
Notes: _____

Carbon Vessel Pressure Gauge Readings (while transfer pump is running):
Front Train Left: 25 psi Right: 5 psi
Back Train Left: 25 psi Right: 5 psi
Backflush Needed? ☐ Yes ☑ No

BSC Weekly O&M Form – Lockbox Code: 1257

Date: 11/11/24 Personnel: DG
Sign-in time with Graham: _____ Sign-out time with Graham: _____
System Status Upon Arrival: Running? ☒ Yes ☐ No
Alarms? ☐ Yes ☒ No
If Yes, list alarms: _____

System Notes

Strainer 1: Pre- Carbon Filters (Circle):
IRB Buildup: Clean ~~Noticeable Buildup~~ Excessive Buildup
Strainer Condition: ~~Okay~~ Noticeable damage or tears

Notes: _____

Strainer 2: Post- Carbon Filters (Circle):
IRB Buildup: Clean ~~Noticeable Buildup~~ Excessive Buildup
Strainer Condition: ~~Okay~~ Noticeable damage or tears

Notes: Carbon particulates

Strainer 3: Internal Strainer (Circle):
CarbStrate Buildup: Clean ~~Noticeable Buildup~~ Excessive Buildup
Strainer Condition: ~~Okay~~ Noticeable damage or tears

Notes: _____

CarbStrate & CarbStrate Mixer:
Two – 50 lb bags of CarbStrate Added ☒ Yes ☐ No
Mixing Tank Level Sensors Cleaned ☒ Yes ☐ No
Number of CarbStrate bags remaining: 9+ (Notify ETEC when 4 bags are remaining)

Notes: _____

IDW Tank:
Tank Level: ~100 gallons
Notes: _____

Carbon Vessel Pressure Gauge Readings (while transfer pump is running):
Front Train Left: 18 psi Right: 8 psi
Back Train Left: 18 psi Right: 8 psi
Backflush Needed? ☐ Yes ☒ No

BSC Weekly O&M Form – Lockbox Code: 1257

Date: 11/18/24 Personnel: DG
Sign-in time with Graham: 11:22 Sign-out time with Graham: _____
System Status Upon Arrival: Running? ☒ Yes ☐ No
Alarms? ☐ Yes ☒ No
If Yes, list alarms: _____

System Notes

Strainer 1: Pre- Carbon Filters (Circle):
IRB Buildup: Clean Noticeable Buildup Excessive Buildup
Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 2: Post- Carbon Filters (Circle):
IRB Buildup: Clean Noticeable Buildup Excessive Buildup
Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 3: Internal Strainer (Circle):
CarbStrate Buildup: Clean Noticeable Buildup Excessive Buildup
Strainer Condition: Okay Noticeable damage or tears

Notes: _____

CarbStrate & CarbStrate Mixer:
Two – 50 lb bags of CarbStrate Added ☒ Yes ☐ No
Mixing Tank Level Sensors Cleaned ☒ Yes ☐ No
Number of CarbStrate bags remaining: 7 (Notify ETEC when 4 bags are remaining)

Notes: _____

IDW Tank:
Tank Level: ~100 gallons
Notes: _____

Carbon Vessel Pressure Gauge Readings (while transfer pump is running):
Front Train Left: 22 psi Right: 6 psi
Back Train Left: 22 psi Right: 6 psi
Backflush Needed? ☐ Yes ☒ No

BSC Weekly O&M Form – Lockbox Code: 1257

Date: 11/25/24 Personnel: P.O.

~~Sign-in time with Graham:~~ NA ~~Sign-out time with Graham:~~ NA

System Status Upon Arrival: Running? ☑ Yes ☐ No

Alarms? ☐ Yes ☑ No

If Yes, list alarms: _____

System Notes

Strainer 1: Pre- Carbon Filters (Circle):

IRB Buildup: Clean Noticeable Buildup Excessive Buildup

Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 2: Post- Carbon Filters (Circle):

IRB Buildup: Clean Noticeable Buildup Excessive Buildup

Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 3: Internal Strainer (Circle):

CarbStrate Buildup: Clean Noticeable Buildup Excessive Buildup

Strainer Condition: Okay Noticeable damage or tears

Notes: _____

CarbStrate & CarbStrate Mixer:

Two – 50 lb bags of CarbStrate Added ☐ Yes ☐ No

Mixing Tank Level Sensors Cleaned ☑ Yes ☐ No

Number of CarbStrate bags remaining: 5 (Notify ETEC when 4 bags are remaining)

Notes: _____

IDW Tank:

Tank Level: ~100 gallons

Notes: _____

Carbon Vessel Pressure Gauge Readings (while transfer pump is running):

Front Train Left: 4 psi Right: 7 psi

Back Train Left: 21 psi Right: 6 psi

Backflush Needed? ☐ Yes ☒ No

Galley 1: None 3: 11 +9

2: IWB 4: ~~None~~ IW1

BSC Weekly O&M Form – Lockbox Code: 1257

Date: 12/2/24 Personnel: DG

Sign-in time with Graham: ~ Sign-out time with Graham: _____

System Status Upon Arrival: Running? ☒ Yes ☐ No

Alarms? ☐ Yes ☒ No

If Yes, list alarms: _____

System Notes

Strainer 1: Pre- Carbon Filters (Circle):

IRB Buildup: Clean Noticeable Buildup Excessive Buildup

Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 2: Post- Carbon Filters (Circle):

IRB Buildup: Clean Noticeable Buildup Excessive Buildup

Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 3: Internal Strainer (Circle):

CarbStrate Buildup: Clean Noticeable Buildup Excessive Buildup

Strainer Condition: Okay Noticeable damage or tears

Notes: _____

CarbStrate & CarbStrate Mixer:

Two – 50 lb bags of CarbStrate Added ☒ Yes ☐ No

Mixing Tank Level Sensors Cleaned ☐ Yes ☒ No

Number of CarbStrate bags remaining: 3 (Notify ETEC when 4 bags are remaining)

Notes: _____

IDW Tank:

Tank Level: 100 gallons

Notes: _____

Carbon Vessel Pressure Gauge Readings (while transfer pump is running):

Front Train Left: _____ psi Right: _____ psi

Back Train Left: _____ psi Right: _____ psi

Backflush Needed? ☐ Yes ☐ No

BSC Weekly O&M Form – Lockbox Code: 1257

Date: 12/9/24 Personnel: P.O.
Sign-in time with Graham: — Sign-out time with Graham: —
System Status Upon Arrival: Running? ☑ Yes ☐ No
Alarms? ☐ Yes ☑ No
If Yes, list alarms: _____

System Notes

Strainer 1: Pre- Carbon Filters (Circle):
IRB Buildup: Clean Noticeable Buildup Excessive Buildup
Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 2: Post- Carbon Filters (Circle):
IRB Buildup: Clean Noticeable Buildup Excessive Buildup
Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 3: Internal Strainer (Circle):
CarbStrate Buildup: Clean Noticeable Buildup Excessive Buildup
Strainer Condition: Okay Noticeable damage or tears

Notes: _____

CarbStrate & CarbStrate Mixer:
Two – 50 lb bags of CarbStrate Added ☑ Yes ☐ No
Mixing Tank Level Sensors Cleaned ☐ Yes ☐ No
Number of CarbStrate bags remaining: 1 (Notify ETEC when 4 bags are remaining)

Notes: _____

IDW Tank:
Tank Level: ~100 gallons
Notes: _____

Carbon Vessel Pressure Gauge Readings (while transfer pump is running):
Front Train Left: 23 psi Right: 6 psi
Back Train Left: 23 psi Right: 6 psi
Backflush Needed? ☐ Yes ☐ No

BSC Weekly O&M Form – Lockbox Code: 1257

Date: 12/16/24 Personnel: DG/GS
Sign-in time with Graham: _____ Sign-out time with Graham: _____
System Status Upon Arrival: Running? ☒ Yes ☐ No
Alarms? ☐ Yes ☒ No
If Yes, list alarms: _____

System Notes

Strainer 1: Pre- Carbon Filters (Circle):
IRB Buildup: Clean Noticeable Buildup Excessive Buildup
Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 2: Post- Carbon Filters (Circle):
IRB Buildup: Clean Noticeable Buildup Excessive Buildup
Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 3: Internal Strainer (Circle):
CarbStrate Buildup: Clean Noticeable Buildup Excessive Buildup
Strainer Condition: Okay Noticeable damage or tears

Notes: _____

CarbStrate & CarbStrate Mixer:
Two – 50 lb bags of CarbStrate Added ☒ Yes ☐ No
Mixing Tank Level Sensors Cleaned ☒ Yes ☐ No
Number of CarbStrate bags remaining: 18 (Notify ETEC when 4 bags are remaining)

Notes: _____

IDW Tank:
Tank Level: 160 gallons
Notes: _____

Carbon Vessel Pressure Gauge Readings (while transfer pump is running):
Front Train Left: 26 psi Right: 2 psi
Back Train Left: 26 psi Right: 2 psi
Backflush Needed? ☐ Yes ☒ No

BSC Weekly O&M Form – Lockbox Code: 1257

Date: 12/23 Personnel: G. Cisneros
Sign-in time with Graham: ~ Sign-out time with Graham: _____
System Status Upon Arrival: Running? ☑ Yes ☐ No
Alarms? ☐ Yes ☑ No
If Yes, list alarms: _____

System Notes

Strainer 1: Pre- Carbon Filters (Circle):
IRB Buildup: ~~Clean~~ Noticeable Buildup Excessive Buildup
Strainer Condition: Okay Noticeable damage or tears

Notes: _____

Strainer 2: Post- Carbon Filters (Circle):
IRB Buildup: Clean Noticeable Buildup Excessive Buildup
Strainer Condition: ~~Okay~~ Noticeable damage or tears

Notes: _____

Strainer 3: Internal Strainer (Circle):
CarbStrate Buildup: Clean Noticeable Buildup Excessive Buildup
Strainer Condition: Okay Noticeable damage or tears

Notes: _____

CarbStrate & CarbStrate Mixer:
Two – 50 lb bags of CarbStrate Added ☑ Yes ☐ No
Mixing Tank Level Sensors Cleaned ☑ Yes ☐ No
Number of CarbStrate bags remaining: 16 (Notify ETEC when 4 bags are remaining)

Notes: _____

IDW Tank:
Tank Level: ~100 gallons
Notes: _____

Carbon Vessel Pressure Gauge Readings (while transfer pump is running):
Front Train Left: 30 psi Right: 2 psi
Back Train Left: 30 psi Right: 2 psi
Backflush Needed? ☐ Yes ☒ No

IW-20 pressure @ 20 PSI

BSC Weekly O&M Form – Lockbox Code: 1257

Date: 12/30/24 Personnel: G. Cisneros
Sign-in time with Graham: _____ Sign-out time with Graham: _____
System Status Upon Arrival: Running? ☑ Yes ☐ No
Alarms? ☑ Yes ☐ No - Reset alarm on 12/26/24
If Yes, list alarms: Ye ~~Injection~~ pump low pressure Transfer reset on 12/26/24

System Notes

Strainer 1: Pre- Carbon Filters (Circle):
IRB Buildup: Clean ~~Noticeable Buildup~~ Excessive Buildup
Strainer Condition: ~~Okay~~ Noticeable damage or tears

Notes: _____

Strainer 2: Post- Carbon Filters (Circle):
IRB Buildup: ~~Clean~~ Noticeable Buildup Excessive Buildup
Strainer Condition: ~~Okay~~ Noticeable damage or tears

Notes: _____

Strainer 3: Internal Strainer (Circle):
CarbStrate Buildup: Clean ~~Noticeable Buildup~~ Excessive Buildup
Strainer Condition: ~~Okay~~ Noticeable damage or tears

Notes: _____

CarbStrate & CarbStrate Mixer:
Two – 50 lb bags of CarbStrate Added ☑ Yes ☐ No
Mixing Tank Level Sensors Cleaned ☑ Yes ☐ No
Number of CarbStrate bags remaining: 14 (Notify ETEC when 4 bags are remaining)

Notes: _____

IDW Tank:
Tank Level: ~100 gallons
Notes: _____

Carbon Vessel Pressure Gauge Readings (while transfer pump is running):
Front Train Left: 26 psi Right: 4 psi
Back Train Left: 26 psi Right: 4 psi
Backflush Needed? ☐ Yes ☑ No

2024 Totalizer Readings

BSC Totalizer Readings			
Injection Wells	Total: 3/4/24	Total: 3/11/24	Total: 3/18/24
IW2	161,791.20	162,945.6	163,799.0
IW4	76,994.60	77,612.7	78,978.0*
IW18	192,740.30	193529.2	194,120.4
IW10	260,877.50	261566.7	262,214.9
IW6	289,577.70	291152.1	292,317.7
IW8	217,766.50	219288.2	220380.0
IW11	333,280.10	334267.1	334,929.0
IW9	187,912.10	188821.6	189,418.7
IW21	233,447.40	233607.9	233,695.3
IW14	423,450.90	424157.0	424,589.5
IW12	232,998.20	234173.7	234,902.7
IW22	292,073.90	292946.2	293,478.9
IW1	135,527.20	136344.0	136,885.0
Extraction Wells			
16e	101.80	101.7	101.7
7e	4,630.30	4751.4	4831.5
5e	71,248.90	71248.9	71248.9
13e	88,753.50	92782.6	95590.6
23e	9,833.90	9833.8	9833.8
3e	287,336.60	293151.6	297057.4
Pressure Notes:			

BSC Totalizer Readings				
Injection Wells	Date: 3/25/24	Date: 4/1/24	Date: 5/13/24	Date: 5/20/24
IW2	164963.8	166135.8	11	168803.5
IW4	78691.9	79179.3	81140.1	81391.1
IW18	194859.6	195545.7	11	196702.2
IW10	262954.6	263578.5	11	264569.5
IW6	293965.4	295591.3	11	299333.0
IW8	221763.2	223138.4	11	226260.1
IW11	335890.9	336846.3	341365.2	342126.7
IW9	190287.8	191157.6	200089.9	202293.5
IW21	233867.2	233935.7	236520.5	237018.2
IW14	425261.4	425889.5	11	427455.8
IW12	236081.4	237161.0	11	239564.6
IW22	294296.4	295067.4	11	296776.0
IW1	137754.6	138602.1	146375.7	148206.2
Extraction Wells				
16e	101.7	101.7	11	11
7e	4941.3	5035.0	5686.4	5868.9
5e	71248.9	71248.9	11	11
13e	99670.7	103664.0	129747.3	133623.9
23e	9833.8	9833.8	11	11
3e	3025036	3078175	11	11
Pressure Notes:				

BSC Totalizer Readings				
Injection Wells	Date: 4/15/24	Date: 4/22/24	Date: 4/29/24	Date: 5/6/24
IW2	167619.9	168803.5	168803.5	11
IW4	79546.4	80184.3	80554.9	80885.6
IW18	196148.9	196702.1	196702.1	11
IW10	264161.7	264569.5	264569.5	11
IW6	297687.9	299333.0	299333.0	11
IW8	224,808.7	226260.0	226260.1	11
IW11	338,044.6	339007.2	339822.7	340599.1
IW9	192,203.7	193035.8	195416.7	197772.2
IW21	234205.8	234647.4	235301.9	235958.7
IW14	426,688.0	427455.7	427455.8	11
IW12	238527.9	239564.6	239564.6	11
IW22	296,007.7	296766.0	296766.0	11
IW1	139546.8	140281.5	142285.4	144336.4
Extraction Wells				
16e	101.7	101.7	101.7	11
7e	5055.1	5128.6	5289.8	5486.5
5e	71248.9	71248.9	71248.9	11
13e	110825.3	117315.9	121581.8	125730.7
23e	9833.0	9833.8	9833.8	11
3e	308871.1	308871.1	308871.1	11
Pressure Notes:	only IW-4,11,9+1 on as of 4/22/24 only IW-9+11 show some pressure during injection <100 psi okay			

BSC Totalizer Readings				
Injection Wells	Date: 5/29/24	Date: 6/3/24	Date: 6/10/24	Date: 6/17/24
IW2	"	"	"	"
IW4	81392.8	82120.4	83239.9	84187.2
IW18	"	"	"	"
IW10	"	"	"	"
IW6	"	"	"	"
IW8	"	"	"	"
IW11	342523.2	343609	343686.8	344926.0
IW9	203306.7	204300.7	206619.8	208691.4
IW21	237239.7	237726.9	238627.2	239418.3
IW14	"	"	"	"
IW12	"	"	"	"
IW22	"	"	"	"
IW1	148947.5	149748.1	151212.8	152639.0
Extraction Wells				
16e	"	"	"	"
7e	5938.9	5990.8	6137.9	6268.6
5e	"	"	"	"
13e	135250.0	137093.4	142013.1	145903.4
23e	"	"	"	"
3e	"	"	"	"
Pressure Notes:				

BSC Totalizer Readings				
Injection Wells	Date: 6/24/24	Date: 7/1/24	Date: 7/8/24	Date: 7/15/24
IW2	168803.5	"	"	"
IW4	85242.9	86170.0	87068.5	87670.1
IW18	196702.1	"	"	"
IW10	264579.5	"	"	"
IW6	299333.0	"	"	"
IW8	226260.0	"	"	"
IW11	346342.3	347785.7	349254.2	350658.3
IW9	209681.8	211229.8	212794.9	214304.7
IW21	240299.0	241149.2	241855.7	242312.9
IW14	427455.8	"	"	"
IW12	239564.6	"	"	"
IW22	296766.0	"	"	296766.0
IW1	154202.9	155667.9	157182.5	158627.3
Extraction Wells				
16e	"	"	"	"
7e	6421.6	6579.1	6736.8	6894.0
5e	—	"	"	"
13e	150249.2	154355.0	158471.6	160803.0
23e	—	"	"	"
3e	—	"	308871.3	310825.9
Pressure Notes:				

BSC Totalizer Readings				
Injection Wells	Date: 7/22/24	Date: 7/29/24	Date: 8/5/24	Date: 8/12/24
IW2	"	"	"	"
IW4	88097.3	91320.3	94244.9	96799.3
IW18	"	"	"	"
IW10	"	"	"	"
IW6	299333.0	301349.1	303797.6	306094.9
IW8	"	"	"	"
IW11	352124.0	353043.0	354359.8	355775.5
IW9	215924.1	216983.9	218546.0	220145.7
IW21	242534.2	242674.9	242825.2	243403.3
IW14	"	"	"	"
IW12	"	"	"	"
IW22	"	"	"	"
IW1	160068.0	160999.6	162399.7	163855.0
Extraction Wells				
16e	"	"	"	"
7e	7046.2	7154.5	7340.0	7570.0
5e	"	"	"	"
13e	162513.5	166262.7	170525.7	174330.0
23e	"	"	"	"
3e	313495.5	317486.4	322343.4	327170.0
Pressure Notes:				

* See O&M Sheet from 7/22 for details

BSC Totalizer Readings				
Injection Wells	Date: 8/19/24	Date: 8/26/24	Date: 9/3/24	Date: 9/9/24
IW2	"	"	"	
IW4	98787.1	100549.2	102271.5	103509.0
IW18	"	"	"	
IW10	"	"	"	
IW6	308311.8	310680.6	312946.3	314507.5
IW8	"	"	"	
IW11	357160.2	358551.2	359748.2	360605.4
IW9	221714.9	223381.9	224961.3	226156.7
IW21	244073.3	244538.7	244785.0	244972.3
IW14	"	"	"	
IW12	"	"	"	
IW22	"	"	"	
IW1	165318.0	166858.9	16893.9	169119.5
Extraction Wells				
16e	"	"	"	
7e	7822.0	8139.7	8445.7	8675.6
5e	"	"	"	
13e	177714.4	181054.3	187080.4	186386.8 *
23e	"	"	"	
3e	3318666	3364484	3407005	3438827
Pressure Notes:				

BSC Totalizer Readings				
Injection Wells	Date: 9/16/24	Date: 9/26/24	Date: 9/30/24	Date:
IW2	1688035	〃	〃	
IW4 ✓	1045885	106305.1	107206.5	
IW18	196702.1	〃	〃	
IW10	1264589.5	〃	〃	
IW6 ✓	316154.8	318580.7	319883.4	
IW8	12262602	〃	〃	
IW11 ✓	361415.6	362696.7	363354.5	
IW9 ✓	227338.1	229109.8	230157.3	
IW21 ✓	245142.3	225429.8	245564.0	
IW14	427455.8	〃	〃	
IW12	239564.6	〃	〃	
IW22	296766.0	〃	〃	
IW1 ✓	1700665	171585.2	1723883	
Extraction Wells				
16e	101.7	〃	〃	
7e	8853.3	9136.0	9226.1	
5e	71294.85	〃	〃	
13e	189135.9	1936520	196124.5	
23e	9833.8	〃	〃	
3e	346496.6	350379.6	3524045	
Pressure Notes:				

BSC Totalizer Readings				
Injection Wells	Date: 10/7/24	Date: 10/14/24	Date: 10/21/24	Date: 10/28/24
IW2	"	"	"	"
IW4	108438.1	109450.6	110533.2	111534.8
IW18	"	"	"	"
IW10	"	"	"	"
IW6	3220739	324191.6	326293.7	328256.7
IW8	"	"	"	"
IW11	364547.0	365630.1	366706.4	367719.6
IW9	23199.4.4	233801.7	235639.2	237350.1
IW21	245849.9	246026.6	246169.2	246285.7
IW14	"	"	"	"
IW12	"	"	"	"
IW22	"	"	"	"
IW1	173908.8	175349.8	176761.0	178095.7
Extraction Wells				
16e	"	"	"	"
7e	9412.5	9617.4	9736.1	9809.3
5e	"	"	"	"
13e	199984.2	203510.9	207194.7	211317.1
23e	"	"	"	"
3e	3562433	3600~~36.0~~	363965.9	367179.7
Pressure Notes:				

BSC Totalizer Readings				
Injection Wells	Date: 11/4/24	Date: 11/11/24	Date: 11/18/24	Date: 11/25/24
IW2	—	—	—	—
IW4	1118639	1119852	1120643	1120737
IW18	—	—	—	—
IW10	—	—	—	—
IW6	328896.3	329966.0	331776.7	333307.4
IW8	—	—	—	—
IW11	368015.2	368539.8	369371.8	370108.8
IW9	2378989	238674.5	239989.5	241138.0
IW21	—	246294.6	246294.6	246292.1
IW14	—	—	—	—
IW12	—	—	—	—
IW22	—	—	—	—
IW1	178530.0	179255.0	180393.1	181299.1
Extraction Wells				
16e	—	—	—	—
7e	9808.4	9800.1	9822.0	9860.9
5e	—	—	—	—
13e	212771.5	214835.1	217895.8	220535.8
23e	—	—	—	—
3e	360125.1	369585	372224.7	374362.0
Pressure Notes:				

BSC Totalizer Readings				
Injection Wells	Date: 12/2/24	Date: 12/9/24	Date: 12/16/24	Date: 12/23/24
IW2	—	—	—	
IW4	112073.5	113211.7	113631.3	115471.2
IW18	—	—	—	—
IW10	—	—	—	—
IW6	335096.9	336904.6	338370.9	340144.3
IW8	—	—	—	—
IW11	370967.7	371823.5	372512.8	373385.5
IW9	242427.1	243810.5	245018.1	246325.2
IW21	246291.1	247455.8	246283.8	246283.8
IW14	—	—	—	—
IW12	—	—	—	—
IW22	—	—	—	—
IW1	182337.5	183357.3	184265.1	185431.6
Extraction Wells				
16e	—	—		
7e	9909.0	9943.4	9994.0	10098.8
5e	—	—		
13e	223606.5	227267.4	230185.0	234307.1
23e	—	—		
3e	376796.0	379776.1	382019.5	385483.2
Pressure Notes:				

Attachment 2
Laboratory Analytical Reports

April 2024 Event Laboratory Analytical Reports

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

April 18, 2024

Gabe Cisneros
Floyd & Snider
601 Union Street, Suite 600
Seattle, WA 98101

Re: Analytical Data for Project COB-BSC, Task 4
Laboratory Reference No. 2404-114

Dear Gabe:

Enclosed are the analytical results and associated quality control data for samples submitted on April 9, 2024.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: April 18, 2024
Samples Submitted: April 9, 2024
Laboratory Reference: 2404-114
Project: COB-BSC, Task 4

Case Narrative

Samples were collected on April 9, 2024 and received by the laboratory on April 9, 2024. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below. However the soil results for the QA/QC samples are reported on a wet-weight basis.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: April 18, 2024
Samples Submitted: April 9, 2024
Laboratory Reference: 2404-114
Project: COB-BSC, Task 4

VOLATILE ORGANICS EPA 8260D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-20R-040924**					
Laboratory ID:	04-114-01					
Vinyl Chloride	72	1.0	EPA 8260D	4-11-24	4-11-24	
1,1-Dichloroethene	9.0	1.0	EPA 8260D	4-11-24	4-11-24	
(trans) 1,2-Dichloroethene	3.0	1.0	EPA 8260D	4-11-24	4-11-24	
(cis) 1,2-Dichloroethene	45	1.0	EPA 8260D	4-11-24	4-11-24	
Trichloroethene	94	1.0	EPA 8260D	4-11-24	4-11-24	
Tetrachloroethene	69	1.0	EPA 8260D	4-11-24	4-11-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*97*	*75-127*				
Toluene-d8	*101*	*80-127*				
4-Bromofluorobenzene	*96*	*78-125*				
Client ID:	**MW-4R-040924**					
Laboratory ID:	04-114-02					
Vinyl Chloride	13	4.0	EPA 8260D	4-11-24	4-11-24	
1,1-Dichloroethene	ND	4.0	EPA 8260D	4-11-24	4-11-24	
(trans) 1,2-Dichloroethene	ND	4.0	EPA 8260D	4-11-24	4-11-24	
(cis) 1,2-Dichloroethene	590	4.0	EPA 8260D	4-11-24	4-11-24	
Trichloroethene	63	4.0	EPA 8260D	4-11-24	4-11-24	
Tetrachloroethene	130	4.0	EPA 8260D	4-11-24	4-11-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*95*	*75-127*				
Toluene-d8	*101*	*80-127*				
4-Bromofluorobenzene	*97*	*78-125*				
Client ID:	**MW-45R-040924**					
Laboratory ID:	04-114-03					
Vinyl Chloride	ND	0.20	EPA 8260D	4-11-24	4-11-24	
1,1-Dichloroethene	ND	0.20	EPA 8260D	4-11-24	4-11-24	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-11-24	4-11-24	
(cis) 1,2-Dichloroethene	3.8	0.20	EPA 8260D	4-11-24	4-11-24	
Trichloroethene	ND	0.20	EPA 8260D	4-11-24	4-11-24	
Tetrachloroethene	ND	0.20	EPA 8260D	4-11-24	4-11-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*99*	*75-127*				
Toluene-d8	*100*	*80-127*				
4-Bromofluorobenzene	*99*	*78-125*				

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: April 18, 2024
Samples Submitted: April 9, 2024
Laboratory Reference: 2404-114
Project: COB-BSC, Task 4

VOLATILE ORGANICS EPA 8260D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-34-040924**					
Laboratory ID:	04-114-04					
Vinyl Chloride	0.57	0.20	EPA 8260D	4-11-24	4-11-24	
1,1-Dichloroethene	ND	0.20	EPA 8260D	4-11-24	4-11-24	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-11-24	4-11-24	
(cis) 1,2-Dichloroethene	0.28	0.20	EPA 8260D	4-11-24	4-11-24	
Trichloroethene	0.33	0.20	EPA 8260D	4-11-24	4-11-24	
Tetrachloroethene	0.35	0.20	EPA 8260D	4-11-24	4-11-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*99*	*75-127*				
Toluene-d8	*100*	*80-127*				
4-Bromofluorobenzene	*98*	*78-125*				
Client ID:	**MW-21R-040924**					
Laboratory ID:	04-114-05					
Vinyl Chloride	2.2	2.0	EPA 8260D	4-11-24	4-11-24	
1,1-Dichloroethene	ND	2.0	EPA 8260D	4-11-24	4-11-24	
(trans) 1,2-Dichloroethene	ND	2.0	EPA 8260D	4-11-24	4-11-24	
(cis) 1,2-Dichloroethene	20	2.0	EPA 8260D	4-11-24	4-11-24	
Trichloroethene	26	2.0	EPA 8260D	4-11-24	4-11-24	
Tetrachloroethene	410	2.0	EPA 8260D	4-11-24	4-11-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*96*	*75-127*				
Toluene-d8	*101*	*80-127*				
4-Bromofluorobenzene	*97*	*78-125*				
Client ID:	**HZ-MW-14S-040924**					
Laboratory ID:	04-114-06					
Vinyl Chloride	15	8.0	EPA 8260D	4-11-24	4-11-24	
1,1-Dichloroethene	ND	8.0	EPA 8260D	4-11-24	4-11-24	
(trans) 1,2-Dichloroethene	ND	8.0	EPA 8260D	4-11-24	4-11-24	
(cis) 1,2-Dichloroethene	150	8.0	EPA 8260D	4-11-24	4-11-24	
Trichloroethene	180	8.0	EPA 8260D	4-11-24	4-11-24	
Tetrachloroethene	710	8.0	EPA 8260D	4-11-24	4-11-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*96*	*75-127*				
Toluene-d8	*100*	*80-127*				
4-Bromofluorobenzene	*96*	*78-125*				

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: April 18, 2024
Samples Submitted: April 9, 2024
Laboratory Reference: 2404-114
Project: COB-BSC, Task 4

VOLATILE ORGANICS EPA 8260D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-6-040924**					
Laboratory ID:	04-114-07					
Vinyl Chloride	9.4	0.20	EPA 8260D	4-11-24	4-11-24	
1,1-Dichloroethene	0.35	0.20	EPA 8260D	4-11-24	4-11-24	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-11-24	4-11-24	
(cis) 1,2-Dichloroethene	5.5	0.20	EPA 8260D	4-11-24	4-11-24	
Trichloroethene	4.0	0.20	EPA 8260D	4-11-24	4-11-24	
Tetrachloroethene	2.1	0.20	EPA 8260D	4-11-24	4-11-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*98*	*75-127*				
Toluene-d8	*101*	*80-127*				
4-Bromofluorobenzene	*98*	*78-125*				
Client ID:	**MW-5R-040924**					
Laboratory ID:	04-114-08					
Vinyl Chloride (SIM)	0.59	0.40	EPA 8260D/SIM	4-11-24	4-11-24	
1,1-Dichloroethene	ND	4.0	EPA 8260D	4-11-24	4-11-24	
(trans) 1,2-Dichloroethene	ND	4.0	EPA 8260D	4-11-24	4-11-24	
(cis) 1,2-Dichloroethene	23	4.0	EPA 8260D	4-11-24	4-11-24	
Trichloroethene	23	4.0	EPA 8260D	4-11-24	4-11-24	
Tetrachloroethene	810	4.0	EPA 8260D	4-11-24	4-11-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*98*	*75-127*				
Toluene-d8	*101*	*80-127*				
4-Bromofluorobenzene	*98*	*78-125*				
Client ID:	**HZ-MW-14D-040924**					
Laboratory ID:	04-114-09					
Vinyl Chloride	3.9	0.20	EPA 8260D	4-11-24	4-11-24	
1,1-Dichloroethene	0.34	0.20	EPA 8260D	4-11-24	4-11-24	
(trans) 1,2-Dichloroethene	0.23	0.20	EPA 8260D	4-11-24	4-11-24	
(cis) 1,2-Dichloroethene	26	0.20	EPA 8260D	4-11-24	4-11-24	
Trichloroethene	2.9	0.20	EPA 8260D	4-11-24	4-11-24	
Tetrachloroethene	3.8	0.20	EPA 8260D	4-11-24	4-11-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*95*	*75-127*				
Toluene-d8	*101*	*80-127*				
4-Bromofluorobenzene	*97*	*78-125*				

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Date of Report: April 18, 2024
Samples Submitted: April 9, 2024
Laboratory Reference: 2404-114
Project: COB-BSC, Task 4

VOLATILE ORGANICS EPA 8260D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-11-040924**					
Laboratory ID:	04-114-10					
Vinyl Chloride	17	0.20	EPA 8260D	4-11-24	4-11-24	
1,1-Dichloroethene	ND	0.20	EPA 8260D	4-11-24	4-11-24	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-11-24	4-11-24	
(cis) 1,2-Dichloroethene	4.0	0.20	EPA 8260D	4-11-24	4-11-24	
Trichloroethene	0.59	0.20	EPA 8260D	4-11-24	4-11-24	
Tetrachloroethene	ND	0.20	EPA 8260D	4-11-24	4-11-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*97*	*75-127*				
Toluene-d8	*100*	*80-127*				
4-Bromofluorobenzene	*98*	*78-125*				
Client ID:	**HZ-MW-15S-040924**					
Laboratory ID:	04-114-11					
Vinyl Chloride	0.32	0.20	EPA 8260D	4-11-24	4-11-24	
1,1-Dichloroethene	ND	0.20	EPA 8260D	4-11-24	4-11-24	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-11-24	4-11-24	
(cis) 1,2-Dichloroethene	5.3	0.20	EPA 8260D	4-11-24	4-11-24	
Trichloroethene	0.72	0.20	EPA 8260D	4-11-24	4-11-24	
Tetrachloroethene	1.2	0.20	EPA 8260D	4-11-24	4-11-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*98*	*75-127*				
Toluene-d8	*100*	*80-127*				
4-Bromofluorobenzene	*99*	*78-125*				
Client ID:	**MW-7-040924**					
Laboratory ID:	04-114-12					
Vinyl Chloride (SIM)	1.8	1.0	EPA 8260D/SIM	4-11-24	4-11-24	
1,1-Dichloroethene	ND	10	EPA 8260D	4-11-24	4-11-24	
(trans) 1,2-Dichloroethene	ND	10	EPA 8260D	4-11-24	4-11-24	
(cis) 1,2-Dichloroethene	430	10	EPA 8260D	4-11-24	4-11-24	
Trichloroethene	230	10	EPA 8260D	4-11-24	4-11-24	
Tetrachloroethene	1600	10	EPA 8260D	4-11-24	4-11-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*95*	*75-127*				
Toluene-d8	*100*	*80-127*				
4-Bromofluorobenzene	*97*	*78-125*				

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Date of Report: April 18, 2024
Samples Submitted: April 9, 2024
Laboratory Reference: 2404-114
Project: COB-BSC, Task 4

VOLATILE ORGANICS EPA 8260D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-107-040924**					
Laboratory ID:	04-114-13					
Vinyl Chloride (SIM)	1.9	1.0	EPA 8260D/SIM	4-11-24	4-11-24	
1,1-Dichloroethene	ND	10	EPA 8260D	4-11-24	4-11-24	
(trans) 1,2-Dichloroethene	ND	10	EPA 8260D	4-11-24	4-11-24	
(cis) 1,2-Dichloroethene	430	10	EPA 8260D	4-11-24	4-11-24	
Trichloroethene	230	10	EPA 8260D	4-11-24	4-11-24	
Tetrachloroethene	1600	10	EPA 8260D	4-11-24	4-11-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*95*	*75-127*				
Toluene-d8	*100*	*80-127*				
4-Bromofluorobenzene	*97*	*78-125*				
Client ID:	**MW-12-040924**					
Laboratory ID:	04-114-14					
Vinyl Chloride	4.4	0.20	EPA 8260D	4-11-24	4-11-24	
1,1-Dichloroethene	ND	0.20	EPA 8260D	4-11-24	4-11-24	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-11-24	4-11-24	
(cis) 1,2-Dichloroethene	15	0.20	EPA 8260D	4-11-24	4-11-24	
Trichloroethene	2.9	0.20	EPA 8260D	4-11-24	4-11-24	
Tetrachloroethene	0.36	0.20	EPA 8260D	4-11-24	4-11-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*98*	*75-127*				
Toluene-d8	*101*	*80-127*				
4-Bromofluorobenzene	*97*	*78-125*				

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: April 18, 2024
Samples Submitted: April 9, 2024
Laboratory Reference: 2404-114
Project: COB-BSC, Task 4

VOLATILE ORGANICS EPA 8260D/SIM
QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0411W2					
Vinyl Chloride	ND	0.020	EPA 8260D/SIM	4-11-24	4-11-24	
1,1-Dichloroethene	ND	0.20	EPA 8260D	4-11-24	4-11-24	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-11-24	4-11-24	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-11-24	4-11-24	
Trichloroethene	ND	0.20	EPA 8260D	4-11-24	4-11-24	
Tetrachloroethene	ND	0.20	EPA 8260D	4-11-24	4-11-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*95*	*75-127*				
Toluene-d8	*100*	*80-127*				
4-Bromofluorobenzene	*95*	*78-125*				

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0411W2									
	SB	SBD	SB	SBD	SB	SBD				
Vinyl Chloride	**8.77**	**8.80**	10.0	10.0	88	88	71-135	0	20	
1,1-Dichloroethene	**10.3**	**10.2**	10.0	10.0	103	102	78-125	1	19	
(trans) 1,2-Dichloroethene	**10.5**	**10.4**	10.0	10.0	105	104	80-125	1	17	
(cis) 1,2-Dichloroethene	**10.6**	**10.5**	10.0	10.0	106	105	80-129	1	17	
Trichloroethene	**10.5**	**10.6**	10.0	10.0	105	106	80-122	1	18	
Tetrachloroethene	**10.2**	**10.4**	10.0	10.0	102	104	80-124	2	18	
Surrogate:										
Dibromofluoromethane					*101*	*99*	*75-127*			
Toluene-d8					*100*	*100*	*80-127*			
4-Bromofluorobenzene					*101*	*102*	*78-125*			

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Date of Report: April 18, 2024
Samples Submitted: April 9, 2024
Laboratory Reference: 2404-114
Project: COB-BSC, Task 4

DISSOLVED METALS
EPA 6010D

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-20R-040924**					
Laboratory ID:	04-114-01					
Iron	**6200**	56	EPA 6010D		4-10-24	
Manganese	**260**	11	EPA 6010D		4-10-24	
Client ID:	**MW-4R-040924**					
Laboratory ID:	04-114-02					
Iron	**3300**	56	EPA 6010D		4-10-24	
Manganese	**2100**	11	EPA 6010D		4-10-24	
Client ID:	**MW-45R-040924**					
Laboratory ID:	04-114-03					
Iron	**33000**	500	EPA 6010D		4-10-24	
Manganese	**15000**	100	EPA 6010D		4-10-24	
Client ID:	**MW-34-040924**					
Laboratory ID:	04-114-04					
Iron	**2100**	56	EPA 6010D		4-10-24	
Manganese	**280**	11	EPA 6010D		4-10-24	
Client ID:	**MW-21R-040924**					
Laboratory ID:	04-114-05					
Iron	**260**	56	EPA 6010D		4-10-24	
Manganese	**990**	11	EPA 6010D		4-10-24	
Client ID:	**HZ-MW-14S-040924**					
Laboratory ID:	04-114-06					
Iron	**6400**	56	EPA 6010D		4-10-24	
Manganese	**690**	11	EPA 6010D		4-10-24	
Client ID:	**MW-6-040924**					
Laboratory ID:	04-114-07					
Iron	**46000**	500	EPA 6010D		4-10-24	
Manganese	**5600**	100	EPA 6010D		4-10-24	

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Date of Report: April 18, 2024
Samples Submitted: April 9, 2024
Laboratory Reference: 2404-114
Project: COB-BSC, Task 4

DISSOLVED METALS
EPA 6010D

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-5R-040924**					
Laboratory ID:	04-114-08					
Iron	**74**	56	EPA 6010D		4-10-24	
Manganese	**250**	11	EPA 6010D		4-10-24	
Client ID:	**HZ-MW-14D-040924**					
Laboratory ID:	04-114-09					
Iron	**440**	56	EPA 6010D		4-10-24	
Manganese	**440**	11	EPA 6010D		4-10-24	
Client ID:	**MW-11-040924**					
Laboratory ID:	04-114-10					
Iron	**1500**	56	EPA 6010D		4-10-24	
Manganese	**880**	11	EPA 6010D		4-10-24	
Client ID:	**HZ-MW-15S-040924**					
Laboratory ID:	04-114-11					
Iron	**430**	56	EPA 6010D		4-10-24	
Manganese	**740**	11	EPA 6010D		4-10-24	
Client ID:	**MW-7-040924**					
Laboratory ID:	04-114-12					
Iron	**4800**	56	EPA 6010D		4-10-24	
Manganese	**430**	11	EPA 6010D		4-10-24	
Client ID:	**MW-107-040924**					
Laboratory ID:	04-114-13					
Iron	**4800**	56	EPA 6010D		4-10-24	
Manganese	**430**	11	EPA 6010D		4-10-24	
Client ID:	**MW-12-040924**					
Laboratory ID:	04-114-14					
Iron	**14000**	56	EPA 6010D		4-10-24	
Manganese	**3000**	11	EPA 6010D		4-10-24	

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DISSOLVED METALS
EPA 6010D
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0410D1					
Iron	**ND**	56	EPA 6010D		4-10-24	
Manganese	**ND**	11	EPA 6010D		4-10-24	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	04-114-08										
	ORIG	DUP									
Iron	**76.5**	**76.0**	NA	NA		NA		NA	1	20	
Manganese	**254**	**252**	NA	NA		NA		NA	1	20	
MATRIX SPIKES											
Laboratory ID:	04-114-08										
	MS	MSD	MS	MSD		MS	MSD				
Iron	**23400**	**23300**	22200	22200	76.5	**105**	**105**	75-125	0	20	
Manganese	**759**	**763**	556	556	254	**91**	**91**	75-125	0	20	

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AMMONIA (as Nitrogen)
SM 4500-NH_3 D

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-20R-040924**					
Laboratory ID:	04-114-01					
Ammonia	**0.11**	0.053	SM 4500-NH3 D	4-11-24	4-11-24	
Client ID:	**MW-4R-040924**					
Laboratory ID:	04-114-02					
Ammonia	**ND**	0.053	SM 4500-NH3 D	4-11-24	4-11-24	
Client ID:	**MW-45R-040924**					
Laboratory ID:	04-114-03					
Ammonia	**1.4**	0.053	SM 4500-NH3 D	4-11-24	4-11-24	
Client ID:	**MW-34-040924**					
Laboratory ID:	04-114-04					
Ammonia	**0.068**	0.053	SM 4500-NH3 D	4-11-24	4-11-24	
Client ID:	**MW-21R-040924**					
Laboratory ID:	04-114-05					
Ammonia	**ND**	0.053	SM 4500-NH3 D	4-11-24	4-11-24	
Client ID:	**HZ-MW-14S-040924**					
Laboratory ID:	04-114-06					
Ammonia	**ND**	0.053	SM 4500-NH3 D	4-11-24	4-11-24	
Client ID:	**MW-6-040924**					
Laboratory ID:	04-114-07					
Ammonia	**2.2**	0.053	SM 4500-NH3 D	4-11-24	4-11-24	
Client ID:	**MW-5R-040924**					
Laboratory ID:	04-114-08					
Ammonia	**ND**	0.053	SM 4500-NH3 D	4-11-24	4-11-24	
Client ID:	**HZ-MW-14D-040924**					
Laboratory ID:	04-114-09					
Ammonia	**ND**	0.053	SM 4500-NH3 D	4-11-24	4-11-24	

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AMMONIA (as Nitrogen)
SM 4500-NH_3 D

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-11-040924**					
Laboratory ID:	04-114-10					
Ammonia	**0.19**	0.053	SM 4500-NH3 D	4-11-24	4-11-24	
Client ID:	**HZ-MW-15S-040924**					
Laboratory ID:	04-114-11					
Ammonia	**ND**	0.053	SM 4500-NH3 D	4-11-24	4-11-24	
Client ID:	**MW-7-040924**					
Laboratory ID:	04-114-12					
Ammonia	**ND**	0.053	SM 4500-NH3 D	4-11-24	4-11-24	
Client ID:	**MW-107-040924**					
Laboratory ID:	04-114-13					
Ammonia	**ND**	0.053	SM 4500-NH3 D	4-11-24	4-11-24	
Client ID:	**MW-12-040924**					
Laboratory ID:	04-114-14					
Ammonia	**0.061**	0.053	SM 4500-NH3 D	4-11-24	4-11-24	

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AMMONIA (as Nitrogen)
SM 4500-NH_3 D
QUALITY CONTROL

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0411W1					
Ammonia	**ND**	0.053	SM 4500-NH3 D	4-11-24	4-11-24	

Analyte	Result		Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE									
Laboratory ID:	04-114-01								
	ORIG	DUP							
Ammonia	**0.109**	**0.124**	NA	NA	NA	NA	13	27	
MATRIX SPIKE									
Laboratory ID:	04-114-01								
	MS		MS		MS				
Ammonia	**4.92**		5.00	0.109	96	78-118	NA	NA	
SPIKE BLANK									
Laboratory ID:	SB0411W1								
	SB		SB		SB				
Ammonia	**5.21**		5.00	NA	104	85-114	NA	NA	

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TOTAL ORTHOPHOSPHATE
EPA 365.1

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-20R-040924**					
Laboratory ID:	04-114-01					
Orthophosphate	**1.8**	0.048	EPA 365.1	4-10-24	4-10-24	
Client ID:	**MW-4R-040924**					
Laboratory ID:	04-114-02					
Orthophosphate	**0.096**	0.012	EPA 365.1	4-10-24	4-10-24	
Client ID:	**MW-45R-040924**					
Laboratory ID:	04-114-03					
Orthophosphate	**0.031**	0.012	EPA 365.1	4-10-24	4-10-24	
Client ID:	**MW-34-040924**					
Laboratory ID:	04-114-04					
Orthophosphate	**0.030**	0.012	EPA 365.1	4-10-24	4-10-24	
Client ID:	**MW-21R-040924**					
Laboratory ID:	04-114-05					
Orthophosphate	**0.033**	0.012	EPA 365.1	4-10-24	4-10-24	
Client ID:	**HZ-MW-14S-040924**					
Laboratory ID:	04-114-06					
Orthophosphate	**0.057**	0.012	EPA 365.1	4-10-24	4-10-24	
Client ID:	**MW-6-040924**					
Laboratory ID:	04-114-07					
Orthophosphate	**0.92**	0.012	EPA 365.1	4-10-24	4-10-24	
Client ID:	**MW-5R-040924**					
Laboratory ID:	04-114-08					
Orthophosphate	**ND**	0.012	EPA 365.1	4-10-24	4-10-24	
Client ID:	**HZ-MW-14D-040924**					
Laboratory ID:	04-114-09					
Orthophosphate	**0.024**	0.012	EPA 365.1	4-10-24	4-10-24	

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Project: COB-BSC, Task 4

TOTAL ORTHOPHOSPHATE
EPA 365.1

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-11-040924**					
Laboratory ID:	04-114-10					
Orthophosphate	**0.31**	0.012	EPA 365.1	4-10-24	4-10-24	
Client ID:	**HZ-MW-15S-040924**					
Laboratory ID:	04-114-11					
Orthophosphate	**0.050**	0.012	EPA 365.1	4-10-24	4-10-24	
Client ID:	**MW-7-040924**					
Laboratory ID:	04-114-12					
Orthophosphate	**ND**	0.012	EPA 365.1	4-10-24	4-10-24	
Client ID:	**MW-107-040924**					
Laboratory ID:	04-114-13					
Orthophosphate	**0.015**	0.012	EPA 365.1	4-10-24	4-10-24	
Client ID:	**MW-12-040924**					
Laboratory ID:	04-114-14					
Orthophosphate	**0.36**	0.012	EPA 365.1	4-10-24	4-10-24	

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TOTAL ORTHOPHOSPHATE
EPA 365.1
QUALITY CONTROL

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0410W1					
Orthophosphate	**ND**	0.012	EPA 365.1	4-10-24	4-10-24	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	04-114-01							
	ORIG DUP							
Orthophosphate	**1.79** **1.78**	NA	NA	NA	NA	1	22	
MATRIX SPIKE								
Laboratory ID:	04-114-01							
	MS	MS		MS				
Orthophosphate	**2.68**	1.00	1.79	89	60-125	NA	NA	
SPIKE BLANK								
Laboratory ID:	SB0410W1							
	SB	SB		SB				
Orthophosphate	**0.238**	0.250	NA	95	81-110	NA	NA	

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SULFATE
ASTM D516-11

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-20R-040924**					
Laboratory ID:	04-114-01					
Sulfate	**13**	5.0	ASTM D516-11	4-12-24	4-12-24	
Client ID:	**MW-4R-040924**					
Laboratory ID:	04-114-02					
Sulfate	**21**	10	ASTM D516-11	4-12-24	4-12-24	
Client ID:	**MW-45R-040924**					
Laboratory ID:	04-114-03					
Sulfate	**ND**	5.0	ASTM D516-11	4-12-24	4-12-24	
Client ID:	**MW-34-040924**					
Laboratory ID:	04-114-04					
Sulfate	**31**	10	ASTM D516-11	4-12-24	4-12-24	
Client ID:	**MW-21R-040924**					
Laboratory ID:	04-114-05					
Sulfate	**22**	5.0	ASTM D516-11	4-12-24	4-12-24	
Client ID:	**HZ-MW-14S-040924**					
Laboratory ID:	04-114-06					
Sulfate	**17**	5.0	ASTM D516-11	4-12-24	4-12-24	
Client ID:	**MW-6-040924**					
Laboratory ID:	04-114-07					
Sulfate	**21**	5.0	ASTM D516-11	4-12-24	4-12-24	
Client ID:	**MW-5R-040924**					
Laboratory ID:	04-114-08					
Sulfate	**24**	5.0	ASTM D516-11	4-12-24	4-12-24	
Client ID:	**HZ-MW-14D-040924**					
Laboratory ID:	04-114-09					
Sulfate	**7.8**	5.0	ASTM D516-11	4-12-24	4-12-24	

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SULFATE
ASTM D516-11

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-11-040924**					
Laboratory ID:	04-114-10					
Sulfate	**21**	5.0	ASTM D516-11	4-12-24	4-12-24	
Client ID:	**HZ-MW-15S-040924**					
Laboratory ID:	04-114-11					
Sulfate	**32**	10	ASTM D516-11	4-12-24	4-12-24	
Client ID:	**MW-7-040924**					
Laboratory ID:	04-114-12					
Sulfate	**21**	10	ASTM D516-11	4-12-24	4-12-24	
Client ID:	**MW-107-040924**					
Laboratory ID:	04-114-13					
Sulfate	**22**	5.0	ASTM D516-11	4-12-24	4-12-24	
Client ID:	**MW-12-040924**					
Laboratory ID:	04-114-14					
Sulfate	**ND**	5.0	ASTM D516-11	4-12-24	4-12-24	

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SULFATE
ASTM D516-11
QUALITY CONTROL

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0412W1					
Sulfate	**ND**	5.0	ASTM D516-11	4-12-24	4-12-24	

Analyte	Result		Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE									
Laboratory ID:	04-114-01								
	ORIG	DUP							
Sulfate	**12.5**	**12.3**	NA	NA	NA	NA	2	10	
MATRIX SPIKE									
Laboratory ID:	04-114-01								
	MS		MS		MS				
Sulfate	**20.8**		10.0	12.5	83	73-127	NA	NA	
SPIKE BLANK									
Laboratory ID:	SB0412W1								
	SB		SB		SB				
Sulfate	**9.15**		10.0	NA	92	85-114	NA	NA	

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NITRATE (as Nitrogen)
EPA 353.2

Matrix: Water
Units: mg/L-N

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-20R-040924**					
Laboratory ID:	04-114-01					
Nitrate	**ND**	0.050	EPA 353.2	4-10-24	4-10-24	
Client ID:	**MW-4R-040924**					
Laboratory ID:	04-114-02					
Nitrate	**0.069**	0.050	EPA 353.2	4-10-24	4-10-24	
Client ID:	**MW-45R-040924**					
Laboratory ID:	04-114-03					
Nitrate	**0.052**	0.050	EPA 353.2	4-10-24	4-10-24	
Client ID:	**MW-34-040924**					
Laboratory ID:	04-114-04					
Nitrate	**0.055**	0.050	EPA 353.2	4-10-24	4-10-24	
Client ID:	**MW-21R-040924**					
Laboratory ID:	04-114-05					
Nitrate	**0.087**	0.050	EPA 353.2	4-10-24	4-10-24	
Client ID:	**HZ-MW-14S-040924**					
Laboratory ID:	04-114-06					
Nitrate	**0.065**	0.050	EPA 353.2	4-10-24	4-10-24	
Client ID:	**MW-6-040924**					
Laboratory ID:	04-114-07					
Nitrate	**0.11**	0.050	EPA 353.2	4-10-24	4-10-24	
Client ID:	**MW-5R-040924**					
Laboratory ID:	04-114-08					
Nitrate	**0.25**	0.050	EPA 353.2	4-10-24	4-10-24	
Client ID:	**HZ-MW-14D-040924**					
Laboratory ID:	04-114-09					
Nitrate	**ND**	0.050	EPA 353.2	4-10-24	4-10-24	

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NITRATE (as Nitrogen)
EPA 353.2

Matrix: Water
Units: mg/L-N

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-11-040924**					
Laboratory ID:	04-114-10					
Nitrate	**ND**	0.050	EPA 353.2	4-10-24	4-10-24	
Client ID:	**HZ-MW-15S-040924**					
Laboratory ID:	04-114-11					
Nitrate	**ND**	0.050	EPA 353.2	4-10-24	4-10-24	
Client ID:	**MW-7-040924**					
Laboratory ID:	04-114-12					
Nitrate	**0.050**	0.050	EPA 353.2	4-10-24	4-10-24	
Client ID:	**MW-107-040924**					
Laboratory ID:	04-114-13					
Nitrate	**0.064**	0.050	EPA 353.2	4-10-24	4-10-24	
Client ID:	**MW-12-040924**					
Laboratory ID:	04-114-14					
Nitrate	**0.14**	0.050	EPA 353.2	4-10-24	4-10-24	

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NITRATE (as Nitrogen)
EPA 353.2
QUALITY CONTROL

Matrix: Water
Units: mg/L-N

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0410W1					
Nitrate	**ND**	0.050	EPA 353.2	4-10-24	4-10-24	

Analyte	Result		Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE									
Laboratory ID:	04-114-01								
	ORIG	DUP							
Nitrate	**ND**	**ND**	NA	NA	NA	NA	NA	19	
MATRIX SPIKE									
Laboratory ID:	04-114-01								
	MS		MS		MS				
Nitrate	**2.09**		2.00	ND	105	85-121	NA	NA	
SPIKE BLANK									
Laboratory ID:	SB0410W1								
	SB		SB		SB				
Nitrate	**2.07**		2.00	NA	104	87-118	NA	NA	

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DISSOLVED GASES
RSK 175

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-20R-040924**					
Laboratory ID:	04-114-01					
Methane	**3000**	28	RSK 175	4-12-24	4-12-24	
Ethane	**ND**	0.56	RSK 175	4-12-24	4-12-24	
Ethene	**14**	0.58	RSK 175	4-12-24	4-12-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*89*	*50-150*				
Client ID:	**MW-4R-040924**					
Laboratory ID:	04-114-02					
Methane	**6100**	55	RSK 175	4-12-24	4-12-24	
Ethane	**ND**	0.56	RSK 175	4-12-24	4-12-24	
Ethene	**ND**	0.58	RSK 175	4-12-24	4-12-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*109*	*50-150*				
Client ID:	**MW-45R-040924**					
Laboratory ID:	04-114-03					
Methane	**3500**	28	RSK 175	4-12-24	4-12-24	
Ethane	**ND**	0.56	RSK 175	4-12-24	4-12-24	
Ethene	**ND**	0.58	RSK 175	4-12-24	4-12-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*87*	*50-150*				
Client ID:	**MW-34-040924**					
Laboratory ID:	04-114-04					
Methane	**26**	0.55	RSK 175	4-12-24	4-12-24	
Ethane	**ND**	0.56	RSK 175	4-12-24	4-12-24	
Ethene	**ND**	0.58	RSK 175	4-12-24	4-12-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*130*	*50-150*				
Client ID:	**MW-21R-040924**					
Laboratory ID:	04-114-05					
Methane	**2500**	28	RSK 175	4-12-24	4-12-24	
Ethane	**ND**	0.56	RSK 175	4-12-24	4-12-24	
Ethene	**ND**	0.58	RSK 175	4-12-24	4-12-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*136*	*50-150*				

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Laboratory Reference: 2404-114
Project: COB-BSC, Task 4

DISSOLVED GASES
RSK 175

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**HZ-MW-14S-040924**					
Laboratory ID:	04-114-06					
Methane	**8900**	83	RSK 175	4-12-24	4-12-24	
Ethane	**ND**	0.56	RSK 175	4-12-24	4-12-24	
Ethene	**ND**	0.58	RSK 175	4-12-24	4-12-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*107*	*50-150*				
Client ID:	**MW-6-040924**					
Laboratory ID:	04-114-07					
Methane	**6500**	55	RSK 175	4-12-24	4-12-24	
Ethane	**ND**	0.56	RSK 175	4-12-24	4-12-24	
Ethene	**2.3**	0.58	RSK 175	4-12-24	4-12-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*99*	*50-150*				
Client ID:	**MW-5R-040924**					
Laboratory ID:	04-114-08					
Methane	**5600**	55	RSK 175	4-12-24	4-12-24	
Ethane	**ND**	0.56	RSK 175	4-12-24	4-12-24	
Ethene	**ND**	0.58	RSK 175	4-12-24	4-12-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*122*	*50-150*				
Client ID:	**HZ-MW-14D-040924**					
Laboratory ID:	04-114-09					
Methane	**200**	3.3	RSK 175	4-12-24	4-12-24	
Ethane	**ND**	0.56	RSK 175	4-12-24	4-12-24	
Ethene	**ND**	0.58	RSK 175	4-12-24	4-12-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*115*	*50-150*				
Client ID:	**MW-11-040924**					
Laboratory ID:	04-114-10					
Methane	**1100**	8.3	RSK 175	4-12-24	4-12-24	
Ethane	**ND**	0.56	RSK 175	4-12-24	4-12-24	
Ethene	**2.4**	0.58	RSK 175	4-12-24	4-12-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*112*	*50-150*				

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: April 18, 2024
Samples Submitted: April 9, 2024
Laboratory Reference: 2404-114
Project: COB-BSC, Task 4

DISSOLVED GASES
RSK 175

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**HZ-MW-15S-040924**					
Laboratory ID:	04-114-11					
Methane	**390**	3.3	RSK 175	4-12-24	4-12-24	
Ethane	**ND**	0.56	RSK 175	4-12-24	4-12-24	
Ethene	**ND**	0.58	RSK 175	4-12-24	4-12-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*110*	*50-150*				
Client ID:	**MW-7-040924**					
Laboratory ID:	04-114-12					
Methane	**5600**	55	RSK 175	4-12-24	4-12-24	
Ethane	**ND**	0.56	RSK 175	4-12-24	4-12-24	
Ethene	**ND**	0.58	RSK 175	4-12-24	4-12-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*85*	*50-150*				
Client ID:	**MW-107-040924**					
Laboratory ID:	04-114-13					
Methane	**6600**	55	RSK 175	4-12-24	4-12-24	
Ethane	**ND**	0.56	RSK 175	4-12-24	4-12-24	
Ethene	**ND**	0.58	RSK 175	4-12-24	4-12-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*92*	*50-150*				
Client ID:	**MW-12-040924**					
Laboratory ID:	04-114-14					
Methane	**7300**	55	RSK 175	4-12-24	4-12-24	
Ethane	**ND**	0.56	RSK 175	4-12-24	4-12-24	
Ethene	**ND**	0.58	RSK 175	4-12-24	4-12-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*119*	*50-150*				

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Date of Report: April 18, 2024
Samples Submitted: April 9, 2024
Laboratory Reference: 2404-114
Project: COB-BSC, Task 4

DISSOLVED GASES
RSK 175
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0412W1					
Methane	**ND**	0.55	RSK 175	4-12-24	4-12-24	
Ethane	**ND**	0.56	RSK 175	4-12-24	4-12-24	
Ethene	**ND**	0.58	RSK 175	4-12-24	4-12-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*127*	*50-150*				

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANK										
Laboratory ID:	SB0412W1									
	SB	SBD	SB	SBD	SB	SBD				
Methane	**47.3**	**49.0**	44.2	44.2	107	111	75-125	4	25	
Ethane	**90.0**	**93.5**	83.2	83.2	108	112	75-125	4	25	
Ethene	**84.5**	**90.2**	77.7	77.7	109	116	75-125	7	25	
Surrogate:										
1-Butene					*111*	*118*	*50-150*			

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Date of Report: April 18, 2024
Samples Submitted: April 9, 2024
Laboratory Reference: 2404-114
Project: COB-BSC, Task 4

TOTAL ORGANIC CARBON
SM 5310B

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-20R-040924**					
Laboratory ID:	04-114-01					
Total Organic Carbon	**4.8**	1.0	SM 5310B	4-16-24	4-16-24	
Client ID:	**MW-4R-040924**					
Laboratory ID:	04-114-02					
Total Organic Carbon	**3.2**	1.0	SM 5310B	4-16-24	4-16-24	
Client ID:	**MW-45R-040924**					
Laboratory ID:	04-114-03					
Total Organic Carbon	**310**	10	SM 5310B	4-16-24	4-16-24	
Client ID:	**MW-34-040924**					
Laboratory ID:	04-114-04					
Total Organic Carbon	**2.8**	1.0	SM 5310B	4-16-24	4-16-24	
Client ID:	**MW-21R-040924**					
Laboratory ID:	04-114-05					
Total Organic Carbon	**2.5**	1.0	SM 5310B	4-16-24	4-16-24	
Client ID:	**HZ-MW-14S-040924**					
Laboratory ID:	04-114-06					
Total Organic Carbon	**2.8**	1.0	SM 5310B	4-16-24	4-16-24	
Client ID:	**MW-6-040924**					
Laboratory ID:	04-114-07					
Total Organic Carbon	**13**	1.0	SM 5310B	4-16-24	4-16-24	
Client ID:	**MW-5R-040924**					
Laboratory ID:	04-114-08					
Total Organic Carbon	**1.7**	1.0	SM 5310B	4-16-24	4-16-24	

This report pertains to the samples analyzed in accordance with the chain of custody,
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Date of Report: April 18, 2024
Samples Submitted: April 9, 2024
Laboratory Reference: 2404-114
Project: COB-BSC, Task 4

TOTAL ORGANIC CARBON
SM 5310B

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-11-040924**					
Laboratory ID:	04-114-10					
Total Organic Carbon	**4.0**	1.0	SM 5310B	4-16-24	4-16-24	
Client ID:	**HZ-MW-15S-040924**					
Laboratory ID:	04-114-11					
Total Organic Carbon	**3.5**	1.0	SM 5310B	4-16-24	4-16-24	
Client ID:	**MW-7-040924**					
Laboratory ID:	04-114-12					
Total Organic Carbon	**2.9**	1.0	SM 5310B	4-16-24	4-16-24	
Client ID:	**MW-107-040924**					
Laboratory ID:	04-114-13					
Total Organic Carbon	**3.0**	1.0	SM 5310B	4-16-24	4-16-24	
Client ID:	**MW-12-040924**					
Laboratory ID:	04-114-14					
Total Organic Carbon	**7.5**	1.0	SM 5310B	4-16-24	4-16-24	

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Date of Report: April 18, 2024
Samples Submitted: April 9, 2024
Laboratory Reference: 2404-114
Project: COB-BSC, Task 4

TOTAL ORGANIC CARBON
SM 5310B
QUALITY CONTROL

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0416W1					
Total Organic Carbon	**ND**	1.0	SM 5310B	4-16-24	4-16-24	

Analyte	Result		Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE									
Laboratory ID:	04-114-01								
	ORIG	DUP							
Total Organic Carbon	**4.81**	**5.00**	NA	NA	NA	NA	4	13	
MATRIX SPIKE									
Laboratory ID:	04-114-01								
	MS		MS		MS				
Total Organic Carbon	**14.8**		10.0	4.81	100	86-127	NA	NA	
SPIKE BLANK									
Laboratory ID:	SB0416W1								
	SB		SB		SB				
Total Organic Carbon	**11.3**		10.0	NA	113	90-122	NA	NA	

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OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1 - Sample extract treated with a sulfuric acid/silica gel cleanup procedure.

X2 - Sample extract treated with a silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in methods 8260 & 8270, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Y1 - Negative effects of the matrix from this sample on the instrument caused values for this analyte in the bracketing continuing calibration verification standard (CCVs) to be outside of 20% acceptance criteria. Because of this, quantitation limits and sample concentrations should be considered estimates.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

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Chain of Custody

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: FLOYD SNIDER
Project Number: COB-BSC, TASK 4
Project Name: BOTHELL SERVICE CENTER
Project Manager: GABE CISNEROS
Sampled by: CO, DG, GS

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days)
☐ _____ (other)

Laboratory Number: 04-114

✓	Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260D (HOCs) + Short List	Halogenated Volatiles 8260D	EDB EPA 8011 (Waters Only)	Semivolatiles 8270E/SIM (with low-level PAHs)	PAHs 8270E/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270E/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals DISS FE + MN	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	Ammonia	OP/SO4/NO3	MEE RSK 175	TOC	% Moisture
✓	1	MW-20R-040924	4/9/24	0926	GW	9					X									X				X	X	X	X	
✓	2	MW-4R-040924		0955	GW	9					X									X				X	X	X	X	
✓	3	MW-45R-040924		1055	GW	9					X									X				X	X	X	X	
✓	4	MW-34-040924		1110	GW	9					X									X				X	X	X	X	
✓	5	MW-21R-040924		1135	GW	9					X									X				X	X	X	X	
✓	6	HZ-MW-14S-040924		1208	GW	9					X									X				X	X	X	X	
✓	7	MW-6-040924		1240	GW	9					X									X				X	X	X	X	
✓	8	MW-5R-040924		1305	GW	9					X									X				X	X	X	X	
✓	9	HZ-MW-14D-040924		1329	GW	9					X									X				X	X	X	X	
✓	10	MW-11-040924		1415	GW	9					X									X				X	X	X	X	

	Signature	Company	Date	Time
Relinquished	# 17	FLOYD SNIDER	4/9/24	1554
Received			4/9/24	1556
Relinquished	# 17		4/9/24	4:10
Received		COE	4/9/24	1618
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

EMAIL RESULTS TO:
LABDATA@FLOYDSNIDER.COM

* - PCE, TCE, 1,1-DCE, CIS/TRANS-1,2-DCE, V.C.

Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

Chain of Custody

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: FLOYD SNIDER
Project Number: COB-BSC, TASK 4
Project Name: BOTHELL SERVICE CENTER
Project Manager: GABE CISNEROS
Sampled by: CO, DG, GS

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days)
☐ _____ (other)

Laboratory Number: 04-114

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260D	Halogenated Volatiles 8260D ~~X~~ 504.1	EDB EPA 8011 (Waters Only)	Semivolatiles 8270E/SIM (with low-level PAHs)	PAHs 8270E/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270E/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals DISS FE + MN	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	AMMONIA	OP/SOX/NO3	MEE RSK 175	TOC	% Moisture
✓ 11	HZ-MW-15S-040924	4/9/24	1437	GW	9						X								X				X	X	X	X	
✓ 12	MW-7-040924	↓	1450	GW	9						X								X				X	X	X	X	
✓ 13	MW-107-040924		1500	GW	9						X								X				X	X	X	X	
✓ 14	MW-12-040924		1520	GW	9						X								X				X	X	X	X	

	Signature	Company	Date	Time
Relinquished		FLOYD SNIDER	4/9/24	1554
Received	#17		4/9/24	1556
Relinquished	#17		4/9/24	1458
Received		ORE	4/9/24	1618
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
EMAIL RESULTS TO:
LABDATA@FLOYDSNIDER.COM

Data Package: Standard ☐ Level III ☐ Level IV ☐
Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

April 19, 2024

Gabe Cisneros
Floyd & Snider
601 Union Street, Suite 600
Seattle, WA 98101

Re: Analytical Data for Project COB-BSC Task 4
Laboratory Reference No. 2404-147

Dear Gabe:

Enclosed are the analytical results and associated quality control data for samples submitted on April 10, 2024.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: April 19, 2024
Samples Submitted: April 10, 2024
Laboratory Reference: 2404-147
Project: COB-BSC Task 4

Case Narrative

Samples were collected on April 10, 2024 and received by the laboratory on April 10, 2024. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below. However the soil results for the QA/QC samples are reported on a wet-weight basis.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: April 19, 2024
Samples Submitted: April 10, 2024
Laboratory Reference: 2404-147
Project: COB-BSC Task 4

VOLATILE ORGANICS EPA 8260D

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**HZ-MW-15D-041024**					
Laboratory ID:	04-147-01					
Vinyl Chloride (SIM)	0.84	0.80	EPA 8260D/SIM	4-12-24	4-12-24	
1,1-Dichloroethene	ND	8.0	EPA 8260D	4-12-24	4-12-24	
(trans) 1,2-Dichloroethene	ND	8.0	EPA 8260D	4-12-24	4-12-24	
(cis) 1,2-Dichloroethene	260	8.0	EPA 8260D	4-12-24	4-12-24	
Trichloroethene	220	8.0	EPA 8260D	4-12-24	4-12-24	
Tetrachloroethene	1500	8.0	EPA 8260D	4-12-24	4-12-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*97*	*75-127*				
Toluene-d8	*100*	*80-127*				
4-Bromofluorobenzene	*97*	*78-125*				
Client ID:	**HZ-MW-26-041024**					
Laboratory ID:	04-147-02					
Vinyl Chloride	ND	0.20	EPA 8260D	4-12-24	4-12-24	
1,1-Dichloroethene	ND	0.20	EPA 8260D	4-12-24	4-12-24	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-12-24	4-12-24	
(cis) 1,2-Dichloroethene	2.0	0.20	EPA 8260D	4-12-24	4-12-24	
Trichloroethene	0.22	0.20	EPA 8260D	4-12-24	4-12-24	
Tetrachloroethene	18	0.20	EPA 8260D	4-12-24	4-12-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*98*	*75-127*				
Toluene-d8	*100*	*80-127*				
4-Bromofluorobenzene	*95*	*78-125*				
Client ID:	**S-MW-5R-041024**					
Laboratory ID:	04-147-03					
Vinyl Chloride (SIM)	ND	0.20	EPA 8260D/SIM	4-12-24	4-12-24	
1,1-Dichloroethene	ND	2.0	EPA 8260D	4-12-24	4-12-24	
(trans) 1,2-Dichloroethene	ND	2.0	EPA 8260D	4-12-24	4-12-24	
(cis) 1,2-Dichloroethene	13	2.0	EPA 8260D	4-12-24	4-12-24	
Trichloroethene	6.6	2.0	EPA 8260D	4-12-24	4-12-24	
Tetrachloroethene	360	2.0	EPA 8260D	4-12-24	4-12-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*98*	*75-127*				
Toluene-d8	*100*	*80-127*				
4-Bromofluorobenzene	*99*	*78-125*				

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: April 19, 2024
Samples Submitted: April 10, 2024
Laboratory Reference: 2404-147
Project: COB-BSC Task 4

VOLATILE ORGANICS EPA 8260D

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**S-MW-2RR-041024**					
Laboratory ID:	04-147-04					
Vinyl Chloride	ND	0.20	EPA 8260D	4-12-24	4-12-24	
1,1-Dichloroethene	ND	0.20	EPA 8260D	4-12-24	4-12-24	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-12-24	4-12-24	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-12-24	4-12-24	
Trichloroethene	ND	0.20	EPA 8260D	4-12-24	4-12-24	
Tetrachloroethene	ND	0.20	EPA 8260D	4-12-24	4-12-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*100*	*75-127*				
Toluene-d8	*101*	*80-127*				
4-Bromofluorobenzene	*98*	*78-125*				
Client ID:	**HZ-MW-1-041024**					
Laboratory ID:	04-147-05					
Vinyl Chloride	21	0.20	EPA 8260D	4-12-24	4-12-24	
1,1-Dichloroethene	ND	0.20	EPA 8260D	4-12-24	4-12-24	
(trans) 1,2-Dichloroethene	0.63	0.20	EPA 8260D	4-12-24	4-12-24	
(cis) 1,2-Dichloroethene	44	0.20	EPA 8260D	4-12-24	4-12-24	
Trichloroethene	1.0	0.20	EPA 8260D	4-12-24	4-12-24	
Tetrachloroethene	0.76	0.20	EPA 8260D	4-12-24	4-12-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*97*	*75-127*				
Toluene-d8	*101*	*80-127*				
4-Bromofluorobenzene	*99*	*78-125*				
Client ID:	**HZ-MW-29-041024**					
Laboratory ID:	04-147-06					
Vinyl Chloride	10	0.20	EPA 8260D	4-12-24	4-12-24	
1,1-Dichloroethene	ND	0.20	EPA 8260D	4-12-24	4-12-24	
(trans) 1,2-Dichloroethene	0.22	0.20	EPA 8260D	4-12-24	4-12-24	
(cis) 1,2-Dichloroethene	29	0.20	EPA 8260D	4-12-24	4-12-24	
Trichloroethene	ND	0.20	EPA 8260D	4-12-24	4-12-24	
Tetrachloroethene	ND	0.20	EPA 8260D	4-12-24	4-12-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*98*	*75-127*				
Toluene-d8	*101*	*80-127*				
4-Bromofluorobenzene	*98*	*78-125*				

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Date of Report: April 19, 2024
Samples Submitted: April 10, 2024
Laboratory Reference: 2404-147
Project: COB-BSC Task 4

VOLATILE ORGANICS EPA 8260D

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**HZ-MW-34-041024**					
Laboratory ID:	04-147-07					
Vinyl Chloride	0.92	0.20	EPA 8260D	4-12-24	4-12-24	
1,1-Dichloroethene	ND	0.20	EPA 8260D	4-12-24	4-12-24	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-12-24	4-12-24	
(cis) 1,2-Dichloroethene	7.2	0.20	EPA 8260D	4-12-24	4-12-24	
Trichloroethene	1.5	0.20	EPA 8260D	4-12-24	4-12-24	
Tetrachloroethene	0.53	0.20	EPA 8260D	4-12-24	4-12-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*99*	*75-127*				
Toluene-d8	*101*	*80-127*				
4-Bromofluorobenzene	*99*	*78-125*				
Client ID:	**HZ-MW-24-041024**					
Laboratory ID:	04-147-08					
Vinyl Chloride	0.26	0.20	EPA 8260D	4-12-24	4-12-24	
1,1-Dichloroethene	ND	0.20	EPA 8260D	4-12-24	4-12-24	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-12-24	4-12-24	
(cis) 1,2-Dichloroethene	9.0	0.20	EPA 8260D	4-12-24	4-12-24	
Trichloroethene	1.3	0.20	EPA 8260D	4-12-24	4-12-24	
Tetrachloroethene	1.0	0.20	EPA 8260D	4-12-24	4-12-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*100*	*75-127*				
Toluene-d8	*101*	*80-127*				
4-Bromofluorobenzene	*100*	*78-125*				
Client ID:	**S-MW-3RR-041024**					
Laboratory ID:	04-147-09					
Vinyl Chloride	1.6	0.40	EPA 8260D	4-12-24	4-12-24	
1,1-Dichloroethene	ND	0.40	EPA 8260D	4-12-24	4-12-24	
(trans) 1,2-Dichloroethene	ND	0.40	EPA 8260D	4-12-24	4-12-24	
(cis) 1,2-Dichloroethene	10	0.40	EPA 8260D	4-12-24	4-12-24	
Trichloroethene	3.5	0.40	EPA 8260D	4-12-24	4-12-24	
Tetrachloroethene	85	0.40	EPA 8260D	4-12-24	4-12-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*98*	*75-127*				
Toluene-d8	*100*	*80-127*				
4-Bromofluorobenzene	*98*	*78-125*				

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Date of Report: April 19, 2024
Samples Submitted: April 10, 2024
Laboratory Reference: 2404-147
Project: COB-BSC Task 4

VOLATILE ORGANICS EPA 8260D

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-43R-041024**					
Laboratory ID:	04-147-10					
Vinyl Chloride	1.7	0.20	EPA 8260D	4-12-24	4-12-24	
1,1-Dichloroethene	ND	0.20	EPA 8260D	4-12-24	4-12-24	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-12-24	4-12-24	
(cis) 1,2-Dichloroethene	14	0.20	EPA 8260D	4-12-24	4-12-24	
Trichloroethene	3.9	0.20	EPA 8260D	4-12-24	4-12-24	
Tetrachloroethene	6.1	0.20	EPA 8260D	4-12-24	4-12-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*98*	*75-127*				
Toluene-d8	*100*	*80-127*				
4-Bromofluorobenzene	*98*	*78-125*				
Client ID:	**MW-42-041024**					
Laboratory ID:	04-147-11					
Vinyl Chloride	0.60	0.20	EPA 8260D	4-12-24	4-12-24	
1,1-Dichloroethene	ND	0.20	EPA 8260D	4-12-24	4-12-24	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-12-24	4-12-24	
(cis) 1,2-Dichloroethene	0.62	0.20	EPA 8260D	4-12-24	4-12-24	
Trichloroethene	ND	0.20	EPA 8260D	4-12-24	4-12-24	
Tetrachloroethene	ND	0.20	EPA 8260D	4-12-24	4-12-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*100*	*75-127*				
Toluene-d8	*101*	*80-127*				
4-Bromofluorobenzene	*97*	*78-125*				

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Date of Report: April 19, 2024
Samples Submitted: April 10, 2024
Laboratory Reference: 2404-147
Project: COB-BSC Task 4

VOLATILE ORGANICS EPA 8260D
QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0412W2					
Vinyl Chloride (SIM)	ND	0.020	EPA 8260D/SIM	4-12-24	4-12-24	
1,1-Dichloroethene	ND	0.20	EPA 8260D	4-12-24	4-12-24	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-12-24	4-12-24	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-12-24	4-12-24	
Trichloroethene	ND	0.20	EPA 8260D	4-12-24	4-12-24	
Tetrachloroethene	ND	0.20	EPA 8260D	4-12-24	4-12-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*99*	*75-127*				
Toluene-d8	*100*	*80-127*				
4-Bromofluorobenzene	*99*	*78-125*				

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0412W2									
	SB	SBD	SB	SBD	SB	SBD				
Vinyl Chloride	**9.36**	**8.95**	10.0	10.0	94	90	71-135	4	20	
1,1-Dichloroethene	**11.0**	**10.6**	10.0	10.0	110	106	78-125	4	19	
(trans) 1,2-Dichloroethene	**11.1**	**10.8**	10.0	10.0	111	108	80-125	3	17	
(cis) 1,2-Dichloroethene	**11.2**	**11.0**	10.0	10.0	112	110	80-129	2	17	
Trichloroethene	**11.1**	**11.1**	10.0	10.0	111	111	80-122	0	18	
Tetrachloroethene	**11.0**	**10.7**	10.0	10.0	110	107	80-124	3	18	
Surrogate:										
Dibromofluoromethane					*99*	*100*	*75-127*			
Toluene-d8					*101*	*102*	*80-127*			
4-Bromofluorobenzene					*102*	*101*	*78-125*			

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Date of Report: April 19, 2024
Samples Submitted: April 10, 2024
Laboratory Reference: 2404-147
Project: COB-BSC Task 4

DISSOLVED METALS
EPA 6010D

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**HZ-MW-15D-041024**					
Laboratory ID:	04-147-01					
Iron	**160**	56	EPA 6010D		4-12-24	
Manganese	**200**	11	EPA 6010D		4-12-24	
Client ID:	**HZ-MW-26-041024**					
Laboratory ID:	04-147-02					
Iron	**ND**	56	EPA 6010D		4-12-24	
Manganese	**63**	11	EPA 6010D		4-12-24	
Client ID:	**S-MW-5R-041024**					
Laboratory ID:	04-147-03					
Iron	**ND**	56	EPA 6010D		4-12-24	
Manganese	**170**	11	EPA 6010D		4-12-24	
Client ID:	**S-MW-2RR-041024**					
Laboratory ID:	04-147-04					
Iron	**3000**	56	EPA 6010D		4-12-24	
Manganese	**3100**	11	EPA 6010D		4-12-24	
Client ID:	**HZ-MW-1-041024**					
Laboratory ID:	04-147-05					
Iron	**24000**	56	EPA 6010D		4-12-24	
Manganese	**5900**	11	EPA 6010D		4-12-24	
Client ID:	**HZ-MW-29-041024**					
Laboratory ID:	04-147-06					
Iron	**13000**	56	EPA 6010D		4-12-24	
Manganese	**2900**	11	EPA 6010D		4-12-24	
Client ID:	**HZ-MW-34-041024**					
Laboratory ID:	04-147-07					
Iron	**2100**	56	EPA 6010D		4-12-24	
Manganese	**730**	11	EPA 6010D		4-12-24	

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Samples Submitted: April 10, 2024
Laboratory Reference: 2404-147
Project: COB-BSC Task 4

DISSOLVED METALS
EPA 6010D

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**HZ-MW-24-041024**					
Laboratory ID:	04-147-08					
Iron	**9900**	56	EPA 6010D		4-12-24	
Manganese	**5200**	11	EPA 6010D		4-12-24	
Client ID:	**S-MW-3RR-041024**					
Laboratory ID:	04-147-09					
Iron	**1400**	56	EPA 6010D		4-12-24	
Manganese	**2400**	11	EPA 6010D		4-12-24	
Client ID:	**MW-43R-041024**					
Laboratory ID:	04-147-10					
Iron	**2200**	56	EPA 6010D		4-12-24	
Manganese	**1800**	11	EPA 6010D		4-12-24	
Client ID:	**MW-42-041024**					
Laboratory ID:	04-147-11					
Iron	**16000**	56	EPA 6010D		4-12-24	
Manganese	**350**	11	EPA 6010D		4-12-24	

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Date of Report: April 19, 2024
Samples Submitted: April 10, 2024
Laboratory Reference: 2404-147
Project: COB-BSC Task 4

DISSOLVED METALS
EPA 6010D
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0412D1					
Iron	**ND**	56	EPA 6010D		4-12-24	
Manganese	**ND**	11	EPA 6010D		4-12-24	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	05-147-01										
	ORIG	DUP									
Iron	**164**	**163**	NA	NA		NA		NA	1	20	
Manganese	**198**	**202**	NA	NA		NA		NA	2	20	
MATRIX SPIKES											
Laboratory ID:	04-147-01										
	MS	MSD	MS	MSD		MS	MSD				
Iron	**22500**	**22400**	22200	22200	164	**101**	**100**	75-125	1	20	
Manganese	**720**	**713**	556	556	198	**94**	**93**	75-125	1	20	

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Date of Report: April 19, 2024
Samples Submitted: April 10, 2024
Laboratory Reference: 2404-147
Project: COB-BSC Task 4

AMMONIA (as Nitrogen)
SM 4500-NH_3 D

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**HZ-MW-15D-041024**					
Laboratory ID:	04-147-01					
Ammonia	**ND**	0.053	SM 4500-NH3 D	4-19-24	4-19-24	
Client ID:	**HZ-MW-26-041024**					
Laboratory ID:	04-147-02					
Ammonia	**ND**	0.053	SM 4500-NH3 D	4-19-24	4-19-24	
Client ID:	**S-MW-5R-041024**					
Laboratory ID:	04-147-03					
Ammonia	**ND**	0.053	SM 4500-NH3 D	4-19-24	4-19-24	
Client ID:	**S-MW-2RR-041024**					
Laboratory ID:	04-147-04					
Ammonia	**6.6**	0.053	SM 4500-NH3 D	4-19-24	4-19-24	
Client ID:	**HZ-MW-1-041024**					
Laboratory ID:	04-147-05					
Ammonia	**0.059**	0.053	SM 4500-NH3 D	4-19-24	4-19-24	
Client ID:	**HZ-MW-29-041024**					
Laboratory ID:	04-147-06					
Ammonia	**0.40**	0.053	SM 4500-NH3 D	4-19-24	4-19-24	
Client ID:	**HZ-MW-34-041024**					
Laboratory ID:	04-147-07					
Ammonia	**ND**	0.053	SM 4500-NH3 D	4-19-24	4-19-24	
Client ID:	**HZ-MW-24-041024**					
Laboratory ID:	04-147-08					
Ammonia	**0.48**	0.053	SM 4500-NH3 D	4-19-24	4-19-24	
Client ID:	**S-MW-3RR-041024**					
Laboratory ID:	04-147-09					
Ammonia	**0.054**	0.053	SM 4500-NH3 D	4-19-24	4-19-24	

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Samples Submitted: April 10, 2024
Laboratory Reference: 2404-147
Project: COB-BSC Task 4

AMMONIA (as Nitrogen)
SM 4500-NH_3 D

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-43R-041024**					
Laboratory ID:	04-147-10					
Ammonia	**ND**	0.053	SM 4500-NH3 D	4-19-24	4-19-24	
Client ID:	**MW-42-041024**					
Laboratory ID:	04-147-11					
Ammonia	**11**	0.053	SM 4500-NH3 D	4-19-24	4-19-24	

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Laboratory Reference: 2404-147
Project: COB-BSC Task 4

AMMONIA (as Nitrogen)
SM 4500-NH_3 D
QUALITY CONTROL

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0419W1					
Ammonia	**ND**	0.053	SM 4500-NH3 D	4-19-24	4-19-24	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	04-147-01							
	ORIG DUP							
Ammonia	**ND** **ND**	NA	NA	NA	NA	NA	27	
MATRIX SPIKE								
Laboratory ID:	04-147-01							
	MS	MS		MS				
Ammonia	**4.73**	5.00	ND	95	78-118	NA	NA	
SPIKE BLANK								
Laboratory ID:	SB0419W1							
	SB	SB		SB				
Ammonia	**4.67**	5.00	NA	93	85-114	NA	NA	

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TOTAL ORTHOPHOSPHATE
EPA 365.1

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**HZ-MW-15D-041024**					
Laboratory ID:	04-147-01					
Orthophosphate	**0.020**	0.012	EPA 365.1	4-11-24	4-11-24	
Client ID:	**HZ-MW-26-041024**					
Laboratory ID:	04-147-02					
Orthophosphate	**0.045**	0.012	EPA 365.1	4-11-24	4-11-24	
Client ID:	**S-MW-5R-041024**					
Laboratory ID:	04-147-03					
Orthophosphate	**0.026**	0.012	EPA 365.1	4-11-24	4-11-24	
Client ID:	**S-MW-2RR-041024**					
Laboratory ID:	04-147-04					
Orthophosphate	**1.5**	0.048	EPA 365.1	4-11-24	4-11-24	
Client ID:	**HZ-MW-1-041024**					
Laboratory ID:	04-147-05					
Orthophosphate	**0.21**	0.012	EPA 365.1	4-11-24	4-11-24	
Client ID:	**HZ-MW-29-041024**					
Laboratory ID:	04-147-06					
Orthophosphate	**1.00**	0.024	EPA 365.1	4-11-24	4-11-24	
Client ID:	**HZ-MW-34-041024**					
Laboratory ID:	04-147-07					
Orthophosphate	**0.20**	0.012	EPA 365.1	4-11-24	4-11-24	
Client ID:	**HZ-MW-24-041024**					
Laboratory ID:	04-147-08					
Orthophosphate	**0.076**	0.012	EPA 365.1	4-11-24	4-11-24	
Client ID:	**S-MW-3RR-041024**					
Laboratory ID:	04-147-09					
Orthophosphate	**0.11**	0.012	EPA 365.1	4-11-24	4-11-24	

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Project: COB-BSC Task 4

TOTAL ORTHOPHOSPHATE
EPA 365.1

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-43R-041024**					
Laboratory ID:	04-147-10					
Orthophosphate	**0.12**	0.012	EPA 365.1	4-11-24	4-11-24	
Client ID:	**MW-42-041024**					
Laboratory ID:	04-147-11					
Orthophosphate	**4.2**	0.12	EPA 365.1	4-11-24	4-11-24	

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Samples Submitted: April 10, 2024
Laboratory Reference: 2404-147
Project: COB-BSC Task 4

TOTAL ORTHOPHOSPHATE
EPA 365.1
QUALITY CONTROL

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0411W1					
Orthophosphate	**ND**	0.012	EPA 365.1	4-11-24	4-11-24	

Analyte	Result		Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE									
Laboratory ID:	04-147-01								
	ORIG	DUP							
Orthophosphate	**0.0204**	**0.0216**	NA	NA	NA	NA	6	22	
MATRIX SPIKE									
Laboratory ID:	04-147-01								
	MS		MS		MS				
Orthophosphate	**0.263**		0.250	0.0204	97	60-125	NA	NA	
SPIKE BLANK									
Laboratory ID:	SB0411W1								
	SB		SB		SB				
Orthophosphate	**0.230**		0.250	NA	92	81-110	NA	NA	

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SULFATE
ASTM D516-11

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**HZ-MW-15D-041024**					
Laboratory ID:	04-147-01					
Sulfate	**15**	5.0	ASTM D516-11	4-17-24	4-17-24	
Client ID:	**HZ-MW-26-041024**					
Laboratory ID:	04-147-02					
Sulfate	**22**	5.0	ASTM D516-11	4-17-24	4-17-24	
Client ID:	**S-MW-5R-041024**					
Laboratory ID:	04-147-03					
Sulfate	**22**	5.0	ASTM D516-11	4-17-24	4-17-24	
Client ID:	**S-MW-2RR-041024**					
Laboratory ID:	04-147-04					
Sulfate	**430**	250	ASTM D516-11	4-17-24	4-17-24	
Client ID:	**HZ-MW-1-041024**					
Laboratory ID:	04-147-05					
Sulfate	**ND**	5.0	ASTM D516-11	4-17-24	4-17-24	
Client ID:	**HZ-MW-29-041024**					
Laboratory ID:	04-147-06					
Sulfate	**30**	10	ASTM D516-11	4-17-24	4-17-24	
Client ID:	**HZ-MW-34-041024**					
Laboratory ID:	04-147-07					
Sulfate	**23**	10	ASTM D516-11	4-17-24	4-17-24	
Client ID:	**HZ-MW-24-041024**					
Laboratory ID:	04-147-08					
Sulfate	**13**	5.0	ASTM D516-11	4-17-24	4-17-24	
Client ID:	**S-MW-3RR-041024**					
Laboratory ID:	04-147-09					
Sulfate	**21**	10	ASTM D516-11	4-17-24	4-17-24	

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Date of Report: April 19, 2024
Samples Submitted: April 10, 2024
Laboratory Reference: 2404-147
Project: COB-BSC Task 4

SULFATE
ASTM D516-11

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-43R-041024**					
Laboratory ID:	04-147-10					
Sulfate	**33**	10	ASTM D516-11	4-17-24	4-17-24	
Client ID:	**MW-42-041024**					
Laboratory ID:	04-147-11					
Sulfate	**ND**	5.0	ASTM D516-11	4-17-24	4-17-24	

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Date of Report: April 19, 2024
Samples Submitted: April 10, 2024
Laboratory Reference: 2404-147
Project: COB-BSC Task 4

SULFATE
ASTM D516-11
QUALITY CONTROL

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0417W1					
Sulfate	**ND**	5.0	ASTM D516-11	4-17-24	4-17-24	

Analyte	Result		Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE									
Laboratory ID:	04-147-01								
	ORIG	DUP							
Sulfate	**14.5**	**14.5**	NA	NA	NA	NA	0	10	
MATRIX SPIKE									
Laboratory ID:	04-147-01								
	MS		MS		MS				
Sulfate	**33.5**		20.0	14.5	95	73-127	NA	NA	
SPIKE BLANK									
Laboratory ID:	SB0417W1								
	SB		SB		SB				
Sulfate	**8.93**		10.0	NA	89	85-114	NA	NA	

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Date of Report: April 19, 2024
Samples Submitted: April 10, 2024
Laboratory Reference: 2404-147
Project: COB-BSC Task 4

NITRATE (as Nitrogen)
EPA 353.2

Matrix: Water
Units: mg/L-N

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**HZ-MW-15D-041024**					
Laboratory ID:	04-147-01					
Nitrate	**ND**	0.050	EPA 353.2	4-11-24	4-11-24	
Client ID:	**HZ-MW-26-041024**					
Laboratory ID:	04-147-02					
Nitrate	**0.26**	0.050	EPA 353.2	4-11-24	4-11-24	
Client ID:	**S-MW-5R-041024**					
Laboratory ID:	04-147-03					
Nitrate	**0.41**	0.050	EPA 353.2	4-11-24	4-11-24	
Client ID:	**S-MW-2RR-041024**					
Laboratory ID:	04-147-04					
Nitrate	**ND**	0.050	EPA 353.2	4-11-24	4-11-24	
Client ID:	**HZ-MW-1-041024**					
Laboratory ID:	04-147-05					
Nitrate	**0.052**	0.050	EPA 353.2	4-11-24	4-11-24	
Client ID:	**HZ-MW-29-041024**					
Laboratory ID:	04-147-06					
Nitrate	**ND**	0.050	EPA 353.2	4-11-24	4-11-24	
Client ID:	**HZ-MW-34-041024**					
Laboratory ID:	04-147-07					
Nitrate	**ND**	0.050	EPA 353.2	4-11-24	4-11-24	
Client ID:	**HZ-MW-24-041024**					
Laboratory ID:	04-147-08					
Nitrate	**ND**	0.050	EPA 353.2	4-11-24	4-11-24	
Client ID:	**S-MW-3RR-041024**					
Laboratory ID:	04-147-09					
Nitrate	**0.11**	0.050	EPA 353.2	4-11-24	4-11-24	

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Date of Report: April 19, 2024
Samples Submitted: April 10, 2024
Laboratory Reference: 2404-147
Project: COB-BSC Task 4

NITRATE (as Nitrogen)
EPA 353.2

Matrix: Water
Units: mg/L-N

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-43R-041024**					
Laboratory ID:	04-147-10					
Nitrate	**0.79**	0.050	EPA 353.2	4-11-24	4-11-24	
Client ID:	**MW-42-041024**					
Laboratory ID:	04-147-11					
Nitrate	**0.19**	0.050	EPA 353.2	4-11-24	4-11-24	

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Date of Report: April 19, 2024
Samples Submitted: April 10, 2024
Laboratory Reference: 2404-147
Project: COB-BSC Task 4

NITRATE (as Nitrogen)
EPA 353.2
QUALITY CONTROL

Matrix: Water
Units: mg/L-N

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0411W1					
Nitrate	**ND**	0.050	EPA 353.2	4-11-24	4-11-24	

Analyte	Result		Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE									
Laboratory ID:	04-147-01								
	ORIG	DUP							
Nitrate	**ND**	**ND**	NA	NA	NA	NA	NA	19	
MATRIX SPIKE									
Laboratory ID:	04-147-01								
	MS		MS		MS				
Nitrate	**2.07**		2.00	ND	104	85-121	NA	NA	
SPIKE BLANK									
Laboratory ID:	SB0411W1								
	SB		SB		SB				
Nitrate	**1.97**		2.00	NA	99	87-118	NA	NA	

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Date of Report: April 19, 2024
Samples Submitted: April 10, 2024
Laboratory Reference: 2404-147
Project: COB-BSC Task 4

DISSOLVED GASES
RSK 175

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**HZ-MW-15D-041024**					
Laboratory ID:	04-147-01					
Methane	**7400**	55	RSK 175	4-16-24	4-16-24	
Ethane	**ND**	0.56	RSK 175	4-16-24	4-16-24	
Ethene	**ND**	0.58	RSK 175	4-16-24	4-16-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*72*	*50-150*				
Client ID:	**HZ-MW-26-041024**					
Laboratory ID:	04-147-02					
Methane	**65**	0.55	RSK 175	4-16-24	4-16-24	
Ethane	**ND**	0.56	RSK 175	4-16-24	4-16-24	
Ethene	**ND**	0.58	RSK 175	4-16-24	4-16-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*86*	*50-150*				
Client ID:	**S-MW-5R-041024**					
Laboratory ID:	04-147-03					
Methane	**410**	3.3	RSK 175	4-16-24	4-16-24	
Ethane	**ND**	0.56	RSK 175	4-16-24	4-16-24	
Ethene	**ND**	0.58	RSK 175	4-16-24	4-16-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*80*	*50-150*				
Client ID:	**S-MW-2RR-041024**					
Laboratory ID:	04-147-04					
Methane	**230**	2.2	RSK 175	4-16-24	4-16-24	
Ethane	**ND**	0.56	RSK 175	4-16-24	4-16-24	
Ethene	**ND**	0.58	RSK 175	4-16-24	4-16-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*82*	*50-150*				
Client ID:	**HZ-MW-1-041024**					
Laboratory ID:	04-147-05					
Methane	**7300**	55	RSK 175	4-16-24	4-16-24	
Ethane	**ND**	0.56	RSK 175	4-16-24	4-16-24	
Ethene	**1.3**	0.58	RSK 175	4-16-24	4-16-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*71*	*50-150*				

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Date of Report: April 19, 2024
Samples Submitted: April 10, 2024
Laboratory Reference: 2404-147
Project: COB-BSC Task 4

DISSOLVED GASES
RSK 175

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**HZ-MW-29-041024**					
Laboratory ID:	04-147-06					
Methane	**12000**	83	RSK 175	4-16-24	4-16-24	
Ethane	**ND**	0.56	RSK 175	4-16-24	4-16-24	
Ethene	**ND**	0.58	RSK 175	4-16-24	4-16-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*91*	*50-150*				
Client ID:	**HZ-MW-34-041024**					
Laboratory ID:	04-147-07					
Methane	**150**	1.1	RSK 175	4-16-24	4-16-24	
Ethane	**ND**	0.56	RSK 175	4-16-24	4-16-24	
Ethene	**ND**	0.58	RSK 175	4-16-24	4-16-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*93*	*50-150*				
Client ID:	**HZ-MW-24-041024**					
Laboratory ID:	04-147-08					
Methane	**3200**	28	RSK 175	4-16-24	4-16-24	
Ethane	**ND**	0.56	RSK 175	4-16-24	4-16-24	
Ethene	**ND**	0.58	RSK 175	4-16-24	4-16-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*92*	*50-150*				
Client ID:	**S-MW-3RR-041024**					
Laboratory ID:	04-147-09					
Methane	**15000**	83	RSK 175	4-16-24	4-16-24	
Ethane	**ND**	0.56	RSK 175	4-16-24	4-16-24	
Ethene	**ND**	0.58	RSK 175	4-16-24	4-16-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*93*	*50-150*				
Client ID:	**MW-43R-041024**					
Laboratory ID:	04-147-10					
Methane	**2400**	28	RSK 175	4-16-24	4-16-24	
Ethane	**ND**	0.56	RSK 175	4-16-24	4-16-24	
Ethene	**ND**	0.58	RSK 175	4-16-24	4-16-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*96*	*50-150*				

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Date of Report: April 19, 2024
Samples Submitted: April 10, 2024
Laboratory Reference: 2404-147
Project: COB-BSC Task 4

DISSOLVED GASES
RSK 175

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-42-041024**					
Laboratory ID:	04-147-11					
Methane	**6700**	55	RSK 175	4-16-24	4-16-24	
Ethane	**ND**	0.56	RSK 175	4-16-24	4-16-24	
Ethene	**ND**	0.58	RSK 175	4-16-24	4-16-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*98*	*50-150*				

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Date of Report: April 19, 2024
Samples Submitted: April 10, 2024
Laboratory Reference: 2404-147
Project: COB-BSC Task 4

DISSOLVED GASES
RSK 175
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0416W1					
Methane	**ND**	0.55	RSK 175	4-16-24	4-16-24	
Ethane	**ND**	0.56	RSK 175	4-16-24	4-16-24	
Ethene	**ND**	0.58	RSK 175	4-16-24	4-16-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*97*	*50-150*				

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANK										
Laboratory ID:	SB0416W1									
	SB	SBD	SB	SBD	SB	SBD				
Methane	**44.0**	**47.3**	44.2	44.2	100	107	75-125	7	25	
Ethane	**81.1**	**86.5**	83.2	83.2	98	104	75-125	6	25	
Ethene	**73.7**	**78.1**	77.7	77.7	95	101	75-125	6	25	
Surrogate:										
1-Butene					*92*	*97*	*50-150*			

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Date of Report: April 19, 2024
Samples Submitted: April 10, 2024
Laboratory Reference: 2404-147
Project: COB-BSC Task 4

TOTAL ORGANIC CARBON
SM 5310B

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**HZ-MW-15D-041024**					
Laboratory ID:	04-147-01					
Total Organic Carbon	**1.6**	1.0	SM 5310B	4-15-24	4-15-24	
Client ID:	**HZ-MW-26-041024**					
Laboratory ID:	04-147-02					
Total Organic Carbon	**1.6**	1.0	SM 5310B	4-15-24	4-15-24	
Client ID:	**S-MW-5R-041024**					
Laboratory ID:	04-147-03					
Total Organic Carbon	**1.0**	1.0	SM 5310B	4-15-24	4-15-24	
Client ID:	**S-MW-2RR-041024**					
Laboratory ID:	04-147-04					
Total Organic Carbon	**1.1**	1.0	SM 5310B	4-15-24	4-15-24	
Client ID:	**HZ-MW-1-041024**					
Laboratory ID:	04-147-05					
Total Organic Carbon	**2.7**	1.0	SM 5310B	4-15-24	4-15-24	
Client ID:	**HZ-MW-29-041024**					
Laboratory ID:	04-147-06					
Total Organic Carbon	**7.7**	1.0	SM 5310B	4-15-24	4-15-24	
Client ID:	**HZ-MW-34-041024**					
Laboratory ID:	04-147-07					
Total Organic Carbon	**1.8**	1.0	SM 5310B	4-15-24	4-15-24	
Client ID:	**HZ-MW-24-041024**					
Laboratory ID:	04-147-08					
Total Organic Carbon	**1.9**	1.0	SM 5310B	4-15-24	4-15-24	
Client ID:	**S-MW-3RR-041024**					
Laboratory ID:	04-147-09					
Total Organic Carbon	**11**	1.0	SM 5310B	4-15-24	4-15-24	

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Samples Submitted: April 10, 2024
Laboratory Reference: 2404-147
Project: COB-BSC Task 4

TOTAL ORGANIC CARBON
SM 5310B

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-43R-041024**					
Laboratory ID:	04-147-10					
Total Organic Carbon	**3.9**	1.0	SM 5310B	4-15-24	4-15-24	
Client ID:	**MW-42-041024**					
Laboratory ID:	04-147-11					
Total Organic Carbon	**4.3**	1.0	SM 5310B	4-15-24	4-15-24	

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Date of Report: April 19, 2024
Samples Submitted: April 10, 2024
Laboratory Reference: 2404-147
Project: COB-BSC Task 4

TOTAL ORGANIC CARBON
SM 5310B
QUALITY CONTROL

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0415W1					
Total Organic Carbon	**ND**	1.0	SM 5310B	4-15-24	4-15-24	

Analyte	Result		Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE									
Laboratory ID:	04-077-01								
	ORIG	DUP							
Total Organic Carbon	**1.57**	**1.58**	NA	NA	NA	NA	1	13	
MATRIX SPIKE									
Laboratory ID:	04-077-01								
	MS		MS		MS				
Total Organic Carbon	**14.0**		10.0	1.57	124	86-127	NA	NA	
SPIKE BLANK									
Laboratory ID:	SB0415W1								
	SB		SB		SB				
Total Organic Carbon	**12.1**		10.0	NA	121	90-122	NA	NA	

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OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1 - Sample extract treated with a sulfuric acid/silica gel cleanup procedure.

X2 - Sample extract treated with a silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in methods 8260 & 8270, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Y1 - Negative effects of the matrix from this sample on the instrument caused values for this analyte in the bracketing continuing calibration verification standard (CCVs) to be outside of 20% acceptance criteria. Because of this, quantitation limits and sample concentrations should be considered estimates.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

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Chain of Custody

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: Floyd Snider
Project Number: COB-BSC Task4
Project Name: Bothell Service Center
Project Manager: Gabe Cisneros
Sampled by: DG, GS, HB

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☑ Standard (7 Days)
☐ _____ (other)

Laboratory Number: 04-147

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260D	Halogenated Volatiles 8260D (HVOCs)*	EDB EPA 8011 (Waters Only)	Semivolatiles 8270E/SIM (with low-level PAHs)	PAHs 8270E/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270E/SIM	Chlorinated Acid Herbicides 8151A	~~Total RCRA Metals~~ Diss Fe+Mn	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	Ammonia	OP/SO4/NO3	MEE RSK 175	TOC	% Moisture
1	HZ-MW-15D-041024	4/10/24	08:55	GW	9						X								X				X	X	X	X	
2	HZ-MW-26-041024		09:30	GW	9						X								X				X	X	X	X	
3	S-MW5R-041024		10:25	GW	9						X								X				X	X	X	X	
4	S-MW-2RR-041024		11:00	GW	9						X								X				X	X	X	X	
5	HZ-MW-1-041024		11:15	GW	9						X								X				X	X	X	X	
6	HZ-MW-29-041024		13:10	GW	9						X								X				X	X	X	X	
7	HZ-MW-34-041024		13:55	GW	9						X								X				X	X	X	X	
8	HZ-MW-24-041024		15:00	GW	9						X								X				X	X	X	X	
9	S-MW-3RR-041024		15:55	GW	9						X								X				X	X	X	X	
10	MW-43R-041024	↓	16:20	GW	9						X								X				X	X	X	X	

	Signature	Company	Date	Time
Relinquished		Floyd Snider	04/10/24	5:51
Received		CDE	4/10/24	1751
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
Email results to:
labdata@floydsnider.com
* PCE, TCE, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE + Vinyl Chloride

Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

Chain of Custody

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: Floyd Snider
Project Number: COB-BSC Task 4
Project Name: Bothell Service Center
Project Manager: Gabe Cisneros
Sampled by: DG, GS, HB

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☑ Standard (7 Days)
☐ _____ (other)

Laboratory Number: 04-147

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260D	Halogenated Volatiles 8260D (HVOCs)★	EDB EPA 8011 (Waters Only)	Semivolatiles 8270E/SIM (with low-level PAHs)	PAHs 8270E/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270E/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals D,35 Fe+Mn	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	Ammonia	OP/SO4/NO3	MEE RSK 175	TOC	% Moisture
11	MW-42-041024	4/10/24	16:15	GW	9						X								X				X	X	X	X	

	Signature	Company	Date	Time
Relinquished		Floyd Snider	04/10/24	5:51
Received		OSE	4/10/24	1757
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
Email results to:
labdata@floydsnider.com
★PCE, TCE, 1,1-DCE, cis-1,2-PCE, trans-1,2-DCE & Vinyl Chloride

Data Package: Standard ☐ Level III ☐ Level IV ☐
Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

Sample/Cooler Receipt and Acceptance Checklist

Client: FLS

Client Project Name/Number: COB-BSC Task4

OnSite Project Number: 04-147

Initiated by: MW

Date Initiated: 4/10/24

1.0 Cooler Verification

1.1 Were there custody seals on the outside of the cooler?	Yes	(No)	N/A	1 2 3 4	
1.2 Were the custody seals intact?	Yes	No	(N/A)	1 2 3 4	
1.3 Were the custody seals signed and dated by last custodian?	Yes	No	(N/A)	1 2 3 4	
1.4 Were the samples delivered on ice or blue ice?	(Yes)	No	N/A	1 2 3 4	
1.5 Were samples received between 0-6 degrees Celsius?	(Yes)	No	N/A	Temperature:	5,4
1.6 Have shipping bills (if any) been attached to the back of this form?	Yes	(N/A)			
1.7 How were the samples delivered?	(Client)	Courier	UPS/FedEx	OSE Pickup	Other

2.0 Chain of Custody Verification

2.1 Was a Chain of Custody submitted with the samples?	(Yes)	No		1 2 3 4
2.2 Was the COC legible and written in permanent ink?	(Yes)	No		1 2 3 4
2.3 Have samples been relinquished and accepted by each custodian?	(Yes)	No		1 2 3 4
2.4 Did the sample labels (ID, date, time, preservative) agree with COC?	(Yes)	No		1 2 3 4
2.5 Were all of the samples listed on the COC submitted?	(Yes)	No		1 2 3 4
2.6 Were any of the samples submitted omitted from the COC?	Yes	(No)		1 2 3 4

3.0 Sample Verification

3.1 Were any sample containers broken or compromised?	Yes	(No)		1 2 3 4
3.2 Were any sample labels missing or illegible?	Yes	(No)		1 2 3 4
3.3 Have the correct containers been used for each analysis requested?	(Yes)	No		1 2 3 4
3.4 Have the samples been correctly preserved?	(Yes)	No	N/A	1 2 3 4
3.5 Are volatiles samples free from headspace and bubbles greater than 6mm?	Yes	(No)	N/A	1 2 3 4
3.6 Is there sufficient sample submitted to perform requested analyses?	(Yes)	No		1 2 3 4
3.7 Have any holding times already expired or will expire in 24 hours?	Yes	(No)		1 2 3 4
3.8 Was method 5035A used?	(Yes)	No	(N/A)	1 2 3 4
3.9 If 5035A was used, which sampling option was used (#1, 2, or 3).	#		(N/A)	1 2 3 4

Explain any discrepancies:

3.5) #9) 1 vial w/bubble

1 - Discuss issue in Case Narrative

2 - Process Sample As-is

3 - Client contacted to discuss problem

4 - Sample cannot be analyzed or client does not wish to proceed

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

April 19, 2024

Gabe Cisneros
Floyd & Snider
601 Union Street, Suite 600
Seattle, WA 98101

Re: Analytical Data for Project COB-BSC, Task 4
Laboratory Reference No. 2404-161

Dear Gabe:

Enclosed are the analytical results and associated quality control data for samples submitted on April 11, 2024.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: April 19, 2024
Samples Submitted: April 11, 2024
Laboratory Reference: 2404-161
Project: COB-BSC, Task 4

Case Narrative

Samples were collected on April 11, 2024 and received by the laboratory on April 11, 2024. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below. However the soil results for the QA/QC samples are reported on a wet-weight basis.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

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Date of Report: April 19, 2024
Samples Submitted: April 11, 2024
Laboratory Reference: 2404-161
Project: COB-BSC, Task 4

VOLATILE ORGANICS EPA 8260D

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**EFF-041124**					
Laboratory ID:	04-161-01					
Vinyl Chloride	ND	0.20	EPA 8260D	4-15-24	4-15-24	
1,1-Dichloroethene	ND	0.20	EPA 8260D	4-15-24	4-15-24	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-15-24	4-15-24	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-15-24	4-15-24	
Trichloroethene	ND	0.20	EPA 8260D	4-15-24	4-15-24	
Tetrachloroethene	ND	0.20	EPA 8260D	4-15-24	4-15-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*100*	*75-127*				
Toluene-d8	*101*	*80-127*				
4-Bromofluorobenzene	*97*	*78-125*				
Client ID:	**BKTH1-041124**					
Laboratory ID:	04-161-02					
Vinyl Chloride	1.7	0.20	EPA 8260D	4-15-24	4-15-24	
1,1-Dichloroethene	ND	0.20	EPA 8260D	4-15-24	4-15-24	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-15-24	4-15-24	
(cis) 1,2-Dichloroethene	0.70	0.20	EPA 8260D	4-15-24	4-15-24	
Trichloroethene	ND	0.20	EPA 8260D	4-15-24	4-15-24	
Tetrachloroethene	1.6	0.20	EPA 8260D	4-15-24	4-15-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*103*	*75-127*				
Toluene-d8	*101*	*80-127*				
4-Bromofluorobenzene	*99*	*78-125*				
Client ID:	**BKTH2-041124**					
Laboratory ID:	04-161-03					
Vinyl Chloride	5.7	0.40	EPA 8260D	4-15-24	4-15-24	
1,1-Dichloroethene	ND	0.40	EPA 8260D	4-15-24	4-15-24	
(trans) 1,2-Dichloroethene	ND	0.40	EPA 8260D	4-15-24	4-15-24	
(cis) 1,2-Dichloroethene	23	0.40	EPA 8260D	4-15-24	4-15-24	
Trichloroethene	1.8	0.40	EPA 8260D	4-15-24	4-15-24	
Tetrachloroethene	33	0.40	EPA 8260D	4-15-24	4-15-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*105*	*75-127*				
Toluene-d8	*101*	*80-127*				
4-Bromofluorobenzene	*97*	*78-125*				

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Date of Report: April 19, 2024
Samples Submitted: April 11, 2024
Laboratory Reference: 2404-161
Project: COB-BSC, Task 4

VOLATILE ORGANICS EPA 8260D

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**INF-041124**					
Laboratory ID:	04-161-04					
Vinyl Chloride	6.5	1.0	EPA 8260D	4-15-24	4-15-24	
1,1-Dichloroethene	ND	1.0	EPA 8260D	4-15-24	4-15-24	
(trans) 1,2-Dichloroethene	ND	1.0	EPA 8260D	4-15-24	4-15-24	
(cis) 1,2-Dichloroethene	90	1.0	EPA 8260D	4-15-24	4-15-24	
Trichloroethene	7.1	1.0	EPA 8260D	4-15-24	4-15-24	
Tetrachloroethene	140	1.0	EPA 8260D	4-15-24	4-15-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*104*	*75-127*				
Toluene-d8	*101*	*80-127*				
4-Bromofluorobenzene	*97*	*78-125*				
Client ID:	**HZ-MW-33R-041124**					
Laboratory ID:	04-161-05					
Vinyl Chloride	ND	0.20	EPA 8260D	4-15-24	4-15-24	
1,1-Dichloroethene	ND	0.20	EPA 8260D	4-15-24	4-15-24	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-15-24	4-15-24	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-15-24	4-15-24	
Trichloroethene	ND	0.20	EPA 8260D	4-15-24	4-15-24	
Tetrachloroethene	ND	0.20	EPA 8260D	4-15-24	4-15-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*100*	*75-127*				
Toluene-d8	*101*	*80-127*				
4-Bromofluorobenzene	*97*	*78-125*				
Client ID:	**MW-27-041124**					
Laboratory ID:	04-161-06					
Vinyl Chloride	ND	0.20	EPA 8260D	4-15-24	4-15-24	
1,1-Dichloroethene	ND	0.20	EPA 8260D	4-15-24	4-15-24	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-15-24	4-15-24	
(cis) 1,2-Dichloroethene	2.6	0.20	EPA 8260D	4-15-24	4-15-24	
Trichloroethene	1.6	0.20	EPA 8260D	4-15-24	4-15-24	
Tetrachloroethene	29	0.20	EPA 8260D	4-15-24	4-15-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*103*	*75-127*				
Toluene-d8	*101*	*80-127*				
4-Bromofluorobenzene	*99*	*78-125*				

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Date of Report: April 19, 2024
Samples Submitted: April 11, 2024
Laboratory Reference: 2404-161
Project: COB-BSC, Task 4

VOLATILE ORGANICS EPA 8260D

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-23-041124**					
Laboratory ID:	04-161-07					
Vinyl Chloride	ND	0.20	EPA 8260D	4-15-24	4-15-24	
1,1-Dichloroethene	ND	0.20	EPA 8260D	4-15-24	4-15-24	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-15-24	4-15-24	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-15-24	4-15-24	
Trichloroethene	ND	0.20	EPA 8260D	4-15-24	4-15-24	
Tetrachloroethene	0.24	0.20	EPA 8260D	4-15-24	4-15-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*103*	*75-127*				
Toluene-d8	*102*	*80-127*				
4-Bromofluorobenzene	*98*	*78-125*				
Client ID:	**MW-39-041124**					
Laboratory ID:	04-161-08					
Vinyl Chloride (SIM)	ND	0.20	EPA 8260D/SIM	4-15-24	4-15-24	
1,1-Dichloroethene	ND	2.0	EPA 8260D	4-15-24	4-15-24	
(trans) 1,2-Dichloroethene	ND	2.0	EPA 8260D	4-15-24	4-15-24	
(cis) 1,2-Dichloroethene	ND	2.0	EPA 8260D	4-15-24	4-15-24	
Trichloroethene	56	2.0	EPA 8260D	4-15-24	4-15-24	
Tetrachloroethene	220	2.0	EPA 8260D	4-15-24	4-15-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*101*	*75-127*				
Toluene-d8	*100*	*80-127*				
4-Bromofluorobenzene	*97*	*78-125*				
Client ID:	**MW-40-041124**					
Laboratory ID:	04-161-09					
Vinyl Chloride	130	20	EPA 8260D	4-15-24	4-15-24	
1,1-Dichloroethene	88	20	EPA 8260D	4-15-24	4-15-24	
(trans) 1,2-Dichloroethene	ND	20	EPA 8260D	4-15-24	4-15-24	
(cis) 1,2-Dichloroethene	450	20	EPA 8260D	4-15-24	4-15-24	
Trichloroethene	3700	20	EPA 8260D	4-15-24	4-15-24	
Tetrachloroethene	1900	20	EPA 8260D	4-15-24	4-15-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*103*	*75-127*				
Toluene-d8	*102*	*80-127*				
4-Bromofluorobenzene	*98*	*78-125*				

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Date of Report: April 19, 2024
Samples Submitted: April 11, 2024
Laboratory Reference: 2404-161
Project: COB-BSC, Task 4

VOLATILE ORGANICS EPA 8260D

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-140-041124**					
Laboratory ID:	04-161-10					
Vinyl Chloride	110	20	EPA 8260D	4-15-24	4-15-24	
1,1-Dichloroethene	80	20	EPA 8260D	4-15-24	4-15-24	
(trans) 1,2-Dichloroethene	ND	20	EPA 8260D	4-15-24	4-15-24	
(cis) 1,2-Dichloroethene	400	20	EPA 8260D	4-15-24	4-15-24	
Trichloroethene	3400	20	EPA 8260D	4-15-24	4-15-24	
Tetrachloroethene	1700	20	EPA 8260D	4-15-24	4-15-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*103*	*75-127*				
Toluene-d8	*102*	*80-127*				
4-Bromofluorobenzene	*96*	*78-125*				

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Date of Report: April 19, 2024
Samples Submitted: April 11, 2024
Laboratory Reference: 2404-161
Project: COB-BSC, Task 4

VOLATILE ORGANICS EPA 8260D
QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0415W2					
Vinyl Chloride (SIM)	ND	0.020	EPA 8260D/SIM	4-15-24	4-15-24	
1,1-Dichloroethene	ND	0.20	EPA 8260D	4-15-24	4-15-24	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-15-24	4-15-24	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260D	4-15-24	4-15-24	
Trichloroethene	ND	0.20	EPA 8260D	4-15-24	4-15-24	
Tetrachloroethene	ND	0.20	EPA 8260D	4-15-24	4-15-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*99*	*75-127*				
Toluene-d8	*101*	*80-127*				
4-Bromofluorobenzene	*98*	*78-125*				

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0415W2									
	SB	SBD	SB	SBD	SB	SBD				
Vinyl Chloride	**10.8**	**10.3**	10.0	10.0	108	103	71-135	5	20	
1,1-Dichloroethene	**10.8**	**10.3**	10.0	10.0	108	103	78-125	5	19	
(trans) 1,2-Dichloroethene	**10.6**	**10.3**	10.0	10.0	106	103	80-125	3	17	
(cis) 1,2-Dichloroethene	**10.7**	**10.3**	10.0	10.0	107	103	80-129	4	17	
Trichloroethene	**10.4**	**9.91**	10.0	10.0	104	99	80-122	5	18	
Tetrachloroethene	**10.0**	**9.63**	10.0	10.0	100	96	80-124	4	18	
Surrogate:										
Dibromofluoromethane					*100*	*101*	*75-127*			
Toluene-d8					*101*	*100*	*80-127*			
4-Bromofluorobenzene					*103*	*103*	*78-125*			

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Samples Submitted: April 11, 2024
Laboratory Reference: 2404-161
Project: COB-BSC, Task 4

DISSOLVED METALS
EPA 6010D

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**HZ-MW-33R-041124**					
Laboratory ID:	04-161-05					
Iron	**ND**	56	EPA 6010D		4-16-24	
Manganese	**65**	11	EPA 6010D		4-16-24	
Client ID:	**MW-27-041124**					
Laboratory ID:	04-161-06					
Iron	**140**	56	EPA 6010D		4-16-24	
Manganese	**1200**	11	EPA 6010D		4-16-24	
Client ID:	**MW-23-041124**					
Laboratory ID:	04-161-07					
Iron	**ND**	56	EPA 6010D		4-16-24	
Manganese	**180**	11	EPA 6010D		4-16-24	
Client ID:	**MW-39-041124**					
Laboratory ID:	04-161-08					
Iron	**7700**	56	EPA 6010D		4-16-24	
Manganese	**130**	11	EPA 6010D		4-16-24	
Client ID:	**MW-40-041124**					
Laboratory ID:	04-161-09					
Iron	**24000**	56	EPA 6010D		4-16-24	
Manganese	**370**	11	EPA 6010D		4-16-24	
Client ID:	**MW-140-041124**					
Laboratory ID:	04-161-10					
Iron	**23000**	56	EPA 6010D		4-16-24	
Manganese	**360**	11	EPA 6010D		4-16-24	

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Date of Report: April 19, 2024
Samples Submitted: April 11, 2024
Laboratory Reference: 2404-161
Project: COB-BSC, Task 4

DISSOLVED METALS
EPA 6010D
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0416D1					
Iron	**ND**	56	EPA 6010D		4-16-24	
Manganese	**ND**	11	EPA 6010D		4-16-24	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	05-161-05										
	ORIG	DUP									
Iron	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Manganese	**64.9**	**64.9**	NA	NA		NA		NA	0	20	
MATRIX SPIKES											
Laboratory ID:	04-147-01										
	MS	MSD	MS	MSD		MS	MSD				
Iron	**22000**	**22000**	22200	22200	ND	**99**	**99**	75-125	0	20	
Manganese	**554**	**547**	556	556	64.9	**88**	**87**	75-125	1	20	

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Date of Report: April 19, 2024
Samples Submitted: April 11, 2024
Laboratory Reference: 2404-161
Project: COB-BSC, Task 4

AMMONIA (as Nitrogen)
SM 4500-NH_3 D

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**HZ-MW-33R-041124**					
Laboratory ID:	04-161-05					
Ammonia	**ND**	0.053	SM 4500-NH3 D	4-19-24	4-19-24	
Client ID:	**MW-27-041124**					
Laboratory ID:	04-161-06					
Ammonia	**ND**	0.053	SM 4500-NH3 D	4-19-24	4-19-24	
Client ID:	**MW-23-041124**					
Laboratory ID:	04-161-07					
Ammonia	**ND**	0.053	SM 4500-NH3 D	4-19-24	4-19-24	
Client ID:	**MW-39-041124**					
Laboratory ID:	04-161-08					
Ammonia	**0.60**	0.053	SM 4500-NH3 D	4-19-24	4-19-24	
Client ID:	**MW-40-041124**					
Laboratory ID:	04-161-09					
Ammonia	**0.71**	0.053	SM 4500-NH3 D	4-19-24	4-19-24	
Client ID:	**MW-140-041124**					
Laboratory ID:	04-161-10					
Ammonia	**0.68**	0.053	SM 4500-NH3 D	4-19-24	4-19-24	

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Date of Report: April 19, 2024
Samples Submitted: April 11, 2024
Laboratory Reference: 2404-161
Project: COB-BSC, Task 4

AMMONIA (as Nitrogen)
SM 4500-NH_3 D
QUALITY CONTROL

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0419W1					
Ammonia	**ND**	0.053	SM 4500-NH3 D	4-19-24	4-19-24	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	04-147-01							
	ORIG DUP							
Ammonia	**ND** **ND**	NA	NA	NA	NA	NA	27	
MATRIX SPIKE								
Laboratory ID:	04-147-01							
	MS	MS		MS				
Ammonia	**4.73**	5.00	ND	95	78-118	NA	NA	
SPIKE BLANK								
Laboratory ID:	SB0419W1							
	SB	SB		SB				
Ammonia	**4.67**	5.00	NA	93	85-114	NA	NA	

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: April 19, 2024
Samples Submitted: April 11, 2024
Laboratory Reference: 2404-161
Project: COB-BSC, Task 4

TOTAL ORTHOPHOSPHATE
EPA 365.1

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**HZ-MW-33R-041124**					
Laboratory ID:	04-161-05					
Orthophosphate	**ND**	0.012	EPA 365.1	4-11-24	4-11-24	
Client ID:	**MW-27-041124**					
Laboratory ID:	04-161-06					
Orthophosphate	**ND**	0.012	EPA 365.1	4-11-24	4-11-24	
Client ID:	**MW-23-041124**					
Laboratory ID:	04-161-07					
Orthophosphate	**ND**	0.012	EPA 365.1	4-11-24	4-11-24	
Client ID:	**MW-39-041124**					
Laboratory ID:	04-161-08					
Orthophosphate	**0.17**	0.012	EPA 365.1	4-11-24	4-11-24	
Client ID:	**MW-40-041124**					
Laboratory ID:	04-161-09					
Orthophosphate	**0.27**	0.012	EPA 365.1	4-11-24	4-11-24	
Client ID:	**MW-140-041124**					
Laboratory ID:	04-161-10					
Orthophosphate	**0.27**	0.012	EPA 365.1	4-11-24	4-11-24	

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: April 19, 2024
Samples Submitted: April 11, 2024
Laboratory Reference: 2404-161
Project: COB-BSC, Task 4

TOTAL ORTHOPHOSPHATE
EPA 365.1
QUALITY CONTROL

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0411W1					
Orthophosphate	**ND**	0.012	EPA 365.1	4-11-24	4-11-24	

Analyte	Result		Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE									
Laboratory ID:	04-147-01								
	ORIG	DUP							
Orthophosphate	**0.0204**	**0.0216**	NA	NA	NA	NA	6	22	
MATRIX SPIKE									
Laboratory ID:	04-147-01								
	MS		MS		MS				
Orthophosphate	**0.263**		0.250	0.0204	97	60-125	NA	NA	
SPIKE BLANK									
Laboratory ID:	SB0411W1								
	SB		SB		SB				
Orthophosphate	**0.230**		0.250	NA	92	81-110	NA	NA	

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and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: April 19, 2024
Samples Submitted: April 11, 2024
Laboratory Reference: 2404-161
Project: COB-BSC, Task 4

SULFATE
ASTM D516-11

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**HZ-MW-33R-041124**					
Laboratory ID:	04-161-05					
Sulfate	**10**	5.0	ASTM D516-11	4-17-24	4-17-24	
Client ID:	**MW-27-041124**					
Laboratory ID:	04-161-06					
Sulfate	**32**	10	ASTM D516-11	4-17-24	4-17-24	
Client ID:	**MW-23-041124**					
Laboratory ID:	04-161-07					
Sulfate	**9.8**	5.0	ASTM D516-11	4-17-24	4-17-24	
Client ID:	**MW-39-041124**					
Laboratory ID:	04-161-08					
Sulfate	**15**	5.0	ASTM D516-11	4-17-24	4-17-24	
Client ID:	**MW-40-041124**					
Laboratory ID:	04-161-09					
Sulfate	**ND**	5.0	ASTM D516-11	4-17-24	4-17-24	
Client ID:	**MW-140-041124**					
Laboratory ID:	04-161-10					
Sulfate	**ND**	5.0	ASTM D516-11	4-17-24	4-17-24	

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: April 19, 2024
Samples Submitted: April 11, 2024
Laboratory Reference: 2404-161
Project: COB-BSC, Task 4

SULFATE
ASTM D516-11
QUALITY CONTROL

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0417W1					
Sulfate	**ND**	5.0	ASTM D516-11	4-17-24	4-17-24	

Analyte	Result		Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE									
Laboratory ID:	04-147-01								
	ORIG	DUP							
Sulfate	**14.5**	**14.5**	NA	NA	NA	NA	0	10	
MATRIX SPIKE									
Laboratory ID:	04-147-01								
	MS		MS		MS				
Sulfate	**33.5**		20.0	14.5	95	73-127	NA	NA	
SPIKE BLANK									
Laboratory ID:	SB0417W1								
	SB		SB		SB				
Sulfate	**8.93**		10.0	NA	89	85-114	NA	NA	

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: April 19, 2024
Samples Submitted: April 11, 2024
Laboratory Reference: 2404-161
Project: COB-BSC, Task 4

NITRATE (as Nitrogen)
EPA 353.2

Matrix: Water
Units: mg/L-N

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**HZ-MW-33R-041124**					
Laboratory ID:	04-161-05					
Nitrate	**0.28**	0.050	EPA 353.2	4-11-24	4-11-24	
Client ID:	**MW-27-041124**					
Laboratory ID:	04-161-06					
Nitrate	**0.90**	0.050	EPA 353.2	4-11-24	4-11-24	
Client ID:	**MW-23-041124**					
Laboratory ID:	04-161-07					
Nitrate	**3.7**	0.050	EPA 353.2	4-11-24	4-11-24	
Client ID:	**MW-39-041124**					
Laboratory ID:	04-161-08					
Nitrate	**ND**	0.050	EPA 353.2	4-11-24	4-11-24	
Client ID:	**MW-40-041124**					
Laboratory ID:	04-161-09					
Nitrate	**0.11**	0.050	EPA 353.2	4-11-24	4-11-24	
Client ID:	**MW-140-041124**					
Laboratory ID:	04-161-10					
Nitrate	**0.078**	0.050	EPA 353.2	4-11-24	4-11-24	

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and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: April 19, 2024
Samples Submitted: April 11, 2024
Laboratory Reference: 2404-161
Project: COB-BSC, Task 4

NITRATE (as Nitrogen)
EPA 353.2
QUALITY CONTROL

Matrix: Water
Units: mg/L-N

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0411W1					
Nitrate	**ND**	0.050	EPA 353.2	4-11-24	4-11-24	

Analyte	Result		Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE									
Laboratory ID:	04-147-01								
	ORIG	DUP							
Nitrate	**ND**	**ND**	NA	NA	NA	NA	NA	19	
MATRIX SPIKE									
Laboratory ID:	04-147-01								
	MS		MS		MS				
Nitrate	**2.07**		2.00	ND	104	85-121	NA	NA	
SPIKE BLANK									
Laboratory ID:	SB0411W1								
	SB		SB		SB				
Nitrate	**1.97**		2.00	NA	99	87-118	NA	NA	

This report pertains to the samples analyzed in accordance with the chain of custody,
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Date of Report: April 19, 2024
Samples Submitted: April 11, 2024
Laboratory Reference: 2404-161
Project: COB-BSC, Task 4

DISSOLVED GASES
RSK 175

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**HZ-MW-33R-041124**					
Laboratory ID:	04-161-05					
Methane	**200**	2.2	RSK 175	4-18-24	4-18-24	
Ethane	**ND**	0.56	RSK 175	4-18-24	4-18-24	
Ethene	**ND**	0.58	RSK 175	4-18-24	4-18-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*104*	*50-150*				
Client ID:	**MW-27-041124**					
Laboratory ID:	04-161-06					
Methane	**1200**	8.3	RSK 175	4-18-24	4-18-24	
Ethane	**ND**	0.56	RSK 175	4-18-24	4-18-24	
Ethene	**ND**	0.58	RSK 175	4-18-24	4-18-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*139*	*50-150*				
Client ID:	**MW-23-041124**					
Laboratory ID:	04-161-07					
Methane	**110**	0.55	RSK 175	4-18-24	4-18-24	
Ethane	**ND**	0.56	RSK 175	4-18-24	4-18-24	
Ethene	**ND**	0.58	RSK 175	4-18-24	4-18-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*93*	*50-150*				
Client ID:	**MW-39-041124**					
Laboratory ID:	04-161-08					
Methane	**330**	2.2	RSK 175	4-18-24	4-18-24	
Ethane	**ND**	0.56	RSK 175	4-18-24	4-18-24	
Ethene	**ND**	0.58	RSK 175	4-18-24	4-18-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*119*	*50-150*				
Client ID:	**MW-40-041124**					
Laboratory ID:	04-161-09					
Methane	**210**	2.2	RSK 175	4-18-24	4-18-24	
Ethane	**ND**	0.56	RSK 175	4-18-24	4-18-24	
Ethene	**42**	0.58	RSK 175	4-18-24	4-18-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*130*	*50-150*				

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Date of Report: April 19, 2024
Samples Submitted: April 11, 2024
Laboratory Reference: 2404-161
Project: COB-BSC, Task 4

DISSOLVED GASES
RSK 175

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-140-041124**					
Laboratory ID:	04-161-10					
Methane	**260**	2.2	RSK 175	4-18-24	4-18-24	
Ethane	**0.56**	0.56	RSK 175	4-18-24	4-18-24	
Ethene	**49**	0.58	RSK 175	4-18-24	4-18-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*124*	*50-150*				

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Date of Report: April 19, 2024
Samples Submitted: April 11, 2024
Laboratory Reference: 2404-161
Project: COB-BSC, Task 4

DISSOLVED GASES
RSK 175
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0418W1					
Methane	**ND**	0.55	RSK 175	4-18-24	4-18-24	
Ethane	**ND**	0.56	RSK 175	4-18-24	4-18-24	
Ethene	**ND**	0.58	RSK 175	4-18-24	4-18-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*127*	*50-150*				

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANK										
Laboratory ID:	SB0418W1									
	SB	SBD	SB	SBD	SB	SBD				
Methane	**48.6**	**47.4**	44.2	44.2	110	107	75-125	3	25	
Ethane	**91.1**	**88.2**	83.2	83.2	109	106	75-125	3	25	
Ethene	**85.7**	**80.3**	77.7	77.7	110	103	75-125	7	25	
Surrogate:										
1-Butene					*110*	*101*	*50-150*			

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Date of Report: April 19, 2024
Samples Submitted: April 11, 2024
Laboratory Reference: 2404-161
Project: COB-BSC, Task 4

TOTAL ORGANIC CARBON
SM 5310B

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**HZ-MW-33R-041124**					
Laboratory ID:	04-161-05					
Total Organic Carbon	**ND**	1.0	SM 5310B	4-16-24	4-16-24	
Client ID:	**MW-27-041124**					
Laboratory ID:	04-161-06					
Total Organic Carbon	**1.3**	1.0	SM 5310B	4-16-24	4-16-24	
Client ID:	**MW-23-041124**					
Laboratory ID:	04-161-07					
Total Organic Carbon	**2.0**	1.0	SM 5310B	4-16-24	4-16-24	
Client ID:	**MW-39-041124**					
Laboratory ID:	04-161-08					
Total Organic Carbon	**5.8**	1.0	SM 5310B	4-16-24	4-16-24	
Client ID:	**MW-40-041124**					
Laboratory ID:	04-161-09					
Total Organic Carbon	**7.0**	1.0	SM 5310B	4-16-24	4-16-24	
Client ID:	**MW-140-041124**					
Laboratory ID:	04-161-10					
Total Organic Carbon	**7.2**	1.0	SM 5310B	4-16-24	4-16-24	

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Date of Report: April 19, 2024
Samples Submitted: April 11, 2024
Laboratory Reference: 2404-161
Project: COB-BSC, Task 4

TOTAL ORGANIC CARBON
SM 5310B
QUALITY CONTROL

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0416W1					
Total Organic Carbon	**ND**	1.0	SM 5310B	4-16-24	4-16-24	

Analyte	Result		Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE									
Laboratory ID:	04-114-01								
	ORIG	DUP							
Total Organic Carbon	**4.81**	**5.00**	NA	NA	NA	NA	4	13	
MATRIX SPIKE									
Laboratory ID:	04-114-01								
	MS		MS		MS				
Total Organic Carbon	**14.8**		10.0	4.81	100	86-127	NA	NA	
SPIKE BLANK									
Laboratory ID:	SB0416W1								
	SB		SB		SB				
Total Organic Carbon	**11.3**		10.0	NA	113	90-122	NA	NA	

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1 - Sample extract treated with a sulfuric acid/silica gel cleanup procedure.

X2 - Sample extract treated with a silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in methods 8260 & 8270, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Y1 - Negative effects of the matrix from this sample on the instrument caused values for this analyte in the bracketing continuing calibration verification standard (CCVs) to be outside of 20% acceptance criteria. Because of this, quantitation limits and sample concentrations should be considered estimates.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

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Chain of Custody

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: Floyd Snider
Project Number: COB-BSC, Task 4
Project Name: Bothell Service Center
Project Manager: Gabe Cisneros
Sampled by: CO, DG, GS

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☑ Standard (7 Days)
☐ _____ (other)

Laboratory Number: 04-161

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260D	Halogenated Volatiles 8260D (HVOCs*)	EDB EPA 8011 (Waters Only)	Semivolatiles 8270E/SIM (with low-level PAHs)	PAHs 8270E/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270E/SIM	Chlorinated Acid Herbicides 8151A	~~Total~~ RCRA Metals Diss Fe+Mn	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	Ammonia	OP/SO4/NO3	MEE RSK 175	TOC	% Moisture
1	EFF-041124	4/11/24	08:30	GW	3						X																
2	BKTH1-041124		08:40		3						X																
3	BKTH2-041124		08:35		3						X																
4	INF-041124		08:45		3						X																
5	HZ-MW-33R-041124		11:06		9						X								X				X	X	X	X	
6	MW-27-041124		11:15		9						X								X				X	X	X	X	
7	MW-23-041124		12:30		9						X								X				X	X	X	X	
8	MW-39-041124		12:38		9						X								X				X	X	X	X	
9	MW-40-041124		12:50		9						X								X				X	X	X	X	
10	MW-140-041124	↓	13:00	↓	9						X								X				X	X	X	X	

	Signature	Company	Date	Time
Relinquished	#17	FLOYD SNIDER	4/11/24	1517
Received		Speedy Al/Jr	4/11/24	3:18
Relinquished	#17	Speedy Al/Jr	4/11/24	3:39
Received		OSE	4/11/24	1539
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
Email results to:
labdata@floydsnider.com
☆ PCE, TCE, 1,1-DCE, ~~Benz~~
cis-1,2-DCE, trans-1,2-DCE
+ Vinyl Chloride

Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

Sample/Cooler Receipt and Acceptance Checklist

Client: FLS

Client Project Name/Number: COB-BSC Task 4

OnSite Project Number: 04-161

Initiated by: MW

Date Initiated: 4/11/24

1.0 Cooler Verification

1.1 Were there custody seals on the outside of the cooler?	Yes	(No)	N/A	1 2 3 4	
1.2 Were the custody seals intact?	Yes	No	(N/A)	1 2 3 4	
1.3 Were the custody seals signed and dated by last custodian?	Yes	No	(N/A)	1 2 3 4	
1.4 Were the samples delivered on ice or blue ice?	(Yes)	No	N/A	1 2 3 4	
1.5 Were samples received between 0-6 degrees Celsius?	(Yes)	No	N/A	Temperature:	5
1.6 Have shipping bills (if any) been attached to the back of this form?	Yes	(N/A)			
1.7 How were the samples delivered?	Client	(Courier)	UPS/FedEx	OSE Pickup	Other

2.0 Chain of Custody Verification

2.1 Was a Chain of Custody submitted with the samples?	(Yes)	No		1 2 3 4
2.2 Was the COC legible and written in permanent ink?	(Yes)	No		1 2 3 4
2.3 Have samples been relinquished and accepted by each custodian?	(Yes)	No		1 2 3 4
2.4 Did the sample labels (ID, date, time, preservative) agree with COC?	(Yes)	No		1 2 3 4
2.5 Were all of the samples listed on the COC submitted?	(Yes)	No		1 2 3 4
2.6 Were any of the samples submitted omitted from the COC?	Yes	(No)		1 2 3 4

3.0 Sample Verification

3.1 Were any sample containers broken or compromised?	Yes	(No)		1 2 3 4
3.2 Were any sample labels missing or illegible?	Yes	(No)		1 2 3 4
3.3 Have the correct containers been used for each analysis requested?	(Yes)	No		1 2 3 4
3.4 Have the samples been correctly preserved?	(Yes)	No	N/A	1 2 3 4
3.5 Are volatiles samples free from headspace and bubbles greater than 6mm?	(Yes)	No	N/A	1 2 3 4
3.6 Is there sufficient sample submitted to perform requested analyses?	(Yes)	No		1 2 3 4
3.7 Have any holding times already expired or will expire in 24 hours?	Yes	(No)		1 2 3 4
3.8 Was method 5035A used?	Yes	No	(N/A)	1 2 3 4
3.9 If 5035A was used, which sampling option was used (#1, 2, or 3).	#		(N/A)	1 2 3 4

Explain any discrepancies:

1 - Discuss issue in Case Narrative

2 - Process Sample As-is

3 - Client contacted to discuss problem

4 - Sample cannot be analyzed or client does not wish to proceed

September 2024 Event Laboratory Analytical Reports

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

October 8, 2024

Gabe Cisneros
Floyd & Snider
601 Union Street, Suite 600
Seattle, WA 98101

Re: Analytical Data for Project COB-Service Center (BSC); Task 4
Laboratory Reference No. 2409-288

Dear Gabe:

Enclosed are the analytical results and associated quality control data for samples submitted on September 23, 2024.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: October 8, 2024
Samples Submitted: September 23, 2024
Laboratory Reference: 2409-288
Project: COB-Service Center (BSC); Task 4

Case Narrative

Samples were collected on September 23, 2024 and received by the laboratory on September 23, 2024. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below. However the soil results for the QA/QC samples are reported on a wet-weight basis.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

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Samples Submitted: September 23, 2024
Laboratory Reference: 2409-288
Project: COB-Service Center (BSC); Task 4

VOLATILE ORGANICS EPA 8260D

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-29-092324**					
Laboratory ID:	09-288-01					
Vinyl Chloride	ND	0.20	EPA 8260D	9-25-24	9-25-24	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	9-25-24	9-25-24	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260D	9-25-24	9-25-24	
Trichloroethene	ND	0.20	EPA 8260D	9-25-24	9-25-24	
Tetrachloroethene	ND	0.20	EPA 8260D	9-25-24	9-25-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*97*	*68-133*				
Toluene-d8	*100*	*79-123*				
4-Bromofluorobenzene	*99*	*78-117*				
Client ID:	**MW-23-092324**					
Laboratory ID:	09-288-02					
Vinyl Chloride	ND	0.20	EPA 8260D	9-25-24	9-25-24	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	9-25-24	9-25-24	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260D	9-25-24	9-25-24	
Trichloroethene	ND	0.20	EPA 8260D	9-25-24	9-25-24	
Tetrachloroethene	ND	0.20	EPA 8260D	9-25-24	9-25-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*97*	*68-133*				
Toluene-d8	*99*	*79-123*				
4-Bromofluorobenzene	*100*	*78-117*				
Client ID:	**S-MW-5R-092324**					
Laboratory ID:	09-288-03					
Vinyl Chloride	ND	2.0	EPA 8260D	9-25-24	9-25-24	
(trans) 1,2-Dichloroethene	ND	2.0	EPA 8260D	9-25-24	9-25-24	
(cis) 1,2-Dichloroethene	17	2.0	EPA 8260D	9-25-24	9-25-24	
Trichloroethene	7.8	2.0	EPA 8260D	9-25-24	9-25-24	
Tetrachloroethene	350	2.0	EPA 8260D	9-25-24	9-25-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*97*	*68-133*				
Toluene-d8	*100*	*79-123*				
4-Bromofluorobenzene	*99*	*78-117*				

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Project: COB-Service Center (BSC); Task 4

VOLATILE ORGANICS EPA 8260D

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**S-MW-2RR-092324**					
Laboratory ID:	09-288-04					
Vinyl Chloride	ND	0.20	EPA 8260D	9-25-24	9-25-24	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	9-25-24	9-25-24	
(cis) 1,2-Dichloroethene	0.32	0.20	EPA 8260D	9-25-24	9-25-24	
Trichloroethene	0.56	0.20	EPA 8260D	9-25-24	9-25-24	
Tetrachloroethene	ND	0.20	EPA 8260D	9-25-24	9-25-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*96*	*68-133*				
Toluene-d8	*101*	*79-123*				
4-Bromofluorobenzene	*101*	*78-117*				
Client ID:	**HZ-MW-26-092324**					
Laboratory ID:	09-288-05					
Vinyl Chloride	ND	0.20	EPA 8260D	9-25-24	9-25-24	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	9-25-24	9-25-24	
(cis) 1,2-Dichloroethene	3.5	0.20	EPA 8260D	9-25-24	9-25-24	
Trichloroethene	0.35	0.20	EPA 8260D	9-25-24	9-25-24	
Tetrachloroethene	32	0.20	EPA 8260D	9-25-24	9-25-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*97*	*68-133*				
Toluene-d8	*99*	*79-123*				
4-Bromofluorobenzene	*98*	*78-117*				
Client ID:	**HZ-MW-15S-092324**					
Laboratory ID:	09-288-06					
Vinyl Chloride	0.29	0.20	EPA 8260D	9-25-24	9-25-24	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	9-25-24	9-25-24	
(cis) 1,2-Dichloroethene	9.0	0.20	EPA 8260D	9-25-24	9-25-24	
Trichloroethene	4.0	0.20	EPA 8260D	9-25-24	9-25-24	
Tetrachloroethene	9.8	0.20	EPA 8260D	9-25-24	9-25-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*98*	*68-133*				
Toluene-d8	*99*	*79-123*				
4-Bromofluorobenzene	*101*	*78-117*				

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Date of Report: October 8, 2024
Samples Submitted: September 23, 2024
Laboratory Reference: 2409-288
Project: COB-Service Center (BSC); Task 4

VOLATILE ORGANICS EPA 8260D

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**CEFF-092324**					
Laboratory ID:	09-288-07					
Vinyl Chloride	5.3	0.20	EPA 8260D	9-25-24	9-25-24	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	9-25-24	9-25-24	
(cis) 1,2-Dichloroethene	14	0.20	EPA 8260D	9-25-24	9-25-24	
Trichloroethene	1.3	0.20	EPA 8260D	9-25-24	9-25-24	
Tetrachloroethene	6.9	0.20	EPA 8260D	9-25-24	9-25-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*98*	*68-133*				
Toluene-d8	*100*	*79-123*				
4-Bromofluorobenzene	*100*	*78-117*				
Client ID:	**INF-092324**					
Laboratory ID:	09-288-08					
Vinyl Chloride	18	1.0	EPA 8260D	9-25-24	9-25-24	
(trans) 1,2-Dichloroethene	ND	1.0	EPA 8260D	9-25-24	9-25-24	
(cis) 1,2-Dichloroethene	130	1.0	EPA 8260D	9-25-24	9-25-24	
Trichloroethene	18	1.0	EPA 8260D	9-25-24	9-25-24	
Tetrachloroethene	120	1.0	EPA 8260D	9-25-24	9-25-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*94*	*68-133*				
Toluene-d8	*99*	*79-123*				
4-Bromofluorobenzene	*100*	*78-117*				
Client ID:	**BKTH1-092324**					
Laboratory ID:	09-288-09					
Vinyl Chloride	10	0.20	EPA 8260D	9-25-24	9-25-24	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	9-25-24	9-25-24	
(cis) 1,2-Dichloroethene	26	0.20	EPA 8260D	9-25-24	9-25-24	
Trichloroethene	2.7	0.20	EPA 8260D	9-25-24	9-25-24	
Tetrachloroethene	17	0.20	EPA 8260D	9-25-24	9-25-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*98*	*68-133*				
Toluene-d8	*100*	*79-123*				
4-Bromofluorobenzene	*101*	*78-117*				

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Laboratory Reference: 2409-288
Project: COB-Service Center (BSC); Task 4

VOLATILE ORGANICS EPA 8260D

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**BKTH2-092324**					
Laboratory ID:	09-288-10					
Vinyl Chloride	12	0.20	EPA 8260D	9-25-24	9-25-24	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	9-25-24	9-25-24	
(cis) 1,2-Dichloroethene	39	0.20	EPA 8260D	9-25-24	9-25-24	
Trichloroethene	4.5	0.20	EPA 8260D	9-25-24	9-25-24	
Tetrachloroethene	19	0.20	EPA 8260D	9-25-24	9-25-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*95*	*68-133*				
Toluene-d8	*99*	*79-123*				
4-Bromofluorobenzene	*99*	*78-117*				

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Project: COB-Service Center (BSC); Task 4

VOLATILE ORGANICS EPA 8260D
QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0925W1					
Vinyl Chloride	ND	0.20	EPA 8260D	9-25-24	9-25-24	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	9-25-24	9-25-24	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260D	9-25-24	9-25-24	
Trichloroethene	ND	0.20	EPA 8260D	9-25-24	9-25-24	
Tetrachloroethene	ND	0.20	EPA 8260D	9-25-24	9-25-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*92*	*68-133*				
Toluene-d8	*98*	*79-123*				
4-Bromofluorobenzene	*97*	*78-117*				

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0925W1									
	SB	SBD	SB	SBD	SB	SBD				
Vinyl Chloride	**9.13**	**8.97**	10.0	10.0	91	90	67-130	2	15	
(trans) 1,2-Dichloroethene	**10.1**	**10.1**	10.0	10.0	101	101	77-125	0	15	
(cis) 1,2-Dichloroethene	**10.2**	**10.5**	10.0	10.0	102	105	78-130	3	15	
Trichloroethene	**10.7**	**11.0**	10.0	10.0	107	110	80-126	3	15	
Tetrachloroethene	**11.1**	**11.2**	10.0	10.0	111	112	80-125	1	15	
Surrogate:										
Dibromofluoromethane					*95*	*95*	*68-133*			
Toluene-d8					*99*	*98*	*79-123*			
4-Bromofluorobenzene					*98*	*101*	*78-117*			

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AMMONIA (as Nitrogen)
SM 4500-NH_3 D

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-29-092324**					
Laboratory ID:	09-288-01					
Ammonia	**0.29**	0.053	SM 4500-NH3 D	10-7-24	10-7-24	
Client ID:	**MW-23-092324**					
Laboratory ID:	09-288-02					
Ammonia	**ND**	0.053	SM 4500-NH3 D	10-7-24	10-7-24	
Client ID:	**S-MW-5R-092324**					
Laboratory ID:	09-288-03					
Ammonia	**ND**	0.053	SM 4500-NH3 D	10-7-24	10-7-24	
Client ID:	**S-MW-2RR-092324**					
Laboratory ID:	09-288-04					
Ammonia	**6.0**	0.053	SM 4500-NH3 D	10-7-24	10-7-24	
Client ID:	**HZ-MW-26-092324**					
Laboratory ID:	09-288-05					
Ammonia	**ND**	0.053	SM 4500-NH3 D	10-7-24	10-7-24	
Client ID:	**HZ-MW-15S-092324**					
Laboratory ID:	09-288-06					
Ammonia	**ND**	0.053	SM 4500-NH3 D	10-7-24	10-7-24	

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Project: COB-Service Center (BSC); Task 4

AMMONIA (as Nitrogen)
SM 4500-NH_3 D
QUALITY CONTROL

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1007W1					
Ammonia	**ND**	0.053	SM 4500-NH3 D	10-7-24	10-7-24	

Analyte	Result		Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE									
Laboratory ID:	09-255-01								
	ORIG	DUP							
Ammonia	**0.0726**	**0.0708**	NA	NA	NA	NA	3	15	
MATRIX SPIKE									
Laboratory ID:	09-255-01								
	MS		MS		MS				
Ammonia	**4.37**		5.00	0.0726	86	75-111	NA	NA	
SPIKE BLANK									
Laboratory ID:	SB1007W1								
	SB		SB		SB				
Ammonia	**4.50**		5.00	NA	90	81-110	NA	NA	

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TOTAL ORTHOPHOSPHATE
EPA 365.1

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-29-092324**					
Laboratory ID:	09-288-01					
Orthophosphate	**0.27**	0.012	EPA 365.1	09/24/254	9-24-24	
Client ID:	**MW-23-092324**					
Laboratory ID:	09-288-02					
Orthophosphate	**ND**	0.012	EPA 365.1	09/24/254	9-24-24	
Client ID:	**S-MW-5R-092324**					
Laboratory ID:	09-288-03					
Orthophosphate	**0.031**	0.012	EPA 365.1	09/24/254	9-24-24	
Client ID:	**S-MW-2RR-092324**					
Laboratory ID:	09-288-04					
Orthophosphate	**2.4**	0.048	EPA 365.1	09/24/254	9-24-24	
Client ID:	**HZ-MW-26-092324**					
Laboratory ID:	09-288-05					
Orthophosphate	**0.048**	0.012	EPA 365.1	09/24/254	9-24-24	
Client ID:	**HZ-MW-15S-092324**					
Laboratory ID:	09-288-06					
Orthophosphate	**0.060**	0.012	EPA 365.1	09/24/254	9-24-24	

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TOTAL ORTHOPHOSPHATE
EPA 365.1
QUALITY CONTROL

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0924W1					
Orthophosphate	**ND**	0.012	EPA 365.1	09/24/254	9-24-24	

Analyte	Result		Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE									
Laboratory ID:	09-288-01								
	ORIG	DUP							
Orthophosphate	**0.266**	**0.265**	NA	NA	NA	NA	0	21	
MATRIX SPIKE									
Laboratory ID:	09-288-01								
	MS		MS		MS				
Orthophosphate	**0.531**		0.250	0.266	106	68-121	NA	NA	
SPIKE BLANK									
Laboratory ID:	SB0924W1								
	SB		SB		SB				
Orthophosphate	**0.274**		0.250	NA	110	81-110	NA	NA	

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SULFATE
ASTM D516-11

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-29-092324**					
Laboratory ID:	09-288-01					
Sulfate	**ND**	5.0	ASTM D516-11	10-7-24	10-7-24	
Client ID:	**MW-23-092324**					
Laboratory ID:	09-288-02					
Sulfate	**29**	10	ASTM D516-11	10-7-24	10-7-24	
Client ID:	**S-MW-5R-092324**					
Laboratory ID:	09-288-03					
Sulfate	**25**	5.0	ASTM D516-11	10-7-24	10-7-24	
Client ID:	**S-MW-2RR-092324**					
Laboratory ID:	09-288-04					
Sulfate	**120**	50	ASTM D516-11	10-7-24	10-7-24	
Client ID:	**HZ-MW-26-092324**					
Laboratory ID:	09-288-05					
Sulfate	**23**	5.0	ASTM D516-11	10-7-24	10-7-24	
Client ID:	**HZ-MW-15S-092324**					
Laboratory ID:	09-288-06					
Sulfate	**25**	10	ASTM D516-11	10-7-24	10-7-24	

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SULFATE
ASTM D516-11
QUALITY CONTROL

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1007W1					
Sulfate	**ND**	5.0	ASTM D516-11	10-7-24	10-7-24	

Analyte	Result		Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE									
Laboratory ID:	09-264-02								
	ORIG	DUP							
Sulfate	**10.1**	**10.2**	NA	NA	NA	NA	1	11	
MATRIX SPIKE									
Laboratory ID:	09-264-02								
	MS		MS		MS				
Sulfate	**22.3**		10.0	10.1	122	69-134	NA	NA	
SPIKE BLANK									
Laboratory ID:	SB1007W1								
	SB		SB		SB				
Sulfate	**9.36**		10.0	NA	94	81-106	NA	NA	

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NITRATE (as Nitrogen)
EPA 353.2

Matrix: Water
Units: mg/L-N

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-29-092324**					
Laboratory ID:	09-288-01					
Nitrate	**ND**	0.050	EPA 353.2	10-3-24	10-3-24	
Client ID:	**MW-23-092324**					
Laboratory ID:	09-288-02					
Nitrate	**4.5**	0.050	EPA 353.2	10-3-24	10-3-24	
Client ID:	**S-MW-5R-092324**					
Laboratory ID:	09-288-03					
Nitrate	**0.47**	0.050	EPA 353.2	10-3-24	10-3-24	
Client ID:	**S-MW-2RR-092324**					
Laboratory ID:	09-288-04					
Nitrate	**ND**	0.050	EPA 353.2	10-3-24	10-3-24	
Client ID:	**HZ-MW-26-092324**					
Laboratory ID:	09-288-05					
Nitrate	**0.36**	0.050	EPA 353.2	10-3-24	10-3-24	
Client ID:	**HZ-MW-15S-092324**					
Laboratory ID:	09-288-06					
Nitrate	**ND**	0.050	EPA 353.2	10-3-24	10-3-24	

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Project: COB-Service Center (BSC); Task 4

NITRATE (as Nitrogen)
EPA 353.2
QUALITY CONTROL

Matrix: Water
Units: mg/L-N

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1003W1					
Nitrate	**ND**	0.050	EPA 353.2	10-3-24	10-3-24	

Analyte	Result		Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE									
Laboratory ID:	09-288-01								
	ORIG	DUP							
Nitrate	**ND**	**ND**	NA	NA	NA	NA	NA	22	
MATRIX SPIKE									
Laboratory ID:	09-288-01								
	MS		MS		MS				
Nitrate	**2.17**		2.00	ND	109	86-119	NA	NA	
SPIKE BLANK									
Laboratory ID:	SB1003W1								
	SB		SB		SB				
Nitrate	**2.30**		2.00	NA	115	85-117	NA	NA	

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Laboratory Reference: 2409-288
Project: COB-Service Center (BSC); Task 4

DISSOLVED GASES
RSK 175

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-29-092324**					
Laboratory ID:	09-288-01					
Methane	**300**	2.2	RSK 175	9-25-24	9-25-24	
Ethane	**ND**	0.56	RSK 175	9-25-24	9-25-24	
Ethene	**ND**	0.58	RSK 175	9-25-24	9-25-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*105*	*50-150*				
Client ID:	**MW-23-092324**					
Laboratory ID:	09-288-02					
Methane	**ND**	0.55	RSK 175	9-25-24	9-25-24	
Ethane	**ND**	0.56	RSK 175	9-25-24	9-25-24	
Ethene	**ND**	0.58	RSK 175	9-25-24	9-25-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*100*	*50-150*				
Client ID:	**S-MW-5R-092324**					
Laboratory ID:	09-288-03					
Methane	**560**	5.5	RSK 175	9-25-24	9-25-24	
Ethane	**ND**	0.56	RSK 175	9-25-24	9-25-24	
Ethene	**ND**	0.58	RSK 175	9-25-24	9-25-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*89*	*50-150*				
Client ID:	**S-MW-2RR-092324**					
Laboratory ID:	09-288-04					
Methane	**300**	3.3	RSK 175	9-25-24	9-25-24	
Ethane	**ND**	0.56	RSK 175	9-25-24	9-25-24	
Ethene	**ND**	0.58	RSK 175	9-25-24	9-25-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*107*	*50-150*				
Client ID:	**HZ-MW-26-092324**					
Laboratory ID:	09-288-05					
Methane	**67**	0.55	RSK 175	9-25-24	9-25-24	
Ethane	**ND**	0.56	RSK 175	9-25-24	9-25-24	
Ethene	**ND**	0.58	RSK 175	9-25-24	9-25-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*111*	*50-150*				

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: October 8, 2024
Samples Submitted: September 23, 2024
Laboratory Reference: 2409-288
Project: COB-Service Center (BSC); Task 4

DISSOLVED GASES
RSK 175

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**HZ-MW-15S-092324**					
Laboratory ID:	09-288-06					
Methane	**520**	5.5	RSK 175	9-25-24	9-25-24	
Ethane	**ND**	0.56	RSK 175	9-25-24	9-25-24	
Ethene	**ND**	0.58	RSK 175	9-25-24	9-25-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*99*	*50-150*				

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Date of Report: October 8, 2024
Samples Submitted: September 23, 2024
Laboratory Reference: 2409-288
Project: COB-Service Center (BSC); Task 4

DISSOLVED GASES
RSK 175
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0925W1					
Methane	**ND**	0.55	RSK 175	9-25-24	9-25-24	
Ethane	**ND**	0.56	RSK 175	9-25-24	9-25-24	
Ethene	**ND**	0.58	RSK 175	9-25-24	9-25-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*105*	*50-150*				

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANK										
Laboratory ID:	SB0925W1									
	SB	SBD	SB	SBD	SB	SBD				
Methane	**43.9**	**38.2**	44.2	44.2	99	86	75-125	14	25	
Ethane	**82.3**	**71.9**	83.2	83.2	99	86	75-125	13	25	
Ethene	**78.8**	**73.0**	77.7	77.7	101	94	75-125	8	25	
Surrogate:										
1-Butene					*104*	*99*	*50-150*			

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Date of Report: October 8, 2024
Samples Submitted: September 23, 2024
Laboratory Reference: 2409-288
Project: COB-Service Center (BSC); Task 4

TOTAL ORGANIC CARBON
SM 5310B

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-29-092324**					
Laboratory ID:	09-288-01					
Total Organic Carbon	**1.7**	1.0	SM 5310B	10-3-24	10-3-24	
Client ID:	**MW-23-092324**					
Laboratory ID:	09-288-02					
Total Organic Carbon	**1.7**	1.0	SM 5310B	10-3-24	10-3-24	
Client ID:	**S-MW-5R-092324**					
Laboratory ID:	09-288-03					
Total Organic Carbon	**ND**	1.0	SM 5310B	10-3-24	10-3-24	
Client ID:	**S-MW-2RR-092324**					
Laboratory ID:	09-288-04					
Total Organic Carbon	**2.3**	1.0	SM 5310B	10-3-24	10-3-24	
Client ID:	**HZ-MW-26-092324**					
Laboratory ID:	09-288-05					
Total Organic Carbon	**ND**	1.0	SM 5310B	10-3-24	10-3-24	
Client ID:	**HZ-MW-15S-092324**					
Laboratory ID:	09-288-06					
Total Organic Carbon	**3.0**	1.0	SM 5310B	10-3-24	10-3-24	

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Date of Report: October 8, 2024
Samples Submitted: September 23, 2024
Laboratory Reference: 2409-288
Project: COB-Service Center (BSC); Task 4

TOTAL ORGANIC CARBON
SM 5310B
QUALITY CONTROL

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1003W1					
Total Organic Carbon	**ND**	1.0	SM 5310B	10-3-24	10-3-24	

Analyte	Result		Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE									
Laboratory ID:	09-288-01								
	ORIG	DUP							
Total Organic Carbon	**1.70**	**1.79**	NA	NA	NA	NA	5	11	
MATRIX SPIKE									
Laboratory ID:	09-288-01								
	MS		MS		MS				
Total Organic Carbon	**11.6**		10.0	1.70	99	85-120	NA	NA	
SPIKE BLANK									
Laboratory ID:	SB1003W1								
	SB		SB		SB				
Total Organic Carbon	**10.1**		10.0	NA	101	79-120	NA	NA	

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Date of Report: October 8, 2024
Samples Submitted: September 23, 2024
Laboratory Reference: 2409-288
Project: COB-Service Center (BSC); Task 4

DISSOLVED METALS
EPA 6010D

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-29-092324**					
Laboratory ID:	09-288-01					
Iron	**1200**	56	EPA 6010D		10-1-24	
Manganese	**95**	11	EPA 6010D		10-1-24	
Client ID:	**MW-23-092324**					
Laboratory ID:	09-288-02					
Iron	**ND**	56	EPA 6010D		10-1-24	
Manganese	**50**	11	EPA 6010D		10-1-24	
Client ID:	**S-MW-5R-092324**					
Laboratory ID:	09-288-03					
Iron	**ND**	56	EPA 6010D		10-1-24	
Manganese	**220**	11	EPA 6010D		10-1-24	
Client ID:	**S-MW-2RR-092324**					
Laboratory ID:	09-288-04					
Iron	**2500**	56	EPA 6010D		10-1-24	
Manganese	**1900**	11	EPA 6010D		10-1-24	
Client ID:	**HZ-MW-26-092324**					
Laboratory ID:	09-288-05					
Iron	**ND**	56	EPA 6010D		10-1-24	
Manganese	**75**	11	EPA 6010D		10-1-24	
Client ID:	**HZ-MW-15S-092324**					
Laboratory ID:	09-288-06					
Iron	**310**	56	EPA 6010D		10-1-24	
Manganese	**690**	11	EPA 6010D		10-1-24	

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Date of Report: October 8, 2024
Samples Submitted: September 23, 2024
Laboratory Reference: 2409-288
Project: COB-Service Center (BSC); Task 4

DISSOLVED METALS
EPA 6010D
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1001D1					
Iron	**ND**	56	EPA 6010D		10-1-24	
Manganese	**ND**	11	EPA 6010D		10-1-24	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	09-288-05										
	ORIG	DUP									
Iron	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Manganese	**74.9**	**76.1**	NA	NA		NA		NA	2	20	
MATRIX SPIKES											
Laboratory ID:	09-288-05										
	MS	MSD	MS	MSD		MS	MSD				
Iron	**24000**	**25000**	22200	22200	ND	**108**	**113**	75-125	4	20	
Manganese	**612**	**621**	556	556	74.9	**97**	**98**	75-125	2	20	

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OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1 - Sample extract treated with a sulfuric acid/silica gel cleanup procedure.

X2 - Sample extract treated with a silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in methods 8260 & 8270, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Y1 - Negative effects of the matrix from this sample on the instrument caused values for this analyte in the bracketing continuing calibration verification standard (CCVs) to be outside of 20% acceptance criteria. Because of this, quantitation limits and sample concentrations should be considered estimates.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

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Chain of Custody

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: Floyd|Snider
Project Number: Task 4
Project Name: COB-Service Center (BSC)
Project Manager: Gabe Cisneros
Sampled by: Danielle Gallagher

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days)
☐ _____ (other)

Laboratory Number: 09-288

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX (8021☐ 8260☐)	NWTPH-Gx	NWTPH-Dx (SG Clean-up☐)	Volatiles 8260 *	Halogenated Volatiles 8260	EDB EPA 8011 (Waters Only)	Semivolatiles 8270/SIM (with low-level PAHs)	PAHs 8270/SIM (low-level)	PCBs 8082	Organochlorine Pesticides 8081	Organophosphorus Pesticides 8270/SIM	Chlorinated Acid Herbicides 8151	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664	Ammonia-Nitrogen	Ortho-phosphate/Sulfate/Nitrate	RSK 175 (Methane/Ethane/Ethene)	SM5310B (TOC)	% Moisture / Dissolved Iron/Manganese
1	MW-29-092324	9/23/24	12:00	GW	9					X													X	X	X	X	X
2	MW-23-092324	9/23/24	12:01	GW	9					X													X	X	X	X	X
3	S-MW-5R-092324	9/23/24	13:35	GW	9					X													X	X	X	X	X
4	S-MW-2RR-092324	9/23/24	13:45	GW	9					X													X	X	X	X	X
5	HZ-MW-26-092324	9/23/24	13:50	GW	9					X													X	X	X	X	X
6	HZ-MW-15S-092324	9/23/24	15:10	GW	9					X													X	X	X	X	X
7	CEFF-092324	9/23/24	10:40	GW	3					X																	
8	INF-092324	9/23/24	10:45	GW	3					X																	
9	BKTH1-092324	9/23/24	10:50	GW	3					X																	
10	BKTH2-092324	9/23/24	10:55	GW	3					X																	

	Signature	Company	Date	Time
Relinquished		Floyd|Snider	9/23/24	15:57
Received		ALPHA	9/23/24	15:57
Relinquished		ALPHA	9/23/24	1623
Received		OBE	9/23/24	1623
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
* Only PCE, TCE, cis-1,2-DCE, trans-1,2-DCE & vinyl Chloride
Send lab results to labdata@floydsnider.com

Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

October 9, 2024

Gabe Cisneros
Floyd & Snider
601 Union Street, Suite 600
Seattle, WA 98101

Re: Analytical Data for Project COB-Service Center (BSC); Task 4
Laboratory Reference No. 2409-301

Dear Gabe:

Enclosed are the analytical results and associated quality control data for samples submitted on September 24, 2024.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: October 9, 2024
Samples Submitted: September 24, 2024
Laboratory Reference: 2409-301
Project: COB-Service Center (BSC); Task 4

Case Narrative

Samples were collected on September 24, 2024 and received by the laboratory on September 24, 2024. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below. However the soil results for the QA/QC samples are reported on a wet-weight basis.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: October 9, 2024
Samples Submitted: September 24, 2024
Laboratory Reference: 2409-301
Project: COB-Service Center (BSC); Task 4

VOLATILE ORGANICS EPA 8260D

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**HZ-MW-14S-092424**					
Laboratory ID:	09-301-01					
Vinyl Chloride	ND	1.0	EPA 8260D	9-26-24	9-26-24	
(trans) 1,2-Dichloroethene	ND	1.0	EPA 8260D	9-26-24	9-26-24	
(cis) 1,2-Dichloroethene	23	1.0	EPA 8260D	9-26-24	9-26-24	
Trichloroethene	40	1.0	EPA 8260D	9-26-24	9-26-24	
Tetrachloroethene	170	1.0	EPA 8260D	9-26-24	9-26-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*99*	*68-133*				
Toluene-d8	*99*	*79-123*				
4-Bromofluorobenzene	*98*	*78-117*				
Client ID:	**HZ-MW-14D-092424**					
Laboratory ID:	09-301-02					
Vinyl Chloride	1.8	0.20	EPA 8260D	9-26-24	9-26-24	
(trans) 1,2-Dichloroethene	0.26	0.20	EPA 8260D	9-26-24	9-26-24	
(cis) 1,2-Dichloroethene	24	0.20	EPA 8260D	9-26-24	9-26-24	
Trichloroethene	3.8	0.20	EPA 8260D	9-26-24	9-26-24	
Tetrachloroethene	2.5	0.20	EPA 8260D	9-26-24	9-26-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*98*	*68-133*				
Toluene-d8	*99*	*79-123*				
4-Bromofluorobenzene	*100*	*78-117*				
Client ID:	**HZ-MW-1-092424**					
Laboratory ID:	09-301-03					
Vinyl Chloride	14	0.20	EPA 8260D	9-26-24	9-26-24	
(trans) 1,2-Dichloroethene	0.49	0.20	EPA 8260D	9-26-24	9-26-24	
(cis) 1,2-Dichloroethene	24	0.20	EPA 8260D	9-26-24	9-26-24	
Trichloroethene	0.52	0.20	EPA 8260D	9-26-24	9-26-24	
Tetrachloroethene	0.43	0.20	EPA 8260D	9-26-24	9-26-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*97*	*68-133*				
Toluene-d8	*100*	*79-123*				
4-Bromofluorobenzene	*99*	*78-117*				

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: October 9, 2024
Samples Submitted: September 24, 2024
Laboratory Reference: 2409-301
Project: COB-Service Center (BSC); Task 4

VOLATILE ORGANICS EPA 8260D

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**HZ-MW-29-092424**					
Laboratory ID:	09-301-04					
Vinyl Chloride	8.4	0.20	EPA 8260D	9-26-24	9-26-24	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	9-26-24	9-26-24	
(cis) 1,2-Dichloroethene	22	0.20	EPA 8260D	9-26-24	9-26-24	
Trichloroethene	ND	0.20	EPA 8260D	9-26-24	9-26-24	
Tetrachloroethene	ND	0.20	EPA 8260D	9-26-24	9-26-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*99*	*68-133*				
Toluene-d8	*100*	*79-123*				
4-Bromofluorobenzene	*101*	*78-117*				
Client ID:	**HZ-MW-34-092424**					
Laboratory ID:	09-301-05					
Vinyl Chloride	1.3	0.20	EPA 8260D	9-26-24	9-26-24	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	9-26-24	9-26-24	
(cis) 1,2-Dichloroethene	6.5	0.20	EPA 8260D	9-26-24	9-26-24	
Trichloroethene	1.4	0.20	EPA 8260D	9-26-24	9-26-24	
Tetrachloroethene	0.33	0.20	EPA 8260D	9-26-24	9-26-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*98*	*68-133*				
Toluene-d8	*99*	*79-123*				
4-Bromofluorobenzene	*99*	*78-117*				
Client ID:	**HZ-MW-24-092424**					
Laboratory ID:	09-301-06					
Vinyl Chloride	0.42	0.20	EPA 8260D	9-26-24	9-26-24	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	9-26-24	9-26-24	
(cis) 1,2-Dichloroethene	14	0.20	EPA 8260D	9-26-24	9-26-24	
Trichloroethene	2.8	0.20	EPA 8260D	9-26-24	9-26-24	
Tetrachloroethene	3.6	0.20	EPA 8260D	9-26-24	9-26-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*98*	*68-133*				
Toluene-d8	*99*	*79-123*				
4-Bromofluorobenzene	*99*	*78-117*				

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Date of Report: October 9, 2024
Samples Submitted: September 24, 2024
Laboratory Reference: 2409-301
Project: COB-Service Center (BSC); Task 4

VOLATILE ORGANICS EPA 8260D

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**HZ-MW-15D-092424**					
Laboratory ID:	09-301-07					
Vinyl Chloride	ND	8.0	EPA 8260D	9-26-24	9-26-24	
(trans) 1,2-Dichloroethene	ND	8.0	EPA 8260D	9-26-24	9-26-24	
(cis) 1,2-Dichloroethene	380	8.0	EPA 8260D	9-26-24	9-26-24	
Trichloroethene	450	8.0	EPA 8260D	9-26-24	9-26-24	
Tetrachloroethene	1100	8.0	EPA 8260D	9-26-24	9-26-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*95*	*68-133*				
Toluene-d8	*98*	*79-123*				
4-Bromofluorobenzene	*99*	*78-117*				
Client ID:	**MW-21R-092424**					
Laboratory ID:	09-301-08					
Vinyl Chloride	0.21	0.20	EPA 8260D	9-26-24	9-26-24	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	9-26-24	9-26-24	
(cis) 1,2-Dichloroethene	4.1	0.20	EPA 8260D	9-26-24	9-26-24	
Trichloroethene	1.3	0.20	EPA 8260D	9-26-24	9-26-24	
Tetrachloroethene	7.4	0.20	EPA 8260D	9-26-24	9-26-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*98*	*68-133*				
Toluene-d8	*101*	*79-123*				
4-Bromofluorobenzene	*100*	*78-117*				
Client ID:	**MW-34-092424**					
Laboratory ID:	09-301-09					
Vinyl Chloride	0.37	0.20	EPA 8260D	9-26-24	9-26-24	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	9-26-24	9-26-24	
(cis) 1,2-Dichloroethene	0.25	0.20	EPA 8260D	9-26-24	9-26-24	
Trichloroethene	0.28	0.20	EPA 8260D	9-26-24	9-26-24	
Tetrachloroethene	0.25	0.20	EPA 8260D	9-26-24	9-26-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*96*	*68-133*				
Toluene-d8	*98*	*79-123*				
4-Bromofluorobenzene	*100*	*78-117*				

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Date of Report: October 9, 2024
Samples Submitted: September 24, 2024
Laboratory Reference: 2409-301
Project: COB-Service Center (BSC); Task 4

VOLATILE ORGANICS EPA 8260D

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-11-092424**					
Laboratory ID:	09-301-10					
Vinyl Chloride	19	0.20	EPA 8260D	9-26-24	9-26-24	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	9-26-24	9-26-24	
(cis) 1,2-Dichloroethene	4.4	0.20	EPA 8260D	9-26-24	9-26-24	
Trichloroethene	0.59	0.20	EPA 8260D	9-26-24	9-26-24	
Tetrachloroethene	ND	0.20	EPA 8260D	9-26-24	9-26-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*95*	*68-133*				
Toluene-d8	*98*	*79-123*				
4-Bromofluorobenzene	*101*	*78-117*				
Client ID:	**MW-45R-092424**					
Laboratory ID:	09-301-11					
Vinyl Chloride	9.4	0.20	EPA 8260D	9-26-24	9-26-24	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	9-26-24	9-26-24	
(cis) 1,2-Dichloroethene	3.0	0.20	EPA 8260D	9-26-24	9-26-24	
Trichloroethene	ND	0.20	EPA 8260D	9-26-24	9-26-24	
Tetrachloroethene	ND	0.20	EPA 8260D	9-26-24	9-26-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*95*	*68-133*				
Toluene-d8	*99*	*79-123*				
4-Bromofluorobenzene	*97*	*78-117*				
Client ID:	**MW-20R-092424**					
Laboratory ID:	09-301-12					
Vinyl Chloride	77	1.0	EPA 8260D	9-26-24	9-26-24	
(trans) 1,2-Dichloroethene	2.9	1.0	EPA 8260D	9-26-24	9-26-24	
(cis) 1,2-Dichloroethene	33	1.0	EPA 8260D	9-26-24	9-26-24	
Trichloroethene	88	1.0	EPA 8260D	9-26-24	9-26-24	
Tetrachloroethene	99	1.0	EPA 8260D	9-26-24	9-26-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*99*	*68-133*				
Toluene-d8	*99*	*79-123*				
4-Bromofluorobenzene	*100*	*78-117*				

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Date of Report: October 9, 2024
Samples Submitted: September 24, 2024
Laboratory Reference: 2409-301
Project: COB-Service Center (BSC); Task 4

VOLATILE ORGANICS EPA 8260D

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**HZ-MW-33R-092424**					
Laboratory ID:	09-301-13					
Vinyl Chloride	ND	0.20	EPA 8260D	9-26-24	9-26-24	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	9-26-24	9-26-24	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260D	9-26-24	9-26-24	
Trichloroethene	ND	0.20	EPA 8260D	9-26-24	9-26-24	
Tetrachloroethene	ND	0.20	EPA 8260D	9-26-24	9-26-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*92*	*68-133*				
Toluene-d8	*99*	*79-123*				
4-Bromofluorobenzene	*98*	*78-117*				

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Date of Report: October 9, 2024
Samples Submitted: September 24, 2024
Laboratory Reference: 2409-301
Project: COB-Service Center (BSC); Task 4

VOLATILE ORGANICS EPA 8260D
QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0926W1					
Vinyl Chloride	ND	0.20	EPA 8260D	9-26-24	9-26-24	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	9-26-24	9-26-24	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260D	9-26-24	9-26-24	
Trichloroethene	ND	0.20	EPA 8260D	9-26-24	9-26-24	
Tetrachloroethene	ND	0.20	EPA 8260D	9-26-24	9-26-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*95*	*68-133*				
Toluene-d8	*99*	*79-123*				
4-Bromofluorobenzene	*100*	*78-117*				

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0926W1									
	SB	SBD	SB	SBD	SB	SBD				
Vinyl Chloride	**8.82**	**8.46**	10.0	10.0	88	85	67-130	4	15	
(trans) 1,2-Dichloroethene	**10.3**	**9.78**	10.0	10.0	103	98	77-125	5	15	
(cis) 1,2-Dichloroethene	**10.5**	**10.1**	10.0	10.0	105	101	78-130	4	15	
Trichloroethene	**10.9**	**10.6**	10.0	10.0	109	106	80-126	3	15	
Tetrachloroethene	**10.9**	**10.7**	10.0	10.0	109	107	80-125	2	15	
Surrogate:										
Dibromofluoromethane					*96*	*96*	*68-133*			
Toluene-d8					*99*	*100*	*79-123*			
4-Bromofluorobenzene					*101*	*101*	*78-117*			

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Date of Report: October 9, 2024
Samples Submitted: September 24, 2024
Laboratory Reference: 2409-301
Project: COB-Service Center (BSC); Task 4

TOTAL ORGANIC CARBON
SM 5310B

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**HZ-MW-14S-092424**					
Laboratory ID:	09-301-01					
Total Organic Carbon	**2.3**	1.0	SM 5310B	10-3-24	10-3-24	
Client ID:	**HZ-MW-14D-092424**					
Laboratory ID:	09-301-02					
Total Organic Carbon	**2.5**	1.0	SM 5310B	10-3-24	10-3-24	
Client ID:	**HZ-MW-1-092424**					
Laboratory ID:	09-301-03					
Total Organic Carbon	**5.9**	1.0	SM 5310B	10-3-24	10-3-24	
Client ID:	**HZ-MW-29-092424**					
Laboratory ID:	09-301-04					
Total Organic Carbon	**1.6**	1.0	SM 5310B	10-3-24	10-3-24	
Client ID:	**HZ-MW-34-092424**					
Laboratory ID:	09-301-05					
Total Organic Carbon	**1.4**	1.0	SM 5310B	10-3-24	10-3-24	
Client ID:	**HZ-MW-24-092424**					
Laboratory ID:	09-301-06					
Total Organic Carbon	**2.7**	1.0	SM 5310B	10-3-24	10-3-24	
Client ID:	**HZ-MW-15D-092424**					
Laboratory ID:	09-301-07					
Total Organic Carbon	**1.4**	1.0	SM 5310B	10-3-24	10-3-24	
Client ID:	**MW-21R-092424**					
Laboratory ID:	09-301-08					
Total Organic Carbon	**8.7**	1.0	SM 5310B	10-3-24	10-3-24	
Client ID:	**MW-34-092424**					
Laboratory ID:	09-301-09					
Total Organic Carbon	**1.9**	1.0	SM 5310B	10-3-24	10-3-24	

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Date of Report: October 9, 2024
Samples Submitted: September 24, 2024
Laboratory Reference: 2409-301
Project: COB-Service Center (BSC); Task 4

TOTAL ORGANIC CARBON
SM 5310B

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-11-092424**					
Laboratory ID:	09-301-10					
Total Organic Carbon	**3.9**	1.0	SM 5310B	10-3-24	10-3-24	
Client ID:	**MW-45R-092424**					
Laboratory ID:	09-301-11					
Total Organic Carbon	**14**	1.0	SM 5310B	10-3-24	10-3-24	
Client ID:	**MW-20R-092424**					
Laboratory ID:	09-301-12					
Total Organic Carbon	**4.4**	1.0	SM 5310B	10-3-24	10-3-24	
Client ID:	**HZ-MW-33R-092424**					
Laboratory ID:	09-301-13					
Total Organic Carbon	**ND**	1.0	SM 5310B	10-3-24	10-3-24	

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Date of Report: October 9, 2024
Samples Submitted: September 24, 2024
Laboratory Reference: 2409-301
Project: COB-Service Center (BSC); Task 4

TOTAL ORGANIC CARBON
SM 5310B
QUALITY CONTROL

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1003W1					
Total Organic Carbon	**ND**	1.0	SM 5310B	10-3-24	10-3-24	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	09-288-01							
	ORIG DUP							
Total Organic Carbon	**1.70** **1.79**	NA	NA	NA	NA	5	11	
MATRIX SPIKE								
Laboratory ID:	09-288-01							
	MS	MS		MS				
Total Organic Carbon	**11.6**	10.0	1.70	99	85-120	NA	NA	
SPIKE BLANK								
Laboratory ID:	SB1003W1							
	SB	SB		SB				
Total Organic Carbon	**10.1**	10.0	NA	101	79-120	NA	NA	

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Date of Report: October 9, 2024
Samples Submitted: September 24, 2024
Laboratory Reference: 2409-301
Project: COB-Service Center (BSC); Task 4

AMMONIA (as Nitrogen)
SM 4500-NH_3 D

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**HZ-MW-14S-092424**					
Laboratory ID:	09-301-01					
Ammonia	**ND**	0.053	SM 4500-NH3 D	10-8-24	10-8-24	
Client ID:	**HZ-MW-14D-092424**					
Laboratory ID:	09-301-02					
Ammonia	**ND**	0.053	SM 4500-NH3 D	10-8-24	10-8-24	
Client ID:	**HZ-MW-1-092424**					
Laboratory ID:	09-301-03					
Ammonia	**0.074**	0.053	SM 4500-NH3 D	10-8-24	10-8-24	
Client ID:	**HZ-MW-29-092424**					
Laboratory ID:	09-301-04					
Ammonia	**0.28**	0.053	SM 4500-NH3 D	10-8-24	10-8-24	
Client ID:	**HZ-MW-34-092424**					
Laboratory ID:	09-301-05					
Ammonia	**0.056**	0.053	SM 4500-NH3 D	10-8-24	10-8-24	
Client ID:	**HZ-MW-24-092424**					
Laboratory ID:	09-301-06					
Ammonia	**0.33**	0.053	SM 4500-NH3 D	10-8-24	10-8-24	
Client ID:	**HZ-MW-15D-092424**					
Laboratory ID:	09-301-07					
Ammonia	**ND**	0.053	SM 4500-NH3 D	10-8-24	10-8-24	
Client ID:	**MW-21R-092424**					
Laboratory ID:	09-301-08					
Ammonia	**ND**	0.053	SM 4500-NH3 D	10-8-24	10-8-24	
Client ID:	**MW-34-092424**					
Laboratory ID:	09-301-09					
Ammonia	**ND**	0.053	SM 4500-NH3 D	10-8-24	10-8-24	

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Date of Report: October 9, 2024
Samples Submitted: September 24, 2024
Laboratory Reference: 2409-301
Project: COB-Service Center (BSC); Task 4

AMMONIA (as Nitrogen)
SM 4500-NH_3 D

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-11-092424**					
Laboratory ID:	09-301-10					
Ammonia	**0.20**	0.053	SM 4500-NH3 D	10-8-24	10-8-24	
Client ID:	**MW-45R-092424**					
Laboratory ID:	09-301-11					
Ammonia	**0.56**	0.053	SM 4500-NH3 D	10-8-24	10-8-24	
Client ID:	**MW-20R-092424**					
Laboratory ID:	09-301-12					
Ammonia	**0.17**	0.053	SM 4500-NH3 D	10-8-24	10-8-24	
Client ID:	**HZ-MW-33R-092424**					
Laboratory ID:	09-301-13					
Ammonia	**ND**	0.053	SM 4500-NH3 D	10-8-24	10-8-24	

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Samples Submitted: September 24, 2024
Laboratory Reference: 2409-301
Project: COB-Service Center (BSC); Task 4

AMMONIA (as Nitrogen)
SM 4500-NH_3 D
QUALITY CONTROL

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1008W1					
Ammonia	**ND**	0.053	SM 4500-NH3 D	10-8-24	10-8-24	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	09-301-01							
	ORIG DUP							
Ammonia	**ND** **ND**	NA	NA	NA	NA	NA	15	
MATRIX SPIKE								
Laboratory ID:	09-301-01							
	MS	MS		MS				
Ammonia	**4.68**	5.00	ND	94	75-111	NA	NA	
SPIKE BLANK								
Laboratory ID:	SB1008W1							
	SB	SB		SB				
Ammonia	**4.59**	5.00	NA	92	81-110	NA	NA	

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Date of Report: October 9, 2024
Samples Submitted: September 24, 2024
Laboratory Reference: 2409-301
Project: COB-Service Center (BSC); Task 4

TOTAL ORTHOPHOSPHATE
EPA 365.1

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**HZ-MW-14S-092424**					
Laboratory ID:	09-301-01					
Orthophosphate	**0.088**	0.012	EPA 365.1	9-25-24	9-25-24	
Client ID:	**HZ-MW-14D-092424**					
Laboratory ID:	09-301-02					
Orthophosphate	**0.026**	0.012	EPA 365.1	9-25-24	9-25-24	
Client ID:	**HZ-MW-1-092424**					
Laboratory ID:	09-301-03					
Orthophosphate	**0.14**	0.012	EPA 365.1	9-25-24	9-25-24	
Client ID:	**HZ-MW-29-092424**					
Laboratory ID:	09-301-04					
Orthophosphate	**0.94**	0.012	EPA 365.1	9-25-24	9-25-24	
Client ID:	**HZ-MW-34-092424**					
Laboratory ID:	09-301-05					
Orthophosphate	**0.16**	0.012	EPA 365.1	9-25-24	9-25-24	
Client ID:	**HZ-MW-24-092424**					
Laboratory ID:	09-301-06					
Orthophosphate	**0.057**	0.012	EPA 365.1	9-25-24	9-25-24	
Client ID:	**HZ-MW-15D-092424**					
Laboratory ID:	09-301-07					
Orthophosphate	**0.018**	0.012	EPA 365.1	9-25-24	9-25-24	
Client ID:	**MW-21R-092424**					
Laboratory ID:	09-301-08					
Orthophosphate	**0.064**	0.012	EPA 365.1	9-25-24	9-25-24	
Client ID:	**MW-34-092424**					
Laboratory ID:	09-301-09					
Orthophosphate	**0.029**	0.012	EPA 365.1	9-25-24	9-25-24	

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Date of Report: October 9, 2024
Samples Submitted: September 24, 2024
Laboratory Reference: 2409-301
Project: COB-Service Center (BSC); Task 4

TOTAL ORTHOPHOSPHATE
EPA 365.1

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-11-092424**					
Laboratory ID:	09-301-10					
Orthophosphate	**0.23**	0.012	EPA 365.1	9-25-24	9-25-24	
Client ID:	**MW-45R-092424**					
Laboratory ID:	09-301-11					
Orthophosphate	**0.022**	0.012	EPA 365.1	9-25-24	9-25-24	
Client ID:	**MW-20R-092424**					
Laboratory ID:	09-301-12					
Orthophosphate	**1.2**	0.024	EPA 365.1	9-25-24	9-25-24	
Client ID:	**HZ-MW-33R-092424**					
Laboratory ID:	09-301-13					
Orthophosphate	**ND**	0.012	EPA 365.1	9-25-24	9-25-24	

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Date of Report: October 9, 2024
Samples Submitted: September 24, 2024
Laboratory Reference: 2409-301
Project: COB-Service Center (BSC); Task 4

TOTAL ORTHOPHOSPHATE
EPA 365.1
QUALITY CONTROL

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0925W1					
Orthophosphate	**ND**	0.012	EPA 365.1	9-25-24	9-25-24	

Analyte	Result		Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE									
Laboratory ID:	09-301-01								
	ORIG	DUP							
Orthophosphate	**0.0877**	**0.0922**	NA	NA	NA	NA	5	21	
MATRIX SPIKE									
Laboratory ID:	09-301-01								
	MS		MS		MS				
Orthophosphate	**0.333**		0.250	0.0877	98	68-121	NA	NA	
SPIKE BLANK									
Laboratory ID:	SB0925W1								
	SB		SB		SB				
Orthophosphate	**0.227**		0.250	NA	91	81-110	NA	NA	

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and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: October 9, 2024
Samples Submitted: September 24, 2024
Laboratory Reference: 2409-301
Project: COB-Service Center (BSC); Task 4

SULFATE
ASTM D516-11

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**HZ-MW-14S-092424**					
Laboratory ID:	09-301-01					
Sulfate	**13**	5.0	ASTM D516-11	10-8-24	10-8-24	
Client ID:	**HZ-MW-14D-092424**					
Laboratory ID:	09-301-02					
Sulfate	**8.7**	5.0	ASTM D516-11	10-8-24	10-8-24	
Client ID:	**HZ-MW-1-092424**					
Laboratory ID:	09-301-03					
Sulfate	**ND**	5.0	ASTM D516-11	10-8-24	10-8-24	
Client ID:	**HZ-MW-29-092424**					
Laboratory ID:	09-301-04					
Sulfate	**18**	10	ASTM D516-11	10-8-24	10-8-24	
Client ID:	**HZ-MW-34-092424**					
Laboratory ID:	09-301-05					
Sulfate	**27**	10	ASTM D516-11	10-8-24	10-8-24	
Client ID:	**HZ-MW-24-092424**					
Laboratory ID:	09-301-06					
Sulfate	**30**	10	ASTM D516-11	10-8-24	10-8-24	
Client ID:	**HZ-MW-15D-092424**					
Laboratory ID:	09-301-07					
Sulfate	**11**	5.0	ASTM D516-11	10-8-24	10-8-24	
Client ID:	**MW-21R-092424**					
Laboratory ID:	09-301-08					
Sulfate	**40**	10	ASTM D516-11	10-8-24	10-8-24	
Client ID:	**MW-34-092424**					
Laboratory ID:	09-301-09					
Sulfate	**31**	10	ASTM D516-11	10-8-24	10-8-24	

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Date of Report: October 9, 2024
Samples Submitted: September 24, 2024
Laboratory Reference: 2409-301
Project: COB-Service Center (BSC); Task 4

SULFATE
ASTM D516-11

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-11-092424**					
Laboratory ID:	09-301-10					
Sulfate	**28**	10	ASTM D516-11	10-8-24	10-8-24	
Client ID:	**MW-45R-092424**					
Laboratory ID:	09-301-11					
Sulfate	**ND**	5.0	ASTM D516-11	10-8-24	10-8-24	
Client ID:	**MW-20R-092424**					
Laboratory ID:	09-301-12					
Sulfate	**18**	5.0	ASTM D516-11	10-8-24	10-8-24	
Client ID:	**HZ-MW-33R-092424**					
Laboratory ID:	09-301-13					
Sulfate	**6.9**	5.0	ASTM D516-11	10-8-24	10-8-24	

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Samples Submitted: September 24, 2024
Laboratory Reference: 2409-301
Project: COB-Service Center (BSC); Task 4

SULFATE
ASTM D516-11
QUALITY CONTROL

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1008W1					
Sulfate	**ND**	5.0	ASTM D516-11	10-8-24	10-8-24	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	09-301-02							
	ORIG DUP							
Sulfate	**8.66** **7.93**	NA	NA	NA	NA	9	11	
MATRIX SPIKE								
Laboratory ID:	09-301-02							
	MS	MS		MS				
Sulfate	**16.0**	10.0	8.66	73	69-134	NA	NA	
SPIKE BLANK								
Laboratory ID:	SB1008W1							
	SB	SB		SB				
Sulfate	**8.72**	10.0	NA	87	81-106	NA	NA	

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Date of Report: October 9, 2024
Samples Submitted: September 24, 2024
Laboratory Reference: 2409-301
Project: COB-Service Center (BSC); Task 4

NITRATE (as Nitrogen)
EPA 353.2

Matrix: Water
Units: mg/L-N

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**HZ-MW-14S-092424**					
Laboratory ID:	09-301-01					
Nitrate	**0.12**	0.050	EPA 353.2	10-3-24	10-3-24	
Client ID:	**HZ-MW-14D-092424**					
Laboratory ID:	09-301-02					
Nitrate	**ND**	0.050	EPA 353.2	10-3-24	10-3-24	
Client ID:	**HZ-MW-1-092424**					
Laboratory ID:	09-301-03					
Nitrate	**ND**	0.050	EPA 353.2	10-3-24	10-3-24	
Client ID:	**HZ-MW-29-092424**					
Laboratory ID:	09-301-04					
Nitrate	**ND**	0.050	EPA 353.2	10-3-24	10-3-24	
Client ID:	**HZ-MW-34-092424**					
Laboratory ID:	09-301-05					
Nitrate	**ND**	0.050	EPA 353.2	10-3-24	10-3-24	
Client ID:	**HZ-MW-24-092424**					
Laboratory ID:	09-301-06					
Nitrate	**ND**	0.050	EPA 353.2	10-3-24	10-3-24	
Client ID:	**HZ-MW-15D-092424**					
Laboratory ID:	09-301-07					
Nitrate	**ND**	0.050	EPA 353.2	10-3-24	10-3-24	
Client ID:	**MW-21R-092424**					
Laboratory ID:	09-301-08					
Nitrate	**ND**	0.050	EPA 353.2	10-3-24	10-3-24	
Client ID:	**MW-34-092424**					
Laboratory ID:	09-301-09					
Nitrate	**ND**	0.050	EPA 353.2	10-3-24	10-3-24	

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Laboratory Reference: 2409-301
Project: COB-Service Center (BSC); Task 4

NITRATE (as Nitrogen)
EPA 353.2

Matrix: Water
Units: mg/L-N

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-11-092424**					
Laboratory ID:	09-301-10					
Nitrate	**ND**	0.050	EPA 353.2	10-3-24	10-3-24	
Client ID:	**MW-45R-092424**					
Laboratory ID:	09-301-11					
Nitrate	**ND**	0.050	EPA 353.2	10-3-24	10-3-24	
Client ID:	**MW-20R-092424**					
Laboratory ID:	09-301-12					
Nitrate	**ND**	0.050	EPA 353.2	10-3-24	10-3-24	
Client ID:	**HZ-MW-33R-092424**					
Laboratory ID:	09-301-13					
Nitrate	**0.30**	0.050	EPA 353.2	10-3-24	10-3-24	

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Samples Submitted: September 24, 2024
Laboratory Reference: 2409-301
Project: COB-Service Center (BSC); Task 4

NITRATE (as Nitrogen)
EPA 353.2
QUALITY CONTROL

Matrix: Water
Units: mg/L-N

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1003W1					
Nitrate	**ND**	0.050	EPA 353.2	10-3-24	10-3-24	

Analyte	Result		Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE									
Laboratory ID:	09-288-01								
	ORIG	DUP							
Nitrate	**ND**	**ND**	NA	NA	NA	NA	NA	22	
MATRIX SPIKE									
Laboratory ID:	09-288-01								
	MS		MS		MS				
Nitrate	**2.17**		2.00	ND	109	86-119	NA	NA	
SPIKE BLANK									
Laboratory ID:	SB1003W1								
	SB		SB		SB				
Nitrate	**2.30**		2.00	NA	115	85-117	NA	NA	

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Date of Report: October 9, 2024
Samples Submitted: September 24, 2024
Laboratory Reference: 2409-301
Project: COB-Service Center (BSC); Task 4

DISSOLVED GASES
RSK 175

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**HZ-MW-14S-092424**					
Laboratory ID:	09-301-01					
Methane	**270**	3.3	RSK 175	9-27-24	9-27-24	
Ethane	**ND**	0.56	RSK 175	9-27-24	9-27-24	
Ethene	**ND**	0.58	RSK 175	9-27-24	9-27-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*104*	*50-150*				
Client ID:	**HZ-MW-14D-092424**					
Laboratory ID:	09-301-02					
Methane	**210**	2.2	RSK 175	9-27-24	9-27-24	
Ethane	**ND**	0.56	RSK 175	9-27-24	9-27-24	
Ethene	**ND**	0.58	RSK 175	9-27-24	9-27-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*91*	*50-150*				
Client ID:	**HZ-MW-1-092424**					
Laboratory ID:	09-301-03					
Methane	**3200**	55	RSK 175	9-27-24	9-27-24	
Ethane	**ND**	0.56	RSK 175	9-27-24	9-27-24	
Ethene	**0.89**	0.58	RSK 175	9-27-24	9-27-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*72*	*50-150*				
Client ID:	**HZ-MW-29-092424**					
Laboratory ID:	09-301-04					
Methane	**1500**	17	RSK 175	9-27-24	9-27-24	
Ethane	**ND**	0.56	RSK 175	9-27-24	9-27-24	
Ethene	**ND**	0.58	RSK 175	9-27-24	9-27-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*115*	*50-150*				
Client ID:	**HZ-MW-34-092424**					
Laboratory ID:	09-301-05					
Methane	**180**	2.2	RSK 175	9-27-24	9-27-24	
Ethane	**ND**	0.56	RSK 175	9-27-24	9-27-24	
Ethene	**ND**	0.58	RSK 175	9-27-24	9-27-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*120*	*50-150*				

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Samples Submitted: September 24, 2024
Laboratory Reference: 2409-301
Project: COB-Service Center (BSC); Task 4

DISSOLVED GASES
RSK 175

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**HZ-MW-24-092424**					
Laboratory ID:	09-301-06					
Methane	**210**	2.2	RSK 175	9-27-24	9-27-24	
Ethane	**ND**	0.56	RSK 175	9-27-24	9-27-24	
Ethene	**ND**	0.58	RSK 175	9-27-24	9-27-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*95*	*50-150*				
Client ID:	**HZ-MW-15D-092424**					
Laboratory ID:	09-301-07					
Methane	**4800**	55	RSK 175	9-27-24	9-27-24	
Ethane	**ND**	0.56	RSK 175	9-27-24	9-27-24	
Ethene	**ND**	0.58	RSK 175	9-27-24	9-27-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*92*	*50-150*				
Client ID:	**MW-21R-092424**					
Laboratory ID:	09-301-08					
Methane	**590**	5.5	RSK 175	9-27-24	9-27-24	
Ethane	**ND**	0.56	RSK 175	9-27-24	9-27-24	
Ethene	**ND**	0.58	RSK 175	9-27-24	9-27-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*97*	*50-150*				
Client ID:	**MW-34-092424**					
Laboratory ID:	09-301-09					
Methane	**44**	0.55	RSK 175	9-27-24	9-27-24	
Ethane	**ND**	0.56	RSK 175	9-27-24	9-27-24	
Ethene	**ND**	0.58	RSK 175	9-27-24	9-27-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*107*	*50-150*				
Client ID:	**MW-11-092424**					
Laboratory ID:	09-301-10					
Methane	**2000**	17	RSK 175	9-27-24	9-27-24	
Ethane	**ND**	0.56	RSK 175	9-27-24	9-27-24	
Ethene	**1.1**	0.58	RSK 175	9-27-24	9-27-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*113*	*50-150*				

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Date of Report: October 9, 2024
Samples Submitted: September 24, 2024
Laboratory Reference: 2409-301
Project: COB-Service Center (BSC); Task 4

DISSOLVED GASES
RSK 175

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-45R-092424**					
Laboratory ID:	09-301-11					
Methane	**6500**	55	RSK 175	9-27-24	9-27-24	
Ethane	**ND**	0.56	RSK 175	9-27-24	9-27-24	
Ethene	**ND**	0.58	RSK 175	9-27-24	9-27-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*77*	*50-150*				
Client ID:	**MW-20R-092424**					
Laboratory ID:	09-301-12					
Methane	**2800**	28	RSK 175	9-27-24	9-27-24	
Ethane	**ND**	0.56	RSK 175	9-27-24	9-27-24	
Ethene	**20**	0.58	RSK 175	9-27-24	9-27-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*104*	*50-150*				
Client ID:	**HZ-MW-33R-092424**					
Laboratory ID:	09-301-13					
Methane	**370**	3.3	RSK 175	9-27-24	9-27-24	
Ethane	**ND**	0.56	RSK 175	9-27-24	9-27-24	
Ethene	**ND**	0.58	RSK 175	9-27-24	9-27-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*108*	*50-150*				

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Date of Report: October 9, 2024
Samples Submitted: September 24, 2024
Laboratory Reference: 2409-301
Project: COB-Service Center (BSC); Task 4

DISSOLVED GASES
RSK 175
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0927W1					
Methane	**ND**	0.55	RSK 175	9-27-24	9-27-24	
Ethane	**ND**	0.56	RSK 175	9-27-24	9-27-24	
Ethene	**ND**	0.58	RSK 175	9-27-24	9-27-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*103*	*50-150*				

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANK										
Laboratory ID:	SB0927W1									
	SB	SBD	SB	SBD	SB	SBD				
Methane	**42.7**	**43.0**	44.2	44.2	97	97	75-125	1	25	
Ethane	**80.2**	**80.6**	83.2	83.2	96	97	75-125	0	25	
Ethene	**78.1**	**78.2**	77.7	77.7	101	101	75-125	0	25	
Surrogate:										
1-Butene					*112*	*109*	*50-150*			

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Samples Submitted: September 24, 2024
Laboratory Reference: 2409-301
Project: COB-Service Center (BSC); Task 4

DISSOLVED METALS
EPA 6010D

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**HZ-MW-14S-092424**					
Laboratory ID:	09-301-01					
Iron	**4600**	56	EPA 6010D		10-1-24	
Manganese	**870**	11	EPA 6010D		10-1-24	
Client ID:	**HZ-MW-14D-092424**					
Laboratory ID:	09-301-02					
Iron	**720**	56	EPA 6010D		10-1-24	
Manganese	**810**	11	EPA 6010D		10-1-24	
Client ID:	**HZ-MW-1-092424**					
Laboratory ID:	09-301-03					
Iron	**16000**	56	EPA 6010D		10-1-24	
Manganese	**5800**	11	EPA 6010D		10-1-24	
Client ID:	**HZ-MW-29-092424**					
Laboratory ID:	09-301-04					
Iron	**8400**	56	EPA 6010D		10-1-24	
Manganese	**2100**	11	EPA 6010D		10-1-24	
Client ID:	**HZ-MW-34-092424**					
Laboratory ID:	09-301-05					
Iron	**1900**	56	EPA 6010D		10-1-24	
Manganese	**590**	11	EPA 6010D		10-1-24	
Client ID:	**HZ-MW-24-092424**					
Laboratory ID:	09-301-06					
Iron	**10000**	56	EPA 6010D		10-1-24	
Manganese	**4400**	11	EPA 6010D		10-1-24	
Client ID:	**HZ-MW-15D-092424**					
Laboratory ID:	09-301-07					
Iron	**200**	56	EPA 6010D		10-1-24	
Manganese	**290**	11	EPA 6010D		10-1-24	

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Samples Submitted: September 24, 2024
Laboratory Reference: 2409-301
Project: COB-Service Center (BSC); Task 4

DISSOLVED METALS
EPA 6010D

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-21R-092424**					
Laboratory ID:	09-301-08					
Iron	**2200**	56	EPA 6010D		10-1-24	
Manganese	**2600**	11	EPA 6010D		10-1-24	
Client ID:	**MW-34-092424**					
Laboratory ID:	09-301-09					
Iron	**2100**	56	EPA 6010D		10-1-24	
Manganese	**320**	11	EPA 6010D		10-1-24	
Client ID:	**MW-11-092424**					
Laboratory ID:	09-301-10					
Iron	**2000**	56	EPA 6010D		10-1-24	
Manganese	**1300**	11	EPA 6010D		10-1-24	
Client ID:	**MW-45R-092424**					
Laboratory ID:	09-301-11					
Iron	**32000**	250	EPA 6010D		10-1-24	
Manganese	**8400**	50	EPA 6010D		10-1-24	
Client ID:	**MW-20R-092424**					
Laboratory ID:	09-301-12					
Iron	**6200**	56	EPA 6010D		10-1-24	
Manganese	**260**	11	EPA 6010D		10-1-24	
Client ID:	**HZ-MW-33R-092424**					
Laboratory ID:	09-301-13					
Iron	**3900**	56	EPA 6010D		10-1-24	
Manganese	**1400**	11	EPA 6010D		10-1-24	

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Samples Submitted: September 24, 2024
Laboratory Reference: 2409-301
Project: COB-Service Center (BSC); Task 4

DISSOLVED METALS
EPA 6010D
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1001D1					
Iron	**ND**	56	EPA 6010D		10-1-24	
Manganese	**ND**	11	EPA 6010D		10-1-24	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	09-288-05										
	ORIG	DUP									
Iron	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Manganese	**74.9**	**76.1**	NA	NA		NA		NA	2	20	
MATRIX SPIKES											
Laboratory ID:	09-288-05										
	MS	MSD	MS	MSD		MS	MSD				
Iron	**24000**	**25000**	22200	22200	ND	**108**	**113**	75-125	4	20	
Manganese	**612**	**621**	556	556	74.9	**97**	**98**	75-125	2	20	

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OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1 - Sample extract treated with a sulfuric acid/silica gel cleanup procedure.

X2 - Sample extract treated with a silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in methods 8260 & 8270, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Y1 - Negative effects of the matrix from this sample on the instrument caused values for this analyte in the bracketing continuing calibration verification standard (CCVs) to be outside of 20% acceptance criteria. Because of this, quantitation limits and sample concentrations should be considered estimates.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

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Chain of Custody

Page 1 of 2

OnSite Environmental Inc.
Analytical Laboratory Testing Services
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Phone: (425) 883-3881 • www.onsite-env.com

Company: Floyd | Snider
Project Number: Task 4
Project Name: COB-Service Center (BSC)
Project Manager: Gabe Cisneros
Sampled by: Danielle Gallacher

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days)
☐ _____ (other)

Laboratory Number: 09-301

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX (8021☐ 8260☐)	NWTPH-Gx	NWTPH-Dx (SG Clean-up ☐)	Volatiles 8260 *	Halogenated Volatiles 8260	EDB EPA 8011 (Waters Only)	Semivolatiles 8270/SIM (with low-level PAHs)	PAHs 8270/SIM (low-level)	PCBs 8082	Organochlorine Pesticides 8081	Organophosphorus Pesticides 8270/SIM	Chlorinated Acid Herbicides 8151	Total RCRA Metals	Total MTCA Metals	~~TCLP Metals~~ SM5310B(TOC)	HEM (oil and grease) 1664	Ammonia-Nitrogen	Ortho-phosphate/Sulfate/Nitrate	RSK175 (Methane/Ethene/Ethane)	Dissolved Iron/Manganese	% Moisture
1	HZ-MW-14S-092424	9/24/24	09:00	GW	9					X											X		X	X	X	X	
2	HZ-MW-14D-092424.		09:05	GW	9					X											X		X	X	X	X	
3	HZ-MW-1-092424.		09:15	GW	9					X											X		X	X	X	X	
4	HZ-MW-29-092424.		10:25	GW	9					X											X		X	X	X	X	
5	HZ-MW-34-092424.		10:30	GW	9					X											X		X	X	X	X	
6	HZ-MW-24-092424.		10:45	GW	9					X											X		X	X	X	X	
7	HZ-MW-15D-092424.		13:20	GW	9					X											X		X	X	X	X	
8	MW-21R-092424.		12:15	GW	9					X											X		X	X	X	X	
9	MW-34-092424.		12:25	GW	9					X											X		X	X	X	X	
10	MW-11-092424.	↓	12:00	GW	9					X											X		X	X	X	X	

	Signature	Company	Date	Time
Relinquished	Danielle Gallacher	Floyd | Snider	9/24/24	16:04
Received		ALPHA	9/24/24	16:04
Relinquished		ALPHA	9/24/24	16:33
Received	Brendan Prell	OSE	9/24/24	1633
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
Send lab data to: labdata@floydsnider.com
* Only PCE, TCE, cis-1,2-DCE, trans-1,2-DCE + Vinyl Chloride

Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

Chain of Custody

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Laboratory Number: 09-301

Company: Floyd Snider
Project Number: Task 4
Project Name: COB-Service Center (BSC)
Project Manager: Gabe Cisneros
Sampled by: Danielle Gallacher

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days)
☐ _____ (other)

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX (8021☐ 8260☐)	NWTPH-Gx	NWTPH-Dx (SG Clean-up☐)	Volatiles 8260 *	Halogenated Volatiles 8260	EDB EPA 8011 (Waters Only)	Semivolatiles 8270/SIM (with low-level PAHs)	PAHs 8270/SIM (low-level)	PCBs 8082	Organochlorine Pesticides 8081	Organophosphorus Pesticides 8270/SIM	Chlorinated Acid Herbicides 8151	Total RCRA Metals	Total MTCA Metals	~~TCLP Metals~~ SM5310B (TOC)	HEM (oil and grease) 1664	Ammonia-Nitrogen	Orthophosphate/Silicate/Nitrate	RSK175 (Methane/Ethene/Ethane)	Dissolved Iron/Manganese	% Moisture
11	MW-45R-092424	9/24/24	13:35	GW	9					X											X		X	X	X	X	
12	MW-20R-092424	↓	13:40	GW	9					X											X		X	X	X	X	
13	HZ-MW-33R-092424	↓	14:35	GW	9					X											X		X	X	X	X	

* Only PCE, TCE, cis-1,2-DCE, trans-1,2-DCE + Vinyl Chloride

	Signature	Company	Date	Time
Relinquished	Danielle Gallacher	Floyd Snider	9/24/24	16:04
Received		ALPHA	9/24/24	16:04
Relinquished		ALPHA	9/24/24	16:33
Received	Aidan Peel	OSE	9/24/24	1633
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

October 10, 2024

Gabe Cisneros
Floyd & Snider
601 Union Street, Suite 600
Seattle, WA 98101

Re: Analytical Data for Project Task 4; COB-Service Center
Laboratory Reference No. 2409-322

Dear Gabe:

Enclosed are the analytical results and associated quality control data for samples submitted on September 25, 2024.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: October 10, 2024
Samples Submitted: September 25, 2024
Laboratory Reference: 2409-322
Project: Task 4; COB-Service Center

Case Narrative

Samples were collected on September 25, 2024 and received by the laboratory on September 25, 2024. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below. However the soil results for the QA/QC samples are reported on a wet-weight basis.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Nitrate (as Nitrogen) EPA 353.2 Analysis

The reported Nitrate results are a calculated value based on the subtraction of Nitrite from the Nitrate plus Nitrite result. The Nitrite analysis, which has a 48-hour holding time, was performed within the holding time. Immediately after this analysis, an aliquot from each sample was preserved with concentrated sulfuric acid and stored at 4 degrees C. The preserved samples were then analyzed within the maximum 28-day holding time for the Nitrate plus Nitrite analysis.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

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Date of Report: October 10, 2024
Samples Submitted: September 25, 2024
Laboratory Reference: 2409-322
Project: Task 4; COB-Service Center

VOLATILE ORGANICS EPA 8260D

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**S-MW-1-092524**					
Laboratory ID:	09-322-01					
Vinyl Chloride	ND	0.20	EPA 8260D	9-27-24	9-27-24	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	9-27-24	9-27-24	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260D	9-27-24	9-27-24	
Trichloroethene	ND	0.20	EPA 8260D	9-27-24	9-27-24	
Tetrachloroethene	2.4	0.20	EPA 8260D	9-27-24	9-27-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*96*	*68-133*				
Toluene-d8	*100*	*79-123*				
4-Bromofluorobenzene	*99*	*78-117*				
Client ID:	**MW-27-092524**					
Laboratory ID:	09-322-02					
Vinyl Chloride	ND	0.20	EPA 8260D	9-27-24	9-27-24	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	9-27-24	9-27-24	
(cis) 1,2-Dichloroethene	2.1	0.20	EPA 8260D	9-27-24	9-27-24	
Trichloroethene	2.9	0.20	EPA 8260D	9-27-24	9-27-24	
Tetrachloroethene	33	0.20	EPA 8260D	9-27-24	9-27-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*99*	*68-133*				
Toluene-d8	*99*	*79-123*				
4-Bromofluorobenzene	*101*	*78-117*				
Client ID:	**MW-5R-092524**					
Laboratory ID:	09-322-03					
Vinyl Chloride	0.29	0.20	EPA 8260D	9-27-24	9-27-24	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	9-27-24	9-27-24	
(cis) 1,2-Dichloroethene	13	0.20	EPA 8260D	9-27-24	9-27-24	
Trichloroethene	4.0	0.20	EPA 8260D	9-27-24	9-27-24	
Tetrachloroethene	48	0.20	EPA 8260D	9-27-24	9-27-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*97*	*68-133*				
Toluene-d8	*99*	*79-123*				
4-Bromofluorobenzene	*101*	*78-117*				

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Date of Report: October 10, 2024
Samples Submitted: September 25, 2024
Laboratory Reference: 2409-322
Project: Task 4; COB-Service Center

VOLATILE ORGANICS EPA 8260D

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-4R-092524**					
Laboratory ID:	09-322-04					
Vinyl Chloride	42	0.80	EPA 8260D	9-27-24	9-27-24	
(trans) 1,2-Dichloroethene	0.88	0.80	EPA 8260D	9-27-24	9-27-24	
(cis) 1,2-Dichloroethene	150	0.80	EPA 8260D	9-27-24	9-27-24	
Trichloroethene	1.9	0.80	EPA 8260D	9-27-24	9-27-24	
Tetrachloroethene	1.9	0.80	EPA 8260D	9-27-24	9-27-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*98*	*68-133*				
Toluene-d8	*99*	*79-123*				
4-Bromofluorobenzene	*101*	*78-117*				
Client ID:	**MW-6-092524**					
Laboratory ID:	09-322-05					
Vinyl Chloride	7.0	0.20	EPA 8260D	9-27-24	9-27-24	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	9-27-24	9-27-24	
(cis) 1,2-Dichloroethene	0.86	0.20	EPA 8260D	9-27-24	9-27-24	
Trichloroethene	ND	0.20	EPA 8260D	9-27-24	9-27-24	
Tetrachloroethene	ND	0.20	EPA 8260D	9-27-24	9-27-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*98*	*68-133*				
Toluene-d8	*100*	*79-123*				
4-Bromofluorobenzene	*100*	*78-117*				
Client ID:	**MW-7-092524**					
Laboratory ID:	09-322-06					
Vinyl Chloride	16	0.80	EPA 8260D	9-27-24	9-27-24	
(trans) 1,2-Dichloroethene	ND	0.80	EPA 8260D	9-27-24	9-27-24	
(cis) 1,2-Dichloroethene	130	0.80	EPA 8260D	9-27-24	9-27-24	
Trichloroethene	1.3	0.80	EPA 8260D	9-27-24	9-27-24	
Tetrachloroethene	ND	0.80	EPA 8260D	9-27-24	9-27-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*99*	*68-133*				
Toluene-d8	*99*	*79-123*				
4-Bromofluorobenzene	*100*	*78-117*				

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Date of Report: October 10, 2024
Samples Submitted: September 25, 2024
Laboratory Reference: 2409-322
Project: Task 4; COB-Service Center

VOLATILE ORGANICS EPA 8260D

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-107-092524**					
Laboratory ID:	09-322-07					
Vinyl Chloride	18	0.80	EPA 8260D	9-27-24	9-27-24	
(trans) 1,2-Dichloroethene	ND	0.80	EPA 8260D	9-27-24	9-27-24	
(cis) 1,2-Dichloroethene	130	0.80	EPA 8260D	9-27-24	9-27-24	
Trichloroethene	2.8	0.80	EPA 8260D	9-27-24	9-27-24	
Tetrachloroethene	2.2	0.80	EPA 8260D	9-27-24	9-27-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*98*	*68-133*				
Toluene-d8	*100*	*79-123*				
4-Bromofluorobenzene	*100*	*78-117*				
Client ID:	**MW-12-092524**					
Laboratory ID:	09-322-08					
Vinyl Chloride	90	4.0	EPA 8260D	9-27-24	9-27-24	
(trans) 1,2-Dichloroethene	ND	4.0	EPA 8260D	9-27-24	9-27-24	
(cis) 1,2-Dichloroethene	520	4.0	EPA 8260D	9-27-24	9-27-24	
Trichloroethene	37	4.0	EPA 8260D	9-27-24	9-27-24	
Tetrachloroethene	27	4.0	EPA 8260D	9-27-24	9-27-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*97*	*68-133*				
Toluene-d8	*98*	*79-123*				
4-Bromofluorobenzene	*100*	*78-117*				
Client ID:	**Trip Blank-092524**					
Laboratory ID:	09-322-09					
Vinyl Chloride	ND	0.20	EPA 8260D	9-27-24	9-27-24	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	9-27-24	9-27-24	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260D	9-27-24	9-27-24	
Trichloroethene	ND	0.20	EPA 8260D	9-27-24	9-27-24	
Tetrachloroethene	ND	0.20	EPA 8260D	9-27-24	9-27-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*98*	*68-133*				
Toluene-d8	*101*	*79-123*				
4-Bromofluorobenzene	*100*	*78-117*				

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Date of Report: October 10, 2024
Samples Submitted: September 25, 2024
Laboratory Reference: 2409-322
Project: Task 4; COB-Service Center

VOLATILE ORGANICS EPA 8260D
QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0927W1					
Vinyl Chloride	ND	0.20	EPA 8260D	9-27-24	9-27-24	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	9-27-24	9-27-24	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260D	9-27-24	9-27-24	
Trichloroethene	ND	0.20	EPA 8260D	9-27-24	9-27-24	
Tetrachloroethene	ND	0.20	EPA 8260D	9-27-24	9-27-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*96*	*68-133*				
Toluene-d8	*98*	*79-123*				
4-Bromofluorobenzene	*101*	*78-117*				

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0927W1									
	SB	SBD	SB	SBD	SB	SBD				
Vinyl Chloride	**10.9**	**10.6**	10.0	10.0	109	106	67-130	3	15	
(trans) 1,2-Dichloroethene	**10.5**	**10.4**	10.0	10.0	105	104	77-125	1	15	
(cis) 1,2-Dichloroethene	**10.7**	**10.4**	10.0	10.0	107	104	78-130	3	15	
Trichloroethene	**11.0**	**10.9**	10.0	10.0	110	109	80-126	1	15	
Tetrachloroethene	**11.0**	**11.1**	10.0	10.0	110	111	80-125	1	15	
Surrogate:										
Dibromofluoromethane					*96*	*94*	*68-133*			
Toluene-d8					*100*	*99*	*79-123*			
4-Bromofluorobenzene					*103*	*100*	*78-117*			

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Date of Report: October 10, 2024
Samples Submitted: September 25, 2024
Laboratory Reference: 2409-322
Project: Task 4; COB-Service Center

CHLORIDE
SM 4500-Cl E

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-5R-092524**					
Laboratory ID:	09-322-03					
Chloride	**3.3**	2.0	SM 4500-Cl E	10-2-24	10-2-24	
Client ID:	**MW-4R-092524**					
Laboratory ID:	09-322-04					
Chloride	**7.3**	2.0	SM 4500-Cl E	10-2-24	10-2-24	
Client ID:	**MW-6-092524**					
Laboratory ID:	09-322-05					
Chloride	**4.3**	2.0	SM 4500-Cl E	10-2-24	10-2-24	
Client ID:	**MW-7-092524**					
Laboratory ID:	09-322-06					
Chloride	**4.8**	2.0	SM 4500-Cl E	10-2-24	10-2-24	
Client ID:	**MW-107-092524**					
Laboratory ID:	09-322-07					
Chloride	**5.2**	2.0	SM 4500-Cl E	10-2-24	10-2-24	
Client ID:	**MW-12-092524**					
Laboratory ID:	09-322-08					
Chloride	**7.5**	2.0	SM 4500-Cl E	10-2-24	10-2-24	

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Date of Report: October 10, 2024
Samples Submitted: September 25, 2024
Laboratory Reference: 2409-322
Project: Task 4; COB-Service Center

CHLORIDE
SM 4500-Cl E
QUALITY CONTROL

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1002W1					
Chloride	**ND**	2.0	SM 4500-Cl E	10-2-24	10-2-24	

Analyte	Result		Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE									
Laboratory ID:	09-322-03								
	ORIG	DUP							
Chloride	**3.26**	**3.29**	NA	NA	NA	NA	1	21	
MATRIX SPIKE									
Laboratory ID:	09-322-03								
	MS		MS		MS				
Chloride	**60.6**		50.0	3.26	115	81-115	NA	NA	
SPIKE BLANK									
Laboratory ID:	SB1002W1								
	SB		SB		SB				
Chloride	**54.2**		50.0	NA	108	77-115	NA	NA	

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Date of Report: October 10, 2024
Samples Submitted: September 25, 2024
Laboratory Reference: 2409-322
Project: Task 4; COB-Service Center

TOTAL ORGANIC CARBON
SM 5310B

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**S-MW-1-092524**					
Laboratory ID:	09-322-01					
Total Organic Carbon	**1.5**	1.0	SM 5310B	10-3-24	10-3-24	
Client ID:	**MW-27-092524**					
Laboratory ID:	09-322-02					
Total Organic Carbon	**1.2**	1.0	SM 5310B	10-3-24	10-3-24	
Client ID:	**MW-5R-092524**					
Laboratory ID:	09-322-03					
Total Organic Carbon	**2.1**	1.0	SM 5310B	10-3-24	10-3-24	
Client ID:	**MW-4R-092524**					
Laboratory ID:	09-322-04					
Total Organic Carbon	**59**	1.0	SM 5310B	10-3-24	10-3-24	
Client ID:	**MW-6-092524**					
Laboratory ID:	09-322-05					
Total Organic Carbon	**9.4**	1.0	SM 5310B	10-3-24	10-3-24	
Client ID:	**MW-7-092524**					
Laboratory ID:	09-322-06					
Total Organic Carbon	**28**	1.0	SM 5310B	10-3-24	10-3-24	
Client ID:	**MW-107-092524**					
Laboratory ID:	09-322-07					
Total Organic Carbon	**28**	1.0	SM 5310B	10-3-24	10-3-24	
Client ID:	**MW-12-092524**					
Laboratory ID:	09-322-08					
Total Organic Carbon	**4.0**	1.0	SM 5310B	10-3-24	10-3-24	

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Date of Report: October 10, 2024
Samples Submitted: September 25, 2024
Laboratory Reference: 2409-322
Project: Task 4; COB-Service Center

TOTAL ORGANIC CARBON
SM 5310B
QUALITY CONTROL

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1003W2					
Total Organic Carbon	**ND**	1.0	SM 5310B	10-3-24	10-3-24	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	09-322-01							
	ORIG DUP							
Total Organic Carbon	**1.52** **1.51**	NA	NA	NA	NA	1	11	
MATRIX SPIKE								
Laboratory ID:	09-322-01							
	MS	MS		MS				
Total Organic Carbon	**11.8**	10.0	1.52	103	85-120	NA	NA	
SPIKE BLANK								
Laboratory ID:	SB1003W2							
	SB	SB		SB				
Total Organic Carbon	**10.2**	10.0	NA	102	79-120	NA	NA	

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Samples Submitted: September 25, 2024
Laboratory Reference: 2409-322
Project: Task 4; COB-Service Center

AMMONIA (as Nitrogen)
SM 4500-NH_3 D

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**S-MW-1-092524**					
Laboratory ID:	09-322-01					
Ammonia	**ND**	0.053	SM 4500-NH3 D	10-8-24	10-8-24	
Client ID:	**MW-27-092524**					
Laboratory ID:	09-322-02					
Ammonia	**ND**	0.053	SM 4500-NH3 D	10-8-24	10-8-24	
Client ID:	**MW-5R-092524**					
Laboratory ID:	09-322-03					
Ammonia	**ND**	0.053	SM 4500-NH3 D	10-8-24	10-8-24	
Client ID:	**MW-4R-092524**					
Laboratory ID:	09-322-04					
Ammonia	**ND**	0.053	SM 4500-NH3 D	10-8-24	10-8-24	
Client ID:	**MW-6-092524**					
Laboratory ID:	09-322-05					
Ammonia	**2.0**	0.053	SM 4500-NH3 D	10-8-24	10-8-24	
Client ID:	**MW-7-092524**					
Laboratory ID:	09-322-06					
Ammonia	**ND**	0.053	SM 4500-NH3 D	10-8-24	10-8-24	
Client ID:	**MW-107-092524**					
Laboratory ID:	09-322-07					
Ammonia	**ND**	0.053	SM 4500-NH3 D	10-8-24	10-8-24	
Client ID:	**MW-12-092524**					
Laboratory ID:	09-322-08					
Ammonia	**ND**	0.053	SM 4500-NH3 D	10-8-24	10-8-24	

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AMMONIA (as Nitrogen)
SM 4500-NH_3 D
QUALITY CONTROL

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1008W2					
Ammonia	**ND**	0.053	SM 4500-NH3 D	10-8-24	10-8-24	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	09-322-01							
	ORIG DUP							
Ammonia	**ND** **ND**	NA	NA	NA	NA	NA	15	
MATRIX SPIKE								
Laboratory ID:	09-322-01							
	MS	MS		MS				
Ammonia	**4.48**	5.00	ND	90	75-111	NA	NA	
SPIKE BLANK								
Laboratory ID:	SB1008W2							
	SB	SB		SB				
Ammonia	**4.62**	5.00	NA	92	81-110	NA	NA	

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TOTAL ORTHOPHOSPHATE
EPA 365.1

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**S-MW-1-092524**					
Laboratory ID:	09-322-01					
Orthophosphate	**0.060**	0.012	EPA 365.1	9-25-24	9-25-24	
Client ID:	**MW-27-092524**					
Laboratory ID:	09-322-02					
Orthophosphate	**ND**	0.012	EPA 365.1	9-25-24	9-25-24	
Client ID:	**MW-5R-092524**					
Laboratory ID:	09-322-03					
Orthophosphate	**0.061**	0.012	EPA 365.1	9-25-24	9-25-24	
Client ID:	**MW-4R-092524**					
Laboratory ID:	09-322-04					
Orthophosphate	**0.23**	0.012	EPA 365.1	9-25-24	9-25-24	
Client ID:	**MW-6-092524**					
Laboratory ID:	09-322-05					
Orthophosphate	**1.3**	0.024	EPA 365.1	9-25-24	9-25-24	
Client ID:	**MW-7-092524**					
Laboratory ID:	09-322-06					
Orthophosphate	**0.089**	0.012	EPA 365.1	9-25-24	9-25-24	
Client ID:	**MW-107-092524**					
Laboratory ID:	09-322-07					
Orthophosphate	**0.092**	0.012	EPA 365.1	9-25-24	9-25-24	
Client ID:	**MW-12-092524**					
Laboratory ID:	09-322-08					
Orthophosphate	**0.31**	0.012	EPA 365.1	9-25-24	9-25-24	

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TOTAL ORTHOPHOSPHATE
EPA 365.1
QUALITY CONTROL

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0925W1					
Orthophosphate	**ND**	0.012	EPA 365.1	9-25-24	9-25-24	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	09-322-01							
	ORIG DUP							
Orthophosphate	**0.0597 0.0599**	NA	NA	NA	NA	0	21	
MATRIX SPIKE								
Laboratory ID:	09-322-01							
	MS	MS		MS				
Orthophosphate	**0.286**	0.250	0.0597	91	68-121	NA	NA	
SPIKE BLANK								
Laboratory ID:	SB0925W1							
	SB	SB		SB				
Orthophosphate	**0.237**	0.250	NA	95	81-110	NA	NA	

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SULFATE
ASTM D516-11

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**S-MW-1-092524**					
Laboratory ID:	09-322-01					
Sulfate	**76**	20	ASTM D516-11	10-9-24	10-9-24	
Client ID:	**MW-27-092524**					
Laboratory ID:	09-322-02					
Sulfate	**36**	10	ASTM D516-11	10-9-24	10-9-24	
Client ID:	**MW-5R-092524**					
Laboratory ID:	09-322-03					
Sulfate	**17**	5.0	ASTM D516-11	10-9-24	10-9-24	
Client ID:	**MW-4R-092524**					
Laboratory ID:	09-322-04					
Sulfate	**ND**	5.0	ASTM D516-11	10-9-24	10-9-24	
Client ID:	**MW-6-092524**					
Laboratory ID:	09-322-05					
Sulfate	**33**	10	ASTM D516-11	10-9-24	10-9-24	
Client ID:	**MW-7-092524**					
Laboratory ID:	09-322-06					
Sulfate	**9.7**	5.0	ASTM D516-11	10-9-24	10-9-24	
Client ID:	**MW-107-092524**					
Laboratory ID:	09-322-07					
Sulfate	**20**	5.0	ASTM D516-11	10-9-24	10-9-24	
Client ID:	**MW-12-092524**					
Laboratory ID:	09-322-08					
Sulfate	**6.7**	5.0	ASTM D516-11	10-9-24	10-9-24	

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SULFATE
ASTM D516-11
QUALITY CONTROL

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1009W1					
Sulfate	**ND**	5.0	ASTM D516-11	10-9-24	10-9-24	

Analyte	Result		Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE									
Laboratory ID:	09-321-01								
	ORIG	DUP							
Sulfate	**72.2**	**69.0**	NA	NA	NA	NA	5	11	
SPIKE BLANK									
Laboratory ID:	SB1009W1								
	SB		SB		SB				
Sulfate	**8.60**		10.0	NA	86	81-106	NA	NA	
MATRIX SPIKE									
Laboratory ID:	09-321-01								
	MS		MS		MS				
Sulfate	**127**		50.0	72.2	110	69-134	NA	NA	

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NITRATE (as Nitrogen)
EPA 353.2

Matrix: Water
Units: mg/L-N

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**S-MW-1-092524**					
Laboratory ID:	09-322-01					
Nitrate	**2.1**	0.050	EPA 353.2	10-7-24	10-7-24	
Client ID:	**MW-27-092524**					
Laboratory ID:	09-322-02					
Nitrate	**0.34**	0.050	EPA 353.2	10-7-24	10-7-24	
Client ID:	**MW-5R-092524**					
Laboratory ID:	09-322-03					
Nitrate	**ND**	0.050	EPA 353.2	10-7-24	10-7-24	
Client ID:	**MW-4R-092524**					
Laboratory ID:	09-322-04					
Nitrate	**ND**	0.050	EPA 353.2	10-7-24	10-7-24	
Client ID:	**MW-6-092524**					
Laboratory ID:	09-322-05					
Nitrate	**ND**	0.050	EPA 353.2	10-7-24	10-7-24	
Client ID:	**MW-7-092524**					
Laboratory ID:	09-322-06					
Nitrate	**0.065**	0.050	EPA 353.2	10-7-24	10-7-24	
Client ID:	**MW-107-092524**					
Laboratory ID:	09-322-07					
Nitrate	**ND**	0.050	EPA 353.2	10-7-24	10-7-24	
Client ID:	**MW-12-092524**					
Laboratory ID:	09-322-08					
Nitrate	**0.059**	0.050	EPA 353.2	10-7-24	10-7-24	

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NITRATE (as Nitrogen)
EPA 353.2
QUALITY CONTROL

Matrix: Water
Units: mg/L-N

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1007W1					
Nitrate	**ND**	0.050	EPA 353.2	10-7-24	10-7-24	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	09-322-02							
	ORIG DUP							
Nitrate	**0.341** **0.324**	NA	NA	NA	NA	5	22	
MATRIX SPIKE								
Laboratory ID:	09-322-02							
	MS	MS		MS				
Nitrate	**2.60**	2.00	0.341	113	86-119	NA	NA	
SPIKE BLANK								
Laboratory ID:	SB1007W1							
	SB	SB		SB				
Nitrate	**2.07**	2.00	NA	104	85-117	NA	NA	

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Project: Task 4; COB-Service Center

DISSOLVED GASES
RSK 175

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**S-MW-1-092524**					
Laboratory ID:	09-322-01					
Methane	**30**	0.55	RSK 175	9-30-24	9-30-24	
Ethane	**ND**	0.56	RSK 175	9-30-24	9-30-24	
Ethene	**ND**	0.58	RSK 175	9-30-24	9-30-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*113*	*50-150*				
Client ID:	**MW-27-092524**					
Laboratory ID:	09-322-02					
Methane	**600**	5.5	RSK 175	9-30-24	9-30-24	
Ethane	**ND**	0.56	RSK 175	9-30-24	9-30-24	
Ethene	**ND**	0.58	RSK 175	9-30-24	9-30-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*123*	*50-150*				
Client ID:	**MW-5R-092524**					
Laboratory ID:	09-322-03					
Methane	**6700**	55	RSK 175	9-30-24	9-30-24	
Ethane	**ND**	0.56	RSK 175	9-30-24	9-30-24	
Ethene	**ND**	0.58	RSK 175	9-30-24	9-30-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*97*	*50-150*				
Client ID:	**MW-4R-092524**					
Laboratory ID:	09-322-04					
Methane	**6300**	55	RSK 175	9-30-24	9-30-24	
Ethane	**ND**	0.56	RSK 175	9-30-24	9-30-24	
Ethene	**22**	0.58	RSK 175	9-30-24	9-30-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*84*	*50-150*				
Client ID:	**MW-6-092524**					
Laboratory ID:	09-322-05					
Methane	**4800**	55	RSK 175	9-30-24	9-30-24	
Ethane	**ND**	0.56	RSK 175	9-30-24	9-30-24	
Ethene	**2.8**	0.58	RSK 175	9-30-24	9-30-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*81*	*50-150*				

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DISSOLVED GASES
RSK 175

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-7-092524**					
Laboratory ID:	09-322-06					
Methane	**5600**	55	RSK 175	9-30-24	9-30-24	
Ethane	**ND**	0.56	RSK 175	9-30-24	9-30-24	
Ethene	**1.2**	0.58	RSK 175	9-30-24	9-30-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*97*	*50-150*				
Client ID:	**MW-107-092524**					
Laboratory ID:	09-322-07					
Methane	**6200**	55	RSK 175	9-30-24	9-30-24	
Ethane	**ND**	0.56	RSK 175	9-30-24	9-30-24	
Ethene	**1.7**	0.58	RSK 175	9-30-24	9-30-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*90*	*50-150*				
Client ID:	**MW-12-092524**					
Laboratory ID:	09-322-08					
Methane	**6700**	55	RSK 175	9-30-24	9-30-24	
Ethane	**ND**	0.56	RSK 175	9-30-24	9-30-24	
Ethene	**4.8**	0.58	RSK 175	9-30-24	9-30-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*100*	*50-150*				

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DISSOLVED GASES
RSK 175
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0930W1					
Methane	**ND**	0.55	RSK 175	9-30-24	9-30-24	
Ethane	**ND**	0.56	RSK 175	9-30-24	9-30-24	
Ethene	**ND**	0.58	RSK 175	9-30-24	9-30-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*106*	*50-150*				

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANK										
Laboratory ID:	SB0930W1									
	SB	SBD	SB	SBD	SB	SBD				
Methane	**45.3**	**47.5**	44.2	44.2	102	107	75-125	5	25	
Ethane	**85.0**	**89.6**	83.2	83.2	102	108	75-125	5	25	
Ethene	**79.3**	**86.0**	77.7	77.7	102	111	75-125	8	25	
Surrogate:										
1-Butene					*106*	*113*	*50-150*			

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DISSOLVED METALS
EPA 6010D

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**S-MW-1-092524**					
Laboratory ID:	09-322-01					
Iron	**ND**	56	EPA 6010D		9-30-24	
Manganese	**ND**	11	EPA 6010D		9-30-24	
Client ID:	**MW-27-092524**					
Laboratory ID:	09-322-02					
Iron	**440**	56	EPA 6010D		9-30-24	
Manganese	**2500**	11	EPA 6010D		9-30-24	
Client ID:	**MW-5R-092524**					
Laboratory ID:	09-322-03					
Iron	**580**	56	EPA 6010D		9-30-24	
Manganese	**800**	11	EPA 6010D		9-30-24	
Client ID:	**MW-4R-092524**					
Laboratory ID:	09-322-04					
Iron	**15000**	56	EPA 6010D		9-30-24	
Manganese	**4400**	11	EPA 6010D		9-30-24	
Client ID:	**MW-6-092524**					
Laboratory ID:	09-322-05					
Iron	**32000**	250	EPA 6010D		9-30-24	
Manganese	**4400**	11	EPA 6010D		9-30-24	
Client ID:	**MW-7-092524**					
Laboratory ID:	09-322-06					
Iron	**14000**	56	EPA 6010D		9-30-24	
Manganese	**700**	11	EPA 6010D		9-30-24	
Client ID:	**MW-107-092524**					
Laboratory ID:	09-322-07					
Iron	**15000**	56	EPA 6010D		9-30-24	
Manganese	**720**	11	EPA 6010D		9-30-24	

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DISSOLVED METALS
EPA 6010D

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-12-092524**					
Laboratory ID:	09-322-08					
Iron	**14000**	56	EPA 6010D		9-30-24	
Manganese	**2900**	11	EPA 6010D		9-30-24	

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DISSOLVED METALS
EPA 6010D
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0930D1					
Iron	**ND**	56	EPA 6010D		9-30-24	
Manganese	**ND**	11	EPA 6010D		9-30-24	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	09-264-05										
	ORIG	DUP									
Iron	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Manganese	**56.0**	**61.5**	NA	NA		NA		NA	9	20	
MATRIX SPIKES											
Laboratory ID:	09-264-05										
	MS	MSD	MS	MSD		MS	MSD				
Iron	**25200**	**25200**	22200	22200	ND	**113**	**114**	75-125	0	20	
Manganese	**640**	**642**	556	556	56.0	**105**	**105**	75-125	0	20	

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TOTAL METALS
EPA 6010D

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-5R-092524**					
Laboratory ID:	09-322-03					
Calcium	**33000**	1000	EPA 6010D	10-2-24	10-2-24	
Magnesium	**18000**	1000	EPA 6010D	10-2-24	10-2-24	
Sodium	**17000**	1000	EPA 6010D	10-4-24	10-4-24	
Client ID:	**MW-4R-092524**					
Laboratory ID:	09-322-04					
Calcium	**130000**	10000	EPA 6010D	10-2-24	10-3-24	
Magnesium	**62000**	10000	EPA 6010D	10-2-24	10-3-24	
Sodium	**33000**	1000	EPA 6010D	10-4-24	10-4-24	
Client ID:	**MW-6-092524**					
Laboratory ID:	09-322-05					
Calcium	**53000**	10000	EPA 6010D	10-2-24	10-3-24	
Magnesium	**32000**	10000	EPA 6010D	10-2-24	10-3-24	
Sodium	**32000**	1000	EPA 6010D	10-4-24	10-4-24	
Client ID:	**MW-7-092524**					
Laboratory ID:	09-322-06					
Calcium	**75000**	10000	EPA 6010D	10-2-24	10-3-24	
Magnesium	**41000**	10000	EPA 6010D	10-2-24	10-3-24	
Sodium	**22000**	1000	EPA 6010D	10-4-24	10-4-24	
Client ID:	**MW-107-092524**					
Laboratory ID:	09-322-07					
Calcium	**80000**	10000	EPA 6010D	10-2-24	10-3-24	
Magnesium	**44000**	10000	EPA 6010D	10-2-24	10-3-24	
Sodium	**23000**	1000	EPA 6010D	10-4-24	10-4-24	
Client ID:	**MW-12-092524**					
Laboratory ID:	09-322-08					
Calcium	**82000**	10000	EPA 6010D	10-2-24	10-3-24	
Magnesium	**42000**	10000	EPA 6010D	10-2-24	10-3-24	
Sodium	**18000**	1000	EPA 6010D	10-4-24	10-4-24	

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TOTAL METALS
EPA 6010D
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1002WH1					
Calcium	**ND**	1000	EPA 6010D	10-2-24	10-2-24	
Magnesium	**ND**	1000	EPA 6010D	10-2-24	10-2-24	
Laboratory ID:	MB1004WH1					
Sodium	**ND**	1000	EPA 6010D	10-4-24	10-4-24	

Analyte	Result		Spike Level		Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE										
Laboratory ID:	09-215-08									
	ORIG	DUP								
Calcium	**33100**	**32400**	NA	NA		NA	NA	2	20	
Magnesium	**11200**	**11200**	NA	NA		NA	NA	0	20	
Laboratory ID:	09-327-02									
	ORIG	DUP								
Sodium	**7500**	**7530**	NA	NA		NA	NA	0	20	
MATRIX SPIKES										
Laboratory ID:	09-215-08									
	MS	MSD	MS	MSD		MS	MSD			
Calcium	**51000**	**49400**	20000	20000	33100	**90**	**81**	75-125	3	20
Magnesium	**30500**	**29800**	20000	20000	11200	**97**	**93**	75-125	2	20
Laboratory ID:	09-327-02									
	MS	MSD	MS	MSD		MS	MSD			
Sodium	**26900**	**27600**	20000	20000	7500	**97**	**100**	75-125	3	20

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1 - Sample extract treated with a sulfuric acid/silica gel cleanup procedure.

X2 - Sample extract treated with a silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in methods 8260 & 8270, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Y1 - Negative effects of the matrix from this sample on the instrument caused values for this analyte in the bracketing continuing calibration verification standard (CCVs) to be outside of 20% acceptance criteria. Because of this, quantitation limits and sample concentrations should be considered estimates.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

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Am Test Inc.
13600 NE 126th Place Suite C
Kirkland, WA
(425) 885-1664
www.amtestlab.com

Professional Analytical Services

October 09, 2024

David Baumeister
14648 NE 95th ST
Redmond, WA 98052

Project: OSE
Project Number: COB-Service Center Task 4
Project Manager: David Baumeister
RE: OSE

Enclosed are the results of analyses for samples received by our laboratory on 9/25/2024.
Please feel free to contact me with any questions or considerations regarding this report.

Sincerely,

ElementStationManager For Aaron Young
President

Am Test Inc.
13600 NE 126th Place Suite C
Kirkland, WA
(425) 885-1664
www.amtestlab.com

ANALYSIS REPORT

Professional Analytical Services

Date Received: 09/25/24
Date Reported: 10/09/24

OnSite Environmental Inc.
14648 NE 95th ST
Redmond, WA 98052
Attention: David Baumeister
Project Name: OSE
Project #: COB-Service Center Task 4

Reported Samples

Lab ID	Sample	Matrix	Qualifiers	Date Sampled	Date Received
A24I0459-01	MW-5R-092524	Water		09/25/2024	09/25/2024
A24I0459-02	MW-4R-092524	Water		09/25/2024	09/25/2024
A24I0459-03	MW-6-092524	Water		09/25/2024	09/25/2024
A24I0459-04	MW-7-092524	Water		09/25/2024	09/25/2024
A24I0459-05	MW-107-092524	Water		09/25/2024	09/25/2024
A24I0459-06	MW-12-092524	Water		09/25/2024	09/25/2024

The contents of this report apply to the sample(s) analyzed in accordance with the chain of custody document.
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ANALYSIS REPORT

Professional Analytical Services

Date Received: 09/25/24
Date Reported: 10/09/24

OnSite Environmental Inc.
14648 NE 95th ST
Redmond, WA 98052
Attention: David Baumeister
Project Name: OSE
Project #: COB-Service Center Task 4

AMTEST Identification Number: A24I0459-01
Client Identification: MW-5R-092524
Sampling Date: 09/25/24 10:45

Conventional Chemistry Parameters by APHA/EPA Methods

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Sulfide	ND	mg/L	MS, U	0.05	SM 4500-S2-D_2011	BV	10/09/2024

AMTEST Identification Number: A24I0459-02
Client Identification: MW-4R-092524
Sampling Date: 09/25/24 10:55

Conventional Chemistry Parameters by APHA/EPA Methods

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Sulfide	0.46	mg/L	MS	0.05	SM 4500-S2-D_2011	BV	10/09/2024

AMTEST Identification Number: A24I0459-03
Client Identification: MW-6-092524
Sampling Date: 09/25/24 11:50

Conventional Chemistry Parameters by APHA/EPA Methods

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Sulfide	0.18	mg/L	MS	0.05	SM 4500-S2-D_2011	BV	10/09/2024

AMTEST Identification Number: A24I0459-04
Client Identification: MW-7-092524
Sampling Date: 09/25/24 12:50

Conventional Chemistry Parameters by APHA/EPA Methods

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Sulfide	0.53	mg/L	MS	0.05	SM 4500-S2-D_2011	BV	10/09/2024

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ANALYSIS REPORT

Professional Analytical Services

Date Received: 09/25/24
Date Reported: 10/09/24

OnSite Environmental Inc.
14648 NE 95th ST
Redmond, WA 98052
Attention: David Baumeister
Project Name: OSE
Project #: COB-Service Center Task 4

AMTEST Identification Number: A24I0459-05
Client Identification: MW-107-092524
Sampling Date: 09/25/24 12:55

Conventional Chemistry Parameters by APHA/EPA Methods

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Sulfide	ND	mg/L	MS, U	0.05	SM 4500-S2-D_2011	BV	10/09/2024

AMTEST Identification Number: A24I0459-06
Client Identification: MW-12-092524
Sampling Date: 09/25/24 13:40

Conventional Chemistry Parameters by APHA/EPA Methods

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Sulfide	ND	mg/L	U, MS	0.05	SM 4500-S2-D_2011	BV	10/09/2024

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ANALYSIS REPORT

Professional Analytical Services

Date Received: 09/25/24
Date Reported: 10/09/24

OnSite Environmental Inc.
14648 NE 95th ST
Redmond, WA 98052
Attention: David Baumeister
Project Name: OSE
Project #: COB-Service Center Task 4

Quality Control

Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BBJ0145 - No Prep - WetChem										
Blank (BBJ0145-BLK1)					Prepared: 10/08/24 Analyzed: 10/09/24					
Sulfide	ND	U	0.05	mg/L						
Blank (BBJ0145-BLK2)					Prepared: 10/08/24 Analyzed: 10/09/24					
Sulfide	ND	U	0.05	mg/L						
LCS (BBJ0145-BS1)					Prepared: 10/08/24 Analyzed: 10/09/24					
Sulfide	0.27		0.05	mg/L	0.2500		107%	80-120%		
LCS (BBJ0145-BS2)					Prepared: 10/08/24 Analyzed: 10/09/24					
Sulfide	0.26		0.05	mg/L	0.2500		104%	80-120%		
Calibration Blank (BBJ0145-CCB1)					Prepared: 10/08/24 Analyzed: 10/09/24					
Sulfide	-0.006	U		mg/L						
Calibration Blank (BBJ0145-CCB2)					Prepared: 10/08/24 Analyzed: 10/09/24					
Sulfide	-0.002	U		mg/L						
Calibration Blank (BBJ0145-CCB3)					Prepared: 10/08/24 Analyzed: 10/09/24					
Sulfide	-0.002	U		mg/L						
Calibration Check (BBJ0145-CCV1)					Prepared: 10/08/24 Analyzed: 10/09/24					
Sulfide	0.49		0.05	mg/L	0.5000		98%	85-115%		
Calibration Check (BBJ0145-CCV2)					Prepared: 10/08/24 Analyzed: 10/09/24					
Sulfide	0.49		0.05	mg/L	0.5000		98%	85-115%		
Calibration Check (BBJ0145-CCV3)					Prepared: 10/08/24 Analyzed: 10/09/24					
Sulfide	0.47		0.05	mg/L	0.5000		94%	85-115%		
Matrix Spike (BBJ0145-MS1)		**Source: A24I0459-05**			Prepared: 10/08/24 Analyzed: 10/09/24					
Sulfide	0.36		0.05	mg/L	0.2500	ND	143%	55-145%		
Matrix Spike (BBJ0145-MS2)		**Source: A24J0034-01**			Prepared: 10/08/24 Analyzed: 10/09/24					
Sulfide	0.26		0.05	mg/L	0.2500	ND	105%	55-145%		
Matrix Spike (BBJ0145-MS3)		**Source: A24J0108-01**			Prepared: 10/08/24 Analyzed: 10/09/24					

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ANALYSIS REPORT

Professional Analytical Services

OnSite Environmental Inc.
14648 NE 95th ST
Redmond, WA 98052
Attention: David Baumeister
Project Name: OSE
Project #: COB-Service Center Task 4

Date Received: 09/25/24
Date Reported: 10/09/24

Quality Control
(Continued)

Conventional Chemistry Parameters by APHA/EPA Methods (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BBJ0145 - No Prep - WetChem (Continued)										
Matrix Spike (BBJ0145-MS3)		**Source: A24J0108-01**			Prepared: 10/08/24 Analyzed: 10/09/24					
Sulfide	0.26		0.05	mg/L	0.2500	ND	104%	55-145%		
Matrix Spike Dup (BBJ0145-MSD1)		**Source: A24I0459-05**			Prepared: 10/08/24 Analyzed: 10/09/24					
Sulfide	0.38		0.05	mg/L	0.2500	ND	151%	55-145%	5	20
Matrix Spike Dup (BBJ0145-MSD2)		**Source: A24J0034-01**			Prepared: 10/08/24 Analyzed: 10/09/24					
Sulfide	0.26		0.05	mg/L	0.2500	ND	104%	55-145%	1	20
Matrix Spike Dup (BBJ0145-MSD3)		**Source: A24J0108-01**			Prepared: 10/08/24 Analyzed: 10/09/24					
Sulfide	0.25		0.05	mg/L	0.2500	ND	99%	55-145%	4	20

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Kirkland, WA
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ANALYSIS REPORT

Professional Analytical Services

Date Received: 09/25/24
Date Reported: 10/09/24

OnSite Environmental Inc.
14648 NE 95th ST
Redmond, WA 98052
Attention: David Baumeister
Project Name: OSE
Project #: COB-Service Center Task 4

Notes and Definitions

Item	Definition
U	The compound was analyzed for but was not detected (Non-detect) at or above the MRL/MDL.
MS	The Matrix Spike sample recovery is not within control limits. See case narrative.
Dry	Sample results reported on a dry weight basis.
ND	Analyte NOT DETECTED at or above the reporting limit.
RPD	Relative Percent Difference
%REC	Percent Recovery
Source	Sample that was matrix spiked or duplicated.

Case Narrative

Case Narrative:

One of the Matrix Spike recoveries was outside of the method specified limits. All other QA/QC was within limits, therefore it is attributed to matrix interference.

No further corrective action was taken.

The contents of this report apply to the sample(s) analyzed in accordance with the chain of custody document.
No duplication of this report is allowed, except in its entirety.

A24I0459

OnSite Environmental Inc.

14648 NE 95th Street, Redmond, WA 98052 · (425) 883-3881

Laboratory Reference #: 09-322

Laboratory: AmTest Laboratories

Attention: Aaron Young

13600 NE 126th Pl Kirkland, WA 98034

Phone Number: (425) 885-1664

Turnaround Request

1 Day | 2 Day | 3 Day

Standard

Other: _____

Project Manager: David Baumeister

email: dbaumeister@onsite-env.com

Project Number: COB-Service Center; Task 4

Project Name: _____

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.	Requested Analyses
01	MW-5R-092524	9/25/24	10:45	W	1	Sulfide
02	MW-4R-092524	9/25/24	10:55	W	1	Sulfide
03	MW-6-092524	9/25/24	11:50	W	1	Sulfide
04	MW-7-092524	9/25/24	12:50	W	1	Sulfide
05	MW-107-092524	9/25/24	12:55	W	1	Sulfide
06	MW-12-092524	9/25/24	13:40	W	1	Sulfide

	Company	Date	Time	Comments/Special Instructions
Relinquished by:	OSE	9/25/24	4:15 PM	
Received by: IL	AmTest	9/25/24	4:15	10.7°C
Relinquished by:				
Received by:				
Relinquished by:				
Received by:				

EIM and EDDs

Chain of Custody

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: Floyd|Snider
Project Number: Task 4
Project Name: COB-Service Center
Project Manager: Gabe Cisneros
Sampled by: Danielle Gallacher

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days)
☐ _____ (other)

Laboratory Number: 09-322

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX (8021☐ 8260☐)	NWTPH-Gx	NWTPH-Dx (SG Clean-up☐)	Volatiles 8260	Halogenated Volatiles 8260	EDB EPA 8011 (Waters Only)	Semivolatiles 8270/SIM (with low-level PAHs)	PAHs 8270/SIM (low-level)	~~PCBs 8082~~ Chloride	Organochlorine Pesticides 8081	Organophosphorus Pesticides 8270/SIM	Chlorinated Acid Herbicides 8151	Total RCRA Metals	~~Total NWCA Metals~~ Sulfide	TCLP Metals	SM5310B (TOC)	HEM (oil and grease) 1664	Ammonia-Nitrogen	Ortho-phosphate/Nitrate	RSK175 (Methane/Ethane/Ethene)	Dissolved Iron/Manganese	~~% Moisture~~ Sodium/Calcium/Magnesium - Total
1	S-MW-1-092524	9/25/24	09:15	GW	9					X											X			X	X	X	X	
2	MW-27-092524		09:15	GW	9					X											X			X	X	X	X	
3	MW-5R-092524		10:45	GW	12					X					X					X	X			X	X	X	X	X
4	MW-4R-092524		10:55	GW	12					X					X					X	X			X	X	X	X	X
5	MW-6-092524		11:50	GW	12					X					X					X	X			X	X	X	X	X
6	MW-7-092524		12:50	GW	12					X					X					X	X			X	X	X	X	X
7	MW-107-092524		12:55	GW	12					X					X					X	X			X	X	X	X	X
8	MW-12-092524		13:40	GW	12					X					X					X	X			X	X	X	X	X
9	Trip Blank-092524	↓	08:00	W	2					X																		

	Signature	Company	Date	Time
Relinquished	[signature]	FS	9/25/24	1527
Received	Christian Peel	OSE	1527 → 9/25/24	
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
Send labdata to: labdata@floydsnider.com
~~*~~ Only PCE, TCE, cis-1,2-DCE, trans-1,2-DCE & vinyl chloride

Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

October 10, 2024

Gabe Cisneros
Floyd & Snider
601 Union Street, Suite 600
Seattle, WA 98101

Re: Analytical Data for Project Task 4; COB-Service Center
Laboratory Reference No. 2409-353

Dear Gabe:

Enclosed are the analytical results and associated quality control data for samples submitted on September 26, 2024.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: October 10, 2024
Samples Submitted: September 26, 2024
Laboratory Reference: 2409-353
Project: Task 4; COB-Service Center

Case Narrative

Samples were collected on September 26, 2024 and received by the laboratory on September 26, 2024. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below. However the soil results for the QA/QC samples are reported on a wet-weight basis.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Nitrate (as Nitrogen) EPA 353.2 Analysis

The reported Nitrate results are a calculated value based on the subtraction of Nitrite from the Nitrate plus Nitrite result. The Nitrite analysis, which has a 48-hour holding time, was performed within the holding time. Immediately after this analysis, an aliquot from each sample was preserved with concentrated sulfuric acid and stored at 4 degrees C. The preserved samples were then analyzed within the maximum 28-day holding time for the Nitrate plus Nitrite analysis.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: October 10, 2024
Samples Submitted: September 26, 2024
Laboratory Reference: 2409-353
Project: Task 4; COB-Service Center

VOLATILE ORGANICS EPA 8260D

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-43R-092624**					
Laboratory ID:	09-353-01					
Vinyl Chloride	0.81	0.20	EPA 8260D	9-28-24	9-28-24	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	9-28-24	9-28-24	
(cis) 1,2-Dichloroethene	12	0.20	EPA 8260D	9-28-24	9-28-24	
Trichloroethene	2.1	0.20	EPA 8260D	9-28-24	9-28-24	
Tetrachloroethene	4.2	1.0	EPA 8260D	9-28-24	9-28-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*99*	*68-133*				
Toluene-d8	*100*	*79-123*				
4-Bromofluorobenzene	*102*	*78-117*				
Client ID:	**MW-42-092624**					
Laboratory ID:	09-353-02					
Vinyl Chloride	0.73	0.20	EPA 8260D	9-28-24	9-28-24	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	9-28-24	9-28-24	
(cis) 1,2-Dichloroethene	0.66	0.20	EPA 8260D	9-28-24	9-28-24	
Trichloroethene	ND	0.20	EPA 8260D	9-28-24	9-28-24	
Tetrachloroethene	ND	1.0	EPA 8260D	9-28-24	9-28-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*100*	*68-133*				
Toluene-d8	*101*	*79-123*				
4-Bromofluorobenzene	*103*	*78-117*				
Client ID:	**MW-39-092624**					
Laboratory ID:	09-353-03					
Vinyl Chloride	ND	1.0	EPA 8260D	9-28-24	9-28-24	
(trans) 1,2-Dichloroethene	ND	1.0	EPA 8260D	9-28-24	9-28-24	
(cis) 1,2-Dichloroethene	ND	1.0	EPA 8260D	9-28-24	9-28-24	
Trichloroethene	53	1.0	EPA 8260D	9-28-24	9-28-24	
Tetrachloroethene	200	5.0	EPA 8260D	9-28-24	9-28-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*96*	*68-133*				
Toluene-d8	*99*	*79-123*				
4-Bromofluorobenzene	*101*	*78-117*				

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: October 10, 2024
Samples Submitted: September 26, 2024
Laboratory Reference: 2409-353
Project: Task 4; COB-Service Center

VOLATILE ORGANICS EPA 8260D

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-40-092624**					
Laboratory ID:	09-353-04					
Vinyl Chloride	97	10	EPA 8260D	9-28-24	9-28-24	
(trans) 1,2-Dichloroethene	ND	10	EPA 8260D	9-28-24	9-28-24	
(cis) 1,2-Dichloroethene	330	10	EPA 8260D	9-28-24	9-28-24	
Trichloroethene	1600	10	EPA 8260D	9-28-24	9-28-24	
Tetrachloroethene	890	50	EPA 8260D	9-28-24	9-28-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*98*	*68-133*				
Toluene-d8	*99*	*79-123*				
4-Bromofluorobenzene	*101*	*78-117*				
Client ID:	**MW-44R-092624**					
Laboratory ID:	09-353-05					
Vinyl Chloride	0.47	0.20	EPA 8260D	9-28-24	9-28-24	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	9-28-24	9-28-24	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260D	9-28-24	9-28-24	
Trichloroethene	2.8	0.20	EPA 8260D	9-28-24	9-28-24	
Tetrachloroethene	3.7	1.0	EPA 8260D	9-28-24	9-28-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*100*	*68-133*				
Toluene-d8	*99*	*79-123*				
4-Bromofluorobenzene	*101*	*78-117*				
Client ID:	**HZ-MW-31-092624**					
Laboratory ID:	09-353-06					
Vinyl Chloride	62	0.40	EPA 8260D	9-28-24	9-28-24	
(trans) 1,2-Dichloroethene	ND	0.40	EPA 8260D	9-28-24	9-28-24	
(cis) 1,2-Dichloroethene	45	0.40	EPA 8260D	9-28-24	9-28-24	
Trichloroethene	ND	0.40	EPA 8260D	9-28-24	9-28-24	
Tetrachloroethene	ND	2.0	EPA 8260D	9-28-24	9-28-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*98*	*68-133*				
Toluene-d8	*102*	*79-123*				
4-Bromofluorobenzene	*100*	*78-117*				

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Date of Report: October 10, 2024
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Laboratory Reference: 2409-353
Project: Task 4; COB-Service Center

VOLATILE ORGANICS EPA 8260D

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**S-MW-3RRR-092624**					
Laboratory ID:	09-353-07					
Vinyl Chloride	ND	0.20	EPA 8260D	9-28-24	9-28-24	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	9-28-24	9-28-24	
(cis) 1,2-Dichloroethene	0.55	0.20	EPA 8260D	9-28-24	9-28-24	
Trichloroethene	0.82	0.20	EPA 8260D	9-28-24	9-28-24	
Tetrachloroethene	270	10	EPA 8260D	9-30-24	9-30-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*98*	*68-133*				
Toluene-d8	*98*	*79-123*				
4-Bromofluorobenzene	*100*	*78-117*				
Client ID:	**MW-140-092624**					
Laboratory ID:	09-353-08					
Vinyl Chloride	81	10	EPA 8260D	9-28-24	9-28-24	
(trans) 1,2-Dichloroethene	ND	10	EPA 8260D	9-28-24	9-28-24	
(cis) 1,2-Dichloroethene	280	10	EPA 8260D	9-28-24	9-28-24	
Trichloroethene	1400	10	EPA 8260D	9-28-24	9-28-24	
Tetrachloroethene	850	50	EPA 8260D	9-28-24	9-28-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*96*	*68-133*				
Toluene-d8	*99*	*79-123*				
4-Bromofluorobenzene	*102*	*78-117*				

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Date of Report: October 10, 2024
Samples Submitted: September 26, 2024
Laboratory Reference: 2409-353
Project: Task 4; COB-Service Center

VOLATILE ORGANICS EPA 8260D
QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0928W2					
Vinyl Chloride	ND	0.20	EPA 8260D	9-28-24	9-28-24	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	9-28-24	9-28-24	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260D	9-28-24	9-28-24	
Trichloroethene	ND	0.20	EPA 8260D	9-28-24	9-28-24	
Tetrachloroethene	ND	1.0	EPA 8260D	9-28-24	9-28-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*99*	*68-133*				
Toluene-d8	*99*	*79-123*				
4-Bromofluorobenzene	*100*	*78-117*				
Laboratory ID:	MB0930W2					
Vinyl Chloride	ND	0.20	EPA 8260D	9-30-24	9-30-24	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260D	9-30-24	9-30-24	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260D	9-30-24	9-30-24	
Trichloroethene	ND	0.20	EPA 8260D	9-30-24	9-30-24	
Tetrachloroethene	ND	1.0	EPA 8260D	9-30-24	9-30-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*98*	*68-133*				
Toluene-d8	*100*	*79-123*				
4-Bromofluorobenzene	*101*	*78-117*				

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VOLATILE ORGANICS EPA 8260D
QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	09-344-02										
	MS	MSD	MS	MSD		MS	MSD				
Vinyl Chloride	**53.1**	**49.9**	50.0	50.0	ND	106	100	62-121	6	15	
(trans) 1,2-Dichloroethene	**49.8**	**47.5**	50.0	50.0	ND	100	95	79-120	5	16	
(cis) 1,2-Dichloroethene	**49.6**	**47.9**	50.0	50.0	ND	99	96	81-128	3	16	
Trichloroethene	**52.1**	**49.7**	50.0	50.0	ND	104	99	80-130	5	12	
Tetrachloroethene	**51.8**	**49.2**	50.0	50.0	ND	104	98	84-126	5	19	
Surrogate:											
Dibromofluoromethane						*97*	*95*	*68-133*			
Toluene-d8						*100*	*98*	*79-123*			
4-Bromofluorobenzene						*103*	*101*	*78-117*			
Laboratory ID:	09-361-01										
	MS	MSD	MS	MSD		MS	MSD				
Vinyl Chloride	**51.6**	**50.5**	50.0	50.0	ND	103	101	62-121	2	15	
(trans) 1,2-Dichloroethene	**51.9**	**51.4**	50.0	50.0	ND	104	103	79-120	1	16	
(cis) 1,2-Dichloroethene	**53.6**	**53.4**	50.0	50.0	ND	107	107	81-128	0	16	
Trichloroethene	**53.7**	**53.5**	50.0	50.0	ND	107	107	80-130	0	12	
Tetrachloroethene	**55.4**	**52.1**	50.0	50.0	ND	111	104	84-126	6	19	
Surrogate:											
Dibromofluoromethane						*99*	*100*	*68-133*			
Toluene-d8						*100*	*99*	*79-123*			
4-Bromofluorobenzene						*106*	*107*	*78-117*			

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TOTAL ORGANIC CARBON
SM 5310B

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-43R-092624**					
Laboratory ID:	09-353-01					
Total Organic Carbon	**3.1**	1.0	SM 5310B	10-3-24	10-3-24	
Client ID:	**MW-42-092624**					
Laboratory ID:	09-353-02					
Total Organic Carbon	**2.9**	1.0	SM 5310B	10-3-24	10-3-24	
Client ID:	**MW-39-092624**					
Laboratory ID:	09-353-03					
Total Organic Carbon	**4.7**	1.0	SM 5310B	10-3-24	10-3-24	
Client ID:	**MW-40-092624**					
Laboratory ID:	09-353-04					
Total Organic Carbon	**6.0**	1.0	SM 5310B	10-3-24	10-3-24	
Client ID:	**MW-44R-092624**					
Laboratory ID:	09-353-05					
Total Organic Carbon	**6.6**	1.0	SM 5310B	10-3-24	10-3-24	
Client ID:	**HZ-MW-31-092624**					
Laboratory ID:	09-353-06					
Total Organic Carbon	**6.1**	1.0	SM 5310B	10-3-24	10-3-24	
Client ID:	**S-MW-3RRR-092624**					
Laboratory ID:	09-353-07					
Total Organic Carbon	**1.1**	1.0	SM 5310B	10-3-24	10-3-24	
Client ID:	**MW-140-092624**					
Laboratory ID:	09-353-08					
Total Organic Carbon	**5.9**	1.0	SM 5310B	10-3-24	10-3-24	

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TOTAL ORGANIC CARBON
SM 5310B
QUALITY CONTROL

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1003W2					
Total Organic Carbon	**ND**	1.0	SM 5310B	10-3-24	10-3-24	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	09-322-01							
	ORIG DUP							
Total Organic Carbon	**1.52** **1.51**	NA	NA	NA	NA	1	11	
MATRIX SPIKE								
Laboratory ID:	09-322-01							
	MS	MS		MS				
Total Organic Carbon	**11.8**	10.0	1.52	103	85-120	NA	NA	
SPIKE BLANK								
Laboratory ID:	SB1003W2							
	SB	SB		SB				
Total Organic Carbon	**10.2**	10.0	NA	102	79-120	NA	NA	

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AMMONIA (as Nitrogen)
SM 4500-NH_3 D

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-43R-092624**					
Laboratory ID:	09-353-01					
Ammonia	**0.057**	0.053	SM 4500-NH3 D	10-8-24	10-8-24	
Client ID:	**MW-42-092624**					
Laboratory ID:	09-353-02					
Ammonia	**9.0**	0.053	SM 4500-NH3 D	10-8-24	10-8-24	
Client ID:	**MW-39-092624**					
Laboratory ID:	09-353-03					
Ammonia	**0.57**	0.053	SM 4500-NH3 D	10-8-24	10-8-24	
Client ID:	**MW-40-092624**					
Laboratory ID:	09-353-04					
Ammonia	**1.7**	0.053	SM 4500-NH3 D	10-8-24	10-8-24	
Client ID:	**MW-44R-092624**					
Laboratory ID:	09-353-05					
Ammonia	**3.2**	0.053	SM 4500-NH3 D	10-8-24	10-8-24	
Client ID:	**HZ-MW-31-092624**					
Laboratory ID:	09-353-06					
Ammonia	**0.40**	0.053	SM 4500-NH3 D	10-8-24	10-8-24	
Client ID:	**S-MW-3RRR-092624**					
Laboratory ID:	09-353-07					
Ammonia	**ND**	0.053	SM 4500-NH3 D	10-8-24	10-8-24	
Client ID:	**MW-140-092624**					
Laboratory ID:	09-353-08					
Ammonia	**1.6**	0.053	SM 4500-NH3 D	10-8-24	10-8-24	

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Project: Task 4; COB-Service Center

AMMONIA (as Nitrogen)
SM 4500-NH_3 D
QUALITY CONTROL

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1008W2					
Ammonia	**ND**	0.053	SM 4500-NH3 D	10-8-24	10-8-24	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	09-322-01							
	ORIG DUP							
Ammonia	**ND** **ND**	NA	NA	NA	NA	NA	15	
MATRIX SPIKE								
Laboratory ID:	09-322-01							
	MS	MS		MS				
Ammonia	**4.48**	5.00	ND	90	75-111	NA	NA	
SPIKE BLANK								
Laboratory ID:	SB1008W2							
	SB	SB		SB				
Ammonia	**4.62**	5.00	NA	92	81-110	NA	NA	

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TOTAL ORTHOPHOSPHATE
EPA 365.1

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-43R-092624**					
Laboratory ID:	09-353-01					
Orthophosphate	**0.14**	0.012	EPA 365.1	9-27-24	9-27-24	
Client ID:	**MW-42-092624**					
Laboratory ID:	09-353-02					
Orthophosphate	**3.6**	0.060	EPA 365.1	9-27-24	9-27-24	
Client ID:	**MW-39-092624**					
Laboratory ID:	09-353-03					
Orthophosphate	**0.14**	0.012	EPA 365.1	9-27-24	9-27-24	
Client ID:	**MW-40-092624**					
Laboratory ID:	09-353-04					
Orthophosphate	**0.49**	0.012	EPA 365.1	9-27-24	9-27-24	
Client ID:	**MW-44R-092624**					
Laboratory ID:	09-353-05					
Orthophosphate	**1.7**	0.060	EPA 365.1	9-27-24	9-27-24	
Client ID:	**HZ-MW-31-092624**					
Laboratory ID:	09-353-06					
Orthophosphate	**0.29**	0.012	EPA 365.1	9-27-24	9-27-24	
Client ID:	**S-MW-3RRR-092624**					
Laboratory ID:	09-353-07					
Orthophosphate	**0.12**	0.012	EPA 365.1	9-27-24	9-27-24	
Client ID:	**MW-140-092624**					
Laboratory ID:	09-353-08					
Orthophosphate	**0.40**	0.012	EPA 365.1	9-27-24	9-27-24	

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TOTAL ORTHOPHOSPHATE
EPA 365.1
QUALITY CONTROL

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0927W1					
Orthophosphate	**ND**	0.012	EPA 365.1	9-27-24	9-27-24	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	09-353-01							
	ORIG DUP							
Orthophosphate	**0.139** **0.138**	NA	NA	NA	NA	1	21	
MATRIX SPIKE								
Laboratory ID:	09-353-01							
	MS	MS		MS				
Orthophosphate	**0.370**	0.250	0.139	92	68-121	NA	NA	
SPIKE BLANK								
Laboratory ID:	SB0927W1							
	SB	SB		SB				
Orthophosphate	**0.226**	0.250	NA	90	81-110	NA	NA	

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SULFATE
ASTM D516-11

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-43R-092624**					
Laboratory ID:	09-353-01					
Sulfate	**22**	10	ASTM D516-11	10-10-24	10-10-24	
Client ID:	**MW-42-092624**					
Laboratory ID:	09-353-02					
Sulfate	**5.4**	5.0	ASTM D516-11	10-10-24	10-10-24	
Client ID:	**MW-39-092624**					
Laboratory ID:	09-353-03					
Sulfate	**15**	5.0	ASTM D516-11	10-10-24	10-10-24	
Client ID:	**MW-40-092624**					
Laboratory ID:	09-353-04					
Sulfate	**ND**	5.0	ASTM D516-11	10-10-24	10-10-24	
Client ID:	**MW-44R-092624**					
Laboratory ID:	09-353-05					
Sulfate	**14**	5.0	ASTM D516-11	10-10-24	10-10-24	
Client ID:	**HZ-MW-31-092624**					
Laboratory ID:	09-353-06					
Sulfate	**26**	10	ASTM D516-11	10-10-24	10-10-24	
Client ID:	**S-MW-3RRR-092624**					
Laboratory ID:	09-353-07					
Sulfate	**27**	10	ASTM D516-11	10-10-24	10-10-24	
Client ID:	**MW-140-092624**					
Laboratory ID:	09-353-08					
Sulfate	**ND**	5.0	ASTM D516-11	10-10-24	10-10-24	

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SULFATE
ASTM D516-11
QUALITY CONTROL

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1010W1					
Sulfate	**ND**	5.0	ASTM D516-11	10-10-24	10-10-24	

Analyte	Result		Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE									
Laboratory ID:	09-353-01								
	ORIG	DUP							
Sulfate	**22.0**	**24.2**	NA	NA	NA	NA	10	11	
MATRIX SPIKE									
Laboratory ID:	09-353-01								
	MS		MS		MS				
Sulfate	**41.1**		20.0	22.0	96	69-134	NA	NA	
SPIKE BLANK									
Laboratory ID:	SB1010W1								
	SB		SB		SB				
Sulfate	**8.45**		10.0	NA	85	81-106	NA	NA	

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Project: Task 4; COB-Service Center

NITRATE (as Nitrogen)
EPA 353.2

Matrix: Water
Units: mg/L-N

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-43R-092624**					
Laboratory ID:	09-353-01					
Nitrate	**0.12**	0.050	EPA 353.2	10-7-24	10-7-24	
Client ID:	**MW-42-092624**					
Laboratory ID:	09-353-02					
Nitrate	**0.061**	0.050	EPA 353.2	10-7-24	10-7-24	
Client ID:	**MW-39-092624**					
Laboratory ID:	09-353-03					
Nitrate	**0.054**	0.050	EPA 353.2	10-7-24	10-7-24	
Client ID:	**MW-40-092624**					
Laboratory ID:	09-353-04					
Nitrate	**0.054**	0.050	EPA 353.2	10-7-24	10-7-24	
Client ID:	**MW-44R-092624**					
Laboratory ID:	09-353-05					
Nitrate	**ND**	0.050	EPA 353.2	10-7-24	10-7-24	
Client ID:	**HZ-MW-31-092624**					
Laboratory ID:	09-353-06					
Nitrate	**ND**	0.050	EPA 353.2	10-7-24	10-7-24	
Client ID:	**S-MW-3RRR-092624**					
Laboratory ID:	09-353-07					
Nitrate	**2.6**	0.050	EPA 353.2	10-7-24	10-7-24	
Client ID:	**MW-140-092624**					
Laboratory ID:	09-353-08					
Nitrate	**ND**	0.050	EPA 353.2	10-7-24	10-7-24	

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NITRATE (as Nitrogen)
EPA 353.2
QUALITY CONTROL

Matrix: Water
Units: mg/L-N

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1007W1					
Nitrate	**ND**	0.050	EPA 353.2	10-7-24	10-7-24	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	09-353-01							
	ORIG DUP							
Nitrate	**0.124** **0.111**	NA	NA	NA	NA	11	22	
MATRIX SPIKE								
Laboratory ID:	09-353-01							
	MS	MS		MS				
Nitrate	**2.23**	2.00	0.124	105	86-119	NA	NA	
SPIKE BLANK								
Laboratory ID:	SB1007W1							
	SB	SB		SB				
Nitrate	**2.25**	2.00	NA	113	85-117	NA	NA	

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Date of Report: October 10, 2024
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Project: Task 4; COB-Service Center

DISSOLVED GASES
RSK 175

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-43R-092624**					
Laboratory ID:	09-353-01					
Methane	**2700**	28	RSK 175	9-30-24	9-30-24	
Ethane	**ND**	0.56	RSK 175	9-30-24	9-30-24	
Ethene	**ND**	0.58	RSK 175	9-30-24	9-30-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*110*	*50-150*				
Client ID:	**MW-42-092624**					
Laboratory ID:	09-353-02					
Methane	**5000**	55	RSK 175	9-30-24	9-30-24	
Ethane	**ND**	0.56	RSK 175	9-30-24	9-30-24	
Ethene	**ND**	0.58	RSK 175	9-30-24	9-30-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*111*	*50-150*				
Client ID:	**MW-39-092624**					
Laboratory ID:	09-353-03					
Methane	**370**	3.3	RSK 175	9-30-24	9-30-24	
Ethane	**ND**	0.56	RSK 175	9-30-24	9-30-24	
Ethene	**ND**	0.58	RSK 175	9-30-24	9-30-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*106*	*50-150*				
Client ID:	**MW-40-092624**					
Laboratory ID:	09-353-04					
Methane	**420**	3.3	RSK 175	9-30-24	9-30-24	
Ethane	**2.5**	0.56	RSK 175	9-30-24	9-30-24	
Ethene	**96**	0.58	RSK 175	9-30-24	9-30-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*101*	*50-150*				
Client ID:	**MW-44R-092624**					
Laboratory ID:	09-353-05					
Methane	**1700**	11	RSK 175	9-30-24	9-30-24	
Ethane	**ND**	0.56	RSK 175	9-30-24	9-30-24	
Ethene	**ND**	0.58	RSK 175	9-30-24	9-30-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*99*	*50-150*				

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Date of Report: October 10, 2024
Samples Submitted: September 26, 2024
Laboratory Reference: 2409-353
Project: Task 4; COB-Service Center

DISSOLVED GASES
RSK 175

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**HZ-MW-31-092624**					
Laboratory ID:	09-353-06					
Methane	**410**	3.3	RSK 175	9-30-24	9-30-24	
Ethane	**ND**	0.56	RSK 175	9-30-24	9-30-24	
Ethene	**2.8**	0.58	RSK 175	9-30-24	9-30-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*103*	*50-150*				
Client ID:	**S-MW-3RRR-092624**					
Laboratory ID:	09-353-07					
Methane	**1800**	17	RSK 175	9-30-24	9-30-24	
Ethane	**ND**	0.56	RSK 175	9-30-24	9-30-24	
Ethene	**ND**	0.58	RSK 175	9-30-24	9-30-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*104*	*50-150*				
Client ID:	**MW-140-092624**					
Laboratory ID:	09-353-08					
Methane	**390**	3.3	RSK 175	9-30-24	9-30-24	
Ethane	**2.6**	0.56	RSK 175	9-30-24	9-30-24	
Ethene	**96**	0.58	RSK 175	9-30-24	9-30-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*109*	*50-150*				

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Date of Report: October 10, 2024
Samples Submitted: September 26, 2024
Laboratory Reference: 2409-353
Project: Task 4; COB-Service Center

DISSOLVED GASES
RSK 175
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0930W1					
Methane	**ND**	0.55	RSK 175	9-30-24	9-30-24	
Ethane	**ND**	0.56	RSK 175	9-30-24	9-30-24	
Ethene	**ND**	0.58	RSK 175	9-30-24	9-30-24	
Surrogate:	*Percent Recovery*	*Control Limits*				
1-Butene	*106*	*50-150*				

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANK										
Laboratory ID:	SB0930W1									
	SB	SBD	SB	SBD	SB	SBD				
Methane	**45.3**	**47.5**	44.2	44.2	102	107	75-125	5	25	
Ethane	**85.0**	**89.6**	83.2	83.2	102	108	75-125	5	25	
Ethene	**79.3**	**86.0**	77.7	77.7	102	111	75-125	8	25	
Surrogate:										
1-Butene					*106*	*113*	*50-150*			

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Date of Report: October 10, 2024
Samples Submitted: September 26, 2024
Laboratory Reference: 2409-353
Project: Task 4; COB-Service Center

DISSOLVED METALS
EPA 6010D

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-43R-092624**					
Laboratory ID:	09-353-01					
Iron	**4000**	56	EPA 6010D		10-4-24	
Manganese	**2000**	11	EPA 6010D		10-4-24	
Client ID:	**MW-42-092624**					
Laboratory ID:	09-353-02					
Iron	**14000**	56	EPA 6010D		10-4-24	
Manganese	**370**	11	EPA 6010D		10-4-24	
Client ID:	**MW-39-092624**					
Laboratory ID:	09-353-03					
Iron	**8200**	56	EPA 6010D		10-4-24	
Manganese	**160**	11	EPA 6010D		10-4-24	
Client ID:	**MW-40-092624**					
Laboratory ID:	09-353-04					
Iron	**26000**	56	EPA 6010D		10-4-24	
Manganese	**420**	11	EPA 6010D		10-4-24	
Client ID:	**MW-44R-092624**					
Laboratory ID:	09-353-05					
Iron	**9800**	56	EPA 6010D		10-4-24	
Manganese	**340**	11	EPA 6010D		10-4-24	
Client ID:	**HZ-MW-31-092624**					
Laboratory ID:	09-353-06					
Iron	**28000**	56	EPA 6010D		10-4-24	
Manganese	**430**	11	EPA 6010D		10-4-24	
Client ID:	**S-MW-3RRR-092624**					
Laboratory ID:	09-353-07					
Iron	**ND**	56	EPA 6010D		10-4-24	
Manganese	**510**	11	EPA 6010D		10-4-24	

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Date of Report: October 10, 2024
Samples Submitted: September 26, 2024
Laboratory Reference: 2409-353
Project: Task 4; COB-Service Center

DISSOLVED METALS
EPA 6010D

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-140-092624**					
Laboratory ID:	09-353-08					
Iron	**26000**	56	EPA 6010D		10-4-24	
Manganese	**430**	11	EPA 6010D		10-4-24	

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Date of Report: October 10, 2024
Samples Submitted: September 26, 2024
Laboratory Reference: 2409-353
Project: Task 4; COB-Service Center

DISSOLVED METALS
EPA 6010D
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1004D1					
Iron	**ND**	56	EPA 6010D		10-4-24	
Manganese	**ND**	11	EPA 6010D		10-4-24	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	09-353-01										
	ORIG	DUP									
Iron	**3980**	**4010**	NA	NA		NA		NA	1	20	
Manganese	**1950**	**1990**	NA	NA		NA		NA	2	20	
MATRIX SPIKES											
Laboratory ID:	09-353-01										
	MS	MSD	MS	MSD		MS	MSD				
Iron	**25200**	**25700**	22200	22200	3980	**96**	**98**	75-125	2	20	
Manganese	**2430**	**2450**	556	556	1950	**87**	**89**	75-125	1	20	

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OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1 - Sample extract treated with a sulfuric acid/silica gel cleanup procedure.

X2 - Sample extract treated with a silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in methods 8260 & 8270, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Y1 - Negative effects of the matrix from this sample on the instrument caused values for this analyte in the bracketing continuing calibration verification standard (CCVs) to be outside of 20% acceptance criteria. Because of this, quantitation limits and sample concentrations should be considered estimates.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

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Chain of Custody

Page 1 of 1

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Laboratory Number: 09-353

Company: Floyd|Snider
Project Number: Task 4
Project Name: COB - Service Center (BSC)
Project Manager: Gabe Cisneros
Sampled by: Danielle Gallaher

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days)
☐ _____ (other)

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers
1	MW-43R-092624	9/26/24	09:20	GW	9
2	MW-42-092624		09:25	GW	9
3	MW-39-092624		11:20	GW	9
4	MW-40-092624		11:15	GW	9
5	MW-44R-092624		12:55	GW	9
6	HZ-MW-31-092624		13:00	GW	9
7	S-MW-3RRR-092624		14:00	GW	9
8	MW-140-092624		11:35	GW	9

Lab ID	NWTPH-HCID	NWTPH-Gx/BTEX (8021☐ 8260☐)	NWTPH-Gx	NWTPH-Dx (SG Clean-up☐)	Volatiles 8260 ☆	Halogenated Volatiles 8260	EDB EPA 8011 (Waters Only)	Semivolatiles 8270/SIM (with low-level PAHs)	PAHs 8270/SIM (low-level)	PCBs 8082	Organochlorine Pesticides 8081	Organophosphorus Pesticides 8270/SIM	Chlorinated Acid Herbicides 8151	Total RCRA Metals	Total MTCA Metals	~~TOC~~ SM5310B (TOC)	HEM (oil and grease) 1664	Ammonia - Nitrogen	Orthophosphate/Sulfate/Nitrate	RSK175 (Methane/Ethene/Ethane)	Dissolved Iron/Manganese	% Moisture
1					X											X		X	X	X	X	
2					X											X		X	X	X	X	
3					X											X		X	X	X	X	
4					X											X		X	X	X	X	
5					X											X		X	X	X	X	
6					X											X		X	X	X	X	
7					X											X		X	X	X	X	
8					X											X		X	X	X	X	

☆ Only PCE, TCE, cis-1,2-DCE, trans-1,2-DCE & Vinyl Chloride

	Signature	Company	Date	Time
Relinquished		Floyd Snider	9/26/24	15:48
Received			9/26/24	15:48
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
Send results to: labdata@floydsnider.com

Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

Attachment 3
Groundwater Sampling Low-Flow Standard Guideline

Two Union Square
601 Union Street, Suite 600
Seattle, WA 98101
tel: 206.292.2078 fax: 206.682.7867

F|S STANDARD GUIDELINE

Low-Flow Groundwater Sample Collection

DATE/LAST UPDATE: November 2023

These procedures should be considered standard guidelines and are intended to provide useful guidance when in the field but are not intended to be step-by-step procedures, as some steps may not be applicable to all projects.

All field staff should be sufficiently trained in the standard guidelines for the sampling method they intend to use and should review and understand these procedures prior to going into the field. It is the responsibility of the field staff to review the standard guidelines with the field manager or project manager and identify any deviations from these guidelines prior to field work. When possible, the project-specific Sampling and Analysis Plan should contain any expected deviations and should be referenced in conjunction with these standard guidelines.

1.0 Scope and Purpose

This standard guideline provides details necessary for collecting representative groundwater samples from monitoring wells using low-flow methods. These guidelines are designed to meet or exceed guidelines set forth by the Washington State Department of Ecology (Ecology). Low-Flow sampling provides a method to minimize the volume of water that is purged and disposed from a monitoring well, and minimizes the impact that purging has on groundwater chemistry during sample collection.

2.0 Equipment and Supplies

Groundwater Sampling Equipment and Tools

- For wells with head less than 25 feet:
  - Peristaltic pump with fully charged internal battery or standalone battery and appropriate connectors
- For wells with head greater than 25 feet:
  - Bladder pump and controller, as well as an air cylinder, or air compressor (with extension cord if near an electrical outlet; with battery and appropriate connectors or generator if not near an outlet)

    OR

  - Low-flow submersible pump and controller (with extension cord if near an electrical outlet; with battery and appropriate connectors or generator if not near an outlet)
- Multi-parameter water quality meter
- Turbidity meter
- Water level meter
- Polyethylene tubing, Teflon tubing, or similar (assume polyethylene unless otherwise specified in SAP) and tubing weights (for wells deeper than approximately 10 feet)
- Silicone tubing
- Filters (if field filtering)
- Tools for opening wells and drums (1/2-inch, 9/16-inch, 5/8 and 15/16-inch sockets ratchet, screwdriver, hammer/rubber mallet, bung wrench; any other necessary tools if non-standard monuments have been used)
- Well keys
- Tube cutters, razor blade, or scissors
- 5-gallon buckets, lids, and clamp
- Decontamination supplies: Alconox (or similar), distilled or deionized water, spray bottles, and paper towels
- Bailer or hand pump to drain well box if full of stormwater
- Trash bags

Lab Equipment

- Sample jars/bottles
- Coolers
- Chain-of-Custody Forms
- Labels
- Ice
- Ziploc bags

Paperwork

- Field notebook with site maps
- Table of well construction details and/or well logs, if available
- Sampling forms (enclosed)
- Purge water plan

- Rite-in-the-Rain pens, paper, and permanent markers
- Site-Specific Health and Safety Plan (HASP) and F|S Accident Prevention Plan (APP)
- List of emergency contacts for the Site or facility
- Safety Data Sheets (SDS) binder
- Sampling and Analysis Plan (SAP) and/or Quality Assurance Project Plan (QAPP) (including tables of analytes and bottle types)

Safety Equipment

- PPE:
  - Waterproof boots (safety toed, depending on site)
  - Safety vest
  - Safety glasses
  - Rain gear
  - Nitrile gloves
  - Work gloves
- First Aid kit
- Emergency kit (fire extinguisher, road flares)
- Traffic barricades or cones

3.0 Standard Procedures

Low-flow groundwater sampling consists of purging groundwater within the well casing at a rate equal to or less than the flow rate of representative groundwater from the surrounding aquifer into the well screen. The flow rate will depend on the hydraulic conductivity of the aquifer and the drawdown, with the goal of minimizing drawdown within the monitoring well. Field parameters are monitored during purging and groundwater samples are collected after field parameters have stabilized. Deviations from these procedures should be approved by the Project Manager and fully documented.

3.1 OFFICE PREPARATION

First, meet with the PM to identify the key objectives of the groundwater sampling effort. This may include the order of wells to be sampled (e.g., if using non-dedicated equipment, wells may need to be sampled in order of least contaminated to most contaminated), whether any wells require redevelopment at least 24-hours prior to sampling, and/or key stabilization parameters (e.g., elevated turbidity may require purging beyond 30 minutes, even if the readings are within 10%).

Conduct a kick-off meeting with the sampling team to discuss site health and safety protocols, data quality objectives, and any site-specific special considerations or sampling procedures.

3.2 TAILGATE SAFETY MEETING

Conduct a tailgate safety meeting prior to beginning work at the site. Emergency evacuation procedures, rally points, and onsite communication protocols should be discussed at the first tailgate meeting and repeated if new personnel join the field team onsite.

The safety meeting should cover the hazards specific to groundwater sampling. Typical hazards include the following:

- Chemical hazards (refer to HASP for site chemical exposure hazards)
- Site hazards
  - Traffic hazards onsite (e.g., truck traffic, heavy machinery)
  - Biological hazards (e.g., spiders or wasps within well monuments)
- Physical hazards associated with lifting and carrying heavy equipment and repeated bending while sampling
- Cuts and abrasions associated with using blades and tools
- Electrical hazards (make sure all wires/cables are in good condition and connections to battery or outlet are secure)
- Heat stress and cold stress

Record the meeting attendees and topics discussed on the front page of the tailgate safety meeting form (included as an attachment to the HASP). All attendees should sign the form.

3.3 OTHER HEALTH AND SAFETY GUIDELINES

The following are additional health and safety guidelines that should be followed in the field. These guidelines are intended to supplement the guidelines and requirements identified in the HASP and are not intended to replace the HASP.

- Review and sign the HASP prior to going into the field.
- Conduct a tailgate safety meeting prior to beginning work at the site as discussed in Section 3.2
- When moving between monitoring wells or switching to different tasks (e.g., transitioning from sampling to cooler QC prior to lab pickup), assess any additional hazards that may be associated with the new location or task. Record additional hazards noted and corrective actions to address those hazards on the Daily Tailgate Safety Meeting and Debrief Form (included as an attachment to the HASP).
- Record near misses and incidents on the Near Miss and Incident Reporting Form (included as an attachment to the HASP) and conduct management/client notifications according to the protocols detailed in the HASP.

3.4 CALIBRATION OF WATER QUALITY METERS

All multi-parameter water quality meters to be used will be calibrated prior to each sampling event. Calibration procedures are outlined in each instrument's specific user manual.

3.5 MONITORING, MAINTENANCE, AND SECURITY

Prior to sampling, depth to water and total depth measurements will be collected and recorded for accessible monitoring wells onsite (or an appropriate subset for larger sites). Check for an existing measuring point (notch or visible mark on top of casing). If a measuring point is not observed, a measuring point should be established on the north side of the casing. The conditions of the well box and bolts will also be observed, and deficiencies will be recorded on the sampling forms or logbook (i.e., missing or stripped bolt). The following should also be recorded:

- Condition of the well box, lid, bolts, locks, and gripper cap, if deficiencies
- Condition of gasket if deficient and if water is present in the well box
- Note any obstructions or kinks in the well casing
- Note any equipment in the well casing, such as transducers, bailers, or tubing
- Condition of general area surrounding the well, such as subsidence, potholes, or if the well is submerged within a puddle.

Replace any missing or stripped bolts and redevelop wells if needed.

3.6 LOW-FLOW PURGING METHOD AND SAMPLING PROCEDURES

Groundwater samples will be collected using low-flow purging and sampling procedures consistent with Ecology guidelines and the U.S. Environmental Protection Agency (USEPA) standard operating procedures (USEPA 1996). The following describes the Low-Flow purging and sampling procedures for collecting groundwater samples using a peristaltic pump. If the water level is greater than approximately 20 to 25 feet below ground surface (bgs), Grundfos or Geotech submersible pumps or bladder pumps can be used since their pumping rates can be adjusted to low-flow levels. Submersible pumps are preferable to bladder pumps in situations where less than 5 feet of water column are present in the well casing.

- Place the peristaltic pump and water quality equipment near the wellhead. Slowly lower new poly tubing down into the well casing approximately to the middle of the well screen. When sampling wells with a bottom screen depth greater than approximately 10 feet, it is important to measure the length of tubing prior to placement as longer lengths of tubing are more likely to get caught or otherwise obstructed and feel like it has reached the well bottom; this issue can be mitigated by using decontaminated stainless steel tubing weights. If the depth of the well screen is not known, lower the appropriate length of tubing to the bottom of the well, making sure that the tubing has not been caught on the slotted well casing, and then raise the tubing 3 to 5 feet off the bottom of the casing (limit this distance to 2 feet for wells with total depth less than 10 feet). Document the estimated depth of the tubing

placement within the well. Connect the tubing to the peristaltic pump using new flex tubing and connect the discharge line to the flow-through cell of the water quality meter. The discharge line from the flow cell should be directed to a bucket to contain the purged water.

- If using a low-flow submersible pump, connect the pump head to dedicated or disposable tubing. If using a bladder pump, connect both the air intake and water discharge ports to decontaminated or disposable tubing, using the manufacturer's instructions to ensure a secure connection. Lower the pump with tubing into the well as described above and connect the water discharge tubing directly to the flow-through cell.
- Measure the depth to water to the nearest 0.01 foot with a decontaminated water level meter and record the information on a sampling form.
- Start pumping the well at a purge rate of 0.1 to 0.2 liters per minute and slowly increase the rate. Purge rate is adjusted using a speed control knob or arrows on peristaltic and low-flow submersible pumps. The purge rate for bladder pumps is controlled by the air compressor, which first pressurizes the pump chamber in order to compress the flexible bladder and force water through the discharge line, and then vents the chamber in order to allow the bladder to refill with water.
    - A good rule of thumb is to pressurize to 10 psi + 0.5 psi/foot of tubing depth and begin with 4 discharge/refill cycles per minute; using greater air pressure and accelerating the pump cycles will increase the purge rate.
- Check the water level. If the water level is dropping, lower the purge rate. Maintain a steady flow with no or minimal drawdown (less than 0.33 feet according to USEPA 2002). Maintaining a drawdown of less than 0.33 feet may not be feasible depending on hydrogeological conditions. If possible, measure the discharge rate of the pump with a graduated cylinder or use a stopwatch when filling sampling jars (500 milliliters [mL] polyethylene or glass ambers) to estimate the rate. When purging water through a flow cell, the maximum flow rate for accurate water quality readings is about 0.5 liters per minute (L/minute).
- The discharge tubing should be connected to the flow cell immediately upon initial water discharge, unless the discharge water is visibly turbid or flocculant is observed. Monitor and record water quality parameters every three to five minutes after one tubing volume (including the volume of water in the flow cell) has been purged.
    - One foot of ¼-inch interior diameter tubing holds about 10 mL of water, and flow-through cells typically hold less than 200 mL of water; one volume should be purged after about 5 minutes at a flow rate of 0.1 L/minute.
- Water-quality indicator parameters that will be monitored and recorded during purging include:
    - pH
    - Specific conductivity

  - Dissolved oxygen
  - Temperature
  - Turbidity
  - Oxidation reduction potential (ORP)

- Continue purging until temperature, pH, turbidity, and specific conductivity are approximately stable (when measurements are within 10 percent) for three consecutive readings, or 30 minutes have elapsed. Because these field parameters (especially dissolved oxygen and ORP) may not reach the stabilization criteria, collection of the groundwater sample will be based on the professional judgment of field personnel at the time of sampling. A minimum of 5 water quality readings should be collected prior to sampling.
- The water sample can be collected once the criteria above have been met.
- If drawdown in the well cannot be maintained at 0.33 feet or less, reduce the flow or turn off the pump for 15 minutes and allow for recovery. If the water quality parameters have stabilized, and if at least two tubing volumes and the flow cell volume have been purged, then sample collection can proceed when the water level has recovered, and the pump is turned back on. This should be noted on the sampling form.
- To collect the water sample, maintain the same pumping rate. After the well has been purged and the sample bottles have been labeled, the groundwater sample will be collected by directly filling the laboratory-provided bottles from the pump discharge line prior to passing through the flow cell. All sample containers should be filled with minimum disturbance by allowing the water to flow down the inside of the bottle or vial. When collecting a volatile organic compound (VOC) sample, fill to the top to form a meniscus over the mouth of the vial prior to placing the cap to eliminate air bubbles. Be careful not to overflow preserved bottles/pre-cleaned Volatile Organic Analyte (VOA) vials.
- If sampling for filtered metals, collect these samples last and fit an in-line filter at the end of the discharge line. Take note of the flow direction arrow on the filter prior to fitting, invert filter to eliminate air bubbles, and allow minimum of 0.5 to 1 liter of groundwater to pass through the filter prior to collecting the sample.
- Sample labels will clearly identify the project name, sampler's initials, sample location and unique sample ID, analysis to be performed, date, and time. After collection, place samples a cooler maintained at a temperature of approximately 4 to 6 degrees Celsius (°C) using ice (if required). Complete the chain-of-Custody forms. Upon transfer of the samples to the laboratory, the Chain-of-Custody Form will be signed by the persons transferring custody of the sample containers to document change in possession.
- When sample collection is complete at a designated location, remove and properly dispose of the non-dedicated tubing. In most cases, this waste is considered solid waste and can be disposed of as refuse. Close and lock the well.

4.0 Decontamination

All reusable equipment that comes into contact with groundwater should be decontaminated using the processes described in this section prior to moving to the next sampling location.

Water Level Meter: The water level indicator and tape will be decontaminated between sampling locations and at the end the day by spraying the entire length of tape that came in contact with groundwater with an Alconox (or similar)/clean water solution followed by a thorough rinse with distilled or deionized water.

Water Quality Sensors and Flow-Through Cell: Distilled water or deionized water will be used to rinse the water quality sensors and flow-through cell. No other decontamination procedures are recommended since they are sensitive equipment. After the sampling event, the water quality meters will be cleaned and maintained according to the specific manual.

Submersible Pump (if applicable): Decontaminating the pump requires running the pump in three progressively cleaner grades of water.

1. Fill a bucket with approximately 4 gallons of an Alconox (or similar)/clean water solution to sufficiently cover the pump. Place the pump and the length of the power cord (if applicable) that was in contact with water into the bucket and run the pump for approximately two minutes or until the volume of water in the bucket has been exhausted.
2. Fill a second bucket containing approximately 4 gallons of clean water to sufficiently cover the pump. Place the pump and cord into this bucket and run the pump for approximately two minutes or until the volume of water in the bucket has been exhausted.
3. Fill a third bucket with approximately 4 gallons of distilled or deionized water to sufficiently cover the pump. Place the pump and cord into this bucket and run the pump for approximately two minutes or until the volume of water in the bucket has been exhausted.

The soap/water solution may be reused; however, rinse water should be collected for disposal as described in Section 5.0 below. When done for the day, dry the exterior of the pump and cord with clean towels to the extent practical prior to storage.

Bladder Pump: Clean the inside and outside of the pump body with an Alconox (or similar)/clean water solution, followed by a thorough rinse with distilled or deionized water. The outside of the air supply line that came in contact with groundwater may also be cleaned with Alconox (or similar) solution and re-used; bladders and water discharge lines must be replaced after each sample is collected.

5.0 Investigation-Derived Waste (IDW)

Unless otherwise specified in the project work plan, water generated during groundwater sampling activities will be contained, transported, disposed of in accordance with applicable laws, and stored in a designated area until transported off-site for disposal. This includes purge water and decontamination waste water.

The approach to handling and disposal of these materials for a typical cleanup site is as follows.

For IDW that is containerized, such as purge water, 55-gallon drums (or other smaller sized drums) approved by the Washington State Department of Transportation will be used for temporary storage pending profiling and disposal. Each container holding IDW will be sealed and labeled as to its contents (e.g., "purge water"), the dates on which the wastes were placed in the container, the owner's name and contact information for the field person who generated the waste, and the site name.

IDW containerized within drums will be characterized relative to applicable waste criteria using data from the sampling locations whenever possible. Material that is designated for off-site disposal will be transported to an off-site facility permitted to accept the waste. Manifests will be used, as appropriate for disposal. Refer to the FS Special Condition Standard Guideline for Investigation Derived Waste for additional information regarding proper profiling and disposal of wastewater generated by groundwater sampling.

Disposable sampling materials and incidental trash such as tubing, paper towels and gloves/other disposable used in sample processing will be placed in heavy-duty garbage bags or other appropriate containers and disposed of as trash in the municipal collection system unless otherwise specified in the SAP.

6.0 Field Documentation

Groundwater sampling activities will be documented in field sampling forms and/or field notebooks, and Chain-of-Custody Forms. Information recorded will, at a minimum, include personnel present (including subcontractors or client representatives), purpose of field event, weather conditions, sample collection date and times, sample analytes, depths to water, water quality parameters, well box/lid conditions, amount of purged water generated, and any deviations from the SAP. Photographs of damaged well casings or well boxes should be taken.

At the end of the day, complete and review the second page of the tailgate safety meeting form detailing additional hazards, corrective actions, near-misses or incidents. Any incidents that result in equipment damage or field staff injuries should be reported immediately to the PM.

7.0 Demobilization

Upon returning to the office, ensure that all equipment is property cleaned and put away in the field room. Equipment with rechargeable batteries should be plugged in as appropriate. It is

preferable to dispose of trash on-site, but any trash left in the field vehicle should be disposed as regular trash at Two Union Square.

If rented equipment or sample coolers will be placed at the front desk for pickup, clearly label each item with the company picking it up, anticipated pickup time frame, and your contact information so front desk staff can contact you if there are any questions. Notify front desk staff if any items require a signature at pickup.

Within one week of returning from the field, the field lead for the event should review field notes, sampling forms and tailgate safety meeting forms with the PM. Following PM review and approval, field notes will be scanned and saved to the project folder. Hard copies should be filed. The PM will provide copies of near miss and incident reports to the Safety Program Manager.

8.0 References

U.S. Environmental Protection Agency (USEPA). 1996. Low-Stress (low flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells, Revision 2. Region 1. July 30, 1996.

_____. 2002. Groundwater Sampling Guidelines for Superfund and CAR Project Managers. Office of Solid Waste and Emergency Response. EPA 542.S-02-001. May 2002.

Enclosures: Groundwater or Surface Water Sample Collection Form

Record of Revisions:

Revisions	Date
Added health and safety information, reviewed EPA guidance, and added revisions table.	12/9/2022
Added turbidity meter to equipment list and appended updated field form to PDF	11/29/2023

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project:_____ Date of Collection: _____

Task:_____ Field Personnel: _____

Purge Data

Well ID: _____ Secure: ☐ Yes ☐ No Ecology Tag #: _____ Casing Type/Diameter/Screened Interval _____

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☐ Bolts: Missing (#) _____ Stripped (#) _____ Other Damage: _____

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from TOC):_____Time: _____

Total Depth (from log or field measurement): _____

After 5 minutes of purging (from top of casing): _____

Begin purge (time): _____End purge (time): _____

Volume purged:_____ Purge water disposal method_____

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (_____)	pH (s.u.)	DO (mg/L)	Specific Conductivity (µs/cm)	Turbidity (NTU)	Temp (°C)	ORP (mV)	Comments

Sampling Data

Sample No: _____ Location and Depth: _____

Date Collected (mo/dy/yr):_____ Time Collected: _____ Weather:_____

Type: ☐ Ground Water ☐ Surface Water Other: _____ Sample: ☐ Filtered ☐ Unfiltered Filter Type:_____

Sample Collected with: ☐ Bailer ☐ Pump Other: _____ Type: ☐ Peristaltic ☐ Bladder ☐ Submersible Other: _____

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☐ Turbidity Meter ☐ Other: _____

Sample Decon Procedure: Sample collected with: ☐ decontaminated <u>all</u> tubing; ☐ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): _____

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes

QC samples

Duplicate Sample No: _____ Duplicate Time: _____ MS/MSD: ☐ Yes ☐ No

Signature: _____ **Date:** _____

Attachment 4
Historical Site Data from Kane Environmental

Table 1
Bothell Service Center Simon Son
Groundwater Analytical Results

Well	Well Type and Water Bearing Zone	Screened Depth, (ft bgs)	Top of Casing (TOC) Elevation (feet)* +	Date Sampled	Depth to Water (ft below TOC)	GW Elevation (feet)	PCE (µg/L)	TCE (µg/L)	(cis) 1,2-DCE (µg/L)	Vinyl Chloride (µg/L)	pH (units)	Temp (˚C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	Ferrous Iron (mg/L)	Dissolved Iron (ug/L)	Dissolved Manganese (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	Ammonia as N (mg/L)	Sulfide (mg/L)	Methane (mg/L)	Ethane (mg/L)	Ethene (mg/L)	Total Organic Carbon (mg/L)
MW-1	Shallow	5 to 20	46.952	3/16/01			113	38.3	28.1	<1.0																
	Decommissioned			7/13/01			23.7	10.3	4.82	<1.0																
				10/26/01			8.71	2.84	1.29	<1.0																
				12/2/02			239	380	1,200	<1.0																
				10/1/02			6.8	6.4	17		6.5		196.0	1.14	13.8											
				4/27/05			2,600	80	53		6.7		201.0	3.02	97.6											
				8/15/05			12,000	<50	<50																	
				8/14/06			18,000	<200	<200		5.9		284.0	0.9	499											
				5/14/07			12,000	<50	63		6.1		249.0	2.27	448											
				11/27/07			11,000	<100	<100		6.6		233.0	4.87	135											
				8/26/08			23,000	<200	<200		6.3		189.0	1.87	175	2.2		0	22			<0.05	13.1	<1.2	<1.1	3.25
				1/9/09			450	10	6.6		6.3		88.0	10.5	120	0.20		0	8.8			<0.05	<0.5	<0.5	<0.5	2.95
				6/11/09			17,000	<100	<100		6.1		242.0	2.32	80.1	1.2		0	18			<0.05	8.6	<0.5	<0.5	2.2
				9/14/09			31,000	<200	<200		6.3		328.0	0.74	158	2.2		0	21			<0.05	28	<2.5	<2.5	3.7
				5/27/10			23,000	<100	<100	<100	6.4		200.0	2.26	58.4											
				9/9/10			24,000	<200	<200	<200	6.8		249.0	0.38	0.3				20				14	<1.0	<1.0	2.6
				6/10/11			1,900	42	52	<10	6		141.0	5.6	39.3	0		0	13				1.1	<0.5	<0.5	4.3
				3/21/13			8,000	56	81	<0.2	6.7		203.0	5.5	68.4	0						<0.05	4.5	<1.2	<1.1	11.8
				4/4/14			270	16	49	<0.02	7.1		117.0	5.5	-14	0						<0.05	<0.7	<1.2	<1.1	8.28
				10/10/14			28,000	160	140	<2.0 U	6.3		348.0	0.3	18.6	0						<0.05 U	36.8	<1.2 U	<1.1 U	3.15
				11/11/15	10.07	36.92	14,000	92	87	<50	6.06		341.0	3.89	80.4	0			19				0.76	<0.50	<0.50	2.9
				9/21/16	9.14	37.81	6,700	170	610	160	6.29		325.0													
				10/25/16	7.72	39.23	160	6.6	16	<2.0	6.33	18.4	202.0													
MW-2	Shallow	5 to 20	48.897	3/16/01			13,800	834	106 ES	<1.0																
	Decommissioned			7/13/01			419	16.4	<1.0	<1.0																
				10/26/01			532	<20.0	<20.0	<20.0																
				2/12/02			81.5	8.08	<1.0	<1.0																
				10/1/02			18	0.65	<0.2		6.4		319.0	0.89	-30											
				4/27/05			2,600	44	<10		5.8		319.0	0.42	149.2											
				8/15/05			29,000	<200	<200																	
				8/14/06			32,000	300	240		5.8		317.0	0.97	478.5											
				5/14/07			6,100	40	38		6		264.0	0.7	479.8											
				11/27/07			38,000	<200	<200		6.5		300.0	1.18	117.8											
				8/26/08			500	200	2,300		6.4		286.0	2.26	-69.2	4.5		0	5.3			1.14	1330	<1.2	<1.1	25.9
				1/8/09			270	550	290		6.5		296.0	0.56	24.7	5.2		0	7.3			0.322	500	<50	<50	6.36
				6/11/09			1,100	1,400	1,700		6.3		294.0	0.73	60.9	4.6		0	8.5			<0.05	4400	<500	<500	6.4
				9/14/09			1,700	2,200	7,800		6.3		323.0	0.68	147.5	4.2		0	12			0.725	3800	<500	<500	13
				5/27/10			240	<60	12,000	70	6.1		512.0	0.31	-15.9											
				9/9/10			<200	<200	6,400	<200	6.5		420.0	0.21	-49.3				<5				9700	<500	<500	39
				6/10/11			150	1,100	11,000	3,200	6.2		809.0	0.34	-101.4	3.9		0	<10				5200	<380	680	71
				3/20/13			540	690	14,000	830 ES	7.4		561.0	0.31	-111	6.4						0.49	15900	<1.2	1240	27
				4/7/14			390	630	5,300	850	7.2		320.0	0.3	-352	7.0						0.418	14500	<1.2	388	8.26
				10/10/14			320	93	8,900	1,900	6.2		382.0	0.2	-117	4.8						0.084	9760	<1.2 U	349	7.49
				11/11/15	10.17	38.74	2,400	4,100	15,000	1,200	5.78		463.0	0.00	-85.9	1.5			39				5900	<380	580	11
				9/23/16	9.89	39.01	8.1	6.6	8.1	6.6	6.59		241.0													
				11/1/16	8.31	40.59	8.3	6.1	10	11	6.31	15.3	244.0													
MW-3	Shallow	5 to 20	47.957	3/16/01			<1.0	<1.0	<1.0	<1.0																
	Decommissioned			10/26/01			<1.0	<1.0	<1.0	<1.0																
				2/12/02			<1.0	<1.0	<1.0	<1.0																
				10/1/02			0.37	<0.2	<0.2		5.9		284.0	1.12	30.8											
				4/27/05			<0.2	<0.2	<0.2		5.5		275.0	0.96	132											
				8/14/06			<0.2	<0.2	<0.2		5.8		307.0	1.95	456											
				5/14/07			<1.0	<0.2	<0.2		5.7		264.0	1.75	408											
				11/27/07			<1.0	<0.2	<0.2		6.2		330.0	0.76	78											2.47
				8/25/08			<0.2	<0.2	<0.2		5.9		172.0	2.88	374	0		0	18			<0.05	<1	<1.2	<1.1	2.58
				4/7/14			<0.2	<0.2	<0.2	<0.02	6.4		192.0	0.7	-71	0.40						<0.05	2960	<1.2	<1.1	4.17
				10/10/14			0.39	<0.2 U	<0.2 U	<0.02 U	5.7		339.0	0.3	-0.9	0						<0.05 U	1570	<1.2 U	<1.1 U	9.82
				9/23/16	8.26	39.70	0.22	<0.20	<0.20	<0.20	6.10		243.0													
				11/1/16	6.87	41.09	<0.20	<0.20	<0.20	<0.20	6.00	16.1	305.0													
				7/17/18	7.95	40.01	<1.00	<0.50	<1.00	<0.20	6.30	17.2	144.0	11.37												
				9/11/18	8.69	39.27	<1.00	<0.50	<1.00	<0.20	6.20	18.9	118.0	6.23	116.9		<100		19	2.94	<0.100		<0.00863	<0.0162	<0.0151	2.37
				12/5/18	7.93	40.03	<1.00	<0.50	<1.00	<0.20	5.90	15.3	62.5	38.7	6.94		<100		3.18	2.79	<0.100		<0.00863	<0.0162	<0.0151	2.7
				2/12/19	7.79	40.167	<1.0	<0.50	<1.0	<0.20	6.03	12	57.5	8.2	141.5		<100		4.16	3	<0.10		<0.00863	<0.0162	<0.0151	2.36
				6/4/19	7.96	39.997	0.72	<0.20	<0.20	<0.20	6.35	15.5	62.1	9.97	3.6		<56		<5.0	3.4	<0.05		<0.001	<0.0005	<0.0005	2.1
MW-4	Shallow	10 to 25	45.717	7/13/01			9,390	58.8 ES	86ES	<1.0																
	Replaced			10/26/01			8,960	74.7 ES	103 ES	<1.0																
				2/12/02			11,000	93.4 ES	133 ES	<1.0			.													
				10/1/02			21,000	230	400		6.6		282.0	0.98	101											
				4/28/05			6,700	160	110		6.6		305.0	0.83	97.4											
				8/15/06			8,500	210	250		5.7		311.0	0.79	504											
				5/14/07			8,600	370	160		6.1		319.0	0.64	449											
				11/27/07			5,400	220	120		6.8		299.0	1.09	114											
				8/26/08			11,000	790	270		6.2		248.0	2.91	159	0		0	26			<0.05	5.5	<1.2	<1.1	1.59
				1/9/09			5,200	250	180		6.7		289.0	0.57	25.6	3.2		0	24			0.053	51	<5	<5	2.47
				6/11/09			1,600	2,000	240		6.3		285.0	0.63	61.7	3.8		0	15			<0.05	310	<25	<25	2.1
				9/14/09			10,000	890	510		6.1		290.0	0.59	167	1.0		0	17			0.062	5400	<500	<500	1.8
				5/27/10			5,800	310	1,200	<50	6.7		255.0	0.32	-32.1											
				9/10/10			4,700	310	620	<20	7		239.0	0.33	-10.2				19				4200	<500	<500	1.4
				6/10/11			3,300	160	970	<20	6.8		287.0	0.34	-30.3	3.0		0	19				4100	<500	<500	1.7
				3/21/13			1,400	140	530	0.85	6.8		337.0	1.1	45.6	2.0						<0.05	16400	<1.2	<1.1	5.68
				4/4/14			1,500	160	1,900	5.6	6.8		290.0	0.5	-53	2.8						<0.05	15200	<1.2	<1.1	1.63
				10/10/14			2,000	140	240	<1.0 U	6		306.0	0.1	4.8	1.2						<0.05 U	14400	<1.2 U	<1.1 U	1.75
				11/11/15	9.28	36.46	960	120	1,100	<10	6.12		342.0	0.00	-54.4	2.4			15				3300	<250	<16	1.4
				9/22/16	8.51	37.21	380	71	1,300	<10	6.28		433.0													
				10/31/16	6.91	38.81	3,800	900	7,400	<50	6.52	16.2	364.0													
				9/17/18	8.89	36.83	4,060	360	1,740	11.9	6.59	16.7	312.0	0.09	16.8		977		16.3	15.4	<0.100		3.79	<0.0162	<0.0151	3.94
				11/30/18	7.67	38.05	4,370	373	1,720	<10	6.35	16.2	347.4	0.12	50		604		18.8	16	<0.100		0.721	<0.162	<0.151	3.1
				2/22/19	7.23	38.49	4,080	343	1790	9.72	6.49	13.9	311.5	0.22	19.9		<100		16.2	16.5	<0.10		4.12	<0.0162	<0.0151	1.94
				5/23/19	7.59	38.13	5,500	370	1,100	<30	6.57	19.5	353.5	0.12	27.4		2100		17	16	<0.050		9.5	<0.50	<0.50	2.9
				7/16/19	8.13	37.59	3,700	590	1,400	9.1	6.26	20	354.3	0.06	-69		6,300		15	15	<0.050		5.2	<0.0005	<0.0005	2.3
				10/18/19	8.04	37.68	1,900	390	940	7.5	6.14	20.3	321.2	0.04	15.4		5,400		12	15	<0.050		11	<0.0005	<0.0005	3.7
				1/27/20	7.15	38.57	1,600	250	760	6.7	6.49	18.2	316.4	0.04	23.6		3,300		11	14	<0.050		8.0	<0.00022	<0.00029	2.1
				4/22/20	7.38	38.34	1,600	210	760	14	6.47	17	377.4	0.29	32.9		1,300		12	13	<0.050		8.3	<0.00022	<0.00029	1.6
				7/23/20	8.07	37.65	900	160	570	12	6.24	20.3	378.9	0.2	17.1		3,700		12	12	<0.050		8.7	<0.00022	<0.00029	1.8
				10/21/20	8.66	37.06	650	160	500	32	5.99	19.9	349.7	0.12	30.6		<56		11	13	<0.050		7.6	<0.00022	0.0042	1.8
				3/3/21	7.09	38.63	630	87	260	48	6.25	18.3	804.0	-	-12.4		6,900		<5.0	13	<0.050		5.1	<0.00022	0.0047	9.0
				6/10/21	8.28	37.44	400	150	540	33	6.29	18	572.0	0.06	-66.7		5,200		6.4	11	<0.050		4.0	<0.00022	<0.00029	4.1
MW-4R	Shallow	10 to 25		8/2/21	9.33		2,000	120	230	20	6.14	20.2	393.4	0.29	51.2		3,000		25	8.9	<0.050		3.4	<0.00022	<0.00029	3.8
				8/30/22	7.68		1,300	220	640	40	6.17	18.8	571.0	0.03	-8.2		3,700		28	4.7	<0.050		15	<0.00022	<0.00029	6.1
				2/20/23	6.46		490	110	1,200	52	6.35	15.2	453.7	0.10	-13.9	3.6	2,900	6.4	25	3.8	<0.050	0.34	9.9	<0.00022	<0.00029	3.0
				9/15/23	7.89		390	70	380	18	6.04	15.5	377.6	0.16	170.9		4,200		24	3.0	0.061		11	<0.00022	0.0037	2.4
MW-5	Shallow	10 to 25	44.297	7/13/01			2,650	14.5	31.1	<1.0																
	Replaced			10/26/01			1,670	<100	<100	<100																
				2/12/02			1,310	18.2	38.5	<1.0																
				10/1/02			3,900	72	170		6.2		185.0	0.84	70.6											
				4/28/05			2,200	56	76		5.6		262.0	1.25	150											
				8/15/05			640	12	20																	
				8/14/06			10,000	240	270		5.7		259.0	0.91	470											
				5/14/07			650	16	23		5.7		290.0	1.63	448											
				11/27/07			1,300	25	31		6		262.0	7.09	128											.
				8/26/08			21,000	660	630		6		203.0	3.29	273	0		0	32			<0.05	5.7	<1.2	<1.1	1.95
				5/27/10			6,600	400	240	<50	6		198.0	0.55	109											
				3/21/13			3,100	220	180	<0.2	6.4		304.0	0.4	69.8							<0.05	5940	<1.2	<1.1	3.94
				4/4/14			1,300	79	65	0.03	6.7		257.0	0.1	-35	0						<0.05	2570	<1.2	<1.1	1.59
				10/10/14			7,600	220	140	<10 U	5.8		163.0	0.1	13.7	0						<0.05 U	3260	<1.2 U	<1.1 U	1.78
				11/11/15	9.04	35.30	2,200	93	76	<20	5.87		170.0	1.87	29.6	0			20				3200	<250	<21	<1.0
				9/21/16	8.11	36.19	910	39	35	<10	5.96		170.0													
				10/24/16	6.38	37.92	590	26	29	<4.0	6.22	16.1	291.0													
				9/14/18	8.27	36.03	2,220	33.9	24	<0.20	5.88	16.4	193.0	0.37	166		<100		17.7	14.6	<0.100		0.303	<0.0162	<0.0151	3.1
				12/3/18	6.29	38.01	58.5	13.6	1.13	<0.20	6.05	15.1	325.0	0.08	19.5		1,810		15.7	7.48	<0.100		<0.00863	<0.0162	<0.0151	3.79
				6/10/19	6.93	37.37	140	81	280	4.1	6.53	16.4	548.0	0.22	-6.2		20,000		6.6	12	1.8		1.6	<0.250	<0.250	3.8
				6/18/21	7.51	36.79	<0.20	0.22	18	16	6.34	18.1	488.1	0.08	-156.1		10,000		<5.0	5.2	1.8		3.2	<0.00022	0.0031	6.7
MW-5R	Shallow	10 to 25		8/3/21	8.30		1,800	38	34	2.2	5.80	17.9	255.4	0.28	158.6		<56		21	12	<0.050		1.3	<0.00022	<0.00029	2.1
				9/1/22	8.64		2,300	57	85	4.4	5.59	16.9	209.0	0.07	11.3		74		25	5.7	<0.050		6.5	<0.00022	<0.00029	1.4
				2/20/23	8.90		1,700	50	140	2.3	6.03	14.9	197.9	0.17	116.4	0.093	<56	0.16	26	5.7	<0.050	<0.05	7.1	<0.00022	<0.00029	1.2
				9/20/23	8.63		2,000	48	54	0.94	5.53	15.0	185.9	0.03	181.8		130		25	4.1	<0.050		8.6	<0.00022	<0.00029	1.1
MW-6	Shallow	10 to 25	47.142	7/13/01			30,000	618	231 ES	<1.0																
				10/26/01			13,500	<400	<400	<400																
				2/12/02			21,800	1,110 ES	406 ES	<1.0																
				10/1/02			27,000	1,100	470		6.6		201.0	0.92	95.2											
				4/27/05			15,000	1,100	460		6.2		235.0	3.14	119											
				8/15/05			30,000	1,500	930																	
				8/14/06			24,000	1,100	1,500		5.8		335.0	1.06	483											
				5/14/07			17,000	860	1,300		6		296.0	2.18	471											
				11/27/07			22,000	940	1,300		6.6		285.0	2.75	149											
				8/26/08			25,000	1,200	1,200		6.1		256.0	2.34	273	0		0	23			<0.05	8.2	<1.2	<1.1	3.12
				1/9/09			12,000	610	440		6.5		190.0	4.94	115	0		0	15			<0.05	2.9	<0.5	<0.5	2.54
				6/11/09			20,000	780	710		6		270.0	1.96	98	0		0	20			<0.05	8	<0.5	<0.5	2.1
				9/14/09			23,000	1,200	870		6.3		315.0	0.74	158	0		0	23			<0.05	8.8	<0.5	<0.5	3.1
				2/25/10			17,000	730	450	<100	6.4		176.0	2.49	170											
				5/27/10			13,000	480	320	<60	6.6		250.0	0.3	38.1											
				9/10/10			860	430	8,300	<50	6.6		492.0	0.34	-67.2				<5				64	<6.0	<6.0	19
				6/10/11			460	72	2,100	<20	6.5		561.0	0.44	-178	3.4		0	<5				490	<50	<50	33
				3/20/13			500	140	9,600	56 ES	7.3		444.0	0	-144	4.0						0.25	5790	<1.2	2	12.3
				4/4/14			950	220	240	19	6.8		243.0	0.4	-142	3.0						<0.05	1620	<1.2	<1.1	1.93
				10/10/14			73	28	6,600	2,700	6.6		623.0	0.3	-139	5.2						0.27	6220	<1.2 U	1200	12.9
				11/11/15	10.23	36.98	26	<20	3,800	2,900	6.37		749.0	0.00	-110.1	4.0			<10				3400	<250	850	11
				9/23/16	9.31	37.83	240	69	10,000	2,400	6.81		559.0													
				10/27/16	7.87	39.27	<50	<50	9,500	1,900	6.60	17.5	410.0													
				7/17/18	8.92	38.22	27.4	14.3	4,480	851	6.91	20.3	365.0	0.00												
				9/18/18	9.51	37.63	738	238	2,620	472	6.39	34.8	383.0	0.07	-42.6		6,340		20.1	14.2	0.162		0.666	<0.062	0.0596	9.01
				12/21/18	8.79	38.35	2,670	1,000	2,560	25.5	5.96	49.4	378.0	0.23	-65.4		5,260		8.68	11.2	0.413		0.0808	<0.162	<0.151	14.3
				2/22/19	7.79	39.35	1,820	568	1040	14	6.16	42.6	295.1	0.15	-52		5,800		13	7.69	<0.10		0.706	<0.0162	<0.0151	13.2
				5/22/19	8.46	38.68	3,800	1,800	750	<20	6.14	43.7	407.0	0.04	-70.8		8,800		<5.0	14	0.16		1	0.0012	<0.0005	20
				7/25/19	9.06	38.08	3,600	1,100	490	7.4	6.16	41.5	401.0	0.04	-108.1		9,200		<5.0	14	0.18		0.73	<0.0005	0.019	22
				10/21/19	8.76	38.38	74	38	1,200	3.2	6.08	31.3	562.0	0.04	-74.6		13,000		<5.0	16	0.12		2.3	<0.0005	0.00094	19
				1/22/20	7.77	39.37	10	5	170	74	6.62	20.9	364.9	--	-77.8		12,000		<5.0	10	0.11		4.3	<0.00022	<0.00029	8.4
				4/18/20	8.19	38.95	23	7.4	38	50	6.46	22.1	360.7	0.12	-7.4		1,500		13	6.3	0.1		0.76	<0.00022	0.015	10
				7/20/20	8.28	38.86	1.0	1.1	47	58	6.32	22.7	639.0	0.25	-60.4		38,000		<5.0	12	0.16		10	<0.00022	0.071	49
				10/19/20	8.83	38.31	2.3	0.61	3.8	8.2	6.00	21.5	654.0	0.11	-51.0		11,000		<5.0	11	3.9		8.8	<0.00022	0.026	63
				2/23/21	8.23	38.91	<0.20	<0.20	10	14	5.94	15.4	629.0	-	-88.5		28,000		<5.0	11	2.3		13	<0.00022	0.016	14
				6/15/21	9.37	37.77	<0.20	<0.20	1.9	8.0	6.27	17.5	726.0	0.09	-125.1		30,000		<5.0	8.3	4.0		2.9	<0.00022	0.0048	10
				9/12/22	-		17	12	11	0.35	6.36	18.6	787.0	0.12	2.9		5,500		18	6.7	3.5		4.3	0.0023	<0.00029	8.0
				2/20/23	-		4.0	4.8	7.9	3.1	6.73	14.5	783.0	0.20	-124.2	54.6	41,000	6.4	23	8.2	4.0	<0.05	6.6	<0.00022	<0.00029	14
				9/14/23	-		7.0	7.0	8.3	8.1	6.40	15.3	785.0	0.23	-43.4		<56		23	8.5	2.6		9.8	<0.00022	0.0019	14
MW-7	Shallow	10 to 25	45.527	7/13/01			10,100	35	30	<1.0																
				10/26/01			4,880	15	13.8	<1.0																
				2/12/02			3,800	10.5	9.28	<1.0																
				10/1/02			9,600	<100	<100		6.7		214.0	0.71	-22.6											
				4/28/05			1,100	<10	<10		6.2		315.0	0.84	126											
				8/15/05			4,900	27	<20																	
				8/14/06			4,000	<40	<40		6.1		303.0	0.82	386											
				5/14/07			320	2.7	<2.0		6.2		352.0	0.54	437											
				11/27/07			1,200	<10	<10		6.9		336.0	0.38	76.6											
				8/26/08			4,300	43	43		6.5		240.0	2.74	116				25			<0.05	42.6	<1.2	<1.1	2.1
				1/8/09			760	7.8	4.8		6.7		330.0	0.7	84.3	3.2		0	27			<0.05	110	<5.0	<5.0	3.6
				6/11/09			2,100	34	33		6.5		340.0	0.62	62.3	4.2		0	25			<0.05	140	<10.0	<10.0	2.3
				9/14/09			6,300	120	79		6.3		318.0	0.72	170	1.8		0	24			<0.05	23	<2.5	<2.5	1.9
				5/27/10			830	18	14	<10	6.6		289.0	0.63	-22.6							.				
				9/9/10			5,400	110	55	<50	6.8		295.0	0.31	-21.4				24				190	<25.0	<25.0	1.7

Table 1
Bothell Service Center Simon Son
Groundwater Analytical Results

Well	Well Type and Water Bearing Zone	Screened Depth, (ft bgs)	Top of Casing (TOC) Elevation (feet)* +	Date Sampled	Depth to Water (ft below TOC)	GW Elevation (feet)	PCE (µg/L)	TCE (µg/L)	(cis) 1,2-DCE (µg/L)	Vinyl Chloride (µg/L)	pH (units)	Temp (˚C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	Ferrous Iron (mg/L)	Dissolved Iron (ug/L)	Dissolved Manganese (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	Ammonia as N (mg/L)	Sulfide (mg/L)	Methane (mg/L)	Ethane (mg/L)	Ethene (mg/L)	Total Organic Carbon (mg/L)
				6/10/11			810	24	16	<4.0	6.7		346.0	0.52	-43.5	5.0		0	16				240	<10.0	<10.0	2.4
				3/21/13			3,300	140	240	0.28	7		385.0	0.21	-3.6	3.8						<0.05	741	<1.2	<1.1	6.29
				4/4/14			2,100	130	750	2.3	7.1		329.0	0.6	-47	4.2						<0.05	989	<1.2	<1.1	2.57
				10/11/14			6,200	380	3,400	10	6.3		391.0	0.1	-27	2.4						<0.05 U	6580	<1.2 U	<1.1 U	2.44
				11/11/15	10.12	35.45	950	42	240	<10	6.32		282.0	0.00	12.5	1.5			16				290	<25	<2.0	2.5
				9/21/16	8.92	36.61	3,800	160	1,300	<20	6.32		350.0													
				10/25/16	8.21	37.32	450	32	280	<4.0	6.88	15.7	323.0													
				10/26/16	7.3	38.23					6.62	14.9	316.0			0.75		0.14	22		<0.050					2.8
				9/18/18	9.12	36.41	1,370	78.1	673	5.85	6.69	15.8	369.0	0.12	17.3		2,620		37	5.48	<0.100		1.29	<0.0162	<0.0151	3.84
				11/30/18	8.9	36.63	2,670	305	1,440	<10	6.41	15.1	411.3	0.11	30.8		1,620		35	8.5	<0.100		0.197	<0.162	<0.151	4.18
				5/24/19	7.96	37.57	1,000	84	240	<10	6.68	13.6	409.5	0.16	-9.2		3,900		37	6.1	<0.050		0.049	<0.003	<0.003	2.3
				6/18/21	8.73	36.80	190	35	140	17	6.59	19.2	607.0	0.05	-132.2		13,000		27	11	0.056		3.2	<0.00022	<0.00029	2.5
				9/28/22	8.41		2,100	220	1,100	130	6.03	17.5	562.7	0.15	16.8		8,200		17	8.8	0.078		12	<0.00022	0.0032	3.1
				2/21/23	7.05		1,300	210	420	2.6	6.40	14.6	489.7	0.23	-7.1	8.81	7,400	0.47	26	6.8	<0.050	<0.05	4.6	<0.00022	<0.00029	3.2
				9/15/23	8.34		5,100	300	780	2.7	6.20	16.3	561.6	0.24	130.5		3,200		20	8.9	<0.050		9.2	<0.00022	<0.00029	12
MW-8	Deep	45 to 50	47.387	10/1/02			51	0.98	0.88		7		487.0	0.73	-355											
	Decommissioned			4/28/05			6.4	<0.2	<0.2		6.3		186.0	0.97	104											
				8/15/06			0.44	<0.2	<0.2		6.2		167.0	2.43	447											
				5/14/07			4.3	<0.2	<0.2		6.1		145.0	2.89	419											
				11/27/07			2.2	<0.2	<0.2		6.7		164.0	0.54	80.7											
				5/22/08			79	7.2	12		6.2		139.0	5.8	153											
				8/25/08			93	4.8	4.4		6.3		118.0	2.1	391	0		0	12			<0.05	<0.7	<1.2	<1.1	<1.5
				3/20/13			33	1	2	<0.02	6.7		218.0	0.06	10.1	1.4						<0.05	649	<1.2	<1.1	6.04
				4/4/14			130	37	41	<0.02	6.8		181.0	1	-44	0						<0.05	<0.7	<1.2	<1.1	1.98
				10/11/14			150	37	140	0.2	6.2		190.0	0.9	49.1	1.0						<0.05U	43.3	<1.2U	<1.1U	1.99
				11/11/15	10.82	36.63	180	50	160	<1.0	6.06		225.0	0.85	-26.8	0.50			13				19	<1.0	0.59	2.2
				9/22/16	9.71	37.68	50	6.2	25	<0.20	6.33		229.0													
				10/26/16	8.48	38.91	5.8	1.3	3.1	<0.20	6.43	15	246.0			1.0		0.16	12		<0.050					1.4
				7/17/18	9.7	37.69	8.75	1.59	4.21	<0.20	6.81	15.8	173.0	0.32												
				9/17/18	10.33	37.06	14.8	2.14	8.25	<0.20	6.56	20.1	187.0	0.16	70.9		<100		6.05	7.92	<0.100		0.0246	<0.0162	<0.0151	3.36
				12/20/18	10.05	37.34	14.5	4.37	9.38	<0.20	6.13	24.1	197.6	0.28	30		<100		4.13	6.53	<0.100		<0.00863	<0.0162	<0.0151	1.66
				2/22/19	8.75	38.64	4.98	2.9	7.33	<0.20	6.28	28.8	183.2	0.24	65		<100		4.95	7.14	<0.10		0.0173	<0.0162	<0.0151	1.82
				5/22/19	8.99	38.40	3.1	1	1.3	<0.20	6.3	32.9	212.0	0.16	-8.4		300		5.8	7.8	<0.050		0.036	<0.005	<0.005	2
				7/22/19	9.65	37.74	1.9	0.48	0.53	<0.020	6.04	34.4	221.5	0.11	54.2		450		7.5	8.4	<0.050		0.14	<0.0005	<0.0005	2.1
				10/21/19	9.54	37.85	1.0	0.35	0.41	<0.020	6.06	25.8	222.7	0.14	101.3		460		9.6	9.4	<0.050		0.49	<0.0005	<0.0005	2.6
				1/28/20	8.83	38.56	4.5	1.7	1	<0.020	6.2	18.8	216.5	0.28	65.2		210		12	8	<0.050		0.16	0.00028	<0.00029	2.7
				4/17/20	8.82	38.57	0.94	0.3	0.47	0.024	6.3	23.1	234.5	0.32	17.9		150		13	6.6	<0.050		0.009	0.00028	<0.00029	2.7
				7/20/20	9.57	37.82	0.40	<0.20	0.56	<0.020	6.12	23.3	203.0	0.41	59.5		110		12	5.5	<0.050		0.026	<0.00022	<0.00029	2.4
				10/16/20	9.62	37.77	0.54	<0.20	<0.20	<0.020	5.94	21.2	180.8	0.12	111.2		<56		13	6.7	<0.050		0.012	<0.00022	<0.00029	2.0
				2/23/21	9.22	38.17	0.43	<0.20	<0.20	<0.020	5.87	16.3	180.1	-	19.8		170		12	8.7	<0.050		0.007	0.00085	0.0003	1.8
				6/10/21	11.45	35.94	<0.20	<0.20	<0.20	<0.020	6.43	18.7	211.3	0.24	7.7		100		11	13	<0.050		0.00066	<0.00022	<0.00029	1.9
MW-9	Deep	45 to 50	49.857	10/1/02			250	<2.0	<2.0		7.3		373.0	0.91	-197											
	Decommissioned			4/27/05			53,000	<100	<100		6.9		246.0	1.02	78.7											
				8/15/05			140,000	<200	<200																	
				11/27/07			13,000	<100	<100		7.5		117.0	7.5	148											
				5/22/08			8,800	<50	<50		7.4		191.0	1.1	68.9											
				8/26/08			6,000	3,400	<50		7.2		166.0	1.2	102	0		0	<5			<0.05	982	<1.2	<1.1	1.65
				1/9/09			160,000	<1,000	<1,000		7.5		213.0	1.4	78.9	0		0	<5			<0.05	530	<50	<50	1.79
				6/11/09			43,000	<300	<300		6.6		98.0	7.7	83.3	0		0	<5			<0.05	84	<5	<0.5	<1.0
				9/14/09			21,000	<200	<200		6.7		139.0	3.01	167	0		0	<5			<0.05	2.2	<0.5	<0.5	1.4
				2/25/10			16,000	<100	<100	<100	7.5		63.0	5.97	148											
				9/10/10			6,500	36	<30	<30	7.7		147.0	2.91	-63.7				<5				4.3	<0.5	<0.5	<1.0
				6/10/11			21,000	<200	<200	<200	7.6		218.0	0.39	63.2	0		0	<5				1400	<100	<100	1.3
				3/20/13			DNAPL	DNAPL	DNAPL	DNAPL																
				4/7/14			15,000	46	22	<0.02	7		194.0	0.4	-98	0						<0.05	2200	<1.2	<1.1	1.89
				10/11/14			3,300	96	54	<2.0 U	6.5		168.0	0.1	-38	1.0						0.725	757	<1.2 U	<1.1 U	1.63
				11/11/15	11.9	38.00	890	560	680	<10	5.90		139.0	0.00	45.6	0.20			<5.0				190	<15	6.1	<1.0
				9/22/16	11.2	38.66	53,000	<500	<500	<500	7.41		222.0													
				10/26/16	9.71	40.15	42,000	<300	<300	<300	7.54	14.8	254.0			0.11		0.079	3,300		0.44					<1.0
MW-10	Shallow	5 to 25		4/27/05			3	<0.2	<0.2																	
	Decommissioned																									
MW-10R	Shallow	15 to 25	49.392	9/19/16	9.98	39.41	1.6	<0.20	<0.20	<0.20	6.61		188.0													
	Decommissioned			11/1/16	8.34	41.05	1.3	<0.20	<0.20	<0.20	6.78	15.4	212.0													
MW-11	Intermediate	25 to 33	47.207	11/28/07			28	0.26	<0.2		6.6		176.0	1.26	165											
				5/22/08			23	0.24	<0.2		6.2		174.0	0.84	132											
				8/25/08			27	0.53	<0.2		6.3		142.0	1.46	238	0		0	18			<0.05	29.8	<1.2	<1.1	1.71
				3/20/13			5.6	0.2	0.26	<0.02	6.6		296.0	0.1	-50.6	0.90						<0.05	5770	<1.2	<1.1	6.53
				4/4/14			5.6	<0.2	<0.2	<0.02	6.8		298.0	0.2	-107	1.6						<0.05	3500	<1.2	<1.1	2.61
				10/11/14			4.8	0.18 J	0.13 J	<0.02 U	6.1		371.0	0.4	16.8	1.2						<0.05 U	2150	<1.2 U	<1.1 U	2.72
				11/11/15	10.34	36.91	4.1	0.4	<0.20	<0.20	6.28		594.0	0.67	-82.8	1.0			18				840	<50	<7.0	4.5
				9/23/16	9.42	37.79	9.9	<0.20	0.42	<0.20	6.29		408.0													
				10/26/16	7.98	39.23	2.0	<0.20	<0.20	<0.20	6.38	16.5	376.0			0.74		0.6	24		<0.050					4.2
				7/17/18	9.02	38.19	11.2	2.12	3.73	<0.20	6.58	20.4	295.0	0.16												
				9/17/18	9.82	37.39	35.8	29.6	27.6	<0.20	6.24	34.8	357.0	0.06	-4.5		1,140		42.5	22.9	<0.100		0.158	<0.0162	<0.0151	9.07
				12/20/18	8.56	38.65	41	11.5	4.92	<0.20	5.72	45.7	287.0	0.16	14.3		611		37.4	13.5	<0.100		0.109	<0.162	<0.151	8.99
				2/21/19	7.9	39.31	16.9	14.6	9.58	<0.20	5.96	47.2	316.3	0.16	-70		1,240		10.3	14.4	<0.10		0.87	<0.0162	<0.0151	23.7
				5/22/19	8.48	38.73	75	69	14	<0.40	6.13	45.7	468.0	0.04	-18		810		13	13	<0.050		0.49	<0.0005	<0.0005	27
				7/25/19	9.12	38.09	39	41	7.7	0.34	6.2	40.8	407.0	0.04	-43.8		660		10	11	0.068		1.1	<0.0005	<0.0005	26
				10/21/19	8.92	38.29	3.5	3.8	220	1.5	6.33	27.8	522.0	0.08	-59.4		1,500		<5.0	15	<0.050		1	<0.0005	<0.0005	34
				1/22/20	8.09	39.12	2.5	2.7	230	70	6.66	20.4	388.6	1.1	-35.1		4,500		<5.0	12	1.3		2	<0.00022	<0.00029	11
				4/17/20	8.49	38.71	8.0	20	130	140	6.79	22.5	515.3	0.2	-15.1		580		62	8.9	0.25		0.062	<0.00022	0.0068	17
				7/20/20	8.74	38.47	<0.20	<0.20	1.1	18	6.34	23.1	729.0	0.17	-38.7		6,900		<5.0	12	0.28		15	<0.00022	0.05	92
				10/19/20	9.00	38.21	13	15	79	30	6.18	20.2	745.0	0.08	-91.3		8,600		7.6	14	5.1		9.7	<0.00022	0.019	60
				2/26/21	8.02	39.19	<0.40	0.92	22	49	6.27	15.5	651.0	-	-110.1		16,000		11	12	3.5		11	<0.00022	0.018	7.4
				6/15/21	9.24	37.97	1.5	23	49	89	6.54	17.8	521.0	0.04	-132.2		4,700		35	7.6	1.5		1.6	<0.00022	0.0049	6.7
				9/28/22	7.50		<0.40	0.45	21	48	6.50	16.5	433.2	0.16	-41.7		1,000		23	2.9	0.27		3.0	<0.00022	0.0032	3.8
				2/20/23	6.10		<0.20	<0.20	5.0	34	6.93	14.6	342.0	0.40	-67.7	2.31	1,800	0.83	31	2.1	0.20	0.08	1.6	<0.00022	0.0039	4.1
				9/14/23	7.51		<0.20	0.66	6.1	30	6.79	15.2	391.4	0.16	18.6		1,700		21	2.2	0.17		0.81	<0.00022	0.0016	3.0
MW-12	Intermediate	25 to 33	45.467	11/28/07			2,300	30	39		6.9		326.0	1.48	165											
				5/22/08			2,800	53	61		6.5		277.0	1.51	132											2.02
				8/26/08			1,600	<10	<10		6.3		227.0	2.12	4.6	1.8		0	19			0.632	<0.7	<1.2	<1.1	5.04
				1/8/09			3,200	88	44		6.5		309.0	0.77	70	1.9		0	22			0.062	16	<1.0	<1.0	3.11
				6/11/09			2,500	53	29		6.2		293.0	0.62	75.4	1.4		0	22			<0.05	30	<3.0	<3.0	1.7
				9/14/09			700	5.1	<4		6.2		263.0	0.77	168	2.2		0	20			<0.05	4.8	<0.5	<0.5	2.4
				5/27/10			2,800	240	80	<20	6.5		265.0	0.32	8.7											
				9/9/10			1,500	22	<20	<20	6.8		226.0	0.32	9.5				15				490	<50	<50	1.1
				6/10/11			5,800	270	180	<30	6.5		348.0	0.49	-14.6	1.4		0	19				1000	<100	<100	2.5
				3/20/13			4,800	210	920	1.6	6.8		392.0	0.05	-18.8	1.6						<0.05	12900	<1.2	<1.1	7.97
				4/4/14			5,900	240	730	2.1	6.9		327.0	0.1	-52	2.0						0.072	12300	<1.2	<1.1	2.88
				10/10/14			4,100	390	150	<2.0 U	6.2		360.0	0.2	-25.6	2.6						<0.05 U	12800	<1.2 U	<1.1 U	2.82
				11/11/15	9.61	35.93	2,900	180	1,100	<0.20	6.26		397.0	0.00	11	1.0			16				3000	<150	<18	2.2
				9/22/16	8.89	36.58	1,100	140	730	<10	6.37		410.0													
				10/26/16	7.26	38.21	1,300	230	1,600	<20	6.56	15.6	369.0			0.58		0.29	13		<0.050					2.1
				7/20/18	8.44	37.03	4,110	351	2,110	14.3	6.45	14.8	162.0	0.66												
				9/10/18	9.14	36.33	3,460	231	1,460	11.1	6.46	15.3	343.0	0.14	71.8		834		19.9	12.5	<0.100		4.12	<0.0162	<0.0151	5.72
				11/30/18	8.59	36.88	2,340	194	669	<4.0	6.16	15.1	533.8	0.11	84.5		2,330		14	46.2	<0.100		0.727	<0.162	<0.151	3.9
				5/24/19	7.92	37.55	5,400	400	780	<30	6.25	14.1	383.9	0.30	-89.5		530		24	9.5	<0.050		3.7	<0.250	<0.250	2.5
				7/22/19	8.4	37.07	910	240	630	6.2	6.12	18.6	672.0	0.05	-341		3,400		18	42	<0.050		3.2	<0.0005	<0.0005	2.8
				10/18/19	9.07	36.40	360	68	240	0.84	5.85	16.2	361.6	0.12	40		6,000		14	36	<0.050		3.3	<0.0005	<0.0005	2.1
				1/27/20	7.8	37.67	260	120	450	1.9	6.28	15.5	459.0	0.31	38.2		6,100		12	32	<0.050		2.4	<0.00022	<0.00029	2.3
				4/21/20	7.64	37.83	330	84	52	0.82	6.26	16.1	472.9	0.18	27.5		5,100		21	30	<0.050		3.6	<0.00022	<0.00029	2.9
				7/22/20	6.45	39.02	250	93	85	2.7	6.16	19.1	488.0	0.19	31.4		6,500		29	19	<0.050		7.5	<0.00022	<0.00029	3.3
				10/21/20	8.83	36.64	450	81	93	3.6	5.86	18.8	456.8	0.17	30.6		5,200		35	14	<0.050		7.4	<0.00022	<0.00029	3.4
				3/3/21	8.00	37.47	650	65	140	20	5.95	17.4	478.6	-	12.5		8,200		19	12	<0.050		10	<0.00022	0.00069	3.9
				6/15/21	8.77	36.70	820	170	180	5.1	6.28	18.5	468.3	0.10	-60.7		6,900		16	12	<0.050		1.8	<0.00022	<0.00029	3.6
				9/27/22	7.90		20	12	330	49	6.22	17.6	1057	0.19	-30.9		7,400		<5.0	8.7	<0.050		11	<0.00022	0.014	23
				2/20/23	6.55		59	33	130	18	6.52	15.8	855	0.11	-61.5	10.7	9,100	2.9	<5.0	6.9	<0.050	0.39	8.3	<0.00022	0.013	11
				9/15/23	7.91		<0.20	<0.20	1.2	2.5	6.19	16.1	316.6	0.19	129.0		7,700		13	9.4	0.054		14	<0.00022	<0.00029	4.0
MW-13	Deep	40 to 55	48.777	11/28/07			<1.0	<0.2	<0.2		7.10		152.0	1.35	151											
	Damaged																									
MW-14	Intermediate	22 to 32	49.157	11/28/07			<0.2	<0.2	<0.2		7.0		146.0	4.0	160											
	Decommissioned			11/11/15	10.23	38.96	<0.20	<0.20	<0.20	<0.20	5.56		395.0	0.00	-99	1.6			<10				11000	<500	<55	13
				9/21/16	9.53	39.63	0.91	<0.20	<0.20	<0.20	6.08		243.0													
				11/1/16	8.29	40.87	<0.20	<0.20	<0.20	<0.20	5.96	15.6	307.0													
MW-15	Intermediate	22 to 32		11/28/07			<0.2	<0.2	<0.2		6.8		157.0	4.0	170											
	Decommissioned																									
MW-16	Deep	40 to 55		11/28/07			10	<0.2	<0.2		7.9		124.0	6.9	130											
	Decommissioned																									
MW-17	Deep	40 to 50	48.947	11/28/07			6.5	<0.2	<0.2		7.7		188.0	0.49	141											
	Damaged																									
MW-18	Intermediate	22 to 30	48.747	11/28/07			270	<2.0	<2.0		7.2		266.0	0.83	158											
	Decommissioned			5/22/08			<0.25	<0.25	<0.25																	
				4/4/14			2.4	1.2	14	3.3	6.1		493.0	0.3	-111	4.2						<0.05	16700	<1.2	<1.1	48.5
				10/11/14			0.49	<0.2 U	3.6	1.3	5.9		449.0	0.4	-6.6	5.0						<0.05 U	13300	<1.2 U	<1.1 U	29.8
				9/23/16	9.65	39.10	7.8	<0.20	1.3	0.26	6.02		238.0													
				10/27/16	8.11	40.64	<0.20	<0.20	2.0	0.47	5.90	15.8	256.0													
MW-19	Shallow	9 to 19	47.517	11/16/15	9.31	38.26	8,200	70	76	<50	6.34		638.0	3.75	49.2	0.1			31				74	<15	2.2	7.9
	Decommissioned			9/21/16	9.20	38.32	1,800	84	490	34	6.34		313.0													
				10/25/16	8.02	39.50	5,700	140	860	61	6.70	17.8	296.0													
MW-20	Intermediate	25 to 30	46.857	11/16/15	9.20	37.70	900	60	37	17	6.17		557.0	0.00	-73	0			22				1800	<125	9.4	2.7
	Replaced			9/21/16	9.02	37.84	190	45	120	9.0	6.66		340.0													
				10/26/16	7.73	39.13	140	44	120	17	6.44	16.4	348.0			7.9		0.17	43		0.21					4.3
				12/20/18	7.5	39.36	32	879	552	2.23	5.72	-	263.9	0.05	-4.4		3,140		2.56	8.88	1.54		0.0446	<0.0162	<0.0151	95.4
				3/14/19	7.55	39.31	<0.841	136	163	<2.0	6.00	-	219.3	0.2	68.3		1,460		0.348	7.8	1.07		0.0463	<0.0162	<0.0151	45.3
				6/6/19	8.03	38.83	0.43	51	31	<0.40	6.45	55.6	218.1	0.08	4.4		950		<5.0	7.4	0.75		0.51	<0.05	<0.05	16
				7/25/19	8.64	38.22	0.82	36	27	0.052	6.36	52.5	210.2	0.13	-82		800		<5.0	6.4	0.89		0.67	<0.0005	<0.0005	8
				10/22/19	8.47	38.39	0.46	19	68	0.15	6.32	36.6	375.7	0.07	-47.2		1,200		<5.0	13	0.81		3.1	<0.0005	<0.0005	9.8
				1/28/20	7.66	39.20	<1.0	<1.0	190	46	6.87	26.7	483.0	0.13	-45.2		910		<5.0	14	0.65		13	<0.00022	<0.00029	13
				4/21/20	8.44	38.41	0.23	<1.0	0.34	18	6.89	23.1	704.0	0.18	6.3		2,300		<5.0	13	0.59		13	<0.00022	0.041	25
				7/27/20	8.45	38.41	<0.20	<0.20	<0.20	4.0	-	23.9	925.0	0.17	-55.3		1,800		<5.0	13	0.62		17	<0.00022	0.028	9.3
				10/21/20	8.66	38.20	<0.20	<0.20	<0.20	34	6.35	21.4	446.2	0.13	-35.0		130		<5.0	11	0.42		14	<0.00022	0.025	6.3
				2/26/21	7.64	39.22	<0.20	<0.20	<0.20	1.6	6.41	17.4	369.1	-	-82.7		2,600		<5.0	12	0.35		14	<0.00022	0.028	3.8
				6/8/21	9.01	37.85	<0.20	<0.20	<0.20	4.6	6.49	18.6	343.0	0.07	-128.2		1,600		<5.0	13	0.49		4.0	<0.00022	0.0077	4.0
MW-20R	Intermediate	25 to 30		6/22/21	8.32		430	220	230	40	6.60	21.4	896.0	0.07	-97.2		16,000		9.2	11	0.17		4.1	<0.00022	0.011	12
				9/1/22	7.80		67	96	160	72	6.48	17.5	405.0	0.34	-45.5		3,500		15	9.9	0.16		7.1	0.036	0.077	9.2
				2/2/23	6.52		150	140	120	87	6.48	15.5	397.1	0.11	-73.4		6,200		15	15	0.10		4.7	0.004	0.066	6.2
				9/19/23	7.96		60	61	74	94	6.55	15.4	412.1	0.13	42.9		4,900		10	15	0.09		5.0	0.0032	0.032	4.2
MW-21	Shallow	10 to 15	45.717	11/16/15	9.41	35.58	21,000	440	350	<100	7.38		1579.0	8.60	-18	0			96				310	<25	2.6	3.3
	Replaced			9/22/16	9.05	36.67	27,000	540	360	<200	6.56		355.0													
				10/31/16	6.97	38.75	8,400	210	190	<50	6.32	17.7	319.0													
				9/10/18	9.31	36.41	410	12	9	<0.20	6.22	18.1	280.0	2.40	93.5		<100		20	11.9	<0.100		0.0299	<0.0162	<0.0151	3.78
				12/3/18	7.23	38.49	122	1.67	<1.00	<0.20	5.85	15.9	272.7	2.97	75.7		<100		12.9	4.61	<0.100		<0.00863	<0.0162	<0.0151	4.03
				5/24/19	7.69	38.03	82	1.40	0.5	<0.40	6.08	14.3	248.0	3.51	2.7		<56		12	3.7	<0.050		0.0026	<0.0005	<0.0005	<1.0
				6/10/21	8.38	37.34	69	0.83	0.45	0.043	6.04	17.0	192.1	0.49	12		<56		20	6.1	<0.050		1.0	<0.00022	<0.00029	<1.0
MW-21R	Shallow	10 to 15		8/3/21	8.74		7,000	260	150	<1.0	6.49	19.1	370.2	1.54	136.7		<56		22	16	<0.050		4.1	<0.00022	<0.00029	2.0
				8/30/22	8.50		240	15	21	0.13	6.34	21.0	367.0	0.48	8.0		59		23	2.7	<0.050		0.2	<0.00023	<0.00030	3.2
				2/3/23	7.50		16	1.7	4.2	0.41	6.27	14.3	389.3	0.08	60.6		92		24	3.5	<0.050		1.2	<0.00022	<0.00029	2.9
				9/19/23	8.55		2,500	120	150	1.9	6.41	15.8	343.5	0.15	64.1		<56		21	8.0	0.083		0.56	<0.00022	<0.00029	1.7
MW-22	Deep	54 to 59	44.957	11/16/15	8.91	36.84	69	2.8	2.0	<0.40	7.30		296.0	0.00	-52.2	0			<5.0				1400	<250	<9.0	1.5
	Decommissioned			9/22/16	8.41	36.55	11	<0.20	1.5	<0.20	7.42		236.0													
				10/26/16	7.16	37.80	2.1	<0.20	2.2	<0.20	7.63	14.7	262.0			0.066		0.14	<5.0		0.24					1.2
				7/16/18	8.27	36.69	<1.00	<0.50	1.6	<0.20	7.87	15.4	214.0	0.00												
				9/19/18	8.85	36.11	<1.00	<0.50	1.22	<0.20	7.54	15.2	251.0	0.45	33.9		<100		0.932	6.65	0.392		0.654	<0.0162	<0.0151	2.37
				12/3/18	8.63	36.33	<1.00	<0.50	1.11	<0.20	7.22	14.3	267.8	0.07	-16		<100		0.533	6.66	0.291		0.0695	<0.0324	<0.0303	2.26
				6/20/19	7.91	37.05	0.43	<0.20	0.87	<0.20	7.31	15.1	233.0	0.27	-106.6		250		<5.0	3.9	0.3		0.001	<0.0005	<0.0005	1.3
MW-23	Shallow	6 to 16	48.027	9/20/16	8.92	39.11	0.46	<0.20	<0.20	<0.20	5.91		123.0													
				11/1/16	7.29	40.74	2.2	<0.20	<0.20	<0.20	6.19	15.0	128.0													
				9/19/18	9.04	38.99	<1.00	<0.50	<1.00	<0.20	6.16	16.2	94.0	0.87	54.7		<100		8.86	2.79	<0.100		1.04	<0.0162	<0.0151	2.74
				12/5/18	8.70	39.33	1.05	<0.50	<1.00	<0.20	5.65	14.4	112.4	1.24	49.8		124		10.3	2.16	<0.100		0.0854	<0.0162	<0.0151	2.4
				2/12/19	8.18	39.85	2.11	<0.50	<1.0	<0.20	5.34	11.6	75.1	5.16	128.7		<100		6.02	1.46	<0.10		<0.00863	<0.0162	<0.0151	1.17

Table 1
Bothell Service Center Simon Son
Groundwater Analytical Results

Well	Well Type and Water Bearing Zone	Screened Depth, (ft bgs)	Top of Casing (TOC) Elevation (feet)* +	Date Sampled	Depth to Water (ft below TOC)	GW Elevation (feet)	PCE (µg/L)	TCE (µg/L)	(cis) 1,2-DCE (µg/L)	Vinyl Chloride (µg/L)	pH (units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	Ferrous Iron (mg/L)	Dissolved Iron (ug/L)	Dissolved Manganese (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	Ammonia as N (mg/L)	Sulfide (mg/L)	Methane (mg/L)	Ethane (mg/L)	Ethene (mg/L)	Total Organic Carbon (mg/L)
				6/4/19	8.57	39.46	**0.94**	<0.20	<0.20	<0.20	6.13	14.9	113.4	0.87	19.1		720		6.7	3.3	<0.050		0.14	<0.0075	<0.0075	1.6
				6/17/21	8.91	39.12	<0.20	**0.57**	<0.20	<0.020	6.04	14.6	191.6	0.15	-109.0		3,100		6.7	2.1	<0.050		1.4	<0.00022	<0.00029	3.4
				10/14/22	10.45		<0.20	<0.20	<0.20	<0.020	5.31	16.2	148.1	1.81	190.2		790		20	2.6	<0.050		0.41	<0.00022	<0.00029	3.0
				2/6/23	10.00		**0.35**	<0.20	<0.20	<0.020	5.88	12.1	216.0	2.13	126.7		250		17	6.5	<0.050		3.4	<0.00022	<0.00029	1.9
				9/27/23	10.23		<0.20	<0.20	<0.20	<0.20	5.30	15.4	126.3	-	182.8		360		17	7.1	<0.050		0.40	<0.00022	<0.00029	1.5
MW-24	Deep	44 to 54	48.962	11/1/16	8.89	40.07	**9.0**	<0.20	<0.20	<0.20	8.44	14.7	225.0													
MW-25	Shallow	7.5 to 17.5	46.207	9/20/16	9.22	36.99	**4,200**	*<20.0*	*<20.0*	*<20.0*	6.56		324.0													
	Decommissioned			10/25/16	7.75	38.46	**99**	**7.4**	**10**	*<1.0*	6.58	17.3	184.0													
MW-26	Intermediate	25 to 35	46.047	9/20/16	9.04	37.01	**13**	**0.29**	**5.3**	<0.20	6.48		379.0													
	Decommissioned			10/31/16	7.65	38.40	**310**	**2.6**	<2.0	*<2.0*	6.59	16	364.0													
MW-27	Shallow	6 to 16	48.177	9/15/16	10.43	37.75	**120**	<1.0	<1.0	*<1.0*	6.31		87.0													
				10/31/16	8.22	39.96	**120**	<0.40	<0.40	*<0.40*	5.95	16.4	63.0													
				7/19/18	10.40	37.78	**138**	<0.50	<1.00	<0.20	5.89	15.2	126.0	17.18												
				9/14/18	10.98	37.20	**106**	<0.50	<1.00	<0.20	5.64	16.4	128.0	8.48	49.4		<100		38	1.07	<0.100		<0.00863	<0.0162	<0.0151	2.15
				12/12/18	10.09	38.09	**169**	**0.712**	<1.00	<0.20	5.17	14.5	133.3	7.04	48.3		<100		34.9	2.67	<0.100		<0.00863	<0.0162	<0.0151	0.793
				5/24/19	9.65	38.53	**110**	<1.0	<1.0	*<1.0*	5.73	13.1	131.9	8.54	41.5		<56		24	4.7	<0.050		<0.001	<0.0005	<0.0005	<1.0
				7/16/19	10.39	37.79	**91**	<0.40	<0.40	<0.040	4.53	16.3	120.9	6.39	155.7		<56		23	3.6	<0.050		<0.001	<0.0005	<0.0005	<1.0
				10/18/19	10.05	38.13	**130**	<1.0	<1.0	<0.10	5.20	16	97.3	7.17	243.9		<56		24	4.5	<0.050		<0.001	<0.0005	<0.0005	8.7
				1/29/20	8.22	39.96	**90**	**1.2**	**1.50**	<0.040	5.01	12.2	134.2	6.26	166.3		180		17	5.2	<0.050		<0.00055	<0.00022	<0.00029	1.3
				4/16/20	8.87	39.31	**75**	**0.51**	**0.89**	<0.040	5.47	14.6	139.6	3.53	59.6		91		17	<2.0	<0.050		<0.00055	<0.00022	<0.00029	<1.0
				7/27/20	9.95	38.23	**60**	<0.40	<0.40	<0.040	5.20	17.1	147.1	3.75	105.3		74		21	<2.0	<0.050		<0.00055	<0.00022	<0.00029	1.2
				10/19/20	9.98	38.20	**69**	<0.40	<0.40	<0.040	4.95	16.9	105.6	3.67	76.3		<56		26	<2.0	<0.050		0.0036	<0.00022	<0.00029	1.0
				2/26/21	7.87	40.31	**54**	<0.40	<0.40	<0.040	4.92	11.8	88.0	0.48	81.8		<56		18	<2.0	<0.050		1.3	<0.0033	<0.0043	<1.0
				6/17/21	9.87	38.31	**39**	<0.20	<0.20	<0.020	5.62	16.4	85.3	1.55	138.2		<56		15	<2.0	<0.050		0.68	<0.00022	<0.00029	<1.0
				9/22/22	10.22		**35**	**6.4**	**1.4**	<0.020	5.15	17.2	185.9	0.59	109.9		3,300		16	2.0	0.056		0.46	<0.00022	<0.00029	3.9
				2/21/23	8.59		**25**	**6.7**	**8.1**	<0.020	5.31	10.6	139.1	0.28	108.3	0.785	1,400	1.1	27	<2.0	<0.050	<0.05	2.3	<0.00022	<0.00029	1.5
				9/7/23	10.33		**19**	**7.6**	**10**	<0.20	5.41	16.0	184.8	0.32	142.6		1,200		22	3.8	<0.050		0.70	<0.00022	<0.00029	1.6
MW-28	Intermediate	25 to 35	48.187	9/15/16	10.39	37.80	<0.20	<0.20	<0.20	<0.20	6.22		157.0													
	Decommissioned			11/1/16	8.8	39.39	<0.20	<0.20	<0.20	<0.20	5.97	15.2	105.0													
				7/19/18	10.48	37.71	<1.00	<0.50	<1.00	<0.20	6.32	14.2	122.0	3.12												
				9/14/18	10.6	37.59	<1.00	<0.50	<1.00	<0.20	6.12	14.6	127.0	2.01	62.4		<100		8.42	7.43	<0.100		<0.00863	<0.0162	<0.0151	2.44
				12/12/18	10.01	38.18	<1.00	<0.50	<1.00	<0.20	5.70	13.9	130.1	1.78	48.7		<100		11.8	8.06	<0.100		<0.00863	<0.0162	<0.0151	0.69
				2/19/19	9.07	39.12	<1.0	<0.50	<1.0	<0.20	5.73	13.0	108.6	2.56	202.9		<100		8.78	5.65	<0.10		<0.00863	<0.0162	<0.0151	0.618
				5/24/19	9.85	38.34	<0.20	<0.20	<0.20	<0.20	5.54	13.6	116.0	1.8	-74.6		<56		9.5	6.2	<0.050		0.0096	<0.0005	<0.0005	<1.0
MW-29	Deep	45 to 55	48.242	9/15/16	10.5	37.74	<0.20	<0.20	<0.20	<0.20	7.33		254.0													
				10/27/16	9.01	39.23	**0.44**	<0.20	<0.20	<0.20	7.06	14.5	252.0													
				7/17/18	10.32	37.92	<1.00	<0.50	<1.00	<0.20	7.57	14.4	236.0	0.00												
				9/14/18	10.73	37.51	<1.00	<0.50	<1.00	<0.20	7.31	14.5	262.0	0.08	19.3		191		8.37	7.17	0.255		0.0242	<0.0162	<0.0151	4.32
				12/12/18	10.25	37.99	**1.06**	<0.50	<1.00	<0.20	7.05	13.8	276.8	0.15	-16.7		<100		6.72	5.32	0.243		0.04	<0.0162	<0.0151	3.02
				6/4/19	10.08	38.16	**0.26**	<0.20	<0.20	<0.20	7.40	16.3	265.3	0.25	15		450		<5.0	26	0.25		0.32	<0.015	<0.015	2.2
				7/16/19	10.61	37.63	<0.20	<0.20	<0.20	<0.020	6.88	16.2	274.4	0.11	-106.2		460		<5.0	5.2	0.3		0.35	<0.0005	<0.00050	2.1
				10/18/19	10.48	37.76	<0.20	<0.20	<0.20	<0.020	6.99	14.5	207.7	0.11	7.4		610		<5.0	6.4	0.29		0.39	<0.0005	<0.0005	2.2
				1/29/20	9.61	38.63	<0.20	<0.20	<0.20	<0.020	7.29	13.7	249.5	0.04	-82		570		<5.0	6.3	0.24		0.36	<0.00022	<0.00029	1.9
				4/16/20	9.71	32.53	<0.20	<0.20	<0.20	<0.020	7.23	16.2	312.9	0.31	-11.6		1,100		<5.0	5.5	0.25		0.093	<0.00022	<0.00029	2.0
				8/10/20	10.54	37.70	**1.9**	<0.20	<0.20	<0.020	6.28	17.5	236.5	0.14	176.4		390		5.1	5.5	0.29		0.17	<0.00022	<0.00029	2.0
				10/19/20	10.40	37.84	<0.20	<0.20	<0.20	<0.20	6.84	15.6	263.5	0.17	-62.8		<56		5.2	6.1	0.28		0.2	<0.00044	<0.00058	2.0
				2/26/21	9.36	38.88	<0.02	<0.20	<0.20	<0.20	6.56	13.9	255.1	-	-60.1		1,700		7.0	6.9	0.27		0.11	<0.00022	<0.00029	2.3
				6/17/21	10.43	37.81	<0.20	<0.20	<0.20	<0.020	7.25	16.2	266.3	0.12	-147.7		320		6.1	6.5	0.30		0.059	<0.00022	<0.00029	2.3
				9/22/22	10.10		<0.20	<0.20	<0.20	<0.020	6.72	16.2	270.8	0.21	-77.4		<100		<5.0	5.9	0.27		0.22	<0.00022	<0.00029	1.9
				2/10/23	8.71		<0.20	<0.20	<0.20	<0.020	6.87	13.6	264.3	0.11	-24.9		1,300		<5.0	4.8	0.21		0.23	<0.00022	<0.00029	1.8
				9/7/23	10.2		<0.20	<0.20	<0.20	<0.20	6.89	14.8	269.3	0.15	5.5		1,100		<5.0	5.6	0.28		0.18	<0.00022	<0.00029	1.7
MW-30	Shallow	9 to 19	48.142	9/20/16	8.81	39.33	**92,000**	*<500*	*<500*	*<500*	6.65		241.0													
	Decommissioned			10/26/16	7.33	40.81	**130,000**	*<1,000*	**1,300**	*<1,000*	6.40	15.7	619.0			1.0		<0.056	120		0.15					26
MW-31	Deep	40 to 50	47.817	9/20/16	9.81	38.01	**11**	**0.25**	<0.20	<0.20	6.80		244.0													
	Decommissioned			10/28/16	8.25	39.57	**7.8**	**0.22**	<0.20	<0.20	6.79		250.0													
MW-32	Deep	45 to 55	45.952	9/19/16	8.94	37.01	**950**	**7.7**	<4.0	*<4.0*	7.57		285.0													
	Decommissioned			10/27/16	7.51	38.44	**1,200**	<10	<10	*<10*	7.65	14.8	276.0													
MW-33	Deep	40 to 50	49.547	9/16/16	10.61	38.94	<0.20	<0.20	<0.20	<0.20	6.38		258.0													
	Decommissioned			10/27/16	9.19	40.36	**0.34**	<0.20	<0.20	<0.20	6.37	15.0	221.0													
				12/5/18	10.4	39.15	<1.00	<0.50	<1.00	<0.20	6.13	18.1	174.3	0.07	43.5		<100		10.6	6.74	<0.100		<0.00863	<0.0162	<0.0151	3.01
				2/19/19	9.17	40.38	<1.0	<0.50	<1.0	<0.20	6.35	15.1	164.3	0.18	204.8		<100		11.5	6.45	<0.10		<0.00863	<0.0162	<0.0151	1.44
				6/4/19	10.56	38.99	<0.20	<0.20	<0.20	<0.20	6.42	16.1	196.6	0.19	31.6		<56		13	6.6	<0.050		0.0012	<0.0005	<0.0005	1.5
MW-34	Deep	40 to 50	46.597	9/16/16	9.19	37.41	**20**	**1.5**	**12**	**0.29**	6.33		271.0													
				10/27/16	7.75	38.85	**6.6**	**0.54**	**2.4**	<0.20	6.21	15.6	254.0													
				7/16/18	8.82	37.78	<1.00	<0.50	<1.00	<0.20	6.53	15.5	240.0	0.00												
				9/18/18	9.45	37.15	<1.00	<0.50	<1.00	<0.20	6.37	17.6	255.0	0.18	66.2		724		11.5	30.5	<0.100		0.0497	<0.0162	<0.0151	2.92
				12/11/18	8.5	38.10	<1.00	<0.50	<1.00	<0.20	5.92	22.9	284.6	0.09	44.3		561		13.5	39	<0.100		0.0103	<0.0162	<0.0151	1.2
				2/21/19	7.59	39.01	**1.29**	<0.50	**1.52**	<0.20	5.95	27.5	255.8	0.22	91.9		367		14.6	32.7	<0.10		0.0274	<0.0162	<0.0151	10.49
				6/3/19	8.28	38.32	**1.3**	<0.20	**3.2**	<0.20	6.16	32.4	263.9	0.19	18.6		440		15	29	<0.050		0.14	<0.0075	<0.0075	1.8
				6/15/21	8.65	37.95	**0.30**	**0.34**	**0.44**	**0.11**	6.32	19.0	183.8	0.11	-22.3		900		11	9.5	<0.050		0.29	<0.00022	<0.00029	1.8
				9/1/22	7.70		**0.20**	<0.20	**0.2**	**0.67**	6.25	18.7	276.0	0.42	12.4		1,600		18	11	<0.050		0.30	<0.00022	<0.00029	1.9
				2/3/23	6.65		<0.20	<0.20	<0.20	**2.6**	6.19	15.3	305.8	0.09	32.6		2,000		20	11	<0.050		0.34	<0.00022	<0.00029	1.6
				9/14/23	7.55		<0.20	<0.20	<0.20	<0.20	6.01	15.8	252.7	1.03	81.8		2,400		14	12	0.078		0.0017	<0.00022	<0.00029	1.5
MW-35	Deep	48 to 58	44.247	9/16/16	8.19	36.06	**2.1**	<0.20	<0.20	<0.20	6.92		230.0													
	Decommissioned			10/27/16	6.65	37.60	**1.4**	<0.20	<0.20	<0.20	6.92	14.4	235.0													
				7/16/18	7.74	36.51	<1.00	<0.50	<1.00	<0.20	7.35	15.0	217.0	0.13												
				9/10/18	8.45	35.80	<1.00	<0.50	<1.00	<0.20	7.08	15.1	244.0	0.25	21.8		1,130		2.94	8.11	0.244		0.323	<0.0162	<0.0151	3.3
				12/11/18	7.53	39.07	<1.00	<0.50	<1.00	<0.20	6.66	14.1	269.9	0.10	5.6		942		7.13	13.1	0.22		0.111	<0.0162	<0.0151	2.09
				6/3/19	7.41	36.84	**0.66**	<0.20	<0.20	<0.20	6.45	14.8	221.6	1.66	19.3		1,900		5.4	12	0.15		0.15	<0.0075	<0.0075	1.6
				7/25/19	7.92	36.33	<0.20	<0.20	<0.20	<0.020	6.31	18.2	590.0	0.08	-224		2,700		5.2	12	0.23		0.21	<0.0005	<0.0005	1.9
				10/18/19	7.97	36.28	**4.0**	<0.20	**0.44**	<0.020	5.76	15.1	166.7	0.15	83.2		<56		14	14	<0.050		0.0016	<0.0005	<0.0005	<1.0
				1/28/20	7.13	37.12	**0.49**	<0.20	<0.20	**0.040**	6.86	13.8	215.9	0.05	-29.1		2,700		<5.0	6.6	0.15		0.39	<0.00022	<0.00029	1.9
				4/22/20	7.68	36.57	**2.10**	<0.20	<0.20	<0.20	6.20	13.9	241.3	0.31	29.3		<56		14	14	<0.050		0.043	<0.00022	<0.00029	1.1
				7/23/20	8.81	35.44	**0.23**	<0.20	<0.20	**0.022**	6.54	16.9	276.5	0.22	17		2,700		<5.0	7.9	0.19		0.36	<0.00022	<0.00029	2.1
				10/21/20	7.69	36.56	**0.84**	<0.20	<0.20	**0.036**	6.20	16.3	230.7	0.17	12.1		1,700		5.3	8.5	0.17		0.34	<0.00022	<0.00029	2.0
				2/26/21	8.67	35.58	<0.20	<0.20	<0.20	**0.022**	6.28	15.0	228.8	-	-22.3		3,300		<5.0	9.2	0.18		0.39	<0.00022	<0.00029	2.0
				6/10/21	7.67	36.58	**0.24**	<0.20	<0.20	<0.020	6.72	16.9	237.7	0.09	-99.6		3,300		<5.0	9.6	0.25		0.18	<0.00022	<0.00029	2.1
MW-36	Intermediate	25 to 35	47.327	9/19/16	8.68	38.65	**2.5**	<0.20	<0.20	<0.20	6.56		257.0													
	Decommissioned			11/1/16	7.31	40.02	**7.3**	<0.20	<0.20	<0.20	6.60	15.1	264.0													
MW-37	Shallow	15 to 25	47.557	9/19/16	9.81	37.75	**0.7**	<0.20	<0.20	<0.20	6.40		272.0													
	Decommissioned			11/1/16	7.53	40.03	**0.74**	<0.20	<0.20	<0.20	6.54	14.9	247.0													
MW-38	Deep	40 to 50	47.187	9/19/16	10.44	36.75	**1.3**	<0.20	<0.20	<0.20	6.89		271.0													
	Decommissioned			10/28/16	7.66	39.53	**0.26**	<0.20	<0.20	<0.20	6.78		266.0													
MW-39	Deep	40 to 50	44.524	10/25/16	6.20	38.32	**95**	<0.40	<0.40	*<0.40*	7.11	16.5	279.0													
				7/25/18	7.15	37.37	<1.00	<0.50	**1.03**	<0.20	7.11	17.2	190.0	0.00												
				12/17/18	6.33	38.19	**2.32**	**2.62**	**6.81**	<0.20	6.39	24.1	225.4	0.15	-3.5		4,580		2.13	3.45	0.563		0.364	<0.0162	<0.0151	3.36
				3/13/19	6.32	38.20	<1.00	<1.00	**1.99**	<0.20	6.08	26.6	63.3	1.33	82.2		4,380		<0.300	3.76	0.445		0.552	<0.0162	<0.0151	4.15
				5/29/19	6.49	38.03	**0.33**	**0.34**	<0.20	<0.20	6.61	28.4	219.2	0.14	1.8		4,500		<5.0	4.3	0.48		1.1	<0.10	<0.10	3.3
				7/23/19	7.02	37.50	**0.52**	**0.63**	**1.3**	<0.020	6.33	28.2	215.5	0.25	-96.6		4,300		<5.0	4.3	0.44		1	<0.0005	<0.0005	2.9
				10/24/19	6.94	37.58	**0.52**	**0.52**	**1.6**	<0.020	6.1	26.2	250.0	0.24	19.8		4,600		<5.0	4.5	0.48		0.91	<0.0005	<0.0005	3.1
				1/28/20	5.53	38.99	<0.20	<0.20	**1.8**	<0.020	6.5	20.2	272.1	0.21	57.1		5,000		<5.0	4.8	0.53		0.67	<0.00022	<0.00029	3.2
				4/27/20	6.17	38.35	**3.1**	**2.2**	**8.9**	**0.024**	6.43	21.2	236.2	4.4	48.5		440		<5.0	4.3	<0.050		0.0011	<0.00022	<0.00029	2.1
				7/29/20	6.92	37.60	<0.20	**0.2**	**0.77**	**0.042**	6.49	22.5	335.3	0.13	-30		5,500		<5.0	4.9	0.64		0.68	<0.00022	<0.00029	3.6
				10/22/20	6.99	37.53	**1.3**	**0.42**	**1.2**	**0.063**	6.12	19.1	274.8	0.36	13.3		100		<5.0	4.6	0.56		0.66	<0.00022	<0.00029	3.3
				3/19/21	6.29	38.23	**79**	**15**	**1.6**	<0.04	6.79	17.5	259.6	0.43	-53.3		4,800		<5.0	4.4	0.50		0.11	<0.00022	<0.00029	2.9
				6/21/21	7.34	37.18	**280**	**40**	<2.0	*<0.2*	6.57	20.9	296.9	0.13	-106.1		6,800		7.5	5.3	0.59		0.19	<0.00022	<0.00029	3.9
				9/29/22	7.86		**270**	**61**	<2.0	**0.85**	6.16	16.6	386.5	0.19	-10.8		8,600		24	8.5	0.57		0.3	<0.00022	0.0020	5.0
				2/6/23	7.15		**210**	**60**	<1.0	**0.10**	6.39	14.1	401.5	0.28	-34.4		9,000		21	7.8	0.44		0.41	<0.00022	<0.00029	4.8
				9/26/23	7.68		**460**	**100**	<2.0	<0.20	6.13	15.6	418.1	0.12	128.8		9,600		22	7.8	0.38		0.26	<0.00022	0.0031	4.5
MW-40	Shallow	15 to 25	44.521	10/25/16	8.21	36.31	**25,000**	*<100*	*<100*	*<100*	6.69	16.5	321.0													
				11/2/16	6.3	38.22	**11,000**	*<100*	*<100*	*<100*	6.73	14.9	229.0													
				7/25/18	7.00	37.52	**5,460**	**55.6**	**9.5**	<0.20	7.24	20.4	320.0	0.13												
				12/17/18	6.28	38.24	**212**	**46**	**56.7**	<0.20	6.43	34.3	69.2	2.39	52.6		<100		1.55	0.586	<0.100		<0.00863	<0.0162	<0.0151	1.11
				3/13/19	6.29	38.23	**213**	**146**	**746**	<0.20	6.08	29.5	63.3	1.33	82.2		<100		0.819	2.08	<0.10		0.00959	<0.0162	<0.0151	2.03
				5/29/19	6.49	38.03	**560**	**600**	**4,300**	*<20*	6.41	30.7	268.1	0.23	3.8		7,600		<5.0	11	0.35		0.47	0.011	<0.025	11
				7/23/19	7.00	37.52	**530**	**380**	**4,700**	**11**	6.29	30.5	319.8	0.05	-112.4		19,000		<5.0	12	0.39		0.49	0.0082	<0.0005	12
				10/25/19	6.82	37.70	**65**	**84**	**1,500**	**1.6**	5.82	23.7	163.6	0.06	35.6		4,600		<5.0	4.9	0.14		0.51	<0.0005	0.0016	13
				1/28/20	5.51	39.01	**150**	**130**	**2,300**	**1,600**	6.89	21.2	368.4	0.01	-60.6		9,800		<5.0	19	0.33		10	<0.00022	0.12	10
				4/27/20	6.48	38.04	*<10*	*<10*	**150**	**930**	6.53	19.9	239.8	0.09	26		5,600		<5.0	7.9	0.24		5.6	<0.00022	0.13	9.9
				7/29/20	7.01	37.51	<0.20	<0.20	**0.52**	**26**	6.03	22.2	565.0	0.14	-47.7		27,000		<5.0	24	11		11	<0.00022	0.48	69
				10/29/20	7.04	37.48	**7.7**	**3.8**	**93**	**490**	6.13	19.7	482.7	0.17	-43.6		22,000		<5.0	18	0.64		10	0.016	0.36	7.4
				3/19/21	6.50	38.02	**100**	**58**	**40**	**31**	6.51	16.0	449.6	0.88	-35.9		24,000		<5.0	16	0.42		5.0	<0.00022	0.14	4.9
				6/21/21	6.98	37.54	**19**	**64**	**110**	**190**	6.51	19.0	516.0	0.10	-130.0		26,000		<5.0	13	0.54		2.3	0.0042	0.05	4.8
				9/29/22	8.18		**35**	**1,700**	**740**	**250**	6.12	16.8	412.4	0.18	-48.1		21,000		<5.0	12	0.58		0.97	0.0012	0.063	5.4
				2/6/23	6.40		**6.3**	**340**	**160**	**73**	6.22	14.3	220.5	1.12	37.5		3,600		<5.0	5.9	0.23		0.80	0.00038	0.038	2.1
				9/26/23	7.44		<4.0	**43**	**470**	**140**	6.31	15.7	448.5	0.21	99.3		21,000		<5.0	11	0.69		1.8	0.0066	0.15	5.5
MW-41	Shallow	5 to 15	45.865	1/3/17	8.31	37.56	**3.4**	<0.20	<0.20	<0.20	6.13		129.0													
	Decommissioned			10/23/18	-	-	**2.02**	<0.50	<0.50	<0.20																
				6/7/19	8.12	37.75	**1.30**	<0.20	<0.20	<0.20	6.31	15.1	84.9	5.26	43.2		<56		6.6	4.5	<0.050		<0.001	<0.0005	<0.0005	<1.0
MW-42	Int./Deep	30 to 45	48.354	1/3/19	10.21	38.14	<1.00	<0.50	<1.0	<0.20																
				3/18/19	8.79	39.56	<1.00	<0.50	<1.0	<0.20	6.63	32.8	155.4	0.06	76.4		821		1.99	3.57	0.266		0.177	<0.0162	<0.0151	1.9
				6/5/19	9.11	39.24	<0.20	<0.20	<0.20	<0.20	6.92	22.9	216.9	0.13	5		5,500		<5.0	6.3	0.2		4.1	<0.25	<0.25	2.3
				7/30/19	9.65	38.70	<0.20	<0.20	**0.72**	**0.053**	6.49	26.4	713.0	0.05	-321.9		5,300		8	8.1	0.27		2.5	<0.0005	<0.0005	1.7
				10/22/19	9.29	39.06	<0.20	**1.90**	**1.9**	**0.056**	6.04	18.3	254.0	0.10	-10.2		7,600		7.3	13	0.28		3.2	<0.0005	<0.0005	3.9
				1/29/20	8.49	39.87	<0.20	<0.20	**20**	**3.3**	6.52	14.1	454.1	0.02	-24.8		19,000		<0.50	14	0.16		7.1	<0.00022	<0.00029	6.3
				4/16/20	8.88	39.47	<0.20	<0.20	**26**	**27**	6.46	14.7	567.6	0.47	-19.2		25,000		<5.0	14	0.21		8.9	<0.00022	0.012	3.5
				7/24/20	9.08	39.27	<0.20	<0.20	**5.3**	**15**	6.20	16.4	570.9	0.23	-34.7		36,000		<5.0	13	0.41		5	<0.00022	0.037	5.5
				10/26/20	9.26	39.09	<0.20	<0.20	**9.9**	**4.5**	6.18	15.6	549.0	0.25	-57.1		32,000		<5.0	14	0.39		7.3	<0.00022	0.0082	32
				3/1/21	8.33	40.02	<0.20	<0.20	**1.7**	**1.4**	5.86	14.4	626.1	-	-82.6		42,000		<5.0	14	1.3		5.9	<0.022	<0.029	7.7
				6/11/21	9.37	38.98	<0.20	**0.23**	**1.4**	**1.4**	5.98	14.5	614.0	0.07	-96.4		28,000		<5.0	10	1.7		6.1	<0.00022	<0.00029	3.8
				9/28/22	12.63		<0.20	<0.20	**0.27**	**0.31**	5.79	15.9	310.0	0.23	-57.5		14,000		6.9	8.1	6.5		2.6	<0.00022	<0.00029	3.4
				2/8/23	10.73		<0.20	<0.20	<0.20	**0.72**	6.17	12.8	316.6	0.32	-78.5		20,000		<5.0	7.5	6.9		4.2	<0.00022	<0.00029	2.7
				9/22/23	12.15		<0.20	<0.20	**0.97**	**0.65**	6.15	14.5	309.2	0.07	102.7		13,000		<5.0	5.2	6.5		8.2	<0.00022	<0.00029	2.6
MW-43	Shallow	10 to 25	48.057	1/2/19	10.4	37.66	**225**	**31.6**	**7.16**	<0.20																
	Replaced			3/18/19	8.42	39.64	**1.66**	<0.50	**1.20**	<0.20	6.61	33.3	183.6	0.10	-4.6		286		14.4	3.34	<0.10		0.0336	<0.0162	<0.0151	8.25
				6/5/19	8.68	39.38	**9.10**	**7.60**	**35.0**	<0.20	6.86	24.1	168.3	0.09	21.5		450		15	3.7	0.08		0.53	<0.038	<0.038	5.8
				7/30/19	9.17	38.89	<0.20	**0.23**	**2.0**	<0.020	6.32	26.0	711.0	0.09	-281		280		11	5.7	0.11		0.44	<0.0005	<0.0005	4.7
				10/22/19	9.67	38.39	**0.80**	<0.20	**24.0**	**0.29**	6.17	19.2	552.0	0.06	-40.2		18,000		9.3	10	0.43		0.32	<0.0005	<0.0005	110
				1/29/20	7.76	40.30	**0.88**	<0.20	**8.7**	**1.9**	6.58	12.2	836.0	0.18	141.7		1,800		130	8.2	0.66		0.42	<0.00022	0.0029	10
				4/21/20	7.62	40.44	**0.47**	<0.20	**17**	**5.8**	6.61	23	456.7	0.13	19.7		6,800		22	7.9	0.49		0.51	<0.00022	0.0055	15
				7/24/20	8.25	39.81	**0.36**	<0.20	**11**	**3.5**	6.84	17.3	695.0	0.15	-27.4		3,300		35	6.4	0.48		1.4	<0.00022	0.0035	9.7
				11/17/20	8.48	39.58	<0.20	<0.20	**2.0**	**0.93**	6.48	18	601.0	0.15	-1.4		2,800		60	5.5	0.50		1.6	<0.00022	0.0035	9.0
				3/4/21	7.54	40.52	**0.31**	<0.20	**5.1**	**4.8**	6.88	12.4	747.0	0.42	-245.4		6,200		6.6	4.9	0.54		2.2	<0.00022	0.0033	13
				6/11/21	8.49	39.57	**2.5**	**1.6**	**15**	**2.4**	6.63	14.7	766.0	0.08	-162.2		9,200		<5.0	6.4	1.4		1.1	<0.00022	0.00054	7.4
MW-43R	Shallow	10 to 25		6/24/21	7.65		<0.20	<0.20	**1.5**	**1.2**	6.48	15.9	482.9	0.13	-143.6		8,900		14	9.2	9.2		3.1	<0.00022	0.0045	26
				9/29/22	11.22		**4.3**	**2.2**	**9.0**	**0.59**	5.99	16.5	388.6	0.22	7.9		7,000		35	13	0.21		2.9	<0.00022	0.0045	3.2
				2/8/23	7.89		**8.7**	**2.5**	**6.4**	**0.73**	6.51	12.2	493.7	0.69	31.4		6,200		51	7.4	<0.050		1.5	<0.00022	<0.00029	4.3
				9/22/23	10.50		**2.6**	**2.6**	**6.9**	**0.24**	6.30	15.3	375.6	0.04	73.7		8,200		22	20	0.14		3.0	<0.00022	<0.00029	2.4
MW-44	Intermediate	25 to 35	46.018	6/6/19	7.49	38.53	<0.20	**1.70**	**28.0**	<0.20	6.35	51.4	229.6	0.18	-1.9		1,700		<5.0	7.6	0.49		0.24	<0.025	<0.025	19
	Replaced			7/25/19	8.11	37.91	<0.20	**1.50**	**2.7**	**0.047**	6.15	47.4	254.1	0.34	-77		2,200		<5.0	6.6	0.71		0.13	<0.0005	0.0039	20
				10/22/19	9.85	36.17	<0.20	**0.77**	**14.0**	**0.29**	5.94	37.2	450.1	0.07	15.4		3,900		<5.0	12	0.73		1.4	<0.0005	0.0011	22
				1/29/20	7.14	38.88	<0.40	**1.20**	**38.0**	**0.48**	6.44	27.5	349.5	0.13	46.8		3,400		<5.0	10	0.62		9.9	<0.00022	<0.00029	16
				4/21/20	7.62	38.40	<0.20	<0.20	**22.0**	**32**	6.61	23	456.7	0.13	19.7		4,800		<5.0	11	0.62		8.7	<0.00022	0.0075	18
				7/23/20	8.02	38.00	<0.20	<0.20	**3.8**	**28**	6.55	24.5	964.9	0.14	-13.8		4,100		<5.0	12	0.58		13	<0.00022	0.047	13
				10/22/20	8.15	37.87	<0.20	<0.20	**2.5**	**10**	6.27	22.5	400.2	0.11	-35.7		1,200		<5.0	12	0.65		8.3	<0.00022	0.023	9.2
				3/1/21	7.20	38.82	<0.20	<0.20	<0.20	**3.9**	6.22	18.1	462.6	-	-45.8		3,600		<5.0	11	0.54		8.5	<0.00022	0.025	12
				6/8/21	8.23	37.79	<0.20	<0.20	<0.20	**1.7**	6.54	19.6	549.0	0.05	-101.9		4,400		<5.0	12	0.76		3.4	<0.00022	0.0075	12
MW-44R	Intermediate	25 to 35		6/23/21	8.07		<0.20	<0.20	<0.20	**0.82**	6.60	19.2	395.7	0.09	-143.2		1,600		5.4	6.7	26		2.3	0.00022	0.005	4.2
				9/27/22	8.14		<0.20	<0.20	<0.20	**0.56**	6.18	19.2	417.8	0.16	-47.8		4,100		20	7.2	4.1		0.69	0.00057	0.0003	4.8
				2/8/23	6.70		<0.20	<0.20	<0.20	**0.72**	6.45	14.0	430.2	0.11	-49.8		330		16	8.3	4.2		1.2	0.00023	0.00046	4.5
				9/22/23	8.15		<0.20	<0.20	<0.20	**0.47**	6.31	14.8	489.3	0.05	175.8		7,900		14	7.5	3.0		0.62	<0.00022	<0.00029	5.7
MW-45	Shallow	7 to 17	45.855	6/6/19	7.29	38.57	<0.20	<0.20	**6.0**	<0.20	6.81	45.7	798.0	0.09	18.4		770		<5.0	38	0.36		0.11	<0.0075	<0.0075	120
	Replaced			7/25/19	7.96	37.90	<0.20	<0.20	**0.75**	**0.043**	6.49	44.1	825.0	0.25	-67.4		2,000		<5.0	21	0.63		1.2	<0.0005	<0.0005	88
				10/22/19	7.44	38.42	<0.20	<0.20	**0.88**	<0.020	6.28	32.5	569.0	0.14	51.6		1,600		12	15	0.75		1.5	<0.0005	<0.0005	33
				1/29/20	6.6	39.26	<1.0	<1.0	**160**	**46**	6.70	21.8	609.0	0.01	-54.2		5,400		<5.0	14	0.79		5.2	<0.00022	0.0072	21
				4/21/20	7.41	38.45	<0.20	<0.20	**0.4**	**7.0**	6.78	19.9	848.0	0.19	7.1		2,800		<5.0	16	0.87		8.6	<0.00022	0.011	41
				7/23/20	7.67	38.19	<0.20	<0.20	**0.26**	**3.7**	6.50	24.1	880.0	0.11	-13.6		6,100		<5.0	18	1.2		11	<0.00022	0.0052	60
				10/22/20	7.73	38.13	<0.20	<0.20	<0.20	**2.4**	6.39	23.3	872.0	0.11	-35.0		130		<5.0	13	1.1		8.0	<0.00022	0.0056	31
				3/1/21	6.83	39.03	<0.20	<0.20	**0.25**	**3.3**	6.30	16.7	798.0	-	-56.5		7,400		<5.0	11	1.5		4.3	<0.00022	0.0016	11

Table 1
Bothell Service Center Simon Son
Groundwater Analytical Results

Well	Well Type and Water Bearing Zone	Screened Depth, (ft bgs)	Top of Casing (TOC) Elevation (feet)* +	Date Sampled	Depth to Water (ft below TOC)	GW Elevation (feet)	PCE (µg/L)	TCE (µg/L)	(cis) 1,2-DCE (µg/L)	Vinyl Chloride (µg/L)	pH (units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	Ferrous Iron (mg/L)	Dissolved Iron (ug/L)	Dissolved Manganese (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	Ammonia as N (mg/L)	Sulfide (mg/L)	Methane (mg/L)	Ethane (mg/L)	Ethene (mg/L)	Total Organic Carbon (mg/L)
				6/8/21	7.99	37.87	<0.20	<0.20	<0.20	0.85	6.49	18.3	696.0	0.00	-124.2		5,000		<5.0	14	1.5		3.2	<0.00022	<0.00029	33
MW-45R	Shallow	7 to 17		6/23/21	8.07		15	3.5	4.0	0.92	6.66	22.1	514.0	0.02	-95.3		<56		17	26	6.7		0.39	<0.00022	0.00058	3.3
				9/1/22	7.95		11	2.7	0.6	<0.020	6.40	21.3	630.0	3.17	62.1		65		110	4.9	0.088		2.2	<0.00022	0.00058	18
				2/2/23	5.54		3.0	0.96	0.69	<0.020	6.75	13.7	543.0	0.39	112.4		<56		87	8.7	<0.050		0.0016	<0.00022	<0.00029	8.9
				9/19/23	8.04		2.1	4.2	2.0	<0.20	6.26	16.4	448.0	0.21	176.7		<56		71	6.9	<0.050		0.42	<0.00022	<0.00029	5.9
HZ-MW-1	Shallow	5 to 15	41.637	9/5/08			0.58	<0.2	<0.2	<0.20																
				5/30/14			21	0.22	<0.20	<0.20	6.62		478.0	3.23												
				9/12/14			33	0.33	<0.20	<0.20	6.51		279.0	2.35												
				12/15/14			15	<0.20	<0.20	<0.20	6.3		223.0	2.02												
				3/19/15			11	<0.20	<0.20	<0.20	6.54		295.0	8.29												
				9/21/16	7.89	33.75	7.2	<0.20	<0.20	<0.20	6.42		120.0													
				10/31/16	6.23	35.41	6.9	<0.20	<0.20	<0.20	6.49	14.5	113.0													
				7/20/18	7.47	34.17	<1.00	<0.50	<1.00	<0.20	6.73	16.9	125.0	10.69												
				9/13/18	8.2	33.44	10.8	<0.50	<1.00	<0.20	6.59	18.7	139.0	7.20	100.6		<100		6.43	2.73	<0.100		<0.00863	<0.0162	<0.0151	1.54
				12/19/18	6.94	34.70	7.8	<0.50	<1.00	<0.20	6.21	13.5	159.8	5.00	45		<100		8.54	3.43	<0.100		<0.00863	<0.0162	<0.0151	1.17
				5/30/19	6.81	34.83	11	<0.20	<0.20	<0.20	6.55	14.0	190.5	7.81	15.2		<56		7.4	5.9	<0.050		0.0014	<0.0005	<0.0005	1.1
				7/30/19	7.2	34.44	14	<0.20	1.1	<0.020	6.17	17.3	189.6	4.08	-70.1		<56		6.6	4.4	<0.050		<0.001	<0.0005	<0.0005	1
				10/21/19	7.45	34.19	15	<0.20	0.61	<0.020	5.65	15.9	172.5	4.58	200		<56		6.5	5.1	<0.050		<0.001	<0.0005	<0.0005	1.1
				1/24/20	6.39	35.25	5.9	<0.20	<0.20	<0.020	5.85	12.6	173.1	24.0	86.3		<56		16	4.0	<0.050		1.5	<0.00022	<0.00029	1.2
				4/14/20	6.33	35.35	33	1.1	1.2	0.15	6.20	12.9	301.4	1.14	-3.8		<56		16	6.3	<0.050		1.2	<0.00022	<0.00029	1.6
				7/17/20	6.88	34.76	40	2.6	4.5	2.1	5.91	17.9	305.0	0.48	71.9		<56		12	6.0	<0.050		18	<0.00022	<0.00029	1.7
				10/27/20	7.42	34.22	8.6	0.53	3.2	0.89	6.50	16.6	295.6	-	74.3		<56		15	8.5	0.13		7.4	<0.00022	<0.00029	1.7
				3/4/21	5.34	36.30	11	3.6	120	3.1	6.24	12.4	334.2	1.14	-18.6		9,000		<5.0	6.4	0.31		8.4	<0.00022	0.0012	2.7
				6/16/21	7.15	34.49	42	5.3	13	0.56	5.93	15.8	283.3	0.86	52.3		<56		27	8.8	0.14		1.9	<0.00022	0.00085	2.7
				9/12/22	9.90		2.4	3.2	31	2.8	6.78	19.4	520.6	8.83	-32.0		5,300		20	8.3	0.14		0.30	<0.00022	<0.00029	2.2
				2/15/23	8.64		3.7	3.3	67	19	6.05	13.3	749	0.19	-6.9		13,000		18	9.2	<0.050		6.2	<0.00022	<0.00029	3.3
				9/20/23	9.81		2.7	2.2	110	17	6.17	15.2	1052	0.27	129.2		18,000		12	10	0.058		7.3	<0.00022	<0.00029	3.6
HZ-MW-4	Shallow *Decommissioned*	8 to 18	40.177	9/5/08			<0.2	<0.2	<0.2	<0.20																
				6/9/14			<0.20	<0.20	<0.20	<0.20	6.35		407.0	2.73												
				9/12/14			2.6	<0.20	<0.20	<0.20	6.42		361.0	2.12												
				12/16/14			0.54	<0.20	<0.20	<0.20	6.56		316.0	2.17												
				3/30/15			<0.20	<0.20	<0.20	<0.20	5.47		323.0	2.67				<10	<50				<0.50			
				11/11/15	6.18	34.06	0.27	<0.20	0.51	0.44	6.22		459.0	39.20	6.5	0			23				1.3	<0.50	<0.50	2.3
				9/23/16	7.16	33.02	0.31	<0.20	<0.20	<0.20	6.23		331.0													
				10/28/16	5.22	34.96	<0.20	<0.20	<0.20	<0.20	6.36	16.9	308.0													
				7/24/18	6.95	33.23	<1.00	<0.50	<1.00	<0.20	6.75	15.8	356.0	3.35												
				9/13/18	7.59	32.59	<1.00	<0.50	<1.00	<0.20	6.52	16.9	354.0	2.25	53.6		161		40.7	13	<0.100		<0.00863	<0.0162	<0.0151	3.95
				12/21/18	6.27	33.91	<1.00	<0.50	<1.00	<0.20	6.21	13.1	420.9	0.19	10		<100		36.5	15	<0.100		<0.00863	<0.0162	<0.0151	3.1
				5/30/19	6.37	33.81	0.41	<0.20	<0.20	<0.20	6.38	16.3	446.1	0.30	45.3		<56		45	21	<0.050		0.0016	<0.0005	<0.0005	2.6
HZ-MW-14S	Shallow	5 to 15	42.377	2/25/13			2,400	47	29																	
				5/29/14			1,000	23	11	<10	6.46		799.0	0.16												
				9/11/14			4,900	96	78	<20	6.51		441.0	0.54												
				12/15/14			790	16	13	<4.0	6.34		396.0	0.48												
				3/20/15			200	6.5	3.8	<1.0	6.4		482.0	13.86												
				11/11/15	7.65	34.79	75.0	3.1	8.6	<0.40	6.10		437.0	1.3	24.8	0			30				170	<0.50	<0.50	2.2
				9/26/16	7.52	34.86	1,800	57	110	<20	6.34		330.0													
				10/28/16	5.82	36.56	440	13	12	<2.0	6.43	18.4	309.0													
				7/20/18	7	35.38	2,580	52.5	86.6	0.572	6.87	16.9	300.0	0.70												
				9/21/18	7.36	35.02	2,710	61.9	203	<2.0	6.52	19.1	346.0	0.13	42.9		<100		27.4	7.81	<0.100		0.361	<0.0162	<0.0151	3.87
				12/13/18	6.23	36.15	240	7.33	6.12	<0.20	6.11	15.5	327.3	0.17	20.4		<100		22.4	7.29	<0.100		<0.00863	<0.0162	<0.0151	1.89
				5/21/19	6.43	35.95	240	7.0	3.2	<2.0	6.47	14.7	339.2	0.11	-26.3		490		21	7.2	<0.050		0.053	<0.005	<0.005	1.7
				7/25/19	6.31	36.07	160	6.8	7	<0.10	6.15	20.8	303.6	0.23	-57.4		160		18	7.8	0.53		0.018	<0.0005	<0.0005	1.8
				10/16/19	6.99	35.39	78	5.9	3.6	<0.04	6.41	18.7	295.1	0.05	103.9		<56		17	8	<0.050		0.29	<0.0005	<0.0005	1.9
				1/22/20	5.65	36.73	23	4.2	15	0.069	6.31	11.6	265.0	2.22	115		<56		19	9.5	<0.050		0.014	<0.00022	<0.00029	2.8
				4/15/20	5.76	36.62	55	3.5	4.3	3.0	6.12	13.0	320.4	0.24	11.5		<56		18	8.1	<0.050		6.9	<0.00022	0.019	2.1
				7/21/20	7.45	34.93	160	15	88	26	6.04	18.7	315.7	0.25	79.6		76		19	8.6	<0.050		8.6	<0.00022	0.0015	2.0
				10/23/20	7.13	35.25	270	37	120	34	5.76	17.0	280.3	0.17	114.0		<56		19	7.4	0.051		9.5	<0.00022	0.015	2.0
				3/3/21	4.33	38.05	210	22	28	15	5.88	13.1	255.7	0.57	96.5		<56		13	4.1	<0.050		9.5	<0.00022	0.016	2.5
				6/16/21	6.80	35.58	550	120	260	17	6.08	18.3	285.2	0.44	-4.9		510		13	6.7	0.10		2.3	<0.00022	0.0043	2.7
				9/6/22	9.45		600	180	78	0.46	6.03	17.9	287.0	0.04	5.9		650		18	10	0.066		4.0	<0.00022	<0.00029	3.0
				2/21/23	8.50		1,000	170	220	23	5.98	13.3	319.4	0.42	66.1	3.58	2,900	0.52	15	6.6	<0.050	<0.05	7.9	<0.00022	<0.00029	1.9
				9/21/23	9.63		1,200	250	270	34	5.91	15.9	344.0	0.09	208.6		3,900		15	8.3	<0.050		11	<0.00022	<0.00029	2.1
HZ-MW-14D	Intermediate	30 to 40	42.397	2/25/13			360	7.6	21																	
				5/29/14			100	3.7	16	<1.0	6.47		622.0	0.23												
				9/11/14			100	3.2	17	<1.0	6.45		352.0	0.28												
				12/15/14			100	2.8	15	<1.0	6.41		332.0	0.87												
				3/20/15			62	2.4	9.8	<0.40	6.69		423.0	NA												
				11/11/15	8.12	34.31	970	16	14	<10	6.08		414.0	0.00	24.9	0			12				69	<0.50	<0.50	1.2
				9/26/16	7.38	35.02	37	1.5	2.9	<0.20	6.10		434.0													
				10/28/16	5.62	36.78	55	2.8	6.1	<0.20	6.21	18.1	373.0													
				7/20/18	6.96	35.44	42.9	2.18	7.55	<0.20	6.42	16.4	220.0	0.33												
				9/19/18	7.19	35.21	36.4	1.98	7.14	<0.20	6.23	15.9	500.0	0.23	100.4		<100		10	100	<0.100		0.0317	<0.0162	<0.0151	4.3
				12/13/18	6.7	35.70	44.2	3.3	13.5	<0.20	5.87	14.9	523.1	0.07	36		<100		15.5	90.8	<0.100		0.0524	<0.0162	<0.0151	0.968
				5/21/19	6.16	36.24	65	2.9	12	<0.20	6.09	14.7	500.3	0.06	-40.7		<56		10	87	<0.050		0.18	<0.01	<0.01	<1.0
				7/30/19	6.92	35.48	100	4.7	28	0.30	5.84	19.6	454.8	0.22	-86.5		<56		11	69	<0.050		0.92	<0.0005	<0.0005	1
				10/16/19	7.7	34.70	190	7.9	48	0.51	6.13	16.3	443.8	0.02	143.8		<56		9.3	75	<0.050		1.5	<0.0005	<0.0005	<1.0
				1/22/20	5.98	36.42	400	24	140	1.1	5.99	13.0	453.7	2.10	132.8		<56		11	65	<0.050		2.6	<0.00022	<0.00029	1.2
				4/15/20	6.14	36.26	400	24	110	0.76	6.13	14.2	443.4	0.28	14.4		<56		13	52	<0.050		1.8	<0.00022	<0.00029	1.2
				7/21/20	6.78	35.65	210	15	61	0.35	5.86	18.0	415.7	0.32	104.2		67		14	44	<0.050		2.6	<0.00022	<0.00029	1.2
				10/28/20	7.34	35.06	110	9.9	27	0.91	5.62	15.7	370.9	0.25	135.5		180		13	29	<0.050		1.7	<0.00022	<0.00029	1.2
				3/4/21	5.84	36.56	110	12	35	2.4	6.08	14.8	347.8	0.46	39.4		260		14	27	<0.050		2.4	<0.00022	<0.00029	1.4
				6/16/21	6.88	35.52	56	9.7	27	3.0	5.97	17.9	320.2	0.38	-9.2		650		20	17	<0.050		0.40	<0.00022	<0.00029	1.6
				9/6/22	9.30		15	2.1	35	14	5.95	17.9	532.3	0.08	44.1		170		12	9.5	<0.050		0.39	0.00091	0.00043	2.6
				2/3/23	8.36		8.5	2.3	34	6.7	6.07	15.8	515.3	0.10	70.8		380		10	11	<0.050		0.15	0.0011	<0.00029	2.5
				9/21/23	9.60		2.3	3.4	31	2.5	6.04	15.8	474.2	0.12	234.8		390		10	9.6	<0.050		0.072	<0.00022	<0.00029	2.1
HZ-MW-15S	Shallow	10 to 15	41.747	3/25/13			86	2.3	3.6																	
				5/29/14			150	7.1	3.6	<1.0	6.35		785.0	1.45												
				9/13/14			400	19	12	<0.20	6.87		575.0	0.25												
				12/15/14			300	14	12	<2.0	6.44		549.0	0.95												
				3/20/15			140	6.2	3.5	<1.0	6.32		579.0	NA												
				11/12/15	6.99	34.79	110	4.9	4.2	<10	5.9		394.0	0.13	97.4				26				3.1	<250	<12	1.1
				9/27/16	6.65	35.10	57	1.6	1.4	<0.40	6.21		280.0													
				10/28/16	4.15	37.60	81	3.3	2.9	<0.40	6.30	17.3	314.0													
				9/19/18	6.61	35.14	29.2	1.2	1.11	<0.20	6.30	19.5	260.0	0.47	187		<100		18.8	2.67	<0.100		<0.00863	<0.0162	<0.0151	4.16
				12/27/18	4.4	37.35	11.8	<0.50	<1.00	<0.20	6.07		278.8	0.68	38.5		<100		19.5	2.85	<0.100		<0.00863	<0.0162	<0.0151	1.36
				6/4/19	4.92	36.83	8.9	0.34	<0.20	<0.20	6.32	15.9	256.6	0.33	-10.7		<56		16	3	<0.050		0.019	<0.001	<0.001	1.1
				7/24/19	5.66	36.09	11	0.41	<0.20	<0.02	6.06	18.7	227.5	0.38	-69.1		<56		13	3.6	<0.050		0.02	<0.0005	<0.0005	1
				10/17/19	5.87	35.88	9.8	0.39	<0.20	<0.02	6.01	16.3	202.4	0.23	189		<56		13	5.1	<0.050		0.0076	<0.0005	<0.0005	1.2
				1/22/20	4.02	37.73	4.2	<0.20	<0.20	<0.02	5.99	10.4	295.5	6.00	129.5		<56		12	3.0	<0.050		0.0086	<0.00022	<0.00029	1.4
				4/15/20	4.51	37.24	3.6	<0.20	<0.20	<0.02	6.34	13.6	267.0	1.43	17.6		<56		14	2.1	<0.050		0.0012	<0.00022	<0.00029	1.3
				7/22/20	5.85	35.90	4.7	0.2	0.35	<0.02	6.07	18.1	239.2	1.19	66.2		<56		14	2.3	<0.050		0.0089	<0.00022	<0.00029	1.2
				10/23/20	6.23	35.52	4.6	0.27	11	0.43	5.66	16.3	279.2	0.35	112.3		<56		14	3.3	<0.050		0.36	<0.00022	<0.00029	1.3
				3/3/21	4.82	36.93	3.8	0.43	10	1.2	5.87	11.3	246.1	-	111.3		<56		12	3.7	<0.050		0.56	<0.00022	0.00039	1.2
				6/22/21	5.77	35.98	5.1	0.62	19	1.4	6.24	19.2	254.9	0.38	-5.8		<56		10	4.0	<0.050		0.28	<0.00022	<0.00029	1.6
				9/6/22	9.30		1.6	0.89	71	4.8	6.04	19.1	938.0	0.16	-9.7		1,100		<5.0	6.1	0.14		3.5	<0.00022	<0.00029	36
				2/15/23	7.95		1.8	0.84	27	2.9	6.04	12.9	632.6	0.30	44.6		6,500		8.3	6.9	<0.050		5.7	<0.00022	<0.00029	3.3
				9/20/23	9.33		1.6	0.69	9.9	0.68	6.11	15.3	507.5	0.04	169.9		1,500		18.0	9.1	<0.050		2.2	<0.00022	<0.00029	2.5
HZ-MW-15D	Intermediate	20 to 30	41.787	3/25/13			330	18	12																	
				5/29/14			3,700	290	180	<20	6.28		1000.0	0.12												
				9/13/14			93	6.9	4.5	<0.40	6.33		308.0	0.30												
				12/15/14			130	9.2	4.3	<1.0	6.34		290.0	1.87												
				3/20/15			6,700	400	280	<30	6.27		491.0	NA												
				11/11/15	7.2	34.63	1,800	120	100	<10	5.66		260.0	0.00	95.5	0			28				2800	<250	<12	<1.0
				9/27/16	6.69	35.10	840	40	43	<4.0	5.96		211.0													
				10/28/16	5.33	36.46	3,300	210	200	<20	6.20	15.9	266.0													
				9/19/18	6.74	35.05	4,910	152	117	<0.20	6.05	15.3	282.0	0.21	204		<100		22.8	16.5	<0.100		2.23	<0.0162	<0.0151	4.7
				12/27/18	4.23	37.56	6,410	229	199	<10.0	5.95		315.5	0.09	52.4		<100		19.5	2.85	<0.100		<0.00863	<0.0162	<0.0151	1.36
				6/4/19	6.11	35.68	10,000	390	260	<100	6.25	15.1	337.4	0.12	20.9		<56		23	14	<0.05		5	<0.25	<0.25	1.5
				7/24/19	6.83	34.96	9,200	390	340	<5.0	5.93	16.9	324.0	0.24	-56.6		<56		21	13	<0.050		5	<0.0005	<0.0005	1.6
				10/17/19	7.02	34.77	7,700	410	360	<5.0	5.83	15.1	292.1	0.12	173.5		100		18	13	<0.050		5	<0.0005	<0.0005	1.3
				1/22/20	6.05	35.74	4,000	280	410	<2.0	6.21	12.3	430.0	0.11	88.9		<56		13	16	<0.050		2.4	<0.00022	<0.00029	1.2
				4/15/20	6.67	35.12	3,300	240	400	<2.0	6.19	14.9	505.3	0.27	32.4		120		9.6	16	<0.050		3	<0.00022	<0.00029	1.2
				7/22/20	6.45	35.34	2,000	170	340	<1.0	6.03	17.1	466.5	0.33	80.8		150		12	14	<0.050		4	<0.00022	<0.00029	1.4
				10/23/20	6.79	35.00	2,200	170	330	1.3	5.73	14.4	399.9	0.21	108.6		<56		11	15	<0.050		4.6	<0.00022	<0.00029	<1.0
				3/3/21	6.23	35.56	2,200	190	200	4.3	6.00	14.1	383.7	-	109.4		<56		18	13	<0.050		6.1	<0.00022	<0.00029	<1.0
				6/22/21	5.80	35.99	3,000	230	290	4.3	6.27	17.9	418.1	0.11	-34.9		120		15	14	<0.050		1.9	<0.00022	<0.00029	1.6
				9/8/22	9.44		2,700	130	150	3.0	5.78	15.6	423.6	0.12	19.0		<56		14	9.4	<0.050		8.2	<0.00022	<0.00029	1.3
				2/21/23	8.30		4,400	190	210	1.1	6.11	14.0	437.7	0.16	89.9	<0.040	<56	0.12	15	8.8	<0.050	<0.05	6.5	<0.00022	<0.00029	1.2
				9/20/23	9.68		2,200	160	160	0.82	6.08	14.8	436.0	0.20	204.9		<56		16	7.6	<0.050		5.7	<0.00022	<0.00029	1.3
HZ-MW-16	Shallow *Decommissioned*	15 to 25	-	5/28/14			0.32	<0.20	0.30	<0.20	6.52		451.0	0.16												
				9/12/14			4.2	<0.20	<0.20	<0.20	7.08		207.0	1.23												
				12/15/14			0.4	<0.20	<0.20	<0.20	7.01		235.0	0.57												
				3/19/15			0.35	<0.20	0.24	<0.20	6.59		326.0	NA				0					<0.50			
				11/28/16	4.53		0.34	<0.20	<0.20	<0.20	6.78		167.0													
				9/24/18	6.23		<1.00	<0.50	<1.00	<0.20	6.62	16.6	131.0	1.85	83.4		<100		9.78	2.83	<0.100		<0.00863	<0.0162	<0.0151	1.58
				1/3/19	5.56		1.39	<0.50	<1.00	<0.20	6.09		220.2	0.66	63.5		<100		15.2	8.5	<0.100		<0.00863	<0.0162	<0.0151	0.645
				6/5/19	5.8		2.00	0.30	0.61	<0.20	6.46	15.0	222.3	0.29	26.7		<56		16	7.6	<0.050		<0.001	<0.0005	<0.0005	<1.0
HZ-MW-17	Shallow Decommissioned	10 to 20	38.567	6/9/14			<0.20	<0.20	<0.20	<0.20	6.61		594.0	0.15												
				9/12/14			2.0	<0.20	<0.20	<0.20	6.94		345.0	0.89												
				12/16/14			0.5	<0.20	<0.20	<0.20	6.71		309.0	1.55												
				3/19/15			<0.20	<0.20	<0.20	<0.20	6.96		434.0	NA												
				9/26/16	8.90	29.67	<0.20	<0.20	<0.20	<0.20	6.73		230.0													
				10/27/16	6.61	31.96	<0.20	<0.20	<0.20	<0.20	6.89	14.9	238.0													
				7/24/18	7.45	31.12	<1.00	<0.50	<1.00	<0.20	7.17	16.1	250.0	0.41												
				9/12/18	7.90	30.67	<1.00	<0.50	<1.00	<0.20	6.97	16.2	267.0	0.09	39.9		2,540		16.9	7	<0.100		<0.00863	<0.0162	<0.0151	2.54
				12/6/18	7.68	30.89	<1.00	<0.50	<1.00	<0.20	6.65	14.9	297.5	0.32	29.1		2,060		23.7	9.1	<0.100		<0.00863	<0.0162	<0.0151	2.28
				5/31/19	7.08	31.49	<0.20	<0.20	<0.20	<0.20	6.91	15.2	312.3	0.11	-30.1		3,600		16	9	0.081		0.25	<0.015	<0.015	1.1
HZ-MW-18	Shallow *Decommissioned*	7.5 to 17.5		6/10/14			<0.20	<0.20	<0.20	<0.20	6.38		1901.0	0.14												
HZ-MW-19	Shallow *Replaced*	5 to 15	42.177	5/30/14			0.97	0.94	0.40	<0.20	6.38		1210.0	0.10												
				6/9/14			0.28	0.67	1.1	<0.20	6.26		1213.0	0.13												
				9/12/14			3.3	0.76	0.67	<0.20	6.37		675.0	0.50												
				12/16/14			1.0	<0.20	<0.20	<0.20	6.75		301.0	0.42												
				3/19/15			<0.20	<0.20	<0.20	<0.20	6.33		376.0	NA				0					100			
				8/6/15							6.18		513.0	0.00												
				11/11/15	7.01	35.22	0.6	0.77	1.1	<0.20	6.03		623.0	0.00	-13.9	0			25				11	<0.50	<0.50	8.4
				9/26/16	7.73	34.45	0.59	0.54	0.48	<0.20	6.29		438.0													
				10/31/16	4.78	37.40	<0.20	<0.20	<0.20	<0.20	6.11	14.2	174.0													
				7/24/18	7.17	35.01	<1.00	<0.50	<1.00	<0.20	6.56	17.3	335.0	0.00												
				9/7/18	7.72	34.46	<1.00	0.574	<1.00	<0.20	6.34	18.0	504.0	1.16	102.7		1,460		61.5	5.2	<0.100		<0.00863	<0.0162	<0.0151	8.59
				12/7/18	6.32	35.86	<1.00	<0.50	<1.00	<0.20	5.99	14.5	376.6	0.12	64.7		2,500		24.5	2.44	<0.100		0.0158	<0.0162	<0.0151	6.15
				5/30/19	6.25	35.93	0.21	0.25	<0.20	<0.20	6.25	18.1	424.6	0.15	34.5		240		28	3.9	<0.050		0.019	<0.001	<0.001	3.5
HZ-MW-20	Shallow *Decommissioned*	5 to 15		6/9/14			<0.20	<0.20	<0.20	<0.20	6.79		1914.0	0.28												
				9/13/14			1.3	<0.20	<0.20	<0.20	7.09		1018.0	0.72												
				12/16/14			0.41	<0.20	<0.20	<0.20	6.72		851.0	0.44												
				3/19/15			<0.20	<0.20	<0.20	<0.20	6.91		1139.0	NA												
HZ-MW-21	Shallow *Decommissioned*	6 to 16	39.517	9/13/16	7.14	32.38	<0.20	<0.20	<0.20	<0.20	6.55		509.0													
				10/31/16	5.90	33.62	<0.20	<0.20	<0.20	<0.20	6.31	14.7	528.0													
				7/23/18	6.90	32.62	<1.00	<0.50	<1.00	<0.20	6.77	17.6	576.0	0.19												
				9/13/18	7.37	32.15	<1.00	<0.50	<1.00	<0.20	6.65	17.9	700.0	0.12	71.6		739		35.6	7.12	0.169		0.0386	<0.0162	<0.0151	18.3
				12/10/18	6.69	32.83	<1.00	<0.50	<1.00	<0.20	6.43	14.1	120.9	0.71	71.7		<100		8.51	1.4	0.125		<0.00863	<0.0162	<0.0151	1.94
				5/23/19	6.55	32.97	<0.20	<0.20	<0.20	<0.20	6.60	15.3	500.7	0.11	-0.1		550		21	8.1	0.29		0.14	0.00093	<0.0005	14
HZ-MW-22	Shallow *Decommissioned*	5 to 15	40.827	9/14/16	6.77	34.06	0.67	0.62	0.24	<0.20	6.13		303.0													
				10/28/16	4.85	35.98	0.46	<0.20	<0.20	<0.20	6.52	16.5	318.0													
				7/23/18	6.45	34.38	1.52	0.849	<1.00	<0.20	6.47	17.6	316.0	0.68												
				9/7/18	7.10	33.73	1.44	1.33	1.07	<0.20	6.25	18.9	338.0	0.51	98.7		<100		20.3	14.1	<0.100		<0.00863	<0.0162	<0.0151	5.38
				12/21/18	5.35	35.48	1.46	0.956	<1.00	<0.20	6.16	13.3	392.0	0.98	32.7		<100		25.5	10.2	<0.100		<0.00863	<0.0162	<0.0151	2.52
				5/21/19	5.72	35.11	1.20	0.66	0.51	<0.20	6.37	14.3	413.6	0.50	-19.1		<56		31	8.1	<0.050		0.004	<0.0005	<0.0005	2.3
HZ-MW-23	Intermediate *Decommissioned*	28 to 38	41.677	9/14/16	8.21	33.47	2.4	<0.20	0.41	<0.20	6.55		378.0													
				10/31/16	6.80	34.88	2.3	<0.20	0.33	<0.20	6.77	14.4	345.0													

Table 1
Bothell Service Center Simon Son
Groundwater Analytical Results

Well	Well Type and Water Bearing Zone	Screened Depth, (ft bgs)	Top of Casing (TOC) Elevation (feet)* +	Date Sampled	Depth to Water (ft below TOC)	GW Elevation (feet)	PCE (µg/L)	TCE (µg/L)	(cis) 1,2-DCE (µg/L)	Vinyl Chloride (µg/L)	pH (units)	Temp (˚C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	Ferrous Iron (mg/L)	Dissolved Iron (ug/L)	Dissolved Manganese (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	Ammonia as N (mg/L)	Sulfide (mg/L)	Methane (mg/L)	Ethane (mg/L)	Ethene (mg/L)	Total Organic Carbon (mg/L)
				9/7/18	8.26	33.42	<1.00	<0.500	<1.00	<0.20	6.84	15.6	401.0	0.07	24.8		3,800		13.2	11.1	<0.100		0.527	<0.0162	<0.0151	6.14
				12/19/18	7.40	34.28	<1.00	<0.50	<1.00	<0.20	6.53	14.2	416.2	0.06	7.5		1,200		16.6	11.3	<0.100		0.273	<0.0162	<0.0151	3.14
				5/30/19	7.17	34.51	<0.20	<0.20	<0.20	<0.20	6.74		358.2	0.20	11.5		7,500		13	11	<0.050		0.75	<0.05	<0.05	3.4
				7/30/19	7.98	33.70	<0.20	<0.20	<0.20	<0.020	6.65	18.6	281.2	0.22	-79.8		4,900		11	6.8	<0.050		0.21	<0.0005	<0.0005	3.4
				10/24/19	8.61	33.07	<0.20	<0.20	<0.20	<0.020	6.40	14.9	290.2	0.17	-5		8,700		8.1	7.1	<0.050		0.92	<0.0005	<0.0005	24
				1/29/20	6.69	34.99	<0.20	<0.20	<0.02	0.039	6.55	13.2	502.7	0.20	13.5		10,000		<5.0	9.4	<0.050		1.9	<0.00022	<0.00029	42
				4/13/20	6.77	34.91	<0.20	<0.20	<0.02	0.044	6.77	14.7	702.0	0.34	-59		16,000		<5.0	12	<0.050		7.3	<0.00022	<0.00029	92
				7/17/20	10.42	31.26	<0.20	<0.20	<0.20	0.025	6.77	16.3	704.0	0.20	-72.4		15,000		<5.0	17	<0.050		16	<0.00022	<0.00029	60
				10/27/20	9.13	32.55	<0.20	<0.20	<0.20	0.040	6.67	15.3	705.0	0.21	-69.5		14,000		<5.0	21	<0.050		21	<0.00022	<0.00029	16
				3/4/21	6.73	34.95	<0.20	<0.20	<0.20	<0.020	6.88	14.2	149.0	0.42	-99.8		4,800		5.9	4.4	0.11		4.0	<0.00022	<0.00029	1.8
				6/14/21	7.23	34.45	<0.20	<0.20	<0.20	<0.020	6.91	15.6	121.9	6.37	33.8		120		28	<2.0	<0.050		0.044	<0.00022	<0.00029	4.1
HZ-MW-24	Intermediate	25 to 35	40.997	9/14/16	7.20	33.80	4.9	2.4	21	0.8	6.47		356.0													
				10/27/16	5.66	35.34	6.7	0.8	12	0.6	6.69	17.1	316.0													
				9/18/18	6.92	34.08	4.48	2.3	14.8	0.577	6.31	16.2	286.0	0.22	99.2		<100		26.1	8.28	<0.100		0.0181	<0.0162	<0.0151	3.98
				12/10/18	6.04	34.96	2.79	0.908	5.38	<0.20	6.26	15.0	273.7	0.08	-1.4		828		10.3	7.18	<0.100		<0.00863	<0.0162	<0.0151	7.02
				5/31/19	6.06	34.94	2.0	0.92	21	0.77	6.61	15.3	533.7	0.13	-11.7		8,500		<5.0	13	0.19		5.4	<0.25	<0.25	3.5
				7/17/19	7.10	33.90	2.7	1.1	16	0.58	6.39	17.1	557.4	0.07	-167.7		15,000		7.8	13	0.39		6.3	<0.0005	<0.0005	3.8
				10/24/19	6.82	34.18	<0.40	<0.40	93	0.76	6.21	16.0	442.3	0.16	10		20,000		<5.0	14	1.1		9.7	<0.0005	<0.0005	4.7
				1/27/20	5.71	35.29	2.2	1.3	150	3.2	6.47	13.0	452.3	0.13	35.3		14,000		<5.0	15	2.5		9.5	<0.00022	<0.00029	4.9
				4/14/20	6.01	34.99	<0.40	<0.40	73	30	6.36	15.7	493.7	0.22	-13.9		14,000		13	19	4.1		4.0	<0.00022	0.0027	5.4
				7/22/20	6.78	34.22	0.9	1.8	28	2.6	6.26	16.6	452.1	0.30	3.7		11,000		22	17	2.5		2.1	<0.00022	0.0076	4.5
				10/28/20	6.91	34.09	1.3	1.3	35	2.0	6.02	16.2	417.0	0.20	26.6		10,000		23	14	1.9		1.6	<0.00022	<0.00029	3.8
				3/2/21	5.18	35.82	<0.20	0.35	6.1	0.17	6.06	13.3	277.2	-	19.9		6,000		23	9.7	0.96		0.20	<0.00022	<0.00029	2.8
				6/18/21	6.50	34.50	<0.20	0.21	5.0	0.13	6.39	16.2	244.1	0.09	-154.6		8,000		23	6.1	0.96		0.31	<0.0022	<0.0029	4.9
				9/20/22	5.60		3.8	4.1	25	0.80	6.06	16.3	363.9	0.18	-53.0		4,400		18	11	0.51		0.30	<0.00022	<0.00029	5.3
				2/7/23	1.90		2.7	2.3	15	0.55	6.24	13.2	410.8	0.09	-7.0		7,600		23	7.0	0.47		0.46	<0.00022	<0.00029	2.3
				9/8/23	5.61		2.0	2.0	11	0.61	6.23	15.0	473.6	0.25	80.3		9,500		26	8.0	0.52		1.7	<0.00022	<0.00029	2.6
HZ-MW-25	Deep *Decommissioned*	44.33 to 54.33	41.907	9/14/16	8.17	33.74	6.4	<0.20	<0.20	<0.20	6.71		254.0													
				10/28/16	7.02	34.89	1.2	<0.20	<0.20	<0.20	6.46		237.0													
				7/19/18	8.00	33.91	<1.00	<0.50	<1.00	<0.20	6.67	14.7	248.0	0.45												
				9/11/18	8.41	33.50	<1.00	<0.50	<1.00	<0.20	6.38	15.3	273.0	0.08	102.8		201		9.38	25.8	<0.100		0.00931	<0.0162	<0.0151	2.72
				12/4/18	7.35	34.56	3.67	1.36	<1.00	<0.20	6.11	14.7	299.6	0.07	48.7		5,900		14.5	21.1	<0.100		<0.00863	<0.0162	<0.0151	4.34
				5/30/19	7.60	34.31	<0.20	<0.20	<0.20	<0.20	6.36		259.6	0.32	21.3		330		12	22	<0.050		0.056	<0.005	<0.005	<1.0
HZ-MW-26	Intermediate	25 to 35	40.692	9/14/16	7.55	33.14	99	3.5	4.7	*<0.40*	6.71		267.0													
				10/28/16	6.26	34.43	3.3	<0.20	0.25	<0.20	6.74	16.0	265.0													
				7/23/18	7.36	33.33	11.9	<0.50	2.01	<0.20	6.98	16.4	284.0	0.31												
				9/17/18	6.83	33.86	7.12	<0.50	1.3	<0.20	6.55	15.0	316.0	0.37	187		<100		24.9	7.46	<0.100		<0.00863	<0.0162	<0.0151	3.54
				12/4/18	7.23	33.46	6.21	<0.50	1.03	<0.20	6.38	14.2	334.2	0.10	75.6		<100		25.3	8.08	<0.100		<0.00863	<0.0162	<0.0151	2.3
				5/30/19	6.85	33.84	9.7	<0.20	1.4	<0.20	6.70	16.6	329.9	0.18	17		<56		28	9.3	<0.050		0.0042	<0.0005	<0.0005	<1.0
				7/30/19	7.34	33.35	5.0	<0.20	1.0	0.053	6.42	16.5	327.9	0.21	-96.7		<56		23	9.3	0.063		0.01	<0.0005	<0.0005	<1.0
				10/16/19	7.91	32.78	2.8	<0.20	0.53	0.055	6.61	15.1	322.7	0.03	152.3		<56		24	11	<0.050		0.022	<0.0005	<0.0005	<1.0
				1/24/20	6.86	33.83	1.5	<0.20	0.42	0.041	6.55	13.1	334.4	0.10	36.3		<56		23	14	<0.050		0.035	<0.00022	0.00052	<1.0
				4/13/20	6.33	34.36	73	2.5	4.9	<0.040	6.52	14.6	396.4	0.66	-4.8		<56		24	14	<0.050		0.059	<0.00022	<0.00029	<1.0
				7/17/20	6.82	33.87	15	0.84	2.2	0.026	6.29	15.7	370.0	0.31	-13.7		<56		24	13	<0.050		0.09	<0.00022	<0.00029	<1.0
				10/27/20	7.34	33.35	14	0.34	1.8	0.034	6.15	15.5	346.9	0.22	110.7		<56		27	13	<0.050		0.038	<0.00022	<0.00029	<1.0
				3/5/21	6.66	34.03	1.7	<0.20	0.26	<0.020	6.51	13.9	180.9	2.65	84.4		<56		13	7.0	<0.050		0.0015	<0.00022	<0.00029	<1.0
				6/14/21	6.99	33.70	5.0	<0.20	1.2	0.02	6.41	14.9	337.4	0.15	13.0		<56		23	13	<0.050		0.0032	<0.00022	<0.00029	<1.0
				9/8/22	11.98		22	0.43	2.0	0.048	6.23	15.5	365.0	0.15	43.3		<56		23	11	<0.050		0.18	<0.00022	<0.00029	<1.0
				2/21/23	9.83		7.4	<0.20	1.6	0.076	6.44	13.9	366.5	0.14	121.7	<0.040	<56	0.063	21	13	<0.050	<0.05	0.14	<0.00022	<0.00029	<1.0
				9/12/23	11.14		11	<0.20	1.2	<0.20	6.07	14.5	385.6	0.15	315.8		<56		22	14	0.072		0.15	<0.00022	<0.00029	<1.0
HZ-MW-27	Deep *Decommissioned*	45 to 55	41.597	9/14/16	8.00	33.60	1.6	<0.20	0.34	<0.20	6.80		227.0													
				10/28/16	6.55	35.05	0.84	<0.20	<0.20	<0.20	6.51		208.0													
				7/13/18	7.35	34.25	2.24	<0.50	1.07	<0.20	6.77	15.1	215.0	0.40												
				9/18/18	7.73	33.87	1.75	<0.50	<1.00	<0.20	6.24	15.1	222.0	0.34	62.8		<100		15.3	8.08	<0.100		0.0449	<0.0162	<0.0151	4.12
				12/7/18	8.18	33.42	<1.00	<0.50	<1.00	<0.20	6.12	14.5	229.6	0.13	49.8		835		21.1	8.36	<0.100		0.0636	<0.0162	<0.0151	1.28
				5/30/19	7.30	34.30	<0.20	<0.20	<0.20	<0.20	6.51	15.8	223.5	0.22	18.6		1,200		18	8.7	<0.050		0.093	<0.005	<0.005	1.4
HZ-MW-28	Intermediate *Decommissioned*	25 to 35	38.744	10/27/16	5.90	32.84	0.96	<0.20	<0.20	<0.20	6.87	15.3	343.0													
				7/24/18	6.65	32.09	<1.00	<0.50	<1.00	<0.20	7.08	15.6	333.0	0.42												
				9/13/18	7.00	31.74	<1.00	<0.50	<1.00	<0.20	6.86	15.1	368.0	0.13	35.8		420		17.6	16	<0.100		0.0191	<0.0162	<0.0151	2.29
				12/6/18	6.40	32.34	<1.00	<0.50	<1.00	<0.20	6.58	14.2	429.8	0.28	56.7		<100		37.6	14	<0.100		0.0101	<0.0162	<0.0151	2.77
				5/31/19	6.35	32.39	<0.20	<0.20	<0.20	<0.20	6.75	14.6	416.1	0.14	-7.1		<56		45	16	<0.050		0.053	<0.003	<0.003	1.4
HZ-MW-29	Intermediate	25 to 35	40.309	10/27/16	6.03	34.28	85	9.0	100	6.6	6.60	15.7	271.0													
				7/23/18	6.75	33.56	54.8	4.2	33.2	1.31	6.66	16.9	241.0	0.07												
				9/11/18	7.11	33.20	36.6	3.48	23.7	<0.20	6.47	15.3	254.0	0.15	95.2		<100		16	10.9	<0.100		<0.00863	<0.0162	<0.0151	2.73
				12/10/18	5.68	34.63	13.6	4.06	11.4	<0.20	6.18	14.3	330.7	0.07	3.5		2,140		17.9	17.2	<0.100		<0.00863	<0.0162	<0.0151	2.68
				5/31/19	6.29	34.02	1.4	0.6	32	0.26	6.52	15.8	705.0	0.35	-2.3		10,000		<5.0	18	0.65		3.9	<0.25	<0.25	52
				7/17/19	7.03	33.28	1.2	0.58	32	0.47	6.20	15.9	627.0	0.09	-93.7		9,300		<5.0	16	0.79		9.5	<0.0005	<0.0005	15
				10/24/19	7.98	32.33	<1.0	<1.0	100	0.94	6.15	15.2	466.6	0.14	-9.6		9,500		<5.0	13	1.6		9.9	<0.0005	<0.0005	2.1
				1/27/20	6.41	33.90	<1.0	1.5	100	1.5	6.33	13.4	579.5	0.17	42.1		12,000		6.9	14	3.2		8.6	<0.00022	<0.00029	1.8
				4/13/20	6.31	34.00	<1.0	5.2	130	5.8	6.31	13.3	595.4	0.28	-76.4		11,000		8.3	14	3.0		19	<0.00022	<0.00029	3.2
				7/17/20	10.22	30.09	<1.0	<1.0	190	40	6.22	15.7	655.0	0.24	-49.1		10,000		<5.0	13	1.8		14	<0.00022	0.014	12
				10/28/20	6.88	33.43	<0.20	0.27	21	9.2	6.21	16.7	723.0	0.20	-52.5		17,000		<5.0	15	2.0		14	<0.00022	0.026	5.8
				3/5/21	5.47	34.84	<0.20	0.29	19	5.1	6.46	13.8	641.0	0.21	-144.6		17,000		5.4	15	1.8		0.82	<0.0022	<0.0029	1.9
				6/22/21	6.70	33.61	<0.20	0.32	20	9.7	6.45	15.9	551.0	0.10	-130.1		13,000		10	11	1.8		2.6	<0.00022	0.0017	2.1
				9/20/22	6.35		<0.20	0.24	30	15	5.97	15.8	403.7	0.21	-35.4		9,200		16	10	0.75		4.9	<0.00022	0.0018	1.3
				2/7/23	5.16		<0.20	<0.20	32	16	6.22	14.5	410.6	0.10	-37.7		9,700		20	8.1	0.37		8.2	<0.00022	<0.00029	1.1
				9/8/23	6.44		<0.20	<0.20	32	13	6.13	14.6	396.6	0.12	35.7		8,700		23	7.2	0.58		7.3	<0.00022	<0.00029	1.1
HZ-MW-30	Deep *Decommissioned*	40 to 50	-	11/28/16	7.08		<0.20	<0.20	<0.20	<0.20	8.01		418.0													
				8/27/18	8.60		<1.00	<0.50	<1.00	<0.20	7.71	16.9	235.0													
				9/20/18	9.54		<1.00	<0.50	<1.00	<0.20	7.71	15.0	273.0	0.25	-140		162		0.506	3.51	0.937		0.426	<0.0162	<0.0151	2.1
				12/18/18	7.71		<1.00	<0.50	<1.00	<0.20	7.60	13.9	281.5	0.05	-2.4		247		<0.300	3.62	0.956		0.307	<0.0162	<0.0151	2.15
				5/19/19	7.88		<0.20	<0.20	<0.20	<0.20	7.68		260.5	0.17	22.8		170		<5.0	4.8	0.61		0.91	<0.05	<0.05	1.8
HZ-MW-31	Shallow	15 to 25	-	11/28/16	8.42		<0.20	<0.20	<0.20	<0.20	6.80		325.0													
				8/27/18	9.55		<1.00	<0.50	<1.00	<0.20	6.52	16.3	294.0													
				9/20/18	9.63		<1.00	<0.50	<1.00	<0.20	6.46	15.5	321.0	0.43	-45.4		8,800		7.69	9.3	0.33		0.0618	<0.0162	<0.0151	5.41
				12/18/18	9.40		<1.00	<0.50	<1.00	<0.20	6.33	14.2	331.1	0.07	2		1,880		8.74	8.76	0.297		0.151	<0.0162	<0.0151	4.99
				5/29/19	9.34		0.78	<0.20	<0.20	<0.20	6.58	15.0	320.7	0.23	19.8		20,000		<5.0	8.7	0.26		0.34	<0.025	<0.025	4.6
				7/24/19	9.45		2.5	<0.20	0.69	0.048	6.33	16.9	295.9	0.21	-64		19,000		<5.0	8.3	0.27		0.62	<0.0005	<0.0005	4.4
				10/25/19	9.16		<0.20	<0.20	<0.20	0.048	6.22	15.1	232.9	0.10	23		19,000		<5.0	6.3	0.3		0.9	<0.0005	<0.0005	4.8
				1/28/20	8.75		<0.20	<0.20	<0.20	0.054	6.27	12.9	298.6	0.24	69		18,000		<5.0	6.7	0.29		0.76	<0.00022	<0.00029	4.8
				4/27/20	24.75		<0.20	<0.20	<0.20	0.049	6.50	14.3	347.3	0.25	34		19,000		<5.0	5.8	0.29		0.84	<0.00022	<0.00029	4.7
				7/29/20	9.02		<0.20	<0.20	<0.20	0.049	6.32	16.1	336.7	0.20	-4.3		19,000		<5.0	6.7	0.4		0.92	<0.00022	<0.00029	4.9
				10/29/20	9.21		<0.20	<0.20	<0.20	0.060	6.11	15.1	276.1	0.17	-18.3		19,000		<5.0	6.5	0.44		0.84	<0.00022	<0.00029	4.6
				3/5/21	8.30		<0.20	<0.20	<0.20	0.021	6.61	10.6	230.1	3.10	-24.8		210		<5.0	11	0.37		0.11	<0.00022	0.00037	6.0
				6/21/21	6.35		<0.20	<0.20	<0.20	0.046	6.53	20.1	275.4	0.13	-94.7		19,000		<5.0	6.1	0.38		0.22	<0.00022	<0.00029	5.6
				9/29/22	9.06		0.41	0.47	2.0	20	6.08	16.7	304.0	0.17	-24.5		23,000		<5.0	9.5	0.38		1.5	<0.00022	0.027	6.2
				2/6/23	8.20		<0.80	<0.80	16	94	6.33	13.7	318.2	0.10	-47.9		24,000		<5.0	8.3	0.30		1.4	<0.00022	0.024	6.0
				9/26/23	8.61		<2.0	<2.0	22	110	6.11	16.1	343.0	0.12	111.2		23,000		7.9	7.1	0.23		0.95	<0.00022	0.011	4.8
HZ-MW-32	Shallow *Decommissioned*	15 to 25	-	11/28/16	7.68		<0.20	<0.20	<0.20	<0.20	6.78		331.0													
				9/20/18	9.46		<1.00	<0.50	<1.00	<0.20	6.50	14.8	355.0	0.20	-68.3		13,500		3.07	13.3	0.402		0.147	<0.0162	<0.0151	6.79
				12/19/18	8.70		<1.00	<0.50	<1.00	<0.20	6.28	13.2	377.0	0.14	-5		234		5.93	13.6	0.356		0.121	<0.0162	<0.0151	6.56
				5/29/19	8.25		<0.20	<0.20	<0.20	<0.20	6.56		377.1	0.46	25.6		27,000		<5.0	13	0.39		0.27	<0.015	<0.015	5.9
HZ-MW-33	Intermediate *Replaced*	25 to 35	-	11/28/16	6.33		<0.20	<0.20	0.48	<0.20	7.39		242.0													
				7/24/18	6.87		<1.00	<0.20	<1.00	<0.20	7.02	17.0	214.0	0.00												
				9/12/18	7.35		<1.00	<0.50	1.11	<0.20	6.84	15.2	237.0	0.25	103.4		<100		14.2	6.54	<0.100		<0.00863	<0.0162	<0.0151	2.08
				12/6/18	7.19		<1.00	<0.50	2.06	0.303	6.55	14.1	259.5	0.21	48.1		<100		19.1	7.87	<0.100		<0.00863	<0.0162	<0.0151	2.36
				5/31/19	6.82		0.51	<0.20	1.7	<0.20	6.77	15.6	271.0	0.14	-12.5		<56		16	7.3	<0.050		0.0027	<0.0005	<0.0005	<1.0
				6/23/21	6.20		<0.20	<0.20	<0.20	<0.020	6.64	15.2	325.8	0.14	-58.1											
HZ-MW-33R	Intermediate	25 to 35	-	8/11/21	7.93		<0.20	<0.20	<0.20	0.064	6.55	17.2	188.0	0.35	102.6		<56		11	6.3	<0.050		0.0098	<0.00022	<0.00029	2.2
				10/3/22			<0.20	<0.20	<0.20	0.039	5.84	16.1	252.1	0.40	106.3		190		12	5.2	<0.050		0.12	<0.00022	<0.00029	<1.0
				2/7/23			<0.20	<0.20	<0.20	0.033	6.33	13.2	177.7	0.12	146.8		<56		11	4.7	<0.050		0.23	<0.00022	<0.00029	<1.0
				9/1/23			<0.20	<0.20	<0.20	<0.20	6.17	14.8	180.8	0.10	216.1		<56		9.7	4.0	<0.050		0.26	<0.00022	<0.00029	<1.0
HZ-MW-34	Shallow	15 to 25	-	11/28/16	4.81		7.2	14	44	3.1	6.64		272.0													
				9/17/18	6.68		8.05	16.5	40.6	2.97	6.12	17.1	265.0	0.32	152		<100		17.7	10.4	<0.100		0.0191	<0.0162	<0.0151	3.87
				12/7/18	5.77		4.63	12.7	32.6	<0.20	6.18	15.9	383.7	0.10	0.9		5,750		7.8	14.2	<0.100		<0.00863	<0.0162	<0.0151	3.96
				5/31/19	5.88		0.83	3.3	24	0.26	6.46	14.7	550.0	0.16	-17.2		10,000		5.7	13	<0.050		1.1	<0.05	<0.05	42
				7/17/19	6.41		1.4	3.3	20	0.28	6.24	17.3	508.5	0.08	-158.7		11,000		5.2	13	<0.050		3.1	<0.00050	<0.0005	24
				10/23/19	6.60		<1.0	<1.0	110	0.97	6.25	16.2	258.4	0.07	24.7		4,900		17	9	0.69		7.7	<0.0005	<0.0005	5.8
				1/27/20	5.22		<1.0	2.6	120	31	6.25	14.0	570.1	0.14	48.8		6,200		11	14	0.67		11	<0.00022	<0.00029	2.3
				4/14/20	5.83		<1.0	1.6	100	130	6.50	13.8	646.0	0.21	-21.8		11,000		5.1	13	0.68		16	<0.00022	0.0043	2.1
				7/21/20	6.78		<1.0	<2.0	12	16	6.22	19.3	587.0	0.20	-42.7		6,700		5.0	12	1.4		20	<0.00022	0.0014	2
				10/28/20	6.74		<0.20	0.24	13	20	6.07	17.2	520.8	0.21	-19.7		9,300		11	9.5	1.1		11	<0.00022	0.0120	1.9
				3/2/21	5.15		<0.20	0.24	11	12	6.10	13.6	465.0	-	-43.5		11,000		17	8.8	0.47		14	<0.00022	0.0055	1.7
				6/18/21	6.35		0.34	0.88	4.2	1.2	6.39	15.9	350.3	0.05	-135.1		3,700		71	4.1	5.6		1.2	<0.00022	<0.00029	14
				9/20/22	5.50		0.48	1.6	13	5.0	5.90	16.6	310.7	0.25	-4.2		4,500		21	7.0	0.17		0.25	<0.00022	0.00082	1.6
				2/7/23	2.40		0.35	1.0	14	4.6	6.24	14.1	303.4	0.45	-22.4		4,000		21	11	0.15		0.15	<0.00022	0.00034	1.1
				9/8/23	5.54		0.66	1.8	8.4	2.0	6.17	14.7	319.3	0.20	75.8		3,900		20	15	0.19		0.14	<0.00022	<0.00029	1.2
S-MW-1	Shallow	5.5 to 15.5	43.527	9/20/16	6.96	36.57	150	<1.0	<1.0	*<1.0*	6.48		303.0													
				10/24/16	4.64	38.89	17	<0.20	<0.20	<0.20	6.74	16.5	140.0													
				10/23/18	6.80	36.73	9.1	<0.50	<1.0	<0.20	6.59		161.0													
				6/6/19	6.00	37.53	8.9	<0.20	<0.20	<0.20	6.25	14.4	256.6	3.46	5		<56		50	4.6	<0.050		<0.001	<0.0005	<0.0005	1.4
				7/24/19	6.61	36.92	6.5	<0.20	<0.20	<0.020	6.01	18.8	200.8	3.10	-74.5		<56		26	4.8	0.15		<0.001	<0.0005	<0.0005	<1.0
				10/23/19	6.18	37.35	7.3	<0.20	<0.20	<0.020	5.92	15.4	162.8	3.82	164.3		<56		23	4.2	<0.050		<0.001	<0.0005	<0.0005	<1.0
				1/21/20	4.78	38.75	3.4	<0.20	<0.20	<0.020	6.32	11.0	236.2	4.38	105.9		<56		42	3.7	<0.050		<0.00055	<0.00022	<0.00029	<1.0
				4/23/20	5.01	38.52	3.5	<0.20	<0.20	<0.020	6.13	11.1	324.2	4.58	1.3		<56		57	4.4	<0.050		<0.00055	<0.00022	<0.00029	<1.0
				7/28/20	6.97	36.56	5.1	<0.20	<0.20	<0.020	6.02	17.5	312.3	3.71	87.5		<56		39	4.3	<0.050		0.00096	<0.00022	<0.00029	1.1
				11/2/20	7.30	36.23	4.5	<0.20	<0.20	<0.020	5.76	16.5	313.3	3.18	88.9		<56		64	3.6	<0.050		0.0012	<0.00022	<0.00029	1.0
				3/1/21	4.99	38.54	1.7	<0.20	<0.20	<0.020	5.83	11.2	197.7	4.59	73.2		<56		28	2.3	<0.050		0.0061	<0.00022	<0.00029	<1.0
				6/14/21	7.23	36.30	1.2	<0.20	<0.20	<0.020	6.48	14.3	212.1	7.73	60.2		<56		25	2.7	<0.050		0.0011	<0.00022	<0.00029	<1.0
				9/27/22	8.55		2.9	<0.20	<0.20	<0.020	5.66	18.0	216.2	3.80	204.4		110		33	2.7	<0.050		0.0016	<0.00022	<0.00029	1.2
				2/16/23	6.87		2.6	<0.20	<0.20	<0.020	6.30	9.9	326.3	3.68	193.5		<56		40	2.8	<0.050		0.0051	<0.00022	<0.00029	<1.0
				9/7/23	8.71		3.5	<0.20	<0.20	<0.20	5.81	15.9	287.1	1.31	167.3		180		37	5.2	<0.050		0.086	<0.00022	<0.00029	<1.0
S-MW-2	Shallow *Replaced*	5 to 15	42.297	9/20/16	6.21	36.09	47	7	26	*<0.40*	6.41		339.0													
				10/24/16	3.95	38.35	35	20	69	5.1	6.83	17.8	349.0													
				9/21/18	6.03	36.27	10.3	4.74	3.66	<0.20	6.80	18.4	246.0	0.12	105.6		<100		19.3	4.29	<0.100		<0.00863	<0.0162	<0.0151	2.25
				1/2/19	4.40	37.90	7.55	4.2	5.02	<0.20	6.45		278.4	0.11	34.7		<100		19	4.74	<0.100		<0.00863	<0.0162	<0.0151	1.02
				6/6/19	5.14	37.16	5.8	3.8	3.2	<0.20	6.68	15.6	363.7	0.25	0.5		<56		35	6.6	<0.050		0.033	<0.0025	<0.0025	1.6
				7/24/19	5.34	36.96	6.2	3.8	4.1	0.11	6.18	18.5	338.0	0.14	-129.2		<56		21	7.4	<0.050		0.027	<0.0005	<0.0005	1.3
				10/17/19	5.26	37.04	5.8	3.7	4.2	0.11	6.34	17.6	245.9	0.10	193.1		<56		26	6.9	<0.050		0.023	<0.0005	<0.0005	1.6
S-MW-2R	Shallow *Replaced*	5 to 15	-	4/24/20	4.46		5.5	2.4	2	0.029	6.59	12.9	601.7	0.30	26.7		230		63	6.3	<0.050		0.0024	<0.00022	<0.00029	61
				7/28/20	5.43		3.0	1.7	1.8	<0.20	6.51	18.3	1,097	0.18	-17.5		-		-	-	-		-	-	-	-
				10/30/20	5.65		1.8	2.8	5.2	0.62	6.22	17.6	1,059	0.14	-21.8		3,600		51	5.6	0.068		4.8	<0.022	<0.029	6.2
				3/2/21	3.26		0.66	1.3	2.1	0.57	6.30	10.6	856	-	-53.9		4,700		55	3.6	<0.050		5.9	<0.00022	<0.00029	4.3
				6/9/21	5.94		0.34	1.1	1.6	0.25	6.50	16.4	751	0.10	-121.7		3,000		43	2.4	0.052		1.0	<0.00022	<0.00029	3.7
S-MW-2RR	Shallow	5 to 15		8/5/21	6.65		<0.20	<0.20	12	3.6	6.64	21.5	589	0.99	-41.3		500		21	4.8	5.2		0.78	<0.00022	0.0003	2.8
				9/8/22	8.60		<0.20	0.25	0.37	0.59	6.73	19.9	606	0.05	-61.1		760		58	<2.0	11		2.1	<0.00022	<0.00029	3.8
				2/10/23	6.85		<0.20	0.39	<0.20	0.084	6.88	12.9	769	0.06	-58.2		1,200		76	54	4.7		0.40	<0.00022	<0.00029	24
				9/12/23	8.88		<0.20	0.35	<0.20	0.37	6.74	15.0	831	0.15	68.6		2,000		84	34	7.1		0.83	<0.00022	<0.00029	3.0
S-MW-3	Intermediate *Replaced*	25 to 35	42.807	9/16/16	6.62	36.19	0.44	<0.20	<0.20	<0.20	5.79		116.0													
				10/31/16	4.93	37.88	1.7	<0.20	<0.20	<0.20	6.04	15.9	116.0													
				9/21/18	6.51	36.30	3.8	<0.50	<1.00	<0.20	5.95	14.8	95.0	0.24	80.3		<100		13.7	2.82	<0.100		0.0652	<0.0162	<0.0151	1.24
				1/3/19	5.17	37.64	2.28	<0.50	<1.00	<0.20	5.57		103.2	0.14	49		<100		15	3.63	<0.100		0.0994	<0.0162	<0.0151	0.723
				6/5/19	6.05	36.76	2.2	<0.20	<0.20	<0.20	5.88	14.5	113.8	0.19	-9.3		<56		13	3.6	<0.050		0.49	<0.025	<0.025	<1.0
				7/24/19	6.75	36.06	2.8	<0.20	<0.20	<0.020	5.31	16.5	108.6	0.14	-177.5		<56		12	3.9	<0.050		0.47	<0.0005	<0.0005	<1.0
				10/17/19	6.08	36.73	3.7	<0.20	<0.20	<0.020	5.20	15	84.7	0.14	218.6		<56		13	4.4	<0.050		0.51	<0.0005	<0.0005	<1.0
S-MW-3R	Intermediate *Replaced*	25 to 35	-	4/24/20	5.42		6.6	0.54	<0.20	<0.020	6.05	13.6	189.7	0.27	189.7		79		14	5.5	<0.050		1.5	<0.00022	<0.00029	1.1
				7/28/20	5.99		15	0.55	0.3	<0.020	5.66	17.7	170.3	0.20	37.2		560		14	4.9	<0.050		6.5	<0.00022	<0.00029	1.2
				10/30/20	6.40		20	1.1	0.66	0.068	5.23	14.8	119.4	0.24	42.6		920		14	5.0	<0.050		9.5	<0.033	<0.043	<1.0
				3/2/21	5.17		0.6	0.39	0.36	0.047	5.47	12.5	107.8	-	63.5		150		15	4.5	<0.050		0.31	<0.00022	<0.00029	<1.0
				6/9/21	5.72		43	2.3	0.55	0.10	5.72	15.6	126.3	0.09	6.3		1,100		13	4.9	<0.050		3.1	<0.00022	<0.00029	1.1
S-MW-3RR ^	Intermediate	25 to 35	-	8/20/21	11.12		94	0.72	<0.40	<0.040	6.29	16.4	207.6	16.70	-317.2		<56		17	10.0	<0.050		1.3	<0.00022	<0.00029	1.0
				10/14/22			37	0.41	0.69	<0.020	5.30	15.6	150.0	0.54	192.1		<56		19	3.3	<0.050		14	<0.00022	<0.00029	1.3
				2/10/23	13.90		76	0.94	2.4	<0.040	5.66	14.1	159.4	0.12	44.7		120		18	3.7	<0.050		11	<0.00022	<0.00029	<1.0
				2/17/24	9.11		89	1.9	5.5	0.047	5.92	12.0	230.0	1.60	11.6		<56		29	4.1	<0.053		6.9	<0.00056	<0.00058	9.1
S-MW-4	Deep *Decommissioned*	40 to 50	42.367	9/14/16	6.32	36.05	<0.20	<0.20	<0.20	<0.20	6.74		206.0													
				10/28/16	4.93	37.44	0.66	<0.20	<0.20	<0.20	6.44		191.0													
				7/19/18	6.23	36.14	1.25	<0.50	<1.00	<0.20	6.85	14.6	183.0	0.46												
				9/21/18	6.37	36.00	<1.00	<0.50	<1.00	<0.20	6.58	15.4	200.0	0.08	95.8		621		15	6.13	0.133		0.0092	<0.0162	<0.0151	2.37
				1/2/19	5.90	36.47	<1.00	<0.50	<1.00	<0.20	6.15		202.9	0.09	56.9		449		14.5	6.18	<0.100		0.0132	<0.0162	<0.0151	1.52
				6/5/19	6.04	36.33	0.56	<0.20	<0.20	<0.20	6.17	14.7	153.2	0.15	-4.6		410		15	4.5	<0.050		0.084	<0.005	<0.005	<1.0

Table 1
Bothell Service Center Simon Son
Groundwater Analytical Results

Well	Well Type and Water Bearing Zone	Screened Depth, (ft bgs)	Top of Casing (TOC) Elevation (feet)* +	Date Sampled	Depth to Water (ft below TOC)	GW Elevation (feet)	PCE (µg/L)	TCE (µg/L)	(cis) 1,2-DCE (µg/L)	Vinyl Chloride (µg/L)	pH (units)	Temp (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	Ferrous Iron (mg/L)	Dissolved Iron (ug/L)	Dissolved Manganese (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	Ammonia as N (mg/L)	Sulfide (mg/L)	Methane (mg/L)	Ethane (mg/L)	Ethene (mg/L)	Total Organic Carbon (mg/L)
S-MW-5	Shallow *Replaced*	15 to 25	41.357	10/28/16	4.56	36.80	**340**	<4.0	<4.0	*<4.0*	6.68	18.0	259.0													
				9/24/18	6.07	35.29	**530**	<5.0	<10	*<2.0*	6.38	16.2	164.0	2.17	48.5		<100		12.6	6.05	<0.100		<0.00863	<0.0162	<0.0151	1.36
				12/27/18	3.90	37.46	**1,690**	**6.03**	**16.7**	<0.20	6.31		235.5	0.98	58.2		<100		21.6	6.56	<0.100		<0.00863	<0.0162	<0.0151	0.506
				6/5/19	5.20	36.16	**880**	*<10*	<10	*<10*	6.57	15.2	205.1	1.81	7.3		<56		19	5.9	<0.050		<0.001	<0.0005	<0.0005	<1.0
				7/24/19	5.72	35.64	**530**	<4.0	<4.0	*<0.40*	6.22	17.6	169.8	1.93	-76.1		<56		15	7.5	<0.050		<0.001	<0.0005	<0.0005	<1.0
				10/17/19	5.88	35.48	**820**	<4.0	<4.0	*<0.40*	6.05	15.8	159.8	1.78	198.6		<56		17	5.3	<0.050		<0.001	<0.0005	<0.0005	<1.0
				1/21/20	5.00	36.36	**780**	<4.0	<4.0	*<0.40*	6.65	12.8	195.6	1.30	74.8		<56		22	6.1	<0.050		<0.00055	<0.00022	<0.00029	<1.0
				4/23/20	4.85	37.52	**1,500**	<10	<10	<1.0	6.37	13.4	217.3	2.11	-8.3		57		15	5.1	<0.050		<0.00055	<0.00022	<0.00029	<1.0
				7/27/20	5.69	35.67	**420**	<2.0	<2.0	<0.20	6.09	19.2	218.5	2.35	75.8		<56		16	3.8	<0.050		0.0026	<0.00022	<0.00029	<1.0
				10/30/20	5.82	35.54	**140**	<1.0	<1.0	<0.10	5.94	15.9	110.9	3.82	77.1		<56		13	4.9	0.6		0.0084	<0.00022	<0.00029	4.0
				3/2/21	4.03	37.33	**280**	<2.0	<2.0	<0.20	5.92	13.8	83.4	4.48	75.0		66		5.2	5.3	<0.050		<0.00055	<0.00022	<0.00029	<1.0
				6/9/21	5.52	35.84	**120**	<0.80	<0.80	<0.08	6.32	14.9	53.6	2.39	43.3		69		<5.0	<2.0	<0.050		0.00077	<0.00022	<0.00029	1.3
S-MW-5R	Shallow	15 to 25		8/11/21	8.30		**630**	<4.0	<4.0	*<0.40*	6.56	19.1	178.4	1.97	109.0		<56		14	4.8	<0.050		0.0029	<0.00022	<0.00029	<1.0
				10/3/22	10.88		**450**	**3.9**	**5.3**	**0.081**	5.83	16.2	396.5	3.50	108.3		<56		20	4.6	<0.050		0.3	<0.00022	<0.00029	<1.0
				2/10/23	7.14		**270**	**6.8**	**14**	**0.70**	6.26	13.6	480.3	0.14	113.7		<56		20	4.5	<0.050		1.3	<0.00022	<0.00029	1.2
				9/12/23	8.59		**510**	**3.9**	**3.7**	<0.20	6.18	14.3	277.5	0.29	346.9		<56		20	2.5	0.096		0.40	<0.00022	<0.00029	<1.0
S-MW-6	Shallow *Decommissioned*	4 to 14	-	1/3/17	5.51		<0.20	<0.20	<0.20	<0.20	6.23		155.0													
				1/11/19	5.54		<1.00	<0.50	<1.00	<0.20	6.11		129.0													
				6/7/19	7.57		<0.20	<0.20	<0.20	<0.20	6.1	13.5	182.8	4.90	8.7		<56		29	7.3	<0.050		0.0016	<0.0005	<0.0005	<1.0
S-MW-7R	Shallow *Decommissioned*	4 to 14		6/14/21	5.04		<0.20	<0.20	<0.20	<0.020	7.50	17.4	938.0	4.46	-1.6		<56		65	3.3	<0.050		0.014	<0.00022	<0.00029	1.7
MTCA Method A Cleanup Level[1]							5.0	5.0		0.2																
MTCA Method B Cleanup Level[2]									16								11,200									

Notes:
PCE – Tetrachloroethene
TCE – Trichloroethene
1,1-DCE - 1,1-Dichloroethene
(cis) 1,2-DCE - (cis) 1,2-Dichloroethene
Blank – Not analyzed or not available
Bold – Analyte detected
Bold / highlighted – Analyte exceeds MTCA A/B cleanup level
Italicized - Detection limit exceeds respective cleanup level
< – Analyte not detected at listed reporting limit
mg/L – micrograms per liter
MV – Millivolts
ES – Estimated concentration because analyte concentration was outside of lab instrument calibration range
^ - Angled well. Well casing dips at approximately 60 degree angle
- Angled portion of well casing. Approximately 2 feet of upper well casing at 45 degree angle
+ - TOC Elevation valid through June 2021. Well elevation modified following June 2021 sampling event.
DNAPL – Dense Non-Aqueous Phase Liquid
1 – Table 720-1, WAC 173-340-900
2 – WA Dept. of Ecology CLARC ground water data table (https://fortress.wa.gov/ecy/clarc/FocusSheets/Groundwater%20Methods%20B%20and%20A%20and%20ARARs.pdf)
NA – Not Applicable
* HWA TOC elevation was used to calculate GW elevation during HWA sampling events.

Attachment 5
2024 Microbial Insights Report

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ACCREDITED
CERTIFICATE #7157.01

SITE LOGIC Report

QuantArray®-Chlor Study

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MI Identifier: 088VI

Report Date: 10/07/2024

Project: COB - Service Center (BSC)

Reviewed By: *Alicia Rivera*

Comments:

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The QuantArray®-Chlor Approach

Quantification *Dehalococcoides*, the only known bacterial group capable of complete reductive dechlorination of PCE and TCE to ethene, has become an indispensable component of assessment, remedy selection, and performance monitoring at sites impacted by chlorinated solvents. While undeniably a key group of halorespiring bacteria, *Dehalococcoides* are not the only bacteria of interest in the subsurface because reductive dechlorination is not the only potential biodegradation pathway operative at contaminated sites, and chlorinated ethenes are not always the primary contaminants of concern. The QuantArray®-Chlor not only includes a variety of halorespiring bacteria (*Dehalococcoides*, *Dehalobacter*, *Dehalogenimonas*, etc.) to assess the potential for reductive dechlorination of chloroethenes, chloroethanes, chlorobenzenes, chlorophenols, and chloroform, but also provides quantification of functional genes involved in aerobic (co)metabolic pathways for biodegradation of chlorinated solvents and even competing biological processes. Thus, the QuantArray®-Chlor will give site managers the ability to simultaneously yet economically evaluate the potential for biodegradation of a spectrum of common chlorinated contaminants through a multitude of anaerobic and aerobic (co)metabolic pathways to give a much more clear and comprehensive view of contaminant biodegradation.

The QuantArray®-Chlor is used to quantify specific microorganisms and functional genes to evaluate the following:

Anaerobic Reductive Dechlorination	Quantification of important halorespiring bacteria (e.g. *Dehalococcoides*, *Dehalobacter*, *Dehalogenimonas*, *Desulfitobacterium* spp.) and key functional genes (e.g. vinyl chloride reductases, TCE reductase, chloroform reductase) responsible for reductive dechlorination of a broad spectrum of chlorinated solvents.
Aerobic Cometabolism	Several different types of bacteria including methanotrophs and some toluene/phenol utilizing bacteria can co-oxidize TCE, DCE, and vinyl chloride. The QuantArray®-Chlor quantifies functional genes like soluble methane monooxygenase encoding enzymes capable of co-oxidation of chlorinated ethenes.
Aerobic (Co)metabolism of Vinyl Chloride	Ethene oxidizing bacteria are capable of cometabolism of vinyl chloride. In some cases, ethenotrophs can also utilize vinyl chloride as a growth supporting substrate. The QuantArray®-Chlor targets key functional genes in ethene metabolism.

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Results

Table 1: Summary of the QuantArray®-Chlor results obtained for samples MW-4R-092524, MW-5R-092524, MW-6-092524, MW-7-092524, and MW-12-092524

Sample Name Sample Date	MW-4R-092524 09/25/2024	MW-5R-092524 09/25/2024	MW-6-092524 09/25/2024	MW-7-092524 09/25/2024	MW-12-092524 09/25/2024
Reductive Dechlorination	cells/mL	cells/mL	cells/mL	cells/mL	cells/mL
Dehalococcoides (DHC)	**2.00E+05**	**2.90E+01**	**4.90E+03**	**3.20E+04**	**9.40E+03**
tceA Reductase (TCE)	<2.50E-01	<2.40E-01	<2.40E-01	<2.40E-01	<2.40E-01
BAV1 Vinyl Chloride Reductase (BVC)	**1.90E+03**	<2.40E-01	**8.80E+02**	**3.50E-01**	**8.20E+00**
Vinyl Chloride Reductase (VCR)	**6.00E+04**	**9.50E+00**	**5.90E+02**	**7.90E+03**	**2.20E+03**
Dehalobacter spp. (DHBt)	**1.90E+04**	**2.60E+03**	**3.20E+04**	**2.20E+04**	**2.60E+03**
Dehalobacter DCM (DCM)	<2.50E-01	<2.40E-01	<2.40E-01	<2.40E-01	<2.40E-01
Dehalogenimonas spp. (DHG)	**1.90E+04**	**6.40E+02**	**3.60E+03**	**9.20E+03**	**1.40E+03**
cerA Reductase (CER)	<2.50E-01	<2.40E-01	<2.40E-01	<2.40E-01	<2.40E-01
trans-1,2-DCE Reductase (TDR)	<2.50E-01	<2.40E-01	<2.40E-01	<2.40E-01	<2.40E-01
Desulfitobacterium spp. (DSB)	**1.60E+04**	**1.50E+03**	**1.40E+04**	**1.80E+04**	**5.90E+02**
Dehalobium chlorocoercia (DECO)	**4.70E+02**	**3.00E+02**	**1.90E+04**	**1.90E+03**	**3.20E+03**
Desulfuromonas spp. (DSM)	**3.70E+01**	**3.10E+01**	**1.70E+02**	**7.70E+03**	**1.80E+01**
PCE Reductase (PCE-1)	<2.50E-01	<2.40E-01	<2.40E-01	<2.40E-01	<2.40E-01
PCE Reductase (PCE-2)	**3.20E+03**	**3.80E+01**	**3.80E+01**	**3.00E+03**	**6.40E+02**
Chloroform Reductase (CFR)	<2.50E-01	<2.40E-01	<2.40E-01	<2.40E-01	<2.40E-01
1,1 DCA Reductase (DCA)	<2.50E-01	<2.40E-01	**1.70E+01**	<2.40E-01	<2.40E-01
1,2 DCA Reductase (DCAR)	<2.50E-01	<2.40E-01	**1.50E+02**	<2.40E-01	<2.40E-01
Aerobic (Co)Metabolic					
Soluble Methane Monooxygenase (SMMO)	**7.40E+01**	**1.70E+01**	**3.20E+02**	**1.40E+01**	**2.30E+02**
Toluene Dioxygenase (TOD)	<2.50E-01	**7.30E+01**	<2.40E-01	<2.40E-01	<2.40E-01
Phenol Hydroxylase (PHE)	**5.20E+01**	**4.10E+01**	**1.70E+02**	**1.10E+02**	**3.60E+02**
Trichlorobenzene Dioxygenase (TCBO)	<2.50E-01	<2.40E-01	<2.40E-01	<2.40E-01	<2.40E-01
Toluene Monooxygenase 2 (RDEG)	**1.20E+02**	**1.80E+02**	**1.80E+01**	**1.70E+02**	**2.30E+02**
Toluene Monooxygenase (RMO)	**3.90E+02**	<2.40E-01	**1.90E+03**	**1.30E+03**	**9.60E+02**
Ethene Monooxygenase (EtnC)	**1.30E+03**	<2.40E-01	**7.20E+02**	**1.50E+02**	**2.30E+02**
Epoxyalkane Transferase (EtnE)	<2.50E-01	<2.40E-01	<2.40E-01	<2.40E-01	**5.60E+01**
Dichloromethane Dehalogenase (DCMA)	<2.50E-01	<2.40E-01	<2.40E-01	<2.40E-01	<2.40E-01
Other					
Total Eubacteria (EBAC)	**4.30E+06**	**9.10E+05**	**7.10E+06**	**9.20E+06**	**2.40E+06**
Sulfate Reducing Bacteria (APS)	**1.40E+04**	**1.30E+03**	**1.50E+05**	**5.70E+04**	**3.30E+04**
Methanogens (MGN)	**3.00E+03**	**1.40E+03**	**1.70E+02**	**7.60E+03**	**5.00E-01**

Legend:

NA = Not Analyzed
NS = Not Sampled
J = Estimated Gene Copies Below PQL but Above LQL
I = Inhibited
< = Result Not Detected

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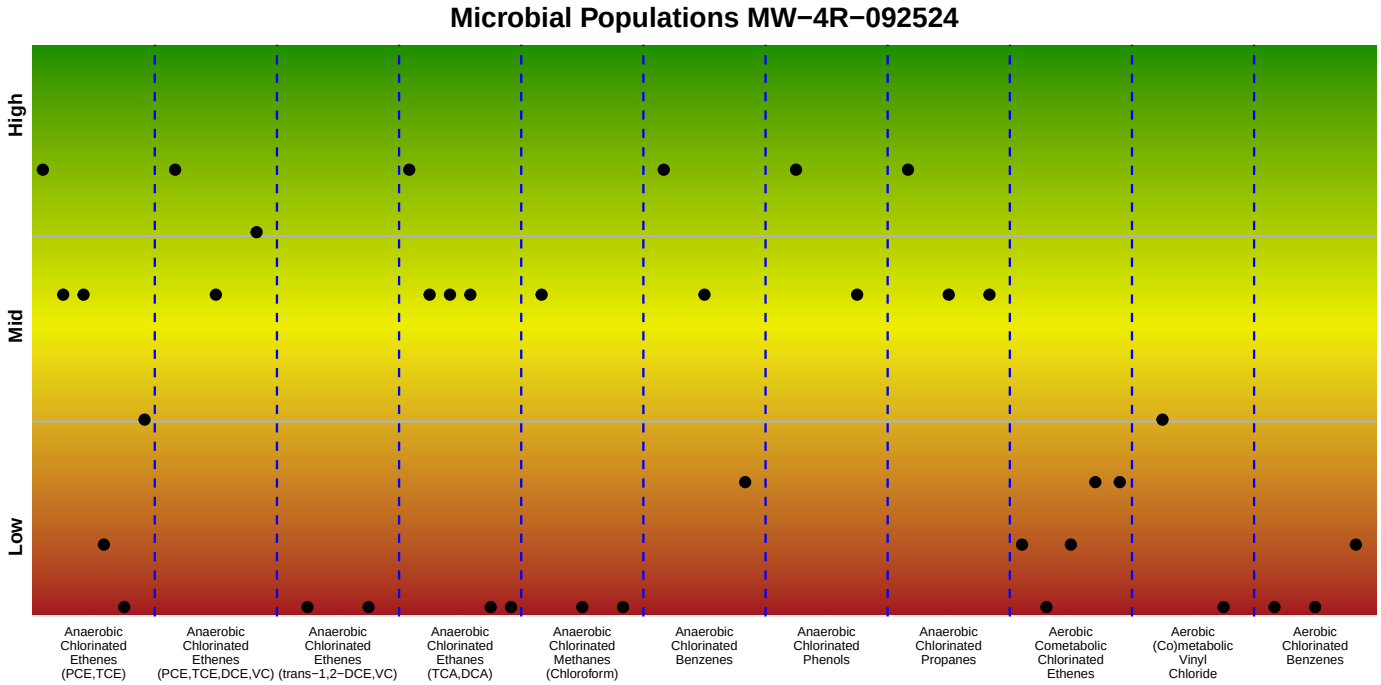


Figure 1: Microbial population summary to aid in evaluating potential pathways and biodegradation of specific contaminants. See below to understand the correlation between contaminants and their associated qPCR assays.

Anaerobic - Reductive Dechlorination or Dichloroelimination	
Contaminants	**qPCR Assays**
Chlorinated Ethenes (PCE, TCE)	DHC, DHBt, DSB, DSM, PCE-1, PCE-2
Chlorinated Ethenes (PCE, TCE, DCE, VC)	DHC, BVC, VCR
Chlorinated Ethenes (trans-1,2-DCE, VC)	TDR, CER
Chlorinated Ethanes (TCA and 1,2- DCA)	DHC, DHBt, DHG, DSB[1], DCA, DCAR
Chlorinated Methanes (Chloroform)	DHBt, DCM, CFR
Chlorinated Benzenes	DHC, DHBt[2], DECO
Chlorinated Phenols	DHC, DSB
Chlorinated Propanes	DHC, DHG, DSB[1]
Aerobic - (Co)metabolism	
Chlorinated Ethenes (TCE,DCE,VC)	sMMO, TOD, PHE, RDEG, RMO
(Co)metabolic Vinyl Chloride	etnC, etnE
Chlorinated Benzenes	TOD, TCBO, PHE

[1] *Desulfitobacterium dichloroeliminans* DCA1. [2] Implicated in reductive dechlorination of dichlorobenzene and potentially chlorobenzene.

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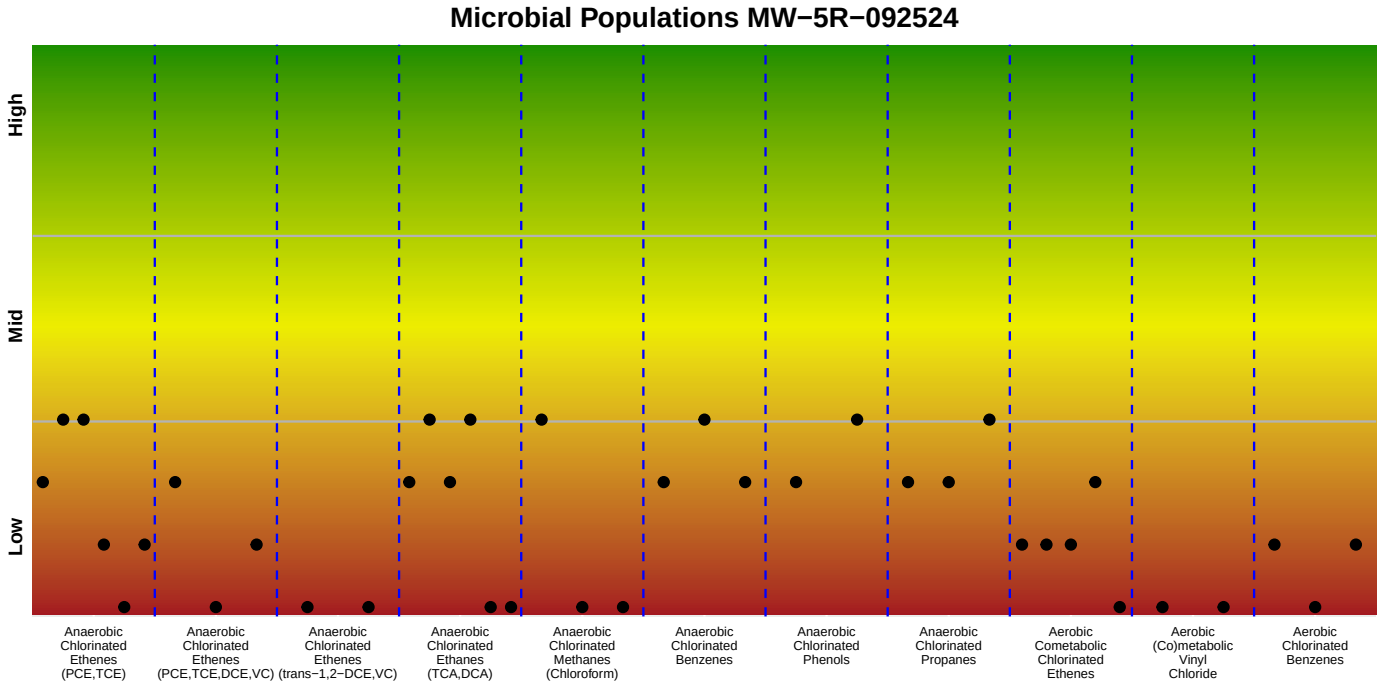


Figure 2: Microbial population summary to aid in evaluating potential pathways and biodegradation of specific contaminants. See below to understand the correlation between contaminants and their associated qPCR assays.

Anaerobic - Reductive Dechlorination or Dichloroelimination	
Contaminants	**qPCR Assays**
Chlorinated Ethenes (PCE, TCE)	DHC, DHBt, DSB, DSM, PCE-1, PCE-2
Chlorinated Ethenes (PCE, TCE, DCE, VC)	DHC, BVC, VCR
Chlorinated Ethenes (trans-1,2-DCE, VC)	TDR, CER
Chlorinated Ethanes (TCA and 1,2- DCA)	DHC, DHBt, DHG, DSB[1], DCA, DCAR
Chlorinated Methanes (Chloroform)	DHBt, DCM, CFR
Chlorinated Benzenes	DHC, DHBt[2], DECO
Chlorinated Phenols	DHC, DSB
Chlorinated Propanes	DHC, DHG, DSB[1]
Aerobic - (Co)metabolism	
Chlorinated Ethenes (TCE,DCE,VC)	sMMO, TOD, PHE, RDEG, RMO
(Co)metabolic Vinyl Chloride	etnC, etnE
Chlorinated Benzenes	TOD, TCBO, PHE

[1] *Desulfitobacterium dichloroeliminans* DCA1. [2] Implicated in reductive dechlorination of dichlorobenzene and potentially chlorobenzene.

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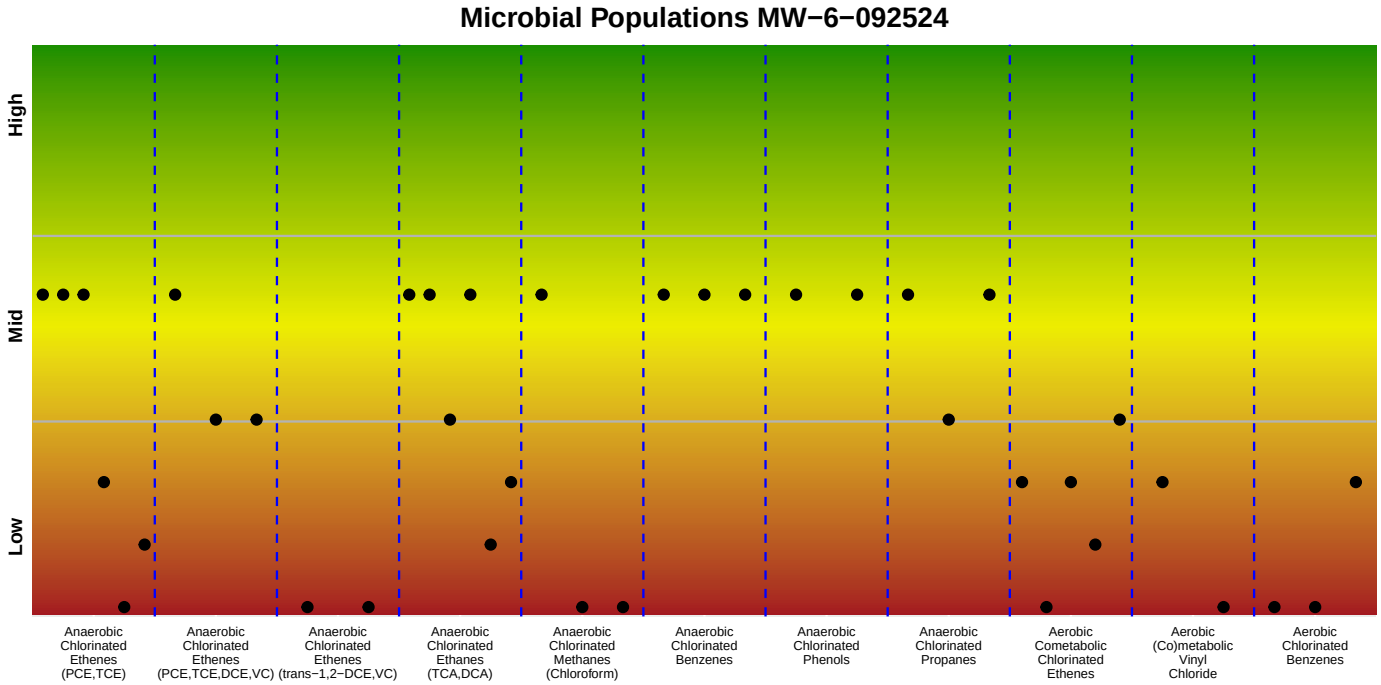


Figure 3: Microbial population summary to aid in evaluating potential pathways and biodegradation of specific contaminants. See below to understand the correlation between contaminants and their associated qPCR assays.

Anaerobic - Reductive Dechlorination or Dichloroelimination	
Contaminants	**qPCR Assays**
Chlorinated Ethenes (PCE, TCE)	DHC, DHBt, DSB, DSM, PCE-1, PCE-2
Chlorinated Ethenes (PCE, TCE, DCE, VC)	DHC, BVC, VCR
Chlorinated Ethenes (trans-1,2-DCE, VC)	TDR, CER
Chlorinated Ethanes (TCA and 1,2- DCA)	DHC, DHBt, DHG, DSB[1], DCA, DCAR
Chlorinated Methanes (Chloroform)	DHBt, DCM, CFR
Chlorinated Benzenes	DHC, DHBt[2], DECO
Chlorinated Phenols	DHC, DSB
Chlorinated Propanes	DHC, DHG, DSB[1]
Aerobic - (Co)metabolism	
Chlorinated Ethenes (TCE,DCE,VC)	sMMO, TOD, PHE, RDEG, RMO
(Co)metabolic Vinyl Chloride	etnC, etnE
Chlorinated Benzenes	TOD, TCBO, PHE

[1] *Desulfitobacterium dichloroeliminans* DCA1. [2] Implicated in reductive dechlorination of dichlorobenzene and potentially chlorobenzene.

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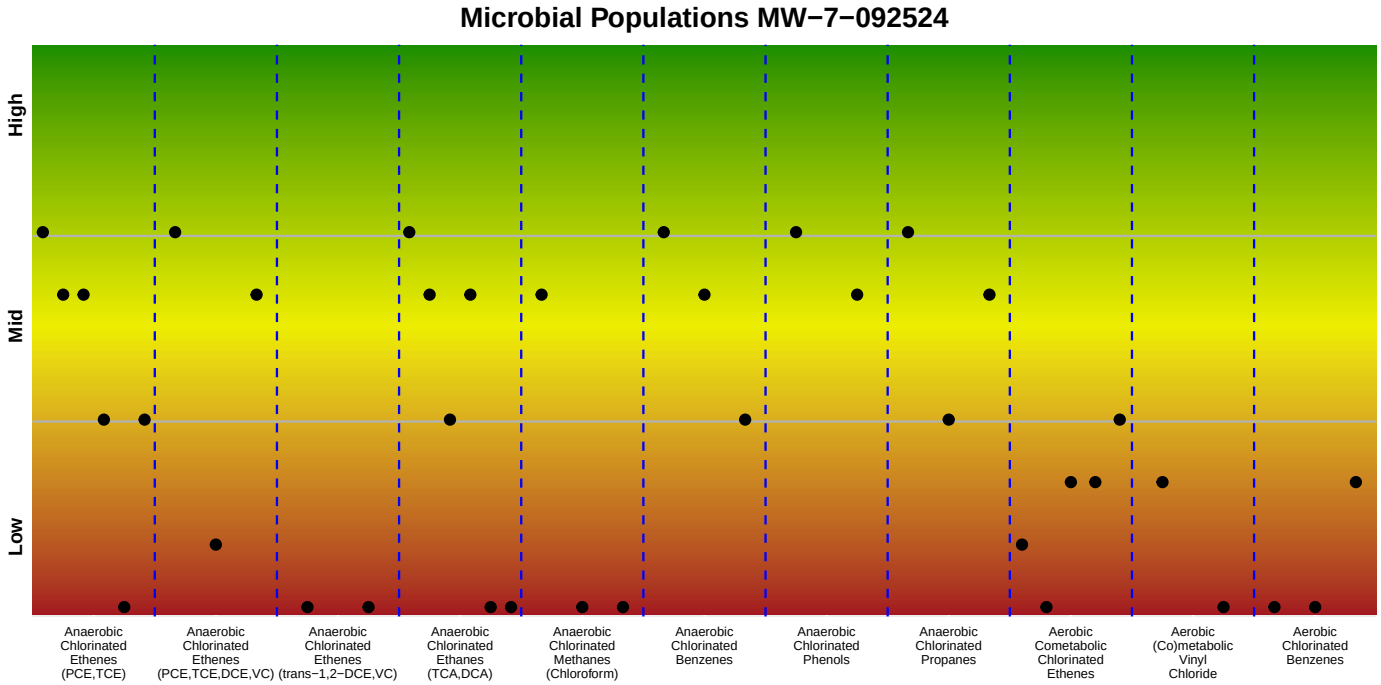


Figure 4: Microbial population summary to aid in evaluating potential pathways and biodegradation of specific contaminants. See below to understand the correlation between contaminants and their associated qPCR assays.

Anaerobic - Reductive Dechlorination or Dichloroelimination	
Contaminants	**qPCR Assays**
Chlorinated Ethenes (PCE, TCE)	DHC, DHBt, DSB, DSM, PCE-1, PCE-2
Chlorinated Ethenes (PCE, TCE, DCE, VC)	DHC, BVC, VCR
Chlorinated Ethenes (trans-1,2-DCE, VC)	TDR, CER
Chlorinated Ethanes (TCA and 1,2- DCA)	DHC, DHBt, DHG, DSB[1], DCA, DCAR
Chlorinated Methanes (Chloroform)	DHBt, DCM, CFR
Chlorinated Benzenes	DHC, DHBt[2], DECO
Chlorinated Phenols	DHC, DSB
Chlorinated Propanes	DHC, DHG, DSB[1]
Aerobic - (Co)metabolism	
Chlorinated Ethenes (TCE,DCE,VC)	sMMO, TOD, PHE, RDEG, RMO
(Co)metabolic Vinyl Chloride	etnC, etnE
Chlorinated Benzenes	TOD, TCBO, PHE

[1] *Desulfitobacterium dichloroeliminans* DCA1. [2] Implicated in reductive dechlorination of dichlorobenzene and potentially chlorobenzene.

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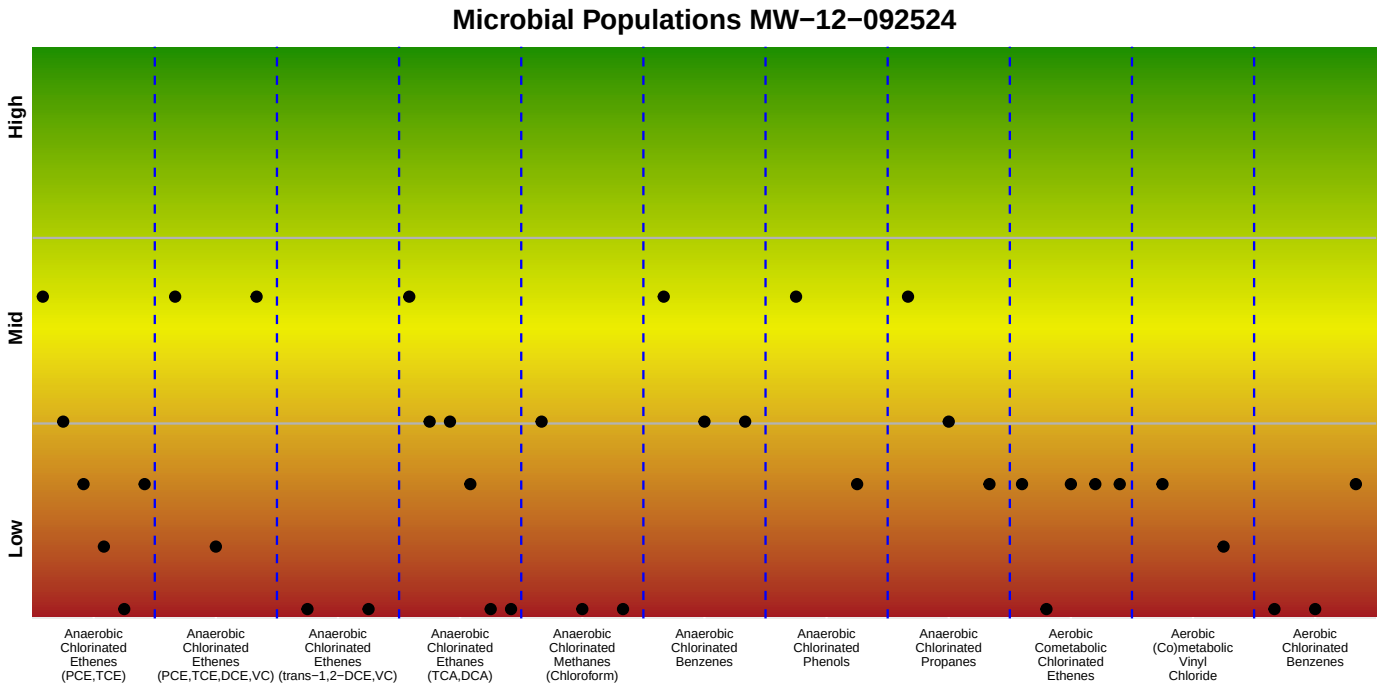


Figure 5: Microbial population summary to aid in evaluating potential pathways and biodegradation of specific contaminants. See below to understand the correlation between contaminants and their associated qPCR assays.

Anaerobic - Reductive Dechlorination or Dichloroelimination	
Contaminants	**qPCR Assays**
Chlorinated Ethenes (PCE, TCE)	DHC, DHBt, DSB, DSM, PCE-1, PCE-2
Chlorinated Ethenes (PCE, TCE, DCE, VC)	DHC, BVC, VCR
Chlorinated Ethenes (trans-1,2-DCE, VC)	TDR, CER
Chlorinated Ethanes (TCA and 1,2- DCA)	DHC, DHBt, DHG, DSB[1], DCA, DCAR
Chlorinated Methanes (Chloroform)	DHBt, DCM, CFR
Chlorinated Benzenes	DHC, DHBt[2], DECO
Chlorinated Phenols	DHC, DSB
Chlorinated Propanes	DHC, DHG, DSB[1]
Aerobic - (Co)metabolism	
Chlorinated Ethenes (TCE,DCE,VC)	sMMO, TOD, PHE, RDEG, RMO
(Co)metabolic Vinyl Chloride	etnC, etnE
Chlorinated Benzenes	TOD, TCBO, PHE

[1] *Desulfitobacterium dichloroeliminans* DCA1. [2] Implicated in reductive dechlorination of dichlorobenzene and potentially chlorobenzene.

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Interpretation

The overall purpose of the QuantArray®-Chlor is to give site managers the ability to simultaneously yet economically evaluate the potential for biodegradation of a spectrum of common chlorinated contaminants through a multitude of anaerobic and aerobic (co)metabolic pathways in order to provide a clearer and more comprehensive view of contaminant biodegradation. The following discussion describes the interpretation of results in general terms and is meant to serve as a guide.

Reductive Dechlorination - Chlorinated Ethenes: While a number of bacterial cultures including *Dehalococcoides*, *Dehalobacter*, *Desulfitobacterium*, *Desulfuromonas* spp. capable, of utilizing PCE and TCE as growth-supporting electron acceptors have been isolated [1–5], *Dehalococcoides* may be the most important because they are the only bacterial group that has been isolated to date which is capable of complete reductive dechlorination of PCE to ethene [6]. In fact, the presence of *Dehalococcoides* has been associated with complete reductive dechlorination to ethene at sites across North America and Europe. Hendrickson and Lu have proposed using a *Dehalococcoides* concentration of 1 x 10^4 cells/mL as a screening criterion to identify sites where biological reductive dechlorination is predicted to proceed at "generally useful" rates [7,8].

At chlorinated ethene sites, any "stall" leading to the accumulation of daughter products, especially vinyl chloride, would be a substantial concern. While *Dehalococcoides* concentrations greater than 1 x 10^4 cells/mL correspond to ethene production and useful rates of dechlorination, the range of chlorinated ethenes degraded varies by strain within the *Dehalococcoides* genus [6,9] and the presence of co-contaminants and competitors can have complex impacts on the halorespiring microbial community [10–15]. Therefore, QuantArray®-Chlor also provides quantification of a suite of reductive dehalogenase genes (PCE, TCE, BVC, VCR, CER, and TDR) to more definitively confirm the potential for reductive dechlorination of all chlorinated ethene compounds including vinyl chloride.

Perhaps most importantly, QuantArray®-Chlor quantifies TCE reductase (TCE) and both known vinyl chloride reductase genes (BVC, VCR) from *Dehalococcoides* to conclusively evaluate the potential for complete reductive dechlorination of chlorinated ethenes to non-toxic ethene [16–18]. In addition, the analysis also includes quantification of reductive dehalogenase genes from *Dehalogenimonas* spp. capable of reductive dechlorination of chlorinated ethenes. More specifically, these are the trans-1,2-DCE dehalogenase gene (TDR) from strain WBC-2 [19] and the vinyl chloride reductase gene (CER) from GP, the only known organisms other than *Dehalococcoides* capable of vinyl chloride reduction [20]. Finally, PCE reductase genes responsible for sequential reductive dechlorination of PCE to *cis*-DCE by *Sulfurospirillum* and *Geobacter* spp. are also quantified. In mixed cultures, evidence increasingly suggests that partial dechlorinators like *Sulfurospirillum}* and *Geobacter* may be responsible for the majority of reductive dechlorination of PCE to TCE and *cis*-DCE while *Dehalococcoides* functions more as *cis*-DCE and vinyl chloride reducing specialists [10,21].

Reductive Dechlorination - Chlorinated Ethanes: Under anaerobic conditions, chlorinated ethanes are susceptible to reductive dechlorination by several groups of halorespiring bacteria including *Dehalobacter*, *Dehalogenimonas*, and *Dehalococcoides*. While the reported range of chlorinated ethanes utilized varies by genus, species, and sometimes at the strain level, several general observations can be made regarding biodegradation pathways and daughter product formation. *Dehalobacter* spp. have been isolated that are capable of sequential reductive dechlorination of 1,1,1-TCA through 1,1-DCA to chloroethane [13]. Biodegradation of 1,1,2-TCA by several halorespiring bacteria including *Dehalobacter* and *Dehalogenimonas* spp. proceeds via dichloroelimination producing vinyl chloride [22–24]. Similarly, 1,2-DCA biodegradation by *Dehalobacter*, *Dehalogenimonas*, and *Dehalococcoides* occurs via dichloroelimination producing ethene. While not utilized by many *Desulfitobacterium* isolates, at least one strain, *Desulfitobacterium dichloroeliminans* strain DCA1, is also capable of dichloroelimination of 1,2-DCA [25]. The 1,2-dichloroethane reductive dehalogenase gene (DCAR) from members of *Desulfitobacterium* and *Dehalobacter* is known to dechlorinate 1,2-DCA to ethene, while the 1,1-dichloroethane reductive dehalogenase (DCA) targets the gene responsible for 1,1-DCA dechlorination in some strains of *Dehalobacter*. In addition to chloroform, chloroform reductase (CFR) has also been shown to be responsible for reductive dechlorination of 1,1,1-TCA [26].

Reductive Dechlorination - Chlorinated Methanes: Chloroform is a common co-contaminant at chlorinated solvent sites and can inhibit reductive dechlorination of chlorinated ethenes. Grostern et al. demonstrated that a *Dehalobacter* population was capable of reductive dechlorination of chloroform to produce dichloromethane [27]. The *cfrA* gene encodes the reductase which catalyzes this initial step in chloroform biodegradation [26]. Justicia-Leon et al. have since shown that dichloromethane can support growth of a distinct group of *Dehalobacter* strains via fermentation [28]. The *Dehalobacter* DCM assay targets the 16S rRNA gene of these strains.

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Reductive Dechlorination - Chlorinated Benzenes: Chlorinated benzenes are an important class of industrial solvents and chemical intermediates in the production of drugs, dyes, herbicides, and insecticides. The physical-chemical properties of chlorinated benzenes as well as susceptibility to biodegradation are functions of their degree of chlorination and the positions of chlorine substituents. Under anaerobic conditions, reductive dechlorination of higher chlorinated benzenes including hexachlorobenzene (HCB), pentachlorobenzene (PeCB), tetrachlorobenzene (TeCB) isomers, and trichlorobenzene (TCB) isomers has been well documented [29], although biodegradation of individual compounds and isomers varies between isolates. For example, *Dehalococcoides* strain CBDB1 reductively dechlorinats HCB, PeCB, all three TeCB isomers, 1,2,3-TCB, and 1,2,4-TCB [9]. *Dehalobium chlorocoercia* DF-1 has been shown to be capable of reductive dechlorination of HCB, PeCB, and 1,2,3,5-TeCB [31]. The dichlorobenzene (DCB) isomers and chlorobenzene (CB) were considered relatively recalcitrant under anaerobic conditions. However, new evidence has demonstrated reductive dechlorination of DCBs to CB and CB to benzene [32] with corresponding increases in concentrations of *Dehalobacter* spp. [33].

Reductive Dechlorination - Chlorinated Phenols: Pentachlorophenol (PCP) was one of the most widely used biocides in the U.S. and despite residential use restrictions, is still extensively used industrially as a wood preservative. Along with PCP, the tetrachlorophenol and trichlorophenol isomers were also used as fungicides in wood preserving formulations. 2,4-Dichlorophenol and 2,4,5-TCP were used as chemical intermediates in herbicide production (e.g. 2,4-D) and chlorophenols are known byproducts of chlorine bleaching in the pulp and paper industry. While the range of compounds utilized varies by strain, some *Dehalococcoides* isolates are capable of reductive dechlorination of PCP and other chlorinated phenols. For example, *Dehalococcoides* strain CBDB1 is capable of utilizing PCP, all three tetrach lorophenol (TeCP) congeners, all six trichlorophenol (TCP) congeners, and 2,3-dichlorophenol (2,3-DCP). PCP dechlorination by strain CBDB1 produces a mixture of 3,5-DCP, 3,4-DCP, 2,4-DCP, 3-CP, and 4-CP [34]. In the same study, however, *Dehalococcoides* strain 195 dechlorinated a more narrow spectrum of chlorophenols which included 2,3-DCP, 2,3,4-TCP, and 2,3,6-TCP, but no other TCPs or PCP. Similar to *Dehalococcoides*, some species and strains of *Desulfitobacterium* are capable of utilizing PCP and other chlorinated phenols. *Desulfitobacterium hafniense* PCP-1 is capable of reductive dechlorination of PCP to 3-CP [35]. However, the ability to biodegrade PCP is not universal among *Desulfitobacterium* isolates. *Desulfitobacterium* spp. strain PCE1 and *D. chlororespirans* strain Co23, for example, can utilize some TCP and DCP isomers, but not PCP for growth [2,36].

Reductive Dechlorination - Chlorinated Propanes: *Dehalogenimonas* is a recently described bacterial genus of the phylum Chloroflexi which also includes the well-known chloroethene-respiring *Dehalococcoides* [23]. The *Dehalogenimonas* isolates characterized to date are also halorespiring bacteria, but utilize a rather unique range of chlorinated compounds as electron acceptors including chlorinated propanes (1,2,3-TCP and 1,2-DCP) and a variety of other vicinally chlorinated alkanes including 1,1,2,2-tetrachloroethane, 1,1,2-trichloroethane, and 1,2-dichloroethane [23].

Aerobic - Chlorinated Ethene Cometabolism: Under aerobic conditions, several different types of bacteria including methane-oxidizing bacteria (methanotrophs), and many benzene, toluene, ethylbenzene, xylene, and (BTEX)-utilizing bacteria can cometabolize or co-oxidize TCE, DCE, and vinyl chloride [37]. In general, cometabolism of chlorinated ethenes is mediated by monooxygenase enzymes with "relaxed" specificity that oxidize a primary (growth supporting) substrate (*e.g.* methane) and co-oxidize the chlorinated compound (*e.g.* TCE). QuantArray®-Chlor provides quantification of a suite of genes encoding oxygenase enzymes capable of co-oxidation of chlorinated ethenes including soluble methane monooxygenase (sMMO). Soluble methane monooxygenases co-oxidize a broad range of chlorinated compounds [38–41] including TCE, *cis*-DCE, and vinyl chloride. Furthermore, soluble methane monooxygenases are generally believed to support greater rates of aerobic cometabolism [40]. QuantArray®-Chlor also quantifies aromatic oxygenase genes encoding ring hydroxylating toluene monooxygenase genes (RMO, RDEG), toluene dioxygenase (TOD) and phenol hydroxylases (PHE) capable of TCE co-oxidation [42–46]. TCE or a degradation product has been shown to induce expression of toluene monooxygenases in some laboratory studies [43,47] raising the possibility of TCE cometabolism with an alternative (non-aromatic) growth substrate. Moreover, while a number of additional factors must be considered, recent research under ESTCP Project 201584 has shown positive correlations between concentrations of monooxygenase genes (soluble methane monooxygenase, ring hydroxylating monooxygenases, and phenol hydroxylase) and the rate of TCE degradation [48].

Aerobic - Chlorinated Ethane Cometabolism: While less widely studied than cometabolism of chlorinated ethenes, some chlorinated ethanes are also susceptible to co-oxidation. As mentioned previously, soluble methane monooxygenases (sMMO) exhibit very relaxed specificity. In laboratory studies, sMMO has been shown to co-oxidize a number of chlorinated ethanes including 1,1,1-TCA and 1,2-DCA [38,40].

Aerobic - Vinyl Chloride Cometabolism: Beginning in the early 1990s, numerous microcosm studies demonstrated

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aerobic oxidation of vinyl chloride under MNA conditions without the addition of exogenous primary substrates. Since then, strains of *Mycobacterium*, *Nocardioides*, *Pseudomonas*, *Ochrobactrum*, and *Ralstonia* species have been isolated which are capable of aerobic growth on both ethene and vinyl chloride (see Mattes et al. [49] for a review). The initial steps in the pathway are the monooxygenase (*etn*ABCD) catalyzed conversion of ethene and vinyl chloride to their respective epoxyalkanes (epoxyethane and chlorooxirane), followed by epoxyalkane:CoM transferase (*etn*E) mediated conjugation and breaking of the epoxide [50].

Aerobic - Chlorinated Benzenes: In general, chlorobenzenes with four or less chlorine groups are susceptible to aerobic biodegradation and can serve as growth-supporting substrates. Toluene dioxygenase (TOD) has a relatively relaxed substrate specificity and mediates the incorporation of both atoms of oxygen into the aromatic ring of benzene and substituted benzenes (toluene and chlorobenzene). Comparison of TOD levels in background and source zone samples from a CB-impacted site suggested that CBs promoted growth of TOD-containing bacteria [51]. In addition, aerobic biodegradation of some trichlorobenzene and even tetrachlorobenzene isomers is initiated by a group of related trichlorobenzene dioxygenase genes (TCBO). Finally, phenol hydroxylases catalyze the continued oxidation and in some cases, the initial oxidation of a variety of monoaromatic compounds. In an independent study, significant increases in numbers of bacteria containing PHE genes corresponded to increases in biodegradation of DCB isomers [51].

Aerobic - Chlorinated Methanes: Many aerobic methylotrophic bacteria, belonging to diverse genera (*Hyphomicrobium*, *Methylobacterium*, *Methylophilus*, *Pseudomonas*, *Paracoccus*, and *Alibacter*) have been isolated which are capable of utilizing dichloromethane (DCM) as a growth substrate. The DCM metabolic pathway in methylotrophic bacteria is initiated by a dichloromethane dehalogenase (DCMA) gene. DCMA is responsible for aerobic biodegradation of dichloromethane by methylotrophs by first producing formaldehyde which is then further oxidized [52].

As discussed in previous sections, soluble methane monooxygenase (sMMO) exhibits relaxed specificity and co-oxidizes a broad spectrum of chlorinated hydrocarbons. In addition to chlorinated ethenes, sMMO has been shown to co-oxidize chloroform in laboratory studies [38,41].

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Attachment 6
Data Validation Summaries

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Data Validation Summary

Prepared by:	Chell Black
Date:	May 20, 2024
Project ID:	COBothell-BSC
Sample Event(s):	April 2024 Groundwater
Sample Delivery Group(s):	2404-114, 2404-147, and 2404-161
Sample Media:	Groundwater

A Compliance Screening (USEPA Stage 2A) data quality review was performed on volatile organic compounds, dissolved metals, ammonia, orthophosphate, sulfate, nitrate, dissolved gases, and total organic carbon data resulting from laboratory analysis. The data were reviewed using guidance and quality control (QC) criteria documented in the Quality Assurance Project Plan (Floyd|Snider 2025), *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods* (USEPA 1986), *National Functional Guidelines for Organic Superfund Methods Data Review* (USEPA 2020a), and the *National Functional Guidelines for Inorganic Superfund Methods Data Review* (USEPA 2020b).

A total of 33 groundwater samples and 2 field duplicates were submitted to OnSite Environmental Inc. in Redmond, Washington, for chemical analysis by USEPA 8260D/8260D-SIM, USEPA 6010D, SM 4500-NH3-D, USEPA 365.1, ASTM D516-11, USEPA 353.2, RSK 175, and SM 5310B. OnSite Environmental Inc. reported results under three sample delivery groups: 2404-114, 2404-147, and 2404-161.

DATA QUALITY REVIEW

Field and laboratory QC parameters for all samples met project criteria.

DATA QUALITY SUMMARY

All data are determined to be of acceptable quality for use as reported.

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Data Validation Summary

Prepared by:	Henry Bates
Date:	October 16, 2024
Project ID:	COBothell-BSC
Sample Event(s):	September 2024 Groundwater
Sample Delivery Group(s):	2409-288, 2409-301, 2409-322, 2409-353, and A24I0459
Sample Media:	Groundwater

A Compliance Screening (USEPA Stage 2A) data quality review was performed on volatile organic compounds, total and dissolved metals, ammonia, orthophosphate, sulfate, nitrate, chloride, sulfide, dissolved gases, and total organic carbon data resulting from laboratory analysis. The data were reviewed using guidance and quality control (QC) criteria documented in the Quality Assurance Project Plan (Floyd|Snider 2025), *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods* (USEPA 1986), *National Functional Guidelines for Organic Superfund Methods Data Review* (USEPA 2020a), and the *National Functional Guidelines for Inorganic Superfund Methods Data Review* (USEPA 2020b).

A total of 37 groundwater samples, 2 field duplicates, and 1 trip blank were submitted to OnSite Environmental Inc. in Redmond, Washington, for chemical analysis by USEPA 8260D, USEPA 6010D, SM 4500-NH3-D, USEPA 365.1, ASTM D516-11, USEPA 353.2, SM 4500-Cl-E, RSK 175, and SM 5310B. OnSite Environmental Inc. subcontracted chemical analysis by SM 4500-S2-D to AmTest Laboratories in Kirkland, Washington. OnSite reported results under four sample delivery groups: 2409-288, 2409-301, 2409-322, and 2409-353. AmTest Laboratories reported results under one sample delivery group: A24I0459.

DATA QUALITY REVIEW

Field and laboratory QC parameters for samples met project criteria with exceptions noted as follows:

Sulfide

The sulfide matrix spike duplicate sample recovery batch BBJ0145 was above the control limits. All associated detect sample results were qualified “J” as estimated. All associated nondetect results were not qualified.

DATA QUALITY SUMMARY

Based on the data quality review, data are determined to be of acceptable quality for use as reported or qualified.

REFERENCES

Floyd|Snider. 2025. *Quality Assurance Project Plan, City of Bothell Service Center.* February.

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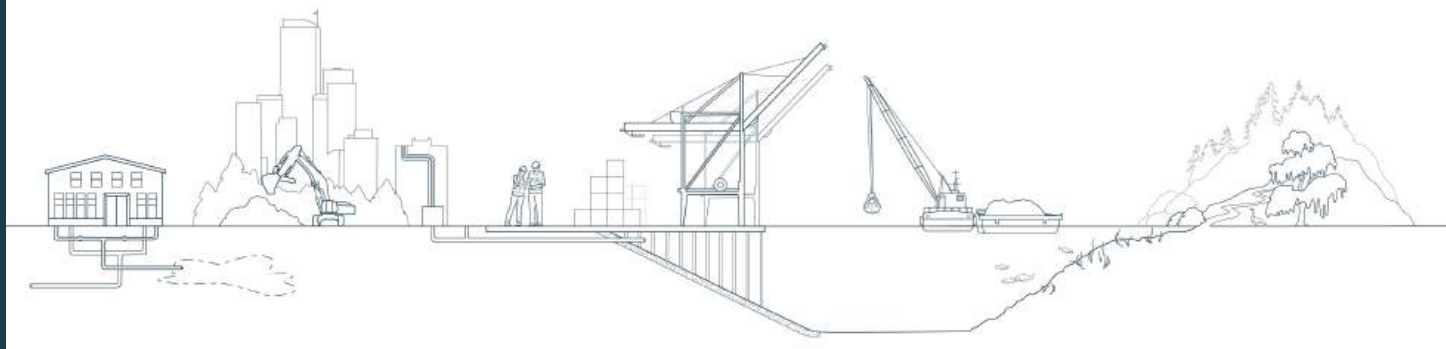
Attachment 7
Quality Assurance Project Plan

Quality Assurance Project Plan

City of Bothell Service Center

Prepared for
City of Bothell

February 2025



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LIMITATIONS

This report has been prepared for the exclusive use of City of Bothell, their authorized agents, and regulatory agencies. It has been prepared following the described methods and information available at the time of the work. No other party should use this report for any purpose other than that originally intended, unless Floyd|Snider agrees in advance to such reliance in writing. The information contained herein should not be utilized for any purpose or project except the one originally intended. Under no circumstances shall this document be altered, updated, or revised without written authorization of Floyd|Snider.

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List of Appendices

Appendix A Standard Sampling Procedures

List of Abbreviations

Abbreviation	Definition
CAP	Cleanup Action Plan
CD	Consent Decree
City	City of Bothell
COC	Contaminant of concern
CUL	Cleanup level
DQI	Data quality indicator
EDD	Electronic data deliverable
HVOC	Halogenated volatile organic compound
LCS	Laboratory control sample
MDL	Method detection limit
MS	Matrix spike
MSD	Matrix spike duplicate
PCE	Tetrachloroethylene
PM	Project manager
QA	Quality assurance
QAPP	Quality Assurance Project Plan
QC	Quality control
RL	Reporting limit
Site	Bothell Service Center project site
SOP	Standard operating procedure
TM	Task manager
USEPA	U.S. Environmental Protection Agency

1.0 Introduction

This Quality Assurance Project Plan (QAPP) is presented as a stand-alone document for the City of Bothell (City) Service Center project site (Site) located in downtown Bothell. It describes the quality assurance (QA) objectives, methods, and procedures for sample analysis to support the bioremediation system operation and optimization per the Consent Decree (CD) with Washington State Department of Ecology (Ecology; No. 18-2-02852-3 SEA). Sampling will include the collection and chemical analysis of groundwater to delineate exceedances of cleanup levels (CULs) presented in the *Final Cleanup Action Plan* (Ecology 2019).

This QAPP presents more detailed information regarding data management responsibilities, laboratory analysis methods and procedures, and reporting requirements. This document was prepared in accordance with the U.S. Environmental Protection Agency's (USEPA's) guidance on preparing QAPPs (USEPA 2002a, 2006).

1.1 DOCUMENT ORGANIZATION

This QAPP provides detailed laboratory methods and protocols for all anticipated types of data collection. The QAPP addenda may be prepared if additional data types not detailed in this plan are determined to be needed after completion of part or all of groundwater sampling.

This QAPP is organized into the following sections:

- Section 2.0—Project Organization and Responsibilities
- Section 3.0—Data Generation and Acquisition
- Section 4.0—Assessment and Oversight
- Section 5.0—Data Validation and Usability
- Section 6.0—References
- Section 7.0—Approvals

2.0 Project Organization and Responsibilities

2.1 PROJECT MANAGEMENT

The following sections describe the responsibilities of project team members for fulfillment of the QAPP. Contact information for the key QA project team members is provided in Table 2.1. The contact information for key project team members will be provided to the City prior to implementation of the CD and Cleanup Action Plan (CAP).

2.1.1 Project Manager

The Floyd|Snider project manager (PM) will be involved in all aspects of this project, including discussion, review, and interpretation of this QAPP, and the results of the investigation. The Floyd|Snider PM will also be responsible for the overall implementation of this QAPP.

2.1.2 Project Coordinator

The Floyd|Snider project coordinator will be responsible for providing oversight for planning and coordination, work plans, all project deliverables, and performance of the administrative tasks needed to provide timely and successful completion of the project. They will also be responsible for coordinating with the PM on schedule, deliverables, and other administrative details.

2.1.3 Task Manager

The Floyd|Snider task manager (TM) will be responsible for communicating with the PM on the progress of project tasks, conducting detailed planning and coordination, and monitoring and communicating to the PM any deviations from the QAPP. Significant deviations from the QAPP will be further reported to the City. The TM will facilitate the transfer of analytical data to the principal data users.

2.1.4 Field Coordinator

The Floyd|Snider field coordinator will be responsible for implementation of the field data collection program, including sample handling and custody documentation. The field coordinator will work closely with the TM and PM to ensure that the required sample collection and laboratory analyses are completed. The field coordinator, or their trained and qualified designee, is also responsible for oversight of daily calibration of field equipment in accordance with this QAPP and inspection of sample containers as specified in Section 3.7.

2.1.5 Quality Assurance/Quality Control

The QA and quality control (QC) coordinator or their designee will serve as the laboratory QA/QC coordinator. The QA/QC coordinator will oversee coordination of the field sampling and laboratory program and supervise data validation and project QA coordination, including coordination with the analytical laboratories and the City. The laboratory QA/QC coordinator will

be a Floyd|Snider staff member specializing in QA/QC who is independent from the analytical laboratories and field staff responsible for generating the data.

Analytical laboratories will be responsible for chemical analyses and will ensure that submitted samples are handled and analyzed in accordance with the analytical testing procedures and QA/QC requirements, as well as the any other requirements specified in this QAPP. The laboratories will provide certified pre-cleaned sample containers and preservatives, as appropriate, and prepare a data report containing analytical and QA/QC results. The laboratory PM will oversee laboratory operations, including receipt of samples, chemical analyses, and laboratory report preparation. They will prepare and review laboratory reports and case narratives describing any discrepancies that occurred during chemical analyses. They will also notify the laboratory QA/QC coordinator of any problems as soon as they are identified.

Data validation of chemical data will be conducted in-house by Floyd|Snider for all analyses.

2.2 PROBLEM DEFINITION/BACKGROUND

This QAPP describes the sample collection that will be performed as part of the groundwater monitoring and bioremediation system optimization at the Site. The site-wide semiannual groundwater monitoring and system sampling will be conducted to continue understanding of plume conditions and system operation. Additional groundwater sampling at select wells will also be conducted to monitor for specific bioremediation system operation optimization progress.

2.3 PROJECT TASK DESCRIPTION

Sampling activities described in this QAPP will be initiated after City approval.

2.4 SPECIAL TRAINING/CERTIFICATIONS

The Floyd|Snider field coordinator and all field personnel will be 40-hour HAZWOPER certified, consistent with OSHA 29 CRF 1910.120, and be trained in the groundwater sample collection methods described in this QAPP. The field coordinator will be responsible for ensuring that field staff and contractors have the necessary training and that field staff are up to date on the annual 8-hour HAZWOPER refresher course.

All analytical laboratories will have current environmental laboratory accreditation from Ecology for the analytical methods to be used.

2.5 DOCUMENTATION AND RECORDS

This QAPP will be approved by the Floyd|Snider PM, the City PM, and laboratory contractor PMs (refer to Section 7.0 for approvals). The document will be maintained and updated by the Floyd|Snider PM, who will be responsible for distribution of the approved document and any updated versions to key project contacts and team members (key project contacts are provided in Table 2.1). The City PM may distribute this QAPP to project stakeholders at their discretion.

Floyd|Snider will store all project records in a secure manner. Each project team member is responsible for filing all project information and records according to internal Floyd|Snider requirements. All electronic data will be maintained in a database in a designated directory at Floyd|Snider.

2.5.1 Field Records

Documents and records generated in the field should be considered controlled documents that become part of the project file. Floyd|Snider field staff will keep a daily record of significant events, observations, and measurements on forms specific to the field activity. All field documents will be maintained by the field coordinator. All sampling forms will contain information on the sample collected and will include at a minimum the following information:

- Project name
- Field staff on site
- Field observations
- Sample collection date and time
- Sampling method and/or description of field activities
- Instruments or equipment used
- Location identifier (ID) and sample ID
- Sample analysis
- Deviations from the CAP

2.5.2 Laboratory Records

The analytical laboratories will retain all analytical records. Additionally, Floyd|Snider will retain a copy of analytical data in the internal project files. Laboratory data packages will include those items necessary to complete data validation. Elements to be reported in the laboratory data packages are listed in Section 5.1.

All instrument data will be fully restorable at the laboratory from electronic backup. The laboratory will be required to maintain records relevant to project sample analyses for a minimum of 7 years. The PM is responsible for determining and communicating specific requirements for record maintenance if they are different than the default. Data validation reports will be maintained within the Floyd|Snider internal project files with the laboratory data packages.

Each laboratory employs an internal QA manager who is responsible for ensuring that laboratory standard operating procedures (SOPs) are followed, and laboratory staff perform routine audits for SOP compliance; routine audits are required for state accreditation. The Floyd|Snider PM or client PM may request to review records of SOP compliance.

The analytical laboratories will submit data electronically, in the Floyd|Snider standard electronic data deliverable (EDD) format. Guidelines for EDDs will be communicated to the analytical laboratories by the QA/QC coordinator or database manager.

All electronic data submittals must be tab-delimited text files that include all results, method detection limits (MDLs; as applicable), and reporting limits (RLs) consistent with those provided in the laboratory report. If laboratory replicate analyses are conducted on a single submitted field sample, the laboratory sample identifier must distinguish each replicate analysis.

2.5.3 Data Management and Reduction

The Floyd|Snider database manager will oversee data management and reduction in coordination with the PM and TM or field coordinator. Once all required data are confirmed to be received and validated, the database manager will load all records to Floyd|Snider's electronic database accessed using Microsoft Access software. The database is maintained on the Floyd|Snider server and is backed up with a hard disc. The database manager will manage data exports and will confirm that data are assembled in the required deliverable format with appropriate qualifiers.

3.0 Data Generation and Acquisition

3.1 SAMPLING DESIGN

Data will be collected to monitor the extent of the groundwater plume and evaluate bioremediation system operation and optimization. Laboratory analysis performed in accordance with this QAPP will fulfill these objectives by providing analytical data required for the compliance monitoring of the groundwater as outlined in the CD for this site's contaminants of concern (COCs).

3.2 SAMPLING METHODS

This section details the collection and analysis of groundwater samples presented in the CD. Additional sampling design for other media, if determined to be necessary, would be addressed in a supplemental work plan document.

3.2.1 Sample Collection

The general field procedures for groundwater collection using low-flow methodology are described in the Standard Sampling Procedures provided in Appendix A. Sampling considerations specific to the cleanup action are described in the following sections. As outlined in the CAP, performance groundwater monitoring will be continued during the bioremediation system operation until groundwater concentrations of tetrachloroethylene (PCE) and its breakdown products are below their applicable CULs. Site groundwater wells will be sampled twice every year for the specified COCs to monitor contaminant breakdown and compare concentrations relative to CULs.

3.2.2 Sample Analysis

Groundwater samples will be analyzed for the targeted list of COCs presented in the CAP.

All samples will be analyzed for halogenated volatile organic compounds (HVOCs), specifically PCE, trichloroethylene (TCE), 1,1-dichloroethylene (DCE), cis-1,2-DCE, trans-1,2-DCE, and vinyl chloride. Where PCE, TCE, cis-1,2-DCE, and vinyl chloride are the COCs at the Site and are subject to MTCA Method A CULs. All samples will be analyzed for ammonia, orthophosphate, sulfate, chloride, nitrate, total organic carbon, dissolved gases (methane, ethene, ethane), and dissolved metals (iron and manganese), and total metals (calcium, magnesium and sodium).

Field duplicate samples will be analyzed concurrently for all constituents analyzed in their respective parent samples. Trip blank samples will be analyzed for HVOCs, which are the most volatile of the COCs.

Investigation-derived waste will be treated through the system's carbon vessels and injected back into the aquifer.

3.3 ANALYTICAL METHODS

Laboratory analytical methods were selected to ensure that the samples can be compared to the MTCA Method A CULs and MTCA Method B CULs for non-cancer presented in the *Final Cleanup Action Plan* (Ecology 2019). The laboratory quantitation limits including practical quantitation limits or RLs and MDLs for the selected analytical methods are presented in Table 3.1.

3.4 DATA QUALITY OBJECTIVES AND CRITERA

Field and laboratory data quality objectives include obtaining data that are technically sound and properly documented, having been evaluated against established criteria for the principal data quality indicators (DQIs; i.e., precision, bias, accuracy, representativeness, completeness, comparability, and sensitivity). Evaluation of the principal DQIs is summarized in the following sections. Data QA/QC criteria (also known as measurement quality objectives) and frequencies are presented in Table 3.2 and Table 3.3, respectively.

3.4.1 Precision

Precision measures the reproducibility of measurements under a given set of conditions. Specifically, precision is a quantitative measure of the variability of a group of measurements compared to their average values. Precision is assessed by performing multiple analyses, such as laboratory duplicate or field duplicate samples, and is defined as the relative percent difference (RPD) between results. Precision will be evaluated for both laboratory and field duplicate samples and calculated as follows.

$$RPD = \frac{(C_1 - C_2) \times 100\%}{\frac{(C_1 + C_2)}{2}}$$

Where:

RPD = relative percent difference
C_1 = larger of the two observed values
C_2 = smaller of the two observed values

Laboratory duplicate sample precision criteria and frequency requirements are presented in Table 3.2 and Table 3.3, respectively. Field duplicate precision will be screened against an RPD of 75% for all samples; however, data will not be qualified based on this evaluation. For precision calculations (i.e., for calculating RPD) the reporting limit will be used when a non-detect result is included in the evaluation. Additionally, the result/s based on the final dilution will be used in the calculation (i.e., values flagged as estimated greater than a given concentration, which are superseded with subsequent sample dilutions, will not be used).

3.4.2 Accuracy and Bias

Accuracy is an expression of the degree to which a measured or computed value represents the true value. Bias is “the systematic or persistent distortion of a measurement process that causes error in one direction” (EPA 2002a). Analytical bias and accuracy may be assessed by analyzing

"spiked" samples with known concentrations, such as laboratory control samples, blank spikes, and standard reference materials. Additionally, matrix spike samples can be analyzed to provide accuracy or bias information in the actual sample matrix. Precision criteria and frequency requirements are presented in Table 3.2 and Table 3.3, respectively. Accuracy will be evaluated as percent recovery (%R) and will be calculated as follows.

$$\%R = 100\% \times \frac{(S-U)}{C_{sa}}$$

Where:

%R = percent recovery
S = measured concentration in the spiked aliquot
U = measured concentration in the unspiked aliquot
C_{sa} = actual concentration of spike added

For accuracy calculations (i.e., for calculating %R), non-detect results will be assigned a value of zero. Additionally, the results based on the final dilution will be used in the calculation (i.e., values flagged as estimated greater than a given concentration, which are superseded with subsequent sample dilutions, will not be used).

3.4.3 Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represent an environmental condition. This DQO is addressed by the design of the sampling plan. A list of analytes has been identified to provide a comprehensive assessment of known or potential contaminants. Sufficient volumes of samples will be collected at each sampling location to minimize bias or errors associated with sample particle size and heterogeneity.

Representativeness in laboratory data will be assessed by evaluating holding time compliance and the results of the method blanks field blanks and instrument blanks.

3.4.4 Completeness

Completeness is defined as the number of acceptable data points relative to the total number of data points and is also a measure of the amount of validated data reported versus the expected amount of data (the amount of data collected). Completeness will be assessed for each sample medium. The QA/QC objective for completeness for all components of this project is 90% (Table 3.2). Data that were qualified as estimated because the QA/QC criteria were not met will be considered valid for the purpose of assessing completeness. Data that have been qualified as estimated will be further reviewed for usability. Data that were qualified as rejected will not be considered valid for their intended use or for the purpose of assessing completeness. If a sample medium has an unacceptable completeness percentage (less than 90%), original samples will be reanalyzed if sufficient sample volume is available, archived samples will be analyzed if appropriate, or additional samples will be obtained (if feasible). The equation used to calculate completeness is as follows:

$$\text{Completeness} = \frac{\text{number of valid measurements}}{\text{total number of data points planned}} \times \mathbf{100}$$

3.4.5 Comparability

Comparability is a qualitative parameter expressing the confidence with which one dataset can be compared to another. To ensure that results are comparable, samples will be analyzed using USEPA methods, Standard Methods, ASTM methods, and/or other acceptable method protocols. Calibration and reference standards will be traceable to certified standards, and standard data reporting formats will be employed.

3.4.6 Sensitivity

Analytical sensitivity is the minimum concentration of an analyte above which a data user can be reasonably confident that the analyte was reliably detected and quantified. For this investigation, the MDL or estimated detection limit (EDL) will be used as the measure of sensitivity for each analyte.

3.5 QUALITY ASSURANCE/QUALITY CONTROL PROCEDURES

Guidance for QA/QC is derived from the protocols developed for USEPA's Test Methods for the Evaluation of Solid Waste: Physical/Chemical Methods (USEPA 1986), the USEPA National Functional Guidelines (EPA 2020a, 2020b, and 2020c), and cited methods.

The field coordinator or field personnel will assess and implement field QC procedures as required in this QAPP.

3.5.1 Field Quality Assurance/Quality Control Procedures

3.5.1.1 Sample Identification

Each sample will have a label affixed to the container, and the container will be labeled at the time of collection. The minimum information will be recorded on the label:

- Sample identifier
- Date and time of collection
- Preservative type (if applicable)
- Project name
- Sampler's name or initials

Samples will be identified using the following format: "Sample Location"-"Date." For example, a sample collected from monitoring well MW-01 on December 1, 2022, would be labeled "MW-01-120122."

At each laboratory, a unique sample identifier will be assigned to each sample. The laboratory will ensure that a sample tracking record follows each sample through all stages of laboratory processing. The sample tracking record must contain, at a minimum, the name/initials of

individuals responsible for performing the analyses, dates of sample extraction/preparation and analysis, and types of analyses being performed. The analytical laboratories will meet the sample handling requirements and follow the procedures described in the sections below.

3.5.1.2 Field Quality Control Sampling and Identification

Field QC is evaluated through the analysis of field duplicates and trip blanks. Field duplicates are used to assess proper homogenization in the field, reproducibility of the sample preparation and analysis, and heterogeneity of the matrix. Trip blank samples are used to evaluate potential cross contamination from volatile compounds from ambient conditions or from other samples during sample handling and transport. Field QC samples will be collected at a rate of 1 per 20 investigation samples. Field QA/QC criteria and frequency are presented in Table 3.2 and Table 3.3.

The labeling of field QC samples is described as follows:

- Field duplicates will be labeled with a fictitious sample location by adding 100 to the sample location. For example, a field duplicate collected from monitoring well MW-01 on December 1, 2022, would be named “MW-101-120122.”
- Trip blanks will be provided by the laboratory and kept in the same cooler as containers sampled for volatile organic compounds during the sampling event near a sample collection location. Trip blanks will be labeled using the following format: “Trip Blank”-“Date.” For example, a trip blank collected on December 1, 2022, would be named “Trip Blank-120122.”

3.5.1.3 Sample Custody Procedures and Requirements

Sample custody is a critical aspect of environmental investigations. Sample possession and handling must be traceable from the time of sample collection, through laboratory and data analyses, to delivery of the sample results to the recipient. Procedures to be followed for sample custody related to shipping are detailed in Section 3.5.1.4.

Samples are considered to be in custody if they are (1) in the custodian's possession or view; (2) in a secured place (under lock) with restricted access; or (3) in a container and secured with a custody seal such that the sample cannot be reached without breaking the seal. Chain-of-custody forms will accompany all samples, and each person who has custody of the samples will sign the chain-of-custody form and ensure that the samples are not left unattended unless properly secured. Information on chain-of-custody forms will include at a minimum the following:

- Sampling location, project name, and unique sample ID
- Sample collection date and time
- Any special notations on sample characteristics or problems
- Name of the person who initially collected the sample
- Date sample was sent to the laboratory
- Shipping company name and waybill number (if applicable)

The field coordinator or qualified designee will be responsible for all sample tracking and custody procedures. They will also be responsible for final sample inventory and will maintain sample custody documentation. The field coordinator or designee will complete chain-of-custody forms prior to transporting samples. Information on the sample labels will be checked against sample collection forms and chain-of-custody forms, and sample containers will be recounted prior to transporting samples. Copies of all chain-of-custody forms will be retained and included as appendices to the data reports.

The analytical laboratories will ensure that chain-of-custody forms are properly signed upon receipt of the samples and will note any questions or observations concerning sample integrity on the chain-of-custody forms. The analytical laboratories will contact the field coordinator and project QA/QC coordinator immediately if discrepancies are discovered between the chain-of-custody forms and the sample shipment upon receipt.

3.5.1.4 Sample Preservation and Shipping Requirements

Sample volumes will be placed in laboratory-provided certified pre-cleaned sample containers and preserved in accordance with the requirements presented in Table 3.4. The laboratory will maintain manufacturer documents certifying the cleanliness of containers and/or purity of preservatives provide. The field coordinator or a designee will also inspect containers for cleanliness, for signs of damage or tampering, and for presence of preservative if pre-preserved containers will be used. Individual containers with evidence of damage or tampering will be discarded.

Prior to shipping or transporting samples, containers will be securely packed inside a cooler with ice packs or wet ice and bubble wrap. The original signed chain-of-custody forms will be placed in a sealed plastic bag and taped to the inside lid of the cooler. If third-party shipping (e.g., shipping with FedEx rather than a laboratory courier), each cooler will be sealed with a custody seal.

3.5.2 Laboratory Sample Handling and Holding Times

Samples will be stored in accordance with the conditions specified in the methods or laboratory SOPs. Samples transferred to other laboratories will be packed in coolers on ice and delivered via courier service or shipped on ice in coolers at temperatures of <6 degrees Celsius, not frozen. The temperature inside each cooler will be checked by the laboratory upon receipt of the samples. The laboratory will specifically note any coolers that are not sufficiently cold upon receipt.

All samples will be handled to prevent contamination or sample loss. Any remaining sample material will be disposed of upon receipt of written notification by the Floyd|Snider PM. Holding times will vary by analysis and are summarized in Table 3.4.

Archive samples will be stored frozen as allowed by the analytical method (refer to Table 3.4). Samples will be disposed of after hold times expire, following written authorization from the

Floyd|Snider PM. The Floyd|Snider PM may elect to hold archived samples past the specified hold time as needed to gather the additional project data.

3.5.3 Laboratory Quality Assurance/Quality Control

Laboratory results will be evaluated by reviewing analytical results of method blanks, laboratory control samples, certified reference materials, matrix spike/matrix spike duplicate samples, duplicate samples, internal standards, calibrations, and performance evaluation samples, as specified by the analytical methods.

All samples will be diluted and re-analyzed if target compounds are detected at levels that exceed their respective established calibration ranges. Any required cleanups will be conducted prior to the dilutions. Re-analyses will be performed if surrogate, internal standard, or spike recoveries are outside of the QA parameters. QC samples may be re-analyzed if results are not within control limits and it cannot be determined that the sample matrix is the cause.

3.5.3.1 Sample Delivery Groups

A sample delivery group (SDG) is defined by the laboratory and is generally considered 20 samples, or a group of samples from the same sampling period received at the laboratory on the same day. Although an SDG may span 2 weeks, all holding times specific to each analytical method will be met for each sample in the SDG.

3.5.3.2 Method Blanks

Method blanks are analyzed to assess possible laboratory contamination at all stages of sample preparation and analysis. A minimum of one method blank will be analyzed for every 20 samples.

3.5.3.3 Laboratory Control Samples

Laboratory control samples (LCSs) are prepared from a clean matrix source using the same process as project samples and are spiked with known amounts of the target compounds. The recoveries of the compounds are used as a measure of the accuracy of the test methods.

3.5.3.4 Matrix Spikes and Matrix Spike Duplicates

The analysis of matrix spike (MS) and matrix spike duplicate (MSD) samples provides information on the extraction efficiency of the method for the sample matrix and is used to evaluate the precision of the method. A minimum of one MS/MSD pair will be analyzed for every 20 samples, when sufficient sample volume is available. A laboratory duplicate sample may be analyzed in place of MSD samples, as allowed by the analytical method.

3.5.3.5 Laboratory Duplicates

Laboratory duplicate samples provide information on the precision of the analysis and are useful in assessing potential sample heterogeneity and matrix effects. Laboratory duplicates are

subsamples of the original sample that are prepared and analyzed as separate samples. A minimum of one laboratory duplicate sample will be analyzed for every 20 samples, when sufficient sample volume is available.

3.5.3.6 Surrogates

All samples, including laboratory QC samples (blanks, LCSs, MS/MSDs, and duplicate samples), analyzed for organic analytes will be spiked with appropriate surrogate compounds. Surrogate recoveries will be reported by the analytical laboratories; however, no sample results will be corrected for recovery using these values.

3.5.3.7 Internal Standards

Internal standards may be used for calibrating and quantifying organic compounds and metals. If internal standards are required by the method, all calibration, QC, and project samples will be spiked with the same concentration of the selected internal standards. Internal standard recoveries and retention times must be within method criteria, laboratory criteria, or both.

3.6 INSTRUMENT/EQUIPMENT TESTING, INSPECTION, AND MAINTENANCE

Inspection and maintenance of field and laboratory equipment are important to determine the quality of sampling and analysis results.

3.6.1 Field Equipment Maintenance and Calibration and Frequency

Field equipment for groundwater sampling that requires maintenance or calibration includes the following: pH probes, specific conductivity probes, turbidity meters, reduction–oxidation potential probes, and dissolved oxygen probes.

Field equipment will be maintained and calibrated in accordance with the procedures described in the operations manuals supplied by the manufacturer at the intervals recommended in the manual. The manufacturers' manuals will accompany each instrument for use during equipment calibration and to support troubleshooting. Equipment maintenance information will be documented in the instrument's maintenance log. Equipment calibration performed by field staff will be documented in a calibration log. The calibration log will include at minimum, the equipment type and model number, date and time, project name, the calibration results, and the initials of the calibrator. Any discrepancies or calibration failures will be noted in the calibration log and corrected prior to sampling. During the sampling event, any discrepancies or calibration failures will be noted in the field notes and corrected prior to continuing sampling. Maintenance and calibration records will be verified prior to each sampling event by the field coordinator.

The subcontractor responsible for navigation will confirm proper operation of the navigation equipment daily, and all equipment will be operated and maintained according to manufacturer specifications.

3.6.2 Laboratory Instruments Calibration and Frequency

Laboratory equipment will be maintained and calibrated according to the manufacturers' recommendations, the laboratory QA plan, SOPs, and standard methodologies. Calibrations will be performed on each analytical instrument prior to analysis. Calibrations are performed at a frequency determined by the analytical method and/or the laboratory SOP. The analysis must stop if the calibration does not meet the specified criteria. The analysis may resume after corrective actions have been taken to meet the method specifications. All project samples analyzed by an instrument found to be out of compliance must be reanalyzed. Laboratories will be responsible for their own preventative maintenance and calibration of laboratory equipment.

3.7 INSPECTION/ACCEPTANCE OF SUPPLIES AND CONSUMABLES

Inspection and acceptance of field supplies, including laboratory sampling containers, will be the responsibility of the field coordinator. Any chemical standards and solutions (such as nitric acid for metals sample preservation) used in this project will be provided by a reliable, commercial source and will be traceable. Any discrepancies will be documented by the field coordinator.

3.8 DATA MANAGEMENT AND REPORTING

Analytical chemistry results will be provided by the laboratory in PDF and EDD formats. Data packages will be returned within the time frame specified in the work order between Floyd|Snider and each laboratory, with a duration not to exceed 7 business days, unless delays are otherwise communicated to and approved by the Floyd|Snider PM. The data packages will be reviewed to ensure that the correct analyses were performed for each sample submitted and that all analyses requested on the chain-of-custody forms were performed. If discrepancies are noted, the QA/QC coordinator will be notified and will promptly follow up with the laboratory to resolve any issues. After completion of data validation, the digital files will be used to generate the appropriate report tables.

Laboratory data, which are electronically provided and loaded into Floyd|Snider's electronic database, will undergo a check against the laboratory data deliverable. Data will be validated or reviewed manually, and qualifiers, if assigned, will be entered manually. All manually entered data will be verified by a secondary review performed by Floyd|Snider staff. As a final review, after entry into the database, the EDD data will be compared to the field information (e.g., station/location identifiers, sample identifiers, requested analyses) previously entered into the database to confirm that all requested analytical data have been received.

4.0 Oversight

The project field activities will be overseen by the Floyd|Snider PM and laboratory activities will be overseen by the laboratory PM. Once data are received from the laboratory, a number of QC procedures will be followed to evaluate data quality and attainment of the data QA/QC objectives and criteria. Specific procedures will be followed to assess the principal DQIs (precision, bias, accuracy, representativeness, completeness, comparability, and sensitivity).

4.1 FIELD OVERSIGHT AND CORRECTIVE ACTIONS

The field coordinator or designated field lead will be responsible for field oversight and identifying issues that may result in noncompliance with this QAPP that could adversely affect data quality. The FC is responsible for performing corrective actions. The field coordinator and the QA/QC coordinator will be responsible for completing and for verifying and documenting completion of any corrective actions.

Field performance inspections may be conducted at the discretion of the Floyd|Snider PM to determine the effectiveness of QA/QC procedures and compliance with the QAPP. Field performance inspections should be conducted by the field coordinator, health and safety officer, or the Floyd|Snider PM. During a field performance inspection, the inspector will observe and review field procedures and health and safety procedures, including but not limited to documentation of sample collection, packaging procedures, sample shipment to the laboratories, and proper use of personal protection equipment per the HASP.

If issues are identified that may adversely affect data quality, corrective actions will be identified and implemented as soon as possible, and potential impacts to data quality will be evaluated. The inspector or a key member of the project team may temporarily stop work until deficiencies adversely affecting data quality are corrected. The field coordinator and the QA/QC coordinator will be responsible for verifying and documenting completion of any corrective actions.

4.2 LABORATORY OVERSIGHT AND CORRECTIVE ACTIONS

Laboratory audits and performance inspections consist of on-site reviews of QA systems and equipment. Laboratory audits will not be conducted as part of this study; however, the laboratory will provide reports from laboratory audits performed as part of general operations to the QA/QC coordinator upon request. The laboratory will provide written details of all method modifications planned prior to project commencement.

The laboratory is required to comply with its SOPs. The laboratory PM will be responsible for ensuring that appropriate corrective actions are initiated as required for compliance with this QAPP. All laboratory personnel will be responsible for reporting problems that may compromise the quality of the data. If QC results exceed the laboratory control limits, the analyst will identify and correct the anomaly before continuing with the sample analyses, if possible. If the issue cannot be overcome with standard corrective action (e.g., repreparation and reanalysis), the

causes of the exceedance and corrective actions will be described in the data package narrative. If the exceedance is gross or widespread, the Floyd|Snider PM and project QA/QC coordinator will be notified immediately, and the appropriate action will be decided.

5.0 Data Validation and Usability

5.1 DATA REVIEW

Floyd|Snider will review the laboratory reports for internal consistency, transmittal errors, laboratory protocols, and adherence to the objectives specified in this QAPP. A Stage 2A Data Quality Review will be performed as described in this section for all data. The results of the Data Quality Review will be summarized in a Data Validation Memorandum.

A Stage 2A Data Quality Review (Summary Validation) includes the following:

- Evaluation of package completeness
- Verification that sample numbers and analyses match those requested on the chain-of-custody form
- Review of method-specified preservation and sample holding times
- Verification that the required detection limits and RLs have been achieved
- Verification that the field and laboratory duplicates, MS/MSDs, and LCSs were analyzed at the proper frequency
- Verification of analytical precision and accuracy via replicate analysis and analyte recoveries
- Verification that the surrogate compound analyses have been performed and meet QC criteria
- Verification that the laboratory method blanks are free of contaminants

5.2 VALIDATION METHODS AND RECONCILIATION WITH USER REQUIREMENTS

Data validation programs have been established in accordance with USEPA guidance (USEPA 2002a). Data validation will be based on the QA/QC criteria as recommended in the methods identified in this QAPP and in the USEPA's National Functional Guidelines (USEPA 2020a, 2020b, 2020c) and environmental data verification and validation guidance (USEPA 2002b).

Data usability and any deviations that may have affected the quality of the data, as well as the basis of application of qualifiers, will be included in the final reporting of the data. Any required corrective actions based on the evaluation of the analytical data will be determined by the laboratory PMs, Floyd Snider PM, and data validators in consultation.

6.0 References

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7.0 Approvals

By signing below, I acknowledge that I have reviewed the Quality Assurance Project Plan and agree to follow the methods and quality assurance procedures contained therein.

_____ **Date_____**
Allison Geiselbrecht, Project Manager, Floyd|Snider

_____ **Date_____**
Chell Black, QA Manager, Floyd|Snider

_____ **Date_____**
Richard Francis, Project Manager, USEPA

_____ **Date_____**
Christine Ransom, Project Manager, EcoChem, Inc.

_____ **Date_____**
Darrell Auvil, Project Manager, Apex Laboratories

_____ **Date_____**
Shelly Fishel, Project Manager, Analytical Resources Inc.

_____ **Date_____**
Lori Dufour, Project Manager, Bureau Veritas

Quality Assurance Project Plan

City of Bothell Service Center

Tables

Table 2.1
Key Project Quality Assurance Contacts

Name	Role	Phone Number
Gabe Cisneros	Project Manager	206-805-2170 x 2170
Danielle Gallaher	Field Lead	206-613-2064 x 2064
Gillian Sweeney	H&S Lead	206-613-2065 x 2065
Henry Bates	Data Services	206-805-2181 x 2181

Table 3.1
Quality Assurance Project Plan Analyte List for Groundwater

Analyte	Method	Units	Cleanup Standards		Laboratory Reporting Limit
			CUL	REL	
Groundwater					
Chlorinated Volatile Organic Compounds					
Tetrachloroethene	USEPA 8260D	µg/L	5.0	120	0.20
Trichloroethene			5.0	12	0.20
cis -1,2-Dichloroethene			16.0	--	0.20
trans -1,2-dichloroethene			--	--	0.20
Vinyl Chloride	USEPA 8260D/SIM		0.20	1.5	0.020
MNA Parameters					
Nitrate	USEPA Method 353.2	mg/L	--	--	0.050
Sulfate	ASTM D516-11	mg/L	--	--	5.0
Ammonia	SM 4500-NH3	mg/L	--	--	0.053
Ortho-phosphate	USEPA 365.1	mg/L	--	--	5.0
Total Organic Carbon	SM 5310B	mg/L	--	--	1.0
Dissolved Iron	USEPA 200.7	µg/L	--	--	56
Dissolved Manganese	USEPA 200.8	µg/L	--	--	11
Methane	RSK-175	mg/L	--	--	0.55
Ethene			--	--	0.29
Ethane			--	--	0.22
Ferrous iron (1)	Color disc/ 1,10 Phenanthroline	mg/L			Maximum detect 7.0

Notes:

-- Not applicable or not established.

1 Ferrous iron will be analyzed by the field method.

Abbreviations:

CUL Cleanup level

µg/L Micrograms per liter

mg/kg Milligrams per kilogram

REL Remediation level

USEPA U.S. Environmental Protection Agency

Table 3.2
Quality Assurance/Quality Control Criteria

Parameter	QA/QC Criteria		
	Precision [1]	Accuracy	Completeness
Groundwater			
CVOCs	±30%	60–140%	90%
Nitrate	≤19% RPD / 11% RPD	85–119% / 85–121%	95%
Sulfate	≤10% RPD	73–127%	95%
Ammonia	≤15% RPD	75–124%	95%
TOC	≤11% RPD	85–120%	95%
Dissolved Metals	≤20% RPD	75–125%	95%
Methane, Ethene, Ethane	≤25% RPD	75-125%	95%
Ferrous Iron	≤20% RPD	85–115%	95%

Note:

1 Precision criteria apply to analytical precision only. Field duplicate precision will be screened against an RPD of 75%.

Abbreviations:

RPD Relative percent difference
CVOC Chlorinated volatile organic compound
TOC Total organic carbon
QA/QC Quality Assurance/Quality Control

Table 3.3
Quality Assurance/Quality Control Frequency

Parameter	Method Blank [1]	Laboratory Control Samples [1]	Matrix Spike	Matrix Spike Duplicate (MSD) [2]	Surrogate Spike	Field Duplicate	Rinse Blank	Field Blank	Trip Blank
CVOCs	1 per 20 samples	1 per 20 samples	1 per 20 samples	1 per 20 samples	Every sample	1 per 20 samples	1 per event	1 per day	1 per day
MNA Parameters			--	--				--	--

Notes:

-- Not applicable

1 If less than 20 samples, analyze 1 per analytical batch.

2 Duplicates may be analyzed in place of MSDs.

Abbreviations:

CVOC Chlorinated volatile organic compound

MNA Monitored natural attenuation

Table 3.4
Container and Preservation Criteria for Groundwater

Analyte	Method	Sample Handling		
		Container/ Preservative	Holding Time	Sample Preservation Technique
Groundwater				
VOCs	USEPA 8260D	(3) 40-mL pre-weighted VOA vials	14 days	HCl pH<2
Sulfate	ASTM D516-11	250-mL HDPE	28 days	Cool to <6 °C
Nitrate	USEPA Method 353.2	250-mL HDPE	48 hours	Cool to <6 °C
Methane, Ethene, Ethane	RSK-175	(2) 40-mL pre-weighted VOA vials	14 days	HCl pH<2
Ammonia	SM 4500-NHS	250-mL HDPE	28 days	Sulfuric Acid
Ortho-phosphate	EPA 365.1	250-mL HDPE	48 hours	Cool to <6 °C
Total Organic Carbon (TOC)	SM 5310B	250-mL HDPE	28 days	Cool to <6 °C
Dissolved Metals (Fe, Mn)	EPA 200.7/200.8	500-mL HDPE	6 months	HNO_3 & Field Filtered
Ferrous iron [(1)]	Color disc/ 1,10 Phenanthroline	Two 18-mm plastic viewing tubes with color comparator box	Analyze immediately-field method	Ferrous iron reagent power (added to one 25-mL sample aliquot)

Note:

1 Ferrous iron may be analyzed by either the listed laboratory or field method.

Abbreviations:

°C	Degrees Celsius
HCL	Hydrochloric acid
HDPE	High-density polyethylene
HNO_3	Nitric acid
mL	Milliliters
mm	Millimeters
NaOH	Sodium hydroxide
PCE	Tetrachloroethene
oz	Ounces
VOA	Volatile organic analysis
VOC	Volatile organic compound
WMG	Wide-mouth glass

Quality Assurance Project Plan

City of Bothell Service Center

Appendix A
Standard Sampling Procedures

Two Union Square
601 Union Street, Suite 600
Seattle, WA 98101
tel: 206.292.2078 fax: 206.682.7867

F|S STANDARD GUIDELINE

Low-Flow Groundwater Sample Collection

DATE/LAST UPDATE: November 2023

These procedures should be considered standard guidelines and are intended to provide useful guidance when in the field but are not intended to be step-by-step procedures, as some steps may not be applicable to all projects.

All field staff should be sufficiently trained in the standard guidelines for the sampling method they intend to use and should review and understand these procedures prior to going into the field. It is the responsibility of the field staff to review the standard guidelines with the field manager or project manager and identify any deviations from these guidelines prior to field work. When possible, the project-specific Sampling and Analysis Plan should contain any expected deviations and should be referenced in conjunction with these standard guidelines.

1.0 Scope and Purpose

This standard guideline provides details necessary for collecting representative groundwater samples from monitoring wells using low-flow methods. These guidelines are designed to meet or exceed guidelines set forth by the Washington State Department of Ecology (Ecology). Low-Flow sampling provides a method to minimize the volume of water that is purged and disposed from a monitoring well, and minimizes the impact that purging has on groundwater chemistry during sample collection.

2.0 Equipment and Supplies

Groundwater Sampling Equipment and Tools

- For wells with head less than 25 feet:
  - Peristaltic pump with fully charged internal battery or standalone battery and appropriate connectors
- For wells with head greater than 25 feet:
  - Bladder pump and controller, as well as an air cylinder, or air compressor (with extension cord if near an electrical outlet; with battery and appropriate connectors or generator if not near an outlet)

    OR

  - Low-flow submersible pump and controller (with extension cord if near an electrical outlet; with battery and appropriate connectors or generator if not near an outlet)
- Multi-parameter water quality meter
- Turbidity meter
- Water level meter
- Polyethylene tubing, Teflon tubing, or similar (assume polyethylene unless otherwise specified in SAP) and tubing weights (for wells deeper than approximately 10 feet)
- Silicone tubing
- Filters (if field filtering)
- Tools for opening wells and drums (1/2-inch, 9/16-inch, 5/8 and 15/16-inch sockets ratchet, screwdriver, hammer/rubber mallet, bung wrench; any other necessary tools if non-standard monuments have been used)
- Well keys
- Tube cutters, razor blade, or scissors
- 5-gallon buckets, lids, and clamp
- Decontamination supplies: Alconox (or similar), distilled or deionized water, spray bottles, and paper towels
- Bailer or hand pump to drain well box if full of stormwater
- Trash bags

Lab Equipment

- Sample jars/bottles
- Coolers
- Chain-of-Custody Forms
- Labels
- Ice
- Ziploc bags

Paperwork

- Field notebook with site maps
- Table of well construction details and/or well logs, if available
- Sampling forms (enclosed)
- Purge water plan

- Rite-in-the-Rain pens, paper, and permanent markers
- Site-Specific Health and Safety Plan (HASP) and F|S Accident Prevention Plan (APP)
- List of emergency contacts for the Site or facility
- Safety Data Sheets (SDS) binder
- Sampling and Analysis Plan (SAP) and/or Quality Assurance Project Plan (QAPP) (including tables of analytes and bottle types)

Safety Equipment

- PPE:
  - Waterproof boots (safety toed, depending on site)
  - Safety vest
  - Safety glasses
  - Rain gear
  - Nitrile gloves
  - Work gloves
- First Aid kit
- Emergency kit (fire extinguisher, road flares)
- Traffic barricades or cones

3.0 Standard Procedures

Low-flow groundwater sampling consists of purging groundwater within the well casing at a rate equal to or less than the flow rate of representative groundwater from the surrounding aquifer into the well screen. The flow rate will depend on the hydraulic conductivity of the aquifer and the drawdown, with the goal of minimizing drawdown within the monitoring well. Field parameters are monitored during purging and groundwater samples are collected after field parameters have stabilized. Deviations from these procedures should be approved by the Project Manager and fully documented.

3.1 OFFICE PREPARATION

First, meet with the PM to identify the key objectives of the groundwater sampling effort. This may include the order of wells to be sampled (e.g., if using non-dedicated equipment, wells may need to be sampled in order of least contaminated to most contaminated), whether any wells require redevelopment at least 24-hours prior to sampling, and/or key stabilization parameters (e.g., elevated turbidity may require purging beyond 30 minutes, even if the readings are within 10%).

Conduct a kick-off meeting with the sampling team to discuss site health and safety protocols, data quality objectives, and any site-specific special considerations or sampling procedures.

3.2 TAILGATE SAFETY MEETING

Conduct a tailgate safety meeting prior to beginning work at the site. Emergency evacuation procedures, rally points, and onsite communication protocols should be discussed at the first tailgate meeting and repeated if new personnel join the field team onsite.

The safety meeting should cover the hazards specific to groundwater sampling. Typical hazards include the following:

- Chemical hazards (refer to HASP for site chemical exposure hazards)
- Site hazards
  - Traffic hazards onsite (e.g., truck traffic, heavy machinery)
  - Biological hazards (e.g., spiders or wasps within well monuments)
- Physical hazards associated with lifting and carrying heavy equipment and repeated bending while sampling
- Cuts and abrasions associated with using blades and tools
- Electrical hazards (make sure all wires/cables are in good condition and connections to battery or outlet are secure)
- Heat stress and cold stress

Record the meeting attendees and topics discussed on the front page of the tailgate safety meeting form (included as an attachment to the HASP). All attendees should sign the form.

3.3 OTHER HEALTH AND SAFETY GUIDELINES

The following are additional health and safety guidelines that should be followed in the field. These guidelines are intended to supplement the guidelines and requirements identified in the HASP and are not intended to replace the HASP.

- Review and sign the HASP prior to going into the field.
- Conduct a tailgate safety meeting prior to beginning work at the site as discussed in Section 3.2
- When moving between monitoring wells or switching to different tasks (e.g., transitioning from sampling to cooler QC prior to lab pickup), assess any additional hazards that may be associated with the new location or task. Record additional hazards noted and corrective actions to address those hazards on the Daily Tailgate Safety Meeting and Debrief Form (included as an attachment to the HASP).
- Record near misses and incidents on the Near Miss and Incident Reporting Form (included as an attachment to the HASP) and conduct management/client notifications according to the protocols detailed in the HASP.

3.4 CALIBRATION OF WATER QUALITY METERS

All multi-parameter water quality meters to be used will be calibrated prior to each sampling event. Calibration procedures are outlined in each instrument's specific user manual.

3.5 MONITORING, MAINTENANCE, AND SECURITY

Prior to sampling, depth to water and total depth measurements will be collected and recorded for accessible monitoring wells onsite (or an appropriate subset for larger sites). Check for an existing measuring point (notch or visible mark on top of casing). If a measuring point is not observed, a measuring point should be established on the north side of the casing. The conditions of the well box and bolts will also be observed, and deficiencies will be recorded on the sampling forms or logbook (i.e., missing or stripped bolt). The following should also be recorded:

- Condition of the well box, lid, bolts, locks, and gripper cap, if deficiencies
- Condition of gasket if deficient and if water is present in the well box
- Note any obstructions or kinks in the well casing
- Note any equipment in the well casing, such as transducers, bailers, or tubing
- Condition of general area surrounding the well, such as subsidence, potholes, or if the well is submerged within a puddle.

Replace any missing or stripped bolts and redevelop wells if needed.

3.6 LOW-FLOW PURGING METHOD AND SAMPLING PROCEDURES

Groundwater samples will be collected using low-flow purging and sampling procedures consistent with Ecology guidelines and the U.S. Environmental Protection Agency (USEPA) standard operating procedures (USEPA 1996). The following describes the Low-Flow purging and sampling procedures for collecting groundwater samples using a peristaltic pump. If the water level is greater than approximately 20 to 25 feet below ground surface (bgs), Grundfos or Geotech submersible pumps or bladder pumps can be used since their pumping rates can be adjusted to low-flow levels. Submersible pumps are preferable to bladder pumps in situations where less than 5 feet of water column are present in the well casing.

- Place the peristaltic pump and water quality equipment near the wellhead. Slowly lower new poly tubing down into the well casing approximately to the middle of the well screen. When sampling wells with a bottom screen depth greater than approximately 10 feet, it is important to measure the length of tubing prior to placement as longer lengths of tubing are more likely to get caught or otherwise obstructed and feel like it has reached the well bottom; this issue can be mitigated by using decontaminated stainless steel tubing weights. If the depth of the well screen is not known, lower the appropriate length of tubing to the bottom of the well, making sure that the tubing has not been caught on the slotted well casing, and then raise the tubing 3 to 5 feet off the bottom of the casing (limit this distance to 2 feet for wells with total depth less than 10 feet). Document the estimated depth of the tubing

placement within the well. Connect the tubing to the peristaltic pump using new flex tubing and connect the discharge line to the flow-through cell of the water quality meter. The discharge line from the flow cell should be directed to a bucket to contain the purged water.

- If using a low-flow submersible pump, connect the pump head to dedicated or disposable tubing. If using a bladder pump, connect both the air intake and water discharge ports to decontaminated or disposable tubing, using the manufacturer's instructions to ensure a secure connection. Lower the pump with tubing into the well as described above and connect the water discharge tubing directly to the flow-through cell.
- Measure the depth to water to the nearest 0.01 foot with a decontaminated water level meter and record the information on a sampling form.
- Start pumping the well at a purge rate of 0.1 to 0.2 liters per minute and slowly increase the rate. Purge rate is adjusted using a speed control knob or arrows on peristaltic and low-flow submersible pumps. The purge rate for bladder pumps is controlled by the air compressor, which first pressurizes the pump chamber in order to compress the flexible bladder and force water through the discharge line, and then vents the chamber in order to allow the bladder to refill with water.
    - A good rule of thumb is to pressurize to 10 psi + 0.5 psi/foot of tubing depth and begin with 4 discharge/refill cycles per minute; using greater air pressure and accelerating the pump cycles will increase the purge rate.
- Check the water level. If the water level is dropping, lower the purge rate. Maintain a steady flow with no or minimal drawdown (less than 0.33 feet according to USEPA 2002). Maintaining a drawdown of less than 0.33 feet may not be feasible depending on hydrogeological conditions. If possible, measure the discharge rate of the pump with a graduated cylinder or use a stopwatch when filling sampling jars (500 milliliters [mL] polyethylene or glass ambers) to estimate the rate. When purging water through a flow cell, the maximum flow rate for accurate water quality readings is about 0.5 liters per minute (L/minute).
- The discharge tubing should be connected to the flow cell immediately upon initial water discharge, unless the discharge water is visibly turbid or flocculant is observed. Monitor and record water quality parameters every three to five minutes after one tubing volume (including the volume of water in the flow cell) has been purged.
    - One foot of ¼-inch interior diameter tubing holds about 10 mL of water, and flow-through cells typically hold less than 200 mL of water; one volume should be purged after about 5 minutes at a flow rate of 0.1 L/minute.
- Water-quality indicator parameters that will be monitored and recorded during purging include:
    - pH
    - Specific conductivity

  - Dissolved oxygen
  - Temperature
  - Turbidity
  - Oxidation reduction potential (ORP)

- Continue purging until temperature, pH, turbidity, and specific conductivity are approximately stable (when measurements are within 10 percent) for three consecutive readings, or 30 minutes have elapsed. Because these field parameters (especially dissolved oxygen and ORP) may not reach the stabilization criteria, collection of the groundwater sample will be based on the professional judgment of field personnel at the time of sampling. A minimum of 5 water quality readings should be collected prior to sampling.
- The water sample can be collected once the criteria above have been met.
- If drawdown in the well cannot be maintained at 0.33 feet or less, reduce the flow or turn off the pump for 15 minutes and allow for recovery. If the water quality parameters have stabilized, and if at least two tubing volumes and the flow cell volume have been purged, then sample collection can proceed when the water level has recovered, and the pump is turned back on. This should be noted on the sampling form.
- To collect the water sample, maintain the same pumping rate. After the well has been purged and the sample bottles have been labeled, the groundwater sample will be collected by directly filling the laboratory-provided bottles from the pump discharge line prior to passing through the flow cell. All sample containers should be filled with minimum disturbance by allowing the water to flow down the inside of the bottle or vial. When collecting a volatile organic compound (VOC) sample, fill to the top to form a meniscus over the mouth of the vial prior to placing the cap to eliminate air bubbles. Be careful not to overflow preserved bottles/pre-cleaned Volatile Organic Analyte (VOA) vials.
- If sampling for filtered metals, collect these samples last and fit an in-line filter at the end of the discharge line. Take note of the flow direction arrow on the filter prior to fitting, invert filter to eliminate air bubbles, and allow minimum of 0.5 to 1 liter of groundwater to pass through the filter prior to collecting the sample.
- Sample labels will clearly identify the project name, sampler's initials, sample location and unique sample ID, analysis to be performed, date, and time. After collection, place samples a cooler maintained at a temperature of approximately 4 to 6 degrees Celsius (°C) using ice (if required). Complete the chain-of-Custody forms. Upon transfer of the samples to the laboratory, the Chain-of-Custody Form will be signed by the persons transferring custody of the sample containers to document change in possession.
- When sample collection is complete at a designated location, remove and properly dispose of the non-dedicated tubing. In most cases, this waste is considered solid waste and can be disposed of as refuse. Close and lock the well.

4.0 Decontamination

All reusable equipment that comes into contact with groundwater should be decontaminated using the processes described in this section prior to moving to the next sampling location.

Water Level Meter: The water level indicator and tape will be decontaminated between sampling locations and at the end the day by spraying the entire length of tape that came in contact with groundwater with an Alconox (or similar)/clean water solution followed by a thorough rinse with distilled or deionized water.

Water Quality Sensors and Flow-Through Cell: Distilled water or deionized water will be used to rinse the water quality sensors and flow-through cell. No other decontamination procedures are recommended since they are sensitive equipment. After the sampling event, the water quality meters will be cleaned and maintained according to the specific manual.

Submersible Pump (if applicable): Decontaminating the pump requires running the pump in three progressively cleaner grades of water.

1. Fill a bucket with approximately 4 gallons of an Alconox (or similar)/clean water solution to sufficiently cover the pump. Place the pump and the length of the power cord (if applicable) that was in contact with water into the bucket and run the pump for approximately two minutes or until the volume of water in the bucket has been exhausted.
2. Fill a second bucket containing approximately 4 gallons of clean water to sufficiently cover the pump. Place the pump and cord into this bucket and run the pump for approximately two minutes or until the volume of water in the bucket has been exhausted.
3. Fill a third bucket with approximately 4 gallons of distilled or deionized water to sufficiently cover the pump. Place the pump and cord into this bucket and run the pump for approximately two minutes or until the volume of water in the bucket has been exhausted.

The soap/water solution may be reused; however, rinse water should be collected for disposal as described in Section 5.0 below. When done for the day, dry the exterior of the pump and cord with clean towels to the extent practical prior to storage.

Bladder Pump: Clean the inside and outside of the pump body with an Alconox (or similar)/clean water solution, followed by a thorough rinse with distilled or deionized water. The outside of the air supply line that came in contact with groundwater may also be cleaned with Alconox (or similar) solution and re-used; bladders and water discharge lines must be replaced after each sample is collected.

5.0 Investigation-Derived Waste (IDW)

Unless otherwise specified in the project work plan, water generated during groundwater sampling activities will be contained, transported, disposed of in accordance with applicable laws, and stored in a designated area until transported off-site for disposal. This includes purge water and decontamination waste water.

The approach to handling and disposal of these materials for a typical cleanup site is as follows.

For IDW that is containerized, such as purge water, 55-gallon drums (or other smaller sized drums) approved by the Washington State Department of Transportation will be used for temporary storage pending profiling and disposal. Each container holding IDW will be sealed and labeled as to its contents (e.g., "purge water"), the dates on which the wastes were placed in the container, the owner's name and contact information for the field person who generated the waste, and the site name.

IDW containerized within drums will be characterized relative to applicable waste criteria using data from the sampling locations whenever possible. Material that is designated for off-site disposal will be transported to an off-site facility permitted to accept the waste. Manifests will be used, as appropriate for disposal. Refer to the FS Special Condition Standard Guideline for Investigation Derived Waste for additional information regarding proper profiling and disposal of wastewater generated by groundwater sampling.

Disposable sampling materials and incidental trash such as tubing, paper towels and gloves/other disposable used in sample processing will be placed in heavy-duty garbage bags or other appropriate containers and disposed of as trash in the municipal collection system unless otherwise specified in the SAP.

6.0 Field Documentation

Groundwater sampling activities will be documented in field sampling forms and/or field notebooks, and Chain-of-Custody Forms. Information recorded will, at a minimum, include personnel present (including subcontractors or client representatives), purpose of field event, weather conditions, sample collection date and times, sample analytes, depths to water, water quality parameters, well box/lid conditions, amount of purged water generated, and any deviations from the SAP. Photographs of damaged well casings or well boxes should be taken.

At the end of the day, complete and review the second page of the tailgate safety meeting form detailing additional hazards, corrective actions, near-misses or incidents. Any incidents that result in equipment damage or field staff injuries should be reported immediately to the PM.

7.0 Demobilization

Upon returning to the office, ensure that all equipment is property cleaned and put away in the field room. Equipment with rechargeable batteries should be plugged in as appropriate. It is

preferable to dispose of trash on-site, but any trash left in the field vehicle should be disposed as regular trash at Two Union Square.

If rented equipment or sample coolers will be placed at the front desk for pickup, clearly label each item with the company picking it up, anticipated pickup time frame, and your contact information so front desk staff can contact you if there are any questions. Notify front desk staff if any items require a signature at pickup.

Within one week of returning from the field, the field lead for the event should review field notes, sampling forms and tailgate safety meeting forms with the PM. Following PM review and approval, field notes will be scanned and saved to the project folder. Hard copies should be filed. The PM will provide copies of near miss and incident reports to the Safety Program Manager.

8.0 References

U.S. Environmental Protection Agency (USEPA). 1996. Low-Stress (low flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells, Revision 2. Region 1. July 30, 1996.

_____. 2002. Groundwater Sampling Guidelines for Superfund and CAR Project Managers. Office of Solid Waste and Emergency Response. EPA 542.S-02-001. May 2002.

Enclosures: Groundwater or Surface Water Sample Collection Form

Record of Revisions:

Revisions	Date
Added health and safety information, reviewed EPA guidance, and added revisions table.	12/9/2022
Added turbidity meter to equipment list and appended updated field form to PDF	11/29/2023

GROUNDWATER OR SURFACE WATER SAMPLE COLLECTION FORM

Project:_____ Date of Collection: _____

Task:_____ Field Personnel: _____

Purge Data

Well ID: _____ Secure: ☐ Yes ☐ No Ecology Tag #: _____ Casing Type/Diameter/Screened Interval _____

Replacement Required: ☐ Monument ☐ Lid ☐ Lock ☐ Bolts: Missing (#) _____ Stripped (#) _____ Other Damage: _____

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No One Casing Volume (gal): _____

Depth of water (from TOC):_____Time: _____

Total Depth (from log or field measurement): _____

After 5 minutes of purging (from top of casing): _____

Begin purge (time): _____End purge (time): _____

Volume purged:_____ Purge water disposal method_____

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Depth to Water (ft)	Vol. Purged (_____)	pH (s.u.)	DO (mg/L)	Specific Conductivity (µs/cm)	Turbidity (NTU)	Temp (°C)	ORP (mV)	Comments

Sampling Data

Sample No: _____ Location and Depth: _____

Date Collected (mo/dy/yr):_____ Time Collected: _____ Weather:_____

Type: ☐ Ground Water ☐ Surface Water Other: _____ Sample: ☐ Filtered ☐ Unfiltered Filter Type:_____

Sample Collected with: ☐ Bailer ☐ Pump Other: _____ Type: ☐ Peristaltic ☐ Bladder ☐ Submersible Other: _____

Water Quality Instrument Data Collected with: Type: ☐ YSI ProDSS ☐ Turbidity Meter ☐ Other: _____

Sample Decon Procedure: Sample collected with: ☐ decontaminated <u>all</u> tubing; ☐ disposable tubing ☐ dedicated silicon and poly tubing; ☐ dedicated tubing replaced

Sample Description (Color, Turbidity, Odor, Other): _____

Sample Analyses

Analyte	Analysis Method	Sample Container	Quantity	Preservative	Notes

QC samples

Duplicate Sample No: _____ Duplicate Time: _____ MS/MSD: ☐ Yes ☐ No

Signature: _____ **Date:** _____