LMS/RVT/49805

2024 Verification Monitoring Report, Riverton, Wyoming, Processing Site

April 2025

U.S. DEPARTMENT OF ENERGY | Legacy Management

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Abbreviations

AWSS	alternate water supply system
bgs	below ground surface
CFR	*Code of Federal Regulations*
cfs	cubic feet per second
COC	contaminant of concern
CSM	conceptual site model
DOE	U.S. Department of Energy
EPA	U.S. Environmental Protection Agency
ft	feet
IC	institutional control
LM	Office of Legacy Management
LOESS	locally estimated scatterplot smoothing
LTMP	Long-Term Management Plan
MCL	maximum concentration limit
mg/L	milligrams per liter
NAW&SD	Northern Arapaho Water & Sewer Department
NRZ	naturally reduced zone
pCi/L	picocuries per liter
UMTRCA	Uranium Mill Tailings Radiation Control Act
USGS	U.S. Geological Survey

Executive Summary

This verification monitoring report presents data collected during calendar year 2024 and provides updates on the natural flushing compliance strategy and conceptual site model at the Riverton, Wyoming, Processing Site. Routine activities included monitoring institutional controls (ICs) and routine sampling of groundwater, surface water, and domestic wells.

ICs continue to function as intended at the Riverton site. IC monitoring was conducted to verify that ICs are in place and working to ensure that potential exposure to contaminated groundwater is minimized during the natural flushing period. Land and water use inspections within the IC boundary verified that warning signs around the oxbow lake were in place and in good condition. No additional anthropogenic land or water use was identified that exposed or involved shallow groundwater. Sampling results from domestic wells did not indicate any impacts from site-related contaminants. Upgrades to the alternate water supply system are planned so that the system will remain a viable supplemental IC for the Riverton site into the future. Upgrades to the alternate water supply system are anticipated to be completed in 2025.

Concentrations of uranium and molybdenum at the site continue to remain above the standards for groundwater in numerous surficial aquifer wells. Decreases in molybdenum and uranium concentrations were observed in numerous surficial aquifer wells, likely because of natural flushing processes in the absence of flooding or heavy precipitation events. Sampling results from semiconfined monitoring wells continue to indicate that there was no impact from site-related molybdenum and uranium contamination. Sampling results from surface water indicate that groundwater discharge continues to affect the water quality in the oxbow lake but that there are no significant impacts to surface water in the Little Wind River or other ponds near the site.

Several types of information (e.g., contaminants mobilized by flood events, the current plume size and contaminant concentration levels, comparison of results to groundwater modeling predictions, historical data, and experience at other Uranium Mill Tailings Radiation Control Act sites) indicate that natural flushing of the surficial aquifer is occurring at the Riverton site but not at a rate that will meet the 100-year regulatory time frame. Based on this information, the U.S. Department of Energy Office of Legacy Management is working to fill data gaps with additional field investigations and conduct additional modeling to evaluate groundwater remedy alternatives and determine an appropriate alternate compliance strategy for the site. The new compliance strategy will be presented to the U.S. Nuclear Regulatory Commission for concurrence in an updated Groundwater Compliance Action Plan.

1.0 Introduction

This Verification Monitoring Report presents routine data collected during calendar year 2024 and provides updates on the natural flushing compliance strategy and conceptual site model (CSM) at the Riverton, Wyoming, Processing Site. Data were generated from one routine groundwater and surface water sampling event conducted at the Riverton site during August 2024.

The Riverton site is regulated under Title I of the Uranium Mill Tailings Radiation Control Act (UMTRCA). The compliance strategy for the Riverton site is natural flushing in conjunction with institutional controls (ICs) (DOE 1998b), as allowed by UMTRCA. Monitoring required during the natural flushing period is called verification monitoring because its purpose is to verify that the natural flushing strategy is progressing as predicted (or not) and that ICs are in place and are functioning as intended. Data collected during verification monitoring are reported annually in a Verification Monitoring Report. These reports have been issued since 2001, and the reports from 2005 to 2023 are available on the U.S. Department of Energy (DOE) Office of Legacy Management (LM) public webpages at https://lmpublicsearch.lm.doe.gov/SitePages/default.aspx?sitename=Riverton. All water quality data for the Riverton site are archived in the environmental database at the LM Field Support Center at Grand Junction, Colorado. Water quality data are also available for viewing with dynamic mapping via the Geospatial Environmental Mapping System (GEMS) website at https://gems.lm.doe.gov/#&site=RVT. The monitoring program at the Riverton site is specified in the *Long-Term Management Plan for the Riverton, Wyoming, Processing Site* (DOE 2023), also called the Long-Term Management Plan (LTMP). The LTMP was updated in 2023 to reflect current conditions, monitoring locations, and ICs at the site.

2.0 Conceptual Site Model

The CSM provided in the *2015 Advanced Site Investigation and Monitoring Report, Riverton, Wyoming, Processing Site* (DOE 2016) does not require any updates based on the 2024 sampling results. Among other components, this CSM includes an ongoing contaminant source zone underneath the former tailings impoundment in the saturated zone, secondary contaminant sources within the plume footprint in evaporites within the unsaturated zone, and naturally reduced zones (NRZs) in the variably saturated zone. Data from 2024 confirmed the presence of an ongoing source underneath the former tailings pile that resulted in a persistent uranium plume with onsite concentrations of up to 1.43 milligrams per liter (mg/L). The CSM (DOE 2016) also suggests that the unsaturated zone above the plume footprint has elevated solid-phase contaminants as seasonal high-water levels bring and store contaminants in the typically unsaturated sediments from the underlying groundwater. During these high-water levels, contaminants are wicked up and stored in the silt layer overlying much of the surficial aquifer and can be released during river flooding or other high recharge events (direct rain or snowmelt infiltration). This release of contaminants from the unsaturated zone into the groundwater was confirmed after flooding in 2010, 2016, and 2017 (Dam et al. 2015; DOE 2019). Data from 2024 continued to confirm the CSM with decreasing contaminant concentrations in the surficial aquifer because there were no large recharge events or flooding of the Little Wind River to release contaminants stored in the unsaturated zone. Whether the NRZs are a source or sink for uranium and molybdenum will be investigated in future solid-phase sampling and laboratory testing that are detailed in the *2022 Work Plan for Continued Site Investigation of the Riverton, Wyoming, Processing Site* (DOE 2022a).

3.0 Site Conditions

3.1 Surface Remediation

A uranium and vanadium ore processing mill operated from 1958 to 1963 at the Riverton site. A tailings pile covered about 72 acres of the 140-acre site (DOE 2024b). The tailings and associated slurry water were the primary original source of groundwater contamination of the surficial aquifer. In 1988 and 1989, the tailings pile was excavated down to an average depth of 4 feet (ft) below ground surface (bgs) based on a radium-226 soil standard in Title 40 *Code of Federal Regulations* Section 192 (40 CFR 192). Surface remediation activities resulted in the removal of about 1.8 million cubic yards of tailings and associated materials, which were encapsulated at the Gas Hills East, Wyoming, Disposal Site (Figure 1) (DOE 1998b). Soils at and below the water table with elevated thorium-230 concentrations were left in place (DOE 1991) on portions of the former mill site as permitted by the supplemental standards provision of 40 CFR 192.

3.2 Hydrogeology

The Riverton site is on an alluvial terrace between the Wind River and the Little Wind River approximately 2.3 miles southwest of the town of Riverton, Wyoming (Figure 1). Groundwater is in three aquifers beneath the site: (1) a surficial unconfined aquifer (surficial aquifer), (2) a middle semiconfined aquifer, and (3) a deeper confined aquifer (DOE 1998c).

The surficial aquifer consists of approximately 15 to 20 ft of unconsolidated alluvial material; the semiconfined and confined aquifers are composed of shales and sandstones of the upper units of the Eocene Wind River Formation, which is more than 500 ft thick near the site. Depth to groundwater in the surficial aquifer is generally less than 10 ft bgs. For compliance purposes, the uppermost aquifer, where compliance with groundwater standards is assessed, comprises the surficial aquifer and semiconfined aquifer. Groundwater in the uppermost aquifer flows to the southeast.

Because the Riverton site is on an alluvial terrace between the Wind River and the Little Wind River, site groundwater conditions have been influenced by periodic flooding of these rivers. Artifacts of river flooding include the following:

- Formation of an oxbow lake in 1995
- Formation of a groundwater seep in a normally dry side channel of the Little Wind River in 2016
- Spikes in groundwater contaminant concentrations in areas inundated by flood waters
- Deposition of contaminants into the unsaturated zone from high groundwater elevations
- Destruction of an LM stilling well and two LM monitoring wells on the south side of the Little Wind River in 2010
- Destruction of an LM stilling well (north side of the river) and the U.S. Geological Survey (USGS) gaging station on the Little Wind River in 2017

Significant flooding of the Little Wind River flooded portions of the site in 1962, 1963, 1965, 1967, 1983, 1991, 1995, 2010, 2016, and 2017 when peak river discharge was greater than

8000 cubic feet per second (cfs) (USGS 2025). Discharge data and flood data from the Little Wind River are presented in Section 5.2.1.

3.3 Water Quality

Shallow groundwater beneath and downgradient from the site was contaminated because of uranium-processing activities that occurred between 1958 and 1963 (DOE 1998c; White et al. 1984). Contaminants of concern (COCs) in the groundwater beneath the Riverton site are manganese, molybdenum, sulfate, and uranium. COCs were selected using a screening process that compared contaminant concentrations with the maximum concentration limits (MCLs) in 40 CFR 192 and evaluated potential human health risks and ecological risks. The COC selection process is detailed in *Environmental Assessment of Ground Water Compliance at the Riverton, Wyoming, Uranium Mill Tailings Site* (DOE 1998a). Molybdenum and uranium were selected as indicator contaminants for compliance monitoring in the *Final Ground Water Compliance Action Plan for the Riverton, Wyoming, Title I UMTRA Project Site* (DOE 1998b). These contaminants were selected as indicator contaminants because they are the most widely distributed and because they form significant aqueous plumes in the uppermost aquifer near the site. The MCLs for molybdenum and uranium are 0.10 mg/L and 30 picocuries per liter (pCi/L), respectively. Manganese and sulfate are not regulated under Title I of UMTRCA.

To provide a consistent comparison with historical data, uranium concentrations continue to be measured in milligrams per liter; therefore, the uranium standard referenced in this report has been converted from 30 pCi/L to 0.044 mg/L (which assumes secular equilibrium of uranium isotopes) to allow direct comparison of uranium data to the standard. The MCLs for uranium discussed here are slightly different from the maximum contaminant levels set by the U.S. Environmental Protection Agency (EPA) for drinking water of 0.030 mg/L.

3.4 Institutional Controls

To protect human health and the environment during the natural flushing period, ICs are required to control exposure to contaminated groundwater. An IC boundary has been established that delineates the area that requires protection at the Riverton site (Figure 2). The IC boundary was set to encompass the area of current groundwater contamination and a surrounding buffer zone to account for potential future plume migration based on groundwater modeling for the site.

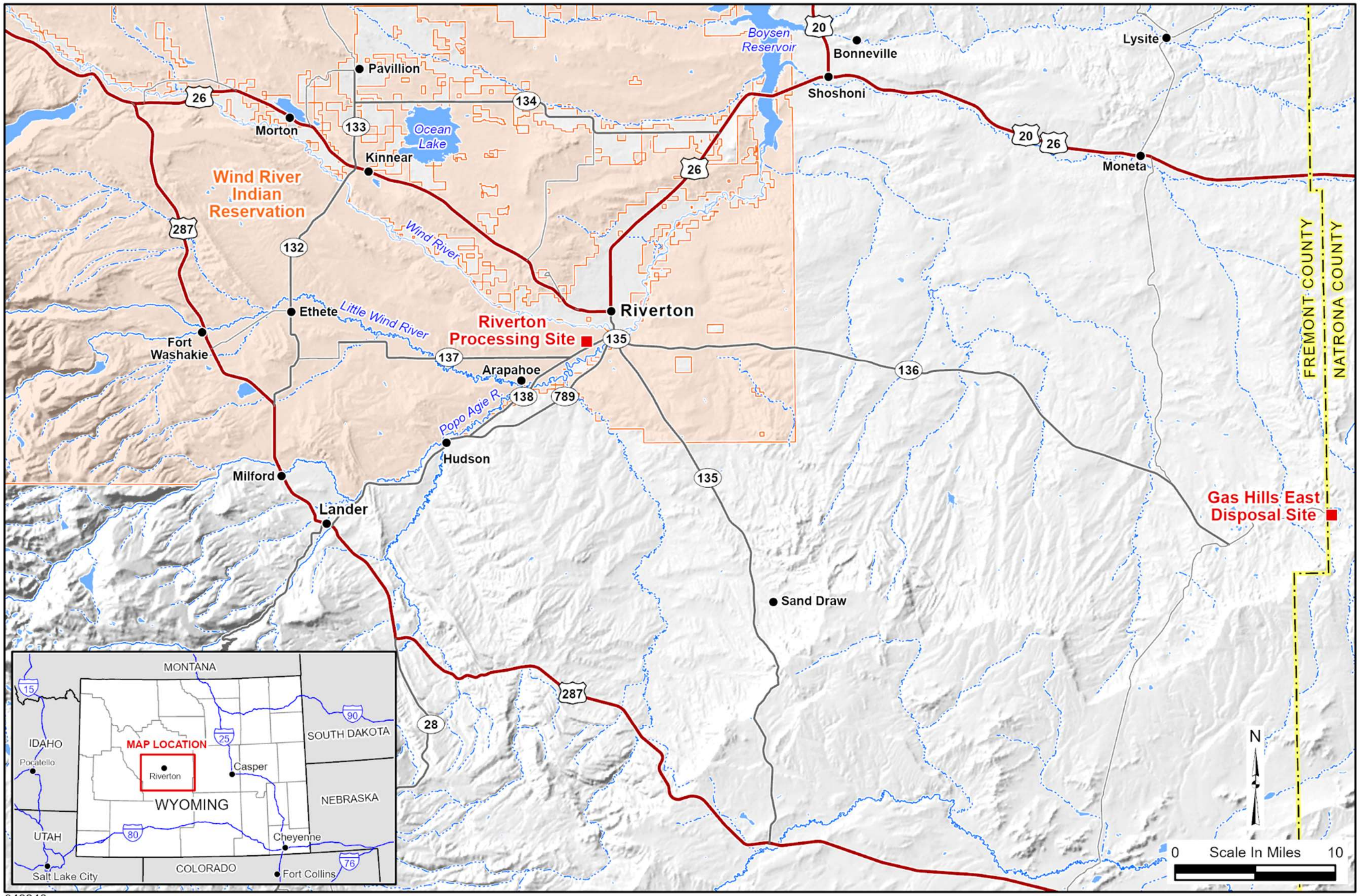

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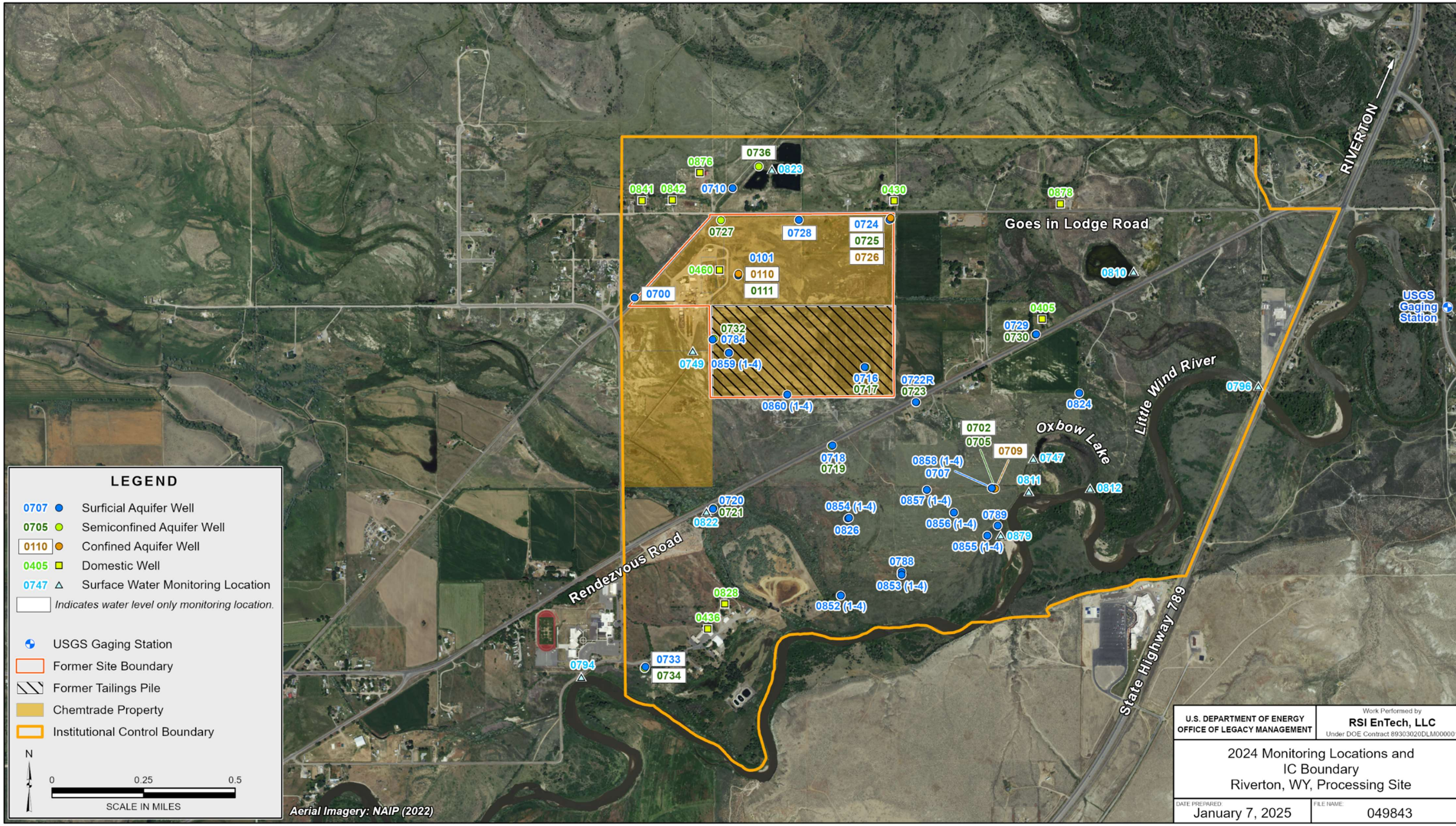
Figure 1. Riverton, Wyoming, Processing Site Location Map



Abbreviations:
Chemtrade = Chemtrade Refinery Services, Inc.
NAIP = National Agriculture Imagery Program

Figure 2. 2024 Monitoring Locations and IC Boundary at the Riverton Site

3.4.1 Site ICs

Cooperative efforts are ongoing among LM, the Northern Arapaho Tribe and Eastern Shoshone Tribe, and the State of Wyoming to implement and maintain viable and enforceable ICs at the Riverton site. ICs currently in place include the following:

- Warning signs installed around the oxbow lake that explain that the contaminated water is not safe for human consumption, with instructions not to drink from, fish in, or swim in the lake.
- A tribal ordinance that restricts well installation, prohibits surface impoundments, authorizes access to inspect and sample new wells, and notifies drilling contractors of the groundwater contamination within the IC boundary. Restrictions on well installation include a minimum depth of 150 ft bgs (approximately 50 ft below the top of the confined aquifer) and a requirement that surface casing be installed through the contaminated upper aquifer. This is one of the primary ICs that protects the public from accessing contaminated groundwater within the IC boundary.
- An LM notification to area drilling contractors of the existing groundwater contamination.
- A State of Wyoming Department of Environmental Quality notification of existing groundwater contamination to be provided to private landowners who apply for a gravel pit permit within the IC boundary.
- Notification to LM by the Wyoming State Engineer's Office when it receives permit applications for wells or surface impoundments within or adjacent to the IC boundary. This includes providing LM with a copy of the application (so LM may comment on it) and incorporating LM's comments on the permit, if approved. This is one of the primary ICs that protects the public from accessing contaminated groundwater within the IC boundary.
- An easement and covenant to restrict land use and well drilling on the former mill site property, which was finalized on June 29, 2009; the former mill site was purchased by Chemtrade Refinery Services, Inc. (also called Chemtrade).
- An alternate water supply system (AWSS), cofunded and constructed by DOE and the Indian Health Service and operated by the Northern Arapaho Water & Sewer Department (NAW&SD) in 1998, that supplies potable water to residents within the IC boundary to minimize the use of groundwater. The AWSS is a supplement to the institutional controls.

3.4.2 IC Monitoring

The LTMP specifies ongoing IC monitoring to verify that ICs are in place and working to ensure that potential exposure to contaminated groundwater is minimized during the natural flushing period. IC monitoring consists of two components: (1) sampling and (2) land and water use verification. The sampling component consists of sampling domestic wells. The land and water use verification consists of periodic inspection of land within the IC boundary to verify and document that no additional anthropogenic land or water use exposes or involves shallow groundwater, such as new wells, gravel pits, seeps, and recreational ponds.

Eight domestic wells were sampled during the August 2024 sampling event. Results for samples collected from domestic wells are presented in Section 5.1.2.2 and Appendix A.

NAW&SD is responsible for ensuring that the quality, safety, and quantity of the water in the AWSS are adequate. NAW&SD is also required to maintain compliance with EPA standards that regulate community water systems. To assist in this effort and maintain the AWSS as a viable supplemental IC, LM has worked with the Northern Arapaho Tribe to ensure cooperative efforts and funding for ongoing maintenance, flushing, sampling, and capital improvements of the AWSS. In 2023, LM subcontracted an engineering firm that generated engineering design drawings for needed maintenance of the AWSS based on a condition assessment of the system that was updated in 2022 (WWC 2022). LM procured a subcontractor in 2024 to construct the upgrades to the AWSS in 2025.

Inspection of areas within the IC boundary is a requirement of the LTMP. Land and water use verification within the IC boundary was conducted by Northern Arapaho Natural Resources Office personnel before the August 2024 sampling event and by the sampling crews during the August 2024 sampling event. Results of the water and land use inspections include the following:

- Warning signs around the oxbow lake were verified to be in place and in good condition (Figure 3)
- No additional land or water use was identified that exposed or involved shallow groundwater

4.0 Monitoring Program

The verification monitoring program consists of 21 conventional monitoring wells, 9 multilevel monitoring wells, 9 domestic wells, and 10 surface water locations, all of which are listed in Table 1 and shown in Figure 2. The annual water sampling event at the Riverton site is conducted in late summer when water levels in surface water and the surficial aquifer are typically low. During the 2024 sampling event, the top ports (e.g., well 0852-1) of all the multilevel monitoring wells and surface water location 0879 were dry. In addition, domestic well 0430 was not sampled during the 2024 sampling event because the pump was not functional, and the homeowner was not using the well. At each sampling location, water samples were analyzed for COCs (i.e., manganese, molybdenum, sulfate, and uranium), and field measurements of temperature, pH, specific conductance, total alkalinity, and turbidity were taken. Water levels were measured in all monitoring wells in the monitoring network during the annual sampling event except for monitoring well 0728, which was found to be damaged during the sampling event and was subsequently repaired.

Figure 3. Warning Sign at the Oxbow Lake in 2024

Table 1. 2024 Sampling Network at the Riverton Site

Location ID	Description	Rationale	Comments
LM Monitoring Wells			
0101	Surficial aquifer	Monitor upgradient portion of the plume	
0705	Semiconfined aquifer	Monitor semiconfined aquifer	
0707	Surficial aquifer	Monitor centroid of plume	
0710	Surficial aquifer	Background location	
0716	Surficial aquifer	Monitor upgradient portion of plume	
0717	Semiconfined aquifer	Monitor semiconfined aquifer	
0718	Surficial aquifer	Monitor lateral plume movement	
0719	Semiconfined aquifer	Monitor semiconfined aquifer	
0720	Surficial aquifer	Monitor lateral plume movement	
0721	Semiconfined aquifer	Monitor semiconfined aquifer	
0722R	Surficial aquifer	Monitor centroid of plume	
0723	Semiconfined aquifer	Monitor semiconfined aquifer	
0727	Semiconfined aquifer	Geochemical evidence of connection with surficial aquifer	
0729	Surficial aquifer	Monitor lateral plume movement	
0730	Semiconfined aquifer	Monitor semiconfined aquifer	
0732	Semiconfined aquifer	Geochemical evidence of connection with surficial aquifer	
0784	Surficial aquifer	Monitor lateral plume movement	
0788	Surficial aquifer	Monitor lateral plume movement	
0789	Surficial aquifer	Monitor centroid of plume	
0824	Surficial aquifer	Monitor lateral plume movement	
0826	Surficial aquifer	Monitor lateral plume movement	
0852 (1–4)	Surficial aquifer	Monitor vertical variation in the surficial aquifer	Multilevel monitoring well
0853 (1–4)	Surficial aquifer	Monitor vertical variation in the surficial aquifer	Multilevel monitoring well
0854 (1–4)	Surficial aquifer	Monitor vertical variation in the surficial aquifer	Multilevel monitoring well
0855 (1–4)	Surficial aquifer	Monitor vertical variation in the surficial aquifer	Multilevel monitoring well
0856 (1–4)	Surficial aquifer	Monitor vertical variation in the surficial aquifer	Multilevel monitoring well
0857 (1–4)	Surficial aquifer	Monitor vertical variation in the surficial aquifer	Multilevel monitoring well
0858 (1–4)	Surficial aquifer	Monitor vertical variation in the surficial aquifer	Multilevel monitoring well
0859 (1–4)	Surficial aquifer	Monitor vertical variation in the surficial aquifer	Multilevel monitoring well
0860 (1–4)	Surficial aquifer	Monitor vertical variation in the surficial aquifer	Multilevel monitoring well
Domestic Wells			
0405	Confined aquifer	Potential POE	Private residence
0430	Confined aquifer	Potential POE	Private residence
0436	Confined aquifer	Potential POE	St. Stephens Indian Mission
0460	Confined aquifer	Potential POE	Chemtrade refinery
0828	Confined aquifer	Potential POE	St. Stephens Indian Mission
0841	Semiconfined aquifer	Potential POE	Private residence
0842	Confined aquifer	Potential POE	Private residence

Table 1. 2024 Sampling Network at the Riverton Site (continued)

Location ID	Description	Rationale	Comments
0876	Confined aquifer	Potential POE	Private residence
0878	Confined aquifer	Potential POE	Private residence
Surface Water			
0747	Oxbow lake	Impacted by groundwater discharge	
0749	Chemtrade refinery discharge ditch	Effluent from sulfuric acid plant	
0794	Little Wind River	Upstream of predicted plume discharge	
0796	Little Wind River	Downstream of predicted plume discharge	
0810	Pond—former gravel pit	Potential for impact—within IC boundary	
0811	Little Wind River	Within area of predicted plume discharge	
0812	Little Wind River	Within area of predicted plume discharge	
0822	West side ditch	Potential for impact—within IC boundary	
0823	Pond—former gravel pit	Upgradient of plume—within IC area	
0879	Seep	Impacted by groundwater discharge	Side channel of the Little Wind River

Abbreviation:
POE = point of exposure

5.0 Results of 2024 Monitoring

5.1 Groundwater

5.1.1 Groundwater Flow

Water levels were measured at all monitoring wells in the monitoring network (except for 0728) (Figure 2) in August to verify groundwater flow direction and assess vertical gradients throughout the IC area. Water level data are included in Appendix B.

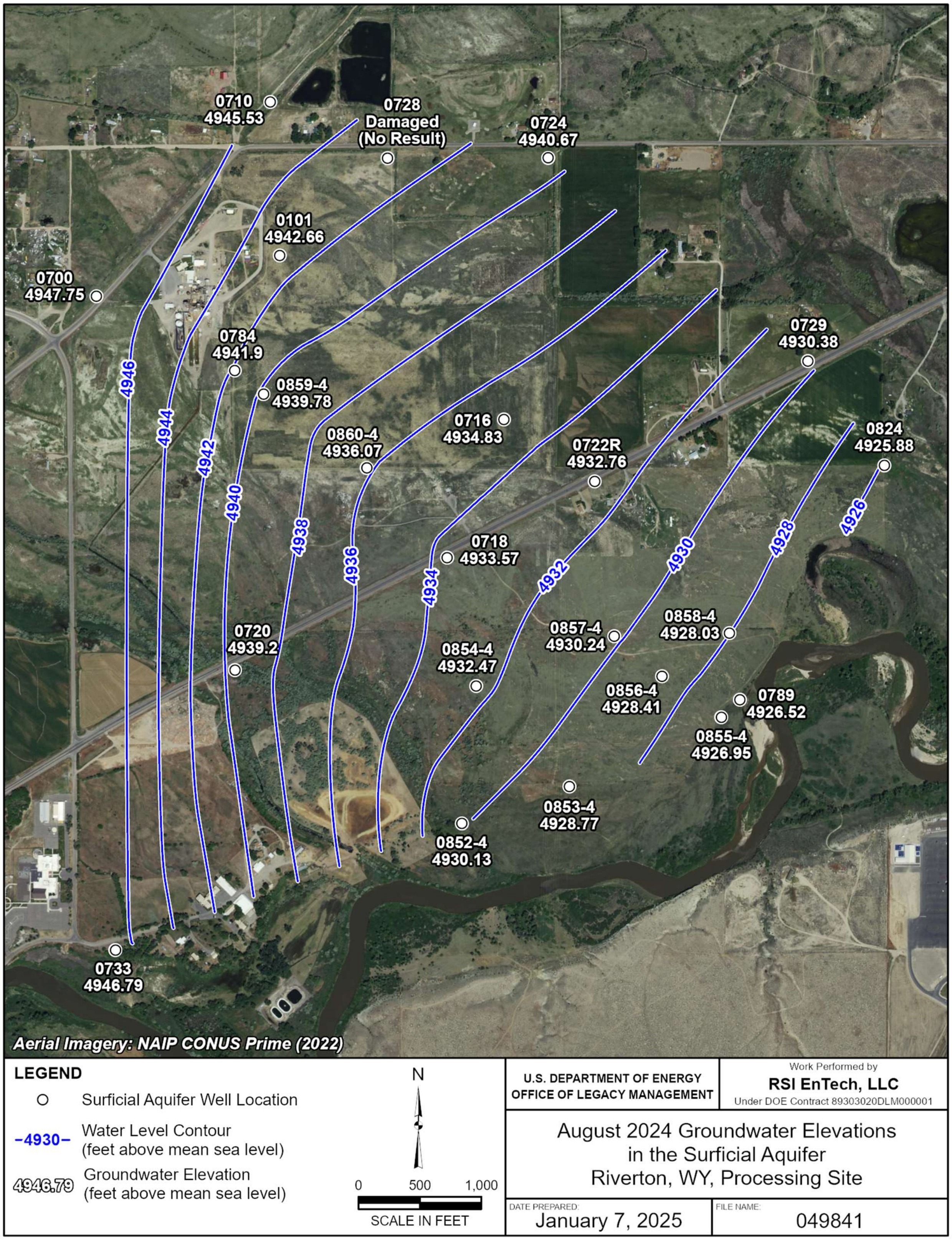
Assessment of horizontal groundwater flow direction in the surficial aquifer is required to ensure that the monitoring network is adequate for assessing contaminant plume movement and to ensure that the IC boundary provides a sufficient buffer to prevent access to contaminated groundwater. As shown in Figure 4, groundwater elevation contours for the surficial aquifer indicate a general flow direction to the southeast in August 2024, which is consistent with the historical flow direction. In addition to water levels measured in August, continuous water level measurements were recorded by pressure transducers installed in wells along the groundwater flow path (Figure 5). Continuous groundwater elevations in Figure 5 demonstrate that the general groundwater flow direction was consistent throughout the year. In 2024 and in past years, June was an exception; groundwater and river levels were high because the groundwater flow direction reversed temporarily near the river (see Figure 5, well 0789).

Vertical gradients are used to assess the direction that groundwater will flow vertically. The methods traditionally applied to assess vertical flow use a negative gradient to indicate the potential for upward groundwater flow and a positive gradient to indicate the potential for downward groundwater flow. Regardless of the direction and magnitude indicated by the gradient, vertical migration of groundwater between the Riverton site aquifers is expected to be limited because of the aquitards separating the aquifers (DOE 1998c). Vertical gradients are calculated from monitoring wells in an upper aquifer (aquifer 1) and lower aquifer (aquifer 2) using the following formula: $(GE_1 - GE_2)/(SE_1 - SE_2)$, where GE = groundwater elevation and SE = screen elevation at the midpoint of the screen. Table 2 shows vertical gradients calculated from grouped monitoring wells (from August 2024 data). No vertical gradient was greater than an absolute magnitude of 0.13.

5.1.2 Groundwater Quality

Surficial aquifer data from the 2024 sampling event are summarized in Figure 6 through Figure 11. In Figure 7, Figure 8, Figure 10, and Figure 11, the blue line is the locally estimated scatterplot smoothing (LOESS) line, which is an estimate of the average molybdenum or uranium concentration as it changes through time. The distribution of molybdenum in the surficial aquifer from the August 2024 sampling event is shown in Figure 6. Time-concentration plots for molybdenum in wells within contaminant plumes and wells on the edge and outside the contaminant plumes in the surficial aquifer are shown in Figure 7 and Figure 8, respectively. The distribution of uranium in the surficial aquifer, based on August 2024 sampling results, is shown in Figure 9. Time-concentration plots for uranium in wells within contaminant plumes and wells on the edge and outside the contaminant plumes in the surficial aquifer are shown in Figure 10 and Figure 11, respectively. The distribution of molybdenum and uranium plumes (shown in Figure 6 for molybdenum and Figure 9 for uranium) included data from conventional and multilevel monitoring wells. The multilevel monitoring well port with the highest molybdenum and uranium concentrations was plotted in the figures; in areas where a conventional monitoring well was colocated with a multiport monitoring well (wells 0707 and 0858; wells 0788 and 0853; and wells 0826 and 0854; each pair is a conventional well and multiport well, respectively), the highest molybdenum and uranium concentration from either well was plotted.

As shown in the plots and figures, concentrations of molybdenum and uranium in groundwater in the surficial aquifer are still above their respective MCLs. Flooding of the Little Wind River in 2010, 2016, and 2017 caused the molybdenum and uranium concentrations in wells within the area of inundation (wells 0707, 0788, 0789, and 0826) to increase dramatically (2010 and 2016) and remain elevated (2017). No flooding or minor flooding (above flood stage but no floodplain inundation) of the Little Wind River occurred from 2018 to 2022. This resulted in a general decline in molybdenum and uranium concentrations in that time period as natural flushing progressed in the surficial aquifer without the input of secondary sources from the unsaturated zone. In 2023, infiltration of snowmelt from the heavy winter snowfall likely produced conditions similar to a flooding event (increased recharge) over the entire site, resulting in an input of secondary sources from the unsaturated zone. This caused increased concentrations of molybdenum and uranium in some locations compared to data from 2022 (DOE 2024a). In 2024, molybdenum and uranium concentrations declined because of the lack of flooding, major precipitation events, and subsequent input of secondary sources from the unsaturated zone. This resulted in the contraction of the molybdenum plume (Figure 6) from the southwest (0.0.089 mg/L in monitoring well 0718) and the northwest (0.084 mg/L in monitoring well 0784) along with decreased concentrations in the center of the plume (0.82 mg/L in monitoring well 0858-2). The uranium plume (Figure 9) also contracted from the southwest (0.037 in monitoring well 0854-4) and north (0.26 mg/L in monitoring well 0101) along with decreased concentrations in the center of the plume (0.70 mg/L in monitoring well 0858-2, 0.97 mg/L in monitoring well 0856-2, 0.95 mg/L in monitoring well 0857-2, and 1.43 mg/L in monitoring well 0860-2).



Abbreviation:
NAIP = National Agriculture Imagery Program

Figure 4. August 2024 Groundwater Elevations in the Surficial Aquifer at the Riverton Site

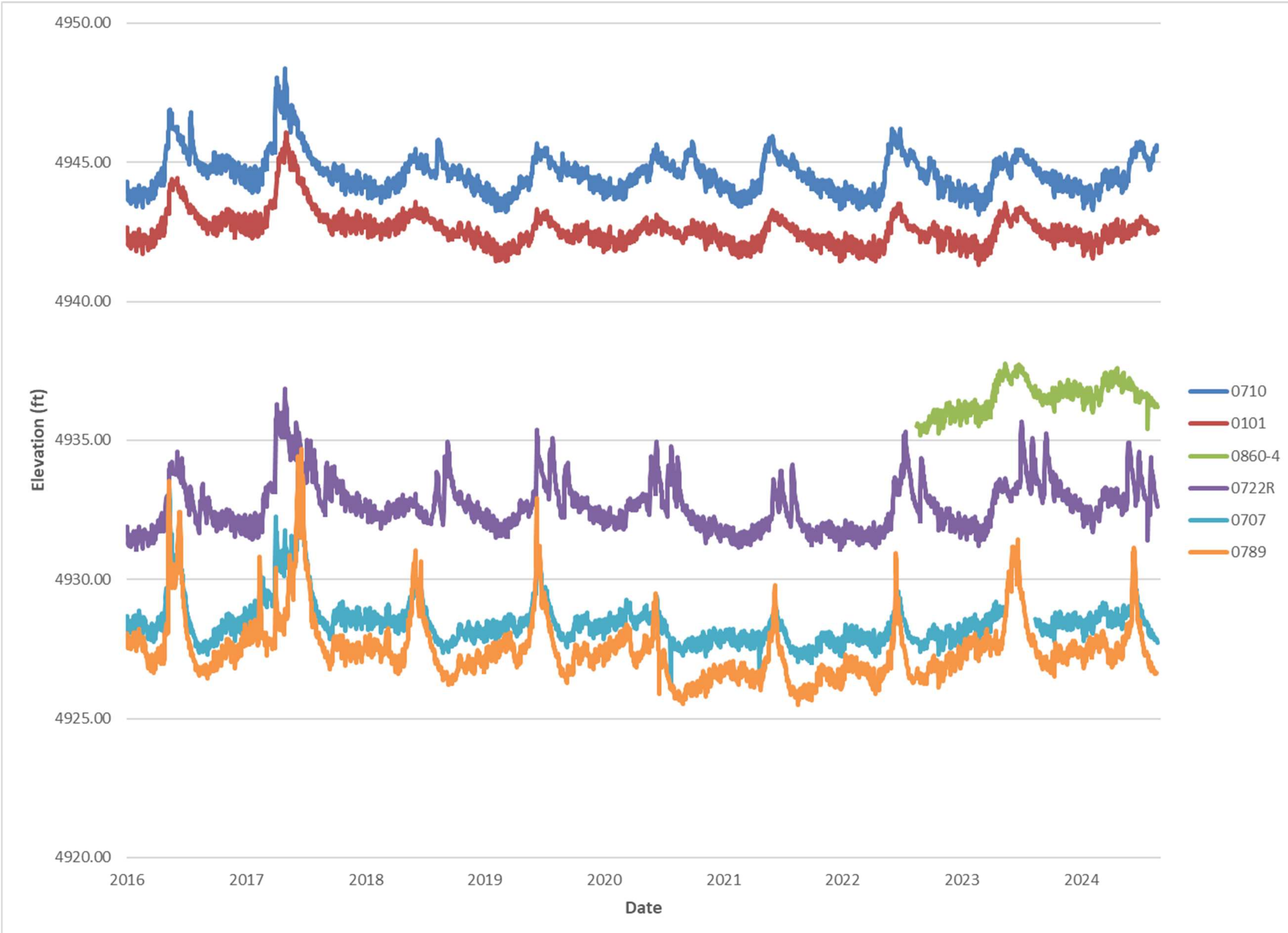


Figure 5. Continuous Groundwater Elevations in Selected Surficial Aquifer Wells, 2016 Through August 21, 2024

Table 2. August 2024 Vertical Gradients at the Riverton Site

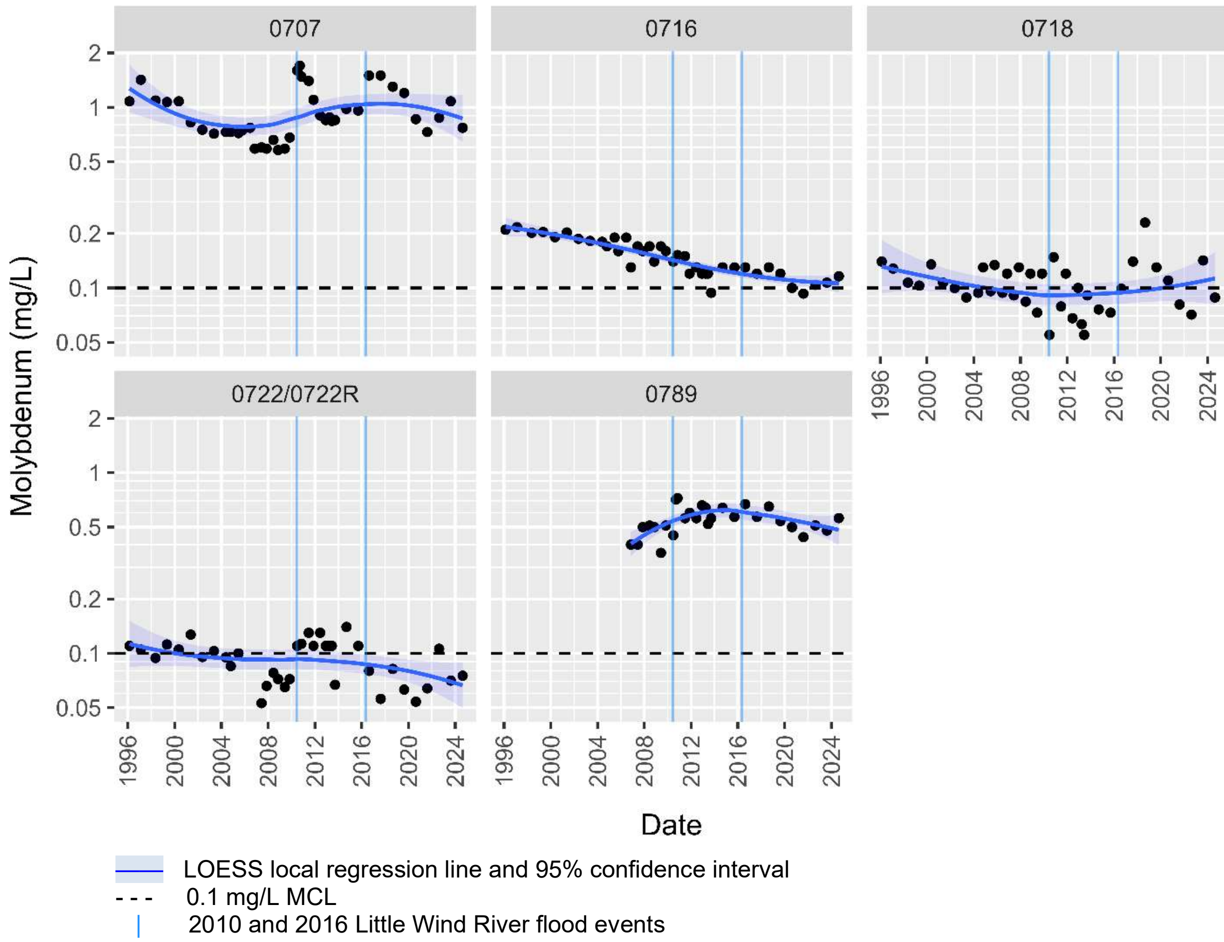
Well ID	Aquifer	Groundwater Elevation	Vertical Gradient[a]
0724	Surficial	4940.67	
0725	Semiconfined	4940.52	0.008
0726	Confined	4938.22	0.022
0101	Surficial	4942.66	
0111	Semiconfined	4942.06	0.022
0110	Confined	4942.16	0.010
0784	Surficial	4941.9	
0732	Semiconfined	4940.46	0.054
0716	Surficial	4934.83	
0717	Semiconfined	4934.98	−0.004
0707	Surficial	4927.76	
0705	Semiconfined	4927.46	0.011
0709	Confined	4931.28	−0.046
0718	Surficial	4933.57	
0719	Semiconfined	4934.07	−0.025
0722R	Surficial	4932.76	
0723	Semiconfined	4932.77	−0.0003
0720	Surficial	4939.2	
0721	Semiconfined	4936.29	0.081
0729	Surficial	4930.38	
0730	Semiconfined	4930.24	0.006
0733	Surficial	4946.79	
0734	Semiconfined	4944.05	0.121

Note:

[a] The vertical gradient from the semiconfined aquifer is between the semiconfined aquifer and the surficial aquifer, and the vertical gradient from the confined aquifer is between the confined aquifer and the surficial aquifer. A negative value indicates an upward vertical gradient; a positive value indicates a downward vertical gradient.

Abbreviation:
NAIP = National Agriculture Imagery Program

Figure 6. Molybdenum Distribution in the Surficial Aquifer at the Riverton Site in August 2024



Note: Former well 0722 (monitored 1993–2005) was replaced with well 0722R in 2007.

Figure 7. Time-Concentrations Plots of Molybdenum in Surficial Aquifer Wells Within the Contaminant Plume, 1996–2024

Figure 8. Time-Concentration Plots of Molybdenum in Surficial Aquifer Wells on the Edge and Outside of the Contaminant Plume, 1996–2024

Abbreviation:
NAIP = National Agriculture Imagery Program

Figure 9. Uranium Distribution in the Surficial Aquifer at the Riverton Site in August 2024

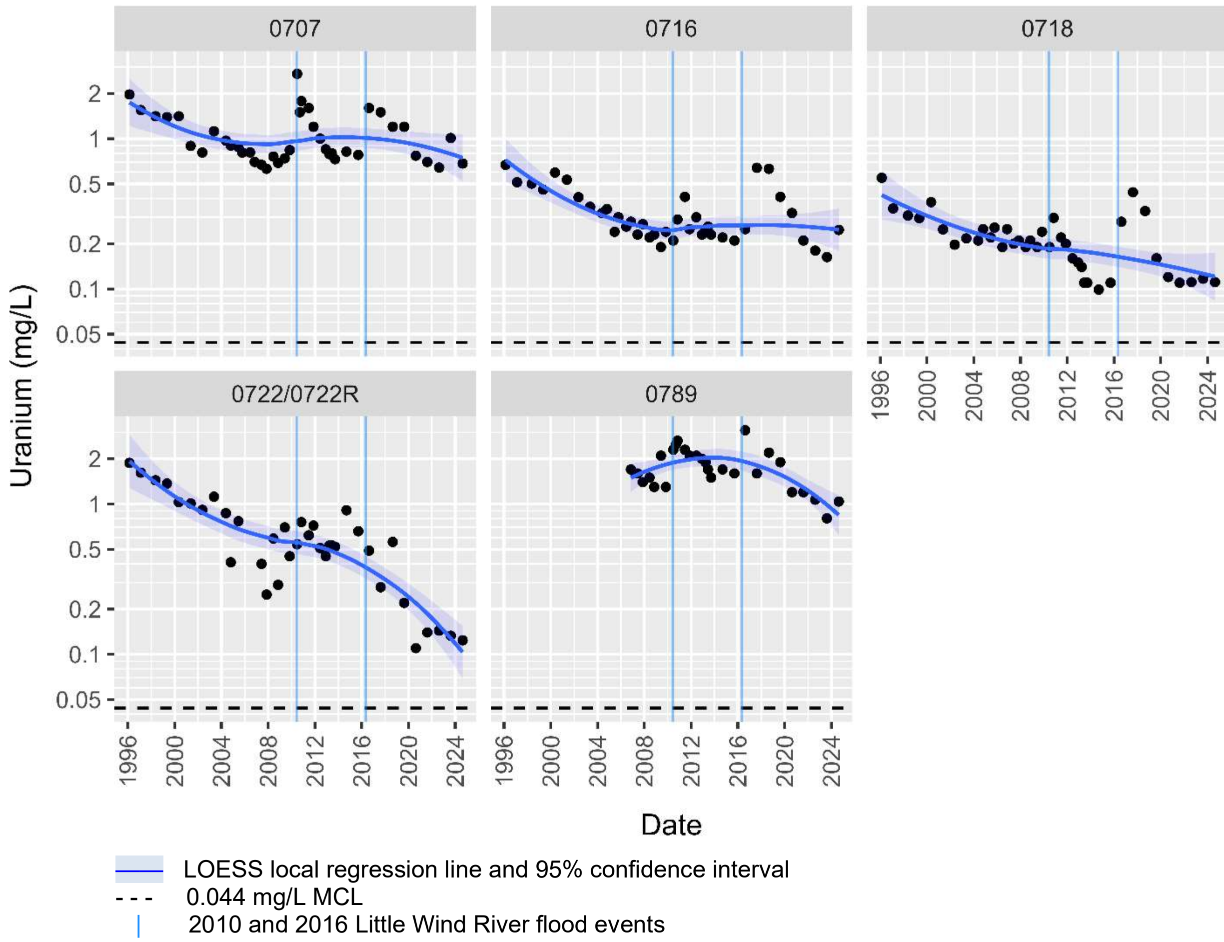
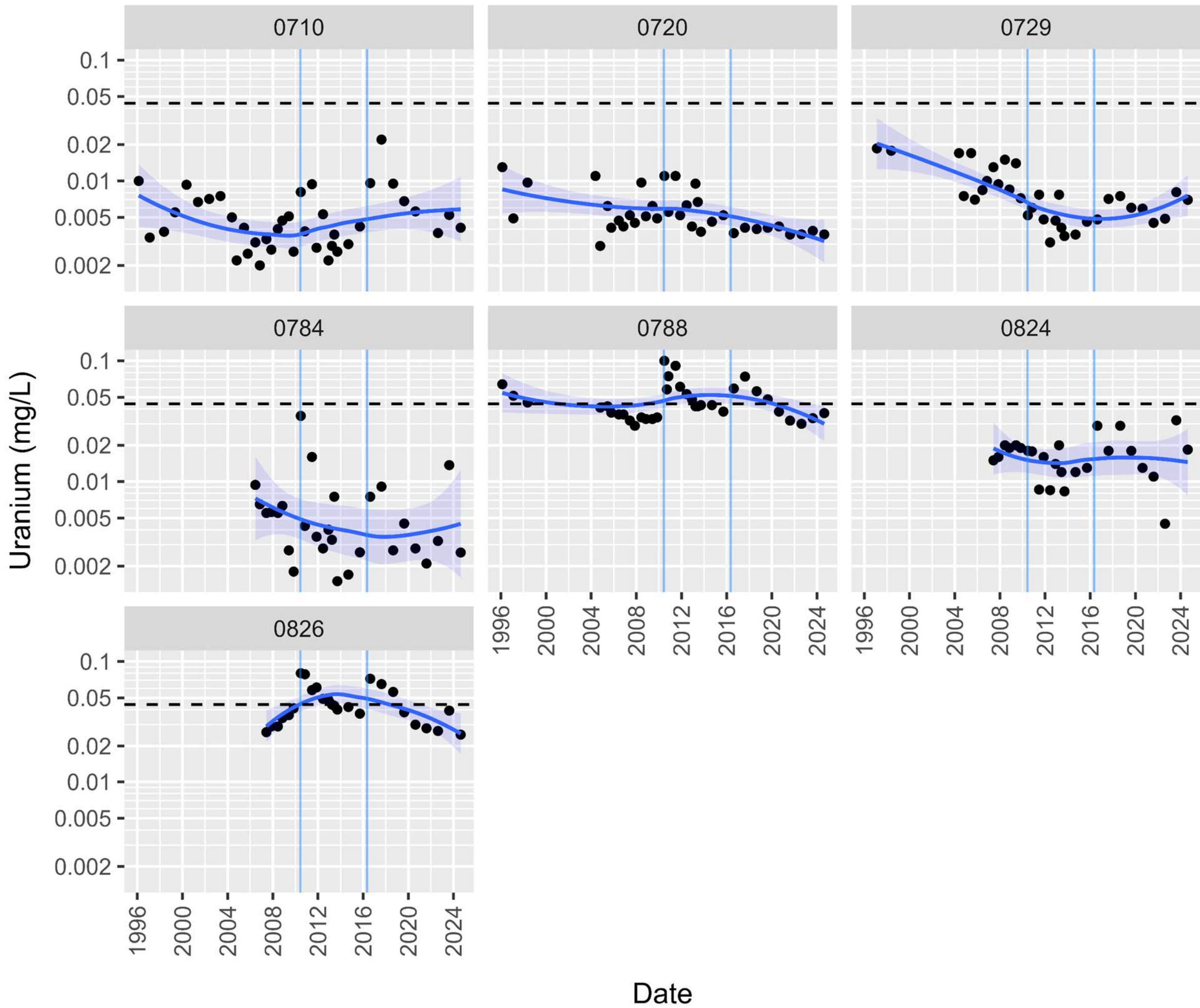


Figure 10. Time-Concentration Plots of Uranium in Surficial Aquifer Wells Within the Contaminant Plume, 1996–2024



LOESS local regression line and 95% confidence interval

- - - 0.044 mg/L MCL

Figure 11. Time-Concentration Plots of Uranium in Surficial Aquifer Wells on the Edge and Outside of the Contaminant Plume, 1996–2024

Concentrations of molybdenum and uranium in groundwater in the semiconfined aquifer are still below corresponding MCLs in areas where the overlying surficial aquifer groundwater is contaminated. This indicates that there is no significant impact from site-related molybdenum or uranium contamination in this unit (Figure 12 for molybdenum and Figure 13 for uranium). Appendix C provides groundwater quality data by parameter for monitoring wells in the long-term monitoring network sampled in 2024.

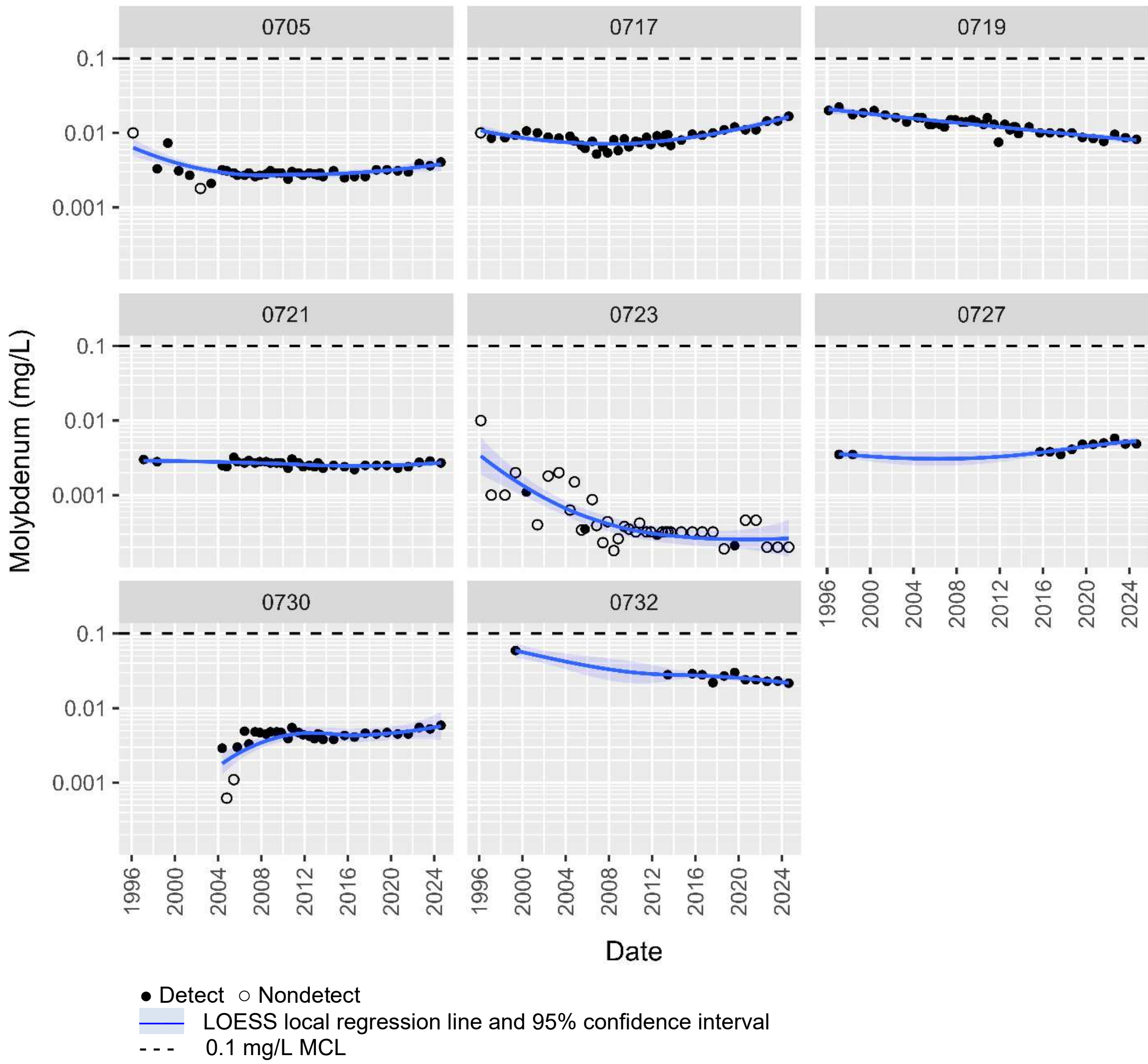


Figure 12. Time-Concentration Plots of Molybdenum in Semiconfined Aquifer Wells, 1996–2024

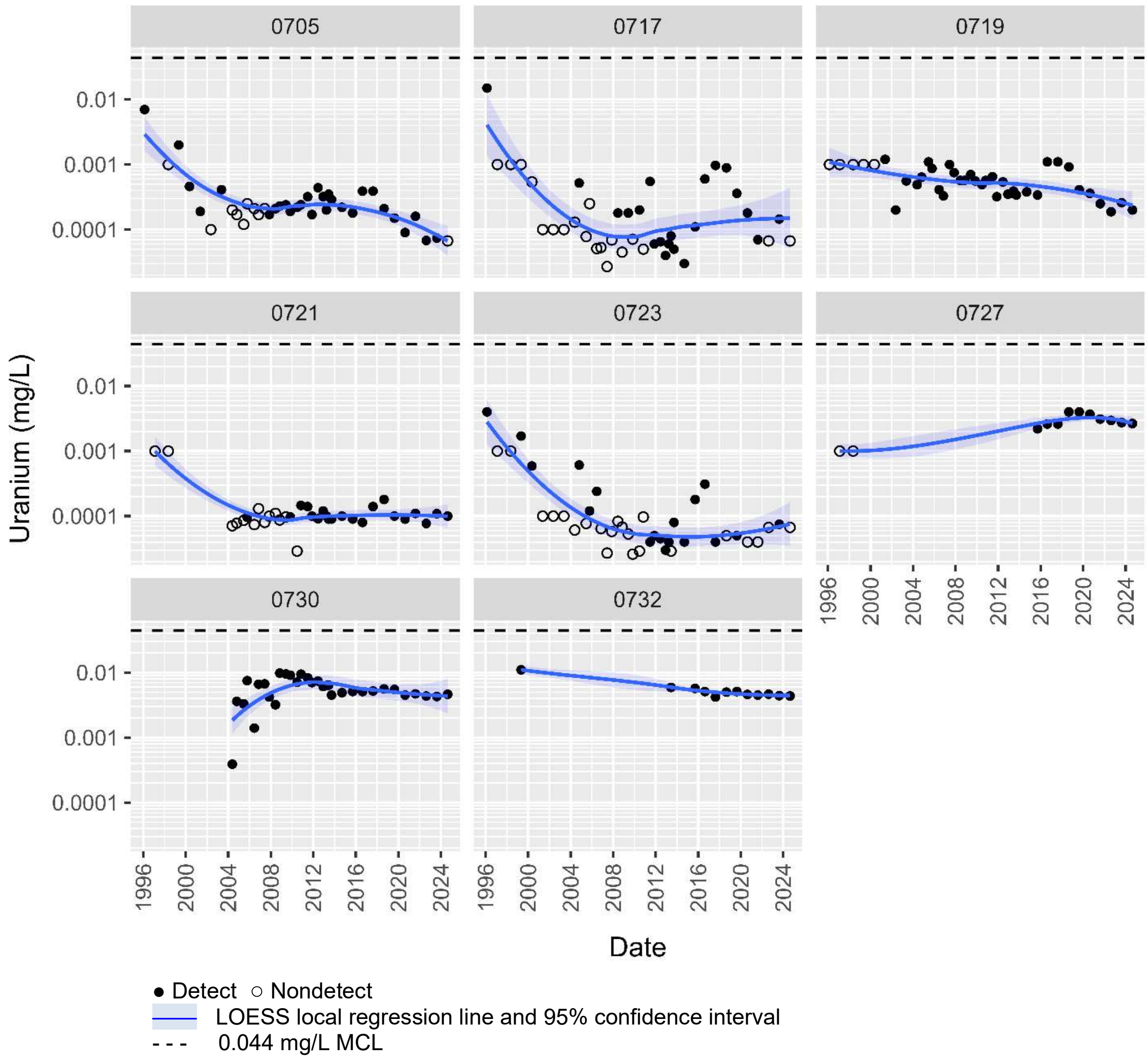


Figure 13. Time-Concentration Plots of Uranium in Semiconfined Aquifer Wells, 1996–2024

5.1.2.1 Multilevel Monitoring Wells

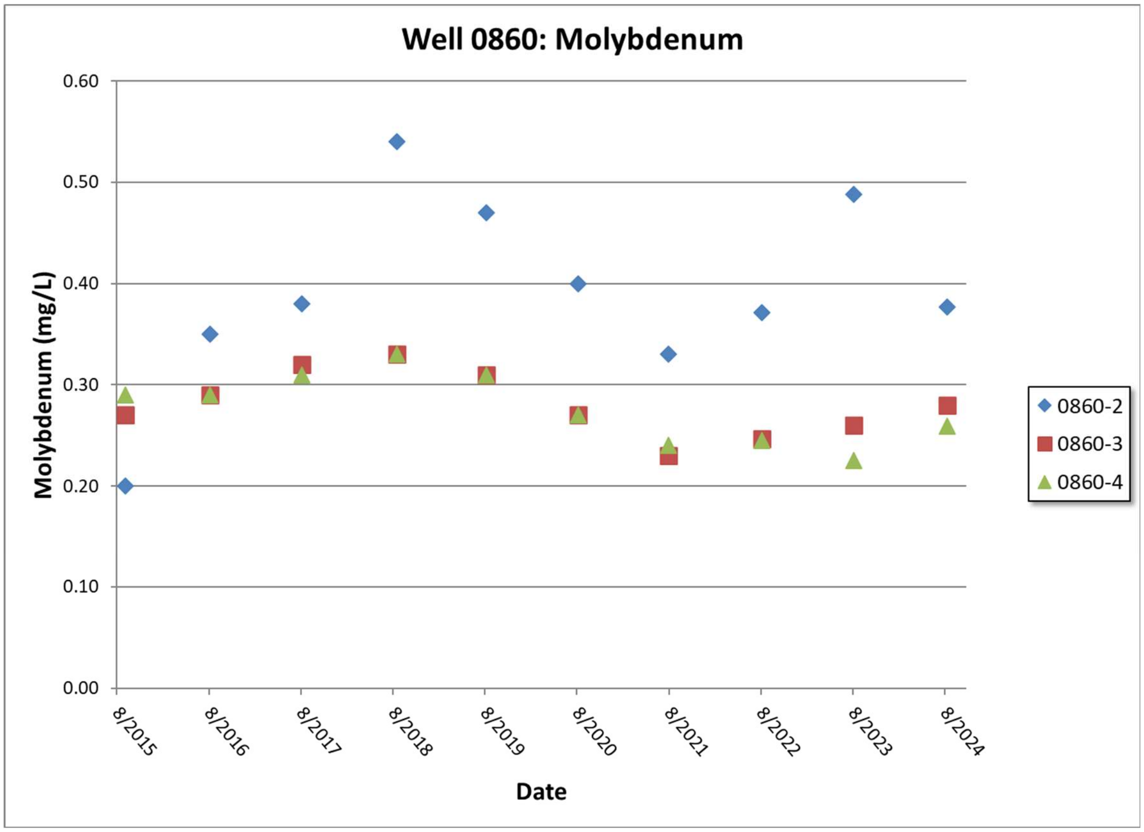
Nine multilevel groundwater monitoring wells (0852 through 0860) were installed in 2015. Each multilevel monitoring well has four ports designated as -1, -2, -3, and -4 (e.g., 0860-1), with -1 being the top port and -4 being the bottom port. Construction details for the multilevel monitoring wells are provided in the *2015 Advanced Site Investigation and Monitoring Report, Riverton, Wyoming, Processing Site* (DOE 2016). Because of the water table elevation at the time of sampling, all top ports in the multilevel wells were dry during the sampling event in August.

Except for multilevel monitoring wells 0859 and 0860, all multilevel monitoring wells showed minimal vertical stratification of molybdenum and uranium concentrations (Appendix D). In 2024, there were no flooding events of the Little Wind River or major precipitation events that would cause significant infiltration of water through the unsaturated zone, which could mobilize contaminants and cause vertical stratification in the surficial aquifer. Graphs showing molybdenum and uranium concentrations in all multilevel monitoring wells are provided in Appendix D.

In multilevel monitoring wells 0859 and 0860, vertical stratification of molybdenum and uranium concentrations occurred in 2024 and in most prior years. Figure 14 shows molybdenum and uranium concentrations, respectively, in multilevel monitoring well 0860. As shown in these graphs, molybdenum and uranium concentrations have been consistently vertically stratified over time. This consistent vertical stratification in multilevel monitoring wells 0859 and 0860 is attributed to lithological variation in the surficial aquifer, which results in variable geochemical conditions in the primary source zone of the aquifer.

5.1.2.2 Domestic Wells

Domestic wells used as potable water sources at residences within the IC boundary were sampled in 2024. Domestic wells sampled in 2024, except for domestic well 0841, are completed in the confined aquifer; domestic well 0841 is completed in the semiconfined aquifer. Results from domestic wells did not indicate any impacts from the Riverton site. Concentrations of molybdenum in samples collected from domestic wells were 2 orders of magnitude below the standard, and concentrations of uranium in samples collected from domestic wells were 1 (well 0841), 2 (0842), and 3 (all other domestic wells) orders of magnitude below the standard. Figure 15 and Figure 16 show time-concentration graphs for molybdenum and uranium, respectively. Appendix A provides data obtained from sampling domestic wells in 2024.



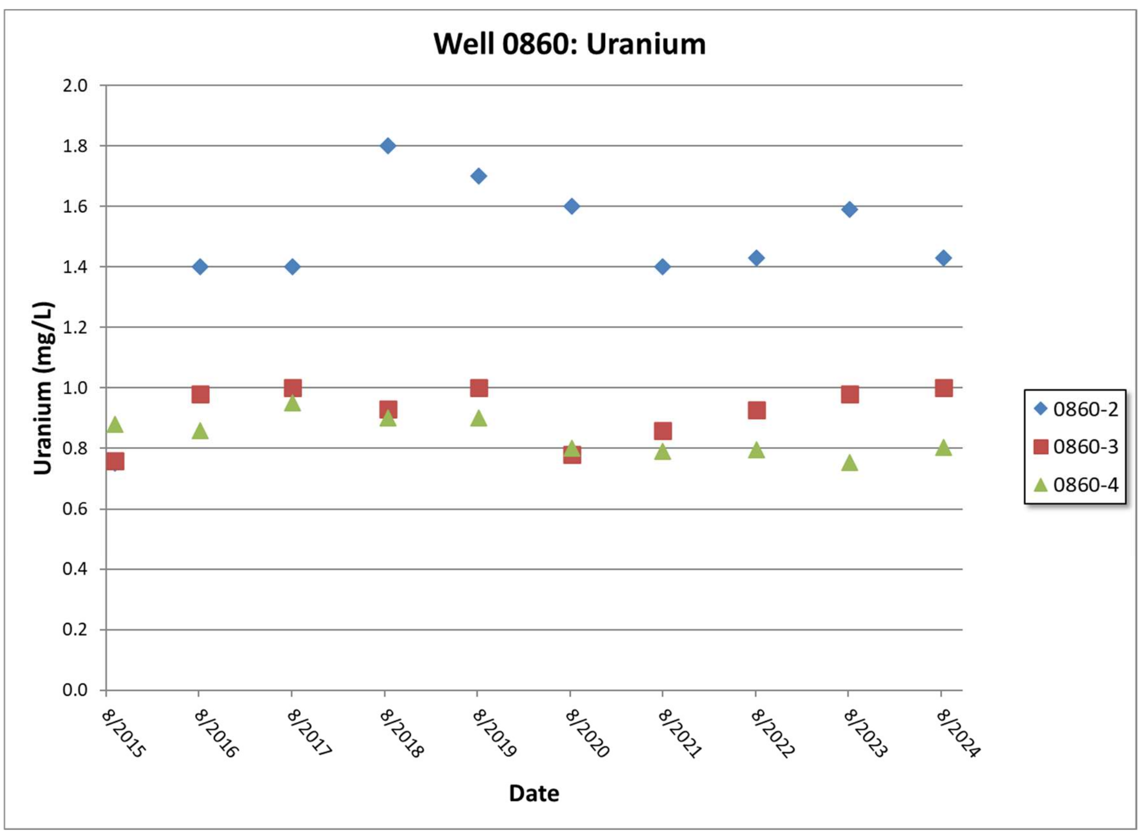


Figure 14. Time-Concentration Plots of Molybdenum and Uranium in Multilevel Monitoring Well 0860, 2015–2024

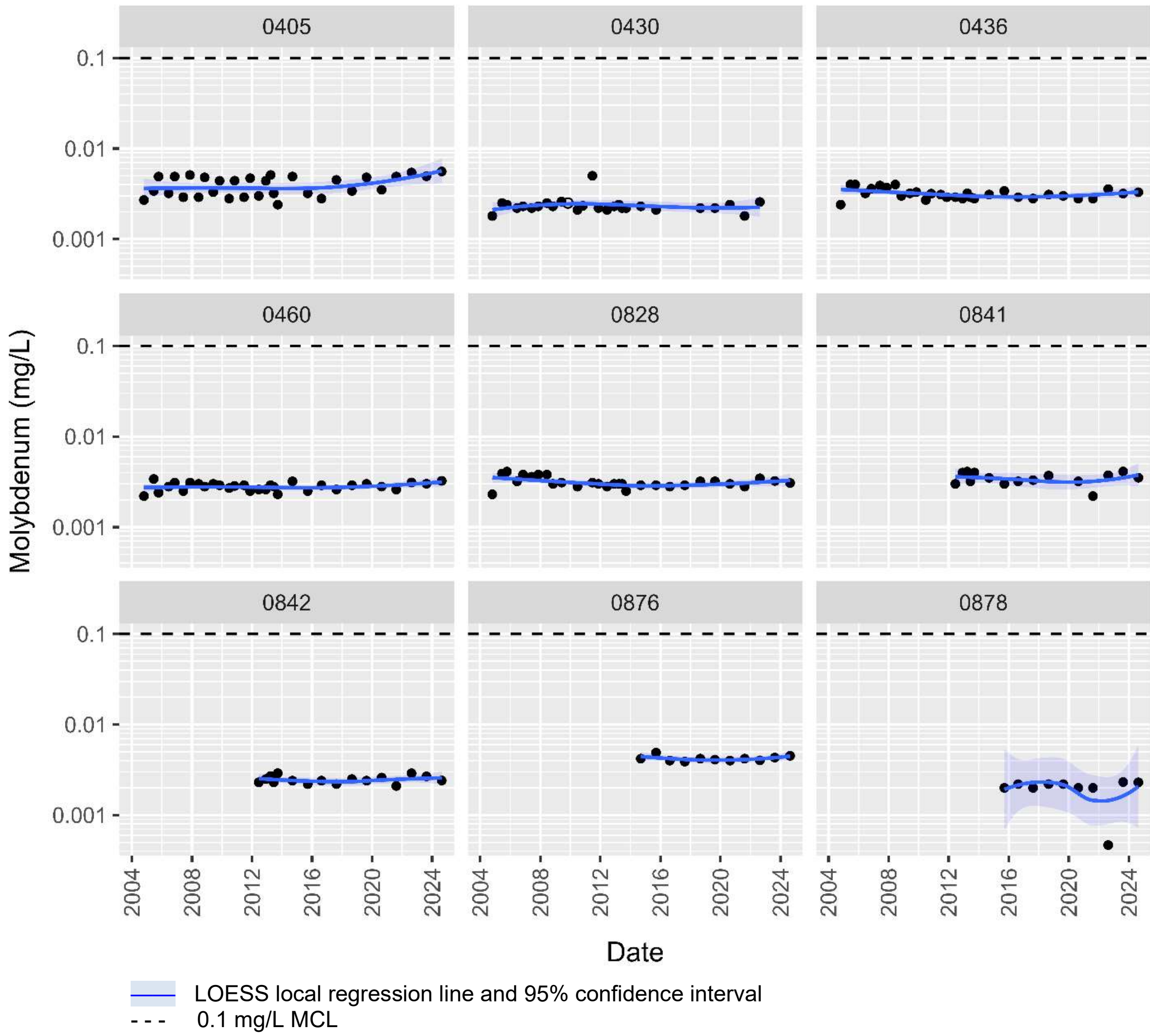


Figure 15. Time-Concentration Plots of Molybdenum in Domestic Wells, 2004–2024

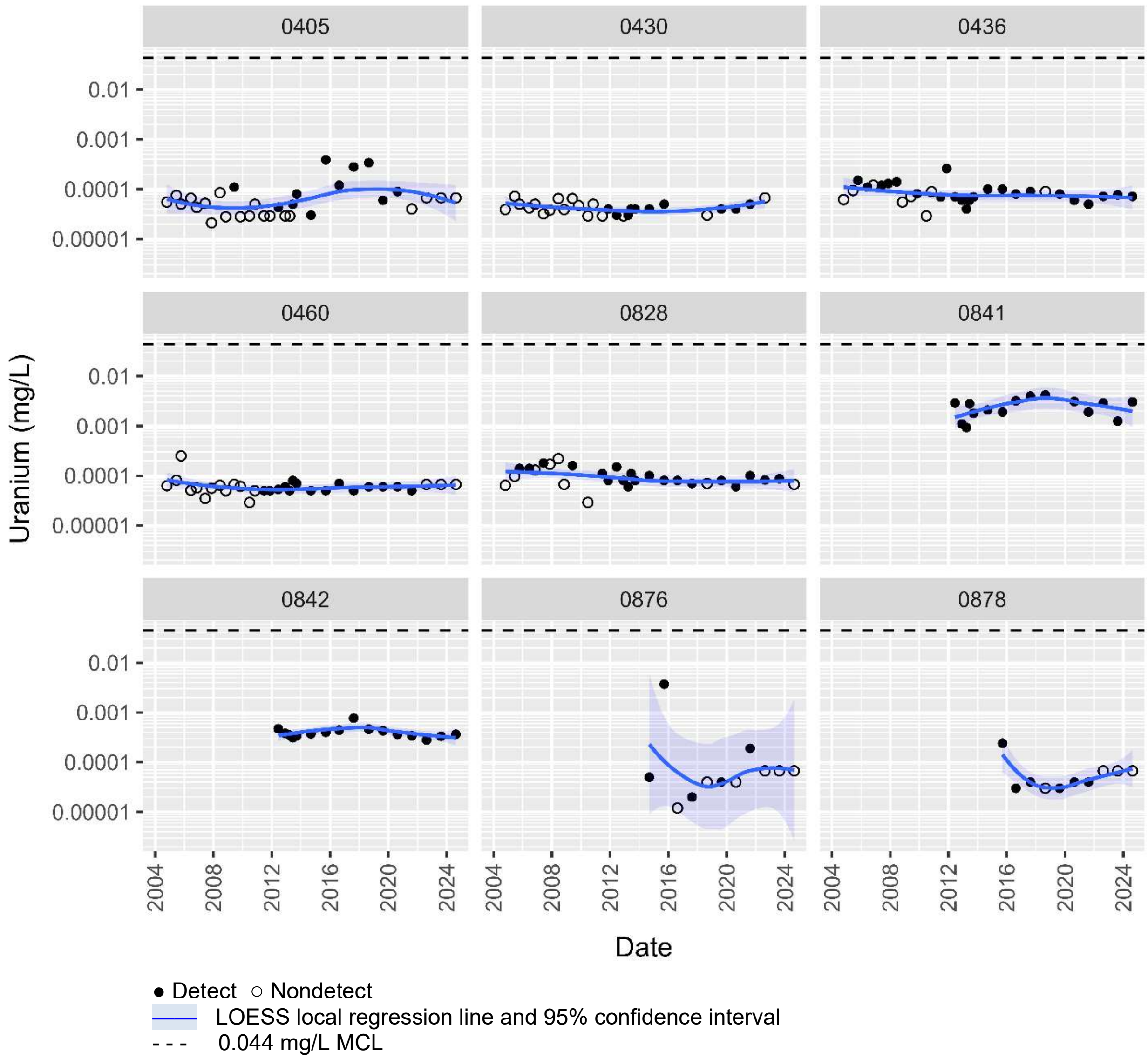


Figure 16. Time-Concentration Plots of Uranium in Domestic Wells, 2004–2024

5.2 Surface Water

5.2.1 Surface Water Flow

Surface water flow in the Little Wind River has a direct impact on groundwater conditions at the Riverton site. The 2010 flood of the Little Wind River demonstrated a direct correlation between flooding of the Little Wind River and increased contaminant concentrations in the surficial aquifer (DOE 2011). This correlation was confirmed in 2016 and 2017. In addition, flooding of the Little Wind River has impacted the geomorphology of the area next to the Little Wind River at the Riverton site with the development and evolution of surface water features, such as the oxbow lake and a scour feature in the side channel of the Little Wind River that developed into a seep as shown in Figure 17 (location 0879).

Discharge in the Little Wind River is statistically the highest in June, which reflects spring runoff from the Wind River Range. An assessment of Little Wind River discharge data from June indicates that spring runoff and flow in the river were nearly normal in 2024 (Table 3) (USGS 2025). The peak 2024 discharge of 4970 cfs occurred on June 11, 2024. Figure 18 shows the 10 highest peak discharges recorded since the start of milling operations in 1958 (USGS 2025).

Figure 17. Seep Developed from High Flows of the Little Wind River in 2016 (Location 0879)

Table 3. Discharge from the Little Wind River

Year[a]	Mean June Discharge (cfs)	Deviation from Mean[b] June Discharge (cfs)	Maximum June Discharge (cfs)
2001	155.3	−2,204.7	2,090
2002	740.6	−1,619.4	1,930
2003	861.7	−1,498.3	2,490
2004	1,591	−769	4,120
2005	2,272	−88	4,520
2006	642.4	−1,717.6	1,710
2007	738.9	−1,621.1	1,910
2008	2,175	−185	3,730
2009	3,012	652	4,190
2010	5,182	2,822	13,300
2011	2,861	501	7,210
2012	593.9	−1,766.1	1,610
2013	587.1	−1,772.9	1,640
2014	1,333	−1,027	3,140
2015	2,538	178	4,240
2016	3,443	1,083	11,200
2017	6,385	4,025	12,855
2018	2,375	15	4,600
2019	3,325	965	7,920
2020	1,060	−1,300	3,740
2021	1,484	−876	4,220
2022	2,183	−177	6,260
2023	3,760	1,400	5,400
2024	2,544	184	4,970

Notes:
[a] USGS gaging station statistics.
[b] Based on a mean June discharge of 2360 cfs from 1941 to 2024.

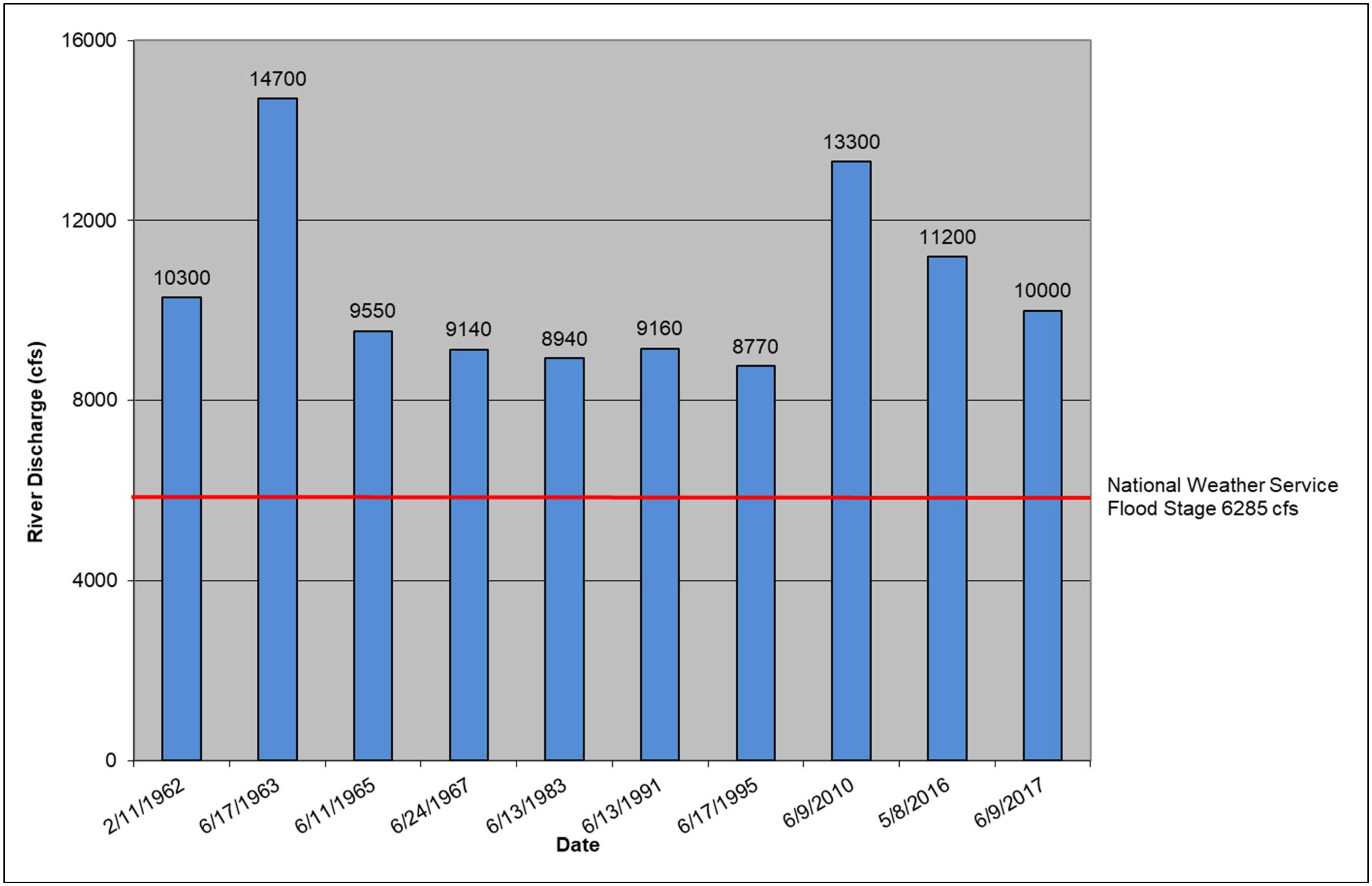


Figure 18. Historical Maximum Discharges of the Little Wind River

5.2.2 Surface Water Quality

Samples were collected at four locations on the Little Wind River (Figure 2), which flows generally to the northeast. Samples were collected from one location upstream of the groundwater plume (location 0794) and from three river locations adjacent to and downstream of the groundwater plume (locations 0811, 0812, and 0796). In 2024, molybdenum and uranium concentrations measured at adjacent and downstream locations were slightly higher than the upstream location 0794, as shown for molybdenum in Figure 19 and for uranium in Figure 20. This slight increase in the concentrations of molybdenum and uranium in downstream locations is attributed to groundwater discharge to the Little Wind River (128 cfs) (USGS 2025) during low flow on the day the samples were collected from the downstream locations. Appendix E provides surface water quality data by parameter for all surface water locations sampled during 2024.

Two ponds (locations 0810 and 0823) formed from groundwater discharge into former gravel pits were sampled as part of the long-term monitoring network. These ponds are primarily used for fishing and swimming and are cross gradient (0810) and upgradient (0823) from contaminant plumes. Samples collected from the ponds had concentrations of molybdenum and uranium that were below their respective groundwater MCLs and are comparable to background groundwater concentrations, which indicate no discernible impacts from the site. Figure 21 and Figure 22 show concentrations of molybdenum and uranium, respectively, over time in these ponds.

Concentrations of molybdenum and uranium in the oxbow lake (location 0747) have varied over time (see Figure 21 for molybdenum and Figure 22 for uranium). This variability is partially attributed to the time at which these samples were taken. If inflow from the Little Wind River to the oxbow lake occurred just before or during the sampling event, then contaminant concentrations would be diluted. In 2024, the Little Wind River was not flowing into the oxbow lake during the August sampling event when low-flow conditions were observed. Hydraulic and water quality data indicate that the oxbow lake is fed by the discharge of contaminated groundwater; therefore, elevated concentrations are expected. Variability in uranium concentrations in the oxbow lake is also attributed to fluctuations in groundwater chemistry. In 2024, the concentration of uranium (0.097 mg/L) in the sample collected from the oxbow lake was above the groundwater MCL and likely reflects uranium concentrations in the surficial groundwater in that area (Figure 9). Molybdenum concentrations in the oxbow lake have been historically below the groundwater MCL and were again in 2024 (Figure 21).

Field observations since 2002 indicate that the oxbow lake is gradually filling with sediment and vegetation over time, as expected. Numerous abandoned meanders (oxbows) of the Wind River and Little Wind River are evident from satellite imagery (Figure 2). Eventually, the oxbow lake will fill in as other abandoned channels have and not be an expression of surface water at the Riverton site. Figure 23 and Figure 24 show photographs of the oxbow lake in 2002 and 2024, respectively, which illustrate the progress of vegetation and sedimentation filling in the ponded water.

Surface water location 0879 is a scour feature in the side channel of the Little Wind River that developed into a seep (Figure 2). Contaminated groundwater discharges into this location when water levels are high enough in the surficial aquifer (Figure 17); this feature was dry during the 2024 sampling event.

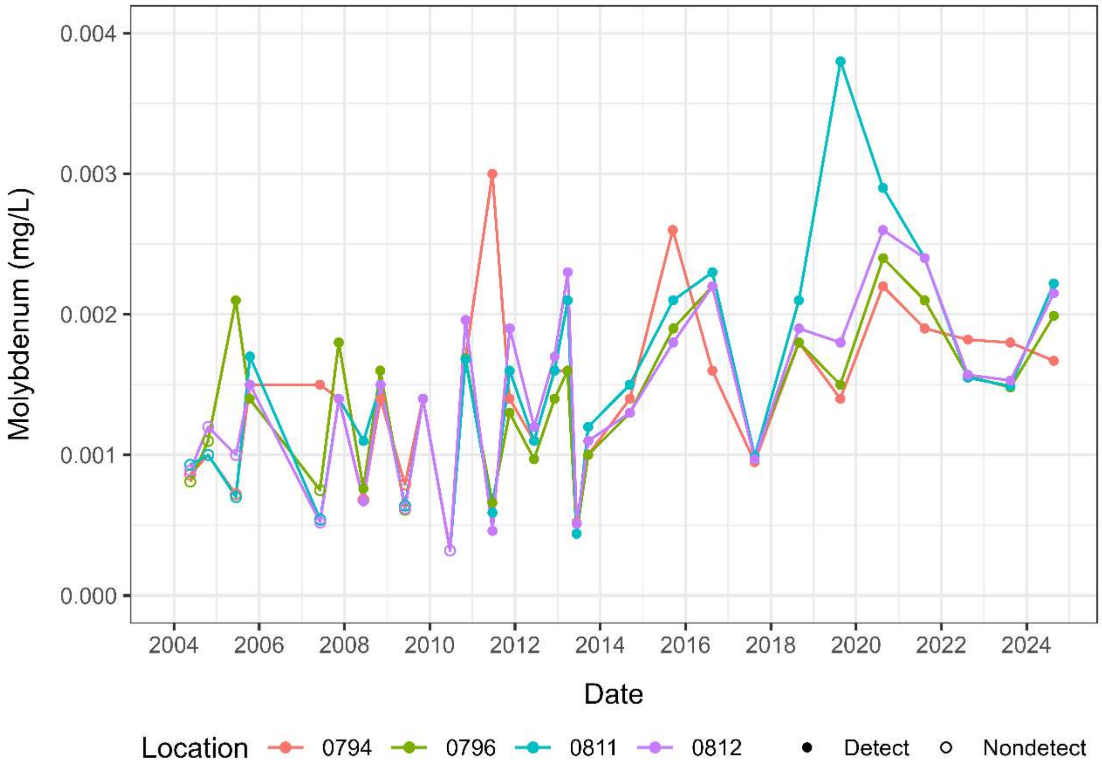


Figure 19. Time-Concentration Plots of Molybdenum in Little Wind River Locations, 2004–2024

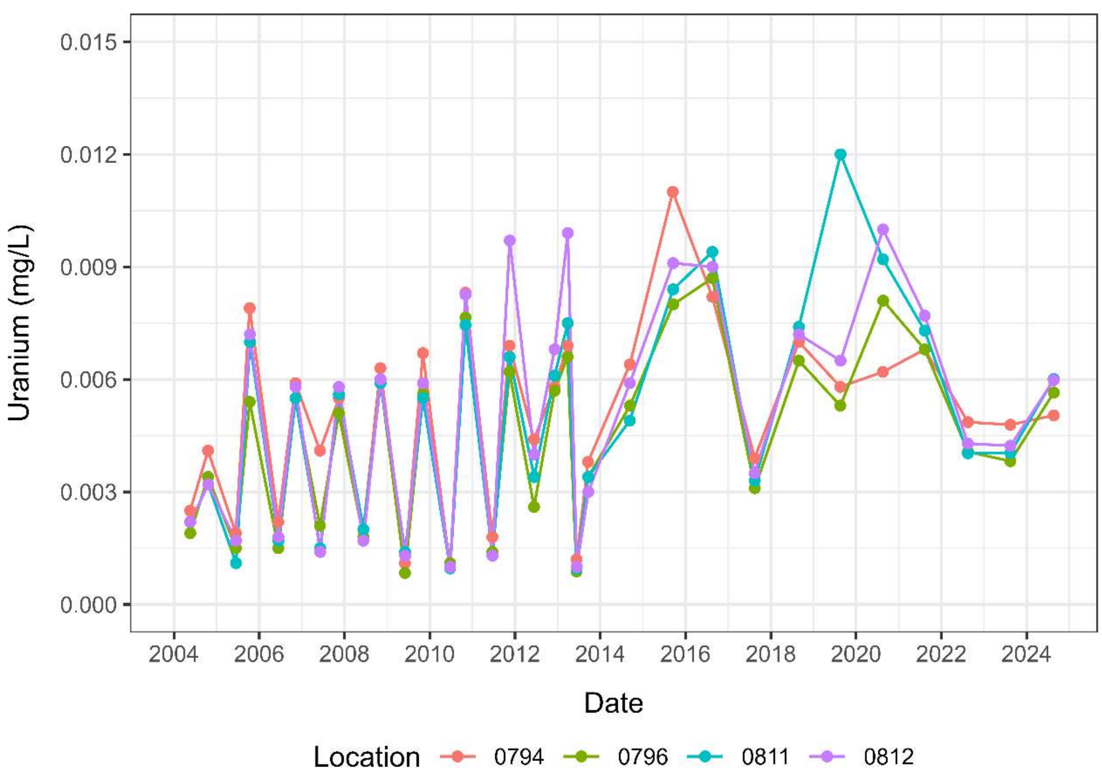
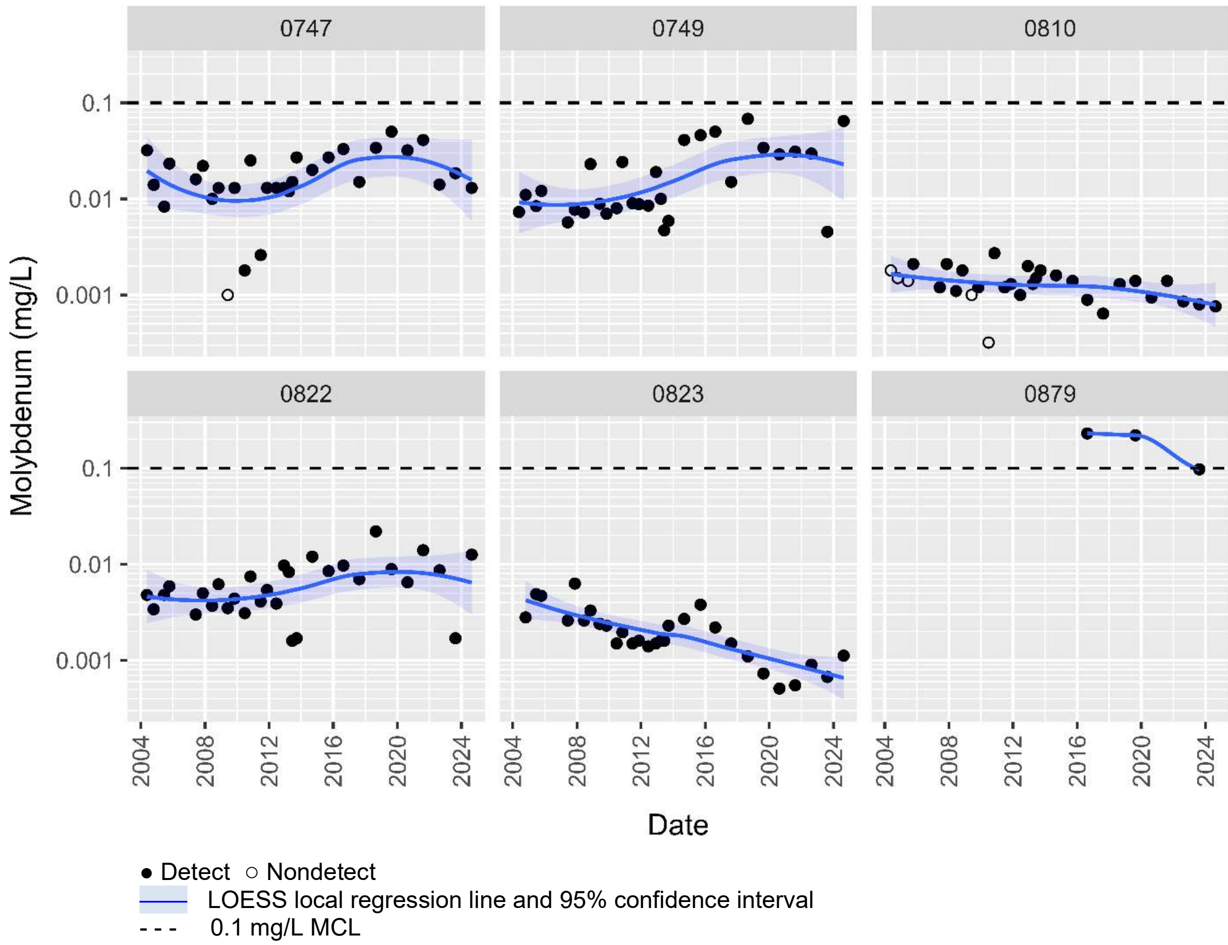
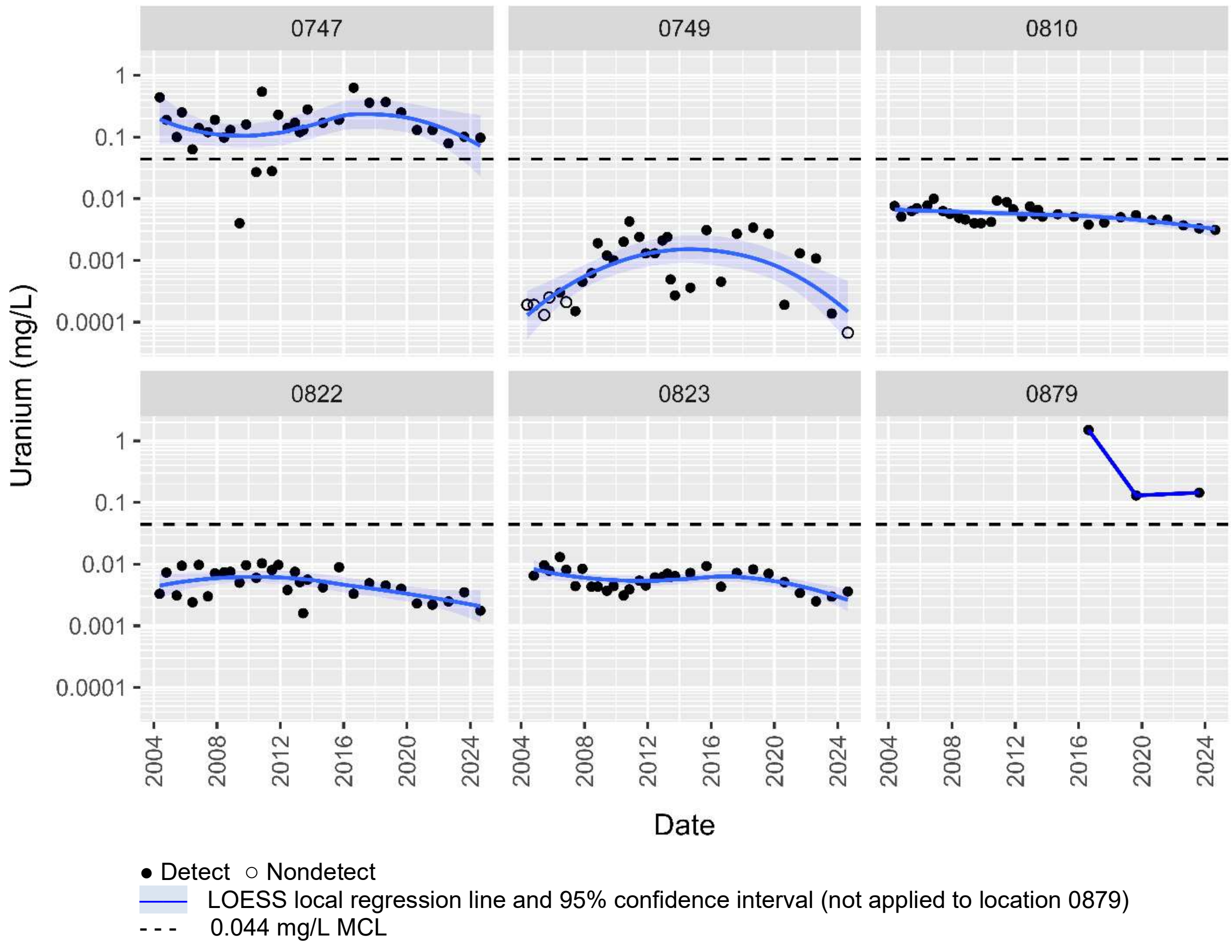


Figure 20. Time-Concentration Plots of Uranium in Little Wind River Locations, 2004–2024



Note: Surface water location 0879 was dry in 2024.

Figure 21. Time-Concentration Plots of Molybdenum in Ponds, Ditches, and Seeps, 2004–2024



Note: Surface water location 0879 was dry in 2024.

Figure 22. Time-Concentration Plots of Uranium in Ponds and Ditches, 2004–2024

Figure 23. Oxbow Lake in May 2002

Figure 24. Oxbow Lake in August 2024

The sample collected at the ditch that carries discharge water from the Chemtrade sulfuric acid refinery (location 0749) had elevated concentrations of sulfate that have been in the 1500–3000 mg/L range from 2004 to March 2013. In June 2013, however, concentrations were significantly reduced (550 mg/L at location 0749) because of a change in plant processes that reduced sulfate in water discharge and in air emissions. Discharge from the ditch is regulated through a National Pollutant Discharge Elimination System permit issued to Chemtrade and administered by EPA. Since 2013, sulfate concentrations in the ditch have been variable (Figure 25) and likely dependent on plant operations. The concentration of sulfate measured in August 2024 of 290 mg/L was comparable to the Chemtrade process water well 0460 with 170 mg/L sulfate. The unlined ditch will continue to be monitored because it is a continual source of sulfate to the surficial aquifer.

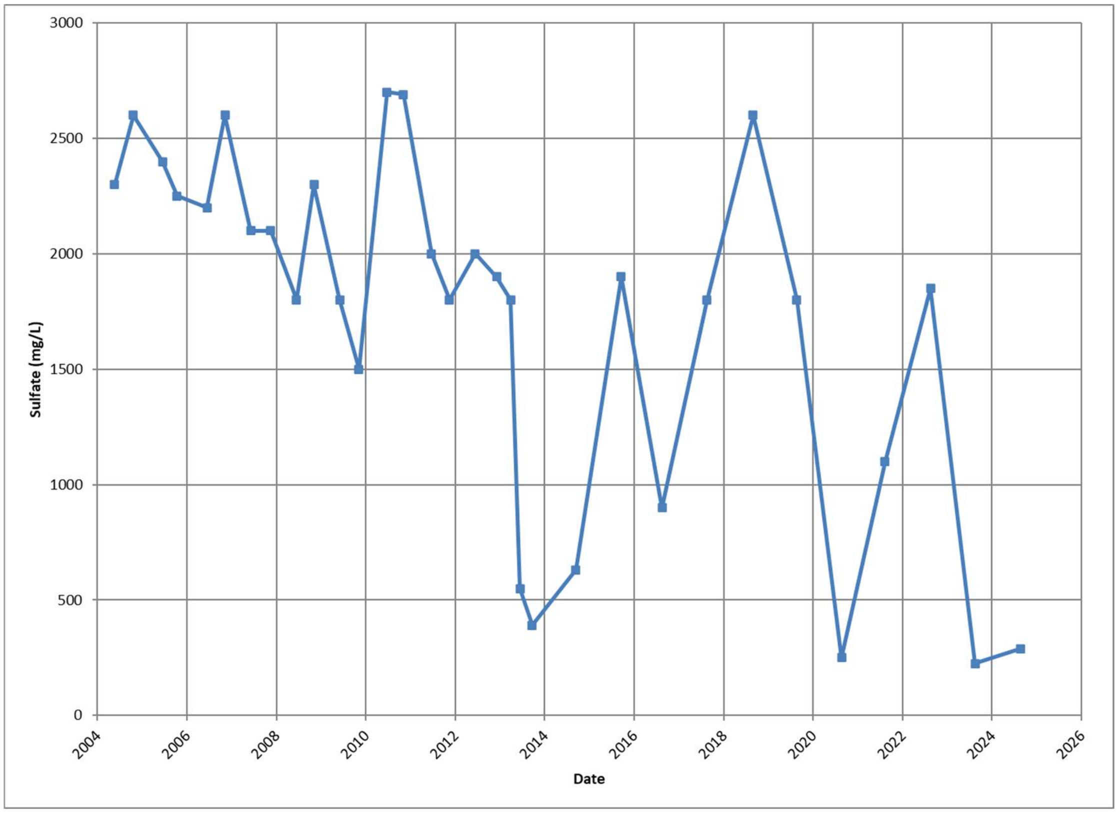


Figure 25. Time-Concentration Plot of Sulfate at Location 0749, 2004–2024

Concentrations of molybdenum and uranium in the Chemtrade ditch (location 0749) are below the groundwater MCLs, but molybdenum concentrations in the past have indicated a small contribution from plant processes (DOE 2024a). The 2024 concentration of molybdenum in the sample collected from the ditch (0.0650 mg/L) was elevated compared to the molybdenum concentration in process water used by the sulfuric acid plant that is supplied by well 0460 (0.0032 mg/L), which indicates a small contribution from plant processes. The concentration of uranium in the sample collected from the ditch and the concentration of uranium in the process water used at the plant were both below the detection limit, which indicates that there was no contribution from plant processes.

Downstream of the Chemtrade ditch, a sample was collected from the west side irrigation ditch (location 0822). The molybdenum concentrations in this irrigation ditch are consistently lower than that in the Chemtrade ditch sample (location 0749) (Figure 21), which reflects a mixing of the ditch water with upgradient surface water or groundwater along the ditch flow path from location 0749 to location 0822 (Figure 2). The uranium concentrations in the west side irrigation ditch (0822) (Figure 21) have been relatively consistent through time and are similar to background groundwater and surface water concentrations (locations 810 and 823) and therefore do not indicate any impacts to the water quality in the ditch from uranium.

6.0 Compliance Strategy Assessment

After surface remediation was completed, groundwater numerical modeling in 1998 predicted that the alluvial aquifer will naturally flush contaminants to levels below applicable standards within the 100-year regulatory time frame. This modeling formed the basis for the natural flushing strategy that was approved in the *Final Ground Water Compliance Action Plan for the Riverton, Wyoming, Title I UMTRA Project Site* (DOE 1998b) in 1998. Before 2010, the progress of natural flushing was assessed using three tools: comparison to hydrogeologic modeling predictions, trend analysis, and curve matching and interpolation techniques applied to temporal plots of contaminant concentrations at individual locations. These techniques were based on a CSM of gradually declining contaminant concentrations after surface remediation of source material on the former mill site. Before 2010, these techniques indicated that natural flushing of the surficial aquifer was progressing toward applicable standards.

However, based on observations made in 2010 in context with historical data, the CSM and groundwater computer modeling were too simplistic to account for the spikes in contaminant concentrations in the surficial aquifer groundwater. Spikes in contaminant concentrations are attributed to flooding of the Little Wind River in June 2010, which mobilized contaminants stored in the unsaturated zone into the saturated zone of the surficial aquifer. Cross correlation of flood events in the Little Wind River with monitoring data reveals that uranium concentrations spiked in monitoring well 0707 in 1991, 1995, 2010, 2016, and 2017 following flooding of the Little Wind River (Figure 26). Figure 27 shows the average uranium concentration in surficial aquifer wells with a long history above the MCL (wells 0707, 0716, 0718, and 0722/0722R). As shown in Figure 27, the average uranium concentration in these wells increased significantly after the 2010, 2016, and 2017 flooding events and after the 2023 record snowfall and declined in 2024 with no flooding or heavy precipitation events (DOE 2024a).

Although the 2010 flood of the Little Wind River caused significant spikes in contaminant concentrations in the surficial aquifer, uranium concentrations declined to preflood concentrations by 2013 (Figure 26 and Figure 27). These data indicate that the effects of the 2010 flood are relatively short-lived in the context of the 100-year regulatory time frame. In 2016, significant concentration increases were seen again for molybdenum, uranium, and sulfate (Table 4, Figure 26, and Figure 27). Concentrations of uranium generally remained high after the 2016 and 2017 floods compared to preflood levels but declined between 2017 and 2022 after 5 years without a significant flood (Figure 26 and Figure 27). In 2023, an increase in uranium concentrations was observed in the surficial aquifer, likely due to melting of the record snowfall in the Riverton area during winter 2022–2023, albeit with a smaller increase in concentrations than that seen with flooding events (Figure 26 and Figure 27).

Overall, natural flushing (contaminant movement and removal via groundwater flow) in the surficial aquifer is occurring; however, when natural flushing is coupled with the addition of secondary sources from the saturated (former mill site) and unsaturated (near the Little Wind River) zones, the rate does not appear to be fast enough to restore the aquifer within the 100-year regulatory time requirement (DOE 2022b). Several lines of evidence indicate that the natural flushing compliance strategy will not meet the 2098 target date. These include:

- Current plume configurations and magnitude.
    - A uranium concentration of 1.43 mg/L was measured in groundwater beneath the former mill site in 2024. Research indicates that the high uranium concentration is influenced by additional sources in the saturated zone (DOE 2022b).
    - Uranium concentrations in the center of the plume adjacent to the Little Wind River were as high as 1.0 mg/L in 2024, which is 2 orders of magnitude higher than the uranium standard of 0.044 mg/L.
- Groundwater concentrations of molybdenum and uranium are outside the predicted error range generated from the initial groundwater modeling (Figure 28 and Figure 29).
- At other UMTRCA sites with similar geology and contaminants, concentrations of groundwater COCs are not attenuating as quickly as predicted by groundwater modeling (Shafer et al. 2014).
- Time versus concentration graphs for some individual wells in the contaminant plume at the Riverton site show flat trendlines (Figure 7 and Figure 10).
- Future flooding of the Little Wind River, extreme precipitation events, and heavy winter snows will likely cause an increase in contaminant concentrations in groundwater, even if the increase is relatively short-lived, which will prolong the time required for natural flushing (DOE 2022b).
- Additional contaminants in the saturated zone, unsaturated zone, or both (Section 2.0) (DOE 2016) may be acting as additional contaminant sources for elevated concentrations in groundwater (DOE 2022b).

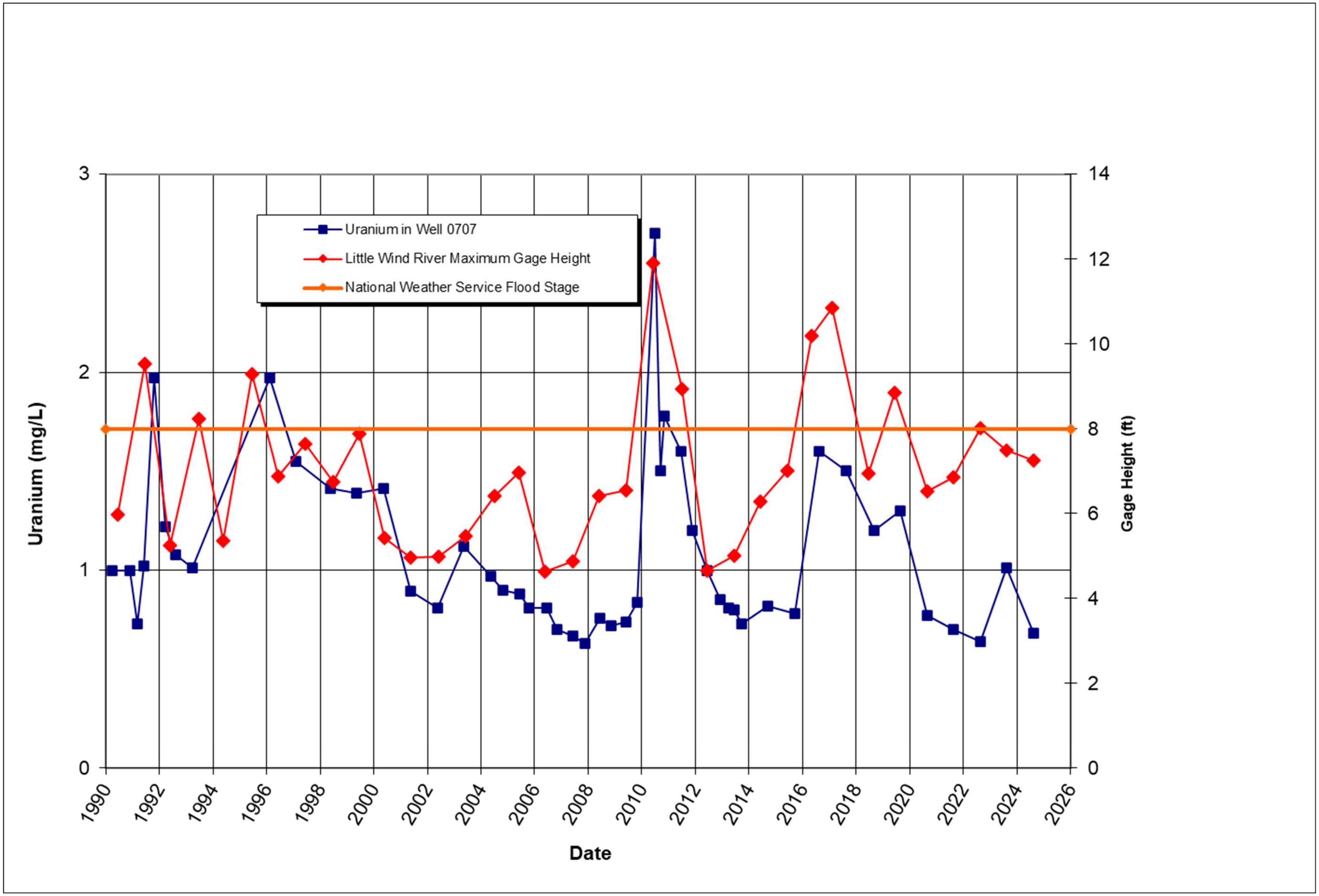


Figure 26. Time-Concentration Plot of Uranium in Monitoring Well 0707 Versus Little Wind River Stage, 1990–2024

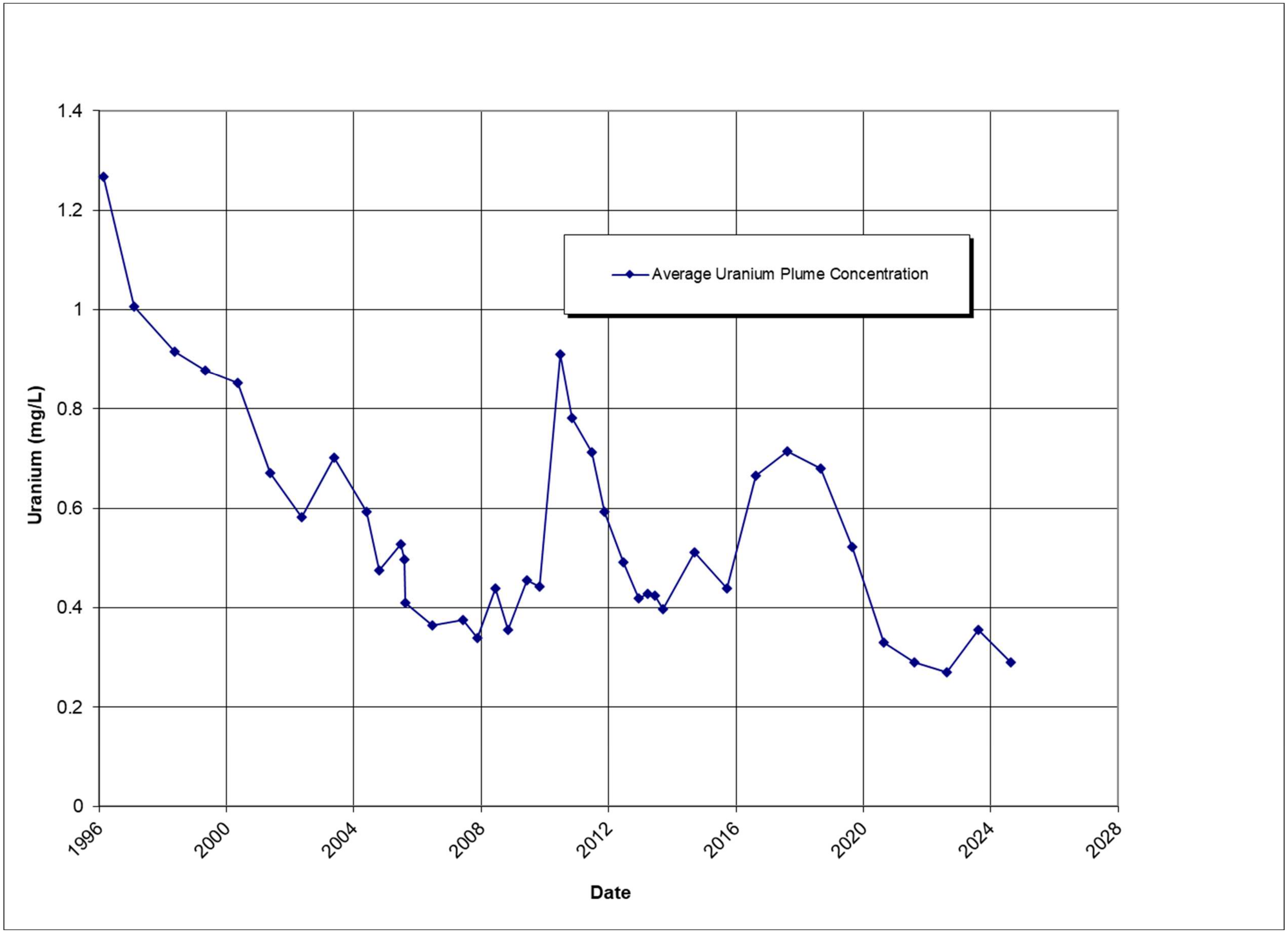


Figure 27. Time-Concentration Plot of Average Uranium in the Surficial Aquifer (Wells 0707, 0716, 0718, and 0722/0722R)

Table 4. Comparison of Preflood (2009 and 2015), Flood (2016), and 2024 Results

Well	Molybdenum			Uranium			Sulfate		
	Preflood[a]	Flood 2016	2024	Preflood[a]	Flood 2016	2024	Preflood[a]	Flood 2016	2024
0707	0.68	1.5	0.77	0.84	1.6	0.68	1900	5800	2100
0788	0.024	0.022	0.032	0.034	0.059	0.037	630	2800	1300
0789	0.51	0.67	0.62	1.3	3.1	0.99	3900	11,000	4200
0826	0.023	0.041	0.025	0.041	0.072	0.025	580	3400	8210
0855-4	0.25	0.25	0.34	0.31	1.1	0.68	5100	6600	4900
0856-4	0.30	0.83	0.36	1.1	5.6	0.89	4000	14,000	3400

Notes:
Units are mg/L.
[a] Preflood data are from November 2009 for wells 0707, 0788, 0789, and 0826 and from August 2015 for wells 0855-4 and 0856-4.

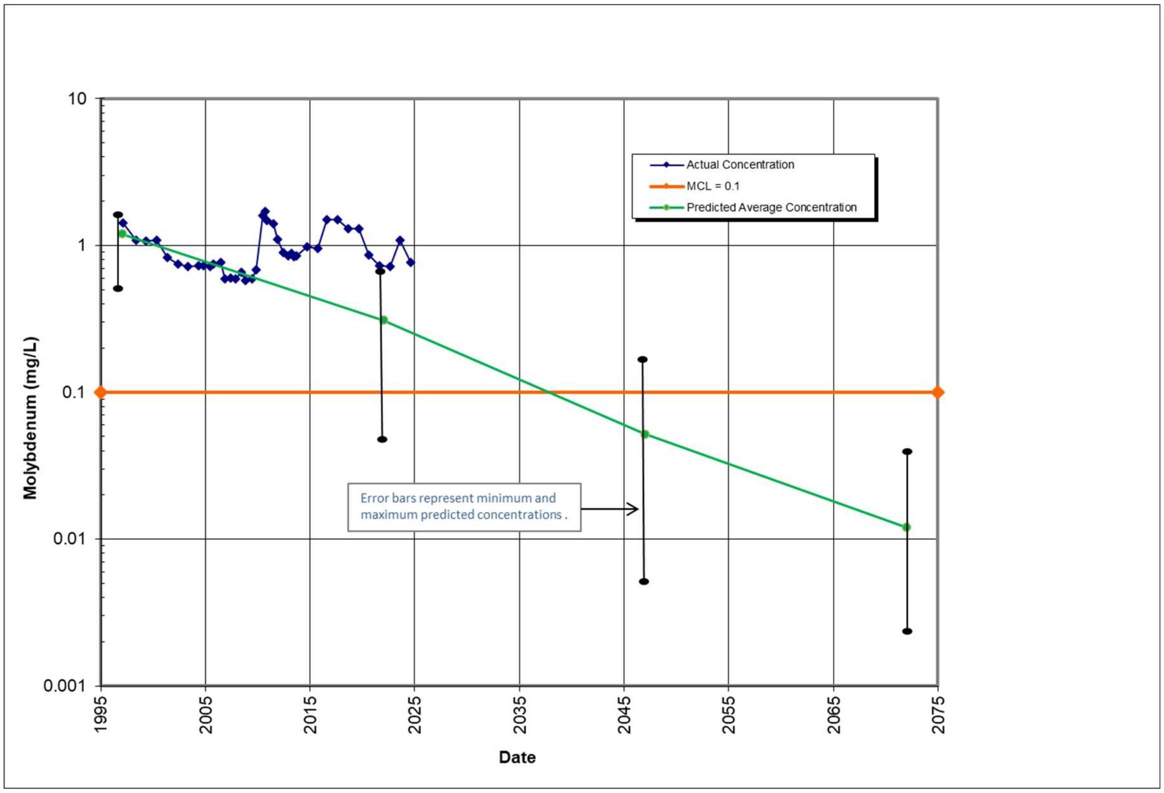


Figure 28. Predicted Versus Measured Molybdenum Concentrations in Well 0707

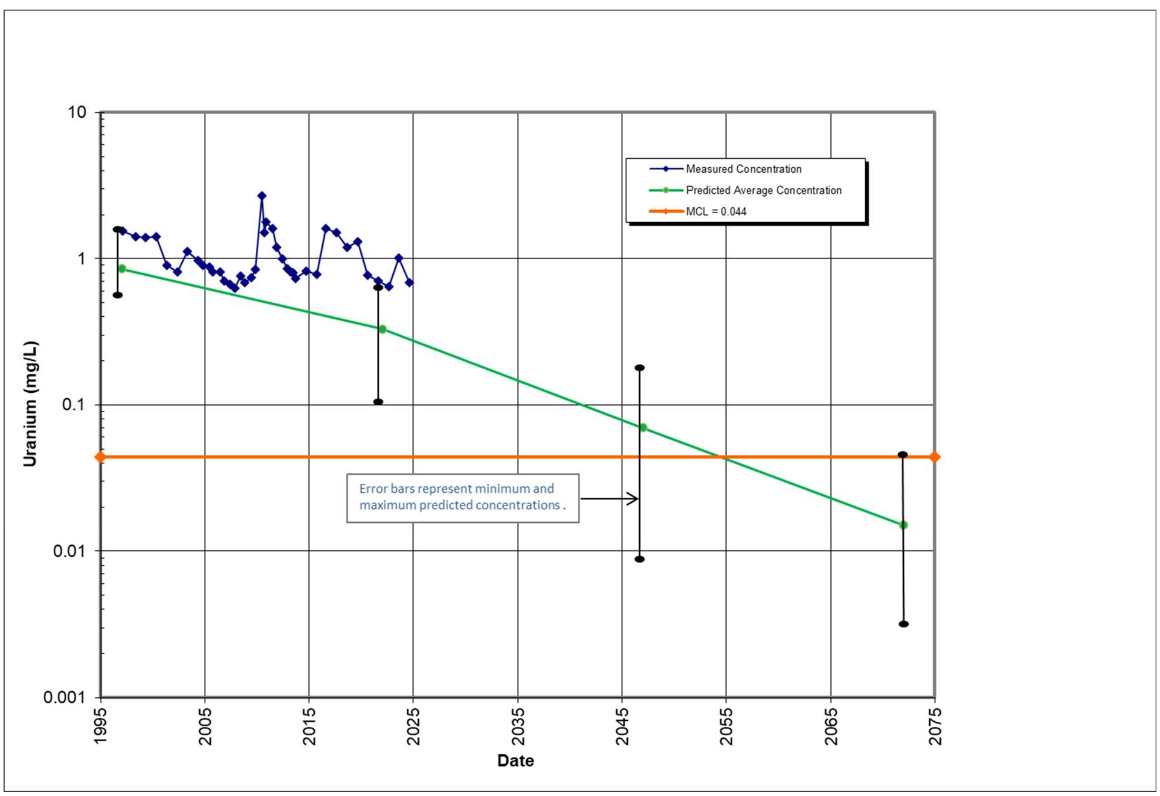


Figure 29. Predicted Versus Measured Uranium Concentrations in Well 0707

Based on the information above, natural flushing will not reduce contaminant concentrations in the surficial aquifer to levels below the MCL within the 100-year regulatory time frame. Ongoing work will include addressing data gaps with additional field investigations, laboratory testing, and reactive transport modeling (DOE 2022a). This work will result in a recommendation for a new compliance strategy that will be detailed in an updated Groundwater Compliance Action Plan.

7.0 Conclusion and Recommendations

Verification monitoring results from 2025 verify that mill-related groundwater contamination continues to impact the surficial aquifer and the oxbow lake but that ICs are in place and are functioning as intended to protect human health and the environment. Cooperative work continues with the Northern Arapaho Tribe to ensure that the AWWS functions as a viable IC into the future. In 2024, this work included procuring a subcontractor for upgrades to the AWSS. In addition, verification monitoring results continue to verify that mill-related contamination has not impacted any potable domestic wells within the IC boundary and the water quality in the Little Wind River or the gravel pit ponds.

Molybdenum and uranium concentrations in the surficial aquifer groundwater remain above their respective MCLs. After the 2010 flood on the Little Wind River, molybdenum and uranium concentrations increased but then returned to their preflood levels by 2013. A flood in 2016, two floods on the Little Wind River in 2017, and snowmelt from record snowfall in 2023 confirmed that contaminant concentrations tend to spike after flooding events in inundated areas and infiltration from heavy precipitation. In 2024, molybdenum and uranium concentrations were generally lower than those from 2023 in the surficial aquifer because of natural flushing processes and the lack of flooding or heavy precipitation events.

LM has gained a better understanding of the CSM, contaminant distributions, and properties of the surficial aquifer's unsaturated zone at the Riverton site. As a result, LM has determined that the natural flushing compliance strategy will not reduce contaminant concentrations in the surficial aquifer to levels below the MCL within the 100-year regulatory time frame; therefore, new compliance strategies will be evaluated, and a new compliance strategy will be selected and presented to the U.S. Nuclear Regulatory Commission for concurrence.

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Appendix A

Domestic Well Data

GROUNDWATER QUALITY DATA BY PARAMETER WITH DEPTH (EQuIS200) FOR SITE RVT01, Riverton Processing Site

REPORT DATE: 1/31/2025 9:19:46 AM

PARAMETER	LOCATION CODE/TYPE		SAMPLE DATE	SAMPLE TYPE	DEPTH RANGE (FT BLS)		RESULT	UNITS	QUALIFIERS LAB/DATA		QA	DETECTION LIMIT	UNCERTAINTY
Alkalinity, Total (As CaCO3)													
Alkalinity, Total (As CaCO3)	0405	WL	8/20/2024	(N)F			22	mg/L		F	#	-	-
Alkalinity, Total (As CaCO3)	0436	WL	8/20/2024	(N)F			156	mg/L		F	#	-	-
Alkalinity, Total (As CaCO3)	0460	WL	8/21/2024	(N)F			58	mg/L		F	#	-	-
Alkalinity, Total (As CaCO3)	0828	WL	8/20/2024	(N)F			160	mg/L		F	#	-	-
Alkalinity, Total (As CaCO3)	0841	WL	8/20/2024	(N)F			222	mg/L		F	#	-	-
Alkalinity, Total (As CaCO3)	0842	WL	8/20/2024	(N)F			165	mg/L		F	#	-	-
Alkalinity, Total (As CaCO3)	0876	WL	8/20/2024	(N)F			50	mg/L		F	#	-	-
Alkalinity, Total (As CaCO3)	0878	WL	8/20/2024	(N)F			155	mg/L		F	#	-	-
Manganese													
Manganese	0405	WL	8/20/2024	(T)F			0.002	mg/L	B	F	#	0.002	-
Manganese	0436	WL	8/20/2024	(T)F			0.00216	mg/L	B	F	#	0.002	-
Manganese	0460	WL	8/21/2024	(T)F			0.002	mg/L	U	F	#	0.002	-
Manganese	0828	WL	8/20/2024	(T)F			0.002	mg/L	U	F	#	0.002	-
Manganese	0841	WL	8/20/2024	(T)F			0.101	mg/L		F	#	0.002	-
Manganese	0842	WL	8/20/2024	(T)F			0.0611	mg/L		F	#	0.002	-
Manganese	0876	WL	8/20/2024	(T)D			0.01	mg/L	U	F	#	0.01	-
Manganese	0876	WL	8/20/2024	(T)F			0.01	mg/L	U	F	#	0.01	-
Manganese	0878	WL	8/20/2024	(T)F			0.01	mg/L	U	F	#	0.01	-
Molybdenum													
Molybdenum	0405	WL	8/20/2024	(T)F			0.00558	mg/L		F	#	0.0002	-
Molybdenum	0436	WL	8/20/2024	(T)F			0.00329	mg/L		F	#	0.0002	-

GROUNDWATER QUALITY DATA BY PARAMETER WITH DEPTH (EQuIS200) FOR SITE RVT01, Riverton Processing Site

REPORT DATE: 1/31/2025 9:19:47 AM

PARAMETER	LOCATION CODE/TYPE		SAMPLE DATE	SAMPLE TYPE	DEPTH RANGE (FT BLS)		RESULT	UNITS	QUALIFIERS LAB/DATA		QA	DETECTION LIMIT	UNCERTAINTY
Molybdenum	0460	WL	8/21/2024	(T)F			0.00324	mg/L		F	#	0.0002	-
Molybdenum	0828	WL	8/20/2024	(T)F			0.00307	mg/L		F	#	0.0002	-
Molybdenum	0841	WL	8/20/2024	(T)F			0.00351	mg/L		F	#	0.0002	-
Molybdenum	0842	WL	8/20/2024	(T)F			0.00241	mg/L	B	F	#	0.0002	-
Molybdenum	0876	WL	8/20/2024	(T)D			0.00457	mg/L		F	#	0.0002	-
Molybdenum	0876	WL	8/20/2024	(T)F			0.00452	mg/L		F	#	0.0002	-
Molybdenum	0878	WL	8/20/2024	(T)F			0.0023	mg/L	B	F	#	0.0002	-
pH													
pH	0405	WL	8/20/2024	(N)F			9.83	s.u.		F	#	-	-
pH	0436	WL	8/20/2024	(N)F			9.25	s.u.		F	#	-	-
pH	0460	WL	8/21/2024	(N)F			5.49	s.u.		F	#	-	-
pH	0828	WL	8/20/2024	(N)F			9.12	s.u.		F	#	-	-
pH	0841	WL	8/20/2024	(N)F			7.95	s.u.		F	#	-	-
pH	0842	WL	8/20/2024	(N)F			8.51	s.u.		F	#	-	-
pH	0876	WL	8/20/2024	(N)F			9.18	s.u.		F	#	-	-
pH	0878	WL	8/20/2024	(N)F			9.11	s.u.		F	#	-	-
Specific Conductance													
Specific Conductance	0405	WL	8/20/2024	(N)F			1022	umhos/cm		F	#	-	-
Specific Conductance	0436	WL	8/20/2024	(N)F			845	umhos/cm		F	#	-	-
Specific Conductance	0460	WL	8/21/2024	(N)F			743	umhos/cm		F	#	-	-
Specific Conductance	0828	WL	8/20/2024	(N)F			852	umhos/cm		F	#	-	-
Specific Conductance	0841	WL	8/20/2024	(N)F			1035	umhos/cm		F	#	-	-
Specific Conductance	0842	WL	8/20/2024	(N)F			683	umhos/cm		F	#	-	-
Specific Conductance	0876	WL	8/20/2024	(N)F			804	umhos/cm		F	#	-	-
Specific Conductance	0878	WL	8/20/2024	(N)F			829	umhos/cm		F	#	-	-

PARAMETER	LOCATION CODE/TYPE		SAMPLE DATE	SAMPLE TYPE	DEPTH RANGE (FT BLS)		RESULT	UNITS	QUALIFIERS LAB/DATA		QA	DETECTION LIMIT	UNCERTAINTY
Sulfate													
Sulfate	0405	WL	8/20/2024	(N)F			363	mg/L		F	#	13.3	-
Sulfate	0436	WL	8/20/2024	(N)F			223	mg/L		F	#	13.3	-
Sulfate	0460	WL	8/21/2024	(N)F			173	mg/L		F	#	13.3	-
Sulfate	0828	WL	8/20/2024	(N)F			209	mg/L		F	#	13.3	-
Sulfate	0841	WL	8/20/2024	(N)F			266	mg/L		F	#	13.3	-
Sulfate	0842	WL	8/20/2024	(N)F			147	mg/L		F	#	13.3	-
Sulfate	0876	WL	8/20/2024	(N)D			258	mg/L		F	#	13.3	-
Sulfate	0876	WL	8/20/2024	(N)F			258	mg/L		F	#	13.3	-
Sulfate	0878	WL	8/20/2024	(N)F			233	mg/L		F	#	13.3	-
Temperature													
Temperature	0405	WL	8/20/2024	(N)F			15.09	C		F	#	-	-
Temperature	0436	WL	8/20/2024	(N)F			15.87	C		F	#	-	-
Temperature	0460	WL	8/21/2024	(N)F			21.9	C		F	#	-	-
Temperature	0828	WL	8/20/2024	(N)F			20.35	C		F	#	-	-
Temperature	0841	WL	8/20/2024	(N)F			19.4	C		F	#	-	-
Temperature	0842	WL	8/20/2024	(N)F			11.92	C		F	#	-	-
Temperature	0876	WL	8/20/2024	(N)F			20.04	C		F	#	-	-
Temperature	0878	WL	8/20/2024	(N)F			13.38	C		F	#	-	-
Turbidity													
Turbidity	0405	WL	8/20/2024	(N)F			5.31	NTU		F	#	-	-
Turbidity	0436	WL	8/20/2024	(N)F			2.48	NTU		F	#	-	-
Turbidity	0460	WL	8/21/2024	(N)F			1.2	NTU		F	#	-	-
Turbidity	0828	WL	8/20/2024	(N)F			0.91	NTU		F	#	-	-
Turbidity	0841	WL	8/20/2024	(N)F			9.2	NTU		F	#	-	-

PARAMETER	LOCATION CODE/TYPE		SAMPLE DATE	SAMPLE TYPE	DEPTH RANGE (FT BLS)		RESULT	UNITS	QUALIFIERS LAB/DATA		QA	DETECTION LIMIT	UNCERTAINTY
Turbidity	0842	WL	8/20/2024	(N)F			12.3	NTU		F	#	-	-
Turbidity	0876	WL	8/20/2024	(N)F			9.87	NTU		F	#	-	-
Turbidity	0878	WL	8/20/2024	(N)F			6.15	NTU		F	#	-	-
Uranium													
Uranium	0405	WL	8/20/2024	(T)F			0.000067	mg/L	U	F	#	0.000067	-
Uranium	0436	WL	8/20/2024	(T)F			0.000072	mg/L	B	F	#	0.000067	-
Uranium	0460	WL	8/21/2024	(T)F			0.000067	mg/L	U	F	#	0.000067	-
Uranium	0828	WL	8/20/2024	(T)F			0.000067	mg/L	U	F	#	0.000067	-
Uranium	0841	WL	8/20/2024	(T)F			0.00304	mg/L		F	#	0.000067	-
Uranium	0842	WL	8/20/2024	(T)F			0.000364	mg/L		F	#	0.000067	-
Uranium	0876	WL	8/20/2024	(T)D			0.000067	mg/L	U	F	#	0.000067	-
Uranium	0876	WL	8/20/2024	(T)F			0.000067	mg/L	U	F	#	0.000067	-
Uranium	0878	WL	8/20/2024	(T)F			0.000067	mg/L	U	F	#	0.000067	-

LOCATION TYPE:

WL WELL

DATA QUALIFIERS:

F Low flow sampling method used.
G Possible grout contamination, pH > 9.
J Estimated Value.
L Less than 3 bore volumes purged prior to sampling.
N Tentatively identified compound (TIC).
Q Qualitative result due to sampling technique
R Unusable result.
U Parameter analyzed for but was not detected.
X Location is undefined.

LAB QUALIFIERS:

*	Replicate analysis not within control limits.
+	Correlation coefficient for MSA < 0.995.
>	Result above upper detection limit.
A	TIC is a suspected aldol-condensation product.
B	Inorganic: Result is between the IDL and CRDL. Organic & Radiochemistry: Analyte also found in method blank.
C	Pesticide result confirmed by GC-MS.
D	Analyte determined in diluted sample.
E	Inorganic: Estimate value because of interference, see case narrative. Organic: Analyte exceeded calibration range of the GC-MS.
H	Holding time expired, value suspect.
I	Increased detection limit due to required dilution.
J	Estimated Value.
M	GFAA duplicate injection precision not met.
N	Inorganic or radiochemical: Spike sample recovery not within control limits. Organic: Tentatively identified compound (TIC).
P	> 25% difference in detected pesticide or Aroclor concentrations between 2 columns.
S	Result determined by method of standard addition (MSA).
U	Parameter analyzed for but was not detected.
W	Post-digestion spike outside control limits while sample absorbance < 50% of analytical spike absorbance.
X	Laboratory defined qualifier, see case narrative.
Y	Laboratory defined qualifier, see case narrative.
Z	Laboratory defined qualifier, see case narrative.

SAMPLE TYPES:

Fraction:
(T) Total (for metal concentrations)
(D) Dissolved (for dissolved or filtered metal concentrations)
(N) Organic (or other) constituents for which neither total nor dissolved is applicable

Type Codes:
F-Field Sample   R-Replicate   FR-Field Sample with Replicates
D-Duplicate   N-Not Known   S-Split Sample

QA QUALIFIER: # = validated according to Quality Assurance guidelines.

Appendix B

Static Water Level Data

STATIC WATER LEVELS (EQuIS700) FOR SITE RVT01, Riverton Processing Site

REPORT DATE: 1/31/2025 10:00:06 AM

LOCATION CODE	MEASUREMENT DATE/TIME	TOP OF CASING ELEVATION (FT)	DEPTH FROM TOP OF CASING (FT)	WATER ELEVATION (FT)	WATER LEVEL FLAG
0101	08/21/2024 15:09	4953.16	10.50	4942.66	
0110	08/21/2024 15:00	4954.58	12.42	4942.16	
0111	08/21/2024 15:05	4951.26	9.20	4942.06	
0700	08/20/2024 09:00	4955.27	7.52	4947.75	
0705	08/20/2024 14:15	4934.32	6.86	4927.46	
0707	08/20/2024 14:26	4933.75	5.99	4927.76	
0709	08/20/2024 13:37	4934.17	2.89	4931.28	
0710	08/20/2024 09:45	4950.97	5.44	4945.53	
0716	08/21/2024 08:50	4943.14	8.31	4934.83	
0717	08/21/2024 09:09	4942.79	7.81	4934.98	
0718	08/21/2024 14:35	4941.35	7.78	4933.57	
0719	08/21/2024 14:53	4941.44	7.37	4934.07	
0720	08/21/2024 13:37	4944.44	5.24	4939.20	
0721	08/21/2024 14:05	4944.37	8.08	4936.29	
0722R	08/21/2024 15:31	4941.14	8.38	4932.76	
0723	08/21/2024 15:13	4939.94	7.17	4932.77	
0724	08/21/2024 16:35	4945.14	4.47	4940.67	
0725	08/20/2024 16:44	4945.44	4.92	4940.52	
0726	08/20/2024 16:47	4945.43	7.21	4938.22	
0727	08/21/2024 15:46	4955.62	9.50	4946.12	
0728	08/21/2024 16:25	4949.96			
0729	08/21/2024 15:57	4936.65	6.27	4930.38	
0730	08/21/2024 16:12	4937.16	6.92	4930.24	
0732	08/21/2024 14:04	4949.06	8.60	4940.46	
0733	08/20/2024 16:33	4950.72	3.93	4946.79	
0734	08/20/2024 16:35	4950.33	6.28	4944.05	
0736	08/20/2024 13:38	4949.69	7.54	4942.15	
0784	08/21/2024 13:42	4949.47	7.57	4941.90	
0788	08/21/2024 10:25	4937.96	9.21	4928.75	
0789	08/20/2024 09:16	4936.39	9.87	4926.52	
0824	08/20/2024 15:22	4932.94	7.06	4925.88	
0826	08/21/2024 11:36	4939.89	7.37	4932.52	
0852-4	08/21/2024 09:48	4940.80	10.67	4930.13	
0853-4	08/21/2024 08:50	4938.49	9.72	4928.77	
0854-4	08/21/2024 11:17	4939.95	7.48	4932.47	

STATIC WATER LEVELS (EQuIS700) FOR SITE RVT01, Riverton Processing Site

REPORT DATE: 1/31/2025 10:00:06 AM

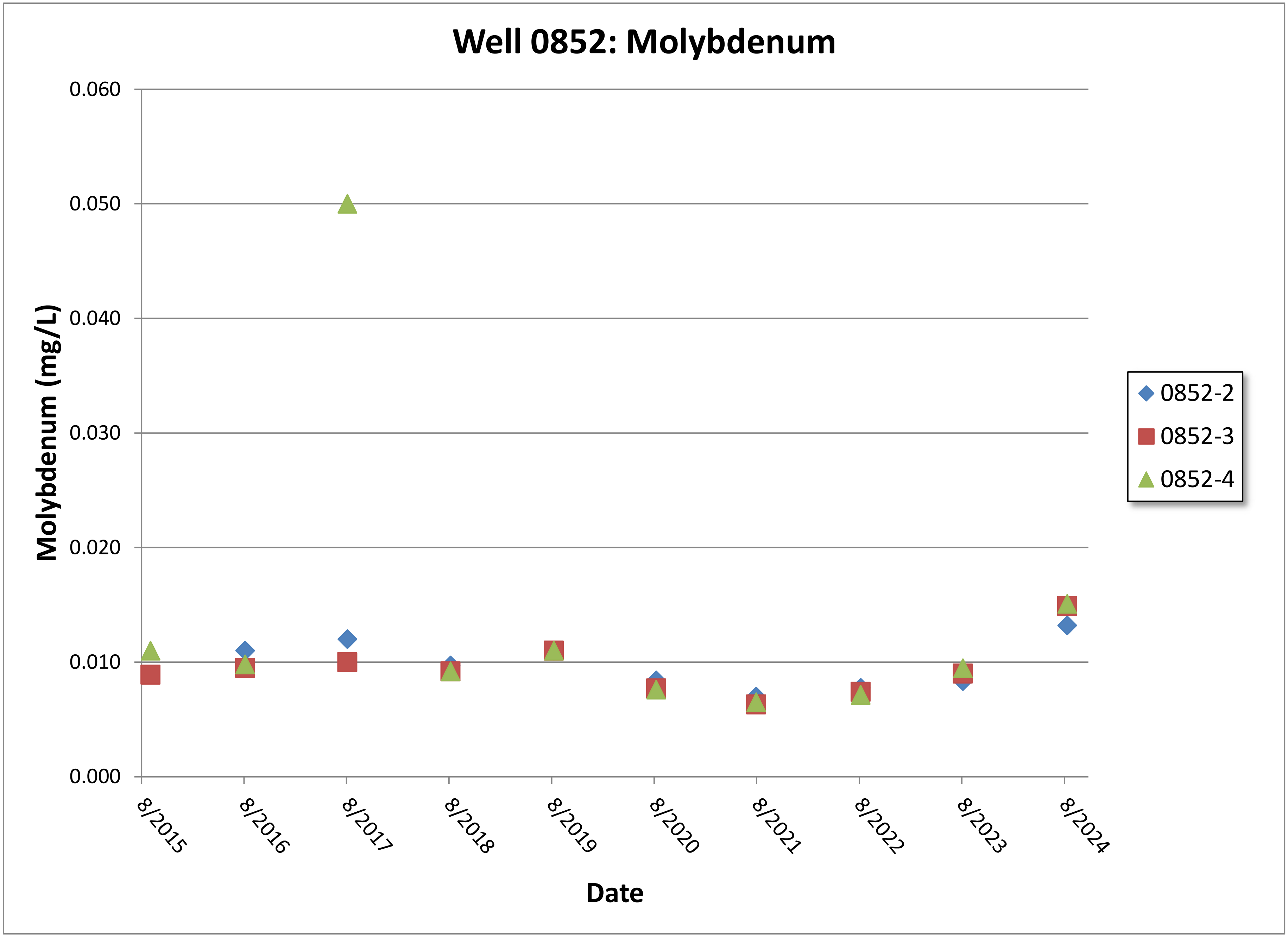
LOCATION CODE	MEASUREMENT DATE/TIME	TOP OF CASING ELEVATION (FT)	DEPTH FROM TOP OF CASING (FT)	WATER ELEVATION (FT)	WATER LEVEL FLAG
0855-4	08/20/2024 11:01	4934.79	7.84	4926.95	
0856-4	08/20/2024 16:04	4937.23	8.82	4928.41	
0857-4	08/20/2024 16:56	4939.11	8.87	4930.24	
0858-4	08/20/2024 13:49	4935.69	7.66	4928.03	
0859-4	08/21/2024 11:20	4948.69	8.91	4939.78	
0860-4	08/21/2024 10:00	4946.82	10.75	4936.07	

FLOW CODES:	B	BACKGROUND	C	CROSS GRADIENT	D	DOWN GRADIENT
	F	OFF-SITE	N	UNKNOWN	O	ON-SITE
	U	UPGRADIENT				

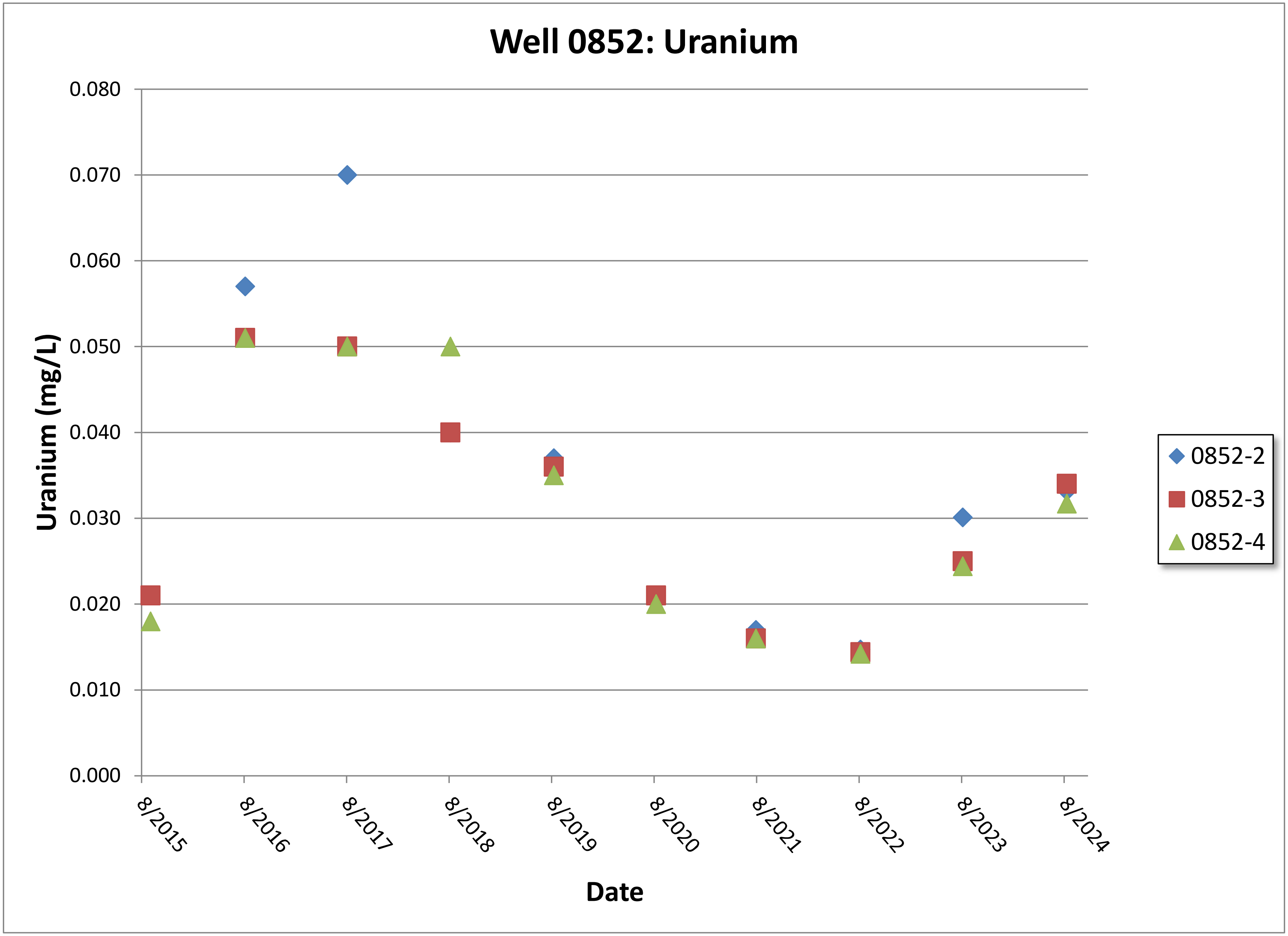
WATER LEVEL FLAGS:	B	Water level is below the top of the pump	D	Dry
	E	Water elevation may not be comparable to other water elevations at this site	F	Flowing
	I	Inaccessible		

Appendix C

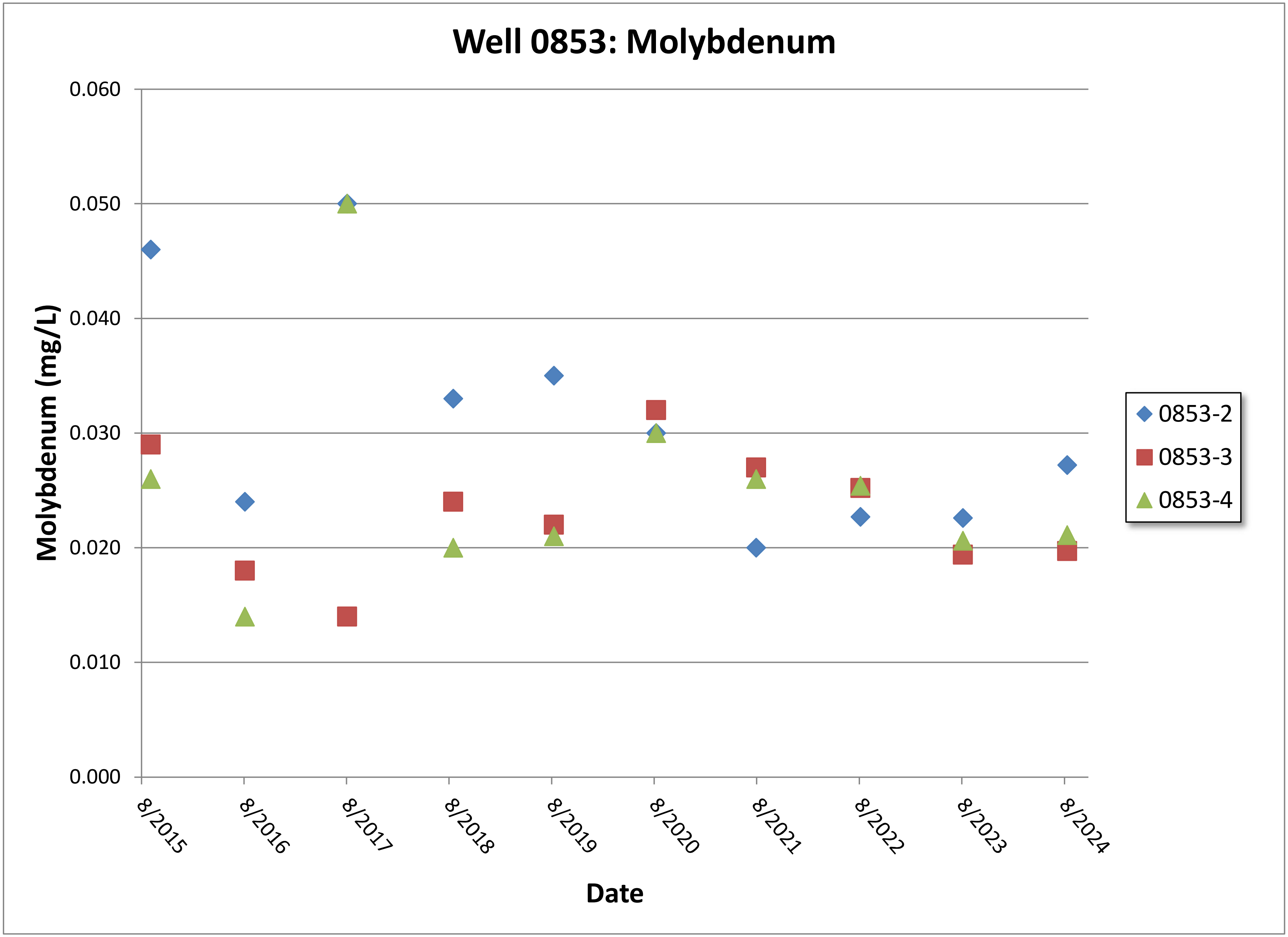
Monitoring Well Data

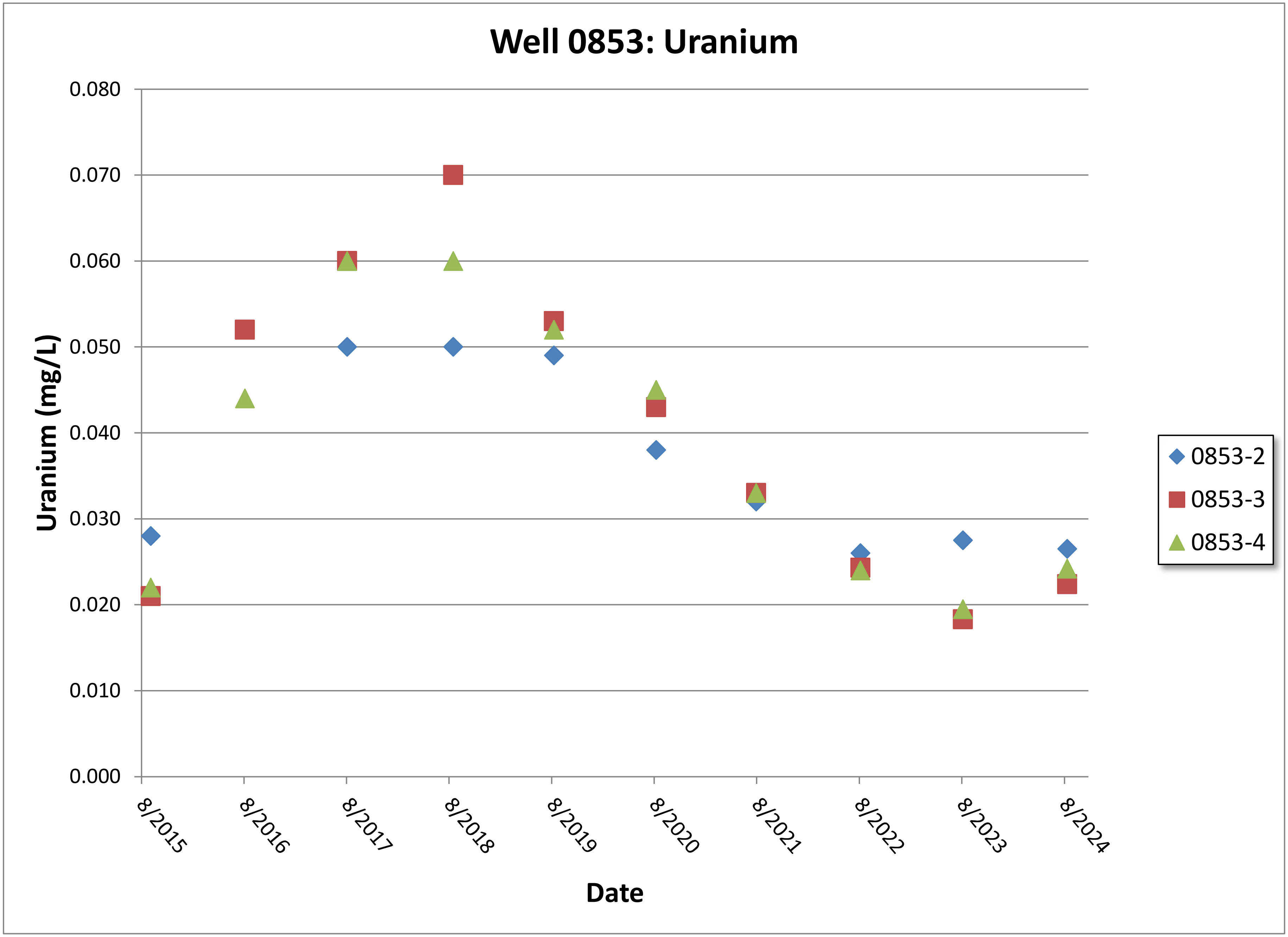


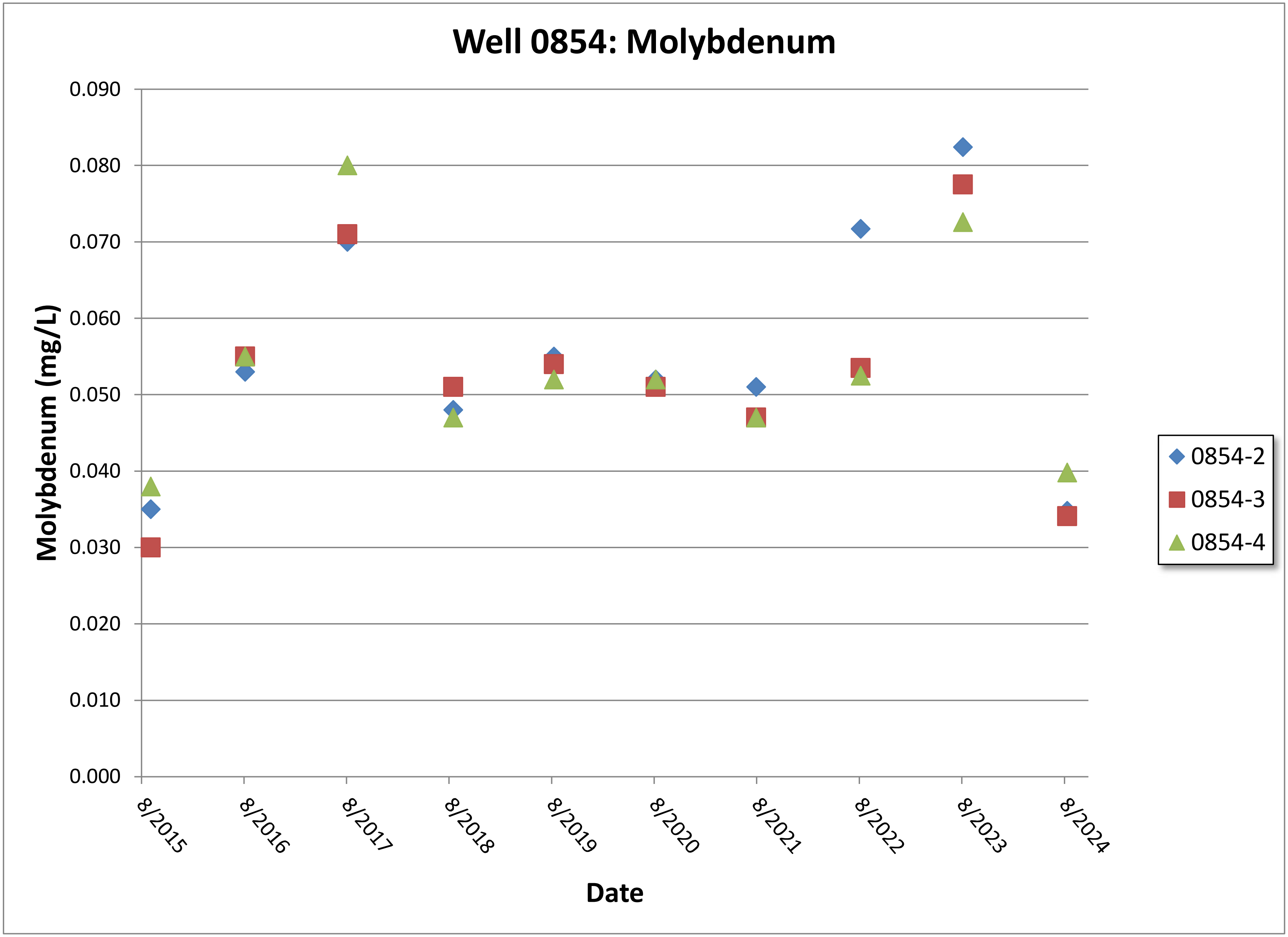
Well 0852: Molybdenum
0.060
0.050
0.040
0.030
0.020
0.010
0.000
Molybdenum (mg/L)
8/2015
8/2016
8/2017
8/2018
8/2019
8/2020
8/2021
8/2022
8/2023
8/2024
Date
0852-2
0852-3
0852-4



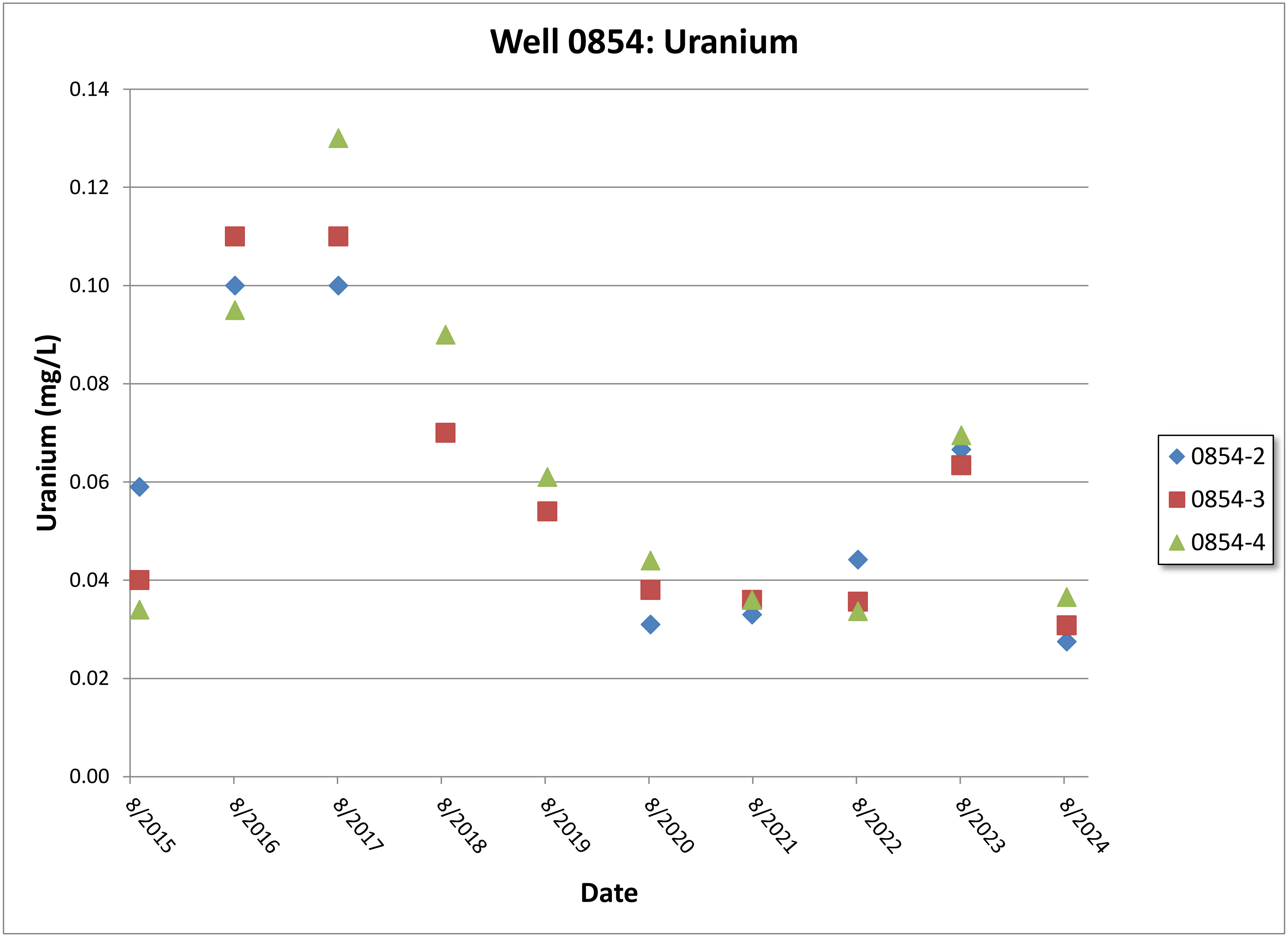
Well 0852: Uranium
Uranium (mg/L)
0.080
0.070
0.060
0.050
0.040
0.030
0.020
0.010
0.000
8/2015
8/2016
8/2017
8/2018
8/2019
8/2020
8/2021
8/2022
8/2023
8/2024
Date
0852-2
0852-3
0852-4

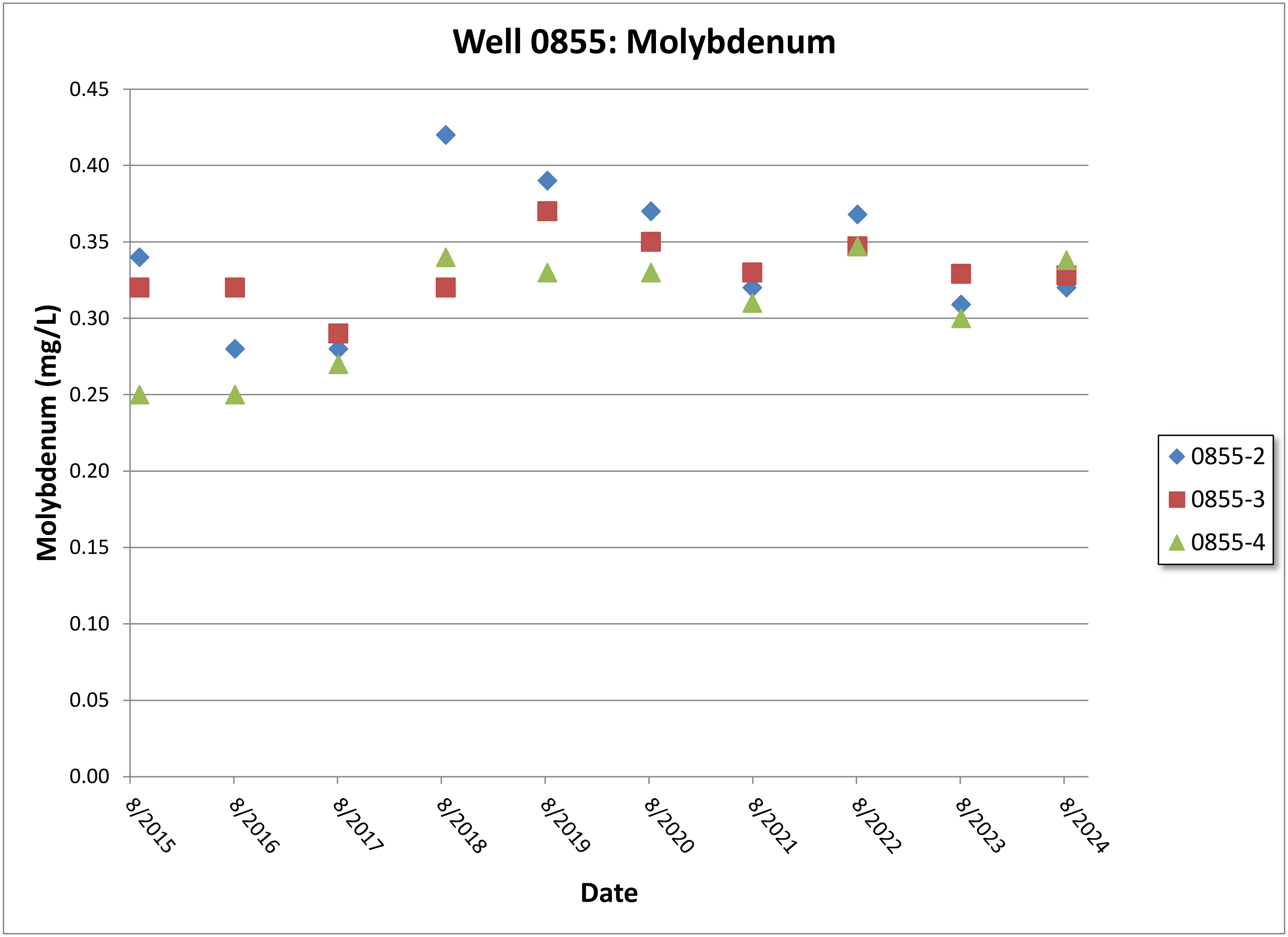

Well 0853: Molybdenum
Molybdenum (mg/L)
0.060
0.050
0.040
0.030
0.020
0.010
0.000
8/2015
8/2016
8/2017
8/2018
8/2019
8/2020
8/2021
8/2022
8/2023
8/2024
Date
0853-2
0853-3
0853-4

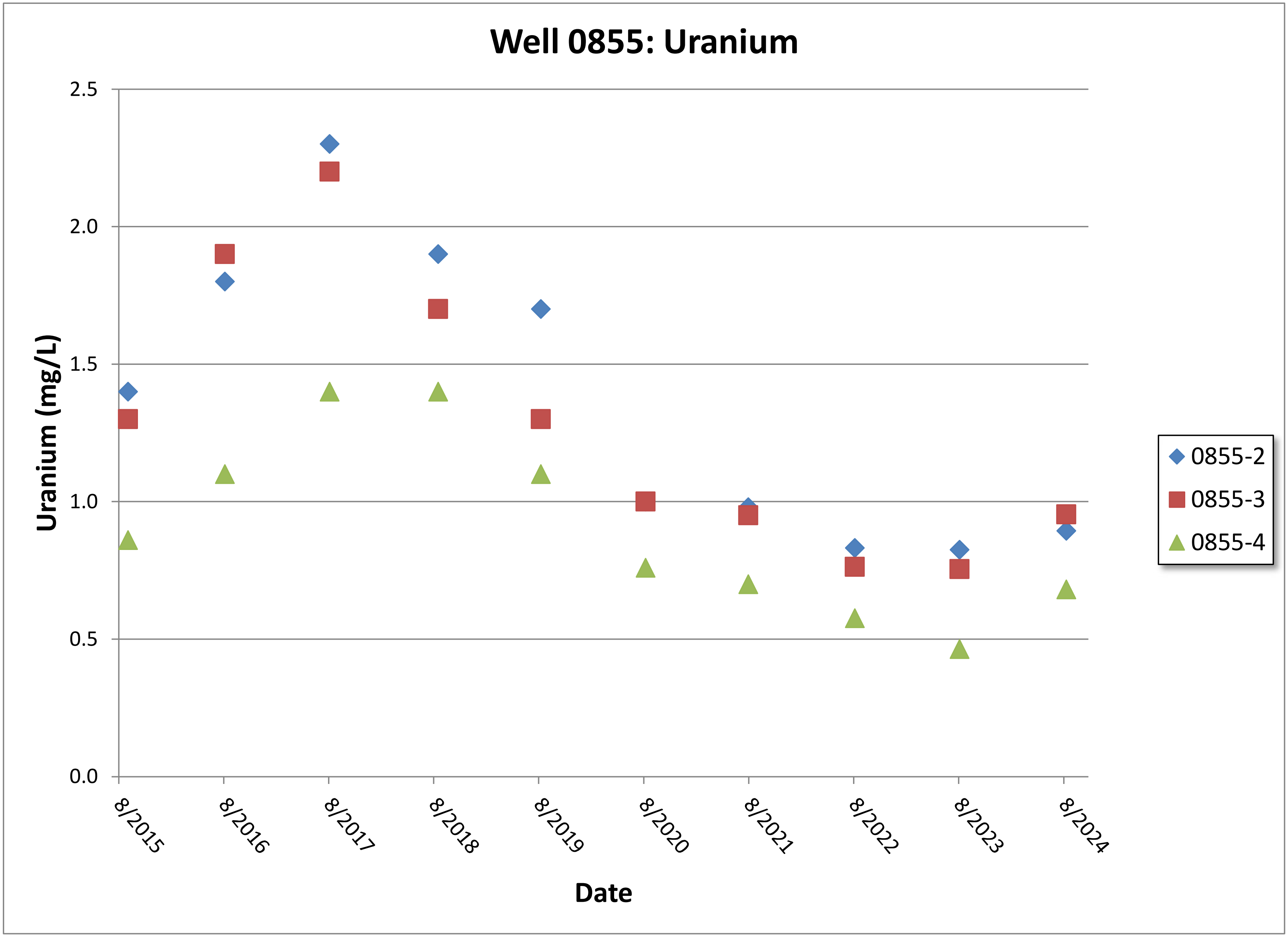

Well 0853: Uranium
Uranium (mg/L)
0.080
0.070
0.060
0.050
0.040
0.030
0.020
0.010
0.000
8/2015
8/2016
8/2017
8/2018
8/2019
8/2020
8/2021
8/2022
8/2023
8/2024
Date
0853-2
0853-3
0853-4



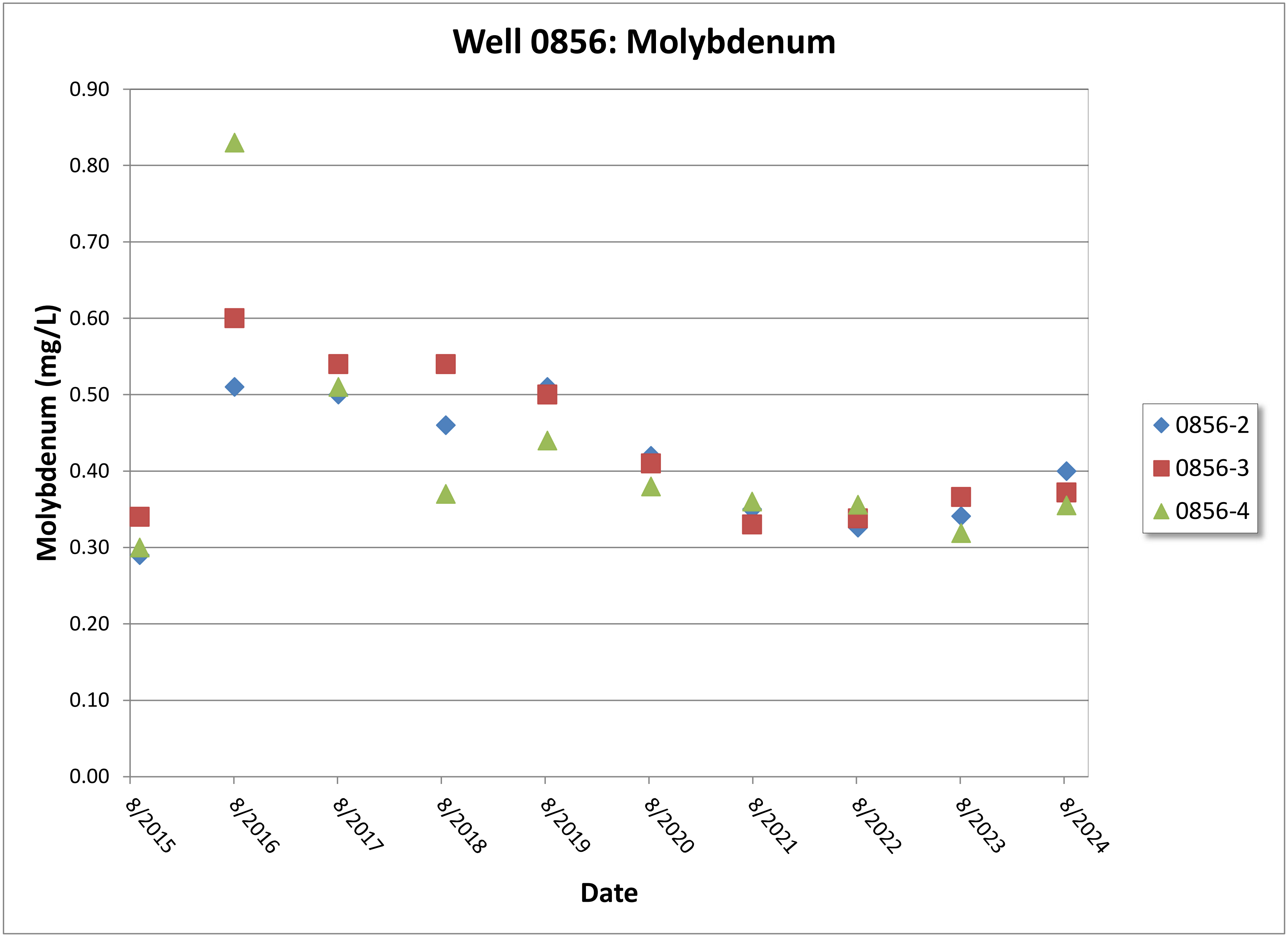
Well 0854: Molybdenum
0.090
0.080
0.070
0.060
0.050
0.040
0.030
0.020
0.010
0.000
Molybdenum (mg/L)
8/2015
8/2016
8/2017
8/2018
8/2019
8/2020
8/2021
8/2022
8/2023
8/2024
Date
0854-2
0854-3
0854-4


Well 0854: Uranium
0.14
0.12
0.10
0.08
0.06
0.04
0.02
0.00
Uranium (mg/L)
8/2015
8/2016
8/2017
8/2018
8/2019
8/2020
8/2021
8/2022
8/2023
8/2024
Date
0854-2
0854-3
0854-4

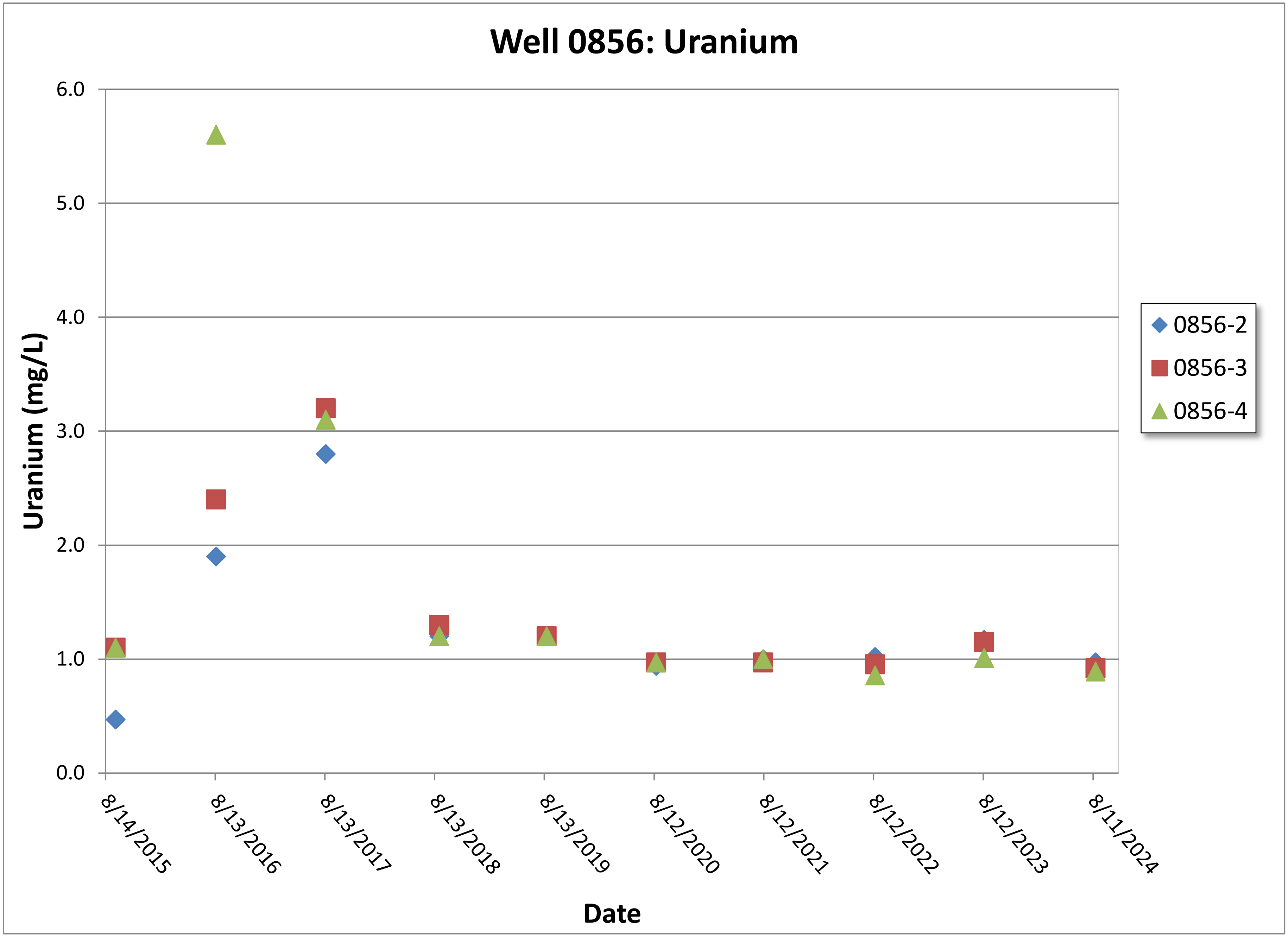

Well 0855: Molybdenum
0.45
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
Molybdenum (mg/L)
8/2015
8/2016
8/2017
8/2018
8/2019
8/2020
8/2021
8/2022
8/2023
8/2024
Date
0855-2
0855-3
0855-4



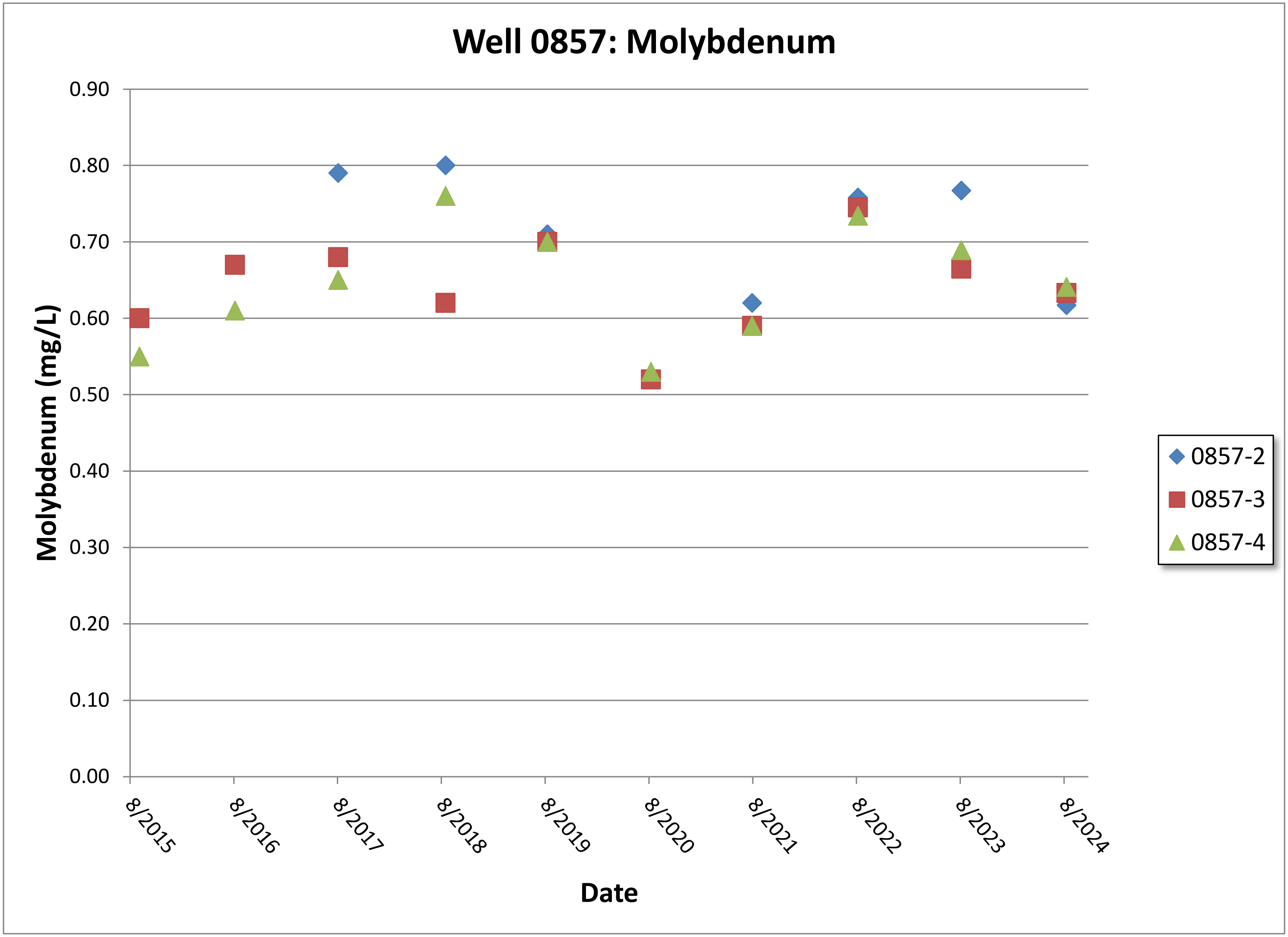
Well 0855: Uranium
2.5
2.0
1.5
1.0
0.5
0.0
Uranium (mg/L)
8/2015
8/2016
8/2017
8/2018
8/2019
8/2020
8/2021
8/2022
8/2023
8/2024
Date
0855-2
0855-3
0855-4



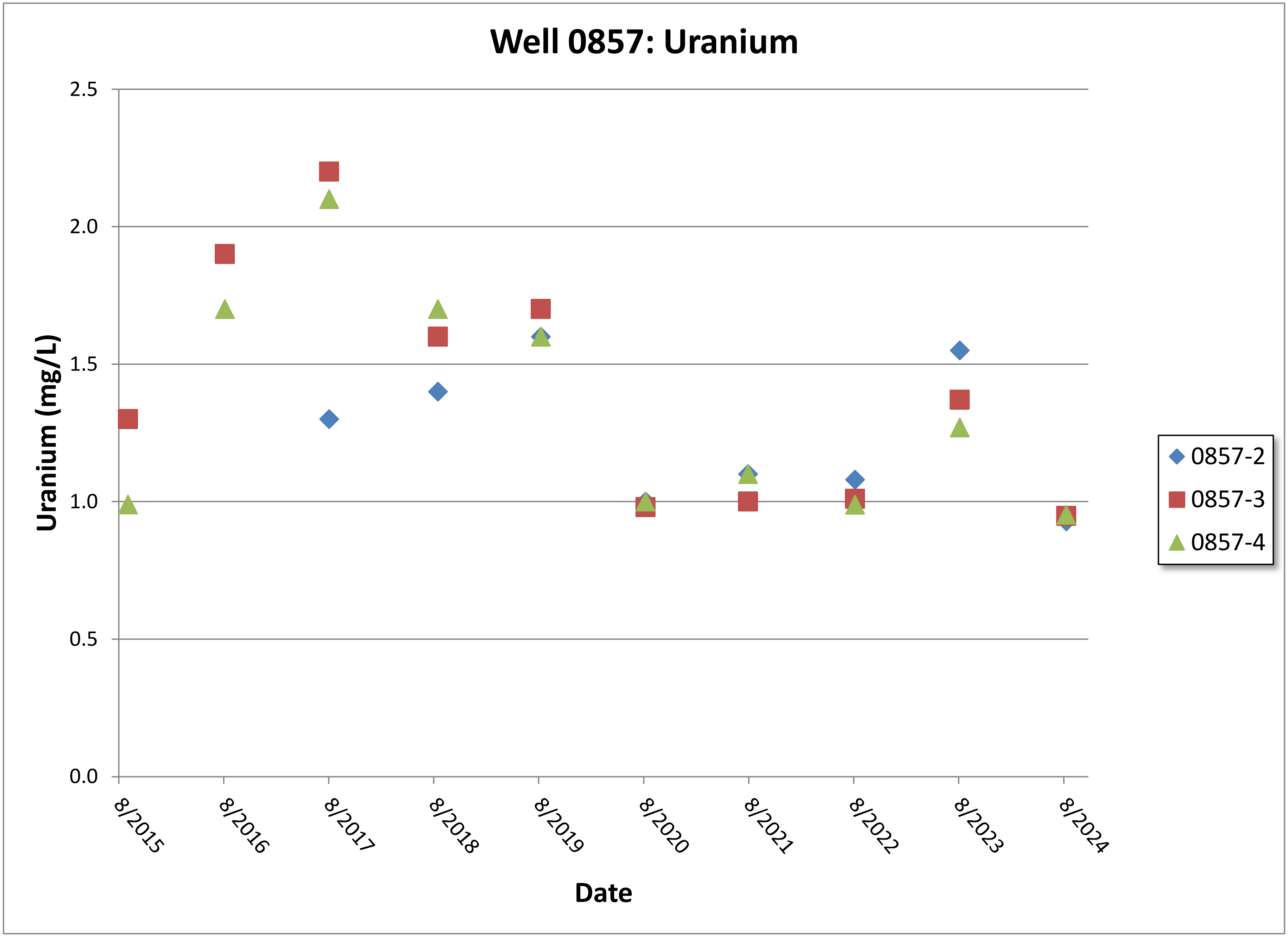
Well 0856: Molybdenum
Molybdenum (mg/L)
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
8/2015
8/2016
8/2017
8/2018
8/2019
8/2020
8/2021
8/2022
8/2023
8/2024
Date
0856-2
0856-3
0856-4

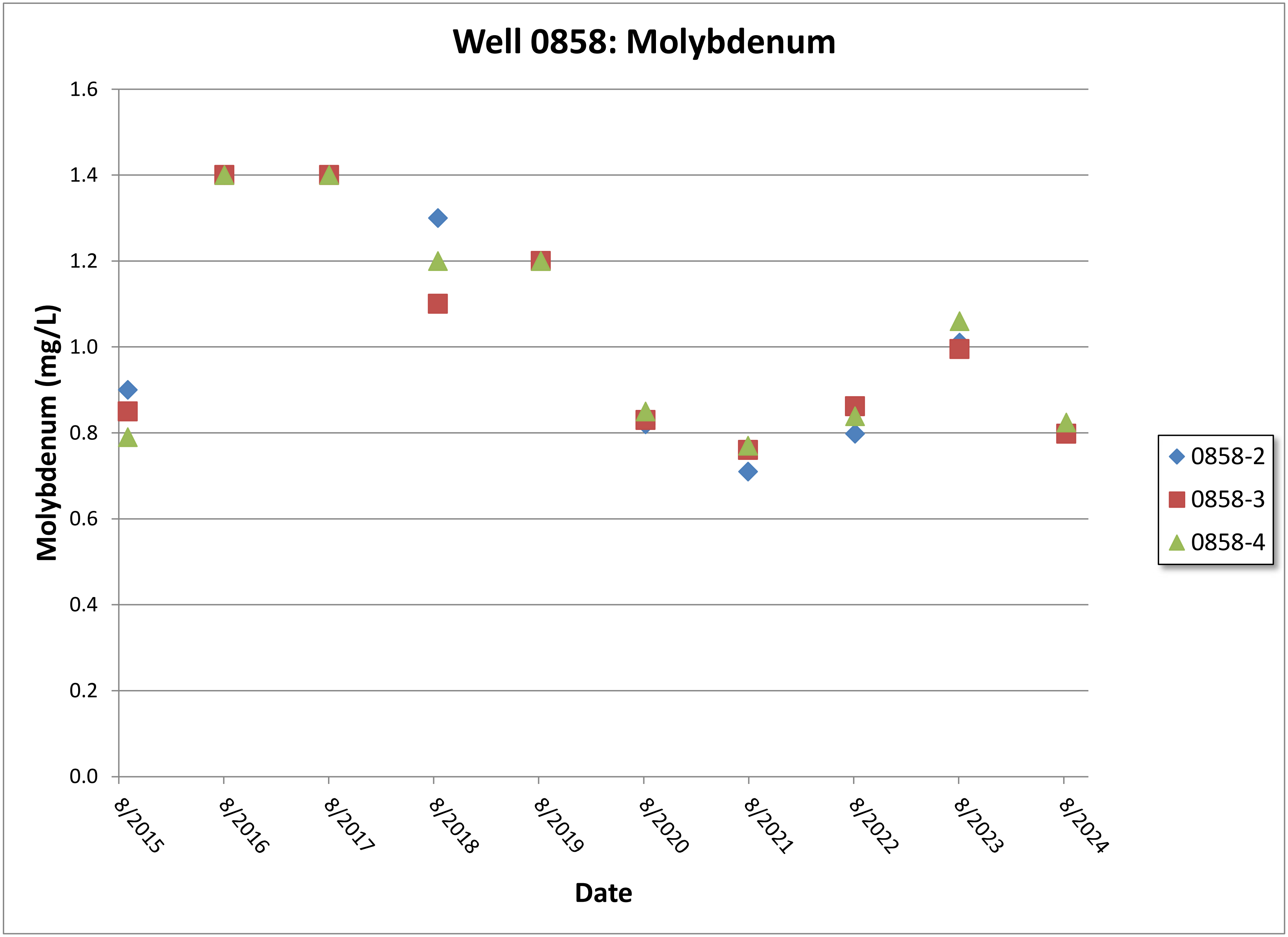


Well 0856: Uranium
Uranium (mg/L)
6.0
5.0
4.0
3.0
2.0
1.0
0.0
8/14/2015
8/13/2016
8/13/2017
8/13/2018
8/13/2019
8/12/2020
8/12/2021
8/12/2022
8/12/2023
8/11/2024
Date
0856-2
0856-3
0856-4

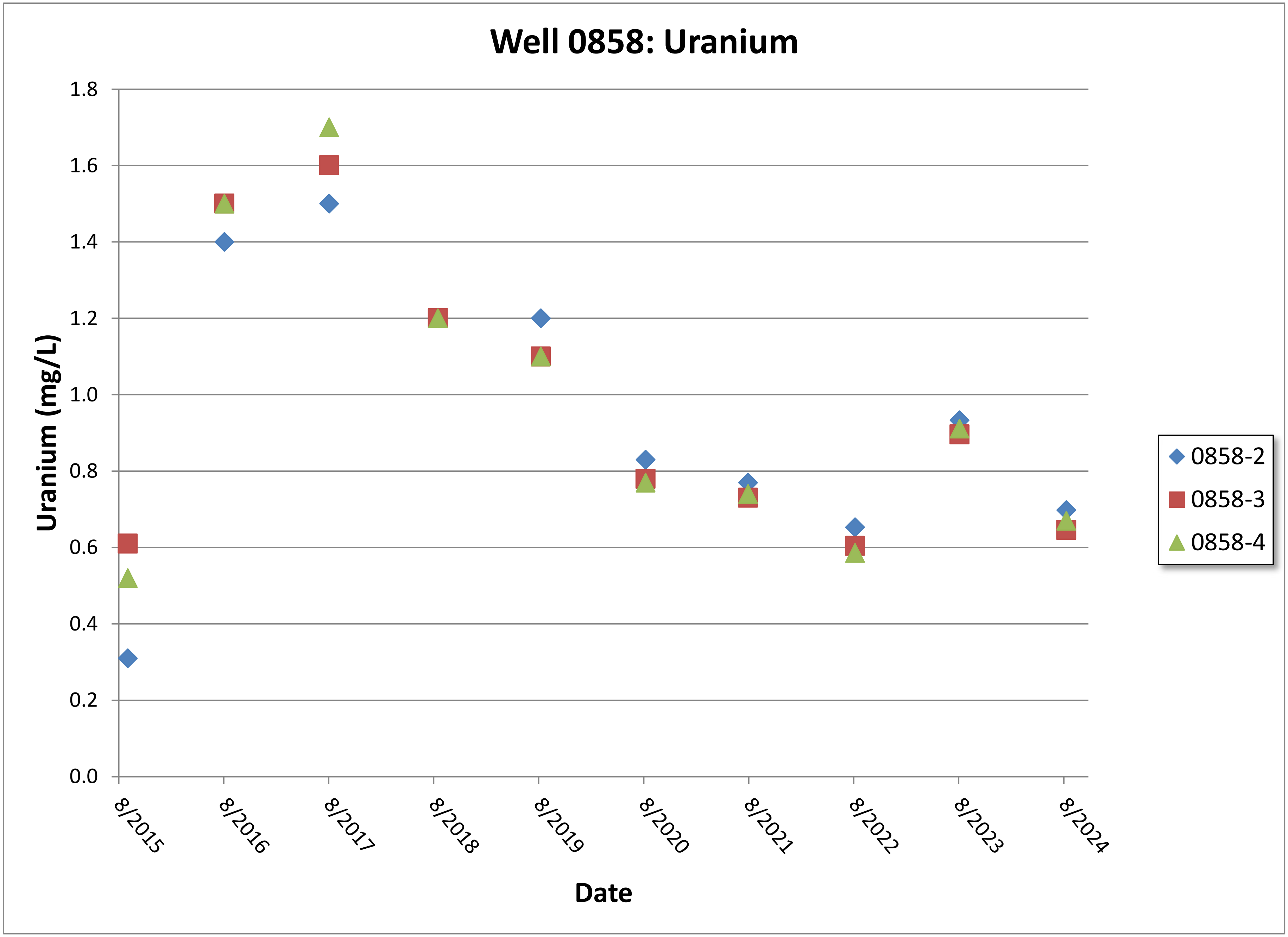


Well 0857: Molybdenum
Molybdenum (mg/L)
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
8/2015
8/2016
8/2017
8/2018
8/2019
8/2020
8/2021
8/2022
8/2023
8/2024
Date
0857-2
0857-3
0857-4

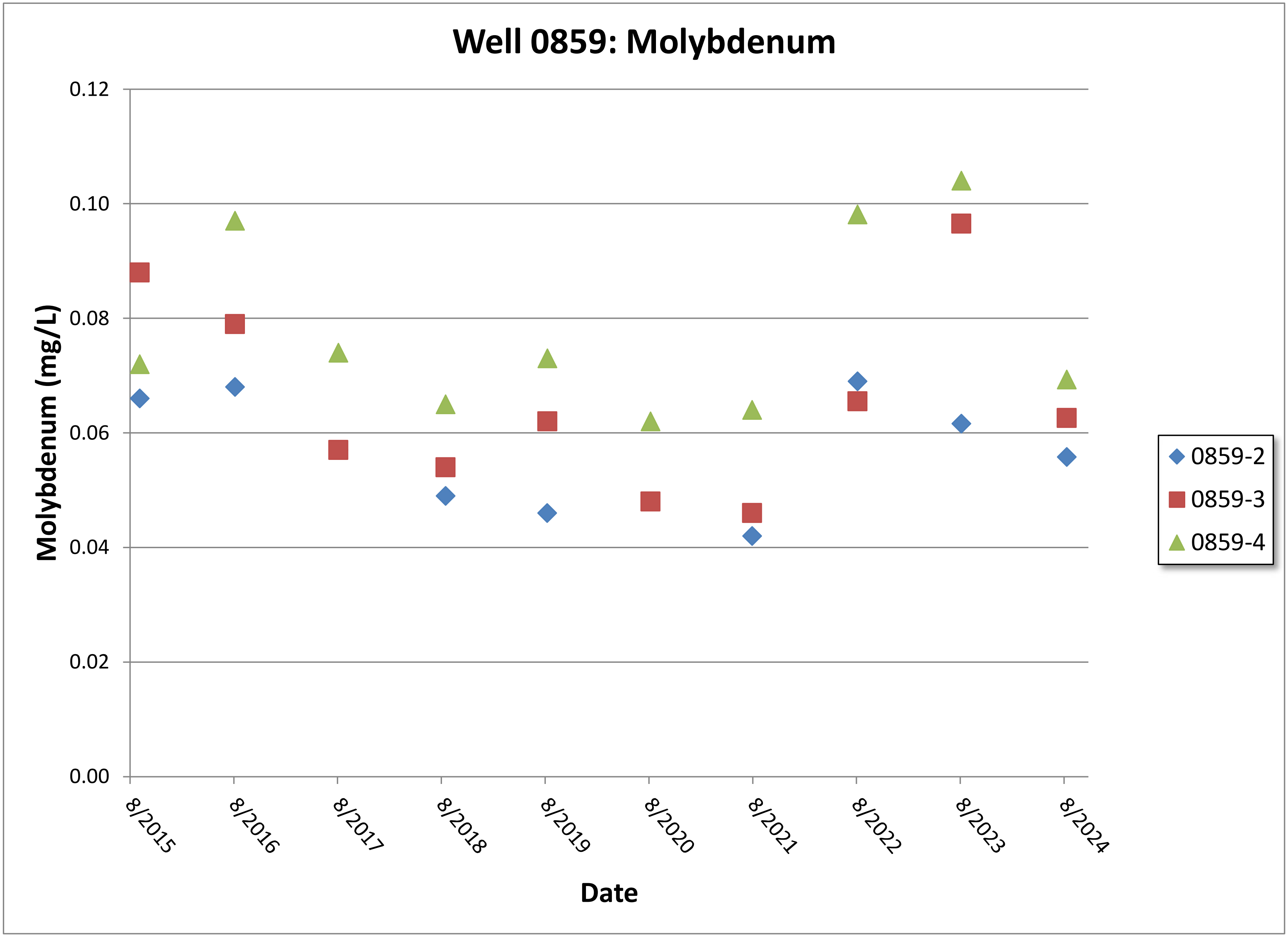

Well 0857: Uranium
Uranium (mg/L)
2.5
2.0
1.5
1.0
0.5
0.0
8/2015
8/2016
8/2017
8/2018
8/2019
8/2020
8/2021
8/2022
8/2023
8/2024
Date
0857-2
0857-3
0857-4

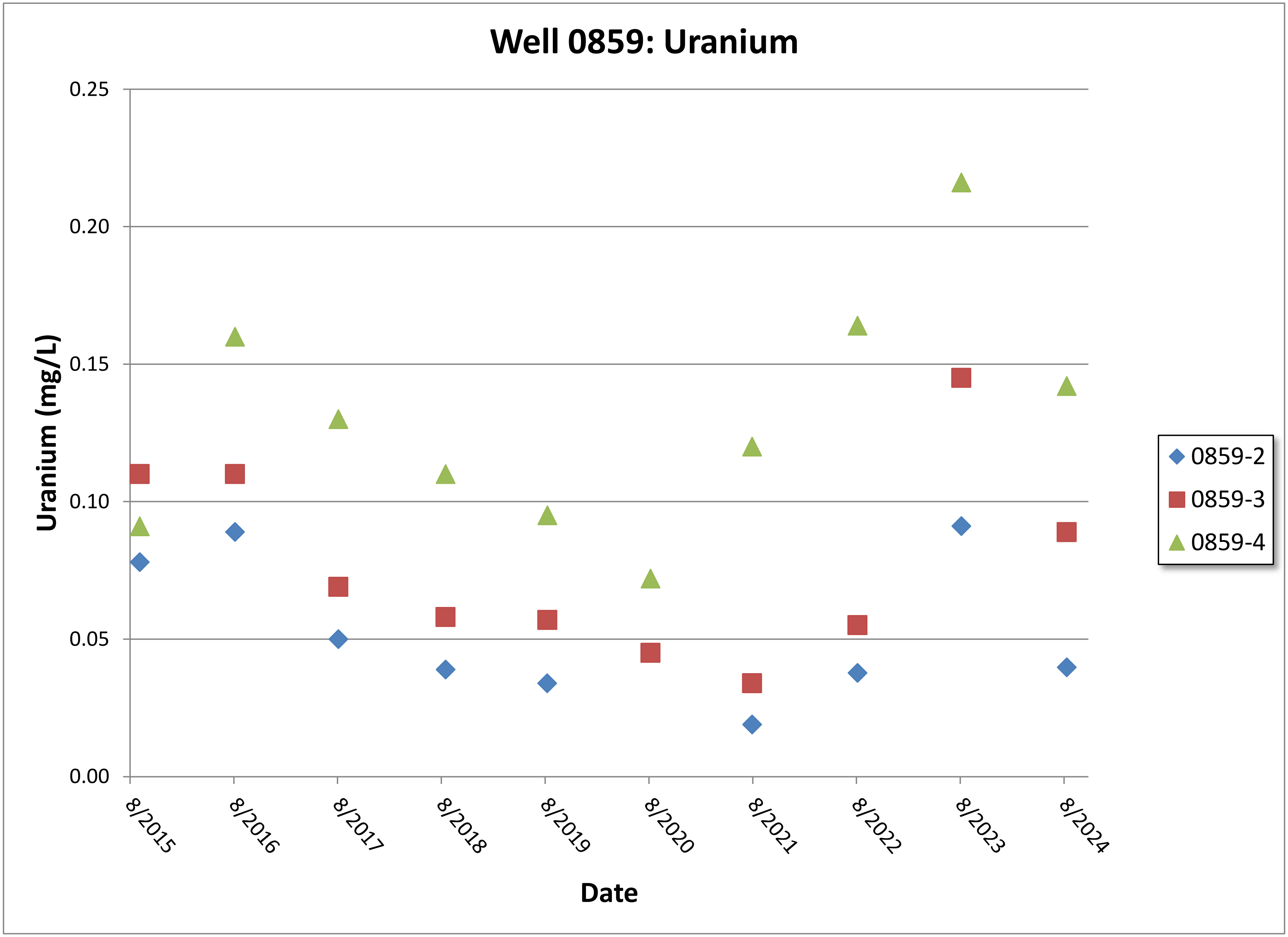


Well 0858: Molybdenum
Molybdenum (mg/L)
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
8/2015
8/2016
8/2017
8/2018
8/2019
8/2020
8/2021
8/2022
8/2023
8/2024
Date
0858-2
0858-3
0858-4

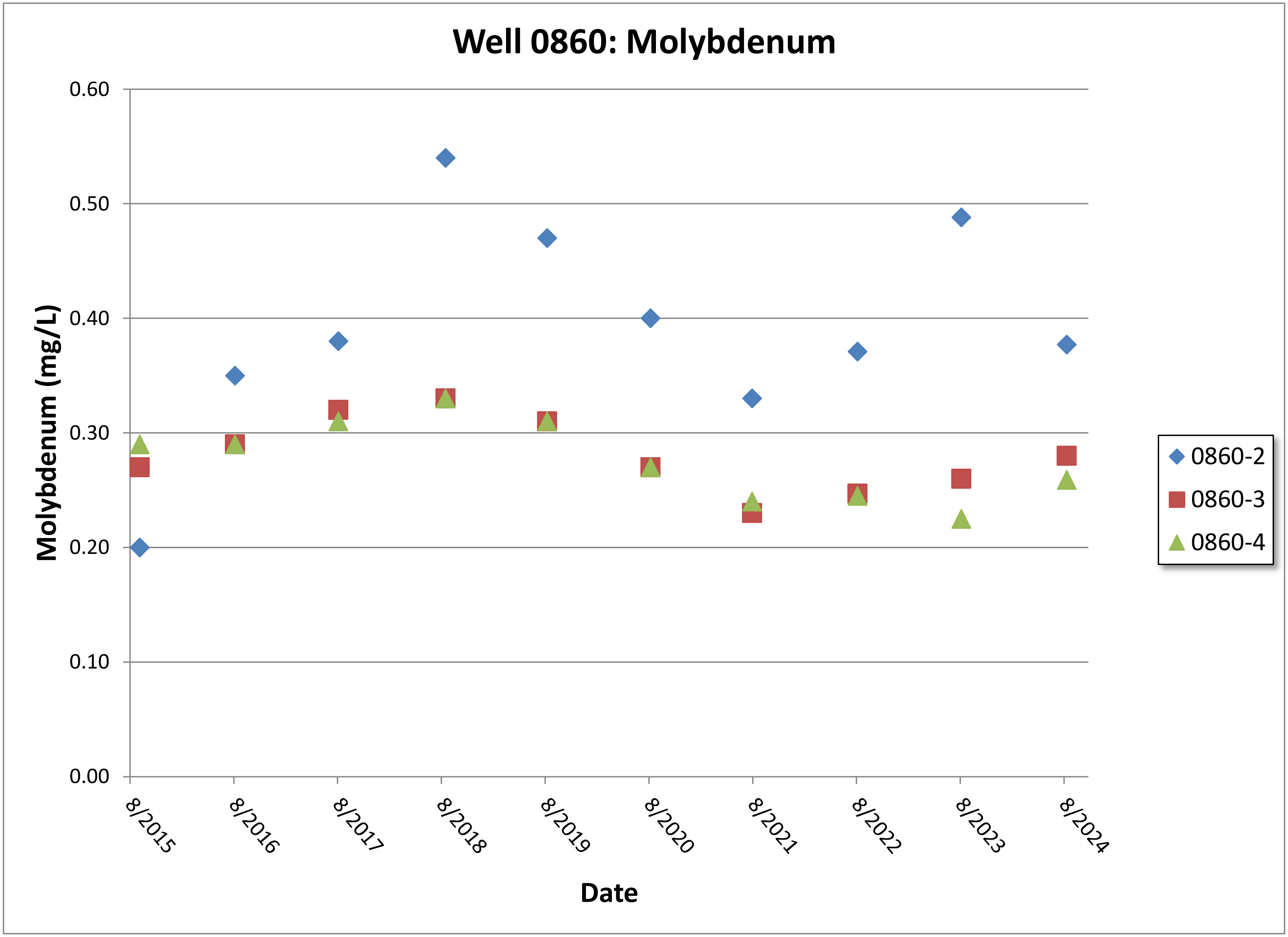


Well 0858: Uranium
Uranium (mg/L)
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
8/2015
8/2016
8/2017
8/2018
8/2019
8/2020
8/2021
8/2022
8/2023
8/2024
Date
0858-2
0858-3
0858-4

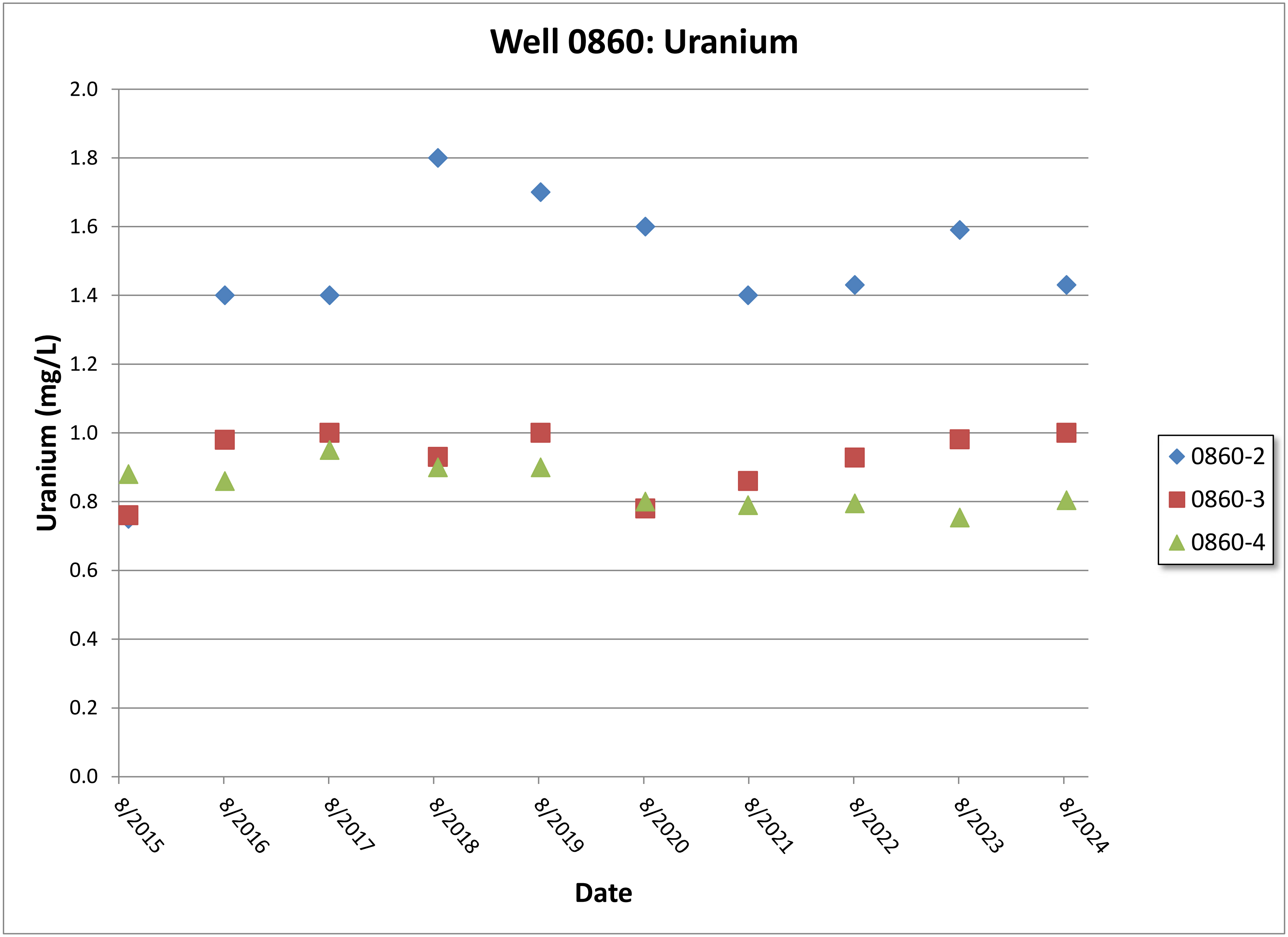

Well 0859: Molybdenum
Molybdenum (mg/L)
0.12
0.10
0.08
0.06
0.04
0.02
0.00
8/2015
8/2016
8/2017
8/2018
8/2019
8/2020
8/2021
8/2022
8/2023
8/2024
Date
0859-2
0859-3
0859-4



Well 0859: Uranium
Uranium (mg/L)
0.25
0.20
0.15
0.10
0.05
0.00
8/2015
8/2016
8/2017
8/2018
8/2019
8/2020
8/2021
8/2022
8/2023
8/2024
Date
0859-2
0859-3
0859-4



Well 0860: Molybdenum
0.60
0.50
0.40
0.30
0.20
0.10
0.00
Molybdenum (mg/L)
8/2015
8/2016
8/2017
8/2018
8/2019
8/2020
8/2021
8/2022
8/2023
8/2024
Date
0860-2
0860-3
0860-4


Well 0860: Uranium
Uranium (mg/L)
2.0
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
8/2015
8/2016
8/2017
8/2018
8/2019
8/2020
8/2021
8/2022
8/2023
8/2024
Date
0860-2
0860-3
0860-4

Appendix D

Multilevel Monitoring Well Graphs

GROUNDWATER QUALITY DATA BY PARAMETER WITH DEPTH (EQuIS200) FOR SITE RVT01, Riverton Processing Site

REPORT DATE: 1/31/2025 9:29:54 AM

PARAMETER	LOCATION CODE/TYPE		SAMPLE DATE	SAMPLE TYPE	DEPTH RANGE (FT BLS)		RESULT	UNITS	QUALIFIERS LAB/DATA		QA	DETECTION LIMIT	UNCERTAINTY
Alkalinity, Total (As CaCO3)													
Alkalinity, Total (As CaCO3)	0101	WL	8/21/2024	(N)F			288	mg/L		F	#	-	-
Alkalinity, Total (As CaCO3)	0705	WL	8/20/2024	(N)F			64	mg/L		FQ	#	-	-
Alkalinity, Total (As CaCO3)	0707	WL	8/20/2024	(N)F			356	mg/L		F	#	-	-
Alkalinity, Total (As CaCO3)	0710	WL	8/20/2024	(N)F			178	mg/L		F	#	-	-
Alkalinity, Total (As CaCO3)	0716	WL	8/21/2024	(N)F			303	mg/L		F	#	-	-
Alkalinity, Total (As CaCO3)	0717	WL	8/21/2024	(N)F			222	mg/L		F	#	-	-
Alkalinity, Total (As CaCO3)	0718	WL	8/21/2024	(N)F			361	mg/L		F	#	-	-
Alkalinity, Total (As CaCO3)	0719	WL	8/21/2024	(N)F			103	mg/L		FQ	#	-	-
Alkalinity, Total (As CaCO3)	0720	WL	8/21/2024	(N)F			251	mg/L		F	#	-	-
Alkalinity, Total (As CaCO3)	0721	WL	8/21/2024	(N)F			93	mg/L		F	#	-	-
Alkalinity, Total (As CaCO3)	0722R	WL	8/21/2024	(N)F			236	mg/L		F	#	-	-
Alkalinity, Total (As CaCO3)	0723	WL	8/21/2024	(N)F			291	mg/L		F	#	-	-
Alkalinity, Total (As CaCO3)	0727	WL	8/21/2024	(N)F			172	mg/L		F	#	-	-
Alkalinity, Total (As CaCO3)	0729	WL	8/21/2024	(N)F			273	mg/L		F	#	-	-
Alkalinity, Total (As CaCO3)	0730	WL	8/21/2024	(N)F			301	mg/L		F	#	-	-
Alkalinity, Total (As CaCO3)	0732	WL	8/21/2024	(N)F			214	mg/L		F	#	-	-
Alkalinity, Total (As CaCO3)	0784	WL	8/21/2024	(N)F			170	mg/L		F	#	-	-

PARAMETER	LOCATION CODE/TYPE		SAMPLE DATE	SAMPLE TYPE	DEPTH RANGE (FT BLS)		RESULT	UNITS	QUALIFIERS LAB/DATA		QA	DETECTION LIMIT	UNCERTAINTY
Alkalinity, Total (As CaCO3)	0788	WL	8/21/2024	(N)F			442	mg/L		F	#	-	-
Alkalinity, Total (As CaCO3)	0789	WL	8/20/2024	(N)F			370	mg/L		F	#	-	-
Alkalinity, Total (As CaCO3)	0824	WL	8/20/2024	(N)F			394	mg/L		F	#	-	-
Alkalinity, Total (As CaCO3)	0826	WL	8/21/2024	(N)F			441	mg/L		F	#	-	-
Alkalinity, Total (As CaCO3)	0852-2	WL	8/21/2024	(N)F			480	mg/L		F	#	-	-
Alkalinity, Total (As CaCO3)	0852-3	WL	8/21/2024	(N)F			470	mg/L		F	#	-	-
Alkalinity, Total (As CaCO3)	0852-4	WL	8/21/2024	(N)F			424	mg/L		F	#	-	-
Alkalinity, Total (As CaCO3)	0853-2	WL	8/21/2024	(N)F			417	mg/L		F	#	-	-
Alkalinity, Total (As CaCO3)	0853-3	WL	8/21/2024	(N)F			395	mg/L		F	#	-	-
Alkalinity, Total (As CaCO3)	0853-4	WL	8/21/2024	(N)F			388	mg/L		F	#	-	-
Alkalinity, Total (As CaCO3)	0854-2	WL	8/21/2024	(N)F			440	mg/L		F	#	-	-
Alkalinity, Total (As CaCO3)	0854-3	WL	8/21/2024	(N)F			443	mg/L		F	#	-	-
Alkalinity, Total (As CaCO3)	0854-4	WL	8/21/2024	(N)F			429	mg/L		F	#	-	-
Alkalinity, Total (As CaCO3)	0855-2	WL	8/20/2024	(N)F			441	mg/L		F	#	-	-
Alkalinity, Total (As CaCO3)	0855-3	WL	8/20/2024	(N)F			437	mg/L		F	#	-	-
Alkalinity, Total (As CaCO3)	0855-4	WL	8/20/2024	(N)F			427	mg/L		F	#	-	-
Alkalinity, Total (As CaCO3)	0856-2	WL	8/20/2024	(N)F			357	mg/L		F	#	-	-
Alkalinity, Total (As CaCO3)	0856-3	WL	8/20/2024	(N)F			360	mg/L		F	#	-	-

PARAMETER	LOCATION CODE/TYPE		SAMPLE DATE	SAMPLE TYPE	DEPTH RANGE (FT BLS)		RESULT	UNITS	QUALIFIERS LAB/DATA		QA	DETECTION LIMIT	UNCERTAINTY
Alkalinity, Total (As CaCO3)	0856-4	WL	8/20/2024	(N)F			354	mg/L		F	#	-	-
Alkalinity, Total (As CaCO3)	0857-2	WL	8/20/2024	(N)F			328	mg/L		F	#	-	-
Alkalinity, Total (As CaCO3)	0857-3	WL	8/20/2024	(N)F			327	mg/L		F	#	-	-
Alkalinity, Total (As CaCO3)	0857-4	WL	8/20/2024	(N)F			329	mg/L		F	#	-	-
Alkalinity, Total (As CaCO3)	0858-2	WL	8/20/2024	(N)F			363	mg/L		F	#	-	-
Alkalinity, Total (As CaCO3)	0858-3	WL	8/20/2024	(N)F			356	mg/L		F	#	-	-
Alkalinity, Total (As CaCO3)	0858-4	WL	8/20/2024	(N)F			368	mg/L		F	#	-	-
Alkalinity, Total (As CaCO3)	0859-2	WL	8/21/2024	(N)F			247	mg/L		F	#	-	-
Alkalinity, Total (As CaCO3)	0859-3	WL	8/21/2024	(N)F			265	mg/L		F	#	-	-
Alkalinity, Total (As CaCO3)	0859-4	WL	8/21/2024	(N)F			347	mg/L		F	#	-	-
Alkalinity, Total (As CaCO3)	0860-2	WL	8/21/2024	(N)F			273	mg/L		F	#	-	-
Alkalinity, Total (As CaCO3)	0860-3	WL	8/21/2024	(N)F			278	mg/L		F	#	-	-
Alkalinity, Total (As CaCO3)	0860-4	WL	8/21/2024	(N)F			281	mg/L		F	#	-	-
Manganese													
Manganese	0101	WL	8/21/2024	(T)F			0.263	mg/L		F	#	0.002	-
Manganese	0705	WL	8/20/2024	(T)F			0.002	mg/L	U	FQ	#	0.002	-
Manganese	0707	WL	8/20/2024	(T)F			0.859	mg/L		F	#	0.002	-
Manganese	0710	WL	8/20/2024	(T)F			0.054	mg/L		F	#	0.002	-
Manganese	0716	WL	8/21/2024	(T)F			0.184	mg/L		F	#	0.002	-
Manganese	0717	WL	8/21/2024	(T)F			0.156	mg/L		F	#	0.002	-

PARAMETER	LOCATION CODE/TYPE		SAMPLE DATE	SAMPLE TYPE	DEPTH RANGE (FT BLS)		RESULT	UNITS	QUALIFIERS LAB/DATA		QA	DETECTION LIMIT	UNCERTAINTY
Manganese	0718	WL	8/21/2024	(T)F			1.83	mg/L		F	#	0.002	-
Manganese	0719	WL	8/21/2024	(T)F			0.118	mg/L		FQ	#	0.002	-
Manganese	0720	WL	8/21/2024	(T)F			0.002	mg/L	U	F	#	0.002	-
Manganese	0721	WL	8/21/2024	(T)F			0.00292	mg/L	B	F	#	0.002	-
Manganese	0722R	WL	8/21/2024	(T)F			0.002	mg/L	U	F	#	0.002	-
Manganese	0723	WL	8/21/2024	(T)F			0.347	mg/L		F	#	0.002	-
Manganese	0727	WL	8/21/2024	(T)F			0.071	mg/L		F	#	0.002	-
Manganese	0729	WL	8/21/2024	(T)F			0.296	mg/L		F	#	0.002	-
Manganese	0730	WL	8/21/2024	(T)F			0.0361	mg/L		F	#	0.002	-
Manganese	0732	WL	8/21/2024	(T)F			0.0211	mg/L		F	#	0.002	-
Manganese	0784	WL	8/21/2024	(T)F			0.553	mg/L		F	#	0.002	-
Manganese	0788	WL	8/21/2024	(T)F			0.721	mg/L		F	#	0.002	-
Manganese	0789	WL	8/20/2024	(T)D			0.246	mg/L		FJ	#	0.01	-
Manganese	0789	WL	8/20/2024	(T)F			0.464	mg/L		FJ	#	0.002	-
Manganese	0824	WL	8/20/2024	(T)F			0.0484	mg/L		F	#	0.002	-
Manganese	0826	WL	8/21/2024	(T)F			1.29	mg/L		F	#	0.002	-
Manganese	0852-2	WL	8/21/2024	(T)F			1.41	mg/L		F	#	0.002	-
Manganese	0852-3	WL	8/21/2024	(T)F			1.25	mg/L		F	#	0.01	-
Manganese	0852-4	WL	8/21/2024	(T)D			1.49	mg/L		F	#	0.01	-
Manganese	0852-4	WL	8/21/2024	(T)F			1.38	mg/L		F	#	0.01	-
Manganese	0853-2	WL	8/21/2024	(T)F			0.47	mg/L		F	#	0.002	-
Manganese	0853-3	WL	8/21/2024	(T)F			1.03	mg/L		F	#	0.002	-
Manganese	0853-4	WL	8/21/2024	(T)F			0.941	mg/L		F	#	0.002	-
Manganese	0854-2	WL	8/21/2024	(T)F			0.994	mg/L		F	#	0.002	-
Manganese	0854-3	WL	8/21/2024	(T)F			1.08	mg/L		F	#	0.002	-

GROUNDWATER QUALITY DATA BY PARAMETER WITH DEPTH (EQuIS200) FOR SITE RVT01, Riverton Processing Site

REPORT DATE: 1/31/2025 9:29:55 AM

PARAMETER	LOCATION CODE/TYPE		SAMPLE DATE	SAMPLE TYPE	DEPTH RANGE (FT BLS)		RESULT	UNITS	QUALIFIERS LAB/DATA		QA	DETECTION LIMIT	UNCERTAINTY
Manganese	0854-4	WL	8/21/2024	(T)F			1.78	mg/L		F	#	0.002	-
Manganese	0855-2	WL	8/20/2024	(T)F			0.381	mg/L		F	#	0.002	-
Manganese	0855-3	WL	8/20/2024	(T)F			0.864	mg/L		F	#	0.002	-
Manganese	0855-4	WL	8/20/2024	(T)F			1.65	mg/L		F	#	0.002	-
Manganese	0856-2	WL	8/20/2024	(T)F			0.144	mg/L		F	#	0.002	-
Manganese	0856-3	WL	8/20/2024	(T)F			0.232	mg/L		F	#	0.002	-
Manganese	0856-4	WL	8/20/2024	(T)F			1.01	mg/L		F	#	0.002	-
Manganese	0857-2	WL	8/20/2024	(T)F			2.1	mg/L		F	#	0.002	-
Manganese	0857-3	WL	8/20/2024	(T)F			2.1	mg/L		F	#	0.002	-
Manganese	0857-4	WL	8/20/2024	(T)F			2.58	mg/L		F	#	0.002	-
Manganese	0858-2	WL	8/20/2024	(T)F			0.458	mg/L		F	#	0.002	-
Manganese	0858-3	WL	8/20/2024	(T)F			0.592	mg/L		F	#	0.002	-
Manganese	0858-4	WL	8/20/2024	(T)F			0.777	mg/L		F	#	0.002	-
Manganese	0859-2	WL	8/21/2024	(T)F			1.04	mg/L		F	#	0.002	-
Manganese	0859-3	WL	8/21/2024	(T)F			2.03	mg/L		F	#	0.002	-
Manganese	0859-4	WL	8/21/2024	(T)F			1.52	mg/L		F	#	0.002	-
Manganese	0860-2	WL	8/21/2024	(T)F			0.312	mg/L		F	#	0.002	-
Manganese	0860-3	WL	8/21/2024	(T)F			1.82	mg/L		F	#	0.002	-
Manganese	0860-4	WL	8/21/2024	(T)F			1.75	mg/L		F	#	0.002	-
Molybdenum													
Molybdenum	0101	WL	8/21/2024	(T)F			0.0156	mg/L		F	#	0.0002	-
Molybdenum	0705	WL	8/20/2024	(T)F			0.00407	mg/L		FQ	#	0.0002	-
Molybdenum	0707	WL	8/20/2024	(T)F			0.77	mg/L		F	#	0.0002	-
Molybdenum	0710	WL	8/20/2024	(T)F			0.00309	mg/L		F	#	0.0002	-
Molybdenum	0716	WL	8/21/2024	(T)F			0.116	mg/L		F	#	0.0002	-

GROUNDWATER QUALITY DATA BY PARAMETER WITH DEPTH (EQuIS200) FOR SITE RVT01, Riverton Processing Site

REPORT DATE: 1/31/2025 9:29:55 AM

PARAMETER	LOCATION CODE/TYPE		SAMPLE DATE	SAMPLE TYPE	DEPTH RANGE (FT BLS)		RESULT	UNITS	QUALIFIERS LAB/DATA		QA	DETECTION LIMIT	UNCERTAINTY
Molybdenum	0717	WL	8/21/2024	(T)F			0.0167	mg/L		F	#	0.0002	-
Molybdenum	0718	WL	8/21/2024	(T)F			0.0885	mg/L		F	#	0.0002	-
Molybdenum	0719	WL	8/21/2024	(T)F			0.00819	mg/L		FQ	#	0.0002	-
Molybdenum	0720	WL	8/21/2024	(T)F			0.00156	mg/L	B	F	#	0.0002	-
Molybdenum	0721	WL	8/21/2024	(T)F			0.0027	mg/L	B	F	#	0.0002	-
Molybdenum	0722R	WL	8/21/2024	(T)F			0.0752	mg/L		F	#	0.0002	-
Molybdenum	0723	WL	8/21/2024	(T)F			0.0002	mg/L	U	F	#	0.0002	-
Molybdenum	0727	WL	8/21/2024	(T)F			0.00486	mg/L		F	#	0.0002	-
Molybdenum	0729	WL	8/21/2024	(T)F			0.0034	mg/L		F	#	0.0002	-
Molybdenum	0730	WL	8/21/2024	(T)F			0.00588	mg/L		F	#	0.0002	-
Molybdenum	0732	WL	8/21/2024	(T)F			0.0216	mg/L		F	#	0.0002	-
Molybdenum	0784	WL	8/21/2024	(T)F			0.0402	mg/L		F	#	0.0002	-
Molybdenum	0788	WL	8/21/2024	(T)F			0.0319	mg/L		F	#	0.0002	-
Molybdenum	0789	WL	8/20/2024	(T)D			0.623	mg/L		F	#	0.0002	-
Molybdenum	0789	WL	8/20/2024	(T)F			0.561	mg/L		F	#	0.001	-
Molybdenum	0824	WL	8/20/2024	(T)F			0.00847	mg/L		F	#	0.0002	-
Molybdenum	0826	WL	8/21/2024	(T)F			0.0247	mg/L		F	#	0.0002	-
Molybdenum	0852-2	WL	8/21/2024	(T)F			0.0132	mg/L		F	#	0.0002	-
Molybdenum	0852-3	WL	8/21/2024	(T)F			0.0149	mg/L		F	#	0.0002	-
Molybdenum	0852-4	WL	8/21/2024	(T)D			0.0152	mg/L		F	#	0.0002	-
Molybdenum	0852-4	WL	8/21/2024	(T)F			0.0151	mg/L		F	#	0.0002	-
Molybdenum	0853-2	WL	8/21/2024	(T)F			0.0272	mg/L		F	#	0.0002	-
Molybdenum	0853-3	WL	8/21/2024	(T)F			0.0197	mg/L		F	#	0.0002	-
Molybdenum	0853-4	WL	8/21/2024	(T)F			0.0211	mg/L		F	#	0.0002	-
Molybdenum	0854-2	WL	8/21/2024	(T)F			0.0348	mg/L		F	#	0.0002	-

PARAMETER	LOCATION CODE/TYPE		SAMPLE DATE	SAMPLE TYPE	DEPTH RANGE (FT BLS)		RESULT	UNITS	QUALIFIERS LAB/DATA		QA	DETECTION LIMIT	UNCERTAINTY
Molybdenum	0854-3	WL	8/21/2024	(T)F			0.0341	mg/L		F	#	0.0002	-
Molybdenum	0854-4	WL	8/21/2024	(T)F			0.0398	mg/L		F	#	0.0002	-
Molybdenum	0855-2	WL	8/20/2024	(T)F			0.32	mg/L		F	#	0.0002	-
Molybdenum	0855-3	WL	8/20/2024	(T)F			0.328	mg/L		F	#	0.0002	-
Molybdenum	0855-4	WL	8/20/2024	(T)F			0.338	mg/L		F	#	0.0002	-
Molybdenum	0856-2	WL	8/20/2024	(T)F			0.4	mg/L		F	#	0.0002	-
Molybdenum	0856-3	WL	8/20/2024	(T)F			0.372	mg/L		F	#	0.0002	-
Molybdenum	0856-4	WL	8/20/2024	(T)F			0.355	mg/L		F	#	0.0002	-
Molybdenum	0857-2	WL	8/20/2024	(T)F			0.617	mg/L		F	#	0.0002	-
Molybdenum	0857-3	WL	8/20/2024	(T)F			0.633	mg/L		F	#	0.0002	-
Molybdenum	0857-4	WL	8/20/2024	(T)F			0.641	mg/L		F	#	0.0002	-
Molybdenum	0858-2	WL	8/20/2024	(T)F			0.799	mg/L		F	#	0.0002	-
Molybdenum	0858-3	WL	8/20/2024	(T)F			0.798	mg/L		F	#	0.0002	-
Molybdenum	0858-4	WL	8/20/2024	(T)F			0.824	mg/L		F	#	0.0002	-
Molybdenum	0859-2	WL	8/21/2024	(T)F			0.0558	mg/L		F	#	0.0002	-
Molybdenum	0859-3	WL	8/21/2024	(T)F			0.0626	mg/L		F	#	0.0002	-
Molybdenum	0859-4	WL	8/21/2024	(T)F			0.0693	mg/L		F	#	0.001	-
Molybdenum	0860-2	WL	8/21/2024	(T)F			0.377	mg/L		F	#	0.001	-
Molybdenum	0860-3	WL	8/21/2024	(T)F			0.28	mg/L		F	#	0.0002	-
Molybdenum	0860-4	WL	8/21/2024	(T)F			0.259	mg/L		F	#	0.0002	-
pH													
pH	0101	WL	8/21/2024	(N)F			7.36	s.u.		F	#	-	-
pH	0705	WL	8/20/2024	(N)F			8.29	s.u.		FQ	#	-	-
pH	0707	WL	8/20/2024	(N)F			7.18	s.u.		F	#	-	-
pH	0710	WL	8/20/2024	(N)F			7.37	s.u.		F	#	-	-

GROUNDWATER QUALITY DATA BY PARAMETER WITH DEPTH (EQuIS200) FOR SITE RVT01, Riverton Processing Site

REPORT DATE: 1/31/2025 9:29:56 AM

PARAMETER	LOCATION CODE/TYPE		SAMPLE DATE	SAMPLE TYPE	DEPTH RANGE (FT BLS)		RESULT	UNITS	QUALIFIERS LAB/DATA		QA	DETECTION LIMIT	UNCERTAINTY
pH	0716	WL	8/21/2024	(N)F			7.17	s.u.		F	#	-	-
pH	0717	WL	8/21/2024	(N)F			7.86	s.u.		F	#	-	-
pH	0718	WL	8/21/2024	(N)F			7.22	s.u.		F	#	-	-
pH	0719	WL	8/21/2024	(N)F			7.78	s.u.		FQ	#	-	-
pH	0720	WL	8/21/2024	(N)F			7.35	s.u.		F	#	-	-
pH	0721	WL	8/21/2024	(N)F			9.03	s.u.		F	#	-	-
pH	0722R	WL	8/21/2024	(N)F			7.23	s.u.		F	#	-	-
pH	0723	WL	8/21/2024	(N)F			7.33	s.u.		F	#	-	-
pH	0727	WL	8/21/2024	(N)F			7.82	s.u.		F	#	-	-
pH	0729	WL	8/21/2024	(N)F			7.29	s.u.		F	#	-	-
pH	0730	WL	8/21/2024	(N)F			7.58	s.u.		F	#	-	-
pH	0732	WL	8/21/2024	(N)F			7.28	s.u.		F	#	-	-
pH	0784	WL	8/21/2024	(N)F			7.56	s.u.		F	#	-	-
pH	0788	WL	8/21/2024	(N)F			7.33	s.u.		F	#	-	-
pH	0789	WL	8/20/2024	(N)F			7.23	s.u.		F	#	-	-
pH	0824	WL	8/20/2024	(N)F			7.22	s.u.		F	#	-	-
pH	0826	WL	8/21/2024	(N)F			7.38	s.u.		F	#	-	-
pH	0852-2	WL	8/21/2024	(N)F			7.42	s.u.		F	#	-	-
pH	0852-3	WL	8/21/2024	(N)F			7.43	s.u.		F	#	-	-
pH	0852-4	WL	8/21/2024	(N)F			7.46	s.u.		F	#	-	-
pH	0853-2	WL	8/21/2024	(N)F			7.32	s.u.		F	#	-	-
pH	0853-3	WL	8/21/2024	(N)F			7.34	s.u.		F	#	-	-
pH	0853-4	WL	8/21/2024	(N)F			7.37	s.u.		F	#	-	-
pH	0854-2	WL	8/21/2024	(N)F			7.43	s.u.		F	#	-	-
pH	0854-3	WL	8/21/2024	(N)F			7.41	s.u.		F	#	-	-

PARAMETER	LOCATION CODE/TYPE		SAMPLE DATE	SAMPLE TYPE	DEPTH RANGE (FT BLS)		RESULT	UNITS	QUALIFIERS LAB/DATA		QA	DETECTION LIMIT	UNCERTAINTY
pH	0854-4	WL	8/21/2024	(N)F			7.4	s.u.		F	#	-	-
pH	0855-2	WL	8/20/2024	(N)F			7.24	s.u.		F	#	-	-
pH	0855-3	WL	8/20/2024	(N)F			7.18	s.u.		F	#	-	-
pH	0855-4	WL	8/20/2024	(N)F			7.21	s.u.		F	#	-	-
pH	0856-2	WL	8/20/2024	(N)F			7.22	s.u.		F	#	-	-
pH	0856-3	WL	8/20/2024	(N)F			7.21	s.u.		F	#	-	-
pH	0856-4	WL	8/20/2024	(N)F			7.22	s.u.		F	#	-	-
pH	0857-2	WL	8/20/2024	(N)F			7.1	s.u.		F	#	-	-
pH	0857-3	WL	8/20/2024	(N)F			7.1	s.u.		F	#	-	-
pH	0857-4	WL	8/20/2024	(N)F			7.11	s.u.		F	#	-	-
pH	0858-2	WL	8/20/2024	(N)F			7.18	s.u.		F	#	-	-
pH	0858-3	WL	8/20/2024	(N)F			7.16	s.u.		F	#	-	-
pH	0858-4	WL	8/20/2024	(N)F			7.18	s.u.		F	#	-	-
pH	0859-2	WL	8/21/2024	(N)F			7.01	s.u.		F	#	-	-
pH	0859-3	WL	8/21/2024	(N)F			6.94	s.u.		F	#	-	-
pH	0859-4	WL	8/21/2024	(N)F			6.89	s.u.		F	#	-	-
pH	0860-2	WL	8/21/2024	(N)F			7.02	s.u.		F	#	-	-
pH	0860-3	WL	8/21/2024	(N)F			6.96	s.u.		F	#	-	-
pH	0860-4	WL	8/21/2024	(N)F			6.98	s.u.		F	#	-	-
Specific Conductance													
Specific Conductance	0101	WL	8/21/2024	(N)F			1321	umhos/cm		F	#	-	-
Specific Conductance	0705	WL	8/20/2024	(N)F			1245	umhos/cm		FQ	#	-	-
Specific Conductance	0707	WL	8/20/2024	(N)F			4321	umhos/cm		F	#	-	-
Specific Conductance	0710	WL	8/20/2024	(N)F			619	umhos/cm		F	#	-	-
Specific Conductance	0716	WL	8/21/2024	(N)F			1698	umhos/cm		F	#	-	-

PARAMETER	LOCATION CODE/TYPE		SAMPLE DATE	SAMPLE TYPE	DEPTH RANGE (FT BLS)		RESULT	UNITS	QUALIFIERS LAB/DATA		QA	DETECTION LIMIT	UNCERTAINTY
Specific Conductance	0717	WL	8/21/2024	(N)F			1891	umhos/cm		F	#	-	-
Specific Conductance	0718	WL	8/21/2024	(N)F			4831	umhos/cm		F	#	-	-
Specific Conductance	0719	WL	8/21/2024	(N)F			1469	umhos/cm		FQ	#	-	-
Specific Conductance	0720	WL	8/21/2024	(N)F			606	umhos/cm		F	#	-	-
Specific Conductance	0721	WL	8/21/2024	(N)F			869	umhos/cm		F	#	-	-
Specific Conductance	0722R	WL	8/21/2024	(N)F			736	umhos/cm		F	#	-	-
Specific Conductance	0723	WL	8/21/2024	(N)F			3704	umhos/cm		F	#	-	-
Specific Conductance	0727	WL	8/21/2024	(N)F			567	umhos/cm		F	#	-	-
Specific Conductance	0729	WL	8/21/2024	(N)F			775	umhos/cm		F	#	-	-
Specific Conductance	0730	WL	8/21/2024	(N)F			808	umhos/cm		F	#	-	-
Specific Conductance	0732	WL	8/21/2024	(N)F			2770	umhos/cm		F	#	-	-
Specific Conductance	0784	WL	8/21/2024	(N)F			2590	umhos/cm		F	#	-	-
Specific Conductance	0788	WL	8/21/2024	(N)F			3244	umhos/cm		F	#	-	-
Specific Conductance	0789	WL	8/20/2024	(N)F			7589	umhos/cm		F	#	-	-
Specific Conductance	0824	WL	8/20/2024	(N)F			942	umhos/cm		F	#	-	-
Specific Conductance	0826	WL	8/21/2024	(N)F			2447	umhos/cm		F	#	-	-
Specific Conductance	0852-2	WL	8/21/2024	(N)F			2802	umhos/cm		F	#	-	-
Specific Conductance	0852-3	WL	8/21/2024	(N)F			2704	umhos/cm		F	#	-	-
Specific Conductance	0852-4	WL	8/21/2024	(N)F			2626	umhos/cm		F	#	-	-
Specific Conductance	0853-2	WL	8/21/2024	(N)F			2947	umhos/cm		F	#	-	-
Specific Conductance	0853-3	WL	8/21/2024	(N)F			2807	umhos/cm		F	#	-	-
Specific Conductance	0853-4	WL	8/21/2024	(N)F			2750	umhos/cm		F	#	-	-
Specific Conductance	0854-2	WL	8/21/2024	(N)F			2441	umhos/cm		F	#	-	-
Specific Conductance	0854-3	WL	8/21/2024	(N)F			2637	umhos/cm		F	#	-	-
Specific Conductance	0854-4	WL	8/21/2024	(N)F			2932	umhos/cm		F	#	-	-

GROUNDWATER QUALITY DATA BY PARAMETER WITH DEPTH (EQuIS200) FOR SITE RVT01, Riverton Processing Site

REPORT DATE: 1/31/2025 9:29:57 AM

PARAMETER	LOCATION CODE/TYPE		SAMPLE DATE	SAMPLE TYPE	DEPTH RANGE (FT BLS)		RESULT	UNITS	QUALIFIERS LAB/DATA		QA	DETECTION LIMIT	UNCERTAINTY
Specific Conductance	0855-2	WL	8/20/2024	(N)F			9360	umhos/cm		F	#	-	-
Specific Conductance	0855-3	WL	8/20/2024	(N)F			9055	umhos/cm		F	#	-	-
Specific Conductance	0855-4	WL	8/20/2024	(N)F			8514	umhos/cm		F	#	-	-
Specific Conductance	0856-2	WL	8/20/2024	(N)F			6557	umhos/cm		F	#	-	-
Specific Conductance	0856-3	WL	8/20/2024	(N)F			6544	umhos/cm		F	#	-	-
Specific Conductance	0856-4	WL	8/20/2024	(N)F			6614	umhos/cm		F	#	-	-
Specific Conductance	0857-2	WL	8/20/2024	(N)F			6142	umhos/cm		F	#	-	-
Specific Conductance	0857-3	WL	8/20/2024	(N)F			6097	umhos/cm		F	#	-	-
Specific Conductance	0857-4	WL	8/20/2024	(N)F			6159	umhos/cm		F	#	-	-
Specific Conductance	0858-2	WL	8/20/2024	(N)F			4268	umhos/cm		F	#	-	-
Specific Conductance	0858-3	WL	8/20/2024	(N)F			4315	umhos/cm		F	#	-	-
Specific Conductance	0858-4	WL	8/20/2024	(N)F			4329	umhos/cm		F	#	-	-
Specific Conductance	0859-2	WL	8/21/2024	(N)F			3881	umhos/cm		F	#	-	-
Specific Conductance	0859-3	WL	8/21/2024	(N)F			4422	umhos/cm		F	#	-	-
Specific Conductance	0859-4	WL	8/21/2024	(N)F			4961	umhos/cm		F	#	-	-
Specific Conductance	0860-2	WL	8/21/2024	(N)F			4127	umhos/cm		F	#	-	-
Specific Conductance	0860-3	WL	8/21/2024	(N)F			3953	umhos/cm		F	#	-	-
Specific Conductance	0860-4	WL	8/21/2024	(N)F			3952	umhos/cm		F	#	-	-
Sulfate													
Sulfate	0101	WL	8/21/2024	(N)F			364	mg/L		F	#	13.3	-
Sulfate	0705	WL	8/20/2024	(N)F			410	mg/L		FQ	#	13.3	-
Sulfate	0707	WL	8/20/2024	(N)F			2060	mg/L		F	#	26.6	-
Sulfate	0710	WL	8/20/2024	(N)F			122	mg/L		F	#	13.3	-
Sulfate	0716	WL	8/21/2024	(N)F			567	mg/L		F	#	13.3	-
Sulfate	0717	WL	8/21/2024	(N)F			665	mg/L		F	#	13.3	-

GROUNDWATER QUALITY DATA BY PARAMETER WITH DEPTH (EQuIS200) FOR SITE RVT01, Riverton Processing Site

REPORT DATE: 1/31/2025 9:29:57 AM

PARAMETER	LOCATION CODE/TYPE		SAMPLE DATE	SAMPLE TYPE	DEPTH RANGE (FT BLS)		RESULT	UNITS	QUALIFIERS LAB/DATA		QA	DETECTION LIMIT	UNCERTAINTY
Sulfate	0718	WL	8/21/2024	(N)F			2340	mg/L		F	#	26.6	-
Sulfate	0719	WL	8/21/2024	(N)F			496	mg/L		FQ	#	13.3	-
Sulfate	0720	WL	8/21/2024	(N)F			86.7	mg/L		F	#	13.3	-
Sulfate	0721	WL	8/21/2024	(N)F			261	mg/L		F	#	13.3	-
Sulfate	0722R	WL	8/21/2024	(N)F			144	mg/L		F	#	13.3	-
Sulfate	0723	WL	8/21/2024	(N)F			1730	mg/L		F	#	13.3	-
Sulfate	0727	WL	8/21/2024	(N)F			107	mg/L		F	#	13.3	-
Sulfate	0729	WL	8/21/2024	(N)F			108	mg/L		F	#	13.3	-
Sulfate	0730	WL	8/21/2024	(N)F			119	mg/L		F	#	13.3	-
Sulfate	0732	WL	8/21/2024	(N)F			1390	mg/L		F	#	13.3	-
Sulfate	0784	WL	8/21/2024	(N)F			1180	mg/L		F	#	13.3	-
Sulfate	0788	WL	8/21/2024	(N)F			1320	mg/L		F	#	13.3	-
Sulfate	0789	WL	8/20/2024	(N)D			4180	mg/L		F	#	33.3	-
Sulfate	0789	WL	8/20/2024	(N)F			3930	mg/L		F	#	133	-
Sulfate	0824	WL	8/20/2024	(N)F			127	mg/L		F	#	13.3	-
Sulfate	0826	WL	8/21/2024	(N)F			821	mg/L		F	#	13.3	-
Sulfate	0852-2	WL	8/21/2024	(N)F			902	mg/L		F	#	13.3	-
Sulfate	0852-3	WL	8/21/2024	(N)F			843	mg/L		F	#	13.3	-
Sulfate	0852-4	WL	8/21/2024	(N)D			812	mg/L		F	#	13.3	-
Sulfate	0852-4	WL	8/21/2024	(N)F			814	mg/L		F	#	13.3	-
Sulfate	0853-2	WL	8/21/2024	(N)F			1140	mg/L		F	#	13.3	-
Sulfate	0853-3	WL	8/21/2024	(N)F			1130	mg/L		F	#	13.3	-
Sulfate	0853-4	WL	8/21/2024	(N)F			1120	mg/L		F	#	13.3	-
Sulfate	0854-2	WL	8/21/2024	(N)F			778	mg/L		F	#	13.3	-
Sulfate	0854-3	WL	8/21/2024	(N)F			885	mg/L		F	#	13.3	-

PARAMETER	LOCATION CODE/TYPE		SAMPLE DATE	SAMPLE TYPE	DEPTH RANGE (FT BLS)		RESULT	UNITS	QUALIFIERS LAB/DATA		QA	DETECTION LIMIT	UNCERTAINTY
Sulfate	0854-4	WL	8/21/2024	(N)F			1100	mg/L		F	#	13.3	-
Sulfate	0855-2	WL	8/20/2024	(N)F			5360	mg/L		F	#	66.5	-
Sulfate	0855-3	WL	8/20/2024	(N)F			5060	mg/L		F	#	66.5	-
Sulfate	0855-4	WL	8/20/2024	(N)F			4850	mg/L		F	#	66.5	-
Sulfate	0856-2	WL	8/20/2024	(N)F			3610	mg/L		F	#	33.3	-
Sulfate	0856-3	WL	8/20/2024	(N)F			3440	mg/L		F	#	33.3	-
Sulfate	0856-4	WL	8/20/2024	(N)F			3420	mg/L		F	#	33.3	-
Sulfate	0857-2	WL	8/20/2024	(N)F			3230	mg/L		F	#	33.3	-
Sulfate	0857-3	WL	8/20/2024	(N)F			3200	mg/L		F	#	33.3	-
Sulfate	0857-4	WL	8/20/2024	(N)F			3250	mg/L		F	#	33.3	-
Sulfate	0858-2	WL	8/20/2024	(N)F			2040	mg/L		F	#	26.6	-
Sulfate	0858-3	WL	8/20/2024	(N)F			2070	mg/L		F	#	26.6	-
Sulfate	0858-4	WL	8/20/2024	(N)F			2070	mg/L		F	#	26.6	-
Sulfate	0859-2	WL	8/21/2024	(N)F			1990	mg/L		F	#	13.3	-
Sulfate	0859-3	WL	8/21/2024	(N)F			2370	mg/L		F	#	26.6	-
Sulfate	0859-4	WL	8/21/2024	(N)F			2650	mg/L		F	#	26.6	-
Sulfate	0860-2	WL	8/21/2024	(N)F			2120	mg/L		F	#	26.6	-
Sulfate	0860-3	WL	8/21/2024	(N)F			1970	mg/L		F	#	26.6	-
Sulfate	0860-4	WL	8/21/2024	(N)F			1950	mg/L		F	#	26.6	-
Temperature													
Temperature	0101	WL	8/21/2024	(N)F			15.72	C		F	#	-	-
Temperature	0705	WL	8/20/2024	(N)F			13.13	C		FQ	#	-	-
Temperature	0707	WL	8/20/2024	(N)F			12.17	C		F	#	-	-
Temperature	0710	WL	8/20/2024	(N)F			13.16	C		F	#	-	-
Temperature	0716	WL	8/21/2024	(N)F			15.29	C		F	#	-	-

GROUNDWATER QUALITY DATA BY PARAMETER WITH DEPTH (EQuIS200) FOR SITE RVT01, Riverton Processing Site

REPORT DATE: 1/31/2025 9:29:58 AM

PARAMETER	LOCATION CODE/TYPE		SAMPLE DATE	SAMPLE TYPE	DEPTH RANGE (FT BLS)		RESULT	UNITS	QUALIFIERS LAB/DATA		QA	DETECTION LIMIT	UNCERTAINTY
Temperature	0717	WL	8/21/2024	(N)F			13.59	C		F	#	-	-
Temperature	0718	WL	8/21/2024	(N)F			15	C		F	#	-	-
Temperature	0719	WL	8/21/2024	(N)F			20.15	C		FQ	#	-	-
Temperature	0720	WL	8/21/2024	(N)F			15.77	C		F	#	-	-
Temperature	0721	WL	8/21/2024	(N)F			13.86	C		F	#	-	-
Temperature	0722R	WL	8/21/2024	(N)F			18.03	C		F	#	-	-
Temperature	0723	WL	8/21/2024	(N)F			15.6	C		F	#	-	-
Temperature	0727	WL	8/21/2024	(N)F			19.95	C		F	#	-	-
Temperature	0729	WL	8/21/2024	(N)F			16.71	C		F	#	-	-
Temperature	0730	WL	8/21/2024	(N)F			19.64	C		F	#	-	-
Temperature	0732	WL	8/21/2024	(N)F			14.27	C		F	#	-	-
Temperature	0784	WL	8/21/2024	(N)F			19.23	C		F	#	-	-
Temperature	0788	WL	8/21/2024	(N)F			14.55	C		F	#	-	-
Temperature	0789	WL	8/20/2024	(N)F			12.88	C		F	#	-	-
Temperature	0824	WL	8/20/2024	(N)F			16.6	C		F	#	-	-
Temperature	0826	WL	8/21/2024	(N)F			14.01	C		F	#	-	-
Temperature	0852-2	WL	8/21/2024	(N)F			12.72	C		F	#	-	-
Temperature	0852-3	WL	8/21/2024	(N)F			12.58	C		F	#	-	-
Temperature	0852-4	WL	8/21/2024	(N)F			11.34	C		F	#	-	-
Temperature	0853-2	WL	8/21/2024	(N)F			13.68	C		F	#	-	-
Temperature	0853-3	WL	8/21/2024	(N)F			13.03	C		F	#	-	-
Temperature	0853-4	WL	8/21/2024	(N)F			12.26	C		F	#	-	-
Temperature	0854-2	WL	8/21/2024	(N)F			13.88	C		F	#	-	-
Temperature	0854-3	WL	8/21/2024	(N)F			13.14	C		F	#	-	-
Temperature	0854-4	WL	8/21/2024	(N)F			12.65	C		F	#	-	-

GROUNDWATER QUALITY DATA BY PARAMETER WITH DEPTH (EQuIS200) FOR SITE RVT01, Riverton Processing Site

REPORT DATE: 1/31/2025 9:29:58 AM

PARAMETER	LOCATION CODE/TYPE		SAMPLE DATE	SAMPLE TYPE	DEPTH RANGE (FT BLS)		RESULT	UNITS	QUALIFIERS LAB/DATA		QA	DETECTION LIMIT	UNCERTAINTY
Temperature	0855-2	WL	8/20/2024	(N)F			14.17	C		F	#	-	-
Temperature	0855-3	WL	8/20/2024	(N)F			14.89	C		F	#	-	-
Temperature	0855-4	WL	8/20/2024	(N)F			11.82	C		F	#	-	-
Temperature	0856-2	WL	8/20/2024	(N)F			17.02	C		F	#	-	-
Temperature	0856-3	WL	8/20/2024	(N)F			15.92	C		F	#	-	-
Temperature	0856-4	WL	8/20/2024	(N)F			14.68	C		F	#	-	-
Temperature	0857-2	WL	8/20/2024	(N)F			19.58	C		F	#	-	-
Temperature	0857-3	WL	8/20/2024	(N)F			18.69	C		F	#	-	-
Temperature	0857-4	WL	8/20/2024	(N)F			17.86	C		F	#	-	-
Temperature	0858-2	WL	8/20/2024	(N)F			13.98	C		F	#	-	-
Temperature	0858-3	WL	8/20/2024	(N)F			14.4	C		F	#	-	-
Temperature	0858-4	WL	8/20/2024	(N)F			11.79	C		F	#	-	-
Temperature	0859-2	WL	8/21/2024	(N)F			19.05	C		F	#	-	-
Temperature	0859-3	WL	8/21/2024	(N)F			17.77	C		F	#	-	-
Temperature	0859-4	WL	8/21/2024	(N)F			16.69	C		F	#	-	-
Temperature	0860-2	WL	8/21/2024	(N)F			18.61	C		F	#	-	-
Temperature	0860-3	WL	8/21/2024	(N)F			17.36	C		F	#	-	-
Temperature	0860-4	WL	8/21/2024	(N)F			16.16	C		F	#	-	-
Turbidity													
Turbidity	0101	WL	8/21/2024	(N)F			3.71	NTU		F	#	-	-
Turbidity	0705	WL	8/20/2024	(N)F			3.08	NTU		FQ	#	-	-
Turbidity	0707	WL	8/20/2024	(N)F			0.14	NTU		F	#	-	-
Turbidity	0710	WL	8/20/2024	(N)F			1.35	NTU		F	#	-	-
Turbidity	0716	WL	8/21/2024	(N)F			0.6	NTU		F	#	-	-
Turbidity	0717	WL	8/21/2024	(N)F			0.55	NTU		F	#	-	-

PARAMETER	LOCATION CODE/TYPE		SAMPLE DATE	SAMPLE TYPE	DEPTH RANGE (FT BLS)		RESULT	UNITS	QUALIFIERS LAB/DATA		QA	DETECTION LIMIT	UNCERTAINTY
Turbidity	0718	WL	8/21/2024	(N)F			3.94	NTU		F	#	-	-
Turbidity	0719	WL	8/21/2024	(N)F			3.94	NTU		FQ	#	-	-
Turbidity	0720	WL	8/21/2024	(N)F			1.73	NTU		F	#	-	-
Turbidity	0721	WL	8/21/2024	(N)F			0.26	NTU		F	#	-	-
Turbidity	0722R	WL	8/21/2024	(N)F			0.48	NTU		F	#	-	-
Turbidity	0723	WL	8/21/2024	(N)F			0.61	NTU		F	#	-	-
Turbidity	0727	WL	8/21/2024	(N)F			1.44	NTU		F	#	-	-
Turbidity	0729	WL	8/21/2024	(N)F			1.35	NTU		F	#	-	-
Turbidity	0730	WL	8/21/2024	(N)F			3.52	NTU		F	#	-	-
Turbidity	0732	WL	8/21/2024	(N)F			0.52	NTU		F	#	-	-
Turbidity	0784	WL	8/21/2024	(N)F			2.12	NTU		F	#	-	-
Turbidity	0788	WL	8/21/2024	(N)F			8.5	NTU		F	#	-	-
Turbidity	0789	WL	8/20/2024	(N)F			5.48	NTU		F	#	-	-
Turbidity	0824	WL	8/20/2024	(N)F			2.48	NTU		F	#	-	-
Turbidity	0826	WL	8/21/2024	(N)F			0.47	NTU		F	#	-	-
Turbidity	0852-2	WL	8/21/2024	(N)F			1.91	NTU		F	#	-	-
Turbidity	0852-3	WL	8/21/2024	(N)F			1.96	NTU		F	#	-	-
Turbidity	0852-4	WL	8/21/2024	(N)F			9.11	NTU		F	#	-	-
Turbidity	0853-2	WL	8/21/2024	(N)F			0.53	NTU		F	#	-	-
Turbidity	0853-3	WL	8/21/2024	(N)F			0.54	NTU		F	#	-	-
Turbidity	0853-4	WL	8/21/2024	(N)F			2.02	NTU		F	#	-	-
Turbidity	0854-2	WL	8/21/2024	(N)F			1.19	NTU		F	#	-	-
Turbidity	0854-3	WL	8/21/2024	(N)F			0.87	NTU		F	#	-	-
Turbidity	0854-4	WL	8/21/2024	(N)F			4.36	NTU		F	#	-	-
Turbidity	0855-2	WL	8/20/2024	(N)F			0.87	NTU		F	#	-	-

PARAMETER	LOCATION CODE/TYPE		SAMPLE DATE	SAMPLE TYPE	DEPTH RANGE (FT BLS)		RESULT	UNITS	QUALIFIERS LAB/DATA		QA	DETECTION LIMIT	UNCERTAINTY
Turbidity	0855-3	WL	8/20/2024	(N)F			1.65	NTU		F	#	-	-
Turbidity	0855-4	WL	8/20/2024	(N)F			1.12	NTU		F	#	-	-
Turbidity	0856-2	WL	8/20/2024	(N)F			0.92	NTU		F	#	-	-
Turbidity	0856-3	WL	8/20/2024	(N)F			0.76	NTU		F	#	-	-
Turbidity	0856-4	WL	8/20/2024	(N)F			2.1	NTU		F	#	-	-
Turbidity	0857-2	WL	8/20/2024	(N)F			1.22	NTU		F	#	-	-
Turbidity	0857-3	WL	8/20/2024	(N)F			0.57	NTU		F	#	-	-
Turbidity	0857-4	WL	8/20/2024	(N)F			4.61	NTU		F	#	-	-
Turbidity	0858-2	WL	8/20/2024	(N)F			0.56	NTU		F	#	-	-
Turbidity	0858-3	WL	8/20/2024	(N)F			0.58	NTU		F	#	-	-
Turbidity	0858-4	WL	8/20/2024	(N)F			0.37	NTU		F	#	-	-
Turbidity	0859-2	WL	8/21/2024	(N)F			0.66	NTU		F	#	-	-
Turbidity	0859-3	WL	8/21/2024	(N)F			0.66	NTU		F	#	-	-
Turbidity	0859-4	WL	8/21/2024	(N)F			0.9	NTU		F	#	-	-
Turbidity	0860-2	WL	8/21/2024	(N)F			0.68	NTU		F	#	-	-
Turbidity	0860-3	WL	8/21/2024	(N)F			0.36	NTU		F	#	-	-
Turbidity	0860-4	WL	8/21/2024	(N)F			4.58	NTU		F	#	-	-
Uranium													
Uranium	0101	WL	8/21/2024	(T)F			0.0259	mg/L		F	#	0.000067	-
Uranium	0705	WL	8/20/2024	(T)F			0.000067	mg/L	U	FQ	#	0.000067	-
Uranium	0707	WL	8/20/2024	(T)F			0.684	mg/L		F	#	0.000067	-
Uranium	0710	WL	8/20/2024	(T)F			0.0041	mg/L		F	#	0.000067	-
Uranium	0716	WL	8/21/2024	(T)F			0.247	mg/L		F	#	0.000067	-
Uranium	0717	WL	8/21/2024	(T)F			0.000067	mg/L	U	F	#	0.000067	-
Uranium	0718	WL	8/21/2024	(T)F			0.111	mg/L		F	#	0.000067	-

PARAMETER	LOCATION CODE/TYPE		SAMPLE DATE	SAMPLE TYPE	DEPTH RANGE (FT BLS)		RESULT	UNITS	QUALIFIERS LAB/DATA		QA	DETECTION LIMIT	UNCERTAINTY
Uranium	0719	WL	8/21/2024	(T)F			0.0002	mg/L		FQ	#	0.000067	-
Uranium	0720	WL	8/21/2024	(T)F			0.00361	mg/L		F	#	0.000067	-
Uranium	0721	WL	8/21/2024	(T)F			0.0001	mg/L	B	F	#	0.000067	-
Uranium	0722R	WL	8/21/2024	(T)F			0.124	mg/L		F	#	0.000067	-
Uranium	0723	WL	8/21/2024	(T)F			0.000067	mg/L	U	F	#	0.000067	-
Uranium	0727	WL	8/21/2024	(T)F			0.00265	mg/L		F	#	0.000067	-
Uranium	0729	WL	8/21/2024	(T)F			0.00698	mg/L		F	#	0.000067	-
Uranium	0730	WL	8/21/2024	(T)F			0.00463	mg/L		F	#	0.000067	-
Uranium	0732	WL	8/21/2024	(T)F			0.00436	mg/L		F	#	0.000067	-
Uranium	0784	WL	8/21/2024	(T)F			0.00259	mg/L		F	#	0.000067	-
Uranium	0788	WL	8/21/2024	(T)F			0.0369	mg/L		F	#	0.000067	-
Uranium	0789	WL	8/20/2024	(T)D			0.993	mg/L		F	#	0.000067	-
Uranium	0789	WL	8/20/2024	(T)F			1.04	mg/L		F	#	0.000067	-
Uranium	0824	WL	8/20/2024	(T)F			0.0184	mg/L		F	#	0.000067	-
Uranium	0826	WL	8/21/2024	(T)F			0.0248	mg/L		F	#	0.000067	-
Uranium	0852-2	WL	8/21/2024	(T)F			0.0332	mg/L		F	#	0.000067	-
Uranium	0852-3	WL	8/21/2024	(T)F			0.034	mg/L		F	#	0.000067	-
Uranium	0852-4	WL	8/21/2024	(T)D			0.0315	mg/L		F	#	0.000067	-
Uranium	0852-4	WL	8/21/2024	(T)F			0.0317	mg/L		F	#	0.000067	-
Uranium	0853-2	WL	8/21/2024	(T)F			0.0265	mg/L		F	#	0.000067	-
Uranium	0853-3	WL	8/21/2024	(T)F			0.0224	mg/L		F	#	0.000067	-
Uranium	0853-4	WL	8/21/2024	(T)F			0.0242	mg/L		F	#	0.000067	-
Uranium	0854-2	WL	8/21/2024	(T)F			0.0275	mg/L		F	#	0.000067	-
Uranium	0854-3	WL	8/21/2024	(T)F			0.0308	mg/L		F	#	0.000067	-
Uranium	0854-4	WL	8/21/2024	(T)F			0.0366	mg/L		F	#	0.000067	-

GROUNDWATER QUALITY DATA BY PARAMETER WITH DEPTH (EQuIS200) FOR SITE RVT01, Riverton Processing Site

REPORT DATE: 1/31/2025 9:29:59 AM

PARAMETER	LOCATION CODE/TYPE		SAMPLE DATE	SAMPLE TYPE	DEPTH RANGE (FT BLS)		RESULT	UNITS	QUALIFIERS LAB/DATA		QA	DETECTION LIMIT	UNCERTAINTY
Uranium	0855-2	WL	8/20/2024	(T)F			0.894	mg/L		F	#	0.000067	-
Uranium	0855-3	WL	8/20/2024	(T)F			0.954	mg/L		F	#	0.000067	-
Uranium	0855-4	WL	8/20/2024	(T)F			0.681	mg/L		F	#	0.000067	-
Uranium	0856-2	WL	8/20/2024	(T)F			0.971	mg/L		F	#	0.000067	-
Uranium	0856-3	WL	8/20/2024	(T)F			0.919	mg/L		F	#	0.000067	-
Uranium	0856-4	WL	8/20/2024	(T)F			0.89	mg/L		F	#	0.000067	-
Uranium	0857-2	WL	8/20/2024	(T)F			0.928	mg/L		F	#	0.000067	-
Uranium	0857-3	WL	8/20/2024	(T)F			0.948	mg/L		F	#	0.000067	-
Uranium	0857-4	WL	8/20/2024	(T)F			0.952	mg/L		F	#	0.000067	-
Uranium	0858-2	WL	8/20/2024	(T)F			0.698	mg/L		F	#	0.000067	-
Uranium	0858-3	WL	8/20/2024	(T)F			0.646	mg/L		F	#	0.000067	-
Uranium	0858-4	WL	8/20/2024	(T)F			0.67	mg/L		F	#	0.000067	-
Uranium	0859-2	WL	8/21/2024	(T)F			0.0398	mg/L		F	#	0.000067	-
Uranium	0859-3	WL	8/21/2024	(T)F			0.0889	mg/L		F	#	0.000067	-
Uranium	0859-4	WL	8/21/2024	(T)F			0.142	mg/L		F	#	0.000067	-
Uranium	0860-2	WL	8/21/2024	(T)F			1.43	mg/L		F	#	0.000067	-
Uranium	0860-3	WL	8/21/2024	(T)F			1	mg/L		F	#	0.000067	-
Uranium	0860-4	WL	8/21/2024	(T)F			0.804	mg/L		F	#	0.000067	-

LOCATION TYPE:

WL	WELL

DATA QUALIFIERS:

F	Low flow sampling method used.
G	Possible grout contamination, pH > 9.
J	Estimated Value.
L	Less than 3 bore volumes purged prior to sampling.

N	Tentatively identified compound (TIC).
Q	Qualitative result due to sampling technique
R	Unusable result.
U	Parameter analyzed for but was not detected.
X	Location is undefined.

LAB QUALIFIERS:

*	Replicate analysis not within control limits.
+	Correlation coefficient for MSA < 0.995.
>	Result above upper detection limit.
A	TIC is a suspected aldol-condensation product.
B	Inorganic: Result is between the IDL and CRDL. Organic & Radiochemistry: Analyte also found in method blank.
C	Pesticide result confirmed by GC-MS.
D	Analyte determined in diluted sample.
E	Inorganic: Estimate value because of interference, see case narrative. Organic: Analyte exceeded calibration range of the GC-MS.
H	Holding time expired, value suspect.
I	Increased detection limit due to required dilution.
J	Estimated Value.
M	GFAA duplicate injection precision not met.
N	Inorganic or radiochemical: Spike sample recovery not within control limits. Organic: Tentatively identified compound (TIC).
P	> 25% difference in detected pesticide or Aroclor concentrations between 2 columns.
S	Result determined by method of standard addition (MSA).
U	Parameter analyzed for but was not detected.
W	Post-digestion spike outside control limits while sample absorbance < 50% of analytical spike absorbance.
X	Laboratory defined qualifier, see case narrative.
Y	Laboratory defined qualifier, see case narrative.
Z	Laboratory defined qualifier, see case narrative.

SAMPLE TYPES:

Fraction:
(T) Total (for metal concentrations)
(D) Dissolved (for dissolved or filtered metal concentrations)
(N) Organic (or other) constituents for which neither total nor dissolved is applicable

Type Codes:
F-Field Sample R-Replicate FR-Field Sample with Replicates
D-Duplicate N-Not Known S-Split Sample

QA QUALIFIER: # = validated according to Quality Assurance guidelines.

Appendix E

Surface Water Data

SURFACE WATER QUALITY DATA BY PARAMETER (EQuIS800) FOR SITE RVT01, Riverton Processing Site

REPORT DATE: 12/11/2024 11:12:49 AM

PARAMETER	LOCATION CODE	SAMPLE DATE	SAMPLE TYPE	RESULT	UNITS	QUALIFIERS LAB	QUALIFIERS DATA	QA	DETECT. LIMIT	UNCERTAINTY
Alkalinity, Total (As CaCO3)										
Alkalinity, Total (As CaCO3)	0747	8/20/2024	(D)F	325	mg/L			#	-	-
Alkalinity, Total (As CaCO3)	0749	8/21/2024	(D)F	101	mg/L			#	-	-
Alkalinity, Total (As CaCO3)	0794	8/20/2024	(N)F	182	mg/L			#	-	-
Alkalinity, Total (As CaCO3)	0796	8/21/2024	(N)F	178	mg/L			#	-	-
Alkalinity, Total (As CaCO3)	0810	8/20/2024	(N)F	447	mg/L			#	-	-
Alkalinity, Total (As CaCO3)	0811	8/20/2024	(N)F	194	mg/L			#	-	-
Alkalinity, Total (As CaCO3)	0812	8/20/2024	(D)F	185	mg/L			#	-	-
Alkalinity, Total (As CaCO3)	0822	8/21/2024	(N)F	168	mg/L			#	-	-
Alkalinity, Total (As CaCO3)	0823	8/20/2024	(N)F	113	mg/L			#	-	-
Manganese										
Manganese	0747	8/20/2024	(D)F	0.605	mg/L			#	0.002	-
Manganese	0749	8/21/2024	(D)F	0.0602	mg/L			#	0.002	-
Manganese	0794	8/20/2024	(D)F	0.0204	mg/L			#	0.002	-
Manganese	0796	8/21/2024	(T)F	0.0515	mg/L			#	0.002	-
Manganese	0810	8/20/2024	(T)F	0.0207	mg/L			#	0.002	-
Manganese	0811	8/20/2024	(T)F	0.048	mg/L			#	0.002	-
Manganese	0812	8/20/2024	(D)F	0.0241	mg/L			#	0.002	-
Manganese	0822	8/21/2024	(T)F	0.0249	mg/L			#	0.002	-
Manganese	0823	8/20/2024	(T)D	0.0646	mg/L			#	0.01	-
Manganese	0823	8/20/2024	(T)F	0.0678	mg/L			#	0.002	-
Molybdenum										
Molybdenum	0747	8/20/2024	(D)F	0.013	mg/L			#	0.0002	-
Molybdenum	0749	8/21/2024	(D)F	0.0646	mg/L			#	0.0002	-
Molybdenum	0794	8/20/2024	(D)F	0.00167	mg/L	B		#	0.0002	-
Molybdenum	0796	8/21/2024	(T)F	0.00199	mg/L	B		#	0.0002	-
Molybdenum	0810	8/20/2024	(T)F	0.000761	mg/L	B		#	0.0002	-
Molybdenum	0811	8/20/2024	(T)F	0.00222	mg/L	B		#	0.0002	-
Molybdenum	0812	8/20/2024	(D)F	0.00215	mg/L	B		#	0.0002	-
Molybdenum	0822	8/21/2024	(T)F	0.0126	mg/L			#	0.0002	-
Molybdenum	0823	8/20/2024	(T)D	0.00113	mg/L	B		#	0.0002	-
Molybdenum	0823	8/20/2024	(T)F	0.00112	mg/L	B		#	0.0002	-

SURFACE WATER QUALITY DATA BY PARAMETER (EQuIS800) FOR SITE RVT01, Riverton Processing Site

REPORT DATE: 12/11/2024 11:12:49 AM

PARAMETER	LOCATION CODE	SAMPLE DATE	SAMPLE TYPE	RESULT	UNITS	QUALIFIERS LAB/DATA		QA	DETECT. LIMIT	UNCERTAINTY
pH										
pH	0747	8/20/2024	(N)F	7.46	s.u.			#	-	-
pH	0749	8/21/2024	(N)F	7.67	s.u.			#	-	-
pH	0794	8/20/2024	(N)F	8.61	s.u.			#	-	-
pH	0796	8/21/2024	(N)F	8.5	s.u.			#	-	-
pH	0810	8/20/2024	(N)F	9.48	s.u.			#	-	-
pH	0811	8/20/2024	(N)F	8.38	s.u.			#	-	-
pH	0812	8/20/2024	(N)F	8.56	s.u.			#	-	-
pH	0822	8/21/2024	(N)F	8.65	s.u.			#	-	-
pH	0823	8/20/2024	(N)F	8.51	s.u.			#	-	-
Specific Conductance										
Specific Conductance	0747	8/20/2024	(N)F	1256	umhos/cm			#	-	-
Specific Conductance	0749	8/21/2024	(N)F	955	umhos/cm			#	-	-
Specific Conductance	0794	8/20/2024	(N)F	825	umhos/cm			#	-	-
Specific Conductance	0796	8/21/2024	(N)F	848	umhos/cm			#	-	-
Specific Conductance	0810	8/20/2024	(N)F	1331	umhos/cm			#	-	-
Specific Conductance	0811	8/20/2024	(N)F	933	umhos/cm			#	-	-
Specific Conductance	0812	8/20/2024	(N)F	825	umhos/cm			#	-	-
Specific Conductance	0822	8/21/2024	(N)F	595	umhos/cm			#	-	-
Specific Conductance	0823	8/20/2024	(N)F	2916	umhos/cm			#	-	-
Sulfate										
Sulfate	0747	8/20/2024	(N)F	312	mg/L			#	13.3	-
Sulfate	0749	8/21/2024	(N)F	290	mg/L			#	13.3	-
Sulfate	0794	8/20/2024	(N)F	222	mg/L			#	13.3	-
Sulfate	0796	8/21/2024	(N)F	225	mg/L			#	13.3	-
Sulfate	0810	8/20/2024	(N)F	228	mg/L			#	13.3	-
Sulfate	0811	8/20/2024	(N)F	227	mg/L			#	13.3	-
Sulfate	0812	8/20/2024	(N)F	226	mg/L			#	13.3	-
Sulfate	0822	8/21/2024	(N)F	128	mg/L			#	13.3	-
Sulfate	0823	8/20/2024	(N)D	1090	mg/L			#	13.3	-
Sulfate	0823	8/20/2024	(N)F	1080	mg/L			#	13.3	-

PARAMETER	LOCATION CODE	SAMPLE DATE	SAMPLE TYPE	RESULT	UNITS	QUALIFIERS LAB/DATA		QA	DETECT. LIMIT	UNCERTAINTY
Temperature										
Temperature	0747	8/20/2024	(N)F	15.97	C			#	-	-
Temperature	0749	8/21/2024	(N)F	23.68	C			#	-	-
Temperature	0794	8/20/2024	(N)F	25.78	C			#	-	-
Temperature	0796	8/21/2024	(N)F	24.17	C			#	-	-
Temperature	0810	8/20/2024	(N)F	27.08	C			#	-	-
Temperature	0811	8/20/2024	(N)F	24.07	C			#	-	-
Temperature	0812	8/20/2024	(N)F	26.92	C			#	-	-
Temperature	0822	8/21/2024	(N)F	22.04	C			#	-	-
Temperature	0823	8/20/2024	(N)F	27.63	C			#	-	-
Turbidity										
Turbidity	0747	8/20/2024	(N)F	35.4	NTU			#	-	-
Turbidity	0749	8/21/2024	(N)F	19.5	NTU			#	-	-
Turbidity	0794	8/20/2024	(N)F	11.6	NTU			#	-	-
Turbidity	0796	8/21/2024	(N)F	9.82	NTU			#	-	-
Turbidity	0810	8/20/2024	(N)F	8.43	NTU			#	-	-
Turbidity	0811	8/20/2024	(N)F	9.54	NTU			#	-	-
Turbidity	0812	8/20/2024	(N)F	14.2	NTU			#	-	-
Turbidity	0822	8/21/2024	(N)F	2.77	NTU			#	-	-
Turbidity	0823	8/20/2024	(N)F	2.47	NTU			#	-	-
Uranium										
Uranium	0747	8/20/2024	(D)F	0.0972	mg/L			#	0.000067	-
Uranium	0749	8/21/2024	(D)F	0.000067	mg/L	U		#	0.000067	-
Uranium	0794	8/20/2024	(D)F	0.00504	mg/L			#	0.000067	-
Uranium	0796	8/21/2024	(T)F	0.00565	mg/L			#	0.000067	-
Uranium	0810	8/20/2024	(T)F	0.00312	mg/L			#	0.000067	-
Uranium	0811	8/20/2024	(T)F	0.00601	mg/L			#	0.000067	-
Uranium	0812	8/20/2024	(D)F	0.00598	mg/L			#	0.000067	-
Uranium	0822	8/21/2024	(T)F	0.00176	mg/L			#	0.000067	-
Uranium	0823	8/20/2024	(T)D	0.0037	mg/L			#	0.000067	-
Uranium	0823	8/20/2024	(T)F	0.0036	mg/L			#	0.000067	-

DATA QUALIFIERS:

F Low flow sampling method used.

G Possible grout contamination, pH > 9.

J Estimated Value.

L Less than 3 bore volumes purged prior to sampling.

N Tentatively identified compound (TIC).

Q	Qualitative result due to sampling technique
R	Unusable result.
U	Parameter analyzed for but was not detected.
X	Location is undefined.

LAB QUALIFIERS:

*	Replicate analysis not within control limits.
+	Correlation coefficient for MSA < 0.995.
>	Result above upper detection limit.
A	TIC is a suspected aldol-condensation product.
B	Inorganic: Result is between the IDL and CRDL. Organic & Radiochemistry: Analyte also found in method blank.
C	Pesticide result confirmed by GC-MS.
D	Analyte determined in diluted sample.
E	Inorganic: Estimate value because of interference, see case narrative. Organic: Analyte exceeded calibration range of the GC-MS.
H	Holding time expired, value suspect.
I	Increased detection limit due to required dilution.
J	Estimated Value.
M	GFAA duplicate injection precision not met.
N	Inorganic or radiochemical: Spike sample recovery not within control limits. Organic: Tentatively identified compound (TIC).
P	> 25% difference in detected pesticide or Aroclor concentrations between 2 columns.
S	Result determined by method of standard addition (MSA).
U	Parameter analyzed for but was not detected.
W	Post-digestion spike outside control limits while sample absorbance < 50% of analytical spike absorbance.
X	Laboratory defined qualifier, see case narrative.
Y	Laboratory defined qualifier, see case narrative.
Z	Laboratory defined qualifier, see case narrative.

SAMPLE TYPES:

(T) Total (for metal concentrations)
(D) Dissolved (for dissolved or filtered metal concentrations)
(N) Organic (or other) constituents for which neither total nor dissolved is applicable

Type Codes: F-Field Sample R-Replicate FR-Field Sample with Replicates
D-Duplicate N-Not Known S-Split Sample

QA QUALIFIER: # = validated according to Quality Assurance guidelines.