



REPORT

**QUARTERLY MONITORING REPORT
SECOND QUARTER 2023
RESERVE SILICA RECLAMATION SITE**

*Ecology Facility Site No. 2041/Cleanup Site No 4728
28131 Ravensdale-Black Diamond Road
Ravensdale, Washington 98051*

Submitted to:

Mr. Alan Noell and Mr. Tim O'Connor, Washington State Department of Ecology

Northwest Regional Office
15700 Dayton Ave. N.
Shoreline WA 98133

Submitted by:

WSP USA Inc.
18300 Redmond Way, Suite 200,
Redmond, Washington, USA 98052
+1 425 883-0777

GL152030402.001

September 21, 2023

Distribution List

Electronic Only:

Alan L. Noell, Ecology

Tim O'Connor, Ecology

Chris Martin, Ecology

Yolanda Pon, Public Health - Seattle & King County

Jerome Cruz, Public Health - Seattle & King County

Randy Sandin, King County DPER

Fred White, Reserve Silica

Frank Melfi, Reserve Silica

Frank Melfi Jr, Reserve Silica

Keith Dearborn, Reserve Silica

Marisa Floyd, Reserve Silica

Douglas Steding, Northwest Resource Law PLLC

Carla Brock, Aspect

Dave Cook, Aspect

Travis Weide, Holcim

Greg Jacoby, McGavick Graves P.S.

Paula Jantzen, Ryan Whaley

Matt Wells, Tupper Mack Wells PLLC

Table of Contents

1.0 INTRODUCTION 1

2.0 BACKGROUND 1

 2.1 Site Background 1

 2.1.1 Lower Disposal Area Background 1

 2.1.2 Dale Strip Pit Background 1

 2.2 Mitigation Activities 2

 2.2.1 LDA Cover Upgrade 2

 2.2.2 LDA Seep Collection System Test Trenches 2

 2.2.3 LDA Seep Collection Ditch and Seepage Treatment System 2

 2.2.4 LDA Interceptor Trench 2

 2.2.5 DSP Cover Upgrade 3

3.0 MONITORING PROGRAM 3

 3.1 LDA Sampling Locations 3

 3.2 DSP Sampling Locations 4

 3.3 LDA Interceptor Trench 4

4.0 SAMPLING ACTIVITIES 4

 4.1 Procedures 4

 4.1.1 Water Level and Field Parameter Measurements 4

 4.1.2 Laboratory Analysis 5

 4.1.3 LDA Groundwater Sampling 5

 4.1.4 LDA Surface Water Sampling 6

 4.1.5 LDA Interceptor Trench Sampling 7

5.0 RESULTS 7

6.0 OPERATIONS AND MAINTENANCE OF THE LEACHATE TREATMENT SYSTEM 7

7.0 LIMITATIONS 8

8.0 REFERENCES 9

TABLES

Table 1: Second Quarter 2023 Water Level Measurements

Table 2: Second Quarter 2023 Field Parameters and Analytical Data

Table 3: Interceptor Trench Discharge Monitoring

Table 4: Second Quarter 2023 Treatment System Metals Monitoring

FIGURES

Figure 1: Site Location Map

Figure 2: Site Plan

Figure 3A: DSP Bedrock Groundwater Elevations

Figure 3B: LDA Bedrock Groundwater Elevations

Figure 3C: Alluvial/Shallow Groundwater Elevations

APPENDICES**APPENDIX A**

Summary Data Tables for Individual Wells and Monitoring Locations

APPENDIX A-1

Summary of Lower Disposal Area – Surface Water Sampling Results

APPENDIX A-2

Summary of Lower Disposal Area – Shallow/Alluvial Groundwater Sampling Results

APPENDIX A-3

Summary of Lower Disposal Area – Bedrock Groundwater Sampling Results

APPENDIX A-4

Summary of Dale Strip Pit – Bedrock Groundwater Sampling Results

APPENDIX A-5

Summary of Lower Disposal Area – Disposal Area Groundwater Sampling Results

APPENDIX B

LDA Shallow/Alluvial Monitoring Wells Data Graphs

APPENDIX C

Data Validation Report and Laboratory Analytical Results

APPENDIX D

Sample Integrity Data Sheets

1.0 INTRODUCTION

This report, prepared by WSP USA Inc. (WSP) for Holcim (US) Inc., presents the results of surface water and groundwater monitoring conducted at the Reserve Silica Reclamation Site (Site) during the second quarter of 2023. The Site is located at 28131 Ravensdale-Black Diamond Road in Ravensdale, Washington. Figure 1 shows the Site location.

A Model Toxics Control Act (MTCA) Remedial Investigation/Feasibility Study (RI/FS) is being conducted at the Site under Agreed Order (AO) No. DE 16052. An RI Work Plan (Work Plan), supporting Sampling and Analysis Plan (SAP), and Quality Assurance Project Plan (QAPP) (Golder 2021) describe the RI monitoring requirements and sampling procedures. Quarterly groundwater monitoring at the Site is currently being conducted in accordance with the Work Plan and supporting documents. Historical groundwater and surface water monitoring activities at the Site were conducted under the requirements of Post-Closure Care and Maintenance Permits issued by Public Health – Seattle and King County (Public Health). The second quarter monitoring event was conducted in June 2023.

2.0 BACKGROUND

2.1 Site Background

The following is a brief description of the historical mining and reclamation activities that occurred at the Site and includes a discussion of the quarterly monitoring program.

2.1.1 Lower Disposal Area Background

The Lower Disposal Area (LDA) is a former open pit sand mine that was reclaimed by placing cement kiln dust (CKD) and other material into the mine excavation from June 1979 to October 1982. The LDA was filled with approximately 175,000 tons of CKD. Records indicate that a cap consisting of clay and up to 7 feet of overburden material from sand mining operations was placed over the CKD.

Historically, high pH seepage surfaced along the slope west of the LDA. The outbreaks are primarily located along the northern half of the western boundary of the LDA and records as early as 1987 indicate a leachate collection system was implemented for the LDA seepage. The leachate drained through low-lying, marshy areas and commingled with stormwater before flowing to the three Infiltration Ponds (the Infiltration Ponds as shown in Figure 2) near the Ravensdale-Black Diamond Road (ARCADIS 2004). In 2013 a new seepage collection ditch was installed to intercept and collect the seepage (see Section 2.2.3 of this report), which then flowed inside a pipe to the Infiltration Ponds. In 2018, a water treatment system was constructed, and the high pH water captured by the collection ditch is currently piped to the on-site treatment area for pH neutralization and dissolved metals removal. The treated water discharges from the treatment system to the Infiltration Ponds.

2.1.2 Dale Strip Pit Background

The Dale Strip Pit (DSP) was created to mine the Dale No. 4 coal seam from the surface starting in 1946. Prior to 1946, the coal seam was worked from an underground mine. The underground mining chutes were driven upward to the surface to provide ventilation and allow the transportation of timbers into the mine. Construction of the mine allowed groundwater to drain by gravity to the mine portal (Portal). The Portal has since collapsed, and now a pipe in the collapsed Portal allows water to continuously drain from the mine under an Ecology Sand and Gravel General Permit (Ecology 2005) with monitoring as described below. The Portal is located north of the LDA on the east side of the main haul road.

The DSP was approximately 1,800 feet long (north to south), averaged 140 feet wide (east to west), and averaged 40 feet deep. It was filled in the 1970s and 1980s with approximately 250,000 cubic yards of material including CKD, borrow, and other materials pursuant to a permit from Public Health. It is estimated that about one-third of the DSP was filled with CKD (ARCADIS 2004).

2.2 Mitigation Activities

2.2.1 LDA Cover Upgrade

During September and October 2007, the existing soil cover on the LDA was regraded to provide positive drainage at all locations, reduce overly-steep slope areas, and place a minimum 2-foot-thick clean soil cover over the entire area, including locations where CKD was exposed at the surface. The construction activities are described in the Construction Summary Report (Golder 2008a).

2.2.2 LDA Seep Collection System Test Trenches

During September and October 2008, test trenches for collecting high pH seepage were constructed (Golder 2008b). The purpose of this test system was to evaluate the feasibility of using a more extensive trench system to collect high pH seepage that would otherwise discharge at the ground surface adjacent to the LDA. Details of the test trench construction are presented in the Construction Summary Report (Golder 2009a).

Between October 2008 and September 2009, Golder monitored seepage flow rates from each of the two test trenches and the pipeline discharge once per month, on average. A summary of activities and results of this monitoring program is presented in the flow monitoring report (Golder 2009b).

2.2.3 LDA Seep Collection Ditch and Seepage Treatment System

In February 2013, a surface water collection ditch and concrete catch basin were constructed on the bench below the main access road on the west side of the LDA. This system was installed to capture leachate seeps emerging from the bank along the east side of the bench (west of the main access road) and direct them into the existing pipeline that carries flow from the test trenches to the Infiltration Ponds. In April 2015, the 4-inch-diameter pipeline from the catch basin to the Infiltration Ponds, approximately 1,000 feet in length, was replaced with a 12-inch-diameter pipeline to alleviate plugging issues.

In December 2017, the seepage collection trench was further extended approximately 100 feet to the north to collect additional seepage that was not previously captured. Seepage water was then redirected into a seepage treatment system, which completed construction and started initial operations on September 28, 2018. The treatment system uses carbon dioxide (CO₂) sparging to neutralize pH levels and arsenic and lead adsorption using an iron-based adsorption media.

During the initial year of operation, the system operated intermittently, with system shut-downs occurring as various upgrades and modifications were completed to increase the long-term operational efficiency of the treatment system. The system began continuously operating in June 2019, with only minor shutdowns occurring to complete routine maintenance.

2.2.4 LDA Interceptor Trench

In September 2013, a gravel-filled interceptor trench that included a perforated drainpipe and vertical downgradient liner was installed south of the LDA to intercept clean groundwater moving in a northerly direction prior to encountering the CDK in the LDA.

2.2.5 DSP Cover Upgrade

Cover upgrade activities began at the DSP in November 2010 and were completed in July 2011. Cover upgrade activities included stripping surficial vegetation and topsoil, regrading the existing surface to establish positive drainage, placing low permeability soil to provide a minimum 2-foot-thick layer at all locations, filling the existing ditch along the northeast side of the DSP, replacing topsoil, and revegetating the cover surface.

3.0 MONITORING PROGRAM

The purpose of the quarterly monitoring activities is to assess the groundwater and surface water conditions with respect to potential impact from the CKD placed in the LDA and the DSP. Prior to the start of the RI, quarterly monitoring and reporting activities were conducted under requirements of Post-Closure Care and Maintenance Permits issued by Public Health. The current RI groundwater and surface water requirements are detailed within the Work Plan (Golder 2021).

3.1 LDA Sampling Locations

The LDA groundwater and surface water sampling locations are shown in Figure 2. Monitoring well construction details are provided in Table 1. Shallow/alluvial monitoring wells were installed near the LDA in July 2005 and are monitored to assess the shallow/alluvial groundwater conditions with respect to potential impact from the CKD. Four of the wells (MW-1A, MW-2A, MW-5A, and MW-6A) are located around the Infiltration Ponds. MW-3A is located west of the high pH seepage area. MW-4A, a background well, is located south of, and upgradient with respect to groundwater flow and surface water drainage, the high pH seepage area. P-14 was installed in November 2020 in the center of the LDA and is screened within CKD and other fill material disposed in the LDA. Groundwater samples collected from P-14 provide data on chemical composition of water in an area where saturated CKD is present. The monitoring well naming convention of assigning either the prefix MW (for monitoring well) or P (for piezometer) differentiates wells that are historically associated with or will likely be associated with the closed landfill permit required monitoring (prefix MW- or MWB- for bedrock wells), from groundwater wells that were installed for site investigation purposes (P- wells). MW and P groundwater wells are constructed similarly, and groundwater sampling of these wells follows the procedures approved in the Work Plan, thus, data collected from MW or P wells are equivalent in representativeness.

As part of the RI, during September 2021, the following groundwater monitoring wells were also installed to evaluate groundwater quality in and downgradient of the LDA:

- MW-7A and MW-8A were installed west and southwest of the Infiltration Ponds to evaluate groundwater gradients and groundwater quality.
- MW-9A and MW-10A are located west of the high pH seepage area and the South Pond, near the western property boundary to evaluate groundwater gradients and groundwater quality.
- P-15 was installed in the LDA and, similar to P-14, is also screened within CKD and other fill material disposed in the LDA. Groundwater samples collected from P-15 provide data on chemical composition of water just before the groundwater flows across the Lower Haul Road to daylight as seeps west of the LDA.
- P-16 was installed just west (downgradient) of the high pH seepage area and east (upgradient) of the South Pond.
- P-17 was installed per Ecology's request during their Site visit in September 2021 and is located southwest of the LDA.

The LDA surface water sampling locations evaluate the high pH seepage that occurs west of the LDA:

- The Still Well is a 2-inch-diameter flush-mount well located within the high pH seepage zone west of the LDA.
- The South Pond is a closed depression located west of the high pH seepage area.
- The Weir is located north of the access road to MW-3A immediately below the discharge point from the wetlands. If no flow is observed at the Weir, the constructed wetlands upstream are the alternative sampling location.
- The Infiltration Ponds are located at the north end of the Site near Ravensdale-Black Diamond Road and receive treated water from the on-site seepage treatment system. The surface sample is collected from the southwest area of the Infiltration Ponds.

In 2006, bedrock monitoring wells were installed along the west side of the main access road, west of the LDA. The bedrock wells were installed to assess groundwater conditions in the bedrock immediately downgradient of the LDA. MWB-1LDA is located near the northern tip of the LDA, MWB-2LDA is located near the center of the LDA, and MWB-3 LDA is located near the southern end of the LDA. In accordance with the Work Plan, field parameters are monitored in the LDA bedrock monitoring wells semi-annually, and the wells are sampled annually.

3.2 DSP Sampling Locations

The DSP groundwater monitoring locations are shown in Figure 2. The DSP bedrock groundwater monitoring program includes four wells in the DSP area (MWB-1SDSP, MWB-1DDSP, MWB-5DSP, and MWB-6DSP), which evaluate groundwater quality beneath, upgradient, and downgradient of the DSP. Field parameters of groundwater discharging from the Portal are monitored semi-annually, and the Portal is sampled annually. The Portal was originally constructed to drain water from the Dale Strip Coal mine. In accordance with the Work Plan, field parameters are monitored in the DSP bedrock monitoring wells semi-annually, and the wells are sampled annually. There are two additional monitoring wells (MWB-2DSP and MWB-4SDSP) near the DSP area that are monitored semi-annually for water levels and field parameters only.

3.3 LDA Interceptor Trench

The purpose of the Interceptor Trench is to intercept clean shallow groundwater and direct the water away from the LDA before the water enters the LDA. Monitoring is performed at the Interceptor Trench outfall for flow, pH, turbidity, and total dissolved solids. The purpose of the monitoring is to ensure that the trench is not collecting impacted groundwater.

4.0 SAMPLING ACTIVITIES

The following section summarizes the activities associated with the current monitoring event.

4.1 Procedures

4.1.1 Water Level and Field Parameter Measurements

Depth to water measurements were collected from all monitoring wells at the Site during the period of June 26 and 28, 2023. Table 1 presents depth to water measurements and elevations. Groundwater elevation contour maps are provided in Figures 3A-C.

Field parameters for groundwater and surface water were measured as part of the sampling activities described in the following sections. These measurements were performed with the following equipment:

- YSI ProDSS multimeter with pH, ORP (oxidation-reduction potential), conductivity, dissolved oxygen, and temperature probes
- Hach 2100Q Turbidimeter

4.1.2 Laboratory Analysis

Laboratory analyses were performed on samples collected from the various locations described in the following sections. Although the analytic parameters varied between the types of samples, the following elements are common to all the sampling and analysis activities:

- The collected samples were transported to the laboratory within appropriate sample hold times following chain-of-custody protocols.
- The testing was performed by Analytical Resources, Inc. (ARI) of Tukwila, Washington.
- All samples were tested for the following parameters using the methods indicated:

| | |
|------------------------------|------------------|
| Antimony | EPA Method 200.8 |
| Arsenic | EPA Method 200.8 |
| Lead | EPA Method 200.8 |
| Potassium | EPA Method 6010D |
| Vanadium | EPA Method 200.8 |
| Total Dissolved Solids (TDS) | SM 2540 C |

- Interceptor Trench samples are tested for the following parameters using the method indicated:

| | |
|-----------|-------------------|
| pH | Field Measurement |
| TDS | SM 2540 C |
| Turbidity | Field Measurement |

- Summaries of historical analytic data for the various sampling locations are presented in Appendix A. The data validation report and the laboratory analytical data packages are provided in Appendix C. Sampling Integrity Data Sheets (SIDS) are provided in Appendix D.

4.1.3 LDA Groundwater Sampling

During the period of June 26 to 28, 2023, WSP sampled groundwater from shallow/alluvial groundwater monitoring wells outside of the LDA (MW-1A, MW-2A, MW-3A, MW-4A, MW-5A, MW-6A, MW-7A, MW-8A, MW-9A, MW-10, P-16, P-17), and from two well installed within the LDA (P-14 and P-15).

The following methods and procedures were used to collect groundwater samples:

- Depth to groundwater was measured in the wells prior to purging and sampling.
- Using a dedicated bladder pump or dedicated tubing connected to a peristaltic pump (if groundwater elevation allowed), water from wells MW-1A, MW-2A, MW-3A, MW-4A, MW-5A, MW-6A, MW-7A, MW-8A, MW-9A,

MW-10, P-16, P-17, P-14, and P-15 was purged at a rate between approximately 100 and 500 milliliters (mL) per minute.

- Field parameters of pH, conductivity, temperature, DO, ORP, and turbidity were measured and recorded during purging at approximately five-minute intervals until parameters were stable.
- Once the field parameters stabilized, the purging phase of the process was concluded. Groundwater samples were then collected directly from the dedicated sample tubing.
- For quality control purposes, a duplicate sample was collected from MW-2A (labeled as MW-45A).
- Laboratory-provided containers were used to collect the samples. For each groundwater sample, one 500-mL bottle preserved with nitric acid and one 1-Liter (L) unpreserved bottle were collected. The samples were then labeled and placed in a cooler with ice.
- The pH of the water in some of the wells within the LDA (P-14 and P-15) is occasionally greater than 10. Sampling protocol requires that the preserved samples for dissolved metals analysis have a pH of less than 2 upon receipt at the laboratory. To meet this requirement, the pH of the LDA surface water samples collected for metals analysis was checked at the time of sample collection using pH test paper strips. If the pH was higher than 2, additional nitric acid (provided by the laboratory) was added until the pH of the sample was less than 2.

All groundwater and quality control samples were analyzed for the parameters listed in Section 4.1.2. Field parameters and analytical data are presented in Table 2.

4.1.4 LDA Surface Water Sampling

On June 26, 2023, WSP visited the South Pond and Wier surface water monitoring locations but was unable to collect samples because both locations were dry. On June 28, 2023, WSP collected samples from the Still Well and Infiltration Ponds surface water monitoring locations. The following methods and procedures were used to collect surface water samples:

- Field parameters of pH, conductivity, temperature, DO, ORP, and turbidity were measured and recorded. These parameters were measured and recorded at each of the surface water locations at the time of sample collection.
- Grab surface water samples were collected using dedicated sample tubing connected to a peristaltic pump.
- For quality control purposes, a duplicate sample was collected from the Infiltration Ponds (labeled as MW-35A).
- Laboratory-provided containers were used to collect the surface water samples. For each surface water sample, one 500-mL bottle preserved with nitric acid and one unpreserved 1-L bottle were collected. The samples were labeled and placed in a cooler with ice.
- The pH of some LDA surface water sampling locations is occasionally greater than 10. Sampling protocol requires that the preserved samples for dissolved metals analysis have a pH of less than 2 upon receipt at the laboratory. To meet this requirement, the pH of the LDA surface water samples collected for metals analysis was checked at the time of sample collection using pH test paper strips. If the pH was higher than 2, additional nitric acid (provided by the laboratory) was added until the pH of the sample was less than 2.

All surface water and quality control samples were analyzed for the parameters listed in Section 4.1.2. Field parameters and analytical data are presented in Table 2.

4.1.5 LDA Interceptor Trench Sampling

On June 27, 2023, WSP sampled groundwater from the Interceptor Trench outfall. The following methods and procedures were used to collect the sample:

- Field pH, turbidity, and the flow rate at the Interceptor Trench outfall were measured and recorded.
- Grab water samples were collected from the Interceptor Trench by placing the sample bottles under the flow of water.
- Laboratory-provided containers were used to collect the sample for TDS lab analysis. One 1-L unpreserved bottle was collected. The sample was then labeled and placed in a cooler with ice.

The Interceptor Trench sample was analyzed for the parameters listed in Section 4.1.2. Field parameters and analytical data are presented in Table 2.

5.0 RESULTS

Analytical results from the June 2023 monitoring round are presented in Table 2. Table 3 presents the current and historical summary of the Interceptor Trench monitoring data. Historical summary tables of analytical results at each sampling location are provided in Appendix A and concentrations trend graphs for key parameters are provided in Appendix B. All analytical data were subject to a data validation review. Data validation was conducted in accordance with the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (EPA 2020), the SAP, and the QAPP (Golder 2021). Data reporting qualifiers are included with the analytical results in Appendix A. The data validation review found that all the data were considered valid and usable. The data validation and raw analytical data packages provided by the laboratory are provided in Appendix C. Data collected during this sampling round will be combined with all RI data to complete the evaluations and requirements of the RI/FS.

6.0 OPERATIONS AND MAINTENANCE OF THE LEACHATE TREATMENT SYSTEM

The leachate treatment system began operating in September 2018. The system operated intermittently from December 2018 to May 2019 as the system upgrades were completed during that time, which included various upgrades and modifications to improve the system's long-term operating efficiency. The system began continuous operations in June 2019, with minor shutdowns occurring to complete routine maintenance and continued minor modifications to improve long-term operating efficiency.

The treatment system includes a 4,200-gallon mixing tank (steel rectangular box-shaped tank) that receives the influent water coming from the seepage collection ditch and piping. Water from the tank constantly flows through the carbon dioxide (CO₂) sparge unit, which continuously monitors the water pH and activates CO₂ sparging when the water pH exceeds 8.5. CO₂ sparging continues until the pH reduces to 8. The sparged water is pumped back into the mixing tank to maintain the neutralized water within the tank. The influent flow, pumping from the tank and through the CO₂ sparge unit, and discharge from the sparge unit back into the tank are all specifically located in different areas of the mixing tank to provide constant circulation effectively providing pH neutralization throughout the tank. The mixing tank contains a float switch-activated discharge pump that activates when the water reaches a set height within the tank and turns the pump off when the water is lowered to the desired height. Neutralized

water pumped from the tank is discharged through filters and an iron-based adsorption media to remove arsenic, prior to discharge of the water to the Infiltration Ponds.

The continuous pH monitoring system is connected to telemetry that sends pH readings and alerts to WSP engineer's cell phones if readings outside of the set ranges occur allowing for response and troubleshooting. Routine inspections of the treatment system are conducted approximately once every two weeks. The inspections include routine maintenance activities such as cleaning scale off pump parts, hoses, and probes to sustain continued operations of the treatment system. The treatment system has been effective in reducing the pH of the seepage water to below 8 standard units and reducing metals concentrations before discharge to the Infiltration Ponds. Typical maintenance downtime of less than 1 day occasionally occurs. Optimization of the metals adsorption system continues, as calcium carbonate clogging of the adsorption system frequently arises. Table 4 provides the 2023 second quarter laboratory analytical data for samples collected: before the pH treatment tank (influent), pre-iron-based adsorption media, and post-iron-based adsorption media. The laboratory analytical report is provided in Appendix C.

The treatment system has been effective in reducing the impacts to groundwater in the immediate vicinity of the Infiltration Ponds that were historically observed in groundwater monitoring wells MW-5A and MW-6A. Additional modifications and improvements are anticipated to occur to the treatment system during the MTCA cleanup process to improve system performance and efficiency, and achieve Site-specific cleanup standards that are protective of human health and the environment.

7.0 LIMITATIONS

WSP prepared this report for the exclusive use of Holcim (US) Inc. and their authorized agents. It may also be submitted to regulatory agencies.

Within the limitations of scope, schedule, and budget, our services have been executed in accordance with generally accepted environmental science practices in this area at the time this report was prepared. No warranty or other conditions, express or implied, should be understood. This report was prepared, in part, based on previous investigations and data collected by others. WSP USA Inc. is not responsible for any data that were inaccurately reported by others and reproduced here.

8.0 REFERENCES

- ARCADIS (U.S.) Inc. (ARCADIS). 2004. Lower Disposal Area and Dale Strip Pit Conceptual Design Plan, Reserve Silica Property, 28131 Black Diamond-Ravensdale Road, Ravensdale, Washington. April 28.
- Golder Associates Inc. (Golder). 2008a. Construction Summary Report, Lower Disposal Area Cover Upgrade, Reserve Silica Site, Reserve Silica Site, Ravensdale, Washington, July 25.
- Golder. 2008b. Draft Workplan for Seep Collection Test Trenches, Lower Disposal Area, Reserve Silica Site, Ravensdale, Washington. August 4.
- Golder. 2009a. Construction Summary Report, Seep Collection System Test Trenches, Reserve Silica Site, Ravensdale, Washington. March 6.
- Golder. 2009b. Flow Monitoring Seep Collection System Test Trenches, Reserve Silica Site, Lower Disposal Area, Ravensdale, Washington. December.
- Golder. 2021. Remedial Investigation/Feasibility Study Work Plan, Reserve Silica Reclamation Site, Ravensdale, Washington. July 22.
- Washington State Department of Ecology (Ecology). 2005. Sand and Gravel General Permit. Limit for Discharge to Ground Water. January 5.
- USEPA (EPA). 2020. National Functional Guidelines for Inorganic Superfund Data Review. Office of Superfund Remediation and Technology Innovation. OLEM 9240.1-66, EPA 542-R-20-006. November.

Tables

Table 1: Second Quarter 2023 Water Level Measurements

| Sample Area | Sample Location ID | Date Measured | Well Data | | | | Water Levels | | |
|------------------------------------|--------------------|---------------|-----------------------------|------------------------------|---------------------------|--------------------------|-----------------------------|----------------------------|-------------------------------------|
| | | | Total Well Depth (feet bgs) | Screened Interval (feet bgs) | Bentonite Seal (feet bgs) | Casing Diameter (inches) | TOC Elevation (feet NAVD88) | Depth to Water (feet btoc) | Groundwater Elevation (feet NAVD88) |
| LDA - Shallow/Alluvial Groundwater | MW-1A | 6/28/2023 | 44 | 28-43 | 2-26 | 2 | 613.44 | 34.78 | 578.66 |
| | MW-2A | 6/28/2023 | 40 | 25-40 | 2-23 | 2 | 607.21 | 28.64 | 578.57 |
| | MW-3A | 6/26/2023 | 20 | 4-20 | 2-4 | 2 | 689.11 | 7.35 | 681.76 |
| | MW-4A | 6/27/2023 | 20 | 5-20 | 2-4 | 2 | 705.45 | 6.27 | 699.18 |
| | MW-5A | 6/26/2023 | 40 | 25-40 | 2-23 | 2 | 611.23 | 32.57 | 578.66 |
| | MW-6A | 6/28/2023 | 39 | 24-39 | 2-22 | 2 | 608.95 | 30.50 | 578.45 |
| | MW-7A | 6/28/2023 | 20 | 10-20 | 2-7 | 2 | 592.69 | 14.57 | 578.12 |
| | MW-8A | 6/28/2023 | 26 | 16-26 | 2-13 | 2 | 601.49 | 24.08 | 577.41 |
| | MW-9A | 6/27/2023 | 13 | 8-13 | 2-5 | 2 | 697.29 | 5.19 | 692.10 |
| | MW-10A | 6/26/2023 | 29 | 9-29 | 2-6 | 2 | 698.02 | 9.63 | 688.39 |
| Within LDA - Groundwater | P-16 | 6/26/2023 | 10 | 5-10 | 1-3 | 2 | 702.87 | 3.72 | 699.15 |
| | P-17 | 6/27/2023 | 13 | 8-13 | 2-5 | 2 | 720.32 | 10.06 | 710.26 |
| Within LDA - Groundwater | P-14 | 6/27/2023 | 52 | 40-50 | 3-38 | 2 | 773.32 | 33.06 | 740.26 |
| | P-15 | 6/27/2023 | 34 | 24-34 | 2-20 | 2 | 756.55 | 24.90 | 731.65 |
| LDA - Bedrock Groundwater | MWB-1LDA | 6/27/2023 | 135 | 115-135 | 2-105 | 2 | 704.68 | 22.85 | 681.83 |
| | MWB-2LDA | 6/27/2023 | 125 | 110-125 | 2-103 | 2 | 741.66 | 36.04 | 705.62 |
| | MWB-3LDA | 6/27/2023 | 145 | 125-145 | 2-115 | 2 | 744.19 | 2.73 | 741.46 |
| DSP - Bedrock Groundwater | MWB-1SDSP | 6/26/2023 | 160 | 150-160 | 138-148 | 2 | 936.29 | 39.87 | 896.42 |
| | MWB-1DDSP | 6/26/2023 | 265 | 255-265 | 243-253 | 2 | 935.37 | 53.28 | 882.09 |
| | MWB-2DSP | 6/26/2023 | 258 | 238-258 | - | 2 | 934.82 | 198.92 | 735.90 |
| | MWB-4SDSP | 6/26/2023 | 43 | 32-42.8 | - | 2 | 932.41 | 19.98 | 912.43 |
| | MWB-5DSP | 6/26/2023 | 83 | 73-83 | 2-61 | 2 | 935.05 | 22.23 | 902.57 |
| | MWB-6DSP | 6/26/2023 | 195 | 120-195 | 2-108 | 2 | - | 21.56 | - |

- Not measured or not available
 feet bgs Feet below ground surface
 feet bmp Feet below measuring point
 feet NAVD88 Feet in NAVD88 datum
 TOC Top of casing



Table 2: Second Quarter 2023 Field Parameters and Analytical Data

| Sample Area | Sample Location ID | Date Sampled | Field Parameters | | | | | | | | | Gen. Chem. Total Dissolved Solids (mg/L) | Metals (ug/L) | | | | | |
|--|--------------------------|--------------|-----------------------------|-----------------------------|-------------------------------------|------------------|-------------------------|-------------------------|--|-----------------|---------------------|---|-----------------|----------------|------------------|-------------|-----------------|-----|
| | | | TOC Elevation (feet NAVD88) | Depth to Water (feet btoc)* | Groundwater Elevation (feet NAVD88) | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Oxidation Reduction Potential (Rel mV) | Turbidity (NTU) | pH (standard units) | | Antimony, Total | Arsenic, Total | Potassium, Total | Lead, Total | Vanadium, Total | |
| Preliminary Cleanup Level ^a | | | - | - | - | - | - | - | - | - | - | 6.5-8.5 | - | 5.6 | 8 | - | 2.1 | 140 |
| LDA - Shallow/Alluvial Groundwater | MW-1A | 6/28/2023 | 613.44 | 34.78 | 578.66 | 9.4 | 527 | 9.69 | 277.4 | 0.85 | 6.68 | 363 | 0.87 | 1.18 | 16600 | 0.1 U | 0.862 | |
| | MW-2A | 6/28/2023 | 607.21 | 28.64 | 578.57 | 10.5 | 521.0 | 9.26 | 275.7 | 2.10 | 6.79 | 361 | 1.05 | 1.12 | 19600 | 0.371 J | 1.02 | |
| | MW-2A Duplicate (MW-45A) | 6/28/2023 | - | - | - | - | - | - | - | - | - | 348 | 1.07 | 1.12 | 19700 | 0.1 UJ | 1.1 | |
| | MW-3A | 6/26/2023 | 689.11 | 7.35 | 681.76 | 11.7 | 802 | 0.65 | -21.3 | 4.65 | 6.78 | 699 | 5.91 | 11.7 | 144000 | 0.558 | 1.07 | |
| | MW-4A | 6/27/2023 | 705.45 | 6.27 | 699.18 | 11.4 | 308.1 | 3.02 | 74.9 | 1.06 | 6.2 | 246 | 0.2 U | 0.19 J | 745 | 0.5 U | 1.24 | |
| | MW-5A | 6/26/2023 | 611.23 | 32.57 | 578.66 | 11.1 | 1,559 | 4.28 | 74.7 | 1.29 | 7.49 | 1510 | 6.99 | 4.55 | 475000 | 0.2 U | 2.17 | |
| | MW-6A | 6/28/2023 | 608.95 | 30.50 | 578.45 | 11 | 1,640 | 2.57 | 222.4 | 1.22 | 7.78 | 1310 | 7.07 | 3.92 | 446000 | 0.052 J | 1.73 | |
| | MW-7A | 6/28/2023 | 592.69 | 14.57 | 578.12 | 13 | 561 | 0.46 | 119.6 | 0.42 | 6.83 | 364 | 0.785 | 1.24 | 26200 | 0.407 | 1.02 | |
| | MW-8A | 6/28/2023 | 601.49 | 24.08 | 577.41 | 10.2 | 845 | 1.85 | 176.3 | 0.58 | 7.19 | 656 | 4.03 | 5.91 | 189000 | 0.1 U | 3.62 | |
| | MW-9A | 6/27/2023 | 697.29 | 5.19 | 692.10 | 11.1 | 468.4 | 2.6 | 44.3 | 7.31 | 6.72 | 379 | 0.123 J | 0.832 | 2120 | 0.5 U | 1.3 | |
| | MW-10A | 6/26/2023 | 698.02 | 9.63 | 688.39 | 11.1 | 103 | 9.22 | 143.6 | 4.69 | 6.19 | 108 | 0.2 U | 0.579 | 823 | 0.168 J | 1 | |
| | P-16 | 6/26/2023 | 702.87 | 3.72 | 699.15 | 12.5 | 2,388 | -0.03 | -514.9 | 49.8 | 11.68 | 2130 | 6.04 | 80.4 | 726000 | 8.79 | 211 | |
| | P-17 | 6/27/2023 | 720.32 | 10.06 | 710.26 | 11.4 | 578 | 0.32 | -59.6 | 8.02 | 6.35 | 377 | 0.658 | 4.51 | 6140 | 0.5 U | 2.29 | |
| Within LDA - Groundwater | P-14 | 6/27/2023 | 773.32 | 33.06 | 740.26 | 13.5 | 18,550 | 0.05 | -591.7 | 1.19 | 13.07 | 6300 | 139 | 242 | 2200000 | 2.9 | 21.4 | |
| | P-15 | 6/27/2023 | 756.55 | 24.90 | 731.65 | 14.4 | 13,549 | 0.56 | -360.4 | 0.89 | 12.87 | 4290 | 1.15 | 5.77 | 1450000 | 119 | 0.635 J | |
| LDA - Bedrock Groundwater ^b | MWB-1LDA | 6/27/2023 | 704.68 | 22.85 | 681.83 | - | - | - | - | - | - | - | - | - | - | - | - | |
| | MWB-2LDA | 6/27/2023 | 741.66 | 36.04 | 705.62 | - | - | - | - | - | - | - | - | - | - | - | - | |
| | MWB-3LDA | 6/27/2023 | 744.19 | 2.73 | 741.46 | - | - | - | - | - | - | - | - | - | - | - | - | |



Table 2: Second Quarter 2023 Field Parameters and Analytical Data

| Sample Area | Sample Location ID | Date Sampled | Field Parameters | | | | | | | | | Gen. Chem. | Metals (ug/L) | | | | |
|--|---------------------------------------|--------------|-----------------------------|-----------------------------|-------------------------------------|------------------|-------------------------|-------------------------|--|-----------------|---------------------|------------|-------------------------------|-----------------|----------------|------------------|-------------|
| | | | TOC Elevation (feet NAVD88) | Depth to Water (feet btoc)* | Groundwater Elevation (feet NAVD88) | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Oxidation Reduction Potential (Rel mV) | Turbidity (NTU) | pH (standard units) | | Total Dissolved Solids (mg/L) | Antimony, Total | Arsenic, Total | Potassium, Total | Lead, Total |
| Preliminary Cleanup Level ^a | | | - | - | - | - | - | - | - | - | 6.5-8.5 | - | 5.6 | 8 | - | 2.1 | 140 |
| LDA- Surface Water | South Pond | 6/26/2023 | - | - | - | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY |
| | Still Well | 6/28/2023 | - | - | - | 15.6 | 6301 | 2.79 | -109.2 | 3.74 | 12.33 | 2240 | 27.6 | 42.1 | 450000 | 0.977 | 4.49 |
| | Weir | 6/26/2023 | - | - | - | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY |
| | Infiltration Ponds | 6/28/2023 | - | - | - | 19.90 | 3514.00 | 4.58 | 91.00 | 4.73 | 8.64 | 2270 | 8.92 | 8.35 | 831000 | 0.807 | 0.935 J |
| | Infiltration Ponds Duplicate (MW-35A) | 6/28/2023 | - | - | - | - | - | - | - | - | - | 2320 | 8.4 | 7.96 | 891000 | 0.8 | 0.753 |
| DSP - Bedrock Groundwater ^b | MWB-1SDSP | 6/26/2023 | 936.29 | 39.87 | 896.42 | - | - | - | - | - | - | - | - | - | - | - | - |
| | MWB-1DDSP | 6/26/2023 | 935.37 | 53.28 | 882.09 | - | - | - | - | - | - | - | - | - | - | - | - |
| | MWB-2DSP | 6/26/2023 | 934.82 | 198.92 | 735.90 | - | - | - | - | - | - | - | - | - | - | - | - |
| | MWB-4SDSP | 6/26/2023 | 932.41 | 19.98 | 912.43 | - | - | - | - | - | - | - | - | - | - | - | - |
| | MWB-5DSP | 6/26/2023 | 935.05 | 22.23 | 902.57 | - | - | - | - | - | - | - | - | - | - | - | - |
| | MWB-6DSP ^c | 6/26/2023 | - | 21.56 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | MWB-6DSP Duplicate (MW-55A) | 6/26/2023 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | Portal | 6/26/2023 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

Orange shaded values indicate parameter results above the Preliminary Screening Level (PSL), except for pH, which could be above or below the PSL.

- Not measured or not collected. TOC Top of casing inside PVC well
 °C Degrees Celsius
 * Depth to water (DTW) measurements for all shallow/alluvial wells collected on the same day; date noted is sampling date. feet bmp Feet below measuring point
 feet NAVD88 Feet in NAVD88 datum

a Preliminary Cleanup Level (PCUL) provided by Ecology 30 Sept 2022
 b LDA and DSP bedrock wells are monitored semi-annually
 c MWB-6DSP was found damaged in July 2022. The well was repaired by late December 2022 and has yet to be resurveyed.
 J Data validation code; estimated value. ug/L Micrograms per liter
 J+ Data validation code; estimated value with high bias mV Millivolts
 J- Data validation code; estimated value with low bias. NTU Nephelometric Turbidity Unit
 U Data validation code; not detected at the Reporting Limit (RL). µmhos/cm Micromhos per centimeter
 DRY Location is dry. Unable to collect field parameters or samples.



Table 3: Interceptor Trench Discharge Monitoring

| Date Sampled | Time Sampled | Flow (gpm) | Field pH (standard units) | Turbidity (NTU) | Total Dissolved Solids (mg/L) |
|------------------------|--------------|------------|---------------------------|-----------------|-------------------------------|
| 19-Oct-13 | 8:45 | 0.3 | 7.47 | - | - |
| 19-Nov-13 | 9:25 | 0.7 | 7.52 | - | - |
| 23-Dec-13 | 15:25 | 1.2 | 7.27 | - | - |
| 20-Jan-14 | 11:15 | 0.8 | 7.58 | 1 | 277 |
| - | - | - | - | - | - |
| 31-Mar-14 | 11:12 | 1 | 7.22 | 1.6 | 257 |
| 22-Apr-14 | 16:05 | 3.6 | 6.85 | 474 | 214 |
| 27-May-14 | 15:30 | 0.8 | 7.12 | 21.9 | 294 |
| 27-Jun-14 | 11:10 | 0.3 | 7.13 | 13.3 | 136 |
| 31-Jul-14 | 19:45 | 0.2 | 6.95 | 4.1 | 305 |
| 28-Aug-14 | 14:00 | 0.1 | 7.2 | 1.8 | 294 |
| 29-Sep-14 | 13:39 | 0.1 | 7.87 | 1.4 | 340 |
| 29-Oct-14 | 11:45 | 0.3 | 7.03 | 1.1 | 319 |
| 24-Nov-14 | 11:50 | 0.8 | 7.09 | 0.7 | 229 |
| 22-Dec-14 | 8:00 | 0.4 | 7.08 | 0.4 | 253 |
| 30-Jan-15 ¹ | 10:10 | 1.1 | 7.09 | 0.7 | 270 |
| 4-May-15 | 9:30 | 0.31 | 7.54 | 2.05 | 290 |
| 4-Aug-15 | 12:20 | 0.06 | 7.61 | 1.51 | 268 |
| 3-Nov-15 | 13:15 | 0.8 | 7.38 | 36.9 | 320 |
| 8-Feb-16 | 10:40 | 1.9 | 7.23 | 9.29 | 279 |
| 2-May-16 | 16:00 | 0.5 | 7.77 | 22.5 | 431 |
| 22-Aug-16 | 11:00 | 0.08 | 7.78 | 3.34 | 302 |
| 1-Nov-16 | 11:40 | 2.4 | 8.16 | 96.3 | 345 |
| 2-Feb-17 | 9:25 | 4.5 | 7.61 | 0.85 | 514 |
| 30-May-17 | 15:45 | 4.5 | 7.33 | 4.04 | 324 |
| 18-Aug-17 | 8:50 | 0.1 | 7.57 | 34 | 300 |
| 10-Nov-17 | 11:20 | 1.1 | 6.81 | 12.9 | 365 |
| 28-Feb-18 | 10:16 | 2.22 | 7.02 | 37.9 | 381 |
| 2-May-18 | 11:45 | 1.18 | 7.46 | 2.89 | 339 |
| 22-Aug-18 | 10:00 | 0.13 | 7.32 | 19.3 | 287 |
| 7-Nov-18 | 14:40 | 0.33 | 7.24 | 3.05 | 342 |
| 13-Mar-19 | 11:31 | 1.43 | 7.61 | 19.4 | 313 |

Table 3: Interceptor Trench Discharge Monitoring

| Date Sampled | Time Sampled | Flow (gpm) | Field pH (standard units) | Turbidity (NTU) | Total Dissolved Solids (mg/L) |
|--------------|--------------|------------|---------------------------|-----------------|-------------------------------|
| 9-May-19 | 10:30 | 0.88 | 7.77 | 8.9 | 394 |
| 26-Aug-19 | 18:15 | 0.42 | 7.25 | 26.4 | 361 |
| 14-Nov-19 | 13:30 | 0.42 | 7.05 | 34.5 | 447 |
| 13-Feb-20 | 12:35 | 1.58 | 6.95 | 1.76 | 306 |
| 13-Aug-20 | 12:00 | 0.21 | 7.32 | 20.8 | 339 |
| 10-Dec-20 | 12:22 | 3.8 | 7.7 | 228 | 691 |
| 4-Mar-21 | 12:20 | 3.5 | 7.23 | 116 | 584 |
| 10-Jun-21 | 13:10 | 0.2 | 7.02 | 6.31 | 360 |
| 15-Oct-21 | 13:55 | 0.2 | 7.08 | 31 | 382 |
| 7-Jan-22 | 11:58 | 9.2 | 7.43 | 6.23 | 288 |
| 17-Mar-22 | 15:25 | 3.5 | 11.75^ | 3.24 | 368 |
| 22-Jun-22 | 14:05 | 2.2 | 6.94 | 6.21 | 415 |
| 23-Sep-22 | 14:46 | 0.11 | 7.54 | 4.77 | 330 |
| 14-Dec-22 | 9:20 | 0.79 | 7.19 | 2.27 | 279 |
| 13-Mar-23 | 9:25 | 2.25 | 6.9 | 1.07 | 232 |
| 27-Jun-23 | 9:55 | 0.33 | 7.05 | 7.31 | 381 |

- Not measured or not available
 ^ pH values error, due to faulty pH probe.
 gpm Gallons per minute
 NTU Nephelometric Turbidity Unit
 mg/L Milligrams per liter

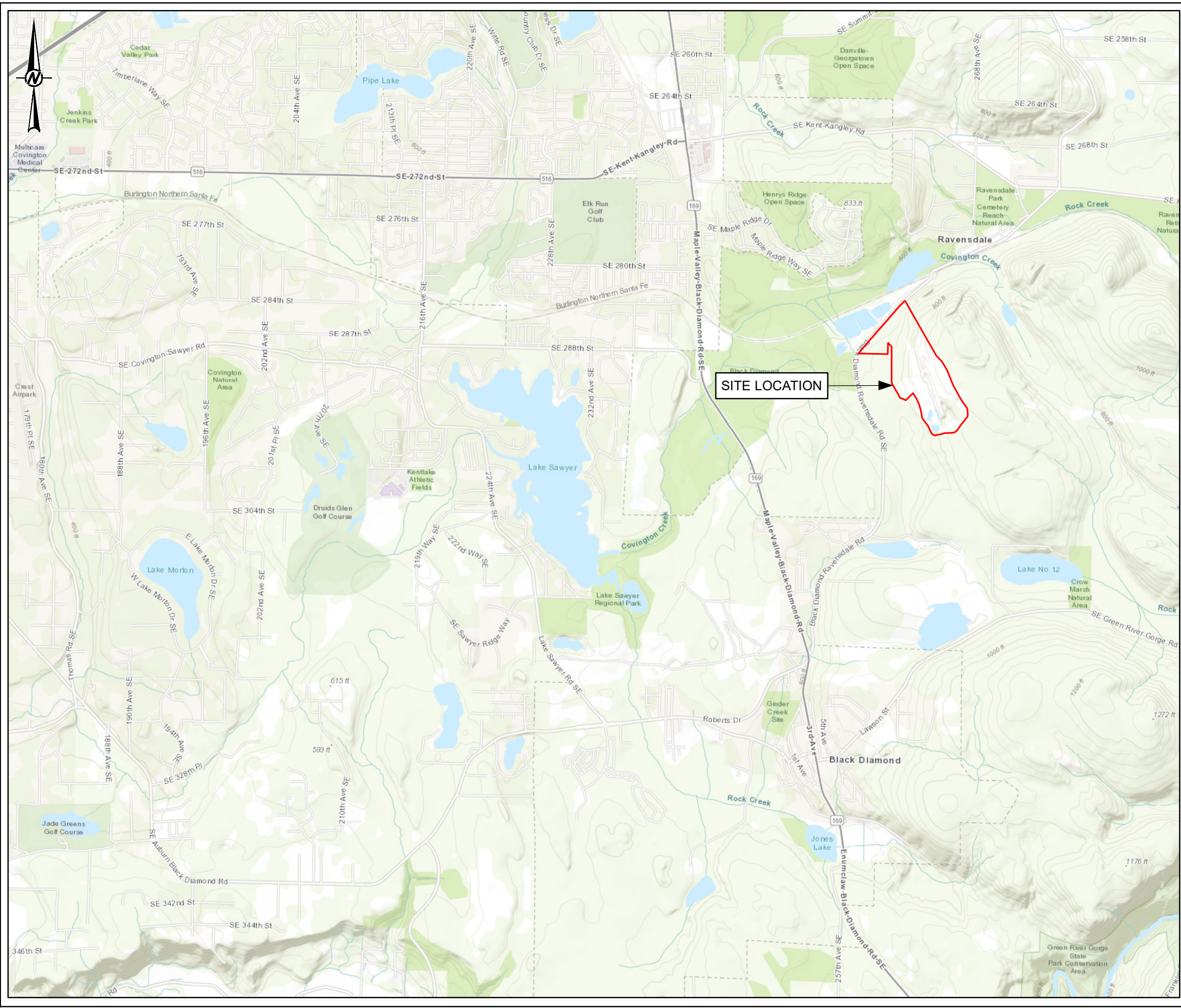


Table 4: Second Quarter 2023 Treatment System Metals Monitoring

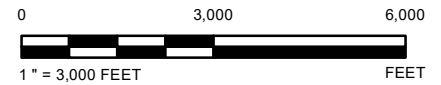
| Sample Location | Sample ID | Date Sampled | pH (standard units) | Total Antimony (ug/L) | Dissolved Antimony (ug/L) | Total Arsenic (ug/L) | Dissolved Arsenic (ug/L) | Total Lead (ug/L) | Dissolved Lead (ug/L) | Total Vanadium (ug/L) | Dissolved Vanadium (ug/L) |
|---|---------------|--------------|------------------------|-----------------------------|---------------------------------|----------------------------|--------------------------------|-------------------------|-----------------------------|-----------------------------|---------------------------------|
| pH Tank Influent | Tank-Influent | 28-Jun-23 | 12.15 | 18.7 | 17.9 | 10.9 | 6.50 | 93.7 | 94.9 | 1.94 | 1.60 |
| pH Tank Effluent/Filter Media Influent | Sand-Effluent | 28-Jun-23 | - | 18.4 | 16.7 | 15.1 | 13.2 | 29.9 | 0.520 | 1.77 | 1.60 |
| Filter Media Effluent | As-Effluent | 28-Jun-23 | 7.80 | 13.7 | 14.3 | 6.00 | 5.71 | 7.10 | 0.455 J | 0.615 J | 0.440 J |

- Not measured or not available
 ug/L Micrograms per liter
 J Data validation code; estimated value

Figures



LEGEND
 Property Boundary



REFERENCE(S)
 1. ASPECT CONSULTING (PROPERTY BOUNDARY)
 2. ESRI (WASHINGTON STATE COUNTY BOUNDARY)
 3. COORDINATE SYSTEM: NAD 1983 STATEPLANE WASHINGTON NORTH FIPS 4601 FEET
 4. MAP SERVICE LAYER CREDITS: SOURCES: ESRI, HERE, GARMIN, USGS, INTERMAP, INCREMENT P, NRCAN, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), ESRI KOREA, ESRI (THAILAND), NGCC, (C) OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY
 SOURCES: ESRI, HERE, GARMIN, INTERMAP, INCREMENT P CORP., GEBCO, USGS, FAO, NPS, NRCAN, GEOBASE, IGN, KADASTER NL, ORDNANCE SURVEY, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), (C) OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY

CLIENT
HOLCIM

PROJECT
**RI WORK PLAN 2020
 RAVENSDALE, WA**

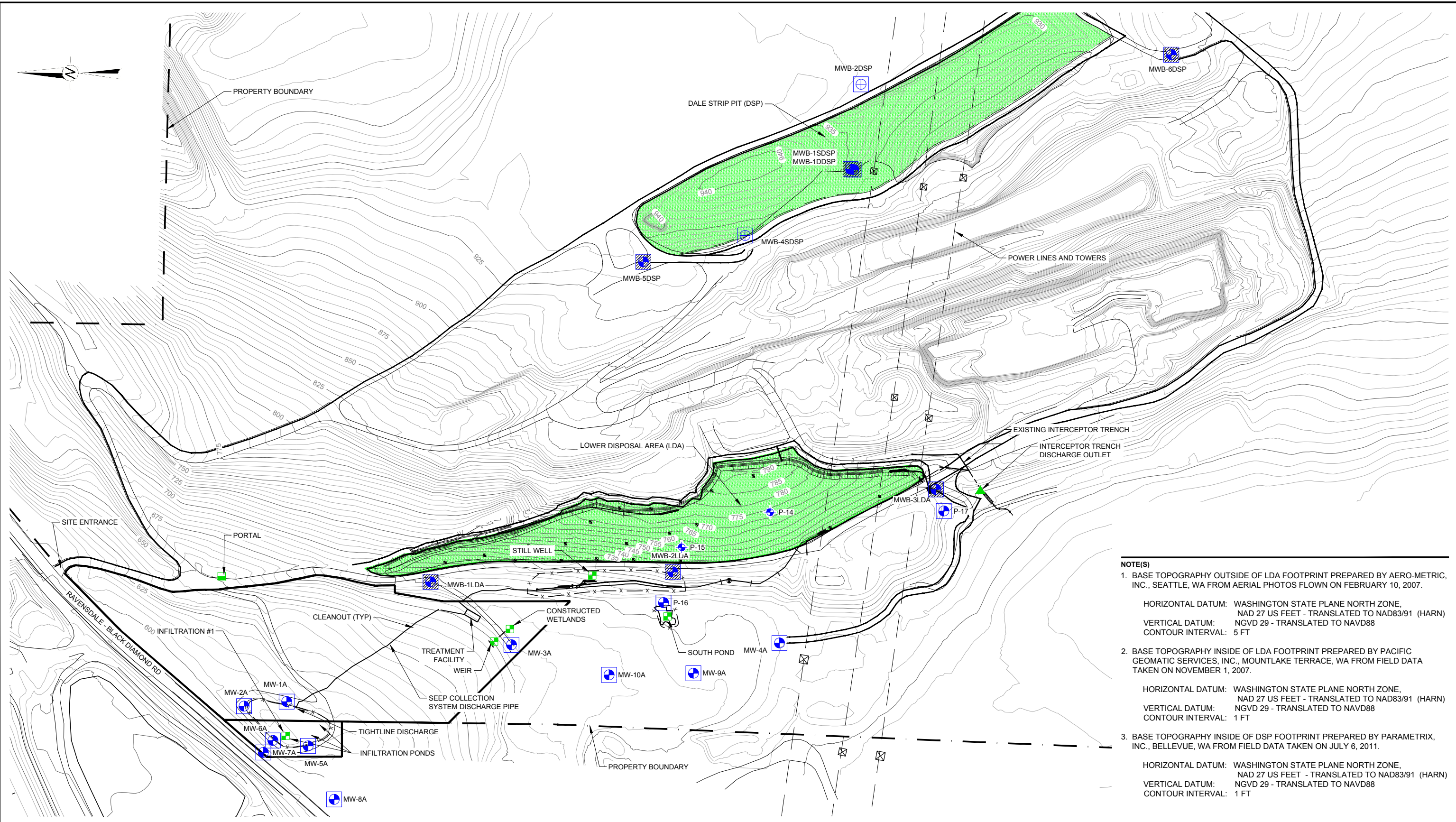
TITLE
SITE LOCATION MAP

| | | | |
|--|------------|------------|------------|
| | CONSULTANT | YYYY-MM-DD | 2021-02-10 |
| | | DESIGNED | TL |
| | | PREPARED | TL |
| | | REVIEWED | JX |
| | | APPROVED | GZ |

PATH: G:\HOLCIM\Reviews\ak098_PROJECTS\152030420_2020\00420_PROD\CTON\MAXDF\GURES\RevA\152030420_004_001_FL_RevA_SiteLocation.mxd PRINTED ON: 2021-02-10 AT 8:43:10 AM

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANS I

Path: \\vancouver\polder_gad\data\geomatics\HOLCIM\Ravensdale\99_20200402_004_001.dwg | Last Edited By: Iybar, Date: 2022-01-20, Time: 8:47:39 AM | Printed By: Tlybar, Date: 2022-01-20, Time: 8:48:28 AM



NOTE(S)

- BASE TOPOGRAPHY OUTSIDE OF LDA FOOTPRINT PREPARED BY AERO-METRIC, INC., SEATTLE, WA FROM AERIAL PHOTOS FLOWN ON FEBRUARY 10, 2007.
 HORIZONTAL DATUM: WASHINGTON STATE PLANE NORTH ZONE, NAD 27 US FEET - TRANSLATED TO NAD83/91 (HARN)
 VERTICAL DATUM: NGVD 29 - TRANSLATED TO NAVD88
 CONTOUR INTERVAL: 5 FT
- BASE TOPOGRAPHY INSIDE OF LDA FOOTPRINT PREPARED BY PACIFIC GEOMATIC SERVICES, INC., MOUNTLAKE TERRACE, WA FROM FIELD DATA TAKEN ON NOVEMBER 1, 2007.
 HORIZONTAL DATUM: WASHINGTON STATE PLANE NORTH ZONE, NAD 27 US FEET - TRANSLATED TO NAD83/91 (HARN)
 VERTICAL DATUM: NGVD 29 - TRANSLATED TO NAVD88
 CONTOUR INTERVAL: 1 FT
- BASE TOPOGRAPHY INSIDE OF DSP FOOTPRINT PREPARED BY PARAMETRIX, INC., BELLEVUE, WA FROM FIELD DATA TAKEN ON JULY 6, 2011.
 HORIZONTAL DATUM: WASHINGTON STATE PLANE NORTH ZONE, NAD 27 US FEET - TRANSLATED TO NAD83/91 (HARN)
 VERTICAL DATUM: NGVD 29 - TRANSLATED TO NAVD88
 CONTOUR INTERVAL: 1 FT

| | |
|---------------|---|
| LEGEND | |
| | COVER AREA |
| | MW-1A ALLUVIAL MONITORING WELL |
| | MWB-1DDSP BEDROCK MONITORING WELL |
| | MWB-2DSP BEDROCK MONITORING WELL (NOTE 4) |
| | DISPOSAL AREA MONITORING WELL |
| | LDA SURFACE WATER SAMPLING LOCATION |
| | DSP BEDROCK SAMPLING LOCATION (PORTAL) |
| | INTERCEPTOR TRENCH SAMPLING LOCATION |
| | FENCE LINE |



CLIENT
HOLCIM

| | |
|------------|------------|
| CONSULTANT | |
| YYYY-MM-DD | 2022-01-20 |
| DESIGNED | JX |
| PREPARED | REDMOND |
| REVIEWED | JX |
| APPROVED | GZ |

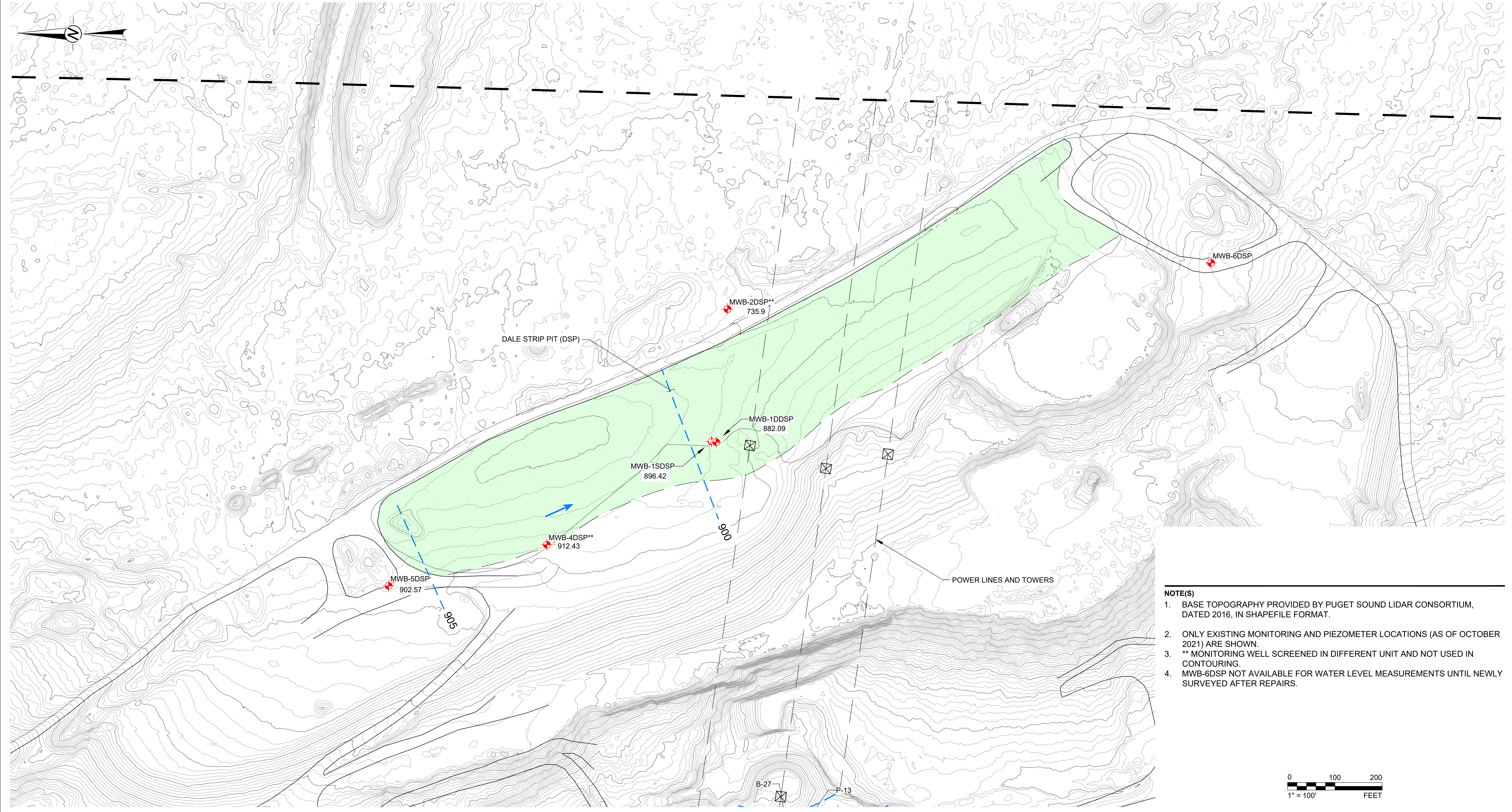
PROJECT
**RI WORK PLAN 2020
RAVENSDALE, WA**

TITLE
SITE PLAN

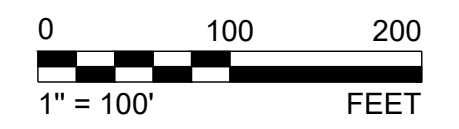
| | | | |
|---------------------------------|---------------------|------------------|--------------------|
| PROJECT NO. 152030420 | PHASE 004 | REV. A | FIGURE 2 |
|---------------------------------|---------------------|------------------|--------------------|

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM A3S-D

Path: \\gdr\gis\compendata\office\Brennan\geomatics\HOLCIM\Revised\09_PROJECTS\GL152030402\001_PROD\PRODUCTION\DWG\1_EI\03_LBR\02_PROD\02\001_03_001.dwg | Last Edited By: tyshar Date: 2023-08-15 Time: 10:52:18 AM | Printed By: TTYshar Date: 2023-08-15 Time: 11:23:38 AM



- NOTE(S)**
1. BASE TOPOGRAPHY PROVIDED BY PUGET SOUND LIDAR CONSORTIUM, DATED 2016, IN SHAPEFILE FORMAT.
 2. ONLY EXISTING MONITORING AND PIEZOMETER LOCATIONS (AS OF OCTOBER 2021) ARE SHOWN.
 3. ** MONITORING WELL SCREENED IN DIFFERENT UNIT AND NOT USED IN CONTOURING.
 4. MWB-6DSP NOT AVAILABLE FOR WATER LEVEL MEASUREMENTS UNTIL NEWLY SURVEYED AFTER REPAIRS.



| LEGEND | |
|--------|--|
| | COVER AREA |
| | MW-1A ALLUVIAL MONITORING WELL |
| | MWB-1DDSP BEDROCK MONITORING WELL |
| | P-14 LDA MONITORING WELL |
| | AMW-1 PLANT SITE MONITORING WELLS |
| | P-1 GOLDER PIEZOMETER |
| | LDA SURFACE WATER SAMPLING LOCATION |
| | DSP BEDROCK SAMPLING LOCATION (PORTAL) |
| | INTERCEPTOR TRENCH SAMPLING LOCATION |
| | FENCE LINE |

CLIENT
HOLCIM

CONSULTANT



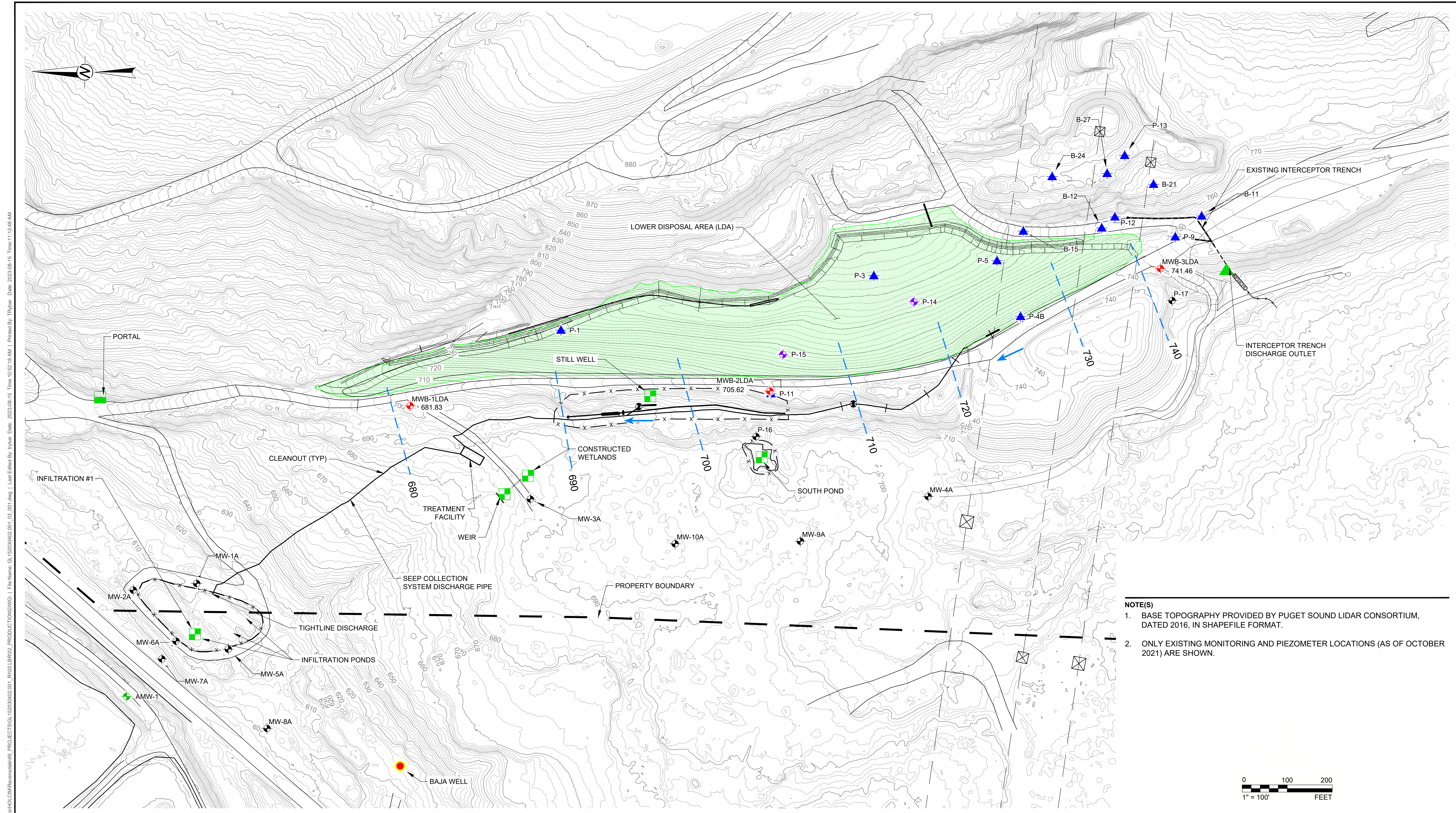
| | |
|------------|------------|
| YYYY-MM-DD | 2023-08-15 |
| DESIGNED | SJ |
| PREPARED | REDMOND |
| REVIEWED | SJ |
| APPROVED | GZ |

PROJECT
**JUNE 26, 2023 GROUNDWATER ELEVATIONS
RAVENSDALE, WA**

TITLE
DSP BEDROCK GROUNDWATER ELEVATIONS

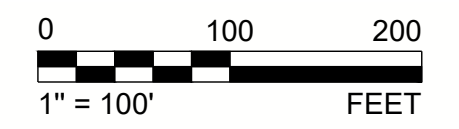
| | | | |
|--------------------|------|------|--------|
| PROJECT NO. | TASK | REV. | FIGURE |
| GL152030402.001 03 | | A | 3A |

1 in IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANS/D



Path: \\gdr\gis\completestates\office\Brent\completestates\HOLCIM\Revised\09_PROJECTS\GL152030402\001_03_001.dwg | Last Edited By: tyshar | Date: 2023-08-15 | Time: 11:24:48 AM | Printed By: TTYshar | Date: 2023-08-15 | Time: 11:24:48 AM

- NOTE(S)**
1. BASE TOPOGRAPHY PROVIDED BY PUGET SOUND LIDAR CONSORTIUM, DATED 2016, IN SHAPEFILE FORMAT.
 2. ONLY EXISTING MONITORING AND PIEZOMETER LOCATIONS (AS OF OCTOBER 2021) ARE SHOWN.



| | | | |
|---------------|-----------------------------|--|--|
| LEGEND | | | |
| | COVER AREA | | P-1 |
| | MW-1A | | LDA SURFACE WATER SAMPLING LOCATION |
| | MWB-1DDSP | | DSP BEDROCK SAMPLING LOCATION (PORTAL) |
| | P-14 | | INTERCEPTOR TRENCH SAMPLING LOCATION |
| | AMW-1 | | FENCE LINE |
| | ALLUVIAL MONITORING WELL | | PRIVATE WELL |
| | MWB-1DDSP | | |
| | LDA MONITORING WELL | | |
| | PLANT SITE MONITORING WELLS | | |

CLIENT
HOLCIM

CONSULTANT



| | |
|------------|------------|
| YYYY-MM-DD | 2023-08-15 |
| DESIGNED | SJ |
| PREPARED | REDMOND |
| REVIEWED | SJ |
| APPROVED | GZ |

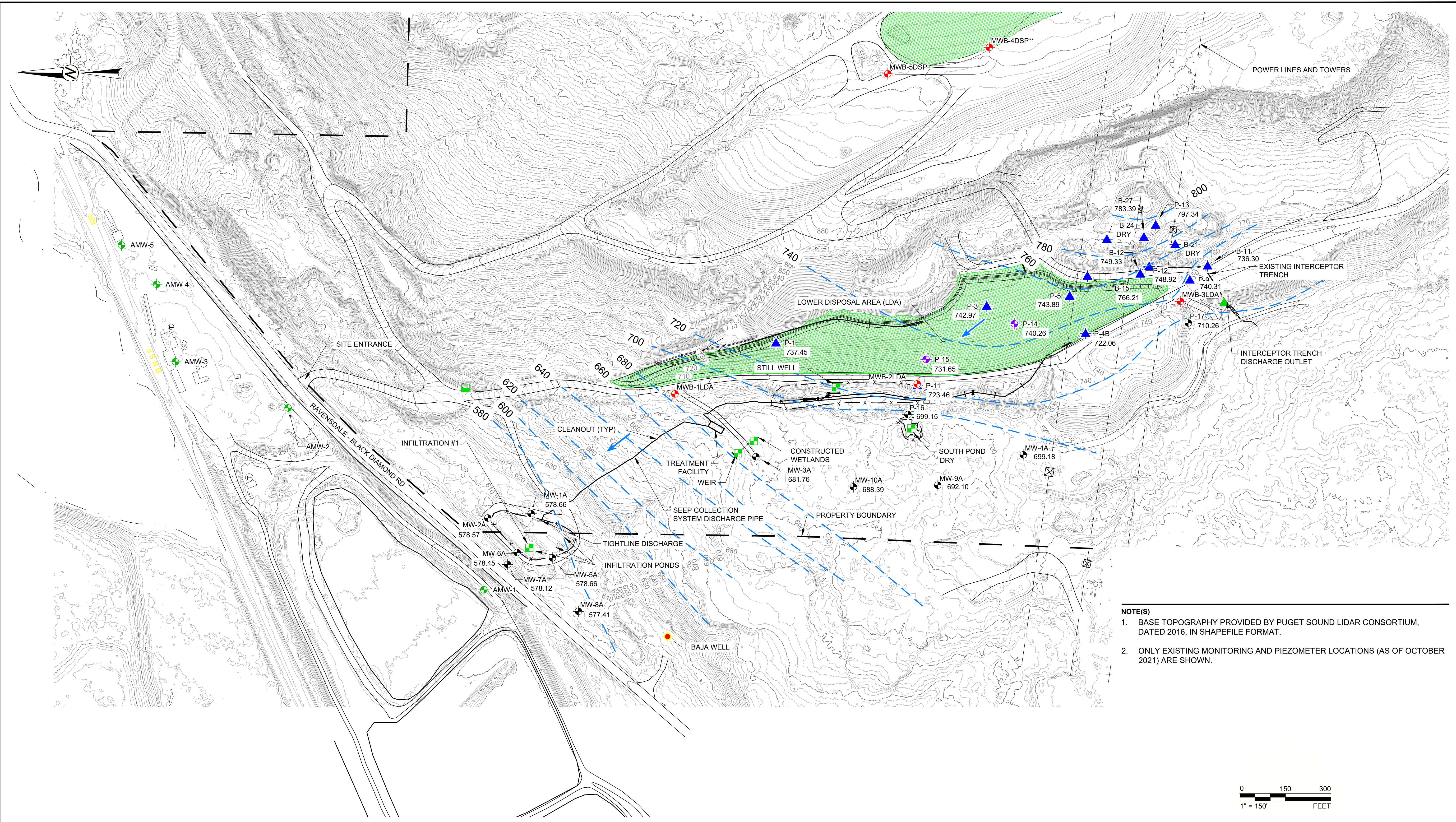
PROJECT
**JUNE 26, 2023 GROUNDWATER ELEVATIONS
RAVENSDALE, WA**

TITLE
LDA BEDROCK GROUNDWATER ELEVATIONS

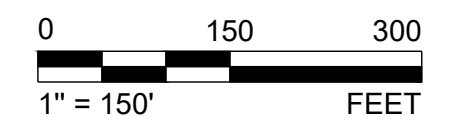
PROJECT NO. TASK REV. FIGURE
 GL152030402.001 03 A 3B

1 in IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANS/D

Path: \\gdr\gis\completestates\offices\renewable\geneticus\HOLCIM\Revised\02_001_03_001.dwg | File Name: GL152030402.001_03_001.dwg | Last Edited By: tybar | Date: 2023-08-15 | Time: 11:28 AM | Printed By: tybar | Date: 2023-08-15 | Time: 11:28 AM



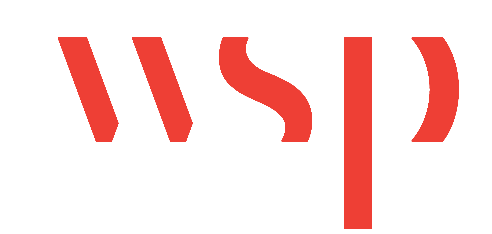
- NOTE(S)**
1. BASE TOPOGRAPHY PROVIDED BY PUGET SOUND LIDAR CONSORTIUM, DATED 2016, IN SHAPEFILE FORMAT.
 2. ONLY EXISTING MONITORING AND PIEZOMETER LOCATIONS (AS OF OCTOBER 2021) ARE SHOWN.



| LEGEND | |
|--------|--|
| | COVER AREA |
| | MW-1A ALLUVIAL MONITORING WELL |
| | MWB-1DDSP BEDROCK MONITORING WELL |
| | P-14 LDA MONITORING WELL |
| | AMW-1 PLANT SITE MONITORING WELLS |
| | P-1 GOLDER PIEZOMETER |
| | LDA SURFACE WATER SAMPLING LOCATION |
| | DSP BEDROCK SAMPLING LOCATION (PORTAL) |
| | INTERCEPTOR TRENCH SAMPLING LOCATION |
| | FENCE LINE |
| | PRIVATE WELL |

CLIENT
HOLCIM

CONSULTANT



| | |
|------------|------------|
| YYYY-MM-DD | 2023-08-15 |
| DESIGNED | SJ |
| PREPARED | REDMOND |
| REVIEWED | SJ |
| APPROVED | GZ |

PROJECT
JUNE 26, 2023 GROUNDWATER ELEVATIONS
RAVENSDALE, WA

TITLE
ALLUVIAL - SHALLOW GROUNDWATER ELEVATIONS

| PROJECT NO. | TASK | REV. | FIGURE |
|--------------------|------|------|--------|
| GL152030402.001 03 | | B | 3C |

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANS1 D

APPENDIX A

**Summary Data Tables for Individual
Wells and Monitoring Locations**

APPENDIX A-1

Summary of Lower Disposal Area – Surface Water Sampling Results

Table A-1A Still Well
Table A-1B Infiltration Ponds
Table A-1C Weir
Table A-1D South Pond

**Table A-1a: Summary of Lower Disposal Area - Surface Water Sampling Results - Still Well
Ravensdale Site, Ravensdale, Washington**

| Date Sampled | Field Parameters | | | | | | Gen-Chem Total Dissolved Solids (mg/L) | Metals (ug/L) | | | | | | |
|--|------------------|-------------------------|-------------------------|--|-----------------|---------------------|---|---------------|---------|---------|--------|-----------|-----------|----------|
| | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Oxidation-Reduction Potential (Rel mV) | Turbidity (NTU) | pH (standard units) | | Antimony | Arsenic | Iron | Lead | Manganese | Potassium | Vanadium |
| Preliminary Screening Level ^c | - | - | - | - | - | 6.5-8.5 | - | 5.6 | 8 | - | 2.1 | - | - | 140 |
| 1-Feb-05 | 8.1 | 10658 | - | - | 6.59 | 12.87 | 2860 | - | 49.9 | 100 U | 5.52 | 10 U | - | - |
| 9-Mar-05 | 13.23 | 7393 | - | - | 7.42 | 12.51 | 2860 | - | 115 | 228 | 14.7 | 10 U | - | - |
| 5-Apr-05 | 9.5 | 11310 | - | - | 10.9 | 12.44 | 2900 | - | 55.6 | 100 U | 11.6 | 20 U | - | - |
| 10-May-05 | 13.99 | 11871 | - | - | 3.6 | 12.53 | 2810 | - | 55.4 | 100 U | 12.5 | 20 U | - | - |
| 7-Jun-05 | 13.83 | 10888 | - | - | 22.6 | 12.54 | 2490 | - | 5 U | 100 U | 5 U | 20 U | - | - |
| 15-Jul-05 ^a | 18.21 | 11331 | - | - | 14.8 | 12.5 | 3800 | - | 2.72 | 150 U | 6.07 | 10 U | - | - |
| 15-Jul-05 ^b | - | - | - | - | - | - | 2540 | - | 39.8 | 100 U | 7.57 | 20 U | - | - |
| 9-Aug-05 ^a | 21.45 | 12087 | - | - | 17.9 | 11.78 | 3500 | - | 120 | 288 | 10.9 | 10.1 | - | - |
| 9-Aug-05 ^b | - | - | - | - | - | - | 2820 | - | 91.5 | 100 U | 9.53 | 20 U | - | - |
| 14-Sept-05 ^a | 17.38 | 9507 | - | - | 14 | 12.36 | 3600 | - | 118 | 750 U | 11.2 | 50 U | - | - |
| 14-Sept-05 ^b | - | - | - | - | - | - | 2830 | - | 115 | 363 | 14.4 | - | - | - |
| 5-Oct-05 | 13.31 | 11481 | - | - | 62.7 | 12.47 | 3020 | - | 85.2 | 100 U | 11.9 | 20 U | - | - |
| 9-Nov-05 | 9.58 | 14417 | - | - | 11 | 12.34 | 3400 | - | 74 | 150 U | 10 U | 10 U | - | - |
| 9-Dec-05 | 6.18 | 7138 | - | - | 12.5 | 12.82 | 2800 | - | 14.5 | 150 U | 1.07 | 10 U | - | - |
| 19-Jan-06 | 8.66 | 8265 | 1.74 | - | 11.8 | 13.06 | 1900 J | - | 15.2 J | 150 U | 1 U | 10 U | - | - |
| 16-Feb-06 | 8.13 | 9019 | 2.81 | 195.6 | 6.16 | 12.27 | 3200 J | - | 13.4 J | 150 U | 1.89 | 10 U | - | - |
| 15-Mar-06 | 7.98 | 9033 | 0.79 | 114.8 | 8.93 | 12.6 | 3300 J | - | 2.36 | 150 U | 2.5 J | 10 U | - | - |
| 7-Apr-06 | 9.98 | 10450 | 0.57 | 34.8 | 6.08 | 12.51 | 3400 | - | 15.2 | 150 U | 2.83 | 10 U | - | - |
| 16-May-06 | 12.79 | 11060 | 0.14 | 45.4 | 9.28 | 12.4 | 3500 | - | 4.04 | 150 U | 1.59 | 10 U | - | - |
| 23-Jun-06 | 13.29 | 11680 | 0.44 | - | 14.6 | 12.9 | 3600 | - | 52.6 | 150 U | 16.5 | 10 U | - | - |
| 20-Jul-06 | 16.2 | 12240 | 0.14 | -217.8 | 10.4 | 12.47 | 4300 | - | 19.3 | 150 U | 3.57 | 10 U | - | - |
| 22-Aug-06 | 17.14 | 10920 | 1.22 | -146 | 13.3 | 12.66 | 3800 | - | 144 | 150 U | 9.14 J | 10 U | - | - |
| 26-Sep-06 | 15.72 | 9599 | 0.42 | -263.3 | 61.4 | 12.59 | 3800 | - | 123 | 171 | 4.63 | 15.4 | - | - |
| 26-Oct-06 | 10.99 | 9955 | 0.88 | -207.5 | 82.3 | 12.93 | 3600 | - | 161 | 1500 U | 19.5 | 10 U | - | - |
| 15-Nov-06 | 10.58 | 12040 | 1.82 | 149.2 | 188 | 12.87 | 3400 | - | 30.6 J | 150 U | 4.5 | 10 U | - | - |
| 20-Dec-06 | 8.85 | 10990 | 0.71 | -152 | 32.8 | 13.02 | 2600 J | - | 52.6 | 150 U | 13 | 10 U | - | - |
| 24-Jan-07 | 8.29 | 10440 | 0.97 | -139.8 | 13.7 | 13.05 | 2500 J | - | 58.6 | 150 U | 13.1 | 10 U | - | - |
| 12-Feb-07 | 8.88 | 10590 | 0.86 | -125.8 | 56.4 | 13.06 | 3400 | - | 61.3 | 150 U | 14 | 10 U | - | - |
| 27-Mar-07 | 9.45 | 9163 | 1.25 | -42.4 | 18.4 | 11.53 | 2900 J | - | 44.1 | 150 U | 1.81 | 10 U | - | - |
| 18-Apr-07 | 8.9 | 8155 | 2.63 | 2.3 | 37.2 | 12.77 | 3300 J | - | 29.3 | 150 U | 1.98 | 10 U | - | - |
| 31-May-07 | 20.12 | 11050 | 5.3 | -153.9 | 9.31 | 11.59 | 2800 J | - | 48.5 | 150 U | 15.1 J | 10 U | - | - |
| 20-Jun-07 | 18.28 | 12000 | 5.41 | -122.5 | 16.1 | 12.04 | 4300 J | - | 26.8 | 150 U | 2.33 | 10 U | - | - |
| 31-Jul-07 | 16.53 | 12200 | 1.7 | -151.6 | 24.8 | 12.48 | 6000 | - | 87.6 | 150 U | 1.03 | 10 U | - | - |
| 29-Aug-07 | 17 | 9570 | 1.12 | -183.1 | 268 | 12.78 | 4600 J | - | 106 | 150 U | 9.46 | 10 U | - | - |
| 27-Sep-07 | 14.49 | 8263 | 52.4 | -183 | 211 | 12.42 | 2800 | - | 125 | 150 U | 15.4 | 10 U | - | - |
| 26-Oct-07 | 9.49 | 6144 | 4.88 | -147.2 | 92.4 | 12.85 | 3300 J | - | 124 | 260 | 24.9 | 10.1 | - | - |
| 30-Nov-07 | 5.53 | 7703 | 2.13 | -122.6 | 127 | 12.67 | 2200 | - | 174 | 184 | 14.1 | 10 U | - | - |
| 12-Dec-07 | 5.24 | 11609 | 3.43 | -144.8 | 116 | 12.6 | 4100 | - | 110 | 150 U | 11.3 | 10 U | - | - |
| 24-Jan-08 | 3.73 | 9649 | 13.81 | -138 | - | 10.74 | 2500 | - | 101 | 1530 | 9.74 | 81.5 | - | - |
| 28-Feb-08 | - | - | - | - | 51.2 | - | 2900 | - | 58.5 | 150 U | 12.6 | 10 U | - | - |
| 25-Mar-08 | 7.06 | 8623 | 5.52 | -11.2 | 17.4 | 11.26 | 3400 | - | 74.3 | 150 U | 10.4 | 10 U | - | - |
| 29-Apr-08 | 9.74 | 11332 | 4.29 | -1.3 | 27.7 | 12.82 | 3000 J | - | 76.6 | 150 U | 13.3 | 10 U | - | - |
| 20-May-08 | 14.53 | 11955 | 1.74 | -35.8 | 72.7 | 12.82 | 3400 | - | 87.3 | 150 U | 15.1 | 10 U | - | - |
| 18-Jun-08 | 12.77 | 10267 | 3.34 | -27 | 34 | 12.86 | 3200 J | - | 63.2 | 150 U | 16.9 | 10 U | - | - |
| 26-Aug-08 | 15.86 | 7703 | 1.06 | -72.8 | 38.3 | 12.67 | 2600 J | - | 430 | 1220 | 35 | 49.7 | 759000 | - |
| 20-Nov-08 | 9.59 | 8762 | 0.91 | -65.6 | 74.1 | 13.32 | 3500 | - | 70 | 150 U | 16.8 | 10 U | 848000 | - |
| 12-Feb-09 | 3.25 | 554 | 14.29 | - | 108 | 13.03 | 550 | - | 47.2 | 150 U | 13.7 | 10 U | 551000 | - |
| 19-May-09 | 11.53 | 276 | 8.8 | 26 | 43.4 | 9.83 | 2500 J | - | 37.8 | 150 U | 15 | 10 U | 689000 | - |
| 22-Sep-09 | 12.47 | 9760 | 1.5 | 159.1 | 625 | 12.47 | 3000 | - | 160 | 200 | 37 | 10 J | 990000 | - |
| 15-Dec-09 | 5.2 | 11650 | 1.9 | 237 | 26.3 | 12.85 | 3000 | - | 86 | 67 J | 21 | 4.7 J | 900000 J | - |
| 22-Mar-10 | 9.7 | 1035 | - | 182 | 19.4 | 12.58 | 3000 | - | 73 | 200 U | 17 | 20 U | 870000 | - |
| 17-Jun-10 | 11.7 | 9610 | 0.08 | - | 6.59 | 12.48 | 2700 | - | 66 | 95 J | 15 | 2 J | 780000 | - |
| 21-Sep-10 | 15 | 6710 | 1.26 | 152.6 | 140 | 12.29 | 2400 | - | 300 | 1100 J+ | 39 | 30 J+ | 570000 | - |
| 8-Dec-10 | 8.3 | 10110 | 1 | - | 5.44 | 12.63 | 2600 | - | 64 | 200 U | 10 | 20 U | 860000 | - |
| 30-Mar-11 | 8.6 | 4810 | 0.46 | 136.3 | 13.7 | 14.31 | 2500 J | - | 65 | 200 U | 9.6 | 20 U | 720000 | - |
| 21-Jun-11 | 16.6 | 10420 | 1.63 | 111.9 | 3.4 | 12.36 | 5200 | - | 60 | 200 U | 9.1 | 1.7 J | 770000 | - |
| 28-Sep-11 | 14.8 | 5270 | 2.34 | 70 | 66.7 | 12.17 | 2200 | - | 220 | 360 | 11 | 7.2 J | 1000000 | - |
| 15-Dec-11 | 6 | 7330 | 2.47 | 104.2 | 18.3 | 13.09 | 2800 | - | 83 | 200 U | 2.9 | 20 U | 880000 | - |
| 21-Mar-12 | 5.5 | 11040 | 3.15 | 294.2 | 12 | 12.39 | 2600 | - | 67 | 200 U | 4.7 | 20 U | 760000 | - |
| 19-Jun-12 | 5.5 | 11040 | 3.15 | 294.2 | 12 | 12.39 | 2600 | - | 58 | 200 U | 6.7 | 20 U | 690000 | - |
| 20-Sep-12 | 16.1 | 9560 | 3.27 | 76 | 10.7 | 12.35 | 2900 | - | 84 | 200 U | 3 | 20 U | 830000 | - |
| 19-Dec-12 | 4.1 | 1320 | 10.11 | 303.1 | 5.86 | 9.69 | 700 | - | 75 | 690 | 4.3 | 71 | 250000 | - |
| 26-Feb-13 | 7.3 | 9950 | 1.77 | 161.8 | 25.5 | 12.66 | 2000 | - | 70 | 500 U | 0.29 J | 20 U | 720000 | - |
| 23-May-13 | 11.5 | 8040 | 2.23 | 266.8 | 22.7 | 12.47 | 2500 | - | 57 | 500 U | 3.4 | 20 U | 690000 | - |
| 22-Aug-13 | 17.4 | 8810 | 2.42 | 10.8 | 38.5 | 12.79 | 2590 | - | 57.8 | 100 U | 1.5 | 2 | 863000 | - |
| 19-Nov-13 | 9 | 7090 | 2.47 | 79 | 62.8 | 12.54 | 2720 | - | 52.5 | 100 U | 4.2 | 2 U | 909000 | - |
| 1-Apr-14 | 10.3 | 6080 | 0.55 | 128.2 | 37.1 | 6.08 | 1890 | - | 54.6 | 100 U | 1.1 | 1.3 U | 687000 | - |
| 22-May-14 | 13.6 | 7360 | 1.22 | 34.4 | - | 11.75 | 2330 | - | 60.9 | 100 U | 2 | 2 U | 689000 | - |
| 13-Aug-14 | 18.26 | 7844 | 0.33 | 1.2 | 7.3 | 12.53 | 2770 | - | 70 | 100 U | 2.1 | 2 U | 849000 | - |
| 12-Nov-14 | 9 | 585 | 3.17 | -47.8 | 17.5 | 12.93 | 2450 | - | 83.2 | 100 U | 3.9 | 2 U | 837000 | - |
| 12-Feb-15 | 10.7 | 7540 | 2.68 | -18.6 | 9.64 | 12.71 | 2150 | - | 51.6 | 100 U | 0.3 | 2 U | 690000 | - |
| 4-May-15 | 12.9 | 9140 | 2.73 | 110.4 | 26.8 | 13.02 | 2520 | - | 54.6 | 100 U | 0.22 J | 2 U | 734000 | - |
| 5-Aug-15 | 19.5 | 8060 | 2.58 | -29.8 | 61.1 | 12.62 | 2980 | - | 63.9 | 250 U | 1.7 | 4.7 J | 898000 | - |
| 3-Nov-15 | 11.1 | 5150 | 0.37 | 38.6 | 171 | 8.93 | 1840 | - | 109 | 270 | 21.7 | 13 | 747000 | - |
| 9-Feb-16 | 9.7 | 7390 | 0.78 | 80.8 | 7.79 | 13.07 | 2170 | - | 53.6 | 100 U | 1.2 | 6 | 601000 | - |
| 3-May-16 | 14.7 | 7530 | 1.4 | 358.1 | 2.65 | 12.98 | 2480 | - | 54.2 | 100 U | 1.7 J | 2 | 711000 | - |
| 22-Aug-16 | 20.5 | 7.91 | 2.1 | - | 59 | 12.95 | 2780 | - | 91.3 | 250 U | 5.87 | 2.3 J | 831000 | - |



**Table A-1a: Summary of Lower Disposal Area - Surface Water Sampling Results - Still Well
Ravensdale Site, Ravensdale, Washington**

| Date Sampled | Field Parameters | | | | | | Gen-Chem Total Dissolved Solids (mg/L) | Metals (ug/L) | | | | | | |
|--|------------------|-------------------------|-------------------------|--|-----------------|---------------------|---|---------------|---------|--------|---------|-----------|-----------|----------|
| | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Oxidation-Reduction Potential (Rel mV) | Turbidity (NTU) | pH (standard units) | | Antimony | Arsenic | Iron | Lead | Manganese | Potassium | Vanadium |
| Preliminary Screening Level ^c | - | - | - | - | - | 6.5-8.5 | - | 5.6 | 8 | - | 2.1 | - | - | 140 |
| 1-Nov-16 | 12.3 | 2884 | 2.66 | -72.1 | 19.1 | 13.17 | 2620 | - | 46.2 | 100 U | 9.64 | 2 U | 841000 | - |
| 31-Jan-17 | 7.4 | 8510 | 2.37 | -167 | 7.35 | 13.17 | 2050 | - | 52.5 | 26 J | 1.19 | 1.6 J | 582000 | - |
| 31-May-17 | 14.6 | 7500 | 2.44 | - | 4.17 | 12.89 | 1900 | - | 45.4 | 11 J | 0.68 J+ | 0.7 J | 615000 | - |
| 17-Aug-17 | 18.3 | 8460 | 3.35 | -84 | 15.9 | 12.79 | 2680 | - | 56.8 | 3 J | 2.14 | 1.3 J | 750000 | - |
| 9-Nov-17 | 8.2 | 7215 | 3.48 | 90.9 | 18.2 | 12.65 | 2360 | - | 62.1 | 100 U | 3.52 | 2.5 | 822000 | - |
| 27-Feb-18 | 6.6 | 5312 | 3.75 | 2.3 | 2.49 | 12.11 | 1970 | - | 50.2 | 100 U | 7.53 | 2.5 | 521000 | - |
| 2-May-18 | 11.1 | 8260 | 1.7 | - | 13 | 12.92 | 2360 | - | 43.4 | 133 | 21.7 J+ | 8.8 | 552000 | - |
| 21-Aug-18 | 20.22 | 6260 | 4.71 | -42.1 | 5.84 | 12.58 | 2100 | - | 52.2 | 100 U | 0.138 | 2 U | 629000 | - |
| 7-Nov-18 | 9.7 | 995 | 6.72 | 126.8 | 20.6 | 9.15 | 1880 | - | 644 | 1350 | 80.2 | 49.1 | 502000 J+ | - |
| 11-Mar-19 | 10.6 | 1354 | 5.93 | -18.7 | 7.19 | 10.31 | 1710 | - | 52.8 | 9.1 J | 21.2 | 1.3 J | 501000 | - |
| 9-May-19 | 13.8 | 6973 | 6.4 | 18.1 | 16.7 | 12.36 | 1980 | - | 41.6 | 7.9 J | 13.4 | 0.8 J | 521000 | - |
| 26-Aug-19 | 17.8 | 6405 | 3.91 | Note 1 | 5.15 | 12.56 | 2570 | - | 42.5 | 100 U | 15.4 | 1 J | 722000 | - |
| 14-Nov-19 | 9.7 | 6065 | 0.41 | -53.3 | 12 | 12.67 | 1750 | - | 167 | 121 J | 23.9 | 6.5 | 563000 | - |
| 13-Feb-20 | 7.6 | 4936 | 0.37 | -139 | 2.56 | 12.66 | 1630 | - | 48.6 | 13.6 J | 6.08 | 3.1 | 490000 | - |
| 13-Aug-20 | 15 | 6817 | 2.55 | -42.8 | 2.02 | 12.39 | 2620 | - | 41.9 | 6.3 J | 0.86 | 0.9 J | 659000 | - |
| 10-Dec-20 | 8.8 | 4534 | 0.55 | -26.2 | 5.87 | 12.79 | 1670 | - | 82.7 | 241 | 11.1 | 10.8 | 510000 | - |
| 4-Mar-21 | 7.7 | 4728 | 0.05 | -42 | 0.85 | 11.94 | 1470 | - | 61.8 | 100 U | 1.49 | 8 U | 512000 | - |
| 9-Jun-21 | 13.4 | 5213 | 0.89 | -148.4 | 4.06 | 12.56 | 1600 | - | 91.7 | - | 5.72 | - | 471000 | - |
| 13-Oct-21 | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | - | DRY | - | DRY | DRY |
| 7-Jan-22 | 8.8 | 4103 | 2.53 | 55.4 | 3.04 | 12.88 | 1900 | 8.39 | 50.3 | - | 4.26 | - | 486000 | 3.34 |
| 17-Mar-22 | 9 | 4955 | 7.42 | 153.1 | 1.88 | 13.71 | 2070 | 8.23 | 51.7 | - | 5.88 | - | 517000 | 3.02 |
| 21-Jun-22 | 15.4 | 5090 | 2.53 | 156.3 | 3.4 | 11.96 | 2180 | 9.34 | 51.6 | - | 3.08 | - | 465000 | 3.7 |
| 14-Sep-22 | 16.6 | 6728 | 6 | 68 | 44.5 | 12.33 | 2480 | 7.82 | 52.3 | - | 6.96 | - | 669000 | 3.47 |
| 13-Dec-22 | 7.7 | 1419 | 7.42 | -92.9 | 9.97 | 11.6 | 967 | 71 | 125 | - | 9.95 | - | 309000 | 11.1 |
| 15-Mar-23 | 7.5 | 7393 | 3.03 | 77 | 42 | 12.72 | 2070 | 10.1 | 39.1 | - | 6.26 | - | 478000 | 3.06 |
| 28-Jun-23 | 15.6 | 6301 | 2.79 | -109.2 | 3.74 | 12.33 | 2240 | 27.6 | 42.1 | - | 0.977 | - | 450000 | 4.49 |

Notes:

Dissolved metals were analyzed at the Site until December 2020 (Q4 2020). Total metals were analyzed for Q4 2020 and will continue to be analyzed moving forward. Iron and manganese are not included in the COPCs at the Site and are not analyzed beginning in Q2 2021. Antimony and Vanadium were included as COPCs for surface water locations and shallow/alluvial groundwater monitoring wells at the Site beginning in Q3 2021.

- Not analyzed or not available
- Orange shaded values indicate parameter results above the Preliminary Screening Level (PSL), except for pH, which could be above or below the PSL.
- a North Creek Analytical, Inc.
- b Severn Trent Laboratories
- c Preliminary Cleanup Level (PCUL) provided by Ecology 30 Sept 2022
- U Data validation code; not detected at the Reporting Limit (RL)
- J Data validation code; estimated value
- J+ Data validation code; estimated value with positive bias
- °C Degrees Celsius
- Note 1 ORP measurements not available due to faulty sensor.
- µmhos/cm Micromhos per centimeter mg/L
- feet bmp Feet below measuring point mV
- feet NAVD88 Feet NAVD88 Datum NTU



Table A-1b: Summary of Lower Disposal Area - Surface Water Sampling Results - Infiltration Ponds #1 Ravensdale Site, Ravensdale, Washington

| Date Sampled | Field Parameters | | | | | | Gen-Chem Total Dissolved Solids (mg/L) | Metals (ug/L) | | | | |
|--|------------------|-------------------------|-------------------------|--|-----------------|---------------------|---|---------------|---------|-------|-----------|----------|
| | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Oxidation-Reduction Potential (Rel mV) | Turbidity (NTU) | pH (standard units) | | Antimony | Arsenic | Lead | Potassium | Vanadium |
| Preliminary Screening Level ^c | - | - | - | - | - | 6.5-8.5 | - | 5.6 | 8 | 2.1 | - | 140 |
| 1-Feb-05 | 8.17 | 1315 | - | - | 8.13 | 9.95 | 874 | - | 84.9 | 4.99 | - | - |
| 9-Mar-05 | 14.04 | 1183 | - | - | 23.00 | 9.59 | 960 | - | 96.2 | 3.92 | - | - |
| 5-Apr-05 | 11.00 | 1115 | - | - | 43.70 | 9.80 | 800 | - | 62.3 | 3.21 | - | - |
| 10-May-05 | 14.91 | 1275 | - | - | 564.00 | 9.83 | 844 | - | 76.5 | 5 U | - | - |
| 7-Jun-05 | 15.11 | 1140 | - | - | 239.00 | 9.61 | 804 | - | 84.3 | 5 U | - | - |
| 15-Jul-05 ^a | 23.56 | 1276 | - | - | 94.40 | 9.30 | 1100 | - | 92.5 | 4.14 | - | - |
| 15-Jul-05 ^b | - | - | - | - | - | - | 874 | - | 99.9 | 3.82 | - | - |
| 9-Aug-05 ^a | 19.05 | 1744 | - | - | 57.20 | 9.44 | 1000 | - | 123 | 5.1 | - | - |
| 9-Aug-05 ^b | - | - | - | - | - | - | 1030 | - | 140 | 6.12 | - | - |
| 14-Sept-05 ^a | 13.59 | 1154 | - | - | 99.80 | 8.97 | 790 | - | 110 | 3.54 | - | - |
| 14-Sept-05 ^b | - | - | - | - | - | - | 806 | - | 118 | 5.18 | - | - |
| 5-Oct-05 | 14.82 | 970 | - | - | 82.70 | 8.98 | 736 | - | 89.3 | 2.83 | - | - |
| 9-Nov-05 | 8.43 | 1285 | - | - | 135.00 | 8.83 | 970 | - | 46 | 10 U | - | - |
| 9-Dec-05 | 2.12 | 1361 | - | - | 14.20 | 9.71 | 980 | - | 64.6 | 3.11 | - | - |
| 19-Jan-06 | 6.66 | 728 | 7.96 | - | 64.70 | 10.13 | 470 J | - | 40.7 | 2.29 | - | - |
| 16-Feb-06 | 2.63 | 624 | 9.75 | 30.3 | 25.20 | 8.54 | 530 J | - | 13.3 | 1 U | - | - |
| 15-Mar-06 | 7.16 | 639 | 11.61 | 236.8 | 23.10 | 9.22 | 530 J | - | 22.5 | 1 U | - | - |
| 7-Apr-06 | 11.91 | 1013 | 10.81 | 27.8 | 18.80 | 9.98 | 780 | - | 63.8 | 3.24 | - | - |
| 16-May-06 | 15.58 | 1160 | 7.58 | 50.6 | 16.50 | 9.57 | 950 | - | 77.9 | 2.49 | - | - |
| 23-Jun-06 | 18.63 | 1261 | 7.41 | - | 126.00 | 9.85 | 920 | - | 70.7 | 3.65 | - | - |
| 20-Jul-06 | 20.65 | 932 | 5.36 | -35.1 | 279.00 | 8.94 | 980 | - | 108 | 3.48 | - | - |
| 22-Aug-06 | 15.65 | 860 | 7.64 | 86.5 | 218.00 | 9.22 | 760 | - | 116 | 3.84 | - | - |
| 26-Sep-06 | 21.86 | 903 | 8.98 | -72.8 | 263.00 | 8.89 | 820 | - | 75.8 | 3.06 | - | - |
| 26-Oct-06 | 11.04 | 702 | 9.97 | 90.4 | 221.00 | 8.56 | 760 | - | 68.3 | 1.66 | - | - |
| 15-Nov-06 | 7.73 | 715 | 9.21 | 149.2 | 33.60 | 9.07 | 500 | - | 20.8 | 2.29 | - | - |
| 20-Dec-06 | 4.98 | 1082 | 9.05 | 86.3 | 9.29 | 9.78 | 680 | - | 51.3 | 2.67 | - | - |
| 24-Jan-07 | 2.12 | 1058 | 10.71 | 130.4 | 20.50 | 9.97 | 640 J | - | 66.1 | 7.58 | - | - |
| 12-Feb-07 | 10.10 | 1218 | 12.40 | -61.8 | 103.00 | 9.98 | 860 | - | 90.1 | 4.49 | - | - |
| 27-Mar-07 | 7.94 | 772 | 9.67 | 13.3 | 25.50 | 8.27 | 540 J | - | 49.8 | 2.74 | - | - |
| 18-Apr-07 | 7.52 | 2418 | 9.23 | 84.4 | 58.10 | 11.73 | 1400 | - | 79.2 | 10.5 | - | - |
| 31-May-07 | 15.45 | 1879 | 6.47 | -92.2 | 3.15 | 9.79 | 1300 | - | 165 | 8.11 | - | - |
| 20-Jun-07 | 24.18 | 1925 | 10.88 | -52.1 | 251.00 | 10.24 | 1300 J | - | 144 | 5.34 | - | - |
| 31-Jul-07 | 19.05 | 1418 | 5.97 | -36.1 | 128.00 | 9.81 | 1200 | - | 140 | 7.23 | - | - |
| 29-Aug-07 | 18.00 | 1193 | 5.60 | -35.4 | 158.00 | 9.29 | 1300 J | - | 164 | 7.01 | - | - |
| 27-Sep-07 | 14.97 | 987 | 5.44 | 45.9 | 186.00 | 8.99 | 970 | - | 196 | 5.49 | - | - |
| 26-Oct-07 | 2.66 | 504 | 6.02 | 63.1 | 282.00 | 8.64 | 770 J | - | 42.9 | 2.25 | - | - |
| 30-Nov-07 | 1.86 | 955 | 9.77 | 190.1 | 163.00 | 10.02 | 570 | - | 48.9 | 1.62 | - | - |
| 12-Dec-07 | 4.22 | 790 | 11.11 | 126.8 | 56.00 | 9.40 | 520 | - | 34.3 | 1.67 | - | - |
| 24-Jan-08 | 2.12 | 875 | 19.35 | 142.0 | - | 8.68 | 640 | - | 42.8 | 1.66 | - | - |
| 28-Feb-08 | - | - | - | - | 25.60 | - | 510 | - | 41.3 | 2.66 | - | - |
| 25-Mar-08 | 5.27 | 937 | 14.46 | 91.0 | 86.80 | 9.60 | 630 | - | 50.2 | 2.15 | - | - |
| 29-Apr-08 | 9.02 | 1079 | 10.56 | 190.8 | 61.30 | 9.87 | 670 J | - | 66 | 2.87 | - | - |
| 20-May-08 | 15.42 | 1191 | 7.58 | 160.0 | 91.40 | 9.75 | 820 | - | 85.9 | 4.85 | - | - |
| 18-Jun-08 | 12.94 | 1124 | 9.62 | 167.3 | 76.90 | 9.65 | 810 J | - | 77.6 | 3.67 | - | - |
| 26-Aug-08 | 15.95 | 880 | 3.75 | 53.5 | 490.00 | 8.00 | 650 J | - | 76.9 | 1.64 | 144000 | - |
| 20-Nov-08 | 6.91 | 897 | 7.02 | 183.5 | 376.00 | 10.22 | 960 | - | 87.2 | 4.21 | 313000 | - |
| 12-Feb-09 | 1.29 | - | 13.72 | - | 10.20 | 10.52 | 800 | - | 118 | 5.84 | 271000 | - |
| 19-May-09 | 11.90 | 862 | 6.52 | 71.9 | 133.00 | 9.59 | 840 J | - | 91.3 | 3.99 | 238000 | - |
| 18-Nov-09 | 5.70 | 852 | 6.61 | 185.9 | 68.00 | 9.88 | 490 | - | 40 | 4.4 | 160000 | - |
| 15-Dec-09 | 2.30 | 1162 | 8.22 | 460.1 | 63.30 | 9.97 | 640 | - | 71 | 7.2 | 220000 | - |
| 24-Mar-10 | 13.00 | 1299 | 5.83 | 408.2 | 13.00 | 10.48 | 1000 | - | 140 | 8.5 | 340000 | - |
| 17-Jun-10 | 12.00 | 947 | 4.45 | 332.1 | 33.60 | 10.56 | 540 | - | 62 | 6.2 | 220000 | - |
| 22-Sep-10 | 15.60 | 1736 | 3.14 | 342.5 | 33.00 | 9.84 | 1300 | - | 130 | 21 | 360000 | - |
| 8-Dec-10 | 5.40 | 1382 | 7.73 | 371.1 | 12.10 | 10.75 | 870 | - | 100 | 12 | 300000 | - |
| 29-Mar-11 | 9.60 | 627 | 5.16 | 577.6 | 19.80 | 11.05 | 760 J | - | 78 | 3.1 | 270000 | - |
| 21-Jun-11 | 21.00 | 1778 | 5.46 | 239.1 | 11.60 | 10.44 | 1700 J | - | 78 | 11 | 340000 | - |
| 27-Sep-11 | 14.80 | 1382 | 3.98 | 239.8 | 33.40 | 9.58 | 1600 | - | 120 | 13 | 670000 | - |
| 14-Dec-11 | 3.10 | 1046 | 5.60 | 281.7 | 15.70 | 9.93 | 1100 | - | 87 | 14 | 330000 | - |
| 20-Mar-12 | 6.10 | 986 | 11.04 | 271.1 | 11.70 | 10.32 | 500 | - | 71 | 3.3 | 180000 | - |
| 19-Jun-12 | 14.80 | 862 | 7.83 | 352.2 | 38.80 | 9.57 | 500 | - | 64 | 3.7 | 180000 | - |
| 20-Sep-12 | 12.40 | 1961 | 1.81 | 419.0 | 10.30 | 9.43 | 4600 J | - | 130 | 2.1 | 440000 | - |
| 19-Dec-12 | 4.10 | 1320 | 10.11 | 303.1 | 5.86 | 9.69 | 700 | - | 75 | 4.3 | 250000 | - |
| 25-Feb-13 | 7.10 | 1963 | 9.30 | 234.7 | 26.60 | 11.30 | 1000 | - | 90 | 6 | 370000 | - |
| 22-May-13 | 10.50 | 4380 | 7.72 | 411.7 | 202.00 | 12.56 | 1400 | - | 25 | 11 | 530000 | - |
| 21-Aug-13 | 20.10 | 12850 | 1.24 | -2.3 | 18.20 | 12.18 | 3430 | - | 106 | 47.5 | 1180000 | - |
| 20-Nov-13 | 5.70 | 1198 | 8.03 | 131.9 | 22.20 | 10.23 | 704 | - | 41.3 | 6.2 | 260000 | - |
| 1-Apr-14 | 9.80 | 1708 | 9.77 | 136.4 | 8.79 | 12.26 | 832 | - | 24.1 | 3 | 317000 | - |
| 23-May-14 | 12.63 | 6574 | 8.63 | 120.8 | - | 12.61 | 2120 | - | 4.8 | 35.4 | 811000 | - |
| 13-Aug-14 | 18.99 | 3273 | 6.29 | 77.7 | 89.00 | 12.34 | 1660 | - | 71.4 | 6.3 J | 548000 | - |
| 11-Nov-14 | 8.80 | 578 | 3.55 | 179.2 | 62.50 | 12.73 | 2000 | - | 56.7 | 20.4 | 739000 | - |
| 11-Feb-15 | 9.70 | 487 | 9.97 | 66.2 | 42.00 | 9.40 | 337 | - | 9.1 | 0.9 | 87700 | - |
| 4-May-15 | 14.30 | 4210 | 5.60 | 281.2 | 7.67 | 12.53 | 1670 | - | 35.3 | 7.4 | 589000 | - |
| 5-Aug-15 | 19.90 | 4890 | 5.14 | 18.8 | 89.80 | 11.79 | 3080 | - | 85.4 | 18.1 | 1150000 | - |
| 3-Nov-15 | 9.20 | 760 | 6.39 | 129.9 | 34.60 | 9.78 | 707 | - | 23.5 | 5.3 | 235000 | - |
| 9-Feb-16 | 10.20 | - | 10.29 | 100.3 | 8.01 | 12.78 | 1330 | - | 5.3 | 24.8 | 530000 | - |
| 2-May-16 ^d | - | - | - | - | - | - | 2490 | - | 24 | 37 J | 996000 | - |
| 23-Aug-16 | 19.30 | 4250 | 3.95 | 386.5 | 46.30 | 11.76 | 2970 | - | 105 | 14.3 | 989000 | - |

Table A-1b: Summary of Lower Disposal Area - Surface Water Sampling Results - Infiltration Ponds #1 Ravensdale Site, Ravensdale, Washington

| Date Sampled | Field Parameters | | | | | | Gen-Chem Total Dissolved Solids (mg/L) | Metals (ug/L) | | | | |
|--|------------------|-------------------------|-------------------------|--|-----------------|---------------------|---|---------------|---------|---------|-----------|----------|
| | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Oxidation-Reduction Potential (Rel mV) | Turbidity (NTU) | pH (standard units) | | Antimony | Arsenic | Lead | Potassium | Vanadium |
| Preliminary Screening Level ^c | - | - | - | - | - | 6.5-8.5 | - | 5.6 | 8 | 2.1 | - | 140 |
| 1-Nov-16 | 11.70 | 229 | 9.26 | 185.2 | 48.90 | 10.33 | 508 | - | 12.6 | 0.792 | 164000 | - |
| 1-Feb-17 | 2.40 | 8890 | 10.78 | 26.1 | 3.17 | 13.36 | 2220 | - | 10.1 | 46.8 | 854000 | - |
| 30-May-17 | 14.70 | 6800 | 56.90 | 17.7 | 1.38 | 12.73 | 1720 | - | 1.75 | 31.6 J+ | 759000 | - |
| 17-Aug-17 | 18.10 | 5410 | 3.88 | -19.5 | 14.90 | 11.93 | 3080 | - | 62.6 | 32.8 | 1150000 | - |
| 10-Nov-17 | 7.90 | 2016 | 7.72 | 64.4 | 30.70 | 12.00 | 1520 | - | 63 | 32.2 | 578000 | - |
| 27-Feb-18 | 5.70 | 5062 | 8.76 | 42.0 | 3.74 | 12.28 | 1620 | - | 15 | 54.6 | 678000 | - |
| 1-May-18 | 12.30 | 6620 | 5.25 | - | 1.94 | 12.73 | 2070 | - | 2.42 | 30.1 J+ | 745000 | - |
| 21-Aug-18 | 23.85 | 5058 | 2.95 | 106.0 | 5.62 | 11.64 | 3090 | - | 77.3 | 28.8 | 1200000 | - |
| 6-Nov-18 | 11.70 | 1078 | 3.50 | -5.4 | 46.90 | 8.48 | 1180 | - | 6.03 | 5.44 | 359000 J+ | - |
| 13-Mar-19 | 3.90 | 331 | 8.08 | 183.7 | 29.10 | 10.72 | 455 | - | 11.9 | 2.21 | 185000 | - |
| 8-May-19 | 17.20 | 6113 | 6.38 | 6.4 | 6.17 | 12.39 | 2040 | - | 7.7 | 26.8 | 830000 | - |
| 26-Aug-19 | 24.22 | 4177 | 2.47 | Note 1 | 7.21 | 9.12 | 2840 | - | 17.2 J | 5.27 J | 1020000 | - |
| 13-Nov-19 | 8.70 | 2523 | 1.61 | -201.7 | 33.00 | 8.67 | 1930 | - | 32.5 | 4.44 | 726000 | - |
| 12-Feb-20 | 7.80 | 971 | 7.99 | 150.3 | 16.00 | 7.92 | 836 | - | 14.3 | 3.96 | 243000 | - |
| 12-Aug-20 | 18.30 | 3655 | 4.33 | 123.5 | 5.74 | 8.98 | 2570 | - | 20.8 | 2.59 | 988000 | - |
| 9-Dec-20 | 8.30 | 740 | 7.80 | 202.0 | 18.40 | 8.21 | 632 | - | 14.9 | 5.11 | 207000 | - |
| 3-Mar-21 | 8.30 | 1446 | 7.87 | 217.0 | 15.50 | 8.56 | 1310 | - | 35.3 | 6.11 | 509000 | - |
| 9-Jun-21 | 15.10 | 2963 | 4.88 | 174.9 | 4.37 | 8.79 | 2400 | - | 23.7 | 1.51 | 923000 | - |
| 13-Oct-21 | 9.30 | 2563 | 4.73 | 34.2 | 39.30 | 8.84 | 2610 J- | 16.1 | 19.7 | 6.12 | 831000 | 3.11 |
| 5-Jan-22 | 1.20 | 510 | 9.85 | 236.4 | 14.00 | 8.01 | 679 | 6.32 | 12.1 | 6.31 | 226000 | 3.36 |
| 16-Mar-22 | 11.10 | 786 | 10.41 | 172.1 | 12.8 | 7.45 | 733 | 7.59 | 10.6 | 4.77 | 236000 | 1.82 |
| 23-Jun-22 | 14.90 | 1982 | 2.58 | 156.8 | 5.3 | 8.34 | 1650 | 8.5 | 10.2 | 3.44 | 549000 | 0.97 |
| 28-Sep-22 | 16.20 | 3251.00 | 7.06 | -49.10 | 3.18 | 8.75 | 2730 J | 24 | 5.88 | 1.11 | 1040000 | 0.516 |
| 5-Jan-23 | 8.80 | 1047.00 | 8.40 | 191.00 | 8.47 | 8.16 | 1560 | 18.8 | 26.7 | 2.49 | 567000 | 4.45 |
| 13-Mar-23 | 7.20 | 1831.00 | 11.21 | 177.80 | 31.80 | 8.29 | 1050 | 8.27 | 16.3 | 5.8 | 401000 | 4 |
| 28-Jun-23 | 19.90 | 3514.00 | 4.58 | 91.00 | 4.73 | 8.64 | 2270 | 8.92 | 8.35 | 0.807 | 831000 | 0.935 J |

Notes:

Dissolved metals were analyzed at the Site until December 2020 (Q4 2020). Total metals were analyzed for Q4 2020 and will continue to be analyzed moving forward. Iron and manganese are not included in the COPCs at the Site and are not analyzed beginning in Q2 2021. Antimony and Vanadium were included as COPCs for surface water locations and shallow/alluvial groundwater monitoring wells at the Site beginning in Q3 2021.

- Not analyzed or not available
- Orange shaded values indicate parameter results above the Preliminary Screening Level (PSL), except for pH, which could be above or below the PSL.
- a North Creek Analytical, Inc.
- b Severn Trent Laboratories
- c Preliminary Cleanup Level (PCUL) provided by Ecology 30 Sept 2022
- d Field parameters for Infiltration Ponds #1 were inadvertently not collected during May 2016 sampling
- U Data validation code; not detected at the Reporting Limit (RL)
- J Data validation code; estimated value
- J+ Data validation code; estimated value with positive bias
- °C Degrees Celsius
- Note 1 ORP measurements not available due to faulty sensor.
- µmhos/cm Micromhos per centimeter mg/L
- feet bmp Feet below measuring point mV
- feet NAVD88 Feet NAVD88 Datum NTU

**Table A-1c: Summary of Lower Disposal Area - Surface Water Sampling Results - Weir
Ravensdale Site, Ravensdale, Washington**

| Date Sampled | Field Parameters | | | | | | | Gen-Chem Total Dissolved Solids (mg/L) | Metals (ug/L) | | | | |
|--|------------------|-------------------------|-------------------------|------------------------------------|-----------------|---------------------|----------------------|---|---------------|---------|---------|-----------|----------|
| | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Oxidation-Reduction Potential (mV) | Turbidity (NTU) | pH (standard units) | Weir Flow Rate (gpm) | | Antimony | Arsenic | Lead | Potassium | Vanadium |
| Preliminary Screening Level ^a | - | - | - | - | - | 6.5-8.5 | - | - | 5.6 | 8 | 2.1 | - | 140 |
| 1-Feb-05 | 8.47 | 2205 | - | - | 6.24 | 10.23 | - | 1440 | - | 149 | 10.7 | - | - |
| 9-Mar-05 | 11.38 | 2054 | - | - | 7.80 | 10.15 | 2.64 | 1630 | - | 200 | 11.9 | - | - |
| 5-Apr-05 | 7.7 | 2169 | - | - | 7.99 | 10.42 | 10.00 | 1420 | - | 129 | 8.61 | - | - |
| 10-May-05 | 14.1 | 1912 | - | - | 562.00 | 9.87 | 25.00 | 1210 | - | 105 | 7.63 | - | - |
| 7-Jun-05 | 15.74 | 2588 | - | - | 11.60 | 10.03 | 6.82 | 1570 | - | 138 | 10.1 | - | - |
| 15-Jul-05 ^a | 20.38 | 3184 | - | - | 8.91 | 10.36 | 0.94 | 3200 | - | 192 | 9.98 | - | - |
| 15-Jul-05 ^b | - | - | - | - | - | - | - | 1990 | - | 189 | 10.8 | - | - |
| 9-Aug-05 ^a | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | - | DRY | DRY | - | - |
| 9-Aug-05 ^b | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | - | DRY | DRY | - | - |
| 14-Sept-05 ^a | 15.60 | 3792 | - | - | 14.50 | 9.92 | 0.07 | 2800 | - | 208 | 57.8 | - | - |
| 14-Sept-05 ^b | - | - | - | - | - | - | - | 2730 | - | 223 | 73.3 | - | - |
| 5-Oct-05 | 12.96 | 3237 | - | - | 4.99 | 9.89 | 0.32 | 2150 | - | 170 | 12.5 | - | - |
| 9-Nov-05 | 8.40 | 2545 | - | - | 13.80 | 9.64 | 7.50 | 1900 | - | 78.2 | 10 U | - | - |
| 9-Dec-05 | 3.34 | 1377 | - | - | 8.03 | 10.43 | 5.00 | 1700 | - | 130 | 6.12 | - | - |
| 19-Jan-06 | 7.37 | 1424 | 7.92 | - | 12.20 | 10.61 | 7.50 | 1000 J | - | 89.5 | 4.81 | - | - |
| 16-Feb-06 | 3.74 | 1680 | 12.19 | * | 14.60 | 10.78 | 7.50 | 1400 J | - | 105 | 5.46 | - | - |
| 15-Mar-06 | 7.21 | 1634 | 12.61 | 194.4 | 7.44 | 10.63 | 5.28 | 1300 J | - | 128 | 6.38 | - | - |
| 7-Apr-06 | 14.33 | 2055 | 8.54 | 55.3 | 9.21 | 10.84 | 3.17 | 1500 | - | 143 | 6.63 | - | - |
| 16-May-06 | 21.65 | 2474 | 6.09 | 11.6 | 9.37 | 10.69 | 0.83 | 2000 | - | 157 | 8.19 | - | - |
| 23-Jun-06 | 24.58 | 2820 | 6.66 | - | 15.40 | 11.64 | 0.63 | 1400 | - | 154 | 13.1 | - | - |
| 20-Jul-06 | 21.17 | 3291 | 8.56 | -85.5 | 68.30 | 10.75 | DRY* | 2300 | - | 131 | 9.41 | - | - |
| 22-Aug-06 | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | - | DRY | DRY | - | - |
| 26-Sep-06 | 16.38 | 2997 | 3.00 | -57.1 | 31.60 | 9.92 | DRY* | 2900 | - | 103 | 16.8 | - | - |
| 26-Oct-06 | 11.00 | 2650 | 5.35 | 59.6 | 25.80 | 9.65 | 0.63 | 2300 | - | 132 | 26.3 | - | - |
| 15-Nov-06 | 8.51 | 1708 | 8.16 | -35.7 | 34.70 | 10.15 | 17.14 | 1200 | - | 67.4 | 8.07 | - | - |
| 20-Dec-06 | 5.07 | 1927 | 8.84 | 14.8 | 7.94 | 10.67 | 10.91 | 1200 | - | 99.7 | 4.78 | - | - |
| 24-Jan-07 | 2.30 | 1846 | 10.72 | 5.9 | 11.70 | 10.37 | 9.00 | 1100 J | - | 126 | 16.1 | - | - |
| 12-Feb-07 | 9.26 | 1777 | 11.75 | -91.3 | 26.70 | 10.56 | 6.00 | 1100 | - | 139 | 7.12 | - | - |
| 27-Mar-07 | 8.71 | 1219 | 9.18 | -12.6 | 13.80 | 8.70 | 24.00 | 840 J | - | 88.5 | 4.86 | - | - |
| 18-Apr-07 | 7.39 | 4563 | 8.65 | 41.0 | 16.80 | 12.12 | 9.00 | 2000 | - | 97.5 | 32.5 | - | - |
| 31-May-07 | - | 3916 | 6.33 | -149.5 | 10.70 | 10.96 | 1.36 | 2100 | - | 275 | 22.9 | - | - |
| 20-Jun-07 | 22.59 | 3336 | 8.50 | -20.4 | 42.50 | 10.46 | 0.29 | 2400 J | - | 255 | 27.4 | - | - |
| 31-Jul-07 | 18.94 | 3915 | 7.85 | -69.2 | 41.30 | 10.92 | 0.06 | 3300 | - | 236 | 12.6 | - | - |
| 29-Aug-07 | 21.52 | 2406 | 5.75 | -5.3 | 24.10 | 9.72 | DRY* | 2300 J | - | 129 | 8.45 | - | - |
| 27-Sep-07 | 13.88 | 2009 | 5.75 | 15.5 | 28.30 | 9.56 | 0.06 | 1600 | - | 207 | 4.37 | - | - |
| 26-Oct-07 | 7.68 | 1662 | 9.06 | 80.5 | 13.00 | 9.92 | 2.04 | 1800 J | - | 132 | 7.53 | - | - |
| 30-Nov-07 | 4.34 | 2446 | 9.63 | 26.7 | 11.70 | 9.86 | 2.63 | 1600 | - | 135 | 8.27 | - | - |
| 12-Dec-07 | 5.88 | 2056 | 10.34 | 39.3 | 10.30 | 10.18 | 2.63 | 1500 | - | 105 | 5.73 | - | - |
| 24-Jan-08 | 3.05 | 1601 | 15.03 | 42.3 | - | 9.40 | 2.63 | 1000 | - | 87.4 | 4.06 | - | - |
| 28-Feb-08 | - | - | - | - | 9.22 | - | 4.13 | 1200 | - | 118 | 8.92 | - | - |
| 25-Mar-08 | 6.80 | 1622 | 12.37 | 95.1 | 16.40 | 9.98 | 5.25 | 1100 | - | 110 | 3.86 | - | - |
| 29-Apr-08 | 7.53 | 1997 | 9.10 | 137.4 | 11.90 | 10.29 | 7.50 | 1100 J | - | 124 | 7.05 | - | - |
| 20-May-08 | 16.35 | 2504 | 9.03 | 77.4 | 32.90 | 10.92 | 7.50 | 1700 | - | 146 | 14.7 | - | - |
| 18-Jun-08 | 11.82 | 2925 | 8.32 | 68.3 | 25.70 | 11.14 | 1.69 | 1800 J | - | 208 | 8.48 | - | - |
| 26-Aug-08 | 17.69 | 3376 | 7.98 | 62.8 | 41.10 | 10.43 | 0.84 | 2200 J | - | 287 | 13.2 | 647000 | - |
| 20-Nov-08 | 8.10 | 1447 | 9.65 | 112.0 | 43.70 | 11.00 | 11.25 | 1400 | - | 121 | 16.2 | 485000 | - |
| 12-Feb-09 | 2.99 | 1214 | 14.46 | - | 14.60 | 10.93 | 4.06 | 1200 | - | 219 | 11.8 | 434000 | - |
| 19-May-09 | 13.05 | 1962 | 7.92 | 32.6 | 36.70 | 10.23 | 7.50 | 1800 J | - | 210 | 13.7 | 521000 | - |
| 24-Sep-09 | 16.30 | 2792 | 1.59 | 263.8 | 13.70 | 8.82 | DRY* | 2400 | - | 130 | 53 | 730000 | - |
| 15-Dec-09 | 2.80 | 1702 | 7.47 | 343.0 | - | 10.18 | 6.67 | 1200 | - | 170 | 22 | 330000 | - |
| 24-Mar-10 | 13.80 | 2629 | 2.09 | 270.7 | 263.00 | 11.46 | 6.03 | 1800 | - | 180 | 20 | 600000 | - |
| 17-Jun-10 | 12.00 | 1876 | 0.01 | - | 157.00 | 10.76 | 14.15 | 1200 | - | 27 | 3.9 | 410000 | - |
| 20-Sep-10 | 11.40 | 3100 | 6.34 | 198.6 | 12.20 | 10.63 | 2.38 | 2800 | - | 250 | 40 | 580000 | - |
| 7-Dec-10 | 6.60 | 2455 | 4.03 | 154.0 | 11.00 | 11.61 | 16.69 | 1600 | - | 240 | 26 | 510000 | - |
| 30-Mar-11 | 8.10 | 848 | 0.22 | 136.1 | 31.50 | 13.08 | 58.61 | 940 J | - | 91 | 9.9 | 330000 | - |
| 22-Jun-11 | 14.40 | 2286 | 5.68 | 164.2 | 13.20 | 11.28 | 5.68 | 2600 J | - | 120 | 25 | 490000 | - |
| 27-Sep-11 | 16.20 | 1911 | 4.62 | 253.4 | 39.10 | 10.07 | 13.40 | 2100 | - | 170 | 45 | 880000 | - |
| 15-Dec-11 | 4.10 | 1439 | 7.40 | 139.4 | 10.60 | 10.33 | 6.65 | 1400 | - | 180 | 21 | 500000 | - |
| 20-Mar-12 | 5.20 | 1687 | 8.50 | 27.5 | 9.60 | 11.17 | 60.00 | 410 | - | 130 | 7.4 | 290000 | - |
| 18-Jun-12 | 14.70 | 2336 | 0.11 | 326.9 | 15.60 | 11.25 | 60.00 | 410 | - | 130 | 9.8 | 430000 | - |
| 20-Sep-12 | 15.30 | 2972 | 7.81 | 106.0 | 12.10 | 9.55 | 0.10 | 1400 J | - | 130 | 2.2 | 450000 | - |
| 18-Dec-12 | 4.80 | 1908 | 9.34 | -14.2 | 7.41 | 10.28 | 18.50 | 870 | - | 120 | 8.1 | 390000 | - |
| 26-Feb-13 | 5.80 | 6470 | 11.27 | 161.6 | 22.00 | 12.46 | 9.90 | 1800 | - | 99 | 62 | 710000 | - |
| 23-May-13 | 10.50 | 1625 | 9.14 | 291.8 | 14.40 | 9.93 | 4.84 | 980 | - | 94 | 21 | 310000 | - |
| 21-Aug-13 | 15.70 | 7260 | 7.69 | 51.6 | 9.00 | 10.71 | 0.32 | 2780 | - | 342 | 18.3 | 954000 | - |
| 19-Nov-13 | 8.10 | 2032 | 10.00 | 87.4 | 9.95 | 11.19 | 25.40 | 1270 | - | 70.8 | 16.9 | 487000 | - |
| 1-Apr-14 | 13.70 | 3420 | 9.11 | 129.4 | 59.00 | 12.57 | 20.77 | 1300 | - | 37.3 | 12 | 572000 | - |
| 23-May-14 | 12.83 | 986 | 11.63 | 105.7 | - | 9.36 | - | 822 | - | 47 | 13.9 | 274000 | - |
| 13-Aug-14 | 18.38 | 2000 | 5.52 | 63.6 | 8.93 | 8.02 | 2.00 | 1250 | - | 13.4 | 0.6 | 326000 | - |
| 11-Nov-14 | 6.70 | 259 | 9.77 | 164.8 | 4.27 | 8.09 | 1.50 | 955 | - | 19 | 0.2 | 315000 | - |
| 12-Feb-15 | 10.00 | 669 | 11.13 | 142.9 | 2.75 | 8.62 | 40.00 | 1490 | - | 14.9 | 1.8 | 155000 | - |
| 4-May-15 | 13.70 | 1293 | 8.69 | 181.7 | 155.00 | 9.38 | 0.09 | 1100 | - | 43.3 | 11.3 | 292000 | - |
| 5-Aug-15 | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | - | DRY | DRY | DRY | - |
| 3-Nov-15 | 9.70 | 1296 | 7.66 | 165.6 | 13.70 | 8.03 | 1.98 | 1200 | - | 11.4 | 0.8 | 355000 | - |
| 9-Feb-16 | 9.10 | 838 | 8.79 | 181.4 | 2.17 | 7.87 | 0.69 | 529 | - | 7.8 | 0.5 J+ | 145000 | - |
| 2-May-16 | 23.40 | 1126 | 6.16 | 128.1 | 7.59 | 7.63 | DRY* | 688 | - | 7.6 | 0.06 J- | 162000 | - |
| 23-Aug-16 | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | - | DRY | DRY | DRY | - |
| 1-Nov-16 | 11.70 | 332 | 7.12 | 97.5 | 7.71 | 7.76 | 7.24 | 703 | - | 9.18 | 0.3 | 207000 | - |



**Table A-1c: Summary of Lower Disposal Area - Surface Water Sampling Results - Weir
Ravensdale Site, Ravensdale, Washington**

| Date Sampled | Field Parameters | | | | | | | Gen-Chem Total Dissolved Solids (mg/L) | Metals (ug/L) | | | | |
|--|------------------|-------------------------|-------------------------|------------------------------------|-----------------|---------------------|----------------------|---|---------------|---------|----------|-----------|----------|
| | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Oxidation-Reduction Potential (mV) | Turbidity (NTU) | pH (standard units) | Weir Flow Rate (gpm) | | Antimony | Arsenic | Lead | Potassium | Vanadium |
| Preliminary Screening Level ^a | - | - | - | - | - | 6.5-8.5 | - | - | 5.6 | 8 | 2.1 | - | 140 |
| 1-Feb-17 | 2.30 | 925 | 11.55 | 39.1 | 2.04 | 7.71 | 0.30 | 567 | - | 4.9 | 0.09 J | 135000 | - |
| 30-May-17 | 13.30 | 817 | 57.50 | 8.3 | 22.20 | 7.40 | 0.30 | 516 | - | 13.1 | 0.08 J+ | 94300 | - |
| 17-Aug-17 | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | - | DRY | DRY | DRY | - |
| 9-Nov-17 | 7.00 | 851 | 7.57 | 88.0 | 67.30 | 8.43 | - | 865 | - | 36.6 | 10.7 | 236000 | - |
| 27-Feb-18 | 5.50 | 498 | 10.68 | 106.0 | 5.39 | 8.60 | - | 503 | - | 9.7 | 1.23 | 127000 | - |
| 1-May-18 | 12.80 | 894 | 8.87 | - | 2.39 | 7.97 | - | 656 | - | 7.81 | 0.1 UJ | 195000 | - |
| 21-Aug-18 | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | - | DRY | DRY | DRY | - |
| 7-Nov-18 | 8.50 | 1079 | 7.37 | 166.6 | 5.48 | 7.94 | - | 1030 | - | 15.7 | 0.089 J | 322000 J+ | - |
| 11-Mar-19 | 5.00 | 525 | 9.79 | 146.3 | 1.28 | 7.76 | - | 541 | - | 4.21 | 0.1 U | 133000 | - |
| 9-May-19 | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | - | DRY | DRY | DRY | - |
| 26-Aug-19 | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | - | DRY | DRY | DRY | - |
| 14-Nov-19 | 7.40 | 842 | 4.10 | 214.3 | 19.00 | 7.74 | DRY* | 783 | - | 11.3 | 0.076 J | 242000 | - |
| 12-Feb-20 | 7.20 | 401 | 8.41 | -38.3 | 2.47 | 7.53 | 3.96 | 348 | - | 4.81 | 0.1 U | 86900 | - |
| 13-Aug-20 | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | - | DRY | DRY | DRY | - |
| 10-Dec-20 | 7.20 | 581 | 6.72 | 185.0 | 0.96 | 7.80 | 8 | 560 | - | 5.13 | 0.1 U | 126000 | - |
| 4-Mar-21 | 4.90 | 427 | 7.11 | 146.0 | 2.50 | 7.86 | 3 | 424 | - | 3.7 | 0.114 | 80600 | - |
| 10-Jun-21 | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | - | DRY | DRY | DRY | - |
| 13-Oct-21 | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY |
| 6-Jan-22 | 4.90 | 269 | 10.81 | 211.8 | 15.90 | 7.63 | 300 | 228 | 5.52 | 4.33 | 0.698 | 50500 | 1 |
| 17-Mar-22 | 7.00 | 410 | 9.46 | 157.2 | 0.91 | 7.43 | 8 | 394 | 5.37 | 3.5 | 0.055 J | 86000 | 1 |
| 21-Jun-22 | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY |
| 12-Sep-22 | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY |
| 13-Dec-22 | 5.60 | 712 | 6.9 | 12.5 | 1.29 | 7.83 | - | 535 | 10.5 | 3.27 | 0.113 J+ | 111000 | 1.01 |
| 15-Mar-23 | 5.10 | 758.2 | 6.46 | 202.5 | 9.22 | 7.49 | 0.1 | 437 | 5.92 | 3.49 | 0.197 | 96000 | 0.825 |
| 26-Jun-23 | DRY | DRY | DRY | DRY | DRY | DRY | | DRY | DRY | DRY | DRY | DRY | DRY |

Notes:

Dissolved metals were analyzed at the Site until December 2020 (Q4 2020). Total metals were analyzed for Q4 2020 and will continue to be analyzed moving forward. Iron and manganese are not included in the COPCs at the Site and are not analyzed beginning in Q2 2021. Antimony and Vanadium were * Sample collected from constructed wetland (alternative sampling location) upstream of weir

- Not analyzed or not available

Dry Weir dry; unable to collect field parameters or samples

Orange shaded values indicate parameter results above the Preliminary Screening Level (PSL), except for pH, which could be above or below the PSL.

a Preliminary Cleanup Level (PCUL) provided by Ecology 30 Sept 2022

U Data validation code; not detected at the Reporting Limit (RL)

J Data validation code; estimated value

J+ Data validation code; estimated value with positive bias

°C Degrees Celsius

µmhos/cm Micromhos per centimeter

feet bmp Feet below measuring point

feet NAVD88 Feet NAVD88 Datum

gpm Gallons per minute

mg/L Milligrams per liter

mV Millivolts

NTU Nephelometric Turbidity Unit

Table A-1d: Summary of Lower Disposal Area - Surface Water Sampling Results - South Pond Ravensdale Site, Ravensdale, Washington

| Date Sampled | Field Parameters | | | | | | Gen-Chem Total Dissolved Solids (mg/L) | Metals (ug/L) | | | | |
|--|------------------|-------------------------|-------------------------|--|-----------------|---------------------|---|---------------|---------|---------|-----------|----------|
| | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Oxidation-Reduction Potential (Rel mV) | Turbidity (NTU) | pH (standard units) | | Antimony | Arsenic | Lead | Potassium | Vanadium |
| Preliminary Screening Level ^c | - | - | - | - | - | 6.5-8.5 | - | 5.6 | 8 | 2.1 | - | 140 |
| 1-Feb-05 | 7.13 | 9580 | - | - | 4.19 | 13.02 | 4080 | - | 174 | 24.3 | - | - |
| 9-Mar-05 | 14.28 | 9979 | - | - | 6.79 | 12.52 | 4640 | - | 240 | 42.1 | - | - |
| 5-Apr-05 | 9.90 | 10820 | - | - | 43.50 | 11.99 | 3830 | - | 133 | 9.85 | - | - |
| 10-May-05 | 15.10 | 6091 | - | - | 45.60 | 12.14 | 3270 | - | 92.9 | 25.5 | - | - |
| 7-Jun-05 | 14.49 | 8257 | - | - | 24.20 | 12.19 | 3780 | - | 132 | 24.7 | - | - |
| 15-Jul-05 ^a | 18.34 | 6937 | - | - | 6.89 | 11.69 | 5000 | - | 281 | 31.8 | - | - |
| 15-Jul-05 ^b | - | - | - | - | - | - | 4260 | - | 237 | 34.2 | - | - |
| 9-Aug-05 ^a | 23.53 | 7654 | - | - | 17.1 | 10.26 | 6600 | - | 322 | 44.5 | - | - |
| 9-Aug-05 ^b | - | - | - | - | - | - | 5580 | - | 340 | 37.1 | - | - |
| 14-Sept-05 ^a | 18.55 | 6730 | - | - | 10.00 | 10.51 | 5100 | - | 235 | 19.3 | - | - |
| 14-Sept-05 ^b | - | - | - | - | - | - | 4750 | - | 268 | 34.2 | - | - |
| 5-Oct-05 | 12.14 | 4323 | - | - | 17.60 | 9.80 | 3090 | - | 130 | 26.5 | - | - |
| 9-Nov-05 | 6.78 | 3784 | - | - | 11.80 | 11.12 | 2600 | - | 121 | 21.7 | - | - |
| 9-Dec-05 | 3.22 | 8745 | - | - | 12.90 | 12.85 | 3900 | - | 175 | 14.1 | - | - |
| 19-Jan-06 | 7.73 | 5215 | 5.43 | - | 13.30 | 12.52 | 2000 J | - | 20.3 | 3.24 | - | - |
| 16-Feb-06 | 3.96 | 9342 | 8.97 | 231.2 | 9.08 | 12.30 | 4100 J | - | 43 | 25.6 | - | - |
| 15-Mar-06 | 8.72 | 12910 | 9.59 | 222.1 | 7.64 | 12.60 | 5100 J | - | 38.6 | 41.8 | - | - |
| 7-Apr-06 | 14.26 | 15220 | 6.90 | 18.9 | 3.65 | 12.92 | 5700 | - | 48.5 | 65.6 | - | - |
| 16-May-06 | 19.75 | 10880 | 2.61 | 33.8 | 15.40 | 12.46 | 5100 | - | 130 | 92.1 | - | - |
| 23-Jun-06 | 22.76 | 7586 | 2.98 | - | 14.10 | 12.65 | 5100 | - | 130 | 57.9 | - | - |
| 20-Jul-06 | 24.33 | 7457 | 0.73 | -148.4 | 16.70 | 11.33 | 6400 | - | 272 | 51.3 | - | - |
| 22-Aug-06 | 15.03 | 7481 | 3.75 | 61.0 | 14.10 | 10.40 | 6100 | - | 318 | 33.2 | - | - |
| 26-Sep-06 | 17.30 | 8409 | 1.31 | -312.4 | 15.10 | 12.38 | 5500 | - | 230 | 45.7 | - | - |
| 26-Oct-06 | 10.95 | 6075 | 4.10 | -265.6 | 13.30 | 12.18 | 4600 | - | 243 | 41.5 | - | - |
| 15-Nov-06 | 8.07 | 5022 | 7.71 | -152.7 | 21.50 | 12.24 | 2600 | - | 76.2 | 3.68 | - | - |
| 20-Dec-06 | 6.32 | 9148 | 5.73 | -139.6 | 12.20 | 12.85 | 2900 J | - | 46.1 | 1.28 | - | - |
| 24-Jan-07 | 2.15 | 12690 | 9.24 | -98.4 | 9.74 | 13.10 | 3000 J | - | 19.2 | 26.8 | - | - |
| 12-Feb-07 | 9.35 | 14110 | 8.43 | -86.7 | 32.50 | 13.13 | 4700 | - | 96.2 | 83.5 | - | - |
| 27-Mar-07 | 9.16 | 10560 | 8.41 | -46.2 | 7.42 | 11.31 | 2900 J | - | 5.98 | 14.5 | - | - |
| 18-Apr-07 | 8.27 | 14570 | 8.32 | 10.8 | 10.30 | 12.79 | 5200 | - | 19.8 | 22.1 | - | - |
| 31-May-07 | 23.66 | 13410 | 6.42 | -95.0 | 31.20 | 11.77 | 5100 | - | 78.4 | 50.4 | - | - |
| 20-Jun-07 | 26.35 | 10050 | 5.53 | -195.7 | 27.90 | 12.29 | 5300 J | - | 112 | 38.2 | - | - |
| 31-Jul-07 | 21.39 | 6666 | 4.76 | -106.4 | 72.00 | 10.86 | 6300 | - | 208 | 68.8 | - | - |
| 29-Aug-07 | 22.61 | 6950 | 1.57 | -193.4 | 61.80 | 12.05 | 6300 J | - | 149 | 30.6 | - | - |
| 27-Sep-07 | 11.45 | 5059 | 2.66 | -180.4 | 78.40 | 11.43 | 4800 | - | 190 | 17.4 | - | - |
| 26-Oct-07 | 6.98 | 4147 | 1.44 | -204.7 | 39.50 | 12.48 | 3900 J | - | 168 | 25.5 | - | - |
| 30-Nov-07 | 2.86 | 5030 | 8.50 | -74.9 | 12.40 | 12.20 | 2600 | - | 121 | 14.3 | - | - |
| 12-Dec-07 | 4.45 | 3564 | 2.03 | -141.8 | 20.70 | 10.93 | 2700 | - | 79.3 | 9.87 | - | - |
| 24-Jan-08 | 1.13 | 4859 | 4.10 | -186.8 | - | 11.19 | 2200 | - | 86.1 | 6.79 | - | - |
| 28-Feb-08 | - | - | - | - | 18.10 | - | 2800 | - | 183 | 73.4 | - | - |
| 25-Mar-08 | 7.37 | 5413 | 7.88 | -58.2 | 122.00 | 12.29 | 2900 | - | 182 | 13 | - | - |
| 29-Apr-08 | 8.43 | 3685 | 9.04 | 59.3 | 19.20 | 11.63 | 2400 J | - | 152 | 16 | - | - |
| 20-May-08 | 18.03 | 3554 | 6.69 | 58.0 | 156.00 | 11.01 | 2100 | - | 137 | 38.3 | - | - |
| 18-Jun-08 | 13.01 | 5680 | 6.46 | 57.5 | 71.80 | 11.14 | 4000 J | - | 279 | 34.4 | - | - |
| 26-Aug-08 | 18.02 | 2800 | 5.72 | 16.9 | 49.80 | 10.08 | 2500 J | - | 91.7 | 18.6 | 557000 | - |
| 20-Nov-08 | 7.46 | 2011 | 9.04 | 38.3 | 23.60 | 10.49 | 2300 | - | 72.9 | 9.2 | 566000 | - |
| 12-Feb-09 | 1.63 | 1870 | 11.74 | - | 46.10 | 10.83 | 2300 | - | 129 | 17.2 | 738000 | - |
| 19-May-09 | 12.73 | 1895 | 5.37 | -16.4 | 168.00 | 9.82 | 1700 J | - | 78.9 | 11.3 | 515000 | - |
| 23-Sep-09 | 21.50 | 4190 | 0.09 | 175.1 | 14.40 | 9.70 | 4100 | - | 120 | 99 | 1300000 | - |
| 14-Dec-09 | + | + | + | + | + | + | + | - | + | + | + | - |
| 22-Mar-10 | 13.10 | 2480 | - | 342.0 | 15.60 | 10.05 | 1700 | - | 76 | 34 | 520000 | - |
| 17-Jun-10 | 13.40 | 2429 | 5.14 | - | 26.10 | 10.77 | 2100 | - | 120 | 89 | 630000 | - |
| 21-Sep-10 | 16.30 | 2733 | 1.10 | 216.8 | 21.50 | 9.81 | 2200 | - | 25 | 27 | 510000 | - |
| 8-Dec-10 | 6.00 | 1994 | 2.70 | - | 18.70 | 10.05 | 1400 | - | 53 | 18 | 490000 | - |
| 30-Mar-11 | 9.10 | 509 | 0.37 | 179.2 | 13.80 | 12.04 | 730 J | - | 36 | 14 | 260000 | - |
| 21-Jun-11 | 21.60 | 2092 | 1.90 | 192.2 | 13.60 | 10.07 | 2800 J | - | 62 | 29 | 380000 | - |
| 27-Sep-11 | 14.60 | 1516 | 9.34 | 220.4 | 32.50 | 9.34 | 1800 | - | 78 | 36 | 780000 | - |
| 15-Dec-11 | 3.00 | 1449 | 1.90 | 94.6 | 13.80 | 10.75 | 2100 | - | 140 | 74 | 630000 | - |
| 21-Mar-12 | 2.60 | 1088 | 8.10 | 285.7 | 13.10 | 9.95 | 780 | - | 30 | 7.2 | 240000 | - |
| 19-Jun-12 | 17.10 | 1747 | 5.54 | 345.3 | 10.80 | 9.93 | 780 | - | 70 | 29 | 400000 | - |
| 20-Sep-12 | - | - | - | - | - | - | - | - | - | - | - | - |
| 19-Dec-12 | 4.00 | 1771 | 6.37 | 104.0 | 6.12 | 10.71 | 1300 | - | 47 | 18 | 440000 | - |
| 26-Feb-13 | 6.90 | 3720 | 5.40 | 196.7 | 10.60 | 11.86 | 1100 | - | 140 | 39 | 690000 | - |
| 23-May-13 | 11.50 | 2335 | 5.21 | 323.5 | 44.10 | 12.48 | 1800 | - | 130 | 50 | 530000 | - |
| 22-Aug-13 | DRY | DRY | DRY | DRY | DRY | DRY | DRY | - | DRY | DRY | DRY | - |
| 19-Nov-13 | 8.20 | 1256 | 4.12 | 79.3 | 18.20 | 9.89 | 1260 | - | 39.8 | 20.4 | 487000 | - |
| 1-Apr-14 | 15.30 | 2053 | 4.42 | 130.9 | 772.00 | 11.27 | 1800 | - | 113 | 42.2 | 649000 | - |
| 23-May-14 | 14.15 | 2187 | 5.50 | 77.3 | - | 10.19 | 1860 | - | 112 | 23.6 | 623000 | - |
| 13-Aug-14 | 20.29 | 1298 | 5.35 | 40.1 | 24.80 | 9.63 | 949 | - | 44.9 | 22.8 | 306000 | - |
| 12-Nov-14 | 1.30 | 315 | 4.55 | -0.5 | 22.10 | 10.45 | 2440 | - | 122 | 34.2 | 804000 | - |
| 12-Feb-15 | 11.10 | 1267 | 4.01 | -8.2 | 23.90 | 10.20 | 905 | - | 27.2 | 9.6 | 320000 | - |
| 4-May-15 | 15.60 | 3200 | 4.35 | 240.5 | 9.21 | 10.42 | 2280 | - | 154 | 30.8 | 774000 | - |
| 5-Aug-15 | DRY | DRY | DRY | DRY | DRY | DRY | DRY | - | DRY | DRY | DRY | - |
| 3-Nov-15 | 8.30 | 1143 | 2.01 | 88.1 | 35.40 | 9.22 | 1050 | - | 28 | 28.2 | 364000 | - |
| 9-Feb-16 | 7.30 | 1672 | 3.45 | 95.9 | 7.79 | 10.45 | 1170 | - | 51 J+ | 34 | 410000 | - |
| 3-May-16 | 14.20 | 3150 | 3.61 | 335.2 | 63.80 | 10.35 | 2260 | - | 148 | 97.9 J- | 777000 | - |
| 24-Aug-16 | DRY | DRY | DRY | DRY | DRY | DRY | DRY | - | DRY | DRY | DRY | - |

Table A-1d: Summary of Lower Disposal Area - Surface Water Sampling Results - South Pond Ravensdale Site, Ravensdale, Washington

| Date Sampled | Field Parameters | | | | | | Gen-Chem Total Dissolved Solids (mg/L) | Metals (ug/L) | | | | |
|--|------------------|-------------------------|-------------------------|--|-----------------|---------------------|---|---------------|---------|---------|-----------|----------|
| | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Oxidation-Reduction Potential (Rel mV) | Turbidity (NTU) | pH (standard units) | | Antimony | Arsenic | Lead | Potassium | Vanadium |
| Preliminary Screening Level ^c | - | - | - | - | - | 6.5-8.5 | - | 5.6 | 8 | 2.1 | - | 140 |
| 1-Nov-16 | 12.10 | 401 | 5.56 | -65.9 | 15.00 | 9.43 | 742 | - | 21.9 | 14.1 | 356000 | - |
| 1-Feb-17 | 2.10 | 2064 | 4.82 | 5.0 | 17.80 | 10.27 | 1330 | - | 57.6 | 139 | 455000 | - |
| 31-May-17 | 14.50 | 2594 | 5.36 | - | 22.70 | 9.93 | 1920 | - | 105 | 51.5 J+ | 664000 | - |
| 17-Aug-17 | DRY | DRY | DRY | DRY | DRY | DRY | DRY | - | DRY | DRY | DRY | - |
| 9-Nov-17 | 6.50 | 1049 | 6.38 | 92.3 | 14.40 | 10.13 | 1260 | - | 58.8 | 53.4 J+ | 441000 | - |
| 27-Feb-18 | 6.50 | 1379 | 4.05 | -71.0 | 6.11 | 10.94 | 865 | - | 61.7 | 47.7 J- | 429000 | - |
| 2-May-18 | 11.60 | 2547 | - | - | 25.30 | 10.36 | 1860 | - | 85.9 | 26.7 J+ | 611000 | - |
| 22-Aug-18 | DRY | DRY | DRY | DRY | DRY | DRY | DRY | - | DRY | DRY | DRY | - |
| 7-Nov-18 | 9.70 | 995 | 6.72 | 126.8 | 20.60 | 9.15 | 1040 | - | 76 | 65.5 | 333000 J+ | - |
| 11-Mar-19 | 10.60 | 1354 | 5.93 | -18.7 | 7.19 | 10.31 | 1270 | - | 49.3 | 41.7 | 458000 | - |
| 9-May-19 | DRY | DRY | DRY | DRY | DRY | DRY | DRY | - | DRY | DRY | DRY | - |
| 26-Aug-19 | DRY | DRY | DRY | DRY | DRY | DRY | DRY | - | DRY | DRY | DRY | - |
| 14-Nov-19 | 8.70 | 1180 | 5.98 | 30.9 | 7.38 | 9.03 | 1120 | - | 67.2 | 76.4 | 418000 | - |
| 13-Feb-20 | 4.30 | 1032 | 2.51 | -126.9 | 6.10 | 10.46 | 927 | - | 28.1 | 13 | 348000 | - |
| 13-Aug-20 | DRY | DRY | DRY | DRY | DRY | DRY | DRY | - | DRY | DRY | DRY | - |
| 10-Dec-20 | 5.60 | 1000 | 2.52 | 66.8 | 6.02 | 9.66 | 952 | - | 12 | 6.63 | 318000 | - |
| 4-Mar-21 | 8.10 | 1271 | 1.98 | 38.0 | 8.02 | 10.35 | 4820 | - | 50.6 | 35.7 | 435000 | - |
| 10-Jun-21 | DRY | DRY | DRY | DRY | DRY | DRY | DRY | - | DRY | DRY | DRY | - |
| 13-Oct-21 | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY |
| 6-Jan-22 | 4.50 | 305 | 10.57 | -30.2 | 4.07 | 9.42 | 300 | 2.29 | 4.42 | 2.29 | 77100 | 4.27 |
| 17-Mar-22 | 8.80 | 997 | 8.53 | -66.4 | 4.54 | 11.32 | 912 | 4.85 | 22.60 | 16.70 | 358000 | 37.80 |
| 21-Jun-22 | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY |
| 12-Sep-22 | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY |
| 13-Dec-22 | 4.1 | 1319 | 8.1 | -51.9 | 15.8 | 9.45 | 1170 | 17.5 | 40.5 | 33.1 | 384000 | 79.3 |
| 15-Mar-23 | 8.9 | 1467 | 10.36 | -7.6 | 6.57 | 9.33 | 913 | 2.75 | 8.5 | 4.84 | 347000 | 12.3 |
| 26-Jun-23 | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY |

Notes:

Dissolved metals were analyzed at the Site until December 2020 (Q4 2020). Total metals were analyzed for Q4 2020 and will continue to be analyzed moving forward. Iron and manganese are not included in the COPCs at the Site and are not analyzed beginning in Q2 2021. Antimony and Vanadium were included as COPCs for surface water locations and shallow/alluvial groundwater monitoring wells at the Site beginning in Q3 2021.

- Not analyzed or not available
- Orange shaded values indicate parameter results above the Preliminary Screening Level (PSL), except for pH, which could be above or below the PSL.
- + South Pond frozen; unable to collect field parameters or samples
- Dry South Pond dry; unable to collect field parameters or samples
- a North Creek Analytical, Inc.
- b Severn Trent Laboratories
- c Preliminary Cleanup Level (PCUL) provided by Ecology 30 Sept 2022
- U Data validation code; not detected at the Reporting Limit (RL)
- J Data validation code; estimated value
- J+ Data validation code; estimated value with positive bias
- °C Degrees Celsius
- µmhos/cm Micromhos per centimeter
- feet bmp Feet below measuring point
- feet NAVD88 Feet NAVD88 Datum
- mg/L
- mV
- NTU

APPENDIX A-2

**Summary of Lower Disposal Area –
Shallow/Alluvial Groundwater
Sampling Results**

Table A-2A Well MW-1A
Table A-2B Well MW-2A
Table A-2C Well MW-3A
Table A-2D Well MW-4A
Table A-2E Well MW-5A
Table A-2F Well MW-6A
Table A-2G Well MW-7A
Table A-2H Well MW-8A
Table A-2I Well MW-9A
Table A-2J Well MW-10A
Table A-2K Well P-16
Table A-2L Well P-17

**Table A-2a: Summary of Lower Disposal Area - Shallow/Alluvial Groundwater Sampling Results - Well MW-1A
Ravensdale Site, Ravensdale, Washington**

| Date Sampled | Field Parameters | | | | | | | | | Gen. Chem. | Metals (ug/L) | | | | |
|--|----------------------------------|-------------------------------------|------------------|-------------------------|-------------------------|--|-----------------|---------------------|-------------------------------|------------|---------------|---------|--------|-----------|----------|
| | Depth to Water (feet btoc) | Groundwater Elevation (feet NAVD88) | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Oxidation-Reduction Potential (Rel mV) | Turbidity (NTU) | pH (standard units) | Total Dissolved Solids (mg/L) | | Antimony | Arsenic | Lead | Potassium | Vanadium |
| Preliminary Screening Level ^a | - | - | - | - | - | - | - | 6.5-8.5 | - | 5.6 | 8 | 2.1 | - | 140 | |
| 15-Jul-05 | 35.43 | 578.01 | 15.17 | 883 | - | - | 358 | 7.03 | 664 | - | 8.47 | 2 U | - | - | |
| 9-Nov-05 | 31.83 | 581.61 | 10.77 | 1037 | - | - | 22.2 | 6.89 | 680 | - | 3.45 | 1 U | - | - | |
| 15-Feb-06 | 23.91 | 589.53 | 9.14 | 623 | 1.53 | 497.4 | 6.76 | 7.26 | 470 J | - | 3.25 | 1 U | - | - | |
| 17-May-06 | 31.91 | 581.53 | 11.32 | 1029 | 1.33 | 121.6 | 10.3 | 7.18 | 600 | - | 5.18 | 1 U | - | - | |
| 23-Aug-06 | 35.35 | 578.09 | 19.21 | 481 | 5.97 | 60.4 | 6.3 | 6.67 | 340 | - | 1.7 | 1 U | - | - | |
| 14-Nov-06 | 20.00 | 593.44 | 10.35 | 635 | 4.55 | 95.1 | 22.2 | 7.23 | 550 | - | 3.07 | 1 U | - | - | |
| 14-Feb-07 | 29.29 | 584.15 | 11.13 | 435 | 3.88 | 85.6 | 32.1 | 6.76 | 260 | - | 2 | 1 U | - | - | |
| 30-May-07 | 32.90 | 580.54 | 10.30 | 545 | 6.63 | 145.7 | 6.93 | 6.81 | 320 | - | 2.48 | 1 U | - | - | |
| 27-Aug-07 | 35.68 | 577.76 | 10.49 | 428 | 7.13 | 76.7 | 8.65 | 6.95 | 260 J | - | 1.87 | 1 U | - | - | |
| 29-Nov-07 | 32.75 | 580.69 | 10.10 | 625 | 7.14 | 144.3 | 12.2 | 6.96 | 340 J | - | 2.32 | 1 U | - | - | |
| 27-Feb-08 | 27.83 | 585.61 | - | - | - | - | 19.6 | - | 320 | - | 2.58 | 1 U | - | - | |
| 20-May-08 | 31.86 | 581.58 | 10.22 | 471 | 6.38 | 177.0 | 109 | 6.48 | 290 J | - | 2.24 | 1 U | - | - | |
| 27-Aug-08 | 36.04 | 577.40 | 9.84 | 427 | 7.40 | 118.4 | 63.6 | 7.08 | 260 | - | 2.05 | 1 U | 23000 | - | |
| 26-Sep-08 | Test Trench Drain Line Installed | | | | | | | | | | | | | | |
| 16-Oct-08 | 35.65 | 577.79 | 9.51 | 443 | 9.78 | 113.9 | 38 | 7.38 | 260 J | - | 1.79 | 1 U | 22900 | - | |
| 20-Nov-08 | 25.62 | 587.82 | 9.49 | 563 | 6.11 | 231.0 | 5.48 | 7.18 | 430 | - | 3.68 | 1 U | 106000 | - | |
| 30-Dec-08 | 23.14 | 590.30 | 9.84 | 402 | 8.40 | 106.9 | 8.92 | 7.25 | 280 J | - | 2.47 | 1 U | 43900 | - | |
| 15-Jan-09 | 20.66 | 592.78 | 8.40 | 336 | 9.65 | 229.6 | 1.07 | 6.88 | 290 | - | 2.25 | 1 U | 35700 | - | |
| 12-Feb-09 | 30.00 | 583.44 | 9.05 | 372 | 8.46 | - | 16.7 | 7.34 | 320 | - | 1.93 | 1 U | 27000 | - | |
| 12-Mar-09 | 31.30 | 582.14 | 9.13 | 409 | 8.60 | 174.9 | 15.8 | 7.03 | 340 | - | 1.66 | 1 U | 20600 | - | |
| 16-Apr-09 | 23.88 | 589.56 | 8.17 | 343 | 10.24 | 131.8 | 13.5 | 6.78 | 310 | - | 1.77 | 1 U | 24600 | - | |
| 19-May-09 | 30.50 | 582.94 | 8.99 | 392 | 8.69 | 82.6 | 23.7 | 7.75 | 340 J | - | 1.56 | 1 U | 19600 | - | |
| 23-Jun-09 | 34.00 | 579.44 | 9.21 | 480 | 9.56 | 79.0 | 22.9 | 7.89 | 430 | - | 2 U | 2 U | 20000 | - | |
| 25-Aug-09 | 36.95 | 576.49 | 13.10 | 373 | 6.47 | 311.9 | 4.98 | 6.76 | 270 J+ | - | 0.64 J | 2 U | 17000 | - | |
| 23-Sep-09 | 37.12 | 576.32 | 11.30 | 336 | 6.90 | 368.3 | 21.3 | 6.73 | 240 | - | 2 U | 0.18 J | 14000 | - | |
| 15-Dec-09 | 28.30 | 585.14 | 9.20 | 643 | 5.30 | 567.0 | 18 | 6.72 | 330 | - | 2 U | 2 U | 26000 | - | |
| 24-Mar-10 | 30.03 | 583.41 | 9.80 | 562 | 5.72 | 545.9 | 5.04 | 6.74 | 370 | - | 1.9 J | 2 U | 19000 | - | |
| 16-Jun-10 | 23.55 | 589.89 | 9.20 | 506 | 5.93 | 405.4 | 16.1 | 6.53 | 40 U | - | 3.6 | 2 U | 20000 | - | |
| 21-Sep-10 | 35.89 | 577.55 | 10.40 | 593 | 4.82 | 288.5 | 117 | 6.96 | 370 | - | 2.6 | 0.23 J | 19000 | - | |
| 7-Dec-10 | 27.39 | 586.05 | 10.00 | 504 | 1.45 | 198.4 | 139 | 7.15 | 330 | - | 2.3 | 2 U | 14000 | - | |
| 29-Mar-11 | 29.76 | 583.68 | 8.10 | 247 | 2.47 | 169.0 | 6.81 | 7.14 | 300 | - | 2.4 | 2 U | 15000 | - | |
| 21-Jun-11 | 30.45 | 582.99 | 9.30 | 606 | 4.58 | 332.9 | 3.56 | 7.17 | 400 J | - | 5 U | 2 U | 16000 | - | |
| 27-Sep-11 | 36.65 | 576.79 | 9.90 | 366 | 7.27 | 356.2 | 2.18 | 6.85 | 310 | - | 5 U | 2 U | 17000 | - | |
| 14-Dec-11 | 31.53 | 581.91 | 9.20 | 407 | 1.97 | 234.7 | 20.4 | 7.09 | 370 | - | 5 U | 2 U | 16000 | - | |
| 20-Mar-12 | 21.60 | 591.84 | 7.70 | 561 | 7.06 | 385.4 | 4.8 | 7.18 | 280 | - | 2.3 | 0.4 U | 16000 | - | |
| 19-Jun-12 | 21.60 | 591.84 | 10.00 | 575 | 7.04 | 378.2 | 5.6 | 7.31 | 330 | - | 2.5 | 0.4 U | 16000 | - | |
| 19-Sep-12 | 36.42 | 577.02 | 11.30 | 561 | 8.76 | 286.0 | 2.49 | 7.02 | 310 | - | 2.4 | 0.4 U | 17000 | - | |
| 19-Dec-12 | 23.43 | 590.01 | 9.30 | 671 | 6.67 | 348.2 | 0.74 | 7.26 | 20 U | - | 1.7 | 0.4 U | 17000 | - | |
| 25-Feb-13 | 29.32 | 584.12 | 8.00 | 572 | 9.51 | 337.0 | 26 | 7.28 | 300 | - | 2.5 | 0.4 U | 16000 | - | |
| 22-May-13 | 31.23 | 582.21 | 9.00 | 518 | 8.59 | 397.7 | 4.68 | 7.40 | 310 | - | 1.8 | 0.4 U | 15000 | - | |
| 21-Aug-13 | 37.02 | 576.42 | 10.20 | 534 | 9.27 | 152.7 | 1.46 | 7.11 | 227 | - | 1.2 | 0.1 U | 14100 | - | |
| 20-Nov-13 | 29.69 | 583.75 | 9.50 | 852 | 7.62 | 243.5 | 39.5 | 6.75 | 419 | - | 1.6 | 0.1 U | 19900 | - | |
| 1-Apr-14 | 23.29 | 590.15 | 8.90 | 347 | 7.60 | 248.1 | 2.54 | 7.30 | 247 | - | 2 | 0.1 U | 16500 | - | |
| 21-May-14 | 28.31 | 585.13 | 9.50 | 349 | 4.02 | 178.6 | - | 7.12 | 280 | - | 1.8 | 0.1 U | 15100 | - | |
| 13-Aug-14 | 36.52 | 576.92 | 12.10 | 441 | 9.22 | 51.9 | 6.2 | 7.10 | 283 | - | 1.4 | 0.1 U | 15200 | - | |
| 13-Nov-14 | 31.63 | 581.81 | 11.50 | 438 | 8.80 | 173.0 | 14.7 | 7.10 | 352 | - | 1.6 | 0.1 U | 17100 | - | |
| 11-Feb-15 | 23.02 | 590.42 | 9.40 | 498 | 3.89 | 98.1 | 10.5 | 7.72 | 319 | - | 9.1 | 0.3 | 42900 | - | |
| 4-May-15 | 31.93 | 581.51 | 9.80 | 578 | 7.35 | 416.9 | 1.05 | 7.26 | 413 | - | 1.7 | 0.1 U | 16000 | - | |
| 6-Aug-15 | 37.65 | 575.79 | 10.70 | 447 | 0.17 | 71.6 | 49 | 7.21 | 343 | - | 3.9 | 0.1 U | 10300 | - | |
| 4-Nov-15 | 32.89 | 580.55 | 9.50 | 657 | 8.56 | 240.5 | 5.7 | 6.92 | 554 | - | 2.3 | 0.1 U | 49300 | - | |
| 10-Feb-16 | 25.39 | 588.05 | 9.80 | 322 | 7.36 | 204.8 | 3.21 | 7.31 | 202 | - | 2 | 0.1 U | 22200 | - | |
| 2-May-16 | 32.32 | 581.12 | 10.80 | 579 | 5.95 | 250.2 | 4.7 | 7.02 | 350 | - | 1.8 | 0.04 J- | 17800 | - | |
| 23-Aug-16 | 37.66 | 575.78 | 11.00 | 488 | 1.34 | 459.9 | 259 | 7.08 | 413 | - | 3.88 | 0.07 J | 14600 | - | |
| 2-Nov-16 | 31.30 | 582.14 | 9.70 | 280 | 3.94 | 225.0 | 6.13 | 7.18 | 531 | - | 2.13 | 0.12 | 37700 | - | |
| 1-Feb-17 | 29.01 | 584.43 | 8.60 | 510 | 5.26 | 187.7 | 0.97 | 7.04 | 270 | - | 1.47 | 0.1 U | 19000 | - | |
| 30-May-17 | 28.47 | 584.97 | 9.50 | 483 | 6.89 | 4.7 | 4.85 | 6.96 | 290 | - | 2.09 | 0.1 U | 15700 | - | |
| 17-Aug-17 | 36.30 | 577.14 | 10.50 | 536 | 3.79 | 82.5 | 6.44 | 6.96 | 283 | - | 1.55 | 0.1 U | 15500 | - | |
| 9-Nov-17 | 32.20 | 581.24 | 9.20 | 460 | 5.89 | 75.1 | 2.7 | 7.01 | 380 | - | 1.63 | 0.1 U | 16300 | - | |
| 27-Feb-18 | 25.18 | 588.26 | 8.90 | 215 | 7.35 | 121.6 | 6.04 | 6.31 | 186 | - | 1.72 | 0.1 U | 15500 | - | |
| 1-May-18 | 26.98 | 586.46 | 9.50 | 391 | 7.82 | - | 3.06 | 6.94 | 214 | - | 1.65 | 0.1 UJ | 14100 | - | |
| 21-Aug-18 | 37.29 | 576.15 | 10.02 | 266 | 7.37 | 75.6 | 129 | 6.84 | 215 | - | 1.51 | 0.1 U | 13300 | - | |
| 6-Nov-18 | 34.18 | 579.26 | 9.60 | 340 | 9.13 | 215.4 | 1 | 6.93 | 327 | - | 1.67 | 0.1 U | 16600 | - | |
| 11-Mar-19 | 27.75 | 585.69 | 8.90 | 323 | 5.65 | 185.3 | 4.29 | 6.94 | 269 | - | 1.36 | 0.1 U | 14400 | - | |
| 8-May-19 | 30.05 | 583.39 | 9.80 | 448 | 7.77 | 97.6 | 1.11 | 6.87 | 320 | - | 1.25 | 0.1 U | 15100 | - | |
| 26-Aug-19 | 37.02 | 576.42 | 9.83 | 329 | 1.16 | Note 1 | 7.97 | 7.11 | 258 | - | 0.904 | 0.1 U | 10700 | - | |
| 13-Nov-19 | 35.13 | 578.31 | 9.20 | 376 | 5.50 | 144.0 | 8.26 | 6.87 | 320 | - | 1.23 | 0.1 U | 15800 | - | |
| 12-Feb-20 | 20.38 | 593.06 | 9.00 | 381 | 2.58 | 191.6 | 1.33 | 7.15 | 268 | - | 1.25 | 0.1 U | 26600 | - | |
| 12-Aug-20 | 36.61 | 576.83 | 9.50 | 285 | 5.01 | 198.7 | 0.8 | 6.96 | 214 | - | 1.14 | 0.1 U | 14100 | - | |

**Table A-2a: Summary of Lower Disposal Area - Shallow/Alluvial Groundwater Sampling Results - Well MW-1A
Ravensdale Site, Ravensdale, Washington**

| Date Sampled | Field Parameters | | | | | | | | Gen. Chem. | Metals (ug/L) | | | | |
|--|----------------------------|-------------------------------------|------------------|-------------------------|-------------------------|--|-----------------|---------------------|------------|-------------------------------|----------|---------|-------|-----------|
| | Depth to Water (feet btoc) | Groundwater Elevation (feet NAVD88) | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Oxidation-Reduction Potential (Rel mV) | Turbidity (NTU) | pH (standard units) | | Total Dissolved Solids (mg/L) | Antimony | Arsenic | Lead | Potassium |
| Preliminary Screening Level ^a | - | - | - | - | - | - | - | 6.5-8.5 | - | 5.6 | 8 | 2.1 | - | 140 |
| 9-Dec-20 | 32.05 | 581.39 | 9.10 | 425 | 7.17 | 211.0 | 1.57 | 6.86 | 347 | - | 1.11 | 0.1 U | 17100 | - |
| 3-Mar-21 | 27.01 | 586.43 | 8.60 | 383 | 5.71 | 248.0 | 0.6 | 6.83 | 299 | - | 1.16 | 0.1 U | 17400 | - |
| 9-Jun-21 | 35.32 | 578.12 | 9.20 | 422 | 8.47 | 151.0 | 2.22 | 6.68 | 310 | - | 1.39 | 0.1 U | 16300 | - |
| 12-Oct-21 | 33.84 | 579.60 | 9.30 | 329 | 9.07 | 160.8 | 1.55 | 6.34 | 236 J- | 0.846 | 1.13 | 0.1 U | 12500 | 0.801 |
| 5-Jan-22 | 25.20 | 588.24 | 9.20 | 344 | 7.96 | 170.2 | 0.67 | 6.54 | 255 | 1.06 | 1.02 | 0.1 U | 18100 | 0.782 |
| 16-Mar-22 | 23.67 | 589.77 | 9.30 | 386 | 7.79 | 155.0 | 0.96 | 5.60 | 350 | 1.58 | 1.33 | 0.1 U | 36800 | 0.887 |
| 23-Jun-22 | 27.91 | 585.53 | 9.80 | 356 | 7.21 | 152.8 | 2.55 | 6.93 | 281 | 1.08 | 1.04 | 0.1 U | 16500 | 0.86 |
| 23-Sep-22 | 37.05 | 576.39 | 13.2 | 312.5 | 6.93 | 128.4 | 2.84 | 6.91 | 222 | 0.83 | 1.2 | 0.137 | 14100 | 0.786 |
| 13-Dec-22 | 32.35 | 581.09 | 9.4 | 394.6 | 8.79 | 99.3 | 0.31 | 6.77 | 234 | 0.955 | 1.13 | 0.1 U | 14500 | 0.791 |
| 13-Mar-23 | 29.36 | 584.08 | 8 | 584.2 | 9.22 | 90.2 | 0.29 | 6.85 | 298 | 0.86 | 1.27 | 0.053 J | 14000 | 0.935 |
| 28-Jun-23 | 34.78 | 578.66 | 9.4 | 527 | 9.69 | 277.4 | 0.85 | 6.68 | 363 | 0.87 | 1.18 | 0.1 U | 16600 | 0.862 |

Notes:

Top of casing elevation (feet NAVD88): 613.44

Dissolved metals were analyzed at the Site until December 2020 (Q4 2020). Total metals were analyzed for Q4 2020 and will continue to be analyzed moving forward. Iron and manganese are not included in the COPCs at the Site and are not analyzed beginning in Q2 2021. Antimony and Vanadium were included as COPCs for surface water locations and shallow/alluvial groundwater monitoring wells at the Site beginning in Q3 2021.

- Not measured or not available

Orange shaded values indicate parameter results above the Preliminary Screening Level (PSL), except for pH, which could be above or below the PSL.

a Preliminary Cleanup Level (PCUL) provided by Ecology 30 Sept 2022

U Data validation code; not detected at the Reporting Limit (RL)

J Data validation code; estimated value

J+ Data validation code; estimated value with positive bias

°C Degrees Celsius

Note 1 ORP measurements not available due to faulty sensor.

µmhos/cm Micromhos per centimeter

mg/L Milligrams per liter

feet bmp Feet below measuring point

mV Millivolts

feet NAVD88 Feet NAVD88 Datum

NTU Nephelometric Turbidity Unit

**Table A-2b: Summary of Lower Disposal Area - Shallow/Alluvial Groundwater Sampling Results - Well MW-2A
Ravensdale Site, Ravensdale, Washington**

| Date Sampled | Field Parameters | | | | | | | | Gen. Chem. | Metals (ug/L) | | | | |
|--|---|-------------------------------------|------------------|-------------------------|-------------------------|--|-----------------|---------------------|------------|-------------------------------|----------|---------|-------|-----------|
| | Depth to Water (feet btoc) | Groundwater Elevation (feet NAVD88) | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Oxidation-Reduction Potential (Rel mV) | Turbidity (NTU) | pH (standard units) | | Total Dissolved Solids (mg/L) | Antimony | Arsenic | Lead | Potassium |
| Preliminary Screening Level ^a | - | - | - | - | - | - | - | 6.5-8.5 | - | 5.6 | 8 | 2.1 | - | 140 |
| 15-Jul-05 | 29.18 | 578.03 | 13.78 | 853 | - | - | 28.3 | 7.7 | 606 | - | 2 U | 2 U | - | - |
| 9-Nov-05 | 25.64 | 581.57 | 10.95 | 860 | - | - | 3.82 | 7.43 | 550 | - | 1.31 | 1 U | - | - |
| 15-Feb-06 | 17.64 | 589.57 | 7.81 | 709 | 0.82 | 467.7 | 3.96 | 7.86 | 520 J | - | 1.06 | 1 U | - | - |
| 17-May-06 | 25.76 | 581.45 | 9.67 | 810 | 2.17 | 246.1 | 3.01 | 7.06 | 490 | - | 1.13 | 1 U | - | - |
| 23-Aug-06 | 29.13 | 578.08 | 12.86 | 759 | 2.6 | 12 | 9.82 | 7.4 | 570 | - | 1.54 | 1 U | - | - |
| 14-Nov-06 | 13.74 | 593.47 | 10.44 | 649 | 3.72 | 63.6 | 9.78 | 7.72 | 460 | - | 1.36 | 1 U | - | - |
| 14-Feb-07 | 22.09 | 585.12 | 10.77 | 648 | 1.69 | 11.5 | 52.4 | 7.51 | 380 | - | 1.07 | 1 U | - | - |
| 30-May-07 | 26.72 | 580.49 | 11.46 | 732 | 2.05 | 72.2 | 12.8 | 7.44 | 480 | - | 1.17 | 1 U | - | - |
| 27-Aug-07 | 29.45 | 577.76 | 10.8 | 829 | 7.41 | 62.8 | 117 | 7.58 | 590 J | - | 1.09 | 1 U | - | - |
| 29-Nov-07 | 26.57 | 580.64 | 10.74 | 899 | 2 | 81.1 | 392 | 6.05 | 490 | - | 1.03 | 1 U | - | - |
| 27-Feb-08 | 21.45 | 585.76 | - | - | - | - | 446 | - | 400 | - | 1.09 | 1 U | - | - |
| 20-May-08 | 25.73 | 581.48 | 9.48 | 706 | 3.07 | 110.2 | 419 | 7.26 | 420 J | - | 1.21 | 1 U | - | - |
| 27-Aug-08 | 29.84 | 577.37 | 9.87 | 824 | 4.74 | 91.5 | 571 | 7.43 | 550 J | - | 1.3 | 1 U | 65100 | - |
| 26-Sep-08 | <i>Test Trench Drain Line Installed</i> | | | | | | | | | | | | | |
| 16-Oct-08 | 29.13 | 578.08 | 9.76 | 820 | 4.56 | 53.6 | 227 | 7.33 | 520 J | - | 1.3 | 1 U | 76300 | - |
| 20-Nov-08 | 19.48 | 587.73 | 9.31 | 462 | 5.24 | 240.1 | 6.16 | 7.35 | 360 | - | 1.76 | 1 U | 67000 | - |
| 30-Dec-08 | 16.93 | 590.28 | 9.85 | 480 | 6.18 | 66.8 | 56.1 | 7.35 | 390 J | - | 1.55 | 1 U | 61500 | - |
| 15-Jan-09 | 14.46 | 592.75 | 7.71 | 402 | 7.47 | 177.8 | 1.61 | 7.61 | 360 | - | 1.57 | 1 U | 58500 | - |
| 12-Feb-09 | 23.84 | 583.37 | 9.63 | - | 8.72 | - | 74.9 | 7.54 | 390 | - | 1.3 | 1 U | 48100 | - |
| 12-Mar-09 | 25.15 | 582.06 | 9.11 | 454 | 7.22 | 163.7 | 573 | 7.19 | 400 | - | 1.17 | 1 U | 43100 | - |
| 16-Apr-09 | 17.72 | 589.49 | 8.4 | 417 | 8.27 | 126.4 | 128 | 7.26 | 400 | - | 1.4 | 1 U | 48800 | - |
| 19-May-09 | 24.38 | 582.83 | 8.8 | 448 | 6.88 | 72 | 178 | 7.95 | 410 J | - | 1.1 | 1 U | 44000 | - |
| 23-Jun-09 | 27.85 | 579.36 | 8.95 | 507 | 7.76 | 61.9 | 256 | 8.07 | 490 | - | 2 U | 2 U | 39000 | - |
| 25-Aug-09 | 30.68 | 576.53 | 10.5 | 707 | 6.94* | 307.4 | 4.38 | 7.17 | 530 J+ | - | 2 U | 0.18 J | 49000 | - |
| 23-Sep-09 | 30.84 | 576.37 | 11.2 | 661 | 5.41 | 374.7 | 15 | 7.28 | 500 | - | 2 U | 2 U | 51000 | - |
| 15-Dec-09 | 22.10 | 585.11 | 9.5 | 720 | 5.1 | 579 | 39 | 6.92 | 380 | - | 2 U | 2 U | 42000 | - |
| 24-Mar-10 | 23.82 | 583.39 | 10 | 602 | 4.1 | 535.3 | 43.3 | 6.93 | 370 | - | 1.7 J | 2 U | 39000 | - |
| 17-Jun-10 | 17.45 | 589.76 | 9.3 | 547 | 4.06 | - | 157 | 6.57 | 350 | - | 3.9 | 2 U | 39000 | - |
| 22-Sep-10 | 29.66 | 577.55 | 10.2 | 722 | 5.77 | 360.2 | 7.2 | 7.22 | 450 | - | 3.3 | 2 U | 55000 | - |
| 8-Dec-10 | 22.10 | 585.11 | 9.9 | 566 | 6.69 | - | 64.6 | 7.09 | 350 | - | 2 U | 2 U | 35000 | - |
| 29-Mar-11 | 19.94 | 587.27 | 8.4 | 251.3 | 6.95 | 620 | 28 | 7.13 | 250 J | - | 1.4 J | 2 U | 30000 | - |
| 21-Jun-11 | 24.25 | 582.96 | 9.9 | 628 | 5.23 | 344.3 | 37 | 7.29 | 410 J | - | 5 U | 2 U | 28000 | - |
| 28-Sep-11 | 30.41 | 576.8 | 9.5 | 57.5 | 6.54 | 481.7 | 13.8 | 7.24 | 500 | - | 5 U | 2 U | 54000 | - |
| 14-Dec-11 | 25.35 | 581.86 | 9.3 | 441 | 3.86 | 346.5 | 386 | 7.26 | 440 | - | 5 U | 2 U | 29000 | - |
| 20-Mar-12 | 15.45 | 591.76 | 7.7 | 580 | 1.53 | 382 | 32.3 | 7.4 | 280 | - | 2.2 | 0.4 U | 26000 | - |
| 19-Jun-12 | 23.88 | 583.33 | 9 | 590 | 1.85 | 388.1 | 55.7 | 7.74 | 320 | - | 2.5 | 0.4 U | 23000 | - |
| 19-Sep-12 | 30.18 | 577.03 | 11.1 | 695 | 7.03 | 297 | 9.31 | 7.41 | 420 | - | 2.7 | 0.4 U | 42000 | - |
| 19-Dec-12 | 17.24 | 589.97 | 9.4 | 704 | 6.33 | 317 | 55.2 | 7.4 | 310 | - | 1.7 | 0.4 U | 25000 | - |
| 25-Feb-13 | 23.12 | 584.09 | 9.1 | 585 | 6.04 | 339 | 110 | 7.46 | 370 | - | 2.5 | 0.4 U | 24000 | - |
| 22-May-13 | 25.05 | 582.16 | 8.6 | 537 | 8.41 | 391.5 | 12.3 | 7.51 | 310 | - | 1.9 | 0.4 U | 22000 | - |
| 21-Aug-13 | 30.75 | 576.46 | 10.6 | 684 | 8.42 | 150.2 | 5.85 | 7.74 | 419 | - | 1.5 | 0.2 | 27700 | - |
| 20-Nov-13 | 23.51 | 583.7 | 9.6 | 513 | 6.19 | 230.4 | 32.1 | 6.81 | 364 | - | 1.3 | 0.1 U | 27500 | - |
| 1-Apr-14 | 17.11 | 590.1 | 8.5 | 386 | 7.32 | 243.1 | 14.6 | 7.46 | 294 | - | 1.4 | 0.1 U | 31700 | - |
| 21-May-14 | 22.07 | 585.14 | 9.1 | 365 | 6.02 | 212.7 | - | 6.93 | 273 | - | 1.3 | 0.1 U | 24700 | - |
| 12-Aug-14 | 31.32 | 575.89 | 13.16 | 552 | 6.56 | 76.7 | 6.8 | 7.36 | 394 | - | 1.5 | 0.1 U | 25300 | - |
| 13-Nov-14 | 25.48 | 581.73 | 12.3 | 459.5 | 7.22 | 189.8 | 7.2 | 7.19 | 367 | - | 1.4 | 0.1 U | 25500 | - |
| 11-Feb-15 | 16.83 | 590.38 | 9.3 | 447 | 6.76 | 134.4 | 36.6 | 7.52 | 286 | - | 1.7 | 0.1 U | 30400 | - |
| 4-May-15 | 25.78 | 581.43 | 10.2 | 619 | 6.27 | 407.1 | 7.7 | 7.36 | 382 | - | 1.4 | 0.1 U | 25200 | - |
| 6-Aug-15 | 31.87 | 575.34 | 11.3 | 500 | 9.18 | 207.1 | 28.1 | 7.23 | 394 | - | 1.5 | 0.1 U | 22000 | - |
| 4-Nov-15 | 26.74 | 580.47 | 9.9 | 481 | 8.76 | 222.6 | 16.8 | 6.88 | 381 | - | 1.1 | 0.1 U | 21800 | - |
| 10-Feb-16 | 19.19 | 588.02 | 9 | 376 | 7.35 | 206 | 40.2 | 7.68 | 261 | - | 3.6 | 0.1 U | 37100 | - |
| 2-May-16 | 26.14 | 581.07 | 11.3 | 552 | 3.19 | 194.5 | 87.8 | 7.35 | 344 | - | 2.1 | 0.01 J- | 31200 | - |
| 23-Aug-16 | 31.64 | 575.57 | 10.5 | 545 | 7.62 | 486.5 | 10.8 | 7.18 | 412 | - | 1.54 | 0.1 U | 32600 | - |
| 2-Nov-16 | 25.12 | 582.09 | 10.2 | 220 | 4.01 | 238.9 | 245 | 7.19 | 431 | - | 1.4 | 0.1 U | 30600 | - |
| 1-Feb-17 | 22.84 | 584.37 | 9.1 | 580 | 5.06 | 186.3 | 13.6 | 7.35 | 317 | - | 3.17 | 0.1 U | 51100 | - |
| 30-May-17 | 22.31 | 584.9 | 9.4 | 520 | 7.01 | 4.99 | 40.2 | 7.18 | 322 | - | 1.78 | 0.1 U | 34100 | - |
| 17-Aug-17 | 30.08 | 577.13 | 10.6 | 626 | 5.63 | 134.2 | 32.3 | 7.21 | 370 | - | 1.28 | 0.1 U | 28900 | - |
| 9-Nov-17 | 26.04 | 581.17 | 9.8 | 479.5 | 5.79 | 74.4 | 68.8 | 7 | 391 | - | 1.39 | 0.1 U | 25400 | - |
| 27-Feb-18 | 19.03 | 588.18 | 8.8 | 293.1 | 7.43 | 185.2 | 15.1 | 6.9 | 254 | - | 3.98 | 0.1 U | 41900 | - |
| 1-May-18 | 20.84 | 586.37 | 9.1 | 531 | 7.46 | - | 25 | 7.35 | 316 | - | 3 | 0.1 UJ | 40600 | - |
| 21-Aug-18 | 31.09 | 576.12 | 10.39 | 437 | 7.33 | 115.2 | 19.1 | 7.04 | 358 | - | 1.48 | 0.1 U | 26900 | - |
| 6-Nov-18 | 28.00 | 579.21 | 9.7 | 420.1 | 8.17 | 210.3 | 6.74 | 6.97 | 418 | - | 1.3 | 0.1 U | 23400 | - |
| 11-Mar-19 | 21.61 | 585.6 | 9 | 351.2 | 9.2 | 187.1 | 20.6 | 7.11 | 312 | - | 1.57 | 0.1 U | 32700 | - |
| 8-May-19 | 23.88 | 583.33 | 9.8 | 443.1 | 8.05 | 109.6 | 7.79 | 7.06 | 316 | - | 1.66 | 0.1 U | 32900 | - |
| 26-Aug-19 | 30.90 | 576.31 | 10.91 | 495 | 8.65 | Note 1 | 12.7 | 6.91 | 394 | - | 1.28 | 0.1 U | 21100 | - |
| 13-Nov-19 | 28.91 | 578.3 | 9.8 | 506 | 7.81 | 180.4 | 14.4 | 6.87 | 429 | - | 1.34 | 0.1 U | 22900 | - |
| 12-Feb-20 | 14.21 | 593 | 8.1 | 319.3 | 9.95 | 189.3 | 14.6 | 7.27 | 277 | - | 1.95 | 0.1 U | 56300 | - |
| 12-Aug-20 | 30.41 | 576.8 | 9.5 | 463.3 | 6.6 | 185.5 | 72.9 | 7.03 | 359 | - | 1.2 | 0.1 U | 22400 | - |
| 9-Dec-20 | 25.91 | 581.3 | 9.4 | 533 | 6.44 | 213 | 9.96 | 6.97 | 400 | - | 1.38 | 0.49 J | 26800 | - |
| 3-Mar-21 | 20.83 | 586.38 | 8.9 | 330 | 5.24 | 216.5 | 12.4 | 7.18 | 268 | - | 1.8 | 0.219 | 61100 | - |

**Table A-2b: Summary of Lower Disposal Area - Shallow/Alluvial Groundwater Sampling Results - Well MW-2A
Ravensdale Site, Ravensdale, Washington**

| Date Sampled | Field Parameters | | | | | | | | Gen. Chem. | Metals (ug/L) | | | | |
|--|----------------------------|-------------------------------------|------------------|-------------------------|-------------------------|--|-----------------|---------------------|------------|-------------------------------|----------|----------|-------|-----------|
| | Depth to Water (feet btoc) | Groundwater Elevation (feet NAVD88) | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Oxidation-Reduction Potential (Rel mV) | Turbidity (NTU) | pH (standard units) | | Total Dissolved Solids (mg/L) | Antimony | Arsenic | Lead | Potassium |
| Preliminary Screening Level ^a | - | - | - | - | - | - | - | 6.5-8.5 | - | 5.6 | 8 | 2.1 | - | 140 |
| 9-Jun-21 | 29.14 | 578.07 | 9.1 | 459.8 | 8.65 | 193.6 | 1.34 | 6.88 | 360 J | - | 1.25 | 0.058 J | 21800 | - |
| 12-Oct-21 | 27.75 | 579.46 | 10.4 | 595 | 9.33 | 188.2 | 0.56 | 6.53 | 439 J- | 1.19 | 1.1 | 0.1 U | 21900 | 1.07 |
| 6-Jan-22 | 19.05 | 588.16 | 10.2 | 466.3 | 4.66 | 197.7 | 2.69 | 7.14 | 368 | 3.24 | 1.89 | 0.1 U | 80700 | 1.19 |
| 16-Mar-22 | 17.54 | 589.67 | 8.4 | 304.1 | 9.88 | 154.6 | 6.43 | 6 | 291 | 3.26 | 1.85 | 0.218 | 60900 | 1.15 |
| 23-Jun-22 | 21.76 | 585.45 | 9.5 | 442.6 | 6.06 | 158.8 | 1.49 | 7.10 | 369 | 1.94 | 1.5 | 0.1 U | 37500 | 1.15 |
| 23-Sep-22 | 30.87 | 576.34 | 11.2 | 471.5 | 8.5 | 190.3 | 2.04 | 6.82 | 351 | 0.923 | 1.17 | 0.13 | 23300 | 1.18 |
| 13-Dec-22 | 26.24 | 580.97 | 9.9 | 557 | 8.35 | 117.4 | 4.38 | 6.81 | 319 | 1.17 | 1.28 J | 0.218 J+ | 21800 | 1.59 |
| 14-Mar-23 | 23.24 | 583.97 | 8.6 | 664.2 | 7.67 | 174.1 | 0.97 | 7.08 | 368 | 1.65 | 1.49 | 0.1 U | 28800 | 1.03 |
| 28-Jun-23 | 28.64 | 578.57 | 10.5 | 521 | 9.26 | 275.7 | 2.1 | 6.79 | 361 | 1.05 | 1.12 | 0.371 J | 19600 | 1.02 |

Notes:

Top of casing elevation (feet NAVD88): 607.21

Dissolved metals were analyzed at the Site until December 2020 (Q4 2020). Total metals were analyzed for Q4 2020 and will continue to be analyzed moving forward. Iron and manganese are not included in the COPCs at the Site and are not analyzed beginning in Q2 2021. Antimony and Vanadium were included as COPCs for surface water locations and shallow/alluvial groundwater monitoring wells at the Site beginning in Q3 2021.

- Not measured or not available

Orange shaded values indicate parameter results above the Preliminary Screening Level (PSL), except for pH, which could be above or below the PSL.

* Dissolved Oxygen meter working incorrectly at the time of sample collection

a Preliminary Cleanup Level (PCUL) provided by Ecology 30 Sept 2022

U Data validation code; not detected at the Reporting Limit (RL)

J Data validation code; estimated value

J+ Data validation code; estimated value with positive bias

°C Degrees Celsius

Note 1 ORP measurements not available due to faulty sensor.

µmhos/cm Micromhos per centimeter

feet bmp Feet below measuring point

feet NAVD88 Feet NAVD88 Datum

mg/L Milligrams per liter

mV Millivolts

NTU Nephelometric Turbidity Unit

**Table A-2c: Summary of Lower Disposal Area - Shallow/Alluvial Groundwater Sampling Results - Well MW-3A
Ravensdale Site, Ravensdale, Washington**

| Date Sampled | Field Parameters | | | | | | | | Gen. Chem. | Metals (ug/L) | | | | |
|--|----------------------------|-------------------------------------|------------------|-------------------------|-------------------------|--|-----------------|---------------------|------------|-------------------------------|----------|---------|-----------|-----------|
| | Depth to Water (feet btoc) | Groundwater Elevation (feet NAVD88) | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Oxidation-Reduction Potential (Rel mV) | Turbidity (NTU) | pH (standard units) | | Total Dissolved Solids (mg/L) | Antimony | Arsenic | Lead | Potassium |
| Preliminary Screening Level ^a | - | - | - | - | - | - | - | 6.5-8.5 | - | 5.6 | 8 | 2.1 | - | 140 |
| 15-Jul-05 | 6.09 | 683.02 | 13.8 | 1124 | - | - | 30.3 | 6.96 | 922 | - | 2.41 | 2 U | - | - |
| 10-Nov-05 | 5.50 | 683.61 | 10.8 | 1518 | - | - | 2.32 | 6.88 | 960 | - | 10.5 | 1 U | - | - |
| 15-Feb-06 | 5.31 | 683.80 | 9.52 | 1357 | 0.46 | 217.4 | 58.2 | 6.33 | 930 J | - | 6.66 | 1 U | - | - |
| 16-May-06 | 6.25 | 682.86 | 10.4 | 1296 | 0.96 | 91 | 11.4 | 6.91 | 910 | - | 10.1 | 1 U | - | - |
| 22-Aug-06 | 8.85 | 680.26 | 12.84 | 1362 | 1.28 | -64.8 | 56 | 6.97 | 900 | - | 12.1 | 1 U | - | - |
| 13-Nov-06 | 5.03 | 684.08 | 11.24 | 1392 | 2.12 | -74.4 | 234 | 6.89 | 910 | - | 5.73 | 1 U | - | - |
| 16-Feb-07 | 5.55 | 683.56 | 8.99 | 1155 | 0.75 | -71.3 | 12.3 | 6.96 | 770 | - | 3.74 | 1 U | - | - |
| 30-May-07 | 6.72 | 682.39 | 11.86 | 1297 | 0.75 | -25.2 | 12.5 | 7.04 | 790 | - | 5.2 | 1 U | - | - |
| 27-Aug-07 | 8.38 | 680.73 | 12.65 | 1483 | 0.71 | -96.3 | 15.3 | 6.73 | 1100 J | - | 8.74 | 1 U | - | - |
| 28-Nov-07 | 5.66 | 683.45 | 10.47 | 1363 | 1.05 | -72.9 | 26.9 | 7.31 | 730 | - | 4.24 | 1 U | - | - |
| 27-Feb-08 | 5.57 | 683.54 | - | - | - | - | 121 | - | 860 | - | 9.76 | 1 U | - | - |
| 19-May-08 | 5.94 | 683.17 | 9.39 | 1346 | 0.66 | -52.6 | 20 | 6.93 | 820 J | - | 6.64 | 1 U | - | - |
| 26-Aug-08 | 6.44 | 682.67 | 12.15 | 1495 | 0.85 | -53.6 | 5.85 | 6.88 | 820 | - | 3.42 | 1 U | 30300 | - |
| 18-Nov-08 | 5.50 | 683.61 | 10.5 | 975 | 1.87 | -67.4 | 225 | 6.93 | 880 J | - | 7.48 | 1 U | 62500 | - |
| 11-Feb-09 | 5.62 | 683.49 | 7.67 | 877 | 0.98 | - | 68 | 7.28 | 810 | - | 5.2 | 1 U | 50600 | - |
| 19-May-09 | 5.60 | 683.51 | 8.52 | 847 | 0.91 | -63.4 | 52 | 8.21 | 750 J | - | 2.51 | 1 U | 49500 | - |
| 22-Sep-09 | 8.36 | 680.75 | 15.7 | 1149 | 0.1 | 132.1 | 75.1 | 7.05 | 910 | - | 6.6 | 2 U | 53000 | - |
| 17-Dec-09 | 4.59 | 684.52 | 8.9 | 1300 | 0.4 | 194 | 401 | 7.08 | 710 | - | 2 U | 2 U | 62000 | - |
| 24-Mar-10 | 5.40 | 683.71 | 11.2 | 1010 | 0.12 | - | 226 | 6.76 | 800 | - | 3.8 | 2 U | 46000 | - |
| 16-Jun-10 | 5.27 | 683.84 | 10.1 | 1123 | 0.2 | 188 | 6.19 | 8.43 | 570 | - | 13 | 2 U | 49000 | - |
| 21-Sep-10 | 6.01 | 683.10 | 12.7 | 1314 | 0.19 | 177.7 | 2.97 | 6.91 | 1,000 | - | 6.2 | 0.19 J | 160000 | - |
| 7-Dec-10 | 5.23 | 683.88 | 9.7 | 1183 | 0.23 | 182.7 | 25.3 | 6.86 | 840 | - | 3.2 | 2 U | 82000 | - |
| 30-Mar-11 | 5.04 | 684.07 | 8.3 | 498 | 0.28 | 174 | 4.93 | 7.89 | 700 | - | 3.6 | 2 U | 36000 | - |
| 22-Jun-11 | 6.77 | 682.34 | 9.7 | 895 | 0.43 | 172.2 | 9.18 | 7.01 | 700 J | - | 5 U | 2 U | 34000 | - |
| 28-Sep-11 | 7.83 | 681.28 | 12.6 | 99 | 0.18 | 141.8 | 6.07 | 6.83 | 840 | - | 8.8 | 2 U | 83000 | - |
| 15-Dec-11 | 5.40 | 683.71 | 9 | 785 | 0.6 | 179.8 | 24.4 | 6.98 | 760 | - | 4.5 J | 2 U | 73000 | - |
| 20-Mar-12 | 4.96 | 684.15 | 7.1 | 1092 | 0.16 | 22.6 | 12.1 | 7.11 | 470 | - | 5.2 | 2 U | 73000 | - |
| 19-Jun-12 | 6.76 | 682.35 | 10.3 | 1077 | 0.11 | 198.6 | 11.3 | 7.07 | 660 | - | 12 | 0.4 U | 78000 | - |
| 20-Sep-12 | 8.67 | 680.44 | 12.3 | 1235 | 0.15 | 111 | 1.96 | 6.99 | 710 | - | 11 | 0.05 J | 100000 | - |
| 18-Dec-12 | 4.98 | 684.13 | 8.7 | 1450 | 0.3 | -40.6 | 18.7 | 7.25 | 740 | - | 4.8 | 0.4 U | 150000 | - |
| 26-Feb-13 | 5.25 | 683.86 | 7.8 | 1211 | 0.15 | 186.6 | 27.8 | 7.21 | 740 | - | 4.7 | 0.4 U | 98000 | - |
| 23-May-13 | 6.56 | 682.55 | 9.9 | 1000 | 0.18 | 242.3 | 16.9 | 7.21 | 460 | - | 14 | 2.8 | 150000 | - |
| 21-Aug-13 | 9.01 | 680.10 | 12.1 | 917 | 0.12 | -14.2 | 1.24 | 7.27 | 772 | - | 7.6 | 0.05 J | 94000 | - |
| 19-Nov-13 | 6.09 | 683.02 | 9.9 | 697 | 0.07 | 61.8 | 2.93 | 6.77 | 852 | - | 12.3 | 0.2 | 169000 | - |
| 1-Apr-14 | 5.75 | 683.36 | 9 | 722 | 0.1 | 131.3 | 4.47 | 7.07 | 624 | - | 10.5 | 0.06 J | 104000 | - |
| 22-May-14 | 5.80 | 683.31 | 9.8 | 580 | 1.08 | 185.3 | - | 6.85 | 494 | - | 5.2 | 0.1 | 66500 | - |
| 13-Aug-14 | 8.54 | 680.57 | 11.48 | 915 | 2.85 | -67.6 | 8.16 | 7.09 | 740 | - | 6.9 | 0.1 U | 116000 | - |
| 12-Nov-14 | 5.97 | 683.14 | 11.1 | 313.7 | 2.79 | -85.1 | 15.3 | 6.87 | 744 | - | 6.9 | 0.1 U | 89100 | - |
| 12-Feb-15 | 5.50 | 683.61 | 9.8 | 980 | 0.52 | -54.5 | 1.28 | 7.04 | 696 | - | 4.2 | 0.1 U | 73200 | - |
| 4-May-15 | 5.80 | 683.31 | 10.8 | 994 | 0.17 | 143.4 | 15.4 | 7.12 | 701 | - | 9.3 | 0.1 U | 100000 | - |
| 5-Aug-15 | 10.12 | 678.99 | 12.6 | 881 | 0.13 | -90.4 | 0.89 | 7.07 | 724 | - | 7.3 | 0.1 U | 70300 | - |
| 3-Nov-15 | 5.30 | 683.81 | 12 | 865 | 1.23 | 105.5 | 5.06 | 6.97 | 1020 | - | 1.7 | 0.2 | 195000 | - |
| 9-Feb-16 | 5.14 | 683.97 | 9.1 | 954 | 0.55 | 154.6 | 4.82 | 7.03 | 625 | - | 3.4 | 0.1 U | 92700 | - |
| 2-May-16 | 4.74 | 684.37 | 11.3 | 844 | 0.19 | 96.8 | 2.21 | 7.16 | 621 | - | 10.5 | 0.04 J- | 105000 | - |
| 23-Aug-16 | 9.04 | 680.07 | 13.2 | 946 | 0.03 | 156.2 | 3.48 | 6.97 | 924 | - | 8.19 | 0.09 J | 148000 | - |
| 1-Nov-16 | 6.18 | 682.93 | 11.9 | 349 | 0.15 | 18.5 | 2.43 | 7.11 | 744 | - | 2.63 | 0.1 U | 180000 | - |
| 1-Feb-17 | 5.91 | 683.20 | 7.5 | 1114 | 0.17 | -67.4 | 6.05 | 7.08 | 694 | - | 6.4 | 0.1 U | 100000 | - |
| 30-May-17 | 7.40 | 681.71 | 10.4 | 753 | 2.2 | 8.59 | 3.28 | 7.12 | 465 | - | 9.52 | 0.1 U | 89300 | - |
| 17-Aug-17 | 9.71 | 679.40 | 12.4 | 1101 | 0.25 | -60.2 | 3.39 | 7.01 | 737 | - | 8.47 | 0.1 U | 72000 | - |
| 9-Nov-17 | 6.06 | 683.05 | 9.6 | 833 | 0.64 | 75.3 | 2.01 | 7.08 | 748 | - | 1.84 | 0.1 U | 191000 | - |
| 27-Feb-18 | 5.16 | 683.95 | 7.6 | 791 | 0.21 | -75.4 | 9.52 | 6.64 | 506 | - | 2.97 | 0.1 U | 92000 | - |
| 1-May-18 | 5.41 | 683.70 | 10 | 847 | 0.93 | - | 5.82 | 7.36 | 547 | - | 3.81 | 0.1 UJ | 120000 | - |
| 21-Aug-18 | 10.81 | 678.30 | 14.54 | 909 | 2.96 | -17.2 | 1.67 | 6.92 | 722 | - | 6.48 | 0.1 U | 101000 | - |
| 7-Nov-18 | 5.85 | 683.26 | 11.2 | 931 | 0.66 | 179 | 0.87 | 6.97 | 828 | - | 2.03 | 0.073 J | 202000 J+ | - |
| 11-Mar-19 | 5.26 | 683.85 | 6.1 | 477.5 | 1.25 | 53.7 | 2.39 | 7.34 | 486 | - | 1.44 | 0.1 U | 125000 | - |
| 9-May-19 | 5.44 | 683.67 | 10.2 | 678 | 3.72 | -9.4 | 1.85 | 7.04 | 574 | - | 3.02 | 0.083 J | 143000 | - |
| 26-Aug-19 | 9.30 | 679.81 | 13.96 | 1041 | 0.6 | Note 1 | 0.02 | 6.83 | 843 | - | 6.15 | 0.1 U | 142000 | - |
| 13-Nov-19 | 5.58 | 683.53 | 9.4 | 803 | 0.31 | 12.8 | 0.02 | 6.97 | 724 | - | 2.2 | 0.077 J | 174000 | - |
| 12-Feb-20 | 5.10 | 684.01 | 7.8 | 349.3 | 0.37 | -62.4 | 1.4 | 7.25 | 287 | - | 1.86 | 0.1 U | 74200 | - |
| 13-Aug-20 | 9.33 | 679.78 | 11.8 | 884 | 0.64 | -81.6 | 4.28 | 6.76 | 683 | - | 10.9 | 0.1 U | 119000 | - |
| 10-Dec-20 | 5.08 | 684.03 | 8.5 | 688 | 3.06 | 210 | 0.9 | 7.29 | 566 | - | 2.36 | 0.159 | 128000 | - |

**Table A-2c: Summary of Lower Disposal Area - Shallow/Alluvial Groundwater Sampling Results - Well MW-3A
Ravensdale Site, Ravensdale, Washington**

| Date Sampled | Field Parameters | | | | | | | | Gen. Chem. | Metals (ug/L) | | | | |
|--|----------------------------|-------------------------------------|------------------|-------------------------|-------------------------|--|-----------------|---------------------|------------|-------------------------------|----------|----------|--------|-----------|
| | Depth to Water (feet btoc) | Groundwater Elevation (feet NAVD88) | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Oxidation-Reduction Potential (Rel mV) | Turbidity (NTU) | pH (standard units) | | Total Dissolved Solids (mg/L) | Antimony | Arsenic | Lead | Potassium |
| Preliminary Screening Level ^a | - | - | - | - | - | - | - | 6.5-8.5 | - | 5.6 | 8 | 2.1 | - | 140 |
| 4-Mar-21 | 5.26 | 683.85 | 7 | 364 | 0.59 | 47 | 1.54 | 7.42 | 319 | - | 1.52 | 0.134 | 74200 | - |
| 9-Jun-21 | 6.24 | 682.87 | 11.4 | 706 | 0.96 | -50.2 | 4.12 | 7.03 | 540 | - | 6.48 | 0.204 | 124000 | - |
| 12-Oct-21 | 5.34 | 683.77 | 12.3 | 1611 | 2.92 | 133.4 | 5.25 | 6.63 | 1070 J- | 15.6 | 3.31 | 0.4 | 93200 | 2.14 |
| 6-Jan-22 | 5.10 | 684.01 | 7.5 | 269.6 | 2.33 | 189.1 | 1.84 | 7.38 | 242 | 8.89 | 2.04 | 0.265 | 53400 | 2.61 |
| 17-Mar-22 | 4.97 | 684.14 | 7.5 | 269.6 | 2.33 | 189.1 | 1.84 | 7.38 | 252 | 3.39 | 1.98 | 0.169 | 53200 | 0.88 |
| 21-Jun-22 | 5.21 | 683.9 | 11.2 | 439.4 | 0.19 | 181.3 | 0.66 | 7.03 | 368 | 0.966 | 3.66 | 0.075 J | 75400 | 0.39 |
| 13-Sep-22 | 11.25 | 677.86 | 15.3 | 910 | 4.92 | 85.7 | 9.15 | 6.49 | 689 | 0.973 | 5.42 | 0.137 | 91100 | 0.507 |
| 12-Dec-22 | 5.32 | 683.79 | 7.7 | 817 | 4.09 | 205.2 | 1.29 | 7.15 | 475 | 9.5 | 1.72 | 0.115 J+ | 99800 | 1.26 |
| 15-Mar-23 | 5.02 | 684.09 | 6.1 | 669.2 | 1.38 | 203.9 | 0.95 | 7.34 | 393 | 5.15 | 2.42 | 0.147 | 91100 | 1.19 |
| 26-Jun-23 | 7.35 | 681.76 | 11.7 | 802 | 0.65 | -21.3 | 4.65 | 6.78 | 699 | 5.91 | 11.7 | 0.558 | 144000 | 1.07 |

Notes:

Top of casing elevation (feet NAVD88): 689.11

Dissolved metals were analyzed at the Site until December 2020 (Q4 2020). Total metals were analyzed for Q4 2020 and will continue to be analyzed moving forward. Iron and manganese are not included in the COPCs at the Site and are not analyzed beginning in Q2 2021. Antimony and Vanadium were included as COPCs for surface water locations and shallow/alluvial groundwater monitoring wells at the Site beginning in Q3 2021.

- Not measured or not available

Orange shaded values indicate parameter results above the Preliminary Screening Level (PSL), except for pH, which could be above or below the PSL.

a Preliminary Cleanup Level (PCUL) provided by Ecology 30 Sept 2022

U Data validation code; not detected at the Reporting Limit (RL)

J Data validation code; estimated value

J+ Data validation code; estimated value with positive bias

°C Degrees Celsius

Note 1 ORP measurements not available due to faulty sensor.

µmhos/cm Micromhos per centimeter

feet bmp Feet below measuring point

feet NAVD88 Feet NAVD88 Datum

mg/L Milligrams per liter

mV Millivolts

NTU Nephelometric Turbidity Unit

**Table A-2d: Summary of Lower Disposal Area - Shallow/Alluvial Groundwater Sampling Results - Well MW-4A
Ravensdale Site, Ravensdale, Washington**

| Date Sampled | Field Parameters | | | | | | | | Gen. Chem. Total Dissolved Solids (mg/L) | Metals (ug/L) | | | | |
|--|----------------------------|-------------------------------------|------------------|-------------------------|-------------------------|--|-----------------|---------------------|---|---------------|---------|---------|-----------|----------|
| | Depth to Water (feet btoc) | Groundwater Elevation (feet NAVD88) | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Oxidation-Reduction Potential (Rel mV) | Turbidity (NTU) | pH (standard units) | | Antimony | Arsenic | Lead | Potassium | Vanadium |
| Preliminary Screening Level ^a | - | - | - | - | - | - | - | 6.5-8.5 | - | 5.6 | 8 | 2.1 | - | 140 |
| 15-Jul-05 | 4.60 | 700.85 | 12.43 | 629 | - | - | 6.07 | 6.45 | 490 | - | 2 U | 2 U | - | - |
| 10-Nov-05 | 3.70 | 701.75 | 11.98 | 441 | - | - | 7.4 | 6.22 | 290 | - | 1 U | 1 U | - | - |
| 19-Jan-06 | 3.56 | 701.89 | 8.29 | 319 | 0.42 | - | 1.46 | 6.53 | 290 J | - | 1 U | 1 U | - | - |
| 15-Feb-06 | 3.82 | 701.63 | 8.32 | 326 | 0.62 | 99.7 | 3.5 | 7.39 | 220 J | - | 1 U | 1 U | - | - |
| 15-Mar-06 | 3.79 | 701.66 | 7.58 | 254 | 0.87 | 201.9 | 0.82 | 6.65 | 210 J | - | 1 U | 1 U | - | - |
| 7-Apr-06 | 3.87 | 701.58 | 9.36 | 295 | 0.55 | 157.4 | 0.24 | 6.34 | 220 | - | 1 U | 1 U | - | - |
| 16-May-06 | 4.92 | 700.53 | 10.8 | 321 | 0.45 | 142.1 | 0.99 | 6.36 | 220 | - | 1 U | 1 U | - | - |
| 23-Jun-06 | 4.41 | 701.04 | 12.62 | 316 | 0.57 | - | 2.05 | 6.25 | 200 | - | 1 U | 2.64 | - | - |
| 20-Jul-06 | 6.90 | 698.55 | 13.43 | 347 | 0.23 | -20.9 | 0.32 | 6.11 | 120 | - | 1 U | 1 U | - | - |
| 22-Aug-06 | 8.46 | 696.99 | 13.68 | 406 | 0.9 | 153.5 | 2.2 | 6.13 | 280 | - | 1 U | 1 U | - | - |
| 26-Sep-06 | 6.50 | 698.95 | 14.59 | 417 | 2.47 | -35.2 | 2.42 | 6.33 | 290 | - | 1 U | 1 U | - | - |
| 26-Oct-06 | 5.98 | 699.47 | 12.82 | 434 | 3.3 | 124.1 | 0.82 | 6.12 | 320 | - | 1 U | 1 U | - | - |
| 13-Nov-06 | 3.02 | 702.43 | 11.7 | 386 | 5.06 | 187.8 | 2.47 | 6.13 | 280 | - | 1 U | 1 U | - | - |
| 20-Dec-06 | 3.60 | 701.85 | 9.64 | 379 | 4.3 | 150.5 | 1.03 | 6.07 | 250 | - | 1 U | 1 U | - | - |
| 23-Jan-07 | 3.68 | 701.77 | 8.37 | 239 | 3.96 | 58.9 | 0.66 | 6.28 | 220 | - | 1 U | 1 U | - | - |
| 14-Feb-07 | 3.74 | 701.71 | 8.18 | 325 | 2.85 | 110.8 | 0.53 | 6.25 | 210 | - | 1 U | 1 U | - | - |
| 27-Mar-07 | 3.32 | 702.13 | 8.27 | 289 | 2.07 | 61.5 | 0.88 | 6.83 | 210 J | - | 1 U | 1 U | - | - |
| 17-Apr-07 | 3.89 | 701.56 | 9.59 | 306 | 1.8 | 102.3 | 2.31 | 6.34 | 190 | - | 1 U | 1 U | - | - |
| 30-May-07 | 4.70 | 700.75 | 11.27 | 285 | 1.78 | 101.7 | 1.37 | 6.37 | 180 | - | 1 U | 1 U | - | - |
| 20-Jun-07 | 4.69 | 700.76 | 12.37 | 350 | 1.67 | 9.3 | 1.25 | 6.9 | 240 J | - | 1 U | 1 U | - | - |
| 31-Jul-07 | 6.38 | 699.07 | 14.57 | 402 | 1.15 | 5.5 | 0.6 | 6.37 | 250 | - | 1.29 | 1 U | - | - |
| 29-Aug-07 | 7.44 | 698.01 | 13.78 | 353 | 1.11 | 128.3 | 1.87 | 6.18 | 280 J | - | 1 U | 1 U | - | - |
| 27-Sep-07 | 8.25 | 697.20 | 13.6 | 375 | 0.96 | 142.6 | 0.7 | 6.7 | 300 | - | 1 U | 1 U | - | - |
| 26-Oct-07 | 4.09 | 701.36 | 12.16 | 343 | 2.27 | 75.9 | 3.93 | 6.1 | 310 J | - | 1 U | 1 U | - | - |
| 29-Nov-07 | 3.93 | 701.52 | 10.13 | 428 | 3.17 | 197.3 | 1.63 | 6.32 | 270 | - | 1 U | 1 U | - | - |
| 12-Dec-07 | 5.82 | 699.63 | 9.51 | 384 | 3.37 | 185 | 0.8 | 6.06 | 260 | - | 1 U | 1 U | - | - |
| 24-Jan-08 | 3.86 | 701.59 | 7.74 | 354 | 3.09 | 109 | - | 6.35 | 250 | - | 1 U | 1 U | - | - |
| 28-Feb-08 | 4.04 | 701.41 | - | - | - | - | 1.06 | - | 220 | - | 1 U | 1 U | - | - |
| 19-May-08 | 4.35 | 701.10 | 9.79 | 329 | 1.38 | 209.2 | 1.2 | 6.08 | 200 J | - | 1 U | 1 U | - | - |
| 26-Aug-08 | 7.83 | 697.62 | 12.66 | 431 | 1.38 | 210.5 | 0.28 | 6.19 | 270 | - | 1 U | 1 U | 3000 U | - |
| 18-Nov-08 | 3.64 | 701.81 | 10.43 | 235 | 3.95 | 217.5 | 0.66 | 6.03 | 210 | - | 1 U | 1 U | 3000 U | - |
| 11-Feb-09 | 4.09 | 701.36 | 7.24 | 188 | 2.13 | - | 0.12 | 6.54 | 180 | - | 1 U | 1 U | 3000 U | - |
| 19-May-09 | 3.79 | 701.66 | 8.19 | 173 | 1.28 | 111.9 | 1.78 | 7.18 | 170 J | - | 1 U | 1 U | 3000 U | - |
| 22-Sep-09 | 9.70 | 695.75 | 16.5 | 440 | 0.82 | 383.3 | 12.5 | 6.31 | 370 J | - | 2 U | 2 U | 1200 J | - |
| 17-Dec-09 | 3.47 | 701.98 | 9.2 | 311 | 4.37 | 470 | 16 | 6.25 | 110 | - | 2 U | 2 U | 700 J | - |
| 24-Mar-10 | 3.87 | 701.58 | 9.4 | 410 | 0.34 | 204.8 | 30.7 | 6.65 | 240 | - | 0.81 J | 2 U | 1300 J | - |
| 16-Jun-10 | 3.77 | 701.68 | 10.3 | 298 | 0.99 | 397.8 | 1.11 | 7.4 | 180 | - | 3.6 | 2 U | 900 J | - |
| 21-Sep-10 | 5.82 | 699.63 | 13.7 | 350 | 1.01 | 302.5 | 1.04 | 6.25 | 200 | - | 1.4 J | 0.2 J | 1200 J | - |
| 7-Dec-10 | 3.83 | 701.62 | 9.6 | 283 | 0.72 | 405.6 | 0.42 | 6.16 | 190 | - | 2 U | 2 U | 800 J | - |
| 30-Mar-11 | 3.91 | 701.54 | 8.2 | 133.3 | 0.51 | 248.2 | 0.29 | 9.87 | 140 J | - | 0.35 J | 2 U | 5000 | - |
| 22-Jun-11 | 3.99 | 701.46 | 11 | 219.3 | 0.16 | 222.5 | 0.22 | 6.13 | 160 | - | 5 U | 2 U | 700 J | - |
| 28-Sep-11 | 8.54 | 696.91 | 14.3 | 34.5 | 0.26 | 333.9 | 2.45 | 6.3 | 270 | - | 5 U | 2 U | 2100 J | - |
| 15-Dec-11 | 4.12 | 701.33 | 9.4 | 217 | 1.15 | 414.3 | 2.74 | 6.28 | 200 | - | 5 U | 2 U | 1200 J | - |
| 21-Mar-12 | 3.35 | 702.10 | 8.4 | 346 | 0.42 | 438.4 | 0.48 | 6.14 | 220 | - | 4.8 | 0.4 U | 1300 J | - |
| 19-Jun-12 | 3.78 | 701.67 | 11.3 | 290.1 | 0.09 | 314 | 0.46 | 6.28 | 170 J+ | - | 1.3 | 0.4 U | 3300 U | - |
| 20-Sep-12 | 8.53 | 696.92 | 14.4 | 419 | 0.26 | 309 | 1.07 | 6.39 | 240 | - | 1.6 | 0.4 U | 2900 J | - |
| 18-Dec-12 | 3.49 | 701.96 | 9.1 | 491 | 2.56 | 264.4 | 1.38 | 6.63 | 170 | - | 1 U | 0.4 U | 1200 J | - |
| 26-Feb-13 | 3.91 | 701.54 | 8.4 | 324 | 2.59 | 404.2 | 1.01 | 7.03 | 140 | - | 1.1 | 0.4 U | 3400 | - |
| 23-May-13 | 3.76 | 701.69 | 10.6 | 338 | 1.15 | 465.9 | 0.57 | 6.31 | 190 | - | 1 U | 0.4 U | 3300 U | - |
| 22-Aug-13 | 8.28 | 697.17 | 13.1 | 284.2 | 0.33 | 32.2 | 0.89 | 6.34 | 220 | - | 0.4 | 0.1 U | 1260 | - |
| 19-Nov-13 | 3.33 | 702.12 | 10.3 | 323 | 1.7 | 109.2 | 0.64 | 6.27 | 200 | - | 0.2 | 0.1 U | 750 | - |
| 1-Apr-14 | 3.69 | 701.76 | 8.2 | 243.6 | 0.45 | 180.7 | 0.28 | 6.33 | 173 | - | 0.18 J | 0.1 U | 710 | - |
| 22-May-14 | 4.52 | 700.93 | 10.8 | 195 | 0.65 | 75 | - | 7.2 | 152 | - | 0.3 | 0.1 | 600 | - |
| 13-Aug-14 | 7.56 | 697.89 | 12.62 | 269 | 0.44 | 37.7 | 1.12 | 5.89 | 181 | - | 0.8 | 0.1 U | 890 | - |
| 12-Nov-14 | 3.73 | 701.72 | 11.7 | 230.9 | 1.29 | 108.2 | 1.32 | 6.17 | 191 | - | 0.3 | 0.1 U | 950 | - |
| 11-Feb-15 | 3.50 | 701.95 | 9.2 | 270.4 | 0.53 | -34.2 | 0.73 | 6.3 | 170 | - | 0.2 | 0.1 U | 680 | - |
| 4-May-15 | 4.69 | 700.76 | 10.9 | 249.5 | 0.28 | 378.1 | 0.57 | 6.29 | 341 | - | 0.2 | 0.1 U | 610 | - |
| 5-Aug-15 | 9.44 | 696.01 | 13.9 | 316 | 0.72 | -38.1 | 1.16 | 6.45 | 262 | - | 0.3 | 0.1 U | 1230 | - |
| 3-Nov-15 | 4.21 | 701.24 | 11.8 | 192.2 | 8.59 | 205.6 | 5.39 | 6.34 | 166 | - | 0.2 J | 0.1 U | 790 | - |
| 9-Feb-16 | 3.82 | 701.63 | 9.2 | 291.8 | 4.61 | 230.7 | 0.49 | 6.45 | 164 | - | 0.17 J | 0.1 U | 790 | - |
| 3-May-16 | 4.61 | 700.84 | 10.9 | 310 | 2.39 | 253 | 1.01 | 6.34 | 178 | - | 0.3 | 0.01 J- | 940 | - |
| 24-Aug-16 | 8.76 | 696.69 | 13.2 | 286.7 | 1.24 | 490.4 | 1.01 | 6.35 | 177 | - | 0.2 J | 0.1 U | 840 | - |
| 1-Nov-16 | 3.34 | 702.11 | 12.2 | 100 | 3.69 | 177.2 | 0.4 | 6.38 | 205 | - | 0.19 J | 0.1 U | 971 | - |
| 2-Feb-17 | 3.94 | 701.51 | 7.8 | 363 | 3.11 | 190 | 0.1 | 6.39 | 223 | - | 0.17 J | 0.1 U | 819 | - |
| 31-May-17 | 4.68 | 700.77 | 10.3 | 300 | 4.5 | - | 2.48 | 6.3 | 182 | - | 0.203 | 0.1 U | 795 | - |
| 18-Aug-17 | 8.61 | 696.84 | 12.7 | 393 | 0.51 | 120.2 | 0.87 | 6.44 | 228 | - | 0.308 | 0.1 U | 1300 | - |
| 10-Nov-17 | 3.58 | 701.87 | 11 | 264.4 | 3.88 | 56.5 | 0.76 | 6.01 | 217 | - | 0.186 J | 0.1 U | 669 | - |
| 27-Feb-18 | 3.76 | 701.69 | 8.3 | 302.1 | 3.19 | 221.1 | 0.55 | 6.29 | 238 | - | 0.176 J | 0.1 U | 875 | - |
| 2-May-18 | 4.02 | 701.43 | 10 | 343 | 3.02 | - | 0.59 | 6.36 | 215 | - | 0.15 J | 0.1 UJ | 980 | - |
| 22-Aug-18 | 9.35 | 696.10 | 12.17 | 330 | 1.99 | 142 | 2.31 | 6.27 | 265 | - | 0.315 | 0.1 U | 1230 | - |
| 7-Nov-18 | 5.25 | 700.20 | 11.7 | 316.7 | 5.45 | 124.4 | 0.76 | 6.23 | 250 | - | 0.199 J | 0.1 U | 843 | - |
| 11-Mar-19 | 3.96 | 701.49 | 7.6 | 226.3 | 3.96 | 220.8 | 0.7 | 6.38 | 233 | - | 0.146 J | 0.1 U | 918 | - |
| 9-May-19 | 4.70 | 700.75 | 12.5 | 282.5 | 3.6 | 82.3 | 1.56 | 6.14 | 230 | - | 0.154 J | 0.1 U | 816 | - |
| 26-Aug-19 | 8.20 | 697.25 | 13.13 | 374 | 0.86 | Note 1 | 0.02 | 6.3 | 264 | - | 0.3 | 0.1 U | 928 | - |
| 14-Nov-19 | 4.35 | 701.10 | 10.8 | 309.4 | 3.19 | 109.5 | 0.02 | 6.15 | 240 | - | 0.251 | 0.1 U | 894 | - |

**Table A-2d: Summary of Lower Disposal Area - Shallow/Alluvial Groundwater Sampling Results - Well MW-4A
Ravensdale Site, Ravensdale, Washington**

| Date Sampled | Field Parameters | | | | | | | | Gen. Chem. | Metals (ug/L) | | | | |
|--|----------------------------|-------------------------------------|------------------|-------------------------|-------------------------|--|-----------------|---------------------|------------|-------------------------------|----------|---------|-------|-----------|
| | Depth to Water (feet btoc) | Groundwater Elevation (feet NAVD88) | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Oxidation-Reduction Potential (Rel mV) | Turbidity (NTU) | pH (standard units) | | Total Dissolved Solids (mg/L) | Antimony | Arsenic | Lead | Potassium |
| Preliminary Screening Level ^a | - | - | - | - | - | - | - | 6.5-8.5 | - | 5.6 | 8 | 2.1 | - | 140 |
| 13-Feb-20 | 3.70 | 701.75 | 7.9 | 283.7 | 2.98 | 102.2 | 0.91 | 6.18 | 283 | - | 0.176 J | 0.1 U | 859 | - |
| 13-Aug-20 | 7.73 | 697.72 | 13.5 | 334.3 | 0.62 | 58.3 | 0.51 | 6.19 | 238 | - | 0.711 | 0.1 U | 921 | - |
| 10-Dec-20 | 3.45 | 702.00 | 9.8 | 364 | 6.11 | 169 | 1.56 | 6.51 | 297 | - | 0.296 | 0.1 U | 1260 | - |
| 4-Mar-21 | 3.72 | 701.73 | 8.3 | 304 | 2.83 | 137 | 0.49 | 6.47 | 255 | - | 0.192 J | 0.1 U | 876 | - |
| 10-Jun-21 | 5.32 | 700.13 | 11.9 | 338.7 | 1.23 | 108.5 | 0.73 | 6.09 | 220 | - | 0.228 | 0.1 U | 787 | - |
| 15-Oct-21 | 7.69 | 697.76 | 12.6 | 341.3 | 6.91 | 133.9 | 20.5 | 6.37 | 363 J- | 0.18 J | 0.99 | 0.151 | 1480 | 4.09 |
| 7-Jan-22 | 3.40 | 702.05 | 8.7 | 248.4 | 4.37 | 211.1 | 3.08 | 6.29 | 270 | 0.2 U | 0.383 | 0.1 U | 774 J | 1.73 |
| 18-Mar-22 | 3.52 | 701.93 | 9.1 | 340.6 | 3.26 | 123.8 | 1.85 | 6.63 | 320 | 0.2 U | 0.279 | 0.1 U | 1140 | 1.53 |
| 22-Jun-22 | 3.83 | 701.62 | 10.1 | 327.8 | 1.36 | 114.5 | 0.46 | 6.36 | 263 | 0.2 U | 0.201 | 0.1 U | 666 | 1.16 |
| 14-Sep-22 | 8.9 | 696.55 | 13.4 | 389.4 | 2.46 | 87.6 | 2.53 | 6.02 | 330 | 0.2 U | 0.385 | 0.1 U | 1080 | 1.19 |
| 14-Dec-22 | 3.88 | 701.57 | 9.1 | 278 | 7.03 | 135.4 | 0.44 | 6.35 | 224 | 0.2 U | 0.188 J | 0.1 U | 583 | 1.42 |
| 16-Mar-23 | 3.39 | 702.06 | 7.9 | 468.9 | 4.44 | 111.7 | 2.92 | 6.3 | 264 | 0.2 U | 0.159 J | 0.1 U | 616 | 1.13 |
| 27-Jun-23 | 6.27 | 699.18 | 11.4 | 308.1 | 3.02 | 74.9 | 1.06 | 6.2 | 246 | 0.2 U | 0.19 J | 0.5 U | 745 | 1.24 |

Notes:

Top of casing elevation (feet NAVD88): 705.45

Dissolved metals were analyzed at the Site until December 2020 (Q4 2020). Total metals were analyzed for Q4 2020 and will continue to be analyzed moving forward. Iron and manganese are not included in the COPCs at the Site and are not analyzed beginning in Q2 2021. Antimony and Vanadium were included as COPCs for surface water locations and shallow/alluvial groundwater monitoring wells at the Site beginning in Q3 2021.

- Not measured or not available
- Orange shaded values indicate parameter results above the Preliminary Screening Level (PSL), except for pH, which could be above or below the PSL.
- a Preliminary Cleanup Level (PCUL) provided by Ecology 30 Sept 2022
- U Data validation code; not detected at the Reporting Limit (RL)
- J Data validation code; estimated value
- J+ Data validation code; estimated value with positive bias
- °C Degrees Celsius
- Note 1 ORP measurements not available due to faulty sensor.
- µmhos/cm Micromhos per centimeter
- feet bmp Feet below measuring point
- feet NAVD88 Feet NAVD88 Datum
- mg/L Milligrams per liter
- mV Millivolts
- NTU Nephelometric Turbidity Unit

Table A-2e: Summary of Lower Disposal Area - Shallow/Alluvial Groundwater Sampling Results - Well MW-5A Ravensdale Site, Ravensdale, Washington

| Date Sampled | Field Parameters | | | | | | | | | Gen. Chem. | Metals (ug/L) | | | | |
|--|----------------------------------|-------------------------------------|------------------|-------------------------|-------------------------|--|-----------------|---------------------|-------------------------------|------------|---------------|----------|-----------|-----------|----------|
| | Depth to Water (feet btoc) | Groundwater Elevation (feet NAVD88) | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Oxidation-Reduction Potential (Rel mV) | Turbidity (NTU) | pH (standard units) | Total Dissolved Solids (mg/L) | | Antimony | Arsenic | Lead | Potassium | Vanadium |
| Preliminary Screening Level ^a | - | - | - | - | - | - | - | 6.5-8.5 | - | 5.6 | 8 | 2.1 | - | 140 | |
| 15-Jul-05 | 33.33 | 577.90 | 12.02 | 956 | - | - | 496 | 7.34 | 600 | - | 2.01 | 2 U | - | - | |
| 10-Nov-05 | 29.62 | 581.61 | 11.24 | 1212 | - | - | 27.6 | 7.32 | 800 | - | 8.4 | 1 U | - | - | |
| 15-Feb-06 | 21.70 | 589.53 | 6.45 | 665 | 2.59 | 280.3 | 11.1 | 7.86 | 520 J | - | 22.3 | 1 U | - | - | |
| 17-May-06 | 29.80 | 581.43 | 7.74 | 831 | 0.88 | 101.9 | 8.67 | 7.79 | 580 | - | 11 | 1 U | - | - | |
| 23-Aug-06 | 33.25 | 577.98 | 15.19 | 737 | 1.76 | 33.5 | 19.6 | 7.32 | 660 | - | 2.53 | 1 U | - | - | |
| 14-Nov-06 | 17.79 | 593.44 | 10.86 | 699 | 4.5 | 76.3 | 38.7 | 7.55 | 490 | - | 3.15 | 1 U | - | - | |
| 16-Feb-07 | 27.08 | 584.15 | 8.08 | 630 | 6.07 | 2.3 | 57.6 | 8.26 | 500 | - | 14.4 | 1 U | - | - | |
| 30-May-07 | 30.75 | 580.48 | 9.6 | 894 | 2.59 | 13.3 | 13.4 | 7.76 | 540 | - | 8.43 | 1 U | - | - | |
| 29-Aug-07 | 33.60 | 577.63 | 9.56 | 684 | 7.64 | 67 | - | 7.1 | 670 J | - | 1.97 | 1 U | - | - | |
| 29-Nov-07 | 30.60 | 580.63 | 11 | 1075 | 3.53 | 151.5 | 23.5 | 8.37 | 560 | - | 5.17 | 1 U | - | - | |
| 27-Feb-08 | 25.68 | 585.55 | - | - | - | - | 29.9 | - | 400 | - | 10.7 | 1 U | - | - | |
| 20-May-08 | 29.73 | 581.50 | 7.93 | 768 | 4.27 | 180.7 | 77.8 | 7.39 | 480 J | - | 5.67 | 1 U | - | - | |
| 27-Aug-08 | 33.97 | 577.26 | 10.17 | 862 | 4.07 | 81.2 | - | 7.43 | 540 J | - | 1.17 | 1 U | 87500 | - | |
| 26-Sep-08 | Test Trench Drain Line Installed | | | | | | | | | | | | | | |
| 16-Oct-08 | 33.55 | 577.68 | 8.89 | 845 | 5.39 | 86.3 | 852 | 7.53 | 440 J | - | 1.03 | 1 U | 90700 | - | |
| 20-Nov-08 | 23.48 | 587.75 | 9.34 | 577 | 5.27 | 234.3 | 9.48 | 7.5 | 470 | - | 6.24 | 2 U | 138000 | - | |
| 30-Dec-08 | 20.88 | 590.35 | 8.39 | 510 | 8.89 | 99 | 44.8 | 8.02 | 430 J | - | 14.2 | 1.11 | 138000 | - | |
| 15-Jan-09 | 18.50 | 592.73 | 4.97 | 347 | 8.9 | 154.8 | 17.2 | 8.47 | 380 | - | 24.4 | 1 U | 104000 | - | |
| 12-Feb-09 | 27.90 | 583.33 | 8.47 | - | 10.21 | - | 22 | 7.6 | 420 J | - | 6.11 | 1 U | 99000 | - | |
| 12-Mar-09 | 29.19 | 582.04 | 7.47 | 521 | 6.15 | 171.7 | 26.8 | 7.39 | 480 | - | 8.97 | 1 U | 124000 | - | |
| 16-Apr-09 | 21.70 | 589.53 | 6.99 | 456 | 7.6 | 151.6 | 72.7 | 8.66 | 470 | - | 28.2 | 1.01 | 126000 | - | |
| 19-May-09 | 28.37 | 582.86 | 8.08 | 509 | 6.38 | 64.4 | 31.3 | 8.07 | 450 J | - | 9.19 | 1 U | 105000 | - | |
| 23-Jun-09 | 31.95 | 579.28 | 8.84 | 551 | 5.97 | 69.1 | 74.3 | 8.28 | 500 | - | 4.3 | 2 U | 71000 | - | |
| 25-Aug-09 | 35.08 | 576.15 | - | - | - | - | - | - | - | - | - | - | - | - | |
| 24-Sep-09 | 35.29 | 575.94 | 11.7 | 714 | 2.28 | 371.9 | 258 | 7.26 | 550 J | - | 0.76 J | 0.17 J | 88000 | - | |
| 15-Dec-09 | 26.11 | 585.12 | 8.6 | 928 | 2.89 | 544 | 89 | 7.14 | 450 | - | 1.1 J | 2 U | 110000 | - | |
| 24-Mar-10 | 27.86 | 583.37 | 8.3 | 697 | 3.52 | 505.1 | 18.1 | 7.47 | 450 | - | 23 | 0.46 J | 110000 | - | |
| 16-Jun-10 | 21.35 | 589.88 | 10.7 | 783 | 2.07 | 379 | 41.4 | 7.73 | 340 | - | 53 | 0.0021 | 150000 | - | |
| 22-Sep-10 | 33.88 | 577.35 | 10.4 | 938 | 4.3 | 467.1 | 7.93 | 7.1 | 620 | - | 5 | 2 U | 100000 | - | |
| 7-Dec-10 | 25.22 | 586.01 | 10.2 | 781 | 3.86 | 353.7 | 11.1 | 7.39 | 500 | - | 12 | 0.53 J | 130000 | - | |
| 29-Mar-11 | 23.59 | 587.64 | 7 | 354 | 3.47 | 708 | 22.22 | 9.52 | 440 J | - | 63 | 1.4 J | 140000 | - | |
| 21-Jun-11 | 28.33 | 582.90 | 11.6 | 1000 | 2.22 | 285.3 | 10.6 | 9.06 | 1100 J | - | 43 | 1.2 J | 180000 | - | |
| 27-Sep-11 | 34.70 | 576.53 | 12.7 | 641 | 1.46 | 307.2 | 12.8 | 7.3 | 680 | - | 5 U | 0.23 J | 100000 | - | |
| 14-Dec-11 | 29.46 | 581.77 | 9.5 | 691 | 1.95 | 757.1 | 9.69 | 7.35 | 690 | - | 6.9 | 0.18 J | 180000 | - | |
| 20-Mar-12 | 19.50 | 591.73 | 6.2 | 841 | 3.98 | 320.2 | 8.52 | 8.25 | 350 | - | 26 | 1 J | 140000 | - | |
| 19-Jun-12 | 27.91 | 583.32 | 10.2 | 800 | 3.22 | 365.9 | 2.76 | 7.66 | 510 | - | 8.7 | 0.4 U | 120000 | - | |
| 20-Sep-12 | 34.53 | 576.70 | 11 | 859 | 0.73 | 387 | 46.8 | 7.64 | 530 | - | 2.6 | 0.4 U | 100000 | - | |
| 19-Dec-12 | 21.26 | 589.97 | 8.9 | 983 | 1.73 | 279 | 778 | 7.71 | 530 | - | 11 | 0.62 | 180000 | - | |
| 25-Feb-13 | 27.19 | 584.04 | 7.5 | 682 | 7.61 | 330.5 | 4.36 | 7.85 | 380 | - | 13 | 0.15 J | 74000 | - | |
| 22-May-13 | 29.09 | 582.14 | 8.8 | 828 | 3.88 | 411.4 | 8.11 | 8.29 | 350 | - | 25 | 0.53 | 100000 | - | |
| 21-Aug-13 | 35.15 | 576.08 | 17.1 | 1248 | 3.41 | 114.2 | 144 | 7.78 | 1060 | - | 1.5 | 0.05 J | 95000 | - | |
| 20-Nov-13 | 27.45 | 583.78 | 10 | 1032 | 4.13 | 196.5 | 31.7 | 7.18 | 699 | - | 14.5 | 1.4 | 202000 | - | |
| 1-Apr-14 | 21.08 | 590.15 | 8.4 | 567 | 3.04 | 168.2 | 15.7 | 10.24 | 413 | - | 62.7 | 1.5 | 150000 | - | |
| 21-May-14 | 26.11 | 585.12 | 10.3 | 670 | 0.49 | 198.4 | - | 7.45 | 565 | - | 95 | 1.6 | 166000 | - | |
| 12-Aug-14 | 34.56 | 576.67 | 14.07 | 812 | 3.64 | 87.7 | 1519 | 7.51 | 560 | - | 3 | 0.1 U | 107000 | - | |
| 13-Nov-14 | 29.48 | 581.75 | 12.9 | 1135 | 3.5 | 241.7 | 10.46 | 7.69 | 956 | - | 20.8 | 0.1 | 295000 | - | |
| 11-Feb-15 | 20.81 | 590.42 | 7.7 | 619 | 6.17 | 81.4 | 18 | 9.63 | 430 | - | 39.2 | 1.3 | 126000 | - | |
| 4-May-15 | 29.80 | 581.43 | 10.5 | 924 | 2.54 | 361.3 | 8.7 | 9.74 | 623 | - | 42.3 | 0.5 | 192000 | - | |
| 6-Aug-15 | 36.08 | 575.15 | 12.8 | 781 | 2.4 | 129.6 | 261 | 7.24 | DRY | - | DRY | DRY | DRY | - | |
| 4-Nov-15 | 30.80 | 580.43 | 10.7 | 1234 | 4.98 | 205.6 | 11.8 | 7.13 | 1130 | - | 6.6 | 0.3 | 318000 | - | |
| 10-Feb-16 | 23.56 | 587.67 | 6.4 | 602 | 1.62 | 197.7 | 11.9 | 10.19 | 451 | - | 132 | 1.4 | 148000 | - | |
| 2-May-16 | 30.19 | 581.04 | 11.5 | 1008 | 0.8 | 110.6 | 9.76 | 10.14 | 751 | - | 171 | 2.7 J- | 232000 | - | |
| 23-Aug-16 | 35.79 | 575.44 | 13.1 | 729 | 2 | 436.2 | 51.4 | 7.2 | 1010 | - | 4.01 | 0.1 U | 137000 | - | |
| 2-Nov-16 | 29.06 | 582.17 | 10.9 | 570 | 4.98 | 103.1 | 32.1 | 7.55 | 1180 | - | 11.2 | 0.56 | 372000 | - | |
| 1-Feb-17 | 26.86 | 584.37 | 8.1 | 992 | 2.21 | 99.7 | 7.19 | 9.73 | 632 | - | 109 | 0.971 | 194000 | - | |
| 30-May-17 | 26.86 | 584.37 | 10.5 | 814 | 6.12 | 5.83 | 5.74 | 9.73 | 487 | - | 42.5 | 0.36 J+ | 168000 | - | |
| 17-Aug-17 | 34.23 | 577.00 | 11.7 | 1054 | 5.43 | 125.1 | 5.68 | 7.65 | 731 | - | 6.52 | 0.1 U | 156000 | - | |
| 10-Nov-17 | 29.96 | 581.27 | 10 | 1077 | 4.65 | 85.2 | 10.5 | 7.18 | 953 | - | 5.82 | 0.338 | 308000 | - | |
| 27-Feb-18 | 23.02 | 588.21 | 7.7 | 584 | 1.91 | 120.4 | 12.6 | 9.96 | 530 | - | 86.3 | 0.642 | 174000 | - | |
| 1-May-18 | 24.85 | 586.38 | 9.1 | 1082 | 2.16 | - | 11.8 | 10.34 | 682 | - | 113 | 0.775 J+ | 196000 | - | |
| 21-Aug-18 | 35.17 | 576.06 | 14.83 | 1095 | 4.02 | 131 | 123 | 7.4 | 936 | - | 3.65 | 0.1 U | 214000 | - | |
| 6-Nov-18 | 32.00 | 579.23 | 10.3 | 1192 | 5.93 | 198.1 | 2.35 | 7.49 | 1200 | - | 4.87 | 0.077 J | 163000 J+ | - | |
| 13-Mar-19 | 25.12 | 586.11 | 7.4 | 695 | 2.19 | 189.7 | 15.8 | 9.48 | 632 | - | 44.1 | 0.633 | 200000 | - | |
| 8-May-19 | 27.89 | 583.34 | 10.7 | 844 | 4.95 | 60.5 | 5.19 | 9.3 | 697 | - | 41.9 | 0.677 | 182000 | - | |
| 26-Aug-19 | 35.02 | 576.21 | 11.89 | 1111 | 1.52 | Note 1 | 22.9 | 7.26 | 995 | - | 2.46 | 0.1 U | 177000 | - | |
| 13-Nov-19 | 33.00 | 578.23 | 9.8 | 932 | 5.27 | 66.1 | 0.02 | 7.18 | 776 | - | 3.89 | 0.1 U | 211000 | - | |
| 12-Feb-20 | 18.23 | 593.00 | 7 | 533 | 7.58 | 140.4 | 10.6 | 8.32 | 463 | - | 6.31 | 0.145 | 183000 | - | |
| 12-Aug-20 | 34.50 | 576.73 | 11.2 | 1381 | 4 | 125 | 2.75 | 7.52 | 1250 | - | 5.37 | 0.1 U | 333000 | - | |
| 9-Dec-20 | 29.90 | 581.33 | 9.8 | 1105 | 4.51 | 222 | 8.32 | 7.29 | 897 | - | 3.12 | 0.295 | 263000 | - | |
| 3-Mar-21 | 24.81 | 586.42 | 9.2 | 899 | 3.04 | 225 | 3.09 | 7.6 | 792 | - | 3.74 | 0.132 | 247000 | - | |

Table A-2e: Summary of Lower Disposal Area - Shallow/Alluvial Groundwater Sampling Results - Well MW-5A Ravensdale Site, Ravensdale, Washington

| Date Sampled | Field Parameters | | | | | | | | Gen. Chem. | Metals (ug/L) | | | | |
|--|----------------------------|-------------------------------------|------------------|-------------------------|-------------------------|--|-----------------|---------------------|------------|-------------------------------|----------|----------|--------|-----------|
| | Depth to Water (feet btoc) | Groundwater Elevation (feet NAVD88) | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Oxidation-Reduction Potential (Rel mV) | Turbidity (NTU) | pH (standard units) | | Total Dissolved Solids (mg/L) | Antimony | Arsenic | Lead | Potassium |
| Preliminary Screening Level ^a | - | - | - | - | - | - | - | 6.5-8.5 | - | 5.6 | 8 | 2.1 | - | 140 |
| 9-Jun-21 | 33.20 | 578.03 | 9.3 | 875 | 5.23 | 184 | 1.26 | 7.27 | 700 | - | 2.62 | 0.063 J | 205000 | - |
| 13-Oct-21 | 31.70 | 579.53 | 9.5 | 1934 | 5.97 | 194 | 9.56 | 7.22 | DRY | DRY | DRY | DRY | DRY | DRY |
| 5-Jan-22 | 23.00 | 588.23 | 9.2 | 972 | 4.7 | 271.1 | 1.4 | 7.18 | 829 | 6.42 | 3.38 | 0.085 J | 252000 | 1.8 |
| 16-Mar-22 | 21.48 | 589.75 | 7.8 | 724 | 7.0 | 187 | 2.65 | 6.6 | 711 | 6.01 | 4.02 | 0.11 | 223000 | 1.52 |
| 23-Jun-22 | 25.74 | 585.49 | 9.6 | 969 | 3.5 | 173.1 | 1.13 | 7.38 | 881 | 5.49 | 3.29 | 0.093 J | 251000 | 1.82 |
| 23-Sep-22 | 35 | 576.23 | 11.5 | 1640 | 3.45 | 223.6 | 1.35 | 7.42 | 1720 | 4.57 | 3.21 | 0.156 J | 455000 | 1.58 |
| 13-Dec-22 | 30.22 | 581.01 | 10.4 | 928 | 7.08 | 109.2 | 2.27 | 7.04 | 634 | 3.54 | 1.89 | 0.105 J+ | 173000 | 1.25 |
| 13-Mar-23 | 27.15 | 584.08 | 8.1 | 1685 | 5.49 | 172.5 | 1.43 | 7.47 | 1090 | 5.83 | 3.39 | 0.068 J | 318000 | 1.64 |
| 26-Jun-23 | 32.57 | 578.66 | 11.1 | 1559 | 4.28 | 74.7 | 1.29 | 7.49 | 1510 | 6.99 | 4.55 | 0.2 U | 475000 | 2.17 |

Notes:

Top of casing elevation (feet NAVD88): 611.23

Dissolved metals were analyzed at the Site until December 2020 (Q4 2020). Total metals were analyzed for Q4 2020 and will continue to be analyzed moving forward. Iron and manganese are not included in the COPCs at the Site and are not analyzed beginning in Q2 2021. Antimony and Vanadium were included as COPCs for surface water locations and shallow/alluvial groundwater monitoring wells at the Site beginning in Q3 2021.

- Not measured or not available
- Orange shaded values indicate parameter results above the Preliminary Screening Level (PSL), except for pH, which could be above or below the PSL.
- Dry Well went dry during sampling. Unable to collect sample.
- a Preliminary Cleanup Level (PCUL) provided by Ecology 30 Sept 2022
- U Data validation code; not detected at the Reporting Limit (RL)
- J Data validation code; estimated value
- J+ Data validation code; estimated value with positive bias
- °C Degrees Celsius
- Note 1 ORP measurements not available due to faulty sensor.
- µmhos/cm Micromhos per centimeter
- feet bmp Feet below measuring point
- feet NAVD88 Feet NAVD88 Datum
- mg/L Milligrams per liter
- mV Millivolts
- NTU Nephelometric Turbidity Unit

**Table A-2f: Summary of Lower Disposal Area - Shallow/Alluvial Groundwater Sampling Results - Well MW-6A
Ravensdale Site, Ravensdale, Washington**

| Date Sampled | Field Parameters | | | | | | | | Gen. Chem. | Metals (ug/L) | | | | |
|--|---|-------------------------------------|------------------|-------------------------|-------------------------|--|-----------------|---------------------|------------|-------------------------------|----------|----------|-----------|-----------|
| | Depth to Water (feet btoc) | Groundwater Elevation (feet NAVD88) | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Oxidation-Reduction Potential (Rel mV) | Turbidity (NTU) | pH (standard units) | | Total Dissolved Solids (mg/L) | Antimony | Arsenic | Lead | Potassium |
| Preliminary Screening Level ^a | - | - | - | - | - | - | - | 6.5-8.5 | - | 5.6 | 8 | 2.1 | - | 140 |
| 15-Jul-05 | 30.89 | 578.06 | 15.26 | 735 | - | - | 303 | 7.6 | 612 | - | 2 U | 2 U | - | - |
| 10-Nov-05 | 27.25 | 581.70 | 11.79 | 700 | - | - | 13.7 | 7.51 | 460 | - | 2.16 | 1 U | - | - |
| 15-Feb-06 | 19.42 | 589.53 | 6.17 | 759 | 2 | 162.9 | 9.42 | 8.27 | 550 J | - | 7.54 | 1 U | - | - |
| 17-May-06 | 27.55 | 581.40 | 11.99 | 835 | 1.31 | 248.3 | 4.16 | 7.46 | 550 | - | 11 | 1 U | - | - |
| 23-Aug-06 | 30.99 | 577.96 | 15.92 | 862 | 1.6 | -26.4 | 15.5 | 7.4 | 810 | - | 1.34 | 1 U | - | - |
| 14-Nov-06 | 15.30 | 593.65 | 10.56 | 712 | 4.59 | 84.1 | 14.5 | 7.32 | 500 | - | 1.71 | 1 U | - | - |
| 16-Feb-07 | 24.22 | 584.73 | 8.49 | 581 | 3.64 | 38.6 | 139 | 7.21 | 420 | - | 1.6 | 1 U | - | - |
| 30-May-07 | 28.50 | 580.45 | 13.93 | 1092 | 2.72 | 180.7 | 210 | 7.4 | 740 | - | 16.2 | 1 U | - | - |
| 29-Aug-07 | 31.34 | 577.61 | 10.15 | 701 | 4.48 | 84.8 | 662 | 7.8 | 620 J | - | 1.41 | 1 U | - | - |
| 29-Nov-07 | 28.32 | 580.63 | 11.3 | 731 | 6.23 | 154 | - | 6.26 | 420 | - | 1.78 | 1 U | - | - |
| 27-Feb-08 | 23.42 | 585.53 | - | - | - | - | - | - | 410 | - | 1.47 | 1 U | - | - |
| 20-May-08 | 27.49 | 581.46 | 8.14 | 791 | 3.93 | 176.5 | - | 7.64 | 540 J | - | 8.18 | 1 U | - | - |
| 27-Aug-08 | 31.72 | 577.23 | 9.33 | 776 | 4.83 | 142 | - | 7.32 | 660 J | - | 1.86 | 1 U | 109000 | - |
| 26-Sep-08 | <i>Test Trench Drain Line Installed</i> | | | | | | | | | | | | | - |
| 16-Oct-08 | 31.29 | 577.66 | 9.17 | 923 | 4.6 | 115.4 | - | 7.13 | 590 J | - | 1.85 | 1 U | 106000 | - |
| 20-Nov-08 | 21.18 | 587.77 | 9.7 | 578 | 5.22 | 249.4 | 11.7 | 7.4 | 460 | - | 4.42 | 2 U | 110000 | - |
| 30-Dec-08 | 18.64 | 590.31 | 8.45 | 448 | 9.27 | 137.9 | 75.8 | 7.89 | 370 J | - | 11.9 | 1.14 | 106000 | - |
| 15-Jan-09 | 16.23 | 592.72 | 6.84 | 344 | 9.25 | 181.9 | 2.77 | 7.47 | 320 | - | 4.88 | 1 U | 72900 | - |
| 12-Feb-09 | 25.64 | 583.31 | 7.89 | - | 10.82 | - | 71.7 | 7.7 | 420 | - | 11 | 1 U | 103000 | - |
| 12-Mar-09 | 26.92 | 582.03 | 7.27 | 524 | 8.31 | 166.7 | 116 | 7.76 | 500 | - | 23.5 | 1 U | 125000 | - |
| 16-Apr-09 | 19.46 | 589.49 | 7.33 | 406 | 7.57 | 182.8 | 91.8 | 8.33 | 430 | - | 24.1 | 1.09 | 101000 | - |
| 19-May-09 | 26.10 | 582.85 | 9.07 | 554 | 6.39 | 65.6 | 161 | 8.32 | 550 J | - | 13.4 | 1 U | 115000 | - |
| 23-Jun-09 | 29.67 | 579.28 | 9.51 | 522 | 6.05 | 71.4 | - | 8.17 | 540 | - | 3.1 | 2 U | 74000 | - |
| 25-Aug-09 | 32.72 | 576.23 | 14.8 | 795 | 3.25 | 282.7 | 22 | 7.28 | 630 J | - | 0.75 J | 2 U | 100000 | - |
| 24-Sep-09 | 32.93 | 576.02 | 10.6 | 745 | 4.02 | 361.3 | 29.8 | 7.27 | 560 J | - | 0.28 J | 2 U | 100000 | - |
| 15-Dec-09 | 23.87 | 585.08 | 9.5 | 815 | 4.2 | 556 | 20 | 7.15 | 450 | - | 2 U | 2 U | 120000 | - |
| 24-Mar-10 | 25.61 | 583.34 | 8.5 | 704 | 4.93 | 205.6 | 20.5 | 8.53 | 490 | - | 47 | 0.9 J | 140000 | - |
| 16-Jun-10 | 19.11 | 589.84 | 10.4 | 553 | 4.79 | 399.8 | 13.4 | 7.22 | 310 | - | 16 | 2 U | 90000 | - |
| 22-Sep-10 | 31.61 | 577.34 | 11.3 | 1019 | 3.89 | 413.8 | 20.3 | 7.1 | 770 | - | 6.2 | 0.24 J | 130000 | - |
| 8-Dec-10 | 23.10 | 585.85 | 87.9 | 751 | 6.24 | 437.1 | 9.55 | 8.77 | 520 | - | 43 | 1.3 J | 130000 | - |
| 29-Mar-11 | 21.32 | 587.63 | 7.1 | 303 | 4.76 | 809.4 | 13.4 | 9.35 | 350 J | - | 43 | 0.55 J | 110000 | - |
| 21-Jun-11 | 26.04 | 582.91 | 11.2 | 840 | 3.24 | 300.2 | 8.5 | 8.4 | 790 | - | 18 | 0.58 J | 110000 | - |
| 28-Sep-11 | 32.43 | 576.52 | 10.9 | 66.6 | 3.92 | 415.6 | 8.32 | 7.3 | 590 | - | 5 U | 0.19 J | 110000 | - |
| 14-Dec-11 | 27.19 | 581.76 | 9 | 605 | 1.56 | 329.9 | 21.9 | 7.89 | 570 | - | 11 | 0.79 J | 150000 | - |
| 20-Mar-12 | 17.23 | 591.72 | 6.7 | 639 | 5.03 | 362.5 | 59.9 | 7.79 | 200 | - | 17 | 2 U | 79000 | - |
| 19-Jun-12 | 25.63 | 583.32 | 9.6 | 681 | 5.24 | 373.2 | 5.94 | 7.43 | 430 | - | 7.4 | 0.4 U | 76000 | - |
| 19-Sep-12 | 32.12 | 576.83 | 11.7 | 786 | 3.49 | 290 | 7.36 | 7.38 | 460 | - | 5.7 | 0.4 U | 81000 | - |
| 19-Dec-12 | 19.00 | 589.95 | 8.9 | 977 | 4.55 | 308 | 26.9 | 7.98 | 440 | - | 20 | 1.3 | 150000 | - |
| 25-Feb-13 | 24.93 | 584.02 | 7.1 | 766 | 7.59 | 306.9 | 6.18 | 8.2 | 450 | - | 34 | 0.73 | 120000 | - |
| 22-May-13 | 26.84 | 582.11 | 9.1 | 705 | 3.94 | 412.9 | 5.97 | 9.33 | 430 | - | 43 | 0.52 | 140000 | - |
| 21-Aug-13 | 32.84 | 576.11 | 11.2 | 879 | 4.54 | 110.2 | 8.28 | 8.28 | 548 | - | 9.5 | 0.1 U | 106000 | - |
| 20-Nov-13 | 25.21 | 583.74 | 11.1 | 1264 | 4.69 | 201.4 | 30.8 | 7.55 | 640 | - | 24.9 | 1.9 | 163000 | - |
| 1-Apr-14 | 18.81 | 590.14 | 8.4 | 448 | 3.5 | 194.9 | 14.7 | 8.87 | 342 | - | 14.8 | 0.3 | 78400 | - |
| 21-May-14 | 23.84 | 585.11 | 10.6 | 122 | 1.32 | 199.3 | - | 8.46 | 352 | - | 18 | 0.2 | 80400 | - |
| 13-Aug-14 | 32.25 | 576.70 | 12.46 | 796 | 5.77 | 54 | 8.01 | 8.68 | 628 | - | 16.1 | 0.1 U | 165000 | - |
| 13-Nov-14 | 27.21 | 581.74 | 13.3 | 837 | 4.02 | 234.3 | 11.4 | 8.63 | 711 | - | 44.1 | 0.4 | 203000 | - |
| 11-Feb-15 | 18.54 | 590.41 | 8.4 | 609 | 1.75 | 16 | 87.4 | 9.71 | 435 | - | 36.2 | 1 | 117000 | - |
| 4-May-15 | 27.52 | 581.43 | 9.9 | 974 | 3.27 | 356.5 | 12.3 | 10.14 | 654 | - | 41.6 | 0.5 | 199000 | - |
| 6-Aug-15 | 33.98 | 574.97 | 11.7 | 822 | 1.77 | 113.7 | 4.02 | 8.83 | 670 | - | 19.1 | 0.1 U | 210000 | - |
| 4-Nov-15 | 28.51 | 580.44 | 11.7 | 1207 | 4.85 | 206.3 | 21.2 | 7.48 | 1090 | - | 7.7 | 1 | 370000 | - |
| 10-Feb-16 | 20.96 | 587.99 | 6.9 | 712 | 2.3 | 145.8 | 20.1 | 10.82 | 575 | - | 121 | 1.1 | 173000 | - |
| 2-May-16 | 28.91 | 580.04 | 10.6 | 1856 | 0.19 | 111.2 | 15.6 | 11.53 | 1010 | - | 199 | 2.5 J- | 347000 | - |
| 23-Aug-16 | 33.58 | 575.37 | 11.4 | 1241 | 0.43 | 462 | 8.89 | 9.51 | 1150 | - | 38.9 | 0.341 | 349000 | - |
| 2-Nov-16 | 26.92 | 582.03 | 11.6 | 409 | 5.05 | 14.4 | 40.6 | 9.15 | 911 | - | 25.6 | 1.49 | 297000 | - |
| 1-Feb-17 | 24.61 | 584.34 | 6.2 | 1757 | 2.34 | 72.1 | 11.7 | 11.97 | 880 | - | 141 | 0.336 | 283000 | - |
| 30-May-17 | 24.56 | 584.39 | 10.8 | 1026 | 2.45 | 5.69 | 16.9 | 10.5 | 629 | - | 72.8 | 0.52 J+ | 210000 | - |
| 17-Aug-17 | 32.04 | 576.91 | 13.1 | 1019 | 3.94 | 87.3 | 42.7 | 9.36 | 726 | - | 20.3 | 0.15 | 219000 | - |
| 10-Nov-17 | 27.72 | 581.23 | 11.6 | 1090 | 4.17 | 109.6 | 38.2 | 9.12 | 931 | - | 24.3 | 2.77 | 356000 | - |
| 27-Feb-18 | 20.78 | 588.17 | 7 | 823 | 3.99 | 59.3 | 12 | 11.29 | 635 | - | 99.3 | 0.561 | 203000 | - |
| 1-May-18 | 22.58 | 586.37 | 8.9 | 1442 | 3.52 | - | 17.7 | 11.49 | 817 | - | 119 | 0.831 J+ | 250000 | - |
| 21-Aug-18 | 33.09 | 575.86 | 13.18 | 1153 | 1.01 | 139.8 | 9.68 | 10.06 | 989 | - | 53.6 | 0.345 | 334000 | - |
| 6-Nov-18 | 29.74 | 579.21 | 11.1 | 1719 | 3.85 | 218.4 | 6.49 | 8.13 | 1860 | - | 3.04 | 0.367 | 701000 J+ | - |
| 13-Mar-19 | 22.90 | 586.05 | 5.8 | 748 | 5.04 | 145.7 | 32 | 10.55 | 737 | - | 39.1 | 0.455 | 246000 | - |
| 8-May-19 | 25.63 | 583.32 | 9.1 | 936 | 5.95 | 75.9 | 7.6 | 10.38 | 747 | - | 54.7 | 1.27 | 246000 | - |
| 26-Aug-19 | 32.90 | 576.05 | 11.18 | 1622 | 0.88 | Note 1 | 6.57 | 8.97 | 1510 | - | 18.8 | 0.507 | 478000 | - |
| 13-Nov-19 | 30.92 | 578.03 | 10.2 | 1320 | 1.45 | 172.7 | 5.1 | 8.33 | 1140 | - | 6.31 | 0.1 U | 422000 | - |
| 12-Feb-20 | 15.95 | 593.00 | 7.7 | 437.7 | 1.4 | 150.6 | 19.7 | 8.13 | 379 | - | 2.12 | 0.1 U | 122000 | - |
| 12-Aug-20 | 32.30 | 576.65 | 11 | 2360 | 2.25 | 162.9 | 13.4 | 8.16 | 2060 | - | 6.28 | 0.088 J | 709000 | - |
| 9-Dec-20 | 27.60 | 581.35 | 10.8 | 1750 | 1.95 | 209 | 22 | 8.22 | 1500 | - | 3.14 | 0.984 | 539000 | - |
| 3-Mar-21 | 22.58 | 586.37 | 7.1 | 760 | 1.74 | 208 | 5.6 | 8.04 | 722 | - | 3.09 | 0.307 | 243000 | - |

Table A-2f: Summary of Lower Disposal Area - Shallow/Alluvial Groundwater Sampling Results - Well MW-6A Ravensdale Site, Ravensdale, Washington

| Date Sampled | Field Parameters | | | | | | | | Gen. Chem. | Metals (ug/L) | | | | |
|--|----------------------------|-------------------------------------|------------------|-------------------------|-------------------------|--|-----------------|---------------------|------------|-------------------------------|----------|----------|--------|-----------|
| | Depth to Water (feet btoc) | Groundwater Elevation (feet NAVD88) | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Oxidation-Reduction Potential (Rel mV) | Turbidity (NTU) | pH (standard units) | | Total Dissolved Solids (mg/L) | Antimony | Arsenic | Lead | Potassium |
| Preliminary Screening Level ^a | - | - | - | - | - | - | - | 6.5-8.5 | - | 5.6 | 8 | 2.1 | - | 140 |
| 9-Jun-21 | 31.07 | 577.88 | 9.8 | 2077 | 4.83 | 197.3 | 1.81 | 8.08 | 1900 | - | 5.03 | 0.094 J | 707000 | - |
| 13-Oct-21 | 29.39 | 579.56 | 11.2 | 2509 | 4.77 | 188.6 | 13.1 | 7.64 | DRY | DRY | DRY | DRY | DRY | DRY |
| 6-Jan-22 | 20.72 | 588.23 | 7.3 | 1136 | 8.21 | 229.4 | 2.04 | 7.98 | 1040 | 7.89 | 2.41 | 0.115 | 333000 | 0.912 |
| 16-Mar-22 | 19.23 | 589.72 | 7.3 | 828 | 7.3 | 176.4 | 3.63 | 7.57 | 808 | 7.90 | 2.85 | 0.155 | 255000 | 0.935 |
| 23-Jun-22 | 23.49 | 585.46 | 11.2 | 916 | 3.74 | 163.1 | 0.76 | 7.66 | 836 | 7.00 | 2.09 | 0.073 J | 265000 | 0.977 |
| 23-Sep-22 | 32.92 | 576.03 | 14.8 | 2281 | 3.73 | 199.3 | 2.05 | 8.05 | 2150 | 7.64 | 4.97 | 0.2 U | 646000 | 2.52 |
| 13-Dec-22 | 27.98 | 580.97 | 12.4 | 1915 | 6.1 | 80.4 | 3.77 | 7.98 | 1350 | 12.4 | 5.64 | 0.865 J+ | 495000 | 1.26 |
| 14-Mar-23 | 24.91 | 584.04 | 6.8 | 2029 | 8.44 | 212.6 | 0.76 | 7.71 | 1190 | 6.7 | 1.87 | 0.1 U | 387000 | 0.801 |
| 28-Jun-23 | 30.50 | 578.45 | 11 | 1640 | 2.57 | 222.4 | 1.22 | 7.78 | 1310 | 7.07 | 3.92 | 0.052 J | 446000 | 1.73 |

Notes:

Top of casing elevation (feet NAVD88): 608.95

Dissolved metals were analyzed at the Site until December 2020 (Q4 2020). Total metals were analyzed for Q4 2020 and will continue to be analyzed moving forward. Iron and manganese are not included in the COPCs at the Site and are not analyzed beginning in Q2 2021. Antimony and Vanadium were included as COPCs for surface water locations and shallow/alluvial groundwater monitoring wells at the Site beginning in Q3 2021.

- Not measured or not available

Orange shaded values indicate parameter results above the Preliminary Screening Level (PSL), except for pH, which could be above or below the PSL.

a Preliminary Cleanup Level (PCUL) provided by Ecology 30 Sept 2022

U Data validation code; not detected at the Reporting Limit (RL)

J Data validation code; estimated value

J+ Data validation code; estimated value with positive bias

°C Degrees Celsius

Note 1 ORP measurements not available due to faulty sensor.

µmhos/cm Micromhos per centimeter

feet bmp Feet below measuring point

feet NAVD88 Feet NAVD88 Datum

mg/L Milligrams per liter

mV Millivolts

NTU Nephelometric Turbidity Unit

**Table A-2g: Summary of Lower Disposal Area - Shallow/Alluvial Groundwater Sampling Results - Well MW-7A
Ravensdale Site, Ravensdale, Washington**

| Date Sampled | Field Parameters | | | | | | | | Gen. Chem. | Metals (ug/L) | | | | |
|--|----------------------------|-------------------------------------|------------------|-------------------------|-------------------------|--|-----------------|---------------------|------------|-------------------------------|----------|---------|--------|-----------|
| | Depth to Water (feet btoc) | Groundwater Elevation (feet NAVD88) | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Oxidation-Reduction Potential (Rel mV) | Turbidity (NTU) | pH (standard units) | | Total Dissolved Solids (mg/L) | Antimony | Arsenic | Lead | Potassium |
| Preliminary Screening Level ^a | - | - | - | - | - | - | - | 6.5-8.5 | - | 5.6 | 8 | 2.1 | - | 140 |
| 13-Oct-21 | 13.61 | 579.08 | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY |
| 10-Jan-22 | 4.73 | 587.96 | 7.00 | 467 | 5.45 | 197.0 | 2.99 | 7.34 | 419 | 3.89 | 2.07 | 0.1 U | 98000 | 1.04 |
| 21-Mar-22 | 3.21 | 589.48 | 7.3 | 691 | 6.38 | 66.2 | 1.52 | 7.46 | 632 | 6.23 | 2.88 | 0.071 J | 179000 | 1.34 |
| 22-Jun-22 | 7.45 | 585.24 | 12 | 541 | 1.88 | 107.5 | 0.47 | 7.21 | 387 | 2.91 | 1.78 | 0.1 U | 65500 | 1.19 |
| 14-Sep-22 | 16.9 | 575.79 | 13.6 | 548 | 4.46 | 141 | 0.5 | 6.31 | 444 | 1.63 | 1.49 | 0.1 U | 54000 | 1.16 |
| 14-Dec-22 | 12 | 580.69 | 8 | 514 | 5.35 | 170.1 | 0.41 | 7.07 | 335 | 1.64 | 1.18 | 0.1 U | 42700 | 0.798 |
| 17-Mar-23 | 8.90 | 583.79 | 5.3 | 755 | 2.7 | 205.3 | 0.85 | 7.16 | 412 | 1.51 | 1.45 | 0.1 U | 55300 | 0.774 |
| 28-Jun-23 | 14.57 | 578.12 | 13 | 561 | 0.46 | 119.6 | 0.42 | 6.83 | 364 | 0.785 | 1.24 | 0.407 | 26200 | 1.02 |

Notes:

Top of casing elevation (feet NAVD88): 592.69

Dissolved metals were analyzed at the Site until December 2020 (Q4 2020). Total metals were analyzed for Q4 2020 and will continue to be analyzed moving forward. Iron and manganese are not included in the COPCs at the Site and are not analyzed beginning in Q2 2021. Antimony and Vanadium were included as COPCs for surface water locations and shallow/alluvial groundwater monitoring wells at the Site beginning in Q3 2021.

- Not measured or not available

Orange shaded values indicate parameter results above the Preliminary Screening Level (PSL), except for pH, which could be above or below the PSL.

a Preliminary Cleanup Level (PCUL) provided by Ecology 30 Sept 2022

U Data validation code; not detected at the Reporting Limit (RL)

J Data validation code; estimated value

J+ Data validation code; estimated value with positive bias

°C Degrees Celsius

µmhos/cm Micromhos per centimeter

feet bmp Feet below measuring point

feet NAVD88 Feet NAVD88 Datum

mg/L Milligrams per liter

mV Millivolts

NTU Nephelometric Turbidity Unit

**Table A-2h: Summary of Lower Disposal Area - Shallow/Alluvial Groundwater Sampling Results - Well MW-8A
Ravensdale Site, Ravensdale, Washington**

| Date Sampled | Field Parameters | | | | | | | | Gen. Chem. | Metals (ug/L) | | | | |
|--|----------------------------|-------------------------------------|------------------|-------------------------|-------------------------|--|-----------------|---------------------|------------|-------------------------------|----------|---------|--------|-----------|
| | Depth to Water (feet btoc) | Groundwater Elevation (feet NAVD88) | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Oxidation-Reduction Potential (Rel mV) | Turbidity (NTU) | pH (standard units) | | Total Dissolved Solids (mg/L) | Antimony | Arsenic | Lead | Potassium |
| Preliminary Screening Level ^a | - | - | - | - | - | - | - | 6.5-8.5 | - | 5.6 | 8 | 2.1 | - | 140 |
| 13-Oct-21 | 23.91 | 577.58 | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY |
| 6-Jan-22 | 13.55 | 587.94 | 9.5 | 670 | 3.99 | 239.1 | 4.50 | 7.05 | 595 | 5.21 | 6.64 | 0.1 U | 169000 | 3.87 |
| 21-Mar-22 | 12.11 | 589.38 | 8.0 | 587 | 7.13 | 45 | 3.32 | 7.71 | 536 | 4.76 | 7.48 | 0.1 U | 163000 | 3.84 |
| 22-Jun-22 | 16.4 | 585.09 | 9.4 | 773 | 2.99 | 96 | 0.94 | 7.22 | 699 | 5.17 | 8.13 | 0.1 U | 197000 | 4.73 |
| 12-Sep-22 | 26 | 575.49 | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY | DRY |
| 13-Dec-22 | 21.16 | 580.33 | 10.4 | 1011 | 6.13 | 122.1 | 1.22 | 7.07 | 721 | 4.53 | 5.37 | 0.1 U | 205000 | 3.61 |
| 17-Mar-23 | 17.86 | 583.63 | 9.2 | 1216 | 4.6 | 214.5 | 0.8 | 7.19 | 714 | 4.71 | 7.2 | 0.1 U | 218000 | 4.22 |
| 28-Jun-23 | 24.08 | 577.41 | 10.2 | 845 | 1.85 | 176.3 | 0.58 | 7.19 | 656 | 4.03 | 5.91 | 0.1 U | 189000 | 3.62 |

Notes:

Top of casing elevation (feet NAVD88): 601.49

Dissolved metals were analyzed at the Site until December 2020 (Q4 2020). Total metals were analyzed for Q4 2020 and will continue to be analyzed moving forward. Iron and manganese are not included in the COPCs at the Site and are not analyzed beginning in Q2 2021. Antimony and Vanadium were included as COPCs for surface water locations and shallow/alluvial groundwater monitoring wells at the Site beginning in Q3 2021.

- Not measured or not available
- Orange shaded values indicate parameter results above the Preliminary Screening Level (PSL), except for pH, which could be above or below the PSL.
- a Preliminary Cleanup Level (PCUL) provided by Ecology 30 Sept 2022
- U Data validation code; not detected at the Reporting Limit (RL)
- J Data validation code; estimated value
- J+ Data validation code; estimated value with positive bias
- °C Degrees Celsius
- µmhos/cm Micromhos per centimeter
- feet bmp Feet below measuring point
- feet NAVD88 Feet NAVD88 Datum
- mg/L Milligrams per liter
- mV Millivolts
- NTU Nephelometric Turbidity Unit

**Table A-2i: Summary of Lower Disposal Area - Shallow/Alluvial Groundwater Sampling Results - Well MW-9A
Ravensdale Site, Ravensdale, Washington**

| Date Sampled | Field Parameters | | | | | | | | Gen. Chem. | Metals (ug/L) | | | | |
|--|----------------------------|-------------------------------------|------------------|-------------------------|-------------------------|--|-----------------|---------------------|------------|-------------------------------|----------|---------|-------|-----------|
| | Depth to Water (feet btoc) | Groundwater Elevation (feet NAVD88) | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Oxidation-Reduction Potential (Rel mV) | Turbidity (NTU) | pH (standard units) | | Total Dissolved Solids (mg/L) | Antimony | Arsenic | Lead | Potassium |
| Preliminary Screening Level ^a | - | - | - | - | - | - | - | 6.5-8.5 | - | 5.6 | 8 | 2.1 | - | 140 |
| 15-Oct-21 | 4.38 | 692.91 | 12.20 | 956 | 1.45 | -93.2 | 2.70 | 7.11 | 981 J- | 0.659 | 4.79 | 0.139 | 16000 | 1.2 |
| 7-Jan-22 | 2.45 | 694.84 | 8.50 | 381 | 4.86 | 189.9 | 1.43 | 6.95 | 404 | 0.181 J | 1.02 | 0.056 J | 2910 | 1.03 |
| 18-Mar-22 | 2.38 | 694.91 | 8.50 | 423 | 5.19 | 138.3 | 1.17 | 7.16 | 403 | 0.154 J | 0.788 | 0.1 U | 2470 | 0.776 |
| 22-Jun-22 | 2.38 | 694.91 | 10.5 | 485.8 | 4.42 | 72.8 | 0.85 | 6.89 | 399 | 0.244 | 0.656 | 0.052 J | 2130 | 0.916 |
| 14-Sep-22 | 8.7 | 688.59 | 13.5 | 509 | 3.84 | 130.2 | 1.09 | 6.44 | 441 | 0.154 J | 1.05 | 0.1 U | 2780 | 1.13 |
| 14-Dec-22 | 2.5 | 694.79 | 8 | 413.5 | 7.42 | 135.6 | 0.53 | 6.91 | 328 | 0.132 J | 0.599 | 0.1 U | 1630 | 0.867 |
| 16-Mar-23 | 2.39 | 694.9 | 6.6 | 556.2 | 5.25 | 120.9 | 1.6 | 6.85 | 337 | 0.119 J | 0.508 | 0.1 U | 1660 | 0.812 |
| 27-Jun-23 | 5.19 | 692.1 | 11.1 | 468.4 | 2.6 | 44.3 | 7.31 | 6.72 | 379 | 0.123 J | 0.832 | 0.5 U | 2120 | 1.3 |

Notes:

Top of casing elevation (feet NAVD88): 697.29

Dissolved metals were analyzed at the Site until December 2020 (Q4 2020). Total metals were analyzed for Q4 2020 and will continue to be analyzed moving forward. Iron and manganese are not included in the COPCs at the Site and are not analyzed beginning in Q2 2021. Antimony and Vanadium were included as COPCs for surface water locations and shallow/alluvial groundwater monitoring wells at the Site beginning in Q3 2021.

- Not measured or not available

Orange shaded values indicate parameter results above the Preliminary Screening Level (PSL), except for pH, which could be above or below the PSL.

a Preliminary Cleanup Level (PCUL) provided by Ecology 30 Sept 2022

U Data validation code; not detected at the Reporting Limit (RL)

J Data validation code; estimated value

J+ Data validation code; estimated value with positive bias

°C Degrees Celsius

µmhos/cm Micromhos per centimeter

feet bmp Feet below measuring point

feet NAVD88 Feet NAVD88 Datum

mg/L Milligrams per liter

mV Millivolts

NTU Nephelometric Turbidity Unit

**Table A-2j: Summary of Lower Disposal Area - Shallow/Alluvial Groundwater Sampling Results - Well MW-10A
Ravensdale Site, Ravensdale, Washington**

| Date Sampled | Field Parameters | | | | | | | | | Gen. Chem. | Metals (ug/L) | | | | |
|--|----------------------------|-------------------------------------|------------------|-------------------------|-------------------------|--|-----------------|---------------------|-------------------------------|------------|---------------|---------|------|-----------|----------|
| | Depth to Water (feet btoc) | Groundwater Elevation (feet NAVD88) | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Oxidation-Reduction Potential (Rel mV) | Turbidity (NTU) | pH (standard units) | Total Dissolved Solids (mg/L) | | Antimony | Arsenic | Lead | Potassium | Vanadium |
| Preliminary Screening Level ^a | - | - | - | - | - | - | - | 6.5-8.5 | - | - | 5.6 | 8 | 2.1 | - | 140 |
| 15-Oct-21 | 19.04 | 678.98 | 10.7 | 390 | 4.24 | -115.0 | 27.80 | 7.93 | 383 J- | 0.705 | 4.04 | 0.383 | 9700 | 2.87 | |
| 6-Jan-22 | 5.55 | 692.47 | 9.3 | 168 | 7.06 | 94.6 | 6.90 | 7.50 | 141 | 0.151 J | 1.13 | 0.109 | 2660 | 1.03 | |
| 17-Mar-22 | 5.39 | 692.63 | 9.4 | 151 | 7.12 | 95.1 | 6.21 | 6.50 | 139 | 0.2 U | 0.91 | 0.061 J | 1880 | 0.807 | |
| 21-Jun-22 | 5.89 | 692.13 | 11.5 | 114.9 | 7.92 | 191.1 | 4.48 | 6.80 | 116 | 0.2 U | 0.764 | 0.081 J | 1150 | 1.02 | |
| 13-Sep-22 | 14.24 | 683.78 | 12 | 221.3 | 6.64 | 189.1 | 3.74 | 6.78 | 195 | 0.201 | 1.54 | 0.082 J | 2350 | 1.56 | |
| 13-Dec-22 | 14.93 | 683.09 | 9.8 | 395.9 | 4.71 | 179.4 | 5.19 | 7.34 | 200 | 0.173 J | 1.3 | 0.1 U | 2060 | 1.1 | |
| 15-Mar-23 | 5.64 | 692.38 | 8.4 | 179.4 | 8.78 | 145.7 | 2.07 | 6.85 | 108 | 0.2 U | 0.541 | 0.1 U | 892 | 0.727 | |
| 26-Jun-23 | 9.63 | 688.39 | 11.1 | 102.6 | 9.22 | 143.6 | 4.69 | 6.19 | 108 | 0.2 U | 0.579 | 0.168 J | 823 | 1 | |

Notes:

Top of casing elevation (feet NAVD88): 698.02

Dissolved metals were analyzed at the Site until December 2020 (Q4 2020). Total metals were analyzed for Q4 2020 and will continue to be analyzed moving forward. Iron and manganese are not included in the COPCs at the Site and are not analyzed beginning in Q2 2021. Antimony and Vanadium were included as COPCs for surface water locations and shallow/alluvial groundwater monitoring wells at the Site beginning in Q3 2021.

- Not measured or not available

Orange shaded values indicate parameter results above the Preliminary Screening Level (PSL), except for pH, which could be above or below the PSL.

a Preliminary Cleanup Level (PCUL) provided by Ecology 30 Sept 2022

U Data validation code; not detected at the Reporting Limit (RL)

J Data validation code; estimated value

J+ Data validation code; estimated value with positive bias

°C Degrees Celsius

µmhos/cm Micromhos per centimeter

feet bmp Feet below measuring point

feet NAVD88 Feet NAVD88 Datum

mg/L Milligrams per liter

mV Millivolts

NTU Nephelometric Turbidity Unit

**Table A-2k: Summary of Lower Disposal Area - Shallow/Alluvial Groundwater Sampling Results - Well P-16
Ravensdale Site, Ravensdale, Washington**

| Date Sampled | Field Parameters | | | | | | | | Gen. Chem. | Metals (ug/L) | | | | |
|--|----------------------------|-------------------------------------|------------------|-------------------------|-------------------------|--|-----------------|---------------------|------------|-------------------------------|----------|---------|--------|-----------|
| | Depth to Water (feet btoc) | Groundwater Elevation (feet NAVD88) | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Oxidation-Reduction Potential (Rel mV) | Turbidity (NTU) | pH (standard units) | | Total Dissolved Solids (mg/L) | Antimony | Arsenic | Lead | Potassium |
| Preliminary Screening Level ^a | - | - | - | - | - | - | - | 6.5-8.5 | - | 5.6 | 8 | 2.1 | - | 140 |
| 15-Oct-21 | 2.41 | 700.46 | 12.30 | 2622 | 0.71 | -261.2 | 56.2 | 12.11 | 2640 J- | 9.16 | 232 | 41.1 | 826000 | 445 |
| 6-Jan-22 | 2.35 | 700.52 | 8.10 | 2804 | 1.06 | -409.7 | 1.1 | 12.75 | 2420 | 9.63 | 109 | 14.6 | 809000 | 292 |
| 17-Mar-22 | 2.73 | 700.14 | 8.4 | 2600 | 1.16 | -421.2 | 23.5 | 13.71 | 2570 | 8.14 | 124 | 10.5 | 771000 | 255 |
| 22-Jun-22 | 2.71 | 700.16 | 11.6 | 2757 | 0.04 | -105.8 | 27.4 | 12.19 | 2200 | 9.62 | 124 | 17.1 | 713000 | 285 |
| 13-Sep-22 | 4.33 | 698.54 | 14.9 | 2609 | 1.26 | -427.3 | 31.8 | 11.63 | 2160 | 5.92 | 103 | 42.7 | 756000 | 431 |
| 13-Dec-22 | 2.86 | 700.01 | 8.2 | 4004 | 3.49 | -393.6 | 21 | 11.01 | 2390 | 6.52 | 55.2 | 12 | 820000 | 213 |
| 15-Mar-23 | 2.49 | 700.38 | 7.1 | 4819 | 0.04 | -332.2 | 52.2 | 12 | 2520 | 9.34 | 166 | 11.1 | 829000 | 317 |
| 26-Jun-23 | 3.72 | 699.15 | 12.5 | 2388 | -0.03 | -514.9 | 49.8 | 11.68 | 2130 | 6.04 | 80.4 | 8.79 | 726000 | 211 |

Notes:

Top of casing elevation (feet NAVD88): 702.87

Dissolved metals were analyzed at the Site until December 2020 (Q4 2020). Total metals were analyzed for Q4 2020 and will continue to be analyzed moving forward. Iron and manganese are not included in the COPCs at the Site and are not analyzed beginning in Q2 2021. Antimony and Vanadium were included as COPCs for surface water locations and shallow/alluvial groundwater monitoring wells at the Site beginning in Q3 2021.

- Not measured or not available

Orange shaded values indicate parameter results above the Preliminary Screening Level (PSL), except for pH, which could be above or below the PSL.

a Preliminary Cleanup Level (PCUL) provided by Ecology 30 Sept 2022

U Data validation code; not detected at the Reporting Limit (RL)

J Data validation code; estimated value

J+ Data validation code; estimated value with positive bias

°C Degrees Celsius

µmhos/cm Micromhos per centimeter

feet bmp Feet below measuring point

feet NAVD88 Feet NAVD88 Datum

mg/L Milligrams per liter

mV Millivolts

NTU Nephelometric Turbidity Unit

**Table A-2I: Summary of Lower Disposal Area - Shallow/Alluvial Groundwater Sampling Results - Well P-17
Ravensdale Site, Ravensdale, Washington**

| Date Sampled | Field Parameters | | | | | | | | | Gen. Chem. | Metals (ug/L) | | | | |
|--|----------------------------|-------------------------------------|------------------|-------------------------|-------------------------|--|-----------------|---------------------|-------------------------------|------------|---------------|---------|-------|-----------|----------|
| | Depth to Water (feet btoc) | Groundwater Elevation (feet NAVD88) | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Oxidation-Reduction Potential (Rel mV) | Turbidity (NTU) | pH (standard units) | Total Dissolved Solids (mg/L) | | Antimony | Arsenic | Lead | Potassium | Vanadium |
| Preliminary Screening Level ^a | - | - | - | - | - | - | - | 6.5-8.5 | - | - | 5.6 | 8 | 2.1 | - | 140 |
| 15-Oct-21 | 4.89 | 715.43 | 14.00 | 464 | 0.98 | -97.5 | 38.1 | 6.49 | 444 J- | 1 U | 16.4 | 13.1 | 9700 | 105 | |
| 7-Jan-22 | 3.65 | 716.67 | 6.90 | 389 | 1.13 | -60.4 | 4.1 | 6.46 | 388 | 1.26 | 2.81 | 0.1 U | 8030 | 1.8 | |
| 18-Mar-22 | 4.12 | 716.2 | 8.4 | 404.4 | 1.46 | 23.7 | 5.41 | 7.33 | 362 | 1.38 | 1.34 | 0.1 U | 13300 | 1.08 | |
| 22-Jun-22 | 6.87 | 713.45 | 11.7 | 586 | 0.26 | -57.6 | 2.87 | 6.44 | 398 | 0.68 | 6.73 | 0.2 U | 3560 | 2.99 | |
| 14-Sep-22 | 13.31 | 707.01 | 14.3 | 706 | 1.91 | -63.2 | 2.12 | 6.1 | 489 | 1 U | 7.67 | 0.5 U | 3570 | 2.99 | |
| 14-Dec-22 | 5.47 | 714.85 | 9.7 | 469.3 | 3.17 | -85.9 | 3.75 | 6.51 | 377 | 1 | 2.69 | 0.1 U | 7820 | 1.6 | |
| 16-Mar-23 | 5.05 | 715.27 | 7.6 | 630 | 0.22 | -42.4 | 7.01 | 6.5 | 293 | 0.816 | 3.46 | 0.1 U | 7590 | 1.54 | |
| 27-Jun-23 | 10.06 | 710.26 | 11.4 | 578 | 0.32 | -59.6 | 8.02 | 6.35 | 377 | 0.658 | 4.51 | 0.5 U | 6140 | 2.29 | |

Notes:

Top of casing elevation (feet NAVD88): 720.32

Dissolved metals were analyzed at the Site until December 2020 (Q4 2020). Total metals were analyzed for Q4 2020 and will continue to be analyzed moving forward. Iron and manganese are not included in the COPCs at the Site and are not analyzed beginning in Q2 2021. Antimony and Vanadium were included as COPCs for surface water locations and shallow/alluvial groundwater monitoring wells at the Site beginning in Q3 2021.

- Not measured or not available

Orange shaded values indicate parameter results above the Preliminary Screening Level (PSL), except for pH, which could be above or below the PSL.

a Preliminary Cleanup Level (PCUL) provided by Ecology 30 Sept 2022

U Data validation code; not detected at the Reporting Limit (RL)

J Data validation code; estimated value

J+ Data validation code; estimated value with positive bias

°C Degrees Celsius

µmhos/cm Micromhos per centimeter mg/L Milligrams per liter

feet bmp Feet below measuring point mV Millivolts

feet NAVD88 Feet NAVD88 Datum NTU Nephelometric Turbidity Unit

APPENDIX A-3

**Summary of Lower Disposal Area –
Bedrock Groundwater Sampling
Results**

Table A-3A Well MWB-1LDA
Table A-3B Well MWB-2LDA
Table A-3C Well MWB-3LDA

**Table A-3a: Summary of Lower Disposal Area - Bedrock Groundwater Sampling Results
- Well MWB-1LDA Ravensdale Site, Ravensdale, Washington**

| Date Sampled | Field Parameters | | | | | | | | Gen. Chem. | Metals (ug/L) | | |
|--|----------------------------|-------------------------------------|--------------------------------------|-------------------------|-------------------------|--|-----------------|---------------------|---------------------------------|-------------------------------|---------|--------|
| | Depth to Water (feet btoc) | Groundwater Elevation (feet NAVD88) | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Oxidation Reduction Potential (Rel mV) | Turbidity (NTU) | pH (standard units) | | Total Dissolved Solids (mg/L) | Arsenic | Lead |
| Preliminary Screening Level ^a | - | - | - | - | - | - | - | 6.5-8.5 | - | 8 | 2.1 | - |
| 19-Dec-06 | 26.51 | 678.17 | 10.96 | 546 | 0.43 | -115.4 | 1.05 | 7.70 | 310 | 151 | 1 U | - |
| 14-Feb-07 | 26.08 | 678.60 | 10.62 | 397 | 1.02 | -90.8 | 3.07 | 7.53 | 240 | 160 | 1 U | - |
| 31-May-07 | 25.96 | 678.72 | 10.83 | 386 | 0.36 | -172.8 | 4.20 | 8.20 | 220 | 122 | 1 U | - |
| 27-Aug-07 | 25.66 | 679.02 | 10.97 | 372 | 0.76 | -128.2 | 1.08 | 7.51 | 240 | 89.9 | 1 U | - |
| 28-Nov-07 | 26.81 | 677.87 | 10.56 | 371 | 0.42 | -121.2 | 1.29 | 8.03 | 220 | 88.3 | 1 U | - |
| 27-Feb-08 | 25.80 | 678.88 | 10.62 | 371 | 2.01 | - | 1.07 | - | 230 | 80.9 | 1 U | 3000 U |
| 20-May-08 | 25.62 | 679.06 | 10.61 | 391 | 0.36 | -53.0 | 1.11 | 7.28 | 230 | 64.3 | 1 U | - |
| 27-Aug-08 | 26.14 | 678.54 | 10.58 | 394 | 0.50 | -63.9 | 1.02 | 7.35 | 230 J | 64 | 1 U | 3000 U |
| 19-Nov-08 | 25.16 | 679.52 | 10.33 | 269 | 0.45 | -88.6 | 0.48 | 7.51 | 230 | 59.6 | 1 U | 3000 U |
| 11-Feb-09 | 25.08 | 679.60 | 10.04 | 268 | 0.48 | - | 0.97 | 7.89 | 230 | 56 | 1 U | 3000 U |
| 18-May-09 | 24.83 | 679.85 | 10.10 | 271 | 0.42 | -50.5 | 1.81 | 8.05 | 230 J | 46.6 | 1 U | 3000 U |
| 24-Sep-09 | 26.32 | 678.36 | 11.80 | 323 | 0.24 | 202.0 | 3.59 | 7.57 | 260 | 27 | 2 U | 1100 J |
| 17-Dec-09 | 25.06 | 679.62 | 10.10 | 370 | 0.94 | 179.0 | 4.16 | 7.77 | <40 | 34 | 2 U | 1200 J |
| 23-Mar-10 | 24.83 | 679.85 | 10.90 | 344 | 0.21 | 397.4 | 3.17 | 7.57 | 240 | 25 | 2 U | 1300 J |
| 15-Jun-10 | 24.38 | 680.30 | 10.50 | 355 | 0.08 | 195.5 | 0.42 | 7.66 | 150 | 27 | 2 U | 1100 J |
| 20-Sep-10 | 25.74 | 678.94 | 10.50 | 354 | 0.06 | 192.9 | 0.20 | 7.65 | 200 | 22 | 2 U | 1100 J |
| 6-Dec-10 | 24.59 | 680.09 | 10.00 | 347 | 0.09 | 99.3 | 0.17 | 7.86 | 230 | 22 | 2 U | 1000 J |
| 28-Mar-11 | 24.01 | 680.67 | 10.00 | 173 | 0.16 | 90.6 | 0.88 | 7.58 | 200 | 22 | 2 U | 1000 J |
| 20-Jun-11 | 24.11 | 680.57 | 10.30 | 330 | 0.07 | 121.5 | 0.17 | 7.65 | 250 | 22 | 2 U | 900 J |
| 26-Sep-11 | 25.39 | 679.29 | 10.40 | 2906 | 0.06 | 123.6 | 0.43 | 7.65 | 280 | 15 | 2 U | 1100 J |
| 14-Dec-11 | 24.61 | 680.07 | 9.90 | 245 | 0.10 | 193.8 | 1.76 | 7.57 | 230 | 21 | 2 U | 1200 J |
| 21-Mar-12 | 23.70 | 680.98 | 10.10 | 392 | 0.07 | 392.0 | 0.22 | 7.47 | 240 | 23 | 2 U | 1100 J |
| 18-Jun-12 | 23.90 | 680.78 | 10.50 | 383 | 0.02 | 342.8 | 0.30 | 7.67 | 230 | 20 | 0.4 U | 3300 U |
| 19-Sep-12 | 25.38 | 679.30 | 10.30 | 402 | 0.01 | 151.0 | 0.44 | 7.63 | 220 | 19 | 0.4 U | 1000 J |
| 18-Dec-12 | 23.59 | 681.09 | 10.10 | 492 | 0.00 | -45.7 | 0.16 | 7.70 | 92 | 17 | 0.4 U | 1200 J |
| 25-Feb-13 | 23.73 | 680.95 | 9.90 | 377 | 0.00 | 177.1 | 0.37 | 7.53 | 270 J | 19 | 0.4 U | 1000 J |
| 22-May-13 | 23.85 | 680.83 | 9.90 | 398 | 0.00 | 430.4 | 0.44 | 7.73 | 290 | 17 | 0.4 U | 3300 U |
| 21-Aug-13 | 25.34 | 679.34 | 10.40 | 467 | 0.01 | -31.7 | 0.55 | 7.68 | 238 | 16.8 | 0.08 J | 1060 |
| 19-Nov-13 | 24.25 | 680.43 | 10.10 | 361 | 0.00 | 70.3 | 0.32 | 7.30 | 232 | 15.7 | 0.1 U | 1040 |
| 31-Mar-14 | 22.36 | 682.32 | 10.70 | 286 | 0.01 | 107.4 | 0.21 | 7.79 | 211 | 13.8 | 0.1 U | 1020 |
| 21-May-14 | 23.29 | 681.39 | 8.54 | 271 | 1.35 | 54.3 | - | 7.14 | 198 | 13.1 | 0.1 U | 1000 |
| 12-Aug-14 | 24.87 | 679.81 | 14.79 | 335 | 0.41 | -16.0 | 2.02 | 7.05 | 216 | 11.9 | 0.1 U | 1010 |
| 11-Nov-14 | 24.96 | 679.72 | 10.10 | 262 | 0.79 | 11.1 | 1.51 | 7.49 | 221 | 13.6 | 0.1 U | 1090 |
| 10-Feb-15 | 23.23 | 681.45 | 10.40 | 319 | 0.25 | -114.0 | 0.36 | 7.70 | 240 | 13.3 | 0.1 U | 960 |
| 4-May-15 | 23.62 | 681.06 | 10.20 | 370 | 0.05 | 175.1 | 0.16 | 7.70 | 224 | 11.7 | 0.1 U | 960 |
| 4-Aug-15 | 25.30 | 679.38 | 11.00 | 279 | 0.06 | -30.5 | 0.72 | 7.72 | 234 | 14.4 | 0.1 U | 990 |
| 4-Nov-15 | 25.35 | 679.33 | 10.60 | 263 | 0.00 | 51.2 | 0.46 | 7.46 | 233 | 11 | 0.1 U | 1150 |
| 8-Feb-16 | 23.03 | 681.65 | 10.20 | 319 | 0.03 | 206.5 | 0.20 | 7.77 | 210 | 12.1 | 0.1 U | 1050 |
| 2-May-16 | 23.49 | 681.19 | Monitored Semi-Annually ¹ | | | | | | Monitored Annually ¹ | | | |
| 22-Aug-16 | 25.00 | 679.68 | 11.10 | 323 | 0.02 | -55.2 | 1.10 | 7.64 | Monitored Annually ¹ | | | |
| 1-Nov-16 | 24.29 | 680.39 | Monitored Semi-Annually ¹ | | | | | | Monitored Annually ¹ | | | |
| 31-Jan-17 | 23.06 | 681.62 | 10.20 | 391 | 0.05 | 169.3 | 0.13 | 7.66 | 223 | 11.9 | 0.1 U | 1030 |
| 30-May-17 | 22.45 | 682.23 | Monitored Semi-Annually ¹ | | | | | | Monitored Annually ¹ | | | |
| 16-Aug-17 | 24.27 | 680.41 | 10.70 | 385 | 0.15 | 123.4 | 0.40 | 7.64 | Monitored Annually ¹ | | | |
| 9-Nov-17 | 36.04 | 680.27 | Monitored Semi-Annually ¹ | | | | | | Monitored Annually ¹ | | | |
| 28-Feb-18 | 22.04 | 682.64 | 10.10 | 276 | 0.20 | -96.4 | 0.25 | 7.44 | 221 | 10.8 | 0.1 U | 951 |
| 1-May-18 | 22.11 | 682.57 | Monitored Semi-Annually ¹ | | | | | | Monitored Annually ¹ | | | |
| 22-Aug-18 | 24.42 | 680.26 | 11.37 | 277 | 5.25 | -59.6 | 0.18 | 7.61 | Monitored Annually ¹ | | | |
| 6-Nov-18 | 24.57 | 680.11 | Monitored Semi-Annually ¹ | | | | | | Monitored Annually ¹ | | | |
| 11-Mar-19 | 22.61 | 682.07 | 10.10 | 248 | 0.60 | -70.8 | 0.68 | 7.60 | 224 | 8.74 | 0.1 U | 1070 |
| 8-May-19 | 22.68 | 682.00 | Monitored Semi-Annually ¹ | | | | | | Monitored Annually ¹ | | | |
| 27-Aug-19 | 24.54 | 680.14 | 11.45 | 282 | 0.58 | Note 1 | 0.04 | 7.30 | Monitored Annually ¹ | | | |
| 13-Nov-19 | 24.15 | 680.53 | Monitored Semi-Annually ¹ | | | | | | Monitored Annually ¹ | | | |
| 13-Feb-20 | 22.04 | 682.64 | 10.10 | 280 | 0.34 | -133.4 | 0.57 | 7.51 | 207 | 8.82 | 0.1 U | 1050 |
| 13-Aug-20 | 23.92 | 680.76 | 11.00 | 284 | 0.60 | -113.5 | 0.44 | 7.55 | Monitored Annually ¹ | | | |
| 9-Dec-20 | 23.35 | 681.33 | Monitored Semi-Annually ¹ | | | | | | Monitored Annually ¹ | | | |
| 5-Mar-21 | 22.01 | 682.67 | 10.20 | 266 | 0.04 | -50.0 | 0.42 | 7.64 | 214 | 10.5 | 0.1 U | 1120 |



**Table A-3a: Summary of Lower Disposal Area - Bedrock Groundwater Sampling Results
- Well MWB-1LDA Ravensdale Site, Ravensdale, Washington**

| Date Sampled | Field Parameters | | | | | | | | Gen. Chem. | Metals (ug/L) | | |
|--|----------------------------|-------------------------------------|--------------------------------------|-------------------------|-------------------------|--|-----------------|---------------------|---------------------------------|-------------------------------|---------|------|
| | Depth to Water (feet btoc) | Groundwater Elevation (feet NAVD88) | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Oxidation Reduction Potential (Rel mV) | Turbidity (NTU) | pH (standard units) | | Total Dissolved Solids (mg/L) | Arsenic | Lead |
| Preliminary Screening Level ^a | - | - | - | - | - | - | - | 6.5-8.5 | - | 8 | 2.1 | - |
| 10-Jun-21 | 23.17 | 681.51 | Monitored Semi-Annually ¹ | | | | | | Monitored Annually ¹ | | | |
| 13-Oct-21 | 24.41 | 680.27 | 10.90 | 327.2 | 0.91 | -76.1 | 0.33 | 7.48 | Monitored Annually ¹ | | | |
| 5-Jan-22 | 22.00 | 682.68 | Monitored Semi-Annually ¹ | | | | | | Monitored Annually ¹ | | | |
| 17-Mar-22 | 21.89 | 682.79 | 10.7 | 259.6 | 1.24 | -60.4 | 0.22 | 6.52 | 220 | 8.2 | 0.1 U | 925 |
| 21-Jun-22 | 21.58 | 683.1 | Monitored Semi-Annually ¹ | | | | | | Monitored Annually ¹ | | | |
| 12-Sep-22 | 23.51 | 681.17 | 11.3 | 263.3 | 2.86 | -7.4 | 0.37 | 6.76 | Monitored Annually ¹ | | | |
| 12-Dec-22 | 23.51 | 681.17 | Monitored Semi-Annually ¹ | | | | | | Monitored Annually ¹ | | | |
| 15-Mar-23 | 22.00 | 682.68 | 10.3 | 372.2 | 0.17 | -86.5 | 0.13 | 7.66 | 221 | 8.35 | 0.1 U | 864 |
| 27-Jun-23 | 22.85 | 681.83 | Monitored Semi-Annually ¹ | | | | | | Monitored Annually ¹ | | | |

Note:

Top of casing elevation (feet NAVD88): 704.68

Dissolved metals were analyzed at the Site until December 2020 (Q4 2020). Total metals were analyzed for Q4 2020 and will continue to be analyzed moving forward. Iron and manganese are not included in the COPCs at the Site and are not analyzed beginning in Q2 2021. Antimony and Vanadium were included as COPCs for surface water locations and shallow/alluvial groundwater monitoring wells at the Site beginning in Q3 2021.

1 Reduction in monitoring frequency approved by Public Health – Seattle and King County in a letter to Golder Associates Inc. dated April 7, 2016. Field parameters collected semi-annually, analytical samples collected annually. Sampling schedule follows the Golder 2021 RI Work Plan starting in Q3 2021.

- Not available

Orange shaded values indicate parameter results above the Preliminary Screening Level (PSL), except for pH, which could be above or below the PSL.

a Preliminary Cleanup Level (PCUL) provided by Ecology 30 Sept 2022

U Data validation code; not detected at the Reporting Limit (RL)

J Data validation code; estimated value

J+ Data validation code; estimated value with positive bias

°C Degrees Celsius

Note 1 ORP measurements not available due to faulty sensor.

µmhos/cm Micromhos per centimeter

feet bmp Feet below measuring point

feet NAVD88 Feet NAVD88 Datum

mg/L Milligrams per liter

mV Millivolts

NTU Nephelometric Turbidity Unit

**Table A-3b: Summary of Lower Disposal Area - Bedrock Groundwater Sampling Results
- Well MWB-2LDA Ravensdale Site, Ravensdale, Washington**

| Date Sampled | Field Parameters | | | | | | | | Gen. Chem. | Metals (ug/L) | | |
|--|----------------------------|-------------------------------------|--------------------------------------|-------------------------|-------------------------|--|-----------------|---------------------|---------------------------------|-------------------------------|---------|--------|
| | Depth to Water (feet btoc) | Groundwater Elevation (feet NAVD88) | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Oxidation Reduction Potential (Rel mV) | Turbidity (NTU) | pH (standard units) | | Total Dissolved Solids (mg/L) | Arsenic | Lead |
| Preliminary Screening Level ^a | - | - | - | - | - | - | - | 6.5-8.5 | - | 8 | 2.1 | - |
| 19-Dec-06 | 36.82 | 704.84 | 12.15 | 394 | 0.57 | 114.6 | 1.84 | 7.58 | 230 | 8.49 | 1 U | - |
| 14-Feb-07 | 36.30 | 705.36 | 11.69 | 339 | 1.40 | -85.7 | 2.72 | 7.39 | 200 | 6.09 | 1 U | - |
| 31-May-07 | 36.93 | 704.73 | 12.13 | 346 | 0.20 | -223.7 | 3.04 | 8.28 | 210 | 6.95 | 1 U | - |
| 27-Aug-07 | 37.99 | 703.67 | 12.18 | 336 | 0.49 | -169.7 | 0.84 | 7.54 | 210 | 7.49 | 1 U | - |
| 28-Nov-07 | 37.89 | 703.77 | 11.82 | 338 | 0.28 | -146.6 | 1.32 | 7.93 | 250 | 6.91 | 1 U | - |
| 27-Feb-08 | 37.24 | 704.42 | 11.87 | 340 | 0.23 | - | 0.87 | 7.41 | 210 | 7.46 | 1 U | 3000 U |
| 20-May-08 | 37.31 | 704.35 | 11.91 | 359 | 0.23 | -86.6 | 0.67 | 7.27 | 200 | 6.31 | 1 U | - |
| 27-Aug-08 | 38.37 | 703.29 | 11.84 | 362 | 0.35 | -77.6 | 0.70 | 7.21 | 210 J | 6.36 | 1 U | 3000 U |
| 19-Nov-08 | 37.50 | 704.16 | 11.53 | 254 | 0.44 | -105.9 | 2.08 | 7.45 | 200 | 5.86 | 1 U | 3000 U |
| 11-Feb-09 | 37.10 | 704.56 | 11.25 | 254 | 0.48 | - | 0.63 | 7.91 | 220 | 5.61 | 1 U | 3000 U |
| 18-May-09 | 37.00 | 704.66 | 11.42 | 258 | 0.42 | -71.9 | 1.11 | 8.00 | 210 J | 5.17 | 1 U | 3000 U |
| 25-Sep-09 | 38.88 | 702.78 | 13.10 | 297 | 0.14 | 140.7 | 3.09 | 7.54 | 230 | 6.5 | 2 U | 1200 J |
| 17-Dec-09 | 37.19 | 704.47 | 10.80 | 341 | 0.51 | 129.0 | 4.85 | 7.71 | 74 | 4.3 | 2 U | 1100 J |
| 23-Mar-10 | 36.60 | 705.06 | 12.60 | 323 | 0.27 | 355.0 | 5.28 | 7.54 | 110 | 7.6 | 2 U | 1200 J |
| 15-Jun-10 | 36.25 | 705.41 | 11.40 | 326 | 0.08 | 171.1 | - | 7.62 | 98 | 8.8 | 2 U | 1100 J |
| 20-Sep-10 | 37.85 | 703.81 | 11.60 | 324 | 0.08 | 144.0 | 0.16 | 7.61 | 160 | 6.5 | 2 U | 1200 J |
| 6-Dec-10 | 36.60 | 705.06 | 11.00 | 319 | 0.21 | 78.3 | 0.20 | 7.81 | 210 | 2.9 | 2 U | 900 J |
| 29-Mar-11 | 35.98 | 705.68 | 11.20 | 156 | 0.15 | 215.0 | 0.75 | 7.48 | 200 | 5.6 | 2 U | 1500 J |
| 21-Jun-11 | 36.34 | 705.32 | 11.80 | 352 | 0.06 | 101.5 | 0.24 | 7.59 | 220 | 5 U | 2 U | 1000 J |
| 27-Sep-11 | 38.14 | 703.52 | 11.50 | 2484 | 0.06 | 114.4 | 0.45 | 7.60 | 220 | 5 U | 2 U | 1000 J |
| 14-Dec-11 | 36.91 | 704.75 | 11.00 | 228 | 0.05 | 127.2 | 4.04 | 7.54 | 190 | 6.7 | 2 U | 1200 J |
| 21-Mar-12 | 35.68 | 705.98 | 11.00 | 359 | 0.05 | 93.9 | 0.30 | 7.43 | 210 | 6.9 | 2 U | 1100 J |
| 18-Jun-12 | 36.06 | 705.60 | 11.70 | 350 | 0.02 | 211.9 | 0.23 | 7.62 | 220 | 6.2 | 0.4 U | 3300 U |
| 19-Sep-12 | 38.07 | 703.59 | 11.60 | 367 | 0.00 | 102.0 | 0.34 | 7.59 | 200 | 6.5 | 0.4 U | 1000 J |
| 18-Dec-12 | 34.88 | 706.78 | 10.90 | 463 | 0.00 | -97.8 | 0.17 | 7.81 | 68 | 6 | 0.4 U | 1200 J |
| 25-Feb-13 | 35.70 | 705.96 | 10.90 | 347 | 0.09 | 112.6 | 0.27 | 7.56 | 190 | 6.6 | 0.4 U | 1100 J |
| 22-May-13 | 36.24 | 705.42 | 11.00 | 412 | 0.00 | 412.5 | 0.43 | 7.71 | 190 | 6 | 0.4 U | 3300 U |
| 20-Aug-13 | 38.13 | 703.53 | 12.20 | 406 | 0.02 | -41.5 | 0.64 | 7.48 | 211 | 5.5 | 0.1 U | 1030 |
| 19-Nov-13 | 36.56 | 705.10 | 11.10 | 344 | 0.01 | 43.6 | 0.32 | 7.35 | 206 | 5.2 | 0.1 U | 1090 |
| 31-Mar-14 | 35.36 | 706.30 | 11.50 | 285 | 0.00 | 93.1 | 0.31 | 7.71 | 207 | 5.1 | 0.1 U | 1100 |
| 22-May-14 | 35.80 | 705.86 | 10.05 | 260 | 0.24 | 17.5 | - | 7.22 | 186 | 5 | 0.1 U | 1000 |
| 13-Aug-14 | 37.50 | 704.16 | 13.10 | 294 | 0.57 | -37.5 | 3.28 | 7.19 | 190 | 5.4 | 0.1 U | 1110 |
| 11-Nov-14 | 37.06 | 704.60 | 10.10 | 241 | 0.68 | -39.7 | 2.10 | 7.48 | 206 | 5.4 | 0.1 U | 1090 |
| 10-Feb-15 | 35.70 | 705.96 | 11.40 | 295 | 0.11 | -123.2 | 2.11 | 7.69 | 206 | 5.1 | 0.1 U | 1020 |
| 4-May-15 | 36.34 | 705.32 | 11.70 | 336 | 0.05 | 340.2 | 0.72 | 7.73 | 204 | 4.8 | 0.1 U | 1040 |
| 4-Aug-15 | 38.42 | 703.24 | 12.70 | 263 | 0.04 | -81.8 | 0.77 | 7.72 | 204 | 5.8 | 0.1 U | 1040 |
| 4-Nov-15 | 37.81 | 703.85 | 11.60 | 244 | 0.04 | 26.9 | 2.13 | 7.45 | 201 | 4.7 | 0.1 U | 1070 |
| 8-Feb-16 | 35.68 | 705.98 | 11.60 | 307 | 0.00 | 208.4 | 0.74 | 7.68 | 186 | 5.5 | 0.1 U | 1110 |
| 2-May-16 | 36.03 | 705.63 | Monitored Semi-Annually ¹ | | | | | | Monitored Annually ¹ | | | |
| 22-Aug-16 | 37.92 | 703.74 | 12.20 | 306 | 0.02 | -137.6 | 1.58 | 7.67 | Monitored Annually ¹ | | | |
| 1-Nov-16 | 37.07 | 704.59 | Monitored Semi-Annually ¹ | | | | | | Monitored Annually ¹ | | | |
| 31-Jan-17 | 36.00 | 705.66 | 10.90 | 348 | 0.10 | 120.5 | 0.86 | 7.67 | 195 | 5.66 | 0.1 U | 1110 |
| 30-May-17 | 35.44 | 706.22 | Monitored Semi-Annually ¹ | | | | | | Monitored Annually ¹ | | | |
| 16-Aug-17 | 37.69 | 703.97 | 12.30 | 356 | 0.14 | -77.2 | 3.27 | 7.67 | Monitored Annually ¹ | | | |
| 9-Nov-17 | 37.11 | 704.55 | Monitored Semi-Annually ¹ | | | | | | Monitored Annually ¹ | | | |
| 28-Feb-18 | 34.95 | 706.71 | 10.90 | 261 | 0.21 | -115.5 | 0.80 | 7.48 | 205 | 5.69 | 0.1 U | 992 |
| 1-May-18 | 35.11 | 706.55 | Monitored Semi-Annually ¹ | | | | | | Monitored Annually ¹ | | | |
| 22-Aug-18 | 37.90 | 703.76 | 12.31 | 262 | 1.64 | -80.3 | 0.92 | 7.56 | Monitored Annually ¹ | | | |
| 6-Nov-18 | 37.66 | 704.00 | Monitored Semi-Annually ¹ | | | | | | Monitored Annually ¹ | | | |
| 12-Mar-19 | 35.68 | 705.98 | 10.70 | 239 | 0.58 | -75.1 | 0.59 | 7.48 | 188 | 5.5 | 0.1 U | 1080 |
| 8-May-19 | 35.86 | 705.80 | Monitored Semi-Annually ¹ | | | | | | Monitored Annually ¹ | | | |
| 27-Aug-19 | 37.85 | 703.81 | 12.30 | 265 | 0.43 | Note 1 | 0.02 | 7.46 | Monitored Annually ¹ | | | |
| 13-Nov-19 | 37.22 | 704.44 | Monitored Semi-Annually ¹ | | | | | | Monitored Annually ¹ | | | |
| 13-Feb-20 | 35.10 | 706.56 | 10.80 | 261 | 0.39 | -135.9 | 0.96 | 7.50 | 185 | 5.45 | 0.1 U | 1150 |
| 13-Aug-20 | 37.21 | 704.45 | 11.60 | 266 | 0.54 | -118.2 | 1.35 | 7.50 | Monitored Annually ¹ | | | |
| 9-Dec-20 | 36.55 | 705.11 | Monitored Semi-Annually ¹ | | | | | | Monitored Annually ¹ | | | |
| 5-Mar-21 | 35.02 | 706.64 | 11.10 | 255 | 0.04 | -80.0 | 2.29 | 7.65 | 176 | 5.52 | 0.1 U | 1090 |

**Table A-3b: Summary of Lower Disposal Area - Bedrock Groundwater Sampling Results
- Well MWB-2LDA Ravensdale Site, Ravensdale, Washington**

| Date Sampled | Field Parameters | | | | | | | | Gen. Chem. | Metals (ug/L) | | |
|--|----------------------------|-------------------------------------|--------------------------------------|-------------------------|-------------------------|--|-----------------|---------------------|---------------------------------|-------------------------------|---------|------|
| | Depth to Water (feet btoc) | Groundwater Elevation (feet NAVD88) | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Oxidation Reduction Potential (Rel mV) | Turbidity (NTU) | pH (standard units) | | Total Dissolved Solids (mg/L) | Arsenic | Lead |
| Preliminary Screening Level ^a | - | - | - | - | - | - | - | 6.5-8.5 | - | 8 | 2.1 | - |
| 10-Jun-21 | 36.29 | 705.37 | Monitored Semi-Annually ¹ | | | | | | Monitored Annually ¹ | | | |
| 13-Oct-21 | 37.76 | 703.90 | 11.70 | 308 | 3.66 | -44.7 | 0.32 | 7.43 | Monitored Annually ¹ | | | |
| 5-Jan-22 | 35.31 | 706.35 | Monitored Semi-Annually ¹ | | | | | | Monitored Annually ¹ | | | |
| 17-Mar-22 | 34.52 | 707.14 | 11.6 | 244.3 | 2.84 | -60.6 | 3.21 | 6.56 | 201 | 5.53 | 0.071 J | 1060 |
| 21-Jun-22 | 34.7 | 706.96 | Monitored Semi-Annually ¹ | | | | | | Monitored Annually ¹ | | | |
| 23-Sep-22 | 37 | 704.66 | 12.1 | 243.1 | 3.88 | -17.8 | 0.54 | 7.47 | Monitored Annually ¹ | | | |
| 12-Dec-22 | 36.41 | 705.25 | Monitored Semi-Annually ¹ | | | | | | Monitored Annually ¹ | | | |
| 14-Mar-23 | 35.09 | 706.57 | 10.8 | 350.4 | 3.17 | 50.5 | 0.2 | 7.37 | 199 | 5.25 | 0.1 U | 894 |
| 27-Jun-23 | 36.04 | 705.62 | Monitored Semi-Annually ¹ | | | | | | Monitored Annually ¹ | | | |

Note:

Top of casing elevation (feet NAVD88): 741.66
 Dissolved metals were analyzed at the Site until December 2020 (Q4 2020). Total metals were analyzed for Q4 2020 and will continue to be analyzed moving forward. Iron and manganese are not included in the COPCs at the Site and are not analyzed beginning in Q2 2021. Antimony and Vanadium were included as COPCs for surface water locations and shallow/alluvial groundwater monitoring wells at the Site beginning in Q3 2021.

1 Reduction in monitoring frequency approved by Public Health – Seattle and King County in a letter to Golder Associates Inc. dated April 7, 2016. Field parameters collected semi-annually, analytical samples collected annually. Sampling schedule follows the Golder 2021 RI Work Plan starting in Q3 2021.

- Not available

Orange shaded values indicate parameter results above the Preliminary Screening Level (PSL), except for pH, which could be above or below the PSL.

a Preliminary Cleanup Level (PCUL) provided by Ecology 30 Sept 2022

U Data validation code; not detected at the Reporting Limit (RL)

J Data validation code; estimated value

J+ Data validation code; estimated value with positive bias

°C Degrees Celsius

Note 1 ORP measurements not available due to faulty sensor.

µmhos/cm Micromhos per centimeter

feet bmp Feet below measuring point

feet NAVD88 Feet NAVD88 Datum

mg/L Milligrams per liter

mV Millivolts

NTU Nephelometric Turbidity Unit

**Table A-3c: Summary of Lower Disposal Area - Bedrock Groundwater Sampling Results
- Well MWB-3LDA Ravensdale Site, Ravensdale, Washington**

| Date Sampled | Field Parameters | | | | | | | | Gen. Chem. | Metals (ug/L) | | |
|--|----------------------------|-------------------------------------|--------------------------------------|-------------------------|-------------------------|--|-----------------|---------------------|---------------------------------|---------------|--------|-----------|
| | Depth to Water (feet btoc) | Groundwater Elevation (feet NAVD88) | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Oxidation Reduction Potential (Rel mV) | Turbidity (NTU) | pH (standard units) | Total Dissolved Solids (mg/L) | Arsenic | Lead | Potassium |
| Preliminary Screening Level ^a | - | - | - | - | - | - | - | 6.5-8.5 | - | 8 | 2.1 | - |
| 19-Dec-06 | 7.08 | 737.11 | 11.37 | 670 | 0.42 | -171.2 | 1.20 | 9.23 | 500 | 25.7 | 1 U | - |
| 23-Jan-07 | 5.62 | 738.57 | 13.07 | 383 | 0.51 | -275.0 | 1.53 | 8.63 | 270 | 18.4 | 1 U | - |
| 14-Feb-07 | 5.81 | 738.38 | 12.57 | 328 | 1.09 | -158.2 | 115.00 | 7.86 | 310 | 15.1 | 1 U | - |
| 29-Mar-07 | 4.78 | 739.41 | 12.44 | 458 | 0.57 | -140.8 | 4.25 | 7.78 | 260 J | 37.9 | 1 U | - |
| 17-Apr-07 | 4.86 | 739.33 | 12.79 | 389 | 0.27 | -102.4 | 1.22 | 7.46 | 240 | 23 | 1 U | - |
| 31-May-07 | 6.39 | 737.80 | 12.98 | 394 | 0.29 | -223.8 | 3.32 | 8.14 | 240 | 21.2 | 1 U | - |
| 20-Jun-07 | 6.86 | 737.33 | 13.41 | 412 | 6.10 | -128.5 | 1.35 | 8.02 | 230 J | 23.8 | 1 U | - |
| 31-Jul-07 | 7.96 | 736.23 | 13.47 | 417 | 0.77 | -174.1 | 0.92 | 7.64 | 250 | 18.9 | 1 U | - |
| 27-Aug-07 | 8.50 | 735.69 | 12.84 | 395 | 0.46 | -132.4 | 1.97 | 7.43 | 250 | 17.6 | 1 U | - |
| 27-Sep-07 | 9.58 | 734.61 | 12.68 | 294 | 0.51 | -133.8 | 0.53 | 7.87 | 250 | 19.3 | 1 U | - |
| 26-Oct-07 | 9.65 | 734.54 | 12.49 | 288 | 0.84 | -111.9 | 9.83 | 7.60 | 240 J | 11 | 1 U | - |
| 28-Nov-07 | 10.23 | 733.96 | 11.95 | 362 | 0.64 | -86.1 | 1.58 | 7.87 | 200 | 17.8 | 1 U | - |
| 12-Dec-07 | 9.66 | 734.53 | 11.83 | 334 | 0.26 | -93.2 | 0.63 | 7.63 | 280 J | 17.4 | 1 U | - |
| 24-Jan-08 | 8.20 | 735.99 | 11.09 | 335 | 0.44 | -108.3 | - | 7.46 | 220 | 19.2 | 1 U | - |
| 26-Feb-08 | 7.61 | 736.58 | 12.26 | 337 | 0.48 | - | 2.40 | 7.45 | 210 | 22 | 1 U | 3000 U |
| 25-Mar-08 | 7.22 | 736.97 | 11.94 | 337 | 1.01 | -48.6 | 2.80 | 7.51 | 210 | 17.8 | 1 U | - |
| 29-Apr-08 | 6.75 | 737.44 | 12.53 | 332 | 0.77 | -50.3 | 1.95 | 7.41 | 200 J | 18.2 | 1 U | - |
| 19-May-08 | 7.17 | 737.02 | 12.37 | 336 | 0.57 | -57.2 | 2.19 | 7.34 | 200 J | 18.7 | 1 U | - |
| 18-Jun-08 | 7.26 | 736.93 | 12.11 | 323 | 0.48 | -64.1 | 0.83 | 7.13 | 190 J | 19.5 | 1 U | - |
| 26-Aug-08 | 8.78 | 735.41 | 12.31 | 329 | 1.16 | -36.5 | 2.89 | 7.30 | 200 J | 17.7 | 1 U | 3000 U |
| 19-Nov-08 | 9.03 | 735.16 | 11.91 | 243 | 0.52 | -93.1 | 1.69 | 7.40 | 190 | 18.2 | 1 U | 3000 U |
| 11-Feb-09 | 7.07 | 737.12 | 11.74 | 227 | 0.65 | - | 1.03 | 7.76 | 180 | 17.7 | 1 U | 3000 U |
| 18-May-09 | 6.50 | 737.69 | 12.11 | 225 | 0.67 | -63.9 | 1.51 | 7.83 | 190 J | 12.9 | 1 U | 3000 U |
| 25-Sep-09 | 10.47 | 733.72 | 13.50 | 260.1 | 0.36 | 215.3 | 4.14 | 7.61 | 220 | 17 | 0.94 J | 12000 |
| 17-Dec-09 | 8.39 | 735.80 | 11.50 | 301.0 | 0.44 | 110.0 | 3.10 | 7.71 | 270 | 23 | 2 U | 1300 J |
| 23-Mar-10 | 6.46 | 737.73 | 12.20 | 294.8 | 0.43 | 332.5 | 3.52 | 7.57 | 150 J | 27 | 2 U | 1300 J |
| 16-Jun-10 | 5.34 | 738.85 | 11.10 | 281.7 | 0.05 | 117.0 | - | 7.71 | 160 | 27 | 2 U | 1300 J |
| 21-Sep-10 | 7.72 | 736.47 | 11.80 | 276.3 | 0.06 | 169.5 | 0.36 | 7.54 | 140 | 23 | 2 U | 1300 J |
| 7-Dec-10 | 6.48 | 737.71 | 11.00 | 263.0 | 0.15 | 77.2 | 0.38 | 7.58 | 180 | 20 | 2 U | 1200 J |
| 28-Mar-11 | 4.42 | 739.77 | 10.80 | 134.0 | 0.44 | 75.6 | 1.06 | 7.46 | 160 J | 21 | 2 U | 1700 J |
| 20-Jun-11 | 4.76 | 739.43 | 12.10 | 252.7 | 0.07 | 68.4 | 0.13 | 7.48 | 200 J | 16 | 2 U | 1000 J |
| 27-Sep-11 | 7.86 | 736.33 | 11.90 | 2064.0 | 0.04 | 102.6 | 0.37 | 7.48 | 170 | 18 | 2 U | 1100 J |
| 14-Dec-11 | 7.17 | 737.02 | 11.00 | 188.2 | 0.03 | 140.8 | 1.87 | 7.50 | 770 | 22 | 2 U | 1300 J |
| 21-Mar-12 | 4.68 | 739.51 | 10.70 | 297.8 | 0.07 | 130.6 | 0.41 | 7.39 | 170 | 21 | 2 U | 1100 J |
| 18-Jun-12 | 4.75 | 739.44 | 11.60 | 289.0 | 0.16 | 271.3 | 0.55 | 7.54 | 150 J+ | 19 | 0.4 U | 3300 U |
| 19-Sep-12 | 7.65 | 736.54 | 12.60 | 299.9 | 0.10 | 121.0 | 0.42 | 7.50 | 160 | 18 | 0.4 U | 1100 J |
| 18-Dec-12 | 5.58 | 738.61 | 10.90 | 384.0 | 0.03 | 15.6 | 1.39 | 7.50 | 200 | 19 | 0.4 U | 1300 J |
| 25-Feb-13 | 4.80 | 739.39 | 10.60 | 284.2 | 0.03 | 140.4 | 0.30 | 7.53 | 150 | 22 | 0.4 U | 1200 J |
| 22-May-13 | 4.81 | 739.38 | 11.00 | 294.9 | 0.14 | 387.7 | 0.52 | 7.61 | 160 | 18 | 0.4 U | 3300 U |
| 20-Aug-13 | 7.63 | 736.56 | 12.60 | 383.0 | 0.81 | -8.4 | 0.80 | 7.26 | 164 | 16.7 | 0.1 U | 1060 |
| 19-Nov-13 | 7.11 | 737.08 | 11.30 | 218.1 | 0.14 | 54.3 | 0.73 | 7.20 | 169 | 16.6 | 0.1 U | 1130 |
| 1-Apr-14 | 4.08 | 740.11 | 10.70 | 222.6 | 0.15 | 158.5 | 1.12 | 7.50 | 168 | 13.3 | 0.1 U | 1070 |
| 22-May-14 | 4.21 | 739.98 | 9.98 | 206.0 | 1.59 | 27.1 | - | 7.17 | 158 | 11.2 | 0.1 U | 1000 |
| 13-Aug-14 | 6.95 | 737.24 | 13.50 | 237.0 | 1.14 | 9.8 | 4.70 | 6.92 | 154 | 10.5 | 0.1 U | 990 |
| 12-Nov-14 | 6.04 | 738.15 | 8.40 | 185.1 | 0.28 | -10.1 | 3.42 | 7.36 | 162 | 16.1 | 0.1 U | 1050 |
| 11-Feb-15 | 4.62 | 739.57 | 11.50 | 205.1 | 1.20 | 68.1 | 1.32 | 7.41 | 169 | 9 | 0.1 U | 1100 |
| 4-May-15 | 4.93 | 739.26 | 12.20 | 262.0 | 1.64 | 190.2 | 0.84 | 7.43 | 168 | 10.9 | 0.1 U | 1010 |
| 4-Aug-15 | 7.44 | 736.75 | 13.20 | 211.3 | 1.62 | 81.9 | 2.02 | 7.39 | 173 | 6.8 | 0.1 U | 1020 |
| 5-Nov-15 | 8.14 | 736.05 | 12.50 | 186.0 | 1.49 | 166.9 | 1.87 | 7.10 | 162 | 3.5 | 0.1 U | 1040 |
| 8-Feb-16 | 3.20 | 740.99 | 11.70 | 240.5 | 2.13 | 196.9 | 0.88 | 7.23 | 150 | 11.2 | 0.1 U | 980 |
| 2-May-16 | 3.77 | 740.42 | Monitored Semi-Annually ¹ | | | | | | Monitored Annually ¹ | | | |
| 22-Aug-16 | 6.81 | 737.38 | 13.10 | 238.0 | 2.40 | 168.5 | 2.39 | 7.41 | Monitored Annually ¹ | | | |
| 1-Nov-16 | 6.59 | 737.60 | Monitored Semi-Annually ¹ | | | | | | Monitored Annually ¹ | | | |
| 31-Jan-17 | 4.02 | 740.17 | 11.30 | 265.8 | 2.79 | 218.2 | 1.39 | 7.34 | 154 | 3.23 | 0.1 U | 953 |
| 30-May-17 | 2.32 | 741.87 | Monitored Semi-Annually ¹ | | | | | | Monitored Annually ¹ | | | |
| 16-Aug-17 | 5.48 | 738.71 | 13.20 | 258.4 | 3.54 | 92.2 | 2.50 | 7.41 | Monitored Annually ¹ | | | |
| 9-Nov-17 | 6.00 | 738.19 | Monitored Semi-Annually ¹ | | | | | | Monitored Annually ¹ | | | |
| 28-Feb-18 | 1.13 | 743.06 | 10.80 | 186.9 | 4.11 | 142.0 | 1.83 | 7.18 | 159 | 2.53 | 0.1 U | 848 |
| 1-May-18 | 1.60 | 742.59 | Monitored Semi-Annually ¹ | | | | | | Monitored Annually ¹ | | | |
| 22-Aug-18 | 5.93 | 738.26 | 13.55 | 194 | 7.63 | 16.9 | 0.77 | 7.11 | Monitored Annually ¹ | | | |
| 6-Nov-18 | 6.78 | 737.41 | Monitored Semi-Annually ¹ | | | | | | Monitored Annually ¹ | | | |
| 12-Mar-19 | 2.32 | 741.87 | 10.50 | 166 | 4.32 | 167.7 | 1.34 | 7.14 | 149 | 1.87 | 0.1 U | 953 |
| 8-May-19 | 2.57 | 741.62 | Monitored Semi-Annually ¹ | | | | | | Monitored Annually ¹ | | | |
| 27-Aug-19 | 5.76 | 738.43 | 13.62 | 192 | 3.94 | Note 1 | 0.02 | 7.09 | Monitored Annually ¹ | | | |
| 13-Nov-19 | 6.00 | 738.19 | Monitored Semi-Annually ¹ | | | | | | Monitored Annually ¹ | | | |



**Table A-3c: Summary of Lower Disposal Area - Bedrock Groundwater Sampling Results
- Well MWB-3LDA Ravensdale Site, Ravensdale, Washington**

| Date Sampled | Field Parameters | | | | | | | | Gen. Chem. | Metals (ug/L) | | |
|--|----------------------------|-------------------------------------|--------------------------------------|-------------------------|-------------------------|--|-----------------|---------------------|---------------------------------|---------------|-------|-----------|
| | Depth to Water (feet btoc) | Groundwater Elevation (feet NAVD88) | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Oxidation Reduction Potential (Rel mV) | Turbidity (NTU) | pH (standard units) | Total Dissolved Solids (mg/L) | Arsenic | Lead | Potassium |
| Preliminary Screening Level ^a | - | - | - | - | - | - | - | 6.5-8.5 | - | 8 | 2.1 | - |
| 13-Feb-20 | 1.69 | 742.50 | 10.70 | 180 | 3.20 | 88.5 | 1.21 | 7.11 | 140 | 1.69 | 0.1 U | 915 |
| 13-Aug-20 | 4.59 | 739.60 | 13.60 | 188.7 | 4.26 | 50.3 | 1.60 | 7.19 | Monitored Annually ¹ | | | |
| 9-Dec-20 | 4.22 | 739.97 | Monitored Semi-Annually ¹ | | | | | | Monitored Annually ¹ | | | |
| 5-Mar-21 | 1.06 | 743.13 | 10.90 | 172.0 | 3.43 | 132 | 0.69 | 7.26 | 136 | 1.84 | 0.1 U | 877 |
| 10-Jun-21 | 3.46 | 740.73 | Monitored Semi-Annually ¹ | | | | | | Monitored Annually ¹ | | | |
| 13-Oct-21 | 6.17 | 738.02 | 12.90 | 215.1 | 4.10 | 148.3 | 0.96 | 7.05 | Monitored Annually ¹ | | | |
| 5-Jan-22 | 0.80 | 743.39 | Monitored Semi-Annually ¹ | | | | | | Monitored Annually ¹ | | | |
| 17-Mar-22 | 0.2 | 743.99 | 11.4 | 166.1 | 5.44 | 58.3 | 0.79 | 7.54 | 151 | 1.58 | 0.1 U | 1200 |
| 21-Jun-22 | 0.54 | 743.65 | Monitored Semi-Annually ¹ | | | | | | Monitored Annually ¹ | | | |
| 23-Sep-22 | 4 | 740.19 | 13.8 | 178.6 | 5.66 | 172 | 5.55 | 6.63 | Monitored Annually ¹ | | | |
| 12-Dec-22 | 4.48 | 739.71 | Monitored Semi-Annually ¹ | | | | | | Monitored Annually ¹ | | | |
| 14-Mar-23 | 1.11 | 743.08 | 11 | 254.9 | 0.8 | -29.8 | 0.29 | 7.51 | 146 | 7.37 | 0.1 U | 786 |
| 27-Jun-23 | 2.73 | 741.46 | Monitored Semi-Annually ¹ | | | | | | Monitored Annually ¹ | | | |

Note:

Top of casing elevation (feet NAVD88): 744.19

Dissolved metals were analyzed at the Site until December 2020 (Q4 2020). Total metals were analyzed for Q4 2020 and will continue to be analyzed moving forward. Iron and manganese are not included in the COPCs at the Site and are not analyzed beginning in Q2 2021. Antimony and Vanadium were included as COPCs for surface water locations and shallow/alluvial groundwater monitoring wells at the Site beginning in Q3 2021.

1 Reduction in monitoring frequency approved by Public Health – Seattle and King County in a letter to Golder Associates Inc. dated April 7, 2016. Field parameters collected semi-annually, analytical samples collected annually. Sampling schedule follows the Golder 2021 RI Work Plan starting in Q3 2021.

- Not available

Orange shaded values indicate parameter results above the Preliminary Screening Level (PSL), except for pH, which could be above or below the PSL.

a Preliminary Cleanup Level (PCUL) provided by Ecology 30 Sept 2022

U Data validation code; not detected at the Reporting Limit (RL)

J Data validation code; estimated value

J+ Data validation code; estimated value with positive bias

°C Degrees Celsius

Note 1 ORP measurements not available due to faulty sensor.

µmhos/cm Micromhos per centimeter

feet bmp Feet below measuring point

feet NAVD88 Feet NAVD88 Datum

mg/L Milligrams per liter

mV Millivolts

NTU Nephelometric Turbidity Unit

APPENDIX A-4

Summary of Dale Strip Pit – Bedrock Groundwater Sampling Results

Table A-4A Well MWB-1SDSP
Table A-4B Well MWB-1DDSP
Table A-4C Well MWB-5DSP
Table A-4D Well MWB-6DSP
Table A-4E Portal
Table A-4F Well MWB-2DSP
Table A-4G Well MWB-4SDSP

**Table A-4a: Summary of Dale Strip Pit - Bedrock Groundwater Sampling Results - Well MWB-1SDSP
Ravensdale Site, Ravensdale, Washington**

| Date Sampled | Field Parameters | | | | | | | | Gen. Chem. | Metals (ug/L) | | | |
|--|----------------------------|-------------------------------------|-------------------------------------|-------------------------|-------------------------|--|-----------------|---------------------|---------------------------------|-------------------------------|---------|------|-----------|
| | Depth to Water (feet btoc) | Groundwater Elevation (feet NAVD88) | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Oxidation Reduction Potential (Rel mV) | Turbidity (NTU) | pH (standard units) | | Total Dissolved Solids (mg/L) | Arsenic | Lead | Potassium |
| Preliminary Screening Level ^a | - | - | - | - | - | - | - | 6.5-8.5 | - | 8 | 2.1 | - | |
| 2-Dec-02 | 69.87 | 866.42 | 9.5 | 1690 | - | - | - | 7.29 | 910 | 46.6 | 2.68 | - | |
| 3-Mar-03 | 36.83 | 899.46 | 11.5 | 1260 | - | - | 24.10 | 7.15 | 860 | 9.73 | - | - | |
| 3-May-03 | 34.88 | 901.41 | 12.8 | 1520 | - | - | 38.00 | 7.09 | 950 | - | - | - | |
| 3-Aug-03 | 52.02 | 884.27 | 19.19 | 1460 | - | - | 11.40 | 7.01 | 990 | - | - | - | |
| 1-Nov-03 | 53.61 | 882.68 | 11.60 | 915 | - | - | 8.97 | 7.19 | 1010 | 8.58 | 0.695 | - | |
| 1-Feb-04 | 32.75 | 903.54 | 11.52 | 1033 | - | - | 7.36 | 6.78 | 1060 | - | - | - | |
| 1-May-04 | 42.50 | 893.79 | 14.87 | 1126 | - | - | 7.53 | 7.23 | 1020 | - | - | - | |
| 1-Aug-04 | 49.26 | 887.03 | 13.72 | 1234 | - | - | 8.07 | 6.98 | 981 | - | - | - | |
| 1-Nov-04 | 42.81 | 893.48 | 11.88 | 1429 | - | - | 9.06 | 6.92 | 1060 | 10 | 1 U | - | |
| 1-Feb-05 | 33.62 | 902.67 | 13.06 | 1615 | - | - | 7.11 | 7.01 | 1020 | - | - | - | |
| 1-May-05 | 34.88 | 901.41 | 12.91 | 1459 | - | - | 6.54 | 6.85 | 1000 | - | - | - | |
| 1-Aug-05 | 43.80 | 892.49 | 10.40 | 1472 | - | - | 10.40 | 6.80 | 1090 | - | - | - | |
| 1-Nov-05 | 52.80 | 883.49 | 10.40 | 1458 | - | - | 6.02 | 6.64 | 1100 | 10.3 | 1 U | - | |
| 1-Feb-06 | 42.70 | 893.59 | 10.40 | 1343 | 1.10 | 48.3 | 11.10 | 7.08 | 1100 J | - | - | - | |
| 1-May-06 | 37.81 | 898.48 | 11.52 | 1686 | 1.64 | 49.2 | 10.50 | 6.83 | 1100 | - | - | - | |
| 1-Aug-06 | 46.11 | 890.18 | 14.10 | 1357 | 2.33 | 43.0 | 10.70 | 7.11 | 1100 | - | - | - | |
| 1-Nov-06 | 46.47 | 889.82 | - | - | - | - | - | - | - | - | - | - | |
| 28-Dec-06 | 33.20 | 903.09 | - | - | - | - | - | - | - | - | - | - | |
| 7-Feb-07 | 34.50 | 901.79 | - | - | - | - | - | - | - | - | - | - | |
| 7-May-07 | 36.48 | 899.81 | 15.19 | 1484 | 0.52 | -83.4 | 6.78 | 7.60 | 1100 | - | - | - | |
| 7-Aug-07 | 47.57 | 888.72 | 11.21 | 1488 | 8.80 | 107.4 | 9.53 | 6.51 | 1200 | - | - | - | |
| 27-Nov-07 | 51.25 | 885.04 | 13.60 | 1483 | 1.82 | -129.5 | 434.00 | 7.11 | 1000 J | 5.72 | 1 U | - | |
| 8-Feb-08 | 35.12 | 901.17 | 14.71 | 1489 | 3.11 | - | 10.20 | 6.97 | 1100 | - | - | - | |
| 8-May-08 | 37.60 | 898.69 | 14.50 | 1594 | 3.99 | 112.5 | 4.71 | 6.90 | 1200 J | - | - | - | |
| 8-Aug-08 | 46.98 | 889.31 | 13.27 | 1617 | 2.49 | 105.3 | 5.32 | 6.96 | 1200 J | 7.82 | 1 U | 5570 | |
| 1-Nov-08 | 43.35 | 892.94 | 11.17 | 1096 | 7.29 | 127.1 | 47.30 | 7.70 | 1100 | 9.8 | 1 U | 5610 | |
| 11-Feb-09 | 37.00 | 899.29 | 10.28 | 1112 | 4.15 | - | 7.68 | 7.25 | 1100 | 7.52 | 1 U | 5560 | |
| 9-May-09 | 36.53 | 899.76 | 13.87 | 1209 | 2.93 | 89.0 | 5.45 | 7.41 | 990 J | 7.57 | 1 U | 5580 | |
| 24-Sep-09 | 53.61 | 882.68 | 12.10 | 1328 | 1.98 | 331.0 | 3.26 | 6.92 | 1200 | 7.9 | 2 U | 5700 | |
| 14-Dec-09 | 33.72 | 902.57 | 10.20 | 1519 | 0.55 | 393.0 | 2.82 | 6.99 | 1100 | 3.4 | 2 U | 5700 | |
| 22-Mar-10 | 35.11 | 901.18 | 10.90 | 1463 | - | 508.0 | 3.95 | 6.94 | 1200 | 10 | 2 U | 5600 | |
| 15-Jun-10 | 33.26 | 903.03 | 11.00 | 1485 | 0.20 | 210.3 | 1.50 | 7.02 | 1100 | 11 | 2 U | 5900 | |
| 20-Sep-10 | 45.81 | 890.48 | 11.30 | 1484 | 0.06 | 159.7 | 0.91 | 6.98 | 1100 | 9.1 | 0.48 J | 6000 | |
| 6-Dec-10 | 36.20 | 900.09 | 10.70 | 1494 | 0.08 | 35.4 | 0.24 | 7.21 | 1200 | 6.8 | 0.48 J | 5200 | |
| 28-Mar-11 | 35.07 | 901.22 | 10.70 | 749 | 0.08 | 136.8 | 0.16 | 6.88 | 1100 | 6.8 | 2 U | 5500 | |
| 20-Jun-11 | 38.53 | 897.76 | 11.40 | 1439 | 0.08 | -19.2 | 0.21 | 6.99 | 1400 | 4.6 J | 2 U | 5500 | |
| 26-Sep-11 | 50.43 | 885.86 | 11.20 | 1249 | 0.07 | 38.5 | 0.41 | 7.01 | 1200 | 4.5 J | 2 U | 5700 | |
| 13-Dec-11 | 51.30 | 884.99 | 10.40 | 1308 | 0.06 | 50.3 | 2.03 | 7.07 | 530 | 7.6 | 2 U | 6100 | |
| 22-Mar-12 | 43.75 | 892.54 | 10.60 | 1695 | 0.08 | 125.1 | 0.28 | 6.99 | 1200 | 12 | 2 U | 5700 | |
| 18-Jun-12 | 44.86 | 891.43 | Monitored Semiannually ¹ | | | | | | | | | | |
| 18-Sep-12 | 55.74 | 880.55 | 12.90 | 1506 | 0.05 | 99.5 | 0.36 | 7.08 | 1300 | 10 | 0.4 U | 5800 | |
| 18-Dec-12 | 41.94 | 894.35 | Monitored Semiannually ¹ | | | | | | | | | | |
| 21-Feb-13 | 37.86 | 898.43 | 10.40 | 1730 | 0.02 | 131.5 | 0.41 | 7.27 | 1200 | 13 | 0.4 U | 6300 | |
| 22-May-13 | 39.34 | 896.95 | Monitored Semiannually ¹ | | | | | | | | | | |
| 20-Aug-13 | 49.40 | 886.89 | 11.90 | 1707 | 0.05 | -37.6 | 0.69 | 7.00 | 1240 | 10.2 | 0.1 U | 6000 | |
| 19-Nov-13 | 44.94 | 891.35 | Monitored Semiannually ¹ | | | | | | | | | | |
| 31-Mar-14 | 33.31 | 902.98 | 11.20 | 1256 | 0.01 | 103.5 | 0.27 | 7.00 | 1200 | 13.1 | 0.1 U | 6580 | |
| 21-May-14 | 33.37 | 902.92 | Monitored Semiannually ¹ | | | | | | | | | | |
| 15-Aug-14 | 45.31 | 890.98 | 13.43 | 1467 | 0.71 | -1.1 | 2.32 | 6.79 | 1150 | 13.4 | 0.1 U | 6100 | |
| 14-Nov-14 | 44.83 | 891.46 | Monitored Semiannually ¹ | | | | | | | | | | |
| 10-Feb-15 | 35.97 | 900.32 | 11.00 | 1423 | 0.04 | -109.4 | 2.16 | 7.00 | 1200 | 13 | 0.1 U | 6260 | |
| 4-May-15 | 38.67 | 897.62 | Monitored Semiannually ¹ | | | | | | | | | | |
| 4-Aug-15 | 49.21 | 887.08 | 12.50 | 1253 | 0.04 | -100.7 | 0.26 | 7.07 | 1230 | 13.9 | 0.1 U | 6070 | |
| 5-Nov-15 | 56.85 | 879.44 | 11.20 | 1159 | 0.02 | 57.4 | 0.91 | 6.75 | 1190 | 14.9 | 0.1 U | 6990 | |
| 8-Feb-16 | 33.02 | 903.27 | 11.60 | 1429 | 0.00 | 167.6 | 0.10 | 7.05 | 1190 | 19.4 | 0.1 U | 6730 | |
| 2-May-16 | 37.48 | 898.81 | Monitored Semiannually ² | | | | | | Monitored Annually ² | | | | |
| 22-Aug-16 | 49.78 | 886.51 | 12.10 | 1232 | 0.06 | -143.8 | 0.77 | 7.00 | Monitored Annually ² | | | | |
| 1-Nov-16 | 47.49 | 888.80 | Monitored Semiannually ² | | | | | | Monitored Annually ² | | | | |
| 31-Jan-17 | 35.57 | 900.72 | 11.10 | 1620 | 0.05 | -241.6 | 0.24 | 6.99 | 1260 | 21.8 | 0.1 U | 6690 | |
| 30-May-17 | 34.70 | 901.59 | Monitored Semiannually ² | | | | | | Monitored Annually ² | | | | |
| 16-Aug-17 | 44.32 | 891.97 | 11.90 | 1621 | 0.12 | -144.5 | 0.47 | 6.97 | Monitored Annually ² | | | | |
| 9-Nov-17 | 44.71 | 891.58 | Monitored Semiannually ² | | | | | | Monitored Annually ² | | | | |
| 28-Feb-18 | 32.04 | 904.25 | 10.70 | 1278 | 0.16 | -58.5 | 0.11 | 6.82 | 1244 | 22.4 | 0.1 U | 6530 | |
| 1-May-18 | 33.99 | 902.30 | Monitored Semiannually ² | | | | | | Monitored Annually ² | | | | |
| 22-Aug-18 | 47.95 | 888.34 | 11.97 | 1246 | 1.17 | 4.10 | 0.17 | 6.88 | Monitored Annually ² | | | | |



Table A-4a: Summary of Dale Strip Pit - Bedrock Groundwater Sampling Results - Well MWB-1SDSP Ravensdale Site, Ravensdale, Washington

| Date Sampled | Field Parameters | | | | | | | | Gen. Chem. | Metals (ug/L) | | |
|--|----------------------------|-------------------------------------|-------------------------------------|-------------------------|-------------------------|--|-----------------|---------------------|---------------------------------|-------------------------------|---------|------|
| | Depth to Water (feet btoc) | Groundwater Elevation (feet NAVD88) | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Oxidation Reduction Potential (Rel mV) | Turbidity (NTU) | pH (standard units) | | Total Dissolved Solids (mg/L) | Arsenic | Lead |
| Preliminary Screening Level ^a | - | - | - | - | - | - | - | 6.5-8.5 | - | 8 | 2.1 | - |
| 6-Nov-18 | 52.94 | 883.35 | Monitored Semiannually ² | | | | | | Monitored Annually ² | | | |
| 12-Mar-19 | 33.09 | 903.20 | 10.40 | 1157 | 0.55 | -23.0 | 0.62 | 6.81 | 1200 | 20.7 | 0.1 U | 951 |
| 8-May-19 | 34.37 | 901.92 | Monitored Semiannually ² | | | | | | Monitored Annually ² | | | |
| 27-Aug-19 | 47.88 | 888.41 | 12.51 | 1314 | 0.15 | Note 1 | 0.39 | 6.80 | Monitored Annually ² | | | |
| 13-Nov-19 | 47.03 | 889.26 | Monitored Semiannually ² | | | | | | Monitored Annually ² | | | |
| 14-Feb-20 | 31.08 | 905.21 | 10.60 | 1249 | 0.38 | -82.2 | 0.10 | 6.61 | 1230 | 18.3 | 0.1 U | 6360 |
| 13-Aug-20 | 43.99 | 892.30 | 11.70 | 1176 | 0.56 | -67.7 | 0.18 | 6.78 | Monitored Annually ² | | | |
| 9-Dec-20 | 39.67 | 896.62 | Monitored Semiannually ² | | | | | | Monitored Annually ² | | | |
| 5-Mar-21 | 34.96 | 901.33 | 11.00 | 1257 | 0.26 | -38 | 0.24 | 6.95 | 1200 | 19.5 | 0.1 U | 6150 |
| 10-Jun-21 | 42.65 | 893.64 | Monitored Semiannually ² | | | | | | Monitored Annually ² | | | |
| 18-Oct-21 | 55.97 | 880.32 | 11.7 | 858 | 0.86 | -92.3 | 0.48 | 6.84 | Monitored Annually ² | | | |
| 5-Jan-22 | 33.64 | 902.65 | Monitored Semiannually ² | | | | | | Monitored Annually ² | | | |
| 18-Mar-22 | 38.2 | 898.09 | 11.5 | 1096 | 1.17 | -40.8 | 0.31 | 7.18 | 1260 | 16.6 | 0.1 U | 6400 |
| 21-Jun-22 | 35.46 | 900.83 | Monitored Semiannually ² | | | | | | Monitored Annually ² | | | |
| 13-Sep-22 | 44.37 | 891.92 | 11.8 | 1122 | 2.97 | 6.4 | 4.73 | 6.42 | Monitored Annually ² | | | |
| 12-Dec-22 | 42.96 | 893.33 | Monitored Semiannually ² | | | | | | Monitored Annually ² | | | |
| 16-Mar-23 | 34.48 | 901.81 | 11.5 | 1633 | 0.21 | -28.9 | 0.42 | 6.88 | 1200 | 16.5 | 0.1 U | 5580 |
| 26-Jun-23 | 39.87 | 896.42 | Monitored Semiannually ² | | | | | | Monitored Annually ² | | | |

Notes:

Top of casing elevation (feet NAVD88): 936.29

Dissolved metals were analyzed at the Site until December 2020 (Q4 2020). Total metals were analyzed for Q4 2020 and will continue to be analyzed moving forward. Iron and manganese are not included in the COPCs at the Site and are not analyzed beginning in Q2 2021. Antimony and Vanadium were included as COPCs for surface water locations and shallow/alluvial groundwater monitoring wells at the Site beginning in Q3 2021.

- Not measured or not available

Orange shaded values indicate parameter results above the Preliminary Screening Level (PSL), except for pH, which could be above or below the PSL.

1 Reduction in monitoring frequency approved by Public Health – Seattle and King County in a letter to Golder Associates Inc. dated May 16, 2012

2 Reduction in monitoring frequency approved by Public Health – Seattle and King County in a letter to Golder Associates Inc. dated April 7, 2016. Field parameters collected semi-annually, analytical samples collected annually. Sampling schedule follows the Golder 2021 RI Work Plan starting in Q3 2021.

a Preliminary Cleanup Level (PCUL) provided by Ecology 30 Sept 2022

U Data validation code; not detected at the Reporting Limit (RL)

J Data validation code; estimated value

J+ Data validation code; estimated value with positive bias

°C Degrees Celsius

Note 1 ORP measurements not available due to faulty sensor.

µmhos/cm Micromhos per centimeter

feet bmp Feet below measuring point

feet NAVD88 Feet NAVD88 Datum

mg/L Milligrams per liter

mV Millivolts

NTU Nephelometric Turbidity Unit

**Table A-4b: Summary of Dale Strip Pit - Bedrock Groundwater Sampling Results - Well MWB-1DDSP
Ravensdale Site, Ravensdale, Washington**

| Date Sampled | Field Parameters | | | | | | | | Gen. Chem. Total Dissolved Solids (mg/L) | Metals (ug/L) | | | |
|--|----------------------------|-------------------------------------|-------------------------------------|-------------------------|-------------------------|--|-----------------|---------------------|---|---------------|--------|-----------|--|
| | Depth to Water (feet btoc) | Groundwater Elevation (feet NAVD88) | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Oxidation Reduction Potential (Rel mV) | Turbidity (NTU) | pH (standard units) | | Arsenic | Lead | Potassium | |
| Preliminary Screening Level ^a | - | - | - | - | - | - | - | 6.5-8.5 | - | 8 | 2.1 | - | |
| 2-Dec-02 | 87.28 | 848.09 | 11.1 | 557 | - | - | - | 7.72 | 540 | 32.7 | 0.5 U | - | |
| 3-Mar-03 | 48.63 | 886.74 | 12.0 | 623 | - | - | 24.00 | 7.48 | 370 | 7.08 | - | - | |
| 3-May-03 | 47.12 | 888.25 | 12.1 | 548 | - | - | 264.00 | 7.54 | 440 | - | - | - | |
| 3-Aug-03 | 64.60 | 870.77 | 23.23 | 675 | - | - | 195.00 | 7.36 | 450 | - | - | - | |
| 1-Nov-03 | 66.14 | 869.23 | 11.0 | 400 | - | - | 15.50 | 8.10 | 437 | 6.03 | 0.5 U | - | |
| 1-Feb-04 | 46.55 | 888.82 | 10.68 | 455 | - | - | 8.70 | 7.15 | 440 | - | - | - | |
| 1-May-04 | 55.82 | 879.55 | 13.61 | 508 | - | - | 12.40 | 7.58 | 429 | - | - | - | |
| 1-Aug-04 | 61.89 | 873.48 | 13.15 | 585 | - | - | 15.70 | 7.47 | 399 | - | - | - | |
| 1-Nov-04 | 56.83 | 878.54 | 10.94 | 655 | - | - | 9.40 | 7.22 | 477 | 3.08 | 1 U | - | |
| 1-Feb-05 | 47.31 | 888.06 | 12.80 | 778 | - | - | 8.39 | 7.35 | 451 | - | - | - | |
| 1-May-05 | 48.60 | 886.77 | 12.86 | 743 | - | - | 4.22 | 7.25 | 432 | - | - | - | |
| 1-Aug-05 | 56.80 | 878.57 | 14.17 | 746 | - | - | 3.10 | 6.99 | 518 | - | - | - | |
| 1-Nov-05 | 66.85 | 868.52 | 10.20 | 702 | - | - | 5.36 | 7.11 | 470 | 3.6 | 1 U | - | |
| 1-Feb-06 | 47.88 | 887.49 | 10.11 | 648 | 0.71 | 109.4 | 2.72 | 7.53 | 450 J | - | - | - | |
| 1-May-06 | 52.23 | 883.14 | 12.22 | 686 | 1.82 | 43.7 | 3.68 | 7.43 | 450 | - | - | - | |
| 1-Aug-06 | 59.41 | 875.96 | 12.28 | 665 | 1.06 | -74.0 | 14.20 | 7.36 | 480 | - | - | - | |
| 1-Nov-06 | 61.84 | 873.53 | - | - | - | - | - | - | - | - | - | - | |
| 28-Dec-06 | 48.26 | 887.11 | - | - | - | - | - | - | - | - | - | - | |
| 7-Feb-07 | 49.64 | 885.73 | - | - | - | - | - | - | - | - | - | - | |
| 7-May-07 | 53.24 | 882.13 | 12.44 | 722 | 0.74 | -150.8 | 6.06 | 7.94 | 470 | - | - | - | |
| 7-Aug-07 | 60.45 | 874.92 | 13.76 | 712 | 0.79 | -50.0 | 4.53 | 7.28 | 500 | - | - | - | |
| 27-Nov-07 | 63.40 | 871.97 | 14.41 | 711 | 0.45 | -194.4 | 7.07 | 7.34 | 470 J | 2.89 | 1 U | - | |
| 8-Feb-08 | 49.23 | 886.14 | 14.07 | 737 | 0.62 | - | 6.28 | 7.46 | 500 | - | - | - | |
| 8-May-08 | 51.31 | 884.06 | 13.52 | 793 | 0.55 | 27.9 | 4.42 | 7.40 | 520 J | - | - | - | |
| 8-Aug-08 | 59.69 | 875.68 | 13.73 | 812 | 0.67 | -24.7 | 9.33 | 7.37 | 560 J | 2.26 | 1 U | 3000 U | |
| 1-Nov-08 | 57.38 | 877.99 | 14.75 | 619 | 0.89 | -42.5 | 4.40 | 7.45 | 480 | 2.22 | 1 U | 3000 U | |
| 10-Feb-09 | 50.92 | 884.45 | 6.50 | 618 | 10.51 | - | 655.00 | 7.69 J | 530 | 2.19 | 1 U | 3010 | |
| 9-May-09 | 51.25 | 884.12 | 13.95 | 637 | 2.21 | 39.3 | 5.87 | 7.74 | 540 J | 2.42 | 1 U | 3000 U | |
| 25-Sep-09 | 65.46 | 869.91 | 13.20 | 678 | 2.25 | 331.8 | 2.29 | 7.15 | 570 | 1.8 J | 2 U | 3300 | |
| 17-Dec-09 | 49.40 | 885.97 | 10.60 | 794 | 0.99 | 224.0 | 3.97 | 7.58 | 440 | 0.7 J | 2 U | 3200 J | |
| 22-Mar-10 | 49.18 | 886.19 | 10.40 | 762 | - | 245.0 | 0.74 | 7.39 | 580 | 4.5 | 2 U | 3200 J | |
| 15-Jun-10 | 46.88 | 888.49 | 12.10 | 762 | 0.05 | 142.1 | 0.47 | 7.50 | 420 | 5.5 | 2 U | 3300 | |
| 20-Sep-10 | 58.97 | 876.40 | 11.40 | 765 | 0.07 | 89.6 | 0.47 | 7.47 | 520 | 4.7 | 0.27 J | 3400 | |
| 6-Dec-10 | 50.66 | 884.71 | 10.20 | 763 | 0.19 | 58.9 | 0.32 | 7.72 | 550 | 1.3 J | 2 U | 3200 J | |
| 28-Mar-11 | 48.89 | 886.48 | 10.50 | 376 | 0.55 | 165.0 | 0.73 | 7.53 | 470 | 3.7 | 2 U | 3000 J | |
| 20-Jun-11 | 52.13 | 883.24 | 13.40 | 718 | 0.45 | -65.1 | 0.75 | 7.53 | 600 J | 5 U | 2 U | 3500 | |
| 26-Sep-11 | 63.02 | 872.35 | 11.80 | 633 | 1.73 | -6.0 | 1.72 | 7.61 | 560 | 5 U | 2 U | 3500 | |
| 13-Dec-11 | 63.88 | 871.49 | 8.60 | 678 | 0.69 | -24.7 | 1.95 | 7.56 | 530 | 5.7 | 2 U | 4100 | |
| 22-Mar-12 | 56.96 | 878.41 | 5.60 | 877 | 1.89 | -26.6 | 0.84 | 7.69 | 540 | 3.4 | 0.4 U | 3000 J | |
| 18-Jun-12 | 58.01 | 877.36 | Monitored Semiannually ¹ | | | | | | | | | | |
| 18-Sep-12 | 67.78 | 867.59 | 26.30 | 838 | 3.62 | 12.4 | 1.27 | 7.70 | 540 | 3.1 | 0.4 U | 3100 J | |
| 18-Dec-12 | 56.10 | 879.27 | Monitored Semiannually ¹ | | | | | | | | | | |
| 21-Feb-13 | 51.62 | 883.75 | 4.30 | 895 | 7.54 | 31.3 | 0.83 | 8.04 | 510 | 3.6 | 0.4 U | 3600 | |
| 22-May-13 | 53.14 | 882.23 | Monitored Semiannually ¹ | | | | | | | | | | |
| 20-Aug-13 | 62.35 | 873.02 | 12.30 | 526 | 0.08 | -60.4 | 2.91 | 7.47 | 585 | 3.2 | 0.1 U | 3200 | |
| 19-Nov-13 | 58.70 | 876.67 | Monitored Semiannually ¹ | | | | | | | | | | |
| 31-Mar-14 | 46.60 | 888.77 | 11.10 | 622 | 0.04 | 48.4 | 0.45 | 7.52 | 561 | 1.8 | 0.1 U | 3340 | |
| 21-May-14 | 46.96 | 888.41 | Monitored Semiannually ¹ | | | | | | | | | | |
| 15-Aug-14 | 58.62 | 876.75 | 12.48 | 732 | 0.90 | -62.4 | 2.04 | 7.16 | 564 | 2 | 0.2 | 3140 | |
| 14-Nov-14 | 59.59 | 875.78 | Monitored Semiannually ¹ | | | | | | | | | | |
| 10-Feb-15 | 49.61 | 885.76 | 10.90 | 717 | 0.03 | -114.4 | 1.82 | 7.48 | 551 | 2.9 | 0.1 U | 3270 | |
| 4-May-15 | 52.25 | 883.12 | Monitored Semiannually ¹ | | | | | | | | | | |
| 4-Aug-15 | 61.71 | 873.66 | 12.00 | 618 | 0.04 | -115.0 | 0.35 | 7.56 | 552 | 3 | 0.1 U | 3360 | |
| 5-Nov-15 | 68.72 | 866.65 | 11.10 | 625 | 0.05 | 27.5 | 1.26 | 7.21 | 603 | 1.6 | 0.1 U | 3590 | |
| 8-Feb-16 | 46.93 | 888.44 | 11.40 | 794 | 0.00 | 155.1 | 0.17 | 7.57 | 599 | 2.1 | 0.1 U | 3800 | |
| 2-May-16 | 50.77 | 884.60 | Monitored Semiannually ² | | | | | | Monitored Annually ² | | | | |
| 22-Aug-16 | 62.11 | 873.26 | 11.60 | 770 | 0.04 | -251.0 | 0.86 | 7.50 | Monitored Annually ² | | | | |
| 1-Nov-16 | 61.71 | 873.66 | Monitored Semiannually ² | | | | | | Monitored Annually ² | | | | |
| 31-Jan-17 | 49.02 | 886.35 | 10.60 | 916 | 0.13 | -310.4 | 0.35 | 7.47 | 676 | 1.87 | 0.1 U | 3410 | |
| 30-May-17 | 48.11 | 887.26 | Monitored Semiannually ² | | | | | | Monitored Annually ² | | | | |
| 16-Aug-17 | 57.17 | 878.20 | 11.80 | 898 | 0.12 | -210.9 | 0.22 | 7.42 | Monitored Annually ² | | | | |
| 9-Nov-17 | 58.71 | 876.66 | Monitored Semiannually ² | | | | | | Monitored Annually ² | | | | |
| 28-Feb-18 | 45.21 | 890.16 | 10.20 | 758 | 0.19 | -166.6 | 0.20 | 7.26 | 694 | 2.87 | 0.1 U | 3340 | |
| 1-May-18 | 47.40 | 887.97 | Monitored Semiannually ² | | | | | | Monitored Annually ² | | | | |
| 22-Aug-18 | 60.25 | 875.12 | 11.58 | 705 | 2.22 | -153.0 | 0.14 | 7.37 | Monitored Annually ² | | | | |

Table A-4b: Summary of Dale Strip Pit - Bedrock Groundwater Sampling Results - Well MWB-1DDSP Ravensdale Site, Ravensdale, Washington

| Date Sampled | Field Parameters | | | | | | | | Gen. Chem. | Metals (ug/L) | | |
|--|----------------------------|-------------------------------------|-------------------------------------|-------------------------|-------------------------|--|-----------------|---------------------|---------------------------------|-------------------------------|---------|------|
| | Depth to Water (feet btoc) | Groundwater Elevation (feet NAVD88) | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Oxidation Reduction Potential (Rel mV) | Turbidity (NTU) | pH (standard units) | | Total Dissolved Solids (mg/L) | Arsenic | Lead |
| Preliminary Screening Level ^a | - | - | - | - | - | - | - | 6.5-8.5 | - | 8 | 2.1 | - |
| 6-Nov-18 | 65.30 | 870.07 | Monitored Semiannually ² | | | | | | Monitored Annually ² | | | |
| 12-Mar-19 | 46.35 | 889.02 | 9.80 | 707 | 0.58 | -119.9 | 0.16 | 7.24 | 668 | 4.96 | 0.1 U | 4210 |
| 8-May-19 | 47.20 | 888.17 | Monitored Semiannually ² | | | | | | Monitored Annually ² | | | |
| 27-Aug-19 | 59.87 | 875.50 | 11.95 | 762 | 0.39 | Note 1 | 0.02 | 7.20 | Monitored Annually ² | | | |
| 13-Nov-19 | 60.20 | 875.17 | Monitored Semiannually ² | | | | | | Monitored Annually ² | | | |
| 14-Feb-20 | 44.28 | 891.09 | 10.30 | 760 | 0.30 | -169.3 | 1.09 | 7.11 | 717 | 4.56 | 0.1 U | 4070 |
| 13-Aug-20 | 57.57 | 877.80 | 11.10 | 739 | 0.91 | -145.8 | 0.31 | 7.17 | Monitored Annually ² | | | |
| 9-Dec-20 | 54.25 | 881.12 | Monitored Semiannually ² | | | | | | Monitored Annually ² | | | |
| 5-Mar-21 | 48.74 | 886.63 | 10.70 | 724 | 0.27 | -222 | 0.61 | 7.36 | 592 | 4.06 | 0.1 U | 3880 |
| 10-Jun-21 | 59.90 | 875.47 | Monitored Semiannually ² | | | | | | Monitored Annually ² | | | |
| 18-Oct-21 | 67.32 | 868.05 | 11.60 | 561 | 0.83 | -149 | 0.33 | 7.23 | Monitored Annually ² | | | |
| 5-Jan-22 | 47.77 | 887.60 | Monitored Semiannually ² | | | | | | Monitored Annually ² | | | |
| 18-Mar-22 | 48.37 | 887 | 11.3 | 741 | 1.2 | -93.4 | 0.39 | 7.52 | 781 | 4.64 | 0.1 U | 4240 |
| 21-Jun-22 | 49.68 | 885.69 | Monitored Semiannually ² | | | | | | Monitored Annually ² | | | |
| 13-Sep-22 | 57.47 | 877.9 | 11.9 | 778 | 2.5 | -91 | 0.45 | 6.84 | Monitored Annually ² | | | |
| 12-Dec-22 | 57.68 | 877.69 | Monitored Semiannually ² | | | | | | Monitored Annually ² | | | |
| 16-Mar-23 | 48.34 | 887.03 | 11.7 | 1110 | 0.29 | -89.5 | 0.38 | 7.19 | 783 | 5.45 | 0.1 U | 3870 |
| 26-Jun-23 | 53.28 | 882.09 | Monitored Semiannually ² | | | | | | Monitored Annually ² | | | |

Notes:

Top of casing elevation (feet NAVD88): 935.37

Dissolved metals were analyzed at the Site until December 2020 (Q4 2020). Total metals were analyzed for Q4 2020 and will continue to be analyzed moving forward. Iron and manganese are not included in the COPCs at the Site and are not analyzed beginning in Q2 2021. Antimony and Vanadium were included as COPCs for surface water locations and shallow/alluvial groundwater monitoring wells at the Site beginning in Q3 2021.

- Not measured or not available

Orange shaded values indicate parameter results above the Preliminary Screening Level (PSL), except for pH, which could be above or below the PSL.

1 Reduction in monitoring frequency approved by Public Health – Seattle and King County in a letter to Golder Associates Inc. dated May 16, 2012

2 Reduction in monitoring frequency approved by Public Health – Seattle and King County in a letter to Golder Associates Inc. dated April 7, 2016. Field parameters collected semi-annually, analytical samples collected annually. Sampling schedule follows the Golder 2021 RI Work Plan starting in Q3 2021.

a Preliminary Cleanup Level (PCUL) provided by Ecology 30 Sept 2022

U Data validation code; not detected at the Reporting Limit (RL)

J Data validation code; estimated value

J+ Data validation code; estimated value with positive bias

°C Degrees Celsius

Note 1 ORP measurements not available due to faulty sensor.

µmhos/cm Micromhos per centimeter

feet bmp Feet below measuring point

feet NAVD88 Feet NAVD88 Datum

mg/L Milligrams per liter

mV Millivolts

NTU Nephelometric Turbidity Unit

**Table A-4c: Summary of Dale Strip Pit - Bedrock Groundwater Sampling Results - Well MWB-5DSP
Ravensdale Site, Ravensdale, Washington**

| Date Sampled | Field Parameters | | | | | | | | Gen. Chem. | Metals (ug/L) | | | |
|--|----------------------------|-------------------------------------|-------------------------------------|-------------------------|-------------------------|--|-----------------|---------------------|---------------------------------|-------------------------------|---------------------------------|--------|-----------|
| | Depth to Water (feet btoc) | Groundwater Elevation (feet NAVD88) | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Oxidation Reduction Potential (Rel mV) | Turbidity (NTU) | pH (standard units) | | Total Dissolved Solids (mg/L) | Arsenic | Lead | Potassium |
| Preliminary Screening Level ^a | - | - | - | - | - | - | - | 6.5-8.5 | - | 8 | 2.1 | - | |
| 18-Dec-06 | 20.56 | 914.49 | 11.30 | 1054 | 0.59 | -10.5 | 6.76 | 7.01 | 630 | 4.46 | 1 U | - | |
| 7-Jan-07 | 18.48 | 916.57 | 12.53 | 700 | 0.61 | -70.6 | 33.50 | 7.11 | 540 | 5.19 | 1 U | - | |
| 7-Feb-07 | 21.53 | 913.52 | 11.59 | 557 | 0.57 | -59.1 | 33.50 | 6.88 | 530 | 5.19 | 1 U | - | |
| 7-Mar-07 | 15.34 | 919.71 | 11.71 | 817 | 0.45 | -2.4 | 91.20 | 6.52 | 550 J | 4.91 | 1 U | - | |
| 7-Apr-07 | 17.97 | 917.08 | 11.96 | 909 | 0.25 | 0.2 | 121.00 | 6.91 | 560 | 4.75 | 1 U | - | |
| 1-May-07 | 26.92 | 908.13 | 12.55 | 880 | 4.20 | -14.3 | 63.70 | 7.13 | 540 | 4.9 | 1 U | - | |
| 7-Jun-07 | 29.94 | 905.11 | 13.12 | 1016 | 3.20 | -5.6 | 3.58 | 7.52 | 600 J | 4.37 | 1 U | - | |
| 7-Jul-07 | 35.27 | 899.78 | 13.00 | 910 | 1.74 | -27.4 | 9.97 | 7.24 | 550 | 4.91 | 1 U | - | |
| 7-Aug-07 | 39.55 | 895.50 | 12.40 | 1065 | 0.92 | -14.6 | 4.62 | 6.99 | 590 | 4.46 | 1 U | - | |
| 7-Sep-07 | 44.69 | 890.36 | 12.36 | 696 | 0.68 | -33.3 | 3.22 | 7.29 | 590 | 4.92 | 1 U | - | |
| 26-Oct-07 | 38.90 | 896.15 | 11.46 | 667 | 0.56 | -18.3 | 22.60 | 6.98 | 620 J | 4.43 | 1 U | - | |
| 27-Nov-07 | 38.79 | 896.26 | 11.71 | 914 | 0.56 | -46.7 | 3.32 | 6.91 | 560 J | 4.9 | 1 U | - | |
| 12-Dec-07 | 35.33 | 899.72 | 12.61 | 909 | 0.53 | -27.3 | 4.28 | 6.87 | 820 | 4.09 | 1 U | - | |
| 24-Jan-08 | 28.97 | 906.08 | 10.72 | 872 | 0.78 | -49.1 | - | 7.14 | 550 | 4.72 | 1 U | - | |
| 8-Feb-08 | 26.00 | 909.05 | 11.25 | 888 | 0.44 | - | 4.18 | 6.85 | 550 | 4.5 | 1 U | - | |
| 8-Mar-08 | 26.03 | 909.02 | 10.94 | 915 | 0.59 | -95.6 | 3.19 | 6.89 | 550 | 5.21 | 1 U | - | |
| 8-Apr-08 | 25.03 | 910.02 | 11.27 | 931 | 0.61 | -20.1 | 3.44 | 6.89 | 550 J | 4.88 | 1 U | - | |
| 8-May-08 | 27.33 | 907.72 | 11.68 | 949 | 0.68 | -6.7 | 5.37 | 6.62 | 580 J | 5.34 | 1 U | - | |
| 8-Jun-08 | 28.38 | 906.67 | 11.40 | 948 | 0.75 | -50.4 | 1.59 | 6.68 | 580 J | 4.45 | 1 U | - | |
| 8-Aug-08 | 39.80 | 895.25 | 11.80 | 970 | 0.68 | -78.6 | 1.72 | 6.84 | 610 J | 4.64 | 1 U | 3000 U | |
| 1-Nov-08 | 33.96 | 901.09 | 11.20 | 682 | 0.63 | -115.4 | 0.95 | 6.82 | 540 | 4.8 | 1 U | 3000 U | |
| 10-Feb-09 | 25.56 | 909.49 | 10.54 | 671 | 0.71 | -71.7 | 0.98 | 7.05 | 610 | 4.73 | 1 U | 3000 U | |
| 9-May-09 | 25.79 | 909.26 | 11.23 | 682 | 0.55 | -5.8 | 0.86 | 7.68 | 560 J | 3.4 | 1 U | 3000 U | |
| 22-Sep-09 | 46.68 | 888.37 | 18.70 | 737 | 0.64 | 214.5 | 0.99 | 6.91 | 580 J | 3.9 | 2 U | 2700 J | |
| 14-Dec-09 | 30.45 | 904.60 | 9.80 | 901 | 0.18 | 200.0 | 0.70 | 6.96 | 450 | 1.7 J | 2 U | 2500 J | |
| 23-Mar-10 | 19.92 | 915.13 | 11.30 | 773 | 0.25 | 148.0 | 4.40 | 6.86 | 510 | 5.6 | 2 U | 2600 J | |
| 15-Jun-10 | 16.74 | 918.31 | 11.00 | 838 | 0.10 | 202.3 | 2.89 | 7.01 | 860 J | 8.2 | 2 U | 2800 J | |
| 20-Sep-10 | 33.31 | 901.74 | 11.20 | 852 | 0.09 | 174.7 | 0.60 | 6.97 | 540 | 6.2 | 2 U | 2700 J | |
| 6-Dec-10 | 19.81 | 915.24 | 10.80 | 838 | 0.10 | 30.5 | 0.47 | 7.17 | 530 | 3.8 | 2 U | 2300 J | |
| 28-Mar-11 | 17.16 | 917.89 | 10.80 | 403 | 0.15 | 48.4 | 1.13 | 6.89 | 500 J | 2.3 | 2 U | 2300 J | |
| 20-Jun-11 | 18.95 | 916.10 | 11.10 | 775 | 0.05 | -29.1 | 0.37 | 7.01 | 610 J | 5 U | 2 U | 2400 J | |
| 26-Sep-11 | 33.71 | 901.34 | 11.20 | 690 | 0.03 | -8.7 | 0.54 | 7 | 560 | 4.1 J | 2 U | 2800 J | |
| 13-Dec-11 | 24.48 | 910.57 | 10.50 | 730 | 0.05 | 93.6 | 1.92 | 7.07 | 520 | 6.1 | 2 U | 2800 J | |
| 21-Mar-12 | 15.54 | 919.51 | 10.70 | 883 | 0.06 | 106.9 | 0.34 | 6.9 | 500 | 6.5 | 2 U | 2400 J | |
| 19-Jun-12 | 17.01 | 918.04 | Monitored Semiannually ¹ | | | | | | | | | | |
| 19-Sep-12 | 29.82 | 905.23 | 11.90 | 877 | 0.00 | 122.0 | 0.47 | 7.08 | 490 | 6.9 | 0.4 U | 2600 J | |
| 18-Dec-12 | 17.39 | 917.66 | Monitored Semiannually ¹ | | | | | | | | | | |
| 21-Feb-13 | 18.84 | 916.21 | 10.60 | 875 | 0.05 | 103.3 | 0.40 | 7.32 | 510 | 5.9 | 0.4 U | 2600 J | |
| 22-May-13 | 20.25 | 914.80 | Monitored Semiannually ¹ | | | | | | | | | | |
| 20-Aug-13 | 30.15 | 904.90 | 12.10 | 530 | 0.06 | -50.3 | 0.75 | 6.98 | 510 | 5.6 | 0.1 U | 2500 | |
| 19-Nov-13 | 22.73 | 912.32 | Monitored Semiannually ¹ | | | | | | | | | | |
| 31-Mar-14 | 15.50 | 919.55 | 11.30 | 574 | 0.06 | 95.7 | 0.53 | 7.15 | 447 | 5.6 | 0.1 U | 2720 | |
| 21-May-14 | 14.83 | 920.22 | Monitored Semiannually ¹ | | | | | | | | | | |
| 15-Aug-14 | 25.16 | 909.89 | 14.49 | 741 | 0.48 | -24.0 | 2.92 | 6.87 | 477 | 5.9 | 0.1 U | 2550 | |
| 14-Nov-14 | 22.25 | 912.80 | Monitored Semiannually ¹ | | | | | | | | | | |
| 10-Feb-15 | 15.98 | 919.07 | 11.40 | 693 | 0.04 | -117.5 | 0.80 | 7.13 | 503 | 5.9 | 0.1 U | 2560 | |
| 4-May-15 | 20.05 | 915.00 | Monitored Semiannually ¹ | | | | | | | | | | |
| 4-Aug-15 | 31.90 | 903.15 | 11.90 | 620 | 0.16 | -71.1 | 0.47 | 7.13 | 517 | 6.4 | 0.1 U | 2670 | |
| 5-Nov-15 | 32.00 | 903.05 | 11.40 | 605 | 0.00 | 37.5 | 1.16 | 6.84 | 511 | 5.3 | 0.1 U | 3060 | |
| 8-Feb-16 | 17.13 | 917.92 | 11.80 | 720 | 0.00 | 160.4 | 0.08 | 7.34 | 480 | 6 | 0.1 U | 3020 | |
| 2-May-16 | 23.31 | 911.74 | Monitored Semiannually ² | | | | | | | | Monitored Annually ² | | |
| 22-Aug-16 | 34.07 | 900.98 | 12.50 | 571 | 0.00 | - | 0.66 | 7.11 | Monitored Annually ² | | | | |
| 1-Nov-16 | 26.04 | 909.01 | Monitored Semiannually ² | | | | | | | | Monitored Annually ² | | |
| 31-Jan-17 | 19.36 | 915.69 | 12.20 | 808 | 0.07 | -219.2 | 0.30 | 7.21 | 509 | 6.76 | 0.1 U | 2840 | |
| 30-May-17 | 17.31 | 917.74 | Monitored Semiannually ² | | | | | | | | Monitored Annually ² | | |
| 16-Aug-17 | 28.13 | 906.92 | 12.40 | 826 | 0.12 | -71.9 | 0.66 | 7.10 | Monitored Annually ² | | | | |
| 9-Nov-17 | 27.17 | 907.88 | Monitored Semiannually ² | | | | | | | | Monitored Annually ² | | |
| 28-Feb-18 | 16.55 | 918.50 | 10.90 | 657 | 0.15 | -97.6 | 0.35 | 7.02 | 528 | 5.39 | 0.1 U | 2550 | |
| 1-May-18 | 17.69 | 917.36 | Monitored Semiannually ² | | | | | | | | Monitored Annually ² | | |
| 22-Aug-18 | 32.63 | 902.42 | 12.46 | 655 | 0.81 | -46.4 | 0.26 | 7.01 | Monitored Annually ² | | | | |
| 6-Nov-18 | 32.44 | 902.61 | Monitored Semiannually ² | | | | | | | | Monitored Annually ² | | |
| 12-Mar-19 | 18.84 | 916.21 | 10.90 | 597 | 0.56 | -28.1 | 0.86 | 6.96 | 512 | 4.51 | 0.1 U | 2890 | |
| 8-May-19 | 19.75 | 915.30 | Monitored Semiannually ² | | | | | | | | Monitored Annually ² | | |
| 27-Aug-19 | 33.26 | 901.79 | 13.08 | 688 | 0.26 | Note 1 | 0.02 | 6.89 | Monitored Annually ² | | | | |



**Table A-4c: Summary of Dale Strip Pit - Bedrock Groundwater Sampling Results - Well MWB-5DSP
Ravensdale Site, Ravensdale, Washington**

| Date Sampled | Field Parameters | | | | | | | | Gen. Chem. | Metals (ug/L) | | |
|--|----------------------------|-------------------------------------|-------------------------------------|-------------------------|-------------------------|--|-----------------|---------------------|---------------------------------|---------------|-------|-----------|
| | Depth to Water (feet btoc) | Groundwater Elevation (feet NAVD88) | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Oxidation Reduction Potential (Rel mV) | Turbidity (NTU) | pH (standard units) | Total Dissolved Solids (mg/L) | Arsenic | Lead | Potassium |
| Preliminary Screening Level ^a | - | - | - | - | - | - | - | 6.5-8.5 | - | 8 | 2.1 | - |
| 13-Nov-19 | 33.03 | 902.02 | Monitored Semiannually ² | | | | | | Monitored Annually ² | | | |
| 14-Feb-20 | 16.70 | 918.35 | 10.90 | 626 | 0.34 | -99.8 | 0.33 | 6.88 | 524 | 4.31 | 0.1 U | 2650 |
| 13-Aug-20 | 27.37 | 907.68 | 11.80 | 619 | 0.55 | -70.6 | 0.40 | 6.89 | Monitored Annually ² | | | |
| 9-Dec-20 | 24.68 | 910.37 | Monitored Semiannually ² | | | | | | Monitored Annually ² | | | |
| 5-Mar-21 | 16.91 | 918.14 | 11.30 | 641 | 0.19 | -77.0 | 0.45 | 7.09 | 473 | 4.84 | 0.1 U | 2450 |
| 10-Jun-21 | 24.68 | 910.37 | Monitored Semiannually ² | | | | | | Monitored Annually ² | | | |
| 18-Oct-21 | 29.11 | 905.94 | 11.9 | 440.1 | 0.87 | -86.2 | 0.35 | 6.96 | Monitored Annually ² | | | |
| 5-Jan-22 | 16.88 | 918.17 | Monitored Semiannually ² | | | | | | Monitored Annually ² | | | |
| 21-Mar-22 | 17.14 | 917.91 | 11.3 | 601 | 1.28 | -42.9 | 0.82 | 6.26 | 513 | 4.79 | 0.1 U | 2560 |
| 21-Jun-22 | 17.25 | 917.8 | Monitored Semiannually ² | | | | | | Monitored Annually ² | | | |
| 13-Sep-22 | 27.19 | 907.86 | 12.3 | 606 | 2.54 | -3.7 | 1.49 | 6.74 | Monitored Annually ² | | | |
| 12-Dec-22 | 24.31 | 910.74 | Monitored Semiannually ² | | | | | | Monitored Annually ² | | | |
| 16-Mar-23 | 18.62 | 916.43 | 11.7 | 846 | 0.21 | -19.7 | 0.41 | 7.03 | 497 | 4.56 | 0.1 U | 2570 |
| 26-Jun-23 | 22.23 | 912.82 | Monitored Semiannually ² | | | | | | Monitored Annually ² | | | |

Notes:

Top of casing elevation (feet NAVD88): 935.05

Dissolved metals were analyzed at the Site until December 2020 (Q4 2020). Total metals were analyzed for Q4 2020 and will continue to be analyzed moving forward. Iron and manganese are not included in the COPCs at the Site and are not analyzed beginning in Q2 2021. Antimony and Vanadium were included as COPCs for surface water locations and shallow/alluvial groundwater monitoring wells at the Site beginning in Q3 2021.

- Not measured or not available

Orange shaded values indicate parameter results above the Preliminary Screening Level (PSL), except for pH, which could be above or below the PSL.

1 Reduction in monitoring frequency approved by Public Health – Seattle and King County in a letter to Golder Associates Inc. dated May 16, 2012

2 Reduction in monitoring frequency approved by Public Health – Seattle and King County in a letter to Golder Associates Inc. dated April 7, 2016. Field parameters collected semi-annually, analytical samples collected annually. Sampling schedule follows the Golder 2021 RI Work Plan starting in Q3 2021.

a Preliminary Cleanup Level (PCUL) provided by Ecology 30 Sept 2022

U Data validation code; not detected at the Reporting Limit (RL)

J Data validation code; estimated value

J+ Data validation code; estimated value with positive bias

°C Degrees Celsius

Note 1 ORP measurements not available due to faulty sensor.

µmhos/cm Micromhos per centimeter

feet bmp Feet below measuring point

feet NAVD88 Feet NAVD88 Datum

mg/L Milligrams per liter

mV Millivolts

NTU Nephelometric Turbidity Unit

**Table A-4d: Summary of Dale Strip Pit - Bedrock Groundwater Sampling Results - Well MWB-6DSP
Ravensdale Site, Ravensdale, Washington**

| Date Sampled | Field Parameters | | | | | | | | Gen. Chem. | Metals (ug/L) | | | |
|--|----------------------------|-------------------------------------|-------------------------------------|-------------------------|-------------------------|--|-----------------|---------------------|---------------------------------|-------------------------------|---------------------------------|--------|-----------|
| | Depth to Water (feet btoc) | Groundwater Elevation (feet NAVD88) | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Oxidation Reduction Potential (Rel mV) | Turbidity (NTU) | pH (standard units) | | Total Dissolved Solids (mg/L) | Arsenic | Lead | Potassium |
| Preliminary Screening Level ^a | - | - | - | - | - | - | - | 6.5-8.5 | - | 8 | 2.1 | - | |
| 18-Dec-06 | 8.13 | 897.82 | 9.93 | 525 | 0.54 | -54.5 | 0.61 | 7.78 | 300 | 5.37 | 1 U | - | |
| 7-Feb-07 | 9.40 | 896.55 | 11.79 | 479 | 1.19 | -30.0 | 7.40 | 7.41 | 330 | 6.01 | 1 U | - | |
| 7-May-07 | 10.73 | 895.22 | 12.26 | 729 | 2.83 | -103.6 | 16.40 | 7.63 | 480 | 10.1 | 1 U | - | |
| 7-Aug-07 | 15.14 | 890.81 | 11.42 | 882 | 0.75 | -11.5 | 1.82 | 7.10 | 470 | 3.25 | 1 U | - | |
| 27-Nov-07 | 16.16 | 889.79 | 10.98 | 748 | 0.37 | -47.9 | 0.83 | 6.99 | 440 J | 2.82 | 1 U | - | |
| 8-Feb-08 | 9.66 | 896.29 | 11.01 | 645 | 0.31 | - | 0.90 | 7.05 | 380 | 2.68 | 1 U | - | |
| 8-May-08 | 10.34 | 895.61 | 11.27 | 665 | 0.64 | 13.4 | 1.52 | 6.93 | 380 J | 2.40 | 1 U | - | |
| 8-Aug-08 | 14.17 | 891.78 | 11.23 | 683 | 0.72 | -8.2 | 2.49 | 7.05 | 390 J | 2.18 | 1 U | 3000 U | |
| 1-Nov-08 | 12.98 | 892.97 | 10.61 | 488 | 0.60 | -45.6 | 1.35 | 6.80 | 380 | 2.04 | 1 U | 3000 U | |
| 10-Feb-09 | 9.64 | 896.31 | 10.32 | 398 | 0.52 | -57.0 | 1.20 | 7.31 | 350 | 2.00 | 1 U | 3000 U | |
| 9-May-09 | 9.91 | 896.04 | 10.50 | 405 | 0.73 | -4.0 | 1.26 | 7.77 | 320 J | 1.69 | 1 U | 3000 U | |
| 23-Sep-09 | 17.16 | 888.79 | 12.50 | 541 | 0.25 | 216.2 | 5.38 | 7.14 | 400 J | 0.91 J | 2 U | 1300 J | |
| 14-Dec-09 | 12.73 | 893.22 | 9.10 | 580 | 0.47 | 231.0 | 2.70 | 7.23 | 270 | 2 U | 2 U | 1300 J | |
| 22-Mar-10 | 9.62 | 896.33 | 10.90 | 504 | - | 321.7 | 3.50 | 7.22 | 320 | 2.00 | 2 U | 1200 J | |
| 15-Jun-10 | 8.30 | 897.65 | 11.00 | 495 | 0.11 | 205.1 | 1.41 | 7.29 | 320 | 4.20 | 2 U | 1300 J | |
| 20-Sep-10 | 14.90 | 891.05 | 10.90 | 560 | 0.10 | 187.2 | 0.28 | 7.29 | 270 | 3.00 | 2 U | 1400 J | |
| 6-Dec-10 | 10.47 | 895.48 | 10.50 | 515 | 0.12 | 87.8 | 0.14 | 7.47 | 300 | 2 U | 2 U | 1100 J | |
| 28-Mar-11 | 8.71 | 897.24 | 10.30 | 241 | 0.19 | 58.9 | 1.86 | 7.19 | 300 | 2 U | 2 U | 1100 J | |
| 20-Jun-11 | 9.87 | 896.08 | 10.80 | 477 | 0.06 | 141.2 | 0.20 | 7.27 | 340 | 5 U | 2 U | 1100 J | |
| 26-Sep-11 | 14.82 | 891.13 | 10.80 | 467 | 0.05 | 114.8 | 0.92 | 7.26 | 380 | 5 U | 2 U | 1500 J | |
| 13-Dec-11 | 13.02 | 892.93 | 10.20 | 491 | 0.06 | 131.3 | 1.69 | 7.29 | 340 | 5 U | 2 U | 1600 J | |
| 21-Mar-12 | 8.13 | 897.82 | 10.20 | 550 | 0.09 | 160.0 | 0.07 | 7.14 | 310 | 2.50 | 0.4 U | 1200 J | |
| 18-Jun-12 | - | - | Monitored Semiannually ¹ | | | | | | | | | | |
| 18-Sep-12 | 14.76 | 891.19 | 12.50 | 587 | 0.00 | 122.0 | 0.35 | 7.31 | 370 | 2.80 | 0.4 U | 1300 J | |
| 18-Dec-12 | 8.16 | 897.79 | Monitored Semiannually ¹ | | | | | | | | | | |
| 21-Feb-13 | 8.45 | 897.50 | 10.10 | 594 | 0.02 | 152.7 | 0.28 | 7.49 | 300 | 1.90 | 0.4 U | 1300 J | |
| 22-May-13 | 9.36 | 896.59 | Monitored Semiannually ¹ | | | | | | | | | | |
| 20-Aug-13 | 13.28 | 892.67 | 11.70 | 478 | 0.01 | -43.8 | 0.54 | 7.22 | 349 J | 1.60 | 0.1 U | 1300 | |
| 19-Nov-13 | 9.71 | 896.24 | Monitored Semiannually ¹ | | | | | | | | | | |
| 31-Mar-14 | 8.42 | 897.53 | 10.70 | 455 | 0.06 | 166.1 | 0.27 | 7.35 | 315 | 1.40 | 0.1 U | 1290 | |
| 21-May-14 | 5.99 | 899.96 | Monitored Semiannually ¹ | | | | | | | | | | |
| 14-Aug-14 | 12.03 | 893.92 | 13.45 | 512 | 0.56 | -21.4 | 1.99 | 6.95 | 317 | 1.70 | 0.1 U | 1270 | |
| 14-Nov-14 | 10.68 | 895.27 | Monitored Semiannually ¹ | | | | | | | | | | |
| 10-Feb-15 | 7.39 | 898.56 | 10.90 | 482 | 0.03 | -86.2 | 0.59 | 7.32 | 337 | 1.40 | 0.1 U | 1230 | |
| 4-May-15 | 9.17 | 896.78 | Monitored Semiannually ¹ | | | | | | | | | | |
| 4-Aug-15 | 13.64 | 892.31 | 12.40 | 449 | 0.18 | -81.7 | 0.27 | 7.33 | 385 | 1.70 | 0.1 U | 1280 | |
| 5-Nov-15 | 13.98 | 891.97 | 11.50 | 435 | 2.23 | 85.2 | 1.09 | 7.04 | 354 | 1.30 | 0.1 U | 1470 | |
| 8-Feb-16 | 6.74 | 899.21 | 11.50 | 495 | 0.03 | 187.2 | 0.25 | 7.39 | 297 | 1.40 | 0.1 U | 1350 | |
| 2-May-16 | 8.64 | 897.31 | Monitored Semiannually ² | | | | | | | | Monitored Annually ² | | |
| 22-Aug-16 | 13.27 | 892.68 | 12.20 | 559 | 0.03 | -52.7 | 0.80 | 7.28 | Monitored Annually ² | | | | |
| 1-Nov-16 | 11.36 | 894.59 | Monitored Semiannually ² | | | | | | | | Monitored Annually ² | | |
| 31-Jan-17 | 7.91 | 898.04 | 10.90 | 539 | 0.08 | 124.4 | 0.18 | 7.31 | 321 | 1.48 | 0.1 U | 1300 | |
| 30-May-17 | 2.65 | 903.30 | Monitored Semiannually ² | | | | | | | | Monitored Annually ² | | |
| 16-Aug-17 | 12.08 | 893.87 | 12.10 | 573 | 0.12 | -46.9 | 1.39 | 7.26 | Monitored Annually ² | | | | |
| 9-Nov-17 | 11.70 | 894.25 | Monitored Semiannually ² | | | | | | | | Monitored Annually ² | | |
| 28-Feb-18 | 6.50 | 899.45 | 11.00 | 423 | 0.19 | -61.0 | 0.18 | 7.12 | 138 | 1.56 | 0.1 U | 1200 | |
| 1-May-18 | 6.80 | 899.15 | Monitored Semiannually ² | | | | | | | | Monitored Annually ² | | |
| 22-Aug-18 | 13.47 | 892.48 | 11.61 | 441 | 7.44 | 26.6 | 0.21 | 7.11 | Monitored Annually ² | | | | |
| 6-Nov-18 | 13.96 | 891.99 | Monitored Semiannually ² | | | | | | | | Monitored Annually ² | | |
| 12-Mar-19 | 7.30 | 898.65 | 10.30 | 363 | 0.56 | -25.1 | 0.27 | 7.16 | 294 | 1.47 | 0.1 U | 1340 | |
| 8-May-19 | 7.77 | 898.18 | Monitored Semiannually ² | | | | | | | | Monitored Annually ² | | |
| 27-Aug-19 | 13.16 | 892.79 | 12.19 | 454 | 0.45 | Note 1 | 0.02 | 7.05 | Monitored Annually ² | | | | |
| 13-Nov-19 | 26.35 | 894.30 | Monitored Semiannually ² | | | | | | | | Monitored Annually ² | | |
| 13-Feb-20 | 20.79 | 899.86 | 10.60 | 387 | 0.39 | -76.5 | 1.05 | 7.13 | 313 | 1.40 | 0.1 U | 1330 | |
| 13-Aug-20 | 25.94 | 894.71 | 11.70 | 403 | 0.65 | -64.3 | 0.60 | 7.07 | Monitored Annually ² | | | | |
| 9-Dec-20 | 24.06 | 896.59 | Monitored Semiannually ² | | | | | | | | Monitored Annually ² | | |
| 4-Mar-21 | 21.56 | 899.09 | 10.80 | 363 | 0.16 | -9.0 | 1.29 | 7.30 | 280 | 1.10 | 0.1 U | 1240 | |

**Table A-4d: Summary of Dale Strip Pit - Bedrock Groundwater Sampling Results - Well MWB-6DSP
Ravensdale Site, Ravensdale, Washington**

| Date Sampled | Field Parameters | | | | | | | | Gen. Chem. | Metals (ug/L) | | | |
|--|--|-------------------------------------|-------------------------------------|-------------------------|-------------------------|--|-----------------|---------------------|---------------------------------|---------------|---------------------------------|-----------|--|
| | Depth to Water (feet btoc) | Groundwater Elevation (feet NAVD88) | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Oxidation Reduction Potential (Rel mV) | Turbidity (NTU) | pH (standard units) | Total Dissolved Solids (mg/L) | Arsenic | Lead | Potassium | |
| Preliminary Screening Level ^a | - | - | - | - | - | - | - | 6.5-8.5 | - | 8 | 2.1 | - | |
| 10-Jun-21 | 24.55 | 896.10 | Monitored Semiannually ² | | | | | | | | Monitored Annually ² | | |
| 18-Oct-21 | 28.08 | 892.57 | 11.6 | 273.8 | 0.96 | -73.8 | 1.38 | 7.15 | Monitored Annually ² | | | | |
| 5-Jan-22 | 21.36 | 899.29 | Monitored Semiannually ² | | | | | | | | Monitored Annually ² | | |
| 21-Mar-22 | 20.7 | 899.95 | 10.9 | 348.2 | 1.41 | 102.1 | 1.4 | 6.42 | 297 | 1.06 | 0.1 U | 1090 | |
| 21-Jun-22 | 21.51 | 899.14 | Monitored Semiannually ² | | | | | | | | Monitored Annually ² | | |
| 13-Sep-22 | Well Damaged - Unable to Sample ³ | | | | | | | | | | | | |
| 12-Dec-22 | Well Damaged - Unable to Sample ³ | | | | | | | | | | | | |
| 15-Mar-23 | 15.98 | - ³ | 10.9 | 444.1 | 1.06 | 16.4 | 1.17 | 7.11 | 251 | 1.05 | 0.1 U | 1110 | |
| 26-Jun-23 | 21.56 | - ³ | Monitored Semiannually ² | | | | | | | | Monitored Annually ² | | |

Notes:

Top of casing elevation (feet NAVD88) prior to raising casing: 905.95

Top of casing elevation (feet NAVD88) after raising casing (post-Q3 2019): 920.65

Dissolved metals were analyzed at the Site until December 2020 (Q4 2020). Total metals were analyzed for Q4 2020 and will continue to be analyzed moving forward. Iron and manganese are not included in the COPCs at the Site and are not analyzed beginning in Q2 2021. Antimony and Vanadium were included as COPCs for surface water locations and shallow/alluvial groundwater monitoring wells at the Site beginning in Q3 2021.

- Not measured or not available

Orange shaded values indicate parameter results above the Preliminary Screening Level (PSL), except for pH, which could be above or below the PSL.

1 Reduction in monitoring frequency approved by Public Health – Seattle and King County in a letter to Golder Associates Inc. dated May 16, 2012

2 Reduction in monitoring frequency approved by Public Health – Seattle and King County in a letter to Golder Associates Inc. dated April 7, 2016. Field parameters collected semi-annually, analytical samples collected annually. Sampling schedule follows the Golder 2021 RI Work Plan starting in Q3 2021.

3 MWB-6DSP was found damaged in July 2022. The well was repaired by late December 2022 and has yet to be resurveyed.

a Preliminary Cleanup Level (PCUL) provided by Ecology 30 Sept 2022

U Data validation code; not detected at the Reporting Limit (RL)

J Data validation code; estimated value

J+ Data validation code; estimated value with positive bias

°C Degrees Celsius

Note 1 ORP measurements not available due to faulty sensor.

µmhos/cm Micromhos per centimeter

feet bmp Feet below measuring point

feet NAVD88 Feet NAVD88 Datum

mg/L Milligrams per liter

mV Millivolts

NTU Nephelometric Turbidity Unit

Table A-4e: Summary of Dale Strip Pit - Bedrock Groundwater Sampling Results - Portal Ravensdale Site, Ravensdale, Washington

| Date Sampled | Field Parameters | | | | | | | | Gen. Chem. | Metals (ug/L) | | |
|--|-------------------------------------|----------------------------------|------------------|-------------------------|-------------------------|--|-----------------|---------------------|------------|-------------------------------|---------|-------|
| | Depth to Water (feet btoc) | Groundwater Elevation (feet msl) | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Oxidation Reduction Potential (Rel mV) | Turbidity (NTU) | pH (standard units) | | Total Dissolved Solids (mg/L) | Arsenic | Lead |
| Preliminary Screening Level ^a | - | - | - | - | - | - | - | 6.5-8.5 | - | 8 | 2.1 | - |
| 1-Mar-02 | - | - | - | 653 | - | - | - | 7.29 | 586 | - | - | - |
| 1-Jun-02 | - | - | 12 | 920 | - | - | - | 7.20 | 583 | - | - | - |
| 1-Sep-02 | - | - | 11 | 920 | - | - | - | 7.10 | 651 | - | - | - |
| 2-Dec-02 | - | - | 9.1 | 900 | - | - | - | 7.03 | 570 | 4.44 | 0.5 U | - |
| 3-Mar-03 | - | - | 10.1 | 873 | - | - | - | 7.09 | 530 | - | - | - |
| 3-May-03 | - | - | 11.2 | 981 | - | - | 10.00 | 6.94 | 590 | - | - | - |
| 3-Aug-03 | - | - | 12.78 | 1030 | - | - | 13.00 | 7.17 | 630 | - | - | - |
| 1-Nov-03 | - | - | 10.2 | 569 | - | - | 4.65 | 7.53 | 592 | 3.33 | 0.5 U | - |
| 1-Feb-04 | - | - | 9.31 | 568 | - | - | 5.41 | 6.85 | 560 | - | - | - |
| 1-May-04 | - | - | 10.93 | 952 | - | - | 5.98 | 7.12 | 615 | - | - | - |
| 1-Aug-04 | - | - | 12.10 | 835 | - | - | 6.29 | 7.11 | 601 | - | - | - |
| 1-Nov-04 | - | - | 10.20 | 941 | - | - | 6.58 | 6.94 | 656 | 3.41 | 1 U | - |
| 1-Feb-05 | - | - | 10.52 | 889 | - | - | 8.72 | 7.41 | 541 | - | - | - |
| 1-May-05 | - | - | 13.08 | 953 | - | - | 8.15 | 7.31 | 548 | - | - | - |
| 1-Aug-05 | - | - | 11.08 | 988 | - | - | 7.40 | 7.23 | 644 | - | - | - |
| 1-Nov-05 | - | - | 9.53 | 958 | - | - | 8.58 | 7.61 | 640 | 3.15 | 1 U | - |
| 1-Feb-06 | - | - | 9.23 | 669 | 7.88 | * | 7.93 | 6.78 | 450 J | - | - | - |
| 1-May-06 | - | - | 11.49 | 947 | 7.60 | 38.5 | 10.40 | 7.01 | 570 | - | - | - |
| 1-Aug-06 | - | - | 10.52 | 835 | 8.82 | -39.8 | 14.10 | 7.26 | 640 | - | - | - |
| 1-Nov-06 | - | - | 9.41 | 740 | 9.57 | -32.2 | 12.50 | 7.23 | 510 | 2.45 | 1 U | - |
| 7-Feb-07 | - | - | 9.90 | 815 | 10.99 | -6.2 | 27.80 | 7.74 | 510 | - | - | - |
| 7-May-07 | - | - | 18.39 | 810 | 11.05 | -6.2 | 11.80 | 7.61 | 510 | - | - | - |
| 7-Aug-07 | - | - | 10.42 | 870 | 8.72 | -44.9 | 25.20 | 7.42 | 560 | - | - | - |
| 30-Nov-07 | - | - | 9.41 | 783 | 9.56 | -18.7 | 48.30 | - | 520 | 3.17 | 1 U | - |
| 8-Feb-08 | - | - | 10.02 | 708 | 10.04 | - | 50.00 | 7.20 | 420 | - | - | - |
| 8-May-08 | - | - | 10.83 | 815 | 12.13 | 0.1 | 7.28 | 7.29 | 480 J | - | - | - |
| 8-Aug-08 | - | - | 10.63 | 906 | 11.05 | -5.6 | 11.00 | 7.05 | 560 J | 3.69 | 1 U | 41600 |
| 1-Nov-08 | - | - | 9.79 | 553 | 10.70 | -21.1 | 16.90 | 7.40 | 460 | 3.2 | 1 U | 35500 |
| 11-Feb-09 | - | - | 9.16 | 488 | 6.99 | - | 15.40 | 7.52 | 430 | 2.97 | 1 U | 34200 |
| 9-May-09 | - | - | 9.64 | 522 | 10.56 | 13.4 | 9.77 | 7.39 | 440 J | 2.01 | 1 U | 32400 |
| 23-Sep-09 | - | - | 10.70 | 745 | 8.95 | 271.7 | 14.70 | 6.88 | 570 | 2 U | 2 U | 40000 |
| 15-Dec-09 | - | - | 8.60 | 713 | 5.20 | 279.0 | 12.50 | 6.67 | 350 | 2 U | 2 U | 30000 |
| 24-Mar-10 | - | - | 9.90 | 681 | 6.14 | 370.7 | - | 6.57 | 470 | 4.2 | 2 U | 39000 |
| 17-Jun-10 | - | - | 10.00 | 623 | 9.58 | - | 26.30 | 7.50 | 380 | 5.9 | 2 U | 28000 |
| 22-Sep-10 | - | - | 10.00 | 783 | 9.02 | 225.9 | 17.40 | 7.00 | 510 | 5.2 | 2 U | 42000 |
| 7-Dec-10 | - | - | 9.90 | 662 | 9.15 | 186.0 | 13.60 | 6.95 | 450 | 2 U | 2 U | 32000 |
| 29-Mar-11 | - | - | 9.90 | 292 | 5.90 | 370.8 | 4.44 | 6.73 | 360 J | 4.1 | 2 U | 25000 |
| 20-Jun-11 | - | - | 10.50 | 591 | 6.42 | 219.1 | 4.44 | 7.01 | 420 | 5 U | 2 U | 26000 |
| 26-Sep-11 | - | - | 10.70 | 623 | 5.76 | 240.5 | 11.90 | 6.83 | 520 | 5 U | 2 U | 39000 |
| 15-Dec-11 | - | - | 8.80 | 472 | 4.92 | 310.4 | 7.32 | 6.78 | 430 | 4.7 J | 2 U | 32000 |
| 21-Mar-12 | - | - | 8.90 | 611 | 5.24 | 313.3 | 9.16 | 6.49 | 330 | 4.8 | 0.4 U | 20000 |
| 18-Jun-12 | Monitored Semiannually ¹ | | | | | | | | | | | |
| 18-Sep-12 | - | - | 14.20 | 652 | 9.70 | 148.0 | 20.80 | 7.48 | 450 | 5 | 0.4 U | 29000 |
| 18-Dec-12 | Monitored Semiannually ¹ | | | | | | | | | | | |
| 25-Feb-13 | - | - | 9.20 | 648 | 10.10 | 209.6 | 4.12 | 7.58 | 300 | 5 | 0.4 U | 25000 |
| 25-Feb-13 | Monitored Semiannually ¹ | | | | | | | | | | | |
| 21-Feb-13 | - | - | 9.20 | 648 | 10.10 | 209.6 | 4.12 | 7.58 | 300 | 5 | 0.4 U | 25000 |
| 22-May-13 | Monitored Semiannually ¹ | | | | | | | | | | | |
| 20-Aug-13 | - | - | 10.80 | 635 | 9.31 | 170.1 | 8.46 | 7.11 | 458 | 3.9 | 0.1 U | 32300 |
| 19-Nov-13 | Monitored Semiannually ¹ | | | | | | | | | | | |
| 31-Mar-14 | - | - | 10.60 | 448 | 9.29 | 213.5 | 87.20 | 7.30 | 321 | 3.7 | 0.18 J | 21100 |
| 21-May-14 | Monitored Semiannually ¹ | | | | | | | | | | | |
| 15-Aug-14 | - | - | 10.01 | 595 | 10.01 | -35.2 | 6.43 | 6.99 | 427 | 3.5 | 0.1 U | 31500 |
| 14-Nov-14 | Monitored Semiannually ¹ | | | | | | | | | | | |
| 10-Feb-15 | - | - | 10.60 | 515 | 9.88 | 183.5 | 6.84 | 7.26 | 363 | 2.8 | 0.07 J | 27200 |
| 4-May-15 | Monitored Semiannually ¹ | | | | | | | | | | | |
| 4-Aug-15 | - | - | 10.90 | 554 | 9.98 | 95.8 | 8.68 | 7.48 | 438 | 2.6 | 0.1 U | 34700 |
| 5-Nov-15 | - | - | 10.30 | 503 | 10.24 | 177.6 | 13.40 | 7.46 | 449 | 2.8 | 0.1 U | 31800 |
| 8-Feb-16 | - | - | 9.30 | 541 | 11.30 | 215.0 | 5.12 | 7.30 | 293 | 3.2 | 0.1 U | 23100 |

Table A-4e: Summary of Dale Strip Pit - Bedrock Groundwater Sampling Results - Portal Ravensdale Site, Ravensdale, Washington

| Date Sampled | Field Parameters | | | | | | | | | Gen. Chem. | Metals (ug/L) | | |
|--|-------------------------------------|----------------------------------|------------------|-------------------------|-------------------------|--|-----------------|---------------------|---------------------------------|---------------------------------|---------------|-------|-----------|
| | Depth to Water (feet btoc) | Groundwater Elevation (feet msl) | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Oxidation Reduction Potential (Rel mV) | Turbidity (NTU) | pH (standard units) | Total Dissolved Solids (mg/L) | | Arsenic | Lead | Potassium |
| Preliminary Screening Level ^a | - | - | - | - | - | - | - | 6.5-8.5 | - | 8 | 2.1 | - | |
| - | Monitored Semiannually ² | | | | | | | | | Monitored Annually ² | | | |
| 24-Aug-16 | - | - | 13.40 | 585 | 9.32 | 410.0 | 8.50 | 7.23 | Monitored Annually ² | | | | |
| 1-Nov-16 | - | - | 10.90 | 242 | 9.13 | 51.4 | 7.57 | 7.41 | Monitored Annually ² | | | | |
| 31-Jan-17 | - | - | 8.90 | 663 | 10.87 | -57.4 | 6.23 | 7.50 | 3390 | 3.97 | 0.1 U | 29200 | |
| - | Monitored Semiannually ² | | | | | | | | | Monitored Annually ² | | | |
| 17-Aug-17 | - | - | 11.40 | 712 | 9.67 | -12.4 | 9.87 | 7.30 | Monitored Annually ² | | | | |
| 9-Nov-17 | Monitored Semiannually ² | | | | | | | | | Monitored Annually ² | | | |
| 27-Feb-18 | - | - | 9.50 | 427 | 9.94 | -46.4 | 16.70 | 7.72 | 354 | 4.11 | 0.1 U | 20400 | |
| 1-May-18 | Monitored Semiannually ² | | | | | | | | | Monitored Annually ² | | | |
| 21-Aug-18 | - | - | 13.13 | 582 | 12.46 | -23.0 | 23.10 | 7.24 | Monitored Annually ² | | | | |
| 6-Nov-18 | Monitored Semiannually ² | | | | | | | | | Monitored Annually ² | | | |
| 12-Mar-19 | - | - | 8.00 | 406 | 11.35 | -2.8 | 10.70 | 7.97 | 388 | 1.56 | 0.1 U | 24700 | |
| 8-May-19 | Monitored Semiannually ² | | | | | | | | | Monitored Annually ² | | | |
| 27-Aug-19 | - | - | 10.55 | 576 | 11.80 | Note 1 | 154.00 | 6.78 | Monitored Annually ² | | | | |
| 13-Nov-19 | Monitored Semiannually ² | | | | | | | | | Monitored Annually ² | | | |
| 13-Feb-20 | - | - | 9.20 | 382 | 9.19 | -1.3 | 13.40 | 6.93 | 259 | 3.65 | 0.1 U | 16700 | |
| 13-Aug-20 | - | - | 10.10 | 569 | 10.01 | -27.0 | 12.20 | 7.12 | Monitored Annually ² | | | | |
| 9-Dec-20 | Monitored Semiannually ² | | | | | | | | | Monitored Annually ² | | | |
| 4-Mar-21 | - | - | 9.30 | 416 | 5.80 | 33.0 | 17.1 | 6.89 | 364 | 4.14 | 0.1 U | 20000 | |
| 10-Jun-21 | Monitored Semiannually ² | | | | | | | | | Monitored Annually ² | | | |
| 18-Oct-21 | - | - | 10.9 | 386.7 | 5.11 | -28.4 | 86.1 | 6.45 | Monitored Annually ² | | | | |
| 5-Jan-22 | Monitored Semiannually ² | | | | | | | | | Monitored Annually ² | | | |
| 16-Mar-22 | - | - | 12 | 402.9 | 6.78 | 70.7 | 19.8 | 5.81 | 348 | 5.32 | 0.1 U | 18800 | |
| 21-Jun-22 | Monitored Semiannually ² | | | | | | | | | Monitored Annually ² | | | |
| 14-Sep-22 | - | - | 12 | 521 | 7.29 | 39.1 | 93.8 | 6.7 | Monitored Annually ² | | | | |
| 14-Dec-22 | Monitored Semiannually ² | | | | | | | | | Monitored Annually ² | | | |
| 16-Mar-23 | - | - | 10.8 | 667.5 | 6.16 | 76.1 | 8.99 | 6.86 | 383 | 5.08 | 0.1 U | 27100 | |
| 26-Jun-23 | Monitored Semiannually ² | | | | | | | | | Monitored Annually ² | | | |

Notes:

Dissolved metals were analyzed at the Site until December 2020 (Q4 2020). Total metals were analyzed for Q4 2020 and will continue to be analyzed moving forward. Iron and manganese are not included in the COPCs at the Site and are not analyzed beginning in Q2 2021. Antimony and Vanadium were included as COPCs for surface water locations and shallow/alluvial groundwater monitoring wells at the Site beginning in Q3 2021.

- Not measured or not available

Orange shaded values indicate parameter results above the Preliminary Screening Level (PSL), except for pH, which could be above or below the PSL.

* Measurement invalid and not shown

1 Reduction in monitoring frequency approved by Public Health – Seattle and King County in a letter to Golder Associates Inc. dated May 16, 2012

2 Reduction in monitoring frequency approved by Public Health – Seattle and King County in a letter to Golder Associates Inc. dated April 7, 2016. Field parameters collected semi-annually, analytical samples collected annually. Sampling schedule follows the Golder 2021 RI Work Plan starting in Q3 2021.

a Preliminary Cleanup Level (PCUL) provided by Ecology 30 Sept 2022

U Data validation code; not detected at the Reporting Limit (RL)

J Data validation code; estimated value

J+ Data validation code; estimated value with positive bias

°C Degrees Celsius

Note 1 ORP measurements not available due to faulty sensor.

µmhos/cm Micromhos per centimeter

feet bmp Feet below measuring point

feet NAVD88 Feet NAVD88 Datum

mg/L Milligrams per liter

mV Millivolts

NTU Nephelometric Turbidity Unit

**Table A-4f: Summary of Dale Strip Pit - Bedrock Groundwater Sampling Results - Well MWB-2DSP
Ravensdale Site, Ravensdale, Washington**

| Date Sampled | Field Parameters | | | | | | | | Gen. Chem. | Metals (ug/L) | | |
|--|----------------------------|-------------------------------------|-------------------------------------|-------------------------|-------------------------|--|-----------------|---------------------|------------|-------------------------------|---------|------|
| | Depth to Water (feet btoc) | Groundwater Elevation (feet NAVD88) | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Oxidation Reduction Potential (Rel mV) | Turbidity (NTU) | pH (standard units) | | Total Dissolved Solids (mg/L) | Arsenic | Lead |
| Preliminary Screening Level ^a | - | - | - | - | - | - | - | 6.5-8.5 | - | 8 | 2.1 | - |
| 1-Mar-02 | - | - | - | 542 | - | - | - | 7.22 | 467 | - | - | - |
| 1-Jun-02 | 197.34 | 735.48 | 12.00 | 750 | - | - | - | 7.10 | 459 | - | - | - |
| 1-Sep-02 | 199.29 | 733.53 | 14.00 | 660 | - | - | - | 6.90 | 499 | - | - | - |
| 2-Dec-02 | 200.09 | 732.73 | 10.80 | 675 | - | - | - | 6.89 | 440 | 1 U | 0.5 U | - |
| 3-Mar-03 | 190.21 | 742.61 | 11.90 | 763 | - | - | - | 6.98 | 450 | - | - | - |
| 3-May-03 | 191.78 | 741.04 | 12.30 | 730 | - | - | 233.00 | 6.98 | 550 | - | - | - |
| 3-Aug-03 | 199.82 | 733.00 | 16.50 | 848 | - | - | 17.00 | 6.92 | 520 | - | - | - |
| 1-Nov-03 | 199.97 | 732.85 | 11.60 | 559 | - | - | 9.20 | 7.04 | 522 | 0.98 | 0.5 U | - |
| 1-Feb-04 | 188.78 | 744.04 | 11.96 | 608 | - | - | 4.86 | 6.68 | 560 | - | - | - |
| 1-May-04 | 198.45 | 734.37 | 13.69 | 614 | - | - | 6.17 | 6.80 | 478 | - | - | - |
| 1-Aug-04 | 199.17 | 733.65 | 14.38 | 731 | - | - | 5.48 | 6.71 | 460 | - | - | - |
| 1-Nov-04 | 197.92 | 734.90 | 11.62 | 785 | - | - | 12.30 | 6.75 | 512 | 1 U | 1 U | - |
| 1-Feb-05 | 186.36 | 746.46 | 11.64 | 806 | - | - | 1.47 | 6.94 | 487 | - | - | - |
| 1-May-05 | - | - | 12.87 | 790 | - | - | 15.80 | 6.89 | 338 | - | - | - |
| 1-Aug-05 | 196.10 | 736.72 | 15.01 | 603 | - | - | 45.70 | 6.44 | 388 | - | - | - |
| 1-Nov-05 | 196.78 | 736.04 | 9.91 | 549 | - | - | 13.30 | 6.66 | 350 | 1 U | 1 U | - |
| 1-Feb-06 | 193.93 | 738.89 | 8.10 | 641 | 2.11 | 269.2 | 35.70 | 6.82 | 400 J | - | - | - |
| 1-May-06 | 197.90 | 734.92 | 10.88 | 798 | 1.67 | 27.3 | 5.38 | 6.50 | 380 | - | - | - |
| 1-Aug-06 | 198.80 | 734.02 | 11.44 | 534 | 2.52 | 205.7 | 8.74 | 6.67 | 360 | - | - | - |
| 1-Nov-06 | 187.36 | 745.46 | 10.77 | 680 | 2.12 | -19.9 | 18.90 | 7.06 | 430 | 1 U | 1 U | - |
| 28-Dec-06 | 192.37 | 740.45 | - | - | - | - | - | - | - | - | - | - |
| 7-Feb-07 | 197.46 | 735.36 | 10.24 | 621 | 0.64 | -16.7 | 27.80 | 6.89 | 420 | - | - | - |
| 7-May-07 | 198.49 | 734.33 | - | - | - | - | - | - | - | - | - | - |
| 1-Aug-07 | 198.45 | 734.37 | - | - | - | - | - | - | - | - | - | - |
| 27-Nov-07 | 196.48 | 736.34 | - | - | - | - | - | - | - | - | - | - |
| 8-Feb-08 | 191.30 | 741.52 | - | - | - | - | - | - | - | - | - | - |
| 8-May-08 | 193.95 | 738.87 | - | - | - | - | - | - | - | - | - | - |
| 27-Sep-11 | 197.32 | 735.50 | - | - | - | - | - | - | - | - | - | - |
| 13-Dec-11 | 192.15 | 740.67 | 9.6 | 421 | 2.10 | 313.0 | 16.10 | 7.49 | - | - | - | - |
| 22-Mar-12 | 183.35 | 751.47 | 8.9 | 546 | 12.83 | 166.3 | 0.56 | 7.47 | - | - | - | - |
| 18-Jun-12 | 192.54 | 742.28 | - | - | - | - | - | - | - | - | - | - |
| 18-Sep-12 | 199.51 | 735.31 | 16.2 | 508 | 2.21 | 120.0 | 1.27 | 7.58 | - | - | - | - |
| 18-Dec-12 | 184.52 | 750.30 | - | - | - | - | - | - | - | - | - | - |
| 21-Feb-13 | 190.65 | 744.17 | 7.6 | 678 | 5.33 | 342.6 | 6.61 | 8.02 | - | - | - | - |
| 22-May-13 | 198.05 | 736.77 | - | - | - | - | - | - | - | - | - | - |
| 20-Aug-13 | 200.47 | 734.35 | 13.0 | 488 | 3.26 | 90.2 | 8.47 | 7.42 | - | - | - | - |
| 19-Nov-13 | 196.59 | 738.23 | - | - | - | - | - | - | - | - | - | - |
| 31-Mar-14 | 186.78 | 748.04 | 11.4 | 421 | 7.28 | 195.1 | 1.70 | 7.47 | - | - | - | - |
| 21-May-14 | 192.27 | 742.55 | - | - | - | - | - | - | - | - | - | - |
| 15-Aug-14 | 199.97 | 734.85 | 18.9 | 492 | 0.97 | 1.4 | 52.50 | 7.01 | - | - | - | - |
| 14-Nov-14 | 196.60 | 738.22 | - | - | - | - | - | - | - | - | - | - |
| 10-Feb-15 | 183.97 | 750.85 | 10.2 | 450 | 7.65 | 121.4 | 1.02 | 7.34 | - | - | - | - |
| 4-May-15 | 194.19 | 740.63 | - | - | - | - | - | - | - | - | - | - |
| 4-Aug-15 | 198.35 | 736.47 | 13.6 | 432 | 3.07 | 18.6 | 0.27 | 7.47 | - | - | - | - |
| 3-Nov-15 | 198.25 | 736.57 | 10.3 | 405 | 2.57 | 106.2 | 7.07 | 7.35 | - | - | - | - |
| 8-Feb-16 | 188.43 | 746.39 | 12.5 | 536 | 2.77 | 189.8 | 0.25 | 7.78 | - | - | - | - |
| 2-May-16 | 195.72 | 739.10 | Monitored Semiannually ¹ | | | | | | - | - | - | - |
| 22-Aug-16 | 197.89 | 736.93 | 14.0 | 418 | 1.27 | -123.1 | 4.36 | 7.32 | - | - | - | - |
| 1-Nov-16 | 195.49 | 739.33 | Monitored Semiannually ¹ | | | | | | - | - | - | - |
| 31-Jan-17 | 186.94 | 747.88 | 9.2 | 506 | 5.26 | -45.4 | 0.38 | 7.45 | - | - | - | - |
| 30-May-17 | 190.62 | 744.20 | Monitored Semiannually ¹ | | | | | | - | - | - | - |
| 16-Aug-17 | 197.55 | 737.27 | 13.3 | 540 | 2.31 | 37.3 | 3.42 | 7.37 | - | - | - | - |
| 9-Nov-17 | 197.11 | 737.71 | Monitored Semiannually ¹ | | | | | | - | - | - | - |
| 28-Feb-18 | 185.96 | 748.86 | 10.1 | 390 | 5.95 | 204.7 | 1.62 | 7.15 | - | - | - | - |
| 1-May-18 | 184.95 | 749.87 | Monitored Semiannually ¹ | | | | | | - | - | - | - |
| 22-Aug-18 | 197.40 | 737.42 | 13.7 | 412 | 3.10 | 85.5 | 1.66 | 7.27 | - | - | - | - |
| 6-Nov-18 | 197.94 | 736.88 | Monitored Semiannually ¹ | | | | | | - | - | - | - |
| 12-Mar-19 | 182.84 | 751.98 | 8.7 | 332 | 6.25 | 148.4 | 1.93 | 7.28 | - | - | - | - |
| 8-May-19 | 185.36 | 749.46 | Monitored Semiannually ¹ | | | | | | - | - | - | - |
| 27-Aug-19 | 196.56 | 738.26 | 11.92 | 411 | 8.82 | Note 1 | 0.02 | 7.28 | - | - | - | - |
| 13-Nov-19 | 196.74 | 738.08 | Monitored Semiannually ¹ | | | | | | - | - | - | - |
| 13-Feb-20 | 177.10 | 757.72 | 9.3 | 453 | 3.03 | 91.0 | 2.31 | 7.56 | - | - | - | - |
| 13-Aug-20 | 200.97 | 733.85 | 12.2 | 422 | 3.04 | 35.0 | 0.96 | 7.42 | - | - | - | - |
| 9-Dec-20 | 197.86 | 736.96 | Monitored Semiannually ¹ | | | | | | - | - | - | - |

**Table A-4f: Summary of Dale Strip Pit - Bedrock Groundwater Sampling Results - Well MWB-2DSP
Ravensdale Site, Ravensdale, Washington**

| Date Sampled | Field Parameters | | | | | | | | Gen. Chem. | Metals (ug/L) | | | | |
|--|----------------------------|-------------------------------------|-------------------------------------|-------------------------|-------------------------|--|-----------------|---------------------|-------------------------------|---------------|------|-----------|---|---|
| | Depth to Water (feet btoc) | Groundwater Elevation (feet NAVD88) | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Oxidation Reduction Potential (Rel mV) | Turbidity (NTU) | pH (standard units) | Total Dissolved Solids (mg/L) | Arsenic | Lead | Potassium | | |
| Preliminary Screening Level ^a | - | - | - | - | - | - | - | 6.5-8.5 | - | 8 | 2.1 | - | | |
| 5-Mar-21 | 197.42 | 737.40 | 10.0 | 398 | 3.79 | 112.0 | 1.17 | 7.37 | - | - | - | - | | |
| 10-Jun-21 | 199.94 | 734.88 | Monitored Semiannually ¹ | | | | | | | | - | - | - | - |
| 18-Oct-21 | 200.24 | 734.58 | 12.6 | 307.7 | 6.06 | 161.4 | 12.3 | 7.35 | - | - | - | - | | |
| 5-Jan-22 | 192.66 | 742.16 | Monitored Semiannually ¹ | | | | | | | | - | - | - | - |
| 21-Mar-22 | 193.68 | 741.14 | 9.6 | 369 | 7.04 | 125.6 | 5.95 | 6.63 | - | - | - | - | | |
| 21-Jun-22 | 191.33 | 743.49 | Monitored Semiannually ¹ | | | | | | | | - | - | - | - |
| 13-Sep-22 | 200.03 | 734.79 | 12.6 | 404.7 | 8.66 | 252.7 | 10.5 | 6.91 | - | - | - | - | | |
| 12-Dec-22 | 197.99 | 736.83 | Monitored Semiannually ¹ | | | | | | | | - | - | - | - |
| 15-Mar-23 | 192.63 | 742.19 | 11.4 | 591.7 | 2.44 | 41.8 | 5.56 | 7.53 | - | - | - | - | | |
| 26-Jun-23 | 198.92 | 735.9 | Monitored Semiannually ¹ | | | | | | | | - | - | - | - |

Notes:

Top of casing elevation (feet NAVD88) prior to raising casing: 932.82

Top of casing elevation (feet NAVD88) after raising casing (December 14, 2011): 934.82

Dissolved metals were analyzed at the Site until December 2020 (Q4 2020). Total metals were analyzed for Q4 2020 and will continue to be analyzed moving forward. Iron and manganese are not included in the COPCs at the Site and are not analyzed beginning in Q2 2021. Antimony and Vanadium were included as COPCs for surface water locations and shallow/alluvial groundwater monitoring wells at the Site beginning in Q3 2021.

1 Reduction in monitoring frequency approved by Public Health – Seattle and King County in a letter to Golder Associates Inc. dated April 7, 2016. Field parameters collected semi-annually, analytical samples collected annually. Sampling schedule follows the Golder 2021 RI Work Plan starting in Q3 2021.

- Not measured or not available

Orange shaded values indicate parameter results above the Preliminary Screening Level (PSL), except for pH, which could be above or below the PSL.

a Preliminary Cleanup Level (PCUL) provided by Ecology 30 Sept 2022

U Data validation code; not detected at the Reporting Limit (RL)

J Data validation code; estimated value

J+ Data validation code; estimated value with positive bias

°C Degrees Celsius

Note 1 ORP measurements not available due to faulty sensor.

µmhos/cm Micromhos per centimeter

feet bmp Feet below measuring point

feet NAVD88 Feet NAVD88 Datum

mg/L Milligrams per liter

mV Millivolts

NTU Nephelometric Turbidity Unit

Table A-4g: Summary of Dale Strip Pit - Bedrock Groundwater Sampling Results - Well MWB-4SDSP Ravensdale Site, Ravensdale, Washington

| Date Sampled | Field Parameters | | | | | | | | Gen. Chem. | Metals (ug/L) | | |
|--|---|-------------------------------------|-------------------------------------|-------------------------|-------------------------|--|-----------------|---------------------|------------|-------------------------------|---------|------|
| | Depth to Water (feet btoc) | Groundwater Elevation (feet NAVD88) | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Oxidation Reduction Potential (Rel mV) | Turbidity (NTU) | pH (standard units) | | Total Dissolved Solids (mg/L) | Arsenic | Lead |
| Preliminary Screening Level ^a | - | - | - | - | - | - | - | 6.5-8.5 | - | 8 | 2.1 | - |
| 26-Sep-11 | 25.77 | 906.64 | 11.40 | 553 | 0.86 | 197.2 | - | 7.21 | - | - | - | - |
| 13-Dec-11 | 24.94 | 907.47 | 9.70 | 625 | 1.73 | 658.0 | 22.70 | 7.68 | - | - | - | - |
| 22-Mar-12 | 23.80 | 908.61 | 9.60 | 785 | 3.71 | 242.6 | 8.14 | 7.30 | - | - | - | - |
| 19-Jun-12 | 24.09 | 908.32 | - | - | - | - | - | - | - | - | - | - |
| 18-Sep-12 | 25.68 | 906.73 | 16.50 | 664 | 2.37 | 150.0 | 19.20 | 7.34 | - | - | - | - |
| 18-Dec-12 | 23.02 | 909.39 | - | - | - | - | - | - | - | - | - | - |
| 21-Feb-13 | 23.50 | 908.91 | 10.00 | 840 | 6.55 | 352.4 | 3.42 | 7.42 | - | - | - | - |
| 22-May-13 | 23.84 | 908.57 | - | - | - | - | - | - | - | - | - | - |
| 20-Aug-13 | 25.08 | 907.33 | 13.50 | 539 | 2.91 | 45.1 | 1.87 | 7.22 | - | - | - | - |
| 19-Nov-13 | 22.76 | 909.65 | - | - | - | - | - | - | - | - | - | - |
| 31-Mar-14 | 21.39 | 911.02 | 12.20 | 511 | 6.31 | 197.3 | 1.38 | 7.58 | - | - | - | - |
| 21-May-14 | 19.82 | 912.59 | - | - | - | - | - | - | - | - | - | - |
| 15-Aug-14 | 24.00 | 908.41 | 12.81 | 647 | 0.82 | 7.5 | 5.42 | 6.62 | - | - | - | - |
| 14-Nov-14 | 22.28 | 910.13 | - | - | - | - | - | - | - | - | - | - |
| 10-Feb-15 | 21.10 | 911.31 | 12.30 | 636 | 2.56 | -71.9 | 1.11 | 7.11 | - | - | - | - |
| 4-May-15 | 22.65 | 909.76 | - | - | - | - | - | - | - | - | - | - |
| 5-Aug-15 | 24.65 | 907.76 | 13.50 | 563 | 3.21 | 116.4 | 55.20 | 7.42 | - | - | - | - |
| 3-Nov-15 | 23.87 | 908.54 | 12.20 | 493 | 4.65 | 114.4 | 5.78 | 7.52 | - | - | - | - |
| 8-Feb-16 | 19.39 | 913.02 | 15.80 | 670 | 3.92 | 163.5 | 5.06 | 7.59 | - | - | - | - |
| 2-May-16 | 20.99 | 911.42 | Monitored Semiannually ¹ | | | | | | - | - | - | - |
| 22-Aug-16 | 24.42 | 907.99 | 17.60 | 527 | 5.01 | 106.0 | 1.39 | 7.44 | - | - | - | - |
| 1-Nov-16 | 21.31 | 911.10 | Monitored Semiannually ¹ | | | | | | - | - | - | - |
| 31-Jan-17 | 21.11 | 911.30 | 12.10 | 680 | 2.75 | -146.1 | 1.48 | 7.35 | - | - | - | - |
| 30-May-17 | 18.49 | 913.92 | Monitored Semiannually ¹ | | | | | | - | - | - | - |
| 17-Aug-17 | 22.58 | 909.83 | 12.60 | 673 | 5.22 | 177.8 | 1.97 | 7.15 | - | - | - | - |
| 9-Nov-17 | 20.72 | 911.69 | Monitored Semiannually ¹ | | | | | | - | - | - | - |
| 28-Feb-18 | 17.09 | 915.32 | 11.10 | 509 | 8.34 | 29.0 | 0.72 | 7.37 | - | - | - | - |
| 1-May-18 | 17.76 | 914.65 | Monitored Semiannually ¹ | | | | | | - | - | - | - |
| 22-Aug-18 | Could not be safely accessed due to wasp nests. | | | | | | | | - | - | - | - |
| 6-Nov-18 | 21.70 | 910.71 | Monitored Semiannually ¹ | | | | | | - | - | - | - |
| 12-Mar-19 | 18.30 | 914.11 | 10.10 | 215 | 9.65 | 18.9 | 0.39 | 7.86 | - | - | - | - |
| 8-May-19 | 19.09 | 913.32 | Monitored Semiannually ¹ | | | | | | - | - | - | - |
| 27-Aug-19 | 22.85 | 909.56 | 14.79 | 562 | 8.59 | Note 1 | 3.60 | 7.80 | - | - | - | - |
| 13-Nov-19 | 21.95 | 910.46 | Monitored Semiannually ¹ | | | | | | - | - | - | - |
| 13-Feb-20 | 16.60 | 915.81 | 10.80 | 458 | 8.74 | 68.0 | 1.98 | 7.83 | - | - | - | - |
| 13-Aug-20 | 21.96 | 910.45 | 12.60 | 503 | 8.74 | -39.8 | 1.89 | 7.83 | - | - | - | - |
| 9-Dec-20 | 20.58 | 911.83 | Monitored Semiannually ¹ | | | | | | - | - | - | - |
| 5-Mar-21 | 17.69 | 914.72 | 11.30 | 497 | 6.84 | 90.0 | 1.46 | 7.91 | - | - | - | - |
| 10-Jun-21 | 21.47 | 910.94 | Monitored Semiannually ¹ | | | | | | - | - | - | - |
| 18-Oct-21 | 23.22 | 909.19 | 13.5 | 368.9 | 8.47 | 130.8 | 1.36 | 7.63 | - | - | - | - |
| 5-Jan-22 | 17.66 | 914.75 | Monitored Semiannually ¹ | | | | | | - | - | - | - |
| 21-Mar-22 | 16.7 | 915.71 | 10.7 | 456.3 | 9.94 | 115.5 | 2.79 | 7.05 | - | - | - | - |
| 21-Jun-22 | 17.95 | 914.46 | Monitored Semiannually ¹ | | | | | | - | - | - | - |
| 13-Sep-22 | 21.6 | 910.81 | 15.3 | 531 | 7.87 | 90.3 | 1.45 | 7.53 | - | - | - | - |
| 12-Dec-22 | 19.02 | 913.39 | Monitored Semiannually ¹ | | | | | | - | - | - | - |
| 15-Mar-23 | 17.46 | 914.95 | 12.3 | 668 | 8.07 | 57.4 | 2.67 | 7.85 | - | - | - | - |
| 26-Jun-23 | 19.98 | 912.43 | Monitored Semiannually ¹ | | | | | | - | - | - | - |

Notes:

Top of casing elevation (feet NAVD88) prior to DSP Cover Upgrade: 939.42
 Top of casing elevation (feet NAVD88) after DSP Cover Upgrade (completed July 2011): 932.41
 Dissolved metals were analyzed at the Site until December 2020 (Q4 2020). Total metals were analyzed for Q4 2020 and will continue to be analyzed moving forward. Iron and manganese are not included in the COPCs at the Site and are not analyzed beginning in Q2 2021. Antimony and Vanadium were included as COPCs for surface water locations and shallow/alluvial groundwater monitoring wells at the Site beginning in Q3 2021.

1 Reduction in monitoring frequency approved by Public Health – Seattle and King County in a letter to Golder Associates Inc. dated April 7, 2016, extended October 10, 2019. Field parameters collected semi-annually, analytical samples collected annually. Sampling schedule follows the Golder 2021 RI Work Plan starting in Q3 2021.

- Not measured or not available

Orange shaded values indicate parameter results above the Preliminary Screening Level (PSL), except for pH, which could be above or below the PSL.

a Preliminary Cleanup Level (PCUL) provided by Ecology 30 Sept 2022

°C Degrees Celsius

Note 1 ORP measurements not available due to faulty sensor.

µmhos/cm Micromhos per centimeter

feet bmp Feet below measuring point

feet NAVD88 Feet NAVD88 Datum

mg/L Milligrams per liter

mV Millivolts

NTU Nephelometric Turbidity Unit



APPENDIX A-5

**Summary of Lower Disposal Area –
Disposal Area Groundwater
Sampling Results**

Table A-5A Well P-14
Table A-5B Well P-15

**Table A-5a: Summary of Lower Disposal Area - Disposal Area Groundwater Sampling Results - Well P-14
Ravensdale Site, Ravensdale, Washington**

| Date Sampled | Field Parameters | | | | | | | | Gen. Chem. | Metals (ug/L) | | | | |
|--|----------------------------|-------------------------------------|------------------|-------------------------|-------------------------|--|-----------------|---------------------|------------|-------------------------------|----------|---------|---------|-----------|
| | Depth to Water (feet btoc) | Groundwater Elevation (feet NAVD88) | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Oxidation-Reduction Potential (Rel mV) | Turbidity (NTU) | pH (standard units) | | Total Dissolved Solids (mg/L) | Antimony | Arsenic | Lead | Potassium |
| Preliminary Screening Level ^a | - | - | - | - | - | - | - | 6.5-8.5 | - | 5.6 | 8 | 2.1 | - | 140 |
| 11-Dec-20 | 32.53 | 740.79 | 11.6 | 18697 | 0.12 | -61.2 | 17.9 | 13.30 | 6560 | - | 263 | 19.6 | 2540000 | - |
| 3-Mar-21 | 29.44 | 743.88 | 12.0 | 12836 | 0.05 | -87.0 | 1.54 | 13.09 | 4060 | - | 84.1 | 9.64 | 1490000 | - |
| 10-Jun-21 | 33.57 | 739.75 | 12.9 | 18706 | 0.67 | -175.2 | 1.88 | 13.06 | 6400 | - | 242 | 3.44 | 2460000 | - |
| 13-Oct-21 | 33.57 | 739.75 | 12.7 | 23225 | 0.77 | -139.7 | 0.75 | 13.18 | 7240 J- | 131 | 292 | 2.47 | 2560000 | 24.2 |
| 7-Jan-22 | 27.73 | 745.59 | 11.9 | 9778 | 0.96 | -112.9 | 1.86 | 13.30 | 4850 | 51.8 | 76.3 | 9.19 | 1480000 | 6.77 |
| 21-Mar-22 | 27.5 | 745.82 | 12.5 | 11725 | 1.27 | -25.3 | 2.18 | 14.52 | 4110 | 46.1 | 74.8 | 41.3 | 1430000 | 6.68 |
| 23-Jun-22 | 28.65 | 744.67 | 13.5 | 18219 | 0.05 | -88.6 | 2.04 | 12.93 | 6160 | 130 | 238 | 6.56 | 2250000 | 21.9 |
| 14-Sep-22 | 34.22 | 739.1 | 13.2 | 17395 | 1.72 | -127.9 | 1.7 | 13.21 | 6510 | 130 | 235 | 6.3 | 2570000 | 20.5 |
| 14-Dec-22 | 32.59 | 740.73 | 12.1 | 19267 | 3.3 | -448.9 | 0.88 | 13.06 | 6730 | 130 | 255 | 11.1 | 2710000 | 23 |
| 14-Mar-23 | 30.30 | 743.02 | 12.4 | 24035 | 0.08 | -187.5 | 0.31 | 13.12 | 6280 | 134 | 232 | 2.22 | 2390000 | 20.5 |
| 27-Jun-23 | 33.06 | 740.26 | 13.5 | 18550 | 0.05 | -591.7 | 1.19 | 13.07 | 6300 | 139 | 242 | 2.9 | 2200000 | 21.4 |

Notes:

Top of casing elevation (feet NAVD88): 773.32

Dissolved metals were analyzed at the Site until December 2020 (Q4 2020). Total metals were analyzed for Q4 2020 and will continue to be analyzed moving forward. Iron and manganese are not included in the COPCs at the Site and are not analyzed beginning in Q2 2021. Antimony and Vanadium were included as COPCs for surface water locations and shallow/alluvial groundwater monitoring wells at the Site beginning in Q3 2021.

- Not measured or not available

Orange shaded values indicate parameter results above the Preliminary Screening Level (PSL), except for pH, which could be above or below the PSL.

a Preliminary Cleanup Level (PCUL) provided by Ecology 30 Sept 2022

U Data validation code; not detected at the Reporting Limit (RL)

J Data validation code; estimated value

J+ Data validation code; estimated value with positive bias

°C Degrees Celsius

µmhos/cm Micromhos per centimeter

feet bmp Feet below measuring point

feet NAVD88 Feet NAVD88 Datum

mg/L Milligrams per liter

mV Millivolts

NTU Nephelometric Turbidity Unit

**Table A-5b: Summary of Lower Disposal Area - Disposal Area Groundwater Sampling Results - Well P-15
Ravensdale Site, Ravensdale, Washington**

| Date Sampled | Field Parameters | | | | | | | | Gen. Chem. | Metals (ug/L) | | | | |
|--|----------------------------|-------------------------------------|------------------|-------------------------|-------------------------|--|-----------------|---------------------|------------|-------------------------------|----------|---------|---------|-----------|
| | Depth to Water (feet btoc) | Groundwater Elevation (feet NAVD88) | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Oxidation-Reduction Potential (Rel mV) | Turbidity (NTU) | pH (standard units) | | Total Dissolved Solids (mg/L) | Antimony | Arsenic | Lead | Potassium |
| Preliminary Screening Level ^a | - | - | - | - | - | - | - | 6.5-8.5 | - | 5.6 | 8 | 2.1 | - | 140 |
| 15-Oct-21 | 30.03 | 726.52 | 13.00 | 15815 | 1.72 | -147.5 | 5.08 | 13.17 | 7180 J- | 2 U | 6.57 | 94 | 2390000 | 3.65 |
| 7-Jan-22 | 15.32 | 741.23 | 10.20 | 7227 | 1.03 | -116.3 | 1.84 | 13.28 | 3420 | 5.17 | 6.34 | 101 | 884000 | 0.515 J |
| 17-Mar-22 | 14.44 | 742.11 | 11.8 | 9351 | 1.11 | -70 | 1.88 | 14.60 | 3060 | 3.08 | 5.63 | 109 | 970000 | 0.406 |
| 22-Jun-22 | 18.39 | 738.16 | 13 | 10563 | 0.14 | -71 | 2.19 | 12.95 | 3300 | 2.22 | 5.37 | 100 | 924000 | 1.14 |
| 14-Sep-22 | 28.82 | 727.73 | 13.8 | 14297 | 6.41 | -17.7 | 4.71 | 12.99 | 5340 | 4 U | 3.68 J | 269 | 1790000 | 0.624 |
| 14-Dec-22 | 21.29 | 735.26 | 11 | 10770 | 2.85 | -322.9 | 2.33 | 13.05 | 3460 | 1.72 | 5.07 | 173 | 1070000 | 1.19 |
| 14-Mar-23 | 21.53 | 735.02 | 11.5 | 14124 | 0.15 | 70.5 | 0.41 | 12.98 | 3360 | 2.47 | 5.82 | 93.8 | 945000 | 0.288 J |
| 27-Jun-23 | 24.90 | 731.65 | 14.4 | 13549 | 0.56 | -360.4 | 0.89 | 12.87 | 4290 | 1.15 | 5.77 | 119 | 1450000 | 0.635 J |

Notes:

Top of casing elevation (feet NAVD88): 756.55

Dissolved metals were analyzed at the Site until December 2020 (Q4 2020). Total metals were analyzed for Q4 2020 and will continue to be analyzed moving forward. Iron and manganese are not included in the COPCs at the Site and are not analyzed beginning in Q2 2021. Antimony and Vanadium were included as COPCs for surface water locations and shallow/alluvial groundwater monitoring wells at the Site beginning in Q3 2021.

- Not measured or not available

Orange shaded values indicate parameter results above the Preliminary Screening Level (PSL), except for pH, which could be above or below the PSL.

a Preliminary Cleanup Level (PCUL) provided by Ecology 30 Sept 2022

U Data validation code; not detected at the Reporting Limit (RL)

J Data validation code; estimated value

J+ Data validation code; estimated value with positive bias

°C Degrees Celsius

µmhos/cm Micromhos per centimeter

feet bmp Feet below measuring point

feet NAVD88 Feet NAVD88 Datum

mg/L Milligrams per liter

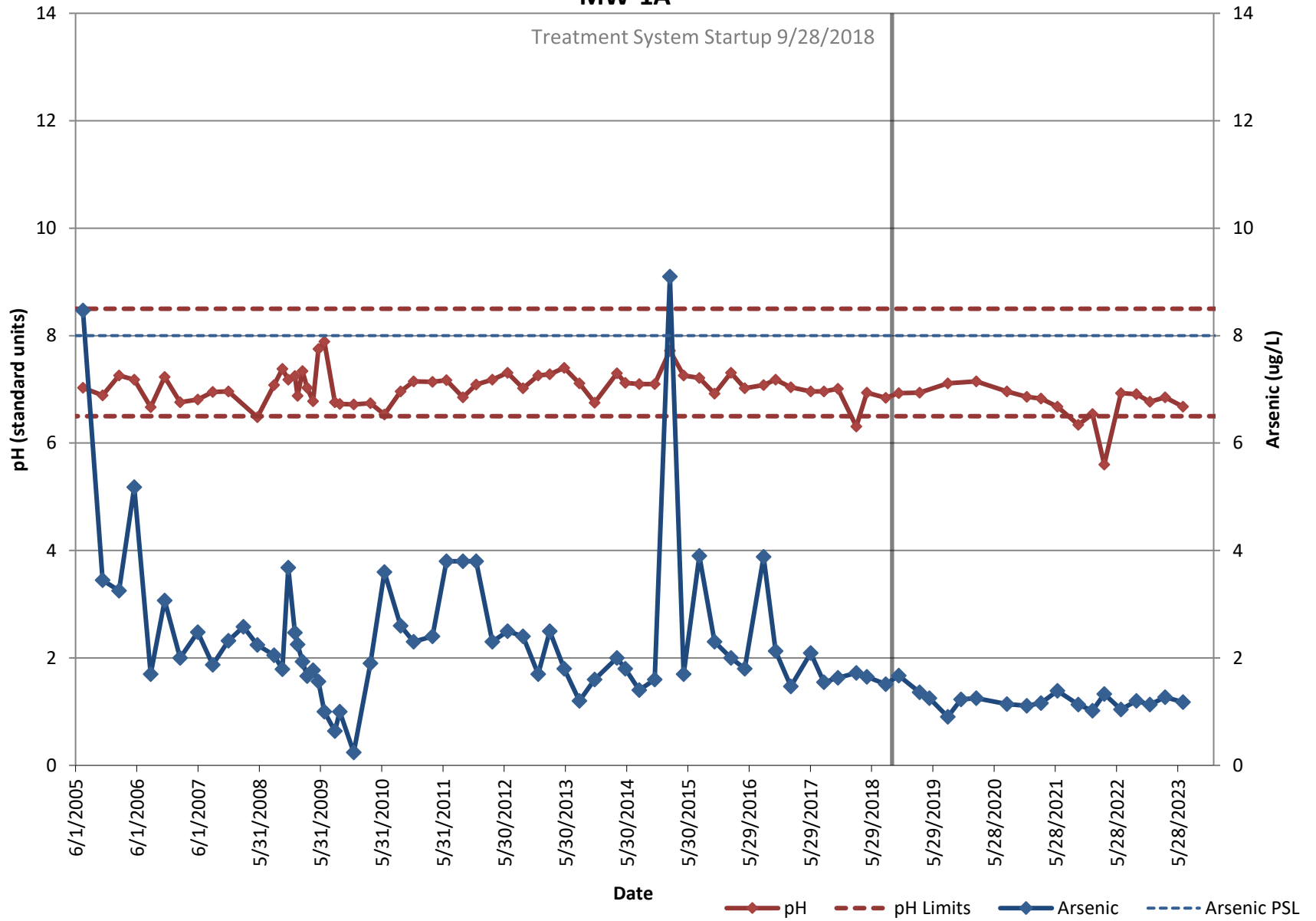
mV Millivolts

NTU Nephelometric Turbidity Unit

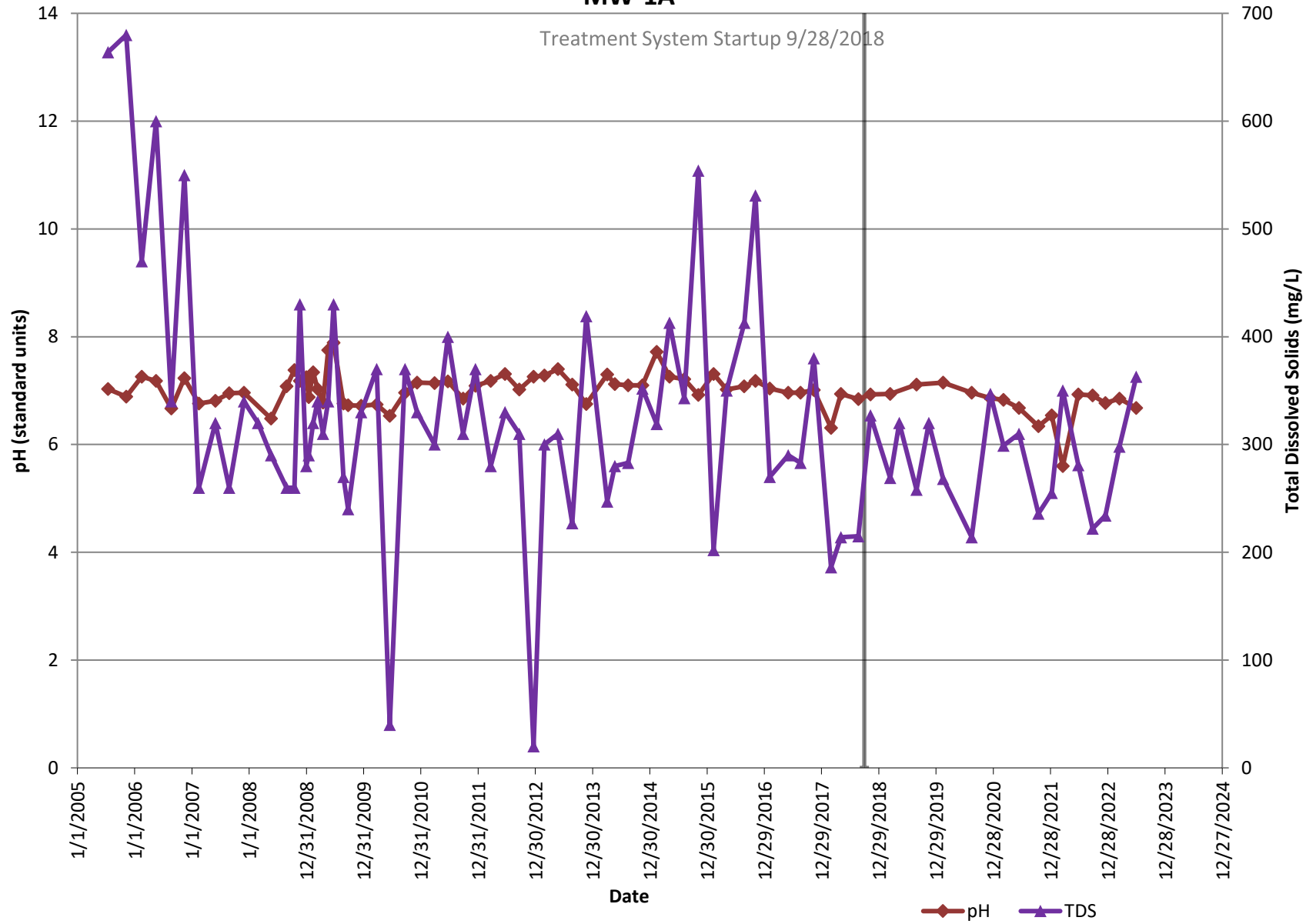
APPENDIX B

**LDA Shallow/Alluvial Monitoring
Wells Data Graphs**

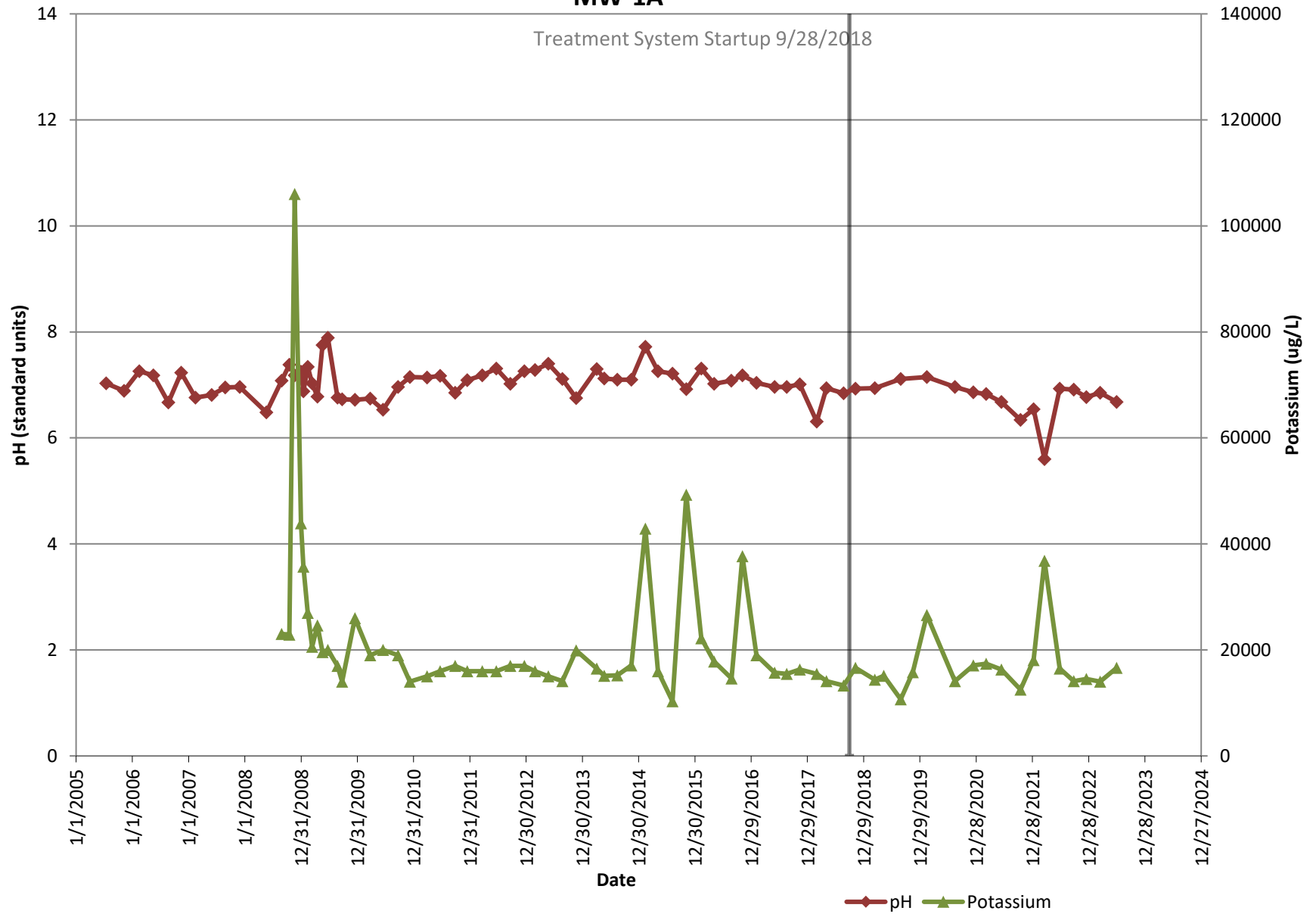
LDA Shallow/Alluvial Monitoring Wells MW-1A



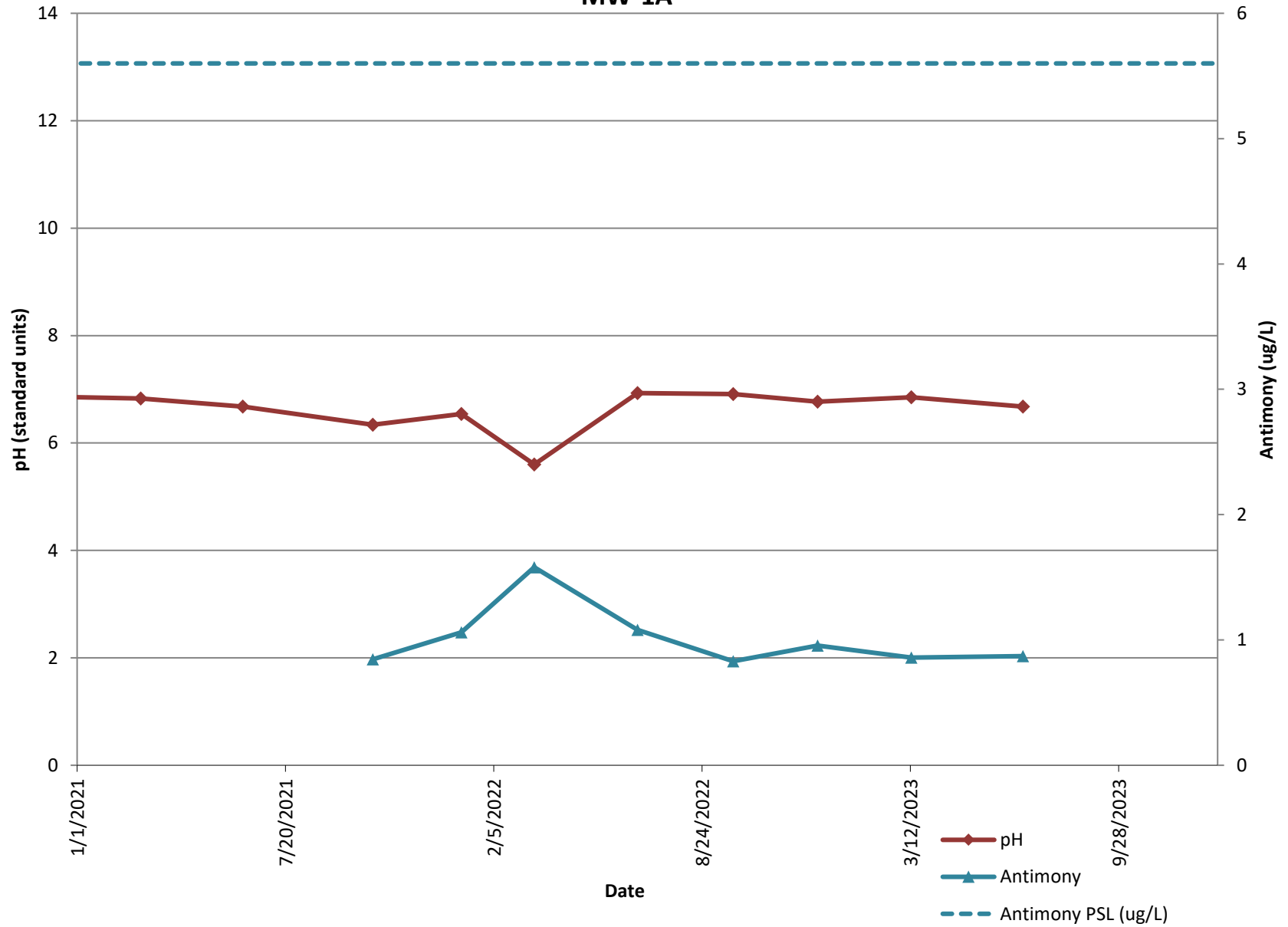
LDA Shallow/Alluvial Monitoring Wells MW-1A



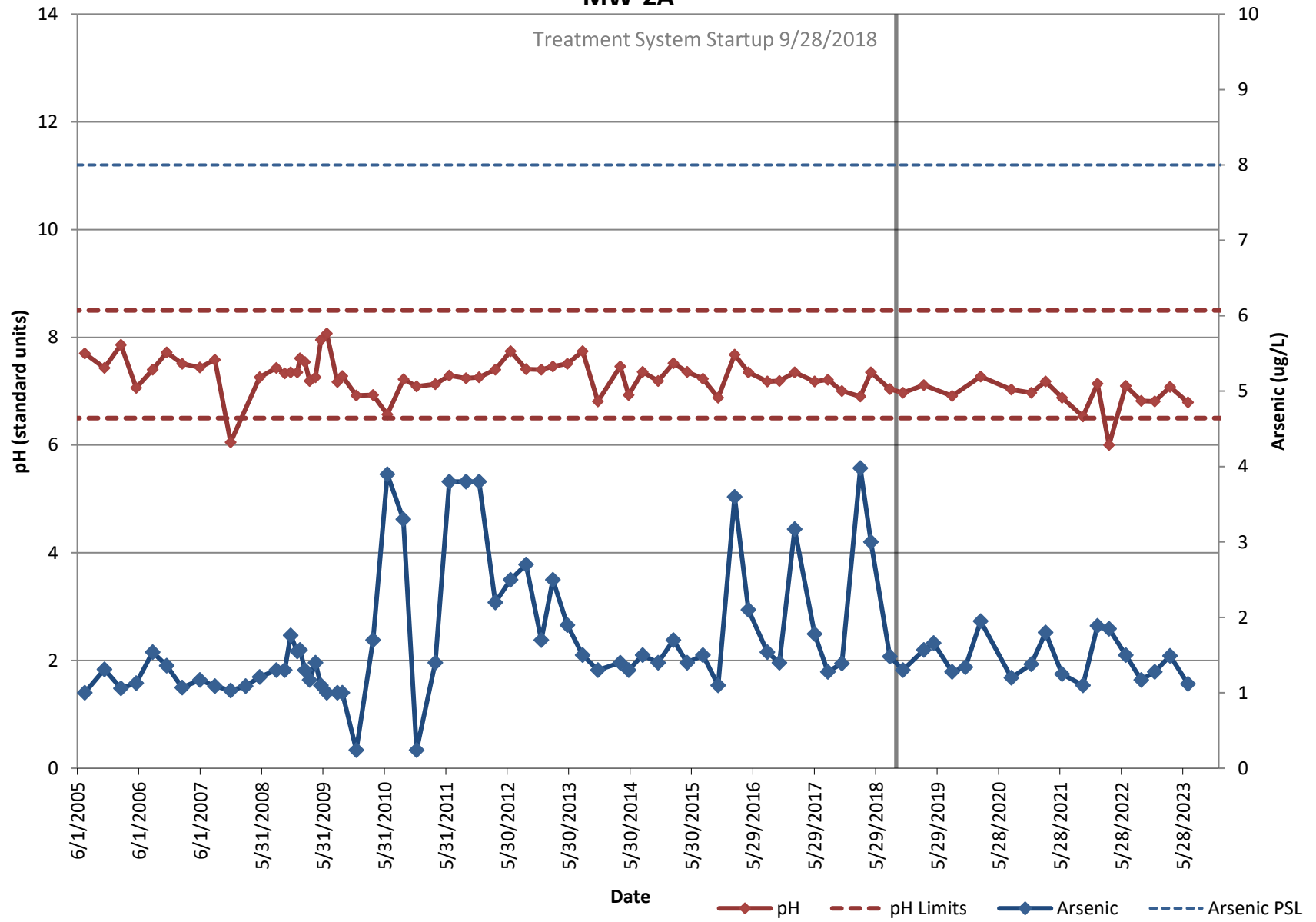
LDA Shallow/Alluvial Monitoring Wells MW-1A



LDA Shallow/Alluvial Monitoring Wells MW-1A

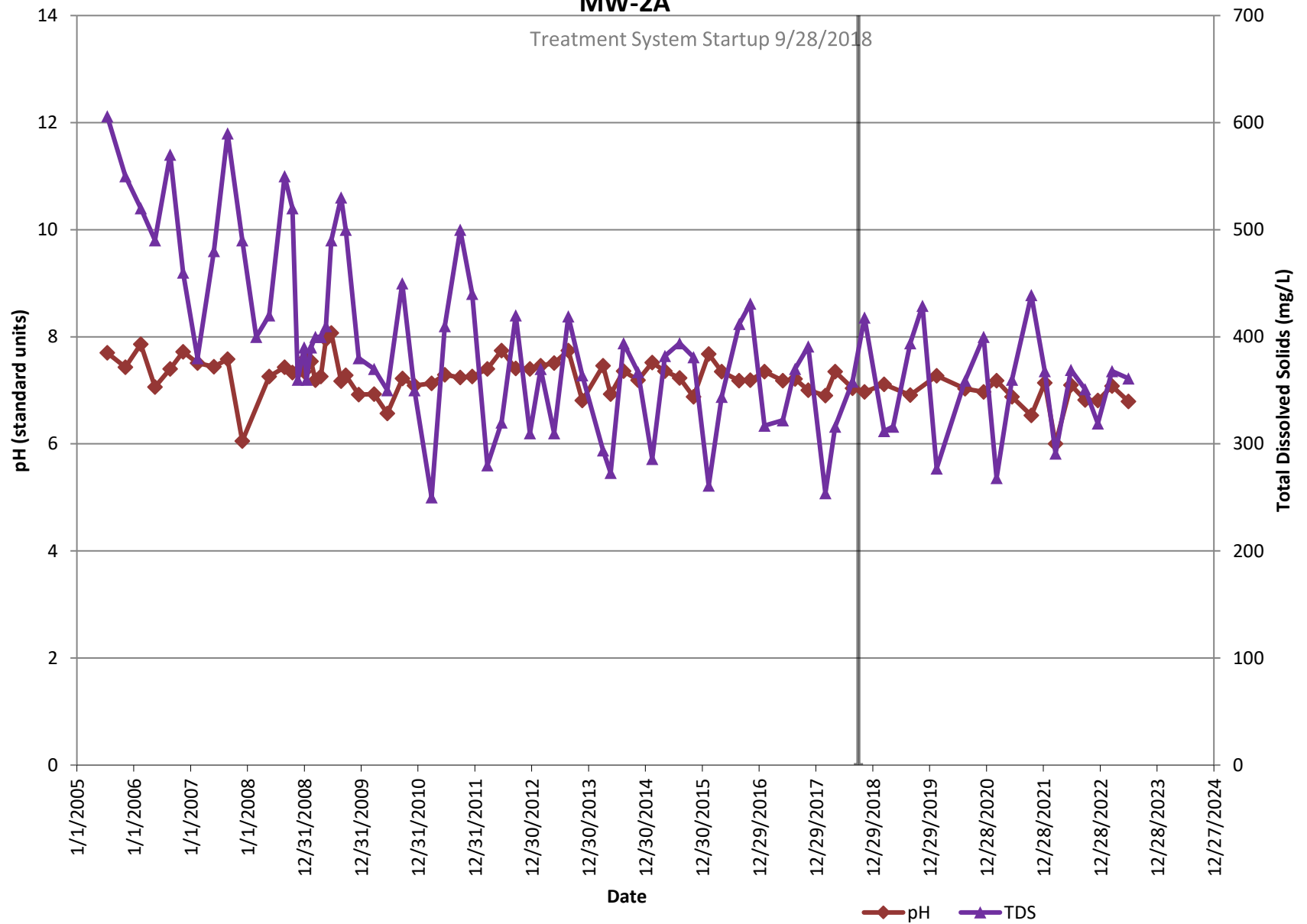


LDA Shallow/Alluvial Monitoring Wells MW-2A

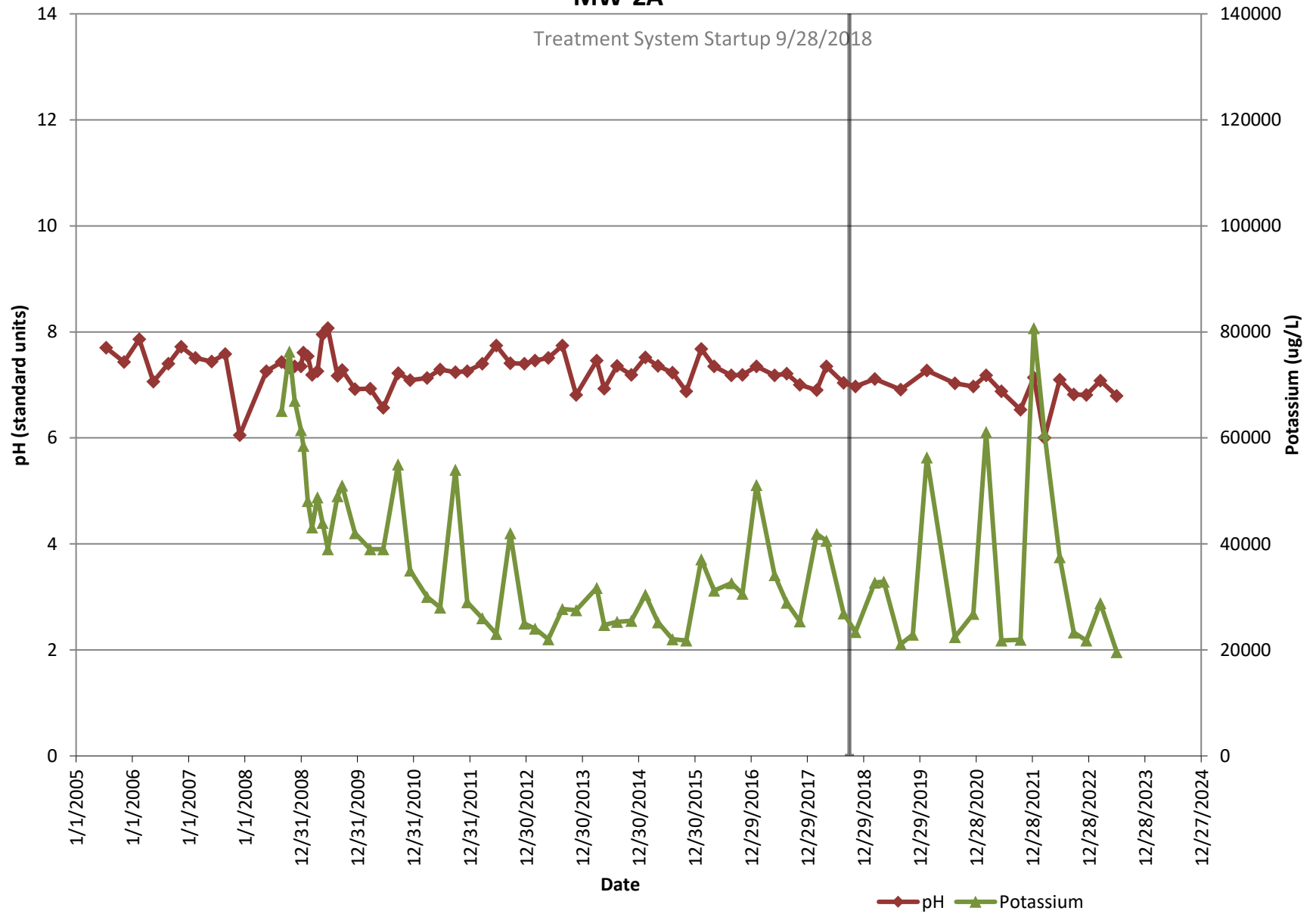


LDA Shallow/Alluvial Monitoring Wells

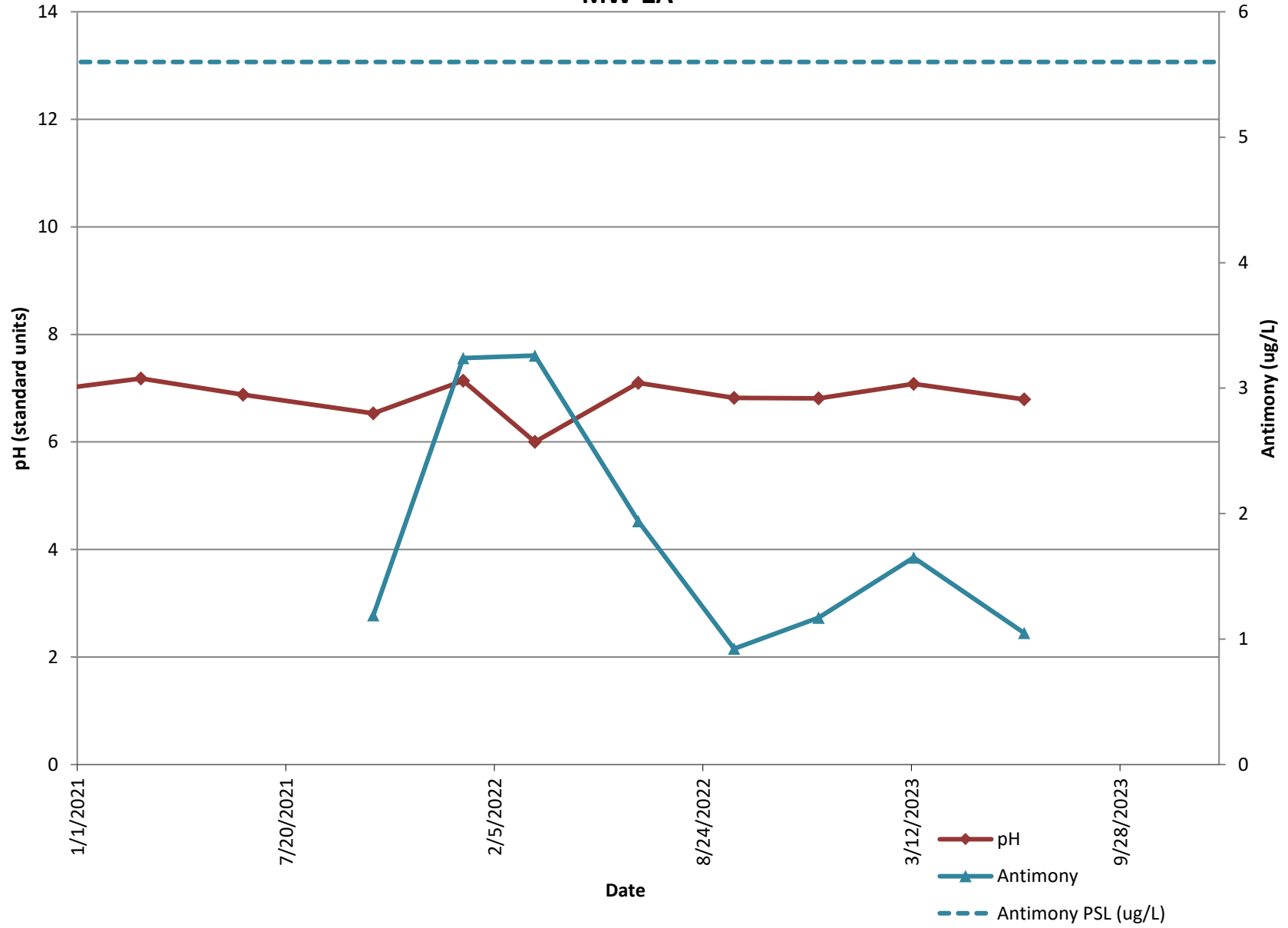
MW-2A



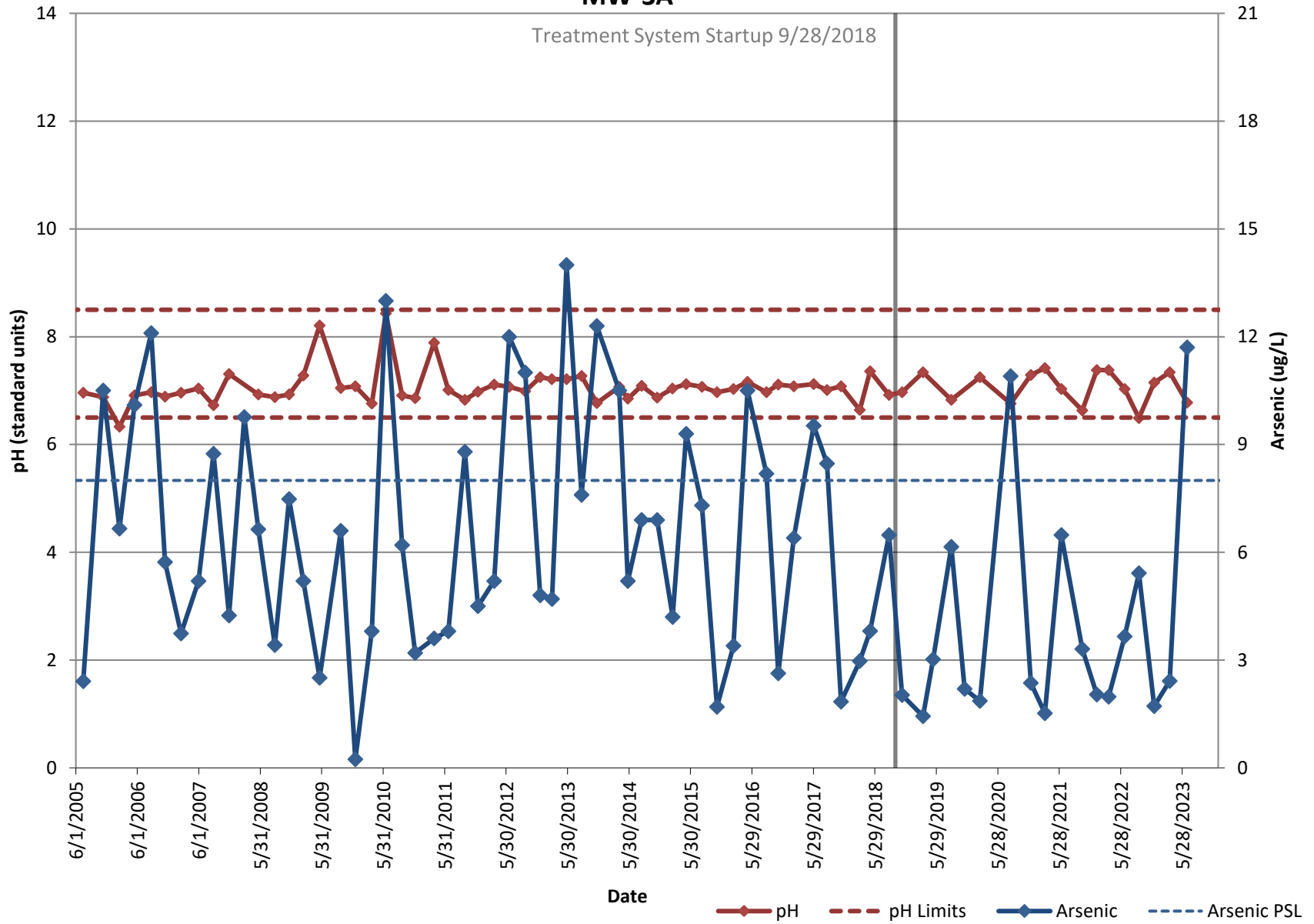
LDA Shallow/Alluvial Monitoring Wells MW-2A



LDA Shallow/Alluvial Monitoring Wells MW-2A

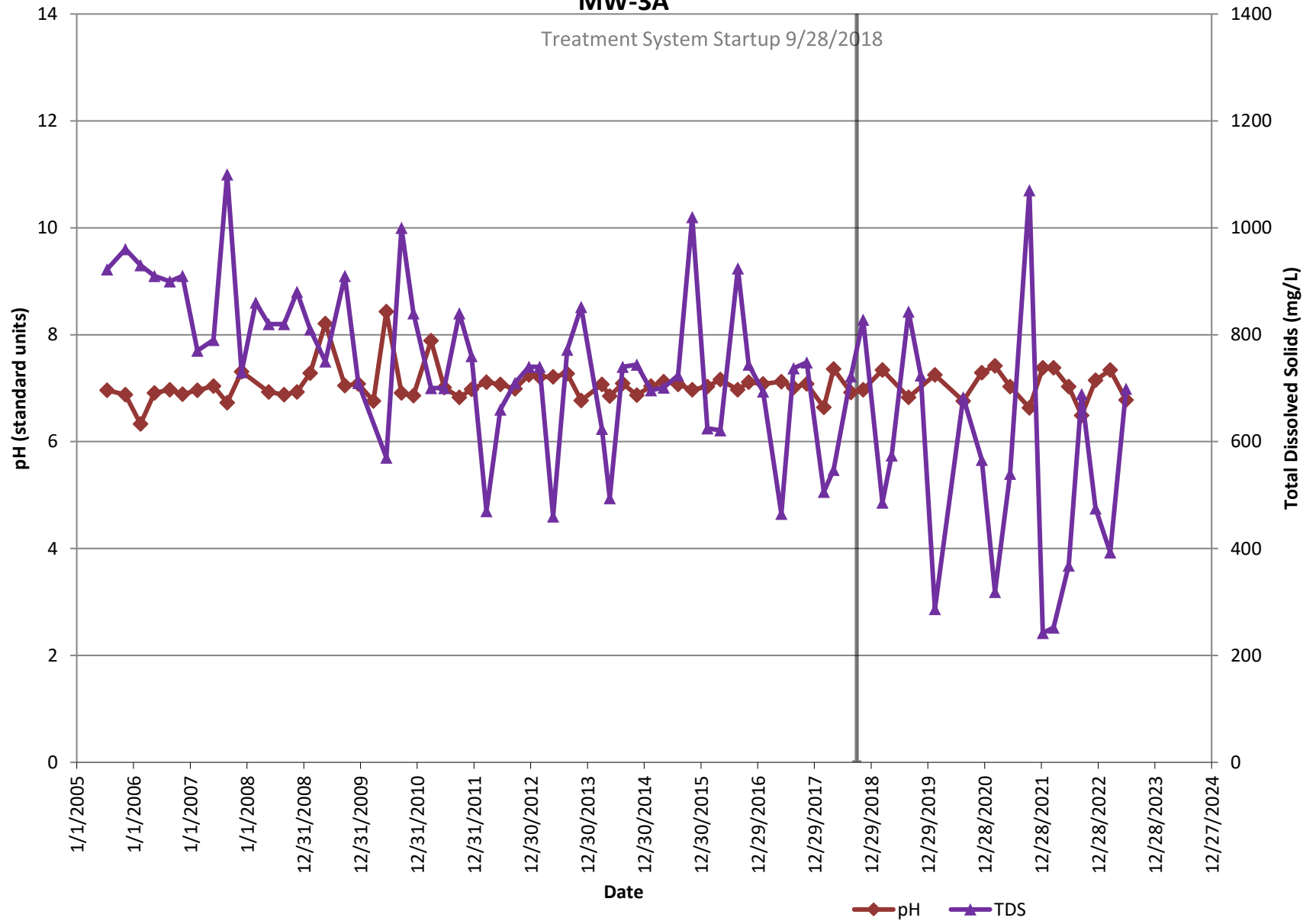


LDA Shallow/Alluvial Monitoring Wells MW-3A

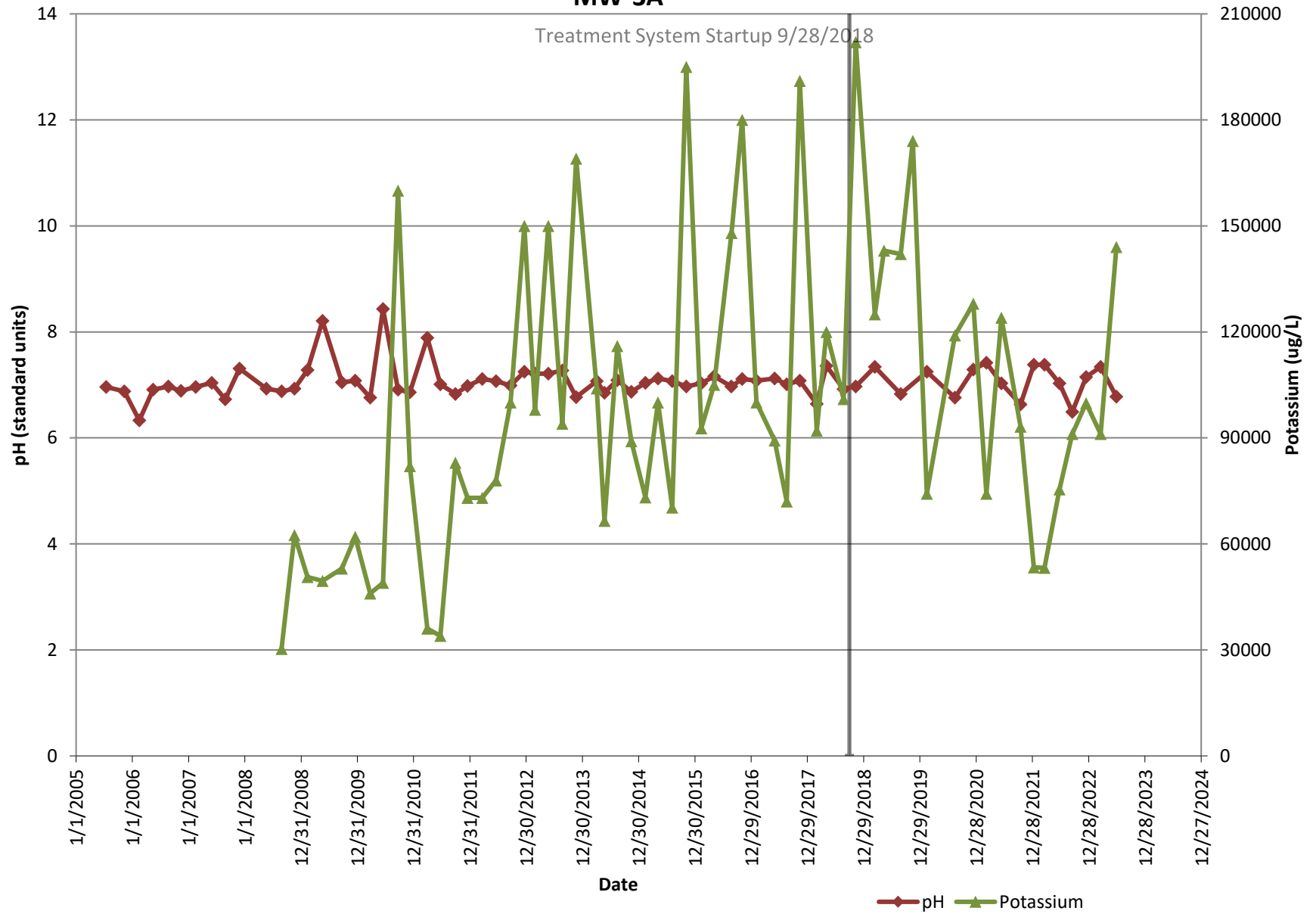


LDA Shallow/Alluvial Monitoring Wells

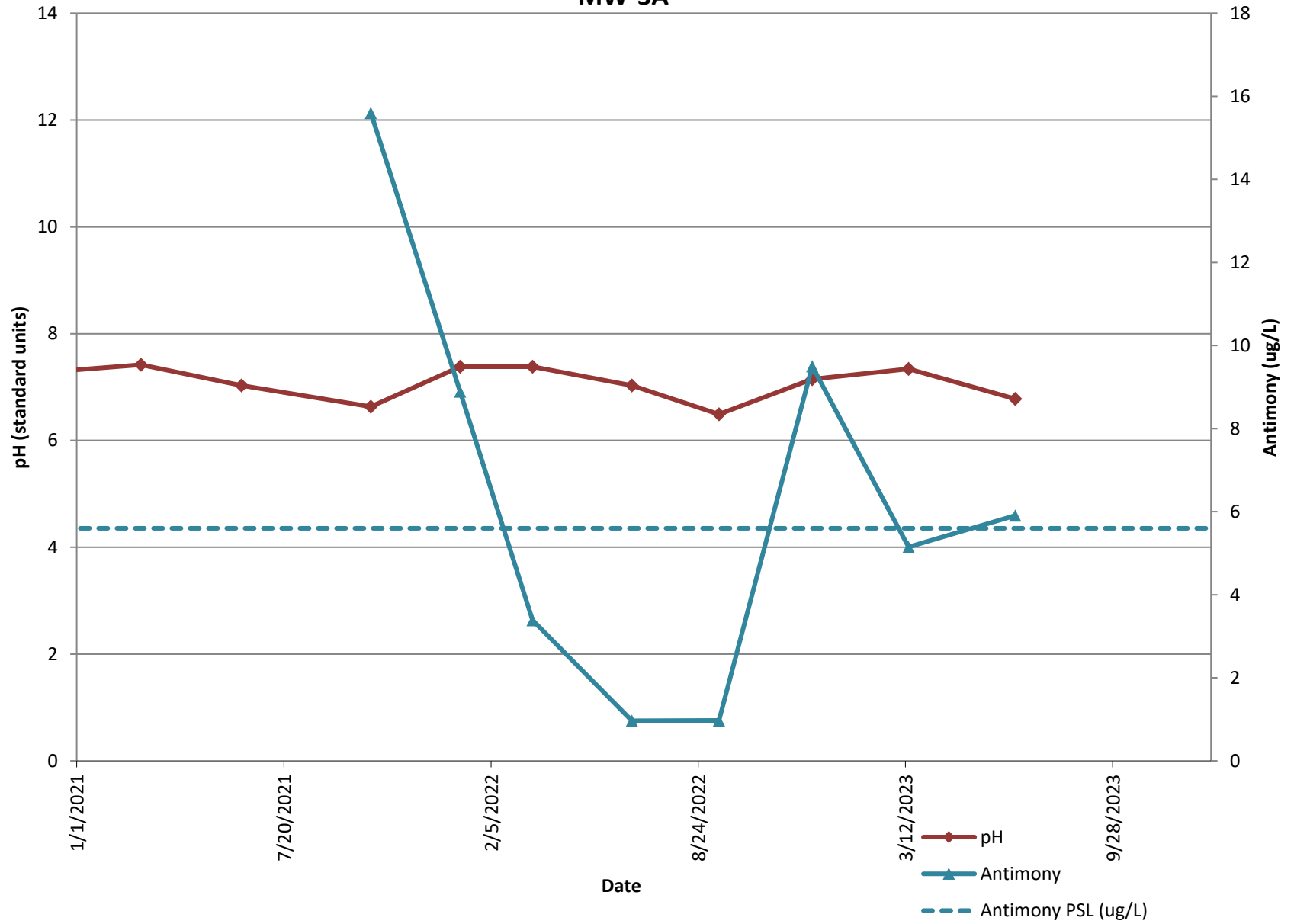
MW-3A



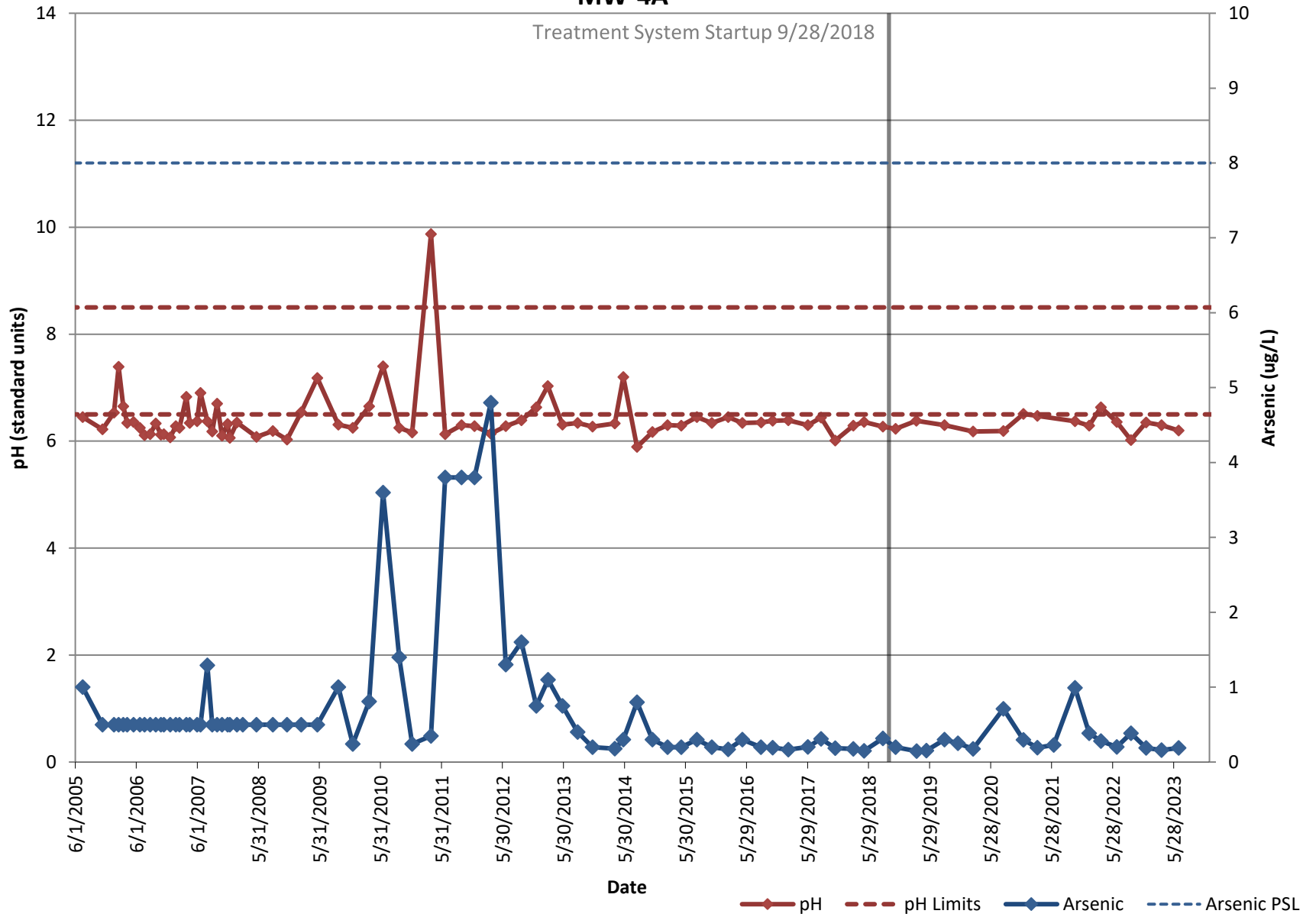
LDA Shallow/Alluvial Monitoring Wells MW-3A



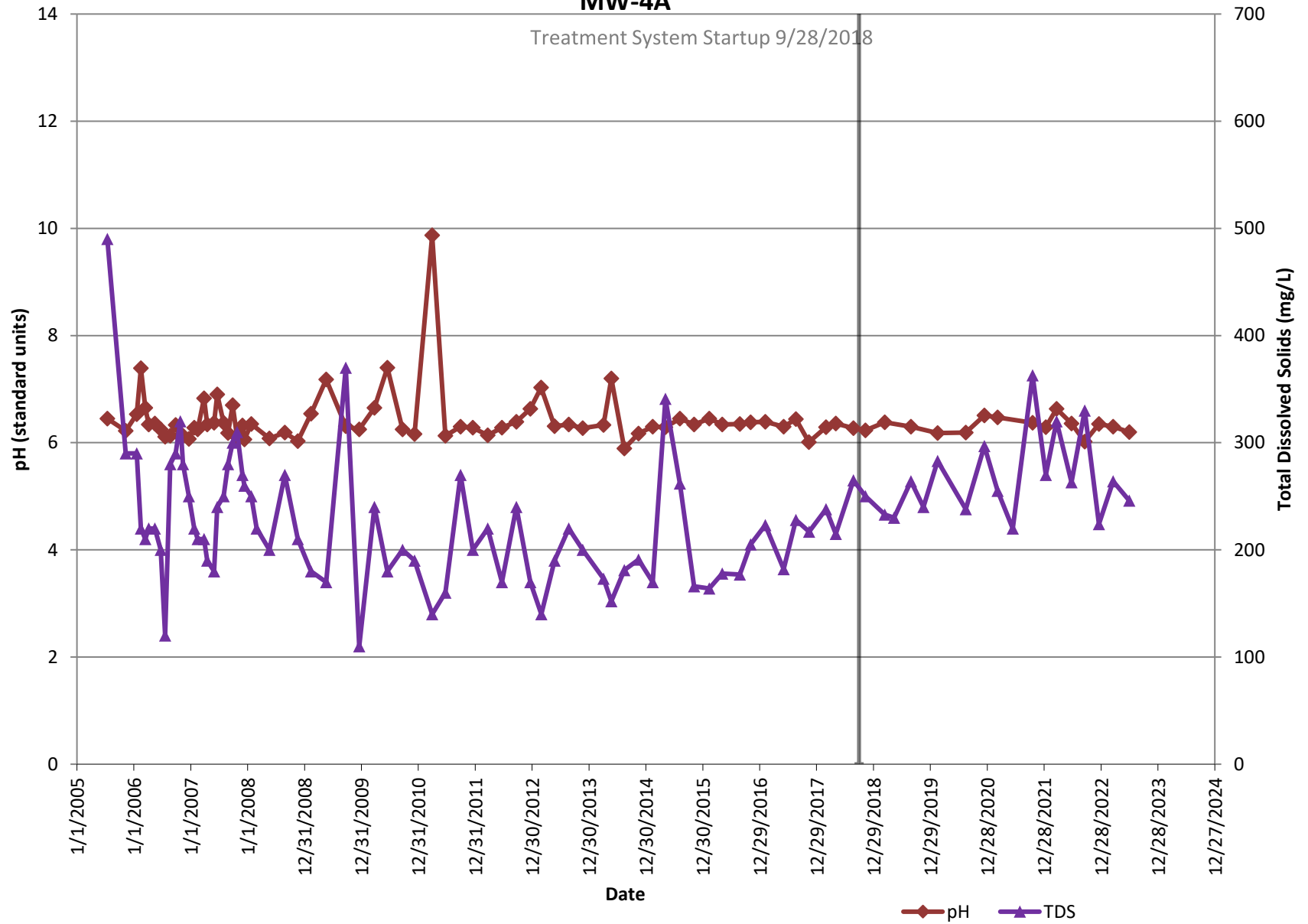
LDA Shallow/Alluvial Monitoring Wells MW-3A



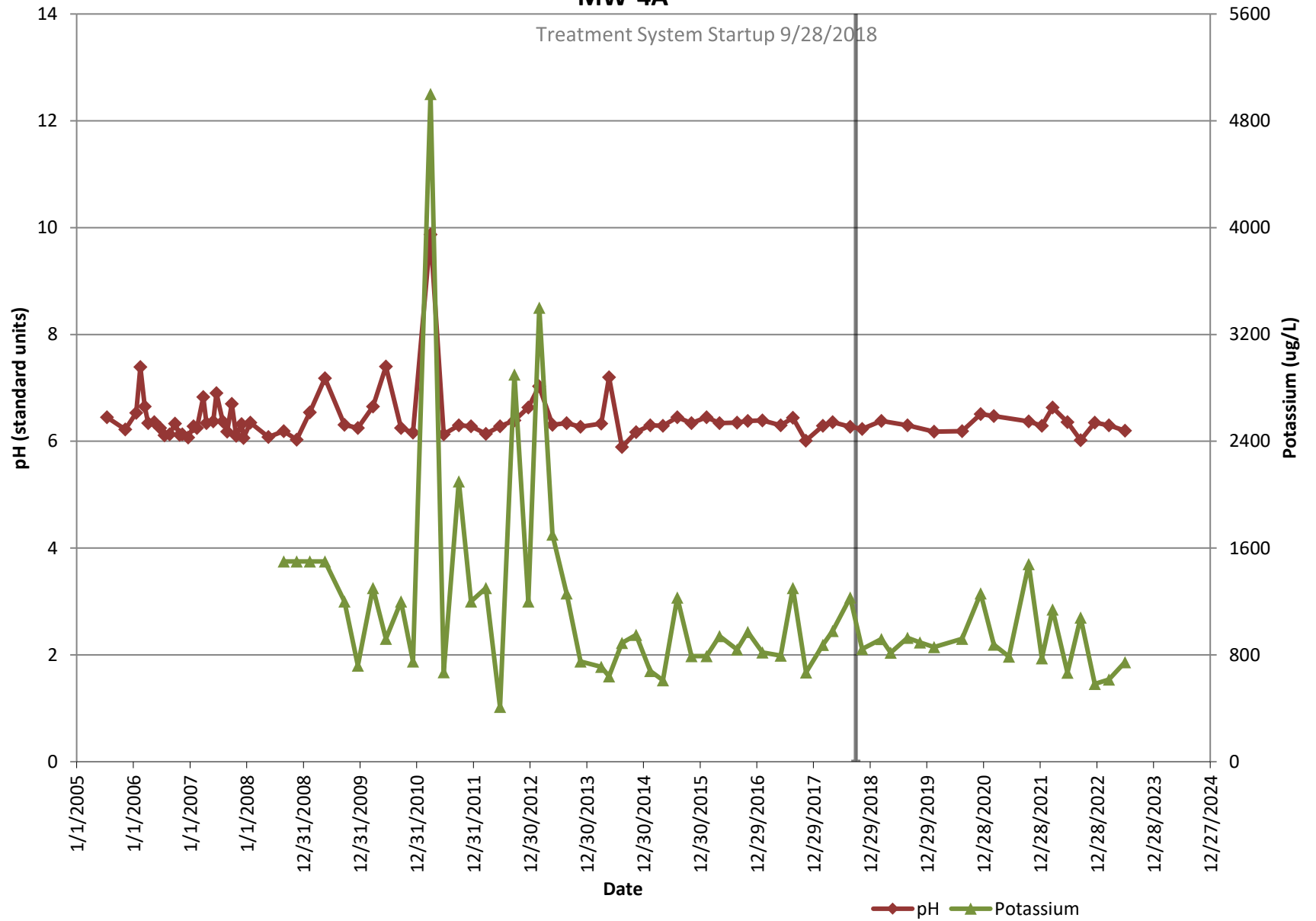
LDA Shallow/Alluvial Monitoring Wells MW-4A



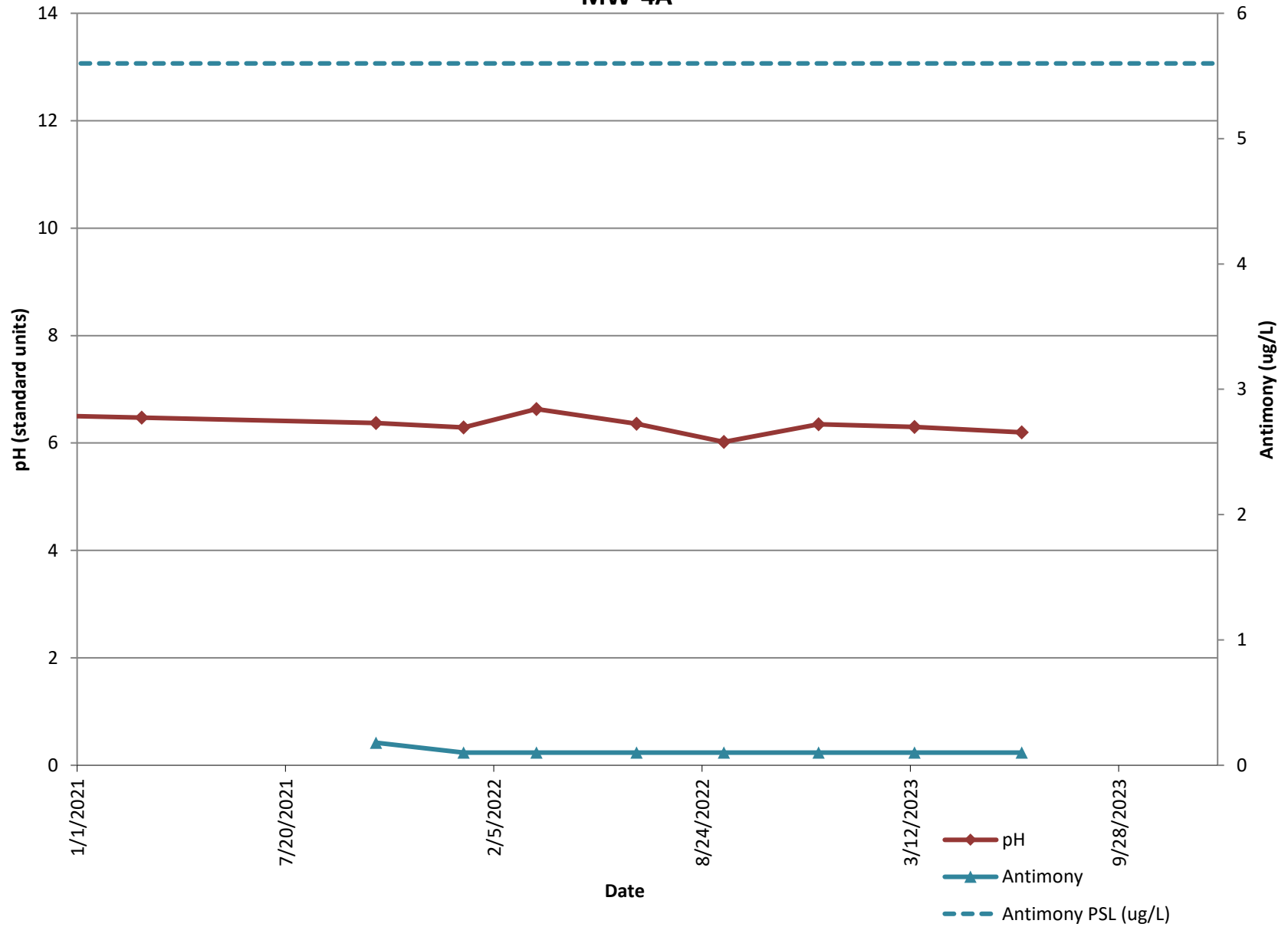
LDA Shallow/Alluvial Monitoring Wells MW-4A



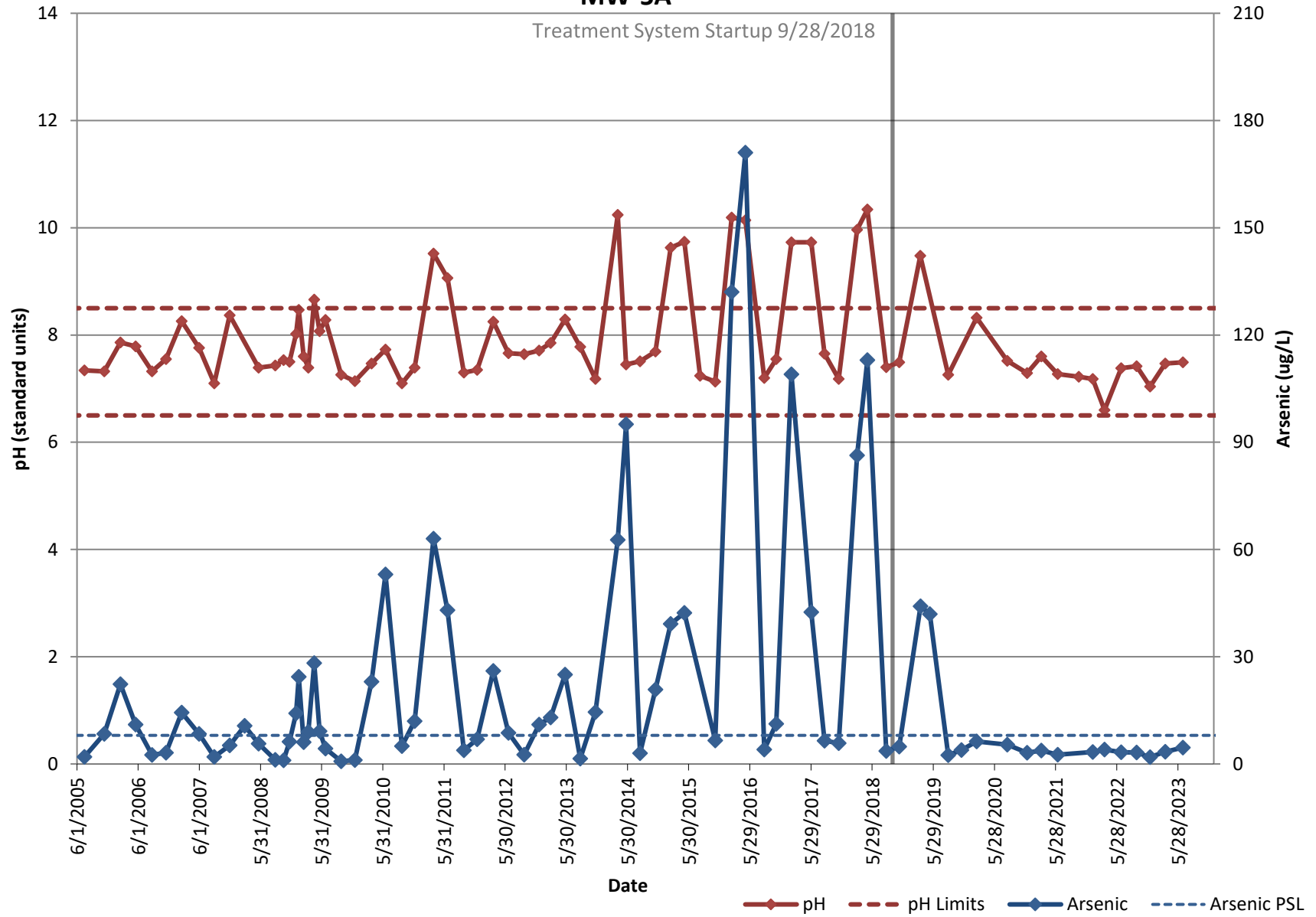
LDA Shallow/Alluvial Monitoring Wells MW-4A



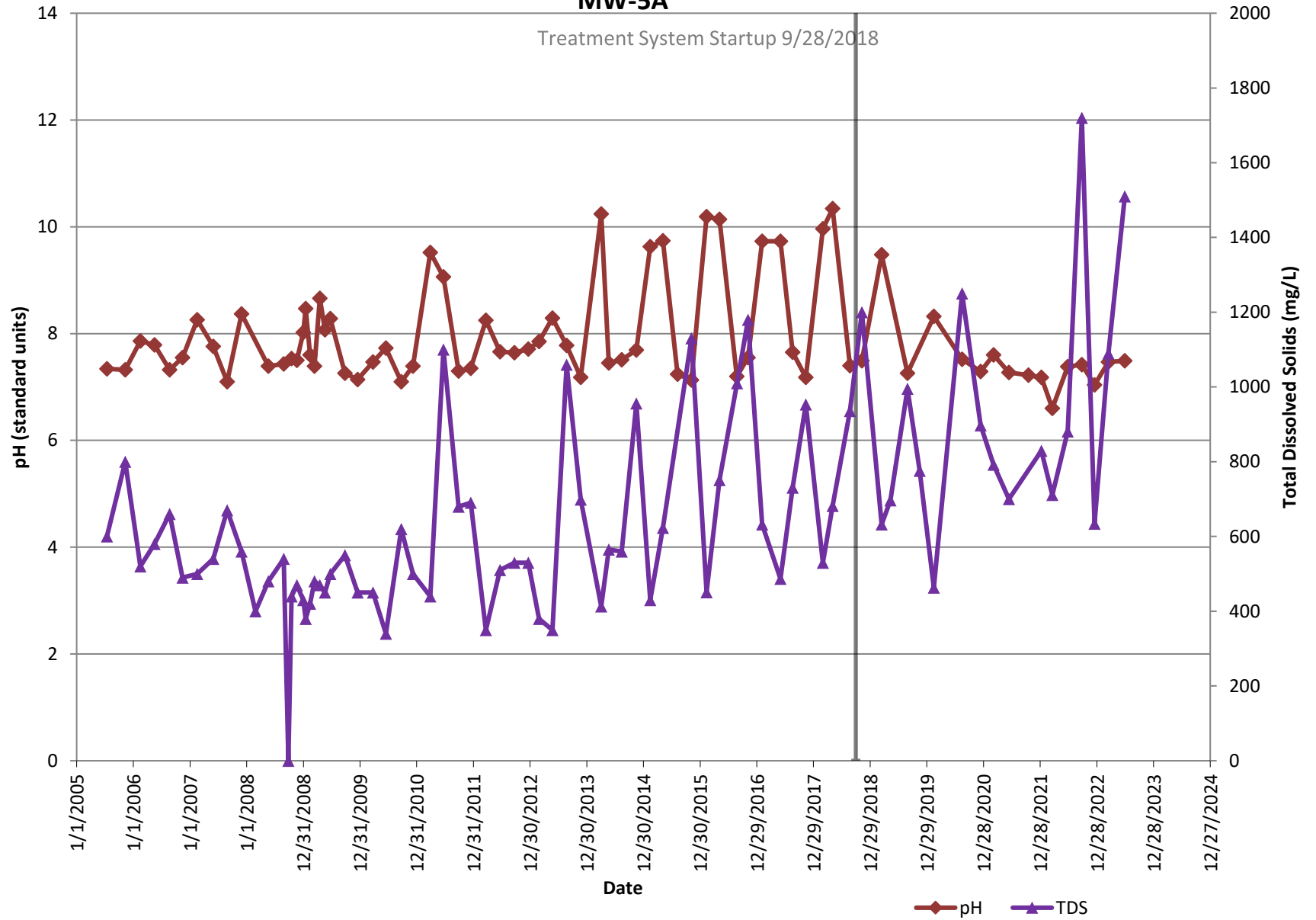
LDA Shallow/Alluvial Monitoring Wells MW-4A



LDA Shallow/Alluvial Monitoring Wells MW-5A



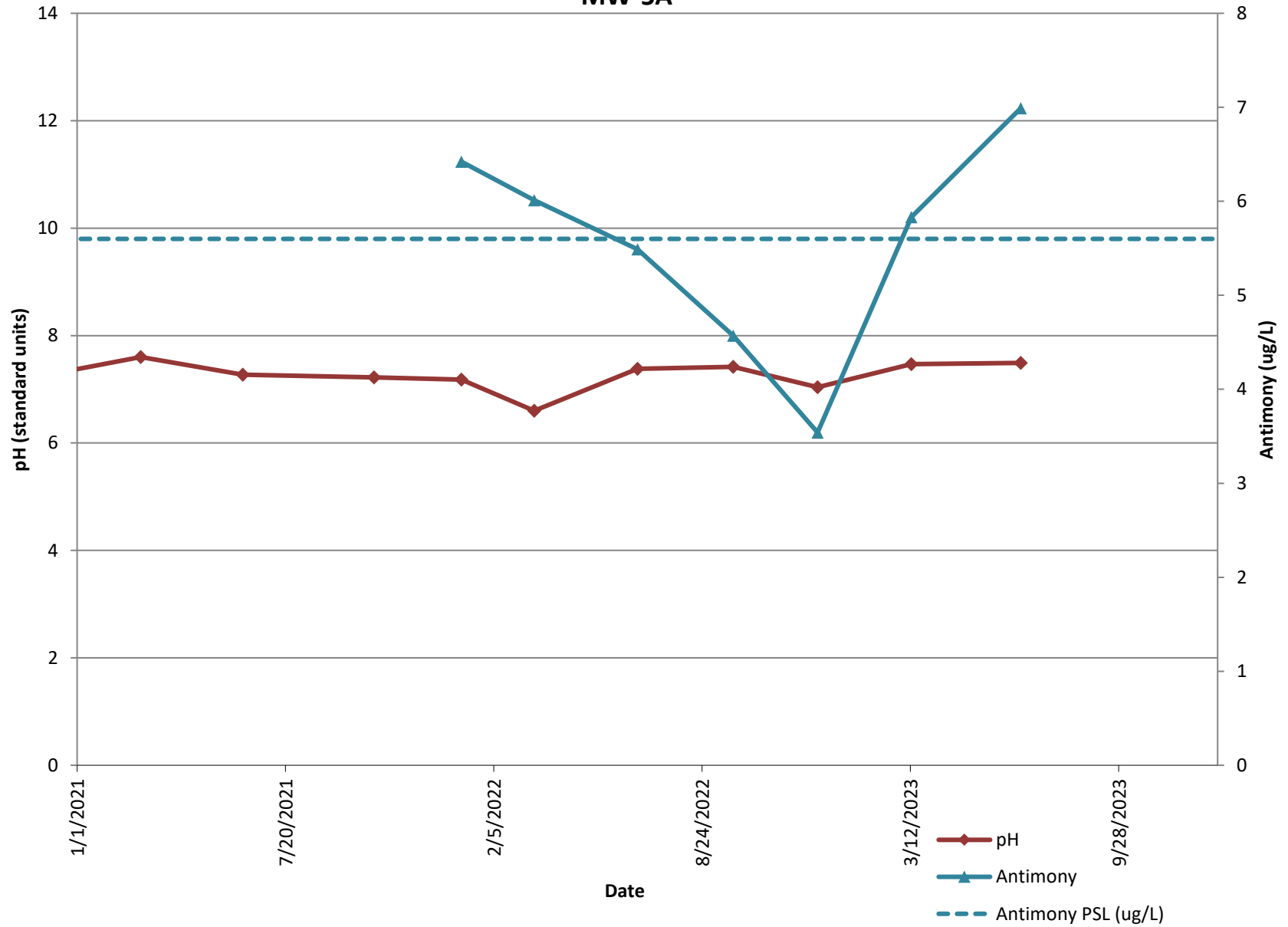
LDA Shallow/Alluvial Monitoring Wells MW-5A



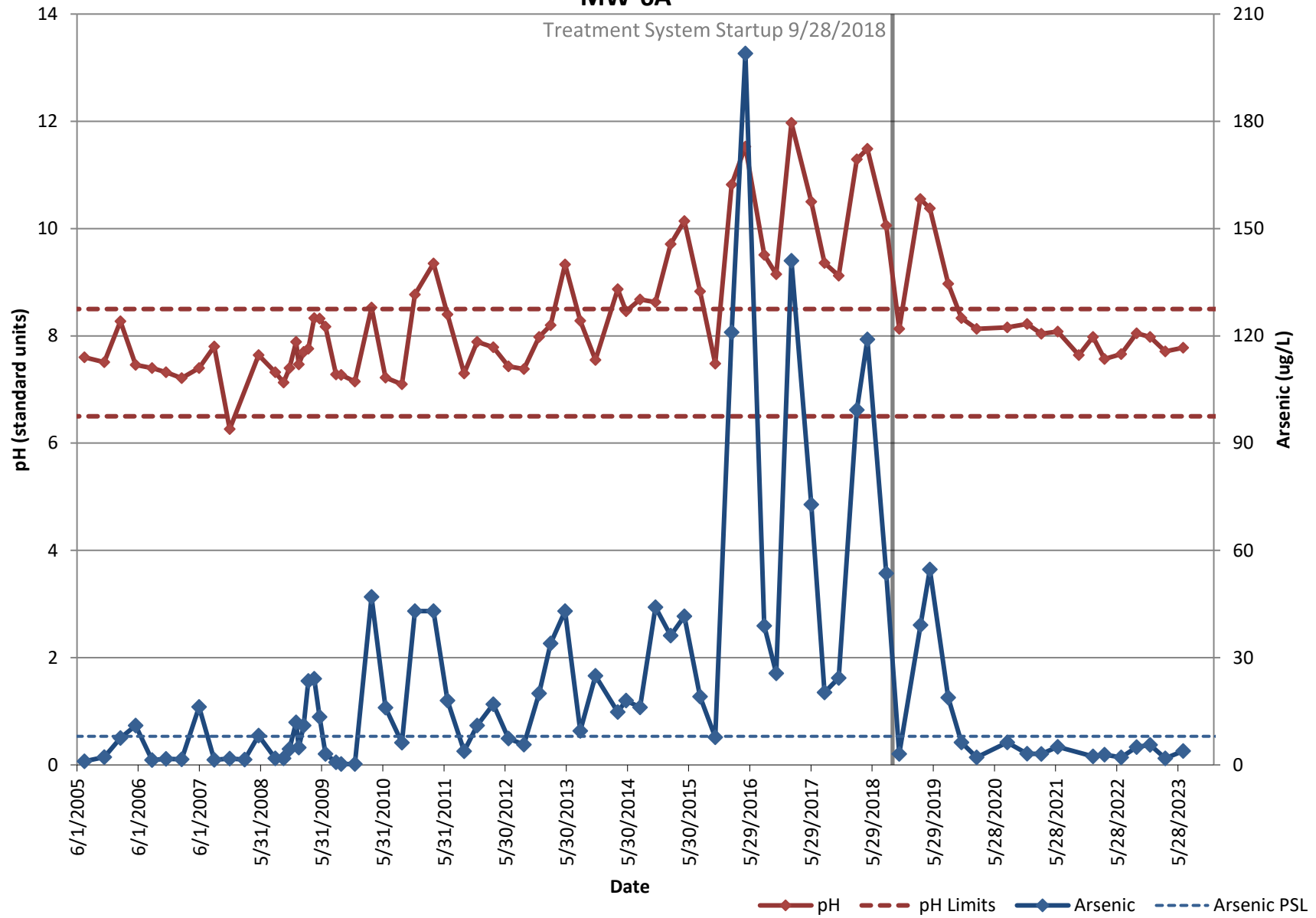
LDA Shallow/Alluvial Monitoring Wells MW-5A



LDA Shallow/Alluvial Monitoring Wells MW-5A

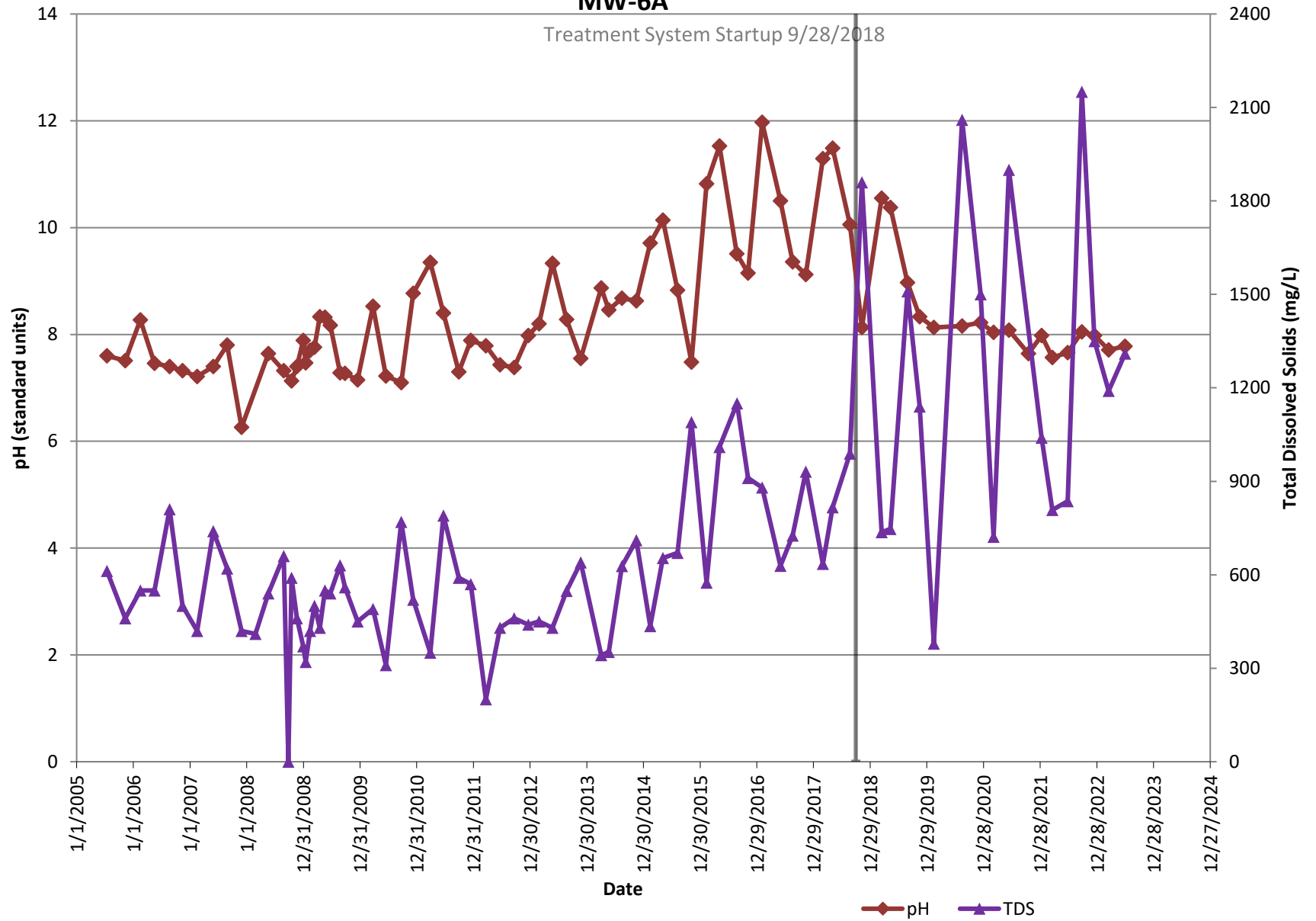


LDA Shallow/Alluvial Monitoring Wells MW-6A

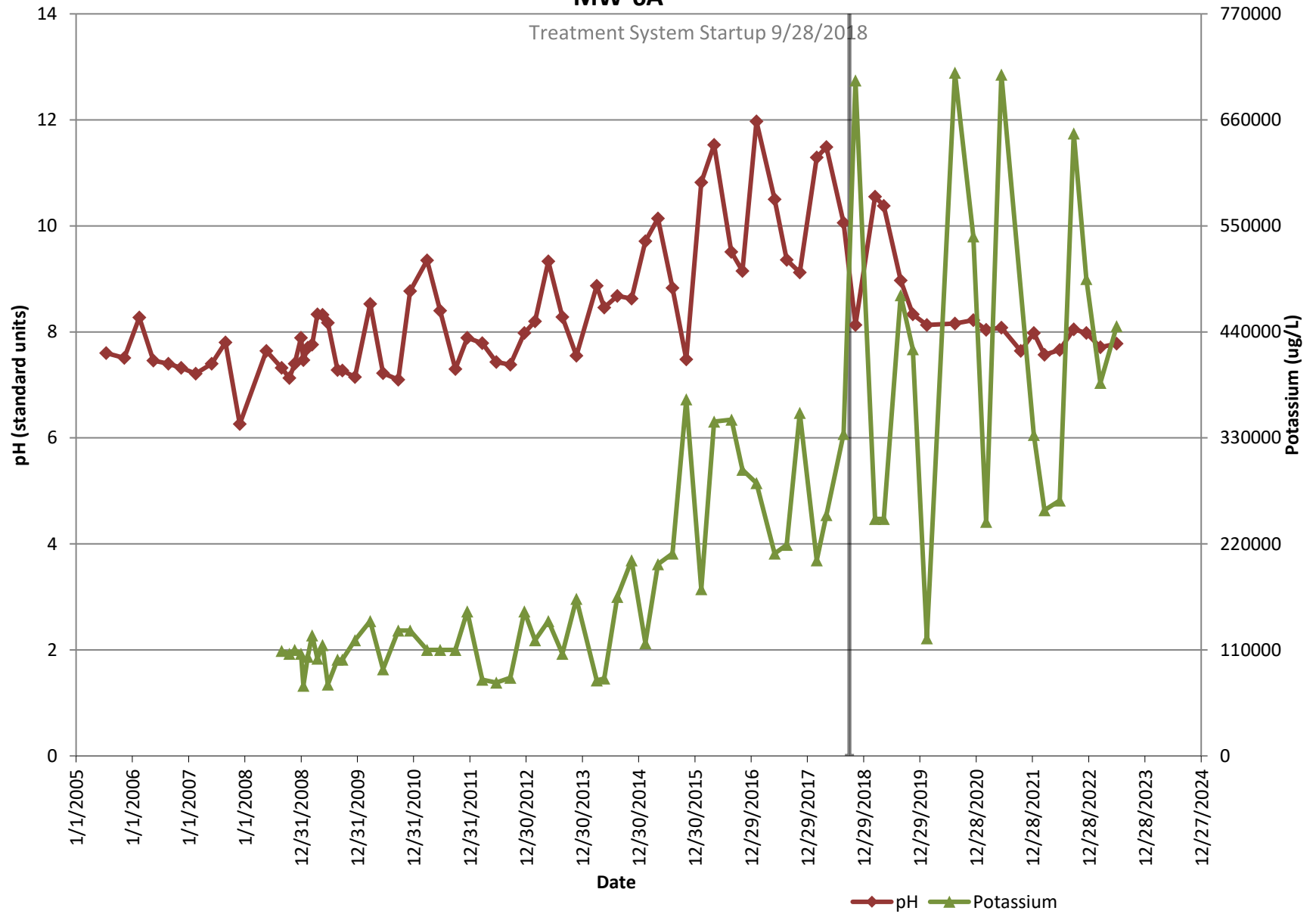


LDA Shallow/Alluvial Monitoring Wells

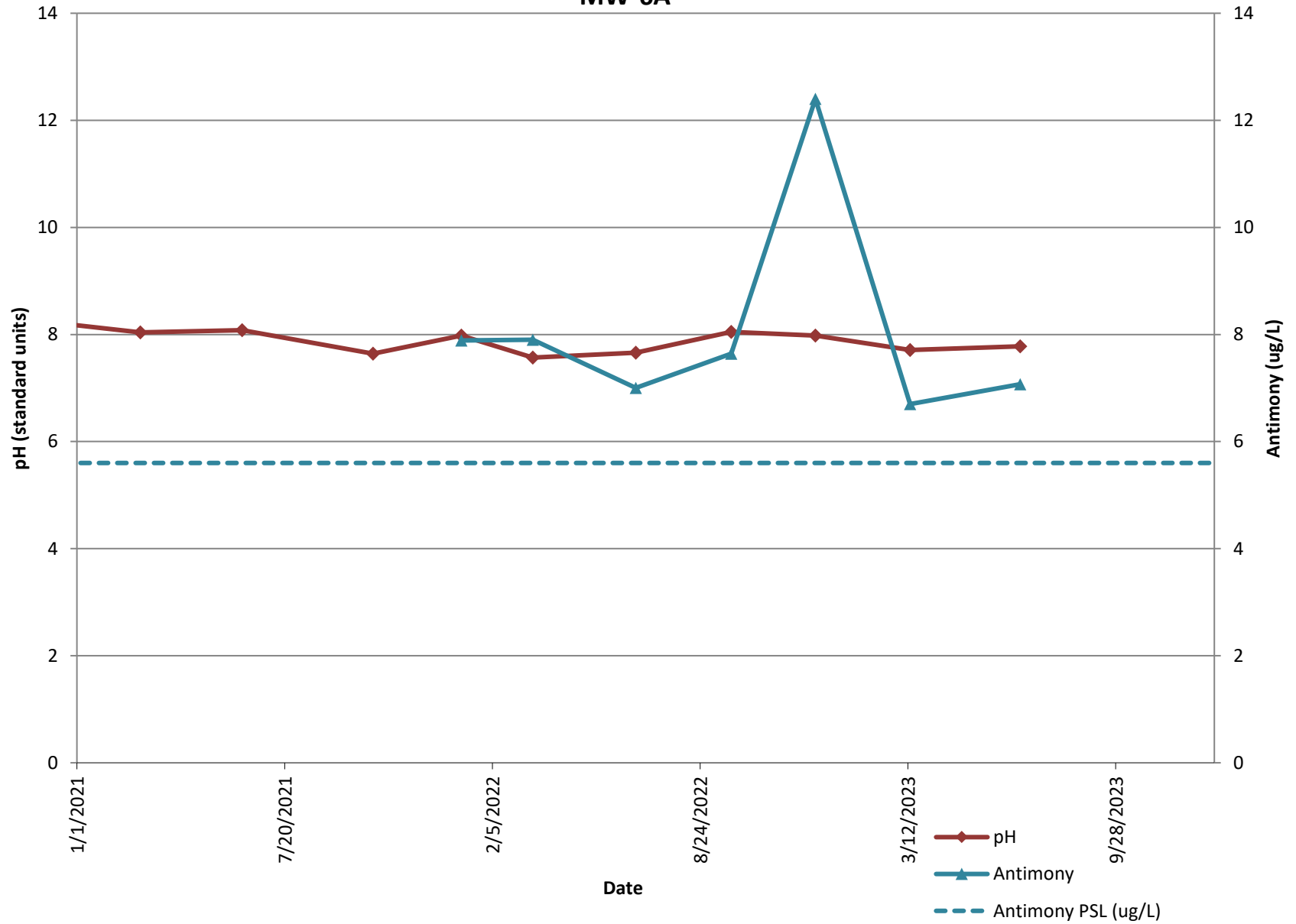
MW-6A



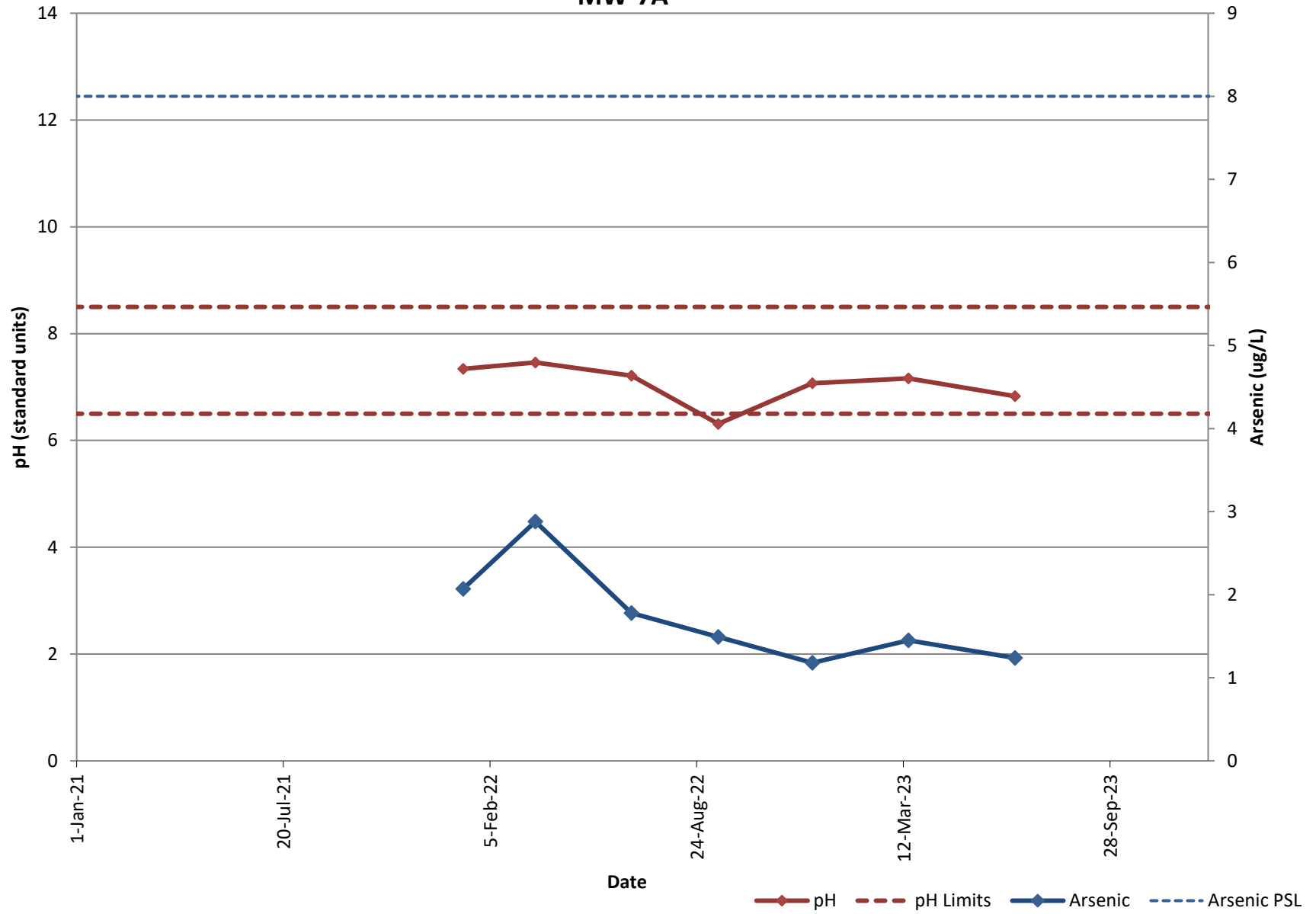
LDA Shallow/Alluvial Monitoring Wells MW-6A



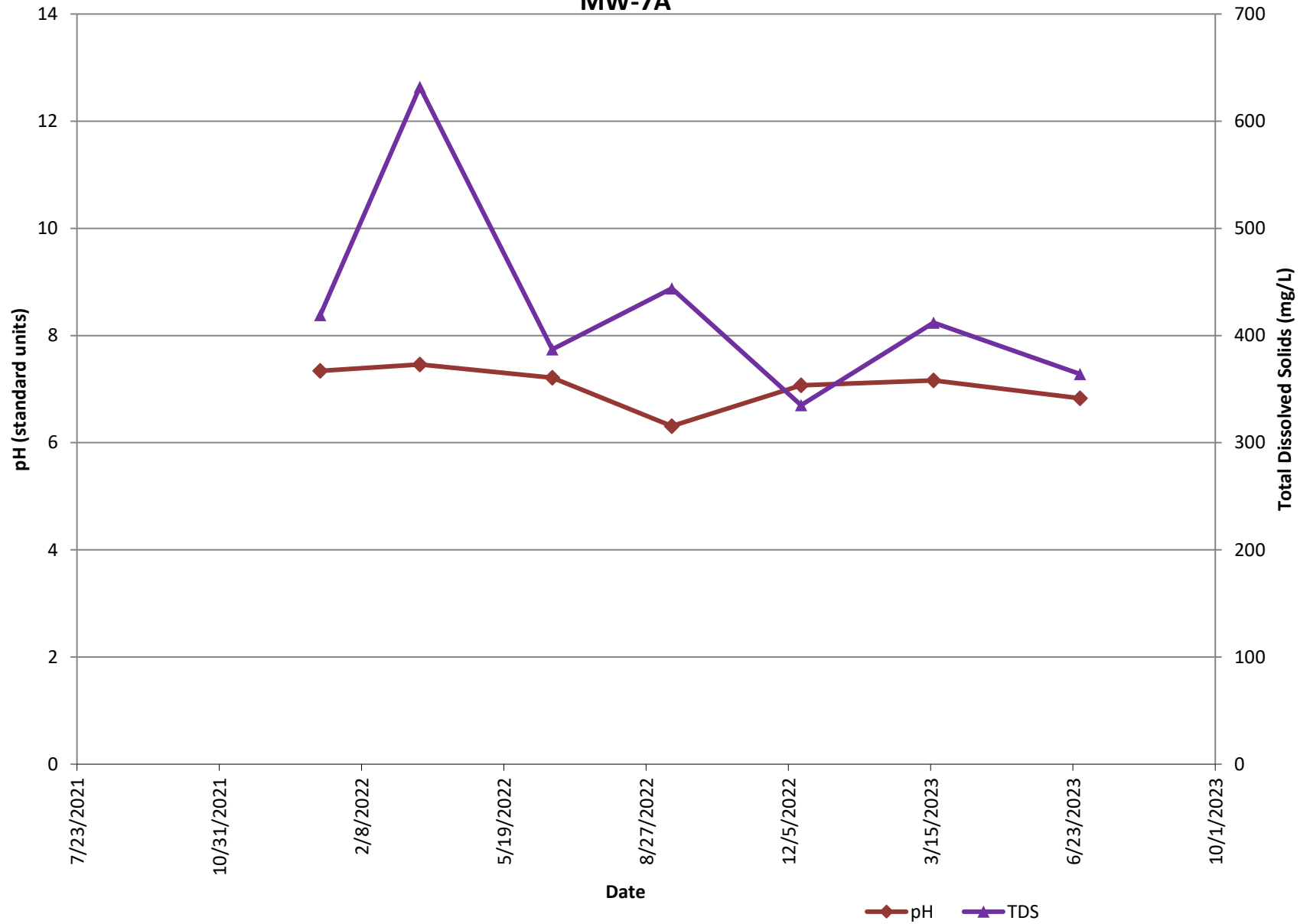
LDA Shallow/Alluvial Monitoring Wells MW-6A



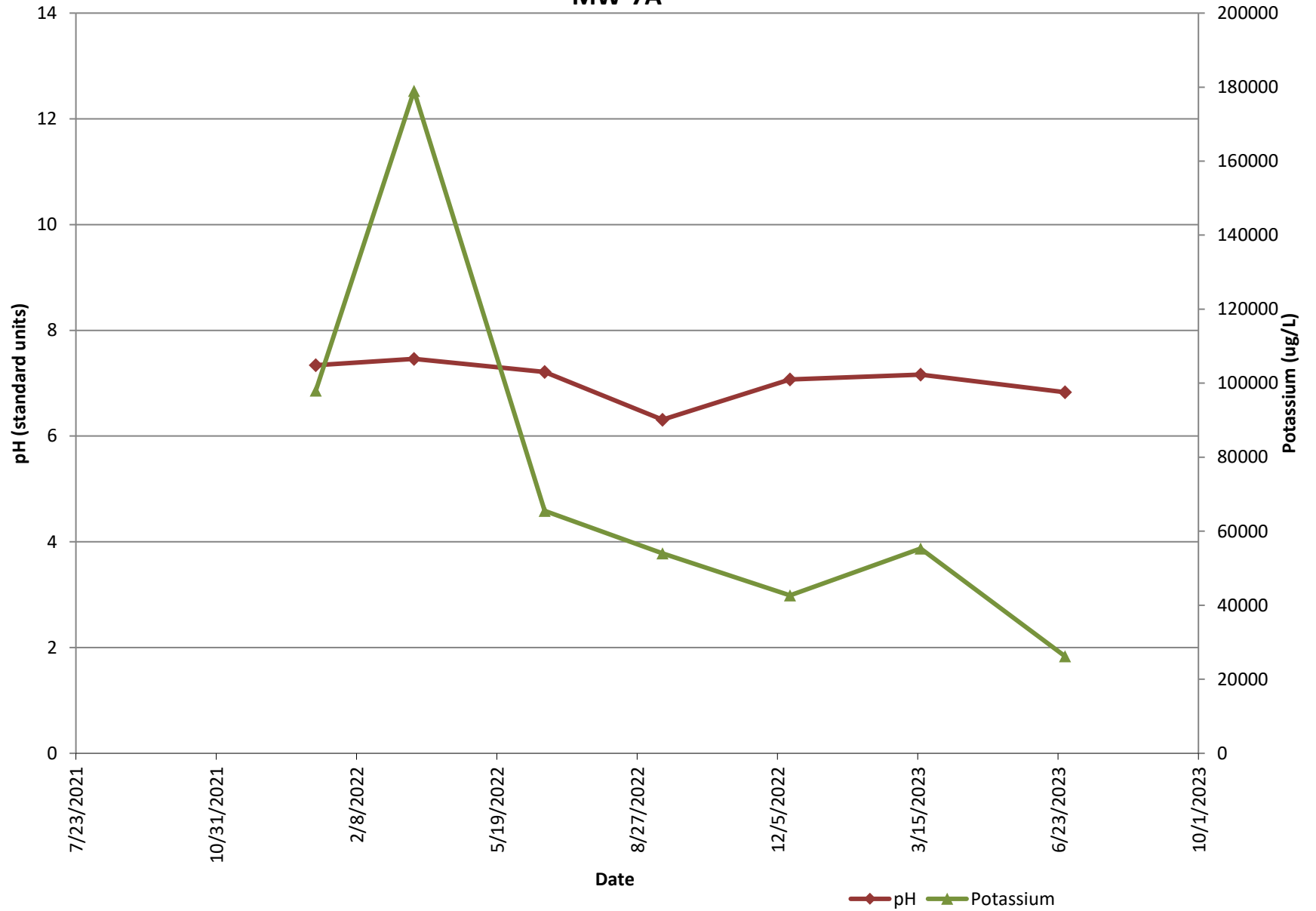
LDA Shallow/Alluvial Monitoring Wells MW-7A



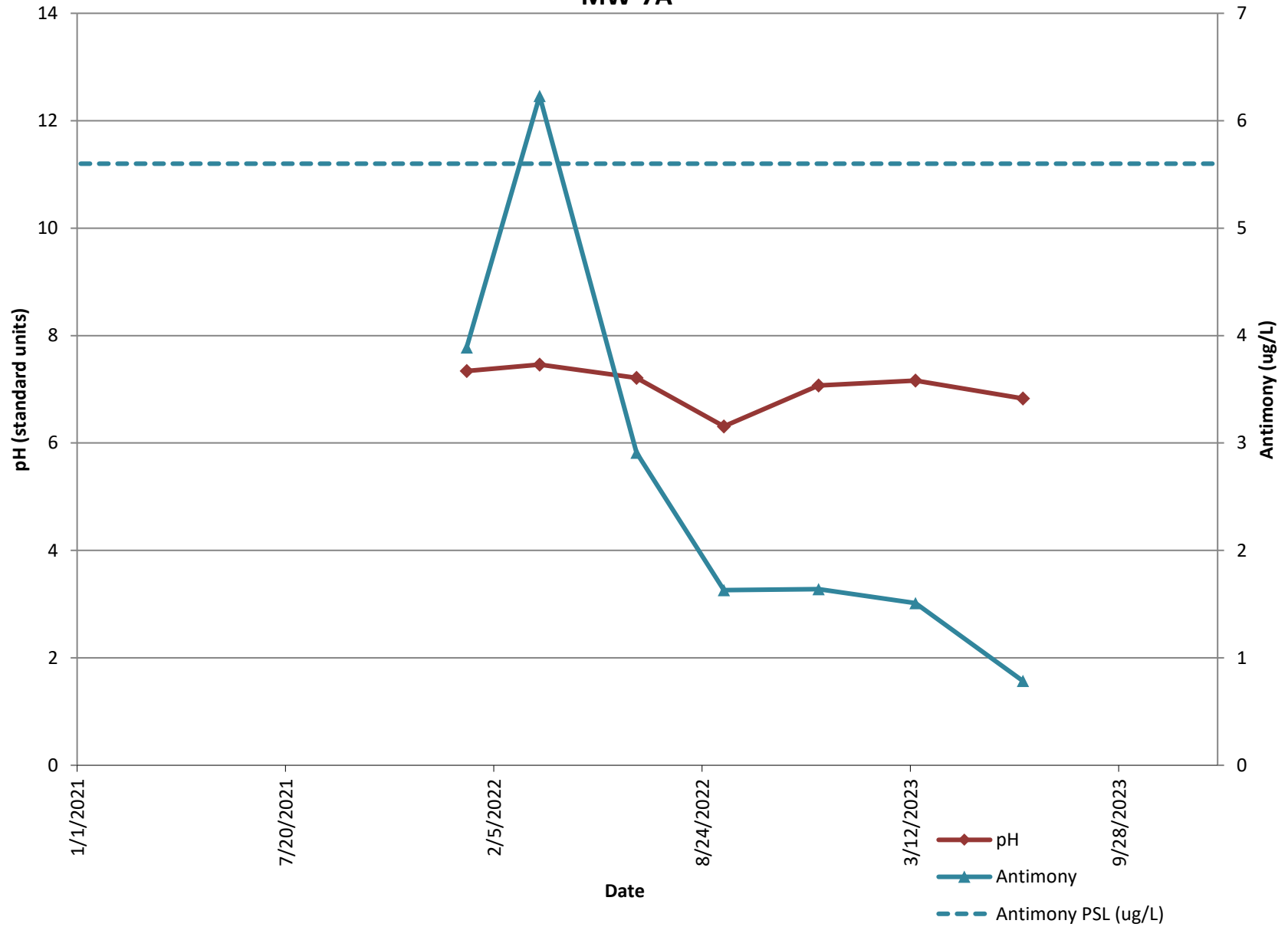
LDA Shallow/Alluvial Monitoring Wells MW-7A



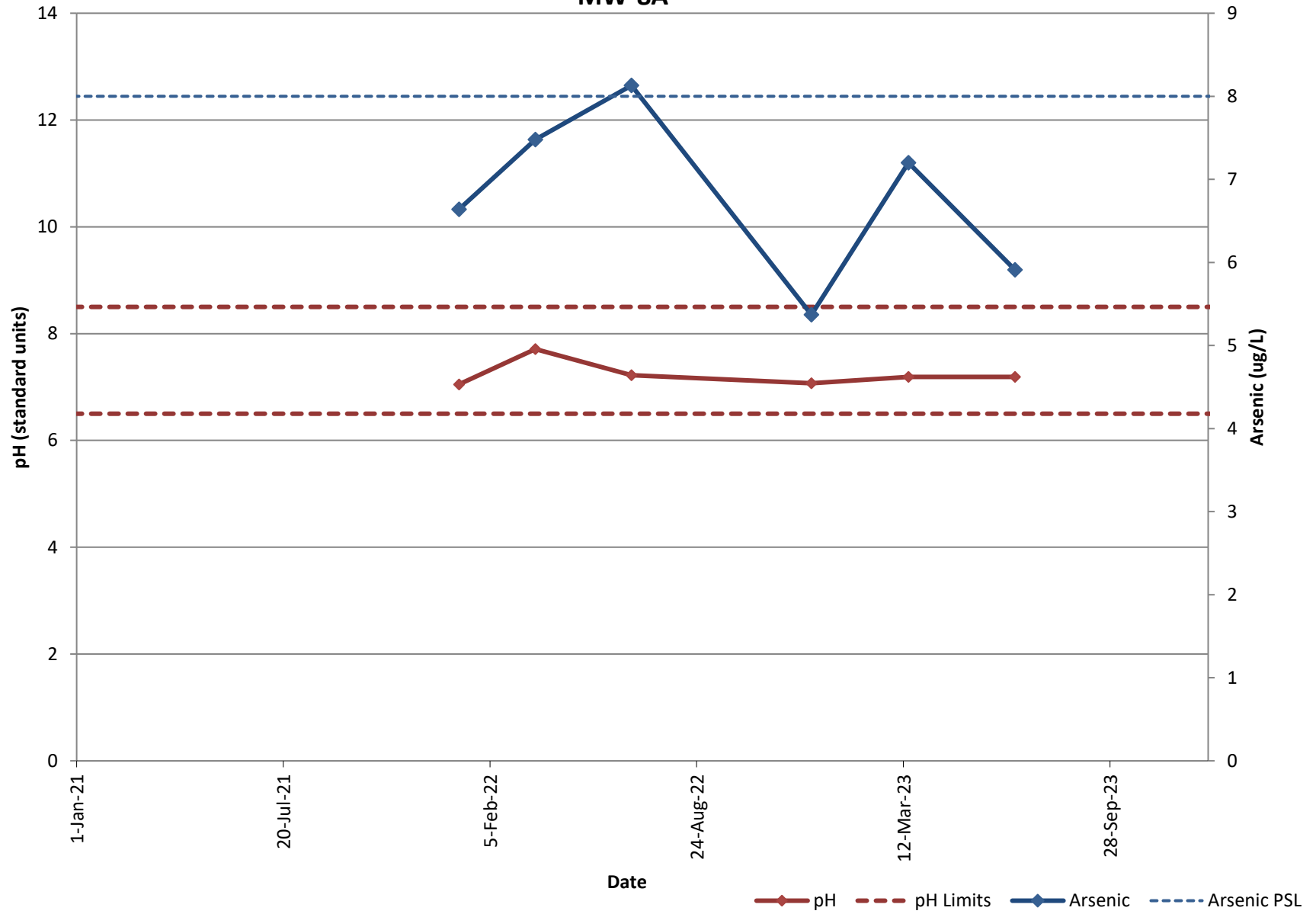
LDA Shallow/Alluvial Monitoring Wells MW-7A



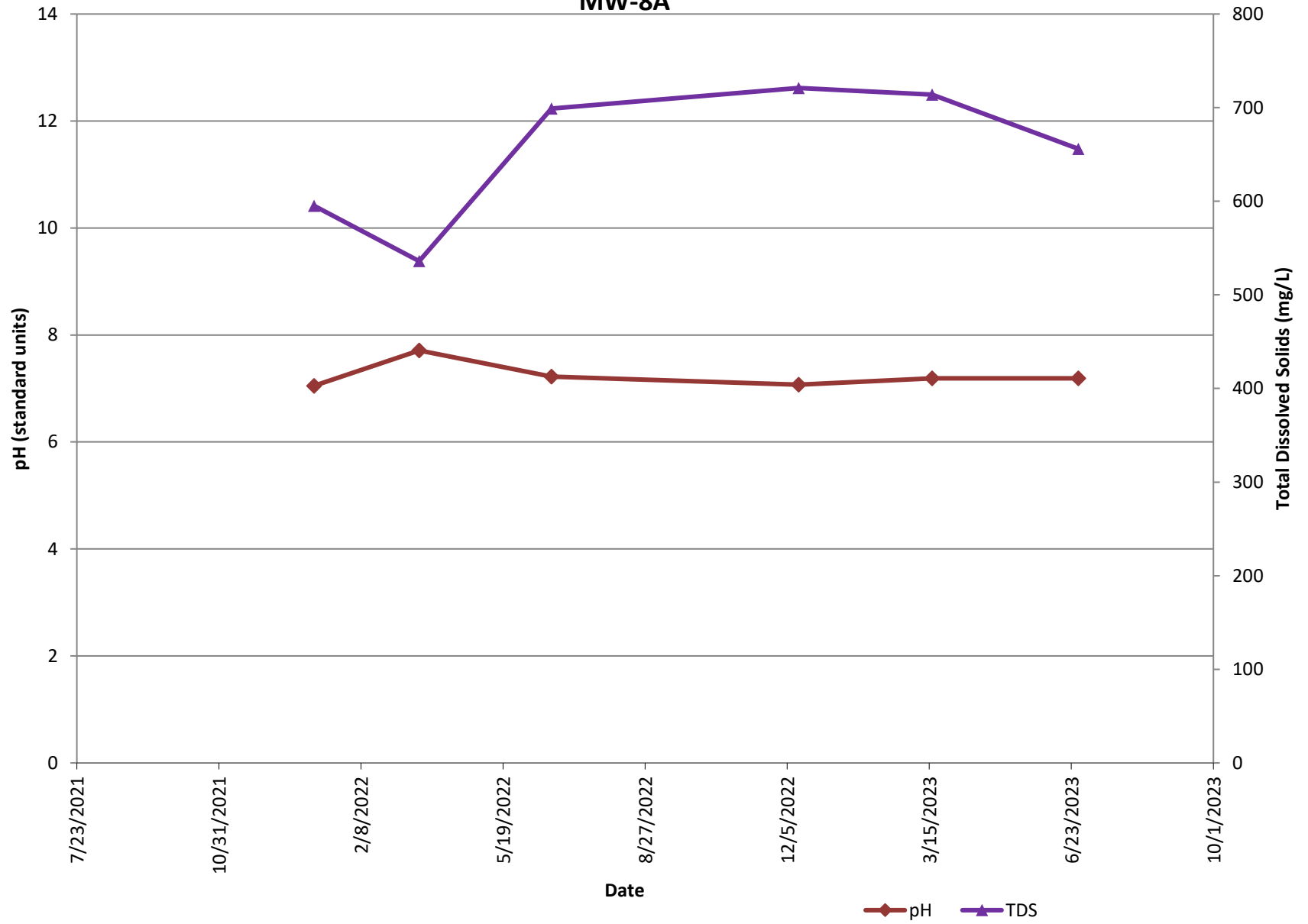
LDA Shallow/Alluvial Monitoring Wells MW-7A



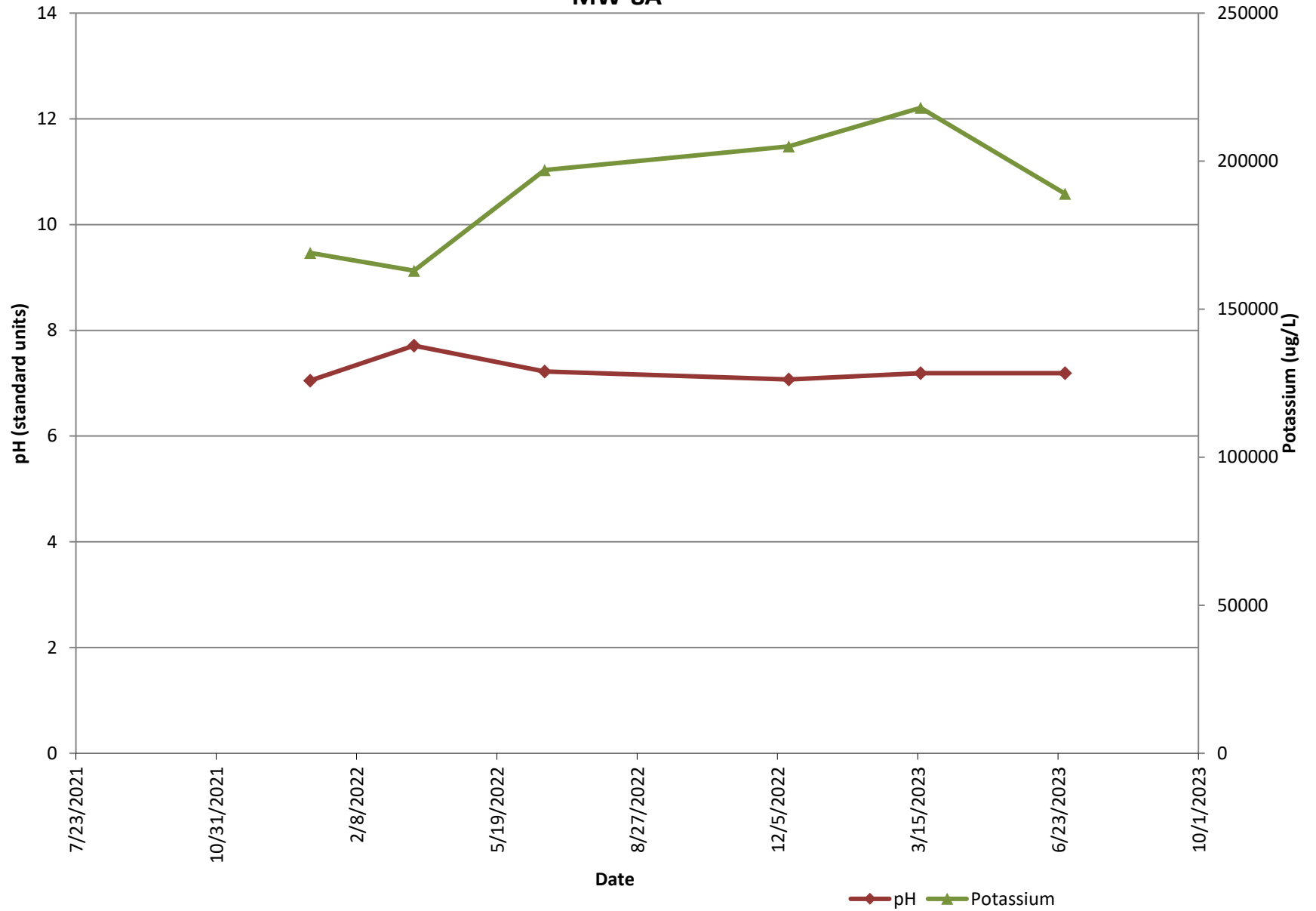
LDA Shallow/Alluvial Monitoring Wells MW-8A



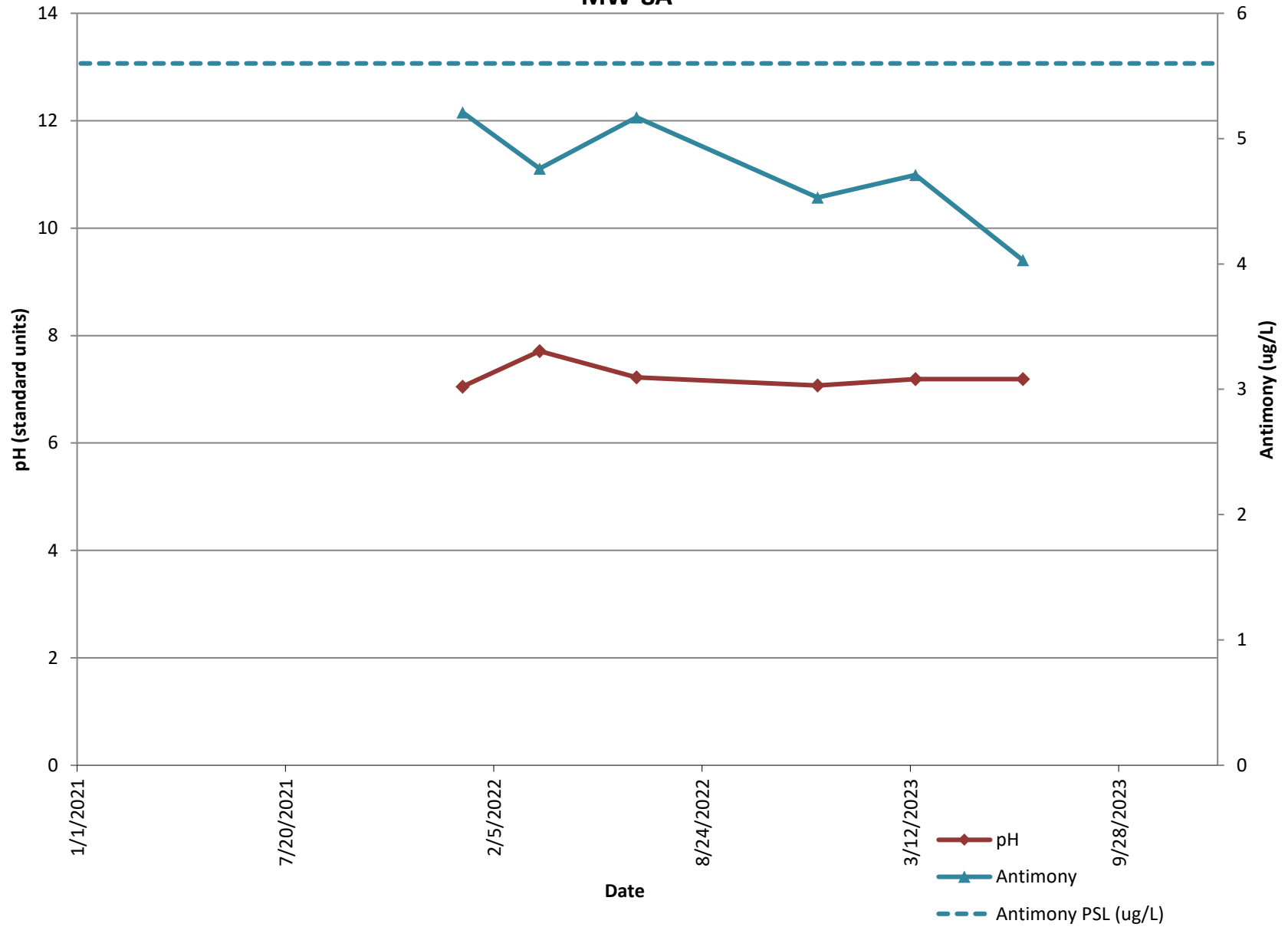
LDA Shallow/Alluvial Monitoring Wells MW-8A



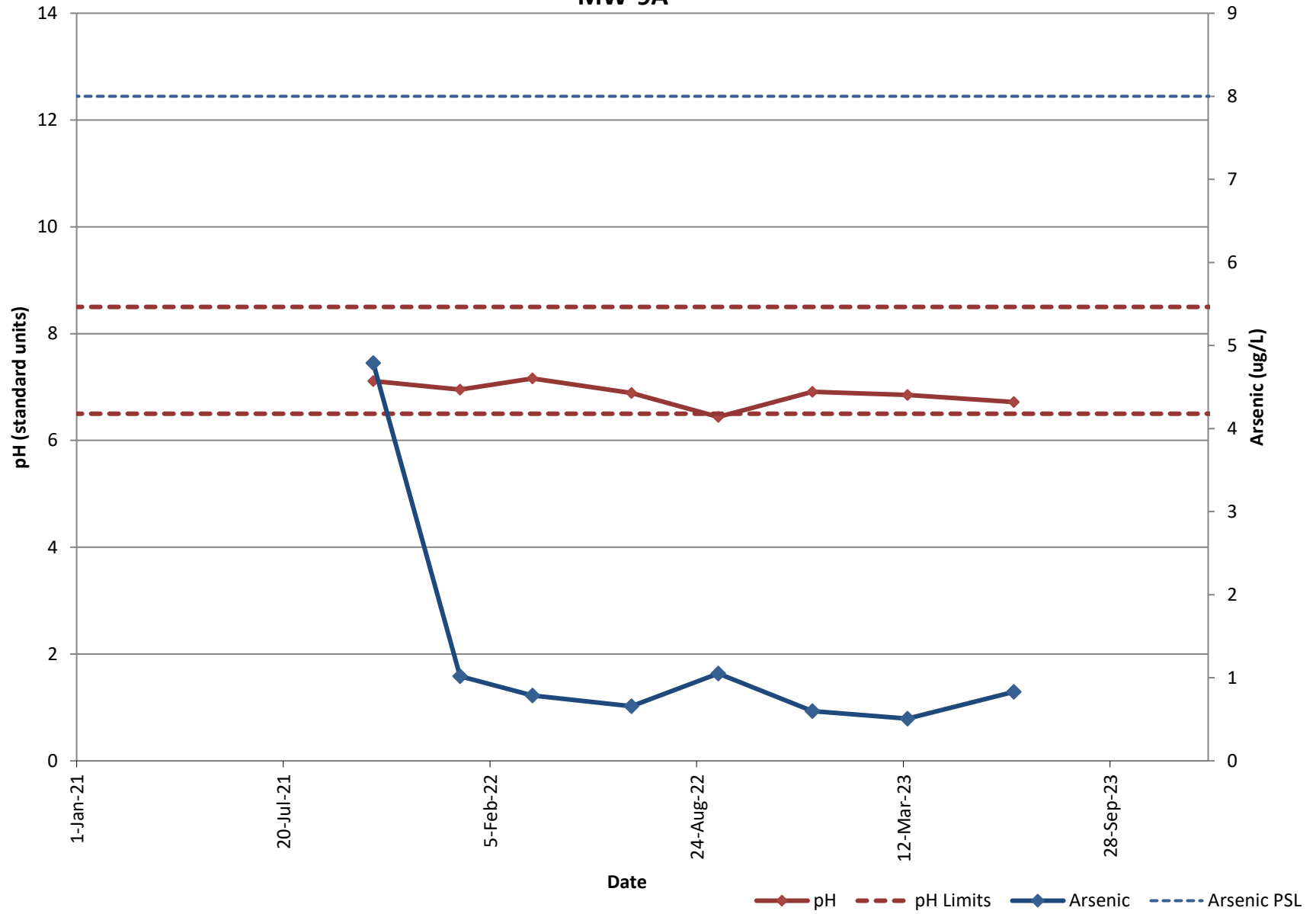
LDA Shallow/Alluvial Monitoring Wells MW-8A



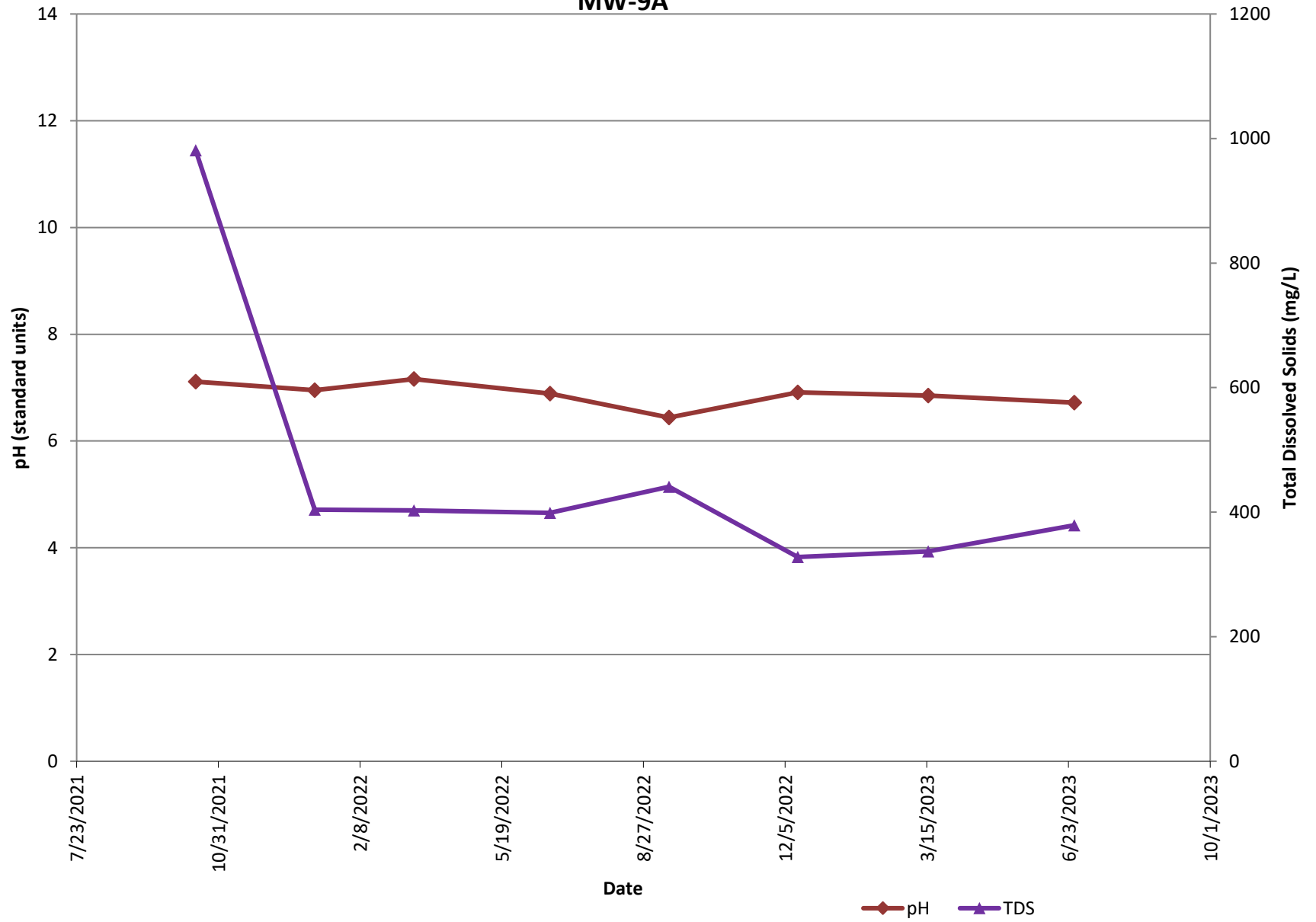
LDA Shallow/Alluvial Monitoring Wells MW-8A



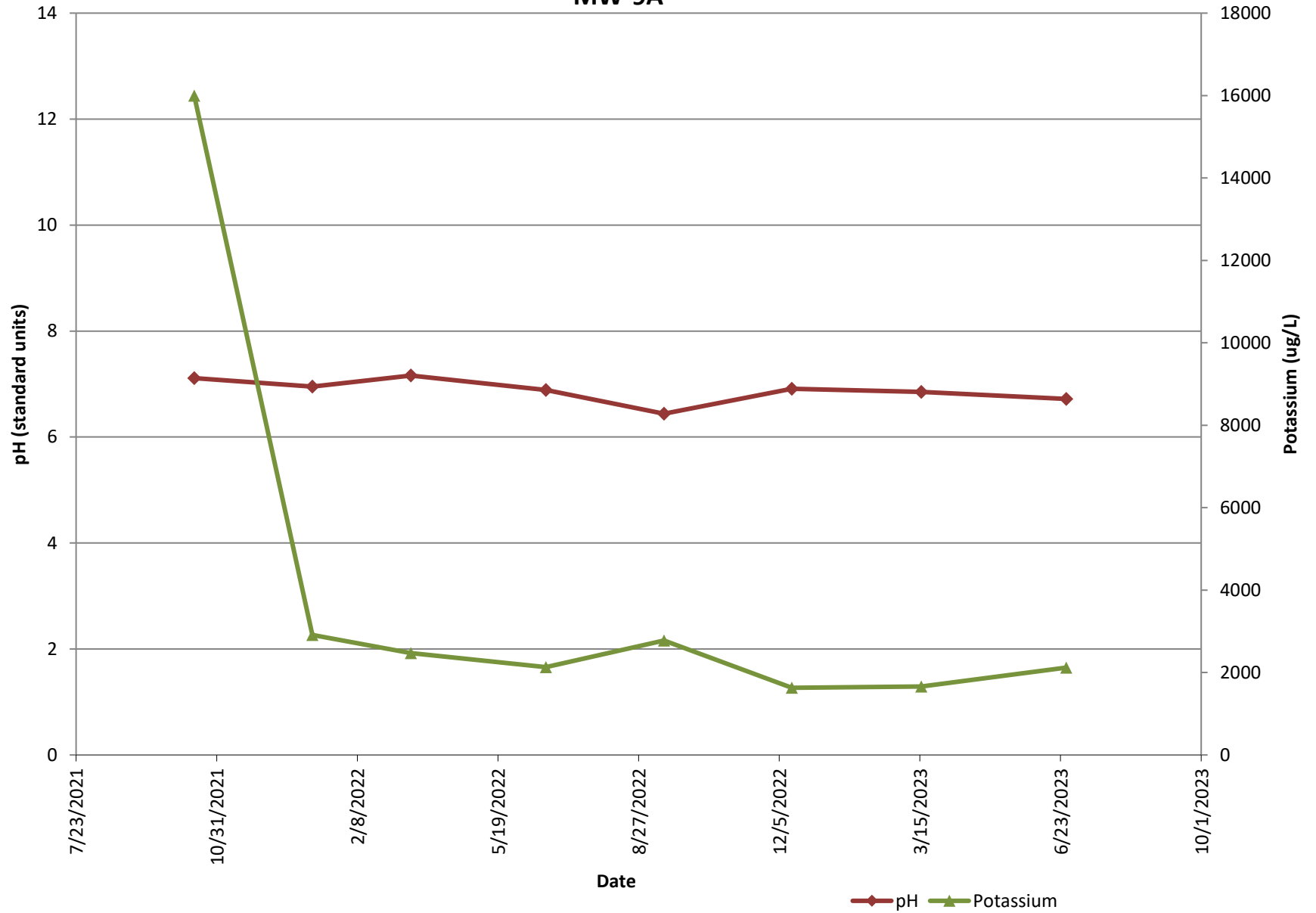
LDA Shallow/Alluvial Monitoring Wells MW-9A



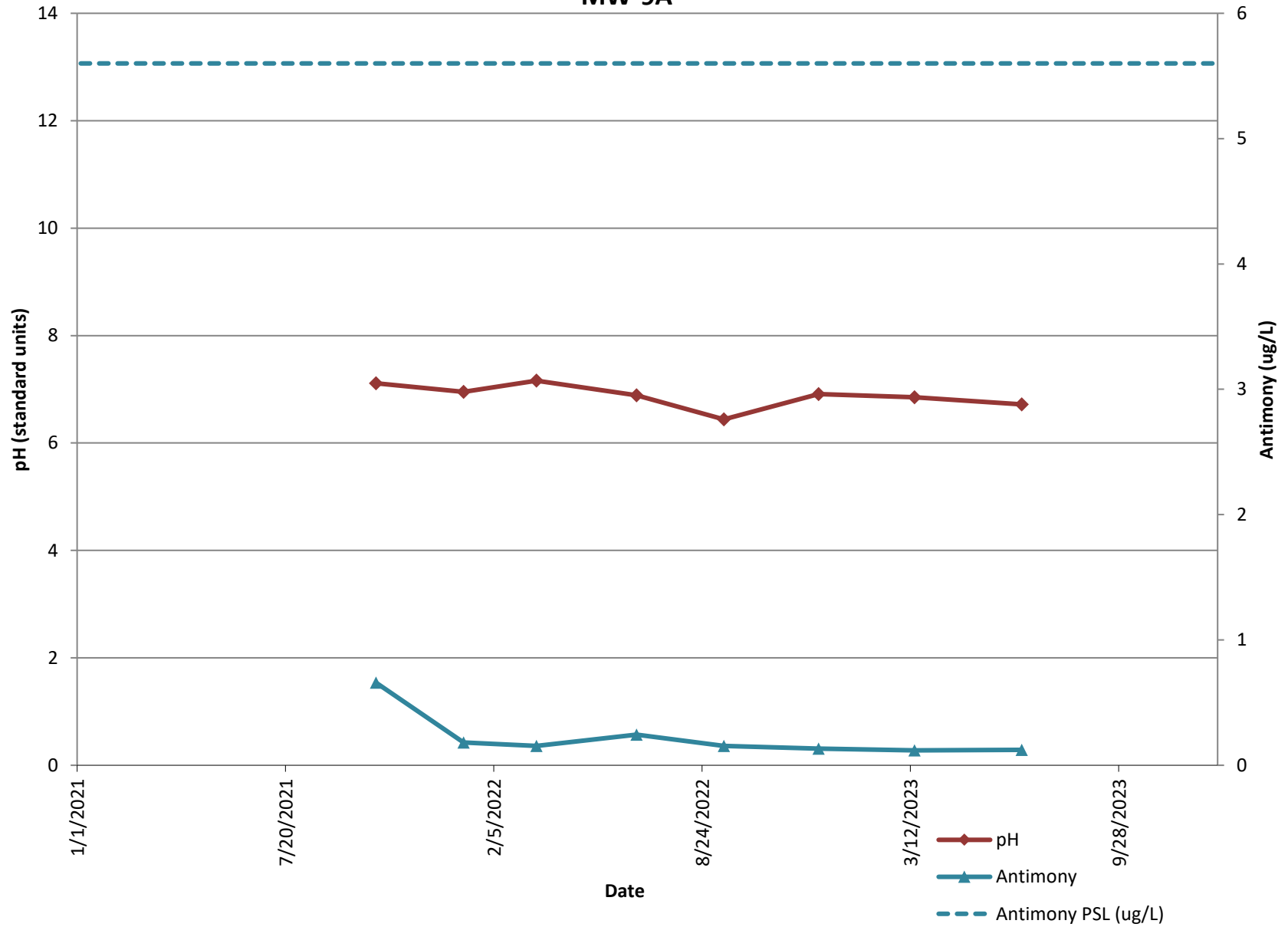
LDA Shallow/Alluvial Monitoring Wells MW-9A



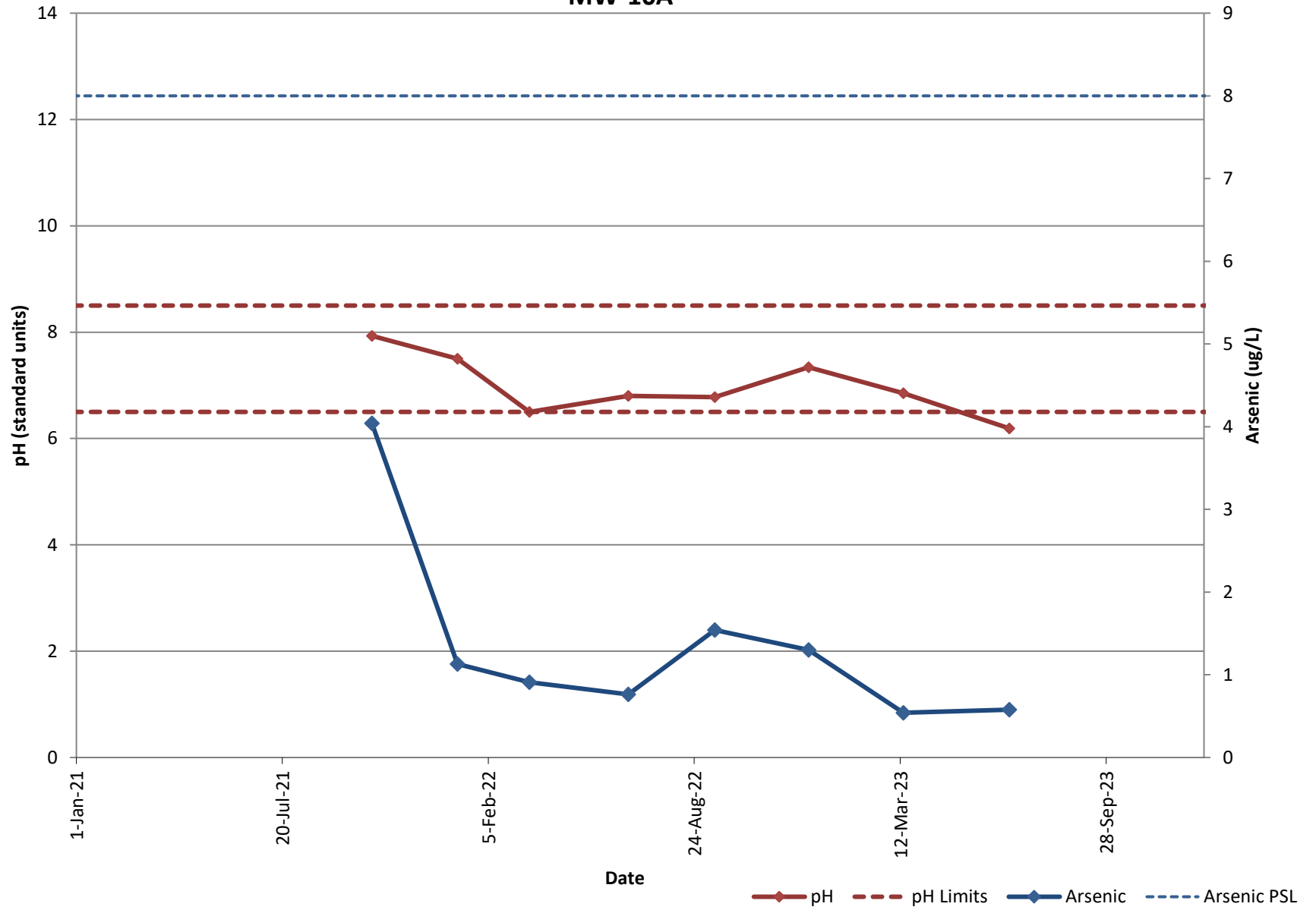
LDA Shallow/Alluvial Monitoring Wells MW-9A



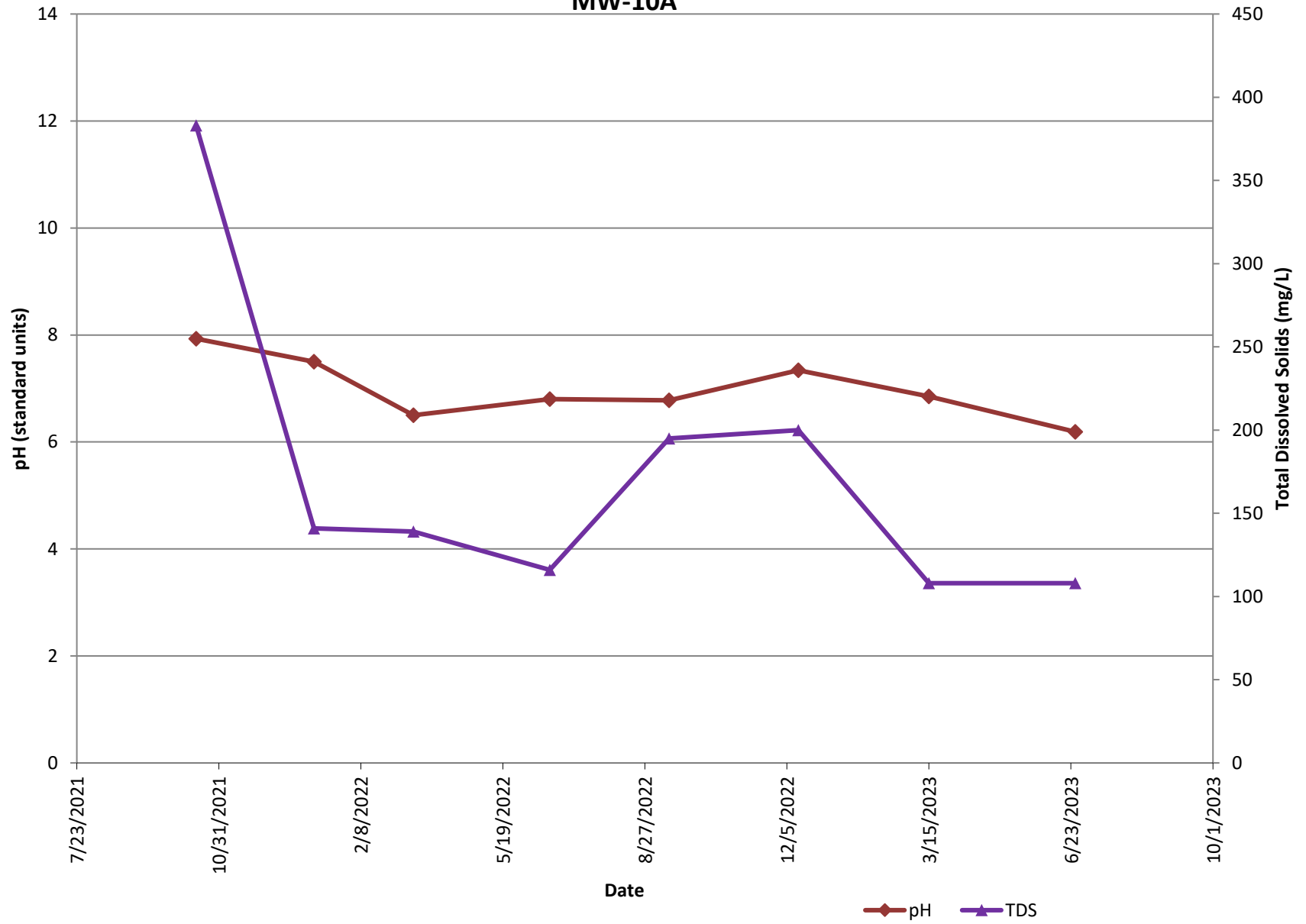
LDA Shallow/Alluvial Monitoring Wells MW-9A



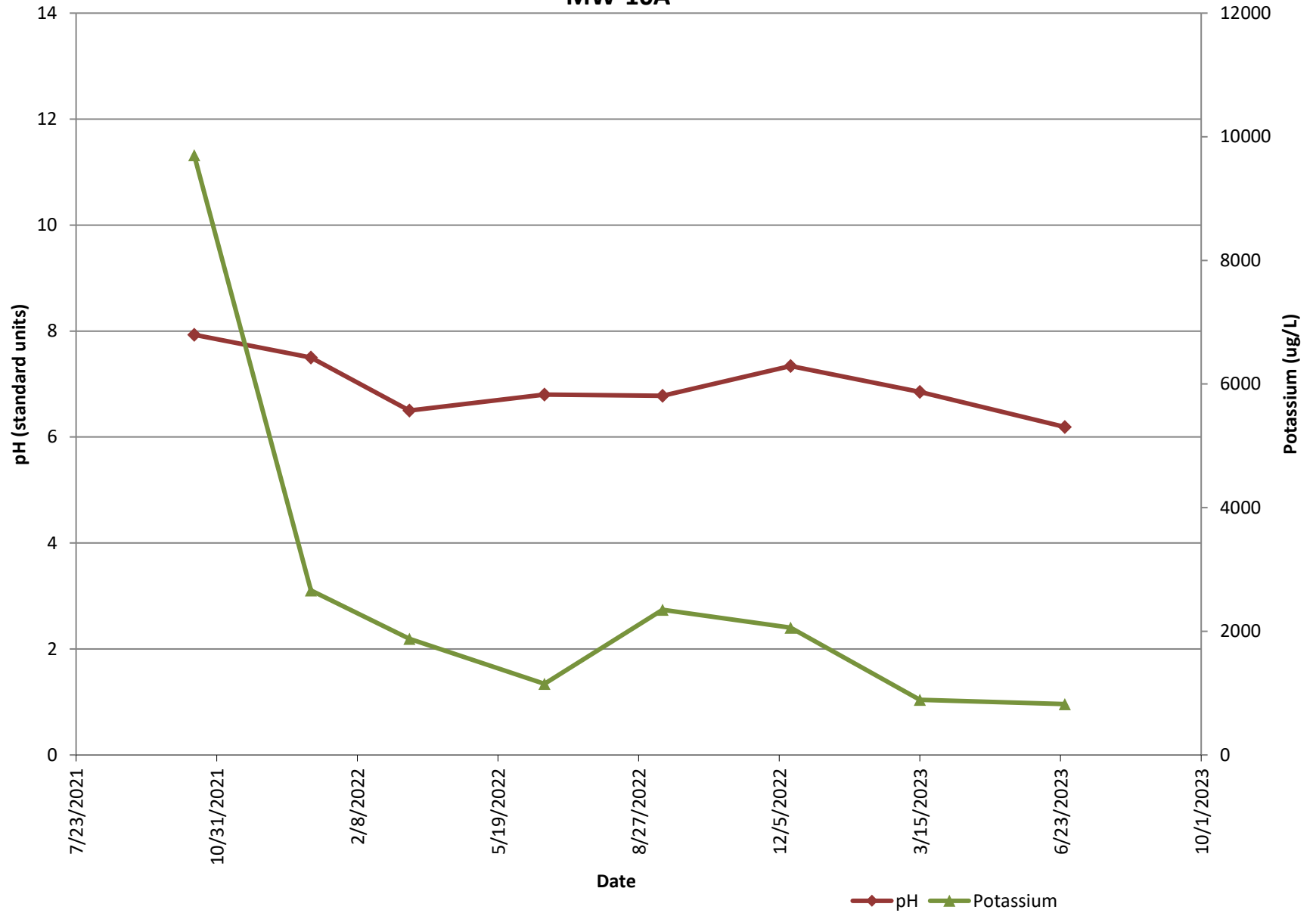
LDA Shallow/Alluvial Monitoring Wells MW-10A



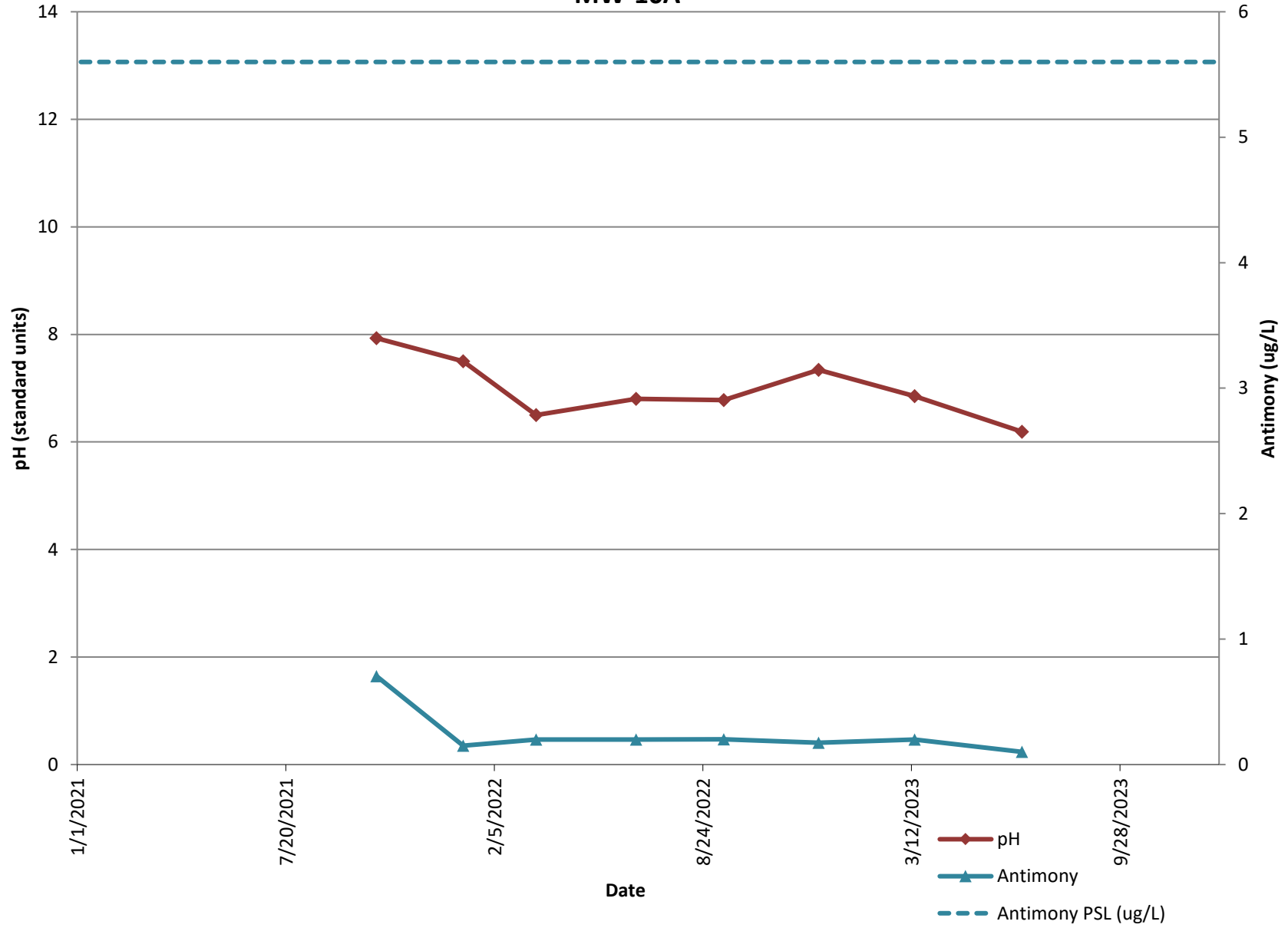
LDA Shallow/Alluvial Monitoring Wells MW-10A



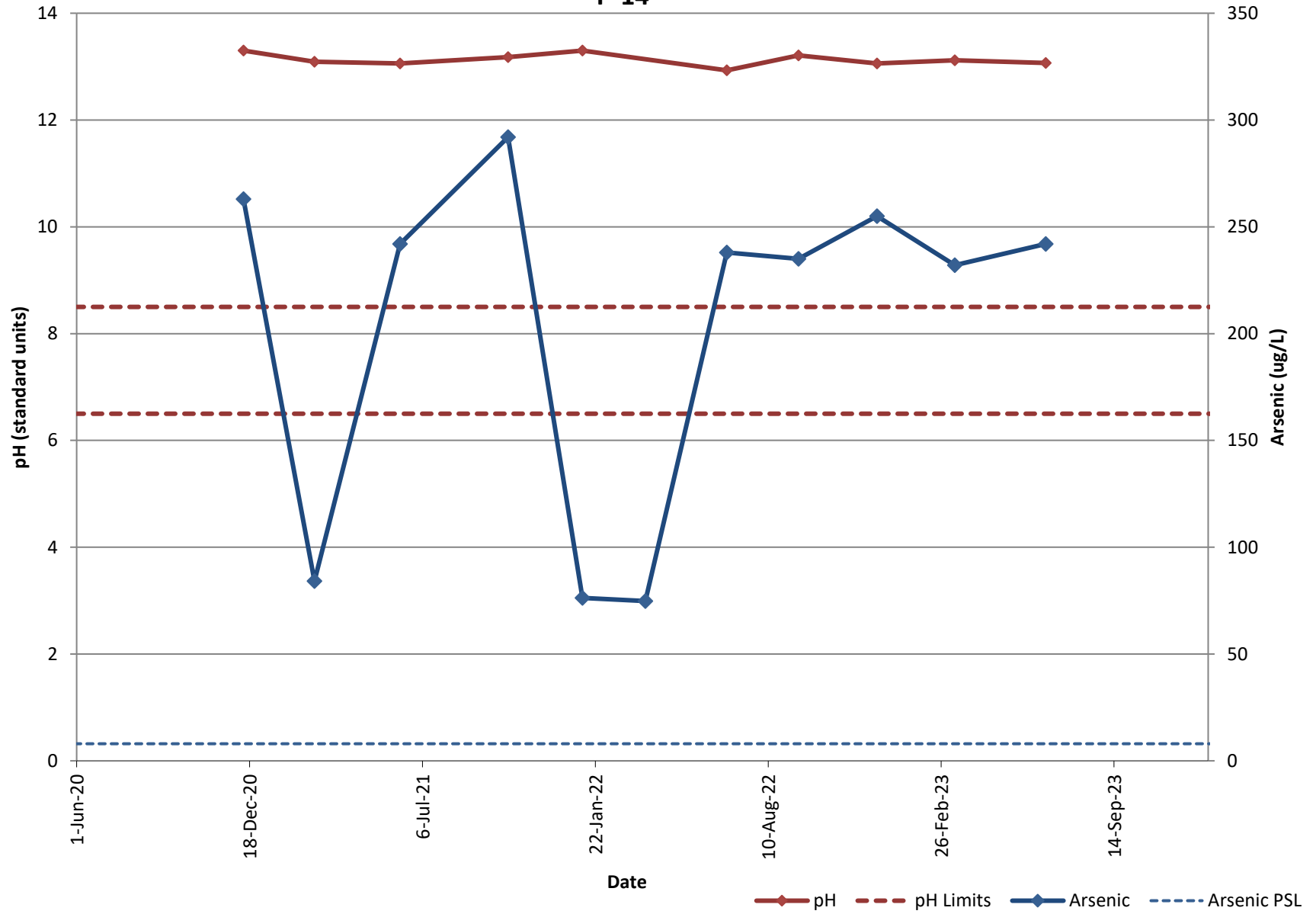
LDA Shallow/Alluvial Monitoring Wells MW-10A



LDA Shallow/Alluvial Monitoring Wells MW-10A

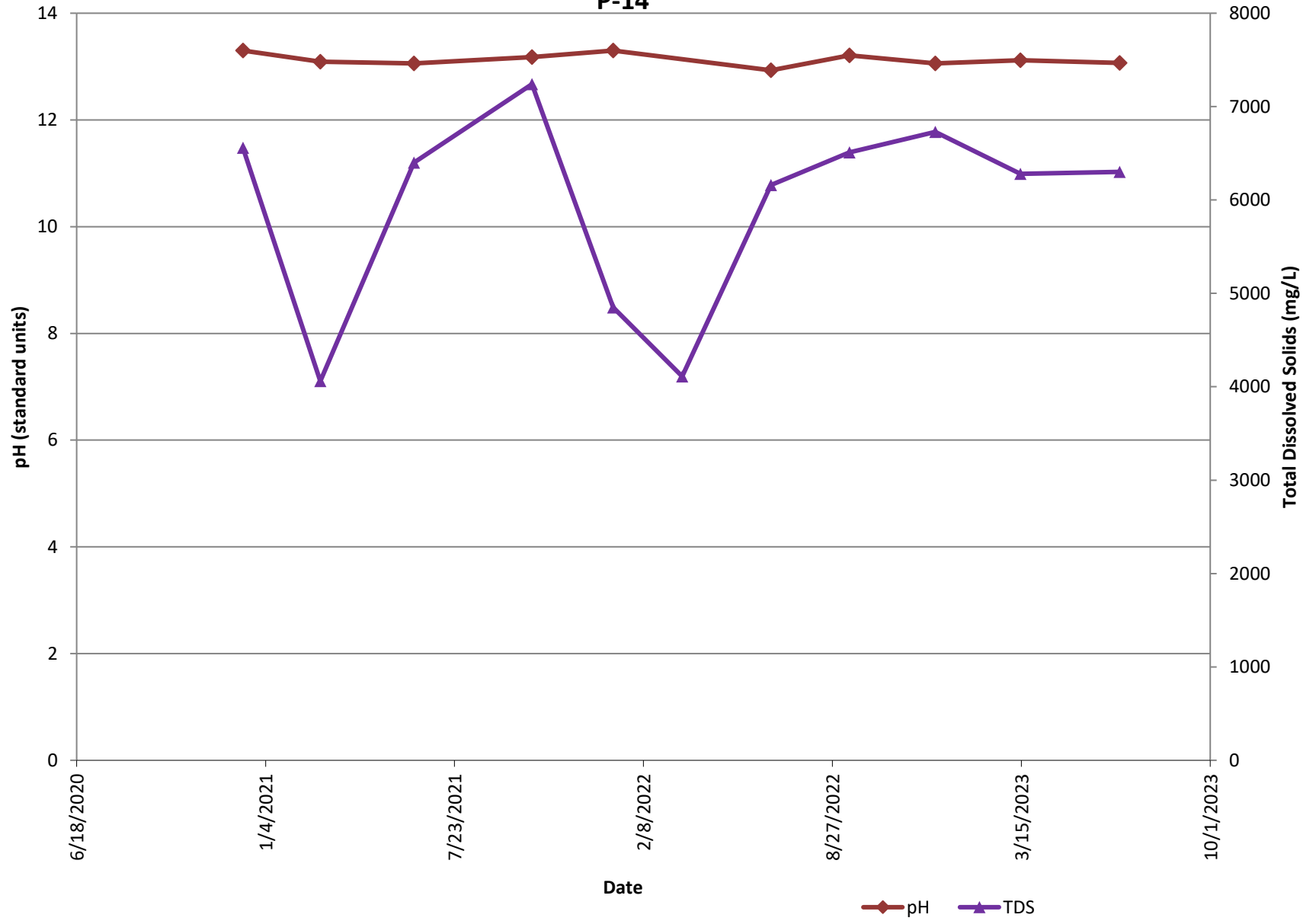


LDA Shallow/Alluvial Monitoring Wells P-14

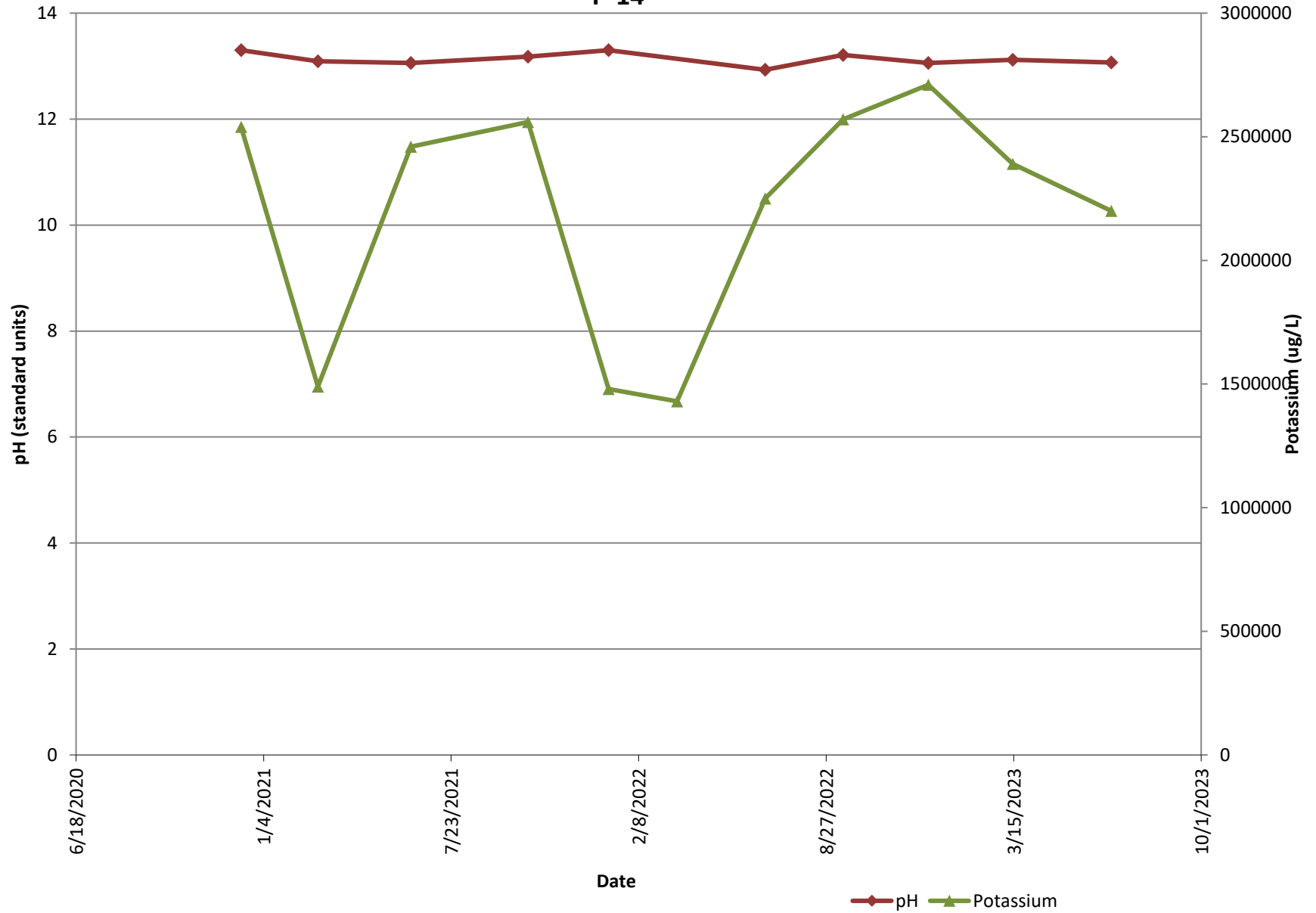


LDA Shallow/Alluvial Monitoring Wells

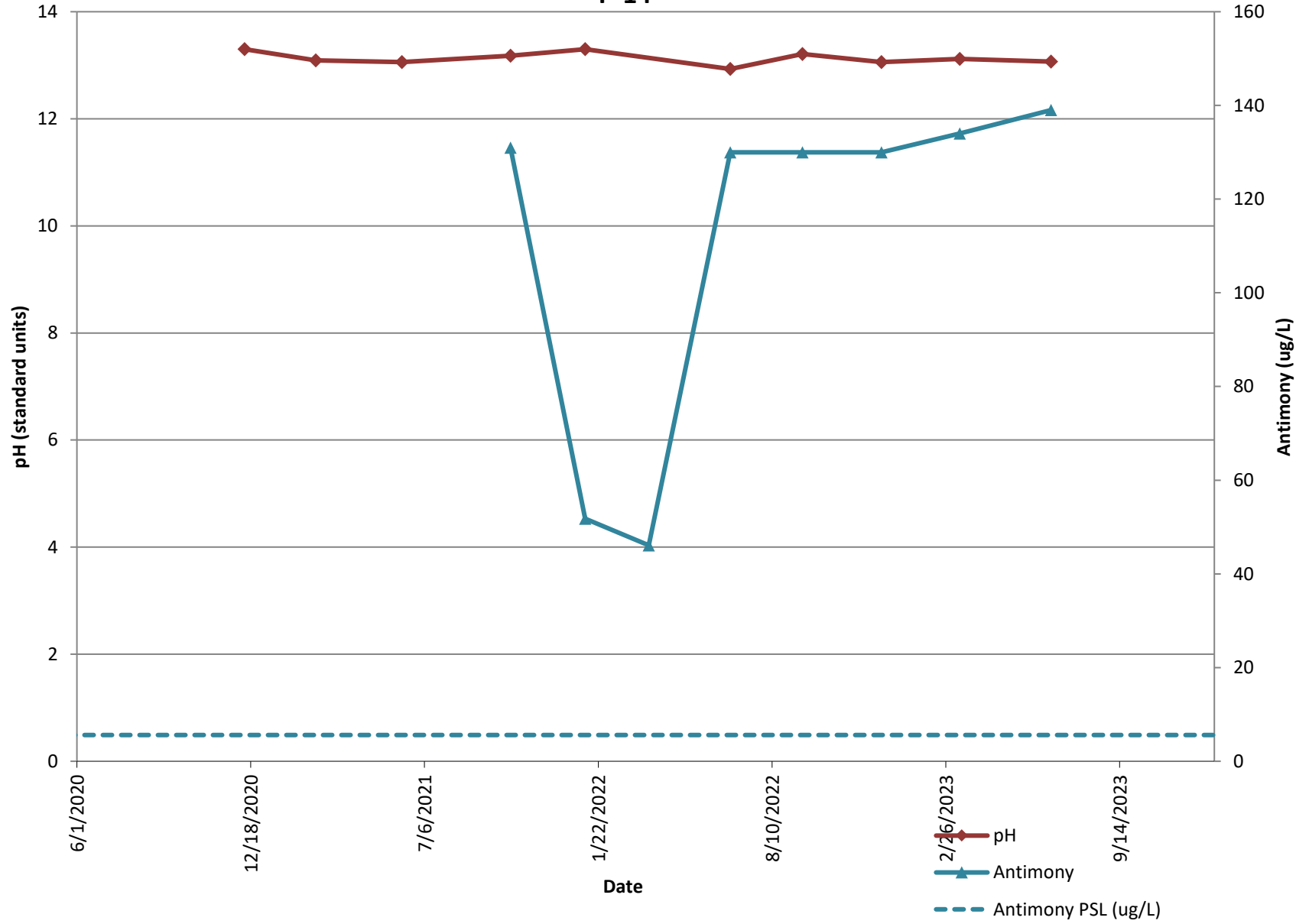
P-14



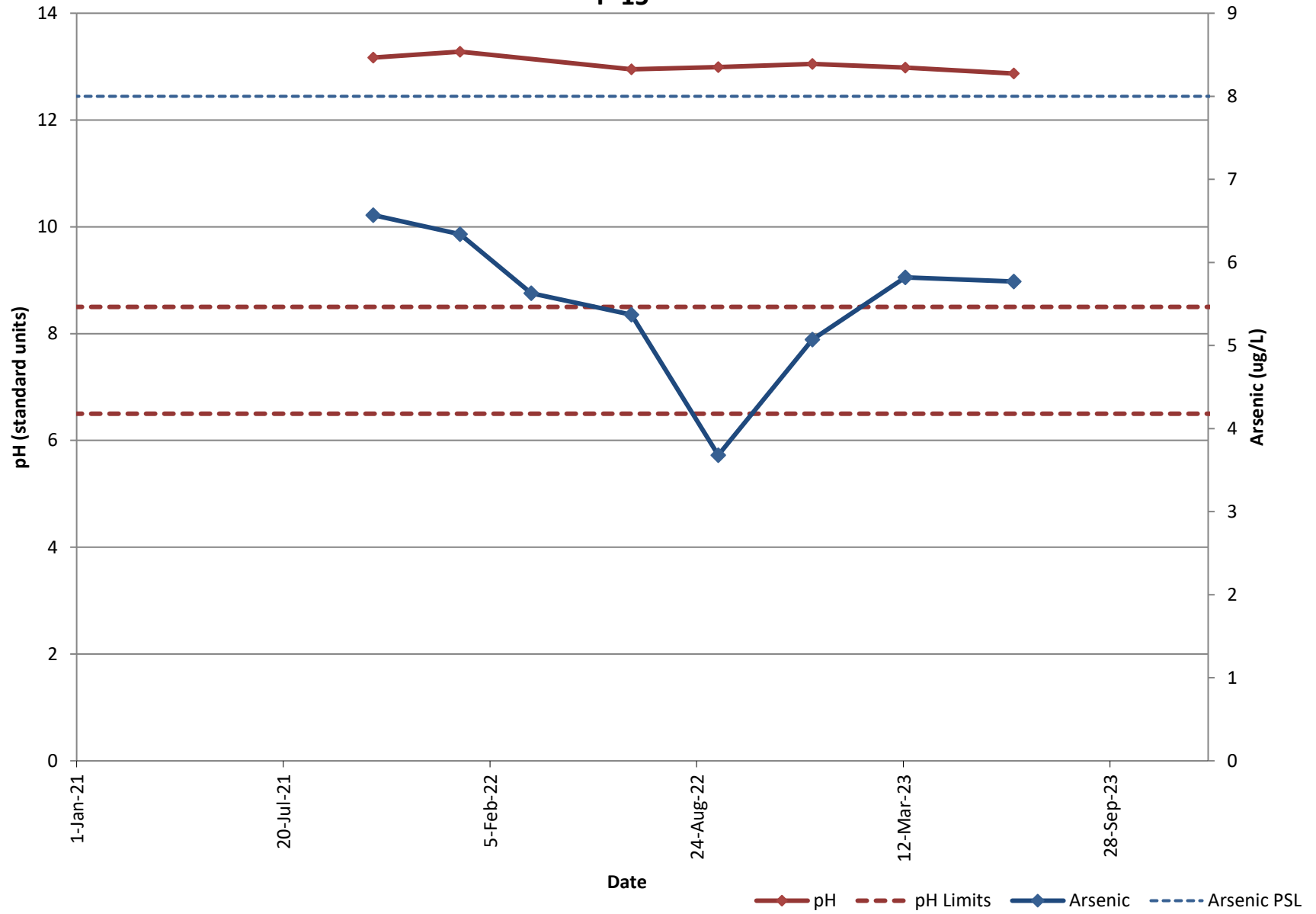
LDA Shallow/Alluvial Monitoring Wells P-14



LDA Shallow/Alluvial Monitoring Wells P-14

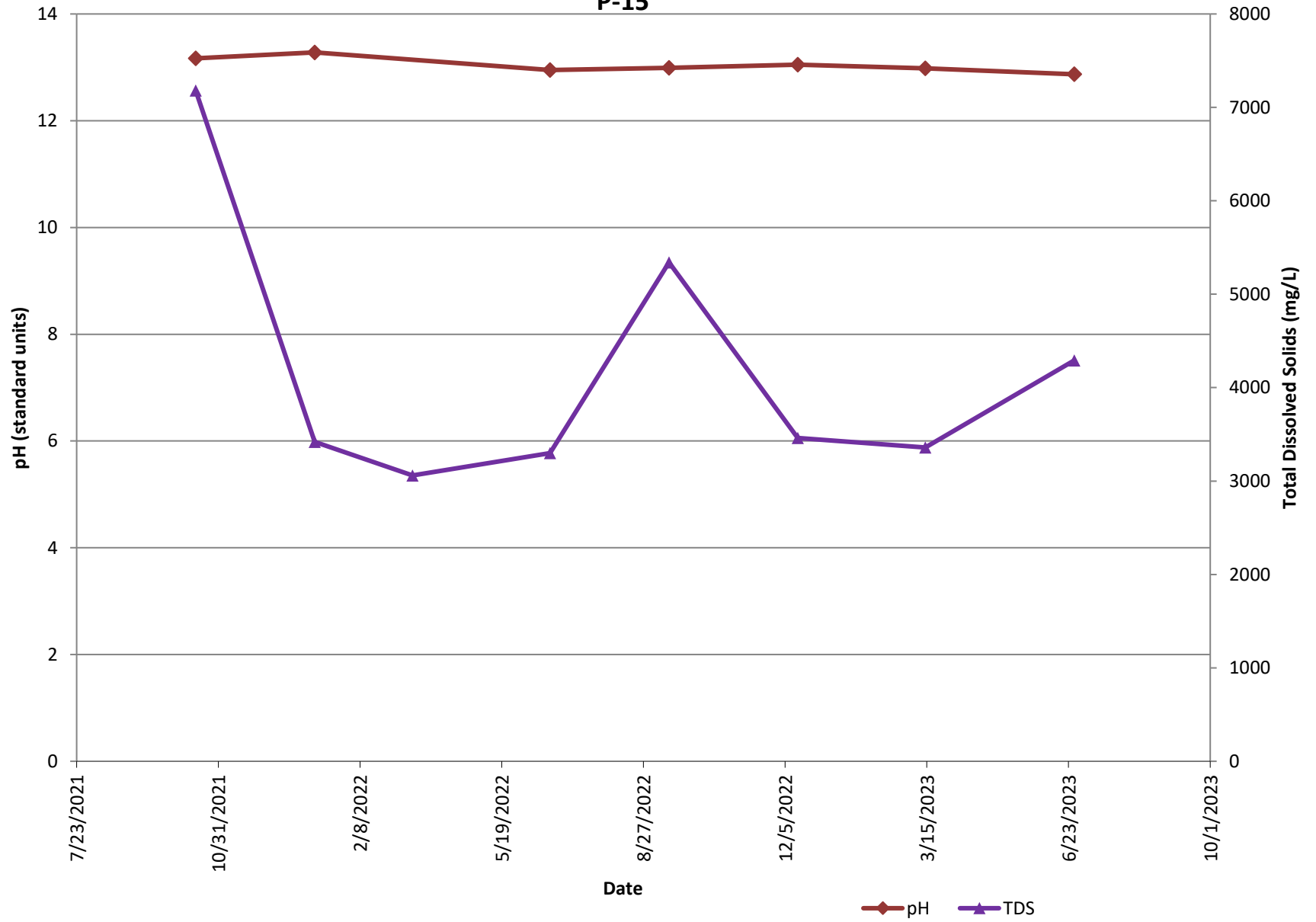


LDA Shallow/Alluvial Monitoring Wells P-15

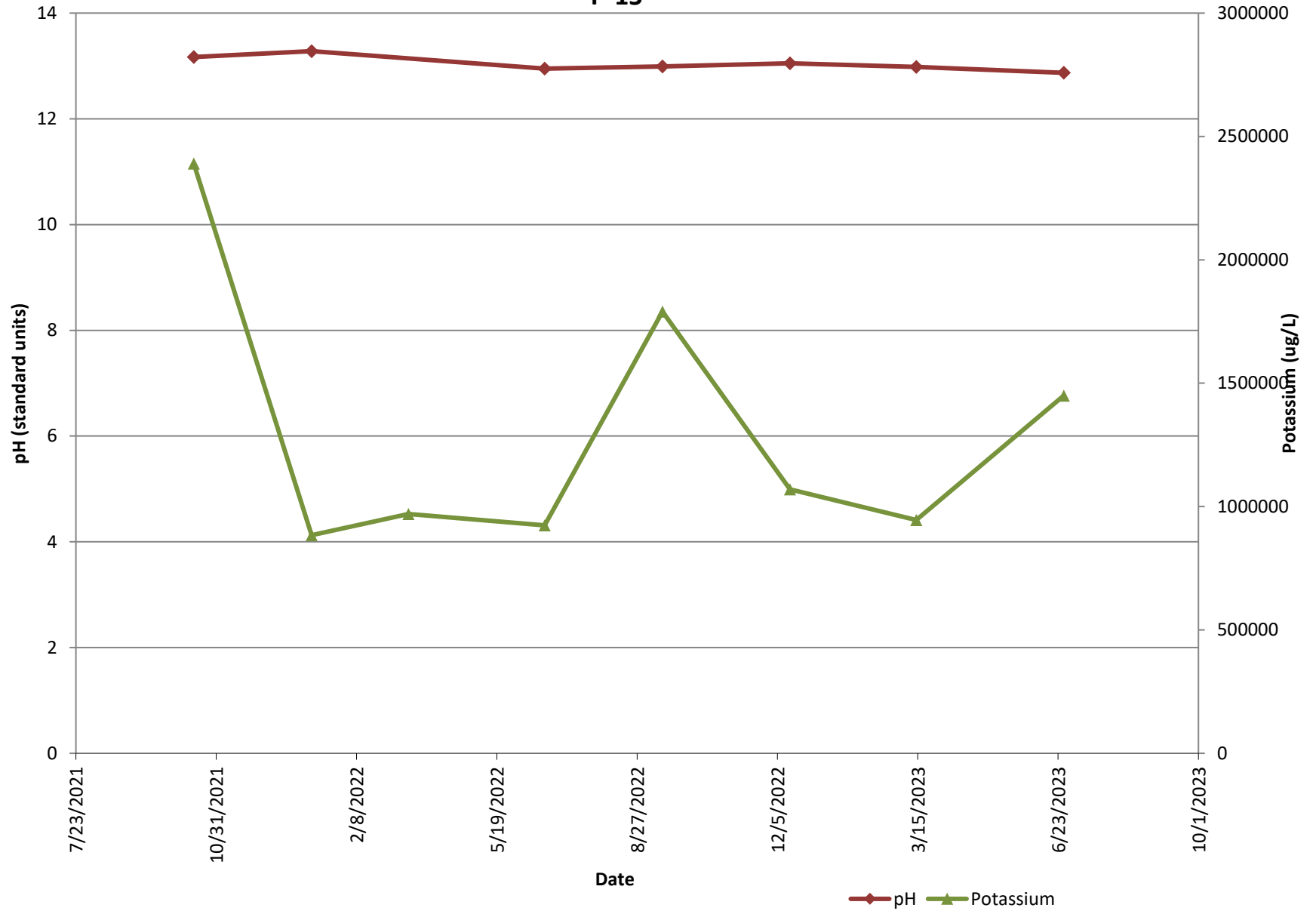


LDA Shallow/Alluvial Monitoring Wells

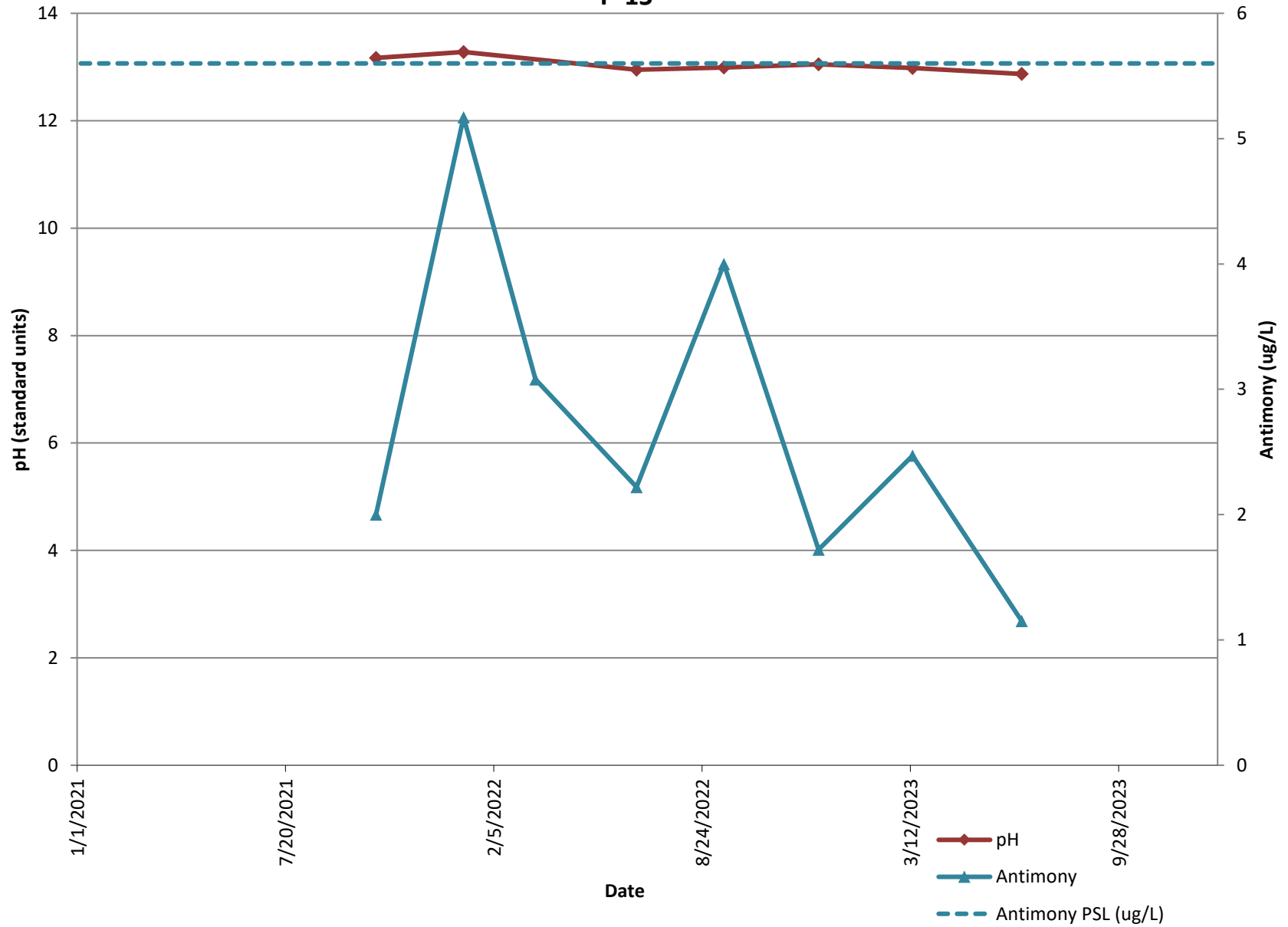
P-15



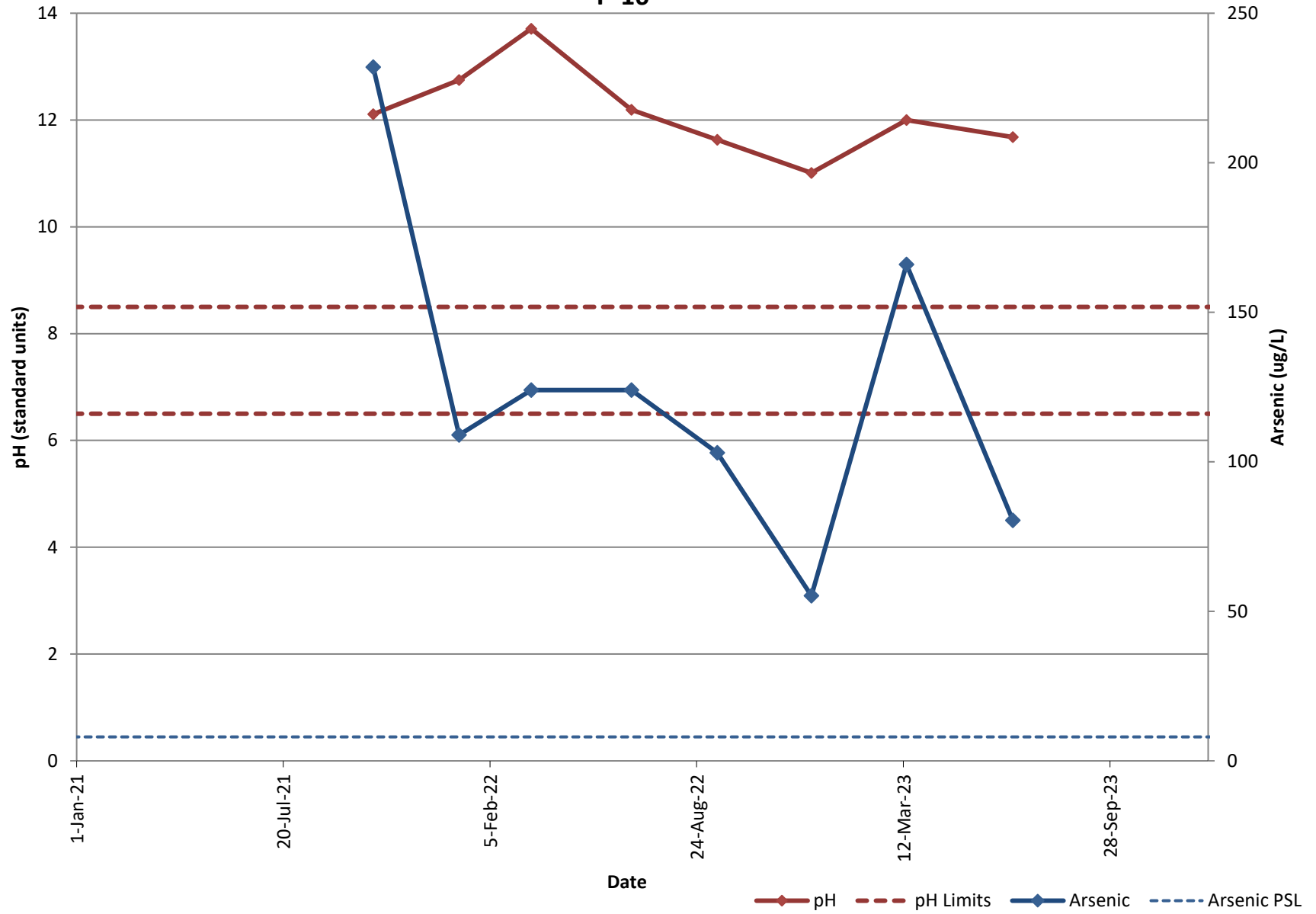
LDA Shallow/Alluvial Monitoring Wells P-15



LDA Shallow/Alluvial Monitoring Wells P-15

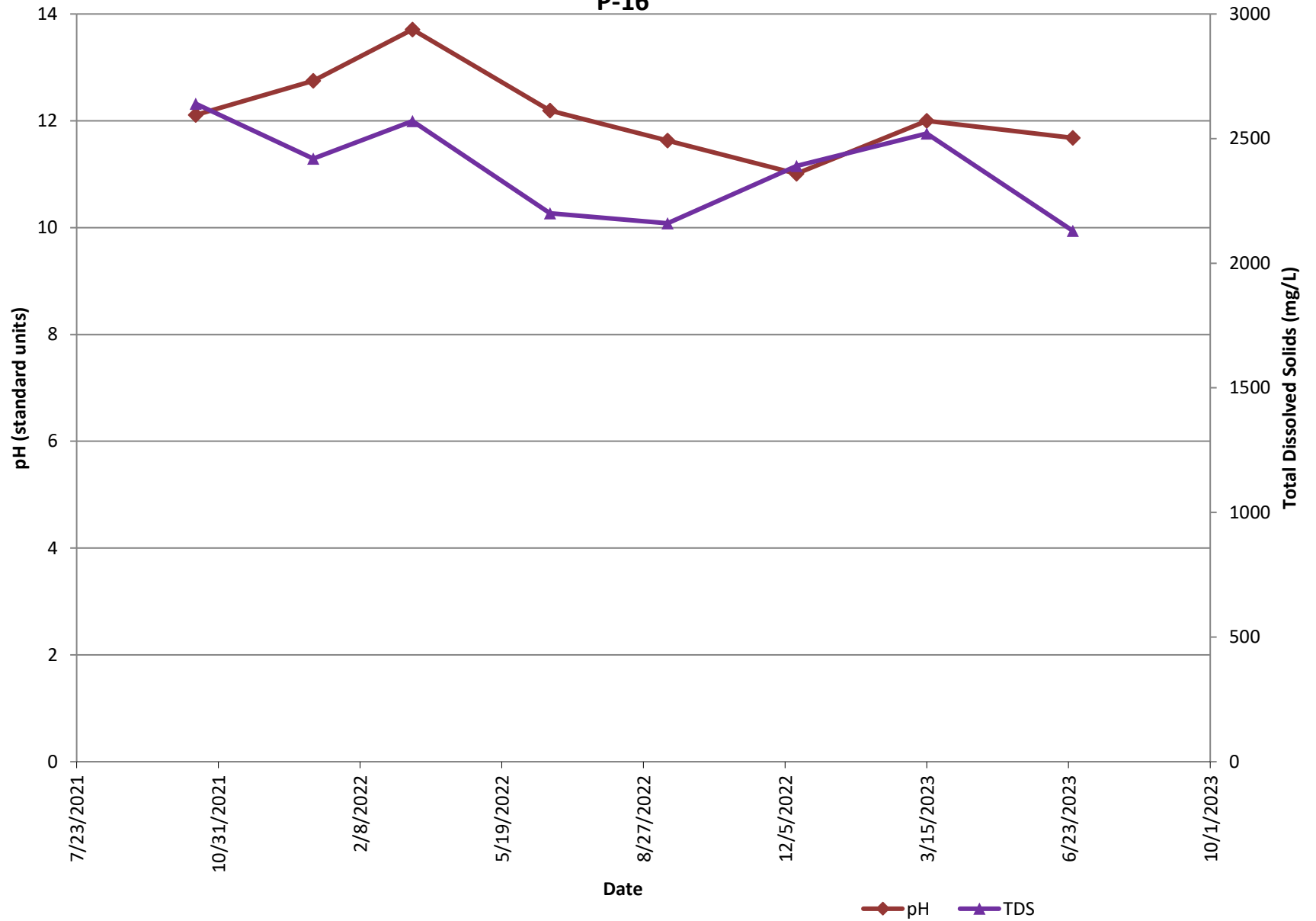


LDA Shallow/Alluvial Monitoring Wells P-16

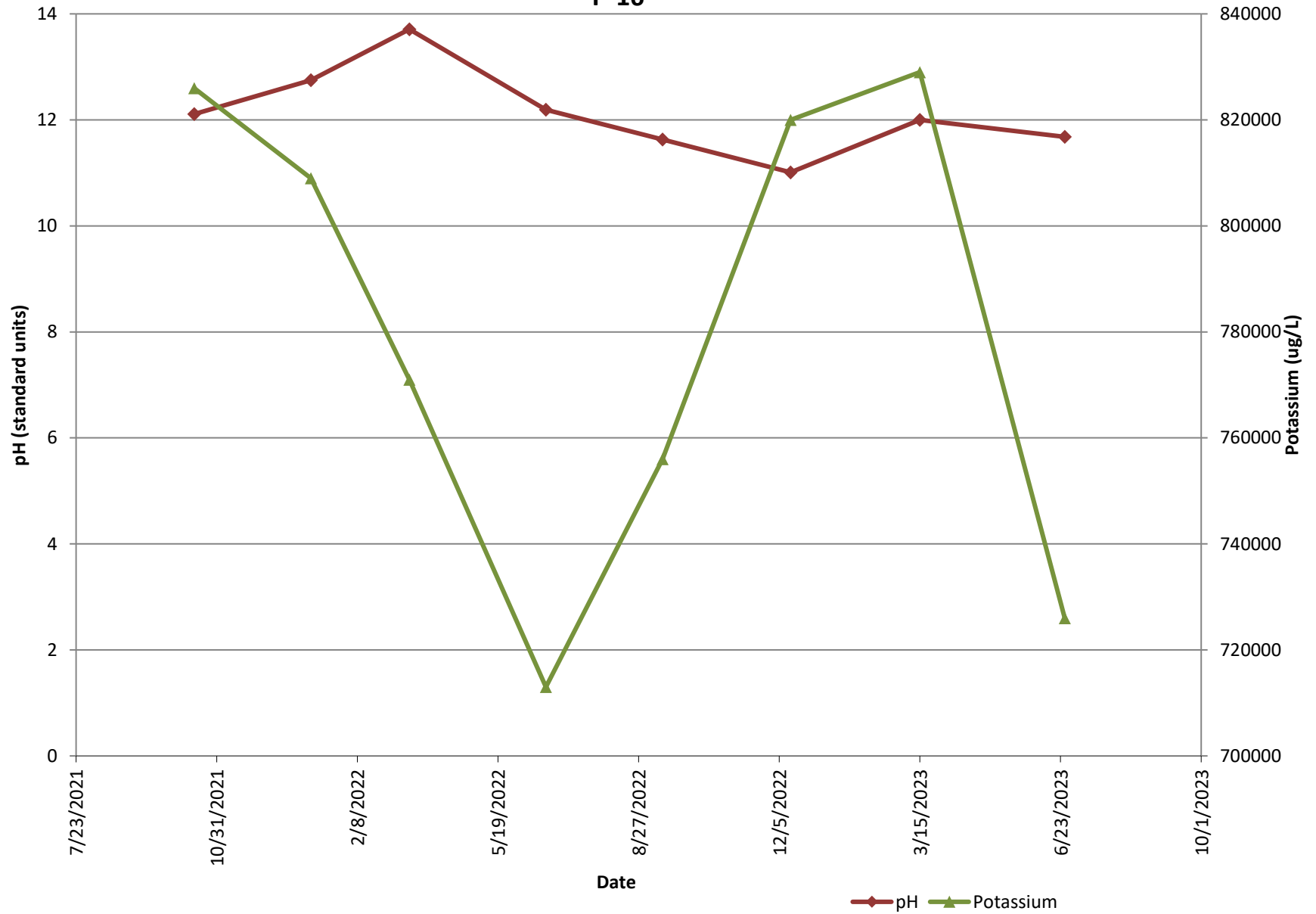


LDA Shallow/Alluvial Monitoring Wells

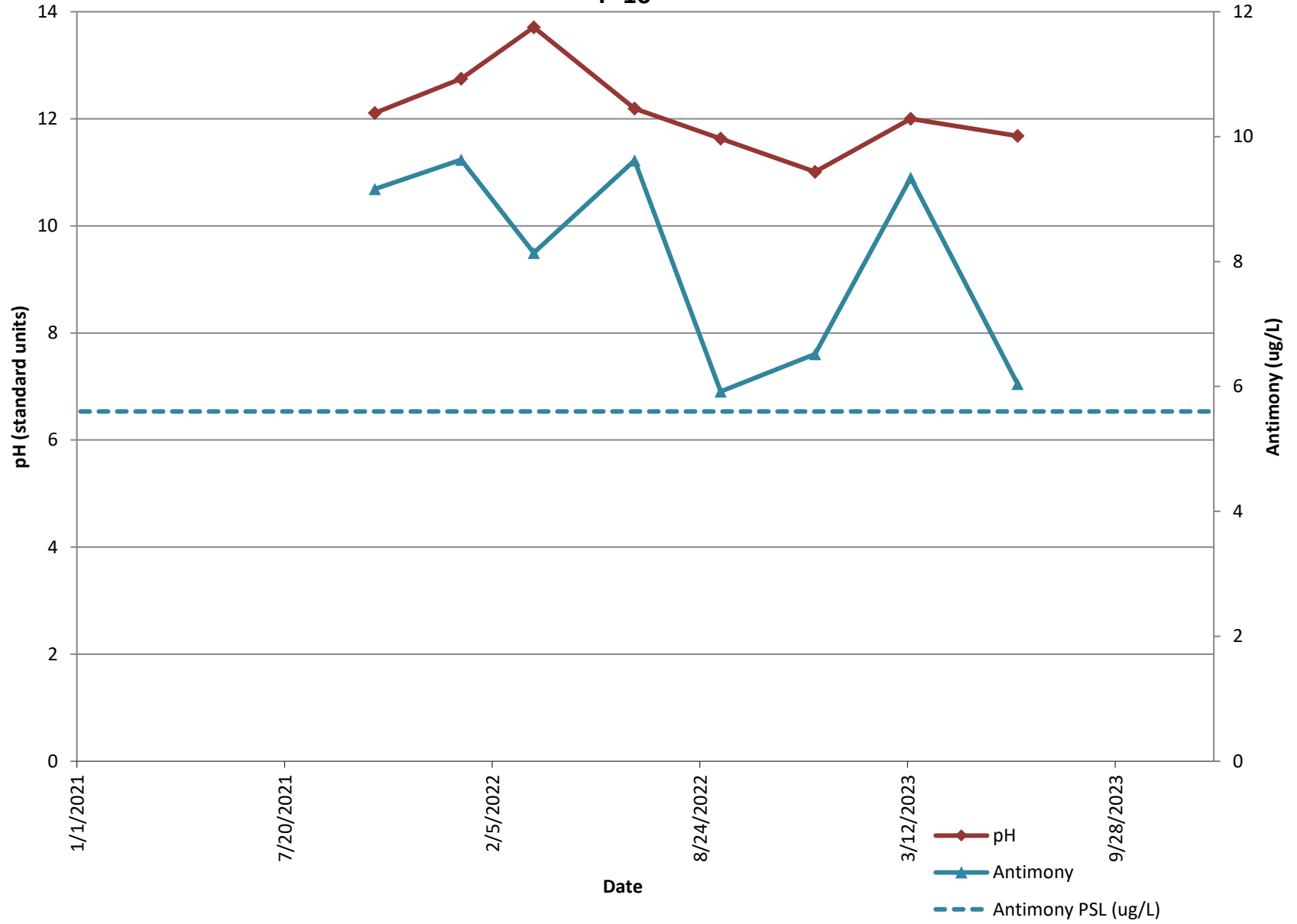
P-16



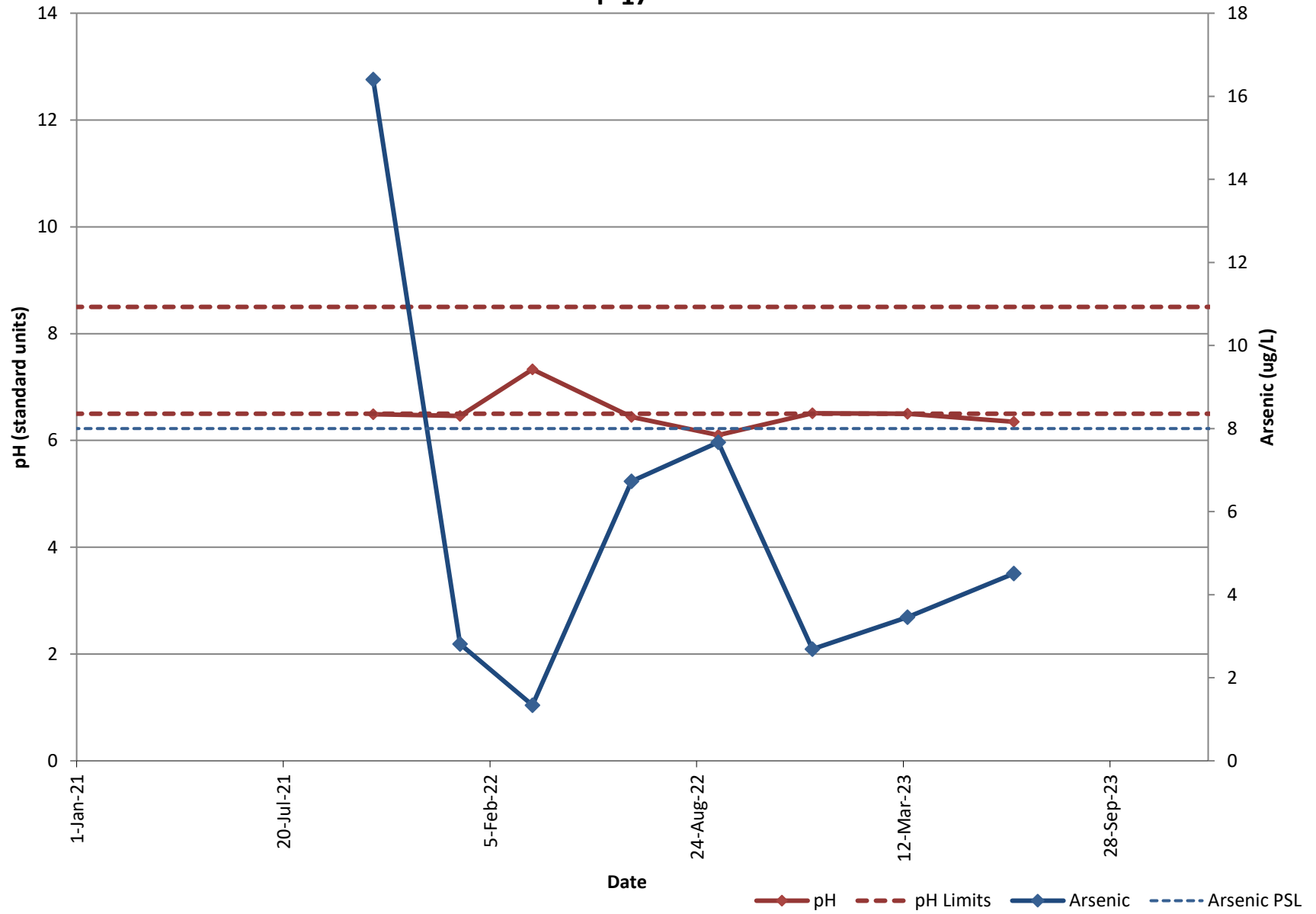
LDA Shallow/Alluvial Monitoring Wells P-16



LDA Shallow/Alluvial Monitoring Wells P-16

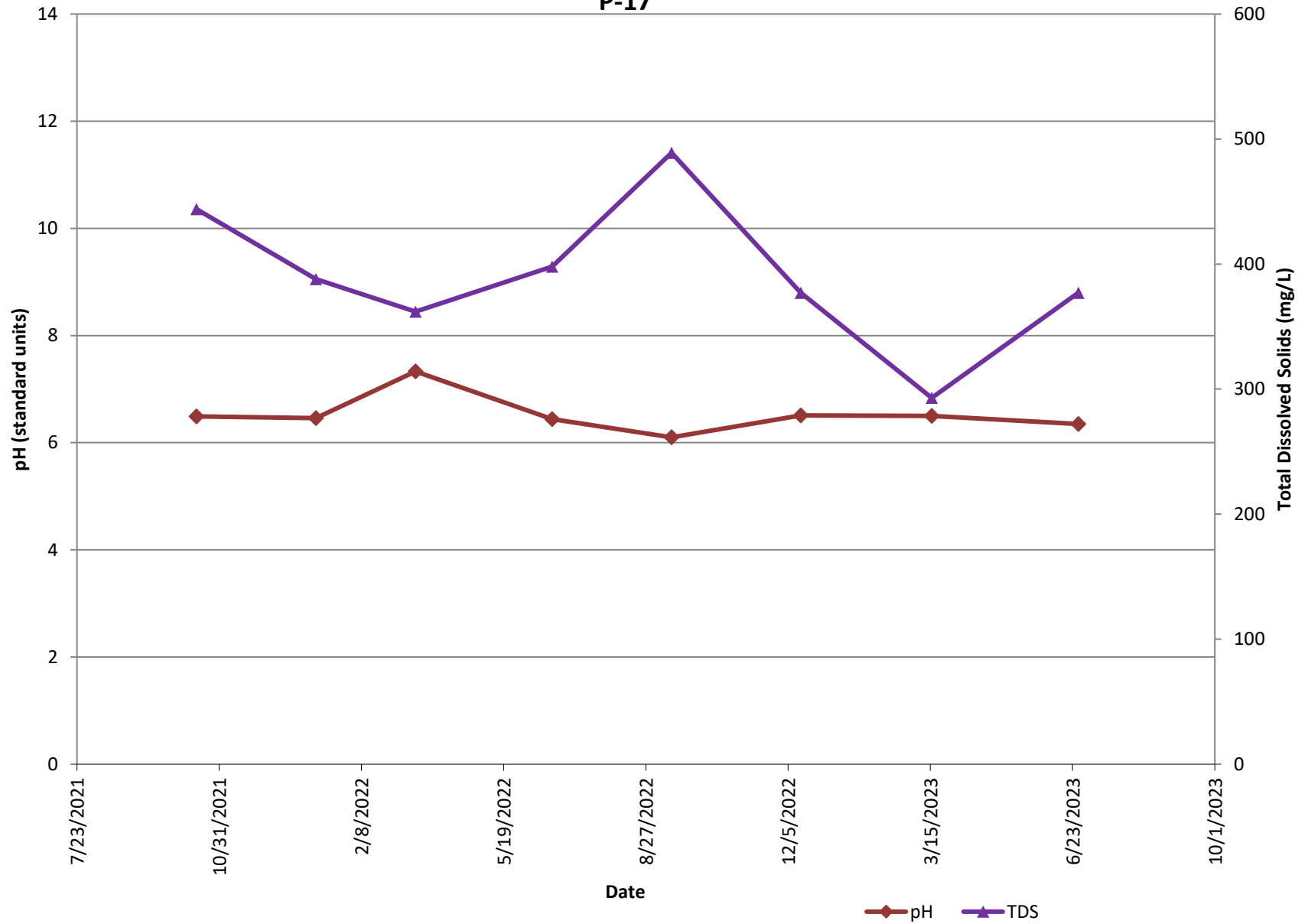


LDA Shallow/Alluvial Monitoring Wells P-17

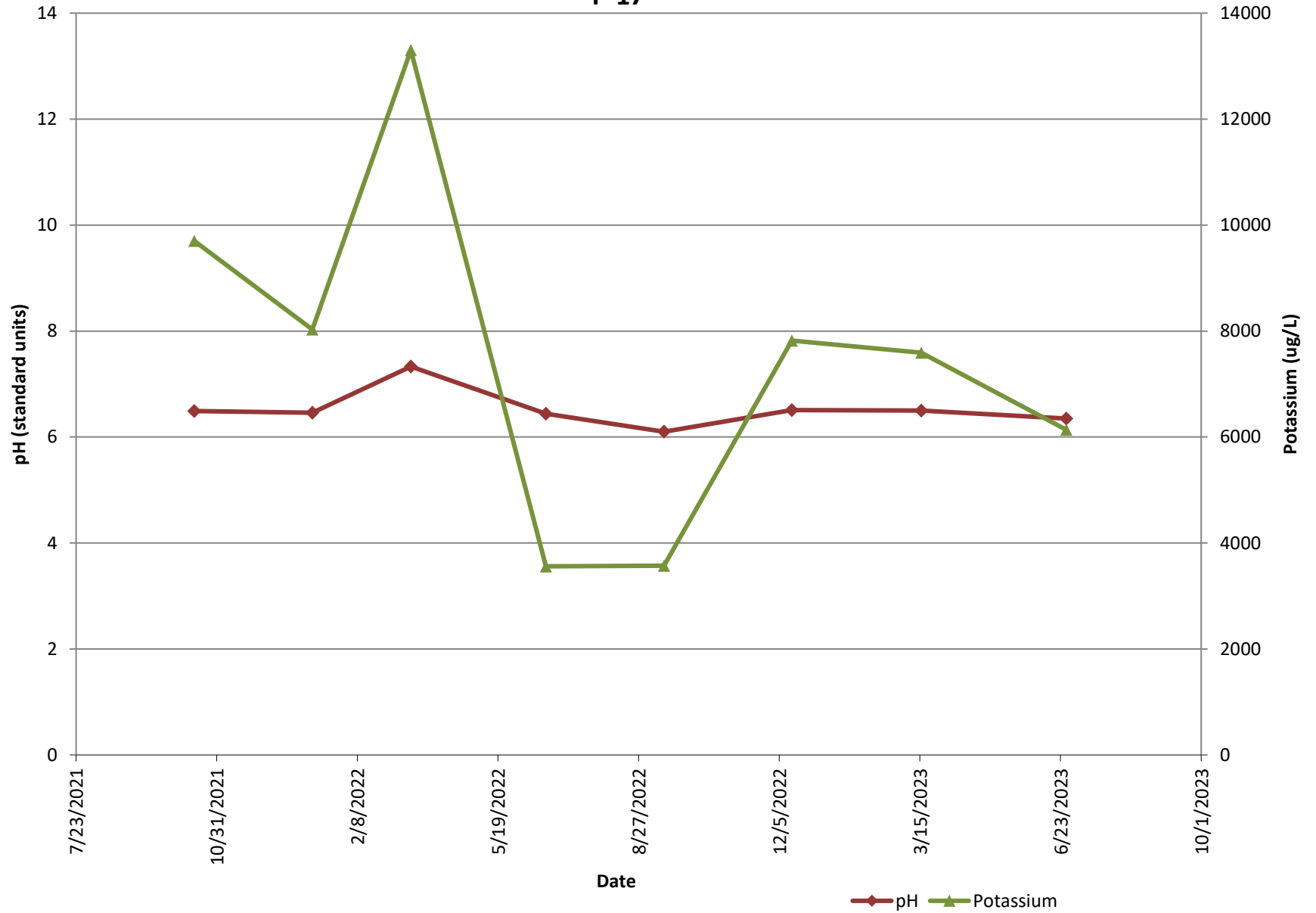


LDA Shallow/Alluvial Monitoring Wells

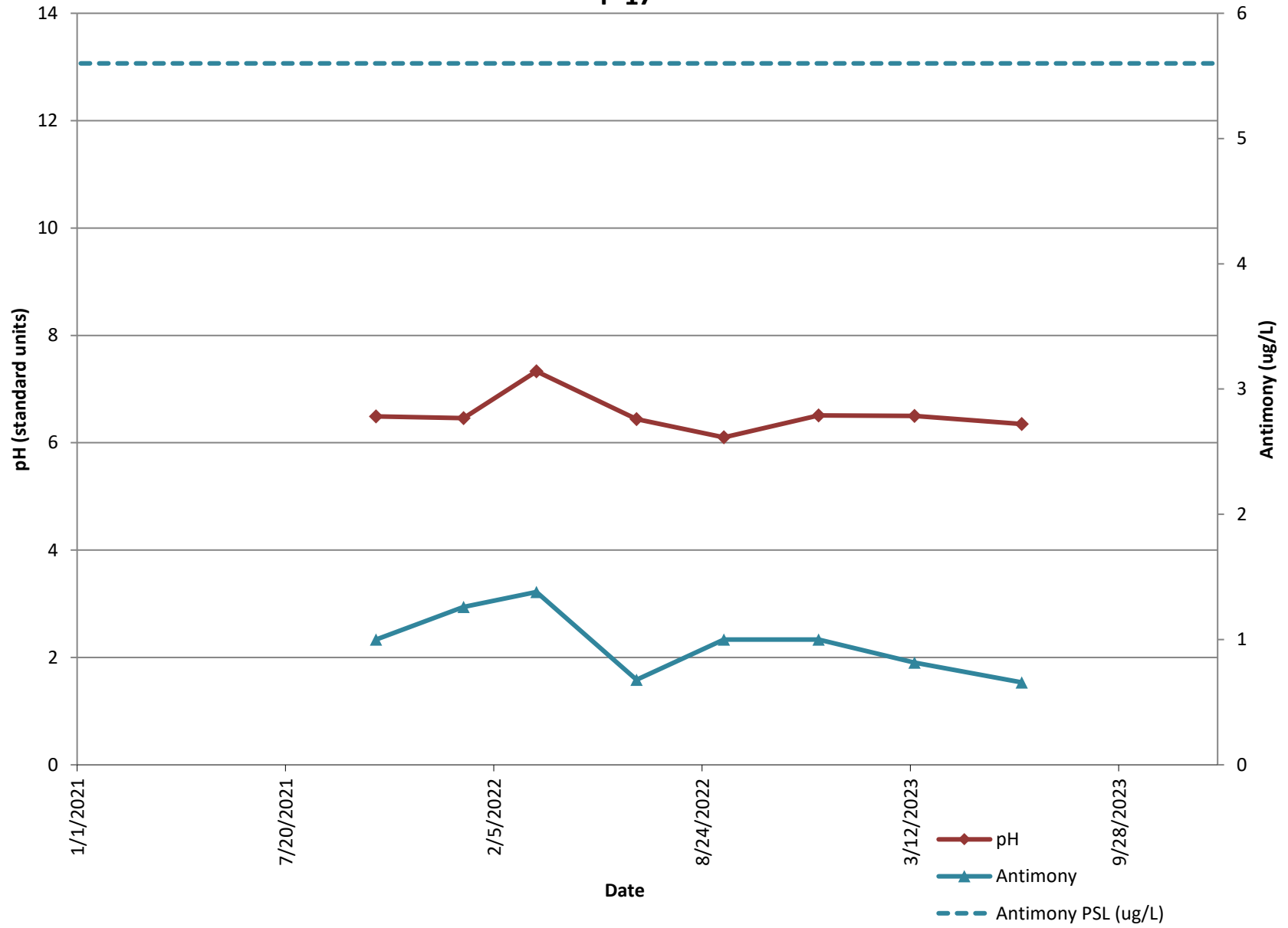
P-17



LDA Shallow/Alluvial Monitoring Wells P-17



LDA Shallow/Alluvial Monitoring Wells P-17



APPENDIX C

Data Validation Report and Laboratory Analytical Results

DATA VALIDATION CHECKLIST

| | |
|----------------------------------|---|
| Project Name: | Ravensdale Project |
| Project Number: | GL152030402.001/03.LBR |
| Sample Identification(s): | Still Well-0623, MW-1A-0623, MW-2A-0623, MW-45A-0623, MW-6A-0623 Infiltration Pond-0623, MW-35A-0623, MW-8A-0623, MW-7A-0623, MW-99-0623, P-16-0623, MW-10A-0623, MW-3A-0623, MW-5A-0623, P-17-0623 Interceptor Trench-0623, MW-4A-0623, MW-9A-0623, P-15-0623, P-14-0623 |
| Sample Date(s): | 6/26/23,6/27/23,6/28/23,6/29/23 |
| Sample Team: | Sean Johnson, WSP |
| Sample Matrix: | Aqueous |
| Analyzing Laboratory: | Analytical Resources, Inc. – Tukwila, WA |
| Analyses: | TDS (SM2540C); Total Metals: K, Pb, Sb, V (SW6010D, E200.8); As (E200.8 UCT-KED) |
| Laboratory Report No.: | 23F0669 |

FIELD DATA PACKAGE DOCUMENTATION

| Field Sampling Logs: | Reported | | Performance Acceptable | | Not Required |
|--|----------|-----|------------------------|-----|--------------|
| | NO | YES | NO | YES | |
| 1. Sampling dates noted | | X | | X | |
| 2. Sampling team indicated | | X | | X | |
| 3. Sampling identification traceable to location collected | | X | | X | |
| 4. Sample location | | X | | X | |
| 5. Collection technique (bailer, pump, etc.) | | X | | X | |
| 6. Sample container type | | X | | X | |
| 7. Preservation methods | | X | | X | |
| 8. Chain-of-custody form completed | | X | | X | |
| 9. Required analytical methods requested | | X | | X | |
| 10. Field sample logs completed properly and signed | | X | | X | |
| 11. Number and type of field QC samples collected | | X | | X | |
| 12. Field equipment calibration | | X | | X | |
| 13. Field equipment decontamination | | X | | X | |

QC – quality control

COMMENTS:

Performance was acceptable, with no exceptions.

ANALYTICAL DATA PACKAGE DOCUMENTATION

GENERAL INFORMATION

| | Reported | | Performance Acceptable | | Not Required |
|---|----------|-----|------------------------|-----|--------------|
| | NO | YES | NO | YES | |
| 1. Sample results | | X | | X | |
| 2. Parameters analyzed | | X | | X | |
| 3. Method of analysis | | X | | X | |
| 4. Reporting limits of analysis | | X | | X | |
| 5. Sample collection date | | X | | X | |
| 6. Laboratory sample received date | | X | | X | |
| 7. Sample preparation/extraction date | | X | | X | |
| 8. Sample analysis date | | X | | X | |
| 9. Copy of chain-of-custody form signed by lab sample custodian | | X | | X | |
| 10. Narrative summary of QA or sample problems provided | | X | X | | |

QA – quality assurance

COMMENTS:

Performance was acceptable, with the following notes:

- Sample MW-35A-0623 failed preservation requirements for total metals upon receipt, however it was confirmed by the lab that the sample was adjusted to a pH <2. No further action is required other than to note.

INORGANIC ANALYSES

| Metals (EPA 6010/200.8) (E200.8 UCT-KED) | Reported | | Performance Acceptable | | Not Required |
|--|----------|-----|------------------------|-----|--------------|
| | NO | YES | NO | YES | |
| 1. Holding times | | X | | X | |
| 2. Reporting limits | | X | | X | |
| 3. Blanks | | | | | |
| a. Method blanks | | X | | X | |
| b. Equipment /Rinsate blanks | | X | | X | |
| 4. Laboratory control sample (LCS) %R | | X | | X | |
| 5. Matrix spike (MS) %R | | X | X | | |
| 6. LCS duplicate (LCSD) %R | X | | | | |
| 7. MS duplicate (MSD) %R | X | | | | |
| 8. MS / MSD RPD | | X | | X | |
| 9. LCS / LCSD RPD | X | | | | |
| 10. Laboratory Duplicate RPD | | X | X | | |
| 11. Field duplicate comparison | | X | | X | |

%R – percent recovery

RPD – relative percent difference

COMMENTS:

Performance was acceptable, with the following exceptions and/or notes:

- Certain MS/MSD recoveries exceeded QC limits. Using professional judgement, when the original concentration is more than 4x times the spike, no qualifications are required. In sample Infiltration

Pont-0623, the MS %R for dissolved antimony was greater than the upper control limit (125%) and the detect in the parent sample was qualified as estimated (J+).

| Sample ID | Method | Analyte | MS Recovery (%) | QC limits | Units |
|------------------------|--------|-----------------------|-----------------|-----------|-------|
| Still Well-0623 | 200.8 | Potassium* | 215 | 75-125 | ug/L |
| Infiltration Pond-0623 | 200.8 | Potassium, dissolved* | 714 | 75-125 | ug/L |
| Infiltration Pond-0623 | 200.8 | Antimony, Dissolved | 138 | 75-125 | ug/L |

*Parent Sample was 4x greater than the spike

- There were project specific lab duplicates (Still Well-0623, Infiltration Pond-0623). In sample Infiltration Pond-0623, the RPD for dissolved antimony was greater than the control limit (20%). The parent sample was qualified as estimated (J).

| Sample ID | Method | Analyte | Sample Result | Lab Duplicate Result | RPD (%) | QC limits | Units |
|------------------------|--------|---------------------|---------------|----------------------|---------|-----------|-------|
| Infiltration Pond-0623 | 200.8 | Antimony, Dissolved | 17.4 | 8.92 | 64.4 | 20 | ug/L |

- Field duplicates are as follows: MW-35A-0623 is a duplicate for Infiltration Pond-0623 and MW-45A-0623 is a field duplicate for MW-2A-0623.
- The following analyte for field duplicate pair MW-45A-0623 / MW-2A-0623 exceeded RPD limit of 40% for lead. Following guidelines, samples were qualified as estimated (J).
- The field blank is MW-99-0623. All results were non-detect and no qualifications were required.

GENERAL WET CHEMISTRY

| TDS (SM 2540C) | Reported | | Performance Acceptable | | Not Required |
|---------------------------------------|----------|-----|------------------------|-----|--------------|
| | NO | YES | NO | YES | |
| 1. Holding times | | X | | X | |
| 2. Reporting limits | | X | | X | |
| 3. Blanks | | | | | |
| a. Method blanks | | X | | X | |
| b. Equipment rinsate blanks | | X | | X | |
| 4. Laboratory control sample (LCS) %R | | X | | X | |
| 5. Matrix spike (MS) %R | X | | | | |
| 6. LCS duplicate (LCSD) %R | X | | | | |
| 7. MS duplicate (MSD) %R | X | | | | |
| 8. MS/MSD RPD | X | | | | |
| 9. LCS/LCSD RPD | X | | | | |
| 10. Laboratory Duplicate RPD | | X | | X | |
| 11. Field duplicate comparison | | X | | X | |

%R – percent recovery

RPD – relative percent difference

COMMENTS:

- There was a project specific lab duplicate (MW-4A-0623). RPDs were within QC limits and no qualifications were required.
- Field duplicates are as followed: MW-35A-0623 is a duplicate for Infiltration Ponds-0623 and MW-45A-0623 is a field duplicate to MW-2A-0623. All RPDs were within control limits, and no qualifications were required.
- The field blank is MW-99-0623. All results were non-detect and no qualifications were required.

DATA VALIDATION CHECKLIST

SUMMARY AND DATA QUALIFIER CODES

| | |
|----------------------------------|--|
| Project Name: | Ravensdale Project |
| Project Number: | GL152030402.001/03.LBR |
| Sample Identification(s): | Still Well-0623, MW-1A-0623, MW-2A-0623, MW-45A-0623, MW-6A-0623 Infiltration Pond-0623, MW-35A-0623, MW-8A-0623, MW-7A-0623, MW-99-0623, P-16-0623, MW-10A-0623, MW-3A-0623, MW-5A-0623, P-17-0623, Interceptor Trench-0623, MW-4A-0623, MW-9A-0623, P-15-0623, P-14-0623 |
| Sample Date(s): | 6/26/23,6/27/23,6/28/23,6/29/23 |
| Sample Team: | Sean Johnson, WSP |
| Sample Matrix: | Aqueous |
| Analyzing Laboratory: | Analytical Resources, Inc. – Tukwila, WA |
| Analyses: | TDS (SM2540C); Total Metals: K, Pb, Sb, V (SW6010D, E200.8); As (E200.8 UCT-KED) |
| Laboratory Report No.: | 23F0669 |

| Sample ID | Analyte(s) | Old Result | Old Qualifier | New Result | New Qualifier | Reason(s) |
|------------------------|--------------------|------------|---------------|------------|---------------|---|
| Infiltration Pond-0623 | Dissolved antimony | -- | -- | -- | J | MS %R greater than the upper control limit, Lab duplicate RPD exceeds QC limits |
| MW-45A-0623 | Lead | -- | -- | -- | J | Field duplicate RPD exceeded |
| MW-2A-0623 | Lead | -- | U | -- | UJ | Field duplicate RPD exceeded |

| | |
|----------------------------------|-----------------------|
| VALIDATION PERFORMED BY: | Julia Campbell, WSP |
| DATE: | 8/17/23 |
| PEER REVIEW PERFORMED BY: | Michael Shadle |
| DATE: | August 29, 2023 |

| Analyte | Infiltration Ponds | | MW-35A Duplicate | | | | |
|------------------------|--------------------|--------|------------------|------|-----------|------|--------|
| | Result | Result | RPD | Unit | Qualifier | RL | MDL |
| Antimony | 8.82 | 8.4 | 5% | ug/L | | 1 | 0.505 |
| Arsenic | 8.35 | 7.96 | 5% | ug/L | | 1 | 0.187 |
| Potassium | 879000 | 804000 | 9% | mg/L | | 2000 | 1090 |
| Lead | 1.37 | 1.19 | 14% | ug/L | | 0.1 | 0.0513 |
| Vanadium | 0.88 | 0.786 | 11% | ug/L | | 0.2 | 0.0556 |
| Antimony, dissolved | 8.92 | 9.16 | 3% | ug/L | | 1 | 0.505 |
| Arsenic, dissolved | 8.82 | 8.45 | 4% | ug/L | | 1 | 0.11 |
| Lead, dissolved | 0.807 | 0.8 | 1% | ug/L | | 0.1 | 0.068 |
| Potassium, dissolved | 831000 | 891000 | 7% | ug/L | | 2000 | 1090 |
| Vanadium, dissolved | 0.935 | 0.753 | 22% | ug/L | | 1 | 0.278 |
| Total Dissolved Solids | 2270 | 2320 | 2% | mg/L | | 20 | 20 |

| Analyte | MW-2A | | MW-45A Duplicate | | | | |
|------------------------|--------|--------|------------------|------|-----------|-----|--------|
| | Result | Result | RPD | Unit | Qualifier | RL | MDL |
| Antimony | 1.05 | 1.07 | 2% | ug/L | | 0.2 | 0.101 |
| Arsenic | 1.12 | 1.12 | 0% | ug/L | | 0.2 | 0.0373 |
| Lead | 0.371 | 0.1 | 115% | ug/L | J/UJ | 0.1 | 0.0513 |
| Potassium | 19600 | 19700 | 1% | mg/L | | 40 | 21.8 |
| Vanadium | 1.02 | 1.1 | 8% | ug/L | | 0.2 | 0.0556 |
| Total Dissolved Solids | 361 | 348 | 4% | mg/L | | 10 | 10 |



22 July 2023

Gary Zimmerman
Golder Associates
18300 NE Union Hill Road Suite 200
Redmond, WA 98052-3333

RE: Ravensdale (GL152030402.004)

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)
23F0669

Associated SDG ID(s)
N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclosed Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, LLC

Kelly Bottem, Client Services Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Chain of Custody Record & Laboratory Analysis Request



Analytical Resources, Incorporated
 Analytical Chemists and Consultants
 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)

| | | |
|---------------------------------------|--|----------------------------|
| ARI Assigned Number: 23F0669 | Turn-around Requested: Standard | Date: 6/29/23 |
| ARI Client Company: WSP | Phone: (425) 883-0777 | Page: 1 of 2 |
| Client Contact: Gary Zimmerman | No. of Coolers: | Cooler Temps: |

| | | |
|---|--------------------|----------------|
| Client Project Name: Ravensdale 2023 Q2 Sampling | Analysis Requested | Notes/Comments |
| Client Project #: GL152030402.004 | | |
| Samplers: Andrew Wuser + SG | | |

| Sample ID | Date | Time | Matrix | No. Containers | Total Metals: As, Pb, Sb, V, K | TDS | Dissolved Metals: As, Pb, Sb, V, K | | | | | | |
|------------------------|---------|------|--------|----------------|--------------------------------------|-----|--|--|--|--|--|--|--|
| Still Well - 0623 | 6/28/23 | 0905 | SU | 2 | X | X | | | | | | | |
| MW-1A-0623 | 6/28/23 | 1050 | GW | 2 | X | X | | | | | | | |
| MW-2A-0623 | 6/28/23 | 1200 | GW | 2 | X | X | | | | | | | |
| MW-4SA-0623 | 6/28/23 | 1205 | GW | 2 | X | X | | | | | | | |
| MW-6A-0623 | 6/28/23 | 1325 | GW | 2 | X | X | | | | | | | |
| Infiltration Pond-0623 | 6/28/23 | 1435 | SW | 3 | X | X | X | | | | | | |
| MW-3SA-0623 | 6/28/23 | 1440 | SW | 3 | X | X | X | | | | | | |
| MW-8A-0623 | 6/28/23 | 1535 | GW | 2 | X | X | | | | | | | |
| MW-7A-0623 | 6/28/23 | 1620 | GW | 2 | X | X | | | | | | | |
| MW-9A-0623 | 6/29/23 | 1145 | DI | 2 | X | X | | | | | | | |

| | | | | |
|---|--|--|--|--|
| Comments/Special Instructions Analyze in accordance with MSA between Golder/WSP and ARI. Ecology EIM EDD. | Relinquished by: (Signature) <i>[Signature]</i> | Received by: (Signature) <i>[Signature]</i> | Relinquished by: (Signature) <i>[Signature]</i> | Received by: (Signature) <i>[Signature]</i> |
| | Printed Name: Andrew Wuser | Printed Name: Nora Cate | Printed Name: | Printed Name: |
| | Company: WSP | Company: AR LLC | Company: | Company: |
| | Date & Time: 6/29/23 1310 | Date & Time: 6/29/23 13:10 | Date & Time: | Date & Time: |

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSDDA/PSEP/SMS protocol will be stored frozen for up to one year and then discarded.

Chain of Custody Record & Laboratory Analysis Request



Analytical Resources, Incorporated
 Analytical Chemists and Consultants
 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)

| | | |
|-------------------------------------|---------------------------------|----------------------------|
| ARI Assigned Number: <u>23F0669</u> | Turn-around Requested: Standard | Date: <u>6/29/23</u> |
| ARI Client Company: WSP | Phone: (425) 883-0777 | Page: <u>2</u> of <u>2</u> |
| Client Contact: Gary Zimmerman | No. of Coolers: | Cooler Temps: |

| Client Project Name: Ravensdale 2023 Q2 Sampling | | | | | Analysis Requested | | | | | | | Notes/Comments |
|---|---|------------------------------------|--------|---|--------------------------------|-----|------------------------------------|--|--|--------------------------|--|----------------|
| Client Project #: GL152030402.004 | | Samplers: <u>Andrew Wuser + SG</u> | | | Total Metals: As, Pb, Sb, V, K | TDS | Dissolved Metals: As, Pb, Sb, V, K | | | | | |
| Sample ID | Date | Time | Matrix | No. Containers | | | | | | | | |
| P-16-0623 | 6/26/23 | 1045 | GW | 2 | x | ✓ | | | | | | |
| MW-10A-0623 | 6/26/23 | 1150 | GW | 2 | x | x | | | | | | |
| MW-3A-0623 | 6/26/23 | 1325 | GW | 2 | x | x | | | | | | |
| MW-5A-0623 | 6/26/23 | 1540 | GW | 2 | x | x | | | | | | |
| P-17-0623 | 6/26/23 | 0940 | GW | 2 | x | + | | | | | | |
| Interceptor Trench-0623 | 6/27/23 | 0955 | SW | 1 | | x | | | | | | |
| MW-4A-0623 | 6/27/23 | 1105 | GW | 2 | x | x | | | | | | |
| MW-9A-0623 | 6/27/23 | 1240 | GW | 2 | x | y | | | | | | |
| MW-15-0623 P-15-0623 | 6/27/23 | 1410 | GW | 2 | x | x | | | | | | |
| P-14-0623 | 6/27/23 | 1530 | GW | 2 | x | x | | | | | | |
| Comments/Special Instructions Analyze in accordance with MSA between Golder/WSP and ARI. Ecology EIM EDD. | Relinquished by: (Signature) <u>[Signature]</u> | | | Received by: (Signature) <u>[Signature]</u> | | | Relinquished by: (Signature) | | | Received by: (Signature) | | |
| | Printed Name: <u>Andrew Wuser</u> | | | Printed Name: <u>Nova Cate</u> | | | Printed Name: | | | Printed Name: | | |
| | Company: <u>WSP</u> | | | Company: <u>ARI</u> | | | Company: | | | Company: | | |
| | Date & Time: <u>6/29/23 1310</u> | | | Date & Time: <u>6/29/23 13:10</u> | | | Date & Time: | | | Date & Time: | | |

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, notwithstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSDDA/PSEP/SMS protocol will be stored frozen for up to one year and then discarded.



Golder Associates
18300 NE Union Hill Road Suite 200
Redmond WA, 98052-3333

Project: Ravensdale
Project Number: GL152030402.004
Project Manager: Gary Zimmerman

Reported:
22-Jul-2023 10:29

ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|------------------------|---------------|--------|-------------------|-------------------|
| StillWell-0623 | 23F0669-01 | Water | 28-Jun-2023 09:05 | 29-Jun-2023 13:10 |
| MW-1A-0623 | 23F0669-02 | Water | 28-Jun-2023 10:50 | 29-Jun-2023 13:10 |
| MW-2A-0623 | 23F0669-03 | Water | 28-Jun-2023 12:00 | 29-Jun-2023 13:10 |
| MW-45A-0623 | 23F0669-04 | Water | 28-Jun-2023 12:05 | 29-Jun-2023 13:10 |
| MW-6A-0623 | 23F0669-05 | Water | 28-Jun-2023 13:25 | 29-Jun-2023 13:10 |
| Infiltration Pond-0623 | 23F0669-06 | Water | 28-Jun-2023 14:35 | 29-Jun-2023 13:10 |
| Infiltration Pond-0623 | 23F0669-07 | Water | 28-Jun-2023 14:35 | 29-Jun-2023 13:10 |
| MW-35A-0623 | 23F0669-08 | Water | 28-Jun-2023 14:40 | 29-Jun-2023 13:10 |
| MW-35A-0623 | 23F0669-09 | Water | 28-Jun-2023 14:40 | 29-Jun-2023 13:10 |
| MW-8A-0623 | 23F0669-10 | Water | 28-Jun-2023 15:35 | 29-Jun-2023 13:10 |
| MW-7A-0623 | 23F0669-11 | Water | 28-Jun-2023 16:20 | 29-Jun-2023 13:10 |
| MW-99-0623 | 23F0669-12 | Water | 29-Jun-2023 11:45 | 29-Jun-2023 13:10 |
| P-16-0623 | 23F0669-13 | Water | 26-Jun-2023 10:45 | 29-Jun-2023 13:10 |
| MW-10A-0623 | 23F0669-14 | Water | 26-Jun-2023 11:50 | 29-Jun-2023 13:10 |
| MW-3A-0623 | 23F0669-15 | Water | 26-Jun-2023 13:25 | 29-Jun-2023 13:10 |
| MW-5A-0623 | 23F0669-16 | Water | 26-Jun-2023 15:40 | 29-Jun-2023 13:10 |
| P-17-0623 | 23F0669-17 | Water | 27-Jun-2023 09:40 | 29-Jun-2023 13:10 |
| InterceptorTrench-0623 | 23F0669-18 | Water | 27-Jun-2023 09:55 | 29-Jun-2023 13:10 |
| MW-4A-0623 | 23F0669-19 | Water | 27-Jun-2023 11:05 | 29-Jun-2023 13:10 |
| MW-9A-0623 | 23F0669-20 | Water | 27-Jun-2023 12:40 | 29-Jun-2023 13:10 |
| P-15-0623 | 23F0669-21 | Water | 27-Jun-2023 14:10 | 29-Jun-2023 13:10 |
| P-14-0623 | 23F0669-22 | Water | 27-Jun-2023 15:30 | 29-Jun-2023 13:10 |



Golder Associates

18300 NE Union Hill Road Suite 200

Redmond WA, 98052-3333

Project: Ravensdale

Project Number: GL152030402.004

Project Manager: Gary Zimmerman

Reported:

22-Jul-2023 10:29

Work Order Case Narrative

Total and Dissolved Metals - EPA Method 200.8

The sample(s) were digested and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The method blank(s) were clean at the reporting limits.

The blank spike (BS/LCS) percent recoveries were within control limits.

The matrix spike (MS) percent recoveries and the duplicate (DUP) relative percent difference (RPD) were within advisory control limits with the exception of analytes flagged on the associated forms.

Wet Chemistry

The sample(s) were prepared and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The method blank(s) were clean at the reporting limits.

The blank spike (BS/LCS) percent recoveries were within control limits.

The sample duplicate (DUP) relative percent difference (RPD) were within advisory control limits.



WORK ORDER

23F0669

Samples will be discarded 90 days after submission of a final report unless other instructions are received

| | |
|---------------------------|---------------------------------|
| Client: Golder Associates | Project Manager: Kelly Bottem |
| Project: Ravensdale | Project Number: GL152030402.004 |

Preservation Confirmation

| Container ID | Container Type | pH | |
|--------------|--------------------------------|-----|------|
| 23F0669-01 A | HDPE NM, 1000 mL | | |
| 23F0669-01 B | HDPE NM, 500 mL, 1:1 HNO3 | < 2 | pass |
| 23F0669-02 A | HDPE NM, 1000 mL | | |
| 23F0669-02 B | HDPE NM, 500 mL, 1:1 HNO3 | < 2 | pass |
| 23F0669-03 A | HDPE NM, 1000 mL | | |
| 23F0669-03 B | HDPE NM, 500 mL, 1:1 HNO3 | < 2 | pass |
| 23F0669-04 A | HDPE NM, 1000 mL | | |
| 23F0669-04 B | HDPE NM, 500 mL, 1:1 HNO3 | < 2 | pass |
| 23F0669-05 A | HDPE NM, 1000 mL | | |
| 23F0669-05 B | HDPE NM, 500 mL, 1:1 HNO3 | < 2 | pass |
| 23F0669-06 A | HDPE NM, 1000 mL | | |
| 23F0669-06 B | HDPE NM, 500 mL, 1:1 HNO3 | < 2 | pass |
| 23F0669-07 A | HDPE NM, 500 mL, 1:1 HNO3 (FF) | < 2 | pass |
| 23F0669-08 A | HDPE NM, 1000 mL | | |
| 23F0669-08 B | HDPE NM, 500 mL, 1:1 HNO3 | > 2 | Fail |
| 23F0669-09 A | HDPE NM, 500 mL, 1:1 HNO3 (FF) | < 2 | pass |
| 23F0669-10 A | HDPE NM, 1000 mL | | |
| 23F0669-10 B | HDPE NM, 500 mL, 1:1 HNO3 | < 2 | pass |
| 23F0669-11 A | HDPE NM, 1000 mL | | |
| 23F0669-11 B | HDPE NM, 500 mL, 1:1 HNO3 | < 2 | pass |
| 23F0669-12 A | HDPE NM, 1000 mL | | |
| 23F0669-12 B | HDPE NM, 500 mL, 1:1 HNO3 | < 2 | pass |
| 23F0669-13 A | HDPE NM, 1000 mL | | |
| 23F0669-13 B | HDPE NM, 500 mL, 1:1 HNO3 | < 2 | pass |
| 23F0669-14 A | HDPE NM, 1000 mL | | |
| 23F0669-14 B | HDPE NM, 500 mL, 1:1 HNO3 | < 2 | pass |
| 23F0669-15 A | HDPE NM, 1000 mL | | |
| 23F0669-15 B | HDPE NM, 500 mL, 1:1 HNO3 | < 2 | pass |
| 23F0669-16 A | HDPE NM, 1000 mL | | |
| 23F0669-16 B | HDPE NM, 500 mL, 1:1 HNO3 | < 2 | pass |
| 23F0669-17 A | HDPE NM, 1000 mL | | |
| 23F0669-17 B | HDPE NM, 500 mL, 1:1 HNO3 | < 2 | pass |
| 23F0669-18 A | HDPE NM, 1000 mL | | |
| 23F0669-19 A | HDPE NM, 1000 mL | | |



WORK ORDER

23F0669

Samples will be discarded 90 days after submission of a final report unless other instructions are received

| | |
|----------------------------------|--|
| Client: Golder Associates | Project Manager: Kelly Bottem |
| Project: Ravensdale | Project Number: GL152030402.004 |

| | | | |
|--------------|---------------------------|----|------|
| 23F0669-19 B | HDPE NM, 1000 mL | | |
| 23F0669-19 C | HDPE NM, 1000 mL | | |
| 23F0669-19 D | HDPE NM, 500 mL, 1:1 HNO3 | L2 | PASS |
| 23F0669-19 E | HDPE NM, 500 mL, 1:1 HNO3 | L2 | PASS |
| 23F0669-19 F | HDPE NM, 500 mL, 1:1 HNO3 | L2 | PASS |
| 23F0669-20 A | HDPE NM, 1000 mL | | |
| 23F0669-20 B | HDPE NM, 500 mL, 1:1 HNO3 | L2 | PASS |
| 23F0669-21 A | HDPE NM, 1000 mL | | |
| 23F0669-21 B | HDPE NM, 500 mL, 1:1 HNO3 | L2 | PASS |
| 23F0669-22 A | HDPE NM, 1000 mL | | |
| 23F0669-22 B | HDPE NM, 500 mL, 1:1 HNO3 | L2 | PASS |

Preservation Confirmed By

6/29/23

Date



Cooler Receipt Form

ARI Client: WSP

Project Name: Ravensdale 2023 Q2 Sampling

COC No(s): _____ (NA)

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: 23F0669

Tracking No: _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the cooler? YES NO

Were custody papers included with the cooler? YES NO

Were custody papers properly filled out (ink, signed, etc.) YES NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)

Time 13:10 2.7 5.2

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: 9708

Cooler Accepted by: NC Date: 06/29/23 Time: 13:10

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? _____ YES NO

What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____

Was sufficient ice used (if appropriate)? _____ NA YES NO NC

How were bottles sealed in plastic bags? _____ Individually Grouped Not 06/29/23

Did all bottles arrive in good condition (unbroken)? _____ YES NO

Were all bottle labels complete and legible? _____ YES NO

Did the number of containers listed on COC match with the number of containers received? _____ YES NO

Did all bottle labels and tags agree with custody papers? _____ YES NO

Were all bottles used correct for the requested analyses? _____ YES NO

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs) ... NA YES NO

Were all VOC vials free of air bubbles? _____ NA YES NO

Was sufficient amount of sample sent in each bottle? _____ YES NO

Date VOC Trip Blank was made at ARI _____ NA

Were the sample(s) split by ARI? NA YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: Rm Date: 6/29/23 Time: 1606 Labels checked by: Rm

**** Notify Project Manager of discrepancies or concerns ****

| Sample ID on Bottle | Sample ID on COC | Sample ID on Bottle | Sample ID on COC |
|---------------------|------------------|---------------------|------------------|
| | | | |
| | | | |
| | | | |
| | | | |

Additional Notes, Discrepancies, & Resolutions:

By: _____ Date: _____



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

StillWell-0623
23F0669-01 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 Sampled: 06/28/2023 09:05
Instrument: ICPMS1 Analyst: SKD Analyzed: 07/17/2023 20:19

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-01 B 01
Preparation Batch: BLG0245 Sample Size: 25 mL
Prepared: 07/13/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|-----------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Potassium | 7440-09-7 | 100 | 1090 | 2000 | 450000 | ug/L | D |

Instrument: ICPMS2 Analyst: MCB Analyzed: 07/17/2023 19:01

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-01 B 01
Preparation Batch: BLG0245 Sample Size: 25 mL
Prepared: 07/13/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|----------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Antimony | 7440-36-0 | 2 | 0.202 | 0.400 | 27.6 | ug/L | D |
| Lead | 7439-92-1 | 1 | 0.0513 | 0.100 | 0.977 | ug/L | |
| Vanadium | 7440-62-2 | 2 | 0.111 | 0.400 | 4.49 | ug/L | D |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

StillWell-0623
23F0669-01 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 UCT-KED Sampled: 06/28/2023 09:05
Instrument: ICPMS2 Analyst: MCB Analyzed: 07/17/2023 19:01

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-01 B 01
Preparation Batch: BLG0245 Sample Size: 25 mL
Prepared: 07/13/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection | Reporting | Result | Units | Notes |
|---------|------------|----------|-----------|-----------|--------|-------|-------|
| | | | Limit | Limit | | | |
| Arsenic | 7440-38-2 | 2 | 0.0746 | 0.400 | 42.1 | ug/L | D |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

StillWell-0623
23F0669-01 (Water)

Wet Chemistry

Method: SM 2540 C-97 Sampled: 06/28/2023 09:05
Instrument: BAL2 Analyst: UW Analyzed: 06/30/2023 14:35

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem Extract ID: 23F0669-01
Preparation Batch: BLF0880 Sample Size: 10 mL
Prepared: 06/30/2023 Final Volume: 200 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|------------------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Dissolved Solids | | 1 | 100 | 100 | 2240 | mg/L | |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

MW-1A-0623
23F0669-02 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 Sampled: 06/28/2023 10:50
Instrument: ICPMS1 Analyst: SKD Analyzed: 07/17/2023 18:18

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-02 B 01
Preparation Batch: BLG0245 Sample Size: 25 mL
Prepared: 07/13/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|-----------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Potassium | 7440-09-7 | 2 | 21.8 | 40.0 | 16600 | ug/L | D |

Instrument: ICPMS2 Analyst: MCB Analyzed: 07/13/2023 21:21

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-02 B 01
Preparation Batch: BLG0245 Sample Size: 25 mL
Prepared: 07/13/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|----------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Antimony | 7440-36-0 | 1 | 0.101 | 0.200 | 0.870 | ug/L | |
| Lead | 7439-92-1 | 1 | 0.0513 | 0.100 | ND | ug/L | U |
| Vanadium | 7440-62-2 | 1 | 0.0556 | 0.200 | 0.862 | ug/L | |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

MW-1A-0623
23F0669-02 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 UCT-KED Sampled: 06/28/2023 10:50
Instrument: ICPMS2 Analyst: MCB Analyzed: 07/13/2023 21:21

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-02 B 01
Preparation Batch: BLG0245 Sample Size: 25 mL
Prepared: 07/13/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|---------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Arsenic | 7440-38-2 | 1 | 0.0373 | 0.200 | 1.18 | ug/L | |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

MW-1A-0623
23F0669-02 (Water)

Wet Chemistry

Method: SM 2540 C-97 Sampled: 06/28/2023 10:50
Instrument: BAL2 Analyst: UW Analyzed: 06/30/2023 14:35

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem Extract ID: 23F0669-02
Preparation Batch: BLF0880 Sample Size: 100 mL
Prepared: 06/30/2023 Final Volume: 200 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|------------------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Dissolved Solids | | 1 | 10 | 10 | 363 | mg/L | |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

MW-2A-0623
23F0669-03 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 Sampled: 06/28/2023 12:00
Instrument: ICPMS1 Analyst: SKD Analyzed: 07/17/2023 18:20

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-03 B 01
Preparation Batch: BLG0245 Sample Size: 25 mL
Prepared: 07/13/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|-----------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Potassium | 7440-09-7 | 2 | 21.8 | 40.0 | 19600 | ug/L | D |

Instrument: ICPMS2 Analyst: MCB Analyzed: 07/13/2023 21:26

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-03 B 01
Preparation Batch: BLG0245 Sample Size: 25 mL
Prepared: 07/13/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|----------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Antimony | 7440-36-0 | 1 | 0.101 | 0.200 | 1.05 | ug/L | |
| Lead | 7439-92-1 | 1 | 0.0513 | 0.100 | 0.371 | ug/L | |
| Vanadium | 7440-62-2 | 1 | 0.0556 | 0.200 | 1.02 | ug/L | |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

MW-2A-0623
23F0669-03 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 UCT-KED Sampled: 06/28/2023 12:00
Instrument: ICPMS2 Analyst: MCB Analyzed: 07/13/2023 21:26

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-03 B 01
Preparation Batch: BLG0245 Sample Size: 25 mL
Prepared: 07/13/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|---------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Arsenic | 7440-38-2 | 1 | 0.0373 | 0.200 | 1.12 | ug/L | |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

MW-2A-0623
23F0669-03 (Water)

Wet Chemistry

Method: SM 2540 C-97 Sampled: 06/28/2023 12:00
Instrument: BAL2 Analyst: UW Analyzed: 06/30/2023 14:35

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem Extract ID: 23F0669-03
Preparation Batch: BLF0880 Sample Size: 100 mL
Prepared: 06/30/2023 Final Volume: 200 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|------------------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Dissolved Solids | | 1 | 10 | 10 | 361 | mg/L | |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

MW-45A-0623
23F0669-04 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 Sampled: 06/28/2023 12:05
Instrument: ICPMS1 Analyst: SKD Analyzed: 07/17/2023 18:24

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-04 B 01
Preparation Batch: BLG0245 Sample Size: 25 mL
Prepared: 07/13/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|-----------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Potassium | 7440-09-7 | 2 | 21.8 | 40.0 | 19700 | ug/L | D |

Instrument: ICPMS2 Analyst: MCB Analyzed: 07/13/2023 21:31

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-04 B 01
Preparation Batch: BLG0245 Sample Size: 25 mL
Prepared: 07/13/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|----------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Antimony | 7440-36-0 | 1 | 0.101 | 0.200 | 1.07 | ug/L | |
| Lead | 7439-92-1 | 1 | 0.0513 | 0.100 | ND | ug/L | U |
| Vanadium | 7440-62-2 | 2 | 0.111 | 0.400 | 1.10 | ug/L | D |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

MW-45A-0623
23F0669-04 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 UCT-KED Sampled: 06/28/2023 12:05
Instrument: ICPMS2 Analyst: MCB Analyzed: 07/13/2023 21:31

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-04 B 01
Preparation Batch: BLG0245 Sample Size: 25 mL
Prepared: 07/13/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|---------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Arsenic | 7440-38-2 | 1 | 0.0373 | 0.200 | 1.12 | ug/L | |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

MW-45A-0623
23F0669-04 (Water)

Wet Chemistry

Method: SM 2540 C-97 Sampled: 06/28/2023 12:05
Instrument: BAL2 Analyst: UW Analyzed: 06/30/2023 14:35

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem Extract ID: 23F0669-04
Preparation Batch: BLF0880 Sample Size: 100 mL
Prepared: 06/30/2023 Final Volume: 200 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|------------------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Dissolved Solids | | 1 | 10 | 10 | 348 | mg/L | |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

MW-6A-0623
23F0669-05 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 Sampled: 06/28/2023 13:25
Instrument: ICPMS1 Analyst: SKD Analyzed: 07/17/2023 19:26

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-05 B 01
Preparation Batch: BLG0245 Sample Size: 25 mL
Prepared: 07/13/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|-----------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Potassium | 7440-09-7 | 50 | 545 | 1000 | 446000 | ug/L | D |

Instrument: ICPMS2 Analyst: MCB Analyzed: 07/13/2023 21:35

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-05 B 01
Preparation Batch: BLG0245 Sample Size: 25 mL
Prepared: 07/13/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|----------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Antimony | 7440-36-0 | 1 | 0.101 | 0.200 | 7.07 | ug/L | |
| Lead | 7439-92-1 | 1 | 0.0513 | 0.100 | 0.0520 | ug/L | J |
| Vanadium | 7440-62-2 | 1 | 0.0556 | 0.200 | 1.73 | ug/L | |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

MW-6A-0623
23F0669-05 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 UCT-KED Sampled: 06/28/2023 13:25
Instrument: ICPMS2 Analyst: MCB Analyzed: 07/13/2023 21:35

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-05 B 01
Preparation Batch: BLG0245 Sample Size: 25 mL
Prepared: 07/13/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|---------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Arsenic | 7440-38-2 | 1 | 0.0373 | 0.200 | 3.92 | ug/L | |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

MW-6A-0623
23F0669-05 (Water)

Wet Chemistry

Method: SM 2540 C-97 Sampled: 06/28/2023 13:25
Instrument: BAL2 Analyst: UW Analyzed: 06/30/2023 14:35

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem Extract ID: 23F0669-05
Preparation Batch: BLF0880 Sample Size: 75 mL
Prepared: 06/30/2023 Final Volume: 200 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|------------------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Dissolved Solids | | 1 | 13 | 13 | 1310 | mg/L | |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

Infiltration Pond-0623
23F0669-06 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 Sampled: 06/28/2023 14:35
Instrument: ICPMS1 Analyst: SKD Analyzed: 07/17/2023 19:39

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-06 B 01
Preparation Batch: BLG0245 Sample Size: 25 mL
Prepared: 07/13/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|-----------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Potassium | 7440-09-7 | 100 | 1090 | 2000 | 879000 | ug/L | D |

Instrument: ICPMS2 Analyst: MCB Analyzed: 07/17/2023 22:02

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-06 B 01
Preparation Batch: BLG0245 Sample Size: 25 mL
Prepared: 07/13/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|----------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Antimony | 7440-36-0 | 5 | 0.505 | 1.00 | 8.82 | ug/L | D |
| Lead | 7439-92-1 | 1 | 0.0513 | 0.100 | 1.37 | ug/L | |
| Vanadium | 7440-62-2 | 1 | 0.0556 | 0.200 | 0.880 | ug/L | |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

Infiltration Pond-0623
23F0669-06 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 UCT-KED Sampled: 06/28/2023 14:35
Instrument: ICPMS2 Analyst: MCB Analyzed: 07/17/2023 22:02

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-06 B 01
Preparation Batch: BLG0245 Sample Size: 25 mL
Prepared: 07/13/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection | Reporting | Result | Units | Notes |
|---------|------------|----------|-----------|-----------|--------|-------|-------|
| | | | Limit | Limit | | | |
| Arsenic | 7440-38-2 | 5 | 0.187 | 1.00 | 8.35 | ug/L | D |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

Infiltration Pond-0623
23F0669-06 (Water)

Wet Chemistry

Method: SM 2540 C-97 Sampled: 06/28/2023 14:35
Instrument: BAL2 Analyst: UW Analyzed: 06/30/2023 14:35

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem Extract ID: 23F0669-06
Preparation Batch: BLF0880 Sample Size: 50 mL
Prepared: 06/30/2023 Final Volume: 200 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|------------------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Dissolved Solids | | 1 | 20 | 20 | 2270 | mg/L | |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

Infiltration Pond-0623
23F0669-07 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 Sampled: 06/28/2023 14:35
Instrument: ICPMS1 Analyst: SKD Analyzed: 07/17/2023 20:03

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-07 A 01
Preparation Batch: BLG0207 Sample Size: 25 mL
Prepared: 07/12/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|----------------------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Potassium, Dissolved | 7440-09-7 | 100 | 1090 | 2000 | 831000 | ug/L | D |

Instrument: ICPMS2 Analyst: MCB Analyzed: 07/17/2023 22:34

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-07 A 01
Preparation Batch: BLG0207 Sample Size: 25 mL
Prepared: 07/12/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|---------------------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Antimony, Dissolved | 7440-36-0 | 5 | 0.505 | 1.00 | 8.92 | ug/L | D |
| Lead, Dissolved | 7439-92-1 | 1 | 0.0680 | 0.100 | 0.807 | ug/L | |
| Vanadium, Dissolved | 7440-62-2 | 5 | 0.278 | 1.00 | 0.935 | ug/L | J, D |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

Infiltration Pond-0623
23F0669-07 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT-KED Sampled: 06/28/2023 14:35
Instrument: ICPMS2 Analyst: MCB Analyzed: 07/17/2023 22:34

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-07 A 01
Preparation Batch: BLG0207 Sample Size: 25 mL
Prepared: 07/12/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection | Reporting | Result | Units | Notes |
|--------------------|------------|----------|-----------|-----------|--------|-------|-------|
| | | | Limit | Limit | | | |
| Arsenic, Dissolved | 7440-38-2 | 5 | 0.110 | 1.00 | 8.82 | ug/L | D |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

MW-35A-0623
23F0669-08 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 Sampled: 06/28/2023 14:40
Instrument: ICPMS1 Analyst: SKD Analyzed: 07/17/2023 19:40

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-08 B 01
Preparation Batch: BLG0245 Sample Size: 25 mL
Prepared: 07/13/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|-----------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Potassium | 7440-09-7 | 100 | 1090 | 2000 | 804000 | ug/L | D |

Instrument: ICPMS2 Analyst: MCB Analyzed: 07/17/2023 22:06

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-08 B 01
Preparation Batch: BLG0245 Sample Size: 25 mL
Prepared: 07/13/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|----------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Antimony | 7440-36-0 | 5 | 0.505 | 1.00 | 8.40 | ug/L | D |
| Lead | 7439-92-1 | 1 | 0.0513 | 0.100 | 1.19 | ug/L | |
| Vanadium | 7440-62-2 | 1 | 0.0556 | 0.200 | 0.786 | ug/L | |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

MW-35A-0623
23F0669-08 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 UCT-KED Sampled: 06/28/2023 14:40
Instrument: ICPMS2 Analyst: MCB Analyzed: 07/17/2023 22:06

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-08 B 01
Preparation Batch: BLG0245 Sample Size: 25 mL
Prepared: 07/13/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection | Reporting | Result | Units | Notes |
|---------|------------|----------|-----------|-----------|--------|-------|-------|
| | | | Limit | Limit | | | |
| Arsenic | 7440-38-2 | 5 | 0.187 | 1.00 | 7.96 | ug/L | D |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

MW-35A-0623
23F0669-08 (Water)

Wet Chemistry

Method: SM 2540 C-97 Sampled: 06/28/2023 14:40
Instrument: BAL2 Analyst: UW Analyzed: 06/30/2023 14:35

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem Extract ID: 23F0669-08
Preparation Batch: BLF0880 Sample Size: 50 mL
Prepared: 06/30/2023 Final Volume: 200 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|------------------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Dissolved Solids | | 1 | 20 | 20 | 2320 | mg/L | |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

MW-35A-0623
23F0669-09 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 Sampled: 06/28/2023 14:40
Instrument: ICPMS1 Analyst: SKD Analyzed: 07/17/2023 19:42

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-09 A 01
Preparation Batch: BLG0207 Sample Size: 25 mL
Prepared: 07/12/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|----------------------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Potassium, Dissolved | 7440-09-7 | 100 | 1090 | 2000 | 891000 | ug/L | D |

Instrument: ICPMS2 Analyst: MCB Analyzed: 07/17/2023 22:11

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-09 A 01
Preparation Batch: BLG0207 Sample Size: 25 mL
Prepared: 07/12/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|---------------------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Antimony, Dissolved | 7440-36-0 | 5 | 0.505 | 1.00 | 9.16 | ug/L | D |
| Lead, Dissolved | 7439-92-1 | 1 | 0.0680 | 0.100 | 0.800 | ug/L | |
| Vanadium, Dissolved | 7440-62-2 | 1 | 0.0556 | 0.200 | 0.753 | ug/L | |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

MW-35A-0623
23F0669-09 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT-KED Sampled: 06/28/2023 14:40
Instrument: ICPMS2 Analyst: MCB Analyzed: 07/17/2023 22:11

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-09 A 01
Preparation Batch: BLG0207 Sample Size: 25 mL
Prepared: 07/12/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection | Reporting | Result | Units | Notes |
|--------------------|------------|----------|-----------|-----------|--------|-------|-------|
| | | | Limit | Limit | | | |
| Arsenic, Dissolved | 7440-38-2 | 5 | 0.110 | 1.00 | 8.45 | ug/L | D |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

MW-8A-0623
23F0669-10 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 Sampled: 06/28/2023 15:35
Instrument: ICPMS1 Analyst: SKD Analyzed: 07/17/2023 19:44

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-10 B 01
Preparation Batch: BLG0245 Sample Size: 25 mL
Prepared: 07/13/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|-----------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Potassium | 7440-09-7 | 50 | 545 | 1000 | 189000 | ug/L | D |

Instrument: ICPMS2 Analyst: MCB Analyzed: 07/13/2023 21:49

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-10 B 01
Preparation Batch: BLG0245 Sample Size: 25 mL
Prepared: 07/13/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|----------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Antimony | 7440-36-0 | 1 | 0.101 | 0.200 | 4.03 | ug/L | |
| Lead | 7439-92-1 | 1 | 0.0513 | 0.100 | ND | ug/L | U |
| Vanadium | 7440-62-2 | 1 | 0.0556 | 0.200 | 3.62 | ug/L | |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

MW-8A-0623
23F0669-10 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 UCT-KED Sampled: 06/28/2023 15:35
Instrument: ICPMS2 Analyst: MCB Analyzed: 07/13/2023 21:49

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-10 B 01
Preparation Batch: BLG0245 Sample Size: 25 mL
Prepared: 07/13/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|---------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Arsenic | 7440-38-2 | 1 | 0.0373 | 0.200 | 5.91 | ug/L | |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

MW-8A-0623
23F0669-10 (Water)

Wet Chemistry

Method: SM 2540 C-97 Sampled: 06/28/2023 15:35
Instrument: BAL2 Analyst: UW Analyzed: 06/30/2023 14:35

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem Extract ID: 23F0669-10
Preparation Batch: BLF0880 Sample Size: 100 mL
Prepared: 06/30/2023 Final Volume: 200 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|------------------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Dissolved Solids | | 1 | 10 | 10 | 656 | mg/L | |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

MW-7A-0623
23F0669-11 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 Sampled: 06/28/2023 16:20
Instrument: ICPMS1 Analyst: SKD Analyzed: 07/17/2023 18:38

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-11 B 01
Preparation Batch: BLG0245 Sample Size: 25 mL
Prepared: 07/13/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|-----------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Potassium | 7440-09-7 | 2 | 21.8 | 40.0 | 26200 | ug/L | D |

Instrument: ICPMS2 Analyst: MCB Analyzed: 07/13/2023 21:55

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-11 B 01
Preparation Batch: BLG0245 Sample Size: 25 mL
Prepared: 07/13/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|----------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Antimony | 7440-36-0 | 1 | 0.101 | 0.200 | 0.785 | ug/L | |
| Lead | 7439-92-1 | 1 | 0.0513 | 0.100 | 0.407 | ug/L | |
| Vanadium | 7440-62-2 | 2 | 0.111 | 0.400 | 1.02 | ug/L | D |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

MW-7A-0623
23F0669-11 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 UCT-KED Sampled: 06/28/2023 16:20
Instrument: ICPMS2 Analyst: MCB Analyzed: 07/13/2023 21:55

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-11 B 01
Preparation Batch: BLG0245 Sample Size: 25 mL
Prepared: 07/13/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|---------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Arsenic | 7440-38-2 | 1 | 0.0373 | 0.200 | 1.24 | ug/L | |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

MW-7A-0623
23F0669-11 (Water)

Wet Chemistry

Method: SM 2540 C-97 Sampled: 06/28/2023 16:20
Instrument: BAL2 Analyst: UW Analyzed: 06/30/2023 14:35

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem Extract ID: 23F0669-11
Preparation Batch: BLF0880 Sample Size: 100 mL
Prepared: 06/30/2023 Final Volume: 200 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|------------------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Dissolved Solids | | 1 | 10 | 10 | 364 | mg/L | |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

MW-99-0623
23F0669-12 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 Sampled: 06/29/2023 11:45
Instrument: ICPMS1 Analyst: SKD Analyzed: 07/17/2023 18:07

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-12 B 01
Preparation Batch: BLG0245 Sample Size: 25 mL
Prepared: 07/13/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|-----------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Potassium | 7440-09-7 | 1 | 10.9 | 20.0 | ND | ug/L | U |

Instrument: ICPMS2 Analyst: MCB Analyzed: 07/13/2023 22:17

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-12 B 01
Preparation Batch: BLG0245 Sample Size: 25 mL
Prepared: 07/13/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|----------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Antimony | 7440-36-0 | 1 | 0.101 | 0.200 | ND | ug/L | U |
| Lead | 7439-92-1 | 1 | 0.0513 | 0.100 | ND | ug/L | U |
| Vanadium | 7440-62-2 | 1 | 0.0556 | 0.200 | ND | ug/L | U |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

MW-99-0623
23F0669-12 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 UCT-KED Sampled: 06/29/2023 11:45
Instrument: ICPMS2 Analyst: MCB Analyzed: 07/13/2023 22:17

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-12 B 01
Preparation Batch: BLG0245 Sample Size: 25 mL
Prepared: 07/13/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection | Reporting | Result | Units | Notes |
|---------|------------|----------|-----------|-----------|--------|-------|-------|
| | | | Limit | Limit | | | |
| Arsenic | 7440-38-2 | 1 | 0.0373 | 0.200 | ND | ug/L | U |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

MW-99-0623
23F0669-12 (Water)

Wet Chemistry

Method: SM 2540 C-97 Sampled: 06/29/2023 11:45
Instrument: BAL2 Analyst: UW Analyzed: 06/30/2023 14:35

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem Extract ID: 23F0669-12
Preparation Batch: BLF0880 Sample Size: 75 mL
Prepared: 06/30/2023 Final Volume: 200 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|------------------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Dissolved Solids | | 1 | 13 | 13 | ND | mg/L | U |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

P-16-0623
23F0669-13 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 Sampled: 06/26/2023 10:45
Instrument: ICPMS1 Analyst: SKD Analyzed: 07/17/2023 18:17

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-13 B 01
Preparation Batch: BLG0245 Sample Size: 25 mL
Prepared: 07/13/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|-----------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Potassium | 7440-09-7 | 100 | 1090 | 2000 | 726000 | ug/L | D |

Instrument: ICPMS2 Analyst: MCB Analyzed: 07/13/2023 21:17

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-13 B 01
Preparation Batch: BLG0245 Sample Size: 25 mL
Prepared: 07/13/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|----------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Antimony | 7440-36-0 | 10 | 1.01 | 2.00 | 6.04 | ug/L | D |
| Lead | 7439-92-1 | 10 | 0.513 | 1.00 | 8.79 | ug/L | D |
| Vanadium | 7440-62-2 | 10 | 0.556 | 2.00 | 211 | ug/L | D |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

P-16-0623
23F0669-13 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 UCT-KED Sampled: 06/26/2023 10:45
Instrument: ICPMS2 Analyst: MCB Analyzed: 07/13/2023 21:17

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-13 B 01
Preparation Batch: BLG0245 Sample Size: 25 mL
Prepared: 07/13/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection | Reporting | Result | Units | Notes |
|---------|------------|----------|-----------|-----------|--------|-------|-------|
| | | | Limit | Limit | | | |
| Arsenic | 7440-38-2 | 10 | 0.373 | 2.00 | 80.4 | ug/L | D |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

P-16-0623
23F0669-13 (Water)

Wet Chemistry

Method: SM 2540 C-97 Sampled: 06/26/2023 10:45
Instrument: BAL2 Analyst: UW Analyzed: 06/30/2023 14:35

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem Extract ID: 23F0669-13
Preparation Batch: BLF0880 Sample Size: 50 mL
Prepared: 06/30/2023 Final Volume: 200 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|------------------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Dissolved Solids | | 1 | 20 | 20 | 2130 | mg/L | |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

MW-10A-0623
23F0669-14 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 Sampled: 06/26/2023 11:50
Instrument: ICPMS1 Analyst: SKD Analyzed: 07/17/2023 18:40

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-14 B 01
Preparation Batch: BLG0245 Sample Size: 25 mL
Prepared: 07/13/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|-----------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Potassium | 7440-09-7 | 2 | 21.8 | 40.0 | 823 | ug/L | D |

Instrument: ICPMS2 Analyst: MCB Analyzed: 07/13/2023 22:21

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-14 B 01
Preparation Batch: BLG0245 Sample Size: 25 mL
Prepared: 07/13/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|----------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Antimony | 7440-36-0 | 1 | 0.101 | 0.200 | ND | ug/L | U |
| Lead | 7439-92-1 | 2 | 0.103 | 0.200 | 0.168 | ug/L | J, D |
| Vanadium | 7440-62-2 | 2 | 0.111 | 0.400 | 1.00 | ug/L | D |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

MW-10A-0623
23F0669-14 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 UCT-KED Sampled: 06/26/2023 11:50
Instrument: ICPMS2 Analyst: MCB Analyzed: 07/13/2023 22:21

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-14 B 01
Preparation Batch: BLG0245 Sample Size: 25 mL
Prepared: 07/13/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection | Reporting | Result | Units | Notes |
|---------|------------|----------|-----------|-----------|--------|-------|-------|
| | | | Limit | Limit | | | |
| Arsenic | 7440-38-2 | 1 | 0.0373 | 0.200 | 0.579 | ug/L | |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

MW-10A-0623
23F0669-14 (Water)

Wet Chemistry

Method: SM 2540 C-97 Sampled: 06/26/2023 11:50
Instrument: BAL2 Analyst: UW Analyzed: 06/30/2023 14:35

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem Extract ID: 23F0669-14
Preparation Batch: BLF0880 Sample Size: 200 mL
Prepared: 06/30/2023 Final Volume: 200 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|------------------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Dissolved Solids | | 1 | 5 | 5 | 108 | mg/L | |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

MW-3A-0623
23F0669-15 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 Sampled: 06/26/2023 13:25
Instrument: ICPMS1 Analyst: SKD Analyzed: 07/17/2023 19:07

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-15 B 01
Preparation Batch: BLG0245 Sample Size: 25 mL
Prepared: 07/13/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|-----------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Potassium | 7440-09-7 | 20 | 218 | 400 | 144000 | ug/L | D |

Instrument: ICPMS2 Analyst: MCB Analyzed: 07/13/2023 22:26

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-15 B 01
Preparation Batch: BLG0245 Sample Size: 25 mL
Prepared: 07/13/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|----------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Antimony | 7440-36-0 | 1 | 0.101 | 0.200 | 5.91 | ug/L | |
| Lead | 7439-92-1 | 2 | 0.103 | 0.200 | 0.558 | ug/L | D |
| Vanadium | 7440-62-2 | 2 | 0.111 | 0.400 | 1.07 | ug/L | D |



Golder Associates
18300 NE Union Hill Road Suite 200
Redmond WA, 98052-3333

Project: Ravensdale
Project Number: GL152030402.004
Project Manager: Gary Zimmerman

Reported:
22-Jul-2023 10:29

MW-3A-0623
23F0669-15 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 UCT-KED

Sampled: 06/26/2023 13:25

Instrument: ICPMS2 Analyst: MCB

Analyzed: 07/13/2023 22:26

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M
Preparation Batch: BLG0245
Prepared: 07/13/2023

Sample Size: 25 mL
Final Volume: 25 mL

Extract ID: 23F0669-15 B 01

| Analyte | CAS Number | Dilution | Detection | Reporting | Result | Units | Notes |
|---------|------------|----------|-----------|-----------|--------|-------|-------|
| | | | Limit | Limit | | | |
| Arsenic | 7440-38-2 | 1 | 0.0373 | 0.200 | 11.7 | ug/L | |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

MW-3A-0623
23F0669-15 (Water)

Wet Chemistry

Method: SM 2540 C-97 Sampled: 06/26/2023 13:25
Instrument: BAL2 Analyst: UW Analyzed: 06/30/2023 14:35

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem Extract ID: 23F0669-15
Preparation Batch: BLF0880 Sample Size: 100 mL
Prepared: 06/30/2023 Final Volume: 200 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|------------------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Dissolved Solids | | 1 | 10 | 10 | 699 | mg/L | |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

MW-5A-0623
23F0669-16 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 Sampled: 06/26/2023 15:40
Instrument: ICPMS1 Analyst: SKD Analyzed: 07/17/2023 19:45

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-16 B 01
Preparation Batch: BLG0245 Sample Size: 25 mL
Prepared: 07/13/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|-----------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Potassium | 7440-09-7 | 50 | 545 | 1000 | 475000 | ug/L | D |

Instrument: ICPMS2 Analyst: MCB Analyzed: 07/13/2023 22:31

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-16 B 01
Preparation Batch: BLG0245 Sample Size: 25 mL
Prepared: 07/13/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|----------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Antimony | 7440-36-0 | 1 | 0.101 | 0.200 | 6.99 | ug/L | |
| Lead | 7439-92-1 | 2 | 0.103 | 0.200 | ND | ug/L | U |
| Vanadium | 7440-62-2 | 1 | 0.0556 | 0.200 | 2.17 | ug/L | |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

MW-5A-0623
23F0669-16 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 UCT-KED Sampled: 06/26/2023 15:40
Instrument: ICPMS2 Analyst: MCB Analyzed: 07/13/2023 22:31

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-16 B 01
Preparation Batch: BLG0245 Sample Size: 25 mL
Prepared: 07/13/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|---------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Arsenic | 7440-38-2 | 1 | 0.0373 | 0.200 | 4.55 | ug/L | |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

MW-5A-0623
23F0669-16 (Water)

Wet Chemistry

Method: SM 2540 C-97 Sampled: 06/26/2023 15:40
Instrument: BAL2 Analyst: UW Analyzed: 06/30/2023 14:35

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem Extract ID: 23F0669-16
Preparation Batch: BLF0880 Sample Size: 50 mL
Prepared: 06/30/2023 Final Volume: 200 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|------------------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Dissolved Solids | | 1 | 20 | 20 | 1510 | mg/L | |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

P-17-0623
23F0669-17 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 Sampled: 06/27/2023 09:40
Instrument: ICPMS1 Analyst: SKD Analyzed: 07/17/2023 19:11

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-17 B 01
Preparation Batch: BLG0245 Sample Size: 25 mL
Prepared: 07/13/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|-----------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Potassium | 7440-09-7 | 5 | 54.5 | 100 | 6140 | ug/L | D |

Instrument: ICPMS2 Analyst: MCB Analyzed: 07/13/2023 22:35

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-17 B 01
Preparation Batch: BLG0245 Sample Size: 25 mL
Prepared: 07/13/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|----------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Antimony | 7440-36-0 | 1 | 0.101 | 0.200 | 0.658 | ug/L | |
| Lead | 7439-92-1 | 5 | 0.257 | 0.500 | ND | ug/L | U |
| Vanadium | 7440-62-2 | 5 | 0.278 | 1.00 | 2.29 | ug/L | D |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

P-17-0623
23F0669-17 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 UCT-KED Sampled: 06/27/2023 09:40
Instrument: ICPMS2 Analyst: MCB Analyzed: 07/13/2023 22:35

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-17 B 01
Preparation Batch: BLG0245 Sample Size: 25 mL
Prepared: 07/13/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection | Reporting | Result | Units | Notes |
|---------|------------|----------|-----------|-----------|--------|-------|-------|
| | | | Limit | Limit | | | |
| Arsenic | 7440-38-2 | 1 | 0.0373 | 0.200 | 4.51 | ug/L | |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

P-17-0623
23F0669-17 (Water)

Wet Chemistry

Method: SM 2540 C-97 Sampled: 06/27/2023 09:40
Instrument: BAL2 Analyst: UW Analyzed: 06/30/2023 14:35

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem Extract ID: 23F0669-17
Preparation Batch: BLF0880 Sample Size: 100 mL
Prepared: 06/30/2023 Final Volume: 200 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|------------------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Dissolved Solids | | 1 | 10 | 10 | 377 | mg/L | |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

InterceptorTrench-0623
23F0669-18 (Water)

Wet Chemistry

Method: SM 2540 C-97 Sampled: 06/27/2023 09:55
Instrument: BAL2 Analyst: UW Analyzed: 06/30/2023 14:35

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem Extract ID: 23F0669-18
Preparation Batch: BLF0880 Sample Size: 100 mL
Prepared: 06/30/2023 Final Volume: 200 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|------------------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Dissolved Solids | | 1 | 10 | 10 | 381 | mg/L | |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

MW-4A-0623
23F0669-19 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 Sampled: 06/27/2023 11:05
Instrument: ICPMS1 Analyst: SKD Analyzed: 07/17/2023 18:55

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-19 F 01
Preparation Batch: BLG0245 Sample Size: 25 mL
Prepared: 07/13/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|-----------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Potassium | 7440-09-7 | 5 | 54.5 | 100 | 745 | ug/L | D |

Instrument: ICPMS2 Analyst: MCB Analyzed: 07/13/2023 22:40

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-19 F 01
Preparation Batch: BLG0245 Sample Size: 25 mL
Prepared: 07/13/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|----------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Antimony | 7440-36-0 | 1 | 0.101 | 0.200 | ND | ug/L | U |
| Lead | 7439-92-1 | 5 | 0.257 | 0.500 | ND | ug/L | U |
| Vanadium | 7440-62-2 | 5 | 0.278 | 1.00 | 1.24 | ug/L | D |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

MW-4A-0623
23F0669-19 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 UCT-KED Sampled: 06/27/2023 11:05
Instrument: ICPMS2 Analyst: MCB Analyzed: 07/13/2023 22:40

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-19 F 01
Preparation Batch: BLG0245 Sample Size: 25 mL
Prepared: 07/13/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection | Reporting | Result | Units | Notes |
|---------|------------|----------|-----------|-----------|--------|-------|-------|
| | | | Limit | Limit | | | |
| Arsenic | 7440-38-2 | 1 | 0.0373 | 0.200 | 0.190 | ug/L | J |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

MW-4A-0623
23F0669-19 (Water)

Wet Chemistry

Method: SM 2540 C-97 Sampled: 06/27/2023 11:05
Instrument: BAL2 Analyst: UW Analyzed: 06/30/2023 14:35

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem Extract ID: 23F0669-19
Preparation Batch: BLF0880 Sample Size: 200 mL
Prepared: 06/30/2023 Final Volume: 200 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|------------------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Dissolved Solids | | 1 | 5 | 5 | 246 | mg/L | |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

MW-9A-0623
23F0669-20 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 Sampled: 06/27/2023 12:40
Instrument: ICPMS1 Analyst: SKD Analyzed: 07/17/2023 19:12

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-20 B 01
Preparation Batch: BLG0245 Sample Size: 25 mL
Prepared: 07/13/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|-----------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Potassium | 7440-09-7 | 5 | 54.5 | 100 | 2120 | ug/L | D |

Instrument: ICPMS2 Analyst: MCB Analyzed: 07/13/2023 22:44

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-20 B 01
Preparation Batch: BLG0245 Sample Size: 25 mL
Prepared: 07/13/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|----------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Antimony | 7440-36-0 | 1 | 0.101 | 0.200 | 0.123 | ug/L | J |
| Lead | 7439-92-1 | 5 | 0.257 | 0.500 | ND | ug/L | U |
| Vanadium | 7440-62-2 | 5 | 0.278 | 1.00 | 1.30 | ug/L | D |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

MW-9A-0623
23F0669-20 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 UCT-KED Sampled: 06/27/2023 12:40
Instrument: ICPMS2 Analyst: MCB Analyzed: 07/13/2023 22:44

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-20 B 01
Preparation Batch: BLG0245 Sample Size: 25 mL
Prepared: 07/13/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection | Reporting | Result | Units | Notes |
|---------|------------|----------|-----------|-----------|--------|-------|-------|
| | | | Limit | Limit | | | |
| Arsenic | 7440-38-2 | 1 | 0.0373 | 0.200 | 0.832 | ug/L | |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

MW-9A-0623
23F0669-20 (Water)

Wet Chemistry

Method: SM 2540 C-97 Sampled: 06/27/2023 12:40
Instrument: BAL2 Analyst: UW Analyzed: 06/30/2023 14:35

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem Extract ID: 23F0669-20
Preparation Batch: BLF0880 Sample Size: 100 mL
Prepared: 06/30/2023 Final Volume: 200 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|------------------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Dissolved Solids | | 1 | 10 | 10 | 379 | mg/L | |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

P-15-0623
23F0669-21 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 Sampled: 06/27/2023 14:10
Instrument: ICPMS1 Analyst: SKD Analyzed: 07/17/2023 19:51

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-21 B 01
Preparation Batch: BLG0245 Sample Size: 25 mL
Prepared: 07/13/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|-----------|------------|----------|-----------------|-----------------|---------|-------|-------|
| Potassium | 7440-09-7 | 500 | 5450 | 10000 | 1450000 | ug/L | D |

Instrument: ICPMS2 Analyst: MCB Analyzed: 07/19/2023 02:53

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-21 B 01
Preparation Batch: BLG0245 Sample Size: 25 mL
Prepared: 07/13/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|----------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Antimony | 7440-36-0 | 5 | 0.505 | 1.00 | 1.15 | ug/L | D |
| Lead | 7439-92-1 | 5 | 0.257 | 0.500 | 119 | ug/L | D |
| Vanadium | 7440-62-2 | 5 | 0.278 | 1.00 | 0.635 | ug/L | J, D |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

P-15-0623
23F0669-21 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 UCT-KED Sampled: 06/27/2023 14:10
Instrument: ICPMS2 Analyst: MCB Analyzed: 07/19/2023 02:53

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-21 B 01
Preparation Batch: BLG0245 Sample Size: 25 mL
Prepared: 07/13/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection | Reporting | Result | Units | Notes |
|---------|------------|----------|-----------|-----------|--------|-------|-------|
| | | | Limit | Limit | | | |
| Arsenic | 7440-38-2 | 5 | 0.187 | 1.00 | 5.77 | ug/L | D |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

P-15-0623
23F0669-21 (Water)

Wet Chemistry

Method: SM 2540 C-97 Sampled: 06/27/2023 14:10
Instrument: BAL2 Analyst: UW Analyzed: 06/30/2023 14:35

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem Extract ID: 23F0669-21
Preparation Batch: BLF0880 Sample Size: 10 mL
Prepared: 06/30/2023 Final Volume: 200 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|------------------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Dissolved Solids | | 1 | 100 | 100 | 4290 | mg/L | |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

P-14-0623
23F0669-22 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 Sampled: 06/27/2023 15:30
Instrument: ICPMS1 Analyst: SKD Analyzed: 07/17/2023 19:53

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-22 B 01
Preparation Batch: BLG0245 Sample Size: 25 mL
Prepared: 07/13/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|-----------|------------|----------|-----------------|-----------------|---------|-------|-------|
| Potassium | 7440-09-7 | 500 | 5450 | 10000 | 2200000 | ug/L | D |

Instrument: ICPMS2 Analyst: MCB Analyzed: 07/19/2023 02:58

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-22 B 01
Preparation Batch: BLG0245 Sample Size: 25 mL
Prepared: 07/13/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|----------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Antimony | 7440-36-0 | 10 | 1.01 | 2.00 | 139 | ug/L | D |
| Lead | 7439-92-1 | 10 | 0.513 | 1.00 | 2.90 | ug/L | D |
| Vanadium | 7440-62-2 | 10 | 0.556 | 2.00 | 21.4 | ug/L | D |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

P-14-0623
23F0669-22 (Water)

Metals and Metallic Compounds

Method: EPA 200.8 UCT-KED Sampled: 06/27/2023 15:30
Instrument: ICPMS2 Analyst: MCB Analyzed: 07/19/2023 02:58

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN - EPA 3010A M Extract ID: 23F0669-22 B 01
Preparation Batch: BLG0245 Sample Size: 25 mL
Prepared: 07/13/2023 Final Volume: 25 mL

| Analyte | CAS Number | Dilution | Detection | Reporting | Result | Units | Notes |
|---------|------------|----------|-----------|-----------|--------|-------|-------|
| | | | Limit | Limit | | | |
| Arsenic | 7440-38-2 | 10 | 0.373 | 2.00 | 242 | ug/L | D |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

P-14-0623
23F0669-22 (Water)

Wet Chemistry

Method: SM 2540 C-97 Sampled: 06/27/2023 15:30
Instrument: BAL2 Analyst: UW Analyzed: 06/30/2023 14:35

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem Extract ID: 23F0669-22
Preparation Batch: BLF0880 Sample Size: 10 mL
Prepared: 06/30/2023 Final Volume: 200 mL

| Analyte | CAS Number | Dilution | Detection Limit | Reporting Limit | Result | Units | Notes |
|------------------|------------|----------|-----------------|-----------------|--------|-------|-------|
| Dissolved Solids | | 1 | 100 | 100 | 6300 | mg/L | |



Golder Associates
18300 NE Union Hill Road Suite 200
Redmond WA, 98052-3333

Project: Ravensdale
Project Number: GL152030402.004
Project Manager: Gary Zimmerman

Reported:
22-Jul-2023 10:29

Analysis by: Analytical Resources, LLC

Metals and Metallic Compounds - Quality Control

Batch BLG0245 - EPA 200.8

Instrument: ICPMS1 Analyst: SKD

| QC Sample/Analyte | Isotope | Result | Detection Limit | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|-----------------------------------|---------|--------|-----------------|-----------------|-------|--|---------------|------|-------------|------|-----------|-------|
| Blank (BLG0245-BLK3) | | | | | | Prepared: 13-Jul-2023 Analyzed: 17-Jul-2023 16:45 | | | | | | |
| Potassium | 39 | ND | 10.9 | 20.0 | ug/L | | | | | | | U |
| LCS (BLG0245-BS3) | | | | | | Prepared: 13-Jul-2023 Analyzed: 17-Jul-2023 16:47 | | | | | | |
| Potassium | 39 | 4880 | 10.9 | 20.0 | ug/L | 5000 | | 97.6 | 80-120 | | | |
| Duplicate (BLG0245-DUP3) | | | | | | Source: 23F0669-01 Prepared: 13-Jul-2023 Analyzed: 17-Jul-2023 20:21 | | | | | | |
| Potassium | 39 | 481000 | 1090 | 2000 | ug/L | | 450000 | | | 6.56 | 20 | D |
| Matrix Spike (BLG0245-MS3) | | | | | | Source: 23F0669-01 Prepared: 13-Jul-2023 Analyzed: 17-Jul-2023 20:22 | | | | | | |
| Potassium | 39 | 461000 | 1090 | 2000 | ug/L | 5000 | 450000 | 215 | 75-125 | | | HC, D |

Recovery limits for target analytes in MS/MSD QC samples are advisory only.

Instrument: ICPMS2 Analyst: MCB

| QC Sample/Analyte | Isotope | Result | Detection Limit | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|-----------------------------------|---------|--------|-----------------|-----------------|-------|--|---------------|------|-------------|------|-----------|-------|
| Blank (BLG0245-BLK1) | | | | | | Prepared: 13-Jul-2023 Analyzed: 13-Jul-2023 15:20 | | | | | | |
| Antimony | 121 | ND | 0.101 | 0.200 | ug/L | | | | | | | U |
| Lead | 208 | ND | 0.0513 | 0.100 | ug/L | | | | | | | U |
| Vanadium | 51a | ND | 0.0556 | 0.200 | ug/L | | | | | | | U |
| Arsenic | 75a | ND | 0.0373 | 0.200 | ug/L | | | | | | | U |
| LCS (BLG0245-BS1) | | | | | | Prepared: 13-Jul-2023 Analyzed: 13-Jul-2023 15:25 | | | | | | |
| Antimony | 121 | 24.0 | 0.101 | 0.200 | ug/L | 25.0 | | 96.1 | 80-120 | | | |
| Lead | 208 | 25.2 | 0.0513 | 0.100 | ug/L | 25.0 | | 101 | 80-120 | | | |
| Vanadium | 51a | 24.9 | 0.0556 | 0.200 | ug/L | 25.0 | | 99.7 | 80-120 | | | |
| Arsenic | 75a | 23.7 | 0.0373 | 0.200 | ug/L | 25.0 | | 94.8 | 80-120 | | | |
| Duplicate (BLG0245-DUP1) | | | | | | Source: 23F0669-01 Prepared: 13-Jul-2023 Analyzed: 13-Jul-2023 17:03 | | | | | | |
| Lead | 208 | 0.961 | 0.0513 | 0.100 | ug/L | | 0.977 | | | 1.65 | 20 | |
| Duplicate (BLG0245-DUP2) | | | | | | Source: 23F0669-01 Prepared: 13-Jul-2023 Analyzed: 17-Jul-2023 19:06 | | | | | | |
| Antimony | 121 | 28.5 | 0.202 | 0.400 | ug/L | | 27.6 | | | 2.91 | 20 | D |
| Vanadium | 51a | 4.61 | 0.111 | 0.400 | ug/L | | 4.49 | | | 2.46 | 20 | D |
| Arsenic | 75a | 43.9 | 0.0746 | 0.400 | ug/L | | 42.1 | | | 4.14 | 20 | D |
| Matrix Spike (BLG0245-MS1) | | | | | | Source: 23F0669-01 Prepared: 13-Jul-2023 Analyzed: 13-Jul-2023 17:08 | | | | | | |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

Analysis by: Analytical Resources, LLC

Metals and Metallic Compounds - Quality Control

Batch BLG0245 - EPA 200.8

Instrument: ICPMS2 Analyst: MCB

| QC Sample/Analyte | Isotope | Result | Detection Limit | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|-----------------------------------|---------|---------------------------|-----------------|-----------------|---|-------------|---------------|------|-------------|-----|-----------|-------|
| Matrix Spike (BLG0245-MS1) | | Source: 23F0669-01 | | | Prepared: 13-Jul-2023 Analyzed: 13-Jul-2023 17:08 | | | | | | | |
| Lead | 208 | 21.3 | 0.0513 | 0.100 | ug/L | 25.0 | 0.977 | 81.2 | 75-125 | | | |

Recovery limits for target analytes in MS/MSD QC samples are advisory only.

| | | | | | | | | | | | | |
|-----------------------------------|-----|---------------------------|--------|-------|---|------|------|------|--------|--|--|---|
| Matrix Spike (BLG0245-MS2) | | Source: 23F0669-01 | | | Prepared: 13-Jul-2023 Analyzed: 17-Jul-2023 19:10 | | | | | | | |
| Antimony | 121 | 50.1 | 0.202 | 0.400 | ug/L | 25.0 | 27.6 | 89.7 | 75-125 | | | D |
| Vanadium | 51a | 29.7 | 0.111 | 0.400 | ug/L | 25.0 | 4.49 | 101 | 75-125 | | | D |
| Arsenic | 75a | 67.0 | 0.0746 | 0.400 | ug/L | 25.0 | 42.1 | 99.6 | 75-125 | | | D |

Recovery limits for target analytes in MS/MSD QC samples are advisory only.



Golder Associates
18300 NE Union Hill Road Suite 200
Redmond WA, 98052-3333

Project: Ravensdale
Project Number: GL152030402.004
Project Manager: Gary Zimmerman

Reported:
22-Jul-2023 10:29

Analysis by: Analytical Resources, LLC

Metals and Metallic Compounds (dissolved) - Quality Control

Batch BLG0207 - EPA 200.8

Instrument: ICPMS1 Analyst: SKD

| QC Sample/Analyte | Isotope | Result | Detection Limit | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|-----------------------------------|---------|--------|-----------------|-----------------|-------|--|---------------|------|-------------|------|-----------|-------|
| Blank (BLG0207-BLK2) | | | | | | Prepared: 12-Jul-2023 Analyzed: 13-Jul-2023 15:36 | | | | | | |
| Potassium, Dissolved | 39 | ND | 10.9 | 20.0 | ug/L | | | | | | | U |
| LCS (BLG0207-BS2) | | | | | | Prepared: 12-Jul-2023 Analyzed: 13-Jul-2023 15:38 | | | | | | |
| Potassium, Dissolved | 39 | 5070 | 10.9 | 20.0 | ug/L | 5000 | | 101 | 80-120 | | | |
| Duplicate (BLG0207-DUP2) | | | | | | Source: 23F0669-07 Prepared: 12-Jul-2023 Analyzed: 17-Jul-2023 20:04 | | | | | | |
| Potassium, Dissolved | 39 | 882000 | 1090 | 2000 | ug/L | | 831000 | | | 5.98 | 20 | D |
| Matrix Spike (BLG0207-MS2) | | | | | | Source: 23F0669-07 Prepared: 12-Jul-2023 Analyzed: 17-Jul-2023 20:11 | | | | | | |
| Potassium, Dissolved | 39 | 866000 | 1090 | 2000 | ug/L | 5000 | 831000 | 714 | 75-125 | | | HC, D |

Recovery limits for target analytes in MS/MSD QC samples are advisory only.

Instrument: ICPMS2 Analyst: MCB

| QC Sample/Analyte | Isotope | Result | Detection Limit | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|-----------------------------------|---------|--------|-----------------|-----------------|-------|--|---------------|------|-------------|-------|-----------|-------|
| Blank (BLG0207-BLK1) | | | | | | Prepared: 12-Jul-2023 Analyzed: 12-Jul-2023 17:49 | | | | | | |
| Antimony, Dissolved | 121 | ND | 0.101 | 0.200 | ug/L | | | | | | | U |
| Lead, Dissolved | 208 | ND | 0.0513 | 0.100 | ug/L | | | | | | | U |
| Vanadium, Dissolved | 51a | ND | 0.0556 | 0.200 | ug/L | | | | | | | U |
| Arsenic, Dissolved | 75a | ND | 0.0373 | 0.200 | ug/L | | | | | | | U |
| LCS (BLG0207-BS1) | | | | | | Prepared: 12-Jul-2023 Analyzed: 12-Jul-2023 17:54 | | | | | | |
| Antimony, Dissolved | 121 | 24.6 | 0.101 | 0.200 | ug/L | 25.0 | | 98.5 | 80-120 | | | |
| Lead, Dissolved | 208 | 25.2 | 0.0513 | 0.100 | ug/L | 25.0 | | 101 | 80-120 | | | |
| Vanadium, Dissolved | 51a | 25.5 | 0.0556 | 0.200 | ug/L | 25.0 | | 102 | 80-120 | | | |
| Arsenic, Dissolved | 75a | 24.6 | 0.0373 | 0.200 | ug/L | 25.0 | | 98.5 | 80-120 | | | |
| Duplicate (BLG0207-DUP1) | | | | | | Source: 23F0669-07 Prepared: 12-Jul-2023 Analyzed: 13-Jul-2023 20:33 | | | | | | |
| Lead, Dissolved | 208 | 0.770 | 0.0513 | 0.100 | ug/L | | 0.807 | | | 4.69 | 20 | |
| Duplicate (BLG0207-DUP3) | | | | | | Source: 23F0669-07 Prepared: 12-Jul-2023 Analyzed: 17-Jul-2023 22:38 | | | | | | |
| Antimony, Dissolved | 121 | 17.4 | 0.505 | 1.00 | ug/L | | 8.92 | | | 64.40 | 20 | *, D |
| Vanadium, Dissolved | 51a | 0.795 | 0.278 | 1.00 | ug/L | | 0.935 | | | 16.20 | 20 | J, D |
| Arsenic, Dissolved | 75a | 8.35 | 0.187 | 1.00 | ug/L | | 8.82 | | | 5.53 | 20 | D |
| Matrix Spike (BLG0207-MS1) | | | | | | Source: 23F0669-07 Prepared: 12-Jul-2023 Analyzed: 13-Jul-2023 20:39 | | | | | | |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

Analysis by: Analytical Resources, LLC

Metals and Metallic Compounds (dissolved) - Quality Control

Batch BLG0207 - EPA 200.8

Instrument: ICPMS2 Analyst: MCB

| QC Sample/Analyte | Isotope | Result | Detection Limit | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|-----------------------------------|---------|---------------------------|-----------------|-----------------------|-------|-----------------------------|---------------|------|-------------|-----|-----------|-------|
| Matrix Spike (BLG0207-MS1) | | Source: 23F0669-07 | | Prepared: 12-Jul-2023 | | Analyzed: 13-Jul-2023 20:39 | | | | | | |
| Lead, Dissolved | 208 | 20.3 | 0.0513 | 0.100 | ug/L | 25.0 | 0.807 | 77.9 | 75-125 | | | |

Recovery limits for target analytes in MS/MSD QC samples are advisory only.

| | | | | | | | | | | | | |
|-----------------------------------|-----|---------------------------|-------|-----------------------|------|-----------------------------|-------|------|--------|--|--|------|
| Matrix Spike (BLG0207-MS3) | | Source: 23F0669-07 | | Prepared: 12-Jul-2023 | | Analyzed: 17-Jul-2023 22:43 | | | | | | |
| Antimony, Dissolved | 121 | 43.4 | 0.505 | 1.00 | ug/L | 25.0 | 8.92 | 138 | 75-125 | | | *, D |
| Vanadium, Dissolved | 51a | 25.7 | 0.278 | 1.00 | ug/L | 25.0 | 0.935 | 99.0 | 75-125 | | | D |
| Arsenic, Dissolved | 75a | 32.2 | 0.187 | 1.00 | ug/L | 25.0 | 8.82 | 93.6 | 75-125 | | | D |

Recovery limits for target analytes in MS/MSD QC samples are advisory only.



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

Analysis by: Analytical Resources, LLC

Wet Chemistry - Quality Control

Batch BLF0880 - SM 2540 C-97

Instrument: BAL2 Analyst: UW

| QC Sample/Analyte | Result | Detection Limit | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---------------------------------|--------|-----------------|-----------------|-------|-------------|--|------|-------------|------|-----------|-------|
| Blank (BLF0880-BLK1) | | | | | | Prepared: 30-Jun-2023 Analyzed: 30-Jun-2023 14:35 | | | | | |
| Dissolved Solids | ND | 5 | 5 | mg/L | | | | | | | U |
| LCS (BLF0880-BS1) | | | | | | Prepared: 30-Jun-2023 Analyzed: 30-Jun-2023 14:35 | | | | | |
| Dissolved Solids | 464 | 10 | 10 | mg/L | 500 | | 92.7 | 90-110 | | | |
| Duplicate (BLF0880-DUP1) | | | | | | Source: 23F0669-19 Prepared: 30-Jun-2023 Analyzed: 30-Jun-2023 14:35 | | | | | |
| Dissolved Solids | 252 | 5 | 5 | mg/L | | 246 | | | 2.21 | 20 | |



Golder Associates
18300 NE Union Hill Road Suite 200
Redmond WA, 98052-3333

Project: Ravensdale
Project Number: GL152030402.004
Project Manager: Gary Zimmerman

Reported:
22-Jul-2023 10:29

Certified Analyses included in this Report

| Analyte | Certifications |
|-----------------------------------|----------------------------|
| EPA 200.8 in Water | |
| Potassium-39 | NELAP,DoD-ELAP,WADOE |
| Potassium-39 | NELAP,DoD-ELAP,WADOE |
| Potassium-39 | NELAP,DoD-ELAP,WADOE |
| Potassium-39 | NELAP,DoD-ELAP,WADOE |
| Lead-208 | NELAP,WADOE,WA-DW,DoD-ELAP |
| Lead-208 | NELAP,WADOE,WA-DW,DoD-ELAP |
| Lead-208 | NELAP,WADOE,WA-DW,DoD-ELAP |
| Lead-208 | NELAP,WADOE,WA-DW,DoD-ELAP |
| Antimony-121 | NELAP,WADOE,WA-DW,DoD-ELAP |
| Antimony-121 | NELAP,WADOE,WA-DW,DoD-ELAP |
| Antimony-121 | NELAP,WADOE,WA-DW,DoD-ELAP |
| Antimony-121 | NELAP,WADOE,WA-DW,DoD-ELAP |
| Vanadium-51a | NELAP,DoD-ELAP,WADOE |
| Vanadium-51a | NELAP,DoD-ELAP,WADOE |
| Vanadium-51a | DoD-ELAP,NELAP,WADOE |
| Vanadium-51a | DoD-ELAP,NELAP,WADOE |
| Vanadium-51a | NELAP,DoD-ELAP,WADOE |
| Vanadium-51a | NELAP,DoD-ELAP,WADOE |
| Vanadium-51a | DoD-ELAP,NELAP,WADOE |
| Vanadium-51a | DoD-ELAP,NELAP,WADOE |
| Potassium-39 | NELAP,DoD-ELAP,WADOE |
| Lead-208 | NELAP,WADOE,WA-DW,DoD-ELAP |
| Antimony-121 | NELAP,WADOE,WA-DW,DoD-ELAP |
| Vanadium-51a | NELAP,DoD-ELAP,WADOE |
| Vanadium-51a | DoD-ELAP,NELAP,WADOE |
| EPA 200.8 UCT-KED in Water | |
| Arsenic-75a | NELAP,WADOE,WA-DW,DoD-ELAP |
| Arsenic-75a | NELAP,WADOE,WA-DW,DoD-ELAP |
| Arsenic-75a | NELAP,WADOE,WA-DW,DoD-ELAP |
| Arsenic-75a | NELAP,WADOE,WA-DW,DoD-ELAP |



| | | |
|---|---|---------------------------------------|
| Golder Associates 18300 NE Union Hill Road Suite 200 Redmond WA, 98052-3333 | Project: Ravensdale Project Number: GL152030402.004 Project Manager: Gary Zimmerman | Reported: 22-Jul-2023 10:29 |
|---|---|---------------------------------------|

Arsenic-75a NELAP,WADOE,WA-DW,DoD-ELAP

SM 2540 C-97 in Water

Dissolved Solids DoD-ELAP,WADOE,WA-DW,NELAP

Dissolved Solids DoD-ELAP,WADOE,WA-DW,NELAP

Dissolved Solids DoD-ELAP,WADOE,WA-DW,NELAP

Dissolved Solids DoD-ELAP,WADOE,WA-DW,NELAP

| Code | Description | Number | Expires |
|----------|--|--------|------------|
| ADEC | Alaska Dept of Environmental Conservation | 17-015 | 03/28/2025 |
| DoD-ELAP | DoD-Environmental Laboratory Accreditation Program, PJLA Testing | 66169 | 02/28/2025 |
| WADOE | WA Dept of Ecology | C558 | 06/30/2023 |
| WA-DW | Ecology - Drinking Water | C558 | 06/30/2023 |



Golder Associates
18300 NE Union Hill Road Suite 200
Redmond WA, 98052-3333

Project: Ravensdale
Project Number: GL152030402.004
Project Manager: Gary Zimmerman

Reported:
22-Jul-2023 10:29

Notes and Definitions

- * Flagged value is not within established control limits.
- D The reported value is from a dilution
- HC The natural concentration of the spiked analyte is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible
- J Estimated concentration value detected below the reporting limit.
- U This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- [2C] Indicates this result was quantified on the second column on a dual column analysis.

APPENDIX D

Sample Integrity Data Sheets

SAMPLE INTEGRITY DATA SHEET

Plant/Site Ravensdale Project No. 152030402

Site Location Ravensdale, WA

Sample ID MW-1A - 0623

Sampling Location Monitoring Well

Technical Procedure Reference(s) Golder, Sampling and Analysis Plan; Quality Assurance Project Plan 2020

Type of Sampler Bladder Pump (dedicated)

Date June 28, 2023 Time 10:50

Media Groundwater Station MW-1A

Sample Type: **grab** time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

SWL: Depth to water at 34.78 ft BTOC (June 28, 2023 10:18 AM); Well total depth at 44' BGS

Screen Interval: 28' - 43' BGS

Pump Intake: ~ 39' BGS

Sample Description _____

Field Measurements on Sample (pH, conductivity, etc.) SEE FIELD PARAMETERS SHEET

| Aliquot Amount | Analysis | Container | Preservation |
|----------------|------------------------|-----------|--------------|
| 1-500 mL | Total Metals | HDPE | HNO3 |
| 1-1000 mL | Total Dissolved Solids | HDPE | N/A |

SAMPLE INTEGRITY DATA SHEET

Plant/Site Ravensdale Project No. 152030402

Site Location Ravensdale, WA

Sample ID MW-10A - 0623

Sampling Location Monitoring Well

Technical Procedure Reference(s) Golder, Sampling and Analysis Plan; Quality Assurance Project Plan 2020

Type of Sampler Peristaltic Pump

Date June 26, 2023 Time 11:50

Media Groundwater Station MW-10A

Sample Type: **grab** time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

SWL: Depth to water at 9.63 ft BTOC (June 26, 2023 11:07 PM); Well total depth at 29' BGS

Screen Interval: 9' - 29' BGS

Pump Intake: ~ 25' BGS

Sample Description

Field Measurements on Sample (pH, conductivity, etc.) SEE FIELD PARAMETERS SHEET

| Aliquot Amount | Analysis | Container | Preservation |
|----------------|------------------------|-----------|--------------|
| 1-1000 mL | Total Dissolved Solids | HDPE | N/A |
| 1-500 mL | Total Metals | HDPE | HNO3 |

SAMPLE INTEGRITY DATA SHEET

Well ID MW-10A

Date 06/26/2023

Time Begin Purge 11:14

Time Collect Sample 11:50

| Water Level (ft bmp) | Time | pH | Cond. (uS/cm) | Temp (°C) | DO (mg/L) | ORP (rel mV) | Turbidity (NTU) |
|-------------------------|-------|------|------------------|--------------|--------------|-----------------|--------------------|
| 11.4 | 11:20 | 6.69 | 112.8 | 10.5 | 9.73 | 90.0 | 4.15 |
| 12.27 | 11:25 | 6.33 | 114.7 | 10.6 | 9.72 | 115.5 | 2.40 |
| 12.28 | 11:30 | 6.19 | 100.1 | 10.8 | 9.59 | 128.9 | 2.53 |
| 12.29 | 11:35 | 6.13 | 98.4 | 10.9 | 9.54 | 136.2 | 3.11 |
| 12.69 | 23:40 | 6.17 | 103.9 | 11 | 9.38 | 139.8 | 4.22 |
| 13.08 | 11:45 | 6.19 | 102.6 | 11.1 | 9.22 | 143.6 | 4.69 |

Comments:

Flow Rate: 250 mL/min

Sampler *AW*

Date June 26, 2023

Supervisor _____

Date _____

SAMPLE INTEGRITY DATA SHEET

Plant/Site Ravensdale Project No. 152030402

Site Location Ravensdale, WA

Sample ID MW-9A - 0623

Sampling Location Monitoring Well

Technical Procedure Reference(s) Golder, Sampling and Analysis Plan; Quality Assurance Project Plan 2020

Type of Sampler Peristaltic Pump

Date June 27, 2023 Time 12:40

Media Groundwater Station MW-9A

Sample Type: **grab** time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

SWL: Depth to water at 5.19 ft BTOC (June 27, 2023 11:43 AM); Well total depth at 13' BGS

Screen Interval: 8' - 13' BGS

Pump Intake: ~ 10' BGS

Sample Description _____

Field Measurements on Sample (pH, conductivity, etc.) SEE FIELD PARAMETERS SHEET

| Aliquot Amount | Analysis | Container | Preservation |
|----------------|------------------------|-----------|--------------|
| 1-1000 mL | Total Dissolved Solids | HDPE | N/A |
| 1-500 mL | Total Metals | HDPE | HNO3 |

SAMPLE INTEGRITY DATA SHEET

Plant/Site Ravensdale Project No. 152030402

Site Location Ravensdale, WA

Sample ID MW-2A / MW-45A - 0623

Sampling Location Monitoring Well

Technical Procedure Reference(s) Golder, Sampling and Analysis Plan; Quality Assurance Project Plan 2020

Type of Sampler _____

Date June 28, 2023 Time 12:00

Media Groundwater Station MW-2A

Sample Type: **grab** time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

SWL: Depth to water at 28.64 ft BTOC (June 28, 2023 11:31 AM); Well total depth at 40' BGS

Screen Interval: 24'- 40' BGS

Pump Intake: ~ 30' BGS

Sample Description _____

Field Measurements on Sample (pH, conductivity, etc.) SEE FIELD PARAMETERS SHEET

| Aliquot Amount | Analysis | Container | Preservation |
|----------------|--------------|-----------|--------------|
| 1-1000 mL | Total Metals | HDPE | HNO3 |
| 1-500 mL | Total Metals | HDPE | HNO3 |

SAMPLE INTEGRITY DATA SHEET

Well ID MW-2A / MW-45A

Date 06/28/2023

Time Begin Purge 11:31

Time Collect Sample 12:00

| Water Level (ft bmp) | Time | pH | Cond. (uS/cm) | Temp (°C) | DO (mg/L) | ORP (rel mV) | Turbidity (NTU) |
|-------------------------|-------|------|------------------|--------------|--------------|-----------------|--------------------|
| 28.64 | 11:35 | 6.82 | 518 | 10.5 | 9.44 | 236.8 | 3.05 |
| 28.64 | 11:36 | 6.77 | 519 | 10.4 | 9.31 | 262.1 | 4.00 |
| 28.64 | 11:45 | 6.78 | 517 | 10.4 | 9.34 | 271.0 | 2.51 |
| 28.64 | 11:50 | 6.78 | 523 | 10.6 | 9.28 | 273.7 | 1.69 |
| 28.64 | 11:55 | 6.79 | 521 | 10.5 | 9.26 | 275.7 | 2.10 |

Comments:

Flow Rate: 500 mL/min

Sampler 

Date June 28, 2023

Supervisor

Date

SAMPLE INTEGRITY DATA SHEET

Plant/Site Ravensdale Project No. 152030402

Site Location Ravensdale, WA

Sample ID MW-5A - 0623

Sampling Location Monitoring Well

Technical Procedure Reference(s) Golder, Sampling and Analysis Plan; Quality Assurance Project Plan 2020

Type of Sampler Bladder Pump (dedicated)

Date June 26, 2023 Time 15:40

Media Groundwater Station MW-5A

Sample Type: **grab** time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

SWL: Depth to water at 32.57 ft BTOC (June 26, 2023 2:43 PM); Well total depth at 40' BGS

Screen Interval: 25'- 40' BGS

Pump Intake: ~ 38' BGS

Sample Description _____

Field Measurements on Sample (pH, conductivity, etc.) SEE FIELD PARAMETERS SHEET

| Aliquot Amount | Analysis | Container | Preservation |
|----------------|------------------------|-----------|--------------|
| 1-1000 mL | Total Dissolved Solids | HDPE | N/A |
| 1-500 mL | Total Metals | HDPE | HNO3 |

SAMPLE INTEGRITY DATA SHEET

Well ID MW-5A

Date 06/26/2023

Time Begin Purge 14:49

Time Collect Sample 15:40

| Water Level (ft bmp) | Time | pH | Cond. (uS/cm) | Temp (°C) | DO (mg/L) | ORP (rel mV) | Turbidity (NTU) |
|-------------------------|-------|------|------------------|--------------|--------------|-----------------|--------------------|
| 32.57 | 15:01 | 7.49 | 1,688 | 11 | 1.35 | 79.3 | 2.01 |
| 32.57 | 15:06 | 7.49 | 1,691 | 11.1 | 1.35 | 72.0 | 2.01 |
| 32.57 | 15:11 | 7.47 | 1,667 | 11.1 | 1.37 | 66.9 | 1.18 |
| 32.57 | 15:16 | 7.44 | 1,507 | 11.1 | 3.4 | 69.8 | 1.29 |
| 32.57 | 15:21 | 7.46 | 1,510 | 11.1 | 3.98 | 73.1 | 1.03 |
| 32.57 | 15:26 | 7.47 | 1,525 | 11.1 | 4.1 | 74.3 | 1.64 |
| 32.57 | 15:36 | 7.49 | 1,559 | 11.1 | 4.28 | 74.7 | 1.29 |

Comments:

Flow Rate: 150 mL/min

Sampler 

Date June 26, 2023

Supervisor _____

Date _____

SAMPLE INTEGRITY DATA SHEET

Plant/Site Ravensdale Project No. 152030402

Site Location Ravensdale, WA

Sample ID P-16 - 0723

Sampling Location Monitoring Well

Technical Procedure Reference(s) Golder, Sampling and Analysis Plan; Quality Assurance Project Plan 2020

Type of Sampler Peristaltic Pump

Date July 2, 2023 Time 10:45

Media Groundwater Station P-16

Sample Type: **grab** time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

SWL: Depth to water at 9.63 ft BTOC (June 26, 2023 11:07 PM); Well total depth at 10' BGS

Screen Interval: 5'- 10' BGS

Pump Intake: ~ 8' BGS

Sample Description _____

Field Measurements on Sample (pH, conductivity, etc.) SEE FIELD PARAMETERS SHEET

| Aliquot Amount | Analysis | Container | Preservation |
|----------------|------------------------|-----------|--------------|
| 1-1000 mL | Total Dissolved Solids | HDPE | N/A |
| 1-500 mL | Total Metals | HDPE | HNO3 |

SAMPLE INTEGRITY DATA SHEET

Well ID P-16

Date 07/02/2023

Time Begin Purge 09:42

Time Collect Sample 10:45

| Water Level (ft bmp) | Time | pH | Cond. (uS/cm) | Temp (°C) | DO (mg/L) | ORP (rel mV) | Turbidity (NTU) |
|-------------------------|-------|-------|------------------|--------------|--------------|-----------------|--------------------|
| 5.38 | 09:50 | 9.59 | 2,249 | 12.4 | 0.13 | -326.4 | 138 |
| 5.76 | 09:55 | 9.84 | 2,295 | 12.4 | 0.07 | -350.5 | 148 |
| 6.04 | 10:00 | 10.19 | 2,255 | 12.3 | 0.04 | -379.1 | 186 |
| 6.04 | 10:05 | 10.84 | 2,236 | 12.4 | 0.01 | -435.0 | 236 |
| 6.12 | 10:10 | 11.32 | 2,272 | 12.4 | 0 | -466.8 | 108 |
| 6.13 | 10:15 | 11.41 | 2,291 | 12.4 | 0 | -475.2 | 91.9 |
| 6.01 | 10:20 | 11.58 | 2,356 | 12.5 | -0.01 | -486.7 | 58.2 |
| 6.1 | 10:25 | 11.64 | 2,378 | 12.4 | -0.02 | -498.2 | 72.1 |
| 6.19 | 10:30 | 11.68 | 2,376 | 12.4 | -0.02 | -508.1 | 47.6 |
| 6.31 | 10:35 | 11.69 | 2,406 | 12.4 | -0.03 | -514.6 | 48.2 |
| 6.35 | 10:40 | 11.68 | 2,388 | 12.5 | -0.03 | -514.9 | 49.8 |

Comments:

Flow Rate: 350 mL/min

Sampler *A. M.*

Date July 2, 2023

Supervisor _____

Date _____

SAMPLE INTEGRITY DATA SHEET

Plant/Site Ravensdale **Project No.** 152030402

Site Location Ravensdale, WA

Sample ID MW-3A - 0723

Sampling Location Monitoring Well

Technical Procedure Reference(s) Golder, Sampling and Analysis Plan; Quality Assurance Project Plan 2020

Type of Sampler Peristaltic Pump

Date July 2, 2023 **Time** 13:25

Media Groundwater **Station** MW-3A

Sample Type: grab time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

SWL: Depth to water at 7.35 ft BTOC (June 26, 2023 12:07 PM); Well total depth at 20' BGS

Screen Interval: 4' - 20' BGS

Pump Intake: ~ 12' BGS

Sample Description _____

Field Measurements on Sample (pH, conductivity, etc.) SEE FIELD PARAMETERS SHEET

| Aliquot Amount | Analysis | Container | Preservation |
|----------------|------------------------|-----------|--------------|
| 1-1000 mL | Total Dissolved Solids | HDPE | N/A |
| 1-500 mL | Total Metals | HDPE | HNO3 |

SAMPLE INTEGRITY DATA SHEET

Well ID MW-3A

Date 06/26/2023

Time Begin Purge 12:09

Time Collect Sample 13:25

| Water Level (ft bmp) | Time | pH | Cond. (uS/cm) | Temp (°C) | DO (mg/L) | ORP (rel mV) | Turbidity (NTU) |
|-------------------------|-------|------|------------------|--------------|--------------|-----------------|--------------------|
| 8.05 | 12:15 | 6.66 | 820 | 12.6 | 0.66 | -0.06 | 4.59 |
| 8.46 | 12:20 | 6.69 | 819 | 12.9 | 0.42 | -5.0 | 3.36 |
| 8.81 | 12:25 | 6.71 | 813 | 12.7 | 1.07 | 7.4 | 2.94 |
| 8.51 | 12:30 | 6.74 | 832 | 13.7 | 1.96 | 16.1 | 15.3 |
| 8.81 | 12:35 | 6.73 | 798 | 11.6 | 0.55 | 12.5 | 35.1 |
| 9.11 | 12:40 | 6.73 | 796 | 11.5 | 0.23 | -17.6 | 34.6 |
| 9.48 | 12:45 | 6.74 | 790 | 11.4 | 0.17 | -0.9 | 13.9 |
| 9.92 | 12:50 | 6.75 | 793 | 11.7 | 0.14 | -10.4 | 10.7 |
| 10.17 | 12:55 | 6.76 | 803 | 12.2 | 0.16 | -22.5 | 25.5 |
| 10.41 | 13:00 | 6.77 | 798 | 11.9 | 0.24 | -5.3 | 10.7 |
| 10.67 | 13:05 | 6.77 | 805 | 12.1 | 0.41 | -13.8 | 7.68 |
| 10.84 | 13:10 | 6.77 | 804 | 11.8 | 0.52 | -18.3 | 6.57 |
| 11.12 | 13:15 | 6.78 | 805 | 11.9 | 0.58 | -21.1 | 5.92 |
| 11.31 | 13:20 | 6.78 | 802 | 11.7 | 0.65 | -21.3 | 4.65 |

Comments:

Flow Rate: 225 mL/min

Sampler *A M*

Date July 2, 2023

Supervisor _____

Date _____

SAMPLE INTEGRITY DATA SHEET

Plant/Site Ravensdale Project No. 152030402

Site Location Ravensdale, WA

Sample ID P-14 - 0623

Sampling Location Monitoring Well

Technical Procedure Reference(s) Golder, Sampling and Analysis Plan; Quality Assurance Project Plan 2020

Type of Sampler Peristaltic Pump

Date June 27, 2023 Time 15:30

Media Groundwater Station P-14

Sample Type: **grab** time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

SWL: Depth to water at 33.06 ft BTOC (June 27, 2023 10:56 PM); Well total depth at 50' BGS

Screen Interval: 40'- 50' BGS

Pump Intake: ~ 45' BGS

Sample Description _____

Field Measurements on Sample (pH, conductivity, etc.) SEE FIELD PARAMETERS SHEET

| Aliquot Amount | Analysis | Container | Preservation |
|----------------|------------------------|-----------|--------------|
| 1-500 mL | Total Metals | HDPE | HNO3 |
| 1-1000 mL | Total Dissolved Solids | HDPE | N/A |

SAMPLE INTEGRITY DATA SHEET

Well ID P-14

Date 06/27/2023

Time Begin Purge 14:57

Time Collect Sample 15:30

| Water Level (ft bmp) | Time | pH | Cond. (uS/cm) | Temp (°C) | DO (mg/L) | ORP (rel mV) | Turbidity (NTU) |
|-------------------------|-------|-------|------------------|--------------|--------------|-----------------|--------------------|
| 33.28 | 15:00 | 13 | 17,545 | 13.6 | 0.63 | -479.8 | 26.6 |
| 33.41 | 15:05 | 13 | 16,167 | 13.5 | 0.23 | -531.4 | 8.62 |
| 33.26 | 15:10 | 13.03 | 17,840 | 13.5 | 0.12 | -585.0 | 3.59 |
| 33.3 | 15:15 | 13.06 | 18,408 | 13.5 | 0.07 | -593.2 | 1.70 |
| 33.3 | 15:20 | 13.07 | 18,466 | 13.4 | 0.06 | -597.0 | 1.54 |
| 33.3 | 15:25 | 13.07 | 18,550 | 13.5 | 0.05 | -591.7 | 1.19 |

Comments:

Flow Rate: 200 mL/min

Sampler *A. H.*

Date June 27, 2023

Supervisor _____

Date _____

SAMPLE INTEGRITY DATA SHEET

Plant/Site Ravensdale Project No. 152030402

Site Location Ravensdale, WA

Sample ID P-15 - 0623

Sampling Location Monitoring Well

Technical Procedure Reference(s) Golder, Sampling and Analysis Plan; Quality Assurance Project Plan 2020

Type of Sampler Peristaltic Pump

Date June 27, 2023 Time 14:10

Media Groundwater Station P-15

Sample Type: **grab** time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

SWL: Depth to water at 24.9 ft BTOC (June 27, 2023 11:42 AM); Well total depth at 34' BGS

Screen Interval: 24'- 34' BGS

Pump Intake: ~ 30' BGS

Sample Description _____

Field Measurements on Sample (pH, conductivity, etc.) SEE FIELD PARAMETERS SHEET

| Aliquot Amount | Analysis | Container | Preservation |
|----------------|------------------------|-----------|--------------|
| 1-500 mL | Total Metals | HDPE | HNO3 |
| 1-1000 mL | Total Dissolved Solids | HDPE | N/A |

SAMPLE INTEGRITY DATA SHEET

Plant/Site Ravensdale Project No. 152030402

Site Location Ravensdale, WA

Sample ID MW-7A - 0623

Sampling Location Monitoring Well

Technical Procedure Reference(s) Golder, Sampling and Analysis Plan; Quality Assurance Project Plan 2020

Type of Sampler Peristaltic Pump

Date June 28, 2023 Time 16:20

Media Groundwater Station MW-7A

Sample Type: **grab** time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

SWL: Depth to water at 14.57 ft BTOC (June 28, 2023 3:53 PM); Well total depth at 20' BGS

Screen Interval: 10' - 20' BGS

Pump Intake: ~ 17' BGS

Sample Description _____

Field Measurements on Sample (pH, conductivity, etc.) SEE FIELD PARAMETERS SHEET

| Aliquot Amount | Analysis | Container | Preservation |
|----------------|------------------------|-----------|--------------|
| 1-1000 mL | Total Dissolved Solids | HDPE | N/A |
| 1-500 mL | Total Metals | HDPE | HNO3 |

SAMPLE INTEGRITY DATA SHEET

Plant/Site Ravensdale Project No. 152030402

Site Location Ravensdale, WA

Sample ID MW-8A - 0623

Sampling Location Monitoring Well

Technical Procedure Reference(s) Golder, Sampling and Analysis Plan; Quality Assurance Project Plan 2020

Type of Sampler Peristaltic Pump

Date June 28, 2023 Time 15:35

Media Groundwater Station MW-8A

Sample Type: **grab** time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

SWL: Depth to water at 24.08 ft BTOC (June 28, 2023 3:10 PM); Well total depth at 26' BGS

Screen Interval: 16' - 26' BGS

Pump Intake: ~ 25' BGS

Sample Description _____

Field Measurements on Sample (pH, conductivity, etc.) SEE FIELD PARAMETERS SHEET

| Aliquot Amount | Analysis | Container | Preservation |
|----------------|------------------------|-----------|--------------|
| 1-1000 mL | Total Dissolved Solids | HDPE | N/A |
| 1-500 mL | Total Metals | HDPE | HNO3 |

SAMPLE INTEGRITY DATA SHEET

Plant/Site Ravensdale Project No. 152030402

Site Location Ravensdale, WA

Sample ID Infiltration Ponds / MW-35A - 0623

Sampling Location Surface Water Monitoring Point

Technical Procedure Reference(s) Golder, Sampling and Analysis Plan; Quality Assurance Project Plan 2020

Type of Sampler Peristaltic Pump

Date June 28, 2023 Time 14:35

Media Surface Water Station Infiltration Ponds / MW-35A

Sample Type: **grab** time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

SWL: Depth to water at ft BTOC (June 28, 2023 2:35 PM); Well total depth at N/A

Screen Interval: N/A

Pump Intake: N/A

Sample Description dup taken at 1440

Field Measurements on Sample (pH, conductivity, etc.) SEE FIELD PARAMETERS SHEET

| Aliquot Amount | Analysis | Container | Preservation |
|----------------|------------------------|-----------|--------------|
| 1-1000 mL | Total Dissolved Solids | HDPE | N/A |
| 1-500 mL | Total Metals | HDPE | HNO3 |
| 1-500 mL | Dissolved Metals | HDPE | HNO3 |

SAMPLE INTEGRITY DATA SHEET

Well ID Infiltration Ponds / MW-35A

Date 06/28/2023

Time Begin Purge 14:35

Time Collect Sample 14:35

| Water Level (ft bmp) | Time | pH | Cond. (uS/cm) | Temp (°C) | DO (mg/L) | ORP (rel mV) | Turbidity (NTU) |
|-------------------------|-------|------|------------------|--------------|--------------|-----------------|--------------------|
| | 14:34 | 8.64 | 3,514 | 19.9 | 4.58 | 91.0 | 4.73 |

Comments:

Flow Rate: _____ mL/min

Sampler 

Date June 28, 2023

Supervisor _____

Date _____

SAMPLE INTEGRITY DATA SHEET

Plant/Site Ravensdale **Project No.** 152030402

Site Location Ravensdale, WA

Sample ID MW-6A - 0623

Sampling Location Monitoring Well

Technical Procedure Reference(s) Golder, Sampling and Analysis Plan; Quality Assurance Project Plan 2020

Type of Sampler Bladder Pump (dedicated)

Date June 28, 2023 **Time** 13:25

Media Groundwater **Station** MW-6A

Sample Type: grab time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

SWL: Depth to water at 30.5 ft BTOC (June 28, 2023 12:26 PM); Well total depth at 39' BGS

Screen Interval: 24'- 39' BGS

Pump Intake: ~ 36' BGS

Sample Description _____

Field Measurements on Sample (pH, conductivity, etc.) SEE FIELD PARAMETERS SHEET

| Aliquot Amount | Analysis | Container | Preservation |
|----------------|------------------------|-----------|--------------|
| 1-1000 mL | Total Dissolved Solids | HDPE | N/A |
| 1-500 mL | Total Metals | HDPE | HNO3 |

SAMPLE INTEGRITY DATA SHEET

Well ID MW-6A

Date 06/28/2023

Time Begin Purge 12:26

Time Collect Sample 13:25

| Water Level (ft bmp) | Time | pH | Cond. (uS/cm) | Temp (°C) | DO (mg/L) | ORP (rel mV) | Turbidity (NTU) |
|-------------------------|-------|------|------------------|--------------|--------------|-----------------|--------------------|
| 32.39 | 12:30 | 7.35 | 858 | 10.8 | 8.06 | 221.4 | 0.87 |
| 32.75 | 12:35 | 7.42 | 950 | 10.8 | 7.26 | 245.9 | 2.10 |
| 32.9 | 12:40 | 7.49 | 1,068 | 10.9 | 6.61 | 249.3 | 2.93 |
| 32.9 | 12:45 | 7.59 | 1,259 | 11 | 5.31 | 246.8 | 3.24 |
| 32.9 | 12:50 | 7.66 | 1,393 | 11 | 4.41 | 241.7 | 3.53 |
| 32.9 | 12:55 | 7.69 | 1,474 | 11.2 | 3.61 | 237.2 | 2.93 |
| 32.9 | 13:00 | 7.71 | 1,522 | 11 | 3.28 | 233.3 | 2.36 |
| 32.9 | 13:05 | 7.74 | 1,559 | 10.9 | 3.06 | 230.4 | 1.87 |
| 32.9 | 13:10 | 7.75 | 1,594 | 11 | 2.83 | 227.6 | 1.47 |
| 32.9 | 13:15 | 7.76 | 1,619 | 10.9 | 2.7 | 225.1 | 2.27 |
| 32.9 | 13:20 | 7.78 | 1,640 | 11 | 2.57 | 222.4 | 1.22 |

Comments:

Flow Rate: 300 mL/min

Sampler *[Signature]*

Date June 28, 2023

Supervisor _____

Date _____

SAMPLE INTEGRITY DATA SHEET

Plant/Site Ravensdale Project No. 152030402

Site Location Ravensdale, WA

Sample ID Still Well - 0623

Sampling Location Surface Water Monitoring Point

Technical Procedure Reference(s) Golder, Sampling and Analysis Plan; Quality Assurance Project Plan 2020

Type of Sampler Peristaltic Pump

Date June 28, 2023 Time 09:05

Media Surface Water Station Still Well

Sample Type: **grab** time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

SWL: Depth to water at 0 ft BTOC (June 28, 2023 9:10 AM); Well total depth at N/A

Screen Interval: N/A

Pump Intake: N/A

Sample Description _____

Field Measurements on Sample (pH, conductivity, etc.) SEE FIELD PARAMETERS SHEET

| Aliquot Amount | Analysis | Container | Preservation |
|----------------|------------------------|-----------|--------------|
| 1-1000 mL | Total Dissolved Solids | HDPE | N/A |
| 1-500 mL | Total Metals | HDPE | HNO3 |

SAMPLE INTEGRITY DATA SHEET

Well ID Still Well

Date 06/28/2023

Time Begin Purge 09:05

Time Collect Sample 09:05

| Water Level (ft bmp) | Time | pH | Cond. (uS/cm) | Temp (°C) | DO (mg/L) | ORP (rel mV) | Turbidity (NTU) |
|-------------------------|-------|-------|------------------|--------------|--------------|-----------------|--------------------|
| 0 | 09:05 | 12.33 | 6,301 | 15.6 | 2.79 | -109.2 | 3.74 |

Comments:

Flow Rate: _____ mL/min

Sampler 

Date June 28, 2023

Supervisor _____

Date _____

SAMPLE INTEGRITY DATA SHEET

Plant/Site Ravensdale **Project No.** 152030402

Site Location Ravensdale, WA

Sample ID MW-4A - 0623

Sampling Location Monitoring Well

Technical Procedure Reference(s) Golder, Sampling and Analysis Plan; Quality Assurance Project Plan 2020

Type of Sampler Peristaltic Pump

Date June 27, 2023 **Time** 11:05

Media Groundwater **Station** MW-4A

Sample Type: **grab** time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

SWL: Depth to water at 6.27 ft BTOC (June 27, 2023 10:19 AM); Well total depth at 20' BGS

Screen Interval: 5' - 20' BGS

Pump Intake: ~ 12' BGS

Sample Description _____

Field Measurements on Sample (pH, conductivity, etc.) SEE FIELD PARAMETERS SHEET

| Aliquot Amount | Analysis | Container | Preservation |
|----------------|------------------------|-----------|--------------|
| 3-1000 mL | Total Dissolved Solids | HDPE | N/A |
| 3-500 mL | Total Metals | HDPE | HNO3 |

SAMPLE INTEGRITY DATA SHEET

Well ID MW-4A

Date 06/27/2023

Time Begin Purge 10:19

Time Collect Sample 11:05

| Water Level (ft bmp) | Time | pH | Cond. (uS/cm) | Temp (°C) | DO (mg/L) | ORP (rel mV) | Turbidity (NTU) |
|-------------------------|-------|------|------------------|--------------|--------------|-----------------|--------------------|
| 6.74 | 10:25 | 6.32 | 444.5 | 11.2 | 0.79 | 47.2 | 3.49 |
| 6.8 | 10:30 | 6.3 | 438.4 | 11.2 | 0.51 | 52.6 | 4.31 |
| 6.8 | 10:35 | 6.25 | 426.6 | 11.2 | 0.43 | 56.6 | 2.6 |
| 6.8 | 10:40 | 6.24 | 414.8 | 11.3 | 0.59 | 57.8 | |
| 6.8 | 10:45 | 6.25 | 364.5 | 11.3 | 1.51 | 60.8 | 2.35 |
| 6.8 | 10:50 | 6.21 | 301.6 | 11.2 | 3.08 | 66.2 | 1.80 |
| 6.8 | 10:55 | 6.2 | 298.6 | 11.3 | 3.16 | 73.8 | 1.05 |
| 6.8 | 11:00 | 6.2 | 308.1 | 11.4 | 3.02 | 74.9 | 1.06 |

Comments:

Flow Rate: 200 mL/min

Sampler *A M*

Date June 27, 2023

Supervisor _____

Date _____

SAMPLE INTEGRITY DATA SHEET

Plant/Site Ravensdale Project No. 152030402

Site Location Ravensdale, WA

Sample ID Interceptor Trench - 0623

Sampling Location Surface Water Monitoring Point

Technical Procedure Reference(s) Golder, Sampling and Analysis Plan; Quality Assurance Project Plan 2020

Type of Sampler Grab

Date June 27, 2023 Time 09:55

Media Surface Water Station Interceptor Trench

Sample Type: **grab** time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

SWL: Depth to water at ft BTOC (June 27, 2023 9:55 AM); Well total depth at N/A

Screen Interval: N/A

Pump Intake: N/A

Sample Description _____

Field Measurements on Sample (pH, conductivity, etc.) SEE FIELD PARAMETERS SHEET

| Aliquot Amount | Analysis | Container | Preservation |
|----------------|------------------------|-----------|--------------|
| 1-1000 mL | Total Dissolved Solids | HDPE | N/A |
| 1-500 mL | Total Metals | HDPE | HNO3 |

SAMPLE INTEGRITY DATA SHEET

Plant/Site Ravensdale Project No. 152030402

Site Location Ravensdale, WA

Sample ID P-17 - 0623

Sampling Location Monitoring Well

Technical Procedure Reference(s) Golder, Sampling and Analysis Plan; Quality Assurance Project Plan 2020

Type of Sampler Peristaltic Pump

Date June 27, 2023 Time 09:40

Media Groundwater Station P-17

Sample Type: **grab** time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

SWL: Depth to water at 10.06 ft BTOC (June 27, 2023 9:19 AM); Well total depth at 13' BGS

Screen Interval: 8'- 13' BGS

Pump Intake: ~ 10' BGS

Sample Description _____

Field Measurements on Sample (pH, conductivity, etc.) SEE FIELD PARAMETERS SHEET

| Aliquot Amount | Analysis | Container | Preservation |
|----------------|------------------------|-----------|--------------|
| 1-1000 mL | Total Dissolved Solids | HDPE | N/A |
| 1-500 mL | Total Metals | HDPE | HNO3 |

SAMPLE INTEGRITY DATA SHEET

Plant/Site Ravensdale **Project No.** 152030402

Site Location Ravensdale, WA

Sample ID Weir or Constructed Wetlands - 0623

Sampling Location Surface Water Monitoring Point

Technical Procedure Reference(s) Golder, Sampling and Analysis Plan; Quality Assurance Project Plan 2020

Type of Sampler _____

Date June 26, 2023 **Time** 13:35

Media Surface Water **Station** Weir or Constructed Wetlands

Sample Type: **grab** time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

SWL: Depth to water at ft BTOC (); Well total depth at N/A

Screen Interval: N/A

Pump Intake: N/A

Sample Description Dry - No sample

Field Measurements on Sample (pH, conductivity, etc.) SEE FIELD PARAMETERS SHEET

| Aliquot Amount | Analysis | Container | Preservation |
|----------------|----------|-----------|--------------|
| - | | | |

SAMPLE INTEGRITY DATA SHEET

Well ID _____ Weir or Constructed Wetlands _____

Date 06/26/2023

Time Begin Purge _____

Time Collect Sample 13:35

| Water Level (ft bmp) | Time | pH | Cond. (uS/cm) | Temp (°C) | DO (mg/L) | ORP (rel mV) | Turbidity (NTU) |
|-------------------------|------|----|------------------|--------------|--------------|-----------------|--------------------|
| | | | | | | | |

Comments:

Flow Rate: _____ mL/min

Dry - No sample

Sampler 

Date June 26, 2023

Supervisor _____

Date _____

SAMPLE INTEGRITY DATA SHEET

Plant/Site Ravensdale Project No. 152030402

Site Location Ravensdale, WA

Sample ID South Pond - 0623

Sampling Location Surface Water Monitoring Point

Technical Procedure Reference(s) Golder, Sampling and Analysis Plan; Quality Assurance Project Plan 2020

Type of Sampler _____

Date June 26, 2023 Time 09:25

Media Surface Water Station South Pond

Sample Type: **grab** time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

SWL: Depth to water at ft BTOC (); Well total depth at N/A

Screen Interval: N/A

Pump Intake: N/A

Sample Description Dry - No sample

Field Measurements on Sample (pH, conductivity, etc.) SEE FIELD PARAMETERS SHEET

| Aliquot Amount | Analysis | Container | Preservation |
|----------------|----------|-----------|--------------|
| - | | | |

SAMPLE INTEGRITY DATA SHEET

Well ID South Pond

Date 06/26/2023

Time Begin Purge _____

Time Collect Sample 09:25

| Water Level (ft bmp) | Time | pH | Cond. (uS/cm) | Temp (°C) | DO (mg/L) | ORP (rel mV) | Turbidity (NTU) |
|-------------------------|------|----|------------------|--------------|--------------|-----------------|--------------------|
| | | | | | | | |

Comments:

Flow Rate: _____ mL/min

Dry - No sample

Sampler 

Date June 26, 2023

Supervisor _____

Date _____

wsp

wsp.com