REPORT

Annual Groundwater Report – 2019

Great River Energy – Coal Creek Station

Submitted to:

Great River Energy

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1.0 REPORT SUMMARY

This report presents the results from groundwater monitoring events that occurred at Great River Energy's Coal Creek Station in 2019 to meet the requirements of the Coal Combustion Residuals (CCR) rule (40 Code of Federal Regulations 257.90 through 257.98). The facilities entered 2019 under a detection monitoring program and remain in a detection monitoring program at the conclusion of 2019. The following items of statistical significance were identified in 2019 for the comparative statistical analysis of the fourth quarter (Q4) 2018 and second quarter (Q2) 2019 detection monitoring events:

- Verified Statistically Significant Increases (SSIs): No verified SSIs were identified during either the Q4 2018 or Q2 2019 detection monitoring events.
- Potential Exceedances and False-Positives:
  - The potential exceedance identified in Q2 2018 for fluoride at MW-16-6 was found to be a false-positive through confirmatory re-sampling during the Q4 2018 sampling event.
  - Four potential exceedances were identified in Q4 2018: fluoride at MW-DP5 and MW-42 and total dissolved solids (TDS) at MW-49 and MW-16-2. All four potential exceedances were determined to be false-positives through confirmatory re-sampling during the Q2 2019 sampling event.
  - Seven potential exceedances were identified in Q2 2019: chloride at MW-DP4, MW-49, MW-16-1, MW-42, and MW-72, TDS at MW-16-6, and sulfate at MW-16-1. Three of the seven potential exceedances identified were associated with upgradient wells. Confirmatory re-sampling for these samples will be completed following comparative statistical analysis for the Q4 2019 sampling event.

As described in the Coal Combustion Residuals Groundwater Monitoring System Certification, Revision 1 (Golder 2019a) and the Coal Combustion Residuals Groundwater Monitoring Statistical Methods Certification, Revision 1 (Golder 2019b), the groundwater monitoring and analytical procedures meet the general requirements of the CCR rule, and modifications to the monitoring networks and sampling program are not recommended at this time.

2.0 INTRODUCTION

Golder Associates, Inc. (Golder) has prepared this report of the 2019 groundwater sampling and comparative statistical analysis for Great River Energy's (GRE) Coal Creek Station (CCS) to meet the requirements of the Coal Combustion Residuals (CCR) rule's sections on groundwater monitoring and corrective action, 40 Code of Federal Regulations (CFR) 257.90 through 257.98.

2.1 Purpose

The CCR rule established specific requirements for reporting of actions related to groundwater monitoring and corrective actions in 40 CFR 257.90. In accordance with part (e) of 40 CFR 257.90, owners and operators of CCR units must prepare an annual groundwater monitoring and corrective action report.

2.2 Site Background

GRE's Coal Creek Station is a coal-fired electric generation facility located in McLean County, North Dakota, approximately 10 miles northwest of Washburn, North Dakota. CCRs are managed in composite-lined surface water impoundment cells and dry waste facilities regulated and permitted by the North Dakota Department of Environmental Quality (NDDEQ) in accordance with North Dakota Administrative Code Article 33-20, Solid Waste Management and Land Protection.

Coal Creek Station has four CCR facilities that are within the purview of the United States Environmental Protection Agency (USEPA) CCR rule:

- Drains Pond System CCR Surface Impoundment (Drains Pond System)
- Upstream Raise 91 CCR Surface Impoundment (Upstream Raise 91)
- Upstream Raise 92 CCR Surface Impoundment (Upstream Raise 92)
- Southeast Section 16 CCR Landfill (Southeast 16)

Each CCR facility is monitored by a separate monitoring network, in accordance with Revision 1 to the Coal Combustion Residuals Groundwater Monitoring System Certification (Golder 2019a). Locations of the facilities, groundwater monitoring network units, and groundwater monitoring wells are shown in Figure 1 and Figure 2.

3.0 GROUNDWATER MONTIORING NETWORK PROGRAM STATUS

The CCR groundwater monitoring system at CCS consists of 23 monitoring locations (eight upgradient and fifteen downgradient wells). The monitoring locations are shown in Figure 1 and 2 and listed in Table 1. Additional information on the groundwater monitoring system can be found in the Coal Combustion Residuals Groundwater Monitoring System Certification, Revision 1 (Golder 2019a). Each CCR facility is part of a monitoring network consisting of at least one upgradient and three downgradient monitoring wells.

- The Drains Pond System has two upgradient and four downgradient monitoring wells
- Upstream Raise 91 has two upgradient and three downgradient monitoring wells
- Upstream Raise 92 has two upgradient and three downgradient monitoring wells
- Southeast 16 has two upgradient and five downgradient monitoring wells

3.1 Completed Key Actions in 2019

The following key actions were completed in 2019:

- The 2018 annual CCR groundwater monitoring and corrective action report was completed and placed within the operating record and on the publicly accessible CCR website (Golder 2019c).
- Revision 1 of the Coal Combustion Residuals Groundwater Monitoring System Certification (Golder 2019a) was placed within the operating record and on the publicly accessible CCR website.
- Revision 1 of the Coal Combustion Residuals Groundwater Monitoring Statistical Methods Certification (Golder 2019b) was placed within the operating record and on the publicly accessible CCR website.
- Detection monitoring samples were collected in June (Q2) and October (Q4) 2019 at the majority of program wells and analyzed for the Appendix III constituent list associated with the CCR rule. Additionally, samples were collected from program wells for the Appendix IV constituent list associated with the CCR rule for additional baseline data.
- Comparative statistical analysis was completed for the Q4 2018 and Q2 2019 detection monitoring samples which were collected in October 2018 and June 2019, respectively, within 90 days of receipt of the final analytical results.

- Baseline statistical analysis was completed for the Appendix III constituents for MW-91-2, MW-91-1, and MW-16-0 following collection of a minimum of eight baseline samples during 2018.
- An additional Quarter 3 (Q3) 2019 sample was collected in September 2019 for Appendix III constituents as part of detection monitoring, as well as the Appendix IV constituent list for additional baseline data, for MW-91-1 and MW-91-2 (see Section 3.3 for further discussion).
- Six baseline samples were collected between June and December 2019 for well MW-DP2B, associated with the Drains Pond System, following well installation in November 2018. The December 2019 sampling analytical results have not yet been received at the time of this reporting and will be presented in the 2020 annual report. Baseline samples will continue to be collected at MW-DP2B through 2020, until a minimum of eight samples have been collected.

3.2 Installation and Decommissioning of Wells

No wells were installed or decommissioned from the CCR monitoring well networks in 2019.

3.3 Problems and Resolutions

As in 2018, no samples were able to be collected from MW-DP2 during 2019. Well MW-DP2 will continue to be monitored as part of the CCR monitoring program and samples will be collected when enough water is present within the well. Baseline samples continue to be collected at MW-DP2B (installed November 2018), which has been incorporated into the Drains Pond System monitoring program to adequately monitor the Drains Pond System.

On the laboratory reports for the Q2 2019 detection monitoring sampling event, Eurofins TestAmerica, the analytical laboratory contracted by GRE, noted that hold-time issues were encountered during analysis of chloride and sulfate. Discussions between GRE and Eurofins TestAmerica identified that the issues were primarily due to internal miscommunication at the laboratory. Each affected parameter-well pair is marked with an H qualifier on the associated results tables (Table 2 through Table 47). Further, for a subset of the analyzed samples from the Q2 2019 detection monitoring sampling event, TDS was detected in the associated method blank at a level exceeding the reporting limit. The associated sample results were not re-extracted and/or reanalyzed because the associated sample results were greater than 10 times the concentration found in the method blank. Each affected parameter-well pair is marked with a B qualifier on the associated tables (Table 2 through Table 47). The TDS values with B-qualified results are consistent with previous sampling results.

A potential issue was identified for MW-91-1 and MW-91-2 during the Q2 2019 sampling event, in which the sample bottles appear to have been switched due to a labeling error. An additional sample was collected from both MW-91-1 and MW-91-2 during Q3 2019 that confirmed a switch in samples had occurred during the Q2 2019 event. Analytical results for both the Q2 and Q3 2019 samples are shown on the sample results summary tables for informational purposes (Table 8 for MW-91-2 and Table 10 for MW-91-1), while comparative statistics have only been conducted on the Q3 results (Table 31 for MW-91-2 and Table 33 for MW-91-1).

3.4 Key Activities for 2020

The following key actions are anticipated to be completed in 2020:

- The 2019 annual CCR groundwater monitoring and corrective action report will be completed and placed within the operating record and on the publicly accessible CCR website.
- Prior to completing the comparative statistical analysis for the Q4 2019 detection monitoring sampling event, the baseline period used to establish the statistical limits for each well-parameter pair will be updated following the steps defined in Revision 1 of the Coal Combustion Residuals Groundwater Monitoring Statistical Methods Certification (Golder 2019b) and in accordance with recommendations found within the USEPA's Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities Unified Guidance (USEPA 2009). Baseline periods will not be updated for well-parameter pairs where potential exceedances were identified for the Q2 2019 sampling event, as well as for locations where less than four samples have been collected since the end of their current baseline periods. Comparative statistical analysis for the Q4 2019 event will be conducted using the statistical limits from the updated baseline periods.
- Comparative statistics will be completed for the Q4 2019 detection monitoring samples within 90 days of receipt of the final analytical results.
- Detection monitoring sampling events will occur in Q2 and Q4 2020, and will consist of sampling, data review, and comparative statistics. Comparative statistics for both the Q2 2020 and Q4 2020 detection monitoring samples will be completed within 90 days of receipt of the final analytical results.
- Further baseline samples (to obtain a minimum of eight) will be collected for well MW-DP2B and will be analyzed for both the Appendix III and Appendix IV constituent list as indicated in the CCR rule.

4.0 GROUNDWATER MONITORING ANALYTICAL PROGRAM STATUS

Analytical activities associated with the groundwater monitoring program are described below.

4.1 Collected Samples

For most wells, detection monitoring samples were collected by GRE staff in June (Q2) 2019 and October (Q4) 2019. Precise dates vary between locations and can be found in Table 2 through Table 24. Six baseline samples were collected for MW-DP2B by GRE Staff between June 2019 and December 2019. Further, samples were collected for the Appendix IV constituent list for additional baseline data in Q2 2019 for wells within the CCR rule well networks. Additional samples were collected for Appendix III and Appendix IV constituents at MW-91-1 and MW-91-2 in September 2019. Results for the various samples collected throughout 2019 are summarized in Table 2 through Table 24.

Samples were collected using low-flow methodology with dedicated bladder pumps installed at each monitoring well. The sampling procedures and analytical testing methods were conducted in accordance with USEPA-accepted procedures.

4.1.1 Groundwater Elevation and Flow Rate

Depths to groundwater were measured in each well during each sampling event prior to purging. Groundwater elevations can be found in Table 2 through Table 24. Groundwater elevations and interpolated groundwater contours from the Q2 2019 detection monitoring event are shown on Figure 1. Groundwater elevations and interpolated groundwater contours form the Q4 2019 detection monitoring event are shown in Figure 2. Based on

both the Q2 (June) 2019 and Q4 (October) 2019 groundwater elevations and contours, the shallow groundwater at the CCR facilities generally follows surface topography, flowing to the east and north. The dates for groundwater information shown in the figures generally display site seasonal variability in groundwater levels between the spring/summer and fall/winter.

The groundwater flow rate across each facility was estimated with the equation $V_s = k \times i/n_e$, where:

- V_s is the groundwater flow rate, in feet per day (ft/day)
- k is the hydraulic conductivity, estimated from slug testing results from system wells, in ft/day
- i is the hydraulic gradient, calculated based on groundwater elevations for each monitoring event, in feet per feet (ft/ft)
- n_e is the effective porosity, estimated to be 0.1 for intact glacial till, which can vary from 0.06 to 0.16 and is reflective of site soils (Duffield 2007)

The range of groundwater flow rates calculated for each unit during the Q2 2019 and Q4 2019 detection monitoring sampling events are shown below. Groundwater flow rates are presented based on a range of measured hydraulic conductivity values for each unit, also shown below.

- Drains Pond (range of k values: 0.35 ft/day to 21.60 ft/day):
  - Q2 2019: 0.09 – 5.34 ft/day
  - Q4 2019: 0.08 – 5.27 ft/day
- Upstream Raise 91 (range of k values: 0.35 ft/day to 12.96 ft/day):
  - Q2 2019: 0.03 – 1.27 ft/day
  - Q4 2019: 0.03 – 1.14 ft/day
- Upstream Raise 92 (range of k values: 0.35 ft/day to 12.96 ft/day):
  - Q2 2019: 0.04 – 1.54 ft/day
  - Q4 2019: 0.04 – 1.56 ft/day
- Southeast 16 (range of k values: 1.51 ft/day to 2.59 ft/day):
  - Q2 2019: 0.02 – 0.04 ft/day
  - Q4 2019: 0.03 – 0.06 ft/day

4.2 Monitoring Data (Analytical Results)

Analytical results for samples collected in 2019 for monitoring wells within the networks are shown in Table 2 through Table 24.

4.3 Comparative Statistical Analysis

The comparative statistical analysis for the Q4 2018 and Q2 2019 detection monitoring events is summarized below, with the results presented in Table 25 through Table 47. Comparative statistical analysis for the Q4 2019 detection monitoring event will occur within 90 days of data review following receipt of the analytical data. Based on the timing of receipt of the analytical results for the Q4 2019 detection monitoring sample, comparative statistical analysis for the Q4 2019 event will be completed during the first quarter (Q1) of 2020. A full description of the steps taken for comparative statistical analyses can be found in of the Coal Combustion Residuals Groundwater Statistical Method Certification, Revision 1, Great River Energy – Coal Creek Station, available on the publicly accessible CCR website (Golder 2019b).

Comparative statistical analysis is conducted following each detection monitoring event, consisting of the Appendix III parameters (USEPA 2015). For both Shewhart-CUSUM limits and non-parametric prediction limits (NPPL), the comparative statistical analysis consists of a comparison of detection monitoring results collected during the period of interest (the compliance period) to the statistical limit calculated from the baseline period. For constituent-well pairs with increasing trends identified during the baseline period, an alternative trend test, such as that described by the Electric Power Research Institute (EPRI 2015) has been used to determine statistical significance. For constituent-well pairs with decreasing trends identified during the baseline period, a Sen's Slope trend test was used to assess the results. A detailed discussion of the methodology used for comparative statistical analysis is discussed in the Coal Combustion Residuals Groundwater Monitoring Statistical Methods Certification, Revision 1 (Golder 2019b).

4.3.1 Definitions

The following definitions will be used in discussion of the comparative statistical analysis:

- Elevated CUSUM – an elevated CUSUM occurs when the CUSUM is greater than the Shewhart-CUSUM limit established by the baseline statistical analysis, but the analytical result does not exceed the Shewhart-CUSUM limit. An elevated CUSUM is an indication that concentrations are gradually increasing and that analytical results may exceed the Shewhart-CUSUM limit in the future. For elevated CUSUMs in the case of two-tailed analysis (field-measured pH), the CUSUM value may also be below the lower Shewhart-CUSUM limit established by the baseline statistical analysis.
- Potential Exceedance – is defined as an initial elevated CUSUM or an initial analytical result that exceeds the Shewhart-CUSUM limit or non-parametric statistical limit established by the baseline statistical analysis. Confirmatory resampling will determine if the potential exceedance is a false-positive or a verified statistically significant increase (SSI). Non-detect results that exceed either the Shewhart-CUSUM limit or the non-parametric statistical limit are not considered potential exceedances.
- False-positive – is defined as an analytical result that exceeds the statistical limit that can clearly be attributed to laboratory error, changes in analytical precision, or is invalidated through confirmatory re-sampling. False-positives are not used in calculation of any subsequent CUSUMs.
- Confirmatory re-sampling – is designated as the next scheduled sampling event.
- Verified SSI – is interpreted as two consecutive exceedances (the original sample and the confirmatory re-sample for analytical results, or two consecutive elevated CUSUMs) for the same constituent at the same well.

4.3.2 Potential Exceedances

The following potential exceedances were identified during comparative statistical analysis for the Q4 2018 detection monitoring event:

- MW-DP5 (Upgradient, Drains Pond System) – Fluoride
- MW-49 (Downgradient, Upstream Raise 91) –TDS
- MW-42 (Upgradient, Southeast Section 16) – Fluoride
- MW-16-2 (Downgradient, Southeast Section 16) – TDS

Confirmatory re-sampling for these constituent-well pairs occurred during the Q2 2019 detection monitoring sampling event, with results discussed in the following sections.

The following potential exceedances were identified during comparative statistical analysis for the Q2 2019 detection monitoring event:

- MW-DP4 (Downgradient, Drains Pond System) – Chloride
- MW-49 (Downgradient, Upstream Raise 91) – Chloride Elevated CUSUM
- MW-16-6 (Upgradient, Upstream Raise 92) – TDS Elevated CUSUM
- MW-16-1 (Downgradient, Upstream Raise 92) – Sulfate Elevated CUSUM
- MW-16-1 (Downgradient, Upstream Raise 92) – Chloride Elevated CUSUM
- MW-42 (Upgradient, Southeast Section 16) – Chloride Elevated CUSUM
- MW-72 (Upgradient, Southeast Section 16) – Chloride

Confirmatory re-sampling for these constituent-well pairs occurred during the Q4 2019 detection monitoring event. Comparative statistics for the Q4 2019 detection monitoring event will be completed within 90 days of data review for the final analytical results.

4.3.3 False-Positives

The following false-positive was identified for the Q2 2018 detection monitoring event following confirmatory resampling during Q4 2018:

- MW-16-6 (Upgradient, Upstream Raise 92) – Fluoride

The following false-positives were identified for the Q4 2018 detection monitoring event following confirmatory re-sampling during Q2 2019:

- MW-DP5 (Upgradient, Drains Pond System) – Fluoride
- MW-49 (Downgradient, Upstream Raise 91) – TDS
- MW-42 (Upgradient, Southeast Section 16) – Fluoride
- MW-16-2 (Downgradient, Southeast Section 16) – TDS

4.3.4 Verified SSIs

No verified SSIs were identified during either the Q4 2018 or Q2 2019 detection monitoring events.

4.3.5 Trending Data

During establishment of baseline statistical periods, a few wells at the site were found to have trending data, preventing establishment of a statistical limit using data solely from the baseline sampling period. A description of the methods used for determining statistical significance at these wells follows.

4.3.5.1 Increasing Trends in Baseline Data

- MW-72 (Upgradient, Southeast Section 16 Facility), TDS: As an upgradient location, the facility was determined not to be the source of the increasing TDS trend at MW-72. For comparative statistics, an alternative trend test, namely that described in the EPRI guidance (2015), was used for both the Q4 2018 and Q2 2019 comparative statistics. The Q4 2018 and Q2 2019 detection monitoring data are not considered to be statistically significant. Following collection of further data, the TDS data for this location will be reassessed to determine if a baseline period can be established based on non-trending data.

4.3.5.2 Decreasing Trends in Baseline Data

- MW-91-2 (Upgradient, Upstream Raise 91), Calcium: A decreasing trend was identified during baseline statistical assessment for MW-91-2. No statistical limit was established at that time. With inclusion of the Q3 2019 result, the complete data set continues to have a statistically significant downward trend, based on Sen's Slope analysis. Following collection of further data, data for the well will be reassessed to determine if the trend continues to be present or if a baseline period can be set based on non-trending data.

5.0 PROGRAM TRANSITIONS

Beginning in Q4 2017, the groundwater monitoring programs at CCS transitioned from the baseline period to detection monitoring for the majority of program wells. During the baseline period, at least eight independent samples from each well within the program were collected and analyzed for the constituents listed in Appendix III and Appendix IV of the rule prior to October 17, 2017, as specified in 40 CFR 257.94(b). The first detection monitoring samples were collected in Q4 2017.

5.1 Detection Monitoring

The site is currently in detection monitoring. Samples for the detection monitoring program are collected on a semi-annual basis, beginning with the samples collected in Q4 2017. GRE plans to collect semi-annual samples for the detection monitoring program in Q2 and Q4 of 2020.

5.2 Assessment Monitoring

Results of the comparative statistical analysis through Q2 2019 at CCS do not trigger the need to implement assessment monitoring as described in 40 CFR 257.95. As such, no alternative source demonstrations have been made and there are no actions that are required as part of the assessment monitoring program.

5.3 Corrective Measures and Assessment

Results to date from the CCR groundwater monitoring program at CCS do not trigger the need to assess or implement corrective measures. Since the CCR groundwater monitoring program does not require corrective measures, an assessment of corrective measures, as described in 40 CFR 257.96, has not been initiated and no actions are required.

6.0 CLOSING

This report presents the analytical results from the Q2 2019 and Q4 2019 detection monitoring events of the CCR groundwater monitoring program at CCS. Comparative statistics for the Q4 2018 and Q2 2019 detection monitoring events are also included. Comparative statistics for the Q4 2019 detection monitoring event conducted in October 2019 will occur within 90 days of finalizing data review (during Q1 2020). The groundwater monitoring and analytical procedures implemented meet the requirements of the CCR rule and are consistent with the approach described in Revision 1 to the Groundwater Monitoring System Certification (Golder 2019a) and Revision 1 to the Groundwater Monitoring Statistical Methods Certification (Golder 2019b). Comparative statistics presented within this report support remaining in detection monitoring, and do not trigger assessment monitoring nor an assessment of corrective measures.

Signature Page

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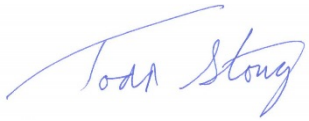

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7.0 REFERENCES

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Tables

Table 1: Monitoring Network Well Summary

Facility	Location	Well ID	Date Constructed	TOC Elevation (ft AMSL)	Ground Surface Elevation (ft AMSL)	Completion Depth (ft)	Drilled Depth (ft)	Screen Interval (ft bgs)	Top of Screen Elevation (ft AMSL)	Bottom of Screen Elevation (ft AMSL)	Sand Pack Interval (ft bgs)	Geologic Unit(s) Completed In
Drains Pond System	Upgradient	MW-DP3	4/3/2015	1,932.7	1,929.6	19.0	21.0	9.0-19.0	1,920.6	1,910.6	6.0-19.0	fill, coal, clay
		MW-DP5 [1]	11/18/2015	1,939.2	1,935.0	--	--	18.0-43.0	1,919.0	1,892.0	16.0-43.0	sandy lean clay, clayey sand
	Downgradient	MW-DP1 [2]	6/10/2014	1,913.6	1,911.1	45.0	46.0	25.0-45.0	1,886.1	1,866.1	21.0-45.0	silt with sand, silty sand
		MW-DP2	4/3/2015	1,898.1	1,894.9	17.0	18.0	7.0-17.0	1,887.9	1,877.9	5.0-17.0	sandy lean clay, clay sand
		MW-DP2B [3]	11/20/2018	1,898.6	1,895.6			12.0-22.0	1,883.6	1,873.6	10.0-22.0	sandy lean clay, sand with silt/gravel, silty sand
		MW-DP4	4/3/2015	1,917.4	1,914.2	29.0	31.0	19.0-29.0	1,895.2	1,885.2	17.0-29.0	sandy clay, sand with silt/gravel, clay, clayey sand
Upstream Raise 91	Upgradient	MW-75	7/19/1989	1,941.4	1,938.9	40.0	40.5	30.0-40.0	1,908.9	1,898.9	27.7-40	clayey silt, silty sand
		MW-91-2	11/6/2017	1,938.5	1,938.7	31.0	31.0	21.0-31.0	1,917.7	1,907.7	19.0-31.0	fat clay, coal
	Downgradient	MW-49	5/20/1988	1,905.9	1,903.6	19.9	25.0	9.85-19.85	1,893.8	1,883.8	4.85-19.85	sandy gravelly clay, sandy silt, shale (rock)
		MW-51	5/20/1988	1,896.9	1,895.5	18.8	20.0	8.8-18.8	1,886.7	1,876.7	3.8-18.8	sand with silt and gravel
		MW-91-1	11/6/2017	1,905.1	1,902.0	26.0	26.0	16.0-26.0	1,886.0	1,876.0	14.0-26.0	sand with silt and gravel, fat clay
Upstream Raise 92	Upgradient	MW-16-6	7/14/2015	1,917.2	1,913.9	13.0	16.0	4.0-14.0	1,909.9	1,899.9	3.0-14.0	sandy lean clay, coal, lean clay
		MW-16-7	7/14/2015	1,889.1	1,886.6	32.0	33.0	22.0-32.0	1,864.6	1,854.6	20.0-32.0	fat clay, clayey sand, sandy clay
	Downgradient	MW-10	11/2/1979	1,895.2	1,892.2	25.0	29.0	15-25	1,877.2	1,867.2	13-25	sand
		MW-16-0	12/8/2017	1,883.4	1,880.4	9.5	9.5	4.5-9.5	1,875.9	1,870.9	2.5-9.5	lean clay with sand
		MW-16-1	10/31/2007	1,879.5	1,876.1	11.5	16.0	6.5-11.5	1,869.6	1,864.6	4.5-11.5	silty sand
Southeast Section 16 Facility	Upgradient	MW-42	5/28/1986	1,881.6	1,878.8	14.4	21.5	9.4-14.4	1,869.4	1,864.4	9-14.4	silty sand, lean clay
		MW-72	7/18/1989	1,884.6	1,882.4	23.0	24.0	7.5-17.5	1,874.9	1,864.9	6.5-23.0	silty clay, silty sand
	Downgradient	MW-15	11/7/1979	1,877.3	1,874.3	20.0	38.0	10-20	1,864.3	1,854.3	9-20	sand, clay till
		MW-16-2	10/31/2007	1,880.6	1,877.8	12.0	16.0	7-12	1,870.8	1,865.8	5-12	sandy lean clay
		MW-16-3	10/31/2007	1,878.5	1,875.6	12.0	16.0	7-12	1,868.6	1,863.6	5-12	sandy lean clay
		MW-16-4	10/31/2007	1,877.5	1,874.6	17.0	16.0	7-17	1,867.6	1,857.6	5-17	sandy lean clay
		MW-16-5	10/31/2007	1,880.2	1,877.1	11.5	16.0	6.5-11.5	1,870.6	1,865.6	4.5-11.5	sand with silt and gravel

Notes:
TOC: top of casing
ft AMSL: feet above mean sea level
ft bgs: feet below ground surface
1. For MW-DP5, the ground surface elevation is taken from the original borehole log, but is inconsistent with the available survey for the top of casing.
2. For MW-DP1 only the top of casing elevation was provided. The PVC riser is assumed to be 2.5 ft above ground surface.
3. For MW-DP2B only the top of casing elevation was provided. The PVC riser is assumed to be 3.0 ft above ground surface.
Well construction measurements are from the original borehole log, well data sheet, or well construction form.
For some wells, elevations have been updated with more recent survey information than the original driller's logs.

Table 2: Sample Results Summary Table - MW-DP3

		MW-DP3		
		Additional Baseline Data	Detection Monitoring	
	Units	5-Jun-19	5-Jun-19	9-Oct-19
Water Elevation	ft AMSL	1925.5	1925.5	1925.0
Appendix III Parameters				
Boron	mg/L	---	0.62	0.53
Calcium	mg/L	---	260	210
Chloride	mg/L	---	13	< 15 U
Fluoride	mg/L	---	< 0.10 U	< 0.10 U
pH, Field	s.u.	---	6.22	6.40
Sulfate	mg/L	---	1200	1200
Total Dissolved Solids	mg/L	---	2200	2200
Appendix IV Parameters				
Antimony	mg/L	< 0.0020 U	---	---
Arsenic	mg/L	< 0.0050 U	---	---
Barium	mg/L	0.045	---	---
Beryllium	mg/L	< 0.0050 U ^	---	---
Cadmium	mg/L	< 0.0010 U	---	---
Chromium	mg/L	< 0.0020 U	---	---
Cobalt	mg/L	0.0021	---	---
Fluoride	mg/L	< 0.10 U	---	---
Lead	mg/L	< 0.0010 U	---	---
Lithium	mg/L	0.16	---	---
Mercury	mg/L	< 0.0002 U	---	---
Molybdenum	mg/L	< 0.0020 U	---	---
Radium 226	pCi/L	0.468 ± 0.146	---	---
Radium 228	pCi/L	0.958 ± 0.391	---	---
Radium 226 and 228 combined	pCi/L	1.43 ± 0.405	---	---
Selenium	mg/L	< 0.0050 U	---	---
Thallium	mg/L	< 0.0010 U	---	---

Legend:
--, not analyzed
ft AMSL, feet above mean sea level
mg/L, milligrams per liter
s.u., standard units for pH
pCi/L, picocuries per liter

Notes:
Non-detects have been listed at the reported practical quantitation limit.
Metal results represent the total concentration (i.e. samples have not been filtered).

Laboratory Provided Qualifiers:
U = Not detected above the shown practical quantitation limit
^ = ICV, CCV, ICB, CCB, ISA, ISB, CRI, CRA, DLCK, or MRL standard: Instrument related QC is outside acceptance limits.

Table 3: Sample Results Summary Table - MW-DP5

		MW-DP5		
		Additional Baseline Data	Detection Monitoring	
	Units	5-Jun-19	5-Jun-19	9-Oct-19
Water Elevation	ft AMSL	1912.2	1912.2	1914.0
Appendix III Parameters				
Boron	mg/L	---	< 0.10 U	0.11
Calcium	mg/L	---	280	270
Chloride	mg/L	---	69	66
Fluoride	mg/L	---	0.19	0.16
pH, Field	s.u.	---	7.06	7.16
Sulfate	mg/L	---	3400	3300
Total Dissolved Solids	mg/L	---	5300	5200
Appendix IV Parameters				
Antimony	mg/L	< 0.0020 U	---	---
Arsenic	mg/L	< 0.0050 U	---	---
Barium	mg/L	0.010	---	---
Beryllium	mg/L	< 0.0050 U ^	---	---
Cadmium	mg/L	< 0.0010 U	---	---
Chromium	mg/L	< 0.0020 U	---	---
Cobalt	mg/L	< 0.0010 U	---	---
Fluoride	mg/L	0.19	---	---
Lead	mg/L	< 0.0010 U	---	---
Lithium	mg/L	0.47	---	---
Mercury	mg/L	< 0.0002 U	---	---
Molybdenum	mg/L	< 0.0020 U	---	---
Radium 226	pCi/L	0.0714 U ± 0.0762	---	---
Radium 228	pCi/L	0.477 ± 0.271	---	---
Radium 226 and 228 combined	pCi/L	0.549 ± 0.282	---	---
Selenium	mg/L	0.23	---	---
Thallium	mg/L	< 0.0010 U	---	---

Legend:

--, not analyzed

ft AMSL, feet above mean sea level

mg/L, milligrams per liter

s.u., standard units for pH

pCi/L, picocuries per liter

Notes:

Non-detects have been listed at the reported practical quantitation limit.

Metal results represent the total concentration (i.e. samples have not been filtered).

Laboratory Provided Qualifiers:

U = Not detected above the shown practical quantitation limit

U (Radiochem) = Result is less than the sample detection limit (varies by sample)

^ = ICV, CCV, ICB, CCB, ISA, ISB, CRI, CRA, DLCK, or MRL standard: Instrument related QC is outside acceptance limits.

Table 4: Sample Results Summary Table - MW-DP1

		MW-DP1		
		Additional Baseline Data	Detection Monitoring	
	Units	5-Jun-19	5-Jun-19	14-Oct-19
Water Elevation	ft AMSL	1883.6	1883.6	1883.7
Appendix III Parameters				
Boron	mg/L	---	0.73	0.71
Calcium	mg/L	---	62	51
Chloride	mg/L	---	4.7	1.6
Fluoride	mg/L	---	0.27	0.25
pH, Field	s.u.	---	7.33	7.47
Sulfate	mg/L	---	550	470
Total Dissolved Solids	mg/L	---	1400	1300
Appendix IV Parameters				
Antimony	mg/L	< 0.0020 U	---	---
Arsenic	mg/L	< 0.0050 U	---	---
Barium	mg/L	0.019	---	---
Beryllium	mg/L	< 0.0050 U ^	---	---
Cadmium	mg/L	< 0.0010 U	---	---
Chromium	mg/L	< 0.0020 U	---	---
Cobalt	mg/L	< 0.0010 U	---	---
Fluoride	mg/L	0.27	---	---
Lead	mg/L	< 0.0010 U	---	---
Lithium	mg/L	0.14	---	---
Mercury	mg/L	< 0.0002 U	---	---
Molybdenum	mg/L	< 0.0020 U	---	---
Radium 226	pCi/L	0.206 ± 0.110	---	---
Radium 228	pCi/L	0.334 U ± 0.325	---	---
Radium 226 and 228 combined	pCi/L	0.540 ± 0.343	---	---
Selenium	mg/L	< 0.0050 U	---	---
Thallium	mg/L	< 0.0010 U	---	---

Legend:

--, not analyzed

ft AMSL, feet above mean sea level

mg/L, milligrams per liter

s.u., standard units for pH

pCi/L, picocuries per liter

Notes:

Non-detects have been listed at the reported practical quantitation limit.

Metal results represent the total concentration (i.e. samples have not been filtered).

Laboratory Provided Qualifiers:

U = Not detected above the shown practical quantitation limit

U (Radiochem) = Result is less than the sample detection limit (varies by sample)

^ = ICV, CCV, ICB, CCB, ISA, ISB, CRI, CRA, DLCK, or MRL standard: Instrument related QC is outside acceptance limits.

Table 5: Sample Results Summary Table - MW-DP2

		MW-DP2	
		Detection Monitoring	
	Units	**6-Jun-19**	**14-Oct-19**
Water Elevation	ft AMSL	***	***
Appendix III Parameters			
Boron	mg/L	---	---
Calcium	mg/L	---	---
Chloride	mg/L	---	---
Fluoride	mg/L	---	---
pH, Field	s.u.	---	---
Sulfate	mg/L	---	---
Total Dissolved Solids	mg/L	---	---
Appendix IV Parameters			
Antimony	mg/L	---	---
Arsenic	mg/L	---	---
Barium	mg/L	---	---
Beryllium	mg/L	---	---
Cadmium	mg/L	---	---
Chromium	mg/L	---	---
Cobalt	mg/L	---	---
Fluoride	mg/L	---	---
Lead	mg/L	---	---
Lithium	mg/L	---	---
Mercury	mg/L	---	---
Molybdenum	mg/L	---	---
Radium 226	pCi/L	---	---
Radium 228	pCi/L	---	---
Radium 226 and 228 combined	pCi/L	---	---
Selenium	mg/L	---	---
Thallium	mg/L	---	---

Legend:

--, not analyzed

ft AMSL, feet above mean sea level

mg/L, milligrams per liter

s.u., standard units for pH

pCi/L, picocuries per liter

Notes:

*** - Samples were not collected at MW-DP2 in 2018 or 2019 because the well was dry.

Table 6: Sample Results Summary Table - MW-DP2B

		MW-DP2B					
		Baseline Period					
	Units	**12-Jun-19**	**29-Jul-19**	**28-Aug-19**	**9-Oct-19**	**20-Nov-19**	**18-Dec-19**
Water Elevation	ft AMSL	1880.2	1879.7	1879.6	1880.4	1880.6	1880.6
Appendix III Parameters							
Boron	mg/L	2.2 F1	2.2	2.1	2.3	2.6	***
Calcium	mg/L	260	250	250	240	260	***
Chloride	mg/L	71 H	70	67	67	61	***
Fluoride	mg/L	0.87	0.88	0.79	0.78	0.84	***
pH, Field	s.u.	6.90	6.93	6.86	6.87	6.91	6.83
Sulfate	mg/L	2100 H	2000	2000	2000	1900	***
Total Dissolved Solids	mg/L	3600	3800 H	3800	3500	3700 E	***
Appendix IV Parameters							
Antimony	mg/L	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	***
Arsenic	mg/L	< 0.0050 U	< 0.0020 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	***
Barium	mg/L	0.042	0.026	0.027	0.027	0.027	***
Beryllium	mg/L	< 0.0050 U	< 0.0020 U	< 0.0010 U	< 0.0010 U	< 0.0010 U ^	***
Cadmium	mg/L	< 0.0050 U	< 0.0010 U	< 0.0010 U	< 0.0010 U	< 0.0010 U	***
Chromium	mg/L	< 0.0020 U	0.0042	< 0.0020 U	< 0.0020 U	< 0.0020 U	***
Cobalt	mg/L	0.0043	0.0033	0.0037	0.0036	0.0034	***
Fluoride	mg/L	0.87	0.88	0.79	0.78	0.84	***
Lead	mg/L	< 0.0010 U	< 0.0020 U	< 0.0010 U	< 0.0010 U	< 0.0010 U	***
Lithium	mg/L	0.27	0.28	0.26	0.26 ^	0.28	***
Mercury	mg/L	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	< 0.0002 U	***
Molybdenum	mg/L	0.0035	0.0021	< 0.0020	0.0021	0.0023	***
Radium 226	pCi/L	-0.0916 U ± 0.179	-0.0322 U ± 0.144	0.0480 U ± 0.0852	0.0327 U ± 0.0725	0.0628 U ± 0.0593	***
Radium 228	pCi/L	0.0700 U F ± 0.233	0.128 U ± 0.195	0.338 U ± 0.296	0.0173 U ± 0.303	0.442 U ± 0.312	***
Radium 226 and 228 combined	pCi/L	-0.0216 U ± 0.294	0.0953 U ± 0.242	0.386 U ± 0.308	0.0500 U ± 0.312	0.505 ± 0.318	***
Selenium	mg/L	< 0.0050 U	< 0.0020 U	< 0.0050 U	< 0.0050 U	< 0.0050 U	***
Thallium	mg/L	< 0.0010 U	< 0.0020 U	< 0.0010 U	< 0.0010 U	< 0.0010 U	***

Legend:

--, not analyzed

ft AMSL, feet above mean sea level

mg/L, milligrams per liter

s.u., standard units for pH

pCi/L, picocuries per liter

Notes:

Non-detects have been listed at the reported practical quantitation limit.

Metal results represent the total concentration (i.e. samples have not been filtered).

*** To date, analytical results for the December 2019 sample have not yet been received, and will be presented in the 2020 annual report.

Laboratory Provided Qualifiers:

U = Not detected above the shown practical quantitation limit

F1 = MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

H = Sample was prepped or analyzed beyond the specified holding time.

E = Result exceeded calibration range. Analyte was re-analyzed out of hold time with similar analytical result.

U (Radiochem) = Result is less than the sample detection limit (varies by sample)

F (Radiochem) = MS/MSD Recovery and/or RPD exceeds the control limits.

^ = ICV, CCV, ICB, CCB, ISA, ISB, CRI, CRA, DLCK, or MRL standard: Instrument related QC is outside acceptance limits.

Table 7: Sample Results Summary Table - MW-DP4

		MW-DP4		
		Additional Baseline Data	Detection Monitoring	
	Units	6-Jun-19	6-Jun-19	14-Oct-19
Water Elevation	ft AMSL	1894.6	1894.6	1898.7
Appendix III Parameters				
Boron	mg/L	---	0.48	0.66
Calcium	mg/L	---	220	210
Chloride	mg/L	---	74	30
Fluoride	mg/L	---	0.18	0.25
pH, Field	s.u.	---	7.07	7.21
Sulfate	mg/L	---	2400	2600
Total Dissolved Solids	mg/L	---	4100	4300
Appendix IV Parameters				
Antimony	mg/L	< 0.0020 U	---	---
Arsenic	mg/L	< 0.0050 U	---	---
Barium	mg/L	0.019	---	---
Beryllium	mg/L	< 0.0050 U ^	---	---
Cadmium	mg/L	< 0.0010 U	---	---
Chromium	mg/L	< 0.0020 U	---	---
Cobalt	mg/L	< 0.0010 U	---	---
Fluoride	mg/L	0.18	---	---
Lead	mg/L	< 0.0010 U	---	---
Lithium	mg/L	0.33	---	---
Mercury	mg/L	< 0.0002 U	---	---
Molybdenum	mg/L	< 0.0020 U	---	---
Radium 226	pCi/L	0.0288 U ± 0.105	---	---
Radium 228	pCi/L	0.251 U ± 0.244	---	---
Radium 226 and 228 combined	pCi/L	0.279 U ± 0.266	---	---
Selenium	mg/L	0.18	---	---
Thallium	mg/L	< 0.0010 U	---	---

Legend:

--, not analyzed

ft AMSL, feet above mean sea level

mg/L, milligrams per liter

s.u., standard units for pH

pCi/L, picocuries per liter

Notes:

Non-detects have been listed at the reported practical quantitation limit.

Metal results represent the total concentration (i.e. samples have not been filtered).

Laboratory Provided Qualifiers:

U = Not detected above the shown practical quantitation limit

U (Radiochem) = Result is less than the sample detection limit (varies by sample)

^ = ICV, CCV, ICB, CCB, ISA, ISB, CRI, CRA, DLCK, or MRL standard: Instrument related QC is outside acceptance limits.

Table 8: Sample Results Summary Table - MW-91-2

		MW-91-2				
		Additional Baseline Data		Detection Monitoring		
	Units	6-Jun-19	13-Sep-19	6-Jun-19	13-Sep-19	14-Oct-19
Water Elevation	ft AMSL	1926.2	1923.7	1926.2	1923.7	1926.0
Appendix III Parameters						
Boron	mg/L	---	---	2.7	0.38	0.35
Calcium	mg/L	---	---	220	270	240
Chloride	mg/L	---	---	75	15	13
Fluoride	mg/L	---	---	0.26	< 0.10 U	< 0.10 U
pH, Field	s.u.	---	---	6.09	6.11	6.15
Sulfate	mg/L	---	---	1100	1100	920
Total Dissolved Solids	mg/L	---	---	2200	2000	1700
Appendix IV Parameters						
Antimony	mg/L	< 0.0020 U	< 0.0020 U	---	---	---
Arsenic	mg/L	< 0.0050 U	< 0.0050 U	---	---	---
Barium	mg/L	0.047	0.048	---	---	---
Beryllium	mg/L	< 0.0050 U ^	< 0.0010 U	---	---	---
Cadmium	mg/L	< 0.0010 U	< 0.0010 U	---	---	---
Chromium	mg/L	< 0.0020 U	< 0.0020 U	---	---	---
Cobalt	mg/L	0.0013	< 0.0010 U	---	---	---
Fluoride	mg/L	0.26	< 0.10 U	---	---	---
Lead	mg/L	< 0.0010 U	< 0.0010 U	---	---	---
Lithium	mg/L	0.15	0.11	---	---	---
Mercury	mg/L	< 0.0002 U	< 0.0002 U	---	---	---
Molybdenum	mg/L	0.0041	< 0.0020 U	---	---	---
Radium 226	pCi/L	0.145 U ± 0.111	0.566 ± 0.155	---	---	---
Radium 228	pCi/L	0.440 U ± 0.307	0.451 U ± 0.341	---	---	---
Radium 226 and 228 combined	pCi/L	0.584 ± 0.326	1.02 ± 0.375	---	---	---
Selenium	mg/L	< 0.0050 U	< 0.0050 U	---	---	---
Thallium	mg/L	< 0.0010 U	< 0.0010 U	---	---	---

Legend:

--, not analyzed

ft AMSL, feet above mean sea level

mg/L, milligrams per liter

s.u., standard units for pH

pCi/L, picocuries per liter

Notes:

Non-detects have been listed at the reported practical quantitation limit.

Metal results represent the total concentration (i.e. samples have not been filtered).

An additional sample was collected at MW-91-2 in September 2019, after the June 2019 sample was found to have been switched with the sample from MW-91-1. Analytical results from both events are provided for informational purposes.

Laboratory Provided Qualifiers:

U = Not detected above the shown practical quantitation limit

U (Radiochem) = Result is less than the sample detection limit (varies by sample)

^ = ICV, CCV, ICB, CCB, ISA, ISB, CRI, CRA, DLCK, or MRL standard: Instrument related QC is outside acceptance limits.

Table 9: Sample Results Summary Table - MW-75

		MW-75		
		Additional Baseline Data	Detection Monitoring	
	Units	6-Jun-19	6-Jun-19	14-Oct-19
Water Elevation	ft AMSL	1912.7	1912.7	1914.0
Appendix III Parameters				
Boron	mg/L	---	0.2	0.2
Calcium	mg/L	---	5.3	5.3
Chloride	mg/L	---	< 3.0 U	1.1
Fluoride	mg/L	---	0.56	0.46
pH, Field	s.u.	---	8.12	8.22
pH, Lab	s.u.	---	8.3	8.4
Sulfate	mg/L	---	72	71
Total Dissolved Solids	mg/L	---	810	880
Appendix IV Parameters				
Antimony	mg/L	< 0.0020 U	---	---
Arsenic	mg/L	< 0.0050 U	---	---
Barium	mg/L	0.035	---	---
Beryllium	mg/L	< 0.0050 U ^	---	---
Cadmium	mg/L	< 0.0010 U	---	---
Chromium	mg/L	< 0.0020 U	---	---
Cobalt	mg/L	< 0.0010 U	---	---
Fluoride	mg/L	0.56	---	---
Lead	mg/L	< 0.0010 U	---	---
Lithium	mg/L	0.085	---	---
Mercury	mg/L	< 0.0002 U	---	---
Molybdenum	mg/L	< 0.002 U	---	---
Radium 226	pCi/L	-0.0233 U ± 0.104	---	---
Radium 228	pCi/L	0.231 U ± 0.253	---	---
Radium 226 and 228 combined	pCi/L	0.208 U ± 0.274	---	---
Selenium	mg/L	< 0.0050 U	---	---
Thallium	mg/L	< 0.0010 U	---	---

Legend:

--, not analyzed

ft AMSL, feet above mean sea level

mg/L, milligrams per liter

s.u., standard units for pH

pCi/L, picocuries per liter

Notes:

Non-detects have been listed at the reported practical quantitation limit.

Metal results represent the total concentration (i.e. samples have not been filtered).

Laboratory Provided Qualifiers:

U = Not detected above the shown practical quantitation limit

U (Radiochem) = Result is less than the sample detection limit (varies by sample)

^ = ICV, CCV, ICB, CCB, ISA, ISB, CRI, CRA, DLCK, or MRL standard: Instrument related QC is outside acceptance limits.

Table 10: Sample Results Summary Table - MW-91-1

		MW-91-1				
		Additional Baseline Data		Detection Monitoring		
	Units	6-Jun-19	13-Sep-19	6-Jun-19	13-Sep-19	15-Oct-19
Water Elevation	ft AMSL	1876.5	1876.3	1876.5	1876.3	1876.8
Appendix III Parameters						
Boron	mg/L	---	---	0.35	2.9	2.7
Calcium	mg/L	---	---	270	230	220
Chloride	mg/L	---	---	16	85	79
Fluoride	mg/L	---	---	< 0.10 U	0.2	0.21
pH, Field	s.u.	---	---	6.82	6.97	6.94
Sulfate	mg/L	---	---	1200	1300	1100
Total Dissolved Solids	mg/L	---	---	2000	2300 H	2400
Appendix IV Parameters						
Antimony	mg/L	< 0.0020 U	< 0.0020 U	---	---	---
Arsenic	mg/L	< 0.0050 U	< 0.0050 U	---	---	---
Barium	mg/L	0.064	0.048	---	---	---
Beryllium	mg/L	< 0.0050 U ^	< 0.0010 U	---	---	---
Cadmium	mg/L	< 0.0010 U	< 0.0010 U	---	---	---
Chromium	mg/L	< 0.0020 U	< 0.0020 U	---	---	---
Cobalt	mg/L	< 0.0010 U	0.0019	---	---	---
Fluoride	mg/L	< 0.10 U	0.20	---	---	---
Lead	mg/L	< 0.0010 U	< 0.0010 U	---	---	---
Lithium	mg/L	0.10	0.14	---	---	---
Mercury	mg/L	< 0.0002 U	< 0.0002 U	---	---	---
Molybdenum	mg/L	< 0.0020 U	0.0047	---	---	---
Radium 226	pCi/L	0.551 ± 0.225	0.0217 U ± 0.0582	---	---	---
Radium 228	pCi/L	0.543 U ± 0.379	0.383 U ± 0.320	---	---	---
Radium 226 and 228 combined	pCi/L	1.09 ± 0.441	0.405 U ± 0.325	---	---	---
Selenium	mg/L	< 0.0050 U	0.011	---	---	---
Thallium	mg/L	< 0.0010 U	< 0.0010 U	---	---	---

Legend:

--, not analyzed

ft AMSL, feet above mean sea level

mg/L, milligrams per liter

s.u., standard units for pH

pCi/L, picocuries per liter

Notes:

Non-detects have been listed at the reported practical quantitation limit.

Metal results represent the total concentration (i.e. samples have not been filtered).

An additional sample was collected at MW-91-1 in September 2019, after the June 2019 sample was found to have been switched with the sample from MW-91-2. Analytical results from both events are provided for informational purposes.

Laboratory Provided Qualifiers:

U = Not detected above the shown practical quantitation limit

U (Radiochem) = Result is less than the sample detection limit (varies by sample)

H = Sample was prepped or analyzed beyond the specified holding time.

^ = ICV, CCV, ICB, CCB, ISA, ISB, CRI, CRA, DLCK, or MRL standard: Instrument related QC is outside acceptance limits.

Table 11: Sample Results Summary Table - MW-49

		MW-49		
		Additional Baseline Data	Detection Monitoring	
	Units	6-Jun-19	6-Jun-19	15-Oct-19
Water Elevation	ft AMSL	1888.1	1888.1	1888.8
Appendix III Parameters				
Boron	mg/L	---	4.2	4.6
Calcium	mg/L	---	200	200
Chloride	mg/L	---	70	71
Fluoride	mg/L	---	0.19	0.16
pH, Field	s.u.	---	6.89	7.02
Sulfate	mg/L	---	1300	1400
Total Dissolved Solids	mg/L	---	2600	2800
Appendix IV Parameters				
Antimony	mg/L	< 0.0020 U	---	---
Arsenic	mg/L	< 0.0050 U	---	---
Barium	mg/L	0.027	---	---
Beryllium	mg/L	< 0.0050 U ^	---	---
Cadmium	mg/L	< 0.0010 U	---	---
Chromium	mg/L	< 0.0020 U	---	---
Cobalt	mg/L	< 0.0010 U	---	---
Fluoride	mg/L	0.19	---	---
Lead	mg/L	< 0.0010 U	---	---
Lithium	mg/L	0.23	---	---
Mercury	mg/L	< 0.0002 U	---	---
Molybdenum	mg/L	< 0.0020 U	---	---
Radium 226	pCi/L	0.000 U ± 0.0914	---	---
Radium 228	pCi/L	0.313 U ± 0.300	---	---
Radium 226 and 228 combined	pCi/L	0.313 U ± 0.314	---	---
Selenium	mg/L	< 0.0050 U	---	---
Thallium	mg/L	< 0.0010 U	---	---

Legend:

--, not analyzed

ft AMSL, feet above mean sea level

mg/L, milligrams per liter

s.u., standard units for pH

pCi/L, picocuries per liter

Notes:

Non-detects have been listed at the reported practical quantitation limit.

Metal results represent the total concentration (i.e. samples have not been filtered).

Laboratory Provided Qualifiers:

U = Not detected above the shown practical quantitation limit

U (Radiochem) = Result is less than the sample detection limit (varies by sample)

^ = ICV, CCV, ICB, CCB, ISA, ISB, CRI, CRA, DLCK, or MRL standard: Instrument related QC is outside acceptance limits.

Table 12: Sample Results Summary Table - MW-51

		MW-51		
		Additional Baseline Data	Detection Monitoring	
	Units	6-Jun-19	6-Jun-19	15-Oct-19
Water Elevation	ft AMSL	1879.3	1879.3	1884.1
Appendix III Parameters				
Boron	mg/L	---	3.9	7.9
Calcium	mg/L	---	280	420
Chloride	mg/L	---	87	80
Fluoride	mg/L	---	0.39	0.43
pH, Field	s.u.	---	7.08	6.91
Sulfate	mg/L	---	3100	3600
Total Dissolved Solids	mg/L	---	5300	6200
Appendix IV Parameters				
Antimony	mg/L	< 0.0020 U	---	---
Arsenic	mg/L	< 0.0050 U	---	---
Barium	mg/L	0.023	---	---
Beryllium	mg/L	< 0.0050 U ^	---	---
Cadmium	mg/L	< 0.0010 U	---	---
Chromium	mg/L	< 0.0020 U	---	---
Cobalt	mg/L	< 0.0010 U	---	---
Fluoride	mg/L	0.39	---	---
Lead	mg/L	< 0.0010 U	---	---
Lithium	mg/L	0.47	---	---
Mercury	mg/L	< 0.0002 U	---	---
Molybdenum	mg/L	0.0081	---	---
Radium 226	pCi/L	0.0895 U ± 0.0794	---	---
Radium 228	pCi/L	0.620 ± 0.264	---	---
Radium 226 and 228 combined	pCi/L	0.709 ± 0.276	---	---
Selenium	mg/L	0.015	---	---
Thallium	mg/L	< 0.0010 U	---	---

Legend:

--, not analyzed

ft AMSL, feet above mean sea level

mg/L, milligrams per liter

s.u., standard units for pH

pCi/L, picocuries per liter

Notes:

Non-detects have been listed at the reported practical quantitation limit.

Metal results represent the total concentration (i.e. samples have not been filtered).

Laboratory Provided Qualifiers:

U = Not detected above the shown practical quantitation limit

U (Radiochem) = Result is less than the sample detection limit (varies by sample)

^ = ICV, CCV, ICB, CCB, ISA, ISB, CRI, CRA, DLCK, or MRL standard: Instrument related QC is outside acceptance limits.

Table 13: Sample Results Summary Table - MW-16-6

		MW-16-6		
		Additional Baseline Data	Detection Monitoring	
	Units	6-Jun-19	6-Jun-19	14-Oct-19
Water Elevation	ft AMSL	1910.4	1910.4	1912.0
Appendix III Parameters				
Boron	mg/L	---	3.9	5.2
Calcium	mg/L	---	500	530
Chloride	mg/L	---	37	45
Fluoride	mg/L	---	< 0.10 U	< 0.10 U
pH, Field	s.u.	---	5.68	5.94
pH, Lab	s.u.	---	6.4	6.6
Sulfate	mg/L	---	3600	3900
Total Dissolved Solids	mg/L	---	5900	6400
Appendix IV Parameters				
Antimony	mg/L	< 0.0020 U	---	---
Arsenic	mg/L	< 0.0050 U	---	---
Barium	mg/L	0.028	---	---
Beryllium	mg/L	< 0.0050 U ^	---	---
Cadmium	mg/L	< 0.0010 U	---	---
Chromium	mg/L	< 0.0020 U	---	---
Cobalt	mg/L	0.0018	---	---
Fluoride	mg/L	< 0.10 U	---	---
Lead	mg/L	< 0.0010 U	---	---
Lithium	mg/L	0.59	---	---
Mercury	mg/L	< 0.0002 U	---	---
Molybdenum	mg/L	< 0.0020 U	---	---
Radium 226	pCi/L	0.00155 U ± 0.126	---	---
Radium 228	pCi/L	0.332 U ± 0.364	---	---
Radium 226 and 228 combined	pCi/L	0.334 U ± 0.385	---	---
Selenium	mg/L	< 0.0050 U	---	---
Thallium	mg/L	< 0.0010 U	---	---

Legend:

--, not analyzed

ft AMSL, feet above mean sea level

mg/L, milligrams per liter

s.u., standard units for pH

pCi/L, picocuries per liter

Notes:

Non-detects have been listed at the reported practical quantitation limit.

Metal results represent the total concentration (i.e. samples have not been filtered).

Laboratory Provided Qualifiers:

U = Not detected above the shown practical quantitation limit

U (Radiochem) = Result is less than the sample detection limit (varies by sample)

^ = ICV, CCV, ICB, CCB, ISA, ISB, CRI, CRA, DLCK, or MRL standard: Instrument related QC is outside acceptance limits.

Table 14: Sample Results Summary Table - MW-16-7

		MW-16-7		
		Additional Baseline Data	Detection Monitoring	
	Units	10-Jun-19	10-Jun-19	15-Oct-19
Water Elevation	ft AMSL	1877.4	1877.4	1881.6
Appendix III Parameters				
Boron	mg/L	---	< 0.10 U	< 0.10 U
Calcium	mg/L	---	330	310
Chloride	mg/L	---	77 H	77
Fluoride	mg/L	---	< 0.10 U	< 0.10 U
pH, Field	s.u.	---	6.91	6.98
Sulfate	mg/L	---	2600 H	2400
Total Dissolved Solids	mg/L	---	4100 B	4000
Appendix IV Parameters				
Antimony	mg/L	< 0.0020 U	---	---
Arsenic	mg/L	< 0.0050 U	---	---
Barium	mg/L	0.014	---	---
Beryllium	mg/L	< 0.0010 U ^ *	---	---
Cadmium	mg/L	< 0.0010 U	---	---
Chromium	mg/L	< 0.0020 U	---	---
Cobalt	mg/L	< 0.0010 U	---	---
Fluoride	mg/L	< 0.10 U	---	---
Lead	mg/L	< 0.0010 U	---	---
Lithium	mg/L	0.43	---	---
Mercury	mg/L	< 0.0002 U	---	---
Molybdenum	mg/L	< 0.0020 U	---	---
Radium 226	pCi/L	0.276 U ± 0.216	---	---
Radium 228	pCi/L	0.468 F ± 0.251	---	---
Radium 226 and 228 combined	pCi/L	0.743 ± 0.331	---	---
Selenium	mg/L	0.16	---	---
Thallium	mg/L	< 0.0010 U	---	---

Legend:

--, not analyzed

ft AMSL, feet above mean sea level

mg/L, milligrams per liter

s.u., standard units for pH

pCi/L, picocuries per liter

Notes:

Non-detects have been listed at the reported practical quantitation limit.

Metal results represent the total concentration (i.e. samples have not been filtered).

Laboratory Provided Qualifiers:

U = Not detected above the shown practical quantitation limit

H = Sample was prepped or analyzed beyond the specified holding time.

B = Compound was found in the blank and sample.

U (Radiochem) = Result is less than the sample detection limit (varies by sample)

F (Radiochem) = MS/MSD Recovery and/or RPD exceeds the control limits.

* = LCS or LCSD is outside acceptance limits.

^ = ICV, CCV, ICB, CCB, ISA, ISB, CRI, CRA, DLCK, or MRL standard: Instrument related QC is outside acceptance limits.

Table 15: Sample Results Summary Table - MW-10

		MW-10		
		Additional Baseline Data	Detection Monitoring	
	Units	10-Jun-19	10-Jun-19	15-Oct-19
Water Elevation	ft AMSL	1880.7	1880.7	1882.0
Appendix III Parameters				
Boron	mg/L	---	2.0	6.4
Calcium	mg/L	---	220	200
Chloride	mg/L	---	19 H	17
Fluoride	mg/L	---	0.19	0.47
pH, Field	s.u.	---	6.91	7.49
Sulfate	mg/L	---	810 H	1300
Total Dissolved Solids	mg/L	---	1900 B	2400
Appendix IV Parameters				
Antimony	mg/L	< 0.0020 U	---	---
Arsenic	mg/L	< 0.0050 U	---	---
Barium	mg/L	0.025	---	---
Beryllium	mg/L	< 0.0010 U ^ *	---	---
Cadmium	mg/L	< 0.0010 U	---	---
Chromium	mg/L	< 0.0020 U	---	---
Cobalt	mg/L	< 0.0010 U	---	---
Fluoride	mg/L	0.19	---	---
Lead	mg/L	< 0.0010 U	---	---
Lithium	mg/L	0.18	---	---
Mercury	mg/L	< 0.0002 U	---	---
Molybdenum	mg/L	< 0.0020 U	---	---
Radium 226	pCi/L	0.0115 U ± 0.0966	---	---
Radium 228	pCi/L	0.487 ± 0.280	---	---
Radium 226 and 228 combined	pCi/L	0.498 ± 0.296	---	---
Selenium	mg/L	< 0.0050 U	---	---
Thallium	mg/L	< 0.0010 U	---	---

Legend:

--, not analyzed

ft AMSL, feet above mean sea level

mg/L, milligrams per liter

s.u., standard units for pH

pCi/L, picocuries per liter

Notes:

Non-detects have been listed at the reported practical quantitation limit.

Metal results represent the total concentration (i.e. samples have not been filtered).

Laboratory Provided Qualifiers:

U = Not detected above the shown practical quantitation limit

H = Sample was prepped or analyzed beyond the specified holding time.

B = Compound was found in the blank and sample.

U (Radiochem) = Result is less than the sample detection limit (varies by sample)

* = LCS or LCSD is outside acceptance limits.

^ = ICV, CCV, ICB, CCB, ISA, ISB, CRI, CRA, DLCK, or MRL standard: Instrument related QC is outside acceptance limits.

Table 16: Sample Results Summary Table - MW-16-0

		MW-16-0		
		Additional Baseline Data	Detection Monitoring	
	Units	10-Jun-19	10-Jun-19	14-Oct-19
Water Elevation	ft AMSL	1874.7	1874.7	1875.9
Appendix III Parameters				
Boron	mg/L	---	6.7	15
Calcium	mg/L	---	370	450
Chloride	mg/L	---	31 H	24
Fluoride	mg/L	---	0.22	0.19
pH, Field	s.u.	---	7.42	7.28
Sulfate	mg/L	---	2600 H	2700
Total Dissolved Solids	mg/L	---	3900 B	4400
Appendix IV Parameters				
Antimony	mg/L	< 0.0020 U	---	---
Arsenic	mg/L	< 0.0050 U	---	---
Barium	mg/L	0.022	---	---
Beryllium	mg/L	< 0.0010 U ^ *	---	---
Cadmium	mg/L	< 0.0010 U	---	---
Chromium	mg/L	< 0.0020 U	---	---
Cobalt	mg/L	< 0.0010 U	---	---
Fluoride	mg/L	0.22	---	---
Lead	mg/L	< 0.0010 U	---	---
Lithium	mg/L	0.096	---	---
Mercury	mg/L	< 0.0002 U	---	---
Molybdenum	mg/L	0.012	---	---
Radium 226	pCi/L	-0.0226 U ± 0.0719	---	---
Radium 228	pCi/L	0.174 U ± 0.239	---	---
Radium 226 and 228 combined	pCi/L	0.151 U ± 0.250	---	---
Selenium	mg/L	0.032	---	---
Thallium	mg/L	< 0.0010 U	---	---

Legend:

--, not analyzed

ft AMSL, feet above mean sea level

mg/L, milligrams per liter

s.u., standard units for pH

pCi/L, picocuries per liter

Notes:

Non-detects have been listed at the reported practical quantitation limit.

Metal results represent the total concentration (i.e. samples have not been filtered).

Laboratory Provided Qualifiers:

U = Not detected above the shown practical quantitation limit

H = Sample was prepped or analyzed beyond the specified holding time.

B = Compound was found in the blank and sample.

U (Radiochem) = Result is less than the sample detection limit (varies by sample)

* = LCS or LCSD is outside acceptance limits.

^ = ICV, CCV, ICB, CCB, ISA, ISB, CRI, CRA, DLCK, or MRL standard: Instrument related QC is outside acceptance limits.

Table 17: Sample Results Summary Table - MW-16-1

		MW-16-1		
		Additional Baseline Data	Detection Monitoring	
	Units	10-Jun-19	10-Jun-19	15-Oct-19
Water Elevation	ft AMSL	1872.0	1872.0	1874.0
Appendix III Parameters				
Boron	mg/L	---	13	12
Calcium	mg/L	---	560	410
Chloride	mg/L	---	370 H	64
Fluoride	mg/L	---	0.21	0.77
pH, Field	s.u.	---	7.16	7.60
Sulfate	mg/L	---	3700 H	2400
Total Dissolved Solids	mg/L	---	5400 B	3900
Appendix IV Parameters				
Antimony	mg/L	< 0.0020 U	---	---
Arsenic	mg/L	< 0.0050 U	---	---
Barium	mg/L	0.015	---	---
Beryllium	mg/L	< 0.0050 U	---	---
Cadmium	mg/L	< 0.0010 U	---	---
Chromium	mg/L	< 0.0020 U	---	---
Cobalt	mg/L	< 0.0010 U	---	---
Fluoride	mg/L	0.21	---	---
Lead	mg/L	< 0.0010 U	---	---
Lithium	mg/L	0.093	---	---
Mercury	mg/L	< 0.0002 U	---	---
Molybdenum	mg/L	0.028	---	---
Radium 226	pCi/L	0.0561 U ± 0.248	---	---
Radium 228	pCi/L	0.568 F ± 0.271	---	---
Radium 226 and 228 combined	pCi/L	0.624 ± 0.367	---	---
Selenium	mg/L	0.062	---	---
Thallium	mg/L	< 0.0010 U	---	---

Legend:

--, not analyzed

ft AMSL, feet above mean sea level

mg/L, milligrams per liter

s.u., standard units for pH

pCi/L, picocuries per liter

Notes:

Non-detects have been listed at the reported practical quantitation limit.

Metal results represent the total concentration (i.e. samples have not been f

Laboratory Provided Qualifiers:

U = Not detected above the shown practical quantitation limit

H = Sample was prepped or analyzed beyond the specified holding time.

B = Compound was found in the blank and sample.

U (Radiochem) = Result is less than the sample detection limit (varies by sample)

F (Radiochem) = MS/MSD Recovery and/or RPD exceeds the control limits.

Table 18: Sample Results Summary Table - MW-72

		MW-72		
		Additional Baseline Data	Detection Monitoring	
	Units	10-Jun-19	10-Jun-19	15-Oct-19
Water Elevation	ft AMSL	1879.0	1879.0	1882.0
Appendix III Parameters				
Boron	mg/L	---	0.12	0.15
Calcium	mg/L	---	720	690
Chloride	mg/L	---	36 H	33
Fluoride	mg/L	---	0.18	0.17
pH, Field	s.u.	---	6.76	6.77
Sulfate	mg/L	---	3400 H	3100
Total Dissolved Solids	mg/L	---	5200 B	5000
Appendix IV Parameters				
Antimony	mg/L	< 0.0020 U	---	---
Arsenic	mg/L	< 0.0050 U	---	---
Barium	mg/L	0.018	---	---
Beryllium	mg/L	< 0.0010 U ^ *	---	---
Cadmium	mg/L	< 0.0010 U ^ *	---	---
Chromium	mg/L	< 0.0020 U	---	---
Cobalt	mg/L	< 0.0010 U	---	---
Fluoride	mg/L	0.18	---	---
Lead	mg/L	< 0.0010 U	---	---
Lithium	mg/L	0.19	---	---
Mercury	mg/L	< 0.0002 U	---	---
Molybdenum	mg/L	0.0028	---	---
Radium 226	pCi/L	0.0973 U ± 0.0887	---	---
Radium 228	pCi/L	0.348 U ± 0.282	---	---
Radium 226 and 228 combined	pCi/L	0.445 U ± 0.296	---	---
Selenium	mg/L	0.017	---	---
Thallium	mg/L	< 0.0010 U	---	---

Legend:

--, not analyzed

ft AMSL, feet above mean sea level

mg/L, milligrams per liter

s.u., standard units for pH

pCi/L, picocuries per liter

Notes:

Non-detects have been listed at the reported practical quantitation limit.

Metal results represent the total concentration (i.e. samples have not been filtered).

Laboratory Provided Qualifiers:

U = Not detected above the shown practical quantitation limit

H = Sample was prepped or analyzed beyond the specified holding time.

B = Compound was found in the blank and sample.

U (Radiochem) = Result is less than the sample detection limit (varies by sample)

* = LCS or LCSD is outside acceptance limits.

^ = ICV, CCV, ICB, CCB, ISA, ISB, CRI, CRA, DLCK, or MRL standard: Instrument related QC is outside acceptance limits.

Table 19: Sample Results Summary Table - MW-42

		MW-42		
		Additional Baseline Data	Detection Monitoring	
	Units	10-Jun-19	10-Jun-19	16-Oct-19
Water Elevation	ft AMSL	1876.2	1876.2	1876.7
Appendix III Parameters				
Boron	mg/L	---	0.78	0.98
Calcium	mg/L	---	230	220
Chloride	mg/L	---	27 H	22
Fluoride	mg/L	---	0.26	0.27
pH, Field	s.u.	---	7.41	7.31
Sulfate	mg/L	---	1400 H	1100
Total Dissolved Solids	mg/L	---	2300 B	2200
Appendix IV Parameters				
Antimony	mg/L	< 0.0020 U	---	---
Arsenic	mg/L	< 0.0050 U	---	---
Barium	mg/L	0.044	---	---
Beryllium	mg/L	< 0.0010 U ^ *	---	---
Cadmium	mg/L	< 0.0010 U	---	---
Chromium	mg/L	< 0.0020 U	---	---
Cobalt	mg/L	< 0.0010 U	---	---
Fluoride	mg/L	0.26	---	---
Lead	mg/L	< 0.0010 U	---	---
Lithium	mg/L	0.14	---	---
Mercury	mg/L	< 0.0002 U	---	---
Molybdenum	mg/L	0.0044	---	---
Radium 226	pCi/L	-0.00344 U ± 0.0483	---	---
Radium 228	pCi/L	0.634 ± 0.279	---	---
Radium 226 and 228 combined	pCi/L	0.630 ± 0.283	---	---
Selenium	mg/L	< 0.0050 U	---	---
Thallium	mg/L	< 0.0010 U	---	---

Legend:

--, not analyzed

ft AMSL, feet above mean sea level

mg/L, milligrams per liter

s.u., standard units for pH

pCi/L, picocuries per liter

Notes:

Non-detects have been listed at the reported practical quantitation limit.

Metal results represent the total concentration (i.e. samples have not been filtered).

Laboratory Provided Qualifiers:

U = Not detected above the shown practical quantitation limit

H = Sample was prepped or analyzed beyond the specified holding time.

B = Compound was found in the blank and sample.

U (Radiochem) = Result is less than the sample detection limit (varies by sample)

* = LCS or LCSD is outside acceptance limits.

^ = ICV, CCV, ICB, CCB, ISA, ISB, CRI, CRA, DLCK, or MRL standard: Instrument related QC is outside acceptance limits.

Table 20: Sample Results Summary Table - MW-16-2

		MW-16-2		
		Additional Baseline Data	Detection Monitoring	
	Units	11-Jun-19	11-Jun-19	21-Oct-19
Water Elevation	ft AMSL	1872.4	1872.4	1874.3
Appendix III Parameters				
Boron	mg/L	---	8.2	10
Calcium	mg/L	---	360	390
Chloride	mg/L	---	180 H	190
Fluoride	mg/L	---	0.66	0.55
pH, Field	s.u.	---	7.23	7.16
Sulfate	mg/L	---	2200 H	2200
Total Dissolved Solids	mg/L	---	3500	4200
Appendix IV Parameters				
Antimony	mg/L	< 0.0020 U	---	---
Arsenic	mg/L	< 0.0050 U	---	---
Barium	mg/L	0.014	---	---
Beryllium	mg/L	< 0.0050 U *	---	---
Cadmium	mg/L	< 0.0010 U	---	---
Chromium	mg/L	< 0.0020 U	---	---
Cobalt	mg/L	< 0.0010 U	---	---
Fluoride	mg/L	0.66	---	---
Lead	mg/L	< 0.0010 U	---	---
Lithium	mg/L	0.12	---	---
Mercury	mg/L	< 0.0002 U	---	---
Molybdenum	mg/L	0.0020	---	---
Radium 226	pCi/L	-0.178 U ± 0.184	---	---
Radium 228	pCi/L	0.0550 U F ± 0.260	---	---
Radium 226 and 228 combined	pCi/L	-0.123 U ± 0.319	---	---
Selenium	mg/L	0.0066	---	---
Thallium	mg/L	< 0.0010 U	---	---

Legend:

--, not analyzed

ft AMSL, feet above mean sea level

mg/L, milligrams per liter

s.u., standard units for pH

pCi/L, picocuries per liter

Notes:

Non-detects have been listed at the reported practical quantitation limit.

Metal results represent the total concentration (i.e. samples have not been filtered).

Laboratory Provided Qualifiers:

U = Not detected above the shown practical quantitation limit

H = Sample was prepped or analyzed beyond the specified holding time.

U (Radiochem) = Result is less than the sample detection limit (varies by sample)

F (Radiochem) = MS/MSD Recovery and/or RPD exceeds the control limits.

* = LCS or LCSD is outside acceptance limits.

Table 21: Sample Results Summary Table - MW-16-3

		MW-16-3		
		Additional Baseline Data	Detection Monitoring	
	Units	11-Jun-19	11-Jun-19	21-Oct-19
Water Elevation	ft AMSL	1872.0	1872.0	1873.5
Appendix III Parameters				
Boron	mg/L	---	16	19
Calcium	mg/L	---	420	400
Chloride	mg/L	---	720 H	600
Fluoride	mg/L	---	1.4	1.3
pH, Field	s.u.	---	7.06	7.14
Sulfate	mg/L	---	5400 H	5200
Total Dissolved Solids	mg/L	---	8600	9200
Appendix IV Parameters				
Antimony	mg/L	< 0.0020 U	---	---
Arsenic	mg/L	< 0.0050 U	---	---
Barium	mg/L	0.018	---	---
Beryllium	mg/L	< 0.0050 U *	---	---
Cadmium	mg/L	< 0.0010 U	---	---
Chromium	mg/L	< 0.0020 U	---	---
Cobalt	mg/L	< 0.0010 U	---	---
Fluoride	mg/L	1.4	---	---
Lead	mg/L	< 0.0010 U	---	---
Lithium	mg/L	0.35	---	---
Mercury	mg/L	< 0.0002 U	---	---
Molybdenum	mg/L	< 0.0020 U	---	---
Radium 226	pCi/L	-0.131 U ± 0.118	---	---
Radium 228	pCi/L	0.193 U F ± 0.214	---	---
Radium 226 and 228 combined	pCi/L	0.0616 U ± 0.244	---	---
Selenium	mg/L	< 0.0050 U	---	---
Thallium	mg/L	< 0.0010 U	---	---

Legend:

--, not analyzed

ft AMSL, feet above mean sea level

mg/L, milligrams per liter

s.u., standard units for pH

pCi/L, picocuries per liter

Notes:

Non-detects have been listed at the reported practical quantitation limit.

Metal results represent the total concentration (i.e. samples have not been filtered).

Laboratory Provided Qualifiers:

U = Not detected above the shown practical quantitation limit

H = Sample was prepped or analyzed beyond the specified holding time.

U (Radiochem) = Result is less than the sample detection limit (varies by sample)

F (Radiochem) = MS/MSD Recovery and/or RPD exceeds the control limits.

* = LCS or LCSD is outside acceptance limits.

Table 22: Sample Results Summary Table - MW-16-4

		MW-16-4		
		Additional Baseline Data	Detection Monitoring	
	Units	11-Jun-19	11-Jun-19	16-Oct-19
Water Elevation	ft AMSL	1871.6	1871.6	1873.1
Appendix III Parameters				
Boron	mg/L	---	0.47	0.53
Calcium	mg/L	---	410	360
Chloride	mg/L	---	44 H	36
Fluoride	mg/L	---	0.26	0.27
pH, Field	s.u.	---	6.86	6.89
Sulfate	mg/L	---	3500 H	3900
Total Dissolved Solids	mg/L	---	4800	5400
Appendix IV Parameters				
Antimony	mg/L	< 0.0020 U	---	---
Arsenic	mg/L	< 0.0050 U	---	---
Barium	mg/L	0.0061	---	---
Beryllium	mg/L	< 0.0050 U *	---	---
Cadmium	mg/L	< 0.0010 U	---	---
Chromium	mg/L	< 0.0020 U	---	---
Cobalt	mg/L	< 0.0010 U	---	---
Fluoride	mg/L	0.26	---	---
Lead	mg/L	< 0.0010 U	---	---
Lithium	mg/L	0.66	---	---
Mercury	mg/L	< 0.0002 U	---	---
Molybdenum	mg/L	0.0035	---	---
Radium 226	pCi/L	0.0583 U ± 0.156	---	---
Radium 228	pCi/L	0.0777 U F ± 0.243	---	---
Radium 226 and 228 combined	pCi/L	0.136 U ± 0.289	---	---
Selenium	mg/L	< 0.0050 U ^	---	---
Thallium	mg/L	< 0.0010 U	---	---

Legend:

--, not analyzed

ft AMSL, feet above mean sea level

mg/L, milligrams per liter

s.u., standard units for pH

pCi/L, picocuries per liter

Notes:

Non-detects have been listed at the reported practical quantitation limit.

Metal results represent the total concentration (i.e. samples have not been filtered).

Laboratory Provided Qualifiers:

U = Not detected above the shown practical quantitation limit

H = Sample was prepped or analyzed beyond the specified holding time, per request.

U (Radiochem) = Result is less than the sample detection limit (varies by sample)

F (Radiochem) = MS/MSD Recovery and/pr RPD exceeds the control limits.

* = LCS or LCSD is outside acceptance limits.

^ = ICV, CCV, ICB, CCB, ISA, ISB, CRI, CRA, DLCK, or MRL standard: Instrument related QC is outside acceptance limits.

Table 23: Sample Results Summary Table - MW-15

		MW-15		
		Additional Baseline Data	Detection Monitoring	
	Units	11-Jun-19	11-Jun-19	16-Oct-19
Water Elevation	ft AMSL	1874.0	1874.0	1875.4
Appendix III Parameters				
Boron	mg/L	---	24	27
Calcium	mg/L	---	420	420
Chloride	mg/L	---	340 H	260
Fluoride	mg/L	---	0.49	0.44
pH, Field	s.u.	---	7.16	7.08
Sulfate	mg/L	---	3900 H	3800
Total Dissolved Solids	mg/L	---	6600	4900
Appendix IV Parameters				
Antimony	mg/L	< 0.0020 U	---	---
Arsenic	mg/L	< 0.0050 U	---	---
Barium	mg/L	0.018	---	---
Beryllium	mg/L	< 0.0050 U *	---	---
Cadmium	mg/L	< 0.0010 U	---	---
Chromium	mg/L	< 0.0020 U	---	---
Cobalt	mg/L	< 0.0010 U	---	---
Fluoride	mg/L	0.49	---	---
Lead	mg/L	< 0.0010 U	---	---
Lithium	mg/L	0.33	---	---
Mercury	mg/L	< 0.0002 U	---	---
Molybdenum	mg/L	< 0.0020 U	---	---
Radium 226	pCi/L	0.154 U ± 0.198	---	---
Radium 228	pCi/L	0.116 U F ± 0.290	---	---
Radium 226 and 228 combined	pCi/L	0.270 U ± 0.351	---	---
Selenium	mg/L	< 0.0050 U ^	---	---
Thallium	mg/L	< 0.0010 U	---	---

Legend:

--, not analyzed

ft AMSL, feet above mean sea level

mg/L, milligrams per liter

s.u., standard units for pH

pCi/L, picocuries per liter

Notes:

Non-detects have been listed at the reported practical quantitation limit.

Metal results represent the total concentration (i.e. samples have not been filtered).

Laboratory Provided Qualifiers:

U = Not detected above the shown practical quantitation limit

H = Sample was prepped or analyzed beyond the specified holding time, per request.

U (Radiochem) = Result is less than the sample detection limit (varies by sample)

F (Radiochem) = MS/MSD Recovery and/or RPD exceeds the control limits.

* = LCS or LCSD is outside acceptance limits.

^ = ICV, CCV, ICB, CCB, ISA, ISB, CRI, CRA, DLCK, or MRL standard: Instrument related QC is outside acceptance limits.

Table 24: Sample Results Summary Table - MW-16-5

		MW-16-5		
		Additional Baseline Data	Detection Monitoring	
	Units	11-Jun-19	11-Jun-19	16-Oct-19
Water Elevation	ft AMSL	1871.4	1871.4	1873.5
Appendix III Parameters				
Boron	mg/L	---	9.2	12
Calcium	mg/L	---	320	340
Chloride	mg/L	---	170 H	120
Fluoride	mg/L	---	0.81	0.71
pH, Field	s.u.	---	7.29	7.25
Sulfate	mg/L	---	2200 H	2500
Total Dissolved Solids	mg/L	---	3600	4000
Appendix IV Parameters				
Antimony	mg/L	< 0.0020 U	---	---
Arsenic	mg/L	< 0.0050 U	---	---
Barium	mg/L	0.016	---	---
Beryllium	mg/L	< 0.0010 U ^ *	---	---
Cadmium	mg/L	< 0.0010 U	---	---
Chromium	mg/L	< 0.0020 U	---	---
Cobalt	mg/L	< 0.0010 U	---	---
Fluoride	mg/L	0.81	---	---
Lead	mg/L	< 0.0010 U	---	---
Lithium	mg/L	0.18	---	---
Mercury	mg/L	< 0.0002 U	---	---
Molybdenum	mg/L	< 0.0020 U	---	---
Radium 226	pCi/L	-0.0596 U ± 0.216	---	---
Radium 228	pCi/L	0.766 F ± 0.333	---	---
Radium 226 and 228 combined	pCi/L	0.707 ± 0.397	---	---
Selenium	mg/L	< 0.0050 U	---	---
Thallium	mg/L	< 0.0010 U	---	---

Legend:

--, not analyzed

ft AMSL, feet above mean sea level

mg/L, milligrams per liter

s.u., standard units for pH

pCi/L, picocuries per liter

Notes:

Non-detects have been listed at the reported practical quantitation limit.

Metal results represent the total concentration (i.e. samples have not been filtered).

Laboratory Provided Qualifiers:

U = Not detected above the shown practical quantitation limit

H = Sample was prepped or analyzed beyond the specified holding time.

U (Radiochem) = Result is less than the sample detection limit (varies by sample)

F (Radiochem) = MS/MSD Recovery and/or RPD exceeds the control limits.

^ = ICV, CCV, ICB, CCB, ISA, ISB, CRI, CRA, DLCK, or MRL standard: Instrument related QC is outside acceptance limits.

* = LCS or LCSD is outside acceptance limits.

Table 25: Comparative Statistics - MW-DP3

		Statistical Method	Statistical Limit	Detection Monitoring Result	CUSUM Value	Within Compliance?	Detection Monitoring Result	CUSUM Value	Within Compliance?
Appendix III Analytes	**Units**			**18-Oct-18**			**5-Jun-19**		
Boron, Total	mg/L	CUSUM	0.98	0.62	0.64	Yes	0.62	0.64	Yes
Calcium, Total	mg/L	CUSUM	342	220	257	Yes	260	257	Yes
Chloride	mg/L	CUSUM	27.4	13.0	12.2	Yes	13.0	12.2	Yes
Fluoride	mg/L	NP-PL	0.13	< 0.10 U	---	Yes	< 0.10 U	---	Yes
pH, Field-Measured	s.u.	CUSUM	5.96, 6.69	6.31	6.33, 6.33	Yes	6.22	6.30, 6.33	Yes
Sulfate	mg/L	CUSUM	1687	1200	1221	Yes	1200	1221	Yes
Total Dissolved Solids	mg/L	CUSUM	2562	2300	2276	Yes	2200	2276	Yes

Notes:

mg/L, milligrams per liter

s.u., standard units for pH

NP-PL: Non-Parametric Prediction Limit

CUSUM: Parametric Shewhart-CUSUM Control Chart

U: Not detected above the shown practical quantitation limit.

Table 26: Comparative Statistics - MW-DP5

		Statistical Method	Statistical Limit	Detection Monitoring Result	CUSUM Value	Within Compliance?	Detection Monitoring Result	CUSUM Value	Within Compliance?
Appendix III Analytes	**Units**			**18-Oct-18**			**5-Jun-19**		
Boron, Total	mg/L	NP-PL	0.50	0.10	---	Yes	< 0.10 U	---	Yes
Calcium, Total	mg/L	CUSUM	386	250	303	Yes	280	303	Yes
Chloride	mg/L	CUSUM	94.6	67.0	80.5	Yes	69.0	80.5	Yes
Fluoride	mg/L	CUSUM	0.30	0.31	0.30	No (False Positive)	0.19	0.24	Yes
pH, Field-Measured	s.u.	CUSUM	6.89, 7.46	7.14	7.17, 7.17	Yes	7.06	7.12, 7.17	Yes
Sulfate	mg/L	CUSUM	5676	3400	3472	Yes	3400	3472	Yes
Total Dissolved Solids	mg/L	CUSUM	5762	5600	5505	Yes	5300	5417	Yes

Notes:

mg/L, milligrams per liter

s.u., standard units for pH

NP-PL: Non-Parametric Prediction Limit

CUSUM: Parametric Shewhart-CUSUM Control Chart

U: Not detected above the shown practical quantitation limit.

Table 27: Comparative Statistics - MW-DP1

		Statistical Method	Statistical Limit	Detection Monitoring Result	CUSUM Value	Within Compliance?	Detection Monitoring Result	CUSUM Value	Within Compliance?
Appendix III Analytes	**Units**			**22-Oct-18**			**5-Jun-19**		
Boron, Total	mg/L	CUSUM	2.86	0.76	0.90	Yes	0.73	0.90	Yes
Calcium, Total	mg/L	CUSUM	761	62	148	Yes	62	148	Yes
Chloride	mg/L	CUSUM	77	< 3.0 U	10	Yes	4.7	10	Yes
Fluoride	mg/L	CUSUM	0.34	0.27	0.28	Yes	0.27	0.28	Yes
pH, Field-Measured	s.u.	CUSUM	6.99, 7.67	7.45	7.33, 7.41	Yes	7.33	7.33, 7.34	Yes
Sulfate	mg/L	CUSUM	2233	490	674	Yes	550	674	Yes
Total Dissolved Solids	mg/L	CUSUM	3321	1300	1534	Yes	1400	1534	Yes

Notes:

mg/L, milligrams per liter

s.u., standard units for pH

NP-PL: Non-Parametric Prediction Limit

CUSUM: Parametric Shewhart-CUSUM Control Chart

U: Not detected above the shown practical quantitation limit.

Table 28: Comparative Statistics - MW-DP2

		Statistical Method	Statistical Limit	Detection Monitoring Result	CUSUM Value	Within Compliance?	Detection Monitoring Result	CUSUM Value	Within Compliance?
Appendix III Analytes	**Units**			**22-Oct-18**			**12-Jun-19**		
Boron, Total	mg/L	CUSUM	3.59	***	---	---	***	---	---
Calcium, Total	mg/L	CUSUM	357	***	---	---	***	---	---
Chloride	mg/L	CUSUM	87	***	---	---	***	---	---
Fluoride	mg/L	Decreasing Trend	NLS	***	---	---	***	---	---
pH, Field-Measured	s.u.	CUSUM	6.63, 7.12	***	---	---	***	---	---
Sulfate	mg/L	CUSUM	1949	***	---	---	***	---	---
Total Dissolved Solids	mg/L	Increasing Trend	NLS	***	---	---	***	---	---

Notes:

mg/L, milligrams per liter

s.u., standard units for pH

CUSUM: Parametric Shewhart-CUSUM Control Chart

Trend: Trends were identified in the background period. See text for discussion of significance.

NLS: No limit set due to trending data in the baseline period. A trend test is used to assess statistical significance of compliance results.

*** - Samples were not collected at MW-DP2 in 2018 or 2019 because the well was dry.

Table 29: Comparative Statistics - MW-DP2B

		Statistical Method	Statistical Limit	Monitoring Result	CUSUM Value	Within Compliance?
Appendix III Analytes	**Units**					
Boron, Total	mg/L	***	---	---	---	---
Calcium, Total	mg/L	***	---	---	---	---
Chloride	mg/L	***	---	---	---	---
Fluoride	mg/L	***	---	---	---	---
pH, Field-Measured	s.u.	***	---	---	---	---
Sulfate	mg/L	***	---	---	---	---
Total Dissolved Solids	mg/L	***	---	---	---	---

Notes:

mg/L, milligrams per liter

s.u., standard units for pH

NP-PL: Non-Parametric Prediction Limit

CUSUM: Parametric Shewhart-CUSUM Control Chart

*** No statistical limits have been set, as baseline data is still be collected.

Q2 2019 was the first baseline sampling event for MW-DP2B, following well installation in November 2018. To date, only baseline samples have been collected at MW-DP2B.

Table 30: Comparative Statistics - MW-DP4

		Statistical Method	Statistical Limit	Detection Monitoring Result	CUSUM Value	Within Compliance?	Detection Monitoring Result	CUSUM Value	Within Compliance?
Appendix III Analytes	**Units**			**22-Oct-18**			**6-Jun-19**		
Boron, Total	mg/L	CUSUM	0.60	0.40	0.46	Yes	0.48	0.60	Yes
Calcium, Total	mg/L	NP-PL	325	270	---	Yes	220	---	Yes
Chloride	mg/L	CUSUM	70	65	60	Yes	74	83	No (Potential Exceedance)
Fluoride	mg/L	CUSUM	0.23	0.14	0.20	Yes	0.18	0.16	Yes
pH, Field-Measured	s.u.	CUSUM	6.70, 7.29	7.10	7.00, 7.08	Yes	7.07	7.00, 7.09	Yes
Sulfate	mg/L	CUSUM	3296	2800	3058	Yes	2400	2799	Yes
Total Dissolved Solids	mg/L	CUSUM	5354	4800	4944	Yes	4100	4667	Yes

Notes:

mg/L, milligrams per liter

s.u., standard units for pH

NP-PL: Non-Parametric Prediction Limit

CUSUM: Parametric Shewhart-CUSUM Control Chart

Table 31: Comparative Statistics - MW-91-2

		Statistical Method	Statistical Limit	Detection Monitoring Result	CUSUM Value	Within Compliance?
Appendix III Analytes	**Units**			**13-Sep-19**		
Boron, Total	mg/L	CUSUM	0.53	0.38	0.4056	Yes
Calcium, Total	mg/L	Decreasing Trend	NLS	270	---	---
Chloride	mg/L	CUSUM	19.9	15	15.27	Yes
Fluoride	mg/L	NP-PL	0.50	< 0.10 U	---	Yes
pH, Field-Measured	s.u.	CUSUM	5.74, 6.66	6.11	6.20, 6.20	Yes
Sulfate	mg/L	CUSUM	1469	1100	1079	Yes
Total Dissolved Solids	mg/L	CUSUM	2203	2000	1937	Yes

Notes:

mg/L, milligrams per liter

s.u., standard units for pH

NP-PL: Non-Parametric Prediction Limit

CUSUM: Parametric Shewhart-CUSUM Control Chart

NLS: No limit set due to trending data in the baseline period. A trend test is used to assess statistical significance of compliance results.

U: Not detected above the shown practical quantitation limit.

Q3 2019 was the first comparative statistical event for MW-91-2.

Table 32: Comparative Statistics - MW-75

		Statistical Method	Statistical Limit	Detection Monitoring Result	CUSUM Value	Within Compliance?	Detection Monitoring Result	CUSUM Value	Within Compliance?
Appendix III Analytes	**Units**			**16-Oct-18**			**6-Jun-19**		
Boron, Total	mg/L	CUSUM	0.33	0.21	0.21	Yes	0.2	0.21	Yes
Calcium, Total	mg/L	NP-PL	9.0	5.1	---	Yes	5.3	---	Yes
Chloride	mg/L	CUSUM	3.1	< 3.0 U	1.6	Yes	< 3.0 U	1.6	Yes
Fluoride	mg/L	CUSUM	0.63	0.45	0.49	Yes	0.56	0.53	Yes
pH, Field-Measured	s.u.	CUSUM	7.70, 8.46	8.23	8.08, 8.17	Yes	8.12	8.08, 8.12	Yes
Sulfate	mg/L	CUSUM	92	75	74	Yes	72	74	Yes
Total Dissolved Solids	mg/L	CUSUM	929	900	879	Yes	810	835	Yes

Notes:

mg/L, milligrams per liter

s.u., standard units for pH

NP-PL: Non-Parametric Prediction Limit

CUSUM: Parametric Shewhart-CUSUM Control Chart

U: Not detected above the shown practical quantitation limit.

Table 33: Comparative Statistics - MW-91-1

		Statistical Method	Statistical Limit	Detection Monitoring Result	CUSUM Value	Within Compliance?
Appendix III Analytes	**Units**			**13-Sep-19**		
Boron, Total	mg/L	CUSUM	3.79	2.9	3.00	Yes
Calcium, Total	mg/L	CUSUM	319	230	216	Yes
Chloride	mg/L	CUSUM	88.0	85.0	81.9	Yes
Fluoride	mg/L	CUSUM	0.39	0.20	0.23	Yes
pH, Field-Measured	s.u.	CUSUM	6.66, 7.25	6.97	6.96, 6.96	Yes
Sulfate	mg/L	NP-PL	1300	1300	---	Yes
Total Dissolved Solids	mg/L	NP-PL	2400	2300 H	---	Yes

Notes:

mg/L, milligrams per liter

s.u., standard units for pH

NP-PL: Non-Parametric Prediction Limit

CUSUM: Parametric Shewhart-CUSUM Control Chart

H: Sample was prepped or analyzed beyond the specified holding time.

Q3 2019 was the first comparative statistical event for MW-91-1.

Table 34: Comparative Statistics - MW-49

		Statistical Method	Statistical Limit	Detection Monitoring Result	CUSUM Value	Within Compliance?	Detection Monitoring Result	CUSUM Value	Within Compliance?
Appendix III Analytes	**Units**			**16-Oct-18**			**6-Jun-19**		
Boron, Total	mg/L	CUSUM	6.3	4.4	4.9	Yes	4.2	4.9	Yes
Calcium, Total	mg/L	NP-PL	207	180	---	Yes	200	---	Yes
Chloride	mg/L	CUSUM	74	72	72	Yes	70	77	No (Potential Exceedance)
Fluoride	mg/L	NPPL	0.20	0.15	---	Yes	0.19	---	Yes
pH, Field-Measured	s.u.	CUSUM	6.67, 7.36	7.08	7.02, 7.02	Yes	6.89	6.97, 7.02	Yes
Sulfate	mg/L	CUSUM	1819	1400	1301	Yes	1300	1242	Yes
Total Dissolved Solids	mg/L	CUSUM	2824	2800	2906	No (False Positive)	2600	2706	Yes

Notes:

mg/L, milligrams per liter

s.u., standard units for pH

NP-PL: Non-Parametric Prediction Limit

CUSUM: Parametric Shewhart-CUSUM Control Chart

Table 35: Comparative Statistics - MW-51

		Statistical Method	Statistical Limit	Detection Monitoring Result	CUSUM Value	Within Compliance?	Detection Monitoring Result	CUSUM Value	Within Compliance?
Appendix III Analytes	**Units**			**16-Oct-18**			**6-Jun-19**		
Boron, Total	mg/L	NP-PL	5.7	2.8	---	Yes	3.9	---	Yes
Calcium, Total	mg/L	CUSUM	503	220	283	Yes	280	283	Yes
Chloride	mg/L	CUSUM	267	60	71	Yes	87	71	Yes
Fluoride	mg/L	NP-PL	0.50	0.29	---	Yes	0.39	---	Yes
pH, Field-Measured	s.u.	CUSUM	6.46, 7.61	7.26	7.03, 7.13	Yes	7.08	7.03 ,7.05	Yes
Sulfate	mg/L	CUSUM	6015	3000	3130	Yes	3100	3130	Yes
Total Dissolved Solids	mg/L	CUSUM	7733	5300	5181	Yes	5300	5181	Yes

Notes:

mg/L, milligrams per liter

s.u., standard units for pH

NP-PL: Non-Parametric Prediction Limit

CUSUM: Parametric Shewhart-CUSUM Control Chart

Table 36: Comparative Statistics - MW-16-6

		Statistical Method	Statistical Limit	Detection Monitoring Result	CUSUM Value	Within Compliance?	Detection Monitoring Result	CUSUM Value	Within Compliance?
Appendix III Analytes	**Units**			**16-Oct-18**			**6-Jun-19**		
Boron, Total	mg/L	CUSUM	6.9	4.6	4.6	Yes	3.9	4.6	Yes
Calcium, Total	mg/L	CUSUM	656	500	523	Yes	500	523	Yes
Chloride	mg/L	CUSUM	50	35	41	Yes	37	41	Yes
Fluoride	mg/L	NP-PL	0.10	< 0.10 U	---	Yes	< 0.10 U	---	Yes
pH, Field-Measured	s.u.	CUSUM	5.55, 5.90	5.83	5.72, 5.79	Yes	5.68	5.72, 5.72	Yes
Sulfate	mg/L	CUSUM	5342	3800	3591	Yes	3600	3591	Yes
Total Dissolved Solids	mg/L	CUSUM	6277	6100	6150	Yes	5900	6294	No (Potential Exceedance)

Notes:

mg/L, milligrams per liter

s.u., standard units for pH

NP-PL: Non-Parametric Prediction Limit

CUSUM: Parametric Shewhart-CUSUM Control Chart

U: Not detected above the shown practical quantitation limit.

Table 37: Comparative Statistics - MW-16-7

		Statistical Method	Statistical Limit	Detection Monitoring Result	CUSUM Value	Within Compliance?	Detection Monitoring Result	CUSUM Value	Within Compliance?
Appendix III Analytes	**Units**			**16-Oct-18**			**10-Jun-19**		
Boron, Total	mg/L	NP-PL	0.11	< 0.10 U	---	Yes	< 0.10 U	---	Yes
Calcium, Total	mg/L	CUSUM	515	300	357	Yes	330	357	Yes
Chloride	mg/L	CUSUM	96	78	85	Yes	77 H	81	Yes
Fluoride	mg/L	CUSUM	0.15	< 0.10 U	0.11	Yes	< 0.10 U	0.11	Yes
pH, Field-Measured	s.u.	CUSUM	6.58, 7.17	6.98	6.87, 7.00	Yes	6.91	6.87, 6.97	Yes
Sulfate	mg/L	CUSUM	3300	2500	2381	Yes	2600 H	2396	Yes
Total Dissolved Solids	mg/L	CUSUM	4711	4100	4117	Yes	4100 B	4104	Yes

Notes:

mg/L, milligrams per liter

s.u., standard units for pH

NP-PL: Non-Parametric Prediction Limit

CUSUM: Parametric Shewhart-CUSUM Control Chart

U: Not detected above the shown practical quantitation limit.

H: Analyzed outside of holding time

B: Compound was found in the blank and the sample

Table 38: Comparative Statistics - MW-10

		Statistical Method	Statistical Limit	Detection Monitoring Result	CUSUM Value	Within Compliance?	Detection Monitoring Result	CUSUM Value	Within Compliance?
Appendix III Analytes	**Units**			**16-Oct-18**			**10-Jun-19**		
Boron, Total	mg/L	CUSUM	3.8	2.2	2.2	Yes	2.0	2.2	Yes
Calcium, Total	mg/L	CUSUM	364	210	260	Yes	220	260	Yes
Chloride	mg/L	CUSUM	25	18	18	Yes	19 H	19	Yes
Fluoride	mg/L	CUSUM	0.27	0.17	0.21	Yes	0.19	0.21	Yes
pH, Field-Measured	s.u.	CUSUM	6.51, 7.13	6.92	6.82, 6.85	Yes	6.91	6.82, 6.88	Yes
Sulfate	mg/L	CUSUM	1531	820	970.9	Yes	810 H	971	Yes
Total Dissolved Solids	mg/L	CUSUM	3304	2000	2212	Yes	1900 B	2212	Yes

Notes:

mg/L, milligrams per liter

s.u., standard units for pH

CUSUM: Parametric Shewhart-CUSUM Control Chart

H: Analyzed outside of holding time

B: Compound was found in the blank and the sample

Table 39: Comparative Statistics - MW-16-0

		Statistical Method	Statistical Limit	Detection Monitoring Result	CUSUM Value	Within Compliance?
Appendix III Analytes	**Units**			**10-Jun-19**		
Boron, Total	mg/L	CUSUM	10.1	6.7	7.1	Yes
Calcium, Total	mg/L	CUSUM	581	370	412	Yes
Chloride	mg/L	CUSUM	46.7	31 H	36.3	Yes
Fluoride	mg/L	CUSUM	0.31	0.22	0.21	Yes
pH, Field-Measured	s.u.	CUSUM	6.89, 7.62	7.42	7.25, 7.34	Yes
Sulfate	mg/L	CUSUM	3290	2600 H	2516	Yes
Total Dissolved Solids	mg/L	CUSUM	4616	3900 B	4184	Yes

Notes:

mg/L, milligrams per liter

s.u., standard units for pH

NP-PL: Non-Parametric Prediction Limit

CUSUM: Parametric Shewhart-CUSUM Control Chart

H: Analyzed outside of holding time

B: Compound was found in the blank and the sample

Q2 2019 was the first comparative statistical event for MW-16-0.

Table 40: Comparative Statistics - MW-16-1

		Statistical Method	Statistical Limit	Detection Monitoring Result	CUSUM Value	Within Compliance?	Detection Monitoring Result	CUSUM Value	Within Compliance?
Appendix III Analytes	**Units**			**16-Oct-18**			**10-Jun-19**		
Boron, Total	mg/L	CUSUM	22	13	18	Yes	13	19	Yes
Calcium, Total	mg/L	CUSUM	779	590	561	Yes	560	547	Yes
Chloride	mg/L	CUSUM	342	340	321	Yes	370 H	417	No (Potential Exceedance)
Fluoride	mg/L	CUSUM	0.65	0.16	0.30	Yes	0.21	0.30	Yes
pH, Field-Measured	s.u.	CUSUM	6.85, 7.40	7.16	7.12, 7.12	Yes	7.16	7.12, 7.12	Yes
Sulfate	mg/L	CUSUM	3996	3200	3464	Yes	3700 H	4123	No (Potential Exceedance)
Total Dissolved Solids	mg/L	CUSUM	6615	5200	5306	Yes	5400 B	5932	Yes

Notes:

mg/L, milligrams per liter

s.u., standard units for pH

CUSUM: Parametric Shewhart-CUSUM Control Chart

H: Analyzed outside of holding time

B: Compound was found in the blank and the sample

Table 41: Comparative Statistics - MW-72

		Statistical Method	Statistical Limit	Detection Monitoring Result	CUSUM Value	Within Compliance?	Detection Monitoring Result	CUSUM Value	Within Compliance?
Appendix III Analytes	**Units**			**17-Oct-18**			**6-Jun-19**		
Boron, Total	mg/L	CUSUM	0.24	0.13	0.19	Yes	0.12	0.12	Yes
Calcium, Total	mg/L	CUSUM	970	670	813	Yes	720	813	Yes
Chloride	mg/L	CUSUM	35	32	32	Yes	36 H	39	No (Potential Exceedance)
Fluoride	mg/L	CUSUM	0.32	0.19	0.24	Yes	0.18	0.24	Yes
pH, Field-Measured	s.u.	CUSUM	6.39, 7.06	6.74	6.73, 6.73	Yes	6.76	6.73, 6.73	Yes
Sulfate	mg/L	CUSUM	4035	3100	3074	Yes	3400 H	3186	Yes
Total Dissolved Solids	mg/L	Increasing Trend	NLS	5300	---	Yes	5200 B	---	Yes

Notes:

mg/L, milligrams per liter

s.u., standard units for pH

CUSUM: Parametric Shewhart-CUSUM Control Chart

NLS: No limit set due to trending data in the baseline period. A trend test is used to assess statistical significance of compliance results.

NLS: No limit set due to trending data.

H: Analyzed outside of holding time

B: Compound was found in the blank and the sample

Table 42: Comparative Statistics - MW-42

		Statistical Method	Statistical Limit	Detection Monitoring Result	CUSUM Value	Within Compliance?	Detection Monitoring Result	CUSUM Value	Within Compliance?
Appendix III Analytes	**Units**			**17-Oct-18**			**10-Jun-19**		
Boron, Total	mg/L	CUSUM	2.49	0.93	1.09	Yes	0.78	1.09	Yes
Calcium, Total	mg/L	CUSUM	371	210	252	Yes	230	252	Yes
Chloride	mg/L	CUSUM	28	24	22	Yes	27 H	28	No (Potential Exceedance)
Fluoride	mg/L	CUSUM	0.42	1	0.97	No (False Positive)	0.26	0.30	Yes
pH, Field-Measured	s.u.	CUSUM	6.85, 7.72	7.33	7.29, 7.29	Yes	7.41	7.29, 7.31	Yes
Sulfate	mg/L	CUSUM	2441	1400	1422	Yes	1400 H	1422	Yes
Total Dissolved Solids	mg/L	CUSUM	3463	2400	2423	Yes	2300 B	2423	Yes

Notes:

mg/L, milligrams per liter

s.u., standard units for pH

CUSUM: Parametric Shewhart-CUSUM Control Chart

H: Analyzed outside of holding time

B: Compound was found in the blank and the sample

Table 43: Comparative Statistics - MW-16-2

		Statistical Method	Statistical Limit	Detection Monitoring Result	CUSUM Value	Within Compliance?	Detection Monitoring Result	CUSUM Value	Within Compliance?
Appendix III Analytes	**Units**			**18-Oct-18**			**11-Jun-19**		
Boron, Total	mg/L	CUSUM	14.0	8.1	10.3	Yes	8.2	10.3	Yes
Calcium, Total	mg/L	CUSUM	660	370	427	Yes	360	427	Yes
Chloride	mg/L	NP-PL	197	190	---	Yes	180 H	---	Yes
Fluoride	mg/L	CUSUM	1.28	0.43	0.64	Yes	0.66	0.64	Yes
pH, Field-Measured	s.u.	CUSUM	6.74, 7.49	7.12	7.12, 7.12	Yes	7.23	7.12, 7.15	Yes
Sulfate	mg/L	CUSUM	3488	2400	2328	Yes	2200 H	2328	Yes
Total Dissolved Solids	mg/L	NP-PL	4030	4100	---	No (False Positive)	3500	---	Yes

Notes:

mg/L, milligrams per liter

s.u., standard units for pH

NP-PL: Non-Parametric Prediction Limit

CUSUM: Parametric Shewhart-CUSUM Control Chart

H: Analyzed outside of holding time

Table 44: Comparative Statistics - MW-16-3

		Statistical Method	Statistical Limit	Detection Monitoring Result	CUSUM Value	Within Compliance?	Detection Monitoring Result	CUSUM Value	Within Compliance?
Appendix III Analytes	**Units**			**18-Oct-18**			**11-Jun-19**		
Boron, Total	mg/L	CUSUM	25	15	18	Yes	16	18	Yes
Calcium, Total	mg/L	NP-PL	535	370	---	Yes	420	---	Yes
Chloride	mg/L	CUSUM	908	620	642	Yes	720 H	706	Yes
Fluoride	mg/L	CUSUM	2.08	1.30	1.58	Yes	1.40	1.58	Yes
pH, Field-Measured	s.u.	CUSUM	6.75, 7.38	7.09	7.06, 7.06	Yes	7.06	7.06, 7.06	Yes
Sulfate	mg/L	CUSUM	7686	5400	5311	Yes	5400 H	5118	Yes
Total Dissolved Solids	mg/L	CUSUM	11583	9200	10009	Yes	8600	9078	Yes

Notes:

mg/L, milligrams per liter

s.u., standard units for pH

NP-PL: Non-Parametric Prediction Limit

CUSUM: Parametric Shewhart-CUSUM Control Chart

H: Analyzed outside of holding time

Table 45: Comparative Statistics - MW-16-4

		Statistical Method	Statistical Limit	Detection Monitoring Result	CUSUM Value	Within Compliance?	Detection Monitoring Result	CUSUM Value	Within Compliance?
Appendix III Analytes	**Units**			**18-Oct-18**			**11-Jun-19**		
Boron, Total	mg/L	CUSUM	1.25	0.47	0.58	Yes	0.47	0.58	Yes
Calcium, Total	mg/L	CUSUM	751	380	417	Yes	410	417	Yes
Chloride	mg/L	CUSUM	54	34	34	Yes	44 H	40	Yes
Fluoride	mg/L	CUSUM	0.40	0.30	0.33	Yes	0.26	0.33	Yes
pH, Field-Measured	s.u.	CUSUM	6.15, 7.57	6.8	6.86, 6.86	Yes	6.86	6.86, 6.86	Yes
Sulfate	mg/L	CUSUM	4475	3400	3271	Yes	3500 H	3271	Yes
Total Dissolved Solids	mg/L	CUSUM	6409	5300	4899	Yes	4800	4796	Yes

Notes:

mg/L, milligrams per liter

s.u., standard units for pH

NP-PL: Non-Parametric Prediction Limit

CUSUM: Parametric Shewhart-CUSUM Control Chart

H: Analyzed outside of holding time

Table 46: Comparative Statistics - MW-15

		Statistical Method	Statistical Limit	Detection Monitoring Result	CUSUM Value	Within Compliance?	Detection Monitoring Result	CUSUM Value	Within Compliance?
Appendix III Analytes	**Units**			**17-Oct-18**			**11-Jun-19**		
Boron, Total	mg/L	CUSUM	35	23	27	Yes	24	27	Yes
Calcium, Total	mg/L	CUSUM	561	390	452	Yes	420	452	Yes
Chloride	mg/L	CUSUM	405	260	278	Yes	340 H	312	Yes
Fluoride	mg/L	CUSUM	0.78	0.46	0.58	Yes	0.49	0.58	Yes
pH, Field-Measured	s.u.	CUSUM	6.64, 7.46	7.10	7.05, 7.05	Yes	7.16	7.05, 7.07	Yes
Sulfate	mg/L	CUSUM	5055	4000	3866	Yes	3900 H	3866	Yes
Total Dissolved Solids	mg/L	CUSUM	7189	6700	7023	Yes	6600	7117	Yes

Notes:

mg/L, milligrams per liter

s.u., standard units for pH

CUSUM: Parametric Shewhart-CUSUM Control Chart

H: Analyzed outside of holding time

Table 47: Comparative Statistics - MW-16-5

		Statistical Method	Statistical Limit	Detection Monitoring Result	CUSUM Value	Within Compliance?	Detection Monitoring Result	CUSUM Value	Within Compliance?
Appendix III Analytes	**Units**			**18-Oct-18**			**11-Jun-19**		
Boron, Total	mg/L	CUSUM	23.9	13	14	Yes	9.2	14.1	Yes
Calcium, Total	mg/L	NP-PL	477	310	---	Yes	320	---	Yes
Chloride	mg/L	CUSUM	179	120	130	Yes	170 H	159	Yes
Fluoride	mg/L	CUSUM	1.14	0.85	0.86	Yes	0.81	0.86	Yes
pH, Field-Measured	s.u.	CUSUM	6.74, 7.55	7.15	7.14, 7.14	Yes	7.29	7.14, 7.20	Yes
Sulfate	mg/L	CUSUM	3203	2400	2970	Yes	2200 H	2770	Yes
Total Dissolved Solids	mg/L	CUSUM	4472	3900	3712	Yes	3600	3626	Yes

Notes:

mg/L, milligrams per liter

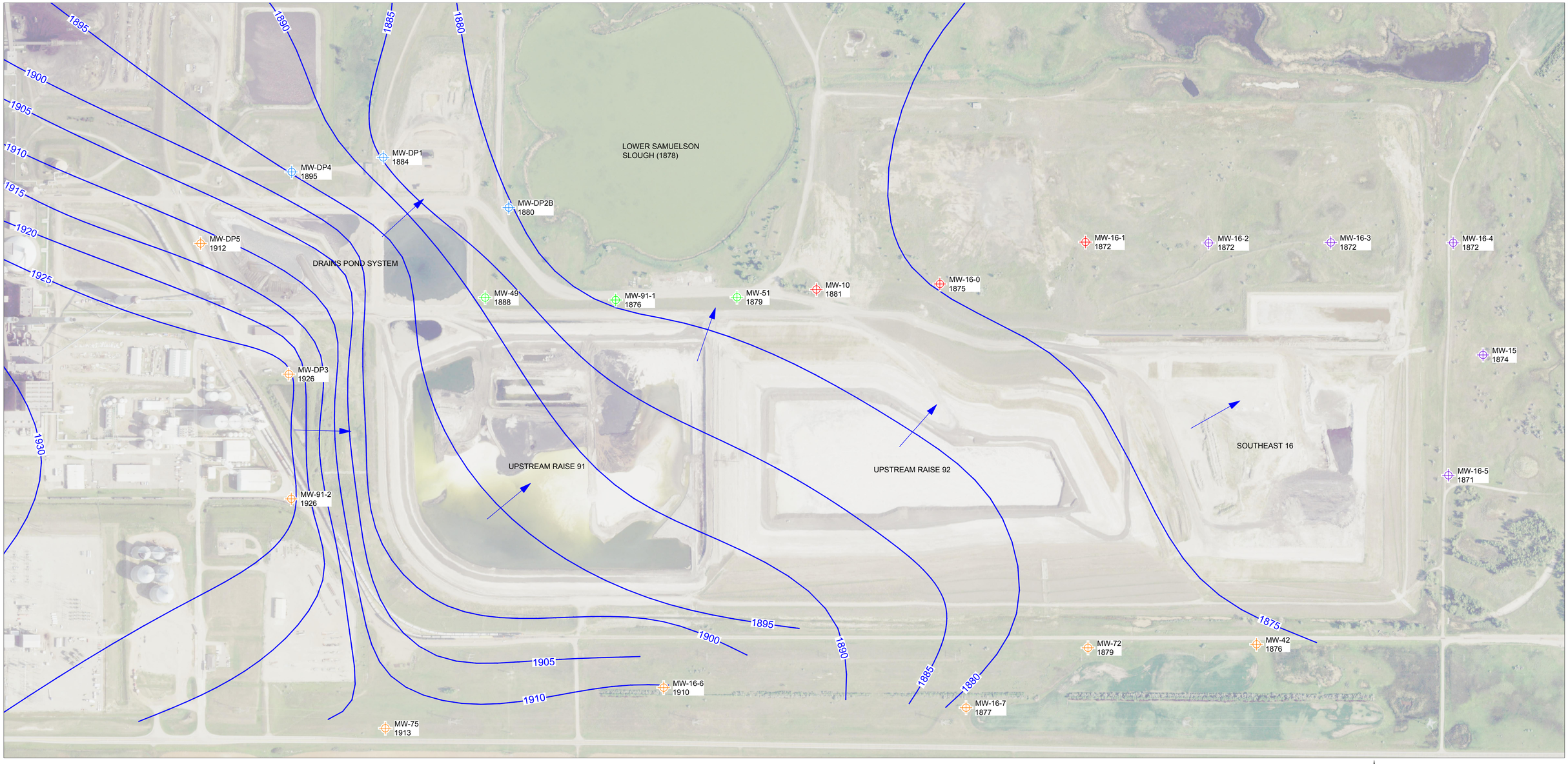
s.u., standard units for pH

NP-PL: Non-Parametric Prediction Limit

CUSUM: Parametric Shewhart-CUSUM Control Chart

H: Analyzed outside of holding time

Figures



LEGEND

- UPGRADIENT MONITORING WELL
- DOWNGRADIENT MONITORING WELL - DRAINS POND SYSTEM
- DOWNGRADIENT MONITORING WELL - UPSTREAM RAISE 91
- DOWNGRADIENT MONITORING WELL - UPSTREAM RAISE 92
- DOWNGRADIENT MONITORING WELL - SOUTHEAST 16
- GENERAL DIRECTION OF GROUNDWATER FLOW
- 1930 — POTENTIOMETRIC SURFACE CONTOURS (SEE NOTE 2)

NOTE(S)

1. GROUNDWATER ELEVATIONS SHOWN WERE MEASURED MAY AND JUNE 2019.
2. POTENTIOMETRIC SURFACE CONTOURS WERE CREATED USING WATER LEVEL INFORMATION FROM THE MAY AND JUNE 2019 GROUNDWATER ELEVATIONS SHOWN, AS WELL AS SURVEYED SURFACE WATER EXPRESSIONS, ADDITIONAL SITE WELLS, AND PIEZOMETERS NOT SHOWN. CONTOUR INTERVALS ARE 5 FEET.
3. AERIAL IMAGERY OBTAINED FROM UNITED STATES DEPARTMENT OF AGRICULTURE, NATIONAL AGRICULTURE IMAGERY PROGRAM, 2018.

N

0 300 600
1" = 300' FEET

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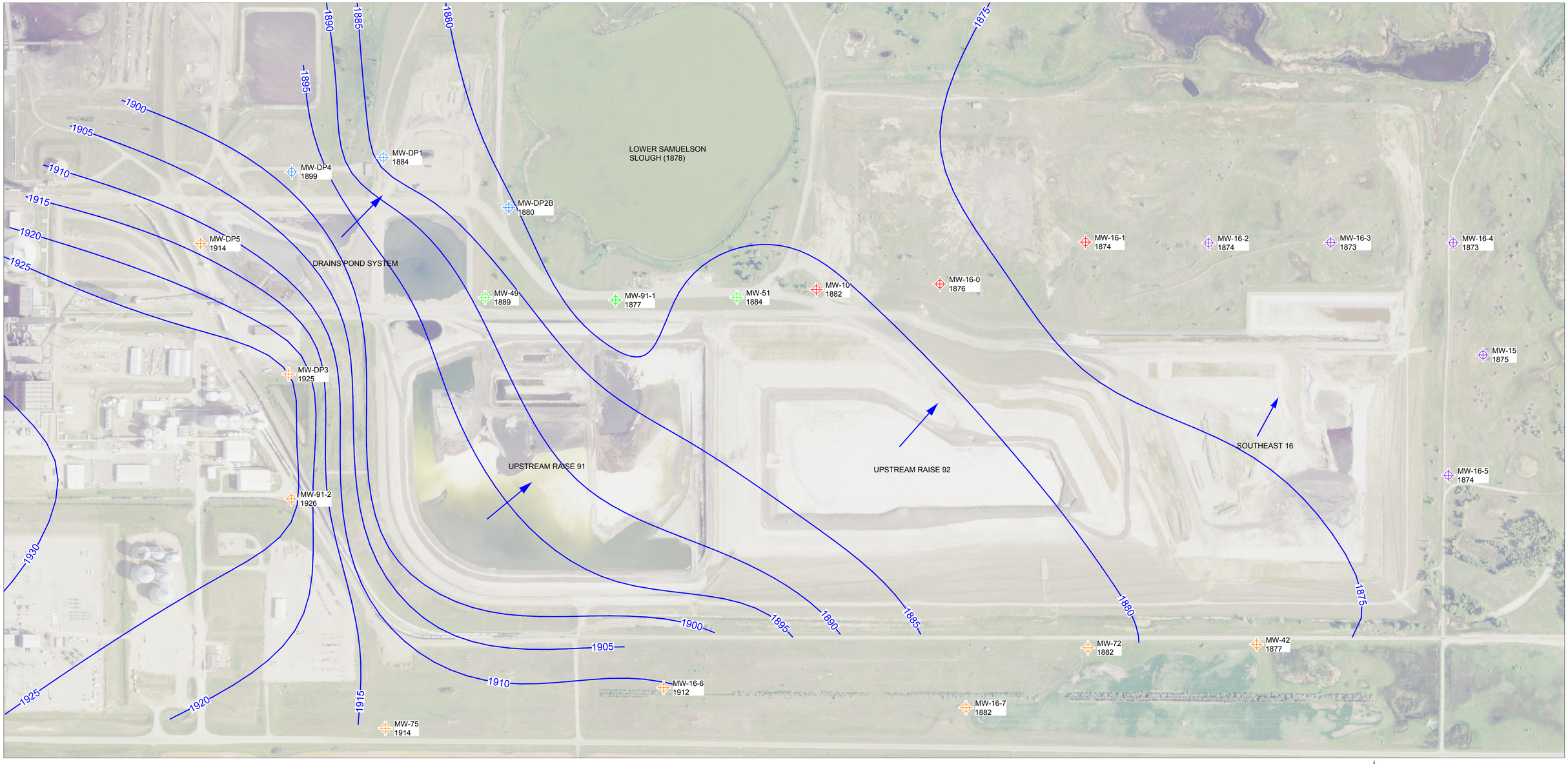
MONITORING WELL LOCATIONS AND MAY-JUNE 2019 GROUNDWATER CONDITIONS
GREAT RIVER ENERGY - COAL CREEK STATION

FIGURE 1



LEGEND

- UPGRADIENT MONITORING WELL
- DOWNGRADIENT MONITORING WELL - DRAINS POND SYSTEM
- DOWNGRADIENT MONITORING WELL - UPSTREAM RAISE 91
- DOWNGRADIENT MONITORING WELL - UPSTREAM RAISE 92
- DOWNGRADIENT MONITORING WELL - SOUTHEAST 16
- GENERAL DIRECTION OF GROUNDWATER FLOW
- 1930 — POTENTIOMETRIC SURFACE CONTOURS (SEE NOTE 2)

NOTE(S)

1. GROUNDWATER ELEVATIONS SHOWN WERE MEASURED OCTOBER 2019.
2. POTENTIOMETRIC SURFACE CONTOURS WERE CREATED USING WATER LEVEL INFORMATION FROM THE OCTOBER 2019 GROUNDWATER ELEVATIONS SHOWN, AS WELL AS SURVEYED SURFACE WATER EXPRESSIONS, ADDITIONAL SITE WELLS, AND PIEZOMETERS NOT SHOWN. CONTOUR INTERVALS IS 5 FEET.
3. AERIAL IMAGERY OBTAINED FROM UNITED STATES DEPARTMENT OF AGRICULTURE, NATIONAL AGRICULTURE IMAGERY PROGRAM, 2018.

N

0 300 600
1" = 300' FEET

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MONITORING WELL LOCATIONS
OCTOBER 2019 GROUNDWATER CONDITIONS
GREAT RIVER ENERGY - COAL CREEK STATION

FIGURE 2

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