# Groundwater Remedy Phase II As-Built and Documentation Report

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# Acronyms / Abbreviations

| | |
|---|---|
| 1,2-DCP | 1,2-dichloropropane |
| 2,4-D | 2,4-dichlorophenoxyacetic acid |
| 2-MN | 2-methylnaphthalene |
| Amoco | American Oil Company |
| bgs | below ground surface |
| BJS | Bee-Jay Scales, Inc. |
| BOD | biochemical oxygen demand |
| CAP | Cleanup Action Plan |
| CEMC | Chevron Environmental Management Company |
| CUL | cleanup level |
| DNRA | dissimilatory nitrate reduction to ammonia |
| DOT | Department of Transportation |
| Ecology | Washington State Department of Ecology |
| EISB | enhanced in-situ bioremediation |
| gpm | gallons per minute |
| GW CMP | *Groundwater Remedy Compliance Monitoring Plan* |
| GW CPS | *Groundwater Remedy Construction Plans and Specifications* |
| GW EDR | *Groundwater Remedy Engineering Design Report* |
| GW Remedy Phase I Report | *Groundwater Remedy Phase I As-Built and Documentation Report* |
| GW Remedy Phase II Report | *Groundwater Remedy Phase II As-Built and Documentation Report* |
| HASP | health and safety plan |
| IHS | indicator hazardous substance |
| IW Line | injection well line |
| J | estimated |
| MFP | Milne Fruit Products Inc. |
| mg/L | milligrams per liter |
| Model Report | *Groundwater Flow and Transport Modeling Report* |
| MTCA | Model Toxics Control Act |
| NTU | nephelometric turbidity units |
| psi | pounds per square inch |

| | |
|---|---|
| PVC | polyvinyl chloride |
| RMSC | Remediation Management Services Company |
| Site | Bee-Jay Scales Site, Sunnyside, Washington |
| Stantec | Stantec Consulting Services Inc. |
| UCL95 | 95% upper confidence limit |
| VOC | volatile organic compound |
| WAC | Washington Administrative Code |
| WGL | Western General Land, LLC |

# Executive Summary

The purpose of this report is to document the installation of the Phase II enhanced in-situ bioremediation (EISB) injection wells and the implementation of the Phase II injection activities at Bee-Jay Scales Site in Sunnyside, Washington (Site), report the quarterly EISB groundwater remedy performance monitoring completed prior to and after the Phase II injection, evaluate the EISB groundwater remedy, update the Site-specific groundwater flow and transport model, and provide groundwater remedy recommendations.

Stantec Consulting Services Inc. (Stantec) executed the Phase II groundwater remedy under contract with Chevron Environmental Management Company (CEMC) and Remediation Management Services Company (RMSC) on behalf of Chevron Chemical Company and American Oil Company (Amoco), respectively. The Phase II groundwater remedy activities were completed in accordance with the approved *Groundwater Remedy Construction Plans and Specifications* (GW CPS; Stantec 2019a) and *Groundwater Remedy Compliance Monitoring Plan* (GW CMP; Stantec, 2019b),

A two-phased approach to the installation and implementation of the groundwater remedy EISB system was established in the GW CPS. The Phase I EISB implementation activities were documented in the *Groundwater Remedy Phase I As-Built and Documentation Report* (GW Remedy Phase I Report; Stantec, 2022a). Based on data obtained during the implementation of the Phase I EISB and the modeling performed, adjustments to the injection well design specifications and the system operating parameters for the Phase II EISB system implementation were recommended and implemented.

**Well Installation**

Forty Phase II EISB injection wells (IW-1-2 through IW-1-4, IW-2-2 through IW-2-7, IW-3-3 through IW-3-20, and IW-4-5 through IW-4-17) and three monitoring wells (MW-22, MW-23, and MW-24) were installed from February 22 to March 16, 2022. Injection wells were installed with approximate 20-foot well spacing, as determined in the well spacing optimization analysis (Stantec, 2022a).

**Phase II Injection**

The Phase II EISB injection was conducted in three stages:

- During the first stage, from July 27 to August 18, 2022, a total of approximately 60,026 gallons of injection solution with 12,000 pounds of sodium acetate and 54 pounds of sodium triphosphate was injected to ten wells (IW-2-2, IW-2-5 through IW-2-7, IW-3-2, and IW-3-16 through IW-3-20).
- During the second stage, from September 15 to 29, 2022, a total of approximately 54,541 gallons of injection solution with 10,800 pounds of sodium acetate and 48.6 pounds of sodium triphosphate were injected through nine System A wells (IW-4-1 through IW-4-3 and IW-4-5 through IW-4-10) and a total of approximately 48,011 gallons of injection solution with 9,600 pounds of sodium acetate and 43.2 pounds of sodium triphosphate were injected through eight System B wells (IW-4-4 and IW-4-11 through IW-4-17).

- During the third stage, from October 13 to 27, 2022, a total of approximately 60,157 gallons of injection solution with 11,950 pounds of sodium acetate and 54 pounds of sodium triphosphate were injected through ten System A wells (IW-2-3, IW-2-4, IW-3-1, and IW-3-9 through IW-3-15) and a total of approximately 59,780 gallons of injection solution with 12,000 pounds of sodium acetate and 54 pounds of sodium triphosphate were injected through ten System B wells (IW-1-1 through IW-1-4 and IW-3-3 through IW-3-8).

**Phase II EISB Groundwater Performance Monitoring**

A pre-injection groundwater monitoring event (July 2022) and five quarterly EISB groundwater remedy performance monitoring events (December 2022, March 2023, May 2023, August 2023, and December 2023) were conducted to monitor the response to the Phase II groundwater remedy implementation.

**Groundwater Modeling Update**

The Site-wide groundwater model was updated and recalibrated with data through the Phase II EISB performance monitoring.

- Compared to the 2021 model results, the revised simulation shows more rapid expansion of the acetate treatment zone extent resulting in reduced nitrate plume sizes. This is attributed to the updated simulation of the remedy to include both Phase I and Phase II injections. The changes are also attributed to the time between the Phase I injection start and the Phase II injection end, which allows for more dispersion and advective transport to have occurred.
- For 1,2-dichloropropane (1,2-DCP), review of groundwater sampling results indicates that previous concentration trends were generally consistent with more recent sampling data. Compared to the 2021 modeling results, for the simulation using a 3.5-year half-life, the plume is still simulated to be depleted within 30 years although the plume extends further south at 5 and 15 years. Similarly, for the simulation using a 14.1-year half-life, the plume is predicted to extend further to the southeast compared to the 2021 modeling results.
- For dinoseb, review of groundwater sampling results indicates that the acetate is treating the dinoseb plume. Additional time for the acetate treatment zone to expand and for ongoing sampling to occur will facilitate further evaluation of the dinoseb transport model.

**Phase II EISB Conclusions**

Following Phase II injection, EISB conditions were indicated in at least one quarterly event at five of six expected monitoring wells in the immediate treatment zones. Key observations of the evaluation include:

- Significant nitrate decreases in nitrate were observed in MW-5R, MW-21, MW-22, and MW-23. Nitrate concentrations remained relatively stable at MW-4R and MW-12R after the Phase II injection and may be a result of the monitoring well location relative to the injection wells. Overall, the nitrate plume area based on 3-year 95% upper confidence limit (UCL95) concentrations decreased approximately 32%.
- Dinoseb concentrations generally show a similar response as nitrate at each of the immediate treatment zone locations. Dinoseb concentrations showed decreases ranging from approximately

26% to over 99% as compared to pre-treatment concentrations. Overall, the dinoseb plume area based on 3-year UCL95 concentrations decreased approximately 28%.

- The EISB groundwater remedy was not designed to directly remediate the 1,2-DCP plume. The data indicated increases in 1,2-DCP concentrations near the source area and decreases in the downgradient portion of the plume. It is noted that the wells indicating increasing 1,2-DCP concentrations are located within the combined nitrate/ammonia plume while those with decreasing concentrations are located outside of the ammonia plume but still in the nitrate plume. Overall, the 1,2-DCP plume area decreased by approximately 12.3%.
- Expected short-term increases in metals concentrations were observed in the immediate treatment zones at MW-5R, MW-21, MW-22, and MW-23, correlated to EISB conditions and inversely related to nitrate and dinoseb concentrations. However, arsenic concentrations have since decreased at many monitoring well locations. The performance monitoring data support that metal concentrations generally decrease to or below pre-treatment concentrations with the transition out of EISB conditions.
- Ammonia is commingled with nitrate at the up-gradient portion of the groundwater plume. Site data support that ammonia may be acting as an ongoing source of nitrate. At MW-4R and MW-12R, nitrate reductions averaged approximately 29%, while when ammonia concentrations were less than 100 milligrams per liter (mg/L; at MW-5R, MW-21, MW-22, and MW-23), nitrate reductions averaged approximately 90%.
- The relationship between nitrate, nitrite, biochemical oxygen demand (BOD), and phosphorus in the data indicates phosphorus may be limiting denitrification of nitrate in some portions of the treatment zones. Instances where both nitrate and BOD were elevated but phosphorus concentrations were low may indicate phosphorus is a limiting nutrient to denitrification and frequently corresponded to spikes in nitrite, which can indicate incomplete denitrification.
- Neither EISB conditions nor significant decreases in nitrate concentrations have been observed downgradient of the injection well lines (IW Lines). However, an average decrease of 72% in dinoseb concentrations was indicated at downgradient wells. Treatment responses of dinoseb may be indicated downgradient from the IW Lines before nitrate responses because, unlike nitrate with ammonia, there are no known reactions that would reconstitute it.

**Phase II EISB Recommendations**

Based on the Phase II EISB groundwater remedy performance monitoring data and conclusions made in this report, it is recommended that the project remain in post-EISB groundwater remedy performance monitoring through at least 2026. The semi-annual groundwater monitoring data collected during the post-EISB performance monitoring period will improve understanding of the following:

- Residual treatment capacity of the Phase II injection;
- Ammonia-nitrate interaction at the Site;
- Acetate consumption within the Site aquifer; and
- Phosphorus consumption and migration within the Site aquifer.

The post-EISB groundwater remedy performance monitoring data collected through 2026 will be used to develop a plan for any additional active groundwater remedy actions or recommendations for continued post-EISB monitoring.

# 1.0 Introduction

Stantec is submitting this *Groundwater Remedy Phase II As-Built and Documentation Report* (GW Remedy Phase II Report) to the Washington State Department of Ecology (Ecology) for the Site, on behalf of CEMC and RMSC on behalf of Chevron Chemical Company and Amoco, respectively. The GW Remedy Phase II Report has been prepared under the provisions of the Washington State Model Toxics Control Act (MTCA) Washington Administrative Code (WAC) 173-340 (2007) to address Consent Decree No. 132017660 between Ecology, Chevron Chemical Company, and Amoco (Ecology, 2013).

The objectives of the GW Remedy Phase II Report are as follows:

- Document the installation of the Phase II EISB injection wells and the implementation of the Phase II injection activities in compliance with MTCA WAC 173-340-400;
- Report the quarterly EISB groundwater remedy performance monitoring completed prior to and after the Phase II injection;
- Evaluate the EISB groundwater remedy through the Phase II groundwater remedy performance monitoring period ending 4Q23;
- Update the Site-specific groundwater flow and transport model; and
- Provide recommendations based on the EISB groundwater remedy evaluation and updated Site model.

This report is organized into the following sections:

- Section 1 – Introduction;
- Section 2 – Site Description and History;
- Section 3 – Phase II EISB Installation, Injection, and Monitoring Activities;
- Section 4 – Phase II EISB Sampling Results and Discussion;
- Section 5 – Modeling Update Summary;
- Section 6 – Conclusions and Recommendations;
- Section 7 – Project Schedule; and
- Section 8 – References.

The groundwater cleanup actions represent the current phase of the cleanup action plan (CAP) prepared for the Site as Exhibit B of the Consent Decree (Ecology, 2013). The CAP includes a combination of shallow soil excavation, *in situ* bioremediation injection wells/boreholes for delivery of sodium acetate or

calcium acetate, institutional controls, monitored natural attenuation, and/or construction of vertical barrier wall treatment system(s) or other Ecology-approved treatment method following public comment for the groundwater plume at the Site.

The objectives for the groundwater cleanup action as established by the CAP were to:

- Mitigate potential for ingestion of groundwater with nitrate in excess of the Federal maximum contaminant level of 10 mg/L by Site receptors by reducing nitrate concentrations in groundwater to less than 10 mg/L; and

- Design a groundwater remediation system, to the extent practicable, to reduce the potential for impacted Site groundwater to infiltrate storm/irrigation drains that may discharge to surface water. If it is determined that any contaminated Site groundwater is infiltrating storm or irrigation drains and adversely affecting surface water quality, the groundwater cleanup action shall prevent or remove the contamination so that surface water cleanup standards are met.

A two-phased approach to the installation and implementation of the groundwater remedy EISB system was established in the GW CPS (Stantec, 2019a). During Phase I, ten EISB injection wells, three observation wells, and one monitoring well were installed, and soil sampling and testing were implemented to provide additional analytical, geotechnical, and hydrogeological data.

In the Phase I EISB, a total of approximately 79,100 gallons of injection solution (consisting of water mixed with approximately 18,100 pounds of sodium acetate and approximately 3,500 grams of sodium triphosphate) were injected to the ten Phase I injection wells over the course of three stages between June and August 2020. Four quarterly post-injection groundwater monitoring events were conducted to monitor the response to the Phase I groundwater remedy implementation and gather additional data specific to EISB injection operating parameters during implementation across a greater portion of the Site groundwater plume. Documentation of the Phase I EISB implementation activities was included in the GW Remedy Phase I Report dated February 18, 2022 (Stantec, 2022a).

Based on data obtained during the implementation of the Phase I EISB and the modeling performed, the following adjustments to the injection well design specifications and the system operating parameters for the Phase II EISB system implementation were recommended:

- The Phase II EISB target treatment area was updated to apply the groundwater remedy to the Site plume where nitrate concentrations exceed 100 mg/L, resulting in the proposed removal of IW Line #5;

- The Phase II EISB injection wells should utilize 0.01-inch mill-slotted well screens completed with Red Flint® #10 or equivalent sand filter packs;

- The well spacing optimization analysis of the Phase II groundwater remedy system found a 20-foot well spacing would deliver the most acetate mass per injection and also be the most cost-effective design, resulting in a total of 47 injection wells in the Phase II system;

- Assuming 15-foot Phase II injection well screens, the Phase II injection parameters are:
  - A per well injection volume of 5,992 gallons;
  - A target per well injection rate of 1.2 gallons per minute (gpm); and
  - A per well sodium acetate injection mass of 1,200 pounds.

These design specifications were incorporated into the Phase II EISB, which was completed with the objective to augment Phase I treatment through the installation of additional EISB injection wells within the Site groundwater plume to create continuous groundwater treatment zones consistent with the overall groundwater cleanup objectives of the 2013 CAP (Ecology, 2013).

# 2.0 Site Description and History

The Site is in the city of Sunnyside, within Yakima County, Washington, and includes the two parcels where contaminants were historically released and the parcels where those contaminants have come to be located. The Site location is shown on **Figure 1**.

The two parcels where contaminants were historically released include the southern portions of Parcel No. 22102522014, located at 110 North 1st Street and owned by Bee-Jay Scales, Inc. (BJS), and Parcel No. 22102522015, located at 301 Warehouse Avenue and owned by Western General Land, LLC (WGL). The Site Plan, including parcel numbers, well locations, building locations, and other important features, is shown on **Figure 2**. The first six digits of the parcel numbers (221025) repeat for the parcels and are not shown in full on the figures for presentation purposes.

The BJS parcel is approximately 3.0 acres in size. Three businesses currently operate at the parcel: Sandy Farms, a local trucking company; Sanleco, Inc., an interstate trucking company with a tractor-trailer repair garage; and Bee-Jay Scales, a commercial scale operation. The WGL parcel is approximately 0.9 acres in size and is currently used to park semi-trucks and trailers as well as store other equipment used by the food processing facility to the east. Chevron Chemical Company's and Amoco's histories related to these parcels is summarized in the *Groundwater Remedy Engineering Design Report* (GW EDR), dated November 15, 2016 (Stantec, 2016).

The BJS and WGL parcels were historically divided into six main study areas throughout the environmental investigation and assessment process. Those six study areas are shown on **Figure 2**.

Historical releases from activities on the BJS and WGL parcels have impacted the groundwater at those parcels and have extended downgradient to affect several additional parcels. To illustrate the general Site groundwater flow pattern, groundwater elevation contours and flow direction arrows are shown on **Figure 2**. The following parcels were affected by the contaminant groundwater plumes as defined by the GW EDR (Stantec, 2016), and are considered part of the Site:

- Parcel 22102522016 is located adjacent to the WGL parcel to the east and is owned by Northwest American Land LLC. The parcel is approximately 1.8 acres in size and contains a fruit processing facility.
- Parcel 22102522904 is located south of the BJS and WGL parcels and is owned by Burlington Northern Santa Fe Railway Company. This parcel is approximately 1.5 acres in size and adjacent to the railroad right-of-way.
- Parcel 221025225559 is located south of the railroad right-of-way and is owned by Milne Fruit Products Inc. & MFP Holdings Inc. (MFP) (previously owned by Valley Processing Inc.). The parcel is approximately 3.8 acres in size and contains a fruit processing facility.
- Parcels 22102523416, 22102523418, 22102523419, 22102523420, 22102523421, 22102523437, 22102523438, 22102523439, 22102523440, and 22102523441 comprise the northeast portion of the triangular area bordered by Blaine Avenue to the north, S. 3rd Street to the east, a railroad spur to the south and S. 1st Street to the west. The parcels combined have an

area of approximately 1.5 acres and are owned by MFP (previously owned by Mary Ann Bliesner). These parcels are used as transportation parking associated with the local fruit processing facilities.

- Parcel 22102523901 coincides with the location of a large structure located south of Blaine Avenue. The parcel is owned by MFP (previously owned by Valley Processing Inc.) and occupies an area of 0.21 acres. The building appears to contain a fruit processing facility.
- Parcel 22102523417 is a square parcel 0.13 acres in size located at the southwest corner of Blaine Avenue and S. 3rd Street. The parcel is owned by Sunnyside Zero Storage LLC (previously owned by George and Evelyn Johnson) and is used as transportation parking.

An assessment of cleanup actions at the Site since the implementation of the Consent Decree in 2013 was completed in the *Five-Year Periodic Review* dated December 16, 2019 (Stantec, 2019c).

# 3.0 Phase II EISB Installation, Injection, and Monitoring Activities

Details of the installation and implementation of the Phase II EISB injection groundwater remedy and EISB groundwater performance monitoring activities are included in this section.

## 3.1 PHASE II EISB SYSTEM INSTALLATION ACTIVITIES

### 3.1.1 Access Agreements

Site access agreements have been executed between CEMC, RMSC, and the BJS, WGL, and MFP property owners to allow implementation of the remedial activities required under the Consent Decree and CAP for the Site, including the installation of a groundwater remediation system. Stantec sent notification letters to the property owners of the planned Phase II well installation activities on January 19, 2022. The notifications included information regarding the nature and location of the remediation activities as well as access requirements, so the areas could be cleared of obstacles by the property owners. Notification letters were also sent to the property owners on June 7, 2022, prior to the Phase II injection work.

### 3.1.2 Health and Safety Plan

All the entities involved in this project consider health and safety to be the most important aspect of this work. Stantec updated a Site-specific health and safety plan (HASP) to address the EISB system installation and operation activities. Stantec submitted an initial copy of the HASP covering groundwater remedy activities to Ecology on August 28, 2019; however, the HASP is considered a “living” document and was updated at least annually during planning and implementation. Phase II well installation and injection activities detailed in this report were performed under the *Groundwater Remedy Health and Safety Plan*, dated February 8, 2022. A copy of Stantec’s Site-specific HASP, job safety analyses, journey management plan, and traffic control plan were maintained on-site during field activities. The drilling contractor also prepared a Site-specific HASP for tasks applicable to their work and maintained copies on-site during field activities.

### 3.1.3 Utility Locate Activities

The Phase II well installation activities were executed under active public utility notifications to Washington’s Northwest Utility Notification Center. Tickets #22061271, #22061285, and #22061290 were submitted on February 16, 2022, and identified each of the applicable ground disturbance locations associated with this scope of work. Phase II water line replacement activities were also executed under an active public utility notification to Washington’s Northwest Utility Notification Center. Ticket #22337065 was submitted on July 29, 2022. Per the current dig law, Revised Code of Washington 19.122.030, a utility locate expires 45 days after the notification to locate service. Because Phase II well installation and water line replacement activities were completed prior to their ticket expiration dates of April 2, 2022, and September 12, 2022, respectively, no additional public utility locate notifications were required.

In addition to the public notification and utility locate, Stantec oversaw private utility locate activities for the Phase II well installation on February 16 and March 8, 2022. The private utility locates included the use of ground penetrating radar. Updated utility locations are shown on **Figure 3**.

Utility preferential pathways are of particular concern where they may be within the potential radius of influence of injection wells since the flow of acetate during injection can favor that pathway and not the surrounding aquifer, creating an irregular distribution of carbon. As a result, the Phase II IW Lines were intentionally located so they do not intersect known utilities located below the groundwater table. Preferential pathways may be created in instances when groundwater mounds in response to active injection. Such instances are temporary and localized and do not promote significant redistribution of contaminants or injection solution. The potential flow of residual acetate into preferential pathways during background advective flow and dispersion is not considered a significant concern because contaminants will be utilizing those same pathways.

### 3.1.4 Borehole Advancement

Stantec contracted Cascade Drilling, LP, a licensed drilling contractor, to advance soil borings and subsequently install forty Phase II EISB injection wells (IW-1-2 through IW-1-4, IW-2-2 through IW-2-7, IW-3-3 through IW-3-20, and IW-4-5 through IW-4-17) and three groundwater monitoring wells (MW-22, MW-23, and MW-24) from February 22 to March 16, 2022. Injection wells were installed with approximate 20-foot well spacing, as determined in the well spacing optimization analysis in the GW Remedy Phase I Report (Stantec, 2022a).

Due to the anomalous plastic clay soils observed at during the installation of Phase I observation well OW-2 and the reduced hydraulic conductivity indicated at that location in the Phase I tracer study, a field-testing procedure was implemented during installation of the Phase II injection wells to quickly differentiate between predominantly silt soils and predominantly clay soils to avoid the installation of Phase II injection wells at locations where more than 5 feet of the well screen would be set into plastic clay soils. Details of the procedure are included in the GW Remedy Phase I Report (Stantec, 2022a). This procedure resulted in the relocation of injection well IW-4-8 to approximately 5 feet north of its planned location, and abandonment of initial location IW-4-8a.

The 43 newly installed wells are shown on **Figure 2**. Prior to hollow-stem auger drilling activities, soil boring locations were cleared using hand auger and air knife/vacuum truck equipment as an additional protection against utility strikes. A hollow-stem auger drill rig equipped with 8.25-inch diameter augers was used to advance each borehole beyond the cleared depth. Soil borings for the forty Phase II EISB injection wells were advanced to depths of 27 or 28 feet below ground surface (bgs). The soil borings for the three monitoring wells were advanced to depths between 16 to 19 feet bgs.

Stantec field staff recorded the sample recovery, soil lithology (using the Unified Soil Classification System as a guide), relative moisture content, composition, photoionization detector readings, and other distinguishing characteristics such as color changes, debris, rootlets, and odor for each sample interval. These details, as well as the depth to groundwater and laboratory sample collection information, were recorded to borehole/well construction forms included as **Appendix A**.

### 3.1.5 Well Installation

The forty new Phase II EISB injection wells were constructed with 2-inch polyvinyl chloride (PVC) casing per the specifications in the GW CPS (Stantec, 2019a). One adjustment to Phase II injection well construction, as detailed by the injection well design optimization in the GW Remedy Phase I Report (Stantec, 2022a), is that the Phase II EISB injection wells utilize 0.01-inch mill-slotted well screens completed with Red Flint® #10 or equivalent sand filter packs as opposed to the 0.025-inch slot sizes and Red Flint ® #30 sand filter pack specified in the GW CPS. Well screens were 15 feet in length and installed between 11 to 26 feet bgs or 12 to 27 feet bgs.

Monitoring wells MW-22, MW-23, and MW-24 were constructed with a well screen bridging the groundwater table from 5 to 15, 7 to 17, and 8 to 18 feet bgs, respectively, similar to the existing Site monitoring wells. The monitoring wells were constructed using the same materials (casing, screen, filter pack, etc.) as the Phase II injection wells, with the exception of monitoring wells MW-23 and MW-24 where Cemex 2/12 sand was used as the filter pack instead of Red Flint #10 because Red Flint #10 sand was not available at the beginning of the drilling event.

The well construction details are summarized in **Table 1** and their locations are shown on **Figure 2**. Well completion details were recorded to borehole/well construction logs which are included in **Appendix A**.

### 3.1.6 Injection Well Development

Each injection and monitoring well was developed using a combination of pressure surging to mobilize fines and pumping to remove fine-grained sediment from the formation and filter packs and optimize the injection performance of the wells and/or connection to the aquifer. An updated well development strategy for the Phase II injection wells was:

1. Use a submersible pump to purge fines from the well casing focusing on any material at the bottom of the well but moving the pump slowly through the screen interval. Continue initial purging until turbidity visually clears or stabilizes.
2. Surge the screen interval (increasing in force from light to moderate) with a surge block for 15 minutes for a 15-foot well screen.
3. Purge the well moving pump slowly through the screen interval until turbidity visually clears and stabilizes.
4. Repeat steps 2 and 3 two more times.

The 3x surge/purge cycle was set to improve well development outcomes as indicated by visual turbidity of the purge water. However, this process did not fit all wells. For instance, when the purge water was clear after the second cycle, additional development was not necessary and when turbidity did not improve after the third cycle, additional development was completed. Well development data were recorded to well development field logs included in **Appendix B** and the data have been summarized in **Table 2**.

### 3.1.7 Installed Well Survey

The forty new Phase II EISB injection wells and three monitoring wells were surveyed after installation by a licensed surveyor. The surveyor recorded the horizontal coordinates and elevation of the well top of casing as well as the ground surface elevation at each well location. Horizontal coordinates were recorded to the nearest 0.1-foot relative to the North American Datum of 1983, while the top of casing and ground surface elevation were recorded to the nearest 0.01-foot relative to the National Geodetic Vertical Datum of 1988. The well survey data are included in **Table 1**.

### 3.1.8 Decontamination Procedures

Drill augers were decontaminated between each soil boring/well installation using a pressure washer in an enclosed trailer. The decontamination trailer contained and stored the decontamination fluid and solids, which were then transferred to 55-gallon Department of Transportation (DOT)-rated drums.

Any non-dedicated equipment that contacted soil or groundwater was decontaminated between well locations. The decontamination process for reused equipment included a wash with Liquinox and a triple rinse with distilled water between use. If disposable implements were used, they were discarded after each use and replaced with a new implement.

### 3.1.9 Waste Management

Soil cuttings and decontamination and purge water were collected and transferred to properly-labeled, 55-gallon DOT-rated drums. The drums were stored on the BJS parcel pending laboratory analysis and disposal. Waste profiles were prepared for the soil and liquid investigation derived waste generated during the Phase II well installation scope of work. The drums of soil and liquid investigation derived waste were transported under manifest by Stratus Corporation on April 21 and 22, 2022, in accordance with state and federal regulations, for disposal at Waste Management Columbia Ridge Landfill in Arlington, Oregon. A copy of the non-hazardous waste manifest is included in **Appendix C**.

## 3.2 PHASE II EISB INJECTION

The Phase II injections were implemented in three stages from July 27 to August 18, September 15 to 29, and October 13 to 27, 2022. Additional details are provided in the sections below.

### 3.2.1 EISB Injection System Setup and Operation

Adjustments made to the injection system setup to improve health and safety and operational efficiency of the injection process during the Phase I injection were continued during the Phase II injection activities. This included the use of an on-site water line which was set up and metered by the city for use as a water source when injecting at the BJS and WGL properties, and a truck tanker trailer which was contracted to deliver potable water to the injection system when injecting at downgradient properties. The 1,050-gallon plastic poly tanks selected for the Phase I injection were also used during Phase II injections. Two or more tanks were used at each injection system location to allow for at least one tank to be in use for injection while another was being used to prepare the next batch of injection solution, allowing near

continuous injection throughout the day. To eliminate potential safety hazards, the water pressure from the city water meter was reduced, and injection system hoses were secured approximately every 100 feet to fixed objects and with a whip check at the hose ends.

The EISB injection system setup from Phase I was expanded so injection could be conducted to 10 wells from each system. Each injection system utilized one submersible pump to support injection and injection solution preparation. One-inch hose, ball valves, and fittings were assembled to support mixing and injection of the injection solution. The EISB injection system was connected to two injection manifold piping systems each with five parallel injection lines to support injection to up to 10 wells simultaneously. The manifold piping system was assembled per the GW CPS (Stantec, 2019a). During the first stage of the Phase II EISB injection activities, one EISB injection system was operated to inject to 10 wells. During the second and third stages of the Phase II EISB injection, two injection systems were operated simultaneously to support injection to up to 20 wells. The Phase II EISB injection system and manifold piping detail is shown on **Figure 4**. Photos of the assembled injection system and manifold piping can be found in **Appendix D**.

### 3.2.2 Phase II Injection Activities

The Phase II EISB injection was conducted in three stages:

- The first stage, from July 27 to August 18, 2022, included ten Phase II EISB injection wells (IW-2-2, IW-2-5 through IW-2-7, IW-3-2, and IW-3-16 through IW-3-20);
- The second stage, from September 15 to 29, 2022, included nine Phase II EISB injection wells in System A (IW-4-1 through IW-4-3 and IW-4-5 through IW-4-10) and eight Phase II EISB injection wells in System B (IW-4-4 and IW-4-11 through IW-4-17); and
- The third stage, from October 13 to 27, 2022, included ten Phase II EISB injection wells in System A (IW-2-3, IW-2-4, IW-3-1, and IW-3-9 through IW-3-15) and ten Phase II EISB injection wells in System B (IW-1-1 through IW-1-4 and IW-3-3 through IW-3-8).

Injection wells IW-2-1, IW-5-1, and IW-5-2 were not utilized for Phase II injection. Injection system data were recorded to EISB Injection System Logs, which are included in **Appendix E**. Individual per well injection data were recorded approximately every hour to Well Injection Logs, which are included in **Appendix F**. Data from each stage of the Phase II EISB injection are summarized below. Graphs illustrating the per well injection volume for each stage are included in **Appendix G (Figures G-1A, G-2A, G-2B, G-3A, and G-3B)**.

Groundwater levels were gauged in nearby wells to monitor the aquifer response to the injection as follows:

- During the first stage of injection, wells MW-3, MW-4R, and MW-12R were generally gauged each day prior to the start of injection and after injection ended for the day. Wells MW-5R, MW-6, MW-8, MW-9, MW-15, and MW-22 were gauged prior to first stage injection on July 26, prior to a

demobilization from the Site on August 6, prior to restarting first stage injection on August 15, and following completion of first stage injection on August 18.

- During the second stage of injection, wells MW-9, MW-21, MW-23, and MW-24 were generally gauged each day prior to the start of injection and after injection ended for the day. Well MW-16 was gauged daily prior to the start of injection and after injection ended, when accessible, due to its location behind a locked gate. Well MW-17 was gauged prior to second stage injection on September 15, while MW-14 was not gauged because a truck was parked over the well; otherwise, wells MW-14 and MW-17 were gauged on September 21 and 27 following a day off from injection, and following completion of second stage injection on September 29; and

- During the third stage of injection, wells MW-3, MW-4R, MW-5R, MW-12R, and MW-22 were generally gauged each day prior to the start of injection and after injection ended for the day. Wells MW-6, MW-8, MW-9, and MW-15 were gauged prior to third stage injection on October 12 and following completion of third stage injection on October 27.

Groundwater gauging data were recorded to field logs, which are included in **Appendix H**. Graphs illustrating the daily depth to water response in key monitoring wells within the injection areas are included in **Appendix G (Figures G-1B, G-2C, and G-3C)**.

**First Stage Injection: IW-2-2, IW-2-5 through IW-2-7, IW-3-2, and IW-3-16 through IW-3-20**

The first stage of Phase II EISB injections was completed from July 27 through August 18, 2022; however, the field team demobilized for a break and no injections occurred August 7 through 14.

A total of approximately 60,026 gallons of injection solution with 12,000 pounds of sodium acetate and 54 pounds of sodium triphosphate was injected to ten wells (IW-2-2, IW-2-5 through IW-2-7, IW-3-2, and IW-3-16 through IW-3-20). The first stage total active injection duration was 5,789 minutes for an overall average injection rate of approximately 10.4 gpm. The average injection rate per injection well was 1.07 gpm. Per well injection pressures ranged from 0 pounds per square inch (psi) to a maximum of 7 psi. The average per well injection pressure was 1.9 psi, which was within the planned operation limit of 1 to 2 psi (Stantec, 2022a).

Total per well injection details are summarized on **Table 3**. Injections to IW-2-6, IW-2-7, IW-3-16, and IW-3-20 were slightly below the design target total injection volume of 5,992 gallons, while injections to IW-2-2, IW-2-5, IW-3-2, and IW-3-17 through IW-3-19 were slightly above. Injections to IW-2-5, IW-2-6, IW-2-7, and IW-3-17 were slightly below the design target sodium acetate injection mass of 1,200 pounds, while IW-2-2, IW-3-2, IW-3-16, and IW-3-18 through IW-3-20 were slightly above.

During the first stage of injection, the strongest groundwater elevation response to the fluid injection was observed in well MW-12R, with daily response observed to a lesser extent in wells MW-3 and MW-4R (**Appendix G, Figure G-1B)**.

**Second Stage Injection: IW-4-1 through IW-4-17**

The second stage of Phase II EISB injections was completed from September 15 to 29, 2022; however, no injections occurred on September 20 or 26. Two injection systems were operated with System A injecting to nine wells (IW-4-1 through IW-4-3 and IW-4-5 through IW-4-10) and System B injecting to eight wells (IW-4-4 and IW-4-11 through IW-4-17).

A total of approximately 54,541 gallons of injection solution with 10,800 pounds of sodium acetate and 48.6 pounds of sodium triphosphate were injected through System A. The second stage active injection duration for System A was 5,532 minutes for an overall average injection rate of approximately 9.9 gpm. The average injection rate per injection well was 1.13 gpm. System A per well injection pressures ranged from 1 psi to a maximum of 7.5 psi. The average per well injection pressure was 3.7 psi, which was slightly above the planned operation limit of 1 to 2 psi.

A total of approximately 48,011 gallons of injection solution with 9,600 pounds of sodium acetate and 43.2 pounds of sodium triphosphate were injected through System B. The second stage active injection duration for System B was 5,389 minutes for an overall average injection rate of approximately 8.9 gpm. The average injection rate per injection well was 1.16 gpm. System B per well injection pressures ranged from 0 psi to a maximum of 7.5 psi. The average per well injection pressure was 4.1 psi, which was slightly above the planned operation limit of 1 to 2 psi.

Total per well injection details are summarized on **Table 3**. Injections to IW-4-4 and IW-4-11 through IW-4-14 were slightly below the design target injection volume of 5,992 gallons, while injections to IW-4-1 through IW-4-3, IW-4-5 through IW-4-10, and IW-4-15 through IW-4-17 were slightly above. Injections to IW-4-2 through IW-4-6, IW-4-9, IW-4-13, IW-4-15, and IW-4-17 were slightly below the design target sodium acetate injection mass of 1,200 pounds, while IW-4-1, IW-4-7, IW-4-8, IW-4-10 through IW-4-12, IW-4-14, and IW-4-16 were at or slightly above.

During the second stage of injection, the strongest groundwater elevation responses to fluid injection were observed in wells MW-21 and MW-23, with daily response observed to a lesser extent in well MW-9 (**Appendix G, Figure G-2C)**.

**Third Stage Injection: IW-1-1 through IW-1-4, IW-2-3, IW-2-4, IW-3-1, and IW-3-3 through IW-3-15**

The third stage of Phase II EISB injections was completed from October 13 to 27, 2022; however, no injections occurred on October 17 or 24. Two injection systems were operated with System A injecting to ten wells (IW-2-3, IW-2-4, IW-3-1, and IW-3-9 through IW-3-15) and System B injecting to ten wells (IW-1-1 through IW-1-4 and IW-3-3 through IW-3-8).

A total of approximately 60,157 gallons of injection solution with 11,950 pounds of sodium acetate and 54 pounds of sodium triphosphate were injected through System A. The third stage active injection duration for System A was 5,015 minutes for an overall average injection rate of 12.0 gpm. The average injection rate per injection well was 1.24 gpm. System A per well injection pressures ranged from 0 psi to a maximum of 7.5 psi. The average per well injection pressure was 2.8 psi, which was slightly above the planned operation limit of 1 to 2 psi.

A total of approximately 59,780 gallons of injection solution with 12,000 pounds of sodium acetate and 54 pounds of sodium triphosphate were injected through System B. The third stage active injection duration for System B was 5,241 minutes for an overall average injection rate of 11.4 gpm. The average injection rate per injection well was 1.18 gpm. System B per well injection pressures ranged from 0 psi to a maximum of 8 psi. The average per well injection pressure was 3.5 psi, which was slightly above the planned operation limit of 1 to 2 psi.

Total per well injection details are summarized on **Table 3**. Injections to IW-1-2 through IW-1-4, IW-2-4, IW-3-1, IW-3-4 through IW-3-8 were slightly below the design target injection volume of 5,992 gallons, while IW-1-1, IW-2-3, IW-3-3, and IW-3-9 through IW-3-15 were slightly above. Injections to IW-1-2, IW-2-3, IW-2-4, IW-3-1, IW-3-4 through IW-3-8, and IW-3-10 through IW-3-15 were slightly below the design target sodium acetate injection mass of 1,200 pounds, while IW-1-1, IW-1-3, IW-1-4, IW-3-3, and IW-3-9 were slightly above.

During the third stage of injection, the strongest groundwater elevation responses to fluid injection were observed in wells MW-4R and MW-22, with daily response observed to a lesser extent in wells MW-5R and MW-3 (**Appendix G, Figure G-3C)**.

## 3.3 GROUNDWATER MONITORING ACTIVITIES

Groundwater samples have been collected in six events to support the Phase II EISB injection activities: pre-treatment sampling in July 2022, and quarterly EISB groundwater remedy performance monitoring in December 2022, March 2023, May 2023, August 2023, and December 2023. The groundwater samples were collected from the appropriate monitoring wells and analyzed as detailed in the GW CMP (Stantec, 2019b), and the letter regarding the *Groundwater Remedy Compliance Monitoring Plan Proposed Changes to the Groundwater Remedy Performance Monitoring* dated February 14, 2020.

### 3.3.1 Groundwater Elevation Measurement

Before sampling activities commenced, an electronic water level indicator was used to measure the depth to groundwater and total well depth from the surveyed point of each well's top of casing. Results were recorded on the Groundwater Field Log (**Appendix I**). A summary of groundwater elevation measurements at the Site since 2005 are included in **Table 4**.

### 3.3.2 Groundwater Sampling Activities

Groundwater samples were collected from each of the monitoring wells using low-flow sampling procedures. During well purging, water levels and indicator field parameters were recorded on the Groundwater Sampling Field Data Sheet (**Appendix I**) every 3 to 5 minutes. Purging was considered complete and sampling began when indicator field parameters stabilized. Stabilization was achieved when three consecutive readings were within the following limits:

- Dissolved oxygen in mg/L (10%);
- Conductivity in millisiemens per centimeter (3%);
- Temperature in degrees Celsius (3%);

- pH in standard units (± 0.1 units);
- Oxidation-reduction potential in millivolts (± 10 millivolts); and
- For monitoring wells requiring metals analysis, turbidity in final reading < 10 nephelometric turbidity units (NTU) or turbidity > 10 NTU and ± 10%.

Measurements were obtained using a multi-parameter meter with flow-through cell. Field instruments were calibrated in accordance with the manufacturer's directions prior to use. Purge volumes for each well were recorded on the Groundwater Sampling Field Data Sheet. Groundwater samples were collected after stabilization by discharging groundwater from the pump directly to laboratory-provided bottles. The only exception was for groundwater collected for metals analysis from wells with stabilized turbidity greater than 10 NTU. That groundwater was filtered using in-line 10-micron filters (for arsenic, iron, and manganese) and 0.1-micron filters (for dissolved iron) after the collection of unfiltered samples. Groundwater samples were collected to laboratory-provided bottles, kept on ice, and submitted under chain of custody to Eurofins for analysis.

Purge and decontamination water were collected and transferred to 55-gallon DOT-rated drums that were stored on-site. Due to the low-flow sampling procedures utilized, only a small volume of purge water (generally less than 1 gallon per well) is generated per event. A disposal event for the two drums of purge and decontamination water was conducted on March 13, 2024, and a copy of the non-hazardous waste manifest is provided in **Appendix C**. In accordance with State of Washington and federal regulations, drums containing purge and decontamination water were removed from the property by Advanced Chemical Transport, LLC.

# 4.0 Phase II EISB Sampling Results and Discussion

This section presents a summary of the EISB groundwater remedy performance monitoring results following the installation and implementation of the Phase II EISB injection groundwater remedy.

## 4.1 GROUNDWATER CRITERIA

This section details the groundwater criteria the Phase II EISB performance monitoring results were compared to for evaluation purposes.

As detailed in Section 1.2.2 of the GW CMP (Stantec, 2019b), though nitrate in groundwater above the Federal maximum contaminant level of 10 mg/L is the primary driver, cleanup levels (CULs) have been established for 24 constituents for groundwater at the Site and are referred to as the Site-specific CULs. Twelve groundwater indicator hazardous substances (IHSs) have been identified from the 24 groundwater constituents based on the remedial investigation and feasibility study process completed for the Site. The 12 Site groundwater IHSs were identified in the CAP and are used to monitor compliance with the Site cleanup requirements.

As detailed in Section 3.3.2 of the GW CMP (Stantec, 2019b) and updated in Section 4.1 of the *Third Quarter 2022 Groundwater Monitoring Report* (Stantec, 2022b), EISB monitoring parameter concentrations are compared to calculated pre-treatment threshold concentrations to determine if groundwater at a well is classified as under EISB conditions in response to the groundwater remedy. The pre-treatment threshold concentration calculations used a statistical analysis based on well-specific historical data when at least 10 parameter results were available for a well or on a selection of Site monitoring wells when less than 10 parameter results were available. The pre-treatment threshold concentrations are summarized in **Table 5**.

EISB monitoring parameters that were above (for alkalinity, BOD, or dissolved iron) or below (for sulfate) the calculated pre-treatment threshold concentrations were highlighted on **Table 6.** The EISB monitoring parameter results were then evaluated for each sample on a case-by-case basis to determine whether EISB conditions were considered present; the sample dates for samples where EISB conditions were present are highlighted on **Table 6**.

## 4.2 PRE-TREATMENT GROUNDWATER RESULTS

The objective of the pre-treatment monitoring was to define Site groundwater conditions immediately prior to the implementation of the Phase II EISB groundwater remedy injection. The pre-treatment groundwater monitoring was completed in July 2022 and included sampling from all 23 Site monitoring wells per the GW CMP (Stantec, 2019b). Analytical results from the pre-treatment groundwater monitoring are included in **Table 6**. Laboratory reports from the pre-treatment groundwater monitoring are included in **Appendix J**. The results were previously reported in the *Third Quarter 2022 Groundwater Monitoring Report* (Stantec, 2022b). The results are included in this report for context in the implementation of the Phase II EISB groundwater remedy.

The maximum IHS concentrations were generally observed in wells MW-3 and MW-12R. The EISB monitoring parameter concentrations during this event indicated only MW-5R remained under EISB conditions following the Phase I injection.

## 4.3 QUARTERLY EISB GROUNDWATER RESULTS AND DISCUSSION

Five quarterly EISB groundwater monitoring events have been completed in 4Q22, 1Q23, 2Q23, 3Q23, and 4Q23. Results from each of these groundwater monitoring events are discussed in **Section 4.3.1** through **Section 4.3.5**. **Table 6** summarizes the groundwater monitoring results comparing IHS concentrations to the Site-specific CULs and EISB monitoring parameter concentrations to their respective pre-treatment thresholds. Groundwater analytical laboratory reports are included in **Appendix J**. A discussion of the EISB groundwater monitoring results and trends across the entire period follows in **Section 4.3.6**.

### 4.3.1 Fourth Quarter 2022 Groundwater Results

The 4Q22 groundwater monitoring event completed in December 2022 was the first quarterly EISB performance monitoring event after the Phase II injections and sampled nine monitoring wells (MW-3, MW-4R, MW-5R, MW-12R, MW-13, MW-21, MW-22, MW-23, and MW-24). The following is a summary of the 4Q22 groundwater sampling results for Site IHSs, where analyzed, above the CULs:

- Nitrate concentrations (22 mg/L to 390 mg/L) were detected above the CUL of 10 mg/L in six wells (MW-3, MW-4R, MW-12R, MW-13, MW-23, and MW-24);
- A nitrite concentration (2.6 mg/L) was detected above the CUL of 1 mg/L in one well (MW-21);
- 1,2-DCP concentrations (0.0056 mg/L to 1.1 mg/L) were detected above the CUL of 0.005 mg/L in four wells (MW-4R, MW-12R, MW-23, and MW-24);
- Dinoseb concentrations (0.0097 mg/L to 0.96 mg/L) were detected above the CUL of 0.007 mg/L in three wells (MW-3, MW-4R, and MW-12R);
- Total arsenic concentrations (0.01 mg/L to 0.18 mg/L) were detected at or above the CUL of 0.01 mg/L in six wells (MW-5R, MW-12R, MW-13, MW-21, MW-22, and MW-23);
- Total manganese concentrations (2.2 mg/L and 24 mg/L) were detected at or above the CUL of 2.2 mg/L in two wells (MW-21 and MW-22);
- A benzene concentration (0.013 mg/L) was detected above the CUL of 0.005 mg/L in one well (MW-12R); and
- A chlorobenzene concentration (0.22 mg/L) was detected above the CUL of 0.1 mg/L in one well (MW-12R).

Total iron, 2,4-dichlorophenoxyacetic acid (2,4-D), and 2-methylnaphthalene (2-MN) were not detected above their respective CULs.

The following is a summary of the 4Q22 groundwater sampling results for EISB monitoring parameters, where analyzed at select wells, compared to pre-treatment threshold concentrations, where applicable:

- BOD concentrations (69 mg/L to >2,500 mg/L) were above the threshold concentration of 64.2 mg/L in four wells (MW-5R, MW-21, MW-22, and MW-23);

- A dissolved iron concentration (7.0 mg/L) was above the threshold concentration of 1.90 mg/L in one well (MW-22);
- A sulfate concentration (4.7 estimated [J] mg/L) was below its well-specific threshold concentration in one well (MW-5R);
- Alkalinity concentrations (280 mg/L to 5,500 mg/L) were above their well-specific threshold concentrations in five wells (MW-5R, MW-12R, MW-13, MW-21, and MW-22);
- Ammonia concentrations (0.10 J mg/L to 290 mg/L) were detected in six wells (MW-3, MW-4R, MW-5R, MW-12R, MW-21, and MW-23); and
- Phosphorus concentrations (0.059 J mg/L to 9.6 mg/L) were detected in all nine wells sampled.

### 4.3.2 First Quarter 2023 Groundwater Results

The 1Q23 groundwater monitoring event completed in March 2023 was the second quarterly EISB performance monitoring event after the Phase II injections and sampled all 23 Site monitoring wells. The following is a summary of the 1Q23 groundwater sampling results for Site IHSs, where analyzed, above the CULs:

- Nitrate concentrations (12 mg/L to 350 mg/L) were detected above the CUL of 10 mg/L in 11 wells (MW-1, MW-3, MW-4R, MW-8, MW-9, MW-12R, MW-13, MW-16, MW-21, MW-23, and MW-24);
- Nitrite concentrations (2.1 mg/L and 2.2 mg/L) were detected above the CUL of 1 mg/L in two wells (MW-21 and MW-22);
- 1,2-DCP concentrations (0.0057 mg/L to 0.61 mg/L) were detected above the CUL of 0.005 mg/L in seven wells (MW-4R, MW-9, MW-12R, MW-16, MW-19, MW-23, and MW-24);
- Dinoseb concentrations (0.0087 mg/L to 0.83 mg/L) were detected above the CUL of 0.007 mg/L in four wells (MW-3, MW-4R, MW-12R, and MW-23);
- Total arsenic concentrations (0.011 mg/L to 0.097 mg/L) were detected above the CUL of 0.01 mg/L in 13 wells (MW-4R, MW-5R, MW-6, MW-10, MW-11, MW-12R, MW-13, MW-15, MW-18, MW-19, MW-20, MW-21, and MW-22);
- Total manganese concentrations (2.3 mg/L to 6.2 mg/L) were detected above the CUL of 2.2 mg/L in three wells (MW-3, MW-5R, and MW-22);
- A benzene concentration (0.0075 mg/L) was detected above the CUL of 0.005 mg/L in one well (MW-12R); and
- A chlorobenzene concentration (0.14 mg/L) was detected above the CUL of 0.1 mg/L in one well (MW-12R).

Total iron, 2,4-D, and 2-MN were not detected above their respective CULs, where analyzed.

The following is a summary of the 1Q23 groundwater sampling results for EISB monitoring parameters, where analyzed at select wells, compared to pre-treatment threshold concentrations, where applicable:

- BOD concentrations were all below the threshold concentration of 64.2 mg/L;
- A dissolved iron concentration (2.1 mg/L) was above the threshold concentration of 1.90 mg/L in one well (MW-5R);

- Sulfate concentrations (100 mg/L and 120 mg/L) were below their well-specific threshold concentrations in two wells (MW-5R and MW-13);
- An alkalinity concentration (2,900 mg/L) was above the well-specific threshold concentration in one well (MW-5R);
- Ammonia concentrations (0.70 mg/L to 290 mg/L) were detected in six wells (MW-3, MW-4R, MW-5R, MW-12R, MW-21, and MW-22); and
- Phosphorous concentrations (0.070 J mg/L to 4.5 mg/L) were detected in nine wells (MW-3, MW-4R, MW-5R, MW-12R, MW-13, MW-21, MW-22, MW-23, and MW-24).

### 4.3.3 Second Quarter 2023 Groundwater Results

The 2Q23 groundwater monitoring event completed in May 2023 was the third quarterly EISB performance monitoring event after the Phase II injections and sampled nine monitoring wells (MW-3, MW-4R, MW-5R, MW-12R, MW-13, MW-21, MW-22, MW-23, and MW-24). The following is a summary of the 2Q23 groundwater sampling results for Site IHSs, where analyzed, above the CULs:

- Nitrate concentrations (13 mg/L to 190 mg/L) were detected above the CUL of 10 mg/L in seven wells (MW-3, MW-4R, MW-12R, MW-13, MW-21, MW-23, and MW-24);
- Nitrite concentrations (3.8 mg/L and 7.7 mg/L) were detected above the CUL of 1 mg/L in two wells (MW-21 and MW-22);
- 1,2-DCP concentrations (0.006 mg/L to 0.55 mg/L) were detected above the CUL of 0.005 mg/L in four wells (MW-4R, MW-12R, MW-23, and MW-24);
- Dinoseb concentrations (0.010 mg/L to 0.80 mg/L) were detected above the CUL of 0.007 mg/L in four wells (MW-3, MW-4R, MW-12R, and MW-23);
- Total arsenic concentrations (0.011 mg/L to 0.13 mg/L) were detected above the CUL of 0.01 mg/L in five wells (MW-4R, MW-5R, MW-12R, MW-13, and MW-23);
- A total manganese concentration (3.8 mg/L) was detected above the CUL of 2.2 mg/L in one well (MW-22);
- A benzene concentration (0.0073 mg/L) was detected above the CUL of 0.005 mg/L in one well (MW-12R); and
- A chlorobenzene concentration (0.13 mg/L) was detected above the CUL of 0.1 mg/L in one well (MW-12R).

Total iron, 2,4-D, and 2-MN were not detected above their respective CULs, where analyzed.

The following is a summary of the 2Q23 groundwater sampling results for EISB monitoring parameters, where analyzed at select wells, compared to pre-treatment threshold concentrations, where applicable:

- BOD concentrations were not above the threshold concentration of 64.2 mg/L in any of the nine wells;
- Dissolved iron concentrations were not above the threshold concentration of 1.90 mg/L in any of the nine wells;
- Sulfate concentrations (100 mg/L and 160 mg/L) were below their well-specific threshold concentrations in two wells (MW-5R and MW-13);

- An alkalinity concentration (2,100 mg/L) was above the well-specific threshold concentration in one well (MW-5R);
- Ammonia concentrations (0.15 J mg/L to 310 mg/L) were detected in six wells (MW-3, MW-4R, MW-5R, MW-12R, MW-21, and MW-22); and
- Phosphorus concentrations (0.060 J mg/L to 2.5 mg/L) were detected in all nine wells sampled.

### 4.3.4 Third Quarter 2023 Groundwater Results

The 3Q23 groundwater monitoring event completed in August 2023 was the fourth quarterly EISB performance monitoring event after the Phase II injections and sampled 22 Site monitoring wells. Well MW-6 was not sampled because it was inaccessible due to debris and vegetation. The following is a summary of the 3Q23 groundwater sampling results for Site IHSs, where analyzed, above the CULs:

- Nitrate concentrations (21 mg/L to 490 mg/L) were detected above the CUL of 10 mg/L in nine wells (MW-3, MW-4R, MW-8, MW-9, MW-12R, MW-13, MW-16, MW-21, and MW-24);
- A nitrite concentration (3.8 mg/L) was detected above the CUL of 1 mg/L in one well (MW-21);
- 1,2-DCP concentrations (0.0072 mg/L to 1.4 mg/L) were detected above the CUL of 0.005 mg/L in seven wells (MW-4R, MW-9, MW-12R, MW-16, MW-19, MW-23, and MW-24);
- Dinoseb concentrations (0.0092 mg/L to 1.1 mg/L) were detected above the CUL of 0.007 mg/L in four wells (MW-4R, MW-9, MW-12R, and MW-16);
- Total arsenic concentrations (0.012 mg/L to 0.18 mg/L) were detected above the CUL of 0.01 mg/L in 12 wells (MW-4R, MW-5R, MW-10, MW-11, MW-12R, MW-13, MW-15, MW-18, MW-19, MW-20, MW-22, and MW-23);
- Total manganese concentrations (2.4 mg/L to 8.8 mg/L) were detected above the CUL of 2.2 mg/L in three wells (MW-21, MW-22, and MW-23);
- A benzene concentration (0.02 mg/L) was detected above the CUL of 0.005 mg/L in one well (MW-12R); and
- A chlorobenzene concentration (0.29 mg/L) was detected above the CUL of 0.1 mg/L in one well (MW-12R).

Total iron, 2,4-D, and 2-MN were not detected above their respective CULs, where analyzed.

The following is a summary of the 3Q23 groundwater sampling results for EISB monitoring parameters, where analyzed at select wells, compared to pre-treatment threshold concentrations, where applicable:

- A BOD concentration (230 mg/L) was above the threshold concentration of 64.2 mg/L in one well (MW-23);
- Dissolved iron concentrations (2.4 mg/L to 5.0 mg/L) were above the threshold concentration of 1.90 mg/L in three wells (MW-5R, MW-22, and MW-23);
- Sulfate concentrations (<2.5 mg/L to 100 mg/L) were below their well-specific threshold concentrations in three wells (MW-5R, MW-13, and MW-23);
- Alkalinity concentrations (290 mg/L to 2,400 mg/L) were below their well-specific threshold concentrations in three wells (MW-5R, MW-13, and MW-23);
- Ammonia concentrations (1.3 mg/L to 330 mg/L) were detected in five wells (MW-3, MW-4R, MW-5R, MW-12R, and MW-22); and

- Phosphorus concentrations (0.086 J mg/L to 3.5 mg/L) were detected in nine wells (MW-3, MW-4R, MW-5R, MW-12R, MW-13, MW-21, MW-22, MW-23, and MW-24).

### 4.3.5 Fourth Quarter 2023 Groundwater Results

The 4Q23 groundwater monitoring event completed in December 2023 was the fifth quarterly EISB performance monitoring event after the Phase II injections and sampled eight monitoring wells (MW-4R, MW-5R, MW-12R, MW-13, MW-21, MW-22, MW-23, and MW-24). Well MW-3 was scheduled to be sampled, but the well casing was under water due to recent precipitation. This event was added to gather additional data due to decreased nitrate concentrations and increased EISB conditions observed in wells MW-22 and MW-23 in 3Q23. The following is a summary of the 4Q23 groundwater sampling results for Site IHSs, where analyzed, above the CULs:

- Nitrate concentrations (17 mg/L to 440 mg/L) were detected above the CUL of 10 mg/L in six wells (MW-4R, MW-12R, MW-13, MW-21, MW-22, and MW-24);
- Nitrite concentrations (1 mg/L and 4.2 mg/L) were detected at or above the CUL of 1 mg/L in two wells (MW-21 and MW-22);
- 1,2-DCP concentrations (0.0068 mg/L to 1.1 mg/L) were detected above the CUL of 0.005 mg/L in four wells (MW-4R, MW-12R, MW-23, and MW-24);
- A dinoseb concentration (0.030 mg/L) was detected above the CUL of 0.007 mg/L in one well (MW-4R);
- Total arsenic concentrations (0.011 mg/L to 0.22 mg/L) were detected above the CUL of 0.01 mg/L in five wells (MW-4R, MW-5R, MW-12R, MW-13, and MW-23);
- Total manganese concentrations (3.1 mg/L and 3.8 mg/L) were detected above the CUL of 2.2 mg/L in two wells (MW-21 and MW-22);
- A benzene concentration (0.017 mg/L) was detected above the CUL of 0.005 mg/L in one well (MW-12R); and
- A chlorobenzene concentration (0.27 mg/L) was detected above the CUL of 0.1 mg/L in one well (MW-12R).

Total iron, 2,4-D, and 2-MN were not detected above their respective CULs, where analyzed.

The following is a summary of the 4Q23 groundwater sampling results for EISB monitoring parameters, where analyzed at select wells, compared to pre-treatment threshold concentrations, where applicable:

- A BOD concentration (>65 mg/L) was above the threshold concentration of 64.2 mg/L in one well (MW-23);
- A dissolved iron concentration (4.8 mg/L) was above the threshold concentration of 1.90 mg/L in one well (MW-23);
- Sulfate concentrations (17 mg/L to 100 mg/L) were below their well-specific threshold concentrations in three wells (MW-5R, MW-13, and MW-23);
- Alkalinity concentrations (270 mg/L to 2,500 mg/L) were above their well-specific threshold concentrations in three wells (MW-5R, MW-13, and MW-23);
- Ammonia concentrations (0.13 J mg/L to 44 mg/L) were detected in four wells (MW-4R, MW-5R, MW-12R, and MW-22); and

- Phosphorus concentrations (0.084 J mg/L to 2.0 mg/L) were detected in seven wells (MW-4R, MW-5R, MW-12R, MW-13, MW-21, MW-23, and MW-24).

### 4.3.6 EISB Groundwater Remedy Performance Monitoring Discussion

The EISB groundwater monitoring results summarized in **Section 4.3.1** through **Section 4.3.5** and reported in **Table 6** were reviewed for responses and trends of importance in Site groundwater for the EISB remedy. Multiple lines of evidence were analyzed to evaluate the EISB remedy performance:

- Evaluation of EISB monitoring parameters;
- Site IHS concentration responses;
- Ammonia concentration responses; and
- Phosphorus concentration responses.

#### 4.3.6.1 EISB Monitoring Parameters

The GW CMP defined four EISB monitoring parameters (BOD, dissolved iron, sulfate, and alkalinity) to indicate transition to EISB conditions at Site monitoring wells during implementation of the Site groundwater remedy (Stantec, 2019b). These EISB monitoring parameter concentrations are included in **Table 6** with orange highlighting indicating EISB conditions.

To summarize the effect of Phase I EISB injection on EISB monitoring parameters as a comparison point for Phase II EISB injection, five monitoring wells (MW-4R, MW-5R, MW-12R, MW-13, and MW-21) were in the immediate treatment zone. These wells generally indicated strong EISB conditions (order of magnitude or greater increases for BOD, dissolved iron, or alkalinity and/or greater than 75% reduction in sulfate) for at least one parameter and at least one performance monitoring event following Phase I injection. The weakest Phase I EISB condition was indicated at MW-13 in an area where a lower acetate mass was injected; however, EISB conditions continued through the 2Q21 sampling event.

For Phase II, six monitoring wells were in the anticipated immediate treatment zone of the Phase II IW Lines: MW-4R, MW-5R, MW-12R, MW-21, MW-22, and MW-23. Strong EISB conditions were indicated in four of these monitoring wells (MW-5R, MW-21, MW-22, and MW-23) for at least one EISB parameter and at least one performance monitoring event after the Phase II injection.

- At MW-5R, the data showed renewed strong EISB conditions following Phase II injection, which continues through the 4Q23 monitoring event. Among the monitoring wells in the immediate treatment zone, MW-5R is the only one located downgradient of the nearest injection location. EISB conditions have been observed at MW-5R in all monitoring events since the Phase I injection in 2020.
- At MW-21 and MW-22, EISB conditions were observed in 4Q22, the monitoring event directly following injection. At MW-23, the strongest EISB conditions were observed in 3Q23 and 4Q23. Given its location a few feet up-gradient from the injection points, this response is unexpected. It could be that heterogeneity in the groundwater flow in this area has resulted in residual acetate being present over a year after the Phase II injections.
- At MW-12R, only alkalinity indicated EISB conditions (approximate 300% increase) in the first EISB monitoring event after Phase II injection. Because of the timing of the Phase II injection

phases and the monitoring event, the sample at MW-12R was collected approximately four months after the end of injections near this location. The Phase II EISB parameter results at MW-12R were similar to those observed in the monitoring event five months after the Phase I injection.

- At MW-4R, none of the EISB monitoring parameters have indicated EISB conditions. MW-4R is located approximately 9.3 feet cross-gradient from the nearest injection well (IW-3-1). The data suggest that the effective injection radius may have failed to reach MW-4R during injection and that the subsequent advective/dispersive movement of acetate failed to reach MW-4R at quantities sufficient to reach EISB monitoring thresholds.

Outside of the immediate treatment zone, EISB monitoring parameters were outside of the calculated pre-treatment threshold concentrations for sulfate and alkalinity at MW-13 from 4Q22 through 4Q23. However, sulfate and alkalinity concentrations over this period are stable and within 85% of the pre-treatment concentrations, which are not strong indicators of EISB occurring; therefore, these results are not considered as indicating EISB conditions. MW-3 is the closest downgradient monitoring well outside the immediate treatment zone and EISB conditions have not been observed during the EISB performance monitoring at this location. This suggests that either the residual treatment capacity has not yet reached MW-3 from the up-gradient IW Line or that the acetate is being consumed prior to reaching MW-3.

#### 4.3.6.2 Site IHS Responses

To summarize the effect of Phase I EISB injection on Site IHSs as a comparison point for Phase II EISB injection, the Phase I groundwater remedy implementation and EISB performance monitoring results confirmed the effectiveness of the EISB remedy in treating nitrate and dinoseb with decreasing concentrations indicated at each of the monitoring wells within the immediate treatment zones of the Phase I injection wells. Corresponding increases in dissolved iron and arsenic were also noted in the Phase I EISB monitoring results; however, those increases were not observed outside of the immediate treatment zones.

In this section, Site IHS responses in the Phase II EISB monitoring are first discussed by analyte on a well-specific basis, followed by a plume level analysis of nitrate, dinoseb, 1,2-DCP, and arsenic.

The responses of select constituents to both the Phase I and Phase II EISB remedy at monitoring wells located within the nitrate groundwater plume (plume extents as defined in the GW Remedy Phase I Report [Stantec, 2022a]) are summarized in **Table 7**. The responses represent a percent change of the groundwater monitoring analytical results relative to the pre-treatment concentration at that monitoring well. The pre-treatment concentration is represented by 1Q20 data for wells present during the implementation of the Phase I EISB (MW-1 and MW-3 through MW-21) and 3Q22 data for wells installed after the Phase I EISB implementation (MW-22 through MW-24). To further support this discussion, graphs showing select constituent concentrations from March 2017 through December 2023 (where available) for select monitoring wells (MW-3, MW-4R, MW-5R, MW-12R, MW-13, MW-21, MW-22, and MW-23) are provided as **Appendix K (Figures K-1 through K-8)**. The following subsections discuss individual IHS responses at these monitoring wells.

**Nitrate**

MW-5R is uniquely located both in the immediate treatment zone and downgradient of the IW Line. Well MW-5R demonstrated the strongest EISB monitoring parameter responses following the Phase I EISB injection, and those parameters showed a renewed and sustained response at MW-5R following the Phase II EISB injection. Reductions in nitrate concentrations have exceeded 99% through the Phase II EISB monitoring indicating that this location has remained within the residual treatment zone of the EISB remedy.

The other monitoring wells within the Phase II immediate treatment zones (MW-4R, MW-12R, MW-21, MW-22, and MW-23) are located up- to cross-gradient from the IW Lines. Except for MW-4R, these monitoring wells indicated EISB conditions after Phase II injection for at least one monitoring event. Nitrate responses to the Phase II injection were greatest at monitoring wells MW-21, MW-22, and MW-23 with decreases (as compared to pre-treatment) ranging from approximately 69% to over 99% observed during each EISB monitoring event after the Phase II injection (**Table 7**). Nitrate concentrations remained relatively stable at MW-4R and MW-12R after the Phase II injection. As discussed above, MW-4R may have been located outside of the effective immediate treatment radius of the Phase II injection and monitoring at MW-12R, because of its location up-gradient of the injection wells and four months between the end of Phase II injection and the first EISB performance monitoring event, may have missed some of the nitrate response at this location.

At monitoring wells within the pre-remedy nitrate groundwater plume but outside of the Phase II immediate treatment zones, significant nitrate reductions have not been observed. MW-3 is the closest downgradient well to the Phase II IW Lines, and nitrate concentrations have generally remained stable following the Phase II injection.

Nitrate reductions in the wells in Phase II immediate treatment zones (MW-4R, MW-5R, MW-12R, MW-21, MW-22, and MW-23) averaged approximately 70% while nitrate concentrations in the wells within the pre-remedy nitrate groundwater plume but outside the Phase II immediate treatment zones (MW-3, MW-6, MW-8, MW-9, MW-11, MW-13, MW-16, and MW-24) decreased by an average of less than 1%.

**Dinoseb**

Dinoseb concentrations generally show a similar response as nitrate at each of the immediate treatment zone locations. At MW-22, dinoseb concentrations decreased approximately 40% (as compared to pre-treatment; **Table 7**). At MW-23, dinoseb concentrations initially increased for three monitoring events following Phase II injection before decreasing approximately 75% to below detection limits in the 3Q23 and 4Q23 monitoring events when EISB conditions increased. Dinoseb concentrations remained relatively stable at MW-4R. Dinoseb concentrations also remained relatively stable for several monitoring events at MW-12R following Phase II injection with decreases between approximately 26% and 46%, before decreasing over 99% in 4Q23.

There have been significant dinoseb reductions in monitoring wells in the pre-remedy dinoseb groundwater plume but outside of the Phase II immediate treatment zones (MW-3, MW-9, and MW-16).

Average dinoseb reductions outside of the immediate treatment zones (72%) are higher than those in the immediate treatment zones within that plume area (approximately 61%). It is hypothesized that dinoseb responses to EISB in downgradient locations could be observed before nitrate responses because while both are targeted by denitrification, nitrate can be sourced from the nitrification of ammonia also present. Once dinoseb goes through denitrification there are no known reactions that would reconstitute it at the Site. Future Site data will be analyzed to evaluate how nitrate and dinoseb residual treatment zone migration is observed in downgradient locations.

**Nitrite**

Nitrite is a Site IHS that only sporadically exceeds the CUL throughout the Site groundwater plume. Concentrations of nitrite can be helpful in identifying locations of incomplete denitrification of nitrate or incomplete nitrification of ammonia. Nitrite concentrations were highest at MW-21 (4Q22 through 4Q23) and MW-22 (1Q23, 2Q23, and 4Q23). Where increased nitrite concentrations were present in the immediate treatment zones (MW-21 and MW-22), BOD concentrations were decreasing and may have limited complete conversion of nitrate. Other nitrite results from monitoring wells in or near the immediate treatment zones were at or below 1 mg/L, indicating incomplete conversion of nitrate or ammonia was not significant.

**Arsenic, Iron, and Manganese**

Metals are expected to mobilize and be inversely correlated to nitrate and dinoseb responses to the reductive EISB remedy. Three graphs in **Appendix K** (**Figures K-9, K-10, and K-11** for arsenic, iron, and manganese, respectively) visually represent the metal concentration responses to the Phase II EISB injection for seven monitoring wells in or near the immediate treatment zone.

Increases in metal concentrations were observed in the Phase II EISB performance monitoring at MW-5R, MW-21, MW-22, and MW-23, consistent with EISB conditions. At MW-5R, arsenic concentrations have indicated a sustained increase throughout this monitoring corresponding with the nitrate concentration decrease. At MW-4R and MW-12R, the metal concentrations remained relatively stable in the Phase II EISB performance monitoring, confirming the lack of EISB conditions in these wells after the Phase II injection. Generally, metal concentrations decrease to or below pre-treatment levels when EISB conditions are no longer present. Arsenic concentrations seem the most responsive to changes in EISB conditions, decreasing relatively quickly with the end of EISB conditions after the Phase II injection at MW-12R, MW-21, and MW-22. On the other hand, manganese concentrations have shown more sustained increases even with the end of EISB conditions, particularly at MW-21 and MW-22.

**1,2-DCP, Benzene, and Chlorobenzene**

The EISB remedy was not designed to directly remediate Site IHSs such as 1,2-DCP, benzene, and chlorobenzene. Following the Phase II injection, volatile organic compound (VOC) concentrations at MW-12R were variable; however, concentrations were generally lower than those observed after the Phase I injection. Notably, since the Phase I injection, VOC concentrations appear to be correlated with each other; however, no correlation to other collected data has been found. Increasing 1,2-DCP concentrations were observed near the source area (MW-12R), while decreasing 1,2-DCP concentrations are observed in the downgradient portion of the plume (MW-16; **Table 7**). It is noted that the wells

indicating increasing 1,2-DCP concentrations are located within the combined nitrate/ammonia plume while those with decreasing concentrations are located outside of the ammonia plume but still in the nitrate plume. At locations in the commingled plume (MW-3, MW-4R, MW-9, and MW-12R), 1,2-DCP concentrations since the Phase II injection have increased an average of approximately 20% from pre-treatment concentrations. At locations in the nitrate plume but outside of the ammonia plume (MW-16, MW-23, and MW-24), 1,2-DCP concentrations since the Phase II injection have decreased an average of approximately 48% from pre-treatment concentrations.

**Plume Level Responses to the EISB Groundwater Remedy**

The compliance period required for the Site as stipulated in the CAP is a period of at least 3 years and a UCL95 calculation is used to address uncertainty in the observed mean concentration data over each 3-year period (Stantec, 2019b). Prior to the implementation of the Site groundwater remedy, 3-year UCL95 concentrations from 2017-2019 were calculated for nitrate, dinoseb, 1,2-DCP, and arsenic and reported in the *Five-Year Periodic Review* (Stantec, 2019c). Three-year UCL95 concentrations for these same constituents from 2021-2023 have been calculated, where data allowed, at Site monitoring wells to aid in evaluation of the EISB remedy through the Phase II injection. These 3-year UCL95 calculations include results at monitoring wells both under and not under EISB conditions, and, therefore, are only used here as a measure of EISB responses across the Site and not as any confirmation of cleanup. **Figures 5 through 8** show both the 2017-2019 and 2021-2023 3-year UCL95 results for nitrate, dinoseb, 1,2-DCP, and arsenic, respectively, with plume concentration contours shown for both data sets. It should be noted that plume extents and areas are considered to be estimates based on interpolation.

- In **Figure 5,** 15 of the 19 monitoring wells with nitrate data for both periods indicate a decrease in 3-year UCL95 nitrate concentrations from 2017-2019 to 2021-2023. The overall estimated nitrate plume area within the 10 mg/L CUL contour decreased by approximately 32.3%, from 5.83 acres to 3.95 acres, and the estimated area within the 100 mg/L nitrate contour decreased by approximately 32.2%, from 2.40 acres to 1.63 acres.
- In **Figure 6**, three of the five monitoring wells with dinoseb data for both periods show a decrease in 3-year UCL95 dinoseb concentrations from 2017-2019 to 2021-2023, one location hasn't changed (MW-16), and one shows an increase (MW-12R). The estimated dinoseb plume area within the 0.7 mg/L CUL contour centered around MW-12R increased approximately 30%; however, the overall estimated dinoseb plume area within the 0.007 mg/L CUL contour decreased by approximately 28%, from 1.76 acres to 1.27 acres.
- In **Figure 7,** two of the five monitoring wells with 1,2-DCP data for both periods show a decrease in 3-year UCL95 1,2-DCP concentrations from 2017-2019 to 2021-2023. Notably, the monitoring wells closest to the source area (MW-4R, MW-12R, and MW-9) had 1,2-DCP 3-year UCL95 increases averaging 47.5% while monitoring wells in the downgradient portion of the plume (MW-16 and MW-19) had 1,2-DCP 3-year UCL95 concentrations decreasing by an average of 47.1%. The overall estimated 1,2-DCP plume area within the 0.005 mg/L CUL contour decreased by approximately 12.3%, from 2.61 acres to 2.29 acres.
- In **Figure 8,** the estimated arsenic plume areas within the 0.01 mg/L CUL contour are generally similar from 2017-2019 to 2021-2023, though this comparison is complicated by the elevated arsenic reporting limit of 0.013 mg/L, which is above the CUL, that was reported prior to 2020 due to the analytical method that was used. The estimated arsenic plume areas remain divided to

three separate plumes. The most notable changes in arsenic 3-year UCL95 concentrations were decreases at MW-3, MW-12R, and MW-19 and an increase at MW-5R. The increase in arsenic concentrations at MW-5R corresponds to continued EISB conditions since the Phase I injection. However, the decrease in 3-year UCL95 concentrations in monitoring wells MW-4R and MW-12R indicates the increases in arsenic in response to EISB conditions may subside over time and may decrease below the pre-treatment concentrations.

#### 4.3.6.3 Ammonia Responses

Although ammonia is not an IHS, it has been monitored over the history of the Site as a compound associated with fertilizer production and distribution. Ammonia is commingled with nitrate at the up-gradient portion of the groundwater plume. Ammonia responses to the EISB remedy are of particular interest as ammonia can serve as a source of nitrate (through the nitrification of ammonia), and nitrate can be converted to ammonia through dissimilatory nitrate reduction to ammonia (DNRA).

Site data do not support that significant DNRA conversion of nitrate to ammonia is occurring, because, as detailed below, ammonia plume concentrations have decreased and only small increases in ammonia outside of the ammonia plume have been observed. Since the implementation of the Phase II EISB remedy, ammonia concentrations have generally remained relatively stable or decreased at MW-3, MW-4R, MW-5R, and MW-12R where the commingled ammonia/nitrate groundwater plume is present. In the ammonia plume, the average reduction in ammonia concentrations in the immediate treatment zones (MW-4R, MW-5R, and MW-12R) following the Phase II injection was approximately 44% while the reduction outside of the immediate treatment zones (MW-3) was approximately 25%. These data support that the EISB remedy may be accelerating the conversion of both ammonia and nitrate to nitrogen gas. Outside of the commingled ammonia/nitrate plume, minimal to no DNRA conversion of nitrate to ammonia has been indicated with only slight increases of ammonia concentrations (to a maximum of 1.3 mg/L) at MW-21 and MW-22 after the Phase II injection.

To further track the Site-wide changes in the ammonia plume conditions, 3-year UCL95 ammonia concentrations were calculated for the periods of 2017-2019 and 2021-2023. The results of those calculations and the resulting ammonia plume contours are shown on **Figure 9**. The figure shows limited changes in the ammonia plume boundaries over this time. Ammonia exceeding 10 mg/L generally remains present at MW-3, MW-4R, MW-5R, MW-9, and MW-12R over both timeframes. At wells where 3-year UCL95 ammonia concentrations could be calculated for both time periods (well MW-9 was excluded due to limited data points), two wells (MW-3 and MW-4R) indicated increases of up to 40% and two wells (MW-5R and MW-12R) indicated decreases of up to 37%.

Site data support that ammonia may be acting as an ongoing source of nitrate via nitrification. In the Phase II immediate treatment zones within the pre-remedy 100 mg/L ammonia contour (MW-4R and MW-12R), Phase II EISB performance monitoring nitrate reductions averaged approximately 29%, while when ammonia concentrations were less than 100 mg/L (at MW-5R, MW-21, MW-22, and MW-23), Phase II nitrate reductions averaged approximately 90%.

#### 4.3.6.4 Phosphorus Responses

The GW CPS identified phosphorus as a potential limiting nutrient to the EISB remedy (Stantec, 2019a). The Phase I EISB performance monitoring data indicated the Phase I phosphorus dosing rate of 100/1 nitrate (as nitrogen) to phosphorus mass ratio was too low for Site conditions and the Phase II phosphorus dosing rate was doubled to a 50/1 nitrate/phosphorus mass ratio. Phosphorus concentration data over the course of the Phase I and II groundwater remedy are shown on **Table 8**. Phosphorus concentration data at monitoring wells within the immediate treatment zones are shown graphically in **Appendix K (Figure K-12)**. Increases in phosphorus concentrations in response to the EISB remedy are generally correlated with EISB conditions. Phosphorus concentrations briefly increased at MW-5R, MW-21, MW-22, and MW-23 in response to the Phase II injections, while no such increase was indicated at MW-4R or MW-12R where limited EISB conditions were observed following Phase II injection, as discussed previously. Except at MW-5R, where phosphorus concentration increases were seen in response to the Phase II injection, the phosphorus concentrations had decreased to levels similar to pre-treatment concentrations by the end of the Phase II EISB performance monitoring. This suggests that the phosphorus application rate was not sufficient to support its consumption rate.

Additional groundwater remedy monitoring data were analyzed to determine if phosphorus may be limiting denitrification at monitoring wells in the immediate treatment zones where EISB conditions have been indicated following Phase I and/or Phase II injections. The relationship between nitrate, nitrite, BOD, and phosphorus is shown for these wells in **Table 8**. The expected response to EISB conditions following injection would be an increase in BOD and phosphorus and a decrease in nitrate. Over time BOD and phosphorus would be expected to be consumed and migrate with groundwater flow downgradient, with nitrate potentially migrating from up-gradient locations back to the monitoring well or being sourced from the nitrification of ammonia. Instances where both nitrate and BOD remain elevated but phosphorus concentrations are low may indicate that phosphorus is a limiting nutrient to denitrification. The presence of nitrite can indicate incomplete conversion of nitrate to nitrogen gas and/or conversion of ammonia to nitrate via DNRA. Instances when BOD was greater than 10 mg/L and the nitrate/phosphorus mass ratio was greater than the target 50/1 ratio are indicated in **Table 8**. Such instances have occurred at least once at MW-4R, MW-12R, MW-21, and MW-23. Nitrite concentrations greater than 1 mg/L correspond to these instances at MW-12R and MW-21. Nitrite concentrations increased at MW-23 but remained below 1 mg/L. Elevated nitrite concentrations were also observed at MW-22; however, they did not correspond to events with both BOD greater than 10 mg/L and nitrate/phosphorus mass ratios above 50/1.

Collectively, phosphorus EISB performance monitoring data indicate that phosphorus may be limiting the denitrification of nitrate in some portions of the treatment zones. Future Site data will be analyzed to determine whether phosphorus is limiting within the residual treatment zone as it migrates to downgradient locations.

# 5.0 Modeling Update Summary

The following sub-sections provide a summary of updates to the Site-specific groundwater flow and transport model. Details regarding the original model development, such as hydrogeologic framework for the model, model code selection, groundwater flow model construction and calibration, transport modeling, and reactive transport modeling are available in the *Groundwater Flow and Transport Modeling Report* (Model Report; Stantec, 2021) which was included as an appendix to the GW Phase I Documentation Report (Stantec, 2022a).

The scope of the updates to the model was limited to incorporating details of the Phase II EISB injection and the results of the subsequent quarterly EISB performance monitoring events. The *Groundwater Flow and Transport Modeling Report: 2024 Addendum*, which provides greater detail regarding the model updates than what is provided in the summary sections below, is included in **Appendix L**.

## 5.1 MODEL UPDATE OBJECTIVES

The goal of the initial modeling activities, as documented in the Model Report (Stantec, 2021), was to create a quantitative tool capable of predicting groundwater flow, contaminant transport, and reaction of IHSs under varying conditions to:

- Support optimization of the Phase II remedy; and
- Estimate restoration timeframes for nitrate, 1,2-DCP, and dinoseb.

The specific objectives for the model update were focused on incorporating Phase II implementation details and updating estimated restoration timeframes, and are summarized below:

- Update the nitrate reactive transport model to incorporate Phase II injection details including the injection well locations, dates of injection, injection volumes, and acetate concentrations.
- Update the nitrate reactive transport model to include post-injection nitrate groundwater sampling results as concentration targets.
- Review calibration of the nitrate reactive transport model and make updates to the model as appropriate.
- Review groundwater sampling results for 1,2-DCP and dinoseb and compare the results to the assumptions included in the previous transport simulations of these parameters. Update the transport simulations for these parameters as appropriate.
- Update simulated remedy status and restoration timeframes.

## 5.2 MODEL UPDATE CONCLUSIONS AND RECOMMENDATIONS

**Conclusions**

Updates to the groundwater flow, transport, and reactive transport modeling are detailed in **Appendix L**. The first objective of the model update was to update the nitrate reactive transport model to incorporate details of the Phase II injection including the injection well locations, dates of injection, injection volumes, and acetate concentrations. Simulation of the Phase II injection (and time in between stages of injection) was split into five separate stress periods (**Appendix L – Table 1**). Additionally, the average injection rate and concentration of acetate in the injected fluid for each well and each injection stress were used in the updated reactive transport model (**Appendix L – Table 2**).

The second objective of the model update was to update the nitrate reactive transport model to include post-injection nitrate groundwater sampling results as concentration targets. Nitrate concentrations from 2004 through 2023 were added as transient concentration targets to the model (as detailed in Section 2.2 of **Appendix L**).

The third objective was to review calibration of the nitrate reactive transport model and make updates to the model as appropriate. Residual statistics for these targets are summarized in **Appendix L - Table 3** and graphs of the nitrate targets along with simulated nitrate concentrations are included in **Appendix L - Attachment A**. Qualitative and quantitative review of the calibration results indicated that the model simulates most of the key features of the nitrate plume prior to and after completion of the remedial injections. Exceptions included monitoring wells MW-3 and MW-12R which are located downgradient of and relatively close to the simulated source area. Some reductions and rebound of nitrate after injection were observed at these wells. The simulation included reduction of concentrations at these wells without significant rebound. Additional source areas were added to the model up-gradient of these monitoring wells (**Appendix L – Figure 2** and **Appendix L – Table 4**). The revised source areas improved the qualitative calibration to MW-3 and MW-12R without significantly changing the calibration to other targets. The revised nitrate reactive transport model was used to simulate 30 years after injection. Compared to the 2021 model results, the revised simulation shows more rapid expansion of the extent of the acetate treatment zone resulting in reduced nitrate plume sizes. These changes are attributed to the updated simulation of the remedy to include the Phase I injections as well as the Phase II injections. The changes are also attributed to the time between the start of the Phase I injections and the end of the Phase II injections which allow for more dispersion and advective transport to have occurred by the end of the injection period (**Appendix L – Figure 3** and **Appendix L – Figure 4**).

Although it is early in the modeled post-injection period, at select wells there appeared to be earlier rebound in nitrate concentrations in the Phase II EISB performance monitoring versus simulated nitrate concentrations in the updated model. Measured nitrate concentrations have rebounded faster than estimated in the model update (**Appendix L** – **Attachment A**) at MW-4R, MW-12R, MW-13, and MW-21. The model program does not support the addition of a second reduction-oxidation reaction to simulate ammonia nitrification, which may result in the difference between the measured and modeled nitrate in the updated simulation.

The fourth objective was to review groundwater sampling results for 1,2-DCP and dinoseb, compare the results to the assumptions included in the previous transport simulations, and update the transport simulations for these parameters as appropriate. Similarly, the fifth objective was to update simulated remedy status and restoration timeframes.

For 1,2-DCP, qualitative review of the graphs of concentrations over time (**Appendix L – Attachment B**) indicates that the previous trends were generally consistent with more recent sampling data. Updated 3-year UCL95 values for 1,2-DCP were interpolated to a grid (**Appendix L – Figure 5**). This grid was used as the initial concentrations in an updated forward simulation of 1,2-DCP. Compared to the 2021 modeling results, for the simulation using a 3.5-year half-life, the plume is still simulated to be depleted within 30 years although the plume extends further south at 5 and 15 years (**Appendix L – Figure 6**). The greater length of the plume is based on the higher initial concentrations at MW-19 and near the source area. Similarly, for the simulation using a 14.1-year half-life, the plume is predicted to extend further to the southeast compared to the 2021 modeling results (**Appendix L – Figure 7**).

For dinoseb, review of groundwater sampling results indicates that the acetate is effectively treating the dinoseb plume (**Appendix L – Attachment C**). Additional time for the acetate treatment zone to expand and for ongoing sampling to occur will facilitate further evaluation of the dinoseb transport model. The data reviewed as part of this model update support continued use of the 2021 forward simulation results for dinoseb.

**Recommendations**

Results from ongoing sampling as the acetate treatment zone expands will support additional evaluation of the model. We recommend updating the model as necessary after additional data have been collected. Future updates are expected to consider additional modifications to the simulated source areas and adjustments to the acetate-nitrate conversion ratio.

# 6.0 Conclusions and Recommendations

## 6.1 CONCLUSIONS

As planned in the GW Remedy Phase I Report (Stantec, 2022a), 40 new Phase II EISB injection wells were installed with approximate 20-foot spacing from February 22 to March 16, 2022. Phase II injection wells were constructed with 2-inch PVC and 15-foot mill-slotted screens as specified. Installed wells were developed with a combination of surging and purging prior to use in the Phase II injection.

The Phase II injection was completed to the 40 newly installed EISB injection wells in addition to seven Phase I EISB injection wells. Phase II injections were implemented in three stages from July 27 to August 18, September 15 to 29, and October 13 to 27, 2022. The Phase II individual injection well volume target (5,992 gallons) and mass targets (1,200 pounds sodium acetate and 5.4 pounds trisodium phosphate) were generally achieved with minor variations of 98.6-103.3% injection volume, 98.1-102.8% sodium acetate mass, and 98.6-103% trisodium phosphate.

Phase II EISB performance monitoring included a pre-treatment sampling event in July 2022 and five quarterly sampling events after the Phase II injection in December 2022, March 2023, May 2023, August 2023, and December 2023. Because of the previous Phase I injection activities in 2020, conditions at several monitoring wells during the Phase II pre-treatment sampling were likely influenced to varying levels by on-going and or residual EISB.

Following the Phase II injection, EISB conditions were indicated in at least one quarterly event at five of the six expected monitoring wells in the immediate treatment zones (**Table 6**). The lack of EISB conditions following the Phase II injection event at MW-4R may indicate that the injection failed to achieve the target injection radius of 10 feet at this location.

Significant decreases in nitrate were observed in MW-5R, MW-21, MW-22, and MW-23 during the Phase II EISB performance monitoring, with nitrate concentration reductions between approximately 69% to over 99% (compared to pre-treatment concentrations) at these locations (**Table 7**). Nitrate concentrations remained relatively stable at MW-4R and MW-12R after the Phase II injection and may be a result of the monitoring well location relative to the injection wells. Overall, the nitrate plume area based on 3-year UCL95 concentrations decreased by approximately 32% from 2017-2019 to 2021-2023 (**Figure 5**).

Dinoseb concentrations generally show a similar response as nitrate at each of the immediate treatment zone locations. Concentrations during the Phase II EISB performance monitoring showed decreases in dinoseb concentrations as compared to pre-treatment concentrations ranging from approximately 26% to over 99% (**Table 7**). Overall, the dinoseb plume area based on 3-year UCL95 concentrations decreased by approximately 28% from 2017-2019 to 2021-2023 (**Figure 6**).

The EISB groundwater remedy was not designed to directly remediate the 1,2-DCP plume at the Site. The 3-year UCL95 data indicated increases in 1,2-DCP concentrations near the source area and decreases in the downgradient portion of the plume. It is noted that the wells indicating increasing 1,2-DCP concentrations are located within the combined nitrate/ammonia plume while those with

decreasing concentrations are located outside of the ammonia plume but still in the nitrate plume. Overall, the 1,2-DCP plume area based on 3-year UCL95 concentrations decreased by approximately 12.3% from 2017-2019 to 2021-2023 (**Figure 7**).

Expected short-term increases in metals concentrations were observed in the immediate treatment zones, correlated to EISB conditions and inversely related to nitrate and dinoseb concentrations. As a result, significant increases in metal concentrations were observed during the Phase II EISB performance monitoring at MW-5R, MW-21, MW-22, and MW-23. However, 3-year UCL95 arsenic concentrations have decreased at many monitoring well locations between 2017-2019 and 2021-2023 despite EISB conditions associated with the groundwater remedy. The Phase II EISB performance monitoring data support that metal concentrations generally decrease to or below pre-treatment concentrations with the transition out of EISB conditions.

Ammonia is commingled with nitrate at the up-gradient portion of the groundwater plume with ammonia concentrations exceeding 100 mg/L at MW-3, MW-4R, MW-9, and MW-12R. Site data support that ammonia may be acting as an ongoing source of nitrate. At MW-4R and MW-12R, Phase II EISB performance monitoring nitrate reductions averaged approximately 29%, while when ammonia concentrations were less than 100 mg/L (at MW-5R, MW-21, MW-22, and MW-23), nitrate reductions averaged approximately 90%.

The relationship between nitrate, nitrite, BOD, and phosphorus in the Phase II EISB performance monitoring indicates that phosphorus may be limiting the denitrification of nitrate in some portions of the treatment zones. Instances where both nitrate and BOD were elevated but phosphorus concentrations were low may indicate that phosphorus is a limiting nutrient to denitrification and frequently corresponded to spikes in nitrite concentrations which can indicate the incomplete denitrification of nitrate.

Neither EISB conditions nor significant decreases in nitrate concentrations have been observed in locations downgradient of the IW Lines at monitoring wells MW-3, MW-9, MW-16, and MW-24. However, significant reductions in dinoseb concentrations have been indicated at downgradient monitoring wells MW-3, MW-9, and MW-16 with an average decrease of 72% from pre-treatment concentrations. Treatment responses of dinoseb may be indicated downgradient from the IW Lines before nitrate responses because, unlike nitrate with ammonia, there are no known reactions that would reconstitute it.

The Site-wide groundwater model was updated and recalibrated with data through the Phase II EISB performance monitoring.

- The nitrate reactive transport model was updated to incorporate details of the Phase II injection and nitrate concentrations from 2004 through 2023 were added as transient concentration targets to the model. Review of the calibration results indicated that the model simulates most of the key features of the nitrate plume prior to and after completion of the remedial injections. Additional simulated nitrate source areas were added to the model up-gradient of MW-3 and MW-12R to improve the qualitative calibration to the rebound observed at MW-3 and MW-12R without significantly changing the calibration to other targets. Compared to the 2021 model results, the revised simulation shows more rapid expansion of the extent of the acetate treatment zone resulting in reduced nitrate plume sizes. These changes are attributed to the updated simulation

of the remedy to include the Phase I injections as well as the Phase II injections. The changes are also attributed to the time between the start of the Phase I injections and the end of the Phase II injections which allow for more dispersion and advective transport to have occurred by the end of the injection period.

- For 1,2-DCP, review of groundwater sampling results indicates that the previous concentration trends were generally consistent with more recent sampling data. Updated 3-year UCL95 values for 1,2-DCP were interpolated to a grid which was used as the initial concentrations in an updated forward simulation of 1,2-DCP. Compared to the 2021 modeling results, for the simulation using a 3.5-year half-life, the plume is still simulated to be depleted within 30 years although the plume extends further south at 5 and 15 years. Similarly, for the simulation using a 14.1-year half-life, the plume is predicted to extend further to the southeast compared to the 2021 modeling results.

- For dinoseb, review of groundwater sampling results indicates that the acetate is treating the dinoseb plume. Additional time for the acetate treatment zone to expand and for ongoing sampling to occur will facilitate further evaluation of the dinoseb transport model. The data reviewed as part of this model update support continued use of the 2021 forward simulation results for dinoseb.

Although it is early in the modeled post-injection period, at select wells there appeared to be earlier rebound in nitrate concentrations in the Phase II EISB performance monitoring versus simulated nitrate concentrations; this may be attributable to ammonia nitrification which could not be factored into the model.

## 6.2 RECOMMENDATIONS

Based on the Phase II EISB groundwater remedy performance monitoring data and conclusions made in this report, it is recommended that the project remain in post-EISB groundwater remedy performance monitoring through at least 2026. The post-EISB monitoring after the Phase II injection began in First Quarter 2024 and is characterized by semi-annual groundwater monitoring at all Site monitoring wells as stipulated in the GW CMP (Stantec, 2019b), and the letter regarding the *Groundwater Remedy Compliance Monitoring Plan Proposed Changes to the Groundwater Remedy Performance Monitoring* dated February 14, 2020. The data collected during the post-EISB performance monitoring period will support the following objectives:

- Improve understanding of the residual treatment capacity of the Phase II injection.
    - EISB monitoring at MW-5R shows a sustained reduction of nitrate and decreasing ammonia concentrations; however, more data will be required to determine if there will be a rebound in nitrate concentrations as EISB conditions decline.
    - Nitrate concentrations following Phase I or Phase II injection have rebounded faster than expected at monitoring well locations MW-4R, MW-12R, and MW-21.
    - EISB conditions and corresponding responses in IHSs have not been seen to date in downgradient monitoring wells outside of the immediate treatment zones. At most wells, this was expected due to the groundwater flow and gradient; additional Site monitoring

data over time will help to evaluate if the acetate treatment zone may migrate downgradient or the acetate has been consumed in the immediate treatment zone.

- Improve understanding of the ammonia-nitrate interaction at the Site.
    - The Phase II EISB performance monitoring suggests that the effectiveness of the groundwater remedy to address nitrate concentrations is suppressed by elevated (>100 mg/L) ammonia concentrations.
    - There is a known biochemical mechanism for ammonia to act as an ongoing source of nitrate (via nitrification).
    - The post-EISB monitoring program adds ammonia analysis at several monitoring wells where it was not included in the EISB performance monitoring (MW-6, MW-8, MW-9, MW-11, MW-16, and MW-19).

- Improve understanding of acetate consumption within the Site aquifer.
    - Acetate consumption rates were updated in the GW Remedy Phase I Report (Stantec, 2022a) and have been used to simulate the acetate-nitrate reaction in the Site groundwater modeling.
    - Divergence between the simulated acetate and nitrate concentrations and Site groundwater BOD and nitrate concentrations may indicate acetate consumption is higher than was estimated in the GW Remedy Phase I Report.
    - Additional Site monitoring data over time will help determine to what extent the divergence is related to the acetate/BOD consumption rate and/or advective and dispersive flow in groundwater.

- Improve understanding of phosphorus consumption and migration within the Site aquifer.
    - The phosphorus application rate was increased from the Phase I to the Phase II injection to support the denitrification of nitrate.
    - Except for MW-5R, phosphorus concentrations within immediate treatment zones are not significantly higher than the 3Q22 concentrations prior to the Phase II injection.
    - Nitrate, nitrite, BOD, and phosphorus concentrations in the Phase II EISB performance monitoring indicate that phosphorus may be limiting the denitrification of nitrate in some portions of the treatment zones.
    - Additional Site monitoring data over time will help determine what factors are influencing phosphorus consumption in the aquifer.

The post-EISB groundwater remedy performance monitoring data collected through 2026 will be used to develop a plan for any additional active groundwater remedy actions or recommendations for continued post-EISB monitoring. This plan will include an updated calibration of the groundwater modeling for nitrate, dinoseb, and 1,2-DCP. Post-EISB groundwater remedy performance monitoring will continue until plans for any additional active groundwater remedy actions or alternate recommendations for continued post-EISB monitoring are approved and ready to be implemented.

# 7.0 Project Schedule

An initial implementation schedule was developed as required in the CAP and submitted to Ecology on August 5, 2013. There have been multiple schedule updates, and the most recent schedule was provided in the GW Remedy Phase I Report (Stantec, 2022a). Based on the current project understanding and recommendations, a proposed revised implementation schedule is included as **Figure 10**, and key activities pertaining to the Phase II groundwater remedy evaluation are summarized below:

- Submittal of *Phase II Groundwater Remedy As-Built and Documentation Report* – November 22, 2024.
- Post-EISB Performance Monitoring for Groundwater Remedy – estimated 3-year duration of semi-annual post-EISB groundwater remedy performance monitoring between January 29, 2024 and October 30, 2026.
- Determine Need for Additional Groundwater Remedy Actions – estimated between January 4 and September 30, 2027.
- Performance of Long-Term Groundwater Monitoring for Groundwater Remedy (if additional groundwater remedy actions are not required) – estimated 3-year duration of confirmatory groundwater monitoring between January 25, 2027 and October 26, 2029.

Please note that the schedule is tentative, and delays encountered in approvals, planning, and/or implementation or the need for additional injection events or groundwater remedy components would result in delay of the subsequent tasks.

# 8.0 References

Ecology, 2013. *Consent Decree No. 132017660*, State of Washington, Yakima County Superior Court, May 28.

Stantec, 2016. *Groundwater Remedy Engineering Design Report*, November 15.

Stantec, 2019a. *Groundwater Remedy Construction Plans and Specifications*, May 1.

Stantec, 2019b. *Groundwater Remedy Compliance Monitoring Plan*, May 1.

Stantec, 2019c. *Five-Year Periodic Review*, December 16.

Stantec, 2021. *Groundwater Flow and Transport Modeling Report*, July 30.

Stantec, 2022a. *Groundwater Remedy Phase I As-Built and Documentation Report*, February 18.

Stantec, 2022b. *Third Quarter 2022 Groundwater Monitoring Report,* November 11,

WAC, 2007. *MTCA Cleanup Regulation*, WAC 173-340-400, October 12.

# TABLES

# Table 1
## Phase II Well Construction Details
Groundwater Remedy Phase II As-Built and Documentation Report
Bee-Jay Scales, Sunnyside, Washington

| Well ID | Installation Date | Northing State Plane[1] | Easting State Plane[1] | Top of Casing Elevation (ft amsl)[1,2] | Ground Surface Elevation (ft amsl)[1,2] | Well Depth (ft bgs) | Boring Depth (ft bgs) | Screen Length (ft) | Depth to Top of Screen (ft bgs) | Depth to Bottom of Screen (ft bgs) | Top of Screen Elevation (ft amsl) | Bottom of Screen Elevation (ft amsl) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| IW-1-1[A] | 10/29/2019 | 363036.234 | 1761976.759 | 745.55 | 745.85 | 27.0 | 28.0 | 15 | 12.0 | 27.0 | 733.85 | 718.85 |
| IW-1-2[A] | 3/8/2022 | 363054.100 | 1761976.260 | 745.46 | 745.86 | 26.0 | 27.0 | 15 | 11.0 | 26.0 | 734.86 | 719.86 |
| IW-1-3[A] | 3/9/2022 | 363076.850 | 1761977.170 | 745.80 | 745.41 | 26.0 | 27.0 | 15 | 11.0 | 26.0 | 734.41 | 719.41 |
| IW-1-4[A] | 3/9/2022 | 363096.730 | 1761976.010 | 745.46 | 745.84 | 26.0 | 27.0 | 15 | 11.0 | 26.0 | 734.84 | 719.84 |
| IW-2-2 | 3/10/2022 | 363141.04 | 1762170.13 | 745.45 | 745.93 | 27.0 | 28.0 | 15 | 12.0 | 27.0 | 733.93 | 718.93 |
| IW-2-3 | 3/10/2022 | 363044.37 | 1762170.12 | 745.24 | 745.53 | 27.0 | 28.0 | 15 | 12.0 | 27.0 | 733.53 | 718.53 |
| IW-2-4 | 3/10/2022 | 363065.48 | 1762171.09 | 744.78 | 745.07 | 26.0 | 27.0 | 15 | 11.0 | 26.0 | 734.07 | 719.07 |
| IW-2-5 | 3/10/2022 | 363084.51 | 1762168.91 | 744.26 | 744.76 | 26.0 | 27.0 | 15 | 11.0 | 26.0 | 733.76 | 718.76 |
| IW-2-6 | 3/9/2022 | 363104.60 | 1762168.46 | 744.17 | 744.51 | 26.0 | 27.0 | 15 | 11.0 | 26.0 | 733.51 | 718.51 |
| IW-2-7 | 3/11/2022 | 363124.86 | 1762168.77 | 744.53 | 744.83 | 27.0 | 28.0 | 15 | 12.0 | 27.0 | 732.83 | 717.83 |
| IW-3-1[A] | 10/28/2019 | 363023.949 | 1762133.614 | 745.21 | 745.65 | 27.0 | 28.0 | 15 | 12.0 | 27.0 | 733.65 | 718.65 |
| IW-3-2[A] | 10/21/2019 | 363024.818 | 1762223.365 | 745.11 | 745.69 | 27.0 | 28.0 | 15 | 12.0 | 27.0 | 733.69 | 718.69 |
| IW-3-3 | 3/3/2022 | 363021.89 | 1761910.31 | 745.44 | 745.75 | 26.0 | 27.0 | 15 | 11.0 | 26.0 | 734.75 | 719.75 |
| IW-3-4 | 3/4/2022 | 363022.02 | 1761930.31 | 745.46 | 745.80 | 26.0 | 27.0 | 15 | 11.0 | 26.0 | 734.80 | 719.80 |
| IW-3-5 | 3/4/2022 | 363023.14 | 1761947.26 | 745.41 | 745.70 | 27.0 | 28.0 | 15 | 12.0 | 27.0 | 733.70 | 718.70 |
| IW-3-6 | 3/4/2022 | 363022.48 | 1761970.40 | 745.44 | 745.79 | 27.0 | 28.0 | 15 | 12.0 | 27.0 | 733.79 | 718.79 |
| IW-3-7 | 3/8/2022 | 363024.28 | 1761991.79 | 745.29 | 745.64 | 27.0 | 28.0 | 15 | 12.0 | 27.0 | 733.64 | 718.64 |
| IW-3-8 | 3/16/2022 | 363022.36 | 1762013.44 | 745.33 | 745.69 | 27.0 | 28.0 | 15 | 12.0 | 27.0 | 733.69 | 718.69 |
| IW-3-9 | 3/15/2022 | 363022.97 | 1762033.31 | 745.38 | 745.79 | 27.0 | 28.0 | 15 | 12.0 | 27.0 | 733.79 | 718.79 |
| IW-3-10 | 3/15/2022 | 363023.42 | 1762053.37 | 745.44 | 745.90 | 27.0 | 28.0 | 15 | 12.0 | 27.0 | 733.90 | 718.90 |
| IW-3-11 | 3/15/2022 | 363023.31 | 1762073.42 | 745.41 | 745.84 | 27.0 | 28.0 | 15 | 12.0 | 27.0 | 733.84 | 718.84 |
| IW-3-12 | 3/14/2022 | 363019.93 | 1762094.82 | 745.42 | 745.83 | 27.0 | 28.0 | 15 | 12.0 | 27.0 | 733.83 | 718.83 |
| IW-3-13 | 3/14/2022 | 363024.32 | 1762114.36 | 745.57 | 745.93 | 27.0 | 28.0 | 15 | 12.0 | 27.0 | 733.93 | 718.93 |
| IW-3-14 | 3/14/2022 | 363021.82 | 1762153.46 | 745.20 | 745.68 | 27.0 | 28.0 | 15 | 12.0 | 27.0 | 733.68 | 718.68 |
| IW-3-15 | 3/11/2022 | 363028.00 | 1762169.95 | 745.31 | 745.70 | 27.0 | 28.0 | 15 | 12.0 | 27.0 | 733.70 | 718.70 |
| IW-3-16 | 3/8/2022 | 363024.73 | 1762187.67 | 745.31 | 745.71 | 27.0 | 28.0 | 15 | 12.0 | 27.0 | 733.71 | 718.71 |
| IW-3-17 | 3/7/2022 | 363024.78 | 1762205.73 | 745.22 | 745.46 | 27.0 | 28.0 | 15 | 12.0 | 27.0 | 733.46 | 718.46 |
| IW-3-18 | 3/7/2022 | 363024.30 | 1762243.58 | 745.51 | 745.86 | 27.0 | 28.0 | 15 | 12.0 | 27.0 | 733.86 | 718.86 |
| IW-3-19 | 3/7/2022 | 363023.94 | 1762263.53 | 745.53 | 745.91 | 27.0 | 28.0 | 15 | 12.0 | 27.0 | 733.91 | 718.91 |
| IW-3-20 | 3/7/2022 | 363023.66 | 1762283.41 | 745.64 | 746.03 | 27.0 | 28.0 | 15 | 12.0 | 27.0 | 734.03 | 719.03 |
| IW-4-1[A] | 10/23/2019 | 362886.832 | 1761978.204 | 745.23 | 745.53 | 27.0 | 28.0 | 15 | 12.0 | 27.0 | 733.53 | 718.53 |
| IW-4-2[A] | 10/23/2019 | 362888.860 | 1762037.042 | 744.96 | 745.43 | 27.0 | 28.0 | 15 | 12.0 | 27.0 | 733.43 | 718.43 |
| IW-4-3[A] | 10/22/2019 | 362885.692 | 1762095.469 | 745.07 | 745.47 | 27.0 | 28.0 | 15 | 12.0 | 27.0 | 733.47 | 718.47 |
| IW-4-4[A] | 10/22/2019 | 362885.534 | 1762156.431 | 745.16 | 745.49 | 27.0 | 28.0 | 15 | 12.0 | 27.0 | 733.49 | 718.49 |
| IW-4-5 | 3/3/2022 | 362887.72 | 1761958.29 | 745.17 | 745.48 | 27.0 | 28.0 | 15 | 12.0 | 27.0 | 733.48 | 718.48 |
| IW-4-6 | 3/3/2022 | 362887.66 | 1761997.83 | 745.24 | 745.45 | 27.0 | 28.0 | 15 | 12.0 | 27.0 | 733.45 | 718.45 |
| IW-4-7 | 3/2/2022 | 362887.89 | 1762017.42 | 745.11 | 745.39 | 27.0 | 28.0 | 15 | 12.0 | 27.0 | 733.39 | 718.39 |
| IW-4-8 | 3/2/2022 | 362893.07 | 1762057.38 | 744.96 | 745.31 | 27.0 | 28.0 | 15 | 12.0 | 27.0 | 733.31 | 718.31 |
| IW-4-9 | 3/2/2022 | 362887.52 | 1762075.98 | 745.17 | 745.29 | 27.0 | 28.0 | 15 | 12.0 | 27.0 | 733.29 | 718.29 |
| IW-4-10 | 3/1/2022 | 362887.86 | 1762115.73 | 745.05 | 745.38 | 27.0 | 28.0 | 15 | 12.0 | 27.0 | 733.38 | 718.38 |
| IW-4-11 | 3/1/2022 | 362887.29 | 1762135.91 | 745.11 | 745.37 | 27.0 | 28.0 | 15 | 12.0 | 27.0 | 733.37 | 718.37 |
| IW-4-12 | 3/1/2022 | 362887.78 | 1762176.27 | 745.24 | 745.50 | 27.0 | 28.0 | 15 | 12.0 | 27.0 | 733.50 | 718.50 |
| IW-4-13 | 3/1/2022 | 362887.65 | 1762196.19 | 745.32 | 745.58 | 27.0 | 28.0 | 15 | 12.0 | 27.0 | 733.58 | 718.58 |
| IW-4-14 | 2/24/2022 | 362887.69 | 1762216.40 | 745.40 | 745.61 | 27.0 | 28.0 | 15 | 12.0 | 27.0 | 733.61 | 718.61 |
| IW-4-15 | 2/24/2022 | 362887.75 | 1762236.24 | 745.29 | 745.69 | 27.0 | 28.0 | 15 | 12.0 | 27.0 | 733.69 | 718.69 |
| IW-4-16 | 2/24/2022 | 362887.36 | 1762255.57 | 745.45 | 745.74 | 27.0 | 28.0 | 15 | 12.0 | 27.0 | 733.74 | 718.74 |
| IW-4-17 | 2/23/2022 | 362887.52 | 1762276.14 | 745.50 | 745.80 | 27.0 | 28.0 | 15 | 12.0 | 27.0 | 733.80 | 718.80 |
| MW-22 | 3/9/2022 | 363103.16 | 1761976.13 | 745.20 | 745.77 | 15.0 | 16.0 | 10 | 5.0 | 15.0 | 740.77 | 730.77 |
| MW-23 | 2/22/2022 | 362891.77 | 1762251.44 | 745.29 | 745.79 | 17.0 | 18.0 | 10 | 7.0 | 17.0 | 738.79 | 728.79 |
| MW-24 | 2/22/2022 | 362809.17 | 1762230.96 | 744.62 | 745.07 | 18.0 | 19.0 | 10 | 8.0 | 18.0 | 737.07 | 727.07 |

**Notes:**
[1] Survey completed by AHBL
[2] Elevation in NAVD88
[A] Injection well installed for Phase I Injection and also used during Phase II injection.
ft amsl = feet above mean sea level
ft bgs = feet below ground surface

**Table 2**
**Well Development Summary**
Groundwater Remedy Phase II As-Built and Documentation Report
Bee-Jay Scales, Sunnyside, Washington

| Well ID | Date | Initial Well Depth (ft btoc) | Final Well Depth (ft btoc) | Well Casing Volume (gallons) | Approximate Purge Volume (gallons) | Well Volumes Purged |
|---|---|---|---|---|---|---|
| IW-1-2 | 3/14/2022 | 25.63 | 25.94 | 3.10 | 26.0 | 8.4 |
| IW-1-3 | 3/14/2022 | 25.90 | 26.19 | 3.17 | 21.0 | 6.6 |
| IW-1-4 | 3/11/2022 | 25.70 | 26.35 | 3.15 | 30.0 | 9.5 |
| IW-2-2 | 3/15/2022 | 25.60 | 26.94 | 3.08 | 30.0 | 9.7 |
| IW-2-3 | 3/16/2022 | 27.04 | 27.04 | 3.28 | 25.0 | 7.6 |
| IW-2-4 | 3/16/2022 | 25.66 | 26.12 | 3.13 | 30.0 | 9.6 |
| IW-2-5 | 3/15/2022 | 25.95 | 25.95 | 3.26 | 30.0 | 9.2 |
| IW-2-6 | 3/15/2022 | 26.03 | 26.04 | 3.34 | 30.0 | 9.0 |
| IW-2-7 | 3/15/2022 | 26.96 | 27.14 | 3.46 | 30.0 | 8.7 |
| IW-3-3 | 3/4/2022 | 23.96 | 26.09 | 2.84 | 30.0 | 10.5 |
| IW-3-4 | 3/7/2022 | 25.97 | 26.03 | 3.18 | 35.0 | 11.0 |
| IW-3-5 | 3/7/2022 | 26.63 | 27.06 | 3.23 | 30.0 | 9.3 |
| IW-3-6 | 3/7/2022 | 24.30 | 27.20 | 2.84 | 30.0 | 10.6 |
| IW-3-7 | 3/14/2022 | 26.80 | 26.82 | 3.25 | 30.0 | 9.2 |
| IW-3-8 | 3/16/2022 | 26.83 | 27.09 | 3.26 | 30.0 | 9.2 |
| IW-3-9 | 3/16/2022 | 26.51 | 26.89 | 3.13 | 30.0 | 9.6 |
| IW-3-10 | 3/16/2022 | 26.49 | 27.07 | 3.12 | 25.0 | 8.0 |
| IW-3-11 | 3/16/2022 | 24.22 | 26.97 | 2.76 | 32.0 | 11.6 |
| IW-3-12 | 3/16/2022 | 26.38 | 26.38 | 3.09 | 30.0 | 9.7 |
| IW-3-13 | 3/16/2022 | 26.85 | 26.94 | 3.15 | 28.0 | 8.9 |
| IW-3-14 | 3/16/2022 | 26.03 | 26.81 | 2.99 | 25.0 | 8.4 |
| IW-3-15 | 3/16/2022 | 27.03 | 27.03 | 3.21 | 25.0 | 7.8 |
| IW-3-16 | 3/11/2022 | 26.62 | 26.62 | 3.14 | 35.0 | 11.2 |
| IW-3-17 | 3/11/2022 | 26.94 | 27.01 | 3.22 | 30.0 | 9.3 |
| IW-3-18 | 3/10/2022 | 26.69 | 26.99 | 3.04 | 30.0 | 9.9 |
| IW-3-19 | 3/8/2022 | 27.17 | 27.17 | 3.05 | 30.0 | 9.8 |
| IW-3-20 | 3/8/2022 | 26.92 | 26.94 | 2.89 | 30.0 | 10.4 |
| IW-4-5 | 3/4/2022 | 24.88 | 24.88 | 2.83 | 35.0 | 12.4 |
| IW-4-6 | 3/4/2022 | 24.37 | 27.04 | 2.69 | 35.0 | 13.0 |
| IW-4-7 | 3/4/2022 | 24.09 | 26.59 | 2.67 | 38.0 | 14.3 |
| IW-4-8 | 3/3/2022 | 25.70 | 26.93 | 2.94 | 35.0 | 11.9 |
| IW-4-9 | 3/3/2022 | 25.95 | 27.01 | 2.94 | 30.0 | 10.2 |
| IW-4-10 | 3/3/2022 | 26.90 | 27.14 | 3.11 | 30.0 | 9.6 |
| IW-4-11 | 3/2/2022 | 26.09 | 27.22 | 2.94 | 25.0 | 8.5 |
| IW-4-12 | 3/2/2022 | 26.76 | 26.76 | 3.03 | 25.0 | 8.2 |
| IW-4-13 | 3/2/2022 | 24.81 | 26.77 | 2.70 | 27.0 | 10.0 |
| IW-4-14 | 3/1/2022 | 23.45 | 27.08 | 2.42 | 30.0 | 12.4 |
| IW-4-15 | 2/25/2022 | 24.93 | 26.87 | 2.62 | 35.0 | 13.3 |
| IW-4-16 | 2/25/2022 | 27.00 | 27.00 | 2.91 | 23.0 | 7.9 |
| IW-4-17 | 2/25/2022 | 27.10 | 27.10 | 2.81 | 40.0 | 14.3 |
| MW-22 | 3/11/2022 | 14.74 | 14.75 | 1.38 | 15.0 | 10.9 |
| MW-23 | 2/25/2022 | 16.25 | 17.24 | 1.11 | 8.0 | 7.2 |
| MW-24 | 2/25/2022 | 17.58 | 17.88 | 1.42 | 17.0 | 12.0 |

**Notes:**
ft btoc = feet below top of casing

**Table 3**
**Phase II Injection Summary**
Groundwater Remedy Phase II As-Built and Documentation Report
Bee-Jay Scales, Sunnyside, Washington

| Well ID | Injection Start Date | Injection End Date | Total Injection Volume (gallons) | Total Injection Duration (minutes) | Injection Rate Range (gpm) | Average Injection Rate (gpm) | Sodium Acetate Mass Injected (pounds) | Trisodium Phosphate Mass Injected (grams) |
|---|---|---|---|---|---|---|---|---|
| **Individual Injection Well Targets** | | | **5,992.0** | **--** | **--** | **1.2-1.5** | **1,200.0** | **2,449.4** |
| IW-1-1 | 10/13/2022 | 10/27/2022 | 6,019.1 | 5,241 | 0.799 - 1.676 | 1.20 | 1,213.0 | 2,471.6 |
| IW-1-2 | 10/13/2022 | 10/27/2022 | 5,960.9 | 5,241 | 0.318 - 1.688 | 1.18 | 1,187.7 | 2,427.2 |
| IW-1-3 | 10/13/2022 | 10/27/2022 | 5,979.7 | 5,241 | 0.664 - 1.732 | 1.19 | 1,212.5 | 2,463.3 |
| IW-1-4 | 10/13/2022 | 10/27/2022 | 5,991.5 | 5,241 | 0.608 - 2.143 | 1.21 | 1,210.4 | 2,471.0 |
| IW-2-2 | 7/27/2022 | 8/18/2022 | 6,011.6 | 5,781 | 0.592 - 1.753 | 1.09 | 1,205.7 | 2,445.6 |
| IW-2-3 | 10/13/2022 | 10/26/2022 | 6,085.7 | 5,015 | 0.713 - 1.723 | 1.22 | 1,194.1 | 2,494.5 |
| IW-2-4 | 10/13/2022 | 10/26/2022 | 5,885.3 | 5,015 | 0.878 - 4.313 | 1.23 | 1,190.6 | 2,425.5 |
| IW-2-5 | 7/27/2022 | 8/18/2022 | 6,005.5 | 5,782 | 0.310 - 1.611 | 1.09 | 1,197.4 | 2,437.5 |
| IW-2-6 | 7/27/2022 | 8/18/2022 | 5,971.6 | 5,782 | 0.430 - 2.116 | 1.08 | 1,193.1 | 2,436.9 |
| IW-2-7 | 7/27/2022 | 8/18/2022 | 5,952.2 | 5,781 | 0.475 - 1.670 | 1.06 | 1,194.2 | 2,455.6 |
| IW-3-1 | 10/13/2022 | 10/26/2022 | 5,976.0 | 5,015 | 1.030 - 1.747 | 1.24 | 1,187.9 | 2,415.7 |
| IW-3-2 | 7/27/2022 | 8/18/2022 | 6,023.7 | 5,779 | 0.378 - 1.619 | 1.07 | 1,203.2 | 2,458.2 |
| IW-3-3 | 10/13/2022 | 10/27/2022 | 6,157.1 | 5,241 | 0.890 - 1.897 | 1.24 | 1,239.7 | 2,521.6 |
| IW-3-4 | 10/13/2022 | 10/27/2022 | 5,984.7 | 5,241 | 0.673 - 2.041 | 1.15 | 1,183.2 | 2,423.2 |
| IW-3-5 | 10/13/2022 | 10/27/2022 | 5,886.2 | 5,241 | 0.603 - 1.728 | 1.15 | 1,187.3 | 2,428.4 |
| IW-3-6 | 10/13/2022 | 10/27/2022 | 5,941.5 | 5,241 | 0.605 - 1.648 | 1.18 | 1,187.8 | 2,427.7 |
| IW-3-7 | 10/13/2022 | 10/27/2022 | 5,981.7 | 5,241 | 0.492 - 1.797 | 1.20 | 1,195.2 | 2,447.1 |
| IW-3-8 | 10/13/2022 | 10/27/2022 | 5,877.3 | 5,241 | 0.661 - 2.197 | 1.15 | 1,183.1 | 2,418.8 |
| IW-3-9 | 10/13/2022 | 10/26/2022 | 6,024.8 | 5,015 | 0.850 - 2.020 | 1.26 | 1,200.6 | 2,443.3 |
| IW-3-10 | 10/13/2022 | 10/26/2022 | 6,022.3 | 5,015 | 0.280 - 1.565 | 1.26 | 1,198.6 | 2,442.5 |
| IW-3-11 | 10/13/2022 | 10/26/2022 | 6,053.0 | 5,015 | 0.824 - 1.628 | 1.22 | 1,193.8 | 2,468.0 |
| IW-3-12 | 10/13/2022 | 10/26/2022 | 5,993.8 | 5,015 | 0.738 - 1.675 | 1.25 | 1,198.3 | 2,447.1 |
| IW-3-13 | 10/13/2022 | 10/26/2022 | 6,049.0 | 5,015 | 0.937 - 1.691 | 1.27 | 1,197.2 | 2,444.0 |
| IW-3-14 | 10/13/2022 | 10/26/2022 | 6,046.7 | 5,015 | 0.870 - 1.746 | 1.22 | 1,193.5 | 2,459.7 |
| IW-3-15 | 10/13/2022 | 10/26/2022 | 6,020.3 | 5,015 | 0.697 - 1.553 | 1.23 | 1,195.5 | 2,465.6 |
| IW-3-16 | 7/27/2022 | 8/18/2022 | 5,969.8 | 5,783 | 0.452 - 2.023 | 1.09 | 1,202.2 | 2,448.0 |
| IW-3-17 | 7/27/2022 | 8/18/2022 | 6,043.5 | 5,783 | 0.033 - 1.631 | 1.08 | 1,192.7 | 2,438.2 |
| IW-3-18 | 7/27/2022 | 8/18/2022 | 6,093.5 | 5,785 | 0.522 - 2.181 | 1.06 | 1,204.4 | 2,465.4 |
| IW-3-19 | 7/27/2022 | 8/18/2022 | 6,003.0 | 5,785 | 0.601 - 1.392 | 1.04 | 1,204.6 | 2,474.7 |
| IW-3-20 | 7/27/2022 | 8/18/2022 | 5,951.3 | 5,786 | 0.551 - 2.970 | 1.08 | 1,202.5 | 2,442.8 |
| IW-4-1 | 9/15/2022 | 9/29/2022 | 6,104.1 | 5,532 | 0.0312 - 1.506 | 1.15 | 1,202.6 | 2,437.9 |
| IW-4-2 | 9/15/2022 | 9/29/2022 | 6,051.9 | 5,532 | 0.582 - 1.898 | 1.12 | 1,197.8 | 2,446.0 |
| IW-4-3 | 9/15/2022 | 9/29/2022 | 6,019.3 | 5,532 | 0.326 - 1.595 | 1.13 | 1,193.4 | 2,440.3 |
| IW-4-4 | 9/15/2022 | 9/28/2022 | 5,983.4 | 5,389 | 0.243 - 1.765 | 1.16 | 1,198.2 | 2,448.6 |
| IW-4-5 | 9/15/2022 | 9/29/2022 | 6,126.0 | 5,532 | 0.331 - 1.966 | 1.14 | 1,199.9 | 2,463.7 |
| IW-4-6 | 9/15/2022 | 9/29/2022 | 6,043.1 | 5,532 | 0.095 - 1.472 | 1.13 | 1,197.4 | 2,440.8 |
| IW-4-7 | 9/15/2022 | 9/29/2022 | 6,091.3 | 5,532 | 0.460 - 1.592 | 1.13 | 1,200.5 | 2,441.9 |
| IW-4-8 | 9/15/2022 | 9/29/2022 | 6,039.6 | 5,532 | 0.501 - 1.556 | 1.12 | 1,201.9 | 2,443.5 |
| IW-4-9 | 9/15/2022 | 9/29/2022 | 6,024.2 | 5,532 | 0.567 - 1.566 | 1.12 | 1,196.5 | 2,447.7 |
| IW-4-10 | 9/15/2022 | 9/29/2022 | 6,041.2 | 5,532 | 0.648 - 1.774 | 1.11 | 1,210.0 | 2,480.4 |
| IW-4-11 | 9/15/2022 | 9/28/2022 | 5,972.8 | 5,389 | 0.675 - 1.593 | 1.18 | 1,200.0 | 2,448.9 |
| IW-4-12 | 9/15/2022 | 9/28/2022 | 5,989.9 | 5,389 | 0.512 - 1.756 | 1.18 | 1,207.8 | 2,448.2 |
| IW-4-13 | 9/15/2022 | 9/28/2022 | 5,969.6 | 5,389 | 0.766 - 1.839 | 1.12 | 1,196.7 | 2,455.5 |
| IW-4-14 | 9/15/2022 | 9/28/2022 | 5,986.3 | 5,389 | 0.510 - 1.553 | 1.18 | 1,203.9 | 2,446.1 |
| IW-4-15 | 9/15/2022 | 9/28/2022 | 6,035.3 | 5,389 | 0.795 - 1.546 | 1.19 | 1,195.1 | 2,446.7 |
| IW-4-16 | 9/15/2022 | 9/28/2022 | 6,057.1 | 5,389 | 0.663 - 1.509 | 1.15 | 1,201.6 | 2,450.2 |
| IW-4-17 | 9/15/2022 | 9/28/2022 | 6,016.6 | 5,389 | 0.727 - 1.539 | 1.14 | 1,196.8 | 2,453.2 |
| **Total Injection Volume and Mass** | | | **282,514.0** | **--** | **--** | **--** | **56,351.1** | **115,148.3** |

**Notes:**
gpm = gallons per minute
Stage 1
Stage 2
Stage 3

**Table 4**
**Cumulative Site Groundwater Elevations (2005-Present)**
Groundwater Remedy Phase II As-Built and Documentation Report
Bee-Jay Scales, Sunnyside, Washington

| Well ID | Quarter[1] | Date | TOC Elevation[2] (feet above MSL) | Depth to GW (feet below TOC) | GW Elevation (feet above MSL) |
|---|---|---|---|---|---|
| MW-1 | 3Q05 | 09/28/05 | 749.45 | 11.67 | 737.78 |
| | 4Q05 | 01/11/06 | 749.45 | 10.74 | 738.71 |
| | 1Q06 | 03/28/06 | 749.45 | 11.12 | 738.33 |
| | 2Q06 | 06/26/06 | 749.45 | 11.29 | 738.16 |
| | 3Q06 | 09/18/06 | 749.45 | 11.87 | 737.58 |
| | 4Q06 | 12/18/06 | 749.45 | 11.39 | 738.06 |
| | 1Q07 | 03/19/07 | 749.45 | 11.35 | 738.10 |
| | 2Q07 | 06/25/07 | 749.45 | 11.68 | 737.77 |
| | 3Q07 | 09/18/07 | 749.45 | 11.81 | 737.64 |
| | 4Q07 | 12/17/07 | 749.45 | 11.18 | 738.27 |
| | 1Q08 | 03/11/08 | 749.45 | 11.30 | 738.15 |
| | 2Q08 | 06/16/08 | 749.45 | 11.70 | 737.75 |
| | 3Q08 | 09/08/08 | 749.45 | 11.94 | 737.51 |
| | 1Q09 | 03/10/09 | 749.45 | 11.47 | 737.98 |
| | 3Q09 | 09/14/09 | 749.45 | 12.25 | 737.20 |
| | 1Q10 | 03/09/10 | 749.45 | 11.04 | 738.41 |
| | 3Q10 | 08/30/10 | 749.45 | 11.78 | 737.67 |
| | 1Q11 | 03/08/11 | 749.45 | 11.21 | 738.24 |
| | 3Q11 | 09/12/11 | 749.45 | 11.75 | 737.70 |
| | 1Q12 | 03/12/12 | 749.45 | 11.24 | 738.21 |
| | 3Q12 | 08/29/12 | 749.45 | 11.67 | 737.78 |
| | 1Q13 | 03/04/13 | 749.45 | 11.41 | 738.04 |
| | 3Q13 | 08/22/13 | 749.45 | 12.98 | 736.47 |
| | 4Q13 | 12/02/13 | 749.45 | 11.65 | 737.80 |
| | 1Q14 | 03/10/14 | 749.45 | 11.23 | 738.22 |
| | 2Q14 | 05/19/14 | 749.45 | 11.36 | 738.09 |
| | 3Q14 | 09/08/14 | 749.45 | 11.80 | 737.65 |
| | 1Q15 | 02/13/15 | 749.45 | 11.05 | 738.40 |
| | 3Q15 | 08/11/15 | 749.45 | 11.85 | 737.60 |
| | 1Q16 | 02/22/16 | 749.45 | 10.85 | 738.60 |
| | 3Q16 | 08/22/16 | 749.45 | 11.89 | 737.56 |
| | 1Q17 | 02/28/17 | 749.45 | 10.30 | 739.15 |
| | 3Q17 | 09/19/17 | 749.45 | 11.80 | 737.65 |
| | 1Q18 | 03/05/18 | 749.45 | 11.25 | 738.20 |
| | 3Q18 | 08/27/18 | 749.45 | 12.01 | 737.44 |
| | 1Q19 | 03/19/19 | 749.45 | 10.95 | 738.50 |
| | 3Q19 | 08/19/19 | 749.45 | 11.94 | 737.51 |
| | 1Q20 | 03/09/20 | 749.45 | 11.56 | 737.89 |
| | 3Q20 | 08/31/20 | 749.45 | 11.97 | 737.48 |
| | 4Q20 | 11/11/20 | 749.45 | 7.65 | 741.80 |
| | 1Q21 | 02/23/21 | 749.45 | 11.30 | 738.15 |
| | 2Q21 | 05/11/21 | 749.45 | 11.58 | 737.87 |
| | 3Q21 | 09/14/21 | 749.45 | 11.63 | 737.82 |
| | 1Q22 | 03/28/22 | 749.45 | 11.55 | 737.90 |
| | 3Q22 | 07/11/22 | 749.45 | 11.60 | 737.85 |
| | 4Q22 | 12/06/22 | 749.45 | 11.62 | 737.83 |
| | 1Q23 | 03/06/23 | 749.45 | 11.38 | 738.07 |
| | 2Q23 | 05/16/23 | 749.45 | 11.54 | 737.91 |
| | 3Q23 | 08/21/23 | 749.45 | 12.20 | 737.25 |
| | 4Q23 | 12/05/23 | 749.45 | 11.64 | 737.81 |

**Table 4**
**Cumulative Site Groundwater Elevations (2005-Present)**
Groundwater Remedy Phase II As-Built and Documentation Report
Bee-Jay Scales, Sunnyside, Washington

| Well ID | Quarter[1] | Date | TOC Elevation[2] (feet above MSL) | Depth to GW (feet below TOC) | GW Elevation (feet above MSL) |
|---|---|---|---|---|---|
| MW-3 | 3Q05 | 09/28/05 | 744.52 | 7.23 | 737.29 |
| | 4Q05 | 01/11/06 | 744.52 | 5.31 | 739.21 |
| | 1Q06 | 03/28/06 | 744.52 | 6.68 | 737.84 |
| | 2Q06 | 06/26/06 | 744.52 | 6.72 | 737.80 |
| | 3Q06 | 09/18/06 | 744.52 | 7.50 | 737.02 |
| | 4Q06 | 12/18/06 | 744.52 | 6.40 | 738.12 |
| | 1Q07 | 03/19/07 | 744.52 | 6.93 | 737.59 |
| | 2Q07 | 06/25/07 | 744.52 | 7.18 | 737.34 |
| | 3Q07 | 09/18/07 | 744.52 | 7.35 | 737.17 |
| | 4Q07 | 12/17/07 | 744.52 | 6.49 | 738.03 |
| | 1Q08 | 03/11/08 | 744.52 | 6.85 | 737.67 |
| | 2Q08 | 06/16/08 | 744.52 | 7.11 | 737.41 |
| | 3Q08 | 09/08/08 | 744.52 | 7.60 | 736.92 |
| | 1Q09 | 03/10/09 | 744.52 | 6.71 | 737.81 |
| | 3Q09 | 09/14/09 | 744.52 | 7.86 | 736.66 |
| | 1Q10 | 03/09/10 | 744.52 | 6.52 | 738.00 |
| | 3Q10 | 08/30/10 | 744.52 | 7.40 | 737.12 |
| | 1Q11 | 03/08/11 | 744.52 | 6.78 | 737.74 |
| | 3Q11 | 09/12/11 | 744.52 | 7.30 | 737.22 |
| | 1Q12 | 03/12/12 | 744.52 | 6.79 | 737.73 |
| | 3Q12 | 08/29/12 | 744.52 | 7.20 | 737.32 |
| | 1Q13 | 03/04/13 | 744.52 | 7.01 | 737.51 |
| | 3Q13 | 08/22/13 | 744.52 | 7.72 | 736.80 |
| | 4Q13 | 12/02/13 | 744.52 | 7.15 | 737.37 |
| | 1Q14 | 03/10/14 | 744.52 | 6.48 | 738.04 |
| | 2Q14 | 05/19/14 | 744.52 | 6.82 | 737.70 |
| | 3Q14 | 09/08/14 | 744.52 | 7.35 | 737.17 |
| | 1Q15 | 02/13/15 | 744.52 | 6.49 | 738.03 |
| | 3Q15 | 08/11/15 | 744.52 | 7.32 | 737.20 |
| | 1Q16 | 02/22/16 | 744.52 | 6.29 | 738.23 |
| | 3Q16 | 08/22/16 | 744.52 | 7.39 | 737.13 |
| | 1Q17 | 02/28/17 | 744.52 | 5.13 | 739.39 |
| | 3Q17 | 09/18/17 | 744.52 | 7.24 | 737.28 |
| | 1Q18 | 03/05/18 | 744.52 | 6.85 | 737.67 |
| | 3Q18 | 08/27/18 | 744.52 | 7.45 | 737.07 |
| | 1Q19 | 03/19/19 | 744.52 | 6.00 | 738.52 |
| | 3Q19 | 08/19/19 | 744.52 | 7.32 | 737.20 |
| | 1Q20 | 03/09/20 | 744.52 | 7.09 | 737.43 |
| | 3Q20 | 08/31/20 | 744.52 | 7.41 | 737.11 |
| | 4Q20 | 11/11/20 | 744.52 | 7.09 | 737.43 |
| | 1Q21 | 02/23/21 | 744.52 | 6.42 | 738.10 |
| | 2Q21 | 05/11/21 | 744.52 | 7.15 | 737.37 |
| | 3Q21 | 09/14/21 | 744.52 | 7.20 | 737.32 |
| | 1Q22 | 03/28/22 | 744.52 | 7.04 | 737.48 |
| | 3Q22 | 07/11/22 | 744.52 | 6.88 | 737.64 |
| | 4Q22 | 12/06/22 | 744.52 | 7.10 | 737.42 |
| | 1Q23 | 03/06/23 | 744.52 | 6.52 | 738.00 |
| | 2Q23 | 05/16/23 | 744.52 | 7.03 | 737.49 |
| | 3Q23 | 08/21/23 | 744.52 | 7.70 | 736.82 |
| | 4Q23 | 12/05/23 | 744.52 | 6.64 | 737.88 |

**Table 4**
**Cumulative Site Groundwater Elevations (2005-Present)**
Groundwater Remedy Phase II As-Built and Documentation Report
Bee-Jay Scales, Sunnyside, Washington

| Well ID | Quarter[1] | Date | TOC Elevation[2] (feet above MSL) | Depth to GW (feet below TOC) | GW Elevation (feet above MSL) |
|---|---|---|---|---|---|
| MW-4 | 3Q05 | 09/28/05 | 744.65 | 8.30 | 736.35 |
| | 4Q05 | 01/11/06 | 744.65 | 7.03 | 737.62 |
| | 1Q06 | 03/28/06 | 744.65 | 7.83 | 736.82 |
| | 2Q06 | 06/26/06 | 744.65 | 9.15 | 735.50 |
| | 3Q06 | 09/18/06 | 744.65 | 8.52 | 736.13 |
| | 4Q06 | 12/18/06 | 744.65 | 7.80 | 736.85 |
| | 1Q07 | 03/19/07 | 744.65 | 8.07 | 736.58 |
| | 2Q07 | 06/25/07 | 744.65 | 8.31 | 736.34 |
| | 3Q07 | 09/18/07 | 744.65 | 8.45 | 736.20 |
| | 4Q07 | 12/17/07 | 744.65 | 7.68 | 736.97 |
| | 1Q08 | 03/11/08 | 744.65 | 8.04 | 736.61 |
| | 2Q08 | 06/16/08 | 744.65 | 8.32 | 736.33 |
| | 3Q08 | 09/08/08 | 744.65 | 8.82 | 735.83 |
| | 1Q09 | 03/10/09 | 744.65 | 8.04 | 736.61 |
| | 3Q09 | 09/14/09 | 744.65 | 8.96 | 735.69 |
| | 1Q10 | 03/09/10 | 744.65 | 7.71 | 736.94 |
| | 3Q10 | 08/30/10 | 744.65 | 8.54 | 736.11 |
| | 1Q11 | 03/08/11 | 744.65 | 7.94 | 736.71 |
| | 3Q11 | 09/12/11 | 744.65 | 8.45 | 736.20 |
| | 1Q12 | 03/12/12 | 744.65 | 7.90 | 736.75 |
| | 3Q12 | 08/29/12 | 744.65 | 8.30 | 736.35 |
| | 1Q13 | 03/04/13 | 744.65 | 8.13 | 736.52 |
| | 3Q13 | 08/22/13 | 744.65 | 8.46 | 736.19 |
| | 4Q13 | 12/02/13 | 744.65 | 8.27 | 736.38 |
| | 1Q14 | 03/10/14 | 744.65 | 7.68 | 736.97 |
| | 2Q14 | 05/19/14 | 744.65 | 7.98 | 736.67 |
| | Well Destroyed in June 2014 | | | | |
| MW-4R | 1Q15 | 02/13/15 | 745.52 | 7.68 | 737.84 |
| | 3Q15 | 08/11/15 | 745.52 | 8.47 | 737.05 |
| | 1Q16 | 02/22/16 | 745.52 | 7.11 | 738.41 |
| | 3Q16 | 08/22/16 | 745.52 | 8.45 | 737.07 |
| | 1Q17 | 02/28/17 | 745.52 | 6.05 | 739.47 |
| | 3Q17 | 09/19/17 | 745.52 | 8.34 | 737.18 |
| | 1Q18 | 03/05/18 | 745.52 | 8.08 | 737.44 |
| | 3Q18 | 08/27/18 | 745.52 | 8.63 | 736.89 |
| | 1Q19 | 03/19/19 | 745.52 | 7.04 | 738.48 |
| | 3Q19 | 08/19/19 | 745.52 | 8.48 | 737.04 |
| | 1Q20 | 03/09/20 | 745.52 | 8.34 | 737.18 |
| | 3Q20 | 08/31/20 | 745.52 | 8.55 | 736.97 |
| | 4Q20[12] | 11/11/20 | 745.52 | 8.32 | 737.20 |
| | 1Q21 | 02/23/21 | 745.52 | 7.84 | 737.68 |
| | 2Q21 | 05/11/21 | 745.52 | 8.32 | 737.20 |
| | 3Q21 | 09/14/21 | 745.52 | 8.47 | 737.05 |
| | 1Q22 | 03/28/22 | 745.52 | 8.23 | 737.29 |
| | 3Q22 | 07/11/22 | 745.52 | 8.15 | 737.37 |
| | 4Q22 | 12/06/22 | 745.52 | 8.29 | 737.23 |
| | 1Q23 | 03/06/23 | 745.52 | 7.97 | 737.55 |
| | 2Q23 | 05/16/23 | 745.52 | 8.23 | 737.29 |
| | 3Q23 | 08/21/23 | 745.52 | 8.77 | 736.75 |
| | 4Q23 | 12/05/23 | 745.52 | 8.12 | 737.40 |

**Table 4**
**Cumulative Site Groundwater Elevations (2005-Present)**
Groundwater Remedy Phase II As-Built and Documentation Report
Bee-Jay Scales, Sunnyside, Washington

| Well ID | Quarter[1] | Date | TOC Elevation[2] (feet above MSL) | Depth to GW (feet below TOC) | GW Elevation (feet above MSL) |
|---|---|---|---|---|---|
| MW-5 | 3Q05 | 09/28/05 | 744.70 | 7.82 | 736.88 |
| | 4Q05 | 01/11/06 | 744.70 | 6.50 | 738.20 |
| | 1Q06 | 03/28/06 | 744.70 | 7.36 | 737.34 |
| | 2Q06 | 06/26/06 | 744.70 | 7.46 | 737.24 |
| | 3Q06 | 09/18/06 | 744.70 | 8.03 | 736.67 |
| | 4Q06 | 12/18/06 | 744.70 | 7.34 | 737.36 |
| | 1Q07 | 03/19/07 | 744.70 | 7.62 | 737.08 |
| | 2Q07 | 06/25/07 | 744.70 | 7.99 | 736.71 |
| | 3Q07 | 09/18/07 | 744.70 | 7.97 | 736.73 |
| | 4Q07 | 12/17/07 | 744.70 | 7.21 | 737.49 |
| | 1Q08 | 03/11/08 | 744.70 | 7.67 | 737.03 |
| | 2Q08 | 06/16/08 | 744.70 | 7.90 | 736.80 |
| | 3Q08 | 09/08/08 | 744.70 | 8.15 | 736.55 |
| | 1Q09 | 03/10/09 | 744.70 | 7.70 | 737.00 |
| | 3Q09 | 09/14/09 | 744.70 | 8.45 | 736.25 |
| | 1Q10 | 03/09/10 | 744.70 | 7.30 | 737.40 |
| | 3Q10 | 08/30/10 | 744.70 | 8.04 | 736.66 |
| | 1Q11 | 03/08/11 | 744.70 | 7.50 | 737.20 |
| | 3Q11[8] | 09/12/11 | 744.70 | NA | NA |
| | 1Q12 | 03/12/12 | 744.70 | 7.41 | 737.29 |
| | 3Q12 | 08/29/12 | 744.70 | 7.75 | 736.95 |
| | 1Q13 | 03/04/13 | 744.70 | 7.67 | 737.03 |
| | 3Q13 | 08/22/13 | 744.70 | 8.01 | 736.69 |
| | 4Q13 | 12/02/13 | 744.70 | 7.76 | 736.94 |
| | 1Q14 | 03/10/14 | 744.70 | 7.26 | 737.44 |
| | 2Q14 | 05/19/14 | 744.70 | 7.50 | 737.20 |
| | Well Destroyed in June 2014 | | | | |
| MW-5R | 1Q15 | 02/13/15 | 745.47 | 7.29 | 738.18 |
| | 3Q15 | 08/11/15 | 745.47 | 8.03 | 737.44 |
| | 1Q16 | 02/22/16 | 745.47 | 6.93 | 738.54 |
| | 3Q16 | 08/22/16 | 745.47 | 7.98 | 737.49 |
| | 1Q17 | 02/28/17 | 745.47 | 5.63 | 739.84 |
| | 3Q17 | 09/19/17 | 745.47 | 7.87 | 737.60 |
| | 1Q18 | 03/05/18 | 745.47 | 7.70 | 737.77 |
| | 3Q18 | 08/27/18 | 745.47 | 8.11 | 737.36 |
| | 1Q19 | 03/19/19 | 745.47 | 6.90 | 738.57 |
| | 3Q19 | 08/19/19 | 745.47 | 8.09 | 737.38 |
| | 1Q20 | 03/09/20 | 745.47 | 7.88 | 737.59 |
| | 3Q20 | 08/31/20 | 745.47 | 8.14 | 737.33 |
| | 4Q20 | 11/11/20 | 745.47 | 7.84 | 737.63 |
| | 1Q21 | 02/23/21 | 745.47 | 7.53 | 737.94 |
| | 2Q21 | 05/11/21 | 745.47 | 7.94 | 737.53 |
| | 3Q21 | 09/14/21 | 745.47 | 8.08 | 737.39 |
| | 1Q22 | 03/28/22 | 745.47 | 7.84 | 737.63 |
| | 3Q22 | 07/11/22 | 745.47 | 7.78 | 737.69 |
| | 4Q22 | 12/06/22 | 745.47 | 7.85 | 737.62 |
| | 1Q23 | 03/06/23 | 745.47 | 7.79 | 737.68 |
| | 2Q23 | 05/16/23 | 745.47 | 7.80 | 737.67 |
| | 3Q23 | 08/21/23 | 745.47 | 8.27 | 737.20 |
| | 4Q23 | 12/05/23 | 745.47 | 7.74 | 737.73 |

**Table 4**
**Cumulative Site Groundwater Elevations (2005-Present)**
Groundwater Remedy Phase II As-Built and Documentation Report
Bee-Jay Scales, Sunnyside, Washington

| Well ID | Quarter[1] | Date | TOC Elevation[2] (feet above MSL) | Depth to GW (feet below TOC) | GW Elevation (feet above MSL) |
|---|---|---|---|---|---|
| MW-6 | 3Q05 | 09/28/05 | 745.35 | 6.71 | 738.64 |
| | 4Q05 | 01/11/06 | 745.35 | 5.51 | 739.84 |
| | 1Q06 | 03/28/06 | 745.35 | 6.37 | 738.98 |
| | 2Q06 | 06/26/06 | 745.35 | 6.51 | 738.84 |
| | 3Q06 | 09/18/06 | 745.35 | 6.95 | 738.40 |
| | 4Q06 | 12/18/06 | 745.35 | 6.26 | 739.09 |
| | 1Q07 | 03/19/07 | 745.35 | 6.62 | 738.73 |
| | 2Q07 | 06/25/07 | 745.35 | 7.60 | 737.75 |
| | 3Q07 | 09/18/07 | 745.35 | 6.90 | 738.45 |
| | 4Q07 | 12/17/07 | 745.35 | 6.18 | 739.17 |
| | 1Q08 | 03/11/08 | 745.35 | 6.76 | 738.59 |
| | 2Q08 | 06/16/08 | 745.35 | 6.98 | 738.37 |
| | 3Q08 | 09/08/08 | 745.35 | 7.15 | 738.20 |
| | 1Q09 | 03/10/09 | 745.35 | 6.85 | 738.50 |
| | 3Q09 | 09/14/09 | 745.35 | 7.48 | 737.87 |
| | 1Q10 | 03/09/10 | 745.35 | 6.32 | 739.03 |
| | 3Q10 | 08/30/10 | 745.35 | 6.95 | 738.40 |
| | 1Q11 | 03/08/11 | 745.35 | 6.48 | 738.87 |
| | 3Q11 | 09/12/11 | 745.35 | 6.81 | 738.54 |
| | 1Q12 | 03/12/12 | 745.35 | 6.35 | 739.00 |
| | 3Q12 | 08/29/12 | 745.35 | 6.57 | 738.78 |
| | 1Q13 | 03/04/13 | 745.35 | 6.64 | 738.71 |
| | 3Q13 | 08/22/13 | 745.35 | 6.90 | 738.45 |
| | 4Q13 | 12/02/13 | 745.35 | 6.70 | 738.65 |
| | 1Q14 | 03/10/14 | 745.35 | 6.35 | 739.00 |
| | 2Q14 | 05/19/14 | 745.35 | 6.50 | 738.85 |
| | 3Q14 | 09/08/14 | 745.35 | 6.74 | 738.61 |
| | 1Q15 | 02/13/15 | 745.35 | 6.12 | 739.23 |
| | 3Q15 | 08/11/15 | 745.35 | 6.82 | 738.53 |
| | 1Q16 | 02/22/16 | 745.35 | 5.97 | 739.38 |
| | 3Q16 | 08/22/16 | 745.35 | 6.70 | 738.65 |
| | 1Q17 | 02/28/17 | 745.35 | 4.85 | 740.50 |
| | 3Q17 | 09/18/17 | 745.35 | 6.57 | 738.78 |
| | 1Q18 | 03/05/18 | 745.35 | 6.50 | 738.85 |
| | 3Q18 | 08/27/18 | 745.35 | 7.03 | 738.32 |
| | 1Q19 | 03/19/19 | 745.35 | 5.80 | 739.55 |
| | 3Q19 | 08/19/19 | 745.35 | 6.90 | 738.45 |
| | 1Q20 | 03/09/20 | 745.35 | 7.84 | 737.51 |
| | 3Q20 | 08/31/20 | 745.35 | 6.94 | 738.41 |
| | 4Q20 | 11/11/20 | 745.35 | 6.62 | 738.73 |
| | 1Q21 | 02/23/21 | 745.35 | 6.22 | 739.13 |
| | 2Q21 | 05/11/21 | 745.35 | 6.76 | 738.59 |
| | 3Q21 | 09/14/21 | 745.35 | 6.86 | 738.49 |
| | 1Q22 | 03/28/22 | 745.35 | 6.74 | 738.61 |
| | 3Q22 | 07/11/22 | 745.35 | 6.59 | 738.76 |
| | 4Q22 | 12/06/22 | 745.35 | 6.64 | 738.71 |
| | 1Q23 | 03/06/23 | 745.35 | 6.50 | 738.85 |
| | 2Q23 | 05/16/23 | 745.35 | 6.79 | 738.56 |
| | 3Q23[13] | 08/21/23 | 745.35 | NA | NA |
| | 4Q23[13] | 12/05/23 | 745.35 | NA | NA |

**Table 4**
**Cumulative Site Groundwater Elevations (2005-Present)**
Groundwater Remedy Phase II As-Built and Documentation Report
Bee-Jay Scales, Sunnyside, Washington

| Well ID | Quarter[1] | Date | TOC Elevation[2] (feet above MSL) | Depth to GW (feet below TOC) | GW Elevation (feet above MSL) |
|---|---|---|---|---|---|
| MW-7 | 3Q05 | 09/28/05 | 748.27 | 10.65 | 737.62 |
| | 4Q05 | 01/11/06 | 748.27 | 9.76 | 738.51 |
| | 1Q06 | 03/28/06 | 748.27 | 10.22 | 738.05 |
| | 2Q06 | 06/26/06 | 748.27 | 10.39 | 737.88 |
| | 3Q06 | 09/18/06 | 748.27 | 10.85 | 737.42 |
| | 4Q06 | 12/18/06 | 748.27 | 10.45 | 737.82 |
| | 1Q07 | 03/19/07 | 748.27 | 10.39 | 737.88 |
| | 2Q07 | 06/25/07 | 748.27 | 10.69 | 737.58 |
| | 3Q07 | 09/18/07 | 748.27 | 10.79 | 737.48 |
| | 4Q07 | 12/17/07 | 748.27 | 10.22 | 738.05 |
| | 1Q08 | 03/11/08 | 748.27 | 10.42 | 737.85 |
| | 2Q08 | 06/16/08 | 748.27 | 10.75 | 737.52 |
| | 3Q08 | 09/08/08 | 748.27 | 10.91 | 737.36 |
| | 1Q09 | 03/10/09 | 748.27 | 10.50 | 737.77 |
| | 3Q09 | 09/14/09 | 748.27 | 11.25 | 737.02 |
| | 1Q10 | 03/09/10 | 748.27 | 10.15 | 738.12 |
| | 3Q10 | 08/30/10 | 748.27 | 10.78 | 737.49 |
| | 1Q11 | 03/08/11 | 748.27 | 10.30 | 737.97 |
| | 3Q11 | 09/12/11 | 748.27 | 10.78 | 737.49 |
| | 1Q12 | 03/12/12 | 748.27 | 10.30 | 737.97 |
| | 3Q12 | 08/29/12 | 748.27 | 10.60 | 737.67 |
| | 1Q13 | 03/04/13 | 748.27 | 10.45 | 737.82 |
| | 3Q13 | 08/22/13 | 748.27 | 11.01 | 737.26 |
| | 4Q13 | 12/02/13 | 748.27 | 10.68 | 737.59 |
| | 1Q14 | 03/10/14 | 748.27 | 10.41 | 737.86 |
| | 2Q14 | 05/19/14 | 748.27 | 10.45 | 737.82 |
| | 3Q14 | 09/08/14 | 748.27 | 10.82 | 737.45 |
| | 1Q15 | 02/13/15 | 748.27 | 10.11 | 738.16 |
| | 3Q15 | 08/11/15 | 748.27 | 10.93 | 737.34 |
| | 1Q16 | 02/22/16 | 748.27 | 10.00 | 738.27 |
| | 3Q16 | 08/22/16 | 748.27 | 10.93 | 737.34 |
| | 1Q17 | 02/28/17 | 748.27 | 9.13 | 739.14 |
| | 3Q17 | 09/19/17 | 748.27 | 10.94 | 737.33 |
| | 1Q18 | 03/05/18 | 748.27 | 10.41 | 737.86 |
| | 3Q18 | 08/27/18 | 748.27 | 11.10 | 737.17 |
| | 1Q19 | 03/19/19 | 748.27 | 10.03 | 738.24 |
| | 3Q19 | 08/19/19 | 748.27 | 10.99 | 737.28 |
| | 1Q20 | 03/09/20 | 748.27 | 10.65 | 737.62 |
| | 3Q20 | 08/31/20 | 748.27 | 11.08 | 737.19 |
| | 4Q20 | 11/11/20 | 748.27 | 10.75 | 737.52 |
| | 1Q21 | 02/23/21 | 748.27 | 10.42 | 737.85 |
| | 2Q21 | 05/11/21 | 748.27 | 10.67 | 737.60 |
| | 3Q21 | 09/14/21 | 748.27 | 11.11 | 737.16 |
| | 1Q22 | 03/28/22 | 748.27 | 10.65 | 737.62 |
| | 3Q22 | 07/11/22 | 748.27 | 10.70 | 737.57 |
| | 4Q22 | 12/06/22 | 748.27 | 10.77 | 737.50 |
| | 1Q23 | 03/06/23 | 748.27 | 10.57 | 737.70 |
| | 2Q23 | 05/16/23 | 748.27 | 10.68 | 737.59 |
| | 3Q23 | 08/21/23 | 748.27 | 11.35 | 736.92 |
| | 4Q23 | 12/05/23 | 748.27 | 10.76 | 737.51 |

**Table 4**
**Cumulative Site Groundwater Elevations (2005-Present)**
Groundwater Remedy Phase II As-Built and Documentation Report
Bee-Jay Scales, Sunnyside, Washington

| Well ID | Quarter[1] | Date | TOC Elevation[2] (feet above MSL) | Depth to GW (feet below TOC) | GW Elevation (feet above MSL) |
|---|---|---|---|---|---|
| MW-8 | 3Q05 | 09/28/05 | 744.88 | 7.04 | 737.84 |
| | 4Q05 | 01/11/06 | 744.88 | 5.58 | 739.30 |
| | 1Q06 | 03/28/06 | 744.88 | 6.48 | 738.40 |
| | 2Q06 | 06/26/06 | 744.88 | 6.59 | 738.29 |
| | 3Q06 | 09/18/06 | 744.88 | 7.28 | 737.60 |
| | 4Q06 | 12/18/06 | 744.88 | 6.38 | 738.50 |
| | 1Q07 | 03/19/07 | 744.88 | 6.67 | 738.21 |
| | 2Q07 | 06/25/07 | 744.88 | 7.03 | 737.85 |
| | 3Q07 | 09/18/07 | 744.88 | 7.15 | 737.73 |
| | 4Q07 | 12/17/07 | 744.88 | 6.28 | 738.60 |
| | 1Q08 | 03/11/08 | 744.88 | 6.65 | 738.23 |
| | 2Q08 | 06/16/08 | 744.88 | 7.01 | 737.87 |
| | 3Q08 | 09/08/08 | 744.88 | 7.39 | 737.49 |
| | 1Q09 | 03/10/09 | 744.88 | 6.61 | 738.27 |
| | 3Q09 | 09/14/09 | 744.88 | 7.79 | 737.09 |
| | 1Q10 | 03/09/10 | 744.88 | 6.45 | 738.43 |
| | 3Q10 | 08/30/10 | 744.88 | 7.20 | 737.68 |
| | 1Q11 | 03/08/11 | 744.88 | 6.52 | 738.36 |
| | 3Q11 | 09/12/11 | 744.88 | 7.18 | 737.70 |
| | 1Q12 | 03/12/12 | 744.88 | 6.57 | 738.31 |
| | 3Q12 | 08/29/12 | 744.88 | 7.05 | 737.83 |
| | 1Q13 | 03/04/13 | 744.88 | 6.75 | 738.13 |
| | 3Q13 | 08/22/13 | 744.88 | 7.31 | 737.57 |
| | 4Q13 | 12/02/13 | 744.88 | 7.00 | 737.88 |
| | 1Q14 | 03/10/14 | 744.88 | 6.39 | 738.49 |
| | 2Q14 | 05/19/14 | 744.88 | 6.68 | 738.20 |
| | 3Q14 | 09/08/14 | 744.88 | 7.13 | 737.75 |
| | 1Q15 | 02/13/15 | 744.88 | 6.30 | 738.58 |
| | 3Q15 | 08/11/15 | 744.88 | 7.09 | 737.79 |
| | 1Q16 | 02/22/16 | 744.88 | 6.30 | 738.58 |
| | 3Q16 | 08/22/16 | 744.88 | 7.11 | 737.77 |
| | 1Q17 | 02/28/17 | 744.88 | 5.12 | 739.76 |
| | 3Q17 | 09/19/17 | 744.88 | 7.00 | 737.88 |
| | 1Q18 | 03/05/18 | 744.88 | 6.59 | 738.29 |
| | 3Q18 | 08/27/18 | 744.88 | 7.27 | 737.61 |
| | 1Q19 | 03/19/19 | 744.88 | 6.22 | 738.66 |
| | 3Q19 | 08/19/19 | 744.88 | 7.09 | 737.79 |
| | 1Q20 | 03/09/20 | 744.88 | 6.93 | 737.95 |
| | 3Q20 | 08/31/20 | 744.88 | 7.30 | 737.58 |
| | 4Q20 | 11/11/20 | 744.88 | 6.90 | 737.98 |
| | 1Q21 | 02/23/21 | 744.88 | 6.44 | 738.44 |
| | 2Q21 | 05/11/21 | 744.88 | 6.95 | 737.93 |
| | 3Q21 | 09/14/21 | 744.88 | 7.22 | 737.66 |
| | 1Q22 | 03/28/22 | 744.88 | 6.91 | 737.97 |
| | 3Q22 | 07/11/22 | 744.88 | 6.66 | 738.22 |
| | 4Q22 | 12/06/22 | 744.88 | 6.73 | 738.15 |
| | 1Q23 | 03/06/23 | 744.88 | 6.44 | 738.44 |
| | 2Q23 | 05/16/23 | 744.88 | 6.81 | 738.07 |
| | 3Q23 | 08/21/23 | 744.88 | 7.54 | 737.34 |
| | 4Q23 | 12/05/23 | 744.88 | 6.90 | 737.98 |

**Table 4**
**Cumulative Site Groundwater Elevations (2005-Present)**
Groundwater Remedy Phase II As-Built and Documentation Report
Bee-Jay Scales, Sunnyside, Washington

| Well ID | Quarter[1] | Date | TOC Elevation[2] (feet above MSL) | Depth to GW (feet below TOC) | GW Elevation (feet above MSL) |
|---|---|---|---|---|---|
| MW-9 | 3Q05 | 09/28/05 | 744.77 | 8.31 | 736.46 |
| | 4Q05 | 01/11/06 | 744.77 | 7.04 | 737.73 |
| | 1Q06 | 03/28/06 | 744.77 | 7.91 | 736.86 |
| | 2Q06 | 06/26/06 | 744.77 | 8.45 | 736.32 |
| | 3Q06 | 09/18/06 | 744.77 | 8.45 | 736.32 |
| | 4Q06 | 12/18/06 | 744.77 | 7.86 | 736.91 |
| | 1Q07 | 03/19/07 | 744.77 | 8.15 | 736.62 |
| | 2Q07 | 06/25/07 | 744.77 | 8.65 | 736.12 |
| | 3Q07 | 09/18/07 | 744.77 | 8.40 | 736.37 |
| | 4Q07 | 12/17/07 | 744.77 | 7.78 | 736.99 |
| | 1Q08 | 03/11/08 | 744.77 | 8.11 | 736.66 |
| | 2Q08 | 06/16/08 | 744.77 | 8.34 | 736.43 |
| | 3Q08[4] | 09/10/08 | 744.77 | 8.61 | 736.16 |
| | 1Q09[6] | 03/12/09 | 744.77 | 8.15 | 736.62 |
| | 3Q09 | 09/14/09 | 744.77 | 8.74 | 736.03 |
| | 1Q10 | 03/09/10 | 744.77 | 7.75 | 737.02 |
| | 3Q10 | 08/30/10 | 744.77 | 8.50 | 736.27 |
| | 1Q11 | 03/08/11 | 744.77 | 8.00 | 736.77 |
| | 3Q11 | 09/12/11 | 744.77 | 8.34 | 736.43 |
| | 1Q12 | 03/12/12 | 744.77 | 8.00 | 736.77 |
| | 3Q12 | 08/29/12 | 744.77 | 8.24 | 736.53 |
| | 1Q13 | 03/04/13 | 744.77 | 8.23 | 736.54 |
| | 3Q13 | 08/22/13 | 744.77 | 8.49 | 736.28 |
| | 4Q13 | 12/02/13 | 744.77 | 8.17 | 736.60 |
| | 1Q14 | 03/10/14 | 744.77 | 7.80 | 736.97 |
| | 2Q14 | 05/19/14 | 744.77 | 8.12 | 736.65 |
| | 3Q14 | 09/08/14 | 744.77 | 8.27 | 736.50 |
| | 1Q15 | 02/13/15 | 744.77 | 7.72 | 737.05 |
| | 3Q15 | 08/11/15 | 744.77 | 8.40 | 736.37 |
| | 1Q16 | 02/22/16 | 744.77 | 7.53 | 737.24 |
| | 3Q16 | 08/22/16 | 744.77 | 8.37 | 736.40 |
| | 1Q17[11] | 03/02/17 | 744.77 | 6.34 | 738.43 |
| | 3Q17 | 09/18/17 | 744.77 | 8.26 | 736.51 |
| | 1Q18 | 03/05/18 | 744.77 | 7.69 | 737.08 |
| | 3Q18 | 08/27/18 | 744.77 | 8.57 | 736.20 |
| | 1Q19 | 03/19/19 | 744.77 | 7.37 | 737.40 |
| | 3Q19 | 08/19/19 | 744.77 | 8.41 | 736.36 |
| | 1Q20 | 03/09/20 | 744.77 | 8.28 | 736.49 |
| | 3Q20 | 08/31/20 | 744.77 | 8.45 | 736.32 |
| | 4Q20 | 11/11/20 | 744.77 | 8.25 | 736.52 |
| | 1Q21 | 02/23/21 | 744.77 | 7.79 | 736.98 |
| | 2Q21 | 05/11/21 | 744.77 | 8.28 | 736.49 |
| | 3Q21 | 09/14/21 | 744.77 | 8.45 | 736.32 |
| | 1Q22 | 03/28/22 | 744.77 | 8.22 | 736.55 |
| | 3Q22 | 07/11/22 | 744.77 | 8.08 | 736.69 |
| | 4Q22 | 12/06/22 | 744.77 | 8.28 | 736.49 |
| | 1Q23 | 03/06/23 | 744.77 | 7.98 | 736.79 |
| | 2Q23 | 05/16/23 | 744.77 | 8.22 | 736.55 |
| | 3Q23 | 08/21/23 | 744.77 | 8.66 | 736.11 |
| | 4Q23 | 12/05/23 | 744.77 | 8.10 | 736.67 |

**Table 4**
**Cumulative Site Groundwater Elevations (2005-Present)**
Groundwater Remedy Phase II As-Built and Documentation Report
Bee-Jay Scales, Sunnyside, Washington

| Well ID | Quarter[1] | Date | TOC Elevation[2] (feet above MSL) | Depth to GW (feet below TOC) | GW Elevation (feet above MSL) |
|---|---|---|---|---|---|
| MW-10 | 3Q05 | 09/28/05 | 745.95 | 6.48 | 739.47 |
| | 4Q05 | 01/11/06 | 745.95 | 5.46 | 740.49 |
| | 1Q06 | 03/28/06 | 745.95 | 6.21 | 739.74 |
| | 2Q06 | 06/26/06 | 745.95 | 6.35 | 739.60 |
| | 3Q06 | 09/18/06 | 745.95 | 6.75 | 739.20 |
| | 4Q06 | 12/18/06 | 745.95 | 6.45 | 739.50 |
| | 1Q07 | 03/19/07 | 745.95 | 6.43 | 739.52 |
| | 2Q07 | 06/25/07 | 745.95 | 6.88 | 739.07 |
| | 3Q07 | 09/18/07 | 745.95 | 6.70 | 739.25 |
| | 4Q07 | 12/17/07 | 745.95 | 6.06 | 739.89 |
| | 1Q08 | 03/11/08 | 745.95 | 6.59 | 739.36 |
| | 2Q08 | 06/16/08 | 745.95 | 6.81 | 739.14 |
| | 3Q08 | 09/08/08 | 745.95 | 6.95 | 739.00 |
| | 1Q09 | 03/10/09 | 745.95 | 6.72 | 739.23 |
| | 3Q09 | 09/14/09 | 745.95 | 7.30 | 738.65 |
| | 1Q10 | 03/09/10 | 745.95 | 6.09 | 739.86 |
| | 3Q10 | 08/30/10 | 745.95 | 6.74 | 739.21 |
| | 1Q11 | 03/08/11 | 745.95 | 6.31 | 739.64 |
| | 3Q11 | 09/12/11 | 745.95 | 6.54 | 739.41 |
| | 1Q12 | 03/12/12 | 745.95 | 6.16 | 739.79 |
| | 3Q12 | 08/29/12 | 745.95 | 6.30 | 739.65 |
| | 1Q13 | 03/04/13 | 745.95 | 6.42 | 739.53 |
| | 3Q13 | 08/22/13 | 745.95 | 6.72 | 739.23 |
| | 4Q13 | 12/02/13 | 745.95 | 6.50 | 739.45 |
| | 1Q14 | 03/10/14 | 745.95 | 6.36 | 739.59 |
| | 2Q14 | 05/19/14 | 745.95 | 6.29 | 739.66 |
| | 3Q14 | 09/08/14 | 745.95 | 6.59 | 739.36 |
| | 1Q15 | 02/13/15 | 745.95 | 5.91 | 740.04 |
| | 3Q15 | 08/11/15 | 745.95 | 6.58 | 739.37 |
| | 1Q16 | 02/22/16 | 745.95 | 5.80 | 740.15 |
| | 3Q16 | 08/22/16 | 745.95 | 6.46 | 739.49 |
| | 1Q17 | 02/28/17 | 745.95 | 4.83 | 741.12 |
| | 3Q17 | 09/19/17 | 745.95 | 6.32 | 739.63 |
| | 1Q18 | 03/05/18 | 745.95 | 6.23 | 739.72 |
| | 3Q18 | 08/27/18 | 745.95 | 6.81 | 739.14 |
| | 1Q19 | 03/19/19 | 745.95 | 5.75 | 740.20 |
| | 3Q19 | 08/19/19 | 745.95 | 6.71 | 739.24 |
| | 1Q20 | 03/09/20 | 745.95 | 6.63 | 739.32 |
| | 3Q20 | 08/31/20 | 745.95 | 6.70 | 739.25 |
| | 4Q20 | 11/11/20 | 745.95 | 6.38 | 739.57 |
| | 1Q21 | 02/23/21 | 745.95 | 6.00 | 739.95 |
| | 2Q21 | 05/11/21 | 745.95 | 6.55 | 739.40 |
| | 3Q21 | 09/14/21 | 745.95 | 6.64 | 739.31 |
| | 1Q22 | 03/28/22 | 745.95 | 6.52 | 739.43 |
| | 3Q22 | 07/11/22 | 745.95 | 6.38 | 739.57 |
| | 4Q22 | 12/06/22 | 745.95 | 6.33 | 739.62 |
| | 1Q23 | 03/06/23 | 745.95 | 6.38 | 739.57 |
| | 2Q23 | 05/16/23 | 745.95 | 6.59 | 739.36 |
| | 3Q23 | 08/21/23 | 745.95 | 7.00 | 738.95 |
| | 4Q23 | 12/05/23 | 745.95 | 6.38 | 739.57 |

**Table 4**
**Cumulative Site Groundwater Elevations (2005-Present)**
Groundwater Remedy Phase II As-Built and Documentation Report
Bee-Jay Scales, Sunnyside, Washington

| Well ID | Quarter[1] | Date | TOC Elevation[2] (feet above MSL) | Depth to GW (feet below TOC) | GW Elevation (feet above MSL) |
|---|---|---|---|---|---|
| MW-11 | 3Q05 | 09/28/05 | 745.66 | 6.01 | 739.65 |
| | 4Q05 | 01/11/06 | 745.66 | 5.03 | 740.63 |
| | 1Q06 | 03/28/06 | 745.66 | 5.85 | 739.81 |
| | 2Q06 | 06/26/06 | 745.66 | 5.99 | 739.67 |
| | 3Q06 | 09/18/06 | 745.66 | 6.30 | 739.36 |
| | 4Q06 | 12/18/06 | 745.66 | 5.72 | 739.94 |
| | 1Q07 | 03/19/07 | 745.66 | 6.07 | 739.59 |
| | 2Q07 | 06/25/07 | 745.66 | 6.50 | 739.16 |
| | 3Q07 | 09/18/07 | 745.66 | 6.21 | 739.45 |
| | 4Q07 | 12/17/07 | 745.66 | 5.71 | 739.95 |
| | 1Q08 | 03/11/08 | 745.66 | 6.29 | 739.37 |
| | 2Q08 | 06/16/08 | 745.66 | 6.41 | 739.25 |
| | 3Q08 | 09/08/08 | 745.66 | 6.47 | 739.19 |
| | 1Q09 | 03/10/09 | 745.66 | 6.40 | 739.26 |
| | 3Q09 | 09/14/09 | 745.66 | 6.80 | 738.86 |
| | 1Q10 | 03/09/10 | 745.66 | 5.83 | 739.83 |
| | 3Q10 | 08/30/10 | 745.66 | 6.20 | 739.46 |
| | 1Q11 | 03/08/11 | 745.66 | 5.95 | 739.71 |
| | 3Q11 | 09/12/11 | 745.66 | 6.05 | 739.61 |
| | 1Q12 | 03/12/12 | 745.66 | 5.82 | 739.84 |
| | 3Q12 | 08/29/12 | 745.66 | 5.82 | 739.84 |
| | 1Q13 | 03/04/13 | 745.66 | 6.05 | 739.61 |
| | 3Q13 | 08/22/13 | 745.66 | 6.20 | 739.46 |
| | 4Q13 | 12/02/13 | 745.66 | 6.08 | 739.58 |
| | 1Q14 | 03/10/14 | 745.66 | 5.87 | 739.79 |
| | 2Q14 | 05/19/14 | 745.66 | 5.91 | 739.75 |
| | 3Q14 | 09/08/14 | 745.66 | 6.24 | 739.42 |
| | 1Q15 | 02/13/15 | 745.66 | 5.57 | 740.09 |
| | 3Q15 | 08/11/15 | 745.66 | 6.05 | 739.61 |
| | 1Q16 | 02/22/16 | 745.66 | 5.52 | 740.14 |
| | 3Q16 | 08/22/16 | 745.66 | 5.95 | 739.71 |
| | 1Q17 | 02/28/17 | 745.66 | 4.55 | 741.11 |
| | 3Q17 | 09/18/17 | 745.66 | 5.81 | 739.85 |
| | 1Q18 | 03/05/18 | 745.66 | 5.88 | 739.78 |
| | 3Q18 | 08/27/18 | 745.66 | 6.28 | 739.38 |
| | 1Q19 | 03/19/19 | 745.66 | 5.25 | 740.41 |
| | 3Q19 | 08/19/19 | 745.66 | 6.19 | 739.47 |
| | 1Q20 | 03/09/20 | 745.66 | 6.38 | 739.28 |
| | 3Q20 | 08/31/20 | 745.66 | 6.18 | 739.48 |
| | 4Q20 | 11/11/20 | 745.66 | 5.96 | 739.70 |
| | 1Q21 | 02/23/21 | 745.66 | 5.58 | 740.08 |
| | 2Q21 | 05/11/21 | 745.66 | 8.14 | 737.52 |
| | 3Q21 | 09/14/21 | 745.66 | 6.11 | 739.55 |
| | 1Q22 | 03/28/22 | 745.66 | 6.19 | 739.47 |
| | 3Q22 | 07/11/22 | 745.66 | 5.92 | 739.74 |
| | 4Q22 | 12/06/22 | 745.66 | 6.05 | 739.61 |
| | 1Q23 | 03/06/23 | 745.66 | 6.04 | 739.62 |
| | 2Q23 | 05/16/23 | 745.66 | 6.25 | 739.41 |
| | 3Q23 | 08/21/23 | 745.66 | 6.50 | 739.16 |
| | 4Q23 | 12/05/23 | 745.66 | 5.96 | 739.70 |

**Table 4**
**Cumulative Site Groundwater Elevations (2005-Present)**
Groundwater Remedy Phase II As-Built and Documentation Report
Bee-Jay Scales, Sunnyside, Washington

| Well ID | Quarter[1] | Date | TOC Elevation[2] (feet above MSL) | Depth to GW (feet below TOC) | GW Elevation (feet above MSL) |
|---|---|---|---|---|---|
| MW-12 | 3Q05 | 09/28/05 | 744.59 | 8.85 | 735.74 |
| | 4Q05 | 01/11/06 | 744.59 | 7.55 | 737.04 |
| | 1Q06 | 03/28/06 | 744.59 | 8.36 | 736.23 |
| | 2Q06 | 06/26/06 | 744.59 | 8.36 | 736.23 |
| | 3Q06 | 09/18/06 | 744.59 | 9.05 | 735.54 |
| | 4Q06[3] | 12/18/06 | 744.59 | 8.45 | 736.14 |
| | 1Q07 | 03/19/07 | 744.59 | 8.59 | 736.00 |
| | 2Q07 | 06/25/07 | 744.59 | 8.80 | 735.79 |
| | 3Q07 | 09/18/07 | 744.59 | 8.95 | 735.64 |
| | 4Q07 | 12/17/07 | 744.59 | 8.27 | 736.32 |
| | 1Q08 | 03/11/08 | 744.59 | 8.49 | 736.10 |
| | 2Q08 | 06/16/08 | 744.59 | 8.78 | 735.81 |
| | 3Q08 | 09/08/08 | 744.59 | 9.09 | 735.50 |
| | 1Q09 | 03/10/09 | 744.59 | 8.54 | 736.05 |
| | 3Q09 | 09/14/09 | 744.59 | 9.32 | 735.27 |
| | 1Q10 | 03/09/10 | 744.59 | 8.21 | 736.38 |
| | 3Q10 | 08/30/10 | 744.59 | 8.98 | 735.61 |
| | 1Q11 | 03/08/11 | 744.59 | 8.50 | 736.09 |
| | 3Q11 | 09/12/11 | 744.59 | 8.85 | 735.74 |
| | 1Q12 | 03/12/12 | 744.59 | 8.45 | 736.14 |
| | 3Q12 | 08/29/12 | 744.59 | 8.75 | 735.84 |
| | 1Q13 | 03/04/13 | 744.59 | 8.65 | 735.94 |
| | 3Q13 | 08/22/13 | 744.59 | 8.94 | 735.65 |
| | 4Q13 | 12/02/13 | 744.59 | 8.81 | 735.78 |
| | 1Q14 | 03/10/14 | 744.59 | 8.25 | 736.34 |
| | 2Q14 | 05/19/14 | 744.59 | 8.46 | 736.13 |
| | Well Destroyed in June 2014 | | | | |
| MW-12R | 1Q15 | 02/13/15 | 745.11 | 7.85 | 737.26 |
| | 3Q15 | 08/11/15 | 745.11 | 8.58 | 736.53 |
| | 1Q16 | 02/22/16 | 745.11 | 7.73 | 737.38 |
| | 3Q16 | 08/22/16 | 745.11 | 8.57 | 736.54 |
| | 1Q17 | 02/28/17 | 745.11 | 6.85 | 738.26 |
| | 3Q17 | 09/18/17 | 745.11 | 8.48 | 736.63 |
| | 1Q18 | 03/05/18 | 745.11 | 8.17 | 736.94 |
| | 3Q18 | 08/27/18 | 745.11 | 8.68 | 736.43 |
| | 1Q19 | 03/19/19 | 745.11 | 7.39 | 737.72 |
| | 3Q19 | 08/19/19 | 745.11 | 8.58 | 736.53 |
| | 1Q20 | 03/09/20 | 745.11 | 8.40 | 736.71 |
| | 3Q20 | 08/31/20 | 745.11 | 8.65 | 736.46 |
| | 4Q20 | 11/11/20 | 745.11 | 8.48 | 736.63 |
| | 1Q21 | 02/23/21 | 745.11 | 8.16 | 736.95 |
| | 2Q21 | 05/11/21 | 745.11 | 8.43 | 736.68 |
| | 3Q21 | 09/14/21 | 745.11 | 8.62 | 736.49 |
| | 1Q22 | 03/28/22 | 745.11 | 8.24 | 736.87 |
| | 3Q22 | 07/11/22 | 745.11 | 8.18 | 736.93 |
| | 4Q22 | 12/06/22 | 745.11 | 8.42 | 736.69 |
| | 1Q23 | 03/06/23 | 745.11 | 8.15 | 736.96 |
| | 2Q23 | 05/16/23 | 745.11 | 8.26 | 736.85 |
| | 3Q23 | 08/21/23 | 745.11 | 8.79 | 736.32 |
| | 4Q23 | 12/05/23 | 745.11 | 8.27 | 736.84 |

**Table 4**
**Cumulative Site Groundwater Elevations (2005-Present)**
Groundwater Remedy Phase II As-Built and Documentation Report
Bee-Jay Scales, Sunnyside, Washington

| Well ID | Quarter[1] | Date | TOC Elevation[2] (feet above MSL) | Depth to GW (feet below TOC) | GW Elevation (feet above MSL) |
|---|---|---|---|---|---|
| MW-13 | 2Q07 | 06/25/07 | 744.38 | 9.89 | 734.49 |
| | 3Q07 | 09/18/07 | 744.38 | 9.85 | 734.53 |
| | 4Q07 | 12/17/07 | 744.38 | 9.48 | 734.90 |
| | 1Q08 | 03/11/08 | 744.38 | 9.61 | 734.77 |
| | 2Q08 | 06/16/08 | 744.38 | 9.80 | 734.58 |
| | 3Q08[5] | 09/08/08 | 744.38 | NA | NA |
| | 1Q09[7] | 03/12/09 | 744.38 | 9.76 | 734.62 |
| | 3Q09[7] | 09/17/09 | 744.38 | 10.10 | 734.28 |
| | 1Q10 | 03/09/10 | 744.38 | 9.51 | 734.87 |
| | 3Q10 | 08/30/10 | 744.38 | 9.85 | 734.53 |
| | 1Q11 | 03/08/11 | 744.38 | 9.61 | 734.77 |
| | 3Q11 | 09/12/11 | 744.38 | 9.76 | 734.62 |
| | 1Q12 | 03/12/12 | 744.38 | 9.53 | 734.85 |
| | 3Q12 | 08/29/12 | 744.38 | 9.73 | 734.65 |
| | 1Q13 | 03/04/13 | 744.38 | 9.68 | 734.70 |
| | 3Q13 | 08/22/13 | 744.38 | 9.84 | 734.54 |
| | 4Q13 | 12/02/13 | 744.38 | 9.75 | 734.63 |
| | 1Q14 | 03/10/14 | 744.38 | 9.46 | 734.92 |
| | 2Q14 | 05/19/14 | 744.38 | 9.58 | 734.80 |
| | 3Q14 | 09/08/14 | 744.38 | 9.68 | 734.70 |
| | 1Q15 | 02/13/15 | 744.38 | 9.40 | 734.98 |
| | 3Q15 | 08/11/15 | 744.38 | 9.77 | 734.61 |
| | 1Q16 | 02/22/16 | 744.38 | 9.35 | 735.03 |
| | 3Q16 | 08/22/16 | 744.38 | 9.78 | 734.60 |
| | 1Q17 | 02/28/17 | 744.38 | 8.84 | 735.54 |
| | 3Q17 | 09/18/17 | 744.38 | 9.69 | 734.69 |
| | 1Q18 | 03/05/18 | 744.38 | 9.67 | 734.71 |
| | 3Q18 | 08/27/18 | 744.38 | 9.94 | 734.44 |
| | 1Q19 | 03/19/19 | 744.38 | 9.23 | 735.15 |
| | 3Q19 | 08/19/19 | 744.38 | 9.85 | 734.53 |
| | 1Q20 | 03/09/20 | 744.38 | 9.79 | 734.59 |
| | 3Q20 | 08/31/20 | 744.38 | 9.81 | 734.57 |
| | 4Q20 | 11/11/20 | 744.38 | 9.60 | 734.78 |
| | 1Q21 | 02/23/21 | 744.38 | 9.30 | 735.08 |
| | 2Q21 | 05/11/21 | 744.38 | 9.62 | 734.76 |
| | 3Q21 | 09/14/21 | 744.38 | 9.71 | 734.67 |
| | 1Q22 | 03/28/22 | 744.38 | 9.65 | 734.73 |
| | 3Q22 | 07/11/22 | 744.38 | 9.57 | 734.81 |
| | 4Q22 | 12/06/22 | 744.38 | 9.66 | 734.72 |
| | 1Q23 | 03/06/23 | 744.38 | 9.55 | 734.83 |
| | 2Q23 | 05/16/23 | 744.38 | 9.69 | 734.69 |
| | 3Q23 | 08/21/23 | 744.38 | 9.90 | 734.48 |
| | 4Q23 | 12/05/23 | 744.38 | 9.52 | 734.86 |

**Table 4**
**Cumulative Site Groundwater Elevations (2005-Present)**
Groundwater Remedy Phase II As-Built and Documentation Report
Bee-Jay Scales, Sunnyside, Washington

| Well ID | Quarter[1] | Date | TOC Elevation[2] (feet above MSL) | Depth to GW (feet below TOC) | GW Elevation (feet above MSL) |
|---|---|---|---|---|---|
| MW-14 | 3Q13 | 08/22/13 | 744.98 | 8.04 | 736.94 |
| | 4Q13 | 12/02/13 | 744.98 | 7.89 | 737.09 |
| | 1Q14 | 03/10/14 | 744.98 | 7.69 | 737.29 |
| | 2Q14 | 05/19/14 | 744.98 | 7.72 | 737.26 |
| | 3Q14[10] | 09/10/14 | 744.98 | 7.94 | 737.04 |
| | 1Q15 | 02/13/15 | 744.98 | 7.38 | 737.60 |
| | 3Q15 | 08/11/15 | 744.98 | 7.99 | 736.99 |
| | 1Q16 | 02/22/16 | 744.98 | 6.99 | 737.99 |
| | 3Q16 | 08/22/16 | 744.98 | 7.87 | 737.11 |
| | 1Q17[11] | 03/02/17 | 744.98 | 6.17 | 738.81 |
| | 3Q17 | 09/19/17 | 744.98 | 7.70 | 737.28 |
| | 1Q18 | 03/05/18 | 744.98 | 7.78 | 737.20 |
| | 3Q18 | 08/27/18 | 744.98 | 8.15 | 736.83 |
| | 1Q19 | 03/19/19 | 744.98 | 7.05 | 737.93 |
| | 3Q19 | 08/19/19 | 744.98 | 7.92 | 737.06 |
| | 1Q20 | 03/09/20 | 744.98 | 8.05 | 736.93 |
| | 3Q20 | 08/31/20 | 744.98 | 8.04 | 736.94 |
| | 4Q20 | 11/11/20 | 744.98 | 7.85 | 737.13 |
| | 1Q21 | 02/23/21 | 744.98 | 7.34 | 737.64 |
| | 2Q21 | 05/11/21 | 744.98 | 7.98 | 737.00 |
| | 3Q21 | 09/14/21 | 744.98 | 7.97 | 737.01 |
| | 1Q22 | 03/28/22 | 744.98 | 7.98 | 737.00 |
| | 3Q22 | 07/11/22 | 744.98 | 7.77 | 737.21 |
| | 4Q22 | 12/06/22 | 744.98 | 7.87 | 737.11 |
| | 1Q23 | 03/06/23 | 744.98 | 7.64 | 737.34 |
| | 2Q23 | 05/16/23 | 744.98 | 8.00 | 736.98 |
| | 3Q23 | 08/21/23 | 744.98 | 8.29 | 736.69 |
| | 4Q23 | 12/05/23 | 744.98 | 7.66 | 737.32 |
| MW-15 | 3Q13 | 08/22/13 | 746.37 | 11.73 | 734.64 |
| | 4Q13 | 12/02/13 | 746.37 | 11.71 | 734.66 |
| | 1Q14 | 03/10/14 | 746.37 | 11.30 | 735.07 |
| | 2Q14 | 05/19/14 | 746.37 | 11.39 | 734.98 |
| | 3Q14 | 09/08/14 | 746.37 | 11.70 | 734.67 |
| | 1Q15 | 02/13/15 | 746.37 | 11.24 | 735.13 |
| | 3Q15 | 08/11/15 | 746.37 | 11.72 | 734.65 |
| | 1Q16 | 02/22/16 | 746.37 | 11.10 | 735.27 |
| | 3Q16 | 08/22/16 | 746.37 | 11.73 | 734.64 |
| | 1Q17[11] | 03/01/17 | 746.37 | 10.33 | 736.04 |
| | 3Q17 | 09/18/17 | 746.37 | 11.69 | 734.68 |
| | 1Q18 | 03/05/18 | 746.37 | 11.41 | 734.96 |
| | 3Q18 | 08/27/18 | 746.37 | 11.75 | 734.62 |
| | 1Q19 | 03/19/19 | 746.37 | 10.97 | 735.40 |
| | 3Q19 | 08/19/19 | 746.37 | 11.67 | 734.70 |
| | 1Q20 | 03/09/20 | 746.37 | 11.55 | 734.82 |
| | 3Q20 | 08/31/20 | 746.37 | 11.67 | 734.70 |
| | 4Q20 | 11/11/20 | 746.37 | 11.65 | 734.72 |
| | 1Q21 | 02/23/21 | 746.37 | 11.36 | 735.01 |
| | 2Q21 | 05/11/21 | 746.37 | 11.50 | 734.87 |
| | 3Q21 | 09/14/21 | 746.37 | 11.79 | 734.58 |
| | 1Q22 | 03/28/22 | 746.37 | 11.54 | 734.83 |
| | 3Q22 | 07/11/22 | 746.37 | 11.43 | 734.94 |
| | 4Q22 | 12/06/22 | 746.37 | 11.67 | 734.70 |
| | 1Q23 | 03/06/23 | 746.37 | 11.42 | 734.95 |
| | 2Q23 | 05/16/23 | 746.37 | 11.42 | 734.95 |
| | 3Q23 | 08/21/23 | 746.37 | 11.80 | 734.57 |
| | 4Q23 | 12/05/23 | 746.37 | 11.59 | 734.78 |

**Table 4**
**Cumulative Site Groundwater Elevations (2005-Present)**
Groundwater Remedy Phase II As-Built and Documentation Report
Bee-Jay Scales, Sunnyside, Washington

| Well ID | Quarter[1] | Date | TOC Elevation[2] (feet above MSL) | Depth to GW (feet below TOC) | GW Elevation (feet above MSL) |
|---|---|---|---|---|---|
| MW-16 | 3Q13 | 08/22/13 | 744.93 | 9.33 | 735.60 |
| | 4Q13 | 12/02/13 | 744.93 | 9.21 | 735.72 |
| | 1Q14 | 03/10/14 | 744.93 | 8.86 | 736.07 |
| | 2Q14[9] | 05/21/14 | 744.93 | 9.02 | 735.91 |
| | 3Q14 | 09/08/14 | 744.93 | 9.17 | 735.76 |
| | 1Q15 | 02/13/15 | 744.93 | 8.77 | 736.16 |
| | 3Q15 | 08/11/15 | 744.93 | 9.30 | 735.63 |
| | 1Q16 | 02/22/16 | 744.93 | 8.63 | 736.30 |
| | 3Q16 | 08/22/16 | 744.93 | 9.23 | 735.70 |
| | 1Q17 | 02/28/17 | 744.93 | 7.83 | 737.10 |
| | 3Q17 | 09/18/17 | 744.93 | 9.15 | 735.78 |
| | 1Q18 | 03/05/18 | 744.93 | 9.06 | 735.87 |
| | 3Q18 | 08/27/18 | 744.93 | 9.45 | 735.48 |
| | 1Q19 | 03/19/19 | 744.93 | 8.55 | 736.38 |
| | 3Q19 | 08/19/19 | 744.93 | 9.32 | 735.61 |
| | 1Q20 | 03/09/20 | 744.93 | 9.27 | 735.66 |
| | 3Q20 | 08/31/20 | 744.93 | 9.34 | 735.59 |
| | 4Q20 | 11/11/20 | 744.93 | 9.18 | 735.75 |
| | 1Q21 | 02/23/21 | 744.93 | 8.90 | 736.03 |
| | 2Q21 | 05/11/21 | 744.93 | 9.20 | 735.73 |
| | 3Q21 | 09/14/21 | 744.93 | 9.34 | 735.59 |
| | 1Q22 | 03/28/22 | 744.93 | 9.20 | 735.73 |
| | 3Q22 | 07/11/22 | 744.93 | 9.00 | 735.93 |
| | 4Q22 | 12/06/22 | 744.93 | 9.19 | 735.74 |
| | 1Q23 | 03/06/23 | 744.93 | 9.05 | 735.88 |
| | 2Q23 | 05/16/23 | 744.93 | 9.21 | 735.72 |
| | 3Q23 | 08/21/23 | 744.93 | 9.54 | 735.39 |
| | 4Q23[14] | 12/05/23 | 744.93 | NA | NA |
| MW-17 | 3Q13 | 08/22/13 | 745.44 | 10.97 | 734.47 |
| | 4Q13 | 12/02/13 | 745.44 | 10.88 | 734.56 |
| | 1Q14 | 03/10/14 | 745.44 | 10.83 | 734.61 |
| | 2Q14 | 05/19/14 | 745.44 | 10.56 | 734.88 |
| | 3Q14 | 09/08/14 | 745.44 | 10.87 | 734.57 |
| | 1Q15 | 02/13/15 | 745.44 | 10.38 | 735.06 |
| | 3Q15 | 08/11/15 | 745.44 | 10.93 | 734.51 |
| | 1Q16 | 02/22/16 | 745.44 | 10.22 | 735.22 |
| | 3Q16 | 08/22/16 | 745.44 | 10.90 | 734.54 |
| | 1Q17 | 02/28/17 | 745.44 | 9.41 | 736.03 |
| | 3Q17 | 09/18/17 | 745.44 | 10.88 | 734.56 |
| | 1Q18 | 03/05/18 | 745.44 | 10.58 | 734.86 |
| | 3Q18 | 08/27/18 | 745.44 | 11.00 | 734.44 |
| | 1Q19 | 03/19/19 | 745.44 | 10.25 | 735.19 |
| | 3Q19 | 08/19/19 | 745.44 | 10.90 | 734.54 |
| | 1Q20 | 03/09/20 | 745.44 | 10.72 | 734.72 |
| | 3Q20 | 08/31/20 | 745.44 | 10.95 | 734.49 |
| | 4Q20 | 11/11/20 | 745.44 | 10.86 | 734.58 |
| | 1Q21 | 02/23/21 | 745.44 | 10.58 | 734.86 |
| | 2Q21 | 05/11/21 | 745.44 | 10.75 | 734.69 |
| | 3Q21 | 09/14/21 | 745.44 | 11.02 | 734.42 |
| | 1Q22 | 03/28/22 | 745.44 | 10.75 | 734.69 |
| | 3Q22 | 07/11/22 | 745.44 | 10.59 | 734.85 |
| | 4Q22 | 12/06/22 | 745.44 | 10.84 | 734.60 |
| | 1Q23 | 03/06/23 | 745.44 | 10.58 | 734.86 |
| | 2Q23 | 05/16/23 | 745.44 | 10.65 | 734.79 |
| | 3Q23 | 08/21/23 | 745.44 | 11.05 | 734.39 |
| | 4Q23 | 12/05/23 | 745.44 | 10.78 | 734.66 |

**Table 4**
**Cumulative Site Groundwater Elevations (2005-Present)**
Groundwater Remedy Phase II As-Built and Documentation Report
Bee-Jay Scales, Sunnyside, Washington

| Well ID | Quarter[1] | Date | TOC Elevation[2] (feet above MSL) | Depth to GW (feet below TOC) | GW Elevation (feet above MSL) |
|---|---|---|---|---|---|
| MW-18 | 3Q13 | 08/22/13 | 744.98 | 13.51 | 731.47 |
| | 4Q13 | 12/02/13 | 744.98 | 13.57 | 731.41 |
| | 1Q14 | 03/10/14 | 744.98 | 13.54 | 731.44 |
| | 2Q14 | 05/19/14 | 744.98 | 13.52 | 731.46 |
| | 3Q14 | 09/08/14 | 744.98 | 13.60 | 731.38 |
| | 1Q15 | 02/13/15 | 744.98 | 13.52 | 731.46 |
| | 3Q15 | 08/11/15 | 744.98 | 13.63 | 731.35 |
| | 1Q16 | 02/22/16 | 744.98 | 13.51 | 731.47 |
| | 3Q16 | 08/22/16 | 744.98 | 13.61 | 731.37 |
| | 1Q17 | 02/28/17 | 744.98 | 13.28 | 731.70 |
| | 3Q17 | 09/18/17 | 744.98 | 13.55 | 731.43 |
| | 1Q18 | 03/05/18 | 744.98 | 13.49 | 731.49 |
| | 3Q18 | 08/27/18 | 744.98 | 13.53 | 731.45 |
| | 1Q19 | 03/19/19 | 744.98 | 13.31 | 731.67 |
| | 3Q19 | 08/19/19 | 744.98 | 13.52 | 731.46 |
| | 1Q20 | 03/09/20 | 744.98 | 13.51 | 731.47 |
| | 3Q20 | 08/31/20 | 744.98 | 13.49 | 731.49 |
| | 4Q20 | 11/11/20 | 744.98 | 13.56 | 731.42 |
| | 1Q21 | 02/23/21 | 744.98 | 13.44 | 731.54 |
| | 2Q21 | 05/11/21 | 744.98 | 13.48 | 731.50 |
| | 3Q21 | 09/14/21 | 744.98 | 13.56 | 731.42 |
| | 1Q22 | 03/28/22 | 744.98 | 13.51 | 731.47 |
| | 3Q22 | 07/11/22 | 744.98 | 13.45 | 731.53 |
| | 4Q22 | 12/06/22 | 744.98 | 13.55 | 731.43 |
| | 1Q23 | 03/06/23 | 744.98 | 13.45 | 731.53 |
| | 2Q23 | 05/16/23 | 744.98 | 13.48 | 731.50 |
| | 3Q23 | 08/21/23 | 744.98 | 13.56 | 731.42 |
| | 4Q23 | 12/05/23 | 744.98 | 13.49 | 731.49 |
| MW-19 | 3Q13 | 08/22/13 | 743.07 | 8.60 | 734.47 |
| | 4Q13 | 12/02/13 | 743.07 | 8.48 | 734.59 |
| | 1Q14 | 03/10/14 | 743.07 | 8.13 | 734.94 |
| | 2Q14 | 05/19/14 | 743.07 | 8.31 | 734.76 |
| | 3Q14 | 09/08/14 | 743.07 | 8.31 | 734.76 |
| | 1Q15 | 02/13/15 | 743.07 | 8.05 | 735.02 |
| | 3Q15 | 08/11/15 | 743.07 | 8.56 | 734.51 |
| | 1Q16 | 02/22/16 | 743.07 | 7.92 | 735.15 |
| | 3Q16 | 08/22/16 | 743.07 | 8.52 | 734.55 |
| | 1Q17 | 02/28/17 | 743.07 | 6.99 | 736.08 |
| | 3Q17 | 09/18/17 | 743.07 | 8.42 | 734.65 |
| | 1Q18 | 03/05/18 | 743.07 | 8.39 | 734.68 |
| | 3Q18 | 08/27/18 | 743.07 | 8.23 | 734.84 |
| | 1Q19 | 03/19/19 | 743.07 | 7.69 | 735.38 |
| | 3Q19 | 08/19/19 | 743.07 | 8.67 | 734.40 |
| | 1Q20 | 03/09/20 | 743.07 | 8.61 | 734.46 |
| | 3Q20 | 08/31/20 | 743.07 | 8.65 | 734.42 |
| | 4Q20 | 11/11/20 | 743.07 | 8.57 | 734.50 |
| | 1Q21 | 02/23/21 | 743.07 | 8.20 | 734.87 |
| | 2Q21 | 05/11/21 | 743.07 | 8.59 | 734.48 |
| | 3Q21 | 09/14/21 | 743.07 | 8.61 | 734.46 |
| | 1Q22 | 03/28/22 | 743.07 | 8.55 | 734.52 |
| | 3Q22 | 07/11/22 | 743.07 | 8.46 | 734.61 |
| | 4Q22 | 12/06/22 | 743.07 | 8.51 | 734.56 |
| | 1Q23 | 03/06/23 | 743.07 | 8.39 | 734.68 |
| | 2Q23 | 05/16/23 | 743.07 | 8.56 | 734.51 |
| | 3Q23 | 08/21/23 | 743.07 | 8.81 | 734.26 |
| | 4Q23 | 12/05/23 | 743.07 | 8.38 | 734.69 |

**Table 4**
**Cumulative Site Groundwater Elevations (2005-Present)**
Groundwater Remedy Phase II As-Built and Documentation Report
Bee-Jay Scales, Sunnyside, Washington

| Well ID | Quarter[1] | Date | TOC Elevation[2] (feet above MSL) | Depth to GW (feet below TOC) | GW Elevation (feet above MSL) |
|---|---|---|---|---|---|
| MW-20 | 3Q13 | 08/22/13 | 744.10 | 12.79 | 731.31 |
| | 4Q13 | 12/02/13 | 744.10 | 12.82 | 731.28 |
| | 1Q14 | 03/10/14 | 744.10 | 12.65 | 731.45 |
| | 2Q14 | 05/19/14 | 744.10 | 12.70 | 731.40 |
| | 3Q14 | 09/08/14 | 744.10 | 12.78 | 731.32 |
| | 1Q15 | 02/13/15 | 744.10 | 12.65 | 731.45 |
| | 3Q15 | 08/11/15 | 744.10 | 12.80 | 731.30 |
| | 1Q16 | 02/22/16 | 744.10 | 12.62 | 731.48 |
| | 3Q16 | 08/22/16 | 744.10 | 12.77 | 731.33 |
| | 1Q17 | 02/28/17 | 744.10 | 12.31 | 731.79 |
| | 3Q17 | 09/18/17 | 744.10 | 12.80 | 731.30 |
| | 1Q18 | 03/05/18 | 744.10 | 12.75 | 731.35 |
| | 3Q18 | 08/27/18 | 744.10 | 12.84 | 731.26 |
| | 1Q19 | 03/19/19 | 744.10 | 12.54 | 731.56 |
| | 3Q19 | 08/19/19 | 744.10 | 12.78 | 731.32 |
| | 1Q20 | 03/09/20 | 744.10 | 12.76 | 731.34 |
| | 3Q20 | 08/31/20 | 744.10 | 12.80 | 731.30 |
| | 4Q20 | 11/11/20 | 744.10 | 12.82 | 731.28 |
| | 1Q21 | 02/23/21 | 744.10 | 12.40 | 731.70 |
| | 2Q21 | 05/11/21 | 744.10 | 12.77 | 731.33 |
| | 3Q21 | 09/14/21 | 744.10 | 12.88 | 731.22 |
| | 1Q22 | 03/28/22 | 744.10 | 12.76 | 731.34 |
| | 3Q22 | 07/11/22 | 744.10 | 12.77 | 731.33 |
| | 4Q22 | 12/06/22 | 744.10 | 12.83 | 731.27 |
| | 1Q23 | 03/06/23 | 744.10 | 12.76 | 731.34 |
| | 2Q23 | 05/16/23 | 744.10 | 12.76 | 731.34 |
| | 3Q23 | 08/21/23 | 744.10 | 12.88 | 731.22 |
| | 4Q23 | 12/05/23 | 744.10 | 12.79 | 731.31 |
| MW-21 | 1Q20 | 03/09/20 | 744.81 | 8.36 | 736.45 |
| | 3Q20 | 08/31/20 | 744.81 | 8.41 | 736.40 |
| | 4Q20 | 11/11/20 | 744.81 | 8.20 | 736.61 |
| | 1Q21 | 02/23/21 | 744.81 | 7.75 | 737.06 |
| | 2Q21 | 05/11/21 | 744.81 | 8.30 | 736.51 |
| | 3Q21 | 09/14/21 | 744.81 | 8.35 | 736.46 |
| | 1Q22 | 03/28/22 | 744.81 | 8.26 | 736.55 |
| | 3Q22 | 07/11/22 | 744.81 | 8.05 | 736.76 |
| | 4Q22 | 12/06/22 | 744.81 | 8.11 | 736.70 |
| | 1Q23 | 03/06/23 | 744.81 | 8.01 | 736.80 |
| | 2Q23 | 05/16/23 | 744.81 | 8.29 | 736.52 |
| | 3Q23 | 08/21/23 | 744.81 | 8.58 | 736.23 |
| | 4Q23 | 12/05/23 | 744.81 | 8.03 | 736.78 |
| MW-22 | 1Q22 | 03/28/22 | 745.20 | 6.71 | 738.49 |
| | 3Q22 | 07/11/22 | 745.20 | 7.80 | 737.40 |
| | 4Q22 | 12/06/22 | 745.20 | 6.72 | 738.48 |
| | 1Q23 | 03/06/23 | 745.20 | 6.26 | 738.94 |
| | 2Q23 | 05/16/23 | 745.20 | 6.84 | 738.36 |
| | 3Q23 | 08/21/23 | 745.20 | 7.61 | 737.59 |
| | 4Q23 | 12/05/23 | 745.20 | 6.33 | 738.87 |
| MW-23 | 1Q22 | 03/28/22 | 745.29 | 9.69 | 735.60 |
| | 3Q22 | 07/11/22 | 745.29 | 9.58 | 735.71 |
| | 4Q22 | 12/06/22 | 745.29 | 9.75 | 735.54 |
| | 1Q23 | 03/06/23 | 745.29 | 9.57 | 735.72 |
| | 2Q23 | 05/16/23 | 745.29 | 9.58 | 735.71 |
| | 3Q23 | 08/21/23 | 745.29 | 10.03 | 735.26 |
| | 4Q23 | 12/05/23 | 745.29 | 9.63 | 735.66 |

**Table 4**
**Cumulative Site Groundwater Elevations (2005-Present)**
Groundwater Remedy Phase II As-Built and Documentation Report
Bee-Jay Scales, Sunnyside, Washington

| Well ID | Quarter[1] | Date | TOC Elevation[2] (feet above MSL) | Depth to GW (feet below TOC) | GW Elevation (feet above MSL) |
|---|---|---|---|---|---|
| MW-24 | 1Q22 | 03/28/22 | 744.62 | 9.24 | 735.38 |
| | 3Q22 | 07/11/22 | 744.62 | 9.08 | 735.54 |
| | 4Q22 | 12/06/22 | 744.62 | 9.22 | 735.40 |
| | 1Q23 | 03/06/23 | 744.62 | 8.99 | 735.63 |
| | 2Q23 | 05/16/23 | 744.62 | 9.27 | 735.35 |
| | 3Q23 | 08/21/23 | 744.62 | 9.58 | 735.04 |
| | 4Q23 | 12/05/23 | 744.62 | 9.34 | 735.28 |

**Notes:**
GW = groundwater
MSL = mean sea level
NA = not accessible
TOC = top of casing

[1] Sampling frequency reduced from quarterly to semi-annually following the 3Q08 event, increased to quarterly following the 1Q13 event, reduced to semi-annually following the 2Q14 event, increased to quarterly following the 1Q20 event, decreased to semi-annually following the 2Q21 event, and increased to quarterly following the 3Q22 event.

[2] Based on 2020 and 2022 survey data using North American Vertical Datum of 1988 (NAVD88).

[3] Depth to GW at MW-12 during 4Q06 taken just prior to sampling because well was covered by a drum during gauging.

[4] Depth to GW at MW-9 during 3Q08 taken just prior to sampling because well was covered by boxes during gauging.

[5] Depth to GW at MW-13 during 3Q08 not measured because well could not be opened.

[6] Depth to GW at MW-9 during 1Q09 taken just prior to sampling because well was covered by boxes during gauging.

[7] Depth to GW at MW-13 during 1Q09 & 3Q09 taken just prior to sampling because well could not be opened during gauging.

[8] Depth to GW at MW-5 during 3Q11 not measured because there was biological hazard (wasp nest) adjacent to well.

[9] Depth to GW at MW-16 during 2Q14 taken just prior to sampling because well was covered by pallets during gauging.

[10] Depth to GW at MW-14 during 3Q14 taken just prior to sampling because well was covered by truck during gauging.

[11] Depth to GW at MW-9, MW-14, & MW-15 during 1Q17 taken just prior to sampling because well inaccessible during gauging.

[12] Depth to GW at MW-4R during 4Q20 was inaccurate on gauging log, so value from sampling form was used.

[13] Depth to GW at MW-6 during 3Q23 and 4Q23 not measured because brush and metal debris covered the well area.

[14] Depth to GW at MW-16 during 4Q23 not measured because well was covered by pallets.

**Table 5**
**EISB Groundwater Remedy Pre-Treatment Threshold Concentrations**
GW Remedy Phase II As-Built and Documentation Report
Bee-Jay Scales Sunnyside, WA

| Monitoring Well ID | Well Designation | EISB Parameter | Source of Pre-Treatment Data | Number of Pre-Treatment Observations | Date Range of Pre-Treatment Data | Pre-Treatment Threshold Concentration |
|---|---|---|---|---|---|---|
| All Wells | Any | BOD | Nitrate Plume + MW-19 | 21 | 8/20/2019 - 3/13/2020 | 64.2 mg/L[1] |
| | | Dissolved Iron | Nitrate Plume + MW-19 | 21 | 8/20/2019 - 3/13/2020 | 1.90 mg/L[1] |
| MW-1 | Up- or Cross-Gradient | Alkalinity | MW-1 | 13 | 7/29/2003 - 3/10/2020 | 262.2 mg/L[1] |
| | | Sulfate | MW-1 | 13 | 7/29/2003 - 3/10/2020 | 22.8 mg/L[2] |
| MW-3 | In Plume | Alkalinity | MW-3 | 31 | 7/29/2003 - 3/12/2020 | 452.4 mg/L[1] |
| | | Sulfate | MW-3 | 13 | 7/29/2003 - 3/12/2020 | 23.5 mg/L[2] |
| MW-4R | POC | Alkalinity | MW-4 and MW-4R | 41 | 7/30/2003 - 3/12/2020[3] | 737.9 mg/L[1] |
| | | Sulfate | MW-4 and MW-4R | 46 | 7/29/2003 - 3/12/2020[3] | 94.1 mg/L[2] |
| MW-5R | POC | Alkalinity | MW-5 and MW-5R | 42 | 7/30/2003 - 3/12/2020 | 366 mg/L[1] |
| | | Sulfate | MW-5 and MW-5R | 42 | 7/29/2003 - 3/12/2020 | 195 mg/L[2] |
| MW-6 | POC | Alkalinity | MW-6 | 28 | 7/30/2003 - 3/11/2020 | 506 mg/L[1] |
| | | Sulfate | MW-6 | 27 | 7/30/2003 - 3/11/2020 | 38.6 mg/L[2] |
| MW-8 | In Plume | Alkalinity | MW-8 | 29 | 5/26/2004 - 2/19/2015 | 289.2 mg/L[1] |
| | | Sulfate | MW-8 | 38 | 5/26/2004 - 8/21/2019 | 82.2 mg/L[2] |
| MW-9 | In Plume | Alkalinity | MW-9 | 42 | 10/25/2004 - 3/11/2020 | 694.8 mg/L[1] |
| | | Sulfate | MW-9 | 49 | 10/25/2004 - 3/11/2020 | 84.4 mg/L[2] |
| MW-11 | Up-Gradient (In Plume) | Alkalinity | MW-11 | 23 | 10/25/2004 - 3/11/2020 | 276.9 mg/L[1] |
| | | Sulfate | MW-11 | 21 | 10/25/2004 - 3/11/2020 | 41.4 mg/L[2] |
| MW-12R | POC | Alkalinity | MW-12 and MW-12R | 39 | 10/25/2004 - 3/12/2020 | 779.1 mg/L[1] |
| | | Sulfate | MW-12 and MW-12R | 45 | 10/25/2004 - 3/12/2020 | 132.9 mg/L[2] |
| MW-13 | POC | Alkalinity | MW-13 | 23 | 6/27/2007 - 3/12/2020 | 262.8 mg/L[1] |
| | | Sulfate | MW-13 | 31 | 6/27/2007 - 3/12/2020 | 102.8 mg/L[2] |
| MW-16 | POC | Alkalinity | MW-16 | 16 | 8/27/2013 - 3/13/2020 | 2,090 mg/L[1] |
| | | Sulfate | MW-16 | 16 | 8/27/2013 - 3/13/2020 | 12.3 mg/L[2] |
| MW-19 | In Plume | Alkalinity | MW-19 | 17 | 8/27/2013 - 3/10/2020 | 379.1 mg/L[1] |
| | | Sulfate | MW-19 | 17 | 8/27/2013 - 3/10/2020 | 16 mg/L[2] |
| MW-21<br>MW-22<br>MW-23<br>MW-24 | In Plume | Alkalinity | Nitrate Plume | 312 | 7/29/2003 - 3/13/2020 | 711 mg/L[1] |
| | | Sulfate | Nitrate Plume | 317 | 7/29/2003 - 3/13/2020 | 24.2 mg/L[2] |

**Notes:**

[1] An upper tolerance limit concentration with 95% coverage and a 95% confidence interval calculated using EPA ProUCL software.

[2] A lower tolerance limit concentration with 95% coverage and a 95% confidence interval calculated using EPA Scout software.

[3] Excludes data from 7/8/2004 through 12/20/2006 when a pilot scale enhanced in-situ bioremediation study was implemented near MW-4.

EISB = Enhanced In-Situ Bioremediation

mg/L = Milligrams Per Liter

BOD = Biochemical Oxygen Demand

POC = Point of Compliance

**Table 6**
**Groundwater Analytical Results - EISB Performance Monitoring**
Groundwater Remedy Phase II As-Built and Documentation Report
Bee-Jay Scales, Sunnyside, Washington

| | | Site Indicator Hazardous Substances | | | | | | | | | | | Enhanced In-Situ Bioremediation Monitoring Parameters | | | | | | Field Parameters | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Groundwater Sample Analytes** | | **Nitrate** | **Nitrite** | **Total Arsenic** | **Total Iron** | **Total Manganese** | **2,4-D** | **Dinoseb** | **Benzene** | **Chloro-benzene** | **1,2-DCP** | **2-MN** | **BOD** | **Dissolved Iron** | **Sulfate** | **Alkalinity** | **Ammonia** | **Total Phosphorus** | **Temper-ature** | **pH** | **Conduct-ivity** | **DO** | **ORP** | **Turbidity** |
| **Laboratory Analytical Method** | | **EPA 353.2** | **EPA 353.2** | **EPA 6020B** | **EPA 6010D** | **EPA 6010D** | **EPA 8151A** | **EPA 8151A** | **EPA 8260C/D** | **EPA 8260C/D** | **EPA 8260C/D** | **EPA 8260C/D** | **SM 5210B** | **EPA 6010D** | **EPA 300.0** | **SM 2320B** | **SM 4500-$NH_3$** | **EPA 365.1** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |
| **Units** | | **mg/L** | **mg/L** | **mg/L** | **mg/L** | **mg/L** | **mg/L** | **mg/L** | **mg/L** | **mg/L** | **mg/L** | **mg/L** | **mg/L** | **mg/L** | **mg/L** | **mg/L** | **mg/L** | **mg/L** | **°C** | **Std Units** | **µS/cm** | **mg/L** | **mV** | **NTU** |
| **Groundwater CULs[A]** | | **10** | **1** | **0.01** | **11.2** | **2.2** | **0.07** | **0.007** | **0.005** | **0.1** | **0.005** | **0.032** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |
| **Enhanced In-Situ Bioremediation Threshold Concentrations** | | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **> 64.2[B]** | **> 1.90[C]** | **Per Well[B]** | **Per Well[B]** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |
| **Location** | **Sample Date** | | | | | | | | | | | | | | | | | | | | | | | |
| MW-1 | 03/10/20 | 7.3 | <0.015 | -- | -- | -- | -- | -- | -- | -- | -- | -- | <2.00 H | <0.0412 | 37.7 | 234 | -- | -- | 10.6 | 8.01 | 442 | 0.59 | 120.5 | 3.67 |
| | 08/31/20 | 8.2 | <0.015 | -- | -- | -- | -- | -- | -- | -- | -- | -- | <1.5 | <0.041 | 35 | 230 | -- | -- | 21.3 | 7.86 | 588 | 0.48 | 45.8 | 8.16 |
| | 02/21/21 | 7.6 | <0.015 | -- | -- | -- | -- | -- | -- | -- | -- | -- | <2.00 H | <0.041 | 35 | 250 | -- | -- | 13.6 | 7.75 | 481.9 | 1.10 | 69.7 | 5.53 |
| | 09/14/21 | 7.0 | <0.015 | **0.01** | -- | -- | -- | -- | -- | -- | -- | -- | <2.0 | <0.041 | 9.4 | 230 | -- | -- | 17.1 | 7.90 | 513 | 0.92 | 78.1 | 2.29 |
| | 03/28/22 | 6.4 | <0.015 | **0.011** | -- | -- | -- | -- | -- | -- | -- | -- | <2.0 | <0.082 | 42 | 230 | -- | -- | 14.3 | 7.78 | 491.1 | 2.88 | 54.9 | 13.7 |
| | 07/11/22 | 8.5 | <0.015 | **0.012** | -- | -- | -- | -- | -- | -- | -- | -- | <2.0 | <0.082 | 38 | 230 | -- | -- | 18.1 | 7.87 | 552 | 2.36 | 25.0 | 7.22 |
| | 03/06/23 | **12** | <0.015 | -- | -- | -- | -- | -- | -- | -- | -- | -- | 11 H | <0.021 | 36 | 240 | -- | -- | 9.4 | 3.81* | 435.4 | 2.99 | 344.3* | 9.32 |
| | 08/21/23 | 8.3 | <0.015 H | -- | -- | | | | -- | -- | -- | -- | <2.0 | <0.021 | 39 | 240 | -- | -- | 13.9 | 7.68 | 513 | NA* | 66.3 | 3.03 |
| MW-3 | 03/12/20 | **263** | 1.0 | 0.0096 | 0.297 | 1.04 | 0.0052 | **0.06** | <0.0002 | 0.01 | 0.001 | <0.002 | 30.3 | <0.0412 | 147 | 290 | 273 | 2.5 | 13.1 | 7.90 | 2632 | 0.20 | 91.5 | 9.4 |
| | 09/03/20 | **270** | **4.6** | **0.011** | <0.040 | 0.91 | 0.022 | **0.053** | <0.0002 | 0.036 | 0.0042 | <0.002 | 14 | <0.041 | 220 J | 360 | 370 | 2.6 | 18.8 | 7.83 | 3355 | 0.53 | 37.5 | 10.3 |
| | 11/12/20 | **320** | 0.49 | 0.0093 | 0.049 J B | 0.95 | 0.013 | **0.039** | <0.0002 | 0.033 | 0.0031 | <0.002 | 18 | <0.041 | 130 | 330 | 300 | 2.1 | 15.0 | 7.91 | 2905 | 0.34 | 2.4 | 12.5 |
| | 02/25/21 | **360** | 0.41 H | 0.0081 | 0.48 | 1.5 | 0.0014 | **0.043** | <0.0002 | 0.032 | 0.0017 | <0.002 | 8.9 H | <0.041 | 140 | 290 | 250 | 2.0 | 13.2 | 7.55 | 2780 | 0.28 | 36.5 | 833 |
| | 05/12/21 | **24** | 0.49 | 0.0093 | 0.11 J | 1.5 | 0.0013 | **0.051** | <0.0002 | 0.015 | 0.0018 | <0.002 | 10 | 0.043 J | 150 | 300 | 310 | 2.4 | 14.5 | 8.01 | 3350 | 0.55 | 66.9 | 4.59 |
| | 09/17/21 | **330** | 0.50 H | 0.008 | <0.040 | 1.6 | 0.0004 J | **0.039** | <0.0003 | 0.031 | 0.0018 | <0.002 | 8.1 | <0.041 | 160 | 270 | 270 | 2.3 | 17.1 | 7.78 | 3495 | 7.78 | 81.5 | 1.11 |
| | 03/31/22 | **410** | 0.87 H | 0.007 | 0.99 J | **3.2** | <0.00028 | **0.027** | <0.0003 | 0.004 | 0.0015 | <0.002 | <2.0 | <0.082 | 180 | 260 | 290 | 2.3 | 12.4 | 7.58 | 3738 | 0.95 | 86.0 | 2.53 |
| | 07/14/22 | **360** | 0.025 J | 0.0064 | <0.080 | 2.1 | <0.00027 | <0.0015 | <0.0003 | 0.019 | 0.0011 | <0.002 | <2.0 | <0.082 | 160 | 270 | 200 | 1.9 | 15.4 | 7.64 | 3337 | 0.70 | 77.8 | 1.10 |
| | 12/08/22 | **390** | 0.77 | 0.0096 | <0.080 | 1.9 | 0.00048 J | **0.036** | <0.0003 | 0.0068 | 0.0019 | <0.002 | 18 | <0.082 | 170 | 290 | 290 H | 2.4 | 11.0 | 7.70 | 3290 | 0.70 | 68.6 | 1.88 |
| | 03/09/23 | **350** | 0.017 J | 0.0064 | <0.020 | **2.3** | <0.00023 | **0.018** | <0.0003 | 0.0091 | 0.001 | <0.002 | 4.7 | <0.021 | 140 | 250 | 160 | 1.8 | 9.8 | 7.09 | 2503 | 0.43 | 87.9 | 1.13 |
| | 05/18/23 | **190** | 0.16 | 0.0071 | 0.032 J | 1.6 | <0.00028 | **0.015** | <0.0003 | 0.0059 | 0.00059 J | <0.002 | 3.4 | <0.021 | 93 | 240 | 120 | 2.2 | 12.0 | 7.59 | 1985 | 1.29 | 55.7 | 4.59 |
| | 08/24/23 | **340** | <0.015 | 0.0085 | 0.026 J | 1.4 | 0.00043 J | 0.0022 | <0.0003 | 0.01 | 0.0013 | <0.002 | 2.5 | <0.021 | 160 | 280 | 250 | 3.5 | 17.4 | 8.26 | 3640 | 0.15 | 86.0 | 1.60 |
| MW-4R | 03/12/20 | **302** | 0.23 | **0.0169** | 0.0941 J | 0.402 | 0.00036 J | **0.1** | <0.0005 | 0.0006 J | **0.006** | <0.002 | 4.78 | <0.041 | 235 | 302 | 362 | 0.83 | 12.9 | 7.48 | 3207 | 0.34 | 109.7 | 38.1 |
| | 09/03/20 | 9.8 | <0.15 | **0.074** | 1.2 | 0.44 | <0.00026 | <0.00029 | <0.0002 | 0.00058 J | **0.0064** | <0.002 | 85 | 0.72 | 65 | 2,300 | 140 | 3.6 | 20.0 | 8.06 | 4116 | 0.05 | -280.7 | 143 |
| | 11/12/20 | **160** | 1.0 | **0.022** | 0.44 | 0.25 | <0.00025 | **0.027** | <0.0002 | 0.00046 J | **0.0062** | <0.002 | 9.2 | 0.29 | 270 | 780 | 240 | 0.62 | 16.7 | 7.80 | 3069 | 0.37 | -42.1 | 24.9 |
| | 02/25/21 | **230** | 0.29 H | **0.011** | 0.073 J | 0.38 | <0.00025 | **0.044** | <0.0002 | 0.00037 J | 0.0048 | <0.002 | 8.1 H | 0.091 J | 320 | 560 | 250 | 0.35 | 13.6 | 7.23 | 2724 | 0.28 | -36.4 | 15.2 |
| | 05/12/21 | **17** | 0.16 | 0.0099 | 0.13 J | 0.49 | 0.00028 J | **0.059** | <0.0002 | 0.0004 J | **0.0065** | <0.002 | 7.3 | <0.041 | 240 | 390 | 370 | 0.27 | 16.3 | 7.63 | 3203 | 0.23 | 11.2 | 9.09 |
| | 09/17/21 | **350** | 0.22 H | **0.012** | <0.040 | 0.43 | <0.00024 | **0.028 J** | <0.0003 | 0.00062 J | **0.0097** | <0.002 | 7.2 | <0.041 | 230 | 330 | 330 | 0.27 | 19.4 | 7.64 | 3261 | 0.26 | -20.1 | 4.16 |
| | 04/01/22 | **250** | 0.12 | **0.01** | 0.096 J | 0.61 | <0.00028 | **0.021** | <0.0003 | 0.00045 J | **0.006** | <0.002 | 3.5 | <0.082 | 260 | 330 | 430 | 0.26 | 10.3 | 7.29 | 2781 | 0.60 | 113.1 | 3.85 |
| | 07/14/22 | **230** | 0.017 J | **0.012** | <0.080 | 0.53 | <0.00026 | **0.0079** | <0.0003 | 0.00050 J | **0.0065** | <0.002 | 4.7 | <0.082 | 330 | 340 | 330 | 0.27 | 18.1 | 7.59 | 3081 | 0.61 | 33.8 | 2.93 |
| | 12/06/22 | **180** | <0.015 | 0.0098 | <0.080 | 0.34 | 0.00033 J | **0.0097** | <0.0003 | <0.0003 | **0.0056** | <0.002 | 4.2 | <0.082 | 240 | 470 | 240 | 0.26 | 11.3 | 7.53 | 2504 | 0.63 | -20.4 | 11.3 |
| | 03/09/23 | **180** | <0.015 | **0.012** | 0.18 | 0.41 | <0.00024 | **0.034** | <0.0003 | 0.00046 J | **0.0057** | <0.002 | <2.0 | 0.059 | 220 | 470 | 290 | 0.25 | 10.8 | 7.00 | 2322 | 0.42 | 11.8 | 7.87 |
| | 05/18/23 | **180** | <0.015 | **0.011** | 0.11 | 0.42 | <0.00029 | **0.054** | <0.0003 | 0.00050 J | **0.006** | <0.002 | <2.0 | <0.021 | 200 | 420 | 310 | 0.22 | 13.4 | 7.66 | 2604 | 0.82 | 29.2 | 7.46 |
| | 08/24/23 | **220** | <0.015 | **0.012** | 0.038 J | 0.37 B | 0.00030 J | **0.013** | <0.0003 | 0.00065 J | **0.0072** | <0.002 | <2.0 | <0.021 | 330 | 350 | 330 | 0.31 | 22.7 | 7.99 | 3230 | NA* | -22.0 | 3.73 |
| | 12/07/23 | **140** | 0.16 | **0.012** | 0.20 | 0.42 | <0.00024 | **0.030** | <0.0003 | 0.00050 J | **0.0068** | <0.002 | 23 | 0.12 | 200 | 450 | 8.1 | 0.39 | 12.1 | 7.78 | 2105 | NA* | -54.3 | 162 |
| MW-5R | 03/12/20 | **206** | 0.30 | 0.0065 | 0.741 | 0.665 | <0.00024 | <0.00027 | <0.0002 | <0.0002 | <0.0002 | <0.002 | 4.95 | 0.129 J | 284 | 296 | 104 | 0.23 | 11.8 | 7.20 | 2245 | 2.77 | 126.4 | 554 |
| | 09/02/20 | <0.040 | <0.15 | **0.077** | 7.2 | **8.2** | <0.00026 | <0.00029 | <0.002 | <0.002 | <0.002 | <0.02 | 3,200 | 3.2 B | 32 | 3,700 | 18 | 2.3 | 22.4 | 7.69 | 8576 | 0.17 | -290.0 | 199 |
| | 11/12/20 | <0.040 | <0.5 | **0.13** | **15** | **18** | <0.00027 | <0.0003 | <0.0002 | <0.0002 | <0.0002 | <0.002 | >370 | 17 | 4.1 J | 3,400 | 72 | 0.69 | 14.7 | 7.51 | 918 | 1.01 | -186.3 | 82.9 |
| | 02/25/21 | 0.45 | 0.20 J,H | **0.062** | 5.4 | 1.0 | <0.00025 | <0.00028 | <0.0002 | <0.0002 | <0.0002 | <0.002 | 60 H | 4.6 | 35 | 4,100 | 42 | 0.71 | 13.2 | 7.25 | 6029 | 0.30 | -154.7 | 143 |
| | 05/12/21 | <0.040 | 0.055 | **0.18** | **16** | 0.97 | <0.00025 | 0.0004 J | <0.0002 | <0.0002 | <0.0002 | <0.002 | 200 H | 17 | 8.2 | 4,600 | 90 | 1.3 | 16.6 | 7.73 | 6398 | 0.38 | -182.7 | 187 |
| | 09/17/21 | 0.20 | 0.10 H | **0.23** | 4.7 | 0.14 | <0.00025 | <0.00028 | <0.0015 | <0.0015 | <0.0015 | <0.01 | 42 | 4.5 | 3.6 J | 3,700 | 67 | 1.1 | 18.4 | 7.65 | 5384 | 0.44 | -197.7 | 71.6 |
| | 03/31/22 | <0.040 | 0.094 H | **0.15** | 2.3 | 0.091 | <0.00025 | <0.00028 | <0.0015 | <0.0015 | <0.0015 | <0.01 | 14 | 1.7 | 39 | 3,200 | 56 | 0.75 | 14.6 | 7.49 | 4707 | 0.69 | 71.3 | 60.4 |
| | 07/14/22 | 0.26 | <0.015 | **0.16** | 3.8 | 0.094 | <0.00028 | <0.00031 | <0.0015 | <0.0015 | <0.0015 | <0.01 | 9.3 | 3.0 | 180 | 2,600 | 60 | 0.53 | 20.2 | 7.74 | 4551 | 0.49 | -124.5 | 58.9 |
| | 12/06/22 | 0.68 | 0.016 J | **0.18** | 2.5 | 0.43 | <0.00024 | <0.00027 | <0.0015 | <0.0015 | <0.0015 | <0.01 | 69 | 1.2 | 4.7 J | 5,500 | 20 J | 9.6 | 12.3 | 7.77 | 7049 | 3.45 | -146.9 | 110 |
| | 03/09/23 | 0.14 | 0.044 J | **0.097** | 1.9 | **3.4** | <0.00025 | <0.00028 | <0.0003 | <0.0003 | <0.0003 | <0.002 | 40 | 2.1 | 120 | 2,900 | 24 | 4.5 | 10.6 | 7.13 | 3719 | 0.40 | -161.3 | 74.9 |
| | 05/18/23 | <0.040 | <0.015 | **0.13** | 0.73 | 0.69 | <0.00025 | 0.0003 J | <0.0003 | 0.00087 J | <0.0003 | <0.002 | 8.8 | 0.44 J | 160 | 2,100 | 35 | 2.5 | 15.2 | 7.58 | 3389 | 0.57 | -85.1 | 40.7 |
| | 08/24/23 | <0.040 | 0.20 | **0.18** | 0.94 | 0.42 | <0.00025 | <0.00028 | <0.003 | <0.003 | <0.003 | <0.02 | 10 | 2.4 | 63 | 2,400 | 34 | 3.1 | 21.2 | 7.98 | 4260 | NA* | -145.0 | 29.9 |
| | 12/06/23 | <0.040 | <0.015 H | **0.22** | 3.8 | 0.50 B | <0.00028 | <0.00031 | <0.003 | <0.003 | <0.003 | <0.02 | 11 H | 0.67 | <50 | 2,500 | 44 | 2.0 | 11.9 | 7.77 | 3174 | NA* | -214 | 59.7 |

**Table 6**
**Groundwater Analytical Results - EISB Performance Monitoring**
Groundwater Remedy Phase II As-Built and Documentation Report
Bee-Jay Scales, Sunnyside, Washington

| | | Site Indicator Hazardous Substances | | | | | | | | | | | Enhanced In-Situ Bioremediation Monitoring Parameters | | | | | | Field Parameters | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Groundwater Sample Analytes | | Nitrate | Nitrite | Total Arsenic | Total Iron | Total Manganese | 2,4-D | Dinoseb | Benzene | Chloro-benzene | 1,2-DCP | 2-MN | BOD | Dissolved Iron | Sulfate | Alkalinity | Ammonia | Total Phosphorus | Temper-ature | pH | Conduct-ivity | DO | ORP | Turbidity |
| Laboratory Analytical Method | | EPA 353.2 | EPA 353.2 | EPA 6020B | EPA 6010D | EPA 6010D | EPA 8151A | EPA 8151A | EPA 8260C/D | EPA 8260C/D | EPA 8260C/D | EPA 8260C/D | SM 5210B | EPA 6010D | EPA 300.0 | SM 2320B | SM 4500-$NH_3$ | EPA 365.1 | NA | NA | NA | NA | NA | NA |
| Units | | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | °C | Std Units | µS/cm | mg/L | mV | NTU |
| Groundwater CULs[A] | | 10 | 1 | 0.01 | 11.2 | 2.2 | 0.07 | 0.007 | 0.005 | 0.1 | 0.005 | 0.032 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Enhanced In-Situ Bioremediation Threshold Concentrations | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | > 64.2[B] | > 1.90[C] | Per Well[B] | Per Well[B] | NA | NA | NA | NA | NA | NA | NA | NA |
| Location | Sample Date | | | | | | | | | | | | | | | | | | | | | | | |
| MW-6 | 03/11/20 | 5.9 | <0.015 | **0.0259** | -- | -- | -- | -- | -- | -- | -- | -- | <2.00 | <0.0412 | 45.5 | 233 | -- | -- | 13.6 | 7.89 | 515 | 1.41 | 84.3 | 2.71 |
| | 09/02/20 | 5.3 | 0.042 J | **0.026** | -- | -- | -- | -- | -- | -- | -- | -- | <1.5 H | <0.041 | 60 H | 210 | -- | -- | 16.9 | 8.11 | 476.3 | 0.43 | 66.1 | 3.83 |
| | 02/24/21 | 5.6 | <0.015 H | **0.024** | -- | -- | -- | -- | -- | -- | -- | -- | <2.00 H | <0.041 | 46 | 270 | -- | -- | 12.6 | 7.53 | 495 | 0.58 | 61.7 | 3.43 |
| | 09/15/21 | 2.6 | 0.028 J | **0.024** | <0.040 | 0.23 | -- | -- | -- | -- | -- | -- | <2.0 | <0.041 | 42 | 210 | <0.080 | 0.084 J | 16.4 | 8.22 | 476.9 | 0.36 | 36.8 | 4.43 |
| | 03/30/22 | 4.4 | <0.015 | **0.025** | 0.10 J | 0.24 | -- | -- | -- | -- | -- | -- | <2.0 | <0.082 | 44 | 240 | 0.21 J | 0.087 J | 12.4 | 7.68 | 479.2 | 2.55 | 74.6 | 6.70 |
| | 07/12/22 | 6.8 | <0.015 | **0.026** | <0.080 | 0.27 | -- | -- | -- | -- | -- | -- | <2.0 | <0.082 | 43 | 230 | <0.080 | 0.089 J | 15.3 | 7.80 | 525 | 0.63 | 41.8 | 5.17 |
| | 03/07/23 | 5.2 | <0.015 | **0.025** | -- | -- | -- | -- | -- | -- | -- | -- | <2.0 | <0.021 | 42 | 260 | -- | -- | 9.5 | 6.96 | 469.2 | 1.63 | 58.9 | 9.61 |
| MW-7 | 03/10/20 | 3.9 | <0.015 H | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 10.4 | 8.10 | 366.9 | 3.73 | 125.6 | 5.31 |
| | 08/31/20 | 3.8 | <0.015 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 19.9 | 7.92 | 463.0 | 2.79 | 68.9 | 11.0 |
| | 02/23/21 | 4.2 | <0.015 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 13.2 | 7.83 | 393.8 | 4.37 | 119.8 | 7.39 |
| | 09/14/21 | 3.9 | <0.015 | **0.013** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 15.9 | 7.90 | 404.6 | 4.45 | 100.3 | 10.5 |
| | 03/28/22 | 3.4 | <0.015 | **0.012** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 13.3 | 7.80 | 394.0 | 5.35 | 77.2 | 8.27 |
| | 07/11/22 | 5.0 | <0.015 | **0.013** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 16.2 | 9.36 | 431.1 | 5.63 | 14.2 | 6.17 |
| | 03/06/23 | 7.0 | <0.015 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 9.8 | 7.79 | 357.1 | 5.12 | 173.2 | 6.78 |
| | 08/21/23 | 4.2 | <0.015 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 13.2 | 7.65 | 410.4 | 2.66 | 93.4 | 4.13 |
| MW-8 | 03/11/20 | **64.9** | <0.015 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 13.7 | 7.60 | 1099 | 0.20 | 93.4 | 1.89 |
| | 09/03/20 | **38** | <0.015 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 21.1 | 7.62 | 950 | 0.19 | -21.5 | 1.39 |
| | 02/25/21 | **65** | <0.015 H | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 13.3 | 7.33 | 1000 | 0.24 | -4.2 | 2.48 |
| | 09/17/21 | 1.6 | <0.015 H | **0.011** | <0.040 | 0.36 | -- | -- | -- | -- | -- | -- | <2.0 | <0.041 | 110 | 260 | 1.0 | 0.065 J | 18.7 | 7.74 | 864 | 0.31 | 72.0 | 2.29 |
| | 03/31/22 | **52** | 0.082 H | **0.01** | <0.080 | 0.60 | -- | -- | -- | -- | -- | -- | <2.0 | <0.082 | 140 | 250 | 0.72 | 0.13 | 12.4 | 7.51 | 1018 | 0.44 | 61.5 | 2.08 |
| | 07/14/22 | **29** | <0.015 | **0.011** | <0.080 | 0.35 | -- | -- | -- | -- | -- | -- | <2.0 | <0.082 | 110 | 260 | 0.56 | 0.087 J | 17.0 | 7.79 | 809 | 0.52 | 49.2 | 6.92 |
| | 03/09/23 | **50** | <0.015 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 9.9 | 7.06 | 863 | 0.65 | -28.2 | 4.04 |
| | 08/24/23 | **21** | <0.015 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 24.8 | 8.40 | 835 | 0.08 | -8.0 | 5.56 |
| MW-9 | 03/11/20 | **236** | <0.015 | -- | -- | -- | <0.00024 | **0.041** | <0.0002 | 0.0005 J | **0.034** | <0.002 | <2.00 | <0.0412 | 414 | 625 | -- | -- | 12.2 | 7.39 | 2801 | 2.26 | 99.0 | 2.1 |
| | 09/02/20 | **360** | 0.022 J | -- | -- | -- | <0.00028 | **0.1** | <0.0002 | <0.0002 | **0.061** | <0.002 | 3.0 | <0.041 | 270 J | 520 | -- | -- | 21.7 | 7.45 | 4238 | 0.26 | -40.3 | 1.63 |
| | 02/25/21 | **130** | 0.82 H | -- | -- | -- | <0.00027 | **0.031** | <0.0002 | 0.00032 J | **0.021** | <0.002 | 7.2 H | 0.12 J | 32 | 390 | -- | -- | 12.0 | 7.34 | 1560 | 1.52 | 61.0 | 2.86 |
| | 09/16/21 | **520** | 0.038 J | 0.0061 | <0.040 | 0.10 | <0.00026 | **0.2** | <0.0003 | 0.001 | **0.07** | <0.002 | 3.4 | <0.041 | 140 | 550 | 270 | <0.050 | 18.0 | 7.24 | 4017 | 0.73 | 98.3 | 1.09 |
| | 04/01/22 | **220** | 0.020 J | 0.0071 | <0.080 | 0.045 | <0.00026 | **0.085** | <0.0003 | 0.00063 J | **0.051** | <0.002 | <2.0 | <0.082 | 140 | 700 | 340 | 0.070 J | 10.8 | 7.31 | 2973 | 1.13 | 109.0 | 3.87 |
| | 07/13/22 | **330** | <0.015 | 0.0070 | <0.080 | 0.034 | <0.00028 | 0.006 | <0.0003 | 0.00086 J | **0.074** | <0.002 | 8.4 | <0.082 | 190 | 630 | 300 | 0.11 | 17.6 | 7.53 | 4449 | 0.35 | 58.5 | 3.35 |
| | 03/08/23 | **200** | <0.015 | -- | -- | -- | <0.00029 | <0.00032 | <0.0003 | 0.00052 J | **0.042** | <0.002 | <2.0 | <0.021 | 200 | 540 | -- | -- | 8.8 | 7.47 | 2408 | 0.43 | 124.4 | 3.73 |
| | 08/22/23 | **290** | <0.015 | -- | -- | -- | <0.00026 | **0.031** | <0.0003 | 0.00082 J | **0.056** | <0.002 | 5.6 | <0.021 | 260 | 510 | -- | -- | 17.1 | 7.33 | 3807 | NA* | -51.1 | 4.34 |
| MW-10 | 03/10/20 | 3.7 | <0.015 | **0.0164** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 13.6 | 8.18 | 443 | 0.31 | 85.2 | 4.57 |
| | 09/01/20 | 5.5 | <0.015 | **0.016** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 17.0 | 8.16 | 487 | 0.51 | 49.9 | 6.17 |
| | 02/23/21 | 4.6 | <0.015 H | **0.02** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 13.0 | 7.91 | 443.5 | 0.99 | 75.8 | 7.01 |
| | 09/15/21 | 2.4 | 0.029 J | **0.016** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 16.6 | 8.23 | 478.7 | 0.54 | 34.2 | 1.53 |
| | 03/29/22 | 3.3 | 0.026 J | **0.016** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 12.4 | 7.95 | 430.1 | 2.38 | 74.4 | 4.95 |
| | 07/12/22 | 4.5 | 0.058 | **0.019** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 14.3 | 8.02 | 451.5 | 1.22 | 47.9 | 3.83 |
| | 03/06/23 | 3.3 | 0.095 | **0.019** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 9.8 | 5.63* | 409.1 | 1.13 | 100.3* | 2.96 |
| | 08/21/23 | 6.4 | <0.015 H | **0.015** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 14.9 | 7.94 | 488.8 | NA* | 18.2 | 9.3 |
| MW-11 | 03/11/20 | 2.6 | <0.015 | **0.040** | -- | -- | -- | -- | -- | -- | -- | -- | <2.00 | <0.0412 | 53.5 | 238 | -- | -- | 13.2 | 7.78 | 540 | 0.53 | 116.8 | 5.41 |
| | 09/01/20 | 6.0 | 0.054 | **0.034** | -- | -- | -- | -- | -- | -- | -- | -- | <1.5 | <0.041 | 48 | 240 | -- | -- | 19.4 | 7.69 | 590 | 0.99 | 96.4 | 1.60 |
| | 02/24/21 | 5.6 | 0.087 H | **0.043** | -- | -- | -- | -- | -- | -- | -- | -- | <2.00 | <0.041 | 53 | 240 | -- | -- | 13.9 | 7.44 | 484.1 | 0.46 | 40.1 | 5.03 |
| | 09/15/21 | 2.4 | <0.015 | **0.019** | 0.065 J | **5.3** | -- | -- | -- | -- | -- | -- | <2.0 | <0.041 | 47 | 210 | <0.080 | 0.070 J | 20.4 | 7.79 | 606 | 0.80 | 58.1 | 5.16 |
| | 03/28/22 | 4.6 | <0.015 | **0.029** | <0.080 | 0.041 | -- | -- | -- | -- | -- | -- | <2.0 | <0.082 | 55 | 210 | <0.080 | 0.075 J | 15.1 | 7.65 | 496.8 | 3.04 | 58.9 | 14.6 |
| | 07/12/22 | 6.1 | 0.070 | **0.038** | <0.080 | 0.83 | -- | -- | -- | -- | -- | -- | <2.0 | <0.082 | 51 | 220 | <0.080 | 0.093 J | 16.9 | 7.65 | 545 | 0.93 | 53.4 | 2.73 |
| | 03/07/23 | 4.8 | 0.027 J | **0.034** | -- | -- | -- | -- | -- | -- | -- | -- | 12 | <0.021 | 50 | 220 | -- | -- | 9.9 | 7.52 | 423.9 | 2.13 | 49.3 | 13.6 |
| | 08/21/23 | 5.4 | 0.048 J H | **0.031** | -- | -- | -- | -- | -- | -- | -- | -- | <2.0 | <0.021 | 51 | 220 | -- | -- | 18.9 | 7.64 | 581 | NA* | 43.2 | 4.41 |

**Table 6**
**Groundwater Analytical Results - EISB Performance Monitoring**
Groundwater Remedy Phase II As-Built and Documentation Report
Bee-Jay Scales, Sunnyside, Washington

| | | Site Indicator Hazardous Substances | | | | | | | | | | | Enhanced In-Situ Bioremediation Monitoring Parameters | | | | | | Field Parameters | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Groundwater Sample Analytes | | Nitrate | Nitrite | Total Arsenic | Total Iron | Total Manganese | 2,4-D | Dinoseb | Benzene | Chloro-benzene | 1,2-DCP | 2-MN | BOD | Dissolved Iron | Sulfate | Alkalinity | Ammonia | Total Phosphorus | Temper-ature | pH | Conduct-ivity | DO | ORP | Turbidity |
| Laboratory Analytical Method | | EPA 353.2 | EPA 353.2 | EPA 6020B | EPA 6010D | EPA 6010D | EPA 8151A | EPA 8151A | EPA 8260C/D | EPA 8260C/D | EPA 8260C/D | EPA 8260C/D | SM 5210B | EPA 6010D | EPA 300.0 | SM 2320B | SM 4500-$NH_3$ | EPA 365.1 | NA | NA | NA | NA | NA | NA |
| Units | | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | °C | Std Units | µS/cm | mg/L | mV | NTU |
| Groundwater CULs[A] | | 10 | 1 | 0.01 | 11.2 | 2.2 | 0.07 | 0.007 | 0.005 | 0.1 | 0.005 | 0.032 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Enhanced In-Situ Bioremediation Threshold Concentrations | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | > 64.2[B] | > 1.90[C] | Per Well[B] | Per Well[B] | NA | NA | NA | NA | NA | NA | NA | NA |
| Location | Sample Date | | | | | | | | | | | | | | | | | | | | | | | |
| MW-12R | 03/12/20 | **353** | 0.21 | **0.0640** | 0.914 | 0.746 | 0.0022 | **1.5** | **0.01** | **0.18** | **0.75** | <0.002 | <2.00 | 0.102 J | 331 | 548 | 239 | 3.0 | 13.5 | 7.16 | 3650 | 2.08 | 113.3 | 22.3 |
| | 09/03/20 | 1.2 | <0.15 | **0.190** | **20** | **6.1** | 0.0036 | 0.00079 | **0.011** | **0.14** | **0.89** | <0.002 | 230 | 23 | 29 | 3,900 | 240 | 2.2 | 21.1 | 7.15 | 7856 | 0.16 | -153.4 | 117 |
| | 11/12/20 | **110** | **9.6** | **0.042** | 1.2 | 0.93 | 0.028 | **0.27** | **0.02** | **0.22** | **1.8** | <0.002 | 16 | 0.94 | 790 | 1,900 | 260 | 0.61 | 16.0 | 7.61 | 5172 | 0.44 | 1.8 | 75.5 |
| | 02/25/21 | **260** | **3.7 H** | 0.010 | 0.31 | 0.99 | <0.00026 | **0.55** | **0.015** | **0.17** | **1.2** | <0.002 | 7.3 H | 0.36 | 650 | 1,000 | 230 | 0.23 | 14.5 | 7.23 | 4313 | 0.23 | 14.4 | 17.2 |
| | 05/12/21 | **19** | 0.11 | 0.0077 | 0.14 J | 0.99 | 0.008 | **1.3** | **0.014** | **0.17** | **1.4** | <0.004 | 21 | 0.24 | 530 | 890 | 270 | 0.16 | 15.0 | 7.62 | 4565 | 1.70 | 99.6 | 16.2 |
| | 09/17/21 | 4.0 | 0.023 J,H | 0.0039 | 0.13 J | 1.6 | <0.0019 | **1.2** | **0.026** | **0.29** | **2.3** | <0.002 | <21 | <0.041 | 600 | 730 | 320 | <0.050 | 16.5 | 7.24 | 5802 | 1.49 | 102.7 | 8.23 |
| | 03/31/22 | **300** | 0.037 J,H,B | **0.011** | <0.080 | 1.3 | 0.00081 | **1.8** | **0.022** | **0.29** | **1.9** | <0.002 | <2.0 | <0.082 | 630 | 700 | 290 | 0.051 J | 11.6 | 7.08 | 4912 | 2.67 | 102.4 | 14.9 |
| | 07/14/22 | **200** | <0.015 | **0.064** | 0.12 J | 0.93 | 0.00026 J | **0.64** | **0.011** | **0.16** | **0.76** | <0.002 | <2.0 | <0.082 | 290 | 520 | 140 | 1.0 | 15.9 | 7.20 | 3218 | 0.98 | 85.4 | 9.82 |
| | 12/08/22 | **200** | 0.13 | **0.058** | 0.31 | 1.1 | 0.0045 | **0.96** | **0.013** | **0.22** | **1.1** | 0.025 | <50 | 0.17 J | 510 | 1,500 | 230 | 0.78 | 13.1 | 7.19 | 5288 | 2.79 | 70.3 | 21.4 |
| | 03/09/23 | **170** | <0.015 | **0.027** | 0.15 | 0.94 | <0.00026 | **0.83** | **0.0075** | **0.14** | **0.61** | <0.010 | <2.0 | 0.16 | 400 | 780 | 190 | 0.34 | 10.1 | 6.82 | 2614 | 0.49 | 81.8 | 7.62 |
| | 05/18/23 | **150** | <0.015 | **0.020** | 0.091 | 0.90 | <0.00026 | **0.80** | **0.0073** | **0.13** | **0.55** | <0.010 | <2.0 | 0.035 J | 290 | 670 | 160 | 0.26 | 15.8 | 7.26 | 3550 | 1.13 | 70.0 | 9.70 |
| | 08/24/23 | **490** | <0.015 | **0.012** | 0.051 | 1.4 | <0.00026 | **1.1** | **0.02** | **0.29** | **1.4** | <0.002 | <2.0 | <0.021 | 740 | 750 | 300 | 0.18 | 18.7 | 7.31 | 7450 | 0.25 | 110.0 | 2.89 |
| | 12/07/23 | **440** | <0.015 | **0.011** | 0.078 | 1.8 | <0.00024 | 0.0039 | **0.017** | **0.27** | **1.1** | <0.002 | <2.0 | 0.023 J | 470 | 740 | 8.2 | 0.15 | 11.5 | 7.39 | 5500 | NA* | 37.1 | 6.11 |
| MW-13 | 03/12/20 | 1.1 | <0.015 | **0.0134** | 0.156 J | 0.0090 J | <0.00024 | 0.0041 | <0.0002 | <0.0002 | <0.0002 | <0.002 | <2.00 | <0.0412 | 113 | 254 | <0.080 | 0.079 J | 14.3 | 7.60 | 750 | 0.17 | 92.4 | 2.33 |
| | 09/02/20 | 1.0 | 0.97 | **0.023** | <0.040 | 0.30 | <0.00024 | 0.0022 | <0.0002 | <0.0002 | <0.0002 | <0.002 | 36 | 0.048 J | 260 J | 470 | <0.080 | 0.15 | 20.1 | 8.43 | 1073 | 0.23 | 45.9 | 21.4 |
| | 11/11/20 | **21** | 0.39 | **0.017** | <0.040 | 0.51 | 0.00039 J | <0.00027 | <0.0002 | <0.0002 | <0.0002 | <0.002 | <1.5 | <0.041 | 99 | 270 | <0.080 | 0.073 | 16.9 | 7.69 | 802 | 0.39 | -59.0 | 2.67 |
| | 02/24/21 | **24** | 0.14 H | **0.014** | 0.045 J | 0.46 | <0.00027 | 0.0025 | <0.0002 | <0.0002 | <0.0002 | <0.002 | <2.0 | <0.041 | 110 | 280 | <0.080 | 0.059 J | 14.2 | 7.35 | 712 | 0.28 | 61.9 | 1.22 |
| | 05/11/21 | 4.7 | 0.21 | **0.014** | <0.040 | 0.44 | <0.00028 | 0.00047 J | <0.0002 | <0.0002 | <0.0002 | <0.002 | <1.5 | 0.054 J | 100 | 280 | <0.080 | 0.075 J | 16.5 | 7.80 | 798 | 0.26 | 76.8 | 2.93 |
| | 09/16/21 | **20** | 0.22 | **0.013** | <0.040 | 0.48 | <0.00029 | 0.0036 | <0.0003 | <0.0003 | <0.0003 | <0.002 | <1.5 | 0.042 J | 110 | 260 | <0.080 | <0.050 | 19.2 | 7.60 | 827 | 0.55 | 44.8 | 3.62 |
| | 03/30/22 | **21** | 0.080 | **0.013** | <0.080 | 0.70 | <0.00028 | 0.0023 | <0.0003 | <0.0003 | <0.0003 | <0.002 | <2.0 | <0.082 | 140 | 260 | 0.21 J | 0.072 J | 14.4 | 7.58 | 758 | 1.32 | 76.2 | 3.71 |
| | 07/13/22 | **28** | 0.087 | **0.013** | <0.080 | 0.34 | <0.00026 | 0.00046 J | <0.0003 | <0.0003 | <0.0003 | <0.002 | <2.0 | <0.082 | 120 | 260 | <0.080 | 0.11 | 17.0 | 7.54 | 804 | 0.90 | 69.2 | 2.36 |
| | 12/07/22 | **22** | 0.036 J H | **0.013** | <0.080 | 0.61 | <0.00027 | 0.0032 | <0.0003 | <0.0003 | <0.0003 | <0.002 | <2.0 H | <0.082 | 110 | 280 | <0.080 | 0.059 J | 11.8 | 7.53 | 723 | 0.52 | 10.6 | 2.52 |
| | 03/08/23 | **23** | 0.028 J | **0.013** | 0.041 J | 0.33 | <0.00027 | 0.0024 | <0.0003 | <0.0003 | <0.0003 | <0.002 | <2.0 | 0.025 J | 100 | 260 | <0.080 | 0.088 J | 11.3 | 7.61 | 662 | 0.39 | 84.0 | 1.21 |
| | 05/16/23 | **21** | <0.015 | **0.014** | 0.15 | 0.70 B | <0.00028 | 0.0028 | <0.0003 | <0.0003 | <0.0003 | <0.002 | <1.5 | 0.023 J | 100 | 260 | <0.080 | 0.063 J | 15.1 | 7.49 | 729 | 3.03 | 50.8 | 6.94 |
| | 08/23/23 | **21** | 0.027 J H | **0.012** | <0.020 | 0.34 | <0.00028 | 0.0015 | <0.0003 | <0.0003 | <0.0003 | <0.002 | <2.0 H | <0.021 | 100 | 290 | <0.080 | 0.11 | 25.3 | 7.89 | 855 | 0.27 | 93.0 | 2.96 |
| | 12/06/23 | **19** | 0.018 J | **0.014** | <0.020 | 0.20 | <0.00026 | 0.0015 | <0.0003 | <0.0003 | <0.0003 | <0.002 | <2.0 | <0.021 | 100 | 270 | <0.080 | 0.084 J | 11.7 | 7.68 | 632 | NA* | 97.4 | 11.7 |
| MW-14 | 03/11/20 | 3.7 | 0.042 J | -- | -- | -- | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 12.2 | 7.45 | 803 | 0.12 | 87.5 | 5.49 |
| | 09/01/20 | 2.4 | <0.015 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 19.3 | 7.35 | 947 | 0.13 | -6.2 | 0.79 |
| | 02/23/21 | 0.19 | <0.015 H | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 11.8 | 6.75 | 502 | 0.45 | -151.7 | 16.1 |
| | 09/14/21 | 1.2 | 0.082 | **0.023** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 19.3 | 7.43 | 826 | 0.44 | 49.0 | 4.06 |
| | 03/29/22 | 1.7 | 0.033 J,H | 0.0072 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 12.3 | 7.26 | 707 | 0.75 | 10.5 | 4.37 |
| | 07/12/22 | 1.7 | <0.015 | **0.010** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 17.7 | 7.29 | 803 | 0.43 | 35.2 | 5.38 |
| | 03/07/23 | 0.63 | 0.022 J | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 8.8 | 3.37* | 673 | 1.56 | 88.1* | 9.27 |
| | 08/22/23 | <0.040 | <0.015 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 16.8 | 6.12 | 1277 | NA* | -121.0 | 61.8 |
| MW-15 | 03/10/20 | 3.5 | <0.015 H | **0.0149** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 15.5 | 8.06 | 384.9 | 2.87 | 93.5 | 6.36 |
| | 09/01/20 | 3.4 | <0.015 | **0.014** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 20.4 | 7.87 | 440.5 | 2.07 | 70.9 | 5.08 |
| | 02/23/21 | 4 | <0.015 H | **0.015** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 14.4 | 7.81 | 381.7 | 2.37 | 83.0 | 6.61 |
| | 09/14/21 | 3.3 | <0.015 H | **0.015** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 22.2 | 7.97 | 444.4 | 1.54 | 52.3 | 9.47 |
| | 03/30/22 | 3.4 | <0.015 | **0.015** | -- | -- | <0.00026 | <0.00029 | <0.0003 | <0.0003 | <0.0003 | <0.002 | -- | -- | -- | -- | -- | -- | 13.8 | 7.84 | 373.6 | 3.06 | 72.7 | 5.60 |
| | 07/12/22 | 3.6 | <0.015 | **0.015** | -- | -- | <0.00025 | <0.00028 | <0.0003 | <0.0003 | <0.0003 | <0.002 | -- | -- | -- | -- | -- | -- | 19.1 | 7.86 | 429.4 | 2.01 | 49.7 | 1.87 |
| | 03/07/23 | 3.7 | <0.015 | **0.015** | -- | -- | <0.00026 | <0.00029 | <0.0003 | <0.0003 | <0.0003 | <0.002 | -- | -- | -- | -- | -- | -- | 11.2 | 7.63* | 353.7 | 3.38 | 20.1* | 8.24 |
| | 08/22/23 | 3.6 | <0.015 | **0.014** | -- | -- | <0.00027 | <0.00031 | <0.0003 | <0.0003 | <0.0003 | <0.002 | -- | -- | -- | -- | -- | -- | 15.5 | 7.77 | 408.9 | 2.14 | 91.6 | 9.89 |

**Table 6**
**Groundwater Analytical Results - EISB Performance Monitoring**
Groundwater Remedy Phase II As-Built and Documentation Report
Bee-Jay Scales, Sunnyside, Washington

| | | Site Indicator Hazardous Substances | | | | | | | | | | | Enhanced In-Situ Bioremediation Monitoring Parameters | | | | | | Field Parameters | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Groundwater Sample Analytes** | | **Nitrate** | **Nitrite** | **Total Arsenic** | **Total Iron** | **Total Manganese** | **2,4-D** | **Dinoseb** | **Benzene** | **Chloro-benzene** | **1,2-DCP** | **2-MN** | **BOD** | **Dissolved Iron** | **Sulfate** | **Alkalinity** | **Ammonia** | **Total Phosphorus** | **Temper-ature** | **pH** | **Conduct-ivity** | **DO** | **ORP** | **Turbidity** |
| **Laboratory Analytical Method** | | **EPA 353.2** | **EPA 353.2** | **EPA 6020B** | **EPA 6010D** | **EPA 6010D** | **EPA 8151A** | **EPA 8151A** | **EPA 8260C/D** | **EPA 8260C/D** | **EPA 8260C/D** | **EPA 8260C/D** | **SM 5210B** | **EPA 6010D** | **EPA 300.0** | **SM 2320B** | **SM 4500-$NH_3$** | **EPA 365.1** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |
| **Units** | | **mg/L** | **mg/L** | **mg/L** | **mg/L** | **mg/L** | **mg/L** | **mg/L** | **mg/L** | **mg/L** | **mg/L** | **mg/L** | **mg/L** | **mg/L** | **mg/L** | **mg/L** | **mg/L** | **mg/L** | **°C** | **Std Units** | **µS/cm** | **mg/L** | **mV** | **NTU** |
| **Groundwater CULs[A]** | | **10** | **1** | **0.01** | **11.2** | **2.2** | **0.07** | **0.007** | **0.005** | **0.1** | **0.005** | **0.032** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |
| **Enhanced In-Situ Bioremediation Threshold Concentrations** | | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **> 64.2[B]** | **> 1.90[C]** | **Per Well[B]** | **Per Well[B]** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |
| **Location** | **Sample Date** | | | | | | | | | | | | | | | | | | | | | | | |
| MW-16 | 03/13/20 | **145** | **1.6** | -- | -- | -- | <0.00024 | **0.054** | <0.0002 | 0.0003 J | **0.15** | <0.002 | <2.00 | 0.141 J | 598 | 645 | -- | -- | 13.3 | 7.24 | 2759 | 3.64 | 120.5 | 14.5 |
| | 09/02/20 | 2.6 | 0.65 | -- | -- | -- | <0.00026 | <0.00029 | <0.002 | <0.002 | **0.069** | <0.02 | 2.600 | 220 | 90 J | 1,300 | -- | -- | 20.4 | 6.39 | 3645 | 0.35 | -167.9 | 146 |
| | 02/25/21 | **15** | 0.037 J,H | -- | -- | -- | <0.00026 | 0.0035 | <0.0002 | <0.0002 | **0.042** | <0.002 | 2.1 H | 8.8 | 79 | 330 | -- | -- | 13.8 | 6.68 | 697 | 0.30 | -93.7 | 19.4 |
| | 09/16/21 | **25** | 0.98 | **0.022** | 0.67 | 0.92 | <0.00025 | **0.0097** | <0.0003 | <0.0003 | **0.14** | <0.002 | <2.0 | 0.25 | 460 | 650 | 0.080 J | 0.056 J | 21.6 | 7.13 | 2606 | 0.52 | 15.3 | 14.3 |
| | 03/30/22 | **99** | 0.40 | 0.0061 | <0.080 | 1.3 | <0.00026 | **0.031** | <0.0003 | <0.0003 | **0.14** | <0.002 | <2.0 | 0.094 J | 430 | 640 | 0.25 | 0.060 J | 14.5 | 7.10 | 2456 | 1.27 | 77.9 | 16.7 |
| | 07/13/22 | **57** | **1.8** | **0.019** | 1.6 | 0.84 | <0.00026 | 0.0042 | <0.0003 | <0.0003 | **0.12** | <0.002 | <2.0 | 0.13 J | 250 | 520 | 0.16 J | 0.15 | 18.9 | 7.13 | 1794 | 0.62 | -69.8 | 6.27 |
| | 03/09/23 | **13** | 0.22 | -- | -- | -- | <0.00026 | 0.0064 | <0.0003 | <0.0003 | **0.029** | <0.002 | 5.0 | 0.083 | 70 | 240 | -- | -- | 11.1 | 6.28 | 506 | 0.67 | 49.6 | 12.3 |
| | 08/23/23 | **89** | 0.71 H | -- | -- | -- | <0.00028 | **0.0092** | <0.0003 | <0.0003 | **0.079** | <0.002 | <2.0 | 0.51 | 350 | 640 | -- | -- | 26.5 | 7.36 | 2370 | 0.58 | 102.0 | 6.32 |
| MW-17 | 03/11/20 | 2.1 | <0.015 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 14.3 | 7.65 | 434.5 | 1.71 | 113.1 | 1.56 |
| | 09/01/20 | 3.3 | <0.015 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 21.2 | 7.55 | 446.4 | 2.10 | 25.2 | 1.70 |
| | 02/24/21 | 3.8 | <0.015 H | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 14.3 | 7.47 | 370.2 | 1.88 | 58.8 | 4.17 |
| | 09/16/21 | 3.6 | <0.015 | 0.0084 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 19.0 | 7.95 | 409.3 | 1.65 | 47.2 | 2.44 |
| | 03/29/22 | 3.0 | <0.015 | 0.0083 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 15.4 | 7.68 | 389.1 | 2.42 | 56.0 | 15.3 |
| | 07/13/22 | 4.1 | <0.015 | 0.0086 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 19.9 | 7.87 | 424 | 2.30 | 43.2 | 2.47 |
| | 03/08/23 | 4.6 | <0.015 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 10.8 | 7.89 | 343.3 | 2.48 | 103.6 | 4.62 |
| | 08/22/23 | 3.8 | <0.015 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 17.1 | 7.62 | 423.2 | 2.75 | 22.2 | 5.75 |
| MW-18 | 03/10/20 | 3.2 | <0.015 H | **0.0189** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 15.5 | 7.84 | 369.2 | 3.34 | 118.2 | 4.19 |
| | 09/01/20 | 3.1 | <0.015 | **0.018** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 23.5 | 7.60 | 455.2 | 2.44 | 19.5 | 10.7 |
| | 02/24/21 | 3.5 | <0.015 H | **0.019** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 14.4 | 7.49 | 336.3 | 2.70 | 67.4 | 1.99 |
| | 09/15/21 | 2.9 | <0.015 | **0.017** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 23.6 | 7.60 | 457.3 | 2.14 | 39.9 | 7.51 |
| | 03/29/22 | 2.8 | <0.015 | **0.016** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 17.4 | 7.59 | 391.5 | 2.95 | 55.9 | 7.60 |
| | 07/13/22 | 3.6 | <0.015 | **0.017** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 21.8 | 7.64 | 436.2 | 2.48 | 61.1 | 11.1 |
| | 03/08/23 | 3.0 | <0.015 | **0.017** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 10.6 | 7.73 | 317.8 | 2.74 | 140.9 | 5.95 |
| | 08/23/23 | 3.0 | <0.015 | **0.018** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 25.7 | 7.65 | 480.0 | NA* | 93.0 | 10.9 |
| MW-19 | 03/10/20 | 2.9 | <0.015 H | **0.0182** | -- | -- | <0.00026 | <0.00029 | <0.0002 | <0.0002 | 0.003 | <0.002 | <2.00 H | 0.622 | 149 | 224 | -- | -- | 13.9 | 7.73 | 1160 | 3.02 | 108.8 | 142 |
| | 08/31/20 | 2.9 | 0.062 | **0.046** | -- | -- | <0.00033 | <0.00036 | <0.0002 | <0.0002 | **0.015** | <0.002 | <1.5 | 1.2 | 160 | 230 | -- | -- | 20.8 | 7.74 | 1325 | 1.18 | 47.1 | 130 |
| | 02/24/21 | 2.0 | <0.015 H | **0.012** | -- | -- | <0.00026 | <0.00029 | <0.0003 | <0.0003 | **0.0076** | <0.002 | <2.00 | 0.49 | 140 | 260 | -- | -- | 12.6 | 7.42 | 1047 | 1.44 | 59.0 | 44.4 |
| | 09/15/21 | 4.0 | <0.015 | **0.011** | 0.94 | 0.17 | <0.00028 | <0.00031 | <0.0003 | <0.0003 | **0.0061** | <0.002 | <2.0 | 1.2 | 120 | 230 | <0.080 | 0.13 | 20.4 | 7.71 | 1328 | 0.79 | 40.1 | 47.9 |
| | 03/29/22 | 2.0 | 0.017 J | 0.0074 | 0.61 | 0.91 | <0.00026 | <0.00029 | <0.0003 | <0.0003 | **0.024** | <0.002 | <2.0 | 0.49 | 87 | 190 | <0.080 | 0.19 | 14.6 | 7.42 | 996 | 3.14 | 67.9 | 390 |
| | 07/12/22 | 9.6 | 0.024 J | **0.013** | 0.58 | 0.47 | <0.00026 | <0.00030 | <0.0003 | <0.0003 | 0.0042 | <0.002 | <2.0 | 1 | 150 | 200 | <0.080 | 0.18 | 19.9 | 7.83 | 1143 | 0.87 | 30.0 | 108 |
| | 03/08/23 | 0.28 | <0.015 | **0.011** | -- | -- | <0.00026 | <0.00029 | <0.0003 | <0.0003 | **0.027** | <0.002 | 5.8 | 0.89 | 41 | 260 | -- | -- | 9.6 | 7.41 | 772 | 0.40 | -59.6 | 65.1 |
| | 08/23/23 | 3.0 | 0.11 | **0.024** | -- | -- | <0.00029 | <0.00033 | <0.0003 | <0.0003 | **0.038** | <0.002 | <2.0 | 1.7 | 90 | 240 | -- | -- | 19.0 | 7.40 | 1150 | NA* | 122.0 | 30.5 |
| MW-20 | 03/10/20 | 3.2 | <0.015 H | **0.0182** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 15.9 | 7.87 | 393.8 | 2.91 | 112.2 | 4.06 |
| | 08/31/20 | 3.4 | <0.015 | **0.020** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 22.5 | 7.60 | 467 | 2.39 | 55.7 | 3.51 |
| | 02/24/21 | 3.6 | <0.015 H | **0.020** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 14.7 | 7.58 | 367.1 | 2.11 | 61.9 | 1.93 |
| | 09/15/21 | 3.2 | <0.015 | **0.017** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 20.7 | 7.91 | 443.0 | 1.84 | 46.3 | 2.61 |
| | 03/29/22 | 3.3 | <0.015 | **0.016** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 15.6 | 7.67 | 396.8 | 3.45 | 71.9 | 7.09 |
| | 07/12/22 | 3.6 | <0.015 | **0.020** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 20.6 | 7.80 | 452 | 2.14 | 30.5 | 2.54 |
| | 03/08/23 | 3.6 | <0.015 | **0.018** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 12.3 | 7.89 | 359.0 | 2.03 | 139.1 | 8.57 |
| | 08/23/23 | 3.5 | <0.015 | **0.019** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 23.8 | 7.88 | 504.0 | 2.74 | 90.0 | 1.81 |

**Table 6**
**Groundwater Analytical Results - EISB Performance Monitoring**
Groundwater Remedy Phase II As-Built and Documentation Report
Bee-Jay Scales, Sunnyside, Washington

| | | Site Indicator Hazardous Substances | | | | | | | | | | | Enhanced In-Situ Bioremediation Monitoring Parameters | | | | | | Field Parameters | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Groundwater Sample Analytes** | | **Nitrate** | **Nitrite** | **Total Arsenic** | **Total Iron** | **Total Manganese** | **2,4-D** | **Dinoseb** | **Benzene** | **Chloro-benzene** | **1,2-DCP** | **2-MN** | **BOD** | **Dissolved Iron** | **Sulfate** | **Alkalinity** | **Ammonia** | **Total Phosphorus** | **Temper-ature** | **pH** | **Conduct-ivity** | **DO** | **ORP** | **Turbidity** |
| **Laboratory Analytical Method** | | **EPA 353.2** | **EPA 353.2** | **EPA 6020B** | **EPA 6010D** | **EPA 6010D** | **EPA 8151A** | **EPA 8151A** | **EPA 8260C/D** | **EPA 8260C/D** | **EPA 8260C/D** | **EPA 8260C/D** | **SM 5210B** | **EPA 6010D** | **EPA 300.0** | **SM 2320B** | **SM 4500-$NH_3$** | **EPA 365.1** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |
| **Units** | | **mg/L** | **mg/L** | **mg/L** | **mg/L** | **mg/L** | **mg/L** | **mg/L** | **mg/L** | **mg/L** | **mg/L** | **mg/L** | **mg/L** | **mg/L** | **mg/L** | **mg/L** | **mg/L** | **mg/L** | **°C** | **Std Units** | **µS/cm** | **mg/L** | **mV** | **NTU** |
| **Groundwater CULs[A]** | | **10** | **1** | **0.01** | **11.2** | **2.2** | **0.07** | **0.007** | **0.005** | **0.1** | **0.005** | **0.032** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |
| **Enhanced In-Situ Bioremediation Threshold Concentrations** | | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **> 64.2[B]** | **> 1.90[C]** | **Per Well[B]** | **Per Well[B]** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |
| **Location** | **Sample Date** | | | | | | | | | | | | | | | | | | | | | | | |
| MW-21 | 03/11/20 | **161** | <0.015 | 0.0035 | 0.305 | 0.0605 | <0.00024 | <0.00027 | <0.0002 | <0.0002 | 0.0004 J | <0.002 | <2.00 | <0.0412 | 396 | 358 | <0.080 | 0.082 J | 12.5 | 7.25 | 1991 | 2.16 | 106.3 | 8.5 |
| | 09/01/20 | **40** | <0.015 | **0.015** | 2.0 | **5.6** | <0.00024 | <0.00027 | <0.0002 | <0.0002 | 0.00078 J | <0.002 | 70 | 1.6 | 390 J | 1,700 | 0.14 J | 0.37 | 17.8 | 7.56 | 3653 | 0.07 | -160.5 | 10.3 |
| | 11/11/20 | **140** | **12 H** | 0.0032 | 0.080 J | **3.4** | <0.00025 | <0.00028 | <0.0002 | <0.0002 | 0.00069 J | <0.002 | 1.9 | <0.041 | 460 | 440 | 0.85 | 0.072 J | 14.6 | 7.51 | 2233 | 0.59 | -62.7 | 1.89 |
| | 02/24/21 | **140** | **2.4 H** | 0.0027 | <0.040 | **3.2** | <0.00024 | 0.0014 | <0.0002 | <0.0002 | 0.00052 J | <0.002 | <2.00 | <0.041 | 370 | 430 | <0.080 | 0.052 J | 11.9 | 7.10 | 1725 | 0.29 | 67.5 | 2.33 |
| | 05/11/21 | **23** | **3.0** | 0.0025 | 0.090 J | **3.3** | <0.00024 | <0.00027 | <0.0002 | <0.0002 | 0.0006 J | <0.002 | <1.5 | 0.054 J | 340 | 400 | <0.080 | <0.050 | 13.4 | 7.53 | 1900 | 1.47 | 112.1 | 2.27 |
| | 09/15/21 | **120** | 0.77 H | 0.0033 | <0.040 | **2.9** | <0.00026 | <0.00029 | <0.0003 | <0.0003 | 0.00075 J | <0.002 | <1.5 H | <0.041 | 360 | 360 | <0.080 | <0.050 | 17.8 | 7.47 | 2135 | 0.41 | 46.2 | 2.71 |
| | 03/29/22 | **110** | 0.31 H | 0.0027 | <0.080 | 1.9 | <0.00026 | <0.00029 | <0.0003 | <0.0003 | 0.00057 J | <0.002 | <2.0 | <0.082 | 320 | 390 | 0.19 J | <0.050 | 12.5 | 7.22 | 1675 | 0.70 | 46.2 | 3.88 |
| | 07/12/22 | **110** | 0.91 | 0.0029 | <0.080 | 1.5 | <0.00026 | <0.00029 | <0.0003 | <0.0003 | 0.00040 J | <0.002 | <2.0 | <0.082 | 370 | 450 | <0.080 | <0.050 | 15.6 | 7.38 | 1827 | 0.43 | 40.8 | 1.66 |
| | 12/07/22 | 9.4 | **2.6** | **0.032** | 0.68 | **2.2** | <0.00027 | <0.0003 | <0.0003 | <0.0003 | 0.00094 J | <0.002 | >230 H | 0.60 | 85 | 1,100 | 0.54 | 0.75 | 11.5 | 5.32 | 1922 | 1.05 | -175.9 | 9.95 |
| | 03/07/23 | **19** | **2.1** | **0.014** | 0.75 | 1.6 | <0.00027 | <0.0003 | <0.0003 | <0.0003 | 0.00073 J | <0.002 | 34 H | 0.49 | 300 | 630 | 0.76 | 0.34 | 10.0 | 2.48* | 1317 | 1.12 | 177.8* | 8.59 |
| | 05/16/23 | **27** | **3.8** | 0.0041 | 0.048 J | 2.0 B | <0.00027 | <0.0003 | <0.0003 | <0.0003 | 0.00054 J | <0.002 | <1.5 | 0.023 J | 280 | 490 | 0.15 J | 0.11 | 12.1 | 7.46 | 1354 | 3.58 | 31.9 | 11.5 |
| | 08/22/23 | **45** | **3.8** | 0.0033 | 0.23 | **2.4** | <0.00028 | <0.00031 | <0.0003 | <0.0003 | 0.00062 J | <0.002 | <2.0 | <0.021 | 320 | 500 | <0.080 | 0.086 J | 14.0 | 7.49 | 1553 | NA* | 47.4 | 4.93 |
| | 12/06/23 | **50** | **1.0** | 0.0021 | <0.020 | **3.1** | <0.00026 | <0.00029 | <0.0003 | <0.0003 | 0.00048 J | <0.002 | <2.0 | <0.021 | 300 | 550 | <0.080 | 0.096 J | 11.2 | 7.42 | 1387 | NA* | 104.9 | 16.1 |
| MW-22 | 03/31/22 | **70** | 0.056 H | <0.00068 | 0.26 | 0.50 | <0.00025 | <0.00028 | <0.0003 | <0.0003 | <0.0003 | <0.002 | <2.0 | 0.095 J | 280 | 260 | 0.98 | <0.050 | 11.5 | 6.99 | 1288 | 3.51 | 110.8 | 9.95 |
| | 07/14/22 | **65** | 0.057 | 0.0012 J | <0.080 | 0.099 | <0.00026 | 0.00051 J | <0.0003 | <0.0003 | <0.0003 | <0.002 | <2.0 | <0.082 | 360 | 280 | 0.15 J | <0.050 | 15.8 | 6.99 | 1368 | 0.74 | 84.1 | 1.73 |
| | 12/06/22 | 0.12 | <0.015 | **0.010 B** | 6.9 | **24** | <0.00027 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.002 | >2,500 | 7.0 | 310 | 3,600 | <4.0 | 0.23 | 10.3 | 6.86 | 6716 | 0.73 | -117.4 | 19.3 |
| | 03/06/23 | 7.8 | **2.2** | **0.017** | 1.7 | **6.2** | <0.00027 | <0.00031 | <0.0003 | <0.0003 | <0.0003 | <0.002 | 15 H | 1.6 | 450 | 490 | 0.70 | 0.36 | 8.3 | 7.30 | 1135 | 1.80 | -121.8 | 15.2 |
| | 05/17/23 | 9.3 | **7.7** | 0.0057 | 0.45 | **3.8** | <0.00027 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.002 | 4.9 | 0.42 | 350 | 330 | 0.54 | 0.060 J | 13.5 | 7.75 | 1128 | 0.56 | -30.2 | 13.6 |
| | 08/24/23 | <0.040 | <0.015 | **0.030** | 3.7 | **4.5** | <0.00026 | <0.00029 | <0.0003 | <0.0003 | <0.0003 | <0.002 | 4.1 | 3.4 | 210 | 690 | 1.3 | 0.55 | 21.2 | 8.01 | 1620 | 0.35 | -154.0 | 8.60 |
| | 12/05/23 | **17** | **4.2** | 0.0069 | 0.39 | **3.8** | 0.0047 | <0.00031 | <0.0003 | <0.0003 | <0.0003 | 0.0024 J | <2.0 | 0.19 | 430 | 320 | 0.13 J | <0.050 | 9.2 | 7.39 | 1110 | 0.38 | 60.2 | 5.90 |
| MW-23 | 03/30/22 | **150** | 0.068 H | 0.0056 | <0.080 | 0.031 | <0.00026 | **0.017** | <0.0003 | <0.0003 | **0.18** | <0.002 | <2.0 | <0.082 | 110 | 200 | <0.080 | 0.14 | 14.5 | 7.50 | 1496 | 0.97 | 71.4 | 13.5 |
| | 07/13/22 | **160** | 0.025 J | 0.0064 | 0.20 | 0.030 | <0.00026 | 0.0013 | <0.0003 | <0.0003 | **0.17** | <0.002 | <2.0 | <0.082 | 92 | 210 | 0.17 J | 0.14 | 18.1 | 7.79 | 1375 | 0.41 | 33.2 | 9.2 |
| | 12/07/22 | **31** | 0.73 | **0.024** | 0.43 | 1.2 | <0.00027 | 0.0055 | <0.0003 | <0.0003 | **0.05** | <0.002 | 81 H | 0.27 | 34 | 360 | 0.10 J | 0.078 J | 12.8 | 7.80 | 717 | 0.45 | -200.0 | 9.92 |
| | 03/07/23 | **34** | 0.64 | 0.0070 | 0.17 | 0.88 | <0.00028 | **0.0087** | <0.0003 | <0.0003 | **0.053** | <0.002 | 2.3 H | <0.021 | 67 | 220 | <0.080 | 0.070 J | 11.2 | 2.97* | 607 | 0.90 | 227.5* | 9.64 |
| | 05/17/23 | **13** | 0.91 H | **0.013** | 0.25 | 1.2 | <0.00027 | **0.010** | <0.0003 | <0.0003 | **0.035** | <0.002 | 49 | 0.18 | 54 | 310 | <0.080 | 0.10 | 15.7 | 7.78 | 649 | 0.43 | -68.0 | 18.4 |
| | 08/22/23 | <0.040 | <0.015 H | **0.054** | 3.7 | **8.8** | <0.00027 | <0.0003 | <0.0003 | <0.0003 | **0.027** | <0.002 | 230 | 5.0 | <2.5 | 1,000 | <0.080 | 0.30 | 19.7 | 7.22 | 1956 | NA* | -121.4 | 6.81 |
| | 12/05/23 | 3.5 | 0.50 | **0.076** | 4.8 | 1.2 | <0.00029 | <0.00032 | <0.0003 | <0.0003 | **0.035** | <0.002 | >65 | 4.8 | 17 | 2,400 | <0.080 | 0.20 | 13.6 | 7.22 | 2823 | 0.32 | -169.8 | 30.2 |
| MW-24 | 03/30/22 | **24** | 0.062 H | 0.0064 | <0.080 | 0.011 | <0.00025 | 0.0024 | <0.0003 | <0.0003 | **0.066** | <0.002 | <2.0 | <0.082 | 54 | 210 | <0.080 | 0.17 | 14.3 | 7.74 | 616 | 1.02 | 62.9 | 14.9 |
| | 07/13/22 | **40** | 0.031 J | 0.0073 | <0.080 | 0.016 | <0.00027 | 0.001 | <0.0003 | <0.0003 | **0.093** | <0.002 | <2.0 | <0.082 | 60 | 220 | <0.080 | 0.18 | 16.4 | 7.80 | 707 | 0.49 | 30.0 | 11.5 |
| | 12/07/22 | **35** | <0.015 | 0.0085 | 0.13 J | 0.014 | <0.00026 | 0.0037 | <0.0003 | <0.0003 | **0.068** | <0.002 | <2.0 H | <0.082 | 52 | 220 | <0.080 | 0.097 J | 11.9 | 7.79 | 631 | 0.72 | -17.6 | 8.96 |
| | 03/08/23 | **36** | <0.015 | 0.0080 | 0.25 | 0.011 | <0.00026 | 0.0036 | <0.0003 | <0.0003 | **0.09** | <0.002 | <2.0 | 0.042 J | 59 | 220 | <0.080 | 0.12 | 9.5 | 7.79 | 582 | 4.54 | 85.6 | 7.62 |
| | 05/16/23 | **51** | <0.015 | 0.0071 | 0.11 | 0.0053 | <0.00026 | 0.0064 | <0.0003 | <0.0003 | **0.15** | <0.002 | <1.5 | 0.10 | 79 | 240 | <0.080 | 0.097 J | 14.0 | 7.64 | 831 | 1.62 | 56.7 | 15.1 |
| | 08/23/23 | **33** | 0.044 J | 0.0085 | 0.075 | 0.015 B | <0.00026 | 0.0015 | <0.0003 | <0.0003 | **0.068** | <0.002 | <2.0 | <0.021 | 47 | 220 | <0.080 | 0.10 | 23.5 | 7.98 | 815 | NA* | 83.0 | 5.43 |
| | 12/06/23 | **29** | 0.018 J | 0.0090 | 0.026 J | 0.0065 | <0.00024 | 0.0029 | <0.0003 | <0.0003 | **0.032** | <0.002 | <2.0 | <0.021 | 47 | 220 | <0.080 | 0.094 J | 11.8 | 7.86 | 559 | 3.31 | 101.6 | 21.4 |

**Notes:**

[A] Groundwater CULs for Site Indictor Hazardous Substances defined in the *Cleanup Action Plan,* dated March 8, 2013.

[B] Threshold concentration calculation defined in the *Pre-Treatment Groundwater Monitoring Report,* dated July 2, 2020.

[C] Calculated using pre-treatment dissolved iron laboratory data (field test kit data not included) per method identified in *Pre-Treatment Groundwater Monitoring Report,* dated July 2, 2020.

Results greater than or equal to the CULs are in **bold**

85 Results indicate monitoring parameter is above (for alkalinity, BOD, or ferrous iron) or below (for sulfate) calculated Enhanced In-Situ Bioremediation Threshold Concentration

09/03/20 Groundwater conditions on this date are considered to be under EISB conditions based on a collective evaluation of data for the EISB monitoring parameters BOD, dissolved iron, sulfate, and alkalinity.

*Potential pH and ORP probe malfunction affecting parameter results at several wells in 1Q23. DO probe malfunction affecting results at several wells in 3Q23 and 4Q23. See Water Sample Field Data Sheets for details.

1,2-DCP = 1,2-Dichloropropane
2,4-D = 2,4-Dichlorophenoxyacetic acid
2-MN = 2-Methylnaphthalene
BOD = Biochemical oxygen demand
CUL = Cleanup Level
DO = dissolved oxygen
EPA = United States Environmental Protection Agency
NA = Not applicable
ORP = oxidation-reduction potential
SM = Standard Methods
mg/L = milligrams per liter
°C = degrees Celsius
µS/cm = microSiemens per centimeter
mV = millivolts
NTU = nephelometric turbidity units
-- = not analyzed
< = less than the method detection limit
J = estimated value
B = compound was found in the blank and sample
H = holding time not met

**Table 7**
**Select Groundwater Constituent Responses to EISB Remedy Through Phase II**
Groundwater Remedy Phase II As-Built and Documentation Report
Bee-Jay Scales, Sunnyside, Washington

| Location | Sample Date | Phase | Description[1] | Site Indicator Hazardous Substances | | | | | | | | Monitoring Parameter |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Nitrate[2] | Total Arsenic[2] | Total Iron[2] | Total Manganese[2] | Dinoseb[2] | Benzene[2] | Chlorobenzene[2] | 1,2-DCP[2] | Ammonia |
| MW-3 | 03/12/20 | | Pre-treatment | **263 mg/L** | 0.0096 mg/L | 0.297 mg/L | 1.04 mg/L | **0.06 mg/L** | <0.0002 mg/L | 0.01 mg/L | 0.001 mg/L | 273 mg/L |
| | 09/03/20 | | Percent Change Relative to Pre-treatment[3] | **2.7%** | **14.6%** | -86.5% | -12.5% | **-11.7%** | NC | 260.0% | 320.0% | 35.5% |
| | 11/12/20 | Phase I | | **21.7%** | -3.1% | -83.5% | -8.7% | **-35.0%** | NC | 230.0% | 210.0% | 9.9% |
| | 02/25/21 | | | **36.9%** | -15.6% | 61.6% | 44.2% | **-28.3%** | NC | 220.0% | 70.0% | -8.4% |
| | 05/12/21 | | | **-90.9%** | -15.6% | 61.6% | 44.2% | **-15.0%** | NC | 50.0% | 80.0% | 13.6% |
| | 09/17/21 | | | **25.5%** | -15.6% | 61.6% | 53.8% | **-35.0%** | NC | 210.0% | 80.0% | -1.1% |
| | 03/31/22 | | | **55.9%** | -3.1% | -63.0% | **208%** | **-55.0%** | NC | -60.0% | 50.0% | 6.2% |
| | 07/14/22 | | | **36.9%** | -16.7% | -86.5% | 102% | -97.5% | NC | 90.0% | 10.0% | -26.7% |
| | 12/08/22 | | | **48.3%** | -27.1% | 0.0% | 82.7% | **-40.0%** | NC | -32.0% | 90.0% | 6.2% |
| | 03/09/23 | Phase II | | **33.1%** | -33.3% | -75.0% | **121%** | **-70.0%** | NC | -9.0% | 0.0% | -41.4% |
| | 05/18/23 | | | **-27.8%** | 0.0% | -60.0% | 53.8% | **-75.0%** | NC | -41.0% | -41.0% | -56.0% |
| | 08/24/23 | | | **29.3%** | -33.3% | -67.5% | 34.6% | -96.3% | NC | 0.0% | 30.0% | -8.4% |
| MW-4R | 03/12/20 | | Pre-treatment | **302 mg/L** | **0.0169 mg/L** | 0.0941 J mg/L | 0.402 mg/L | **0.1 mg/L** | <0.0002 mg/L | 0.0006 J mg/L | **0.006 mg/L** | 362 mg/L |
| | 09/03/20 | | Percent Change Relative to Pre-treatment[3] | -96.8% | **337.9%** | 1175.2% | 9.5% | -99.7% | NC | -3.3% | **6.7%** | -61.3% |
| | 11/12/20 | Phase I | | **-47.0%** | **30.2%** | 367.6% | -37.8% | **-73.0%** | NC | -23.3% | **3.3%** | -33.7% |
| | 02/25/21 | | | **-23.8%** | **-34.9%** | -22.4% | -5.5% | **-56.0%** | NC | -38.3% | -20.0% | -30.9% |
| | 05/12/21 | | | **-94.4%** | -41.4% | 38.2% | 21.9% | **-41.0%** | NC | -33.3% | **8.3%** | 2.2% |
| | 09/17/21 | | | **15.9%** | **-29.0%** | -57.5% | 7.0% | **-72.0%** | NC | 3.3% | **61.7%** | -8.8% |
| | 04/01/22 | | | **-17.2%** | **-40.8%** | 2.0% | 51.7% | **-79.0%** | NC | -25.0% | **0.0%** | 18.8% |
| | 07/14/22 | | | **-23.8%** | **-29.0%** | -15.0% | 31.8% | **-92.1%** | NC | -16.7% | **8.3%** | -8.8% |
| | 12/06/22 | | | **-40.4%** | -42.0% | -15.0% | -15.4% | **-90.3%** | NC | -50.0% | **-6.7%** | -33.7% |
| | 03/09/23 | Phase II | | **-40.4%** | **-29.0%** | 91.3% | 2.0% | **-66.0%** | NC | -23.3% | **-5.0%** | -19.9% |
| | 05/18/23 | | | **-40.4%** | **-34.9%** | 16.9% | 4.5% | **-46.0%** | NC | -16.7% | **0.0%** | -14.4% |
| | 08/24/23 | | | **-27.2%** | **-29.0%** | -59.6% | -8.0% | **-87.0%** | NC | 8.3% | **20.0%** | -8.8% |
| | 12/07/23 | | | **-53.6%** | **-29.0%** | 112.5% | 4.5% | **-70.0%** | NC | -16.7% | **13.3%** | -97.8% |
| MW-5R | 03/12/20 | | Pre-treatment | **206 mg/L** | 0.0065 mg/L | 0.741 mg/L | 0.665 mg/L | <0.00027 mg/L | <0.0002 mg/L | <0.0002 mg/L | <0.0002 mg/L | 104 mg/L |
| | 09/02/20 | | Percent Change Relative to Pre-treatment[3] | -99.98% | **1085%** | 872% | **1133%** | NC | NC | NC | NC | -82.7% |
| | 11/12/20 | Phase I | | -99.98% | **1900%** | **1924%** | **2607%** | NC | NC | NC | NC | -30.8% |
| | 02/25/21 | | | -99.78% | **854%** | 629% | 50.4% | NC | NC | NC | NC | -59.6% |
| | 05/12/21 | | | -99.98% | **2669%** | **2059%** | 45.9% | NC | NC | NC | NC | -13.5% |
| | 09/17/21 | | | -99.90% | **3438%** | 534% | -78.9% | NC | NC | NC | NC | -35.6% |
| | 03/31/22 | | | -99.98% | **2208%** | 210% | -86.3% | NC | NC | NC | NC | -46.2% |
| | 07/14/22 | | | -99.87% | **2362%** | 413% | -85.9% | NC | NC | NC | NC | -42.3% |
| | 12/06/22 | | | -99.67% | **2669%** | 237% | -35.3% | NC | NC | NC | NC | -80.8% |
| | 03/09/23 | Phase II | | -99.93% | **1392%** | 156% | **411%** | NC | NC | NC | NC | -76.9% |
| | 05/18/23 | | | -99.98% | **1900%** | -1.5% | 3.8% | NC | NC | NC | NC | -66.3% |
| | 08/24/23 | | | -99.98% | **2669%** | 26.9% | -36.8% | NC | NC | NC | NC | -67.3% |
| | 12/06/23 | | | -99.98% | **3285%** | 413% | -24.8% | NC | NC | NC | NC | -57.7% |
| MW-6 | 03/11/20 | | Pre-treatment | 5.9 mg/L | **0.0259 mg/L** | -- | -- | -- | -- | -- | -- | -- |
| | 09/02/20 | | Percent Change Relative to Pre-treatment[3] | -10.2% | **0.4%** | -- | -- | -- | -- | -- | -- | -- |
| | 02/24/21 | Phase I | | -5.1% | **-7.3%** | -- | -- | -- | -- | -- | -- | -- |
| | 09/15/21 | | | -55.9% | **-7.3%** | -- | -- | -- | -- | -- | -- | -- |
| | 03/30/22 | | | -25.4% | **-3.5%** | -- | -- | -- | -- | -- | -- | -- |
| | 07/12/22 | | | 15.3% | **0.4%** | -- | -- | -- | -- | -- | -- | -- |
| | 03/07/23 | Phase II | | 15.3% | **0.4%** | -- | -- | -- | -- | -- | -- | -- |
| | 08/24/23 | | | NS | NS | -- | -- | -- | -- | -- | -- | -- |

**Table 7**
**Select Groundwater Constituent Responses to EISB Remedy Through Phase II**
Groundwater Remedy Phase II As-Built and Documentation Report
Bee-Jay Scales, Sunnyside, Washington

| Location | Sample Date | Phase | Description[1] | Site Indicator Hazardous Substances | | | | | | | | Monitoring Parameter |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Nitrate[2] | Total Arsenic[2] | Total Iron[2] | Total Manganese[2] | Dinoseb[2] | Benzene[2] | Chlorobenzene[2] | 1,2-DCP[2] | Ammonia |
| MW-8 | 03/11/20 | | Pre-treatment | **64.9 mg/L** | -- | -- | -- | -- | -- | -- | -- | -- |
| | 09/03/20 | Phase I | Percent Change Relative to Pre-treatment[3] | **-41.4%** | -- | -- | -- | -- | -- | -- | -- | -- |
| | 02/25/21 | | | **0.2%** | -- | -- | -- | -- | -- | -- | -- | -- |
| | 09/17/21 | | | -97.5% | -- | -- | -- | -- | -- | -- | -- | -- |
| | 03/31/22 | | | **-19.9%** | -- | -- | -- | -- | -- | -- | -- | -- |
| | 07/14/22 | Phase II | | **-55.3%** | -- | -- | -- | -- | -- | -- | -- | -- |
| | 03/09/23 | | | **-23.0%** | -- | -- | -- | -- | -- | -- | -- | -- |
| | 08/24/23 | | | **-67.6%** | -- | -- | -- | -- | -- | -- | -- | -- |
| MW-9 | 03/11/20 | | Pre-treatment | **236 mg/L** | -- | -- | -- | **0.041 mg/L** | <0.0002 mg/L | 0.0005 J | **0.034 mg/L** | -- |
| | 09/02/20 | Phase I | Percent Change Relative to Pre-treatment[3] | **52.5%** | -- | -- | -- | **144%** | NC | -60.0% | **79.4%** | -- |
| | 02/25/21 | | | **-44.9%** | -- | -- | -- | **-24.4%** | NC | -36.0% | **-38.2%** | -- |
| | 09/16/21 | | | **120%** | -- | -- | -- | **388%** | NC | 100% | **106%** | -- |
| | 04/01/22 | | | **-6.8%** | -- | -- | -- | **107%** | NC | 26.0% | **50.0%** | -- |
| | 07/13/22 | Phase II | | **39.8%** | -- | -- | -- | -85.4% | NC | 72.0% | **118%** | -- |
| | 03/08/23 | | | **-15.3%** | -- | -- | -- | -99.2% | NC | 4.0% | **23.5%** | -- |
| | 08/22/23 | | | **22.9%** | -- | -- | -- | **-24.4%** | NC | 64.0% | **64.7%** | -- |
| MW-10 | 03/10/20 | | Pre-treatment | 3.7 mg/L | **0.0164 mg/L** | -- | -- | -- | -- | -- | -- | -- |
| | 09/01/20 | Phase I | Percent Change Relative to Pre-treatment[3] | 48.6% | **-2.4%** | -- | -- | -- | -- | -- | -- | -- |
| | 02/23/21 | | | 24.3% | **22.0%** | -- | -- | -- | -- | -- | -- | -- |
| | 09/15/21 | | | -35.1% | **-2.4%** | -- | -- | -- | -- | -- | -- | -- |
| | 03/29/22 | | | -10.8% | **-2.4%** | -- | -- | -- | -- | -- | -- | -- |
| | 07/12/22 | Phase II | | 21.6% | **15.9%** | -- | -- | -- | -- | -- | -- | -- |
| | 03/06/23 | | | -10.8% | **15.9%** | -- | -- | -- | -- | -- | -- | -- |
| | 08/21/23 | | | 73.0% | **-8.5%** | -- | -- | -- | -- | -- | -- | -- |
| MW-11 | 03/11/20 | | Pre-treatment | 2.6 mg/L | **0.04 mg/L** | -- | -- | -- | -- | -- | -- | -- |
| | 09/01/20 | Phase I | Percent Change Relative to Pre-treatment[3] | 131% | **-15.0%** | -- | -- | -- | -- | -- | -- | -- |
| | 02/24/21 | | | 115% | **7.5%** | -- | -- | -- | -- | -- | -- | -- |
| | 09/15/21 | | | -7.7% | **-52.5%** | -- | -- | -- | -- | -- | -- | -- |
| | 03/28/22 | | | 76.9% | **-27.5%** | -- | -- | -- | -- | -- | -- | -- |
| | 07/12/22 | Phase II | | 135% | **-5.0%** | -- | -- | -- | -- | -- | -- | -- |
| | 03/07/23 | | | 84.6% | **-15.0%** | -- | -- | -- | -- | -- | -- | -- |
| | 08/21/23 | | | 108% | **-22.5%** | -- | -- | -- | -- | -- | -- | -- |
| MW-12R | 03/12/20 | | Pre-treatment | **353 mg/L** | **0.064 mg/L** | 0.914 mg/L | 0.746 mg/L | **1.5 mg/L** | **0.01 mg/L** | **0.18 mg/L** | **0.75 mg/L** | 239 mg/L |
| | 09/03/20 | Phase I | Percent Change Relative to Pre-treatment[3] | -99.7% | **197%** | **2088%** | **718%** | -99.9% | **10.0%** | **-22.2%** | **18.7%** | 0.4% |
| | 11/12/20 | | | **-68.8%** | **-34.4%** | 31.3% | 24.7% | **-82.0%** | **100%** | **22.2%** | **140%** | 8.8% |
| | 02/25/21 | | | **-26.3%** | -84.4% | -66.1% | 32.7% | **-63.3%** | **50.0%** | **-5.6%** | **60.0%** | -3.8% |
| | 05/12/21 | | | **-94.6%** | -88.0% | -84.7% | 32.7% | **-13.3%** | **40.0%** | **-5.6%** | **86.7%** | 13.0% |
| | 09/17/21 | | | -98.9% | -93.9% | -85.8% | 114% | **-20.0%** | **160%** | **61.1%** | **207%** | 33.9% |
| | 03/31/22 | | | **-15.0%** | **-82.8%** | -91.2% | 74.3% | **20.0%** | **120%** | **61.1%** | **153%** | 21.3% |
| | 07/14/22 | Phase II | | **-43.3%** | **0.0%** | -86.9% | 24.7% | **-57.3%** | **10.0%** | **-11.1%** | **1.3%** | -41.4% |
| | 12/08/22 | | | **-43.3%** | **-9.4%** | -66.1% | 47.5% | **-36.0%** | **30.0%** | **22.2%** | **46.7%** | -3.8% |
| | 03/09/23 | | | **-51.8%** | **-57.8%** | -83.6% | 26.0% | **-44.7%** | **-25.0%** | **-22.2%** | **-18.7%** | -20.5% |
| | 05/18/23 | | | **-57.5%** | **-68.8%** | -90.0% | 20.6% | **-46.7%** | **-27.0%** | **-27.8%** | **-26.7%** | -33.1% |
| | 08/24/23 | | | **38.8%** | **-81.3%** | -94.4% | 87.7% | **-26.7%** | **100%** | **61.1%** | **86.7%** | 25.5% |
| | 12/07/23 | | | **24.6%** | **-82.8%** | -91.5% | 141% | -99.7% | **70.0%** | **50.0%** | **46.7%** | -96.6% |

**Table 7**
**Select Groundwater Constituent Responses to EISB Remedy Through Phase II**
Groundwater Remedy Phase II As-Built and Documentation Report
Bee-Jay Scales, Sunnyside, Washington

| Location | Sample Date | Phase | Description[1] | Site Indicator Hazardous Substances | | | | | | | | Monitoring Parameter |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Nitrate[2] | Total Arsenic[2] | Total Iron[2] | Total Manganese[2] | Dinoseb[2] | Benzene[2] | Chlorobenzene[2] | 1,2-DCP[2] | Ammonia |
| MW-13 | 03/12/20 | Phase I | Pre-treatment | **23.8 mg/L[4]** | **0.0134 mg/L** | 0.156 J mg/L | 0.0090 J mg/L | 0.0041 mg/L | <0.0002 mg/L | <0.0002 mg/L | <0.0002 mg/L | <0.080 mg/L |
| | 09/02/20 | | Percent Change Relative to Pre-treatment[3] | -95.8% | **71.6%** | -74.4% | 3233% | -46.3% | NC | NC | NC | NC |
| | 11/11/20 | | | **-11.8%** | **26.9%** | -74.4% | 5567% | -93.4% | NC | NC | NC | NC |
| | 02/24/21 | | | **0.8%** | **4.5%** | -71.2% | 5011% | -39.0% | NC | NC | NC | NC |
| | 05/11/21 | | | -80.3% | **4.5%** | -74.4% | 4789% | -88.5% | NC | NC | NC | NC |
| | 09/16/21 | | | **-16.0%** | **-3.0%** | -74.4% | 5233% | -12.2% | NC | NC | NC | NC |
| | 03/30/22 | | | **-11.8%** | **-3.0%** | -48.7% | 7678% | -43.9% | NC | NC | NC | NC |
| | 07/13/22 | Phase II | | **17.6%** | **-3.0%** | -48.7% | 3678% | -88.8% | NC | NC | NC | NC |
| | 12/07/22 | | | **-7.6%** | **-3.0%** | -48.7% | 6678% | -22.0% | NC | NC | NC | NC |
| | 03/08/23 | | | **-3.4%** | **-3.0%** | -73.7% | 3567% | -41.5% | NC | NC | NC | NC |
| | 05/16/23 | | | **-11.8%** | **4.5%** | -3.8% | 7678% | -31.7% | NC | NC | NC | NC |
| | 08/23/23 | | | **-11.8%** | **-10.4%** | -87.2% | 3678% | -63.4% | NC | NC | NC | NC |
| | 12/06/23 | | | **-20.2%** | **4.5%** | -87.2% | 2122% | -63.4% | NC | NC | NC | NC |
| MW-16 | 03/13/20 | Phase I | Pre-treatment | **145 mg/L** | -- | -- | -- | **0.054 mg/L** | <0.0002 mg/L | 0.0003 J mg/L | **0.15 mg/L** | -- |
| | 09/02/20 | | Percent Change Relative to Pre-treatment[3] | -98.2% | -- | -- | -- | -99.5% | NC | NC | **-54.0%** | -- |
| | 02/25/21 | | | **-89.7%** | -- | -- | -- | -93.5% | NC | NC | **-72.0%** | -- |
| | 09/16/21 | | | **-82.8%** | -- | -- | -- | **-82.0%** | NC | NC | **-6.7%** | -- |
| | 03/30/22 | | | **-31.7%** | -- | -- | -- | **-42.6%** | NC | NC | **-6.7%** | -- |
| | 07/13/22 | Phase II | | **-60.7%** | -- | -- | -- | -92.2% | NC | NC | **-20.0%** | -- |
| | 03/09/23 | | | **-91.0%** | -- | -- | -- | -88.1% | NC | NC | **-80.7%** | -- |
| | 08/23/23 | | | **-38.6%** | -- | -- | -- | **-83.0%** | NC | NC | **-47.3%** | -- |
| MW-21 | 03/11/20 | Phase I | Pre-treatment | **161 mg/L** | 0.0035 mg/L | 0.305 mg/L | 0.0605 mg/L | <0.00027 mg/L | <0.0002 mg/L | <0.0002 mg/L | 0.0004 J mg/L | <0.080 mg/L |
| | 09/01/20 | | Percent Change Relative to Pre-treatment[3] | **-75.2%** | **329%** | 556% | **9156%** | NC | NC | NC | 95.0% | 75.0% |
| | 11/11/20 | | | **-13.0%** | -8.6% | -73.8% | **5520%** | NC | NC | NC | 72.5% | 963% |
| | 02/24/21 | | | **-13.0%** | -22.9% | -86.9% | **5189%** | 419% | NC | NC | 30.0% | 0.0% |
| | 05/11/21 | | | **-85.7%** | -28.6% | -70.5% | **5355%** | NC | NC | NC | 50.0% | 0.0% |
| | 09/15/21 | | | **-25.5%** | -5.7% | -86.9% | **4693%** | NC | NC | NC | 87.5% | 0.0% |
| | 03/29/22 | | | **-31.7%** | -22.9% | -73.8% | 3040% | NC | NC | NC | 42.5% | 138% |
| | 07/12/22 | Phase II | | **-31.7%** | -17.1% | -73.8% | 2379% | NC | NC | NC | 0.0% | 0.0% |
| | 12/07/22 | | | -94.2% | **814%** | 123% | **3536%** | NC | NC | NC | 135% | 575% |
| | 03/07/23 | | | **-88.2%** | **300%** | 146% | 2545% | NC | NC | NC | 82.5% | 850% |
| | 05/16/23 | | | **-83.2%** | 17.1% | -84.3% | 3206% | NC | NC | NC | 35.0% | 87.5% |
| | 08/22/23 | | | **-72.0%** | -5.7% | -24.6% | **3867%** | NC | NC | NC | 55.0% | 0.0% |
| | 12/06/23 | | | **-68.9%** | -40.0% | -93.4% | **5024%** | NC | NC | NC | 20.0% | 0.0% |
| MW-22 | 07/14/22 | Phase II | Pre-treatment | **65 mg/L** | 0.0012 mg/L | <0.080 mg/L | 0.099 mg/L | 0.00051 J mg/L | <0.0003 mg/L | <0.0003 mg/L | <0.0003 mg/L | 0.15 J mg/L |
| | 12/06/22 | | Percent Change Relative to Pre-treatment[3] | -99.8% | **733%** | 8525% | **24142%** | -41.2% | NC | NC | NC | 2567% |
| | 03/06/23 | | | -88.0% | **1317%** | 2025% | **6163%** | -39.2% | NC | NC | NC | 367% |
| | 05/17/23 | | | -85.7% | 375% | 463% | **3738%** | -41.2% | NC | NC | NC | 260% |
| | 08/24/23 | | | -99.9% | **2400%** | 4525% | **4445%** | -43.1% | NC | NC | NC | 767% |
| | 12/05/23 | | | **-73.8%** | 475% | 388% | **3738%** | -39.2% | NC | NC | NC | -13.3% |
| MW-23 | 07/13/22 | Phase II | Pre-treatment | **160 mg/L** | 0.0064 mg/L | 0.2 mg/L | 0.03 mg/L | 0.0013 mg/L | <0.0003 mg/L | <0.0003 mg/L | **0.17 mg/L** | 0.17 J mg/L |
| | 12/07/22 | | Percent Change Relative to Pre-treatment[3] | **-80.6%** | **275%** | 115% | 3900% | 323% | NC | NC | **-70.6%** | -41.2% |
| | 03/07/23 | | | **-78.8%** | 9.4% | -15.0% | 2833% | **569%** | NC | NC | **-68.8%** | -52.9% |
| | 05/17/23 | | | **-91.9%** | **103%** | 25.0% | 3900% | **669%** | NC | NC | **-79.4%** | -52.9% |
| | 08/22/23 | | | -99.98% | **744%** | 1750% | **29233%** | -76.9% | NC | NC | **-84.1%** | -52.9% |
| | 12/05/23 | | | -97.8% | **1088%** | 2300% | 3900% | -75.4% | NC | NC | **-79.4%** | -52.9% |

**Table 7**
**Select Groundwater Constituent Responses to EISB Remedy Through Phase II**
Groundwater Remedy Phase II As-Built and Documentation Report
Bee-Jay Scales, Sunnyside, Washington

| Location | Sample Date | Phase | Description[1] | Site Indicator Hazardous Substances | | | | | | | | Monitoring Parameter |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Nitrate[2] | Total Arsenic[2] | Total Iron[2] | Total Manganese[2] | Dinoseb[2] | Benzene[2] | Chlorobenzene[2] | 1,2-DCP[2] | Ammonia |
| MW-24 | 07/13/22 | Phase II | Pre-treatment | **40 mg/L** | 0.0073 mg/L | <0.080 mg/L | 0.016 mg/L | 0.001 mg/L | <0.0003 mg/L | <0.0003 mg/L | **0.093 mg/L** | <0.080 mg/L |
| | 12/07/22 | | Percent Change Relative to Pre-treatment[3] | **-12.5%** | 16.4% | 62.5% | -12.5% | 270% | NC | NC | **-26.9%** | NC |
| | 03/08/23 | | | **-10.0%** | 9.6% | 213% | -31.3% | 260% | NC | NC | **-3.2%** | NC |
| | 05/16/23 | | | **27.5%** | -2.7% | 37.5% | -66.9% | 540% | NC | NC | **61.3%** | NC |
| | 08/23/23 | | | **-17.5%** | 16.4% | -6.3% | -6.3% | 50.0% | NC | NC | **-26.9%** | NC |
| | 12/06/23 | | | **-27.5%** | 23.3% | -67.5% | -59.4% | 190% | NC | NC | **-65.6%** | NC |

**Notes:**
[1] Responses represent a percent change of the EISB monitoring analytical results relative to the pre-treatment concentration at that monitoring well.

[2] Pre-treatment results greater than the Cleanup Levels (CULs) are in **bold**. % Change Relative to Pre-Treatment results associated with concentrations above the CUL are in **bold**.

[3] If results are less than the method detection limit, they were set equal to the method detection limit for calculation purposes.

[4] The 3-year upper confidence limit was substituted as the pre-treatment concentration.

1,2-DCP = 1,2-Dichloropropane

mg/L = milligrams per liter

NA = Not applicable

-- = not analyzed or no pre-treatment analysis available to calculate response

< = less than the method detection limit

NC = No change - both pre-treatment and performance monitoring results were below the method detection limit.

NS = Not sampled

J = estimated value

**Table 8**
**Analysis of Phosphorus as a Limiting Nutrient to EISB Remedy**
Groundwater Remedy Phase II As-Built and Documentation Report
Bee-Jay Scales, Sunnyside, Washington

| Groundwater Sample Analytes | | Nitrate | Nitrite | BOD | Total Phosphorus | Nitrate-Phosphorus Ratio[A] |
|---|---|---|---|---|---|---|
| Units | | mg/L | mg/L | mg/L | mg/L | NA |
| EISB Remedy Target | | <10 | <1 | NA | NA | <50 |
| Location | Sample Date | | | | | |
| MW-4R | 03/12/20 | **302** | 0.23 | 4.78 | 0.83 | **364** |
| | 09/03/20 | 9.8 | <0.15 | 85 | 3.6 | 2.7 |
| | 11/12/20 | **160** | 1.0 | 9.2 | 0.62 | **258** |
| | 02/25/21 | **230** | 0.29 H | 8.1 H | 0.35 | **657** |
| | 05/12/21 | **17** | 0.16 | 7.3 | 0.27 | **63** |
| | 09/17/21 | **350** | 0.22 H | 7.2 | 0.27 | **1296** |
| | 04/01/22 | **250** | 0.12 | 3.5 | 0.26 | **962** |
| | 07/14/22 | **230** | 0.017 J | 4.7 | 0.27 | **852** |
| | 12/06/22 | **180** | <0.015 | 4.2 | 0.26 | **692** |
| | 03/09/23 | **180** | <0.015 | <2.0 | 0.25 | **720** |
| | 05/18/23 | **180** | <0.015 | <2.0 | 0.22 | **818** |
| | 08/24/23 | **220** | <0.015 | <2.0 | 0.31 | **710** |
| | 12/07/23 | **140** | 0.16 | 23 | 0.39 | **359** |
| MW-5R | 03/12/20 | **206** | 0.30 | 4.95 | 0.23 | **896** |
| | 09/02/20 | <0.040 | <0.15 | 3,200 | 2.3 | 0.02 |
| | 11/12/20 | <0.040 | <0.5 | >370 | 0.69 | 0.1 |
| | 02/25/21 | 0.45 | 0.20 J,H | 60 H | 0.71 | 0.6 |
| | 05/12/21 | <0.040 | 0.055 | 200 H | 1.3 | 0.03 |
| | 09/17/21 | 0.20 | 0.10 H | 42 | 1.1 | 0.2 |
| | 03/31/22 | <0.040 | 0.094 H | 14 | 0.75 | 0.1 |
| | 07/14/22 | 0.26 | <0.015 | 9.3 | 0.53 | 0.5 |
| | 12/06/22 | 0.68 | 0.016 J | 69 | 9.6 | 0.1 |
| | 03/09/23 | 0.14 | 0.044 J | 40 | 4.5 | 0.03 |
| | 05/18/23 | <0.040 | <0.015 | 8.8 | 2.5 | 0.02 |
| | 08/24/23 | <0.040 | 0.20 | 10 | 3.1 | 0.01 |
| | 12/06/23 | <0.040 | <0.015 H | 11 H | 2.0 | 0.02 |
| MW-12R | 03/12/20 | **353** | 0.21 | <2.00 | 3.0 | **118** |
| | 09/03/20 | 1.2 | <0.15 | 230 | 2.2 | 0.5 |
| | 11/12/20 | **110** | **9.6** | 16 | 0.61 | **180** |
| | 02/25/21 | **260** | **3.7 H** | 7.3 H | 0.23 | **1130** |
| | 05/12/21 | **19** | 0.11 | 21 | 0.16 | **119** |
| | 09/17/21 | 4.0 | 0.023 J,H | <21 | <0.050 | **80** |
| | 03/31/22 | **300** | 0.037 J,H,B | <2.0 | 0.051 J | **5882** |
| | 07/14/22 | **200** | <0.015 | <2.0 | 1.0 | **200** |
| | 12/08/22 | **200** | 0.13 | <50 | 0.78 | **256** |
| | 03/09/23 | **170** | <0.015 | <2.0 | 0.34 | **500** |
| | 05/18/23 | **150** | <0.015 | <2.0 | 0.26 | **577** |
| | 08/24/23 | **490** | <0.015 | <2.0 | 0.18 | **2722** |
| | 12/07/23 | **440** | <0.015 | <2.0 | 0.15 | **2933** |

**Table 8**
**Analysis of Phosphorus as a Limiting Nutrient to EISB Remedy**
Groundwater Remedy Phase II As-Built and Documentation Report
Bee-Jay Scales, Sunnyside, Washington

| Groundwater Sample Analytes | | Nitrate | Nitrite | BOD | Total Phosphorus | Nitrate-Phosphorus Ratio[A] |
|---|---|---|---|---|---|---|
| Units | | mg/L | mg/L | mg/L | mg/L | NA |
| EISB Remedy Target | | <10 | <1 | NA | NA | <50 |
| Location | Sample Date | | | | | |
| MW-13 | 03/12/20 | 23.8 | <0.015 | <2.00 | 0.079 J | **301** |
| | 09/02/20 | 1.0 | 0.97 | 36 | 0.15 | 6.7 |
| | 11/11/20 | **21** | 0.39 | <1.5 | 0.073 | **288** |
| | 02/24/21 | **24** | 0.14 H | <2.0 | 0.059 J | **407** |
| | 05/11/21 | 4.7 | 0.21 | <1.5 | 0.075 J | **62.7** |
| | 09/16/21 | **20** | 0.22 | <1.5 | <0.050 | **400** |
| | 03/30/22 | **21** | 0.080 | <2.0 | 0.072 J | **292** |
| | 07/13/22 | **28** | 0.087 | <2.0 | 0.11 | **255** |
| | 12/07/22 | **22** | 0.036 J H | <2.0 H | 0.059 J | **373** |
| | 03/08/23 | **23** | 0.028 J | <2.0 | 0.088 J | **261** |
| | 05/16/23 | **21** | <0.015 | <1.5 | 0.063 J | **333** |
| | 08/23/23 | **21** | 0.027 J,H | <2.0 H | 0.11 | **191** |
| | 12/06/23 | **19** | 0.018 J | <2.0 | 0.084 J | **226** |
| MW-21 | 03/11/20 | **161** | <0.015 | <2.0 | 0.082 J | **1963** |
| | 09/01/20 | **40** | <0.015 | 70 | 0.37 | **108** |
| | 11/11/20 | **140** | **12 H** | 1.9 | 0.072 J | **1944** |
| | 02/24/21 | **140** | **2.4 H** | <2.0 | 0.052 J | **1944** |
| | 05/11/21 | **23** | **3.0** | <1.5 | <0.050 | **460** |
| | 09/15/21 | **120** | 0.77 H | <1.5 H | <0.050 | **2400** |
| | 03/29/22 | **110** | 0.31 H | <2.0 | <0.050 | **2200** |
| | 07/12/22 | **110** | 0.91 | <2.0 | <0.050 | **2200** |
| | 12/07/22 | 9.4 | **2.6** | >230 H | 0.75 | 12.5 |
| | 03/07/23 | **19** | **2.1** | 34 H | 0.34 | **55.9** |
| | 05/16/23 | **27** | **3.8** | <1.5 | 0.11 | **245** |
| | 08/22/23 | **45** | **3.8** | <2.0 | 0.086 J | **523** |
| | 12/06/23 | **50** | **1.0** | <2.0 | 0.096 J | **521** |
| MW-22 | 03/31/22 | **70** | 0.056 H | <2.0 | <0.050 | **1400** |
| | 07/14/22 | **65** | 0.057 | <2.0 | <0.050 | **1300** |
| | 12/06/22 | 0.12 | <0.015 | >2,500 | 0.23 | 0.5 |
| | 03/06/23 | 7.8 | **2.2** | 15 H | 0.36 | 21.7 |
| | 05/17/23 | 9.3 | **7.7** | 4.9 | 0.060 J | **155** |
| | 08/24/23 | <0.040 | <0.015 | 4.1 | 0.55 | 0.1 |
| | 12/05/23 | **17** | **4.2** | <2.0 | <0.050 | **340** |

**Table 8**
**Analysis of Phosphorus as a Limiting Nutrient to EISB Remedy**
Groundwater Remedy Phase II As-Built and Documentation Report
Bee-Jay Scales, Sunnyside, Washington

| Groundwater Sample Analytes | | Nitrate | Nitrite | BOD | Total Phosphorus | Nitrate-Phosphorus Ratio[A] |
|---|---|---|---|---|---|---|
| Units | | mg/L | mg/L | mg/L | mg/L | NA |
| EISB Remedy Target | | <10 | <1 | NA | NA | <50 |
| Location | Sample Date | | | | | |
| MW-23 | 03/30/22 | **150** | 0.068 H | <2.0 | 0.14 | **1071** |
| | 07/13/22 | **160** | 0.025 J | <2.0 | 0.14 | **1143** |
| | 12/07/22 | **31** | 0.73 | 81 H | 0.078 J | **397** |
| | 03/07/23 | **34** | 0.64 | 2.3 H | 0.070 J | **486** |
| | 05/17/23 | **13** | 0.91 H | 49 | 0.10 | **130** |
| | 08/22/23 | <0.040 | <0.015 H | 230 | 0.30 | 0.1 |
| | 12/05/23 | 3.5 | 0.50 | >65 | 0.20 | 17.5 |

**Notes:**

[A] When nitrate and/or phosphorus concentrations are below the method detection limit, the detection limit was used to calculate the ratio.

Results greater than or equal to the EISB remedy target are in **bold**

**<** = less than EISB remedy target

BOD > 10 mg/L and nitrate/phosphorus mass ratio > 50.

BOD = Biochemical oxygen demand

mg/L = milligrams per liter

NA = not applicable

< = less than the method detection limit

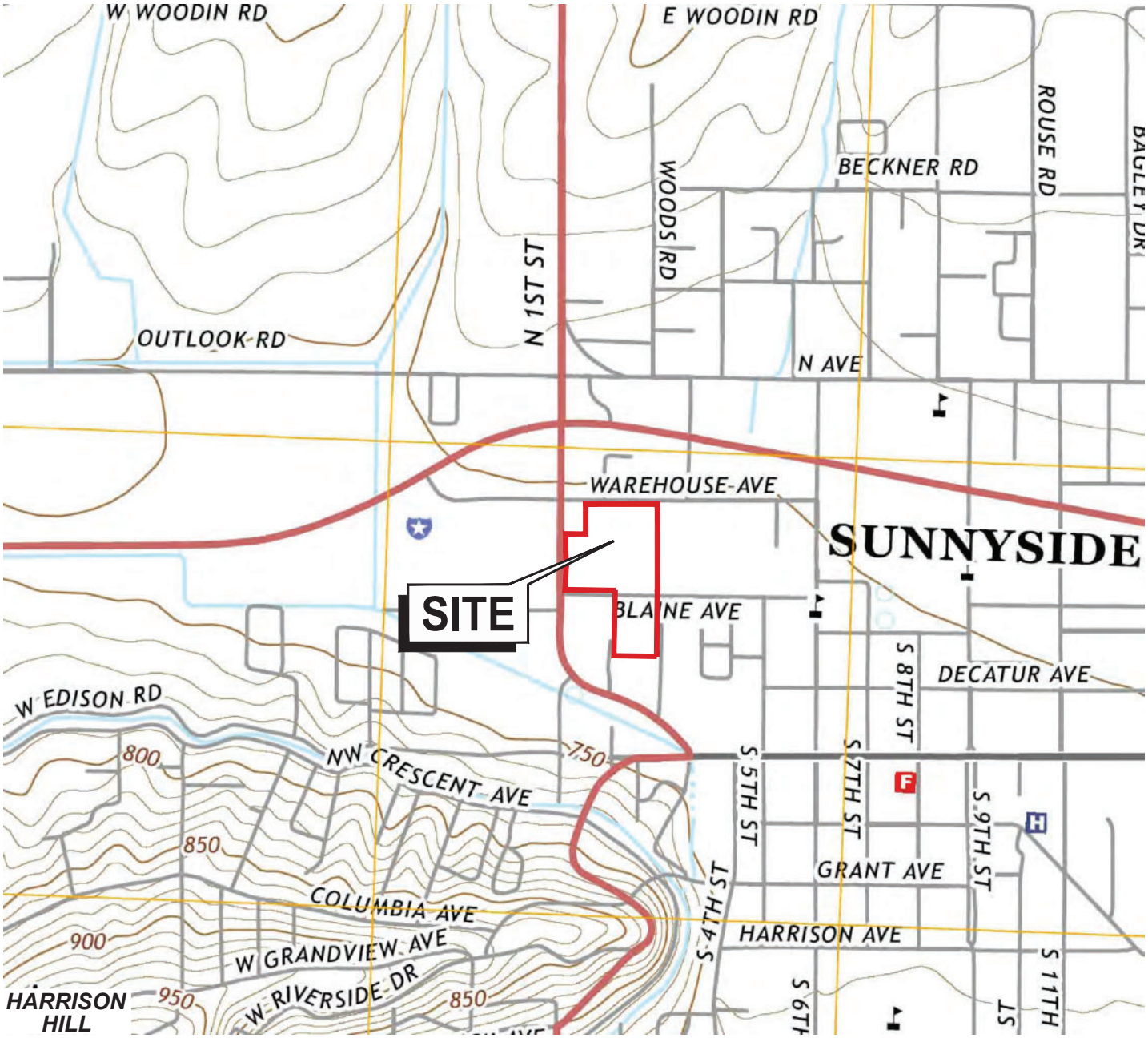
> = result may be biased low

J = estimated value

B = compound was found in the blank and sample

H = holding time not met

# FIGURES

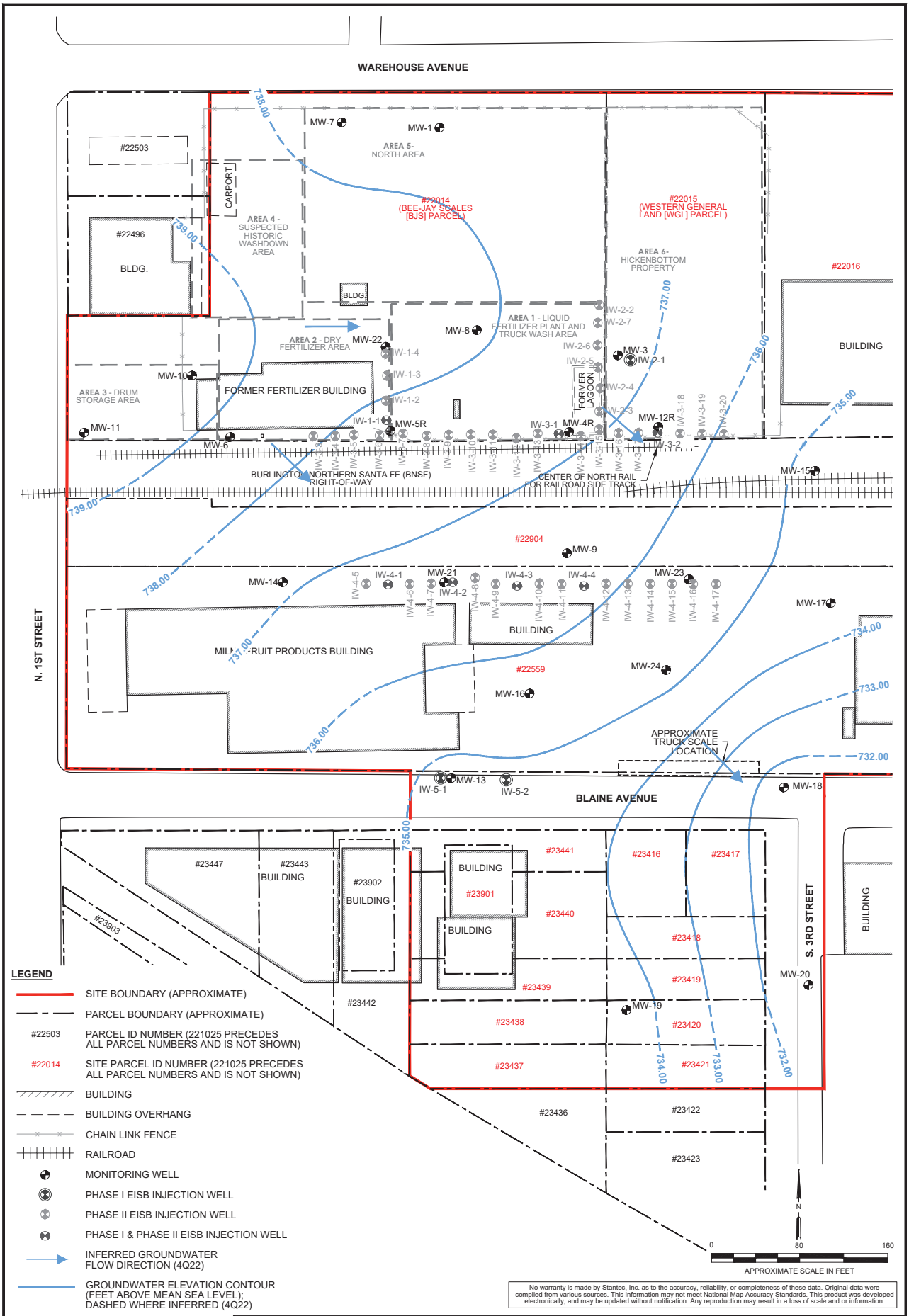



REFERENCE: USGS 7.5 MINUTE QUADRANGLE; SUNNYSIDE, WASHINGTON; 2013

| | | | |
|---|---|---|---|
| Stantec | FOR: BEE-JAY SCALES SITE SUNNYSIDE, WASHINGTON | SITE LOCATION MAP | FIGURE: 1 |

| JOB NUMBER: | DRAWN BY: | CHECKED BY: | APPROVED BY: | DATE: |
|---|---|---|---|---|
| 182603906/182603907 | JRO | EJB | MRK | 06/02/21 |

FILEPATH:V:\1826\active\182603906\05_report_deliv\deliverables\reports\groundwater_remedy\figures\dwg_182603906_gwrd_phi_2021.dwg|JOpalekOpsahl|Jun 02, 2021 at 7:35|Layout: fig1_slm




**LEGEND**

- SITE BOUNDARY (APPROXIMATE)
- PARCEL BOUNDARY (APPROXIMATE)
- #22503 — PARCEL ID NUMBER (221025 PRECEDES ALL PARCEL NUMBERS AND IS NOT SHOWN)
- #22014 — SITE PARCEL ID NUMBER (221025 PRECEDES ALL PARCEL NUMBERS AND IS NOT SHOWN)
- BUILDING
- BUILDING OVERHANG
- CHAIN LINK FENCE
- RAILROAD
- MONITORING WELL
- PHASE I EISB INJECTION WELL
- PHASE II EISB INJECTION WELL
- PHASE I & PHASE II EISB INJECTION WELL
- INFERRED GROUNDWATER FLOW DIRECTION (4Q22)
- GROUNDWATER ELEVATION CONTOUR (FEET ABOVE MEAN SEA LEVEL); DASHED WHERE INFERRED (4Q22)

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**NOTES**

GROUNDWATER ELEVATION DATA WERE COLLECTED ON DECEMBER 6, 2022

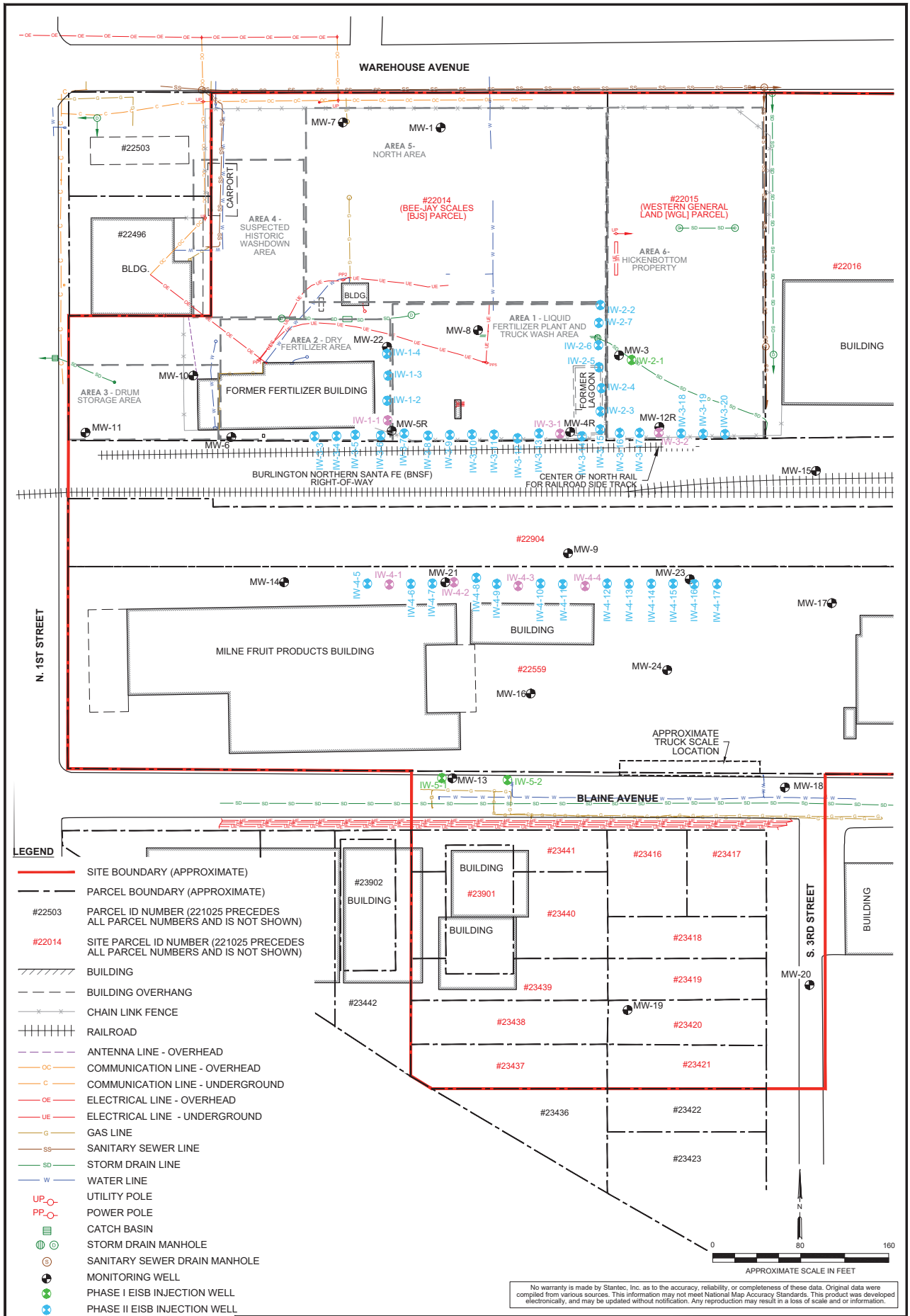
GROUNDWATER CONTOURS WERE CREATED USING SURFER VERSION 20.0

Stantec

| FOR: | | FIGURE: |
|---|---|---|
| BEE-JAY SCALES SITE<br>SUNNYSIDE, WASHINGTON | SITE PLAN | 2 |

| JOB NUMBER: | DRAWN BY: | CHECKED BY: | APPROVED BY: | DATE: |
|---|---|---|---|---|
| 182604043/182604044 | JO | EB | MK | 11/8/24 |

FILEPATH:\\Us0257-ppfss01\shared_projects\182604043\05_report_deliv\deliverables\reports\groundwater_remedy\figures\dwg_182604043_gwrd_phii_2024.dwg|JOpalekOpsahl|Nov 08, 2024 at 7:18|Layout: fig2_sp_2024




**LEGEND**

- SITE BOUNDARY (APPROXIMATE)
- PARCEL BOUNDARY (APPROXIMATE)
- #22503 PARCEL ID NUMBER (221025 PRECEDES ALL PARCEL NUMBERS AND IS NOT SHOWN)
- #22014 SITE PARCEL ID NUMBER (221025 PRECEDES ALL PARCEL NUMBERS AND IS NOT SHOWN)
- BUILDING
- BUILDING OVERHANG
- CHAIN LINK FENCE
- RAILROAD
- ANTENNA LINE - OVERHEAD
- OC COMMUNICATION LINE - OVERHEAD
- C COMMUNICATION LINE - UNDERGROUND
- OE ELECTRICAL LINE - OVERHEAD
- UE ELECTRICAL LINE - UNDERGROUND
- G GAS LINE
- SS SANITARY SEWER LINE
- SD STORM DRAIN LINE
- W WATER LINE
- UP UTILITY POLE
- PP POWER POLE
- CATCH BASIN
- STORM DRAIN MANHOLE
- S SANITARY SEWER DRAIN MANHOLE
- MONITORING WELL
- PHASE I EISB INJECTION WELL
- PHASE II EISB INJECTION WELL
- PHASE I & PHASE II EISB INJECTION WELL

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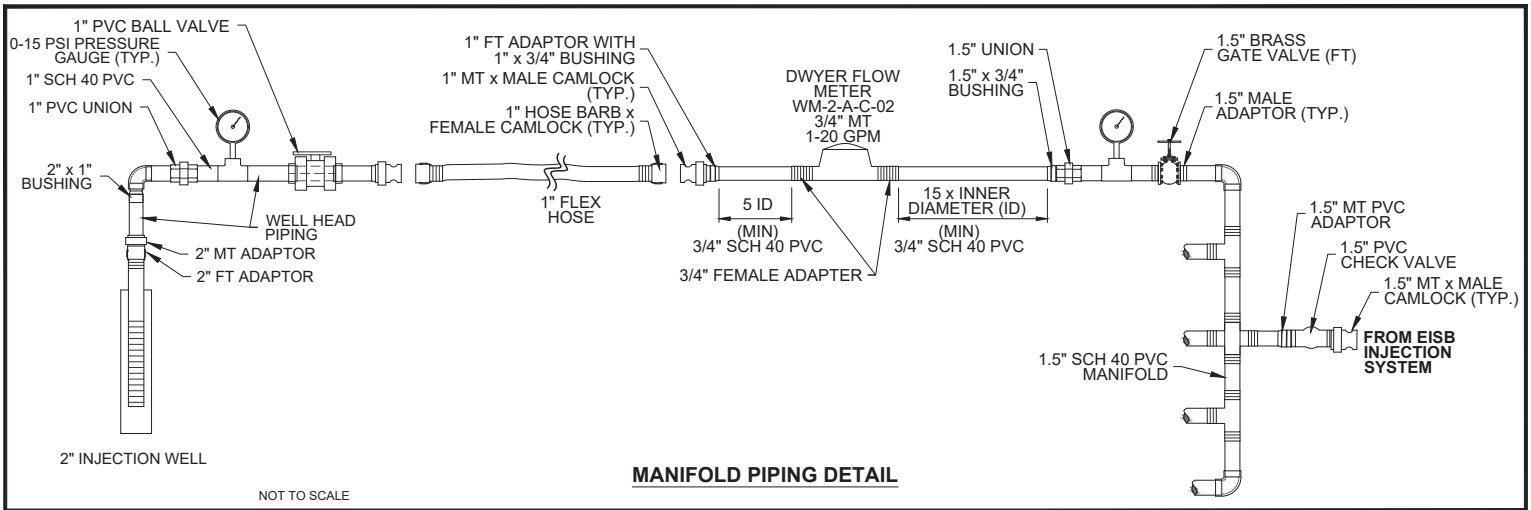
Stantec

| FOR: | | FIGURE: |
|---|---|---|
| BEE-JAY SCALES SITE<br>SUNNYSIDE, WASHINGTON | SITE PLAN WITH<br>UTILITY LOCATIONS | 3 |

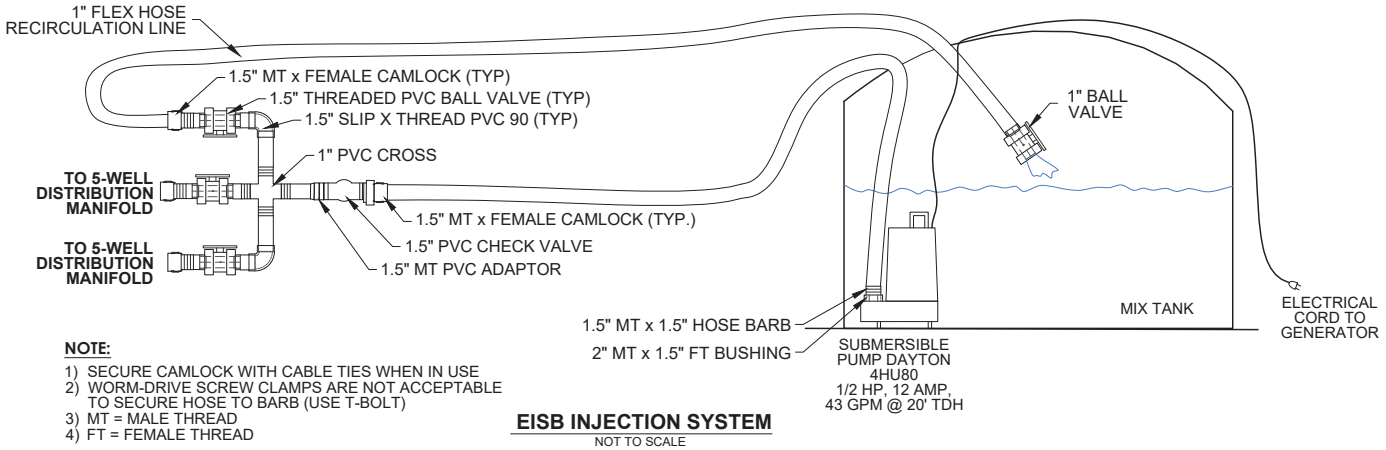
| JOB NUMBER: | DRAWN BY: | CHECKED BY: | APPROVED BY: | DATE: |
|---|---|---|---|---|
| 182604043/182604044 | JO | EB | MK | 10/30/24 |

FILEPATH:\\Us0257-ppfss01\shared_projects\182604043\05_report_deliv\deliverables\reports\groundwater_remedy\figures\dwg_182604043_gwrd_phii_2024.dwg|JOpalekOpsahl|Oct 30, 2024 at 7:43|Layout: fig3_sp_utly_2024




**MANIFOLD PIPING DETAIL**

NOT TO SCALE




**NOTE:**

1) SECURE CAMLOCK WITH CABLE TIES WHEN IN USE
2) WORM-DRIVE SCREW CLAMPS ARE NOT ACCEPTABLE TO SECURE HOSE TO BARB (USE T-BOLT)
3) MT = MALE THREAD
4) FT = FEMALE THREAD

**EISB INJECTION SYSTEM**

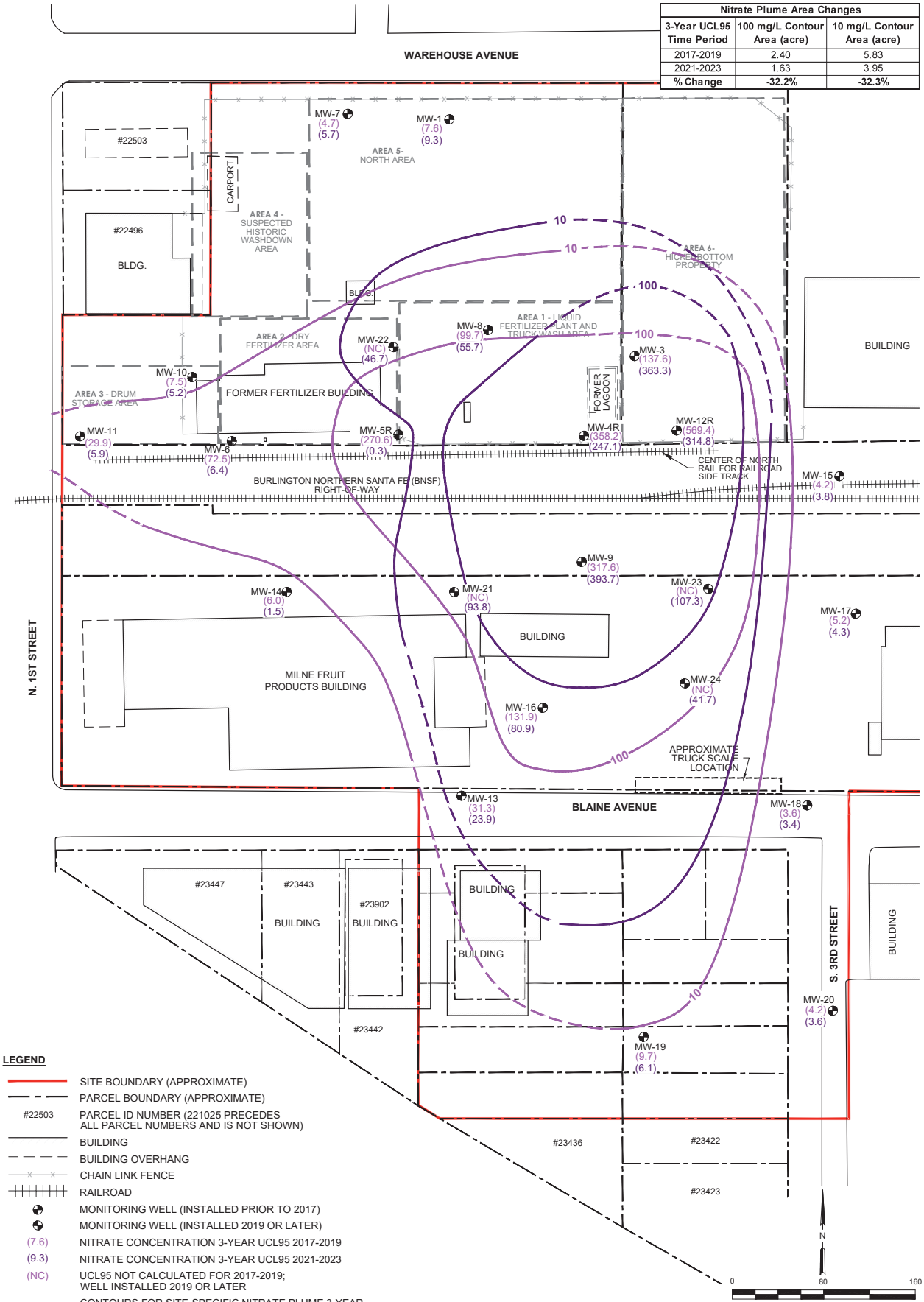
NOT TO SCALE

Stantec

| FOR: | | | | FIGURE: |
|---|---|---|---|---|
| BEE-JAY SCALES SITE<br>SUNNYSIDE, WASHINGTON | | PHASE II EISB INJECTION SYSTEM AND MANIFOLD PIPING DETAIL | | 4 |
| JOB NUMBER: 182604043/182604044 | DRAWN BY: JO | CHECKED BY: EB | APPROVED BY: MK | DATE: 10/30/24 |

FILEPATH:\\Us0257-ppfss01\shared_projects\182604043\05_report_deliv\deliverables\reports\groundwater_remedy\figures\dwg_182604043_gwrd_phii_2024.dwg|JOpalekOpsahl|Oct 30, 2024 at 7:33|Layout: fig4_detail

| Nitrate Plume Area Changes | | |
|---|---|---|
| 3-Year UCL95 Time Period | 100 mg/L Contour Area (acre) | 10 mg/L Contour Area (acre) |
| 2017-2019 | 2.40 | 5.83 |
| 2021-2023 | 1.63 | 3.95 |
| % Change | -32.2% | -32.3% |




**LEGEND**

- SITE BOUNDARY (APPROXIMATE)
- PARCEL BOUNDARY (APPROXIMATE)
- #22503 — PARCEL ID NUMBER (221025 PRECEDES ALL PARCEL NUMBERS AND IS NOT SHOWN)
- BUILDING
- BUILDING OVERHANG
- CHAIN LINK FENCE
- RAILROAD
- MONITORING WELL (INSTALLED PRIOR TO 2017)
- MONITORING WELL (INSTALLED 2019 OR LATER)
- (7.6) — NITRATE CONCENTRATION 3-YEAR UCL95 2017-2019
- (9.3) — NITRATE CONCENTRATION 3-YEAR UCL95 2021-2023
- (NC) — UCL95 NOT CALCULATED FOR 2017-2019; WELL INSTALLED 2019 OR LATER
- CONTOURS FOR SITE-SPECIFIC NITRATE PLUME 3-YEAR UCL95 2017-2019; DASHED WHERE INFERRED
- CONTOURS FOR SITE-SPECIFIC NITRATE PLUME 3-YEAR UCL95 2021-2023; DASHED WHERE INFERRED

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**NOTE**

ALL CONCENTRATIONS IN MILLIGRAMS PER LITER (mg/L)

Stantec

FOR: BEE-JAY SCALES SITE
SUNNYSIDE, WASHINGTON

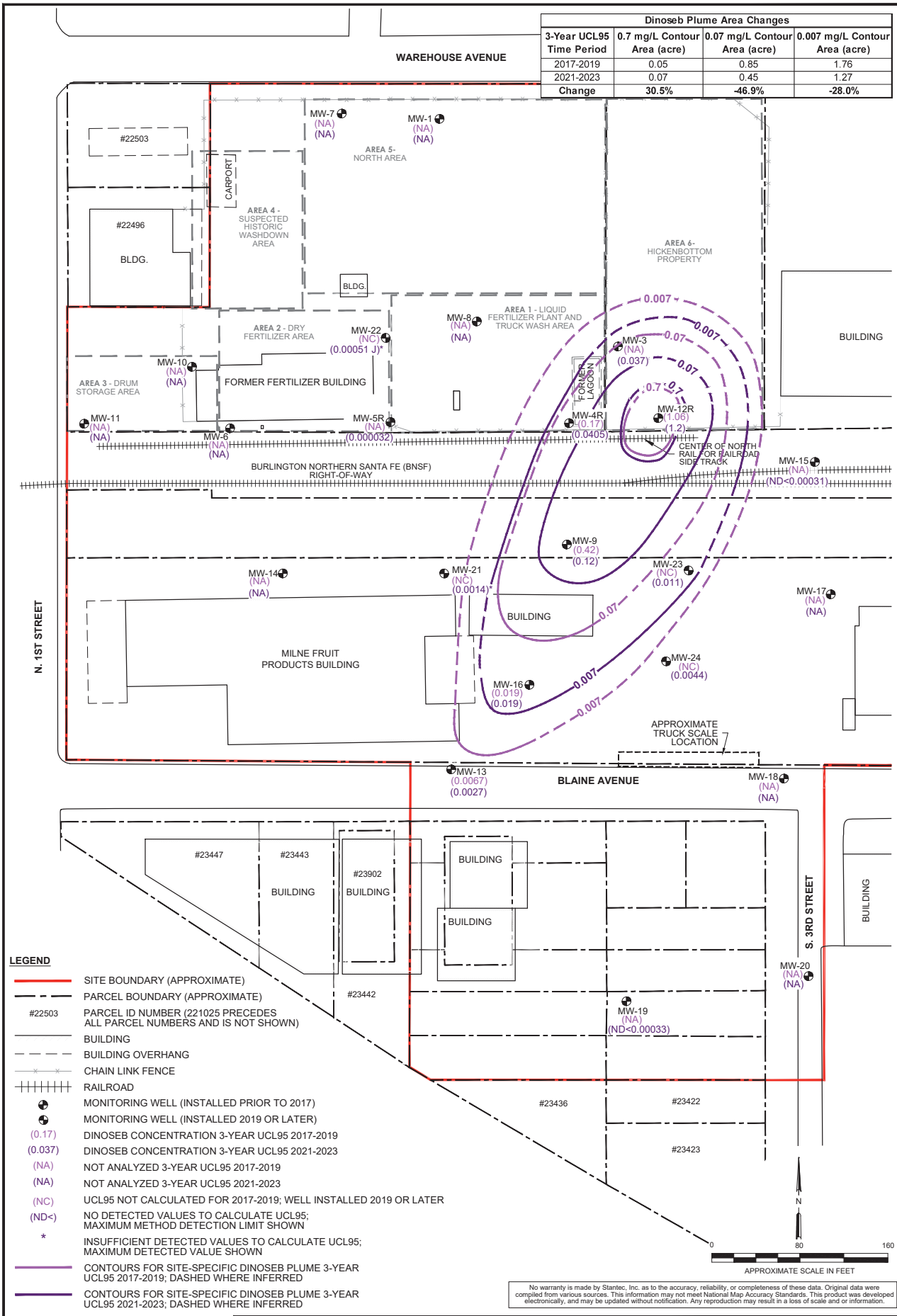
NITRATE ISOCONCENTRATION MAP - 3-YEAR UCL95
2017-2019 & 2021-2023

FIGURE: 5

| JOB NUMBER: | DRAWN BY: | CHECKED BY: | APPROVED BY: | DATE: |
|---|---|---|---|---|
| 182604043/182604044 | JO | EB | MK | 11/8/24 |

FILEPATH:\\Us0257-ppfss01\shared_projects\182604043\05_report_deliv\deliverables\reports\groundwater_remedy\figures\dwg_182604043_gwrd_phii_202410.dwg|JOpalekOpsahl|Nov 08, 2024 at 7:27|Layout: fig_nt

| Dinoseb Plume Area Changes | | | |
|---|---|---|---|
| 3-Year UCL95 Time Period | 0.7 mg/L Contour Area (acre) | 0.07 mg/L Contour Area (acre) | 0.007 mg/L Contour Area (acre) |
| 2017-2019 | 0.05 | 0.85 | 1.76 |
| 2021-2023 | 0.07 | 0.45 | 1.27 |
| **Change** | **30.5%** | **-46.9%** | **-28.0%** |




**LEGEND**

- SITE BOUNDARY (APPROXIMATE)
- PARCEL BOUNDARY (APPROXIMATE)
- #22503 — PARCEL ID NUMBER (221025 PRECEDES ALL PARCEL NUMBERS AND IS NOT SHOWN)
- BUILDING
- BUILDING OVERHANG
- CHAIN LINK FENCE
- RAILROAD
- MONITORING WELL (INSTALLED PRIOR TO 2017)
- MONITORING WELL (INSTALLED 2019 OR LATER)
- (0.17) — DINOSEB CONCENTRATION 3-YEAR UCL95 2017-2019
- (0.037) — DINOSEB CONCENTRATION 3-YEAR UCL95 2021-2023
- (NA) — NOT ANALYZED 3-YEAR UCL95 2017-2019
- (NA) — NOT ANALYZED 3-YEAR UCL95 2021-2023
- (NC) — UCL95 NOT CALCULATED FOR 2017-2019; WELL INSTALLED 2019 OR LATER
- (ND<) — NO DETECTED VALUES TO CALCULATE UCL95; MAXIMUM METHOD DETECTION LIMIT SHOWN
- * — INSUFFICIENT DETECTED VALUES TO CALCULATE UCL95; MAXIMUM DETECTED VALUE SHOWN
- CONTOURS FOR SITE-SPECIFIC DINOSEB PLUME 3-YEAR UCL95 2017-2019; DASHED WHERE INFERRED
- CONTOURS FOR SITE-SPECIFIC DINOSEB PLUME 3-YEAR UCL95 2021-2023; DASHED WHERE INFERRED

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**NOTE**

ALL CONCENTRATIONS IN MILLIGRAMS PER LITER (mg/L)

J = ESTIMATED

Stantec

FOR: BEE-JAY SCALES SITE SUNNYSIDE, WASHINGTON

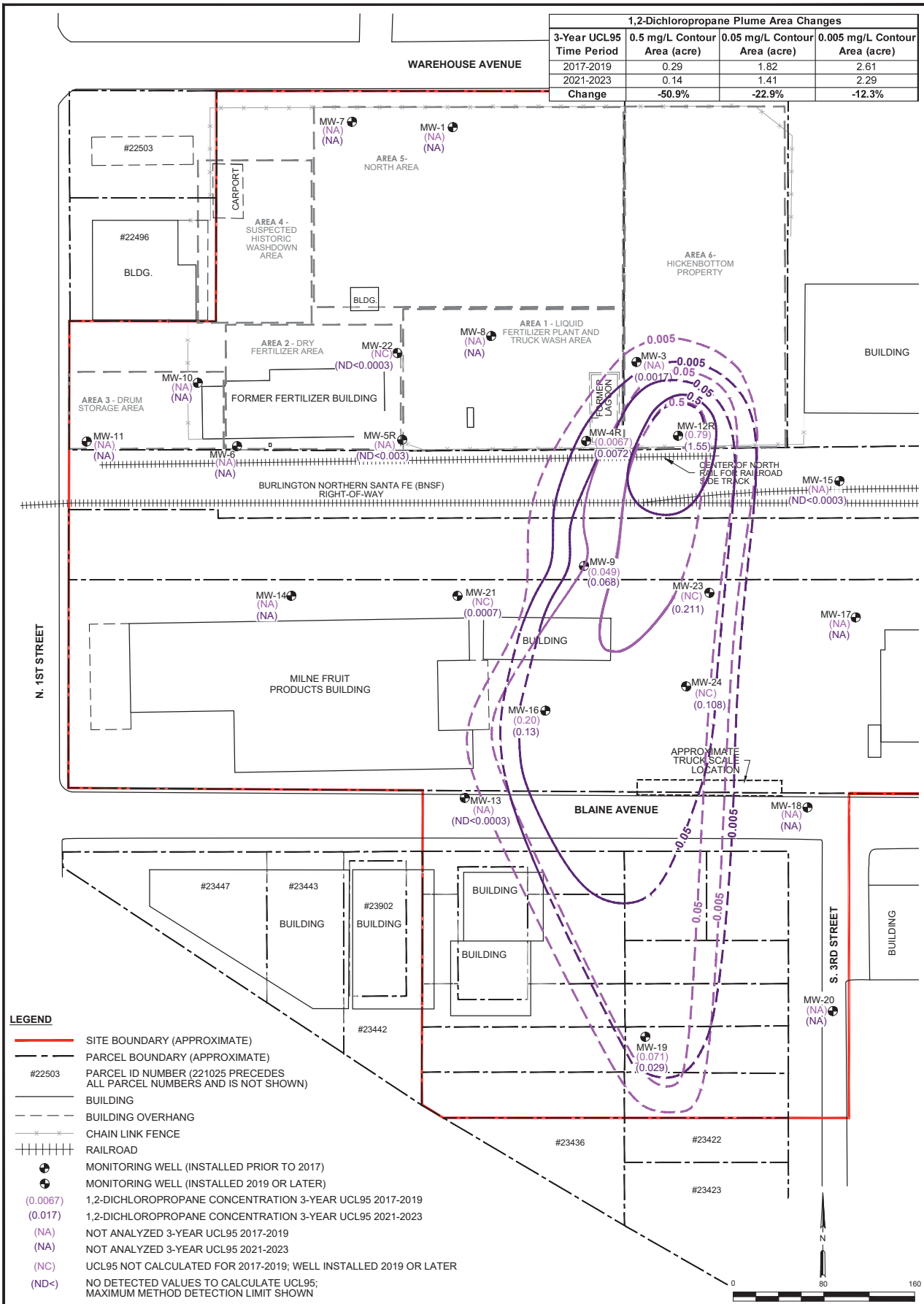
DINOSEB ISOCONCENTRATION MAP - 3-YEAR UCL95 2017-2019 & 2021-2023

FIGURE: 6

| JOB NUMBER: | DRAWN BY: | CHECKED BY: | APPROVED BY: | DATE: |
|---|---|---|---|---|
| 182604043/182604044 | JO | EB | MK | 10/30/24 |

FILEPATH:\\Us0257-ppfss01\shared_projects\182604043\05_report_deliv\deliverables\reports\groundwater_remedy\figures\dwg_182604043_gwrd_phii_202410.dwg|JOpalekOpsahl|Oct 30, 2024 at 8:39|Layout: fig_dino

| 1,2-Dichloropropane Plume Area Changes | | | |
|---|---|---|---|
| 3-Year UCL95 Time Period | 0.5 mg/L Contour Area (acre) | 0.05 mg/L Contour Area (acre) | 0.005 mg/L Contour Area (acre) |
| 2017-2019 | 0.29 | 1.82 | 2.61 |
| 2021-2023 | 0.14 | 1.41 | 2.29 |
| Change | -50.9% | -22.9% | -12.3% |




**LEGEND**

- SITE BOUNDARY (APPROXIMATE)
- PARCEL BOUNDARY (APPROXIMATE)
- #22503 — PARCEL ID NUMBER (221025 PRECEDES ALL PARCEL NUMBERS AND IS NOT SHOWN)
- BUILDING
- BUILDING OVERHANG
- CHAIN LINK FENCE
- RAILROAD
- MONITORING WELL (INSTALLED PRIOR TO 2017)
- MONITORING WELL (INSTALLED 2019 OR LATER)
- (0.0067) — 1,2-DICHLOROPROPANE CONCENTRATION 3-YEAR UCL95 2017-2019
- (0.017) — 1,2-DICHLOROPROPANE CONCENTRATION 3-YEAR UCL95 2021-2023
- (NA) — NOT ANALYZED 3-YEAR UCL95 2017-2019
- (NA) — NOT ANALYZED 3-YEAR UCL95 2021-2023
- (NC) — UCL95 NOT CALCULATED FOR 2017-2019; WELL INSTALLED 2019 OR LATER
- (ND<) — NO DETECTED VALUES TO CALCULATE UCL95; MAXIMUM METHOD DETECTION LIMIT SHOWN
- CONTOURS FOR SITE-SPECIFIC 1,2-DICHLOROPROPANE PLUME 3-YEAR UCL95 2017-2019; DASHED WHERE INFERRED
- CONTOURS FOR SITE-SPECIFIC 1,2-DICHLOROPROPANE PLUME 3-YEAR UCL95 2021-2023; DASHED WHERE INFERRED

**NOTE**

ALL CONCENTRATIONS IN MILLIGRAMS PER LITER (mg/L)

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FOR: BEE-JAY SCALES SITE SUNNYSIDE, WASHINGTON

1,2-DICHLOROPROPANE ISOCONCENTRATION MAP - 3-YEAR UCL95 2017-2019 & 2021-2023

FIGURE: 7

| JOB NUMBER: | DRAWN BY: | CHECKED BY: | APPROVED BY: | DATE: |
|---|---|---|---|---|
| 182604043/182604044 | JO | EB | MK | 10/30/24 |

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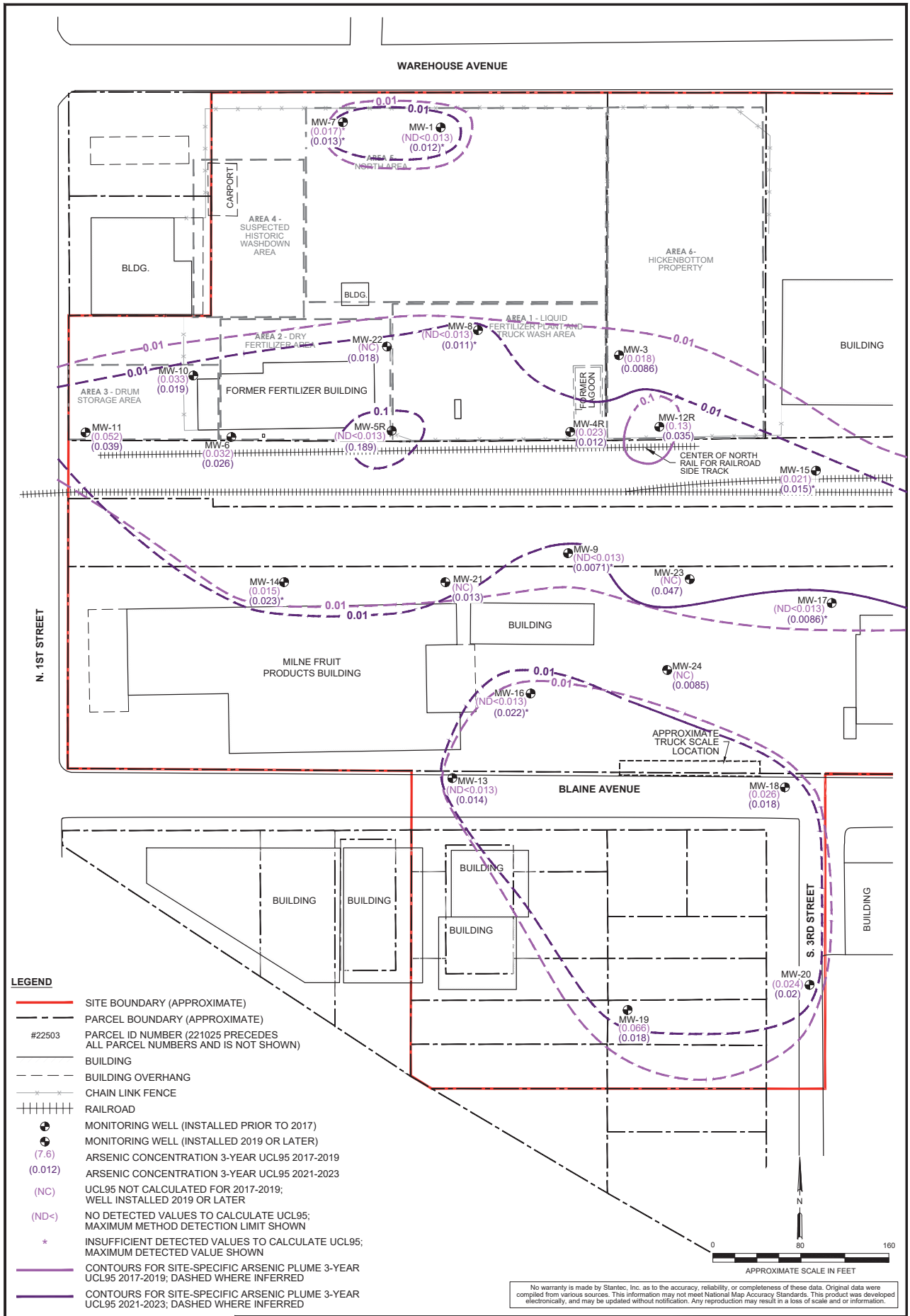


**LEGEND**

- SITE BOUNDARY (APPROXIMATE)
- PARCEL BOUNDARY (APPROXIMATE)
- #22503 — PARCEL ID NUMBER (221025 PRECEDES ALL PARCEL NUMBERS AND IS NOT SHOWN)
- BUILDING
- BUILDING OVERHANG
- CHAIN LINK FENCE
- RAILROAD
- MONITORING WELL (INSTALLED PRIOR TO 2017)
- MONITORING WELL (INSTALLED 2019 OR LATER)
- (7.6) — ARSENIC CONCENTRATION 3-YEAR UCL95 2017-2019
- (0.012) — ARSENIC CONCENTRATION 3-YEAR UCL95 2021-2023
- (NC) — UCL95 NOT CALCULATED FOR 2017-2019; WELL INSTALLED 2019 OR LATER
- (ND<) — NO DETECTED VALUES TO CALCULATE UCL95; MAXIMUM METHOD DETECTION LIMIT SHOWN
- * — INSUFFICIENT DETECTED VALUES TO CALCULATE UCL95; MAXIMUM DETECTED VALUE SHOWN
- CONTOURS FOR SITE-SPECIFIC ARSENIC PLUME 3-YEAR UCL95 2017-2019; DASHED WHERE INFERRED
- CONTOURS FOR SITE-SPECIFIC ARSENIC PLUME 3-YEAR UCL95 2021-2023; DASHED WHERE INFERRED

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**NOTE**
ALL CONCENTRATIONS IN MILLIGRAMS PER LITER (mg/L)

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| FOR: | | FIGURE: |
|---|---|---|
| BEE-JAY SCALES SITE<br>SUNNYSIDE, WASHINGTON | ARSENIC ISOCONCENTRATION MAP - 3-YEAR UCL95<br>2017-2019 & 2021-2023 | 8 |

| JOB NUMBER: | DRAWN BY: | CHECKED BY: | APPROVED BY: | DATE: |
|---|---|---|---|---|
| 182604043/182604044 | JO | EB | MK | 10/15/24 |

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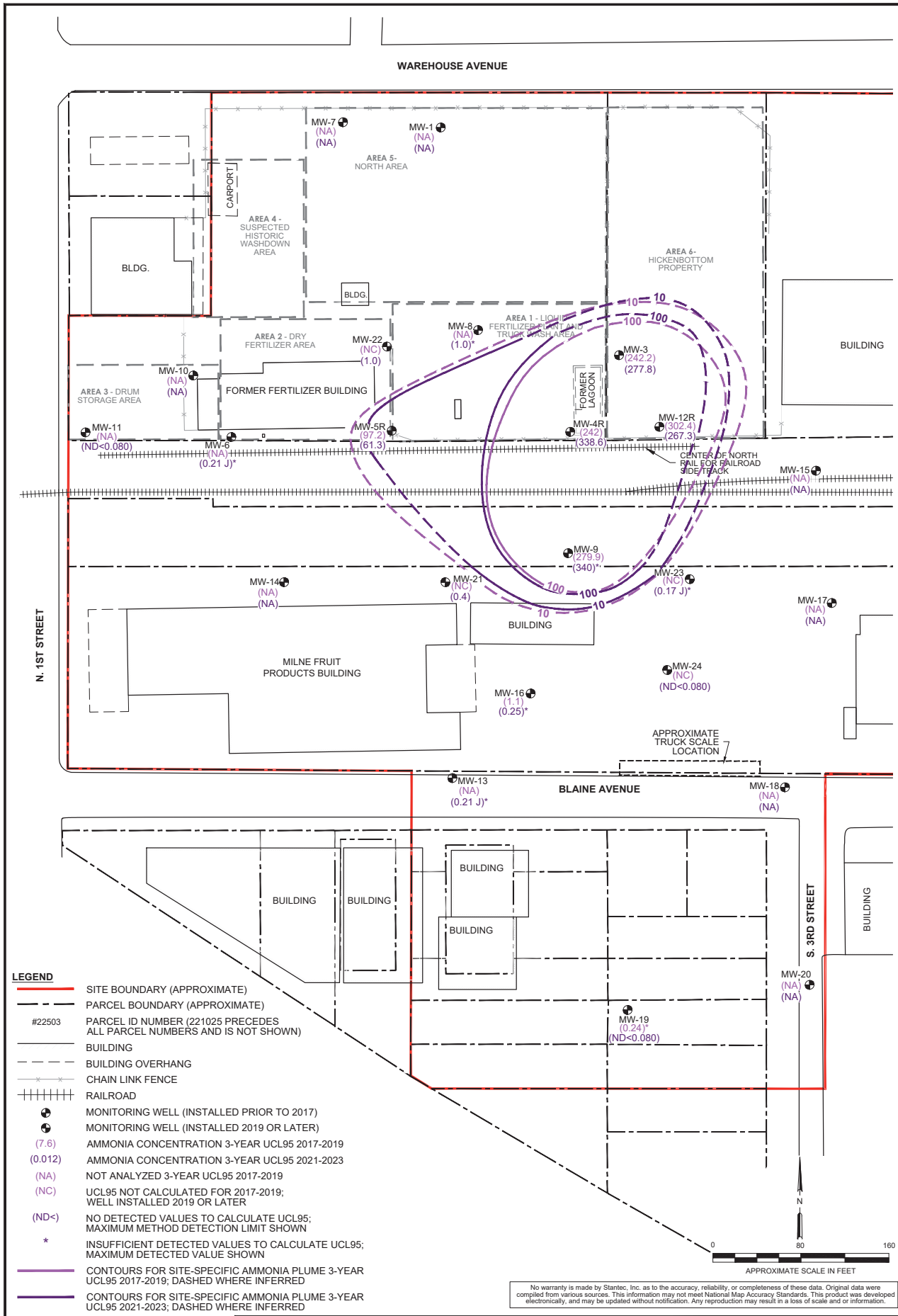


**LEGEND**

- SITE BOUNDARY (APPROXIMATE)
- PARCEL BOUNDARY (APPROXIMATE)
- #22503 — PARCEL ID NUMBER (221025 PRECEDES ALL PARCEL NUMBERS AND IS NOT SHOWN)
- BUILDING
- BUILDING OVERHANG
- CHAIN LINK FENCE
- RAILROAD
- MONITORING WELL (INSTALLED PRIOR TO 2017)
- MONITORING WELL (INSTALLED 2019 OR LATER)
- (7.6) — AMMONIA CONCENTRATION 3-YEAR UCL95 2017-2019
- (0.012) — AMMONIA CONCENTRATION 3-YEAR UCL95 2021-2023
- (NA) — NOT ANALYZED 3-YEAR UCL95 2017-2019
- (NC) — UCL95 NOT CALCULATED FOR 2017-2019; WELL INSTALLED 2019 OR LATER
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- * — INSUFFICIENT DETECTED VALUES TO CALCULATE UCL95; MAXIMUM DETECTED VALUE SHOWN
- CONTOURS FOR SITE-SPECIFIC AMMONIA PLUME 3-YEAR UCL95 2017-2019; DASHED WHERE INFERRED
- CONTOURS FOR SITE-SPECIFIC AMMONIA PLUME 3-YEAR UCL95 2021-2023; DASHED WHERE INFERRED

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**NOTE**

ALL CONCENTRATIONS IN MILLIGRAMS PER LITER (mg/L)

J = ESTIMATED

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| FOR: | | FIGURE: |
|---|---|---|
| BEE-JAY SCALES SITE<br>SUNNYSIDE, WASHINGTON | AMMONIA ISOCONCENTRATION MAP - 3-YEAR UCL95<br>2017-2019 & 2021-2023 | 9 |

| JOB NUMBER: | DRAWN BY: | CHECKED BY: | APPROVED BY: | DATE: |
|---|---|---|---|---|
| 182604043/182604044 | JO | EB | MK | 10/15/24 |

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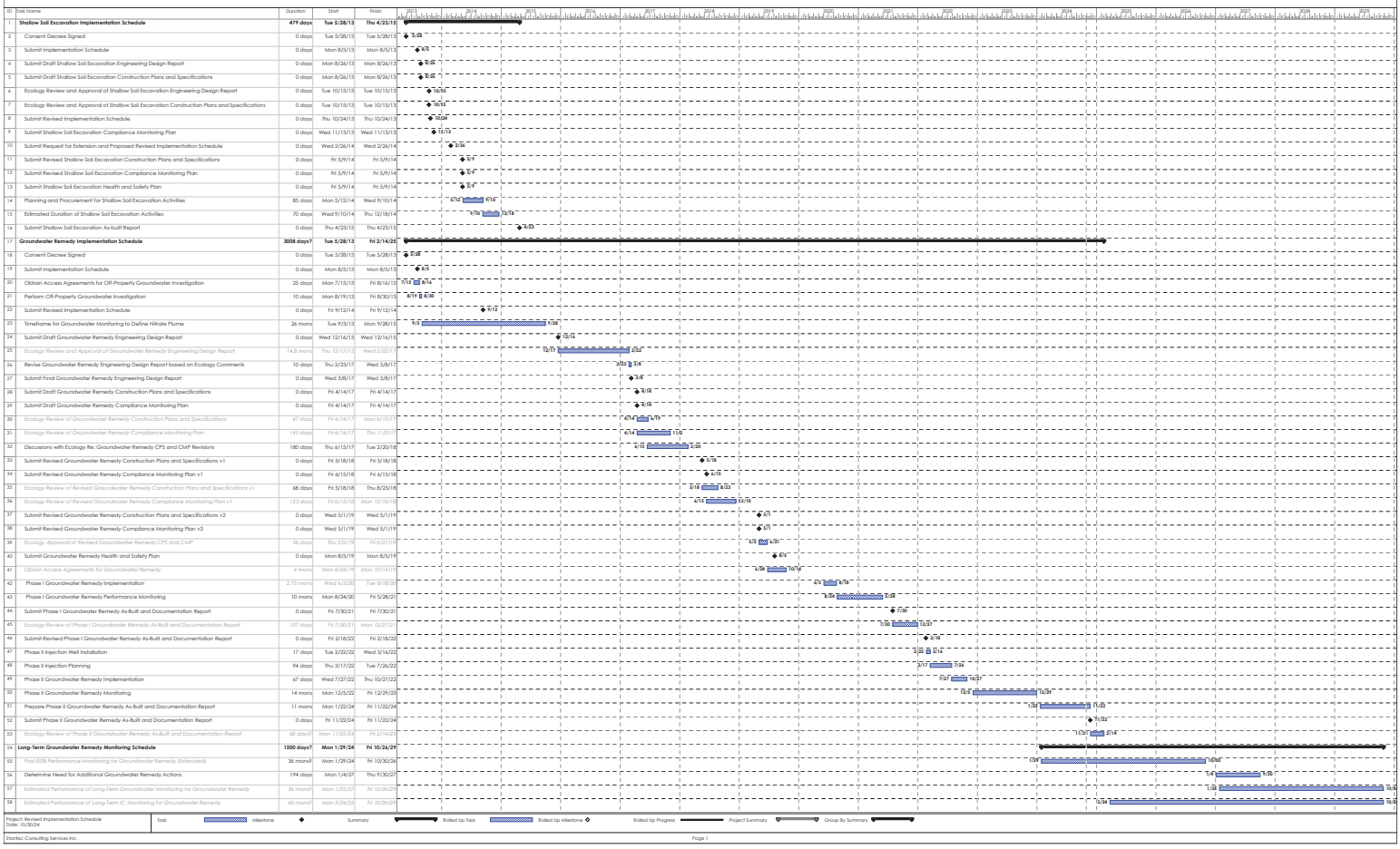
**Figure 10: Revised Implementation Schedule**
**Bee-Jay Scales Site**



| ID | Task Name | Duration | Start | Finish |
|---|---|---|---|---|
| 1 | **Shallow Soil Excavation Implementation Schedule** | **479 days** | **Tue 5/28/13** | **Thu 4/23/15** |
| 2 | Consent Decree Signed | 0 days | Tue 5/28/13 | Tue 5/28/13 |
| 3 | Submit Implementation Schedule | 0 days | Mon 8/5/13 | Mon 8/5/13 |
| 4 | Submit Draft Shallow Soil Excavation Engineering Design Report | 0 days | Mon 8/26/13 | Mon 8/26/13 |
| 5 | Submit Draft Shallow Soil Excavation Construction Plans and Specifications | 0 days | Mon 8/26/13 | Mon 8/26/13 |
| 6 | Ecology Review and Approval of Shallow Soil Excavation Engineering Design Report | 0 days | Tue 10/15/13 | Tue 10/15/13 |
| 7 | Ecology Review and Approval of Shallow Soil Excavation Construction Plans and Specifications | 0 days | Tue 10/15/13 | Tue 10/15/13 |
| 8 | Submit Revised Implementation Schedule | 0 days | Thu 10/24/13 | Thu 10/24/13 |
| 9 | Submit Shallow Soil Excavation Compliance Monitoring Plan | 0 days | Wed 11/13/13 | Wed 11/13/13 |
| 10 | Submit Request for Extension and Proposed Revised Implementation Schedule | 0 days | Wed 2/26/14 | Wed 2/26/14 |
| 11 | Submit Revised Shallow Soil Excavation Construction Plans and Specifications | 0 days | Fri 5/9/14 | Fri 5/9/14 |
| 12 | Submit Revised Shallow Soil Excavation Compliance Monitoring Plan | 0 days | Fri 5/9/14 | Fri 5/9/14 |
| 13 | Submit Shallow Soil Excavation Health and Safety Plan | 0 days | Fri 5/9/14 | Fri 5/9/14 |
| 14 | Planning and Procurement for Shallow Soil Excavation Activities | 85 days | Mon 5/12/14 | Wed 9/10/14 |
| 15 | Estimated Duration of Shallow Soil Excavation Activities | 70 days | Wed 9/10/14 | Thu 12/18/14 |
| 16 | Submit Shallow Soil Excavation As-built Report | 0 days | Thu 4/23/15 | Thu 4/23/15 |
| 17 | **Groundwater Remedy Implementation Schedule** | **3008 days?** | **Tue 5/28/13** | **Fri 2/14/25** |
| 18 | Consent Decree Signed | 0 days | Tue 5/28/13 | Tue 5/28/13 |
| 19 | Submit Implementation Schedule | 0 days | Mon 8/5/13 | Mon 8/5/13 |
| 20 | Obtain Access Agreements for Off-Property Groundwater Investigation | 25 days | Mon 7/15/13 | Fri 8/16/13 |
| 21 | Perform Off-Property Groundwater Investigation | 10 days | Mon 8/19/13 | Fri 8/30/13 |
| 22 | Submit Revised Implementation Schedule | 0 days | Fri 9/12/14 | Fri 9/12/14 |
| 23 | Timeframe for Groundwater Monitoring to Define Nitrate Plume | 26 mons | Tue 9/3/13 | Mon 9/28/15 |
| 24 | Submit Draft Groundwater Remedy Engineering Design Report | 0 days | Wed 12/16/15 | Wed 12/16/15 |
| 25 | *Ecology Review and Approval of Groundwater Remedy Engineering Design Report* | *14.8 mons* | *Thu 12/17/15* | *Wed 2/22/17* |
| 26 | Revise Groundwater Remedy Engineering Design Report based on Ecology Comments | 10 days | Thu 2/23/17 | Wed 3/8/17 |
| 27 | Submit Final Groundwater Remedy Engineering Design Report | 0 days | Wed 3/8/17 | Wed 3/8/17 |
| 28 | Submit Draft Groundwater Remedy Construction Plans and Specifications | 0 days | Fri 4/14/17 | Fri 4/14/17 |
| 29 | Submit Draft Groundwater Remedy Compliance Monitoring Plan | 0 days | Fri 4/14/17 | Fri 4/14/17 |
| 30 | *Ecology Review of Groundwater Remedy Construction Plans and Specifications* | *47 days* | *Fri 4/14/17* | *Mon 6/19/17* |
| 31 | *Ecology Review of Groundwater Remedy Compliance Monitoring Plan* | *145 days* | *Fri 4/14/17* | *Thu 11/2/17* |
| 32 | Discussions with Ecology Re: Groundwater Remedy CPS and CMP Revisions | 180 days | Thu 6/15/17 | Tue 2/20/18 |
| 33 | Submit Revised Groundwater Remedy Construction Plans and Specifications v1 | 0 days | Fri 5/18/18 | Fri 5/18/18 |
| 34 | Submit Revised Groundwater Remedy Compliance Monitoring Plan v1 | 0 days | Fri 6/15/18 | Fri 6/15/18 |
| 35 | *Ecology Review of Revised Groundwater Remedy Construction Plans and Specifications v1* | *68 days* | *Fri 5/18/18* | *Thu 8/23/18* |
| 36 | *Ecology Review of Revised Groundwater Remedy Compliance Monitoring Plan v1* | *123 days* | *Fri 6/15/18* | *Mon 12/10/18* |
| 37 | Submit Revised Groundwater Remedy Construction Plans and Specifications v2 | 0 days | Wed 5/1/19 | Wed 5/1/19 |
| 38 | Submit Revised Groundwater Remedy Compliance Monitoring Plan v2 | 0 days | Wed 5/1/19 | Wed 5/1/19 |
| 39 | *Ecology Approval of Revised Groundwater Remedy CPS and CMP* | *36 days* | *Thu 5/2/19* | *Fri 6/21/19* |
| 40 | Submit Groundwater Remedy Health and Safety Plan | 0 days | Mon 8/5/19 | Mon 8/5/19 |
| 41 | *Obtain Access Agreements for Groundwater Remedy* | *4 mons* | *Mon 6/24/19* | *Mon 10/14/19* |
| 42 | Phase I Groundwater Remedy Implementation | 2.75 mons | Wed 6/3/20 | Tue 8/18/20 |
| 43 | Phase I Groundwater Remedy Performance Monitoring | 10 mons | Mon 8/24/20 | Fri 5/28/21 |
| 44 | Submit Phase I Groundwater Remedy As-Built and Documentation Report | 0 days | Fri 7/30/21 | Fri 7/30/21 |
| 45 | *Ecology Review of Phase I Groundwater Remedy As-Built and Documentation Report* | *107 days* | *Fri 7/30/21* | *Mon 12/27/21* |
| 46 | Submit Revised Phase I Groundwater Remedy As-Built and Documentation Report | 0 days | Fri 2/18/22 | Fri 2/18/22 |
| 47 | Phase II Injection Well Installation | 17 days | Tue 2/22/22 | Wed 3/16/22 |
| 48 | Phase II Injection Planning | 94 days | Thu 3/17/22 | Tue 7/26/22 |
| 49 | Phase II Groundwater Remedy Implementation | 67 days | Wed 7/27/22 | Thu 10/27/22 |
| 50 | Phase II Groundwater Remedy Monitoring | 14 mons | Mon 12/5/22 | Fri 12/29/23 |
| 51 | Prepare Phase II Groundwater Remedy As-Built and Documentation Report | 11 mons | Mon 1/22/24 | Fri 11/22/24 |
| 52 | Submit Phase II Groundwater Remedy As-Built and Documentation Report | 0 days | Fri 11/22/24 | Fri 11/22/24 |
| 53 | *Ecology Review of Phase II Groundwater Remedy As-Built and Documentation Report* | *60 days?* | *Mon 11/25/24* | *Fri 2/14/25* |
| 54 | **Long-Term Groundwater Remedy Monitoring Schedule** | **1500 days?** | **Mon 1/29/24** | **Fri 10/26/29** |
| 55 | *Post-ESB Performance Monitoring for Groundwater Remedy (Estimated)* | *36 mons?* | *Mon 1/29/24* | *Fri 10/30/26* |
| 56 | Determine Need for Additional Groundwater Remedy Actions | 194 days | Mon 1/4/27 | Thu 9/30/27 |
| 57 | *Estimated Performance of Long-Term Groundwater Monitoring for Groundwater Remedy* | *36 mons?* | *Mon 1/25/27* | *Fri 10/26/29* |
| 58 | *Estimated Performance of Long-Term IC Monitoring for Groundwater Remedy* | *60 mons?* | *Mon 3/24/25* | *Fri 10/26/29* |

Project: Revised Implementation Schedule
Date: 10/30/24

Task | Milestone | Summary | Rolled Up Task | Rolled Up Milestone | Rolled Up Progress | Project Summary | Group By Summary