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August 29, 2025

Submitted via electronic mail

Mr. Tony Peterson
Wisconsin Department of Natural Resources
141 NW Barstow Street, Suite 180
Waukesha, WI 53188-3789

**Subject: Plan of Operations Modification Request – Alternative Concentration Limits, Preventative Action Limits, and Exemption Requests
Wisconsin Power and Light Company
Dry Ash Disposal Facility (WDNR License #3025)
Columbia Energy Center
Portage, WI**

Dear Mr. Peterson,

On behalf of Wisconsin Power and Light Company (WPL), Alliant Energy is submitting this request to modify the Plan of Operations for the Dry Ash Disposal Facility located at the Columbia Energy Center (#3025). If approved, the proposed modifications would incorporate Alternative Concentration Limits (ACLs) and Preventative Action Limits (PALs), in accordance with NR 507.15 and as discussed during the Initial CCR Landfill permitting process (NR 514.045). WPL is also submitting exemption requests related to the proposed ACLs, in line with standard procedures for the new monitoring wells that were approved during Initial CCR Landfill permitting.

Thank you very much for your consideration of this submittal. If you have any questions or comments regarding this information, please call me at (608) 458-3853.

Regards,

A handwritten signature in black ink, appearing to read "Jeff Maxted", is written over a light blue horizontal line.

Jeff Maxted
Manager – Environmental Services
Alliant Energy

CC: Tyler Sullivan – Wisconsin DNR
Brian Clepper, Cheryl Bommarito – Columbia Energy Center
Phil Gearing, Eric Nelson – SCS Engineers

August 29, 2025
File No. 25224152.00

Mr. Tony Peterson
Wisconsin Department of Natural Resources
141 NW Barstow St. Ste 180
Waukesha, WI 53188-3789

Subject: Plan of Operation Modification Request
Dry Ash Disposal Facility, License #3025
Columbia Energy Center
Town of Pacific, Columbia County, Wisconsin

Dear Mr. Peterson:

On behalf of Wisconsin Power and Light Company (WPL), SCS Engineers (SCS) prepared this Plan Modification Request for the Dry Ash Disposal Facility, License No. 3025, at the Columbia Energy Center.

This Plan of Operation Modification Request covers information for the DNR CCR Code Update dated December 2022 to demonstrate compliance with NR 514.045 including the following:

- Calculated preventive action limits (PALs) and proposed alternative concentration limits (ACLs) for new CCR monitoring wells MW-317, MW-318, and MW-319.
- Calculated PALs for pH and temperature at CCR monitoring wells MW-33AR, MW-34A, MW-84A, MW-301, MW-302, MW-309, MW-310, and MW-311.
- Calculated PALs and proposed ACLs for non-CCR monitoring wells MW-91AR and MW-91B.
- Exemption requests and associated proposed ACLs for:
 - CCR monitoring wells MW-309, MW-310, MW-317, MW-318, and MW-319.
 - Non-CCR monitoring wells MW-33BR, MW-37A, MW-91AR, and MW-91B.
- Confirmation that groundwater data used for calculation of proposed PALs and ACLs for CCR monitoring wells have been submitted to Wisconsin's Groundwater and Environmental Monitoring System (GEMS) database.



Mr. Tony Peterson
August 29, 2025
Page 2

If you have any questions regarding this addendum, please contact Jeff Maxted with Alliant Energy at (608) 458-3853.

Sincerely,



Thomas Karwoski, PG
Senior Hydrogeologist
SCS Engineers



Sherren Clark, PE
Project Director
SCS Engineers

MDB/AJR_lmh/TK/SCC

cc: Tyler Sullivan, Wisconsin DNR
Jeff Maxted, Alliant Energy
Matt Bizjack, Alliant Energy
Brian Clepper, WPL
Cheryl Bommarito, WPL

Encl. Plan of Operation Modification Request

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ACLs.docx

Plan of Operation Modification Request

Columbia Dry Ash Disposal Facility
Pardeeville, Wisconsin

Prepared for:

Wisconsin Power and Light Company
Columbia Energy Center
W8375 Murray Road
Pardeeville, Wisconsin 53954

SCS ENGINEERS

25224152.00 | August 29, 2025

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CERTIFICATIONS

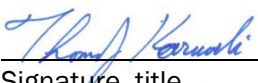
"I, Sherren Clark, hereby certify that I am a licensed professional engineer in the State of Wisconsin in accordance with the requirements of ch. A-E 4, Wis. Adm. Code; that this document has been prepared in accordance with the Rules of Professional Conduct in ch. A-E 8, Wis. Adm. Code; and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 500 to 538, Wis. Adm. Code."

 Vice President E-29863-6
Signature, title and P.E. number

8/29/2025
Date



"I, Thomas J. Karwoski, hereby certify that I am a licensed professional geologist in the State of Wisconsin in accordance with the requirements of ch. GHSS 2, Wis. Adm. Code; that the preparation of this document has not involved any unprofessional conduct as detailed in ch. GHSS 5, Wis. Adm. Code; and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 500 to 538, Wis. Adm. Code."

 Senior Hydrogeologist
Signature, title

8/29/2025
Date



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1.0 INTRODUCTION

On behalf of Wisconsin Power and Light Company (WPL), SCS Engineers (SCS) prepared this Plan of Operation Modification (Plan Mod) Request for the Columbia Dry Ash Disposal (ADF) Facility. This Plan Mod addresses baseline groundwater monitoring data submittal, exemption requests, and proposed well-specific preventive action limits (PALs) and alternative concentration limits (ACLs) for groundwater monitoring wells at the ADF. Documentation related to the installation of MW-317, MW-318, and MW-319, and the abandonment of monitoring wells MW-313, MW-314, and MW-315, was previously submitted to DNR on January 9, 2025.

This Plan Mod Request includes the submittal of proposed PALs and ACLs for CCR monitoring wells MW-317, MW-318, and MW-319, which were installed in April 2024. Baseline sampling at these wells was completed between July 2024 and March 2025.

This Plan Mod Request also includes proposed PALs for pH and temperature at CCR monitoring wells MW-33AR, MW-34A, MW-301, MW-309, MW-310, and MW-311. PALs for pH at these wells were previously submitted in the September 1, 2023 Plan of Operation Modification Request Addendum No. 2 and November 3, 2023 Plan of Operation Modification Request Addendum No. 3. The May 3, 2024 Plan Modification Conditional Approval stated that PALs are not required for pH or temperature in accordance with NR 507.27(1), however DNR has since clarified that this code reference does not apply to these wells. Therefore, the proposed PALs for pH have been updated to include the most recent monitoring data, and PALs for temperature were calculated and are proposed with this submittal.

In addition, this Plan Mod Request includes the submittal of proposed PALs and ACLs for non-CCR monitoring wells MW-91AR and MW-91B. The September 1, 2023, Plan Mod Addendum No. 2. requested the removal of these wells from the monitoring program and therefore did not include proposed PALs and ACLs for these wells. The removal of MW-91AR and MW-91B from the monitoring program was not approved in the May 3, 2024 Plan Modification Conditional Approval, therefore PALs and ACLs for these wells are being proposed in this submittal.

Additional proposed ACLs for CCR monitoring wells MW-309 and MW-310, and non-CCR monitoring wells MW-33BR and MW-37A, are also included in this submittal. These ACL calculations incorporate data that was not available when prior proposed ACLs were submitted for these wells.

2.0 COMPLIANCE WITH NR 507.15 (3)(I)

NR 507.15 (3)(i)

“The owner or operator of the CCR landfill shall establish baseline groundwater quality in accordance with s. NR 507.18 for each CCR well and for each of the constituents required under ch. NR 507 Appendix I, Table 1A and in accordance with the approved sampling plan.”

Baseline groundwater quality has been established for each CCR well in accordance with NR 507.18 and for each constituent required under NR 507 Appendix I, Table 1A. Baseline sampling at CCR wells MW-317, MW-318, and MW-319 was completed in March 2025. Baseline data was submitted to DNR on June 11, 2025. A copy of this submittal is included in **Appendix A**.

An updated sampling program summary table is included as **Table 1**. This updated table reflects the abandonment of CCR monitoring wells MW-313, MW-314, and MW-315, and the installation of

MW-317, MW-318, and MW-319. Documentation of these well abandonments and installations was previously submitted to DNR on January 9, 2025. The planned abandonment of MW-313, MW-314, and MW-315 and installation of new CCR monitoring wells downgradient of Modules 12 and 13 were included in the May 3, 2024 Conditional Plan Modification Approval.

Well-specific standards for CCR wells were calculated in accordance with NR 507.27 and DNR's guidance for calculating PALs and ACLs (PUB-WA-1105). **Table 2** summarizes proposed PALs for the CCR wells associated with the ADF. Previously-approved PALs for other CCR monitoring wells are included in the table for completeness. Calculations for PALs being proposed in this submittal are included in **Appendix B**.

Table 3 summarizes CCR monitoring wells and parameters with PAL exceedances, for well/parameter pairs evaluated for this submittal. Exceedances for other CCR monitoring wells were summarized in prior submittals associated with the May 3, 2024 Plan Modification Conditional Approval. **Table 4** summarizes ACLs being proposed in this submittal for multiple parameters at MW-317, MW-318, and MW-319, and for sulfate at MW-309 and MW-310. Previously-approved ACLs are included in **Table 4** for completeness. ACLs for sulfate at MW-309 and MW-310 were not proposed in prior submittals, but are being proposed at this time to incorporate additional data that better capture seasonal variability.

Calculations associated with ACLs proposed in this submittal are included in **Appendix B**. Exemptions in accordance with NR 507.29 and NR 140.28 are requested for the following CCR wells and parameters:

- Arsenic at MW-317
- Chloride at MW-319
- Manganese at MW-317 and MW-318
- Molybdenum at MW-317
- Nitrate + Nitrite as N at MW- 318 and MW-319
- Sulfate at MW-309, MW-310, and MW-318

Exemptions for some of the same parameters are requested for non-CCR monitoring wells, therefore justifications for exemptions at CCR and non-CCR monitoring wells are discussed together in **Section 4** for ease of review.

3.0 NON-CCR WELL PAL AND ACL CALCULATIONS

Well-specific PALs and ACLs were previously approved for non-CCR monitoring wells in the May 3, 2024 Plan Modification Conditional Approval. The removal of MW-91AR and MW-91B from the monitoring program was requested in the September 1, 2023 Plan of Operations Modification Request Addendum #2, therefore PALs and ACLs for these two wells were not submitted at that time. Removal of MW-91AR and MW-91B from the monitoring program was not approved in the May 3, 2024 Plan Modification Conditional Approval, therefore these wells continue to be monitored and proposed PALs and ACLs for these wells are included in this submittal. **Table 5** summarizes proposed PALs for these two wells. Previously-approved PALs for other wells are included in **Table 5** for reference. PALs calculations for MW-91AR and MW-91B are included in **Appendix B**.

NR 140 standards exceedances at well/parameter pairs evaluated for this submittal are summarized in **Table 6**, and proposed ACLs are summarized in **Table 7**. These include proposed

ACLs for monitoring wells MW-91AR and MW-91B, and additional proposed ACLs for MW-33BR and MW-37A. ACL calculations are included in **Appendix B**.

Exemptions in accordance with NR 507.29 and NR 140.28 are requested for the following parameters at non-CCR monitoring wells:

- Boron: MW-91B
- Molybdenum: MW-33BR, MW-91AR, MW-91B
- Nitrite + Nitrate as N: MW-37A, MW-91AR, MW-91B
- Sulfate: MW-91AR

Exemptions for some of the same parameters are requested for CCR monitoring wells, therefore justifications for exemptions at CCR and non-CCR monitoring wells are discussed together in **Section 4** for ease of review.

4.0 EXEMPTION REQUESTS

The exemption requests and proposed ACLs in this submittal were developed following DNR guidance documents and relevant Wisconsin Administrative Code. This is the standard process when new wells are added to monitoring programs at solid waste sites in Wisconsin, including the monitoring program for this site that was approved by DNR during the Initial CCR Landfill Permitting process. Therefore the exemptions requested and ACLs proposed in this submittal do not reduce the stringency of groundwater monitoring requirements at the site and do not trigger the public comment period requirement under NR 514.04(8).

4.1 GENERAL STATEMENTS

For the public health parameters other than nitrate, the requested exemptions are justified under NR 140.28(3)(b) and (4)(b) because:

- The proposed facility is designed to achieve the lowest possible concentrations that are technically and economically feasible for the substances with exemptions requested.
- For any parameters with baseline concentrations above the PAL but below the ES, the proposed facility will not cause the concentration of the substance to exceed the ES at a point of standards application.
- For any parameters with baseline concentrations above the ES:
 - The existing or anticipated increase in the concentration of the substance will not cause an increased threat to public health or welfare; and
 - The proposed facility will not cause an incremental increase in the concentration of the substance that exceeds the PAL.

For the public welfare parameters and nitrate, the requested exemptions are justified under NR 140.28(3)(a) and (4)(a) because:

- The proposed facility is designed to achieve the lowest possible concentrations that are technically and economically feasible for the substances with exemptions requested.

- The existing or anticipated increase in the concentration of the substance due to the proposed facility does not present a threat to public health or welfare.

For purposes of this evaluation, the proposed facility is the Columbia ADF. The design of the existing Columbia ADF Modules 1 through 6 and 10 and 11, and proposed Modules 12 and 13, are part of the justification for the requested exemptions. The design features of the proposed and existing facility that justify the NR 140 exemptions include the liner system, leachate collection system, cover system, and the associated monitoring systems.

4.2 PARAMETER-SPECIFIC DISCUSSION OF EXEMPTION REQUESTS

4.2.1 Arsenic

An exemption in accordance with NR 507.29 and NR 140.28(3) is requested for arsenic at CCR monitoring well MW-317. No exemptions associated with arsenic at non-CCR monitoring wells are being requested at this time.

Arsenic concentrations at MW-317 appear to be attributable to natural background conditions. The arsenic concentrations detected at MW-317 are within the range of concentrations detected at non-CCR monitoring wells MW-86, MW-92A, and MW-92B, which are located to the east and south of the ADF. These locations are upgradient or sidegradient of the ADF, and an arsenic ACL of 3.3 micrograms per liter ($\mu\text{g/L}$) has been previously approved for upgradient non-CCR monitoring well MW-92B (Table 7).

4.2.2 Boron

No exemptions associated with boron at CCR monitoring wells are being requested at this time. An exemption in accordance with NR 507.29 and NR 140.28(4) is requested for non-CCR monitoring well MW-91B.

Monitoring well MW-91B has been monitored since the late 1980s, though the list of monitored parameters has varied over that period. Available data indicate an increase in concentrations of some CCR indicator parameters at MW-91B in the 1990s and/or 2000s, followed by a decrease. For example boron, sulfate, and specific conductance concentrations at MW-91B increased starting in the 1990s, peaked in the mid- to late-2000s, and then decreased (Appendix C). Concentrations of the same parameters at MW-91AR peaked at similar concentrations a few years earlier and then declined.

Improvements to the piping system conveying leachate from Module 1 to the leachate collection basin were made in the 2000s (Plan of Operations Update, November 2, 2000). The groundwater quality improvements observed since the mid- to late-2000s at MW-91A/AR and MW-91B, as described in the previous paragraph, indicate that groundwater impacts at this well nest were addressed by these improvements.

Boron concentrations at MW-91B appear to be attributable to historical CCR leachate management activities at the site, rather than to the placement of CCR in the landfill and continued landfill operations. This conclusion is supported by the decrease in boron and other CCR indicator parameters at MW-91B since the mid- to late-2000s. In addition, recent boron concentrations in shallow well MW-91AR are approximately an order of magnitude lower than those at MW-91B. If the landfill or leachate management operations were an ongoing source of boron at this well location, higher concentrations would be expected in the shallower monitoring well.

4.2.3 Chloride

An exemption in accordance with NR 507.29 and NR 140.28(4) is requested for chloride at CCR monitoring well MW-319. No exemptions associated with chloride at non-CCR monitoring wells are being requested at this time.

Monitoring well MW-319 is located near the intersection of Murray Road and Highway 51. At this location, there is a high potential for road salt application to result in increased chloride concentrations in groundwater. Chloride concentrations at MW-319 during the baseline sampling period ranged from 173 milligrams per liter (mg/L) to 802 mg/L. These data were collected over a relatively short period of less than 1 year and, therefore, long-term patterns of seasonal variability cannot be fully evaluated based on this data set. Although seasonal patterns were not determined, this fairly large range of concentrations supports the attribution of chloride concentrations at this well to an intermittent source such as road salt application.

Variable and elevated chloride concentrations have been observed at non-CCR monitoring wells MW-37A and MW-86 and at CCR monitoring wells MW-309 and MW-310, which are located near either Murray Road or Highway 51. Prior submittals, including the February 21, 2024 Addendum No. 5 to Plan of Operation Modification Request; the January 21, 2025 False Exceedance Demonstration, which included a confirmed chloride ACL exceedance at MW-310 (**Appendix D**); and Alternative Source Demonstrations (ASDs) prepared to satisfy requirements of the Federal CCR Rule, have attributed elevated chloride concentrations at roadside monitoring wells to road salt application.

The earliest data available from the DNR GEMS database is from September 1984. Initial placement of CCR in test plots in Module 1 of the ADF was approved in October 1984, and CCR disposal began sometime after that. Therefore, the initial groundwater monitoring results in the GEMS database represent pre-disposal conditions for the landfill.

- MW-37A, located alongside Murray Road: Chloride concentrations from 2015 to present (2 to 279 mg/L) are similar to those detected in 1984 to 1986 (8 to 319 mg/L).
- MW-86, located on the west side of Highway 51: Chloride concentrations from 2015 to present (176 mg/L to 484 mg/L) are similar to those detected in 1984 to 1986 (100 mg/L to 577 mg/L).

4.2.4 Manganese

An exemption in accordance with NR 507.29 and NR 140.28(4) is requested for manganese at CCR monitoring well MW-317, and an exemption in accordance with NR 507.29 and NR 140.28(3) is requested for CCR monitoring well MW-318. No exemptions associated with manganese at non-CCR monitoring wells are requested at this time.

Manganese concentrations in groundwater in Columbia County are variable, and the proposed ACLs for MW-317 and MW-318 are consistent with the range of concentrations (non-detect to 350 µg/L) reported in UW Extension Geological and Natural History Survey Circular 37, Ground-Water Resources and Geology of Columbia County, Wisconsin. Therefore, the manganese concentrations detected at MW-317 and MW-318 appear to be related to natural variability and are not attributable to the ADF.

As noted in the May 3, 2024 Plan Modification Conditional Approval, manganese can be elevated in early samples from a new monitoring well due to drilling and installation activities. The initial results at MW-318 were considered an outlier and not included in the ACL calculation for this reason. Subsequent sample results at MW-318 appear to have stabilized below the Public Health PAL (60 µg/L). The average of the non-outlier baseline results is below the Public Welfare PAL (25 µg/L); however, an ACL is proposed for this well because the ACL calculated based on non-outlier results is above Public Welfare PAL.

Manganese concentrations at MW-317 generally declined throughout the baseline sampling period; however, an ACL is proposed for this well because no baseline results are clear outliers and even the lowest baseline result was above the Public Health PAL (60 µg/L) and the Public Welfare ES (50 µg/L). The proposed ACL is above both the Public Welfare ES and the Public Health ES (250 µg/L).

4.2.5 Molybdenum

Exemptions in accordance with NR 507.29 and NR 140.28(3) are requested for molybdenum at non-CCR monitoring wells MW-33BR and MW-91AR. Exemptions in accordance with NR 507.29 and NR 140.28(4) are requested for CCR monitoring well MW-317 and non-CCR monitoring well MW-91B.

MW-33BR

Molybdenum concentrations at MW-33BR have generally decreased since molybdenum was added to the monitoring program in 2011. Historical boron data from before 2011 are not available for comparison, but this well is located in an area of the site where elevated boron, chloride, and sulfate concentrations were present prior to construction of the ADF. The 1978 Feasibility Study for the ADF discusses the influence of the ash pond effluent ditch on groundwater west of the proposed site. Generally decreasing molybdenum concentrations at MW-33BR, and the lack of PAL exceedances in the adjacent shallow well or other nearby wells, indicate that molybdenum concentrations at MW-33BR are likely due to a source other than the ADF.

An exemption request and proposed ACL for molybdenum at MW-33BR were included in the September 1, 2023 Plan of Operation Modification Request Addendum No. 2, and additional justification for the exemption was provided in the November 20, 2023 Plan of Operation Modification Request Addendum No. 4. The exemption request and ACL were not approved in the May 3, 2024 CCR Initial Permitting Plan of Operation Modification Approval, which stated that the exemption was not warranted because molybdenum had not been detected above the NR 140 PAL at this well since October 2016. The recalculated ACL included in this submittal, which incorporates additional data including an individual NR 140 PAL exceedance in April 2024, is the same (15 µg/L) as the previously submitted ACL.

MW-91AR and MW-91B

Molybdenum has been included in the semiannual monitoring program at MW-91AR and MW-91B since April 2011. Molybdenum concentrations at MW-91AR decreased sharply through October 2013 and have appeared stable since approximately 2015. Molybdenum concentrations at MW-91B have also generally decreased since this parameter was added to the sampling program and appear to have stabilized in recent years.

Boron, sulfate, and specific conductance decreased at both wells during the same period as discussed above in **Section 4.2.2**, indicating that the elevated concentrations appear to be attributable to historical impacts related to leachate management at the site, and the current design and ongoing operations of the ADF are not the likely source. Were the current design and operations of the ADF the cause of the elevated concentrations, the decrease in molybdenum concentrations observed at MW-91AR and MW-91B since monitoring for this parameter began would not be expected.

MW-317

Molybdenum concentrations at MW-317 generally decreased during baseline sampling, however even the lowest detected concentrations exceed the NR 140 PAL (8 µg/L).

MW-317 is approximately 100 feet from non-CCR monitoring well MW-37A. Molybdenum has been included in the semiannual monitoring program at MW-37A since April 2011 and is typically not detected at this well. The highest molybdenum concentration detected at MW-37A was 2.8 µg/L in April 2018.

Molybdenum concentrations at MW-317 consistently decreased over the course of baseline sampling, which would not be expected if the ADF were the source of molybdenum concentrations at this well. If the elevated molybdenum concentrations at MW-317 were attributable to the ADF, it would be expected that CCR indicator parameters such as boron and sulfate would also be elevated at this well, however boron and sulfate were not detected above NR 140 PALs during baseline sampling at MW-317.

The lack of elevated molybdenum concentrations at nearby well MW-37A, a decreasing trend throughout baseline monitoring at MW-317, and a lack of elevated concentrations of common CCR indicator parameters (boron and sulfate) at MW-317 indicate that the molybdenum concentrations at MW-317 are attributable to a localized source other than the ADF.

4.2.6 Nitrate + Nitrite as N

Exemptions in accordance with NR 507.29 and NR 140.28(3) are requested for nitrate + nitrite as nitrogen at CCR monitoring wells MW-318 and MW-319, and at non-CCR monitoring wells MW-37A and MW-91AR. An exemption in accordance with NR 507.29 and NR 140.28(4) is requested for non-CCR monitoring well MW-91B.

Nitrate + nitrite as nitrogen was removed from the non-CCR monitoring program in the May 3, 2024 Plan Modification Conditional Approval; however, exemption requests and proposed ACLs for non-CCR monitoring wells are included in this submittal to be consistent with the parameter list for which ACLs have been proposed and approved for other non-CCR monitoring wells at the site. Should this parameter be added back to the sampling program in the future, it would be useful to have ACLs already in place.

Concentrations of nitrite + nitrate in groundwater at the site appear to reflect sources not related to the ADF. The justification below for nitrate + nitrite exemptions in monitoring wells at the ADF includes information summarized in support of exemptions that were approved in the May 3, 2024 Plan Modification Conditional Approval.

- Nitrate + nitrite concentrations appear to be associated with agricultural land use.

- Nitrate concentrations in groundwater in Columbia County are variable, and PAL or enforcement standards (ES) exceedances in supply wells are fairly common.
 - The proposed ACLs at MW-37A, MW-91AR, MW-91B, MW-318, and MW-319 are 6.5 mg/L, 8.2 mg/L, 11 mg/L, 3.0 mg/L, and 2.5 mg/L, respectively. These concentrations, and all baseline sampling results for nitrogen at these wells, are within the range of concentrations reported in UW Extension Geological and Natural History Survey Circular 37, Ground-Water Resources and Geology of Columbia County, Wisconsin (non-detect to 17 mg/L). This Circular was published in 1978.
 - The proposed ACLs are also within the range of concentrations included in a more updated Columbia County data set referenced in the USGS Protecting Wisconsin's Groundwater Through Comprehensive Planning report (https://wi.water.usgs.gov/gwcomp/find/columbia/index_full.html, accessed 2/6/2024).
 - This report references data available as of October 1, 2007, through the DNR Groundwater Retrieval Network.
 - Forty-four percent of private well samples in Columbia County contained 2 to 10 mg/L nitrate-nitrogen.
 - Twenty percent of samples exceeded 10 mg/L.
- Exemptions were previously approved for several other CCR and non-CCR monitoring wells at the site, including MW-301 and MW-92A which are located to the east or southeast (upgradient) of the ADF. Concentrations at these upgradient wells have ranged from “not detected” to 9.1 mg/L.
- As shown in **Tables 4 and 7**, the ACLs proposed in this submittal are consistent with previously-approved ACLs for other site monitoring wells.

4.2.7 Sulfate

Exemptions in accordance with NR 507.29 and NR 140.28(3) are requested for sulfate at non-CCR monitoring well MW-91AR and at CCR monitoring wells MW-309 and MW-310. An exemption in accordance with NR 507.29 and NR 140.28(4) is requested for CCR monitoring well MW-318.

MW-91AR

Monitoring well MW-91AR has been monitored since 2003, when it replaced MW-91A. Monitoring at MW-91A began in the late 1980s, though the list of monitored parameters has varied over that period. As discussed above, available data indicate an increase in concentrations of some CCR indicator parameters at MW-91A/MW-91AR in the 1990s and/or 2000s, followed by a decrease. Concentrations of the same parameters at MW-91B peaked at similar concentrations a few years later than at MW-91A/AR, then declined. Following this decrease, recent sulfate concentrations at MW-91AR are consistent with those detected at MW-91A in the late 1980s and early 1990s.

Sulfate concentrations at MW-91AR appear to be attributable to historical CCR leachate management activities at the site, rather than to the current landfill design and continued operation.

This conclusion is supported by the decrease in sulfate and other CCR indicator parameters at MW-91AR since the mid- to late-2000s, to concentrations consistent with early data at MW-91A.

MW-309 and MW-310

Exemptions for sulfate at MW-309 and MW-310 were not requested in the Plan Modification Request and associated Addenda associated with the May 3, 2024 Plan Modification Conditional Approval because concentrations detected at these wells during the sampling period included in those submittals did not meet the criteria for exceedance requests or ACL calculation.

Some recent concentrations exceeding the NR 140 PAL (125 mg/L) have been detected at these wells and have been attributed to sources other than the ADF, therefore exemption requests and proposed ACLs for MW-309 and MW-310 are being submitted here. As noted below in an excerpt from the January 21, 2025 Demonstration of False Groundwater Exceedance, the original baseline sampling at MW-309 and MW-310 was completed over a relatively short period of time and likely does not represent the full range of temporal variability in background concentrations at these wells.

A January 21, 2025 Demonstration of False Groundwater Exceedance was submitted to DNR for exceedances initially detected in October 2024 and confirmed by resampling in November 2024, including sulfate PAL exceedances at MW-309 and MW-310. Additional information to supplement the Demonstration of False Groundwater Exceedance was submitted to DNR by email on February 18, 2025. DNR responded via email on February 20, 2025, with a determination that detection monitoring should continue. Below is an excerpt from the Demonstration of False Groundwater Exceedance, summarizing the lines of evidence supporting the attribution of elevated sulfate concentrations at MW-309 and MW-310 to a source other than the ADF. The full Demonstration of False Groundwater Exceedance and additional supporting information are included in **Appendix D** for reference.

Based on the historic groundwater flow directions and on previous investigations at the site, the ash ponds and other site conditions present prior to CCR placement in the ADF appear to be the most likely cause of the sulfate standards exceedances at MW-309 and MW-310.

Sulfate concentrations detected at MW-309 and MW-310 during October and November 2024 were similar to concentrations detected in April and June 2023 under the Federal CCR Rule monitoring program, and sulfate concentrations at MW-309 declined during fall 2023 and spring 2024 sampling events.

The following lines of evidence indicate that the standard exceedances for sulfate in wells MW-309 and MW-310 are due to one or more alternative sources:

- Historical sulfate concentrations at nearby non-CCR monitoring wells indicate that elevated and variable sulfate concentrations were present in the same general area of the site prior to the landfill's operation.*
- The baseline data set at MW-309 and MW-310 was collected over a short period of time from February through September 2018, and likely does not represent the full range of temporal variability in background concentrations at these monitoring wells.*
- The concentration of sulfate at MW-309 increased in April and June 2023, decreased in October 2023 through June 2024, and increased again in October 2024. These*

short-term fluctuations are not an expected behavior in response to a release from the landfill.

- *Because MW-309 and MW-310 are shallow wells located near the plant entrance road, influences from surface water infiltration, precipitation, or dissolution of sulfate impurities in rock salt (a deicing material) may be accentuated.*
- *Groundwater pumping for dewatering in the ash pond area during 2022-2023 and unusually high precipitation during 2024 likely induced changes in groundwater levels and flow patterns that may have contributed to short-term changes in sulfate concentrations at MW-309 and MW-310.*

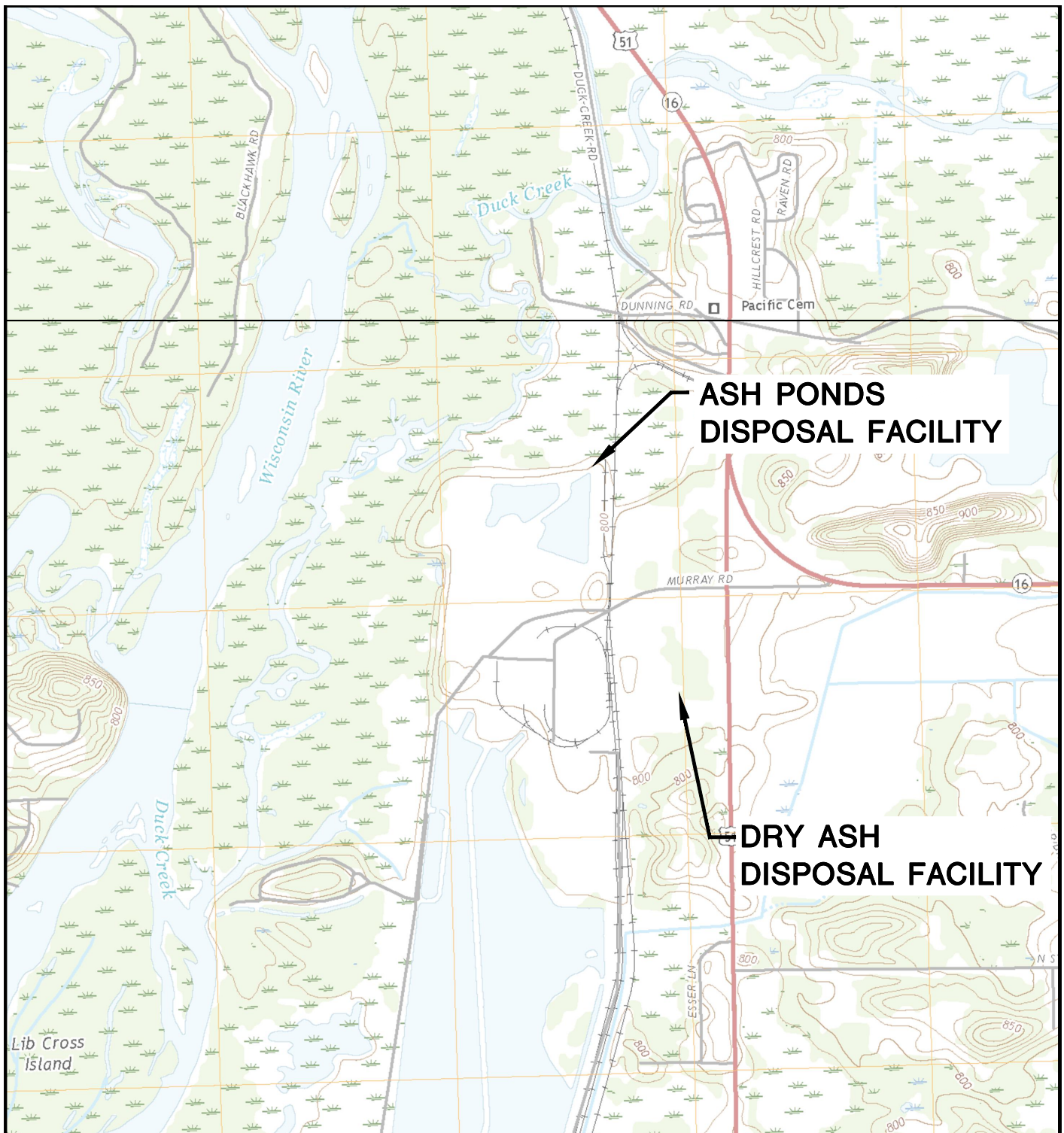
MW-318

Baseline sampling was ongoing at MW-318 when the Demonstration of False Groundwater Exceedance discussed above was submitted, however MW-318 is located in a similar location and setting as MW-309 and MW-310, and some of the same lines of evidence apply at this well. The historical data at nearby non-CCR monitoring wells, indicating that elevated and variable sulfate concentrations were present in this general area of the site prior to the landfill's operation, also applies to MW-318.

Sulfate concentrations at MW-318 declined slightly during the baseline sampling period (July 2024 through March 2025, and concentrations detected from October 2024 through March 2025 were similar to those detected at MW-310 during October and November 2024.

Figures

- 1 Site Location Map
- 2 Site Plan and Monitoring Well Locations

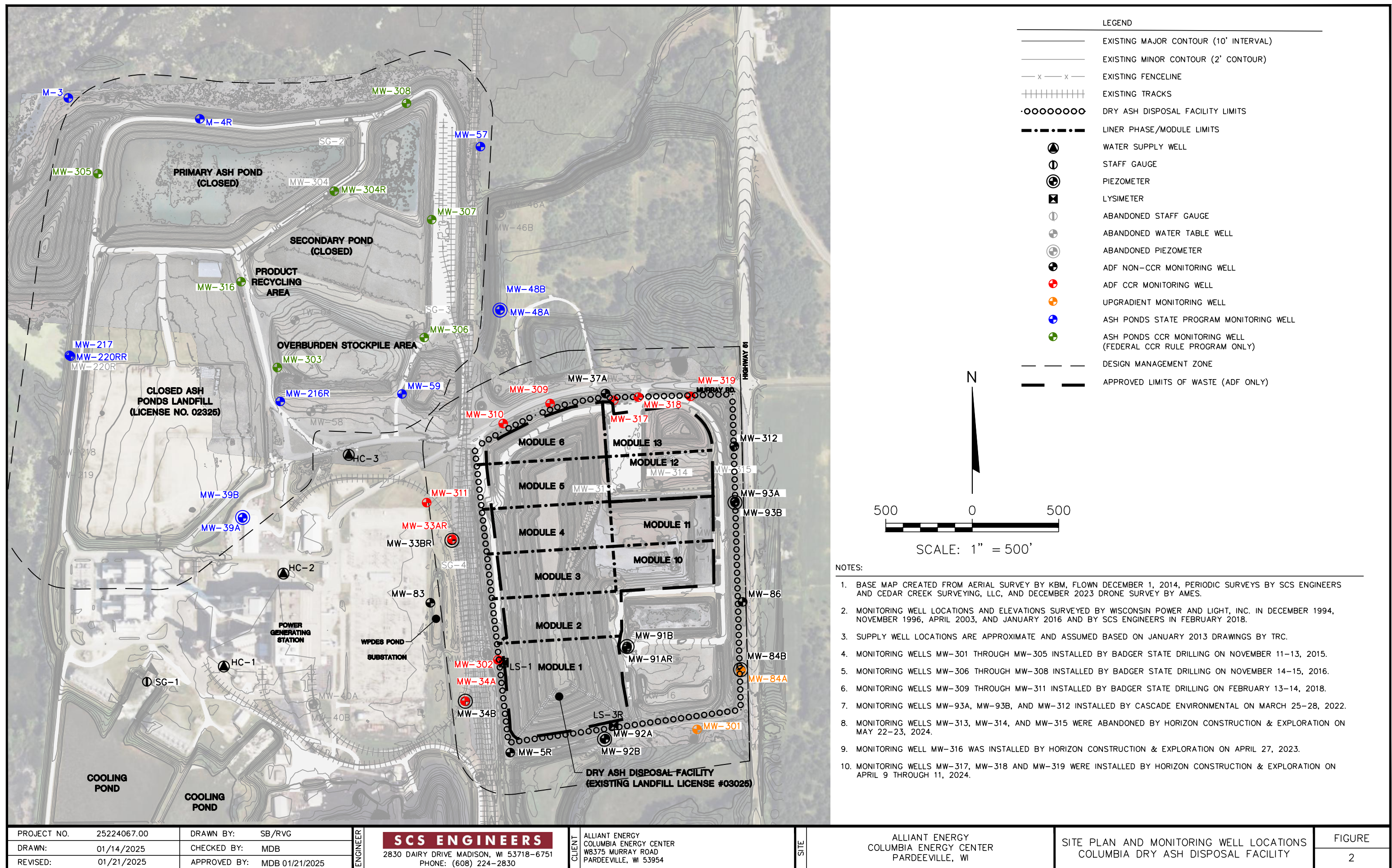


POYNETTE QUADRANGLE
WISCONSIN-COLUMBIA CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)
2018
SCALE: 1" = 2,000'



CLIENT ALLIANT ENERGY COLUMBIA ENERGY CENTER W8375 MURRAY ROAD PARDEEVILLE, WI 53954	SITE ALLIANT ENERGY COLUMBIA ENERGY CENTER PARDEEVILLE, WI	SITE LOCATION MAP	
PROJECT NO. 25219067.00	DRAWN BY: BSS	SCS ENGINEERS 2830 DAIRY DRIVE MADISON, WI 53718-6751 PHONE: (608) 224-2830	FIGURE
DRAWN: 12/02/2019	CHECKED BY: MDB		1
REVISED: 01/10/2020	APPROVED BY: TK 01/30/2020		

I:\25219067.00\Drawings\CCR 2019 Annual Report\Site Location Map.dwg, 1/30/2020 3:38:21 PM



Tables

- 1 NR 507.15(3) Groundwater Monitoring Program
- 2 Proposed Preventive Action Limits for Indicator Parameters, CCR Monitoring Wells
- 3 Groundwater Results Exceeding NR 140 Standards - CCR Monitoring Wells MW-317, MW-318, and MW-319, and Sulfate at MW-309 and MW-310
- 4 Proposed Alternative Concentration Limits for Public Health and Welfare Parameters, CCR Monitoring Wells
- 5 Proposed Preventive Action Limits for Indicator Parameters, Non-CCR Monitoring Wells
- 6 Groundwater Results Exceeding NR 140 Standards – Non-CCR Monitoring Wells MW-91AR, MW-91B, and Select Parameters at MW-33BR and MW-37A
- 7 Proposed Alternative Concentration Limits for Public Health and Welfare Parameters, Non-CCR Monitoring Wells

**Table 1. NR 507.15(3) Groundwater Monitoring Program
CCR Monitoring Program
Wisconsin Power and Light - Columbia Ash Disposal Facility**

Landfill Modules and Monitoring Points	Parameters - Detection Monitoring	Parameters - Assessment Monitoring (if required)	Frequency
Background Wells MW-84A MW-301	Alkalinity Boron Calcium	Antimony Arsenic Barium	Semiannual (April/October)
Compliance wells MW-302	Hardness	Beryllium	
MW-33AR	Chloride	Cadmium	
MW-34A	Fluoride	Chromium	
MW-309	Sulfate	Cobalt	
MW-310	Total Dissolved Solids	Copper	
MW-311	Field Conductivity	Fluoride	
MW-313 ^Δ	Field pH	Lead	
MW-314 ^Δ	Field Temperature	Lithium	
MW-315 ^Δ	Groundwater Elevation	Manganese	
		Mercury	
MW-317		Molybdenum	
MW-318		Nitrate + Nitrite (as N)	
MW-319		Selenium	
		Silver	
		Thallium	
		Zinc	
		Radium 226 and Radium 228, combined	

Notes:

All samples to be unfiltered and laboratory results to be reported as total.

Δ: MW-313, MW-314, and MW-315 were abandoned prior to construction of Module 12.

Created by: MDB
Last revision by: MDB
Checked by: RM

Date: 5/20/2025
Date: 5/20/2025
Date: 6/10/2025

\\Mad-fs01\data\Projects\25224152.00\Deliverables\Plan Mod Request_Additional PALs and ACLs\Tables\[Table 1_COL_CCR_Rule_GW Sampling_updated.xls]Table 1

**Table 2. Proposed Preventive Action Limits for Indicator Parameters
CCR Monitoring Wells MW-317, MW-318, and MW-319
Columbia Energy Center Ash Disposal Facility / SCS Engineers Project #25224152.00**

Well Name	License #3018 DNR ID #	Alkalinity, Total (mg/L as CaCO ₃) (00410)	Calcium, Total (mg/L) (00916)	Hardness, Total (mg/L as CaCO ₃) (00900)	Lithium, Total (µg/L) (01132)	Total Dissolved Solids (mg/L) (00360)	Field Specific Conductance (umhos/cm at 25C) (00094)	Field pH, Lower and Upper PALs (Standard Units) (00400)	Temperature, Field (Degrees Celsius) (000010)
MW-84A*	38	460	100	490	1.0	530	830	6.3 / 8.4	1.1 / 22
MW-301*	100	690	160	720	1.3	650	1,200	5.6 / 7.7	-0.70 / 20
MW-33AR*	63	310	150	390	3.0	850	1,400	6.6 / 8.7	1.6 / 22
MW-34A*	20	310	91	410	1.0	540	810	6.6 / 8.7	1.7 / 22
MW-302*	102	420	120	450	5.3	610	900	6.4 / 8.5	0.85 / 21
MW-309*	104	490	180	1,200	1.7	2,100	4,300	6.5 / 8.6	1.8 / 22
MW-310*	106	400	80	670	1.7	990	2,000	6.7 / 8.8	2.1 / 23
MW-311*	108	380	90	400	1.1	510	740	6.6 / 8.7	1.3 / 22
MW-317	116	370	74	330	7.9	470	670	6.6 / 8.7	1.6 / 22
MW-318	118	390	140	650	2.1	900	1,200	6.3 / 8.4	1.9 / 22
MW-319	120	460	190	810	2.1	2,300	4,000	6.4 / 8.5	1.8 / 22

Abbreviations:

mg/L = milligrams per liter

µg/L = micrograms per liter

CaCO₃ = calcium carbonate

PALs = preventive action limits

umhos/cm = micromhos per centimeter

Notes:

*: PAL previously approved in May 3, 2025 Conditional Plan of Operation Modification

Thick outline indicates PAL proposed in this submittal. Previously-approved PALs are included for reference.

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Date: 4/24/2025

Revised by: LMH

Date: 7/15/2025

Checked by: BLJ

Date: 7/15/2025

I:\25224152.00\Data and Calculations\Additional PALs and ACLs\[Table 2_PAL Summary_CCR Wells.xlsx]Table 2_CCR PALs

**Table 3: Groundwater Results Exceeding NR 140 Standards,
CCR Monitoring Wells MW-317, MW-318, and MW-319, and Sulfate at MW-309 and MW-310
Columbia Energy Center Dry Ash Facility, License #3025**

Parameter	PAL	ES	Well	Sample Date	Result	Exceedance Type
Arsenic, Dissolved (µg/L)	1	10	MW-317	6/27/2024	1.4	PAL
				7/31/2024	1.5	PAL
				8/30/2024	1.3	PAL
				10/1/2024	1.3	PAL
				10/31/2024	1.1	PAL
				12/9/2024	1.1	PAL
Chloride, Dissolved (mg/L)	125	250	MW-319	6/27/2024	486	ES
				7/31/2024	712	ES
				8/30/2024	802	ES
				10/1/2024	649	ES
				10/1/2024 (dup)	647	ES
				10/31/2024	237	PAL
				12/9/2024	455	ES
				1/10/2025	409	ES
				2/25/2025	355	ES
				3/27/2025	173	PAL
Manganese, Dissolved (µg/L)	25	50	MW-317	6/27/2024	363	ES
				7/31/2024	354	ES
				8/30/2024	322	ES
				10/1/2024	239	ES
				10/31/2024	280	ES
				12/9/2024	260	ES
				1/10/2025	217	ES
				2/25/2025	201	ES
				3/27/2025	218	ES
			MW-318	6/27/2024	137	ES
				1/17/2025	33.4	PAL
			MW-319	6/27/2024	25.5	PAL
Molybdenum, Dissolved (µg/L)	8	40	MW-317	6/27/2024	43.8	ES
				7/31/2024	50.7	ES
				8/30/2024	52.4	ES
				10/1/2024	24.6	PAL
				10/31/2024	37.5	PAL
				12/9/2024	23.9	PAL
				1/10/2025	15.3	PAL
				2/25/2025	13.6	PAL
				3/27/2025	18	PAL

**Table 3: Groundwater Results Exceeding NR 140 Standards,
CCR Monitoring Wells MW-317, MW-318, and MW-319, and Sulfate at MW-309 and MW-310
Columbia Energy Center Dry Ash Facility, License #3025**

Parameter	PAL	ES	Well	Sample Date	Result	Exceedance Type
Nitrate + Nitrite (as N, mg/L)	2	10	MW-318	6/27/2024	2.4	PAL
				10/31/2024	2.1	PAL
				1/17/2025	2.1	PAL
				2/25/2025	2.4	PAL
				3/27/2025	2.2	PAL
			MW-319	7/31/2024	2.2	PAL
				8/30/2024	2.2	PAL
				10/1/2024	2	PAL
				12/9/2024	2	PAL
				1/10/2025	2	PAL
Sulfate, Dissolved (mg/L)	125	250	MW-309	4/26/2023	143	PAL
				6/29/2023	147	PAL
				10/1/2024	142	PAL
				11/5/2024	131	PAL
			MW-310	10/1/2024	179	PAL
				11/5/2024	194	PAL
			MW-318	6/27/2024	276 M0	ES
				7/31/2024	290	ES
				8/30/2024	272	ES
				10/1/2024	231	PAL
				10/31/2024	203	PAL
				12/9/2024	215	PAL
				1/17/2025	187	PAL
				2/25/2025	186	PAL
				3/27/2025	207	PAL

Notes:

PAL = Preventive Action Limit µg/L = micrograms per liter
ES = Enforcement Standard mg/L = milligrams per liter

M0: Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

Prepared by: EMS 2/11/2025
Updated by: MDB 4/23/2025
Checked by: BLJ 4/25/2025

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**Table 4. Proposed Alternative Concentration Limits for Public Health and Welfare Parameters, CCR Monitoring Wells
Columbia Energy Center Ash Disposal Facility / SCS Engineers Project #25224152.00**

Well	License # 03025 DNR ID #	Arsenic, Total	Boron, Total	Chloride, Total	Manganese, Total		Molybdenum, Total	Nitrite + Nitrate as Nitrogen, Total	Sulfate, Total
		PAL = 1 ES = 10 µg/L	PAL = 0.2 ES = 1 (mg/L)	PAL* = 125 ES* = 250 (mg/L)	PAL = 60 ES = 300 (µg/L)	PAL* = 25 ES* = 50 (µg/L)	PAL = 8 ES = 40 (µg/L)	PAL = 2 ES = 10 (mg/L)	PAL* = 125 ES* = 250 (mg/L)
MW-301	100	--	--	--	--	--	--	2.8**	--
MW-33AR	63	--	0.92**	190**	--	--	--	--	200**
MW-34A	20	--	0.25**	--	--	--	--	12**	160**
MW-302	102	--	0.84**	--	--	--	--	13**	--
MW-309	104	--	--	820**	--	--	--	--	150
MW-310	106	--	--	330**	--	--	--	--	170
MW-317	116	1.7	--	--	400	--	62	--	--
MW-318	118	--	--	--	33	--	--	3.0	310
MW-319	120	--	--	900	--	--	--	2.5	--

Abbreviations:

PAL = NR 140 preventive action limit
ES = NR 140 enforcement standard

mg/L = milligrams per liter
µg/L = micrograms per liter

Notes:

*: Indicates Public Welfare Groundwater Quality Standard (NR 140 Table 2)

**: ACL previously approved in May 3, 2025 Conditional Plan of Operation Modification

--: None Proposed

Thick outline indicates ACL proposed in this submittal. Previously-approved ACLs are included in this table for reference.

Created by: MDB
Revised by: MDB
Checked by: AJR

Date: 4/24/2025
Date: 5/6/2025
Date: 5/23/2025

I:\25224152.00\Data and Calculations\Additional PALs and ACLs\[Table 4_ACL Summary_CCR Wells.xlsx]Table 4_CCR ACLs

**Table 5. Proposed Preventive Action Limits for Indicator Parameters, Non-CCR Monitoring Wells
Columbia Energy Center Ash Disposal Facility / SCS Engineers Project #25222260.00**

Well Name	License #03025 DNR ID #	Alkalinity, Total Filtered (mg/L as CaCO3) (39036)	Field Specific Conductance (umhos/cm at 25C) (00094)	Hardness, Total Filtered (mg/L as CaCO3) (22413)
MW-33BR*	65	340	990	350
MW-34B*	21	290	850	330
MW-37A*	22	420	1,800	580
MW-83*	59	260	680	260
MW-84B*	39	440	800	440
MW-86*	41	510	2,600	650
MW-91AR	61	480	1,300	600
MW-91B	50	540	1,300	580
MW-92A*	55	520	1,100	560
MW-92B*	57	590	960	610

Abbreviations:

mg/L = milligrams per liter

PALs = preventive action limits

CaCO3 = calcium carbonate

umhos/cm = micromhos per centimeter

Notes:

*: PALs for these non-CCR wells were approved in the May 3, 2024 Plan Modification Conditional Approval

 Thick outline indicates PAL proposed in this submittal. Previously-approved PALs are included in this table for reference.

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Revised by: MDB

Checked by: AJR

Date: 10/8/2024

Date: 5/6/2025

Date: 5/23/2025

I:\25224152.00\Data and Calculations\Additional PALs and ACLs\[Table 5_Additional PALs_Non CCR Wells.xlsx]Table 4_Non CCR Additional PALs

**Table 6: Groundwater Results Exceeding NR 140 Standards,
Non-CCR Monitoring Wells MW-91AR, MW-91B, and Select Parameters at MW-33BR and MW-37A
Columbia Energy Center Ash Disposal Facility, License #03025**

Parameter**	PAL	ES	Well	Sample Date	Result	Exceedance Type^
Aluminum, Dissolved (µg/L)	40	200	MW-91AR	10/9/2019	59.6	PAL
				4/13/2022	60.2 J	*
Arsenic, Dissolved (µg/L)	1	10	MW-91A	4/25/2002	5	PAL
				10/25/2002	5	PAL
			MW-91AR	4/17/2008	1.7	PAL
				10/31/2007	1.2	PAL
				4/10/2007	1.4	PAL
				10/12/2006	2.6	PAL
				4/13/2006	1.8	PAL
				10/26/2005	3.4	PAL
				10/12/2004	3.3	PAL
				4/27/2004	2.8	PAL
			MW-91B	4/25/2002	3.4	PAL
				10/25/2002	4.7	PAL
				10/30/2003	1.9 J	*
				4/27/2004	4.3	PAL
				10/12/2004	6.4	PAL
				4/15/2005	2.1	PAL
				10/26/2005	4.4	PAL
				4/13/2006	3	PAL
				10/12/2006	2.3	PAL
				4/10/2007	1.1	PAL
				4/17/2008	1.3	PAL
				10/27/2009	1.4	PAL
				4/14/2010	3.3	PAL
				10/21/2010	3.4	PAL
Boron, Dissolved (mg/L)	0.2	1	MW-91A	6/13/1990	0.3	PAL
				9/6/1990	1.2	ES
				12/7/1990	1.9	ES
				3/4/1991	3.3	ES
				6/3/1991	3.9	ES
				9/6/1991	2.8	ES
				12/3/1991	2.6	ES
				3/2/1992	3.2	ES
				6/1/1992	1.7	ES
				9/2/1992	2.8	ES
				12/1/1992	1.3	ES
				3/9/1993	1.2	ES
				6/2/1993	0.34	PAL
				9/13/1993	0.39	PAL
				12/7/1993	0.44	PAL
				3/14/1994	0.45	PAL
				6/6/1994	0.72	PAL
				9/12/1994	0.75	PAL
				12/5/1994	1.2	ES
				3/6/1995	1.9	ES
				6/6/1995	0.52	PAL
				9/5/1995	0.72	PAL
				4/29/1996	0.38	PAL
				10/16/1996	0.52	PAL

**Table 6: Groundwater Results Exceeding NR 140 Standards,
Non-CCR Monitoring Wells MW-91AR, MW-91B, and Select Parameters at MW-33BR and MW-37A
Columbia Energy Center Ash Disposal Facility, License #03025**

Parameter**	PAL	ES	Well	Sample Date	Result	Exceedance Type^
Boron, Dissolved (mg/L), continued	0.2	1		4/8/1997	1.3	ES
				10/20/1997	0.57	PAL
				4/14/1998	0.48	PAL
				10/27/1998	0.73	PAL
				4/16/1999	0.86	PAL
				10/21/1999	0.63	PAL
				4/20/2000	0.65	PAL
				10/4/2000	0.7	PAL
				4/3/2001	0.97	PAL
				10/30/2001	2.9	ES
				4/25/2002	2.8	ES
				10/25/2002	2.5	ES
			MW-91AR	4/28/2003	2.2	ES
				10/30/2003	2.5	ES
				4/27/2004	2.7	ES
				10/12/2004	4.2	ES
				4/15/2005	4.1	ES
				10/26/2005	3.5	ES
				4/13/2006	2.3	ES
				10/12/2006	2.7	ES
				4/10/2007	2.2	ES
				10/31/2007	3.3	ES
				4/17/2008	2.1	ES
				10/10/2008	1.68	ES
				4/22/2009	1.4	ES
				10/27/2009	1.3	ES
				4/14/2010	0.9 J	*
				10/21/2010	1.2	ES
				4/6/2011	0.89	PAL
				10/21/2011	1.2	ES
				4/4/2012	0.74	PAL
				10/4/2012	0.65	PAL
				4/18/2013	1.71	ES
				10/14/2013	1.22	ES
				4/17/2014	1.32	ES
				10/2/2014	0.665	PAL
				4/13/2015	0.732	PAL
				10/7/2015	0.552	PAL
				4/8/2016	0.413	PAL
				10/12/2016	0.386	PAL
				4/12/2017	0.296	PAL
				4/24/2018	0.289	PAL
				10/9/2020	1.17	ES

**Table 6: Groundwater Results Exceeding NR 140 Standards,
Non-CCR Monitoring Wells MW-91AR, MW-91B, and Select Parameters at MW-33BR and MW-37A
Columbia Energy Center Ash Disposal Facility, License #03025**

Parameter**	PAL	ES	Well	Sample Date	Result	Exceedance Type^
Boron, Dissolved (mg/L), continued	0.2	1	MW-91B	9/13/1993	0.25	PAL
				3/14/1994	0.22	PAL
				6/6/1994	0.23	PAL
				9/12/1994	0.25	PAL
				12/5/1994	0.34	PAL
				3/6/1995	0.44	PAL
				6/6/1995	0.46	PAL
				9/5/1995	0.53	PAL
				4/29/1996	0.74	PAL
				10/16/1996	0.96	PAL
				4/8/1997	1.2	ES
				10/20/1997	1.3	ES
				4/14/1998	1.4	ES
				10/27/1998	1.9	ES
				4/16/1999	1.8	ES
				10/21/1999	1.8	ES
				4/20/2000	1.9	ES
				10/4/2000	2.1	ES
				4/3/2001	2.4	ES
				10/30/2001	2	ES
				4/25/2002	1.9	ES
				10/25/2002	1.9	ES
				4/28/2003	2.2	ES
				10/30/2003	2.1	ES
				4/27/2004	2.1	ES
				10/12/2004	2.3	ES
				4/15/2005	2.6	ES
				10/26/2005	2.9	ES
				4/13/2006	2.9	ES
				10/12/2006	3	ES
				4/10/2007	3	ES
				10/31/2007	3.5	ES
				4/17/2008	3.84	ES
				10/10/2008	3.48	ES
				4/22/2009	3.36	ES
				10/27/2009	3.46	ES
				4/14/2010	3.1 J	*
				10/21/2010	3.1	ES
				4/6/2011	3.1	ES
				10/21/2011	2.6	ES
				4/4/2012	2.1	ES
				10/4/2012	2.3	ES
				4/18/2013	2.18	ES
				10/14/2013	1.65	ES
				4/17/2014	2.1	ES
				10/2/2014	2.04	ES
				4/13/2015	2	ES
				10/8/2015	1.91	ES
				4/8/2016	1.82	ES
				10/12/2016	1.8	ES

**Table 6: Groundwater Results Exceeding NR 140 Standards,
Non-CCR Monitoring Wells MW-91AR, MW-91B, and Select Parameters at MW-33BR and MW-37A
Columbia Energy Center Ash Disposal Facility, License #03025**

Parameter**	PAL	ES	Well	Sample Date	Result	Exceedance Type^
Boron, Dissolved (mg/L), continued	0.2	1	MW-91B (cont.)	4/12/2017	1.85	ES
				10/5/2017	1.74	ES
				4/24/2018	1.6	ES
				10/24/2018	1.88	ES
				4/3/2019	1.54	ES
				10/9/2019	1.57	ES
				5/29/2020	1.5	ES
				4/14/2021	1.09	ES
				10/14/2021	0.894	PAL
				4/13/2022	1.08	ES
				10/25/2022	1.05	ES
				4/25/2023	1.11	ES
				10/10/2023	0.8	PAL
				4/16/2024	0.976	PAL
				10/2/2024	0.733	PAL
Chromium, Dissolved (µg/L)	10	100	MW-91AR	4/27/2004	28	PAL
				4/22/2009	15.4	PAL
Molybdenum, Dissolved (µg/L)	8	40	MW-33BR	4/6/2011	13	PAL
				10/20/2011	14	PAL
				4/4/2012	11	PAL
				10/4/2012	12	PAL
				4/17/2013	15.3	PAL
				10/14/2013	9.6	PAL
				4/16/2014	9.8	PAL
				10/2/2014	9.5	PAL
				4/13/2015	10.1	PAL
				4/7/2016	8.5	PAL
				4/17/2024	14.7	PAL
			MW-91AR	4/6/2011	180	ES
				10/21/2011	150	ES
				4/4/2012	120	ES
				10/4/2012	100	ES
				4/18/2013	82.5	ES
				10/14/2013	24.1	PAL
				4/17/2014	38.7	PAL
				10/2/2014	20.7	PAL
				4/13/2015	32.9	PAL
				10/7/2015	25	PAL
				4/8/2016	25.1	PAL
				10/12/2016	19.6	PAL
				4/12/2017	16.4	PAL
				10/5/2017	15	PAL
				4/24/2018	18.8	PAL
				10/24/2018	23.2	PAL
				4/3/2019	25.8	PAL
				10/9/2019	29.2	PAL
				5/29/2020	20.2	PAL
				10/9/2020	101	ES
				4/14/2021	16.4	PAL
				10/14/2021	17.9	PAL
				4/13/2022	15.3	PAL

**Table 6: Groundwater Results Exceeding NR 140 Standards,
Non-CCR Monitoring Wells MW-91AR, MW-91B, and Select Parameters at MW-33BR and MW-37A
Columbia Energy Center Ash Disposal Facility, License #03025**

Parameter**	PAL	ES	Well	Sample Date	Result	Exceedance Type^
			MW-91AR (cont.)	10/25/2022	18.1	PAL
				4/25/2023	18.5	PAL
				10/10/2023	17.8	PAL
				4/16/2024	15.7	PAL
				10/2/2024	16.2	PAL
			MW-91B	4/6/2011	910	ES
				10/21/2011	1200	ES
				4/4/2012	860	ES
				10/4/2012	990	ES
				4/18/2013	962	ES
				10/14/2013	679	ES
				4/17/2014	818	ES
				10/2/2014	821	ES
				4/13/2015	745	ES
				10/8/2015	658	ES
				4/8/2016	680	ES
				10/12/2016	609	ES
				4/12/2017	564	ES
				10/5/2017	412	ES
				4/24/2018	356	ES
				10/24/2018	362	ES
				4/3/2019	258	ES
				10/9/2019	172	ES
				5/29/2020	147	ES
				10/9/2020	18.5	PAL
				4/14/2021	83.4	ES
				10/14/2021	66.6	ES
				4/13/2022	80.4	ES
				10/25/2022	118	ES
				4/25/2023	114	ES
				10/10/2023	87	ES
				4/16/2024	101	ES
				10/2/2024	65	ES
Nitrate + Nitrate - Nitrogen (Mg/L)	2	10	MW-37A	10/16/2023	5.9	PAL
				4/16/2024	10.4	ES
			MW-91AR	4/13/2015	6.2	PAL
				10/7/2015	4.7	PAL
				4/8/2016	5.7	PAL
				10/12/2016	3.2	PAL
				4/12/2017	2.7	PAL
				10/5/2017	2.6	PAL
				4/24/2018	3.2	PAL
				10/24/2018	5	PAL
				4/3/2019	3.7	PAL
				10/9/2019	4	PAL
				5/29/2020	7	PAL
				10/9/2020	8.5	PAL
				4/14/2021	5.7	PAL
				10/14/2021	5.5	PAL
				4/13/2022	5.5	PAL
				10/25/2022	3.3	PAL

**Table 6: Groundwater Results Exceeding NR 140 Standards,
Non-CCR Monitoring Wells MW-91AR, MW-91B, and Select Parameters at MW-33BR and MW-37A
Columbia Energy Center Ash Disposal Facility, License #03025**

Parameter**	PAL	ES	Well	Sample Date	Result	Exceedance Type^
Nitrate + Nitrate - Nitrogen (Mg/L) (continued)	2	10		4/25/2023	4.4	PAL
				10/16/2023	5.1	PAL
				4/16/2024	6.9	PAL
			MW-91B	10/8/2015	2.1	PAL
				4/8/2016	2.5	PAL
				10/12/2016	3.1	PAL
				4/12/2017	4.3	PAL
				10/5/2017	7.2	PAL
				4/24/2018	7.5	PAL
				10/24/2018	8.6	PAL
				4/3/2019	9.9	PAL
				10/9/2019	9.9	PAL
				5/29/2020	8.9	PAL
				10/9/2020	8.3	PAL
				4/14/2021	7.4	PAL
				10/14/2021	8	PAL
				4/13/2022	9.1	PAL
				10/25/2022	8.9	PAL
				4/25/2023	9.2	PAL
				10/16/2023	9.1	PAL
				4/16/2024	10.4	ES
Selenium, Dissolved (µg/L)	10	50	MW-91AR	4/6/2011	98	ES
				10/21/2011	230	ES
				4/4/2012	120	ES
				10/4/2012	51	ES
			MW-91B	4/6/2011	170	PAL
				10/21/2011	140	PAL
				4/4/2012	150	PAL
				10/4/2012	92.0	PAL
				4/18/2013	79.6	PAL
				10/14/2013	81.7	PAL
				4/17/2014	105	PAL
				10/2/2014	105	PAL
				4/13/2015	102	PAL
				10/8/2015	73.9	PAL
				4/8/2016	83.6	PAL
				10/12/2016	69.8	PAL
				4/12/2017	46.1	PAL
				10/5/2017	15.1	PAL
Sulfate, Dissolved (mg/L)	125	250	MW-91A	3/29/1990	180	PAL
				10/27/1998	360	ES
				10/21/1999	380	ES
				4/20/2000	210	PAL
				10/4/2000	270	ES
				4/3/2001	470	ES
				10/30/2001	710	ES
				4/25/2002	850	ES
				10/25/2002	880	ES

**Table 6: Groundwater Results Exceeding NR 140 Standards,
Non-CCR Monitoring Wells MW-91AR, MW-91B, and Select Parameters at MW-33BR and MW-37A
Columbia Energy Center Ash Disposal Facility, License #03025**

Parameter**	PAL	ES	Well	Sample Date	Result	Exceedance Type^
Sulfate, Dissolved (mg/L) (continued)	125	250	MW-91AR	4/28/2003	770	ES
				10/30/2003	820	ES
				4/27/2004	750	ES
				10/12/2004	820	ES
				4/15/2005	790	ES
				10/26/2005	760	ES
				4/13/2006	740	ES
				10/12/2006	890	ES
				4/10/2007	530	ES
				10/31/2007	200	ES
				4/17/2008	278	ES
				10/10/2008	161	PAL
				4/22/2009	153	PAL
				10/27/2009	220	PAL
				4/14/2010	130	PAL
				4/6/2011	320	ES
				10/21/2011	850	ES
				4/4/2012	450	ES
				10/4/2012	430	ES
				4/18/2013	174	PAL
				4/8/2016	227	PAL
			MW-91B	6/2/1993	180	PAL
				10/16/1996	130	PAL
				4/8/1997	140	PAL
				10/20/1997	150	PAL
				4/14/1998	150	PAL
				10/27/1998	130	PAL
				4/16/1999	160	PAL
				10/21/1999	170	PAL
				4/20/2000	170	PAL
				10/4/2000	150	PAL
				4/3/2001	140	PAL
				10/30/2001	300	ES
				4/25/2002	550	ES
				10/25/2002	710	ES
				4/28/2003	930	ES
				10/30/2003	860	ES
				4/27/2004	960	ES
				10/12/2004	980	ES
				4/15/2005	1000	ES

**Table 6: Groundwater Results Exceeding NR 140 Standards,
Non-CCR Monitoring Wells MW-91AR, MW-91B, and Select Parameters at MW-33BR and MW-37A
Columbia Energy Center Ash Disposal Facility, License #03025**

Parameter**	PAL	ES	Well	Sample Date	Result	Exceedance Type^
Sulfate, Dissolved (mg/L), continued	125	250	MW-91B	10/26/2005	980	ES
				4/13/2006	1100	ES
				10/12/2006	1000	ES
				4/10/2007	1000	ES
				10/31/2007	1000	ES
				4/17/2008	978	ES
				10/10/2008	894	ES
				4/22/2009	986	ES
				10/27/2009	1010	ES
				4/14/2010	930	ES
				10/21/2010	800	ES
				4/6/2011	8700	ES
				10/21/2011	750	ES
				4/4/2012	570	ES
				10/4/2012	510	ES
				4/18/2013	430	ES
				4/17/2014	447	ES
				4/13/2015	517	ES
				10/8/2015	331	ES
				4/8/2016	401	ES
				10/12/2016	366	ES
				4/12/2017	330	ES
				10/5/2017	218	PAL
				4/24/2018	182	PAL
				10/24/2018	164	PAL
				4/3/2019	146	PAL
Sulfate, Total (mg/L)	125	250	MW-91B	10/14/2013	241	PAL
				10/2/2014	370	ES

Notes:

PAL = Preventive Action Limit
ES = Enforcement Standard

µg/L = micrograms per liter dup = Duplicate Sample
mg/L = milligrams per liter

*: Numeric result is over PAL, but result is below method detection limit (J flag) and thus is not considered a PAL exceedance.

***: Exceedance summaries and proposed ACLs for other non-CCR wells and for other parameters at MW-37A and MW-33BR were included in the September 1, 2023 Plan of Operations Modification Request Addendum No. 2. A proposed molybdenum ACL for MW-33BR is being resubmitted. The nitrate + nitrite ACL at MW-37A was not previously requested.

^: ESs do not apply to wells inside the Design Management Zone, however results are compared to ESs here to evaluate criteria for exemption requests.

Prepared by: BLR, 7/25/2024
Updated by: MDB 4/15/2025
Checked by: BLJ 4/25/2025

I:\25224152.00\Data and Calculations\Additional PALs and ACLs\[Table_6_Summary_NR 140 Exceedances_Non CCR Wells.xlsx]Sheet1

**Table 7. Proposed Alternative Concentration Limits for Public Health and Welfare Parameters, Non-CCR Monitoring Wells
Columbia Energy Center Ash Disposal Facility / SCS Engineers Project #25224152.00**

Well	License # 03025 DNR ID #	Arsenic	Boron	Chloride	Molybdenum	Nitrite + Nitrate - Nitrogen	Sulfate
		PAL = 1 ES = 10 (µg/L)	PAL = 0.2 ES = 1 (mg/L)	PAL = 125 ES = 250 (mg/L)	PAL = 8 ES = 40 (µg/L)	PAL = 2 ES = 10 (mg/L)	PAL = 125 ES = 250 (mg/L)
MW-33BR	65	--	0.70*	--	15^	7.2*	--
MW-34B	21	--	0.77*	--	--	14*	--
MW-37A	22	--	--	280*	--	6.5	--
MW-83	59	--	--	--	--	3.3*	--
MW-86	41	--	--	510*	--	--	--
MW-91AR	61	--	--	--	31	8.1	160
MW-91B	50	--	1.3	--	130	11	--
MW-92A	55	--	--	--	--	7.5*	--
MW-92B	57	3.3*	--	--	--	--	--

Abbreviations:

PAL = NR 140 preventive action limit
ES = NR 140 enforcement standard
ACLs = Alternative concentration limits

µg/L = micrograms per liter
mg/L = milligrams per liter
-- = Not Applicable

Note: ACLs are not proposed for aluminum, arsenic, boron, chromium, sulfate, or selenium at MW-91AR or for arsenic, sulfate, or selenium at MW-91B because recent results indicate current concentrations are below NR 140 PALs for these parameters.

* An ACL for this parameter at this well was previously approved in the May 3, 2024 Plan of Operations Modification Conditional Approval.

^: This ACL for molybdenum at MW-33BR was previously submitted in the September 1, 2023 Plan of Operations Modification Request Addendum No. 2, but was not approved. The ACL was recalculated to include more recent data and is being resubmitted here.

--: None Proposed

Thick outline indicates ACL proposed in this submittal. Previously-approved ACLs are included in this table for reference.

Created by: MDB
Revised by: MDB
Checked by: AJR

Date: 4/24/2025
Date: 5/6/2025
Date: 5/23/2025

I:\25224152.00\Data and Calculations\Additional PALs and ACLs\[Table 7_Additional ACLs_Non CCR Wells.xlsx]Table 6_Non CCR Additional ACLs

Appendix A

Copy of GEMS Baseline Data Submittal



Alliant Energy
4902 North Biltmore Lane
P.O. Box 77007
Madison, WI 53707-1007

1-800-ALLIANT (800-255-4268)
alliantenergy.com

June 11, 2025

Mr. Tyler Sullivan
Wisconsin Department of Natural Resources
3911 Fish Hatchery Road
Fitchburg, WI 53711-5367

**Subject: Baseline Sampling Environmental Monitoring Data Submittal
Wisconsin Power and Light Company – Columbia Ash Disposal Facility
Portage, Wisconsin
License #3025**

Dear Mr. Sullivan:

On behalf of Wisconsin Power and Light Company (WPL), Alliant Energy is providing the enclosed summary and data submittal for the groundwater sampling performed at the WPL Columbia Ash Disposal Facility in June 2024 through March 2025. The monitoring was performed by SCS Engineers (SCS) and the samples were analyzed by Pace Analytical Services, Inc. of Green Bay, Wisconsin. All samples were analyzed in accordance with the site-specific monitoring program approved by Wisconsin Department of Natural Resources (WDNR).

Please call me at (608) 458-3197 with any questions regarding this information.

Sincerely,

A handwritten signature in dark ink, appearing to read "Matt Bizjack", with a stylized flourish at the end.

Matt Bizjack
Senior Environmental Specialist
Alliant Energy Corporate Services, Inc.

Enclosures

Cc: Brian Clepper; Cheryl Bommarito – WPL Columbia Energy Center
Jeff Maxted – Alliant Energy Corporate Services, Inc.
Meghan Blodgett, Thomas Karwoski, Ethan Schaefer – SCS Engineers

June 11, 2025
File No. 25224067.00

GEMS Data Submittal Contact – WA/5
Wisconsin Department of Natural Resources
Bureau of Waste Management
P.O. Box 7921
Madison, WI 53707-7921

Subject: Baseline Sampling – Environmental Monitoring Data Submittal
Wisconsin Power and Light Company
Columbia Dry Ash Disposal Facility
Portage, Wisconsin
License No. 03025

Dear GEMS Data Submittal Contact:

This letter summarizes the baseline monitoring results for a groundwater sampling performed at coal combustion residual (CCR) monitoring wells MW-317, MW-318, and MW-319 at the Columbia Dry Ash Disposal Facility (ADF) in June 2024 through March 2025. The monitoring was performed by SCS Engineers (SCS). Pace Analytical Services, Inc., of Green Bay, Wisconsin, provided laboratory analysis. Monitoring was performed to support compliance with baseline and detection groundwater monitoring requirements of the Federal CCR Rule (40 CFR 257.90 through 257.94), and later with NR 507.18(15).

The data submittal includes this letter and the following attachments:

- Groundwater Standards Exceedance Summary (**Table 1**).
- Environmental Monitoring Data Certification Form
- Compact disc (CD) containing the results in DNR electronic data submittal format.

MONITORING PROGRAM COMMENTS

Baseline sampling of CCR monitoring wells MW-317, MW-318, and MW-319 began in June 2024 and was completed in March 2025. This submittal includes data collected during baseline sampling under the Federal CCR Rule and in accordance with the requirements of NR 507.18(15).

NR 140 GROUNDWATER EXCEEDANCES

Groundwater quality results for the baseline sampling events were compared to NR 140 preventive action limits (PALs) and enforcement standards (ESs). Exemptions in accordance with NR 507.29 and NR 140.28 for well/constituent pairs listed in this table will be submitted in a Plan Modification Request for DNR review. Justification for these exemptions, including explanations of non-ADF sources for constituents detected above NR 140 standards, are included in the Plan Modification Request.



June 11, 2025

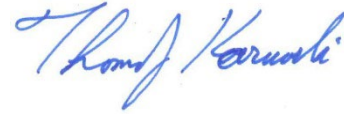
Page 2

Please contact Matt Bizjack, Alliant Energy, at 608-458-3197 with any questions regarding the data from the January 2025 resampling event at the Columbia Dry Ash Disposal Facility.

Sincerely,



Meghan Blodgett, PG
Project Hydrogeologist
SCS Engineers



Thomas Karwoski, PG
Project Manager
SCS Engineers

MDB/jsn/TK

cc: Tyler Sullivan, Wisconsin Department of Natural Resources (e-copy only)
Matt Bizjack, Alliant Energy (e-copy only)
Jeff Maxted, Alliant Energy (e-copy only)
Brian Clepper, WPL-Columbia (e-copy only)
Cheryl Bommarito, WPL-Columbia (e-copy only)

Encl. Table 1 – Groundwater Standards Exceedance Summary
Environmental Monitoring Data Certification Form
Compact disc (CD) containing the results in Wisconsin DNR electronic data submittal
format – (GEMS Data Submittal Contact copy only)

I:\25224152.00\Deliverables\GEMS Baseline CCR Well Data MW317 318 319\250611_COL ADF Baseline_GEMS Submittal_Final.docx

**Table 1: Groundwater Results Exceeding NR 140 Standards,
CCR Monitoring Wells MW-317, MW-318, and MW-319
Columbia Energy Center Dry Ash Facility, License #3025**

Parameter	PAL	ES	Well	Sample Date	Result	Exceedance Type
Arsenic, Dissolved (µg/L)	1	10	MW-317	6/27/2024	1.4	PAL
				7/31/2024	1.5	PAL
				8/30/2024	1.3	PAL
				10/1/2024	1.3	PAL
				10/31/2024	1.1	PAL
				12/9/2024	1.1	PAL
Chloride, Dissolved (mg/L)	125	250	MW-319	6/27/2024	486	ES
				7/31/2024	712	ES
				8/30/2024	802	ES
				10/1/2024	649	ES
				10/1/2024 (dup)	647	ES
				10/31/2024	237	PAL
				12/9/2024	455	ES
				1/10/2025	409	ES
				2/25/2025	355	ES
				3/27/2025	173	PAL
Manganese, Dissolved (µg/L)	25	50	MW-317	6/27/2024	363	ES
				7/31/2024	354	ES
				8/30/2024	322	ES
				10/1/2024	239	ES
				10/31/2024	280	ES
				12/9/2024	260	ES
				1/10/2025	217	ES
				2/25/2025	201	ES
			MW-318	3/27/2025	218	ES
				6/27/2024	137	ES
			MW-319	1/17/2025	33.4	PAL
				6/27/2024	25.5	PAL
				6/27/2024	25.5	PAL
Molybdenum, Dissolved (µg/L)	8	40	MW-317	6/27/2024	43.8	ES
				7/31/2024	50.7	ES
				8/30/2024	52.4	ES
				10/1/2024	24.6	PAL
				10/31/2024	37.5	PAL
				12/9/2024	23.9	PAL
				1/10/2025	15.3	PAL
				2/25/2025	13.6	PAL
Nitrate + Nitrite (as N, mg/L)	2	10	MW-318	3/27/2025	18	PAL
				6/27/2024	2.4	PAL
				10/31/2024	2.1	PAL
				1/17/2025	2.1	PAL
				2/25/2025	2.4	PAL
			MW-319	3/27/2025	2.2	PAL
				7/31/2024	2.2	PAL
				8/30/2024	2.2	PAL
				10/1/2024	2	PAL
				12/9/2024	2	PAL
				1/10/2025	2	PAL

**Table 1: Groundwater Results Exceeding NR 140 Standards,
CCR Monitoring Wells MW-317, MW-318, and MW-319
Columbia Energy Center Dry Ash Facility, License #3025**

Parameter	PAL	ES	Well	Sample Date	Result	Exceedance Type
Sulfate, Dissolved (mg/L)	125	250	MW-309	4/26/2023	143	PAL
				6/29/2023	147	PAL
				10/1/2024	142	PAL
				11/5/2024	131	PAL
			MW-310	10/1/2024	179	PAL
				11/5/2024	194	PAL
			MW-318	6/27/2024	276 M0	ES
				7/31/2024	290	ES
				8/30/2024	272	ES
				10/1/2024	231	PAL
				10/31/2024	203	PAL
				12/9/2024	215	PAL
				1/17/2025	187	PAL
				2/25/2025	186	PAL
				3/27/2025	207	PAL

Notes:

PAL = Preventive Action Limit

µg/L = micrograms per liter

ES = Enforcement Standard

mg/L = milligrams per liter

M0: Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

Prepared by: EMS 2/11/2025

Updated by: MDB 4/23/2025

Checked by: BLJ 4/25/2025

I:\25224067.00\Data and Calculations\Tables\COL Mod 12-13 Baseline Data\Mod 12-13_NR 140 Exceedances

Save...

Print...

Clear Data

State of Wisconsin
Department of Natural Resources
dnr.wi.gov

Environmental Monitoring Data Certification

Form 4400-231 (R 5/17)

Notice: Personally identifiable information collected will be used for program administration and enforcement purposes. The Department may also provide this information to requesters as required under Wisconsin's Open Records law, ss. 19.31 to 19.39, Wis. Stats. When submitting monitoring data, the owner or operator of the facility, practice or activity is required to notify the Department in writing that a groundwater standard or an explosive gas level has been attained or exceeded, as specified in ss. NR 140.24(1)(a); NR 140.26(1)(a); NR 507.30NR 635.14(9)(a); NR 635.18(20) and NR 507.30, Wis. Adm. Code. Failure to report may result in fines, forfeitures or other penalties resulting from enforcement under ss. 289.97, 291.97 or 299.95, Wis. Stats

Instructions:

- **Prepare one form for each license or monitoring ID.**
- **Please type or print legibly.**
- Attach a notification of any values that attain or exceed groundwater standards (that is, preventive action limits, enforcement standards or alternative concentration limits). The notification must include a preliminary analysis of the cause and significance of each value.
- Attach a notification of any gas values that attain or exceed explosive gas levels.
- Send the original signed form, any notification, and Electronic Data Deliverable [EDD] to:

GEMS Data Submittal Contact - WA/5
Wisconsin Department of Natural Resources
P.O. Box 7921
Madison, WI 53707-7921

Monitoring Data Submittal Information

Name of entity submitting data (laboratory, consultant, facility owner)

SCS Engineers

Contact for questions about data formatting. Include data preparer's name, telephone number and Email address:

Name

Meghan Blodgett

Phone No. (include area code)

(608) 216-7362

Email

mblodgett@scsengineers.com

Facility Name

WPL Columbia Dry Ash

License # / Monitoring ID

03025

Facility ID (FID)

111049180

Actual sampling dates (e.g., July 2-6, 2003)

June 2024 – March 2025

The enclosed results are for sampling required in the month(s) of: (e.g., June 2003)

June 2024 – March 2025 (baseline monitoring)

Type of Data Submitted (Check all that apply):

- ☒ Groundwater monitoring data from monitoring wells ☐ Gas monitoring data
☐ Groundwater monitoring data from private water supply wells ☐ Air monitoring data
☐ Leachate monitoring data ☐ Other (specify):

Notification attached?

- ☐ No. No groundwater standards or explosive gas limits were exceeded.
☒ Yes, a notification of values exceeding a groundwater standard is attached. It includes a list of monitoring points, dates, sample values, groundwater standard and preliminary analysis of the cause and significance of any concentration.
☐ Yes, a notification of values exceeding an explosive gas limit is attached. It includes the monitoring points, dates, sample values and explosive gas limits.

Certification

To the best of my knowledge, the information reported and statements made on this data submittal and attachments are true and correct. Furthermore, I have attached complete notification of any sampling values meeting or exceeding groundwater standards or explosive gas levels, and a preliminary analysis of the cause and significance of concentrations exceeding groundwater standards.

Facility Representative Name (Print)

Meghan Blodgett

Title

Project Manager

Phone No. (include area code)

(608) 216-7362

Signature

5/15/2025

Date Signed (mm/dd/yyyy)

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Check action taken, and record date and your initials. Describe on back side if necessary.

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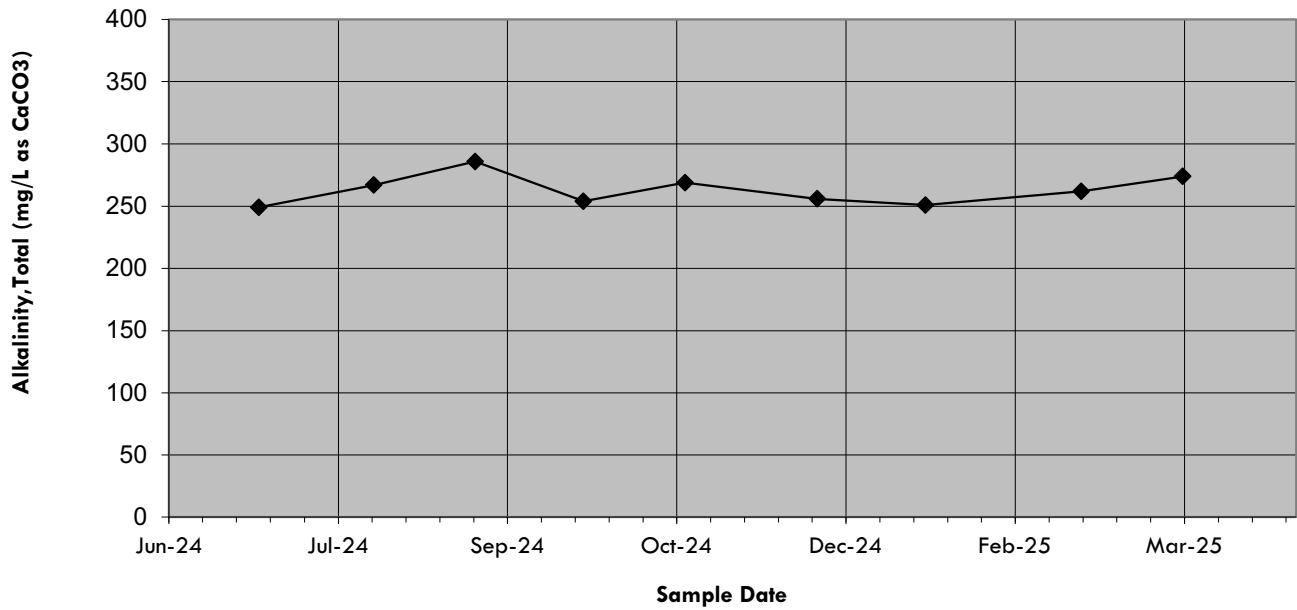
Appendix B

PAL and ACL Calculations

B.1 CCR Well PAL and ACL Calcs

B.2 Non-CCR Well PAL and ACL Calcs

MW-317: Alkalinity



Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-317	ALKALINITY, TOTAL (MG/L CaCO3)	01	249	6/27/2024	249	249	
MW-317	ALKALINITY, TOTAL (MG/L CaCO3)	01	267	7/31/2024	267	267	
MW-317	ALKALINITY, TOTAL (MG/L CaCO3)	01	286	8/30/2024	286	286	
MW-317	ALKALINITY, TOTAL (MG/L CaCO3)	01	254	10/1/2024	254	254	
MW-317	ALKALINITY, TOTAL (MG/L CaCO3)	01	269	10/31/2024	269	269	
MW-317	ALKALINITY, TOTAL (MG/L CaCO3)	01	256	12/9/2024	256	256	
MW-317	ALKALINITY, TOTAL (MG/L CaCO3)	01	251	1/10/2025	251	251	
MW-317	ALKALINITY, TOTAL (MG/L CaCO3)	01	262	2/25/2025	262	262	
MW-317	ALKALINITY, TOTAL (MG/L CaCO3)	01	274	3/27/2025	274	274	
Calculations							
Count						9	
Mean						263.11	
Std Dev						12.11	
3 X SD (PAL)						36.32	
Min Increase (PAL)						100	
PAL, Calculated						363.11	
PAL, Rounded						370	

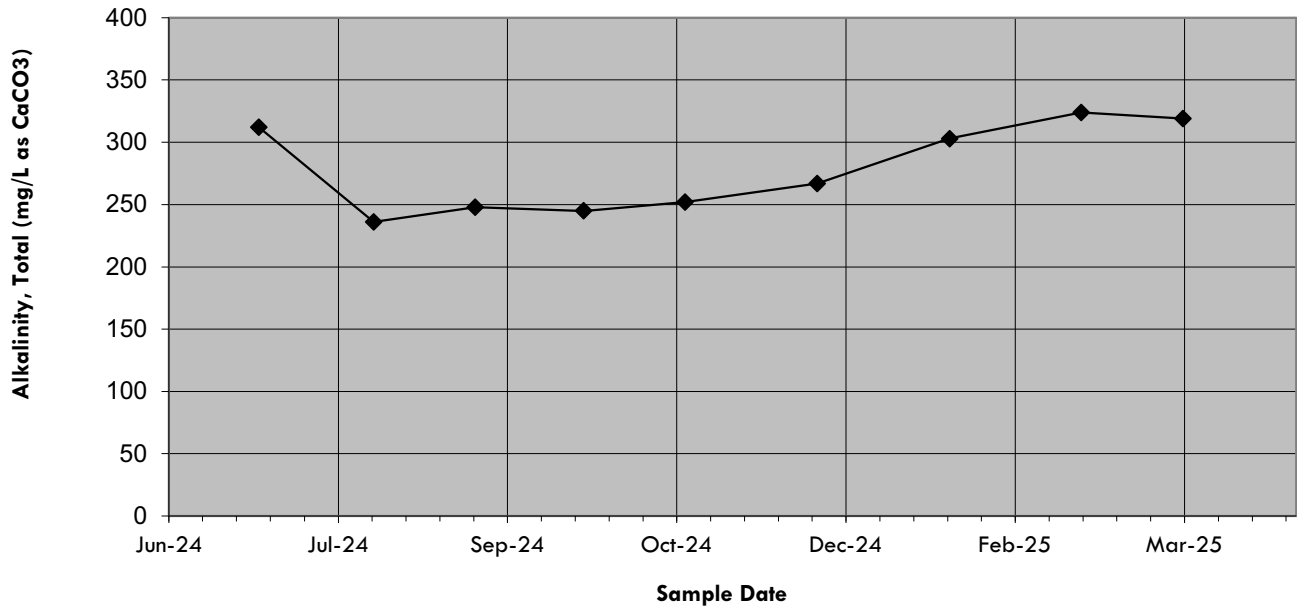
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MW-317	ALKALINITY, TOTAL (MG/L CaCO3)	02	256	10/1/2024			

Calculated By: EMS
Checked By: MDB

Notes:

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MW-318: Alkalinity



Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-318	ALKALINITY, TOTAL (MG/L CaCO3)	01	312	6/27/2024	312	312	
MW-318	ALKALINITY, TOTAL (MG/L CaCO3)	01	236	7/31/2024	236	236	
MW-318	ALKALINITY, TOTAL (MG/L CaCO3)	01	248	8/30/2024	248	248	
MW-318	ALKALINITY, TOTAL (MG/L CaCO3)	01	245	10/1/2024	245	245	
MW-318	ALKALINITY, TOTAL (MG/L CaCO3)	01	252	10/31/2024	252	252	
MW-318	ALKALINITY, TOTAL (MG/L CaCO3)	01	267	12/9/2024	267	267	
MW-318	ALKALINITY, TOTAL (MG/L CaCO3)	01	303	1/17/2025	303	303	
MW-318	ALKALINITY, TOTAL (MG/L CaCO3)	01	324	2/25/2025	324	324	
MW-318	ALKALINITY, TOTAL (MG/L CaCO3)	01	319	3/27/2025	319	319	
Calculations							
Count						9	
Mean						278.44	
Std Dev						35.58	
3 X SD (PAL)						106.73	
Min Increase (PAL)						100	
PAL, Calculated						385.18	
PAL, Rounded						390	

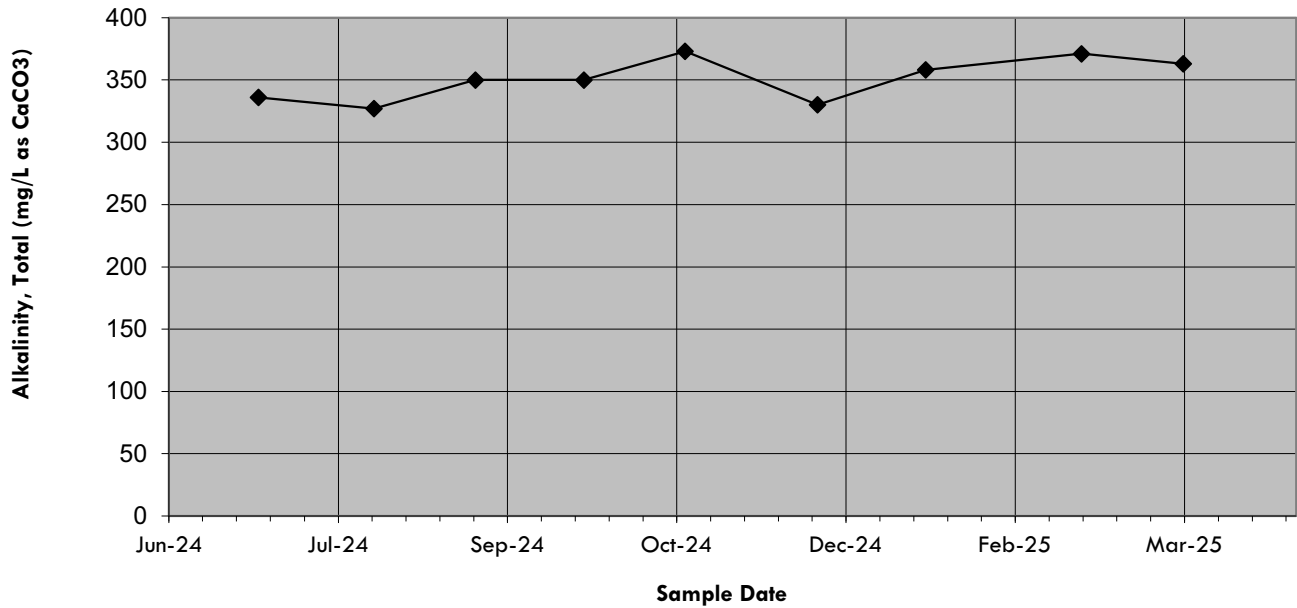
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MW-318	ALKALINITY, TOTAL (MG/L CaCO3)	02	245	10/1/2024			

Calculated By: EMS
Checked By: MDB

Notes:

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MW-319: Alkalinity



Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-319	ALKALINITY, TOTAL (MG/L CaCO3)	01	336	6/27/2024	336	336	
MW-319	ALKALINITY, TOTAL (MG/L CaCO3)	01	327	7/31/2024	327	327	
MW-319	ALKALINITY, TOTAL (MG/L CaCO3)	01	350	8/30/2024	350	350	
MW-319	ALKALINITY, TOTAL (MG/L CaCO3)	01	350	10/1/2024	350	350	
MW-319	ALKALINITY, TOTAL (MG/L CaCO3)	01	373	10/31/2024	373	373	
MW-319	ALKALINITY, TOTAL (MG/L CaCO3)	01	330	12/9/2024	330	330	
MW-319	ALKALINITY, TOTAL (MG/L CaCO3)	01	358	1/10/2025	358	358	
MW-319	ALKALINITY, TOTAL (MG/L CaCO3)	01	371	2/25/2025	371	371	
MW-319	ALKALINITY, TOTAL (MG/L CaCO3)	01	363	3/27/2025	363	363	
Calculations							
Count						9	
Mean						350.89	
Std Dev						17.03	
3 X SD (PAL)						51.10	
Min Increase (PAL)						100	
PAL, Calculated						450.89	
PAL, Rounded						460	

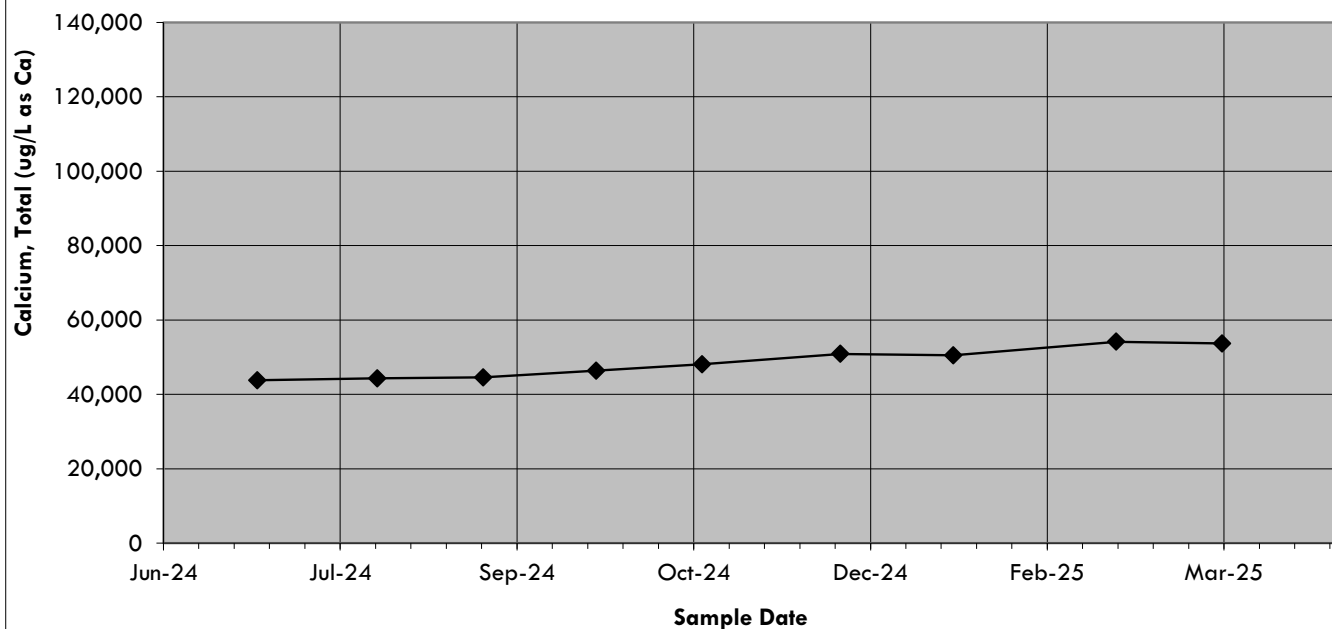
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MW-319	ALKALINITY, TOTAL (MG/L CaCO3)	02	354	10/1/2024			

Calculated By: EMS
Checked By: MDB

Notes:

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MW-317: Calcium



Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
M-317	CALCIUM, TOTAL (µG/L CA)	01	43800	6/27/2024	43800	43800	
M-317	CALCIUM, TOTAL (µG/L CA)	01	44300	7/31/2024	44300	44300	
M-317	CALCIUM, TOTAL (µG/L CA)	01	44600	8/30/2024	44600	44600	
M-317	CALCIUM, TOTAL (µG/L CA)	01	46400	10/1/2024	46400	46400	
M-317	CALCIUM, TOTAL (µG/L CA)	01	48100	10/31/2024	48100	48100	
M-317	CALCIUM, TOTAL (µG/L CA)	01	50900	12/9/2024	50900	50900	
M-317	CALCIUM, TOTAL (µG/L CA)	01	50500	1/10/2025	50500	50500	
M-317	CALCIUM, TOTAL (µG/L CA)	01	54200	2/25/2025	54200	54200	
M-317	CALCIUM, TOTAL (µG/L CA)	01	53700	3/27/2025	53700	53700	P6
Calculations							
Count						9	
Mean						48500.00	
Std Dev						4012.48	
3 X SD (PAL)						12037.44	
Min Increase (PAL)						25000	
PAL, Calculated						73500.00	
PAL, Rounded						74,000	

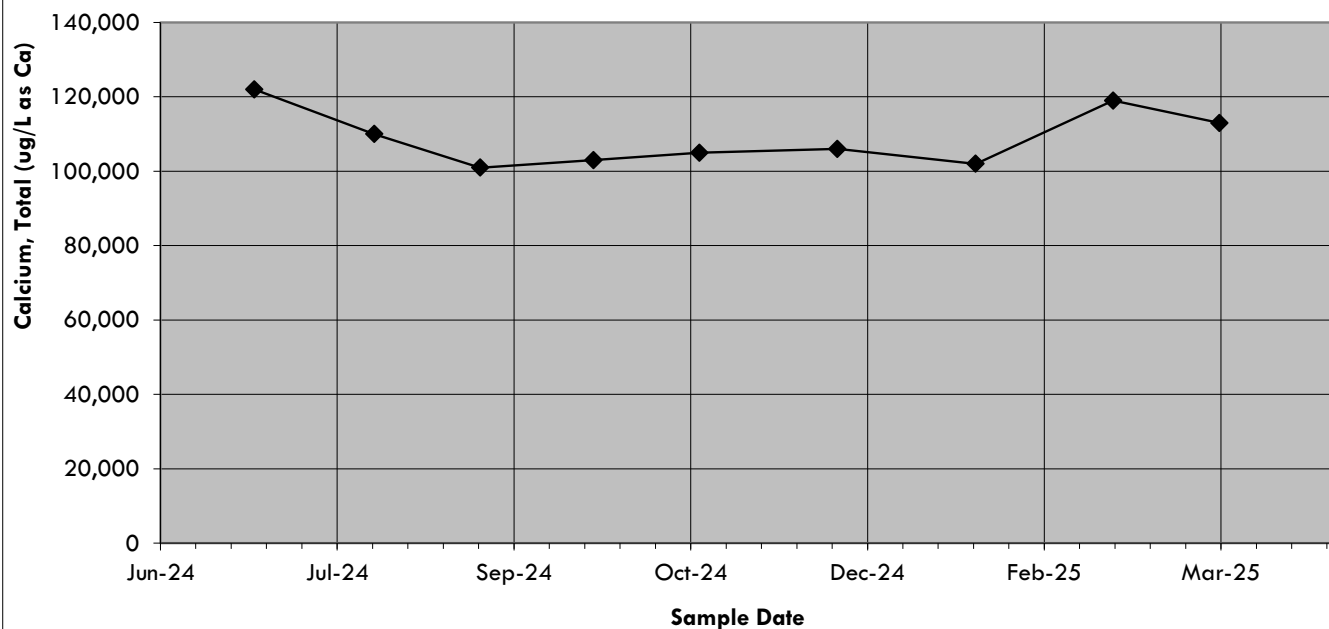
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M-317	CALCIUM, TOTAL (µG/L CA)	02	48700	10/1/2024			

Calculated By:
Checked By: MDB

Note:

P6 = Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.

MW-318: Calcium



Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-318	CALCIUM, TOTAL (µG/L CA)	01	122000	6/27/2024	122000	122000	
MW-318	CALCIUM, TOTAL (µG/L CA)	01	110000	7/31/2024	110000	110000	
MW-318	CALCIUM, TOTAL (µG/L CA)	01	101000	8/30/2024	101000	101000	
MW-318	CALCIUM, TOTAL (µG/L CA)	01	103000	10/1/2024	103000	103000	
MW-318	CALCIUM, TOTAL (µG/L CA)	01	105000	10/31/2024	105000	105000	
MW-318	CALCIUM, TOTAL (µG/L CA)	01	106000	12/9/2024	106000	106000	
MW-318	CALCIUM, TOTAL (µG/L CA)	01	102000	1/17/2025	102000	102000	P6
MW-318	CALCIUM, TOTAL (µG/L CA)	01	119000	2/25/2025	119000	119000	P6
MW-318	CALCIUM, TOTAL (µG/L CA)	01	113000	3/27/2025	113000	113000	

Calculations						
Count						9
Mean						109000.00
Std Dev						7582.88
3 X SD (PAL)						22748.63
Min Increase (PAL)						25000
PAL, Calculated						134000.00
PAL, Rounded						140,000

Duplicate Data Not Used for Calculations						
MW-318	CALCIUM, TOTAL (µG/L CA)	02	106000	10/1/2024		

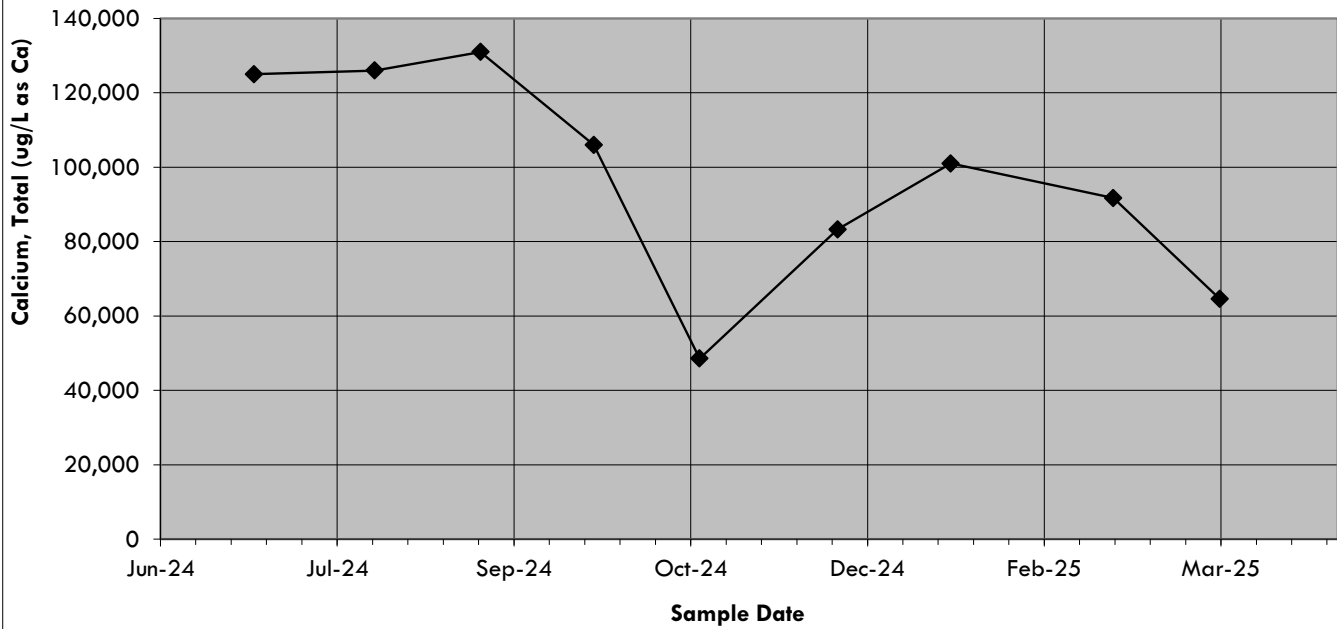
Calculated By: EMS

Checked By: MDB

Note:

P6 = Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.

MW-319: Calcium



Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-319	CALCIUM, TOTAL (µG/L CA)	01	125000	6/27/2024	125000	125000	
MW-319	CALCIUM, TOTAL (µG/L CA)	01	126000	7/31/2024	126000	126000	
MW-319	CALCIUM, TOTAL (µG/L CA)	01	131000	8/30/2024	131000	131000	
MW-319	CALCIUM, TOTAL (µG/L CA)	01	106000	10/1/2024	106000	106000	
MW-319	CALCIUM, TOTAL (µG/L CA)	01	48600	10/31/2024	48600	48600	
MW-319	CALCIUM, TOTAL (µG/L CA)	01	83300	12/9/2024	83300	83300	
MW-319	CALCIUM, TOTAL (µG/L CA)	01	101000	1/10/2025	101000	101000	
MW-319	CALCIUM, TOTAL (µG/L CA)	01	91700	2/25/2025	91700	91700	
MW-319	CALCIUM, TOTAL (µG/L CA)	01	64600	3/27/2025	64600	64600	

Calculations

Count	9
Mean	97466.67
Std Dev	28469.59
3 X SD (PAL)	85408.77
Min Increase (PAL)	25000
PAL, Calculated	182875.43
PAL, Rounded	190,000

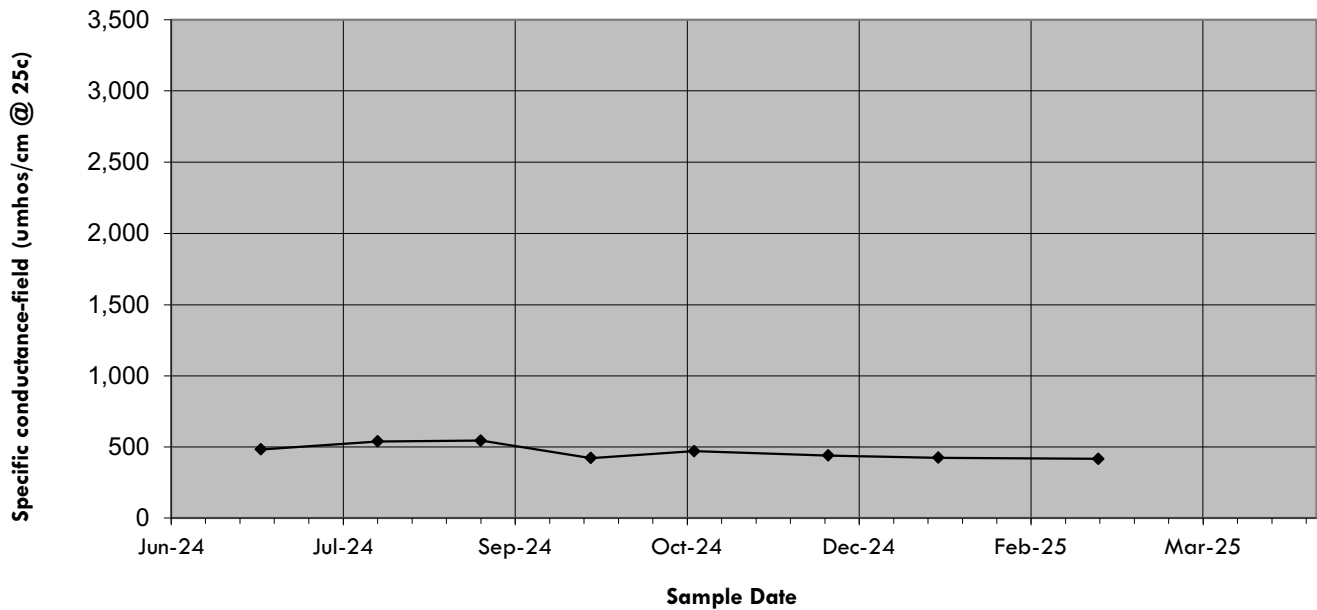
Duplicate Data Not Used for Calculations

MW-319	CALCIUM, TOTAL (µG/L CA)	02	110000	10/1/2024			
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Calculated By: EMS
Checked By: MDB

Note:

MW-317: Specific Conductivity



Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-317	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	484.1	6/27/2024	484.1	484.1	
MW-317	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	540	7/31/2024	540	540	
MW-317	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	546	8/30/2024	546	546	
MW-317	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	422.8	10/1/2024	422.8	422.8	
MW-317	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	470.9	10/31/2024	470.9	470.9	
MW-317	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	440.7	12/9/2024	440.7	440.7	
MW-317	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	425.6	1/10/2025	425.6	425.6	
MW-317	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	417.9	2/25/2025	417.9	417.9	
MW-317	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	458.8	3/27/2025	458.8	458.8	
Calculations							
Count						9	
Mean						467.42	
Std Dev						48.36	
3 X SD (PAL)						145.09	
Min Increase (PAL)						200	
PAL, Calculated						667.42	
PAL, Rounded						670	

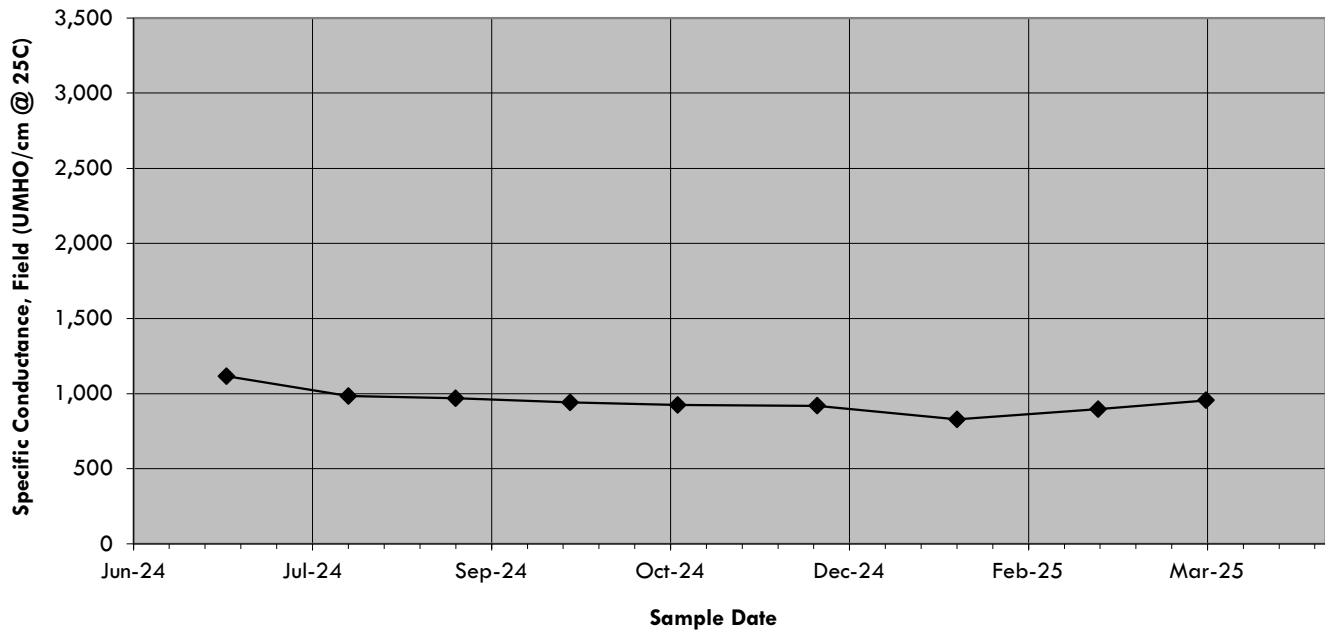
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Calculated By: EMS
Checked By: MDB

Note:

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MW-318: Specific Conductance



Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-318	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	1115	6/27/2024	1115	1115	
MW-318	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	984	7/31/2024	984	984	
MW-318	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	969	8/30/2024	969	969	
MW-318	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	942	10/1/2024	942	942	
MW-318	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	924	10/31/2024	924	924	
MW-318	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	919	12/9/2024	919	919	
MW-318	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	829	1/17/2025	829	829	
MW-318	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	897	2/25/2025	897	897	
MW-319	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	955	3/27/2025	955	955	

Calculations						
Count						9
Mean						948.22
Std Dev						77.37
3 X SD (PAL)						232.11
Min Increase (PAL)						200
PAL, Calculated						1180.33
PAL, Rounded						1200

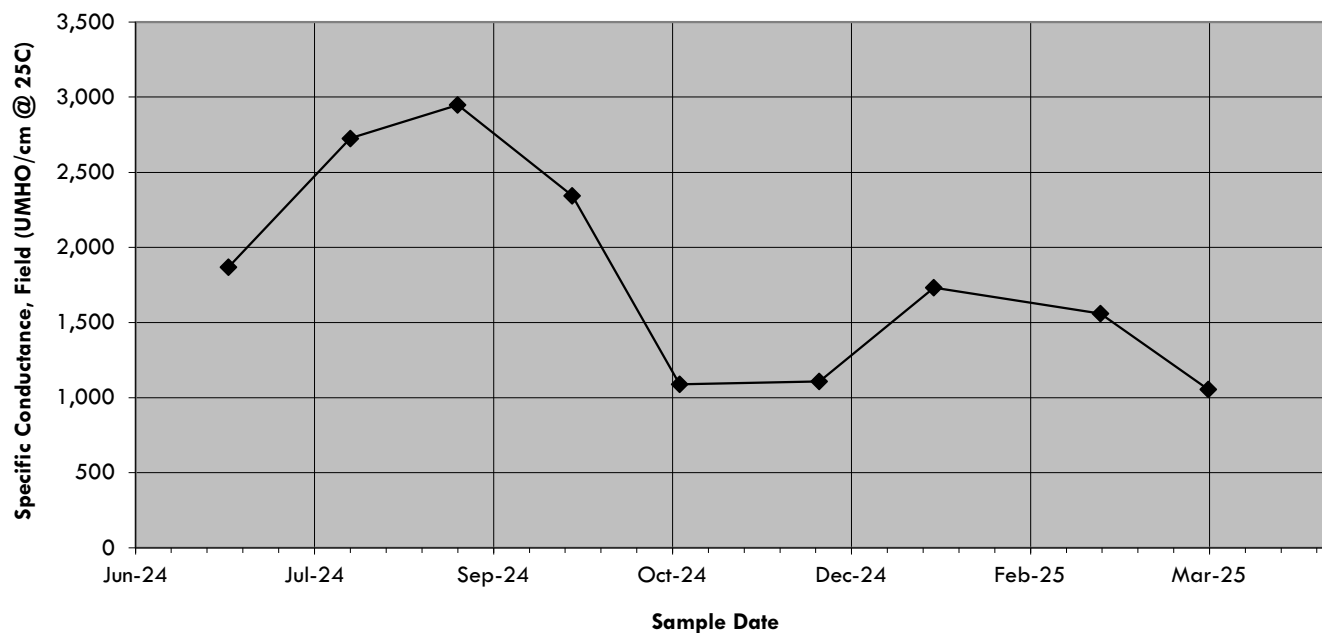
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Note:

Calculated By: EMS
Checked By: MDB

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MW-319: Specific Conductance



Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-319	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	1869	6/27/2024	1869	1869	
MW-319	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	2725	7/31/2024	2725	2725	
MW-319	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	2948	8/30/2024	2948	2948	
MW-319	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	2344	10/1/2024	2344	2344	
MW-319	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	1088	10/31/2024	1088	1088	
MW-319	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	1108	12/9/2024	1108	1108	
MW-319	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	1732	1/10/2025	1732	1732	
MW-319	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	1560	2/25/2025	1560	1560	
MW-319	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	1054	3/27/2025	1054	1054	
Calculations							
Count						9	
Mean						1825.33	
Std Dev						713.53	
3 X SD (PAL)						2140.59	
Min Increase (PAL)						200	
PAL, Calculated						3965.92	
PAL, Rounded						4000	

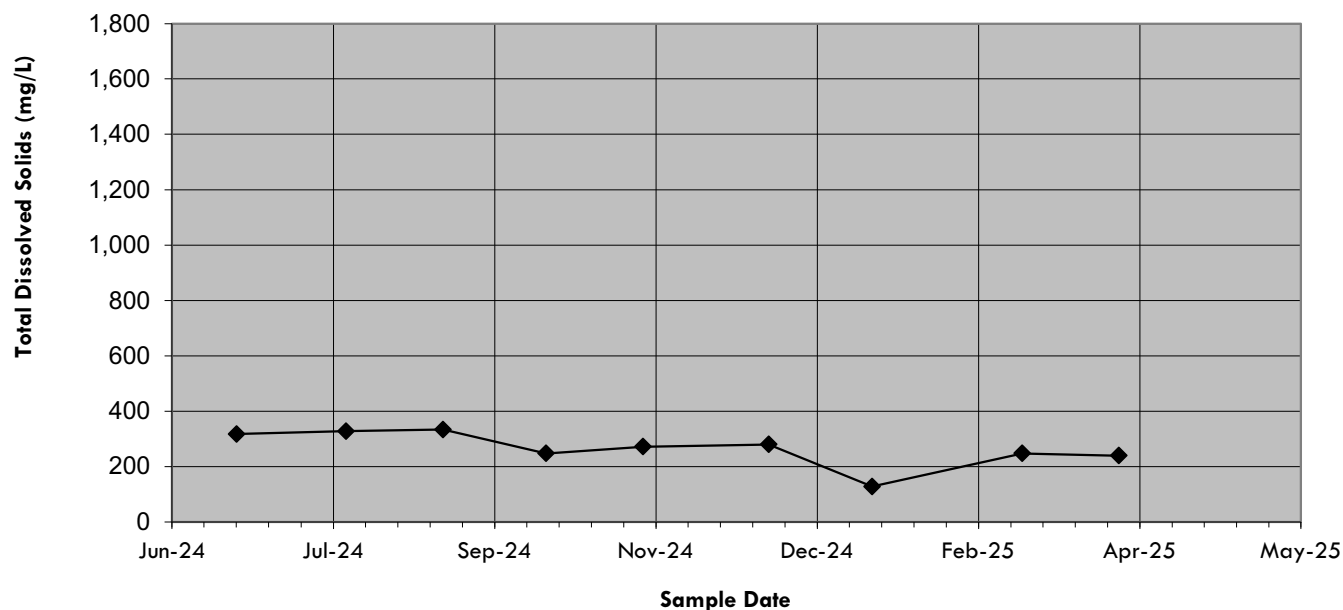
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Notes:

Calculated By: EMS
Checked By: MDB

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MW-317: Total Dissolved Solids



Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-317	SOLIDS, TOTAL DISSOLVED (MG/L)	01	318	6/27/2024	318	318	
MW-317	SOLIDS, TOTAL DISSOLVED (MG/L)	01	328	7/31/2024	328	328	
MW-317	SOLIDS, TOTAL DISSOLVED (MG/L)	01	334	8/30/2024	334	334	
MW-317	SOLIDS, TOTAL DISSOLVED (MG/L)	01	248	10/1/2024	248	248	
MW-317	SOLIDS, TOTAL DISSOLVED (MG/L)	01	272	10/31/2024	272	272	
MW-317	SOLIDS, TOTAL DISSOLVED (MG/L)	01	280	12/9/2024	280	280	R1
MW-317	SOLIDS, TOTAL DISSOLVED (MG/L)	01	128	1/10/2025	128	128	
MW-317	SOLIDS, TOTAL DISSOLVED (MG/L)	01	248	2/25/2025	248	248	
MW-317	SOLIDS, TOTAL DISSOLVED (MG/L)	01	240	3/27/2025	240	240	
Calculations							
Count						9	
Mean						266.22	
Std Dev						63.02	
3 X SD (PAL)						189.06	
Min Increase (PAL)						200	
PAL, Calculated						466.22	
PAL, Rounded						470	

Duplicate Data Not Used for Calculations							
MW-317	SOLIDS, TOTAL DISSOLVED (MG/L)	02	242	10/1/2024			

Calculated By: EMS

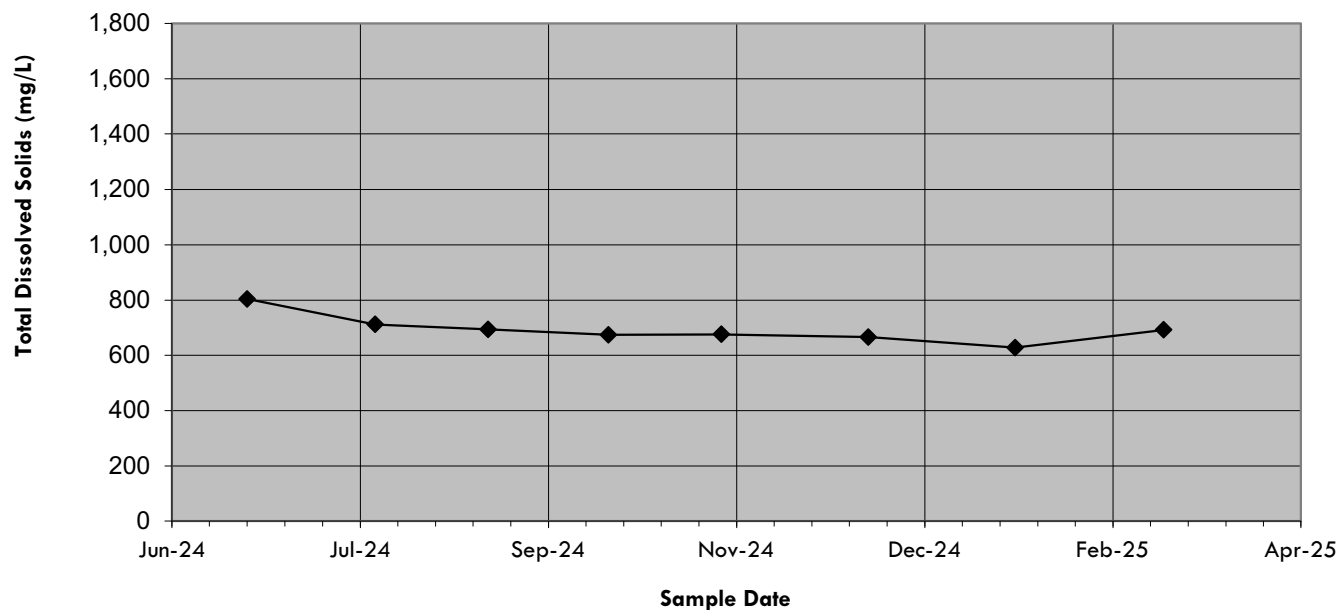
Checked By: MDB

Note:

R1 = Relative Percent Difference value was outside control limits.

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MW-318: Total Dissolved Solids



Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-318	SOLIDS, TOTAL DISSOLVED (MG/L)	01	804	6/27/2024	804	804	
MW-318	SOLIDS, TOTAL DISSOLVED (MG/L)	01	712	7/31/2024	712	712	
MW-318	SOLIDS, TOTAL DISSOLVED (MG/L)	01	694	8/30/2024	694	694	
MW-318	SOLIDS, TOTAL DISSOLVED (MG/L)	01	674	10/1/2024	674	674	
MW-318	SOLIDS, TOTAL DISSOLVED (MG/L)	01	676	10/31/2024	676	676	
MW-318	SOLIDS, TOTAL DISSOLVED (MG/L)	01	666	12/9/2024	666	666	
MW-318	SOLIDS, TOTAL DISSOLVED (MG/L)	01	628	1/17/2025	628	628	
MW-318	SOLIDS, TOTAL DISSOLVED (MG/L)	01	692	2/25/2025	692	692	
MW-318	SOLIDS, TOTAL DISSOLVED (MG/L)	01	666	3/27/2025	666	666	
Calculations							
Count						9	
Mean						690.22	
Std Dev						48.67	
3 X SD (PAL)						146.00	
Min Increase (PAL)						200	
PAL, Calculated						890.22	
PAL, Rounded						900	

Duplicate Data Not Used for Calculations							
MW-318	SOLIDS, TOTAL DISSOLVED (MG/L)	02	684	10/1/2024			

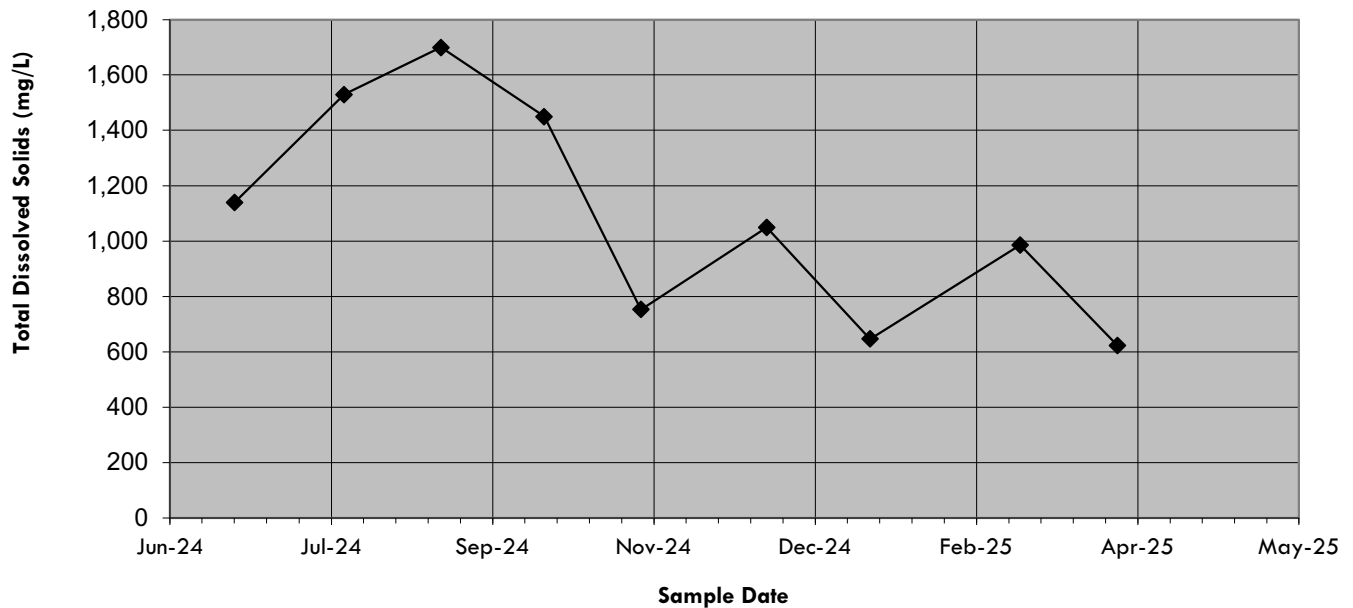
Calculated By: EMS

Checked By: MDB

Note:

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MW-319: Total Dissolved Solids



Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-319	SOLIDS, TOTAL DISSOLVED (MG/L)	01	1140	6/27/2024	1140	1140	
MW-319	SOLIDS, TOTAL DISSOLVED (MG/L)	01	1530	7/31/2024	1530	1530	
MW-319	SOLIDS, TOTAL DISSOLVED (MG/L)	01	1700	8/30/2024	1700	1700	
MW-319	SOLIDS, TOTAL DISSOLVED (MG/L)	01	1450	10/1/2024	1450	1450	
MW-319	SOLIDS, TOTAL DISSOLVED (MG/L)	01	753	10/31/2024	753	753	
MW-319	SOLIDS, TOTAL DISSOLVED (MG/L)	01	1050	12/9/2024	1050	1050	
MW-319	SOLIDS, TOTAL DISSOLVED (MG/L)	01	647	1/10/2025	647	647	
MW-319	SOLIDS, TOTAL DISSOLVED (MG/L)	01	986	2/25/2025	986	986	
MW-319	SOLIDS, TOTAL DISSOLVED (MG/L)	01	623	3/27/2025	623	623	
Calculations							
Count						9	
Mean						1097.67	
Std Dev						393.32	
3 X SD (PAL)						1179.95	
Min Increase (PAL)						200	
PAL, Calculated						2277.62	
PAL, Rounded						2300	

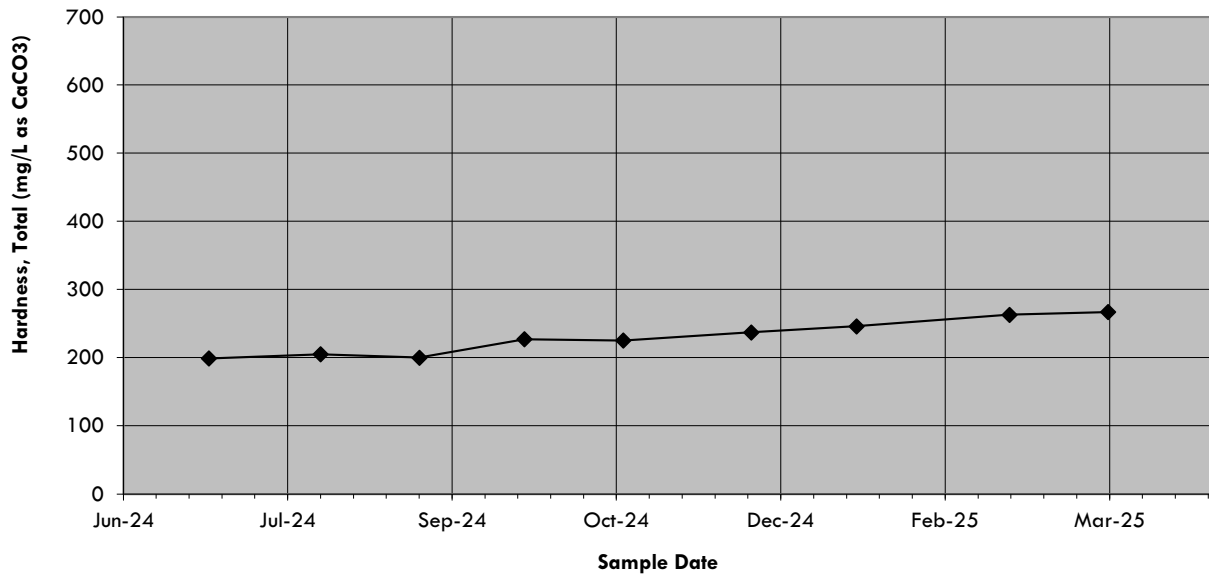
Duplicate Data Not Used for Calculations							
MW-319	SOLIDS, TOTAL DISSOLVED (MG/L)	02	1440	10/1/2024			

Calculated By: EMS
Checked By: MDB

Note:

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MW-317: Hardness



Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-317	HARDNESS, TOTAL (MG/L AS CaCO3)	01	199	6/27/2024	199	199	
MW-317	HARDNESS, TOTAL (MG/L AS CaCO3)	01	205	7/31/2024	205	205	
MW-317	HARDNESS, TOTAL (MG/L AS CaCO3)	01	200	8/30/2024	200	200	
MW-317	HARDNESS, TOTAL (MG/L AS CaCO3)	01	227	10/1/2024	227	227	
MW-317	HARDNESS, TOTAL (MG/L AS CaCO3)	01	225	10/31/2024	225	225	
MW-317	HARDNESS, TOTAL (MG/L AS CaCO3)	01	237	12/9/2024	237	237	
MW-317	HARDNESS, TOTAL (MG/L AS CaCO3)	01	246	1/10/2025	246	246	
MW-317	HARDNESS, TOTAL (MG/L AS CaCO3)	01	263	2/25/2025	263	263	
MW-317	HARDNESS, TOTAL (MG/L AS CaCO3)	01	267	3/27/2025	267	267	

Calculations						
Count						9
Mean						229.89
Std Dev						25.70
3 X SD (PAL)						77.09
Min Increase (PAL)						100
PAL, Calculated						329.89
PAL, Rounded						330

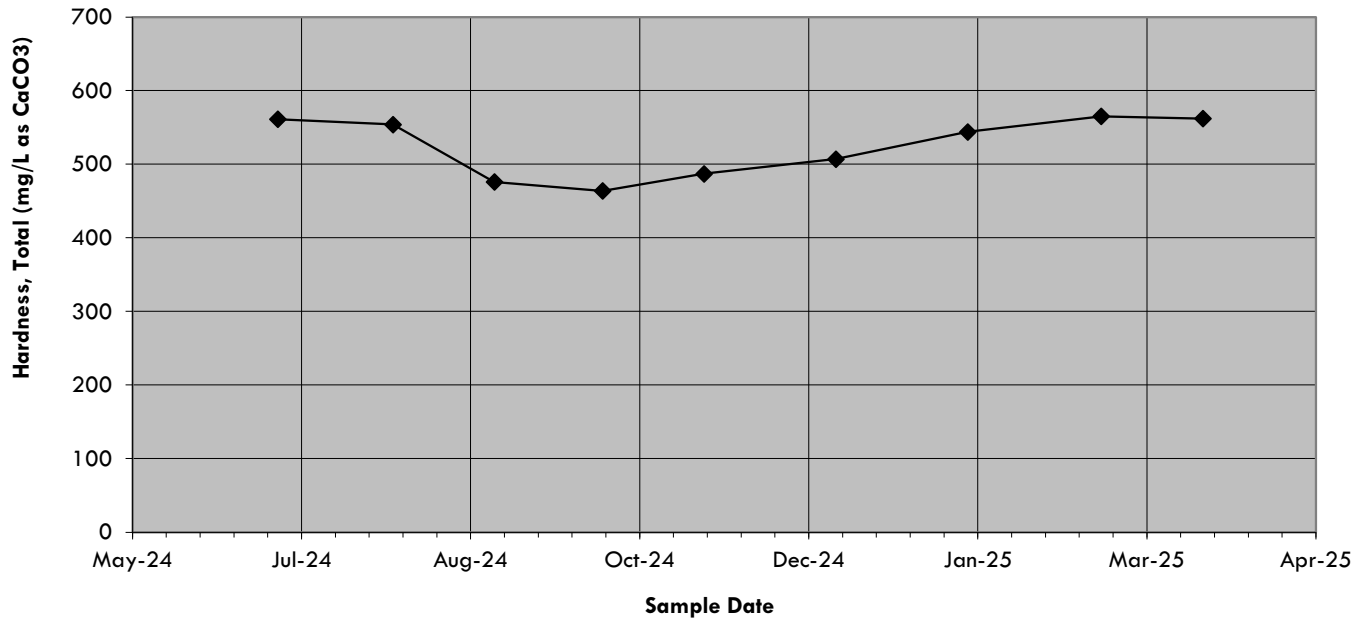
Duplicate Data Not Used for Calculations						
MW-317	HARDNESS, TOTAL (MG/L AS CaCO3)	02	221	10/1/2024		

Note:

Calculated By: EMS

Checked By: MDB

MW-318: Hardness



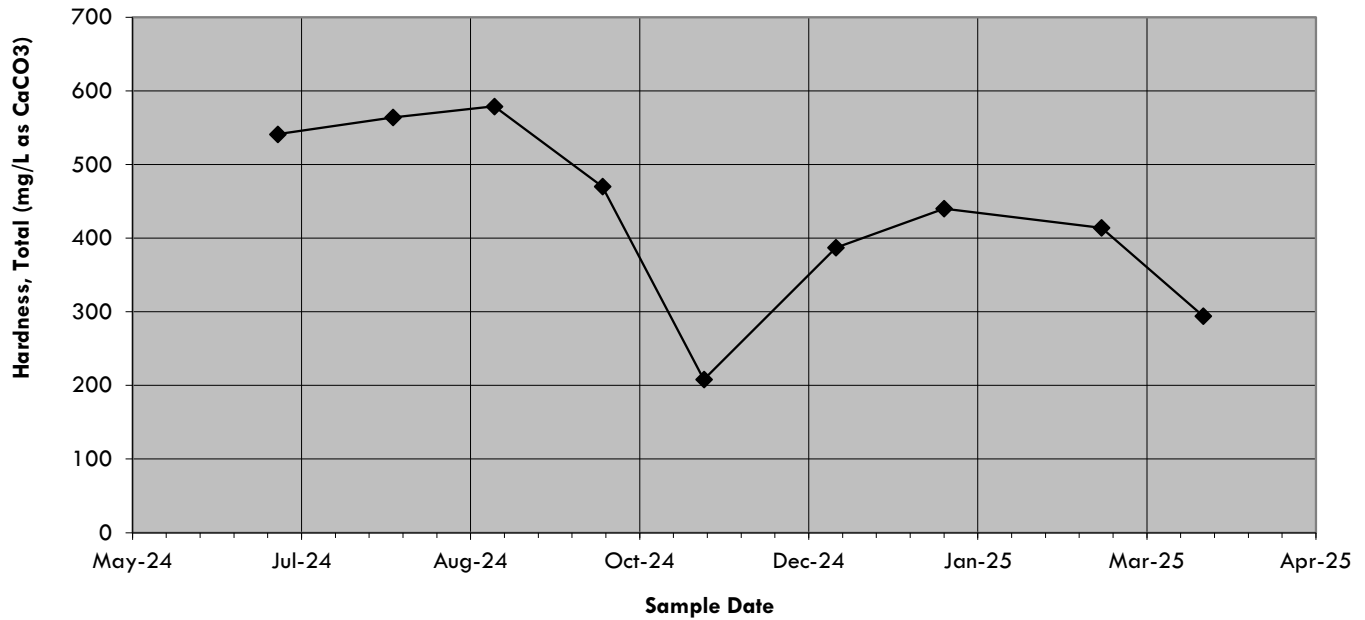
Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-318	HARDNESS, TOTAL (MG/L AS CaCO3)	01	561	6/27/2024	561	561	
MW-318	HARDNESS, TOTAL (MG/L AS CaCO3)	01	554	7/31/2024	554	554	
MW-318	HARDNESS, TOTAL (MG/L AS CaCO3)	01	476	8/30/2024	476	476	
MW-318	HARDNESS, TOTAL (MG/L AS CaCO3)	01	464	10/1/2024	464	464	
MW-318	HARDNESS, TOTAL (MG/L AS CaCO3)	01	487	10/31/2024	487	487	
MW-318	HARDNESS, TOTAL (MG/L AS CaCO3)	01	507	12/9/2024	507	507	
MW-318	HARDNESS, TOTAL (MG/L AS CaCO3)	01	544	1/17/2025	544	544	
MW-318	HARDNESS, TOTAL (MG/L AS CaCO3)	01	565	2/25/2025	565	565	
MW-318	HARDNESS, TOTAL (MG/L AS CaCO3)	01	562	3/27/2025	562	562	
Calculations							
Count						9	
Mean						524.44	
Std Dev						40.86	
3 X SD (PAL)						122.57	
Min Increase (PAL)						100	
PAL, Calculated						647.01	
PAL, Rounded						650	

Duplicate Data Not Used for Calculations							
MW-318	HARDNESS, TOTAL (MG/L AS CaCO3)	02	477	10/1/2024			

Calculated By: EMS
Checked By: MDB

Note:

MW-319: Hardness



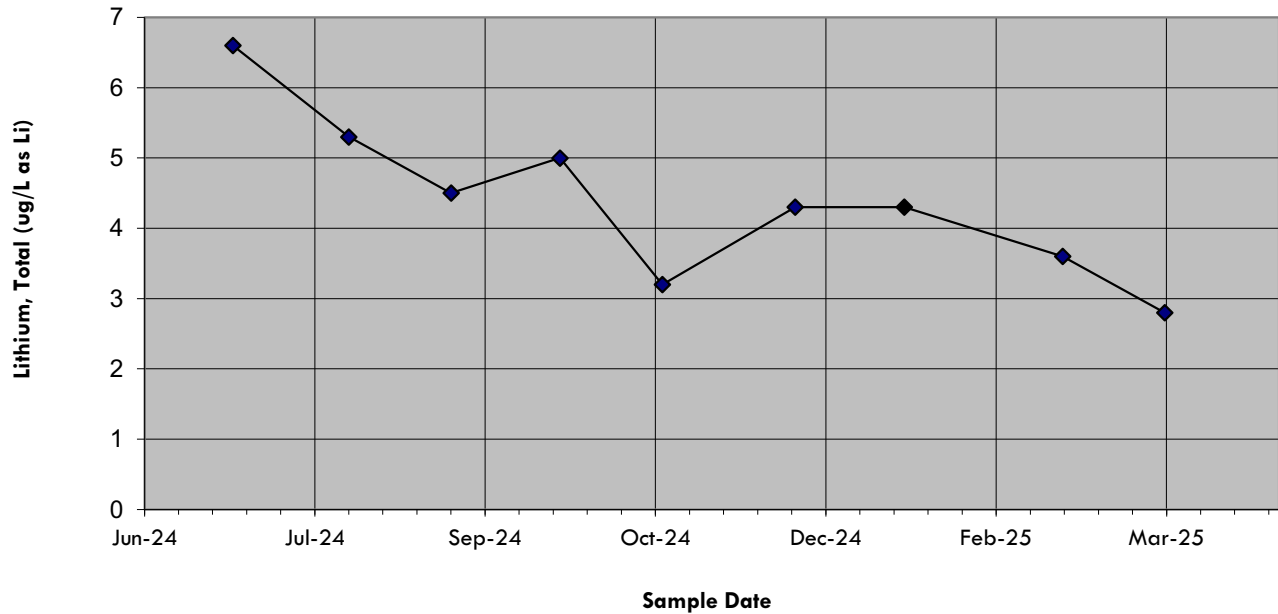
Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-319	HARDNESS, TOTAL (MG/L AS CaCO3)	01	541	6/27/2024	541	541	
MW-319	HARDNESS, TOTAL (MG/L AS CaCO3)	01	564	7/31/2024	564	564	
MW-319	HARDNESS, TOTAL (MG/L AS CaCO3)	01	579	8/30/2024	579	579	
MW-319	HARDNESS, TOTAL (MG/L AS CaCO3)	01	470	10/1/2024	470	470	
MW-319	HARDNESS, TOTAL (MG/L AS CaCO3)	01	208	10/31/2024	208	208	
MW-319	HARDNESS, TOTAL (MG/L AS CaCO3)	01	387	12/9/2024	387	387	
MW-319	HARDNESS, TOTAL (MG/L AS CaCO3)	01	440	1/10/2025	440	440	
MW-319	HARDNESS, TOTAL (MG/L AS CaCO3)	01	414	2/25/2025	414	414	
MW-319	HARDNESS, TOTAL (MG/L AS CaCO3)	01	294	3/27/2025	294	294	
Calculations							
Count						8	
Mean						433.00	
Std Dev						124.49	
3 X SD (PAL)						373.47	
Min Increase (PAL)						100	
PAL, Calculated						806.47	
PAL, Rounded						810	

Duplicate Data Not Used for Calculations							
MW-319	HARDNESS, TOTAL (MG/L AS CaCO3)	02	458	10/1/2024			

Calculated By: EMS
Checked By: MDB

Note:

MW-317: Lithium



Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-317	LITHIUM, TOTAL (µG/L LI)	01	6.6	6/27/2024	6.6	6.6	
MW-317	LITHIUM, TOTAL (µG/L LI)	01	5.3	7/31/2024	5.3	5.3	
MW-317	LITHIUM, TOTAL (µG/L LI)	01	4.5	8/30/2024	4.5	4.5	
MW-317	LITHIUM, TOTAL (µG/L LI)	01	5	10/1/2024	5	5	
MW-317	LITHIUM, TOTAL (µG/L LI)	01	3.2	10/31/2024	3.2	3.2	
MW-317	LITHIUM, TOTAL (µG/L LI)	01	4.3	12/9/2024	4.3	4.3	
MW-317	LITHIUM, TOTAL (µG/L LI)	01	4.3	1/10/2025	4.3	4.3	
MW-317	LITHIUM, TOTAL (µG/L LI)	01	3.6	2/25/2025	3.6	3.6	
MW-317	LITHIUM, TOTAL (µG/L LI)	01	2.8	3/27/2025	2.8	2.8	B
Calculations							
Count						9	
Mean						4.40	
Std Dev						1.16	
3 X SD (PAL)						3.47	
PAL, Calculated						7.87	
PAL, Rounded						7.9	
Duplicate Data Not Used for Calculations							

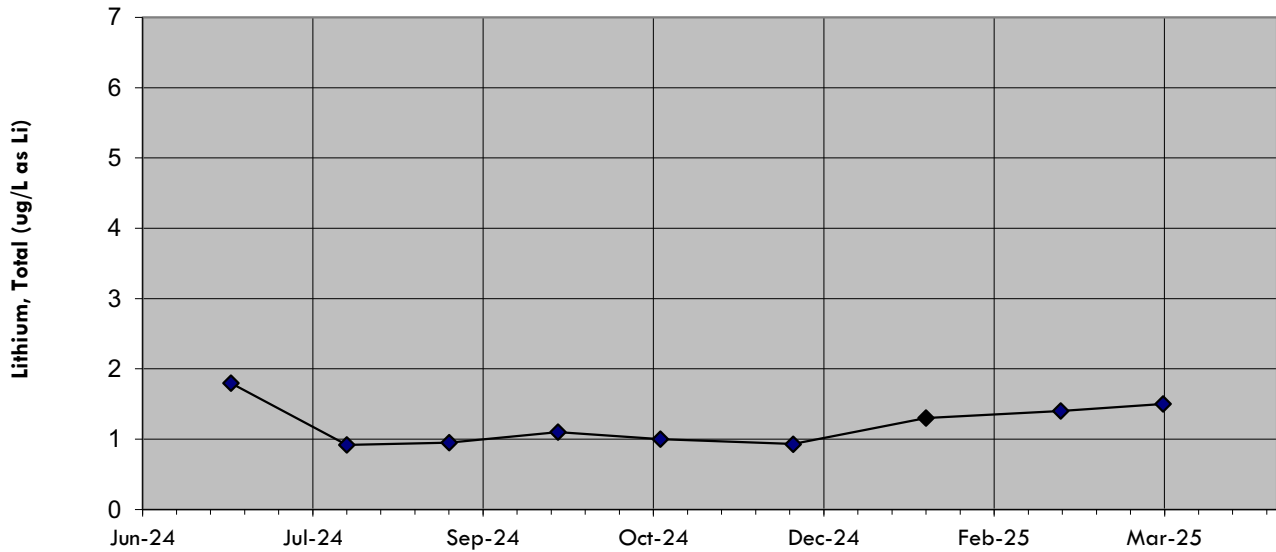
Calculated By: EMS
Checked By: MDB

Note:

B = Compound detected in blank.

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MW-317: Lithium



Note: Non-detect results plotted at 0.5 times limit of detection with an empty symbol.

Sample Date

Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-318	LITHIUM, TOTAL (µG/L LI)	01	1.8	6/27/2024	1.8	1.8	
MW-318	LITHIUM, TOTAL (µG/L LI)	01	0.92	7/31/2024	0.92	0.92	J
MW-318	LITHIUM, TOTAL (µG/L LI)	01	0.95	8/30/2024	0.95	0.95	J
MW-318	LITHIUM, TOTAL (µG/L LI)	01	1.1	10/1/2024	1.1	1.1	
MW-318	LITHIUM, TOTAL (µG/L LI)	01	1	10/31/2024	1	1	
MW-318	LITHIUM, TOTAL (µG/L LI)	01	0.93	12/9/2024	0.93	0.93	J
MW-318	LITHIUM, TOTAL (µG/L LI)	01	1.3	1/17/2025	1.3	1.3	
MW-318	LITHIUM, TOTAL (µG/L LI)	01	1.4	2/25/2025	1.4	1.4	
MW-318	LITHIUM, TOTAL (µG/L LI)	01	1.5	3/27/2025	1.5	1.5	B
Calculations							
Count						9	
Mean						1.21	
Std Dev						0.31	
3 X SD (PAL)						0.93	
PAL, Calculated						2.14	
PAL, Rounded						2.1	
Duplicate Data Not Used for Calculations							

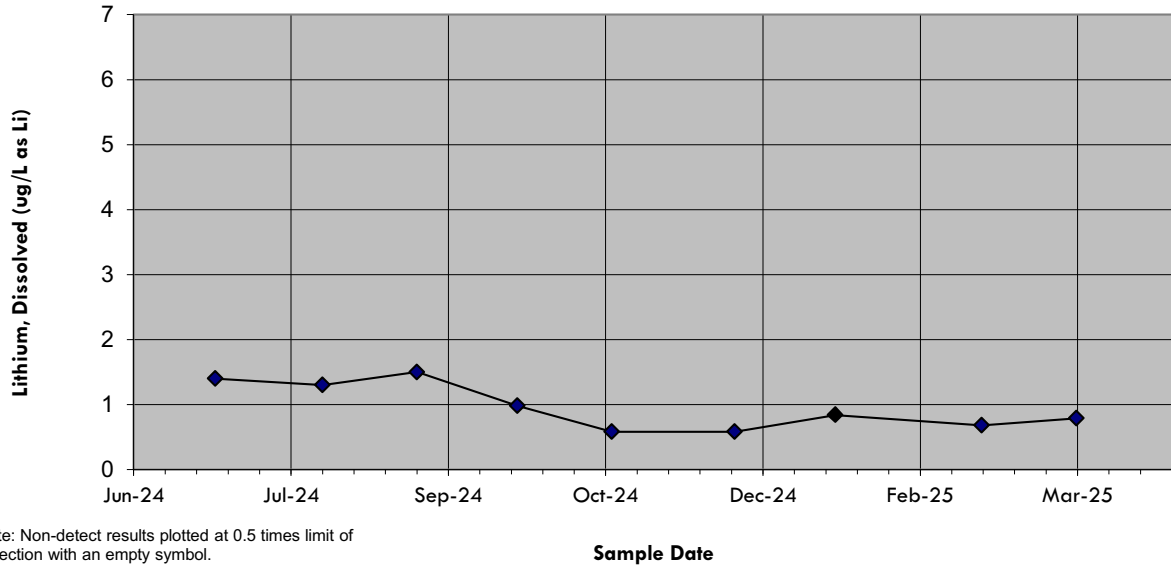
Calculated By: EMS
Checked By: MDB

Note:

- J = Result is an estimated value below the laboratory's limit of quantitation.
- B = Compound detected in blank.

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MW-319: Lithium



Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-319	LITHIUM, DISSOLVED (µG/L LI)	01	1.4	6/27/2024	1.4	1.4	
MW-319	LITHIUM, DISSOLVED (µG/L LI)	01	1.3	7/31/2024	1.3	1.3	
MW-319	LITHIUM, DISSOLVED (µG/L LI)	01	1.5	8/30/2024	1.5	1.5	
MW-319	LITHIUM, DISSOLVED (µG/L LI)	01	0.98	10/1/2024	0.98	0.98	J
MW-319	LITHIUM, DISSOLVED (µG/L LI)	01	0.58	10/31/2024	0.58	0.58	J
MW-319	LITHIUM, DISSOLVED (µG/L LI)	01	0.58	12/9/2024	0.58	0.58	J
MW-319	LITHIUM, DISSOLVED (µG/L LI)	01	0.84	1/10/2025	0.84	0.84	J
MW-319	LITHIUM, DISSOLVED (µG/L LI)	01	0.68	2/25/2025	0.68	0.68	J
MW-319	LITHIUM, DISSOLVED (µG/L LI)	01	0.79	3/27/2025	0.79	0.79	J,B

Calculations						
Count						9
Mean						0.96
Std Dev						0.36
3 X SD (PAL)						1.07
PAL, Calculated						2.03
PAL, Rounded						2.1

Duplicate Data Not Used for Calculations						

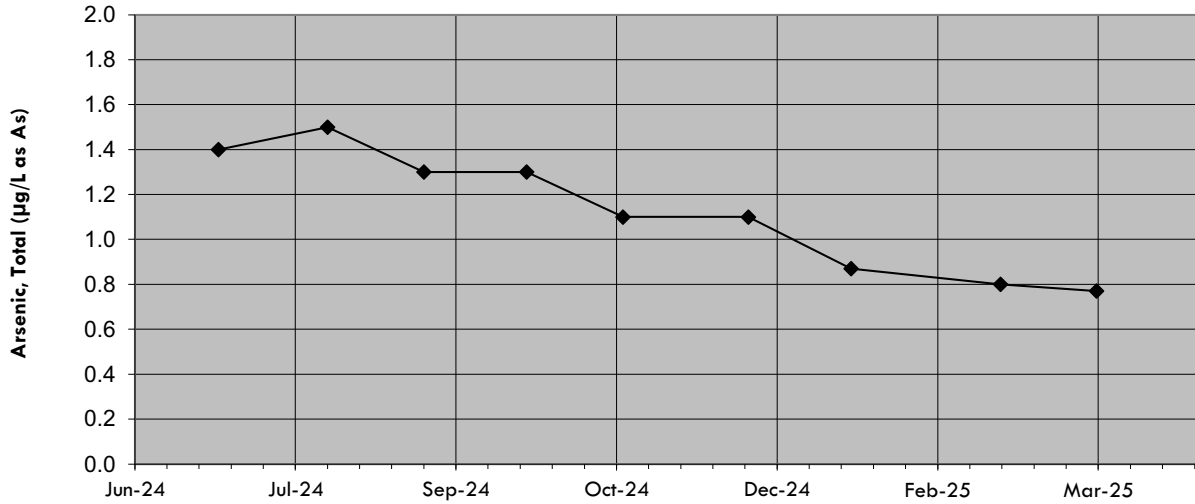
Calculated By: EMS
Checked By: MDB

Note:

- J = Result is an estimated value below the laboratory's limit of quantitation.
- B = Compound detected in blank.

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MW-317: Arsenic



Note: Non-detect results plotted at 0.5 times limit of detection with an empty symbol.

Sample Date

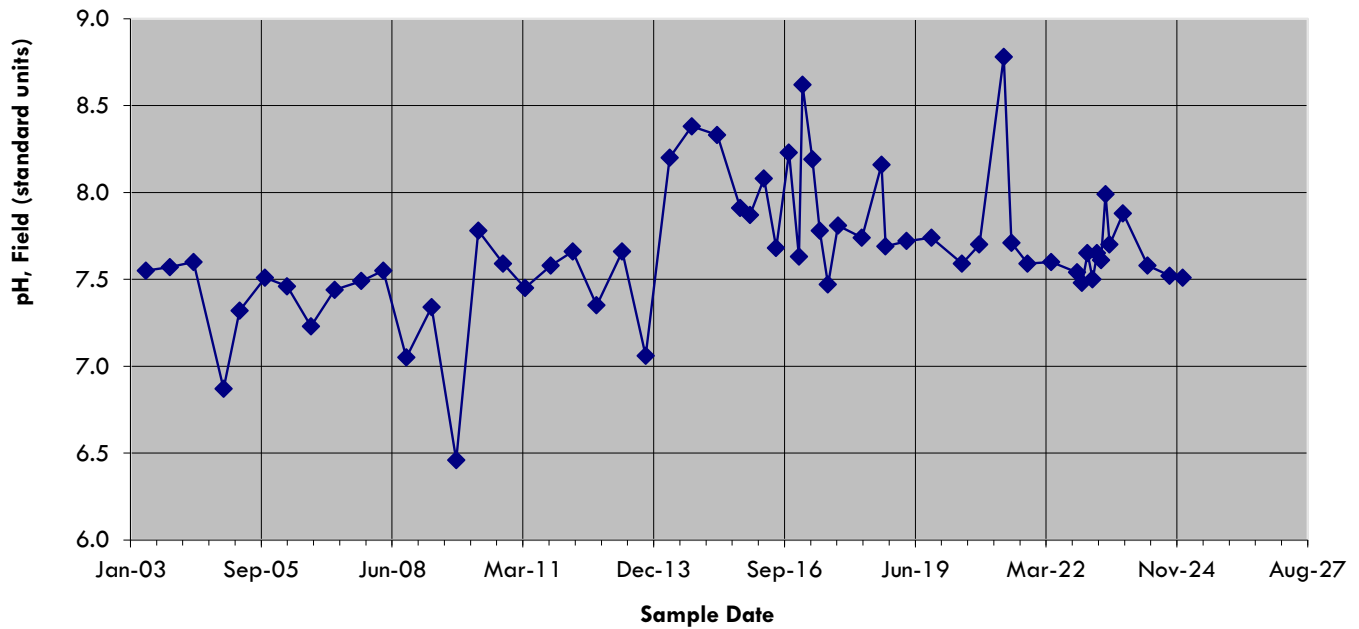
Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-317	ARSENIC, TOTAL (µG/L As)	01	1.4	6/27/2024	1.4	1.4	
MW-317	ARSENIC, TOTAL (µG/L As)	01	1.5	7/31/2024	1.5	1.5	
MW-317	ARSENIC, TOTAL (µG/L As)	01	1.3	8/30/2024	1.3	1.3	
MW-317	ARSENIC, TOTAL (µG/L As)	01	1.3	10/1/2024	1.3	1.3	
MW-317	ARSENIC, TOTAL (µG/L As)	01	1.1	10/31/2024	1.1	1.1	
MW-317	ARSENIC, TOTAL (µG/L As)	01	1.1	12/9/2024	1.1	1.1	
MW-317	ARSENIC, TOTAL (µG/L As)	01	0.87	1/10/2025	0.87	0.87	J
MW-317	ARSENIC, TOTAL (µG/L As)	01	0.80	2/25/2025	0.80	0.80	J
MW-317	ARSENIC, TOTAL (µG/L As)	01	0.77	3/27/2025	0.77	0.77	J
Calculations							
Count						9	
Mean						1.13	
Std Dev						0.27	
2 X SD (ACL)						0.54	
ACL, Calculated						1.66	
ACL, Rounded						1.7	
Duplicate Data Not Used for Calculations							

Note: Current PAL = 1 µg/L; ES = 10 µg/L

J = Result is an estimated value below the laboratory's limit of quantitation.

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MW-33AR: Field pH



Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-33AR	PH, FIELD (STANDARD UNITS)	01	7.55	4/29/2003	7.55	7.55	
MW-33AR	PH, FIELD (STANDARD UNITS)	01	7.57	10/30/2003	7.57	7.57	
MW-33AR	PH, FIELD (STANDARD UNITS)	01	7.6	4/27/2004	7.6	7.6	
MW-33AR	PH, FIELD (STANDARD UNITS)	01	6.87	12/14/2004	6.87	6.87	
MW-33AR	PH, FIELD (STANDARD UNITS)	01	7.32	4/15/2005	7.32	7.32	
MW-33AR	PH, FIELD (STANDARD UNITS)	01	7.51	10/26/2005	7.51	7.51	
MW-33AR	PH, FIELD (STANDARD UNITS)	01	7.46	4/13/2006	7.46	7.46	
MW-33AR	PH, FIELD (STANDARD UNITS)	01	7.23	10/12/2006	7.23	7.23	
MW-33AR	PH, FIELD (STANDARD UNITS)	01	7.44	4/11/2007	7.44	7.44	
MW-33AR	PH, FIELD (STANDARD UNITS)	01	7.49	10/31/2007	7.49	7.49	
MW-33AR	PH, FIELD (STANDARD UNITS)	01	7.55	4/17/2008	7.55	7.55	
MW-33AR	PH, FIELD (STANDARD UNITS)	01	7.05	10/10/2008	7.05	7.05	
MW-33AR	PH, FIELD (STANDARD UNITS)	01	7.34	4/21/2009	7.34	7.34	
MW-33AR	PH, FIELD (STANDARD UNITS)	01	6.46	10/27/2009	6.46	6.46	
MW-33AR	PH, FIELD (STANDARD UNITS)	01	7.78	4/14/2010	7.78	7.78	
MW-33AR	PH, FIELD (STANDARD UNITS)	01	7.59	10/20/2010	7.59	7.59	
MW-33AR	PH, FIELD (STANDARD UNITS)	01	7.45	4/6/2011	7.45	7.45	
MW-33AR	PH, FIELD (STANDARD UNITS)	01	7.58	10/20/2011	7.58	7.58	
MW-33AR	PH, FIELD (STANDARD UNITS)	01	7.66	4/4/2012	7.66	7.66	
MW-33AR	PH, FIELD (STANDARD UNITS)	01	7.35	10/4/2012	7.35	7.35	
MW-33AR	PH, FIELD (STANDARD UNITS)	01	7.66	4/17/2013	7.66	7.66	
MW-33AR	PH, FIELD (STANDARD UNITS)	01	7.06	10/14/2013	7.06	7.06	
MW-33AR	PH, FIELD (STANDARD UNITS)	01	8.2	4/16/2014	8.2	8.2	
MW-33AR	PH, FIELD (STANDARD UNITS)	01	8.38	10/2/2014	8.38	8.38	
MW-33AR	PH, FIELD (STANDARD UNITS)	01	8.33	4/14/2015	8.33	8.33	
MW-33AR	PH, FIELD (STANDARD UNITS)	01	7.91	10/7/2015	7.91	7.91	
MW-33AR	PH, FIELD (STANDARD UNITS)	01	7.87	12/21/2015	7.87	7.87	
MW-33AR	PH, FIELD (STANDARD UNITS)	01	8.08	4/5/2016	8.08	8.08	
MW-33AR	PH, FIELD (STANDARD UNITS)	01	7.68	7/7/2016	7.68	7.68	
MW-33AR	PH, FIELD (STANDARD UNITS)	01	8.23	10/13/2016	8.23	8.23	
MW-33AR	PH, FIELD (STANDARD UNITS)	01	7.63	12/29/2016	7.63	7.63	
MW-33AR	PH, FIELD (STANDARD UNITS)	01	8.62	1/25/2017	8.62	8.62	

Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-33AR	PH, FIELD (STANDARD UNITS)	01	8.19	4/11/2017	8.19	8.19	
MW-33AR	PH, FIELD (STANDARD UNITS)	01	7.78	6/6/2017	7.78	7.78	
MW-33AR	PH, FIELD (STANDARD UNITS)	01	7.47	8/7/2017	7.47	7.47	
MW-33AR	PH, FIELD (STANDARD UNITS)	01	7.81	10/24/2017	7.81	7.81	
MW-33AR	PH, FIELD (STANDARD UNITS)	01	7.74	4/24/2018	7.74	7.74	
MW-33AR	PH, FIELD (STANDARD UNITS)	01	8.16	9/21/2018	8.16	8.16	
MW-33AR	PH, FIELD (STANDARD UNITS)	01	7.69	10/22/2018	7.69	7.69	
MW-33AR	PH, FIELD (STANDARD UNITS)	01	7.72	4/2/2019	7.72	7.72	
MW-33AR	PH, FIELD (STANDARD UNITS)	01	7.74	10/8/2019	7.74	7.74	
MW-33AR	PH, FIELD (STANDARD UNITS)	01	7.59	5/28/2020	7.59	7.59	
MW-33AR	PH, FIELD (STANDARD UNITS)	01	7.7	10/8/2020	7.7	7.7	
MW-33AR	PH, FIELD (STANDARD UNITS)	01	8.78	4/13/2021	8.78	8.78	
MW-33AR	PH, FIELD (STANDARD UNITS)	01	7.71	6/11/2021	7.71	7.71	
MW-33AR	PH, FIELD (STANDARD UNITS)	01	7.59	10/12/2021	7.59	7.59	
MW-33AR	PH, FIELD (STANDARD UNITS)	01	7.6	4/12/2022	7.6	7.6	
MW-33AR	PH, FIELD (STANDARD UNITS)	01	7.54	10/27/2022	7.54	7.54	
MW-33AR	PH, FIELD (STANDARD UNITS)	01	7.48	12/2/2022	7.48	7.48	
MW-33AR	PH, FIELD (STANDARD UNITS)	01	7.65	1/13/2023	7.65	7.65	
MW-33AR	PH, FIELD (STANDARD UNITS)	01	7.5	2/21/2023	7.5	7.5	
MW-33AR	PH, FIELD (STANDARD UNITS)	01	7.65	3/28/2023	7.65	7.65	
MW-33AR	PH, FIELD (STANDARD UNITS)	01	7.61	4/27/2023	7.61	7.61	
MW-33AR	PH, FIELD (STANDARD UNITS)	01	7.99	5/31/2023	7.99	7.99	
MW-33AR	PH, FIELD (STANDARD UNITS)	01	7.7	6/30/2023	7.7	7.7	
MW-33AR	PH, FIELD (STANDARD UNITS)	01	7.88	10/11/2023	7.88	7.88	
MW-33AR	PH, FIELD (STANDARD UNITS)	01	7.58	4/17/2024	7.58	7.58	
MW-33AR	PH, FIELD (STANDARD UNITS)	01	7.52	10/2/2024	7.52	7.52	
MW-33AR	PH, FIELD (STANDARD UNITS)	01	7.51	1/10/2025	7.51	7.51	
Calculations							
Count						59	
Mean						7.67	
PAL Increase/Decrease from Mean (NR 140.20(2)(a))						+/- 1	
Upper PAL, Calculated						8.67	
Lower PAL, Calculated						6.67	
Upper PAL, Rounded						8.7	
Lower PAL, Rounded						6.6	
Duplicate Data Not Used for Calculations							

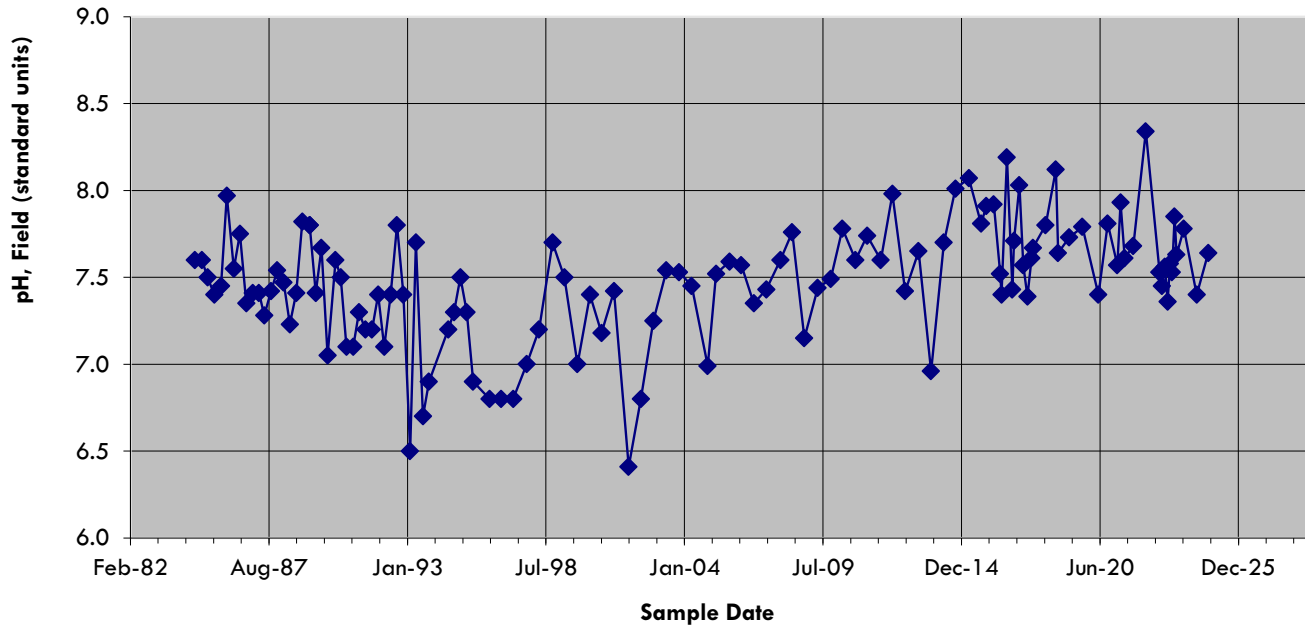
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Updated by: BLJ 7/9/2025

Data checked by: LMH 7/14/2025

Calc checked by: MDB 7/14/2025

MW-34A: Field pH



Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.6	9/7/1984	7.6		
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.6	12/17/1984	7.6		
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.5	3/7/1985	7.5		
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.4	6/14/1985	7.4		
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.45	9/18/1985	7.45		
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.97	12/12/1985	7.97		
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.55	3/21/1986	7.55		
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.75	6/20/1986	7.75		
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.35	9/18/1986	7.35		
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.41	12/19/1986	7.41		
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.41	3/20/1987	7.41		
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.28	6/5/1987	7.28		
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.42	9/9/1987	7.42		
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.54	12/9/1987	7.54		
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.47	3/10/1988	7.47		
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.23	6/7/1988	7.23		
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.41	9/9/1988	7.41		
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.82	12/7/1988	7.82		
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.8	3/21/1989	7.8		
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.8	3/22/1989	7.8		
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.41	6/16/1989	7.41		
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.67	9/6/1989	7.67		
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.05	12/5/1989	7.05		
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.6	3/29/1990	7.6		
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.5	6/14/1990	7.5		
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.1	9/5/1990	7.1		
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.1	12/10/1990	7.1		
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.3	3/5/1991	7.3		
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.2	6/3/1991	7.2		
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.2	9/6/1991	7.2		
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.4	12/4/1991	7.4		
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.1	3/3/1992	7.1		

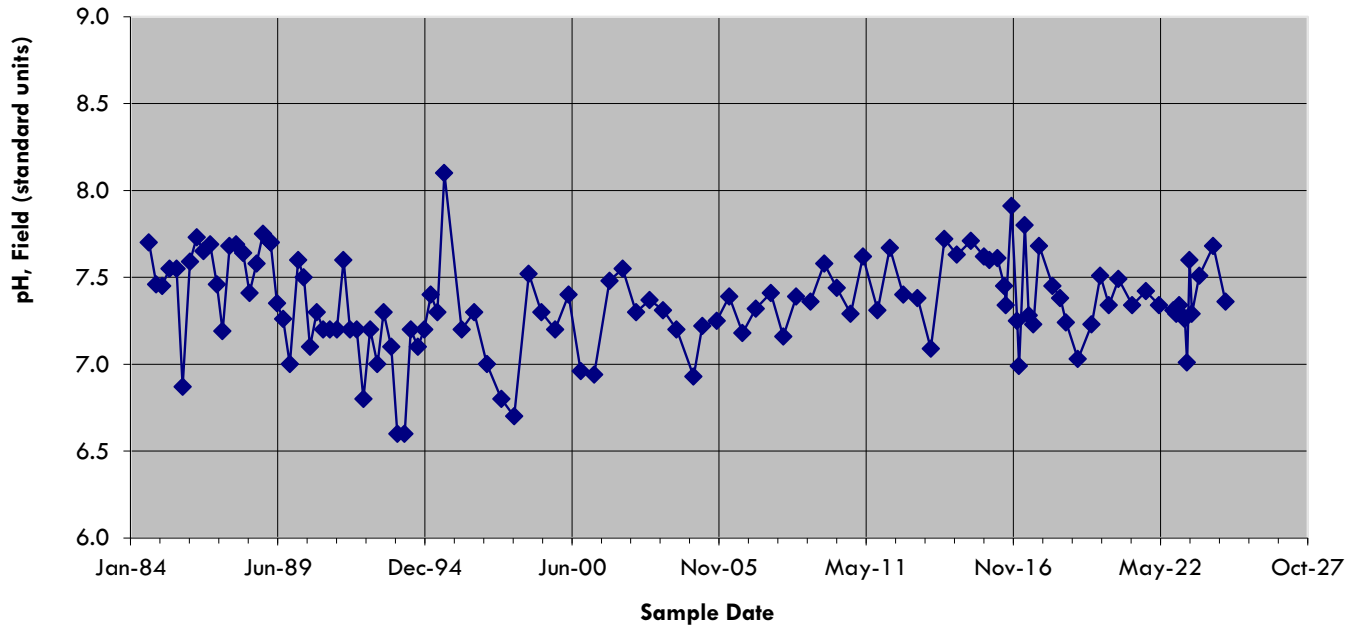
Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.4	6/2/1992	7.4		
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.8	9/1/1992	7.8		
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.4	12/2/1992	7.4		
MW-34A	PH, FIELD (STANDARD UNITS)	01	6.5	3/10/1993	6.5		
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.7	6/2/1993	7.7		
MW-34A	PH, FIELD (STANDARD UNITS)	01	6.7	9/14/1993	6.7		
MW-34A	PH, FIELD (STANDARD UNITS)	01	6.9	12/7/1993	6.9		
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.2	9/13/1994	7.2		
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.3	12/6/1994	7.3		
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.5	3/7/1995	7.5		
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.3	6/6/1995	7.3		
MW-34A	PH, FIELD (STANDARD UNITS)	01	6.9	9/6/1995	6.9		
MW-34A	PH, FIELD (STANDARD UNITS)	01	6.8	4/30/1996	6.8		
MW-34A	PH, FIELD (STANDARD UNITS)	01	6.8	10/16/1996	6.8		
MW-34A	PH, FIELD (STANDARD UNITS)	01	6.8	4/8/1997	6.8		
MW-34A	PH, FIELD (STANDARD UNITS)	01	7	10/20/1997	7		
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.2	4/14/1998	7.2		
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.7	10/27/1998	7.7		
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.5	4/16/1999	7.5		
MW-34A	PH, FIELD (STANDARD UNITS)	01	7	10/21/1999	7		
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.4	4/20/2000	7.4		
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.18	10/4/2000	7.18		
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.42	4/3/2001	7.42		
MW-34A	PH, FIELD (STANDARD UNITS)	01	6.41	10/30/2001	6.41		
MW-34A	PH, FIELD (STANDARD UNITS)	01	6.8	4/25/2002	6.8		
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.25	10/24/2002	7.25		
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.54	4/29/2003	7.54	7.54	Using data period starting in April 2003 for PAL calculation
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.53	10/29/2003	7.53	7.53	
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.45	4/27/2004	7.45	7.45	
MW-34A	PH, FIELD (STANDARD UNITS)	01	6.99	12/14/2004	6.99	6.99	
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.52	4/15/2005	7.52	7.52	
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.59	10/26/2005	7.59	7.59	
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.57	4/13/2006	7.57	7.57	
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.35	10/12/2006	7.35	7.35	
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.43	4/11/2007	7.43	7.43	
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.6	10/31/2007	7.6	7.6	
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.76	4/17/2008	7.76	7.76	
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.15	10/10/2008	7.15	7.15	
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.44	4/21/2009	7.44	7.44	
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.49	10/27/2009	7.49	7.49	
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.78	4/14/2010	7.78	7.78	
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.6	10/20/2010	7.6	7.6	
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.74	4/6/2011	7.74	7.74	
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.6	10/20/2011	7.6	7.6	
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.98	4/4/2012	7.98	7.98	
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.42	10/4/2012	7.42	7.42	
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.65	4/16/2013	7.65	7.65	
MW-34A	PH, FIELD (STANDARD UNITS)	01	6.96	10/14/2013	6.96	6.96	
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.7	4/16/2014	7.7	7.7	
MW-34A	PH, FIELD (STANDARD UNITS)	01	8.01	10/2/2014	8.01	8.01	
MW-34A	PH, FIELD (STANDARD UNITS)	01	8.07	4/14/2015	8.07	8.07	
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.81	10/7/2015	7.81	7.81	
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.91	12/21/2015	7.91	7.91	
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.92	4/5/2016	7.92	7.92	
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.52	7/7/2016	7.52	7.52	
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.4	7/28/2016	7.4	7.4	
MW-34A	PH, FIELD (STANDARD UNITS)	01	8.19	10/13/2016	8.19	8.19	
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.43	12/29/2016	7.43	7.43	
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.71	1/25/2017	7.71	7.71	
MW-34A	PH, FIELD (STANDARD UNITS)	01	8.03	4/11/2017	8.03	8.03	

Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.57	6/6/2017	7.57	7.57	
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.39	8/7/2017	7.39	7.39	
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.61	10/4/2017	7.61	7.61	
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.67	10/24/2017	7.67	7.67	
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.8	4/24/2018	7.8	7.8	
MW-34A	PH, FIELD (STANDARD UNITS)	01	8.12	9/21/2018	8.12	8.12	
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.64	10/22/2018	7.64	7.64	
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.73	4/2/2019	7.73	7.73	
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.79	10/8/2019	7.79	7.79	
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.4	5/28/2020	7.4	7.4	
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.81	10/8/2020	7.81	7.81	
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.57	2/25/2021	7.57	7.57	
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.93	4/13/2021	7.93	7.93	
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.61	6/11/2021	7.61	7.61	
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.68	10/12/2021	7.68	7.68	
MW-34A	PH, FIELD (STANDARD UNITS)	01	8.34	4/12/2022	8.34	8.34	
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.53	10/27/2022	7.53	7.53	
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.45	12/2/2022	7.45	7.45	
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.56	1/13/2023	7.56	7.56	
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.36	2/21/2023	7.36	7.36	
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.58	3/27/2023	7.58	7.58	
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.53	4/26/2023	7.53	7.53	
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.85	5/31/2023	7.85	7.85	
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.63	6/30/2023	7.63	7.63	
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.78	10/11/2023	7.78	7.78	
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.4	4/17/2024	7.4	7.4	
MW-34A	PH, FIELD (STANDARD UNITS)	01	7.64	10/2/2024	7.64	7.64	
Calculations							
Count						61	
Mean						7.64	
PAL Limit (NR 140.20(2)(a))						+/- 1	
Upper PAL, Calculated						8.64	
Lower PAL, Calculated						6.64	
Upper PAL, Rounded						8.7	
Lower PAL, Rounded						6.6	
Duplicate Data Not Used for Calculations							

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Updated by: BLJ 7/9/2025
Data checked by: LMH 7/14/2025
Calc checked by: MDB 7/14/2025

MW-84A: Field pH



Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.20	6/2/1992	7.20	7.20	
MW-84A	PH, FIELD (STANDARD UNITS)	01	6.80	9/2/1992	6.80	6.80	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.20	12/2/1992	7.20	7.20	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.00	3/10/1993	7.00	7.00	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.30	6/3/1993	7.30	7.30	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.10	9/14/1993	7.10	7.10	
MW-84A	PH, FIELD (STANDARD UNITS)	01	6.60	12/7/1993	6.60	6.60	
MW-84A	PH, FIELD (STANDARD UNITS)	01	6.60	3/15/1994	6.60	6.60	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.20	6/7/1994	7.20	7.20	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.10	9/13/1994	7.10	7.10	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.20	12/6/1994	7.20	7.20	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.40	3/7/1995	7.40	7.40	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.30	6/5/1995	7.30	7.30	
MW-84A	PH, FIELD (STANDARD UNITS)	01	8.10	9/5/1995	8.10	8.10	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.20	4/29/1996	7.20	7.20	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.30	10/17/1996	7.30	7.30	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.00	4/8/1997	7.00	7.00	
MW-84A	PH, FIELD (STANDARD UNITS)	01	6.80	10/20/1997	6.80	6.80	
MW-84A	PH, FIELD (STANDARD UNITS)	01	6.70	4/14/1998	6.70	6.70	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.52	10/27/1998	7.52	7.52	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.30	4/16/1999	7.30	7.30	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.20	10/21/1999	7.20	7.20	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.40	4/20/2000	7.40	7.40	
MW-84A	PH, FIELD (STANDARD UNITS)	01	6.96	10/4/2000	6.96	6.96	
MW-84A	PH, FIELD (STANDARD UNITS)	01	6.94	4/3/2001	6.94	6.94	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.48	10/30/2001	7.48	7.48	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.55	4/25/2002	7.55	7.55	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.30	10/25/2002	7.30	7.30	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.37	4/28/2003	7.37	7.37	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.31	10/29/2003	7.31	7.31	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.20	4/27/2004	7.20	7.20	
MW-84A	PH, FIELD (STANDARD UNITS)	01	6.93	12/14/2004	6.93	6.93	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.22	4/14/2005	7.22	7.22	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.25	10/26/2005	7.25	7.25	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.39	4/13/2006	7.39	7.39	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.18	10/12/2006	7.18	7.18	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.32	4/10/2007	7.32	7.32	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.41	10/30/2007	7.41	7.41	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.16	4/17/2008	7.16	7.16	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.39	10/10/2008	7.39	7.39	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.36	4/22/2009	7.36	7.36	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.58	10/27/2009	7.58	7.58	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.44	4/14/2010	7.44	7.44	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.29	10/20/2010	7.29	7.29	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.62	4/6/2011	7.62	7.62	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.31	10/21/2011	7.31	7.31	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.67	4/4/2012	7.67	7.67	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.40	10/4/2012	7.40	7.40	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.38	4/17/2013	7.38	7.38	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.09	10/14/2013	7.09	7.09	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.72	4/17/2014	7.72	7.72	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.63	10/2/2014	7.63	7.63	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.71	4/13/2015	7.71	7.71	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.62	10/8/2015	7.62	7.62	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.60	12/22/2015	7.60	7.60	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.61	4/5/2016	7.61	7.61	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.45	7/8/2016	7.45	7.45	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.34	7/28/2016	7.34	7.34	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.91	10/13/2016	7.91	7.91	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.25	12/29/2016	7.25	7.25	

Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-84A	PH, FIELD (STANDARD UNITS)	01	6.99	1/25/2017	6.99	6.99	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.80	4/11/2017	7.80	7.80	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.28	6/6/2017	7.28	7.28	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.23	8/8/2017	7.23	7.23	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.68	10/24/2017	7.68	7.68	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.45	4/25/2018	7.45	7.45	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.38	8/8/2018	7.38	7.38	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.24	10/24/2018	7.24	7.24	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.03	4/3/2019	7.03	7.03	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.23	10/9/2019	7.23	7.23	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.51	2/3/2020	7.51	7.51	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.34	5/29/2020	7.34	7.34	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.49	10/8/2020	7.49	7.49	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.34	4/14/2021	7.34	7.34	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.42	10/14/2021	7.42	7.42	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.34	4/13/2022	7.34	7.34	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.31	10/27/2022	7.31	7.31	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.29	12/2/2022	7.29	7.29	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.34	1/12/2023	7.34	7.34	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.28	2/21/2023	7.28	7.28	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.26	3/28/2023	7.26	7.26	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.01	4/27/2023	7.01	7.01	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.60	5/30/2023	7.60	7.60	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.29	6/29/2023	7.29	7.29	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.51	10/11/2023	7.51	7.51	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.68	4/17/2024	7.68	7.68	
MW-84A	PH, FIELD (STANDARD UNITS)	01	7.36	10/2/2024	7.36	7.36	
Calculations							
Count						119	
Mean						7.35	
PAL Limit (NR 140.20(2)(a))						+/- 1	
Upper PAL, Calculated						8.35	
Lower PAL, Calculated						6.35	
Upper PAL, Rounded						8.4	
Lower PAL, Rounded						6.3	
Duplicate Data Not Used for Calculations							

Note: Data through October 2015 from GEMS, December 2015 - October 2022 from ChemPoint, later data from PacePort

J = Result is an estimated value below the laboratory's limit of quantitation.

P = Did not meet required preservation and/or hold time.

B = Compound detected in blank.

M = Failed method QC check.

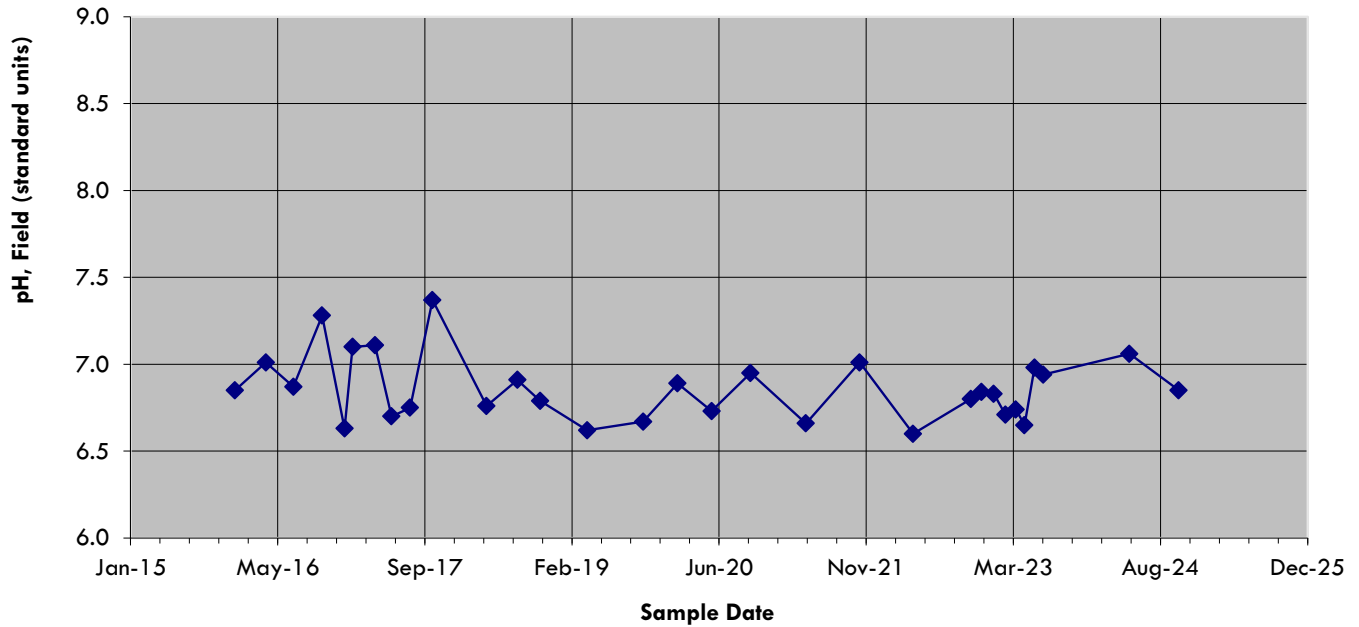
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Updated by: BLJ 7/9/2025

Data checked by: LMH 7/14/2025

Calc checked by: MDB 7/14/2025

MW-301: Field pH



Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-301	PH, FIELD (STANDARD UNITS)	01	6.85	12/22/2015	6.85	6.85	
MW-301	PH, FIELD (STANDARD UNITS)	01	7.01	4/5/2016	7.01	7.01	
MW-301	PH, FIELD (STANDARD UNITS)	01	6.87	7/8/2016	6.87	6.87	
MW-301	PH, FIELD (STANDARD UNITS)	01	7.28	10/13/2016	7.28	7.28	
MW-301	PH, FIELD (STANDARD UNITS)	01	6.63	12/29/2016	6.63	6.63	
MW-301	PH, FIELD (STANDARD UNITS)	01	7.10	1/25/2017	7.10	7.10	
MW-301	PH, FIELD (STANDARD UNITS)	01	7.11	4/11/2017	7.11	7.11	
MW-301	PH, FIELD (STANDARD UNITS)	01	6.70	6/6/2017	6.70	6.70	
MW-301	PH, FIELD (STANDARD UNITS)	01	6.75	8/8/2017	6.75	6.75	
MW-301	PH, FIELD (STANDARD UNITS)	01	7.37	10/23/2017	7.37	7.37	
MW-301	PH, FIELD (STANDARD UNITS)	01	6.76	4/25/2018	6.76	6.76	
MW-301	PH, FIELD (STANDARD UNITS)	01	6.91	8/8/2018	6.91	6.91	
MW-301	PH, FIELD (STANDARD UNITS)	01	6.79	10/24/2018	6.79	6.79	
MW-301	PH, FIELD (STANDARD UNITS)	01	6.62	4/2/2019	6.62	6.62	
MW-301	PH, FIELD (STANDARD UNITS)	01	6.67	10/9/2019	6.67	6.67	
MW-301	PH, FIELD (STANDARD UNITS)	01	6.89	2/3/2020	6.89	6.89	
MW-301	PH, FIELD (STANDARD UNITS)	01	6.73	5/29/2020	6.73	6.73	
MW-301	PH, FIELD (STANDARD UNITS)	01	6.95	10/8/2020	6.95	6.95	
MW-301	PH, FIELD (STANDARD UNITS)	01	6.66	4/14/2021	6.66	6.66	
MW-301	PH, FIELD (STANDARD UNITS)	01	7.01	10/14/2021	7.01	7.01	
MW-301	PH, FIELD (STANDARD UNITS)	01	6.60	4/13/2022	6.60	6.60	
MW-301	PH, FIELD (STANDARD UNITS)	01	6.80	10/27/2022	6.80	6.80	
MW-301	PH, FIELD (STANDARD UNITS)	01	6.84	12/2/2022	6.84	6.84	
MW-301	PH, FIELD (STANDARD UNITS)	01	6.83	1/12/2023	6.83	6.83	
MW-301	PH, FIELD (STANDARD UNITS)	01	6.71	2/21/2023	6.71	6.71	
MW-301	PH, FIELD (STANDARD UNITS)	01	6.74	3/28/2023	6.74	6.74	
MW-301	PH, FIELD (STANDARD UNITS)	01	6.65	4/27/2023	6.65	6.65	
MW-301	PH, FIELD (STANDARD UNITS)	01	6.98	5/31/2023	6.98	6.98	
MW-301	PH, FIELD (STANDARD UNITS)	01	6.94	6/30/2023	6.94	6.94	
MW-301	PH, FIELD (STANDARD UNITS)	01	7.06	4/17/2024	7.06	7.06	
MW-301	PH, FIELD (STANDARD UNITS)	01	6.85	10/2/2024	6.85	6.85	

Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
Calculations							
Count						32	
Mean						6.65	
PAL Limit (NR 140.20(2)(a))						+/- 1	
Upper PAL, Calculated						7.65	
Lower PAL, Calculated						5.65	
Upper PAL, Rounded						7.7	
Lower PAL, Rounded						5.6	
Duplicate Data Not Used for Calculations							

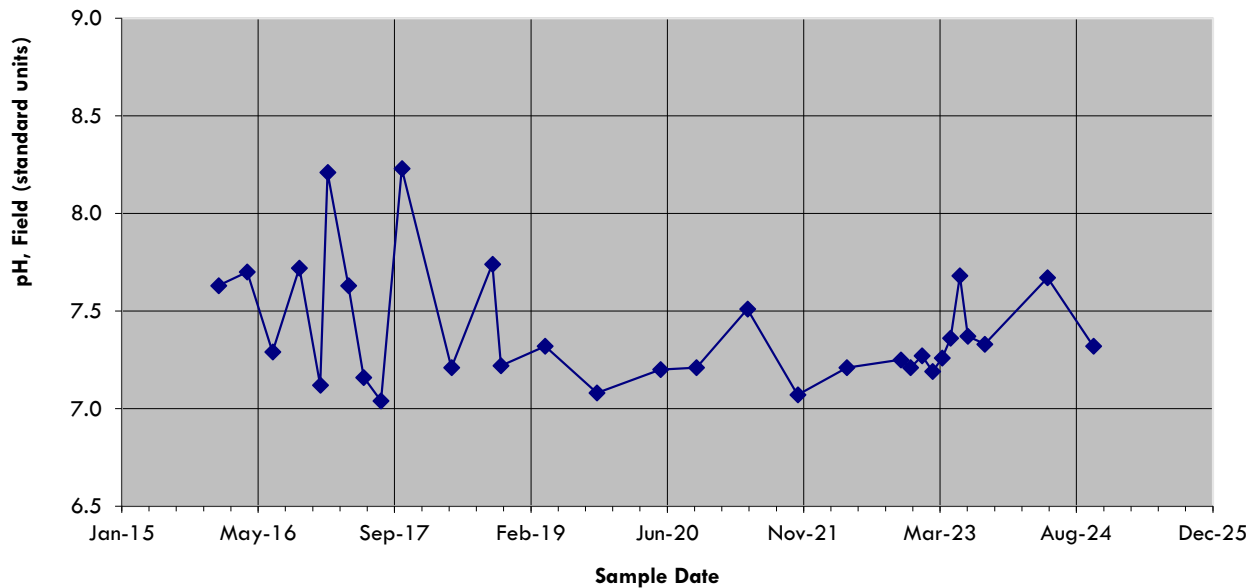
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Updated by: BLJ 7/9/2025

Data checked by: LMH 7/14/2025

Calc checked by: MDB 7/14/2025

MW-302: Field pH



Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-302	PH, FIELD (STANDARD UNITS)	01	7.63	12/22/2015	7.63	7.63	
MW-302	PH, FIELD (STANDARD UNITS)	01	7.7	4/5/2016	7.7	7.7	
MW-302	PH, FIELD (STANDARD UNITS)	01	7.29	7/7/2016	7.29	7.29	
MW-302	PH, FIELD (STANDARD UNITS)	01	7.72	10/13/2016	7.72	7.72	
MW-302	PH, FIELD (STANDARD UNITS)	01	7.12	12/29/2016	7.12	7.12	
MW-302	PH, FIELD (STANDARD UNITS)	01	8.21	1/25/2017	8.21	8.21	
MW-302	PH, FIELD (STANDARD UNITS)	01	7.63	4/11/2017	7.63	7.63	
MW-302	PH, FIELD (STANDARD UNITS)	01	7.16	6/6/2017	7.16	7.16	
MW-302	PH, FIELD (STANDARD UNITS)	01	7.04	8/8/2017	7.04	7.04	
MW-302	PH, FIELD (STANDARD UNITS)	01	8.23	10/24/2017	8.23	8.23	
MW-302	PH, FIELD (STANDARD UNITS)	01	7.21	4/24/2018	7.21	7.21	
MW-302	PH, FIELD (STANDARD UNITS)	01	7.74	9/21/2018	7.74	7.74	
MW-302	PH, FIELD (STANDARD UNITS)	01	7.22	10/22/2018	7.22	7.22	
MW-302	PH, FIELD (STANDARD UNITS)	01	7.32	4/2/2019	7.32	7.32	
MW-302	PH, FIELD (STANDARD UNITS)	01	7.08	10/9/2019	7.08	7.08	
MW-302	PH, FIELD (STANDARD UNITS)	01	7.2	5/29/2020	7.2	7.2	
MW-302	PH, FIELD (STANDARD UNITS)	01	7.21	10/8/2020	7.21	7.21	
MW-302	PH, FIELD (STANDARD UNITS)	01	7.51	4/13/2021	7.51	7.51	
MW-302	PH, FIELD (STANDARD UNITS)	01	7.07	10/14/2021	7.07	7.07	
MW-302	PH, FIELD (STANDARD UNITS)	01	7.21	4/12/2022	7.21	7.21	
MW-302	PH, FIELD (STANDARD UNITS)	01	7.25	10/27/2022	7.25	7.25	
MW-302	PH, FIELD (STANDARD UNITS)	01	7.21	12/2/2022	7.21	7.21	
MW-302	PH, FIELD (STANDARD UNITS)	01	7.27	1/13/2023	7.27	7.27	
MW-302	PH, FIELD (STANDARD UNITS)	01	7.19	2/21/2023	7.19	7.19	
MW-302	PH, FIELD (STANDARD UNITS)	01	7.26	3/28/2023	7.26	7.26	
MW-302	PH, FIELD (STANDARD UNITS)	01	7.36	4/27/2023	7.36	7.36	
MW-302	PH, FIELD (STANDARD UNITS)	01	7.68	5/31/2023	7.68	7.68	
MW-302	PH, FIELD (STANDARD UNITS)	01	7.37	6/30/2023	7.37	7.37	
MW-302	PH, FIELD (STANDARD UNITS)	01	7.33	8/31/2023	7.33	7.33	
MW-302	PH, FIELD (STANDARD UNITS)	01	7.67	4/17/2024	7.67	7.67	
MW-302	PH, FIELD (STANDARD UNITS)	01	7.32	10/2/2024	7.32	7.32	
Calculations							
Count						31	
Mean						7.40	
PAL Limit (NR 140.20(2)(a))						+/- 1	

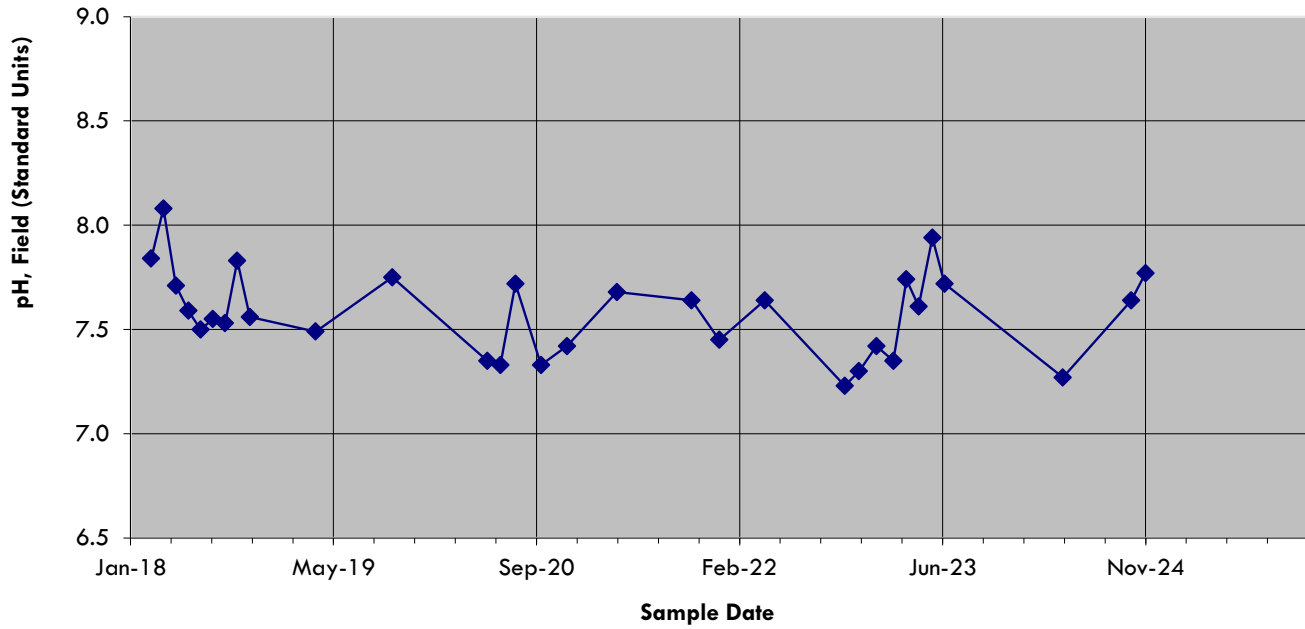
Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
Upper PAL, Calculated						8.40	
Lower PAL, Calculated						6.40	
Upper PAL, Rounded						8.5	
Lower PAL, Rounded						6.4	

Duplicate Data Not Used for Calculations							

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Updated by: BLJ 7/9/2025
Data checked by: LMH 7/14/2025
Calc checked by: MDB 7/14/2025

MW-309: Field pH



Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-309	PH, FIELD (STANDARD UNITS)	01	7.84	2/21/2018	7.84	7.84	
MW-309	PH, FIELD (STANDARD UNITS)	01	8.08	3/23/2018	8.08	8.08	
MW-309	PH, FIELD (STANDARD UNITS)	01	7.71	4/23/2018	7.71	7.71	
MW-309	PH, FIELD (STANDARD UNITS)	01	7.59	5/24/2018	7.59	7.59	
MW-309	PH, FIELD (STANDARD UNITS)	01	7.5	6/23/2018	7.5	7.5	
MW-309	PH, FIELD (STANDARD UNITS)	01	7.55	7/23/2018	7.55	7.55	
MW-309	PH, FIELD (STANDARD UNITS)	01	7.53	8/22/2018	7.53	7.53	
MW-309	PH, FIELD (STANDARD UNITS)	01	7.83	9/21/2018	7.83	7.83	
MW-309	PH, FIELD (STANDARD UNITS)	01	7.56	10/22/2018	7.56	7.56	
MW-309	PH, FIELD (STANDARD UNITS)	01	7.49	4/2/2019	7.49	7.49	
MW-309	PH, FIELD (STANDARD UNITS)	01	7.75	10/8/2019	7.75	7.75	
MW-309	PH, FIELD (STANDARD UNITS)	01	7.35	5/29/2020	7.35	7.35	
MW-309	PH, FIELD (STANDARD UNITS)	01	7.33	6/30/2020	7.33	7.33	
MW-309	PH, FIELD (STANDARD UNITS)	01	7.72	8/6/2020	7.72	7.72	
MW-309	PH, FIELD (STANDARD UNITS)	01	7.33	10/8/2020	7.33	7.33	
MW-309	PH, FIELD (STANDARD UNITS)	01	7.42	12/11/2020	7.42	7.42	
MW-309	PH, FIELD (STANDARD UNITS)	01	7.68	4/13/2021	7.68	7.68	
MW-309	PH, FIELD (STANDARD UNITS)	01	7.64	10/14/2021	7.64	7.64	
MW-309	PH, FIELD (STANDARD UNITS)	01	7.45	12/21/2021	7.45	7.45	
MW-309	PH, FIELD (STANDARD UNITS)	01	7.64	4/12/2022	7.64	7.64	
MW-309	PH, FIELD (STANDARD UNITS)	01	7.23	10/26/2022	7.23	7.23	
MW-309	PH, FIELD (STANDARD UNITS)	01	7.3	11/30/2022	7.3	7.3	
MW-309	PH, FIELD (STANDARD UNITS)	01	7.42	1/12/2023	7.42	7.42	
MW-309	PH, FIELD (STANDARD UNITS)	01	7.35	2/23/2023	7.35	7.35	
MW-309	PH, FIELD (STANDARD UNITS)	01	7.74	3/27/2023	7.74	7.74	
MW-309	PH, FIELD (STANDARD UNITS)	01	7.61	4/26/2023	7.61	7.61	
MW-309	PH, FIELD (STANDARD UNITS)	01	7.94	5/30/2023	7.94	7.94	
MW-309	PH, FIELD (STANDARD UNITS)	01	7.72	6/29/2023	7.72	7.72	
MW-309	PH, FIELD (STANDARD UNITS)	01	7.27	4/15/2024	7.27	7.27	
MW-309	PH, FIELD (STANDARD UNITS)	01	7.64	10/1/2024	7.64	7.64	
MW-309	PH, FIELD (STANDARD UNITS)	01	7.77	11/5/2024	7.77	7.77	

Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
Calculations							
Count						31	
Mean						7.58	
PAL Limit (NR 140.20(2)(a))						+/- 1	
Upper PAL, Calculated						8.58	
Lower PAL, Calculated						6.58	
Upper PAL, Rounded						8.6	
Lower PAL, Rounded						6.5	
Duplicate Data Not Used for Calculations							

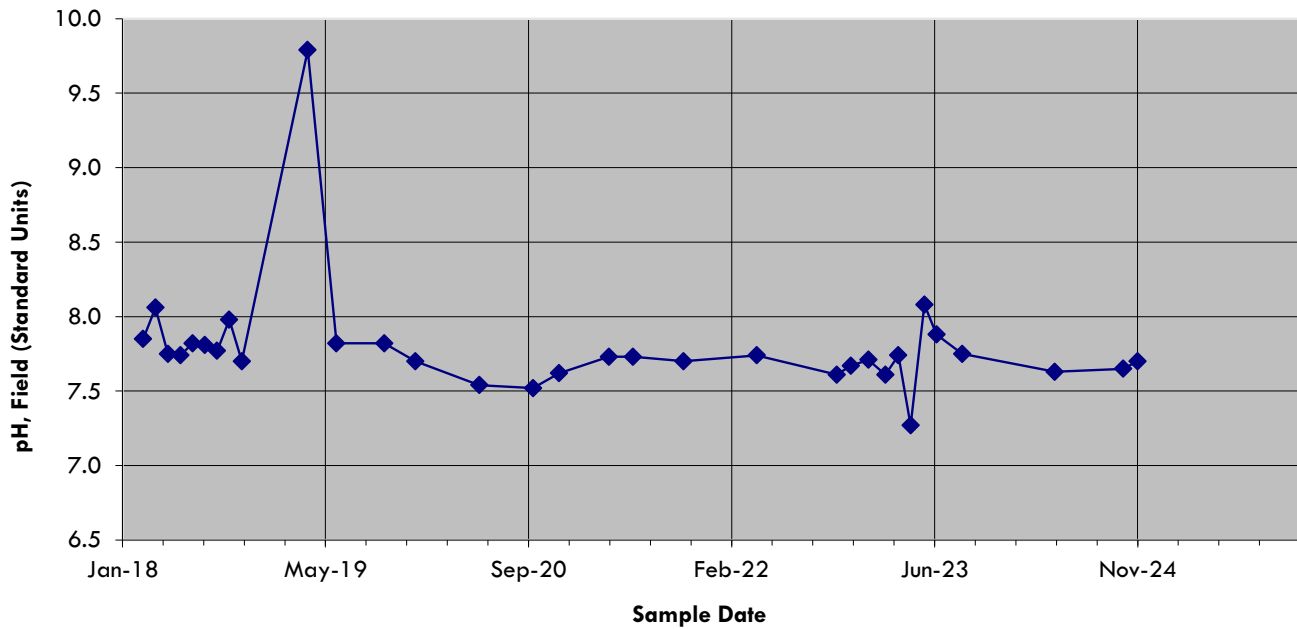
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Updated by: BLJ 7/9/2025

Data checked by: LMH 7/14/2025

Calc checked by: MDB 7/14/2025

MW-310: Field pH



Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-310	PH, FIELD (STANDARD UNITS)	01	7.85	2/21/2018	7.85	7.85	
MW-310	PH, FIELD (STANDARD UNITS)	01	8.06	3/23/2018	8.06	8.06	
MW-310	PH, FIELD (STANDARD UNITS)	01	7.75	4/23/2018	7.75	7.75	
MW-310	PH, FIELD (STANDARD UNITS)	01	7.74	5/24/2018	7.74	7.74	
MW-310	PH, FIELD (STANDARD UNITS)	01	7.82	6/23/2018	7.82	7.82	
MW-310	PH, FIELD (STANDARD UNITS)	01	7.81	7/23/2018	7.81	7.81	
MW-310	PH, FIELD (STANDARD UNITS)	01	7.77	8/22/2018	7.77	7.77	
MW-310	PH, FIELD (STANDARD UNITS)	01	7.98	9/21/2018	7.98	7.98	
MW-310	PH, FIELD (STANDARD UNITS)	01	7.70	10/22/2018	7.70	7.70	
MW-310	PH, FIELD (STANDARD UNITS)	01	9.79	4/2/2019	9.79		outlier
MW-310	PH, FIELD (STANDARD UNITS)	01	7.82	6/12/2019	7.82	7.82	
MW-310	PH, FIELD (STANDARD UNITS)	01	7.82	10/8/2019	7.82	7.82	
MW-310	PH, FIELD (STANDARD UNITS)	01	7.70	12/23/2019	7.70	7.70	
MW-310	PH, FIELD (STANDARD UNITS)	01	7.54	5/29/2020	7.54	7.54	
MW-310	PH, FIELD (STANDARD UNITS)	01	7.52	10/8/2020	7.52	7.52	
MW-310	PH, FIELD (STANDARD UNITS)	01	7.62	12/11/2020	7.62	7.62	
MW-310	PH, FIELD (STANDARD UNITS)	01	7.73	4/13/2021	7.73	7.73	
MW-311	PH, FIELD (STANDARD UNITS)	02	7.73	6/11/2021	7.73	7.73	
MW-310	PH, FIELD (STANDARD UNITS)	01	7.70	10/14/2021	7.70	7.70	
MW-310	PH, FIELD (STANDARD UNITS)	01	7.74	4/12/2022	7.74	7.74	
MW-310	PH, FIELD (STANDARD UNITS)	01	7.61	10/26/2022	7.61	7.61	
MW-310	PH, FIELD (STANDARD UNITS)	01	7.67	11/30/2022	7.67	7.67	
MW-310	PH, FIELD (STANDARD UNITS)	01	7.71	1/12/2023	7.71	7.71	
MW-310	PH, FIELD (STANDARD UNITS)	01	7.61	2/23/2023	7.61	7.61	
MW-310	PH, FIELD (STANDARD UNITS)	01	7.74	3/27/2023	7.74	7.74	
MW-310	PH, FIELD (STANDARD UNITS)	01	7.27	4/26/2023	7.27	7.27	
MW-310	PH, FIELD (STANDARD UNITS)	01	8.08	5/30/2023	8.08	8.08	
MW-310	PH, FIELD (STANDARD UNITS)	01	7.88	6/29/2023	7.88	7.88	
MW-310	PH, FIELD (STANDARD UNITS)	01	7.75	8/31/2023	7.75	7.75	
MW-310	PH, FIELD (STANDARD UNITS)	01	7.63	4/15/2024	7.63	7.63	
MW-310	PH, FIELD (STANDARD UNITS)	01	7.65	10/1/2024	7.65	7.65	
MW-310	PH, FIELD (STANDARD UNITS)	01	7.70	11/5/2024	7.70	7.70	

Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
Calculations							
Count						31	
Mean						7.73	
PAL Limit (NR 140.20(2)(a))						+/- 1	
Upper PAL, Calculated						8.73	
Lower PAL, Calculated						6.73	
Upper PAL, Rounded						8.8	
Lower PAL, Rounded						6.7	
Duplicate Data Not Used for Calculations							

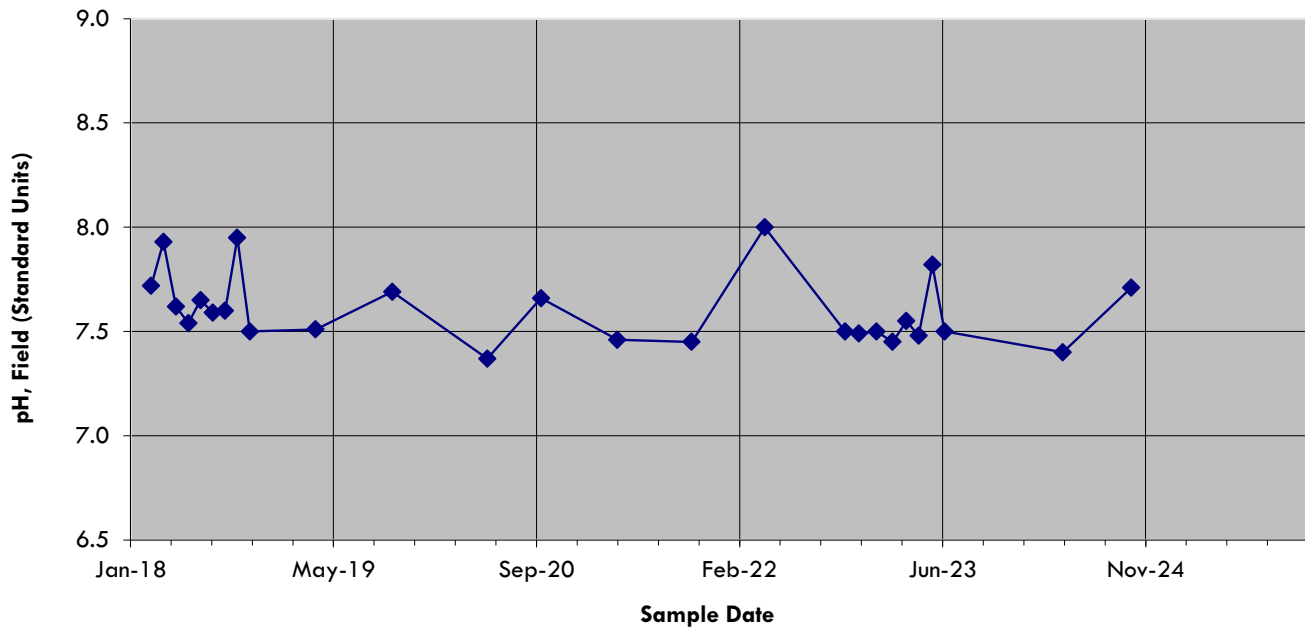
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Updated by: BLJ 7/9/2025

Data checked by: LMH 7/14/2025

Calc checked by: MDB 7/14/2025

MW-311: Field pH



Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-311	PH, FIELD (STANDARD UNITS)	01	7.72	2/21/2018	7.72	7.72	
MW-311	PH, FIELD (STANDARD UNITS)	01	7.93	3/23/2018	7.93	7.93	
MW-311	PH, FIELD (STANDARD UNITS)	01	7.62	4/23/2018	7.62	7.62	
MW-311	PH, FIELD (STANDARD UNITS)	01	7.54	5/24/2018	7.54	7.54	
MW-311	PH, FIELD (STANDARD UNITS)	01	7.65	6/23/2018	7.65	7.65	
MW-311	PH, FIELD (STANDARD UNITS)	01	7.59	7/23/2018	7.59	7.59	
MW-311	PH, FIELD (STANDARD UNITS)	01	7.60	8/22/2018	7.60	7.60	
MW-311	PH, FIELD (STANDARD UNITS)	01	7.95	9/21/2018	7.95	7.95	
MW-311	PH, FIELD (STANDARD UNITS)	01	7.50	10/22/2018	7.50	7.50	
MW-311	PH, FIELD (STANDARD UNITS)	01	7.51	4/2/2019	7.51	7.51	
MW-311	PH, FIELD (STANDARD UNITS)	01	7.69	10/8/2019	7.69	7.69	
MW-311	PH, FIELD (STANDARD UNITS)	01	7.37	5/29/2020	7.37	7.37	
MW-311	PH, FIELD (STANDARD UNITS)	01	7.66	10/8/2020	7.66	7.66	
MW-311	PH, FIELD (STANDARD UNITS)	01	7.46	4/14/2021	7.46	7.46	
MW-311	PH, FIELD (STANDARD UNITS)	01	7.45	10/14/2021	7.45	7.45	
MW-311	PH, FIELD (STANDARD UNITS)	01	8.00	4/12/2022	8.00	8.00	
MW-311	PH, FIELD (STANDARD UNITS)	01	7.50	10/27/2022	7.50	7.50	
MW-311	PH, FIELD (STANDARD UNITS)	01	7.49	11/30/2022	7.49	7.49	
MW-311	PH, FIELD (STANDARD UNITS)	01	7.50	1/12/2023	7.50	7.50	
MW-311	PH, FIELD (STANDARD UNITS)	01	7.45	2/21/2023	7.45	7.45	
MW-311	PH, FIELD (STANDARD UNITS)	01	7.55	3/27/2023	7.55	7.55	
MW-311	PH, FIELD (STANDARD UNITS)	01	7.48	4/26/2023	7.48	7.48	
MW-311	PH, FIELD (STANDARD UNITS)	01	7.82	5/30/2023	7.82	7.82	
MW-311	PH, FIELD (STANDARD UNITS)	01	7.50	6/29/2023	7.50	7.50	
MW-311	PH, FIELD (STANDARD UNITS)	01	7.40	4/15/2024	7.40	7.40	
MW-311	PH, FIELD (STANDARD UNITS)	01	7.71	10/1/2024	7.71	7.71	
Calculations							
Count						26	
Mean						7.60	
PAL Limit (NR 140.20(2)(a))						+/- 1	
Upper PAL, Calculated						8.60	

Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
Lower PAL, Calculated						6.60	
Upper PAL, Rounded						8.7	
Lower PAL, Rounded						6.6	

Duplicate Data Not Used for Calculations							

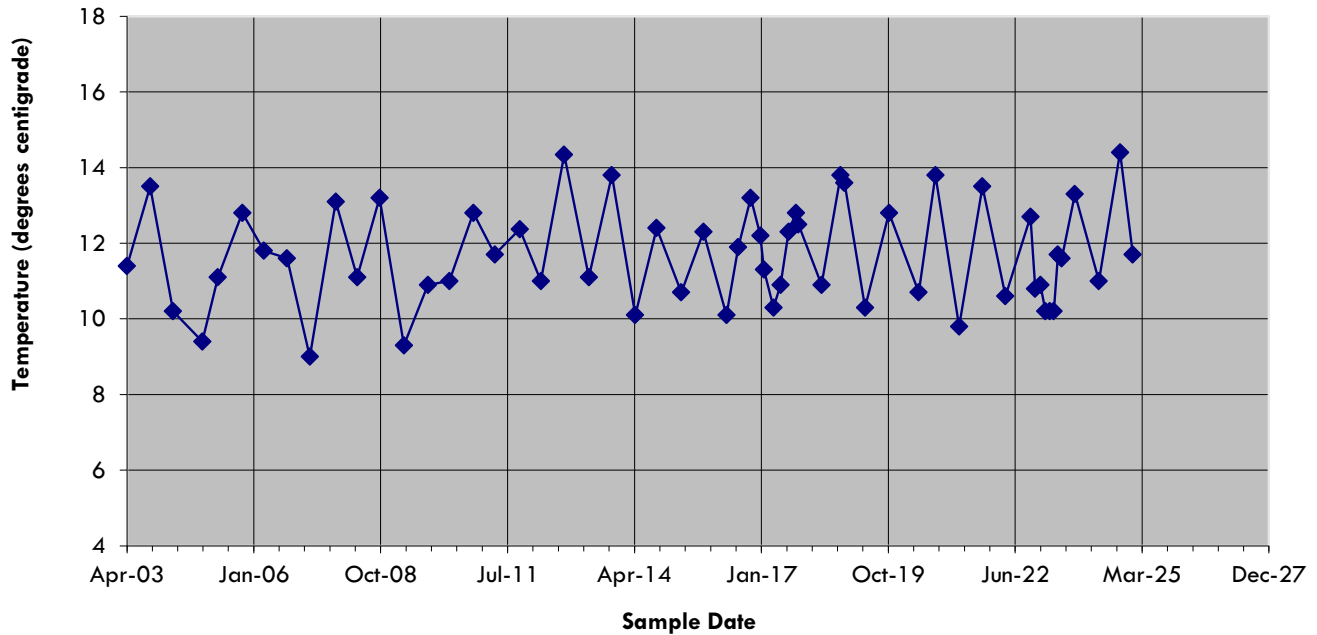
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Updated by: BLJ 7/9/2025

Data checked by: LMH 7/14/2025

Calc checked by: MDB 7/14/2025

MW-33AR: Field Temperature



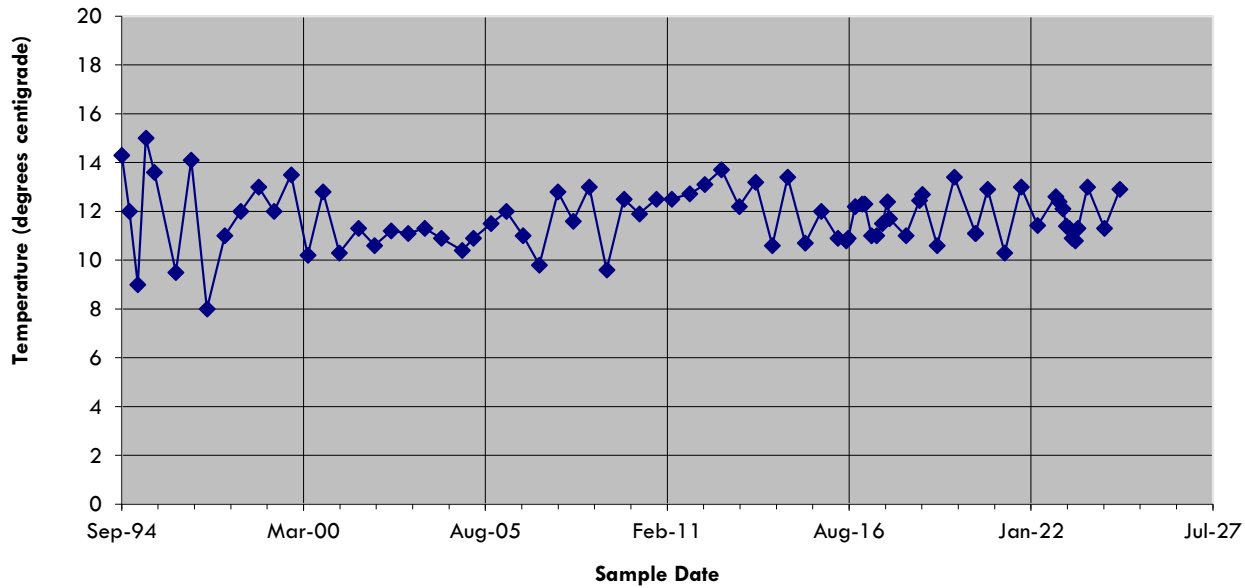
Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.4	4/29/2003	11.4	11.4	
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	13.5	10/30/2003	13.5	13.5	
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.2	4/27/2004	10.2	10.2	
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	9.4	12/14/2004	9.4	9.4	
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.1	4/15/2005	11.1	11.1	
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	12.8	10/26/2005	12.8	12.8	
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.8	4/13/2006	11.8	11.8	
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.6	10/12/2006	11.6	11.6	
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	9	4/11/2007	9	9	
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	13.1	10/31/2007	13.1	13.1	
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.1	4/17/2008	11.1	11.1	
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	13.2	10/10/2008	13.2	13.2	
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	9.3	4/21/2009	9.3	9.3	
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.9	10/27/2009	10.9	10.9	
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11	4/14/2010	11	11	
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	12.8	10/20/2010	12.8	12.8	
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.7	4/6/2011	11.7	11.7	
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	12.37	10/20/2011	12.37	12.37	
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11	4/4/2012	11	11	
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	14.34	10/4/2012	14.34	14.34	
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.1	4/17/2013	11.1	11.1	
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	13.8	10/14/2013	13.8	13.8	
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.1	4/16/2014	10.1	10.1	
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	12.4	10/2/2014	12.4	12.4	
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.7	4/14/2015	10.7	10.7	
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	12.3	10/7/2015	12.3	12.3	
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.1	4/5/2016	10.1	10.1	
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.9	7/7/2016	11.9	11.9	
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	13.2	10/13/2016	13.2	13.2	
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	12.2	12/29/2016	12.2	12.2	
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.3	1/25/2017	11.3	11.3	
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.3	4/11/2017	10.3	10.3	

Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.9	6/6/2017	10.9	10.9	
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	12.3	8/7/2017	12.3	12.3	
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	12.8	10/4/2017	12.8	12.8	
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	12.5	10/24/2017	12.5	12.5	
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.9	4/24/2018	10.9	10.9	
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	13.8	9/21/2018	13.8	13.8	
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	13.6	10/22/2018	13.6	13.6	
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.3	4/2/2019	10.3	10.3	
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	12.8	10/8/2019	12.8	12.8	
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.7	5/28/2020	10.7	10.7	
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	13.8	10/8/2020	13.8	13.8	
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	9.8	4/13/2021	9.8	9.8	
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	13.5	10/12/2021	13.5	13.5	
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.6	4/12/2022	10.6	10.6	
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	12.7	10/27/2022	12.7	12.7	
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.8	12/2/2022	10.8	10.8	
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.9	1/13/2023	10.9	10.9	
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.2	2/21/2023	10.2	10.2	
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.2	3/28/2023	10.2	10.2	
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.2	4/27/2023	10.2	10.2	
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.7	5/31/2023	11.7	11.7	
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.6	6/30/2023	11.6	11.6	
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	13.3	10/11/2023	13.3	13.3	
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11	4/17/2024	11	11	
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	14.4	10/2/2024	14.4	14.4	
MW-33AR	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.7	1/10/2025	11.7	11.7	
Calculations							
Count						58	
Mean						11.69	
Std Dev						1.34	
3 X SD (PAL)						4.03	
Minimum Increase/Decrease (NR 140.20(2)(b))						+/- 10	
Upper PAL, Calculated						21.69	
Lower PAL, Calculated						1.69	
Upper PAL, Rounded						22	
Lower PAL, Rounded						1.6	
Duplicate Data Not Used for Calculations							

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Updated by: BLJ 7/9/2025
Data checked by: LMH 7/14/2025
Calc checked by: MDB 7/14/2025

MW-34A: Field Temperature



Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		14.3	9/13/1994	14.3		
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		12	12/6/1994	12		
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		9	3/7/1995	9		
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		15	6/6/1995	15		
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		13.6	9/6/1995	13.6		
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		9.5	4/30/1996	9.5		
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		14.1	10/16/1996	14.1		
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		8	4/8/1997	8		
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		11	10/20/1997	11		
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		12	4/14/1998	12		
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		13	10/27/1998	13		
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		12	4/16/1999	12		
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		13.5	10/21/1999	13.5		
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		10.2	4/20/2000	10.2		
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		12.8	10/4/2000	12.8		
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		10.3	4/3/2001	10.3		
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		11.3	10/30/2001	11.3		
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		10.6	4/25/2002	10.6		
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		11.2	10/24/2002	11.2		
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		11.1	4/29/2003	11.1	11.1	Using data period starting in April 2003 for PAL calculation
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		11.3	10/29/2003	11.3	11.3	
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		10.9	4/27/2004	10.9	10.9	
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		10.4	12/14/2004	10.4	10.4	
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		10.9	4/15/2005	10.9	10.9	
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		11.5	10/26/2005	11.5	11.5	
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		12	4/13/2006	12	12	
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		11	10/12/2006	11	11	
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		9.8	4/11/2007	9.8	9.8	
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		12.8	10/31/2007	12.8	12.8	
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		11.6	4/17/2008	11.6	11.6	
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		13	10/10/2008	13	13	
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		9.6	4/21/2009	9.6	9.6	
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		12.5	10/27/2009	12.5	12.5	
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		11.9	4/14/2010	11.9	11.9	
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		12.5	10/20/2010	12.5	12.5	
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		12.5	4/6/2011	12.5	12.5	

Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		12.72	10/20/2011	12.72	12.72	
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		13.1	4/4/2012	13.1	13.1	
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		13.71	10/4/2012	13.71	13.71	
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		12.2	4/16/2013	12.2	12.2	
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		13.2	10/14/2013	13.2	13.2	
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		10.6	4/16/2014	10.6	10.6	
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		13.4	10/2/2014	13.4	13.4	
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		10.7	4/14/2015	10.7	10.7	
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		12	10/7/2015	12	12	
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		10.9	4/5/2016	10.9	10.9	
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		10.8	7/7/2016	10.8	10.8	
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		10.9	7/28/2016	10.9	10.9	
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		12.2	10/13/2016	12.2	12.2	
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		12.3	12/29/2016	12.3	12.3	
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		12.3	1/25/2017	12.3	12.3	
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		11	4/11/2017	11	11	
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		11	6/6/2017	11	11	
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		11.5	8/7/2017	11.5	11.5	
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		12.4	10/4/2017	12.4	12.4	
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		11.7	10/24/2017	11.7	11.7	
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		11	4/24/2018	11	11	
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		12.45	9/21/2018	12.45	12.45	
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		12.7	10/22/2018	12.7	12.7	
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		10.6	4/2/2019	10.6	10.6	
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		13.4	10/8/2019	13.4	13.4	
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		11.1	5/28/2020	11.1	11.1	
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		11.1	5/29/2020	11.1	11.1	
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		12.9	10/8/2020	12.9	12.9	
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		10.3	4/13/2021	10.3	10.3	
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		13	10/12/2021	13	13	
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		11.42	4/12/2022	11.42	11.42	
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		12.6	10/27/2022	12.6	12.6	
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		12.4	12/2/2022	12.4	12.4	
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		12.1	1/13/2023	12.1	12.1	
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		11.4	2/21/2023	11.4	11.4	
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		11.3	3/27/2023	11.3	11.3	
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		10.9	4/26/2023	10.9	10.9	
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		10.8	5/31/2023	10.8	10.8	
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		11.3	6/30/2023	11.3	11.3	
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		13	10/11/2023	13	13	
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		11.3	4/17/2024	11.3	11.3	
MW-34A	TEMPERATURE, WATER (DEGREES CENTIGRADE)		12.9	10/2/2024	12.9	12.9	

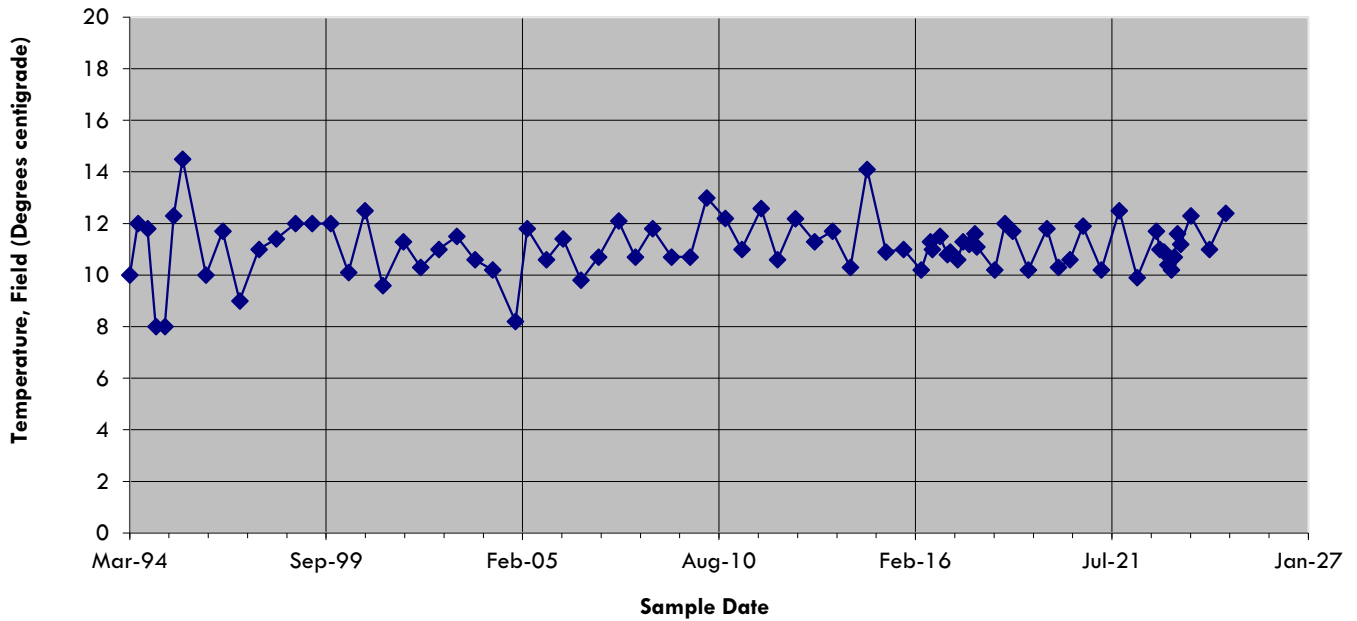
Calculations						
Count						59
Mean						11.76
Std Dev						0.95
3 X SD (PAL)						2.86
Minimum Increase/Decrease (NR 140.20(2)(b))						+/- 10
Upper PAL, Calculated						21.76
Lower PAL, Calculated						1.76
Upper PAL, Rounded						22
Lower PAL, Rounded						1.7

Duplicate Data Not Used for Calculations							

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Updated by: BLJ 7/9/2025
Data checked by: LMH 7/14/2025
Calc checked by: MDB 7/14/2025

MW-84A: Field Temperature



Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10	3/15/1994	10	10	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	12	6/7/1994	12	12	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.8	9/13/1994	11.8	11.8	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	8	12/6/1994	8	8	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	8	3/7/1995	8	8	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	12.3	6/5/1995	12.3	12.3	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	14.5	9/5/1995	14.5	14.5	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10	4/29/1996	10	10	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.7	10/17/1996	11.7	11.7	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	9	4/8/1997	9	9	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11	10/20/1997	11	11	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.4	4/14/1998	11.4	11.4	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	12	10/27/1998	12	12	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	12	4/16/1999	12	12	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	12	10/21/1999	12	12	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.1	4/20/2000	10.1	10.1	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	12.5	10/4/2000	12.5	12.5	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	9.6	4/3/2001	9.6	9.6	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.3	10/30/2001	11.3	11.3	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.3	4/25/2002	10.3	10.3	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11	10/25/2002	11	11	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.5	4/28/2003	11.5	11.5	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.6	10/29/2003	10.6	10.6	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.2	4/27/2004	10.2	10.2	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	8.2	12/14/2004	8.2	8.2	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.8	4/14/2005	11.8	11.8	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.6	10/26/2005	10.6	10.6	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.4	4/13/2006	11.4	11.4	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	9.8	10/12/2006	9.8	9.8	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.7	4/10/2007	10.7	10.7	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	12.1	10/30/2007	12.1	12.1	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.7	4/17/2008	10.7	10.7	

Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.8	10/10/2008	11.8	11.8	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.7	4/22/2009	10.7	10.7	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.7	10/27/2009	10.7	10.7	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	13	4/14/2010	13	13	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	12.2	10/20/2010	12.2	12.2	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11	4/6/2011	11	11	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	12.58	10/21/2011	12.58	12.58	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.6	4/4/2012	10.6	10.6	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	12.19	10/4/2012	12.19	12.19	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.3	4/17/2013	11.3	11.3	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.7	10/14/2013	11.7	11.7	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.3	4/17/2014	10.3	10.3	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	14.1	10/2/2014	14.1	14.1	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.9	4/13/2015	10.9	10.9	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11	10/8/2015	11	11	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.2	4/5/2016	10.2	10.2	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.3	7/8/2016	11.3	11.3	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11	7/28/2016	11	11	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.5	10/13/2016	11.5	11.5	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.8	12/29/2016	10.8	10.8	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.9	1/25/2017	10.9	10.9	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.6	4/11/2017	10.6	10.6	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.3	6/6/2017	11.3	11.3	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.2	8/8/2017	11.2	11.2	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.6	10/5/2017	11.6	11.6	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.1	10/24/2017	11.1	11.1	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.2	4/25/2018	10.2	10.2	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	12	8/8/2018	12	12	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.7	10/24/2018	11.7	11.7	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.2	4/3/2019	10.2	10.2	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.8	10/9/2019	11.8	11.8	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.3	2/3/2020	10.3	10.3	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.6	5/29/2020	10.6	10.6	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.9	10/8/2020	11.9	11.9	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.2	4/14/2021	10.2	10.2	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	12.5	10/14/2021	12.5	12.5	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	9.9	4/13/2022	9.9	9.9	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.7	10/27/2022	11.7	11.7	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11	12/2/2022	11	11	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.9	1/12/2023	10.9	10.9	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.4	2/21/2023	10.4	10.4	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.2	3/28/2023	10.2	10.2	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.7	4/27/2023	10.7	10.7	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.6	5/30/2023	11.6	11.6	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.2	6/29/2023	11.2	11.2	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	12.3	10/11/2023	12.3	12.3	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11	4/17/2024	11	11	
MW-84A	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	12.4	10/2/2024	12.4	12.4	

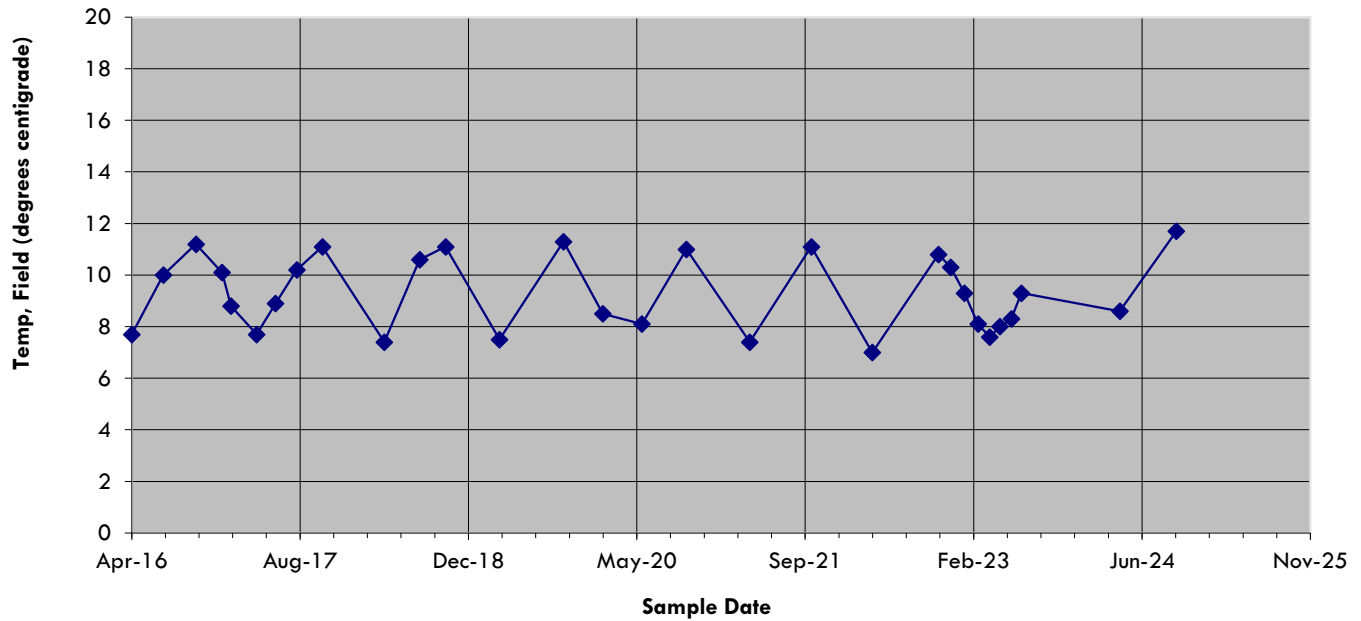
Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
Calculations							
Count						80	
Mean						11.10	
Std Dev						0.83	
3 X SD (PAL)						2.50	
Minimum Increase/Decrease (NR 140.20(2)(b))						+/- 10	
Upper PAL, Calculated						21.10	
Lower PAL, Calculated						1.10	
Upper PAL, Rounded						22	
Lower PAL, Rounded						1.1	

Duplicate Data Not Used for Calculations							

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Updated by: BLJ 7/9/2025
Data checked by: LMH 7/14/2025
Calc checked by: MDB 7/14/2025

MW-301: Field Temp



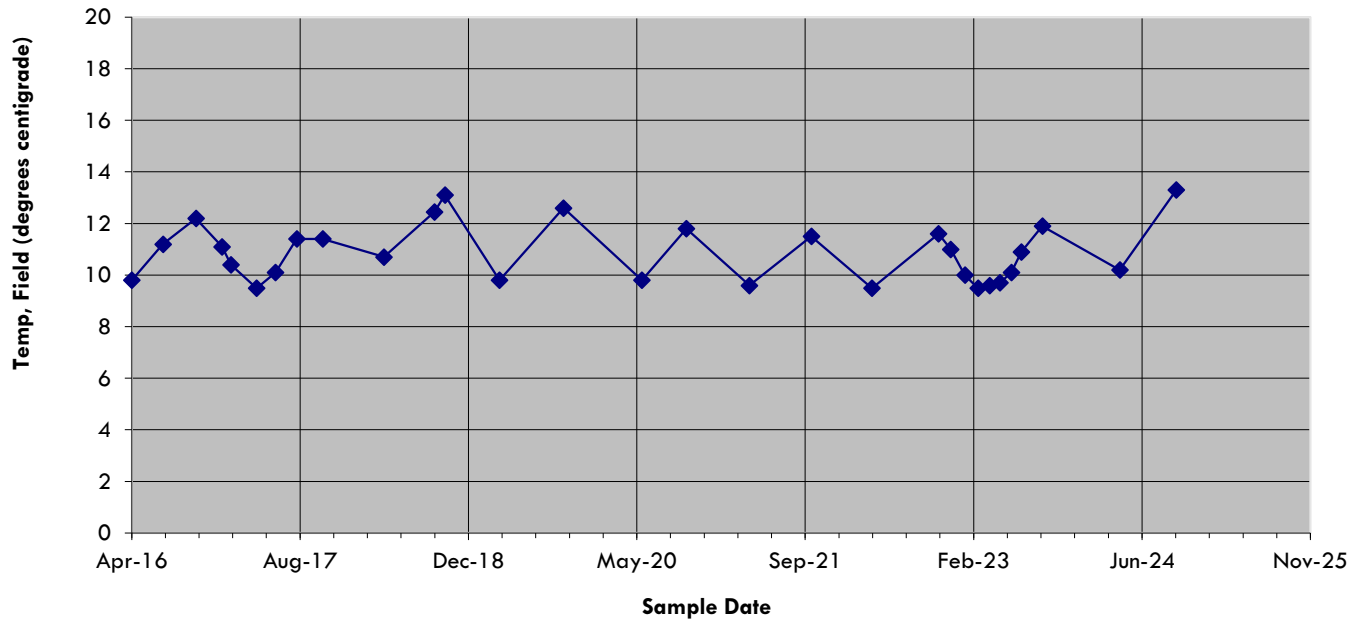
Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-301	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	7.7	4/5/2016	7.7	7.7	
MW-301	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10	7/8/2016	10	10	
MW-301	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.2	10/13/2016	11.2	11.2	
MW-301	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.1	12/29/2016	10.1	10.1	
MW-301	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	8.8	1/25/2017	8.8	8.8	
MW-301	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	7.7	4/11/2017	7.7	7.7	
MW-301	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	8.9	6/6/2017	8.9	8.9	
MW-301	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.2	8/8/2017	10.2	10.2	
MW-301	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.1	10/23/2017	11.1	11.1	
MW-301	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	7.4	4/25/2018	7.4	7.4	
MW-301	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.6	8/8/2018	10.6	10.6	
MW-301	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.1	10/24/2018	11.1	11.1	
MW-301	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	7.5	4/2/2019	7.5	7.5	
MW-301	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.3	10/9/2019	11.3	11.3	
MW-301	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	8.5	2/3/2020	8.5	8.5	
MW-301	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	8.1	5/29/2020	8.1	8.1	
MW-301	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11	10/8/2020	11	11	
MW-301	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	7.4	4/14/2021	7.4	7.4	
MW-301	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.1	10/14/2021	11.1	11.1	
MW-301	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	7	4/13/2022	7	7	
MW-301	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.8	10/27/2022	10.8	10.8	
MW-301	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.3	12/2/2022	10.3	10.3	
MW-301	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	9.3	1/12/2023	9.3	9.3	
MW-301	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	8.1	2/21/2023	8.1	8.1	
MW-301	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	7.6	3/28/2023	7.6	7.6	
MW-301	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	8	4/27/2023	8	8	
MW-301	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	8.3	5/31/2023	8.3	8.3	
MW-301	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	9.3	6/30/2023	9.3	9.3	
MW-301	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	8.6	4/17/2024	8.6	8.6	
MW-301	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.7	10/2/2024	11.7	11.7	

Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
Calculations							
Count						30	
Mean						9.29	
Std Dev						1.46	
3 X SD (PAL)						4.37	
Minimum Increase/Decrease (NR 140.20(2)(b))						+/- 10	
Upper PAL, Calculated						19.29	
Lower PAL, Calculated						-0.71	
Upper PAL, Rounded						20.0	
Lower PAL, Rounded						-0.70	
Duplicate Data Not Used for Calculations							

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Updated by: BLJ 7/9/2025
Data checked by: LMH 7/14/2025
Calc checked by: MDB 7/14/2025

MW-302: Field Temperature



Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-302	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	9.8	4/5/2016	9.8	9.8	
MW-302	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.2	7/7/2016	11.2	11.2	
MW-302	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	12.2	10/13/2016	12.2	12.2	
MW-302	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.1	12/29/2016	11.1	11.1	
MW-302	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.4	1/25/2017	10.4	10.4	
MW-302	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	9.5	4/11/2017	9.5	9.5	
MW-302	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.1	6/6/2017	10.1	10.1	
MW-302	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.4	8/8/2017	11.4	11.4	
MW-302	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.4	10/24/2017	11.4	11.4	
MW-302	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.7	4/24/2018	10.7	10.7	
MW-302	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	12.45	9/21/2018	12.45	12.45	
MW-302	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	13.1	10/22/2018	13.1	13.1	
MW-302	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	9.8	4/2/2019	9.8	9.8	
MW-302	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	12.6	10/9/2019	12.6	12.6	
MW-302	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	9.8	5/29/2020	9.8	9.8	
MW-302	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.8	10/8/2020	11.8	11.8	
MW-302	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	9.6	4/13/2021	9.6	9.6	
MW-302	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.5	10/14/2021	11.5	11.5	
MW-302	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	9.5	4/12/2022	9.5	9.5	
MW-302	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.6	10/27/2022	11.6	11.6	
MW-302	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11	12/2/2022	11	11	
MW-302	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10	1/13/2023	10	10	
MW-302	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	9.5	2/21/2023	9.5	9.5	
MW-302	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	9.6	3/28/2023	9.6	9.6	
MW-302	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	9.7	4/27/2023	9.7	9.7	
MW-302	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.1	5/31/2023	10.1	10.1	
MW-302	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.9	6/30/2023	10.9	10.9	
MW-302	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.9	8/31/2023	11.9	11.9	
MW-302	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.2	4/17/2024	10.2	10.2	
MW-302	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	13.3	10/2/2024	13.3	13.3	

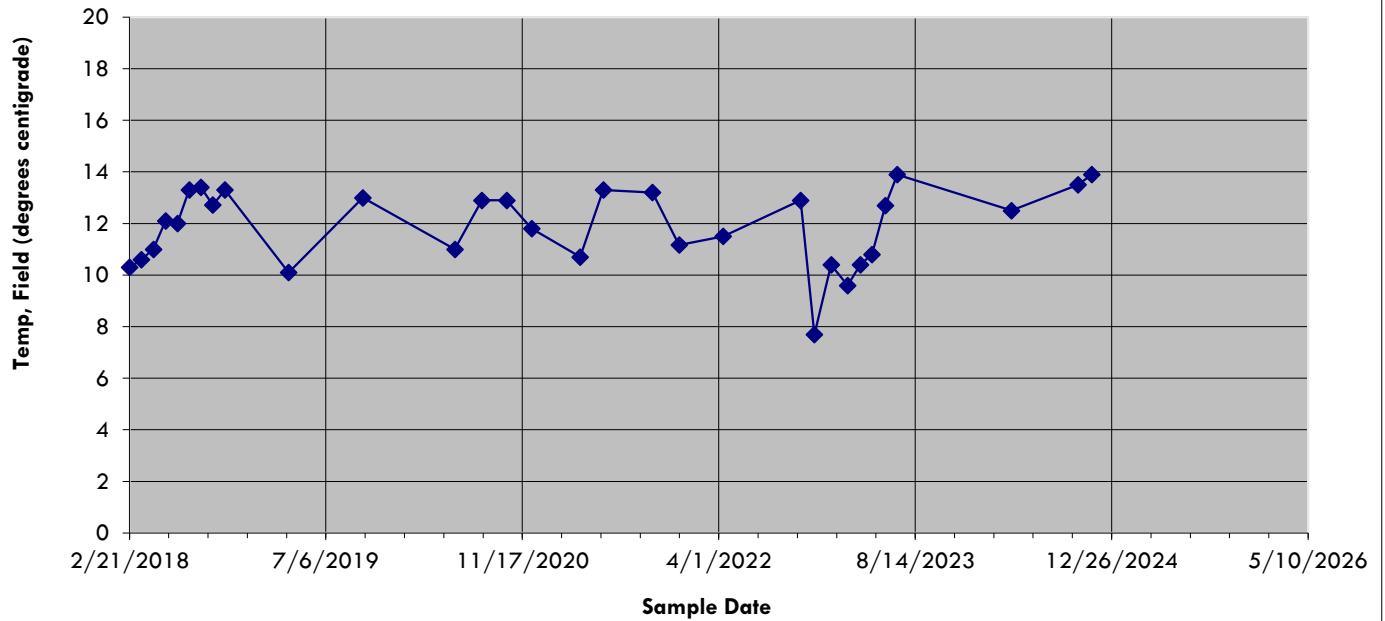
Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
Calculations							
Count						30	
Mean						10.86	
Std Dev						1.13	
3 X SD (PAL)						3.38	
Minimum Increase/Decrease (NR 140.20(2)(b))						+/- 10	
Upper PAL, Calculated						20.86	
Lower PAL, Calculated						0.86	
Upper PAL, Rounded						21	
Lower PAL, Rounded						0.85	

Duplicate Data Not Used for Calculations							

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Updated by: BLJ 7/9/2025
Data checked by: LMH 7/14/2025
Calc checked by: MDB 7/14/2025

MW-309: Field Temp



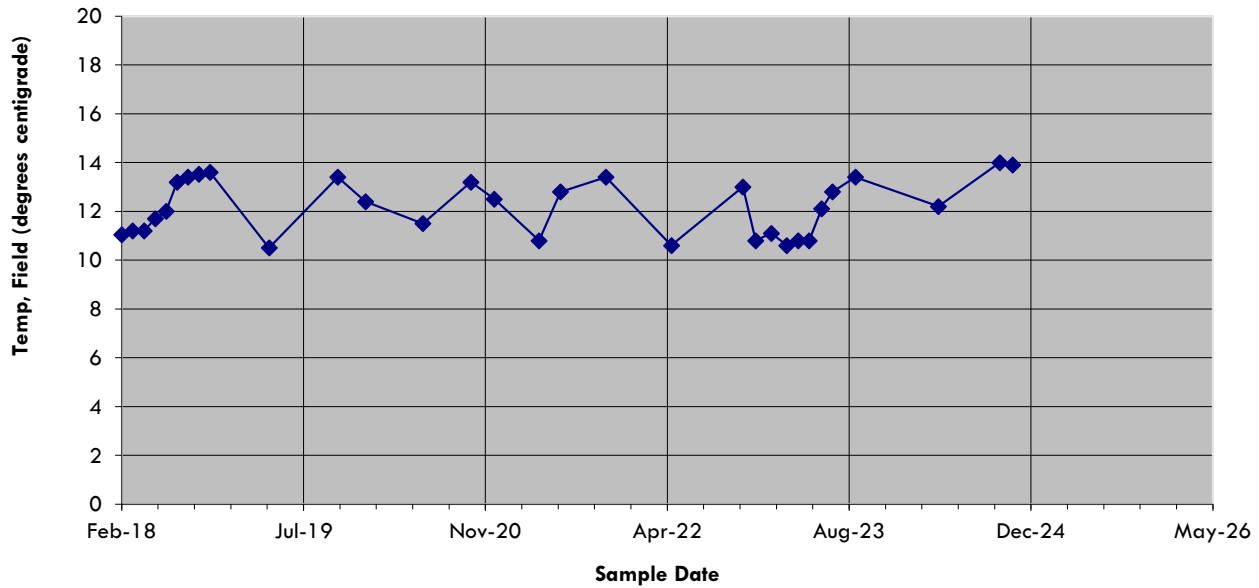
Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-309	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.3	2/21/2018	10.3	10.3	
MW-309	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.6	3/23/2018	10.6	10.6	
MW-309	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11	4/23/2018	11	11	
MW-309	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	12.1	5/24/2018	12.1	12.1	
MW-309	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	12	6/23/2018	12	12	
MW-309	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	13.3	7/23/2018	13.3	13.3	
MW-309	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	13.4	8/22/2018	13.4	13.4	
MW-309	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	12.72	9/21/2018	12.72	12.72	
MW-309	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	13.3	10/22/2018	13.3	13.3	
MW-309	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.1	4/2/2019	10.1	10.1	
MW-309	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	13	10/8/2019	13	13	
MW-309	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11	5/29/2020	11	11	
MW-309	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	12.9	8/6/2020	12.9	12.9	
MW-309	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	12.9	10/8/2020	12.9	12.9	
MW-309	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.8	12/11/2020	11.8	11.8	
MW-309	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.7	4/13/2021	10.7	10.7	
MW-309	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	13.3	6/11/2021	13.3	13.3	
MW-309	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	13.2	10/14/2021	13.2	13.2	
MW-309	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.17	12/21/2021	11.17	11.17	
MW-309	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.5	4/12/2022	11.5	11.5	
MW-309	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	12.9	10/26/2022	12.9	12.9	
MW-309	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	7.7	11/30/2022	7.7	7.7	
MW-309	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.4	1/12/2023	10.4	10.4	
MW-309	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	9.6	2/23/2023	9.6	9.6	
MW-309	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.4	3/27/2023	10.4	10.4	
MW-309	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.8	4/26/2023	10.8	10.8	
MW-309	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	12.7	5/30/2023	12.7	12.7	
MW-309	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	13.9	6/29/2023	13.9	13.9	
MW-309	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	12.5	4/15/2024	12.5	12.5	
MW-309	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	13.5	10/1/2024	13.5	13.5	
MW-309	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	13.9	11/5/2024	13.9	13.9	

Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
Calculations							
Count						31	
Mean						11.89	
Std Dev						1.46	
3 X SD (PAL)						4.38	
Minimum Increase/Decrease (NR 140.20(2)(b))						+/- 10	
Upper PAL, Calculated						21.89	
Lower PAL, Calculated						1.89	
Upper PAL, Rounded						22	
Lower PAL, Rounded						1.8	
Duplicate Data Not Used for Calculations							

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Updated by: BLJ 7/9/2025
Data checked by: LMH 7/14/2025
Calc checked by: MDB 7/14/2025

MW-310: Field Temp



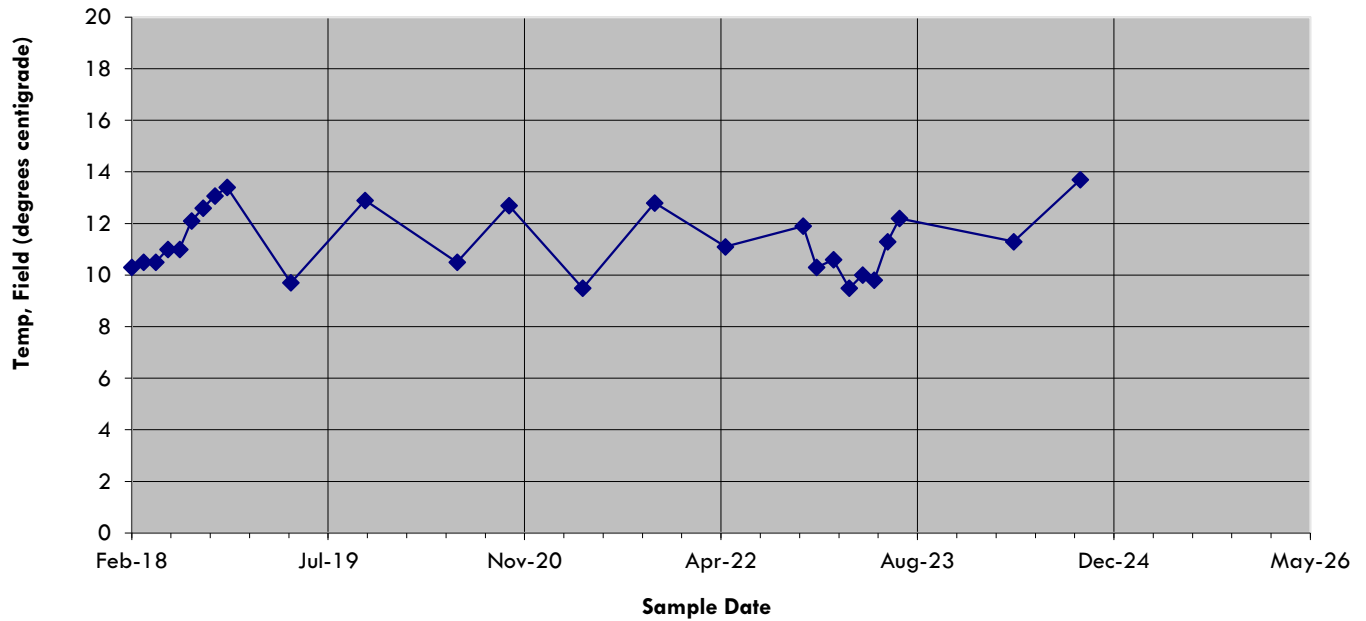
Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-310	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.04	2/21/2018	11.04	11.04	
MW-310	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.2	3/23/2018	11.2	11.2	
MW-310	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.2	4/23/2018	11.2	11.2	
MW-310	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.7	5/24/2018	11.7	11.7	
MW-310	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	12	6/23/2018	12	12	
MW-310	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	13.2	7/23/2018	13.2	13.2	
MW-310	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	13.4	8/22/2018	13.4	13.4	
MW-310	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	13.52	9/21/2018	13.52	13.52	
MW-310	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	13.6	10/22/2018	13.6	13.6	
MW-310	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.5	4/2/2019	10.5	10.5	
MW-310	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	13.4	10/8/2019	13.4	13.4	
MW-310	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	12.4	12/23/2019	12.4	12.4	
MW-310	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.5	5/29/2020	11.5	11.5	
MW-310	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	13.2	10/8/2020	13.2	13.2	
MW-310	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	12.5	12/11/2020	12.5	12.5	
MW-310	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.8	4/13/2021	10.8	10.8	
MW-310	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	12.8	6/11/2021	12.8	12.8	
MW-310	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	13.4	10/14/2021	13.4	13.4	
MW-310	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.6	4/12/2022	10.6	10.6	
MW-310	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	13	10/26/2022	13	13	
MW-310	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.8	11/30/2022	10.8	10.8	
MW-310	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.1	1/12/2023	11.1	11.1	
MW-310	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.6	2/23/2023	10.6	10.6	
MW-310	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.8	3/27/2023	10.8	10.8	
MW-310	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.8	4/26/2023	10.8	10.8	
MW-310	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	12.1	5/30/2023	12.1	12.1	
MW-310	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	12.8	6/29/2023	12.8	12.8	
MW-310	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	13.4	8/31/2023	13.4	13.4	
MW-310	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	12.2	4/15/2024	12.2	12.2	
MW-310	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	14	10/1/2024	14	14	
MW-310	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	13.9	11/5/2024	13.9	13.9	

Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
Calculations							
Count						31	
Mean						12.18	
Std Dev						1.16	
3 X SD (PAL)						3.48	
Minimum Increase/Decrease (NR 140.20(2)(b))						+/- 10	
Upper PAL, Calculated						22.18	
Lower PAL, Calculated						2.18	
Upper PAL, Rounded						23	
Lower PAL, Rounded						2.1	
Duplicate Data Not Used for Calculations							

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Updated by: BLJ 7/9/2025
Data checked by: LMH 7/14/2025
Calc checked by: MDB 7/14/2025

MW-311: Field Temp



Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-311	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.3	2/21/2018	10.3	10.3	
MW-311	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.5	3/23/2018	10.5	10.5	
MW-311	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.5	4/23/2018	10.5	10.5	
MW-311	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11	5/24/2018	11	11	
MW-311	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11	6/23/2018	11	11	
MW-311	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	12.1	7/23/2018	12.1	12.1	
MW-311	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	12.6	8/22/2018	12.6	12.6	
MW-311	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	13.07	9/21/2018	13.07	13.07	
MW-311	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	13.4	10/22/2018	13.4	13.4	
MW-311	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	9.7	4/2/2019	9.7	9.7	
MW-311	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	12.9	10/8/2019	12.9	12.9	
MW-311	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.5	5/29/2020	10.5	10.5	
MW-311	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	12.7	10/8/2020	12.7	12.7	
MW-311	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	9.5	4/14/2021	9.5	9.5	
MW-311	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	12.8	10/14/2021	12.8	12.8	
MW-311	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.1	4/12/2022	11.1	11.1	
MW-311	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.9	10/27/2022	11.9	11.9	
MW-311	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.3	11/30/2022	10.3	10.3	
MW-311	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.6	1/12/2023	10.6	10.6	
MW-311	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	9.5	2/21/2023	9.5	9.5	
MW-311	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10	3/27/2023	10	10	
MW-311	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	9.8	4/26/2023	9.8	9.8	
MW-311	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.3	5/30/2023	11.3	11.3	
MW-311	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	12.2	6/29/2023	12.2	12.2	
MW-311	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.3	4/15/2024	11.3	11.3	
MW-311	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	13.7	10/1/2024	13.7	13.7	

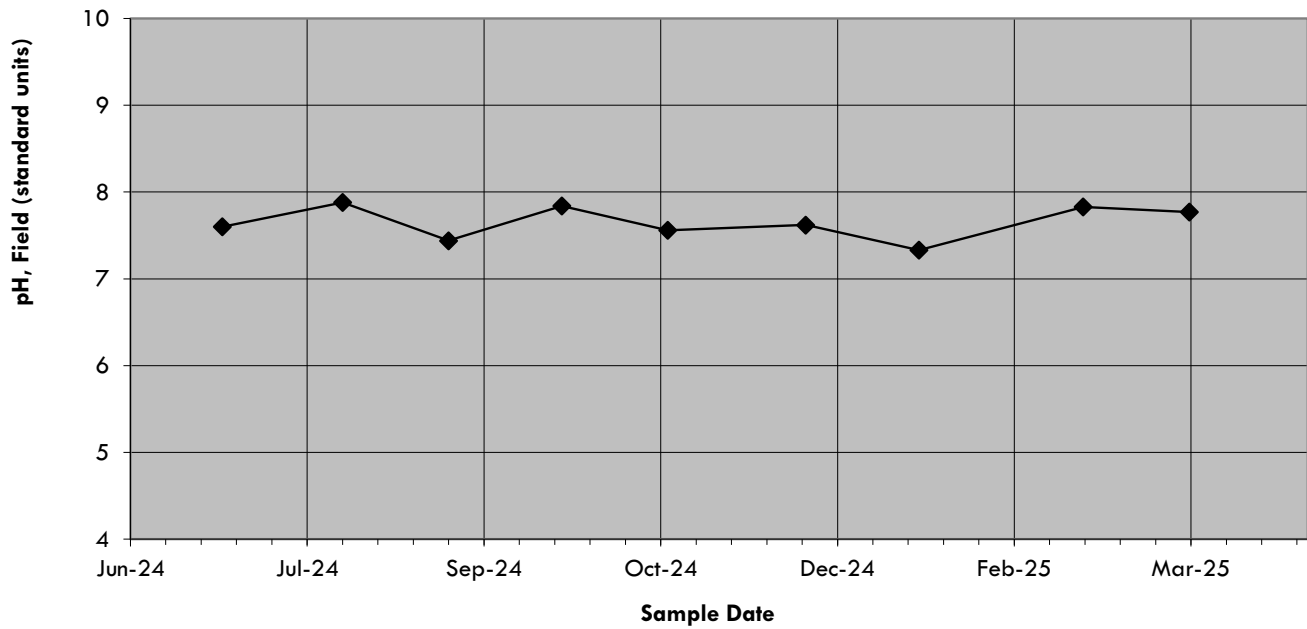
Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
Calculations							
Count						26	
Mean						11.32	
Std Dev						1.28	
3 X SD (PAL)						3.85	
Minimum Increase/Decrease (NR 140.20(2)(b))						+/- 10	
Upper PAL, Calculated						21.32	
Lower PAL, Calculated						1.32	
Upper PAL, Rounded						22	
Lower PAL, Rounded						1.3	

Duplicate Data Not Used for Calculations							

I:\25224152.00\Data and Calculations\Additional PALs and ACLs\[PAL Calculations_CCR Wells Combined.xls]MW-311_Temp_PAL

Updated by: BLJ 7/9/2025
Data checked by: LMH 7/14/2025
Calc checked by: MDB 7/14/2025

MW-317: Field pH



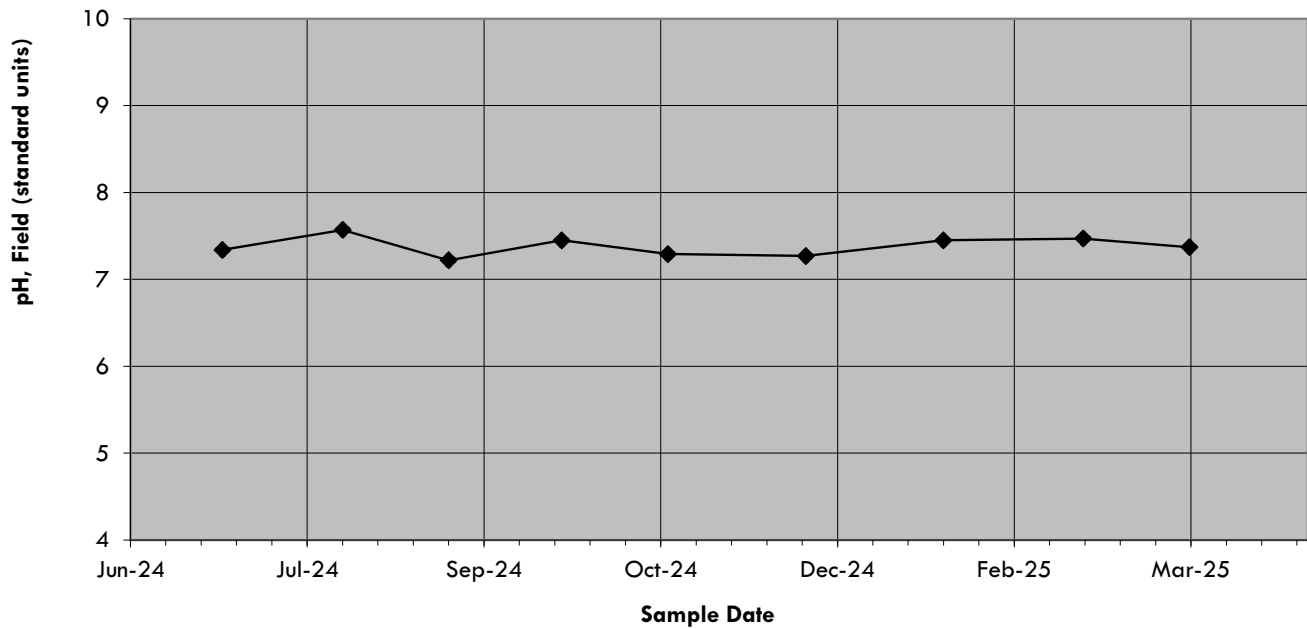
Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-317	PH, FIELD (STANDARD UNITS)	01	7.60	6/27/2024	7.60	7.60	
MW-317	PH, FIELD (STANDARD UNITS)	01	7.88	7/31/2024	7.88	7.88	
MW-317	PH, FIELD (STANDARD UNITS)	01	7.44	8/30/2024	7.44	7.44	
MW-317	PH, FIELD (STANDARD UNITS)	01	7.84	10/1/2024	7.84	7.84	
MW-317	PH, FIELD (STANDARD UNITS)	01	7.56	10/31/2024	7.56	7.56	
MW-317	PH, FIELD (STANDARD UNITS)	01	7.62	12/9/2024	7.62	7.62	
MW-317	PH, FIELD (STANDARD UNITS)	01	7.33	1/10/2025	7.33	7.33	
MW-317	PH, FIELD (STANDARD UNITS)	01	7.83	2/25/2025	7.83	7.83	
MW-317	PH, FIELD (STANDARD UNITS)	01	7.77	3/27/2025	7.77	7.77	
Calculations							
Count						9	
Mean						7.65	
PAL Increase/Decrease from Mean (NR 140.20(2)(a))						+/- 1	
Upper PAL, Calculated						8.65	
Lower PAL, Calculated						6.65	
Upper PAL, Rounded						8.7	
Lower PAL, Rounded						6.6	
Duplicate Data Not Used for Calculations							

Calculated By: EMS
Checked By: MDB

Note:

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MW-318: Field pH



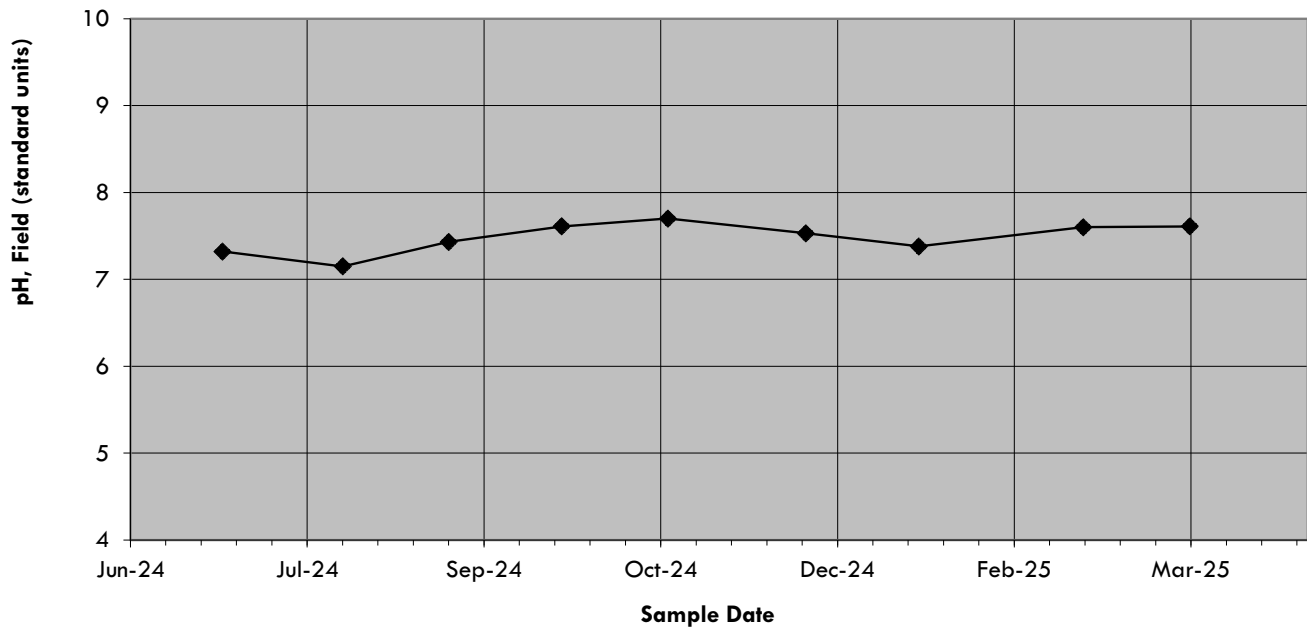
Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-318	PH, FIELD (STANDARD UNITS)	01	7.34	6/27/2024	7.34	7.34	
MW-318	PH, FIELD (STANDARD UNITS)	01	7.57	7/31/2024	7.57	7.57	
MW-318	PH, FIELD (STANDARD UNITS)	01	7.22	8/30/2024	7.22	7.22	
MW-318	PH, FIELD (STANDARD UNITS)	01	7.45	10/1/2024	7.45	7.45	
MW-318	PH, FIELD (STANDARD UNITS)	01	7.29	10/31/2024	7.29	7.29	
MW-318	PH, FIELD (STANDARD UNITS)	01	7.27	12/9/2024	7.27	7.27	
MW-318	PH, FIELD (STANDARD UNITS)	01	7.45	1/17/2025	7.45	7.45	
MW-318	PH, FIELD (STANDARD UNITS)	01	7.47	2/25/2025	7.47	7.47	
MW-318	PH, FIELD (STANDARD UNITS)	01	7.37	3/27/2025	7.37	7.37	
Calculations							
Count						9	
Mean						7.38	
PAL Increase/Decrease from Mean (NR 140.20(2)(a))						+/- 1	
Upper PAL, Calculated						8.38	
Lower PAL, Calculated						6.38	
Upper PAL, Rounded						8.4	
Lower PAL, Rounded						6.3	

Duplicate Data Not Used for Calculations							

Calculated By: EMS
Checked By: MDB

Note:

MW-319: Field pH



Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-319	PH, FIELD (STANDARD UNITS)	01	7.32	6/27/2024	7.32	7.32	
MW-319	PH, FIELD (STANDARD UNITS)	01	7.15	7/31/2024	7.15	7.15	
MW-319	PH, FIELD (STANDARD UNITS)	01	7.43	8/30/2024	7.43	7.43	
MW-319	PH, FIELD (STANDARD UNITS)	01	7.61	10/1/2024	7.61	7.61	
MW-319	PH, FIELD (STANDARD UNITS)	01	7.70	10/31/2024	7.70	7.70	
MW-319	PH, FIELD (STANDARD UNITS)	01	7.53	12/9/2024	7.53	7.53	
MW-319	PH, FIELD (STANDARD UNITS)	01	7.38	1/10/2025	7.38	7.38	
MW-319	PH, FIELD (STANDARD UNITS)	01	7.60	2/25/2025	7.60	7.60	
MW-319	PH, FIELD (STANDARD UNITS)	01	7.61	3/27/2025	7.61	7.61	

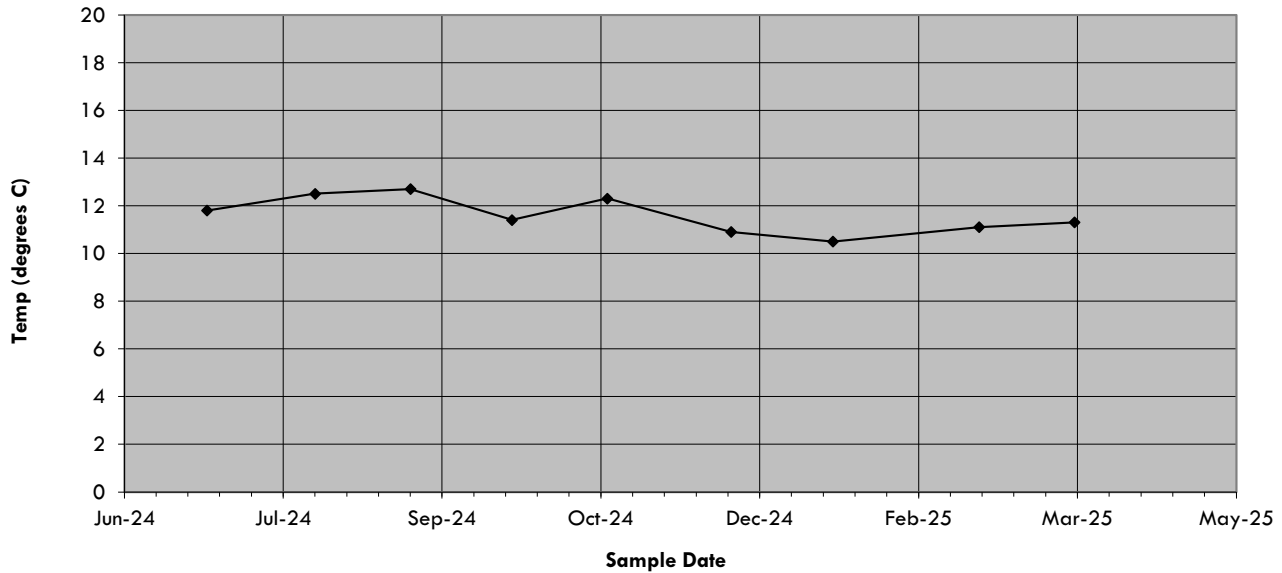
Calculations						
Count						9
Mean						7.48
PAL Increase/Decrease from Mean (NR 140.20(2)(a))						+/- 1
Upper PAL, Calculated						8.48
Lower PAL, Calculated						6.48
Upper PAL, Rounded						8.5
Lower PAL, Rounded						6.4

Duplicate Data Not Used for Calculations						

Calculated By: EMS
Checked By: MDB

Note:

MW-317: Field Temperature



Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-317	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.8	6/27/2024	11.8	11.8	
MW-317	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	12.5	7/31/2024	12.5	12.5	
MW-317	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	12.7	8/30/2024	12.7	12.7	
MW-317	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.4	10/1/2024	11.4	11.4	
MW-317	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	12.3	10/31/2024	12.3	12.3	
MW-317	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.9	12/9/2024	10.9	10.9	
MW-317	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.5	1/10/2025	10.5	10.5	
MW-317	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.1	2/25/2025	11.1	11.1	
MW-317	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.3	3/27/2025	11.3	11.3	
Calculations							
Count						9	
Mean						11.61	
Std Dev						0.76	
3 X SD (PAL)						2.28	
Minimum Increase/Decrease (NR 140.20(2)(b))						+/- 10	
Upper PAL, Calculated						21.61	
Lower PAL, Calculated						1.61	
Upper PAL, Rounded						22	
Lower PAL, Rounded						1.6	

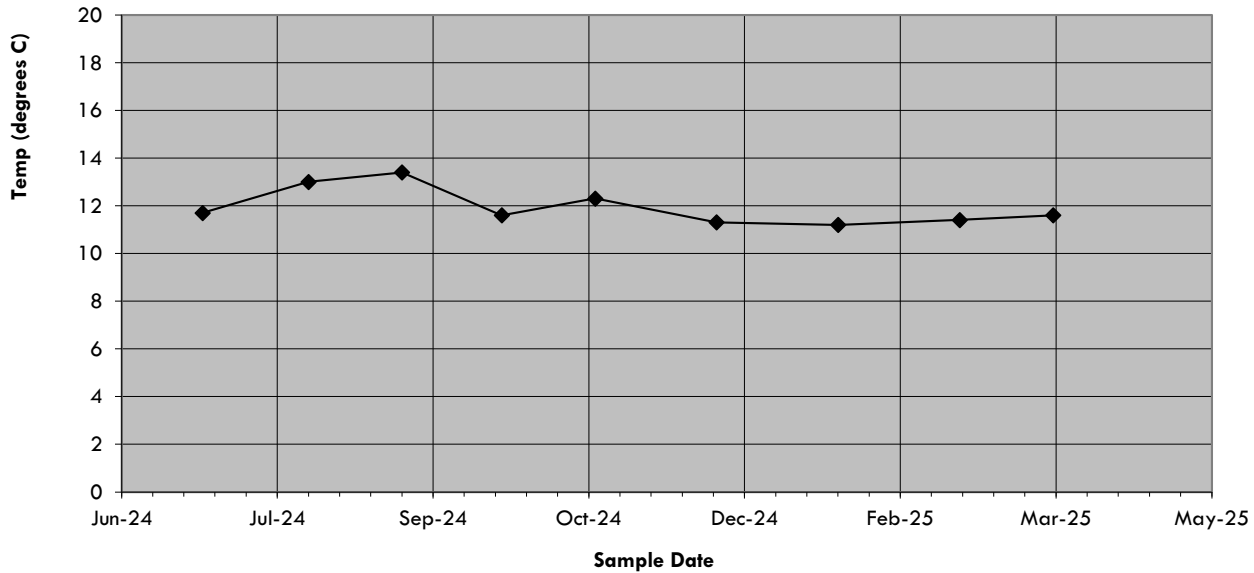
Duplicate Data Not Used for Calculations							

Note:

Calculated By: Bridget Jarosinski 7/9/2025
Data checked by: Lisa Haefner 7/11/2025
Calc checked by: MDB 7/14/2025

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MW-318: Field Temperature



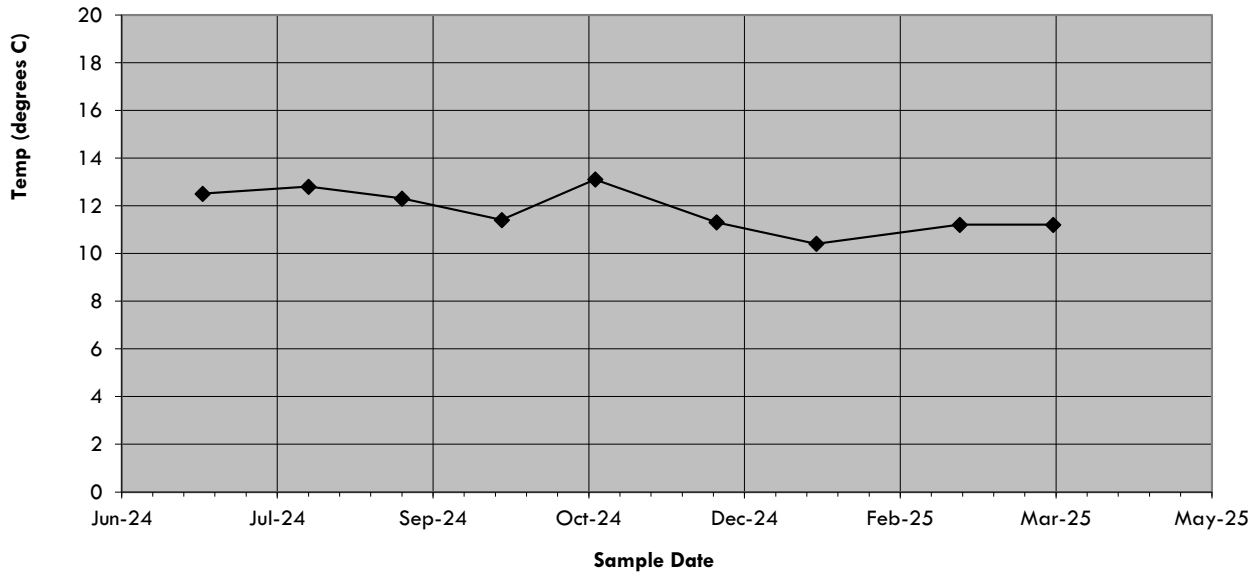
Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-318	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.7	6/27/2024	11.7	11.7	
MW-318	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	13	7/31/2024	13.0	13.0	
MW-318	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	13.4	8/30/2024	13.4	13.4	
MW-318	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.6	10/1/2024	11.6	11.6	
MW-318	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	12.3	10/31/2024	12.3	12.3	
MW-318	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.3	12/9/2024	11.3	11.3	
MW-318	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.2	1/17/2025	11.2	11.2	
MW-318	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.4	2/25/2025	11.4	11.4	
MW-318	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.6	3/27/2025	11.6	11.6	
Calculations							
Count						9	
Mean						11.94	
Std Dev						0.78	
3 X SD (PAL)						2.35	
Minimum Increase/Decrease (NR 140.20(2)(b))						+/- 10	
Upper PAL, Calculated						21.94	
Lower PAL, Calculated						1.94	
Upper PAL, Rounded						22	
Lower PAL, Rounded						1.9	

Duplicate Data Not Used for Calculations							

Note:

Calculated By: Bridget Jarosinski 7/9/2025
Data checked by: Lisa Haefner 7/11/2025
Calc checked by: MDB 7/14/2025

MW-319: Field Temperature



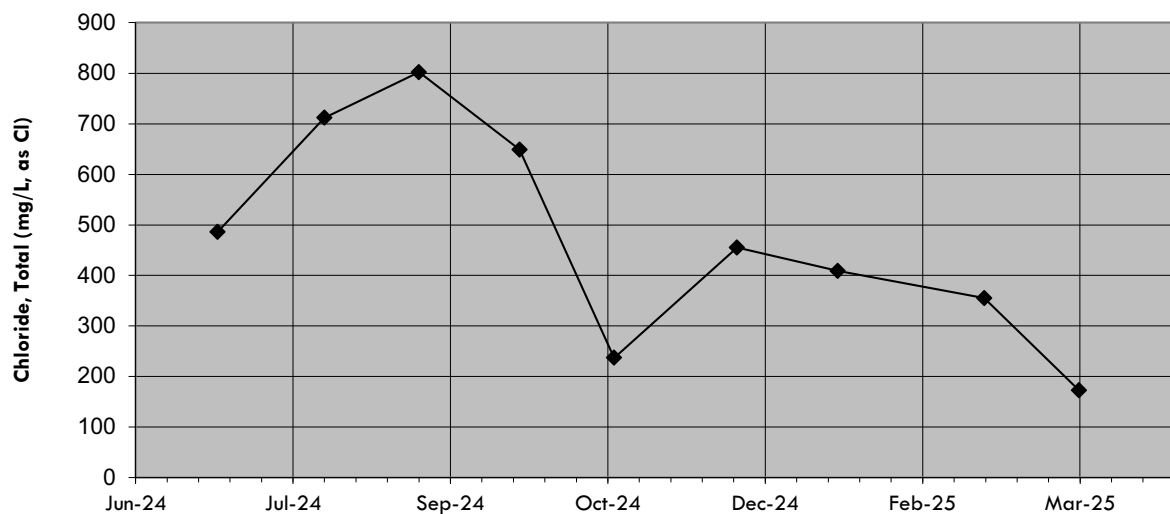
Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-319	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	12.5	6/27/2024	12.5	12.5	
MW-319	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	12.8	7/31/2024	12.8	12.8	
MW-319	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	12.3	8/30/2024	12.3	12.3	
MW-319	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.4	10/1/2024	11.4	11.4	
MW-319	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	13.1	10/31/2024	13.1	13.1	
MW-319	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.3	12/9/2024	11.3	11.3	
MW-319	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	10.4	1/10/2025	10.4	10.4	
MW-319	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.2	2/25/2025	11.2	11.2	
MW-319	TEMPERATURE, WATER (DEGREES CENTIGRADE)	01	11.2	3/27/2025	11.2	11.2	
Calculations							
Count						9	
Mean						11.80	
Std Dev						0.90	
3 X SD (PAL)						2.71	
Minimum Increase/Decrease (NR 140.20(2)(b))						+/- 10	
Upper PAL, Calculated						21.80	
Lower PAL, Calculated						1.80	
Upper PAL, Rounded						22	
Lower PAL, Rounded						1.8	

Duplicate Data Not Used for Calculations							

Note:

Calculated By: Bridget Jarosinski 7/9/2025
Data checked by: Lisa Haefner 7/11/2025
Calc checked by: MDB 7/14/2025

MW-319 Chloride



Note: Non-detect results plotted at 0.5 times limit of detection with an empty symbol.

Sample Date

Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-319	CHLORIDE, TOTAL (MG/L CL)	01	486	6/27/2024	486	486	
MW-319	CHLORIDE, TOTAL (MG/L CL)	01	712	7/31/2024	712	712	
MW-319	CHLORIDE, TOTAL (MG/L CL)	01	802	8/30/2024	802	802	
MW-319	CHLORIDE, TOTAL (MG/L CL)	01	649	10/1/2024	649	649	
MW-319	CHLORIDE, TOTAL (MG/L CL)	01	237	10/31/2024	237	237	
MW-319	CHLORIDE, TOTAL (MG/L CL)	01	455	12/9/2024	455	455	
MW-319	CHLORIDE, TOTAL (MG/L CL)	01	409	1/10/2025	409	409	
MW-319	CHLORIDE, TOTAL (MG/L CL)	01	355	2/25/2025	355	355	
MW-319	CHLORIDE, TOTAL (MG/L CL)	01	173	3/27/2025	173	173	

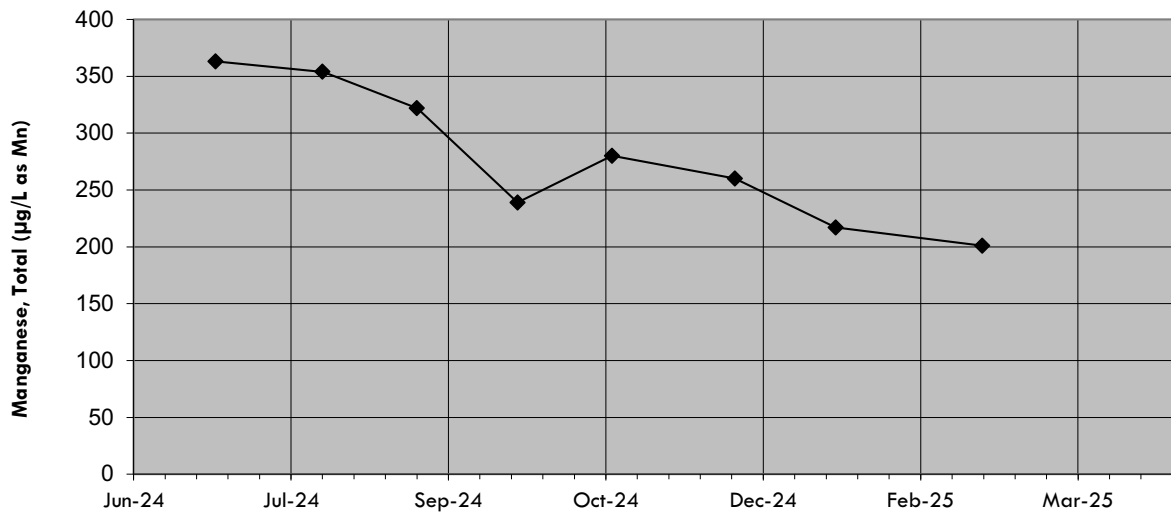
Calculations						
Count						9
Mean						475.33
Std Dev						212.28
2 X SD (ACL)						424.56
ACL, Calculated						899.89
ACL, Rounded						900

Duplicate Data Not Used for Calculations						
MW-319	CHLORIDE, TOTAL (MG/L CL)	02	647	10/1/2024		

Note: Current PAL = 125 mg/L; ES = 250 mg/L

I:\25224152.00\Data and Calculations\Additional PALs and ACLs\[ACL Calculations_New CCR Wells.xls]MW319_Cl_ACL

MW-317: Manganese



Note: Non-detect results plotted at 0.5 times limit of detection with an empty symbol.

Sample Date

Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-317	MANGANESE, TOTAL (µG/L MN)	01	363	6/27/2024	363	363	
MW-317	MANGANESE, TOTAL (µG/L MN)	01	354	7/31/2024	354	354	
MW-317	MANGANESE, TOTAL (µG/L MN)	01	322	8/30/2024	322	322	
MW-317	MANGANESE, TOTAL (µG/L MN)	01	239	10/1/2024	239	239	
MW-317	MANGANESE, TOTAL (µG/L MN)	01	280	10/31/2024	280	280	
MW-317	MANGANESE, TOTAL (µG/L MN)	01	260	12/9/2024	260	260	
MW-317	MANGANESE, TOTAL (µG/L MN)	01	217	1/10/2025	217	217	
MW-317	MANGANESE, TOTAL (µG/L MN)	01	201	2/25/2025	201	201	
MW-317	MANGANESE, TOTAL (µG/L MN)	01	218	3/27/2025	218	218	

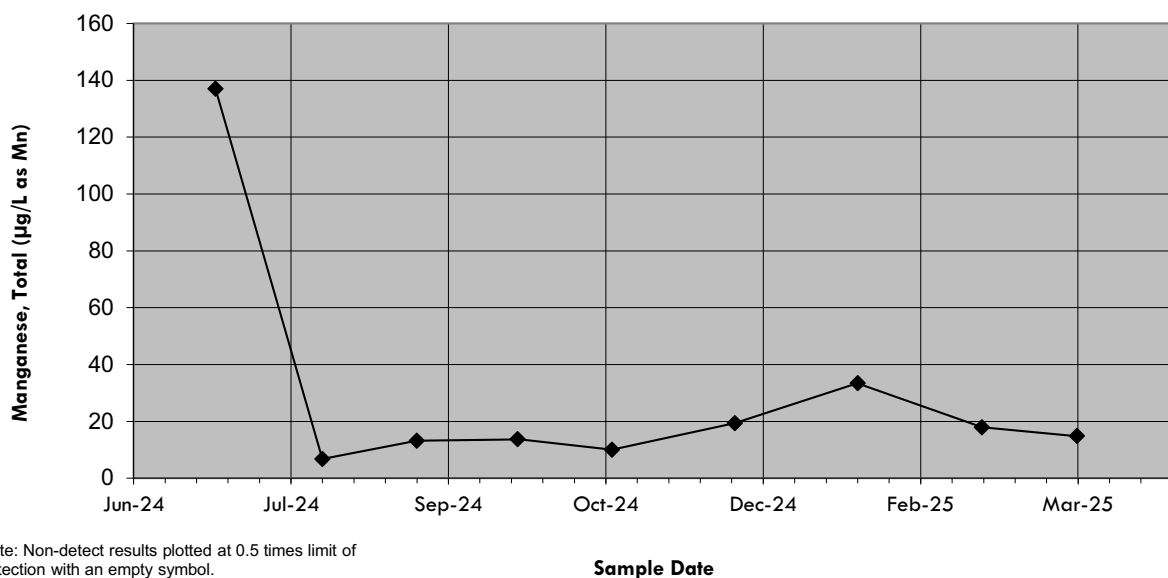
Calculations						
Count						9
Mean						272.67
Std Dev						61.01
2 X SD (ACL)						122.02
ACL, Calculated						394.69
ACL, Rounded						400

Duplicate Data Not Used for Calculations						

Note: Current Public Welfare PAL = 25 µg/L; ES = 50 µg/L
Current Public Health PAL = 60 µg/L; ES = 300 µg/L

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MW-318: Manganese



Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-318	MANGANESE, TOTAL (µG/L MN)	01	137	6/27/2024	137		outlier
MW-318	MANGANESE, TOTAL (µG/L MN)	01	6.8	7/31/2024	6.8	6.8	
MW-318	MANGANESE, TOTAL (µG/L MN)	01	13.2	8/30/2024	13.2	13.2	
MW-318	MANGANESE, TOTAL (µG/L MN)	01	13.7	10/1/2024	13.7	13.7	
MW-318	MANGANESE, TOTAL (µG/L MN)	01	10	10/31/2024	10	10	
MW-318	MANGANESE, TOTAL (µG/L MN)	01	19.4	12/9/2024	19.4	19.4	
MW-318	MANGANESE, TOTAL (µG/L MN)	01	33.4	1/17/2025	33.4	33.4	
MW-318	MANGANESE, TOTAL (µG/L MN)	01	17.9	2/25/2025	17.9	17.9	
MW-318	MANGANESE, TOTAL (µG/L MN)	01	14.8	3/27/2025	14.8	14.8	

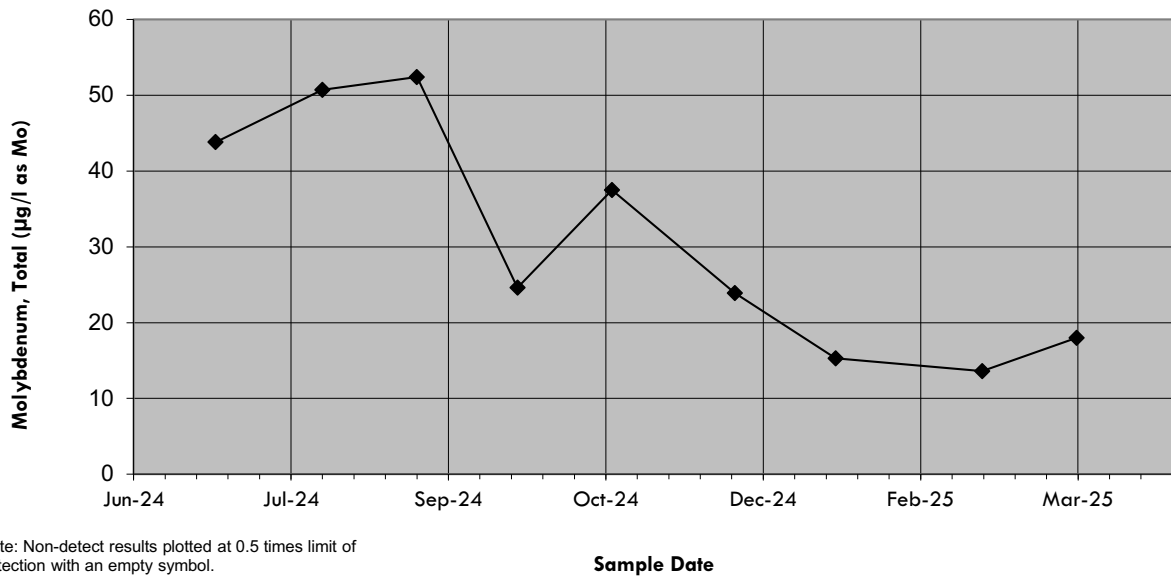
Calculations						
Count						8
Mean						16.15
Std Dev						8.04
2 X SD (ACL)						16.09
ACL, Calculated						32.24
ACL, Rounded						33

Duplicate Data Not Used for Calculations						

Note: Current Public Welfare PAL = 25 µg/L; ES = 50 µg/L
Current Public Health PAL = 60 µg/L; ES = 300 µg/L

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MW-317: Molybdenum



Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-317	MOLYBDENUM, TOTAL (µG/L MO)	01	43.8	6/27/2024	43.8	43.8	
MW-317	MOLYBDENUM, TOTAL (µG/L MO)	01	50.7	7/31/2024	50.7	50.7	
MW-317	MOLYBDENUM, TOTAL (µG/L MO)	01	52.4	8/30/2024	52.4	52.4	
MW-317	MOLYBDENUM, TOTAL (µG/L MO)	01	24.6	10/1/2024	24.6	24.6	
MW-317	MOLYBDENUM, TOTAL (µG/L MO)	01	37.5	10/31/2024	37.5	37.5	
MW-317	MOLYBDENUM, TOTAL (µG/L MO)	01	23.9	12/9/2024	23.9	23.9	
MW-317	MOLYBDENUM, TOTAL (µG/L MO)	01	15.3	1/10/2025	15.3	15.3	
MW-317	MOLYBDENUM, TOTAL (µG/L MO)	01	13.6	2/25/2025	13.6	13.6	
MW-317	MOLYBDENUM, TOTAL (µG/L MO)	01	18	3/27/2025	18	18	

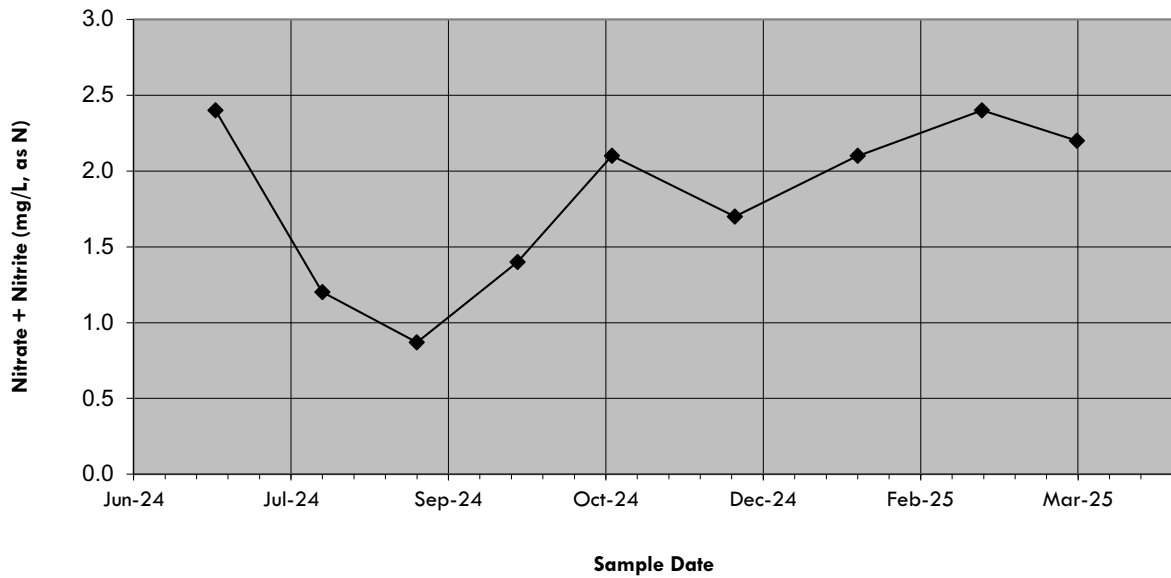
Calculations						
Count						9
Mean						31.09
Std Dev						15.25
2 X SD (ACL)						30.51
ACL, Calculated						61.60
ACL, Rounded						62

Duplicate Data Not Used for Calculations						

Note: Current PAL = 8 µg/L; ES = 40 µg/L

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MW-318: Nitrogen



Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-318	NITRATE + NITRITE (MG/L, N)	01	2.4	6/27/2024	2.4	2.4	
MW-318	NITRATE + NITRITE (MG/L, N)	01	1.2	7/31/2024	1.2	1.2	
MW-318	NITRATE + NITRITE (MG/L, N)	01	0.87	8/30/2024	0.87	0.87	
MW-318	NITRATE + NITRITE (MG/L, N)	01	1.4	10/1/2024	1.4	1.4	
MW-318	NITRATE + NITRITE (MG/L, N)	01	2.1	10/31/2024	2.1	2.1	
MW-318	NITRATE + NITRITE (MG/L, N)	01	1.7	12/9/2024	1.7	1.7	
MW-318	NITRATE + NITRITE (MG/L, N)	01	2.1	1/17/2025	2.1	2.1	
MW-318	NITRATE + NITRITE (MG/L, N)	01	2.4	2/25/2025	2.4	2.4	
MW-318	NITRATE + NITRITE (MG/L, N)	01	2.2	3/27/2025	2.2	2.2	

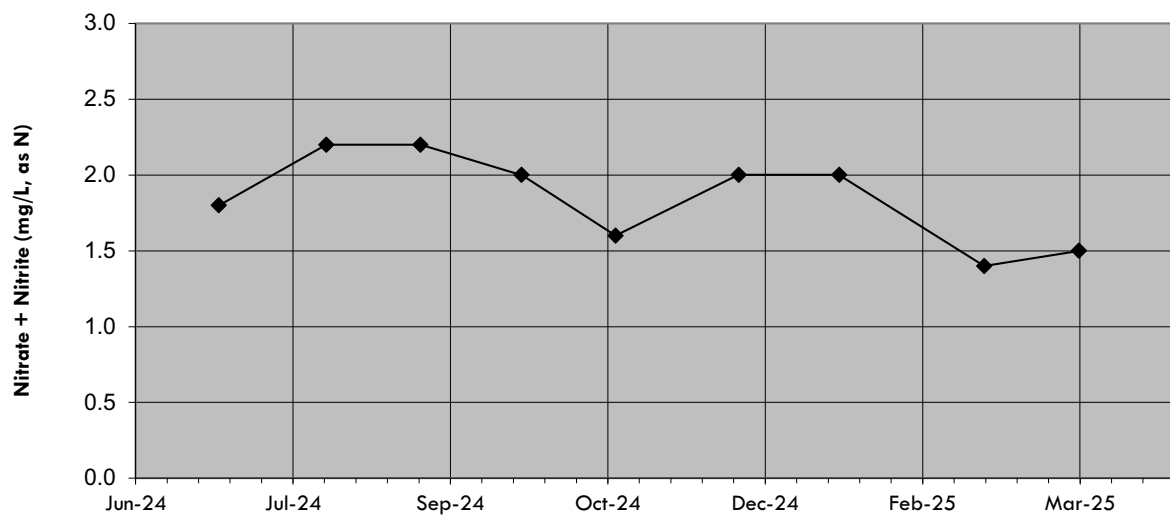
Calculations						
Count						9
Mean						1.82
Std Dev						0.55
2 X SD (ACL)						1.11
ACL, Calculated						2.93
ACL, Rounded						3.0

Duplicate Data Not Used for Calculations							

Note: Current PAL = 2 mg/L; ES = 10 mg/L

I:\25224152.00\Data and Calculations\Additional PALs and ACLs\[ACL Calculations_New CCR Wells.xls]MW318_N_ACL

MW-319: Nitrogen



Note: Non-detect results plotted at 0.5 times limit of detection with an empty symbol.

Sample Date

Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-319	NITRATE + NITRITE (MG/L, N)	01	1.8	6/27/2024	1.8	1.8	
MW-319	NITRATE + NITRITE (MG/L, N)	01	2.2	7/31/2024	2.2	2.2	
MW-319	NITRATE + NITRITE (MG/L, N)	01	2.2	8/30/2024	2.2	2.2	
MW-319	NITRATE + NITRITE (MG/L, N)	01	2	10/1/2024	2	2	
MW-319	NITRATE + NITRITE (MG/L, N)	01	1.6	10/31/2024	1.6	1.6	
MW-319	NITRATE + NITRITE (MG/L, N)	01	2	12/9/2024	2	2	
MW-319	NITRATE + NITRITE (MG/L, N)	01	2	1/10/2025	2	2	
MW-319	NITRATE + NITRITE (MG/L, N)	01	1.4	2/25/2025	1.4	1.4	
MW-319	NITRATE + NITRITE (MG/L, N)	01	1.5	3/27/2025	1.5	1.5	

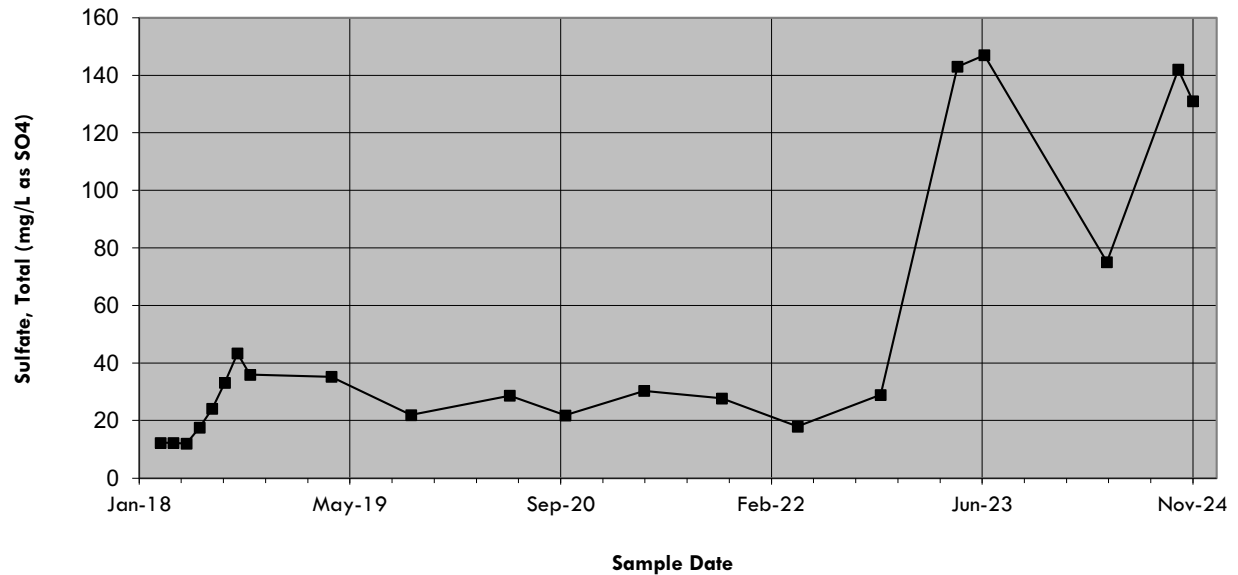
Calculations						
Count						9
Mean						1.86
Std Dev						0.30
2 X SD (ACL)						0.59
ACL, Calculated						2.45
ACL, Rounded						2.5

Duplicate Data Not Used for Calculations							

Note: Current PAL = 2 mg/L; ES = 10 mg/L

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MW-309: Sulfate



Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-309	SULFATE, TOTAL (MG/L SO4)	01	12.2	2/21/2018	12.2	12.2	
MW-309	SULFATE, TOTAL (MG/L SO4)	01	12.2	3/23/2018	12.2	12.2	
MW-309	SULFATE, TOTAL (MG/L SO4)	01	12	4/23/2018	12	12	
MW-309	SULFATE, TOTAL (MG/L SO4)	01	17.5	5/24/2018	17.5	17.5	
MW-309	SULFATE, TOTAL (MG/L SO4)	01	24.1	6/23/2018	24.1	24.1	
MW-309	SULFATE, TOTAL (MG/L SO4)	01	33.1	7/23/2018	33.1	33.1	
MW-309	SULFATE, TOTAL (MG/L SO4)	01	43.3	8/22/2018	43.3	43.3	
MW-309	SULFATE, TOTAL (MG/L SO4)	01	35.9	9/21/2018	35.9	35.9	
MW-309	SULFATE, TOTAL (MG/L SO4)	01	35.2	4/2/2019	35.2	35.2	
MW-309	SULFATE, TOTAL (MG/L SO4)	01	21.9	10/8/2019	21.9	21.9	
MW-309	SULFATE, TOTAL (MG/L SO4)	01	28.6	5/29/2020	28.6	28.6	
MW-309	SULFATE, TOTAL (MG/L SO4)	01	21.8	10/8/2020	21.8	21.8	
MW-309	SULFATE, TOTAL (MG/L SO4)	01	30.3	4/13/2021	30.3	30.3	
MW-309	SULFATE, TOTAL (MG/L SO4)	01	27.7	10/14/2021	27.7	27.7	
MW-309	SULFATE, TOTAL (MG/L SO4)	01	17.9	4/12/2022	17.9	17.9	
MW-309	SULFATE, TOTAL (MG/L SO4)	01	28.9	10/26/2022	28.9	28.9	
MW-309	SULFATE, TOTAL (MG/L SO4)	01	143	4/26/2023	143	143	
MW-309	SULFATE, TOTAL (MG/L SO4)	01	147	6/29/2023	147	147	
MW-309	SULFATE, TOTAL (MG/L SO4)	01	75.1	4/15/2024	75.1	75.1	
MW-309	SULFATE, TOTAL (MG/L SO4)	01	142	10/1/2024	142	142	
MW-309	SULFATE, TOTAL (MG/L SO4)	01	131	11/5/2024	131	131	
Calculations							
Count						21	
Mean						49.56	
Std Dev						47.38	
2 X SD (ACL)						94.75	
ACL, Calculated						144.31	
ACL, Rounded						150	

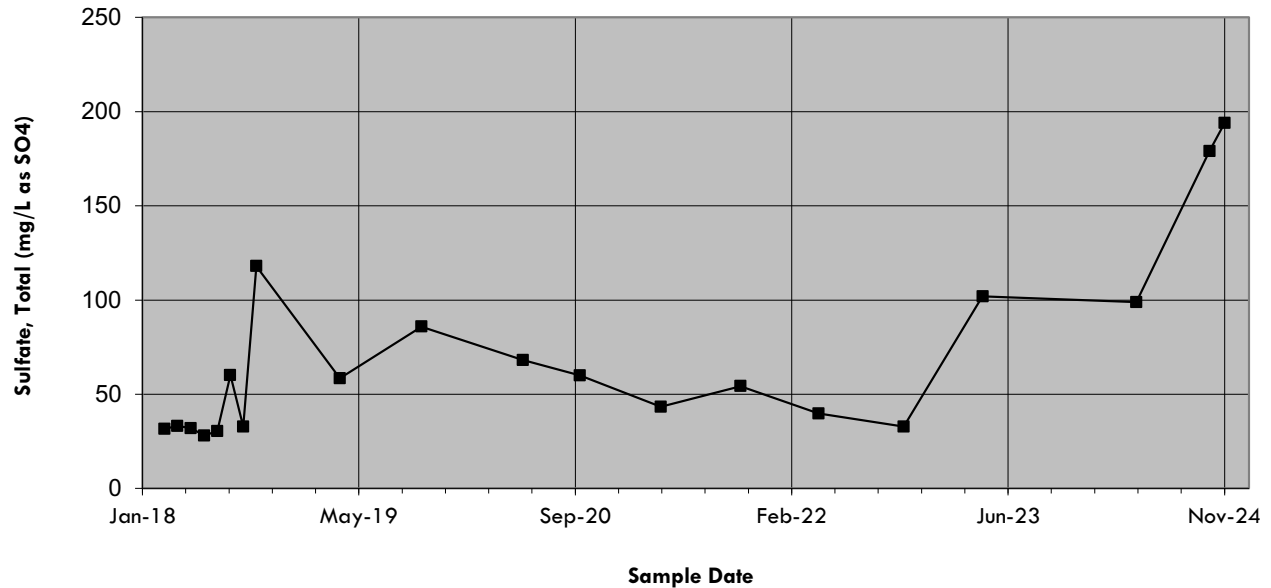
Duplicate Data Not Used for Calculations							

Note: Current PAL = 125 mg/l; ES = 250 mg/l

M0: Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits

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MW-310: Sulfate

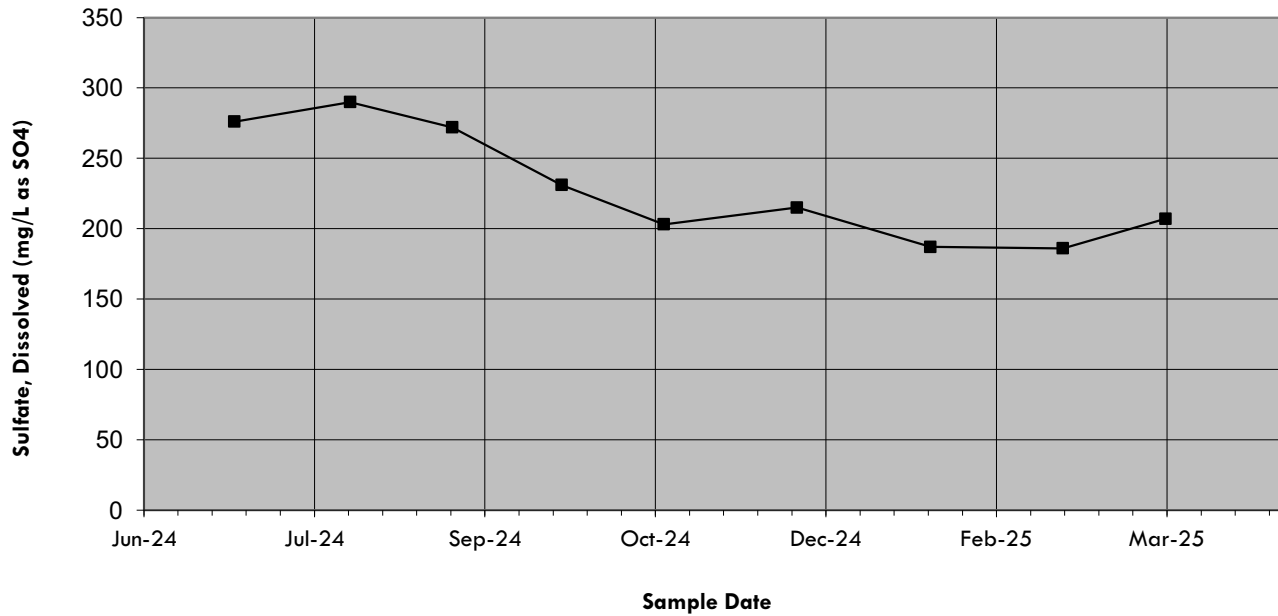


Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-310	SULFATE, TOTAL (MG/L SO4)	01	31.6	2/21/2018	31.6	31.6	
MW-310	SULFATE, TOTAL (MG/L SO4)	01	33.1	3/23/2018	33.1	33.1	
MW-310	SULFATE, TOTAL (MG/L SO4)	01	32	4/23/2018	32	32	
MW-310	SULFATE, TOTAL (MG/L SO4)	01	28	5/24/2018	28	28	
MW-310	SULFATE, TOTAL (MG/L SO4)	01	30.4	6/23/2018	30.4	30.4	
MW-310	SULFATE, TOTAL (MG/L SO4)	01	60.2	7/23/2018	60.2	60.2	
MW-310	SULFATE, TOTAL (MG/L SO4)	01	32.8	8/22/2018	32.8	32.8	
MW-310	SULFATE, TOTAL (MG/L SO4)	01	118	9/21/2018	118	118	
MW-310	SULFATE, TOTAL (MG/L SO4)	01	58.4	4/2/2019	58.4	58.4	
MW-310	SULFATE, TOTAL (MG/L SO4)	01	85.9	10/8/2019	85.9	85.9	
MW-310	SULFATE, TOTAL (MG/L SO4)	01	68.2	5/29/2020	68.2	68.2	
MW-310	SULFATE, TOTAL (MG/L SO4)	01	60	10/8/2020	60	60	
MW-310	SULFATE, TOTAL (MG/L SO4)	01	43.3	4/13/2021	43.3	43.3	
MW-310	SULFATE, TOTAL (MG/L SO4)	01	54.3	10/14/2021	54.3	54.3	
MW-310	SULFATE, TOTAL (MG/L SO4)	01	39.8	4/12/2022	39.8	39.8	
MW-310	SULFATE, TOTAL (MG/L SO4)	01	32.8	10/26/2022	32.8	32.8	
MW-310	SULFATE, TOTAL (MG/L SO4)	01	102	4/26/2023	102	102	
MW-310	SULFATE, TOTAL (MG/L SO4)	01	98.9	4/15/2024	98.9	98.9	
MW-310	SULFATE, TOTAL (MG/L SO4)	01	179	10/1/2024	179	179	
MW-310	SULFATE, TOTAL (MG/L SO4)	01	194	11/5/2024	194	194	
Calculations							
Count						20	
Mean						69.14	
Std Dev						48.26	
2 X SD (ACL)						96.51	
ACL, Calculated						165.65	
ACL, Rounded						170	
Duplicate Data Not Used for Calculations							

Note: Current PAL = 125 mg/l; ES = 250 mg/l

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MW-318: Sulfate



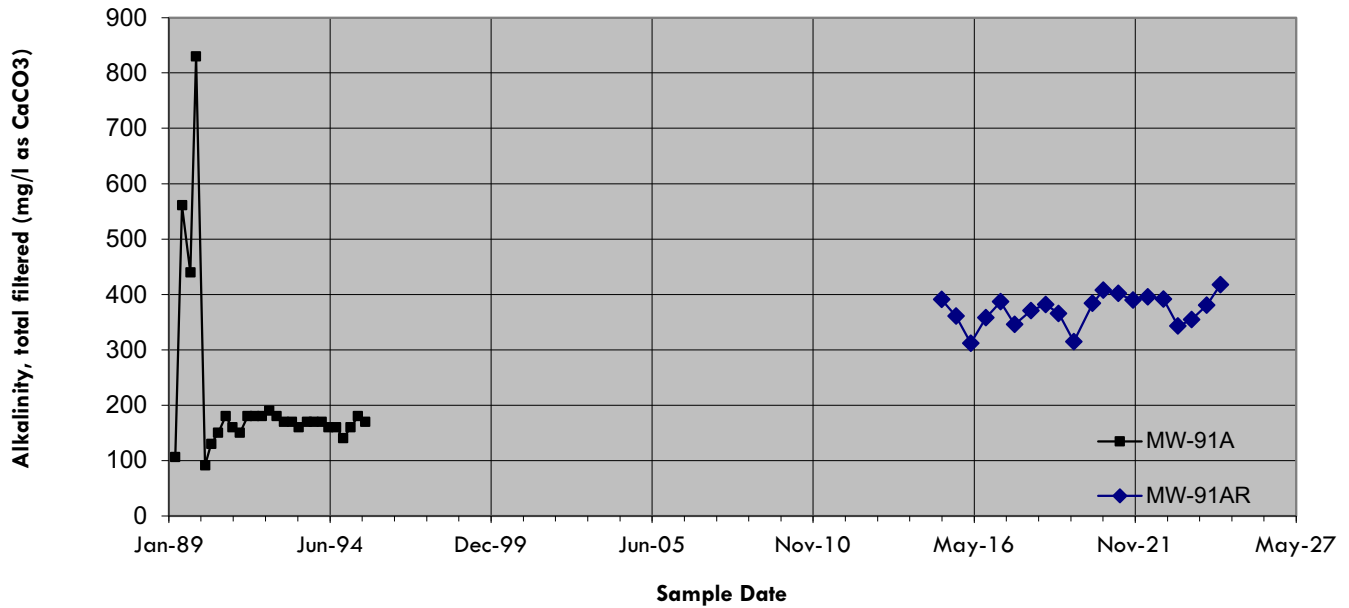
Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-318	SULFATE, TOTAL (MG/L SO4)	01	276	6/27/2024	276	276	M0
MW-318	SULFATE, TOTAL (MG/L SO4)	01	290	7/31/2024	290	290	
MW-318	SULFATE, TOTAL (MG/L SO4)	01	272	8/30/2024	272	272	
MW-318	SULFATE, TOTAL (MG/L SO4)	01	231	10/1/2024	231	231	
MW-318	SULFATE, TOTAL (MG/L SO4)	01	203	10/31/2024	203	203	
MW-318	SULFATE, TOTAL (MG/L SO4)	01	215	12/9/2024	215	215	
MW-318	SULFATE, TOTAL (MG/L SO4)	01	187	1/17/2025	187	187	
MW-318	SULFATE, TOTAL (MG/L SO4)	01	186	2/25/2025	186	186	
MW-318	SULFATE, TOTAL (MG/L SO4)	01	207	3/27/2025	207	207	
Calculations							
Count						9	
Mean						229.67	
Std Dev						39.92	
2 X SD (ACL)						79.84	
ACL, Calculated						309.50	
ACL, Rounded						310	
Duplicate Data Not Used for Calculations							
MW-318	SULFATE, TOTAL (MG/L SO4)	02	224	10/1/2024			

Note: Current PAL = 125 mg/l; ES = 250 mg/l

M0: Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

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MW-91A/MW-91AR: Alkalinity



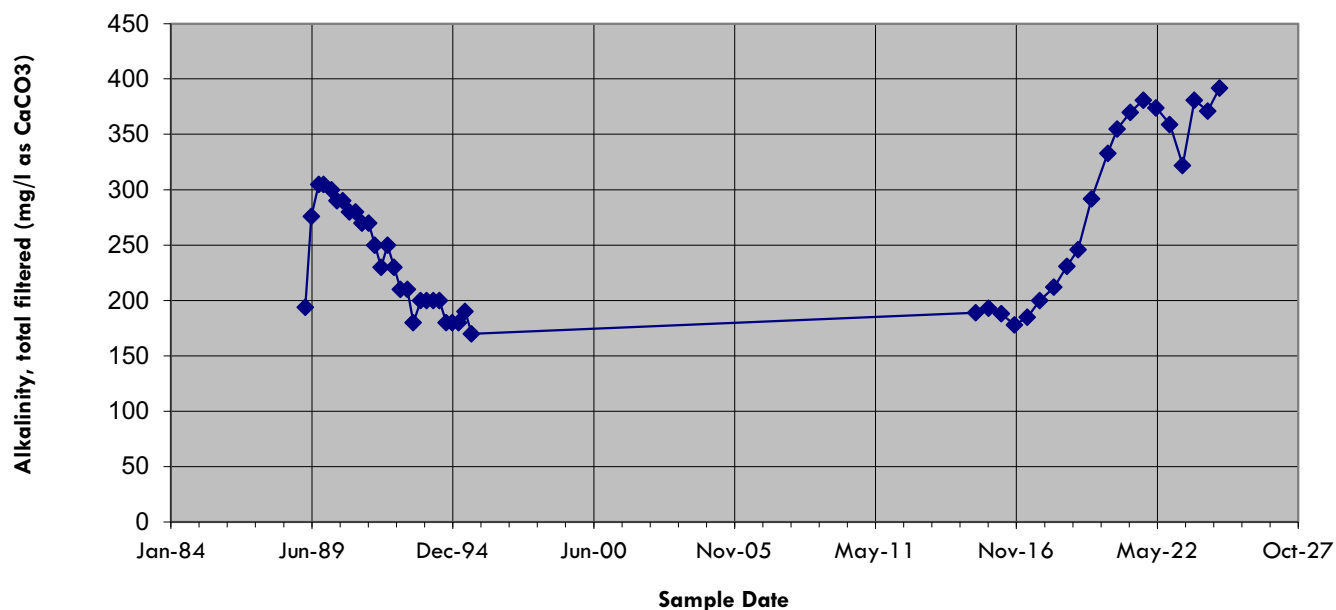
Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-91A	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	106	3/21/1989	106		
MW-91A	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	561	6/15/1989	561		
MW-91A	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	440	9/27/1989	440		
MW-91A	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	830	12/6/1989	830		
MW-91A	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	91	3/29/1990	91		
MW-91A	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	130	6/13/1990	130		
MW-91A	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	150	9/6/1990	150		
MW-91A	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	180	12/7/1990	180		
MW-91A	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	160	3/4/1991	160		
MW-91A	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	150	6/3/1991	150		
MW-91A	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	180	9/6/1991	180		
MW-91A	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	180	12/3/1991	180		
MW-91A	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	180	3/2/1992	180		
MW-91A	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	190	6/1/1992	190		
MW-91A	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	180	9/2/1992	180		
MW-91A	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	170	12/1/1992	170		
MW-91A	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	170	3/9/1993	170		
MW-91A	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	160	6/2/1993	160		
MW-91A	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	170	9/13/1993	170		
MW-91A	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	170	12/7/1993	170		
MW-91A	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	170	3/14/1994	170		
MW-91A	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	160	6/6/1994	160		
MW-91A	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	160	9/12/1994	160		
MW-91A	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	140	12/5/1994	140		
MW-91A	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	160	3/6/1995	160		
MW-91A	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	180	6/6/1995	180		
MW-91A	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	170	9/5/1995	170		
MW-91AR	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	391	4/13/2015	391	391	
MW-91AR	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	361	10/7/2015	361	361	
MW-91AR	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	312	4/8/2016	312	312	
MW-91AR	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	358	10/12/2016	358	358	
MW-91AR	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	387	4/12/2017	387	387	
MW-91AR	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	346	10/5/2017	346	346	
MW-91AR	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	371	4/24/2018	371	371	
MW-91AR	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	382	10/24/2018	382	382	

Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-91AR	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	366	4/3/2019	366	366	
MW-91AR	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	315	10/9/2019	315	315	
MW-91AR	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	384	5/29/2020	384	384	
MW-91AR	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	408	10/9/2020	408	408	
MW-91AR	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	402	4/14/2021	402	402	
MW-91AR	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	390	10/14/2021	390	390	
MW-91AR	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	396	4/13/2022	396	396	
MW-91AR	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	392	10/25/2022	392	392	
MW-91AR	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	343	4/25/2023	343	343	
MW-91AR	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	355	10/10/2023	355	355	
MW-91AR	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	381	4/16/2024	381	381	
MW-91AR	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	418	10/2/2024	418	418	
Calculations							
Count						20	
Mean						372.90	
Std Dev						28.58	
3 X SD (PAL)						85.73	
Min Increase (PAL)						100	
PAL, Calculated						472.90	
PAL, Rounded						480	
Duplicate Data Not Used for Calculations							

Notes:

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MW-91B: Alkalinity



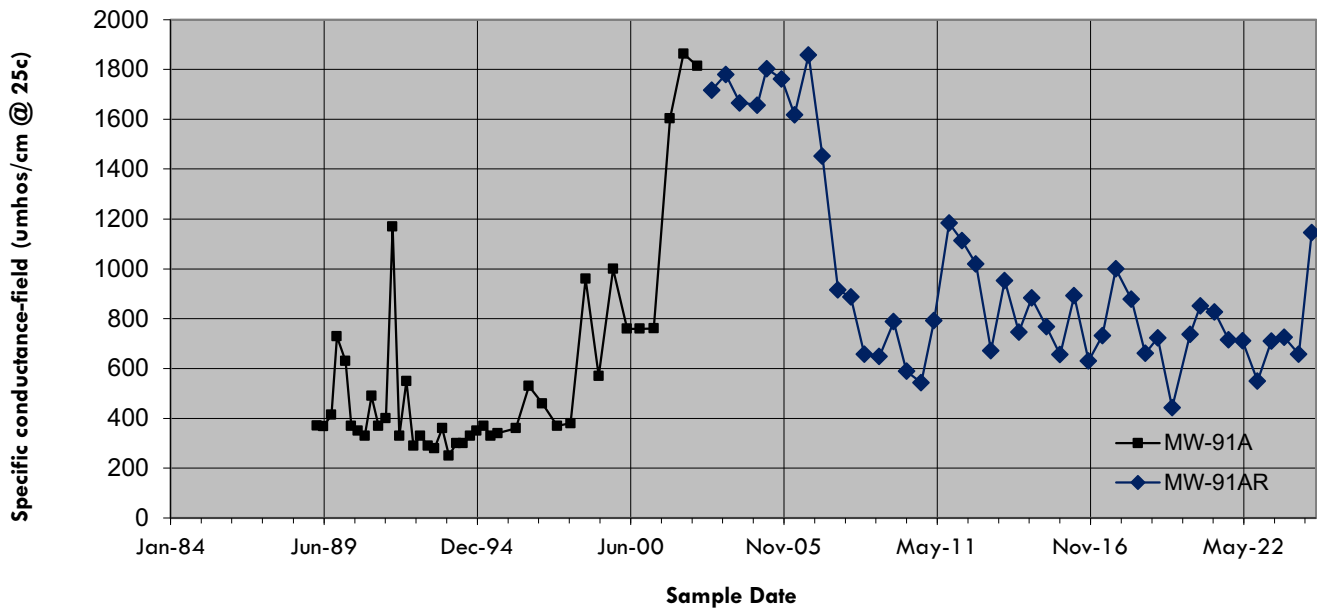
Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-91B	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	194	3/21/1989	194		
MW-91B	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	276	6/15/1989	276		
MW-91B	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	305	9/27/1989	305		
MW-91B	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	305	12/6/1989	305		
MW-91B	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	300	3/29/1990	300		
MW-91B	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	290	6/13/1990	290		
MW-91B	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	290	9/6/1990	290		
MW-91B	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	280	12/7/1990	280		
MW-91B	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	280	3/4/1991	280		
MW-91B	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	270	6/3/1991	270		
MW-91B	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	270	9/6/1991	270		
MW-91B	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	250	12/3/1991	250		
MW-91B	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	230	3/2/1992	230		
MW-91B	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	250	6/1/1992	250		
MW-91B	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	230	9/2/1992	230		
MW-91B	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	210	12/1/1992	210		
MW-91B	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	210	3/9/1993	210		
MW-91B	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	180	6/2/1993	180		
MW-91B	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	200	9/13/1993	200		
MW-91B	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	200	12/7/1993	200		
MW-91B	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	200	3/14/1994	200		
MW-91B	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	200	6/6/1994	200		
MW-91B	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	180	9/12/1994	180		
MW-91B	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	180	12/5/1994	180		
MW-91B	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	180	3/6/1995	180		
MW-91B	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	190	6/6/1995	190		
MW-91B	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	170	9/5/1995	170		
MW-91B	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	189	4/13/2015	189	189	
MW-91B	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	193	10/8/2015	193	193	
MW-91B	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	188	4/8/2016	188	188	
MW-91B	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	178	10/12/2016	178	178	
MW-91B	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	185	4/12/2017	185	185	
MW-91B	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	200	10/5/2017	200	200	
MW-91B	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	212	4/24/2018	212	212	
MW-91B	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	231	10/24/2018	231	231	

Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-91B	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	246	4/3/2019	246	246	
MW-91B	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	292	10/9/2019	292	292	
MW-91B	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	333	5/29/2020	333	333	
MW-91B	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	355	10/9/2020	355	355	
MW-91B	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	370	4/14/2021	370	370	
MW-91B	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	381	10/14/2021	381	381	
MW-91B	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	374	4/13/2022	374	374	
MW-91B	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	359	10/25/2022	359	359	
MW-91B	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	322	4/25/2023	322	322	
MW-91B	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	381	10/10/2023	381	381	
MW-91B	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	371	4/16/2024	371	371	
MW-91B	ALKALINITY, TOTAL FILTERED (MG/L AS CaCO3)	01	392	10/2/2024	392	392	
Calculations							
Count						20	
Mean						287.60	
Std Dev						83.32	
3 X SD (PAL)						249.97	
Min Increase (PAL)						100	
PAL, Calculated						537.57	
PAL, Rounded						540	
Duplicate Data Not Used for Calculations							

Notes:

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MW-91A/MW-91AR: Specific Conductivity



Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-91A	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	371	3/21/1989	371		
MW-91A	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	368	6/15/1989	368		
MW-91A	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	415	9/27/1989	415		
MW-91A	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	729	12/6/1989	729		
MW-91A	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	630	3/29/1990	630		
MW-91A	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	370	6/13/1990	370		
MW-91A	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	350	9/6/1990	350		
MW-91A	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	330	12/7/1990	330		
MW-91A	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	490	3/4/1991	490		
MW-91A	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	370	6/3/1991	370		
MW-91A	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	400	9/6/1991	400		
MW-91A	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	1170	12/3/1991	1170		
MW-91A	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	330	3/2/1992	330		
MW-91A	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	550	6/1/1992	550		
MW-91A	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	290	9/2/1992	290		
MW-91A	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	330	12/1/1992	330		
MW-91A	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	290	3/9/1993	290		
MW-91A	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	280	6/2/1993	280		
MW-91A	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	360	9/13/1993	360		
MW-91A	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	250	12/7/1993	250		
MW-91A	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	300	3/14/1994	300		
MW-91A	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	300	6/6/1994	300		
MW-91A	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	330	9/12/1994	330		
MW-91A	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	350	12/5/1994	350		
MW-91A	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	370	3/6/1995	370		
MW-91A	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	330	6/6/1995	330		
MW-91A	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	340	9/5/1995	340		
MW-91A	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	360	4/29/1996	360		
MW-91A	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	530	10/16/1996	530		
MW-91A	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	460	4/8/1997	460		
MW-91A	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	370	10/20/1997	370		
MW-91A	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	380	4/14/1998	380		
MW-91A	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	960	10/27/1998	960		
MW-91A	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	570	4/16/1999	570		
MW-91A	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	1000	10/21/1999	1000		

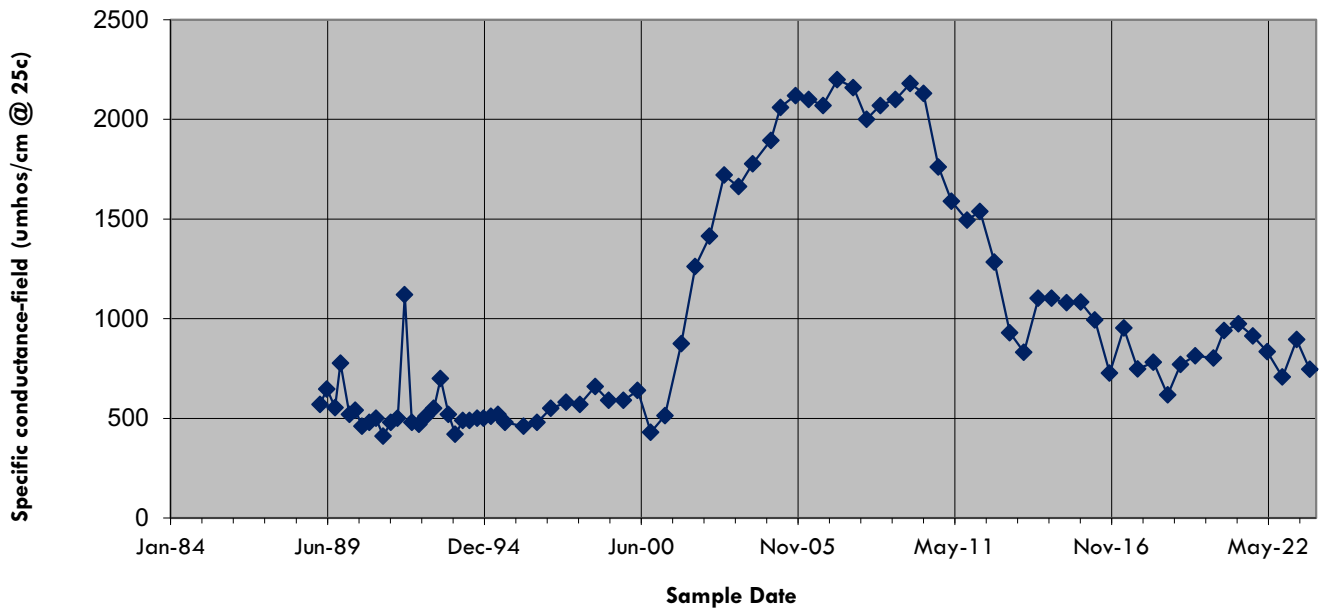
Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-91A	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	760	4/20/2000	760		
MW-91A	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	760	10/4/2000	760		
MW-91A	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	761	4/3/2001	761		
MW-91A	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	1604	10/30/2001	1604		
MW-91A	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	1864	4/25/2002	1864		
MW-91A	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	1815	10/25/2002	1815		
MW-91AR	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	1717	4/28/2003	1717		
MW-91AR	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	1780	10/30/2003	1780		
MW-91AR	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	1666	4/27/2004	1666		
MW-91AR	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	1657	12/14/2004	1657		
MW-91AR	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	1803	4/15/2005	1803		
MW-91AR	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	1762	10/26/2005	1762		
MW-91AR	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	1618	4/13/2006	1618		
MW-91AR	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	1859	10/12/2006	1859		
MW-91AR	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	1453	4/10/2007	1453		
MW-91AR	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	916	10/31/2007	916		
MW-91AR	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	887	4/17/2008	887		
MW-91AR	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	658	10/10/2008	658		
MW-91AR	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	648	4/22/2009	648		
MW-91AR	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	788	10/27/2009	788		
MW-91AR	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	589	4/14/2010	589		
MW-91AR	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	543	10/21/2010	543		
MW-91AR	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	792	4/6/2011	792		
MW-91AR	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	1184	10/21/2011	1184		
MW-91AR	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	1114	4/4/2012	1114		
MW-91AR	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	1020	10/4/2012	1020		
MW-91AR	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	672	4/18/2013	672		
MW-91AR	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	953	10/14/2013	953		
MW-91AR	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	746	4/17/2014	746		
MW-91AR	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	883	10/2/2014	883		
MW-91AR	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	768	4/13/2015	768	768	
MW-91AR	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	656	10/7/2015	656	656	
MW-91AR	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	892	4/8/2016	892	892	
MW-91AR	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	631	10/12/2016	631	631	
MW-91AR	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	732	4/12/2017	732	732	
MW-91AR	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	1000	10/5/2017	1000	1000	
MW-91AR	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	878	4/24/2018	878	878	
MW-91AR	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	661	10/24/2018	661	661	
MW-91AR	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	723	4/3/2019	723	723	
MW-91AR	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	443	10/9/2019	443	443	
MW-91AR	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	737	5/29/2020	737	737	
MW-91AR	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	852	10/9/2020	852	852	
MW-91AR	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	827	4/14/2021	827	827	
MW-91AR	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	715	10/14/2021	715	715	
MW-91AR	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	711	4/13/2022	711	711	
MW-91AR	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	550	10/25/2022	550	550	
MW-91AR	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	710	4/25/2023	710	710	
MW-91AR	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	726	10/10/2023	726	726	
MW-91AR	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	658	4/16/2024	658	658	
MW-91AR	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	1145	10/2/2024	1145	1145	
Calculations							
Count						20	
Mean						750.75	
Std Dev						154.15	
3 X SD (PAL)						462.46	
Min Increase (PAL)						200	
PAL, Calculated						1213.21	
PAL, Rounded						1,300	
Duplicate Data Not Used for Calculations							

Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
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Notes:

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MW-34B: Specific Conductivity



Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	570	3/21/1989	570		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	647	6/15/1989	647		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	554	9/27/1989	554		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	777	12/6/1989	777		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	520	3/29/1990	520		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	540	6/13/1990	540		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	460	9/6/1990	460		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	480	12/7/1990	480		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	500	3/4/1991	500		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	410	6/3/1991	410		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	480	9/6/1991	480		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	500	12/3/1991	500		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	1120	3/2/1992	1120		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	480	6/1/1992	480		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	470	9/2/1992	470		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	510	12/1/1992	510		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	550	3/9/1993	550		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	700	6/2/1993	700		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	520	9/13/1993	520		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	420	12/7/1993	420		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	490	3/14/1994	490		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	490	6/6/1994	490		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	500	9/12/1994	500		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	500	12/5/1994	500		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	510	3/6/1995	510		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	520	6/6/1995	520		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	480	9/5/1995	480		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	460	4/29/1996	460		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	480	10/16/1996	480		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	550	4/8/1997	550		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	580	10/20/1997	580		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	570	4/14/1998	570		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	660	10/27/1998	660		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	590	4/16/1999	590		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	590	10/21/1999	590		

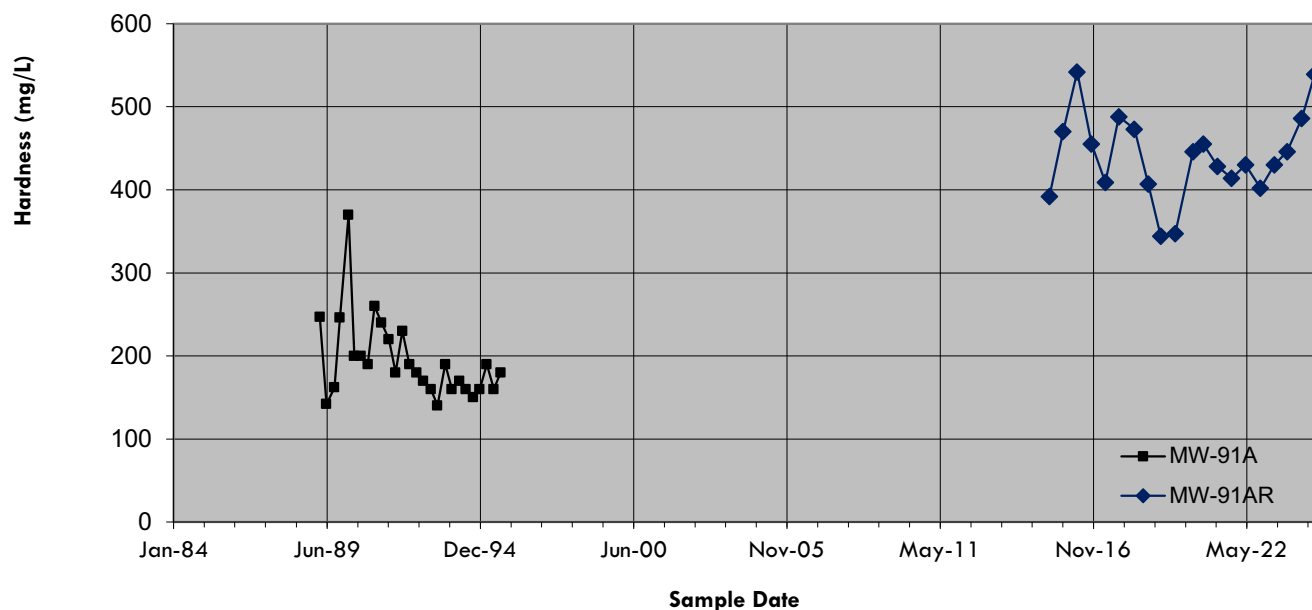
Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	640	4/20/2000	640		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	430	10/4/2000	430		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	514	4/3/2001	514		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	875	10/30/2001	875		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	1262	4/25/2002	1262		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	1414	10/25/2002	1414		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	1721	4/28/2003	1721		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	1663	10/30/2003	1663		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	1777	4/27/2004	1777		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	1895	12/14/2004	1895		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	2060	4/15/2005	2060		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	2120	10/26/2005	2120		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	2100	4/13/2006	2100		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	2070	10/12/2006	2070		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	2200	4/10/2007	2200		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	2160	10/31/2007	2160		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	2000	4/17/2008	2000		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	2070	10/10/2008	2070		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	2100	4/22/2009	2100		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	2180	10/27/2009	2180		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	2130	4/14/2010	2130		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	1761	10/21/2010	1761		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	1589	4/6/2011	1589		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	1495	10/21/2011	1495		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	1538	4/4/2012	1538		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	1284	10/4/2012	1284		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	930	4/18/2013	930		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	832	10/14/2013	832		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	1102	4/17/2014	1102		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	1102	10/2/2014	1102		
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	1080	4/13/2015	1080	1080	
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	1083	10/8/2015	1083	1083	
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	993	4/8/2016	993	993	
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	727	10/12/2016	727	727	
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	953	4/12/2017	953	953	
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	748	10/5/2017	748	748	
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	781	4/24/2018	781	781	
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	617	10/24/2018	617	617	
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	770	4/3/2019	770	770	
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	814	10/9/2019	814	814	
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	803	5/29/2020	803	803	
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	940	10/9/2020	940	940	
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	974	4/14/2021	974	974	
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	913	10/14/2021	913	913	
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	835	4/13/2022	835	835	
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	707	10/25/2022	707	707	
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	895	4/25/2023	895	895	
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	746	10/10/2023	746	746	
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	741	4/16/2024	741	741	
MW-91B	SPECIFIC CONDUCTANCE, FIELD (UMHO/CM @ 25C)	01	1009	10/2/2024	1009	1009	
Calculations							
Count						20	
Mean						856.45	
Std Dev						131.79	
3 X SD (PAL)						395.38	
Min Increase (PAL)						200	
PAL, Calculated						1251.83	
PAL, Rounded						1,300	
Duplicate Data Not Used for Calculations							

Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
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Note: Data downloaded from GEMS

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MW-91A/MW-91AR: Hardness



Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-91A	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	247	3/21/1989	247		
MW-91A	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	142	6/15/1989	142		
MW-91A	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	162	9/27/1989	162		
MW-91A	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	246	12/6/1989	246		
MW-91A	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	370	3/29/1990	370		
MW-91A	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	200	6/13/1990	200		
MW-91A	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	200	9/6/1990	200		
MW-91A	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	190	12/7/1990	190		
MW-91A	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	260	3/4/1991	260		
MW-91A	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	240	6/3/1991	240		
MW-91A	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	220	9/6/1991	220		
MW-91A	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	180	12/3/1991	180		
MW-91A	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	230	3/2/1992	230		
MW-91A	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	190	6/1/1992	190		
MW-91A	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	180	9/2/1992	180		
MW-91A	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	170	12/1/1992	170		
MW-91A	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	160	3/9/1993	160		
MW-91A	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	140	6/2/1993	140		
MW-91A	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	190	9/13/1993	190		
MW-91A	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	160	12/7/1993	160		
MW-91A	HARDNESS, TOTAL (MG/L AS CaCO3)	01	170	3/14/1994	170		
MW-91A	HARDNESS, TOTAL (MG/L AS CaCO3)	01	160	6/6/1994	160		
MW-91A	HARDNESS, TOTAL (MG/L AS CaCO3)	01	150	9/12/1994	150		
MW-91A	HARDNESS, TOTAL (MG/L AS CaCO3)	01	160	12/5/1994	160		
MW-91A	HARDNESS, TOTAL (MG/L AS CaCO3)	01	190	3/6/1995	190		
MW-91A	HARDNESS, TOTAL (MG/L AS CaCO3)	01	160	6/6/1995	160		
MW-91A	HARDNESS, TOTAL (MG/L AS CaCO3)	01	180	9/5/1995	180		
MW-91AR	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	392	4/13/2015	392	392	
MW-91AR	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	470	10/7/2015	470	470	
MW-91AR	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	542	4/8/2016	542	542	
MW-91AR	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	455	10/12/2016	455	455	
MW-91AR	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	409	4/12/2017	409	409	
MW-91AR	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	488	10/5/2017	488	488	
MW-91AR	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	473	4/24/2018	473	473	
MW-91AR	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	407	10/24/2018	407	407	

Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-91AR	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	344	4/3/2019	344	344	
MW-91AR	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	347	10/9/2019	347	347	
MW-91AR	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	446	5/29/2020	446	446	
MW-91AR	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	455	10/9/2020	455	455	
MW-91AR	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	428	4/14/2021	428	428	
MW-91AR	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	414	10/14/2021	414	414	
MW-91AR	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	430	4/13/2022	430	430	
MW-91AR	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	402	10/25/2022	402	402	
MW-91AR	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	430	4/25/2023	430	430	
MW-91AR	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	446	10/10/2023	446	446	
MW-91AR	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	486	4/16/2024	486	486	
MW-91AR	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	539	10/2/2024	539	539	

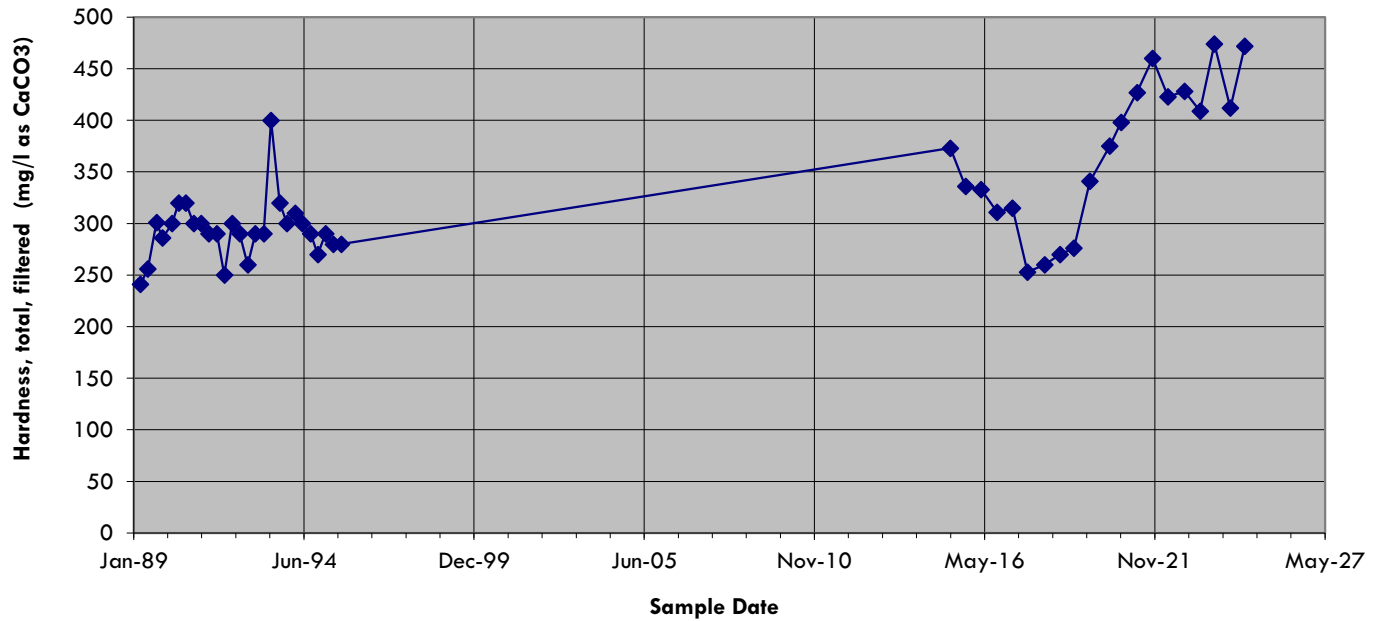
Calculations						
Count						20
Mean						440.15
Std Dev						52.22
3 X SD (PAL)						156.67
Min Increase (PAL)						100
PAL, Calculated						596.82
PAL, Rounded						600

Duplicate Data Not Used for Calculations							

Notes:

I:\25224152.00\Data and Calculations\Additional PALs and ACLs\[PAL Calculations_91A 91B.xlsx]MW-91AR_Hard_PAL

MW-91B: Hardness

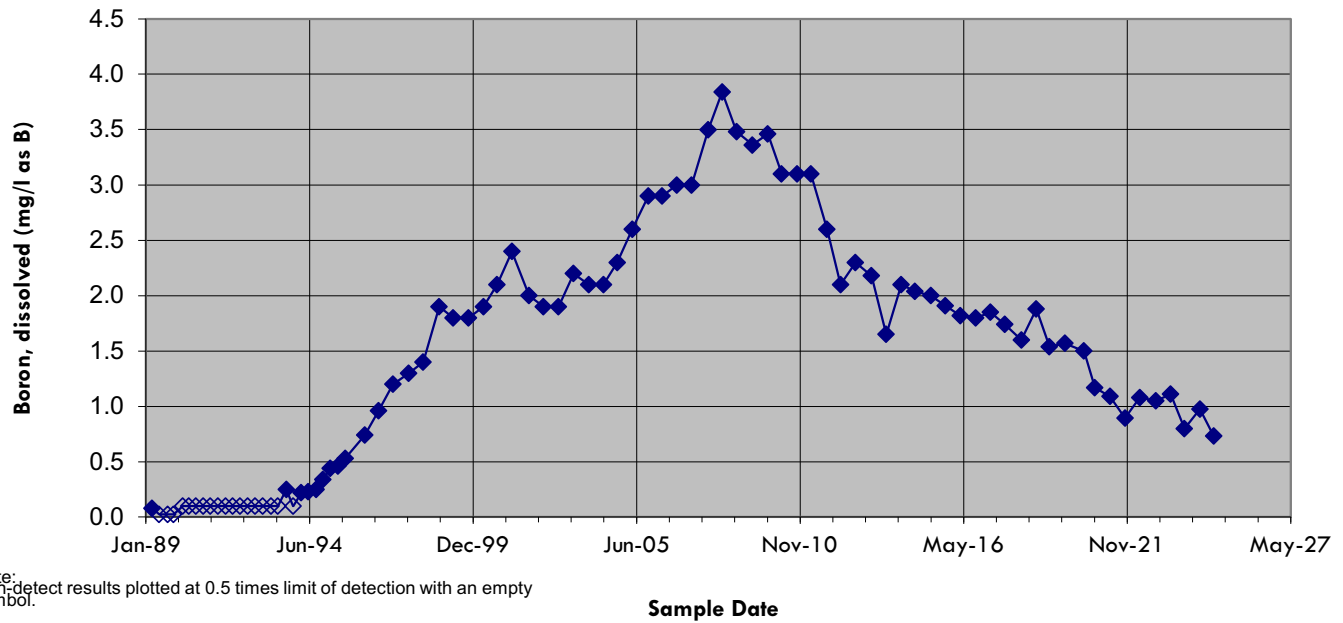


Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-91B	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	241	3/21/1989	241		
MW-91B	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	256	6/15/1989	256		
MW-91B	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	301	9/27/1989	301		
MW-91B	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	286	12/6/1989	286		
MW-91B	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	300	3/29/1990	300		
MW-91B	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	320	6/13/1990	320		
MW-91B	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	320	9/6/1990	320		
MW-91B	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	300	12/7/1990	300		
MW-91B	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	300	3/4/1991	300		
MW-91B	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	290	6/3/1991	290		
MW-91B	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	290	9/6/1991	290		
MW-91B	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	250	12/3/1991	250		
MW-91B	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	300	3/2/1992	300		
MW-91B	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	290	6/1/1992	290		
MW-91B	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	260	9/2/1992	260		
MW-91B	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	290	12/1/1992	290		
MW-91B	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	290	3/9/1993	290		
MW-91B	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	400	6/2/1993	400		
MW-91B	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	320	9/13/1993	320		
MW-91B	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	300	12/7/1993	300		
MW-91B	HARDNESS, TOTAL (MG/L AS CaCO3)	01	310	3/14/1994	310		
MW-91B	HARDNESS, TOTAL (MG/L AS CaCO3)	01	300	6/6/1994	300		
MW-91B	HARDNESS, TOTAL (MG/L AS CaCO3)	01	290	9/12/1994	290		
MW-91B	HARDNESS, TOTAL (MG/L AS CaCO3)	01	270	12/5/1994	270		
MW-91B	HARDNESS, TOTAL (MG/L AS CaCO3)	01	290	3/6/1995	290		
MW-91B	HARDNESS, TOTAL (MG/L AS CaCO3)	01	280	6/6/1995	280		
MW-91B	HARDNESS, TOTAL (MG/L AS CaCO3)	01	280	9/5/1995	280		
MW-91B	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	373	4/13/2015	373	373	
MW-91B	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	336	10/8/2015	336	336	
MW-91B	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	333	4/8/2016	333	333	
MW-91B	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	311	10/12/2016	311	311	
MW-91B	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	315	4/12/2017	315	315	
MW-91B	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	253	10/5/2017	253	253	
MW-91B	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	260	4/24/2018	260	260	

Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-91B	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	270	10/24/2018	270	270	
MW-91B	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	276	4/3/2019	276	276	
MW-91B	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	341	10/9/2019	341	341	
MW-91B	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	375	5/29/2020	375	375	
MW-91B	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	398	10/9/2020	398	398	
MW-91B	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	427	4/14/2021	427	427	
MW-91B	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	460	10/14/2021	460	460	
MW-91B	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	423	4/13/2022	423	423	
MW-91B	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	428	10/25/2022	428	428	
MW-91B	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	409	4/25/2023	409	409	
MW-91B	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	474	10/10/2023	474	474	
MW-91B	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	412	4/16/2024	412	412	
MW-91B	HARDNESS, TOTAL, FILTERED (MG/L AS CaCO3)	01	472	10/2/2024	472	472	
Calculations							
Count						20	
Mean						367.30	
Std Dev						68.98	
3 X SD (PAL)						206.95	
Min Increase (PAL)						100	
PAL, Calculated						574.25	
PAL, Rounded						580	
Duplicate Data Not Used for Calculations							

Notes:

MW-91B: Boron



Note:
Non-detect results plotted at 0.5 times limit of detection with an empty symbol.

Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-91B	BORON, DISSOLVED (MG/L B)	01	0.08	3/21/1989	0.08		
MW-91B	BORON, DISSOLVED (MG/L B)	01	<0.05	6/15/1989	0.025		
MW-91B	BORON, DISSOLVED (MG/L B)	01	<0.05	9/27/1989	0.025		
MW-91B	BORON, DISSOLVED (MG/L B)	01	<0.05	12/6/1989	0.025		
MW-91B	BORON, DISSOLVED (MG/L B)	01	<0.2	3/29/1990	0.1		
MW-91B	BORON, DISSOLVED (MG/L B)	01	<0.2	6/13/1990	0.1		
MW-91B	BORON, DISSOLVED (MG/L B)	01	<0.2	9/6/1990	0.1		
MW-91B	BORON, DISSOLVED (MG/L B)	01	<0.2	12/7/1990	0.1		
MW-91B	BORON, DISSOLVED (MG/L B)	01	<0.2	3/4/1991	0.1		
MW-91B	BORON, DISSOLVED (MG/L B)	01	<0.2	6/3/1991	0.1		
MW-91B	BORON, DISSOLVED (MG/L B)	01	<0.2	9/6/1991	0.1		
MW-91B	BORON, DISSOLVED (MG/L B)	01	<0.2	12/3/1991	0.1		
MW-91B	BORON, DISSOLVED (MG/L B)	01	<0.2	3/2/1992	0.1		
MW-91B	BORON, DISSOLVED (MG/L B)	01	<0.2	6/1/1992	0.1		
MW-91B	BORON, DISSOLVED (MG/L B)	01	<0.2	9/2/1992	0.1		
MW-91B	BORON, DISSOLVED (MG/L B)	01	<0.2	12/1/1992	0.1		
MW-91B	BORON, DISSOLVED (MG/L B)	01	<0.2	3/9/1993	0.1		
MW-91B	BORON, DISSOLVED (MG/L B)	01	<0.2	6/2/1993	0.1		
MW-91B	BORON, DISSOLVED (MG/L B)	01	0.25	9/13/1993	0.25		
MW-91B	BORON, DISSOLVED (MG/L B)	01	<0.2	12/7/1993	0.1		
MW-91B	BORON, DISSOLVED (MG/L B)	01	0.22	3/14/1994	0.22		
MW-91B	BORON, DISSOLVED (MG/L B)	01	0.23	6/6/1994	0.23		
MW-91B	BORON, DISSOLVED (MG/L B)	01	0.25	9/12/1994	0.25		
MW-91B	BORON, DISSOLVED (MG/L B)	01	0.34	12/5/1994	0.34		
MW-91B	BORON, DISSOLVED (MG/L B)	01	0.44	3/6/1995	0.44		
MW-91B	BORON, DISSOLVED (MG/L B)	01	0.46	6/6/1995	0.46		
MW-91B	BORON, DISSOLVED (MG/L B)	01	0.53	9/5/1995	0.53		
MW-91B	BORON, DISSOLVED (MG/L B)	01	0.74	4/29/1996	0.74		
MW-91B	BORON, DISSOLVED (MG/L B)	01	0.96	10/16/1996	0.96		
MW-91B	BORON, DISSOLVED (MG/L B)	01	1.2	4/8/1997	1.2		
MW-91B	BORON, DISSOLVED (MG/L B)	01	1.3	10/20/1997	1.3		
MW-91B	BORON, DISSOLVED (MG/L B)	01	1.4	4/14/1998	1.4		
MW-91B	BORON, DISSOLVED (MG/L B)	01	1.9	10/27/1998	1.9		
MW-91B	BORON, DISSOLVED (MG/L B)	01	1.8	4/16/1999	1.8		
MW-91B	BORON, DISSOLVED (MG/L B)	01	1.8	10/21/1999	1.8		

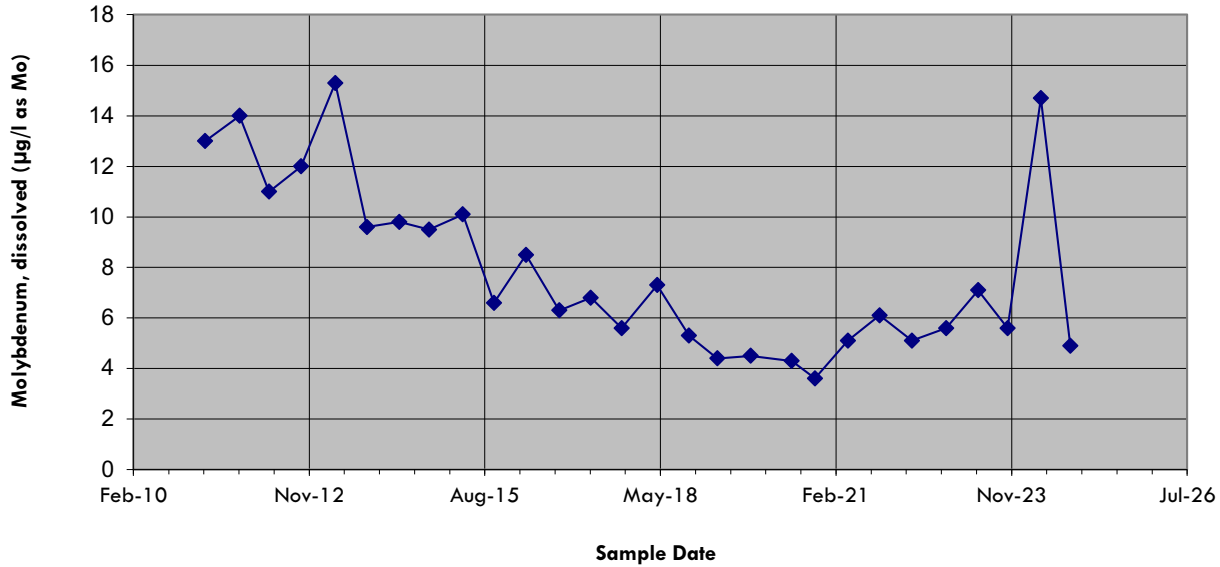
Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-91B	BORON, DISSOLVED (MG/L B)	01	1.9	4/20/2000	1.9		
MW-91B	BORON, DISSOLVED (MG/L B)	01	2.1	10/4/2000	2.1		
MW-91B	BORON, DISSOLVED (MG/L B)	01	2.4	4/3/2001	2.4		
MW-91B	BORON, DISSOLVED (MG/L B)	01	2	10/30/2001	2		
MW-91B	BORON, DISSOLVED (MG/L B)	01	1.9	4/25/2002	1.9		
MW-91B	BORON, DISSOLVED (MG/L B)	01	1.9	10/25/2002	1.9		
MW-91B	BORON, DISSOLVED (MG/L B)	01	2.2	4/28/2003	2.2		
MW-91B	BORON, DISSOLVED (MG/L B)	01	2.1	10/30/2003	2.1		
MW-91B	BORON, DISSOLVED (MG/L B)	01	2.1	4/27/2004	2.1		
MW-91B	BORON, DISSOLVED (MG/L B)	01	2.3	10/12/2004	2.3		
MW-91B	BORON, DISSOLVED (MG/L B)	01	2.6	4/15/2005	2.6		
MW-91B	BORON, DISSOLVED (MG/L B)	01	2.9	10/26/2005	2.9		
MW-91B	BORON, DISSOLVED (MG/L B)	01	2.9	4/13/2006	2.9		
MW-91B	BORON, DISSOLVED (MG/L B)	01	3	10/12/2006	3		
MW-91B	BORON, DISSOLVED (MG/L B)	01	3	4/10/2007	3		
MW-91B	BORON, DISSOLVED (MG/L B)	01	3.5	10/31/2007	3.5		
MW-91B	BORON, DISSOLVED (MG/L B)	01	3.84	4/17/2008	3.84		
MW-91B	BORON, DISSOLVED (MG/L B)	01	3.48	10/10/2008	3.48		
MW-91B	BORON, DISSOLVED (MG/L B)	01	3.36	4/22/2009	3.36		
MW-91B	BORON, DISSOLVED (MG/L B)	01	3.46	10/27/2009	3.46		
MW-91B	BORON, DISSOLVED (MG/L B)	01	3.1	4/14/2010	3.1		J
MW-91B	BORON, DISSOLVED (MG/L B)	01	3.1	10/21/2010	3.1		
MW-91B	BORON, DISSOLVED (MG/L B)	01	3.1	4/6/2011	3.1		
MW-91B	BORON, DISSOLVED (MG/L B)	01	2.6	10/21/2011	2.6		
MW-91B	BORON, DISSOLVED (MG/L B)	01	2.1	4/4/2012	2.1		
MW-91B	BORON, DISSOLVED (MG/L B)	01	2.3	10/4/2012	2.3		
MW-91B	BORON, DISSOLVED (MG/L B)	01	2.18	4/18/2013	2.18		
MW-91B	BORON, DISSOLVED (MG/L B)	01	1.65	10/14/2013	1.65		
MW-91B	BORON, DISSOLVED (MG/L B)	01	2.1	4/17/2014	2.1		
MW-91B	BORON, DISSOLVED (MG/L B)	01	2.04	10/2/2014	2.04		
MW-91B	BORON, DISSOLVED (MG/L B)	01	2	4/13/2015	2		
MW-91B	BORON, DISSOLVED (MG/L B)	01	1.91	10/8/2015	1.91		
MW-91B	BORON, DISSOLVED (MG/L B)	01	1.82	4/8/2016	1.82		
MW-91B	BORON, DISSOLVED (MG/L B)	01	1.8	10/12/2016	1.8		
MW-91B	BORON, DISSOLVED (MG/L B)	01	1.85	4/12/2017	1.85		
MW-91B	BORON, DISSOLVED (MG/L B)	01	1.74	10/5/2017	1.74		
MW-91B	BORON, DISSOLVED (MG/L B)	01	1.6	4/24/2018	1.6		
MW-91B	BORON, DISSOLVED (MG/L B)	01	1.88	10/24/2018	1.88		
MW-91B	BORON, DISSOLVED (MG/L B)	01	1.54	4/3/2019	1.54		
MW-91B	BORON, DISSOLVED (MG/L B)	01	1.57	10/9/2019	1.57		
MW-91B	BORON, DISSOLVED (MG/L B)	01	1.5	5/29/2020	1.5		
MW-91B	BORON, DISSOLVED (MG/L B)	01	1.17	10/9/2020	1.17		
MW-91B	BORON, DISSOLVED (MG/L B)	01	1.09	4/14/2021	1.09	1.09	Calculation based on last 8 rounds due to prior decrease
MW-91B	BORON, DISSOLVED (MG/L B)	01	0.894	10/14/2021	0.894	0.894	
MW-91B	BORON, DISSOLVED (MG/L B)	01	1.08	4/13/2022	1.08	1.08	
MW-91B	BORON, DISSOLVED (MG/L B)	01	1.05	10/25/2022	1.05	1.05	
MW-91B	BORON, DISSOLVED (MG/L B)	01	1.11	4/25/2023	1.11	1.11	
MW-91B	BORON, DISSOLVED (MG/L B)	01	0.8	10/10/2023	0.8	0.8	
MW-91B	BORON, DISSOLVED (MG/L B)	01	0.976	4/16/2024	0.976	0.976	
MW-91B	BORON, DISSOLVED (MG/L B)	01	0.733	10/2/2024	0.733	0.733	
Calculations							
Count						8	
Mean						0.97	
Std Dev						0.14	
2 X SD (ACL)						0.29	
ACL, Calculated						1.25	
ACL, Rounded						1.3	

Duplicate Data Not Used for Calculations							

Note: Current PAL = 0.2 mg/l; ES = 1 mg/l

J = Result is an estimated value below the laboratory's limit of quantitation.

MW-33BR: Molybdenum

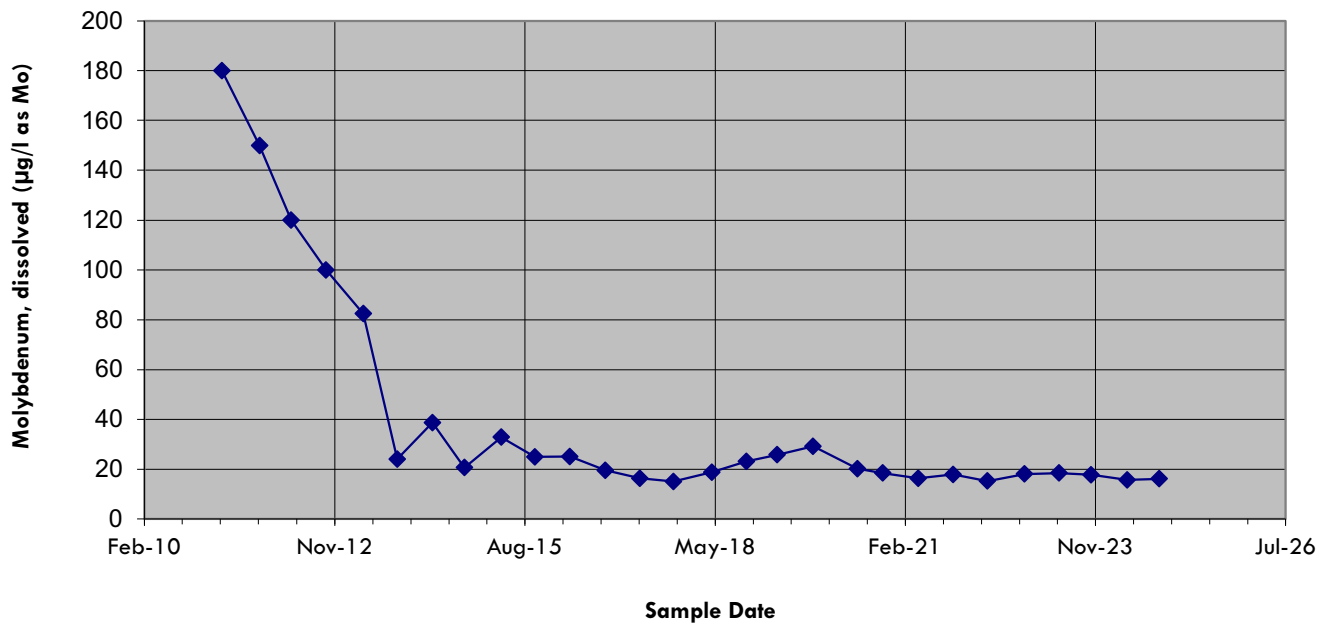


Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-33BR	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	13	4/6/2011	13	13	
MW-33BR	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	14	10/20/2011	14	14	
MW-33BR	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	11	4/4/2012	11	11	
MW-33BR	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	12	10/4/2012	12	12	
MW-33BR	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	15.3	4/17/2013	15.3	15.3	
MW-33BR	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	9.6	10/14/2013	9.6	9.6	
MW-33BR	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	9.8	4/16/2014	9.8	9.8	
MW-33BR	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	9.5	10/2/2014	9.5	9.5	
MW-33BR	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	10.1	4/13/2015	10.1	10.1	
MW-33BR	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	6.6	10/7/2015	6.6	6.6	
MW-33BR	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	8.5	4/7/2016	8.5	8.5	
MW-33BR	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	6.3	10/13/2016	6.3	6.3	
MW-33BR	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	6.8	4/11/2017	6.8	6.8	
MW-33BR	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	5.6	10/4/2017	5.6	5.6	
MW-33BR	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	7.3	4/24/2018	7.3	7.3	
MW-33BR	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	5.3	10/22/2018	5.3	5.3	
MW-33BR	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	4.4	4/2/2019	4.4	4.4	
MW-33BR	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	4.5	10/8/2019	4.5	4.5	
MW-33BR	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	4.3	5/29/2020	4.3	4.3	
MW-33BR	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	3.6	10/8/2020	3.6	3.6	
MW-33BR	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	5.1	4/14/2021	5.1	5.1	
MW-33BR	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	6.1	10/12/2021	6.1	6.1	
MW-33BR	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	5.1	4/13/2022	5.1	5.1	
MW-33BR	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	5.6	10/25/2022	5.6	5.6	
MW-33BR	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	7.1	4/26/2023	7.1	7.1	
MW-33BR	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	5.6	10/10/2023	5.6	5.6	
MW-33BR	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	14.7	4/17/2024	14.7	14.7	
MW-33BR	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	4.9	10/2/2024	4.9	4.9	
Calculations							
Count						28	
Mean						7.92	
Std Dev						3.43	
2 X SD (ACL)						6.85	
ACL, Calculated						14.77	
ACL, Rounded						15	

Duplicate Data Not Used for Calculations							

Note: Current PAL = 8 µg/l; ES = 40 µg/l

MW-91AR: Molybdenum



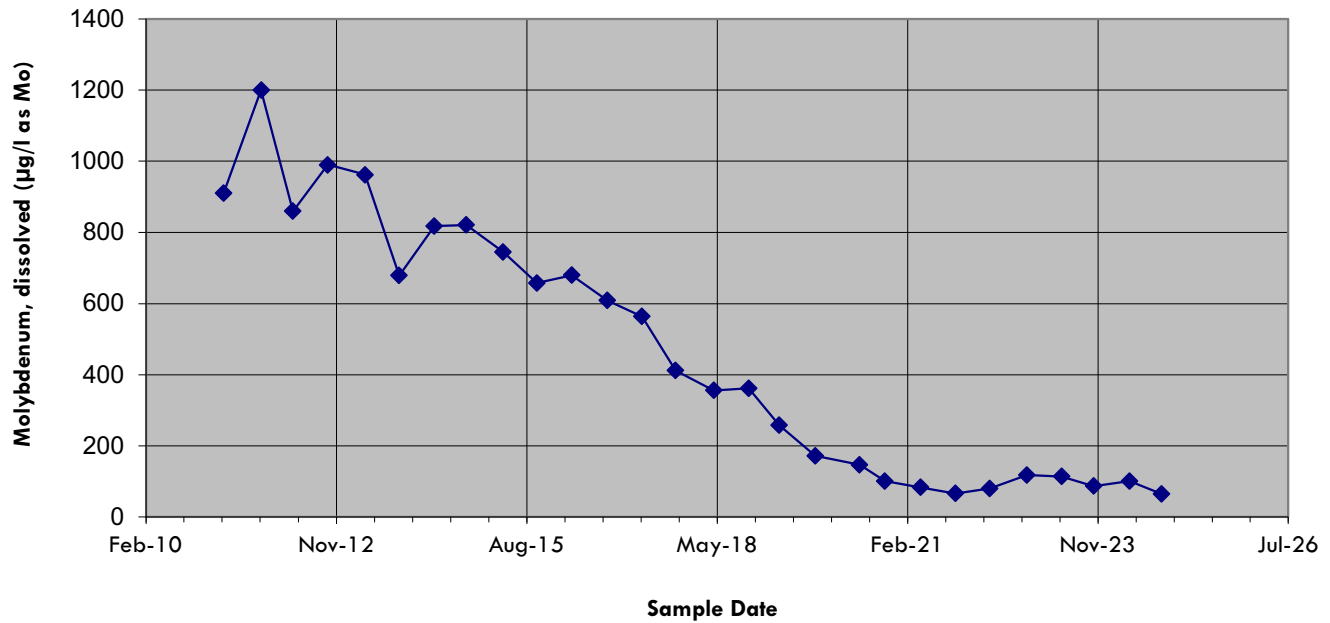
Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-91AR	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	180	4/6/2011	180		Decreasing trend
MW-91AR	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	150	10/21/2011	150		
MW-91AR	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	120	4/4/2012	120		
MW-91AR	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	100	10/4/2012	100		
MW-91AR	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	82.5	4/18/2013	82.5		
MW-91AR	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	24.1	10/14/2013	24.1		
MW-91AR	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	38.7	4/17/2014	38.7		
MW-91AR	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	20.7	10/2/2014	20.7		
MW-91AR	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	32.9	4/13/2015	32.9	32.9	Data period used in calculation to match period used for PAL calculations
MW-91AR	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	25	10/7/2015	25	25	
MW-91AR	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	25.1	4/8/2016	25.1	25.1	
MW-91AR	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	19.6	10/12/2016	19.6	19.6	
MW-91AR	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	16.4	4/12/2017	16.4	16.4	
MW-91AR	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	15	10/5/2017	15	15	
MW-91AR	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	18.8	4/24/2018	18.8	18.8	
MW-91AR	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	23.2	10/24/2018	23.2	23.2	
MW-91AR	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	25.8	4/3/2019	25.8	25.8	
MW-91AR	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	29.2	10/9/2019	29.2	29.2	
MW-91AR	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	20.2	5/29/2020	20.2	20.2	
MW-91AR	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	18.5	10/9/2020	18.5	18.5	
MW-91AR	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	16.4	4/14/2021	16.4	16.4	
MW-91AR	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	17.9	10/14/2021	17.9	17.9	
MW-91AR	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	15.3	4/13/2022	15.3	15.3	
MW-91AR	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	18.1	10/25/2022	18.1	18.1	
MW-91AR	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	18.5	4/25/2023	18.5	18.5	
MW-91AR	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	17.8	10/10/2023	17.8	17.8	
MW-91AR	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	15.7	4/16/2024	15.7	15.7	
MW-91AR	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	16.2	10/2/2024	16.2	16.2	

Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
Calculations							
Count						20	
Mean						20.28	
Std Dev						4.97	
2 X SD (ACL)						9.94	
ACL, Calculated						30.22	
ACL, Rounded						31	
Duplicate Data Not Used for Calculations							

Note: Current PAL = 8 µg/l; ES = 40 µg/l

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MW-91B: Molybdenum



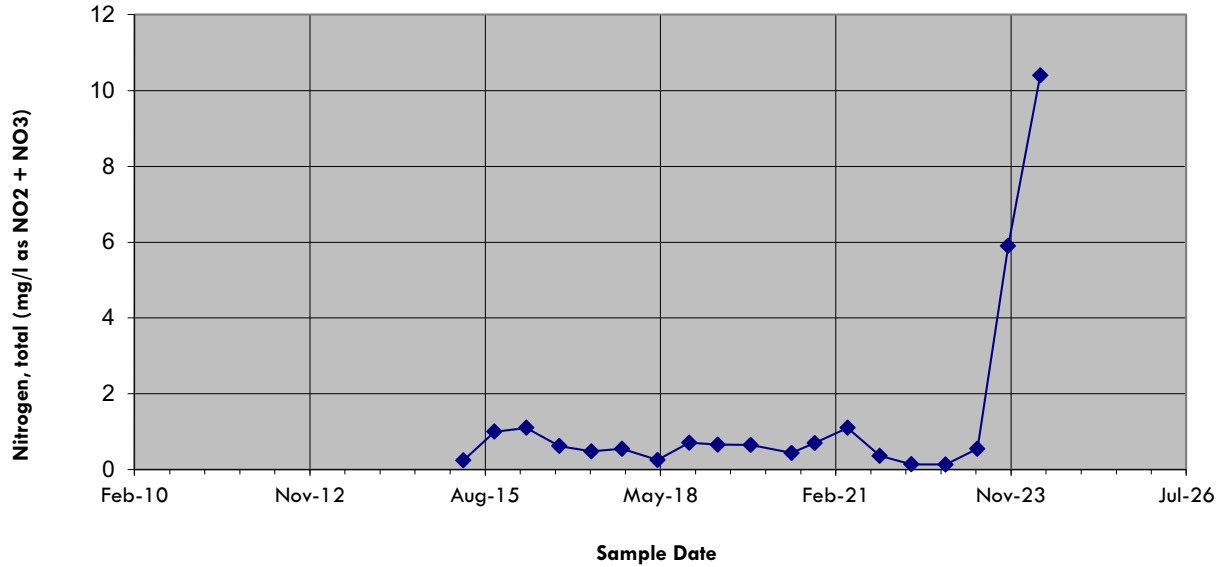
Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-91B	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	910	4/6/2011	910		
MW-91B	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	1200	10/21/2011	1200		
MW-91B	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	860	4/4/2012	860		
MW-91B	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	990	10/4/2012	990		
MW-91B	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	962	4/18/2013	962		
MW-91B	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	679	10/14/2013	679		
MW-91B	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	818	4/17/2014	818		
MW-91B	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	821	10/2/2014	821		
MW-91B	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	745	4/13/2015	745		
MW-91B	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	658	10/8/2015	658		
MW-91B	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	680	4/8/2016	680		
MW-91B	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	609	10/12/2016	609		
MW-91B	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	564	4/12/2017	564		
MW-91B	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	412	10/5/2017	412		
MW-91B	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	356	4/24/2018	356		
MW-91B	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	362	10/24/2018	362		
MW-91B	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	258	4/3/2019	258		
MW-91B	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	172	10/9/2019	172		
MW-91B	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	147	5/29/2020	147		
MW-91B	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	101	10/9/2020	101		
MW-91B	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	83.4	4/14/2021	83.4	83.4	Calculation based on last 8 rounds due to prior decrease
MW-91B	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	66.6	10/14/2021	66.6	66.6	
MW-91B	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	80.4	4/13/2022	80.4	80.4	
MW-91B	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	118	10/25/2022	118	118	
MW-91B	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	114	4/25/2023	114	114	
MW-91B	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	87	10/10/2023	87	87	
MW-91B	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	101	4/16/2024	101	101	
MW-91B	MOLYBDENUM, DISSOLVED (µG/L Mo)	01	65	10/2/2024	65	65	

Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
Calculations							
Count						8	
Mean						89.43	
Std Dev						19.98	
2 X SD (ACL)						39.97	
ACL, Calculated						129.39	
ACL, Rounded						130	
Duplicate Data Not Used for Calculations							

Note: Current PAL = 8 µg/l; ES = 40 µg/l

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MW-37A: Nitrogen (NO2 + NO3)



Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW37A	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	01	0.24	4/14/2015	0.24	0.24	J,M
MW37A	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	01	1	10/8/2015	1	1	M
MW37A	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	01	1.1	4/7/2016	1.1	1.1	
MW37A	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	01	0.62	10/13/2016	0.62	0.62	
MW37A	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	01	0.48	4/13/2017	0.48	0.48	
MW37A	NITRITE PLUS NITRATE, DIS. 1 DET. (MG/L AS N)	01	0.55	10/5/2017	0.55	0.55	
MW37A	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	01	0.25	4/25/2018	0.25	0.25	
MW37A	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	01	0.71	10/23/2018	0.71	0.71	
MW37A	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	01	0.66	4/3/2019	0.66	0.66	
MW37A	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	01	0.65	10/9/2019	0.65	0.65	
MW37A	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	01	0.44	5/29/2020	0.44	0.44	
MW37A	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	01	0.7	10/8/2020	0.7	0.7	
MW37A	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	01	1.1	4/14/2021	1.1	1.1	
MW37A	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	01	0.36	10/14/2021	0.36	0.36	
MW37A	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	01	0.14	4/13/2022	0.14	0.14	J
MW37A	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	01	0.13	10/25/2022	0.13	0.13	J
MW37A	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	01	0.55	4/24/2023	0.55	0.55	
MW37A	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	01	5.9	10/16/2023	5.9	5.9	
MW37A	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	01	10.4	4/16/2024	10.4	10.4	

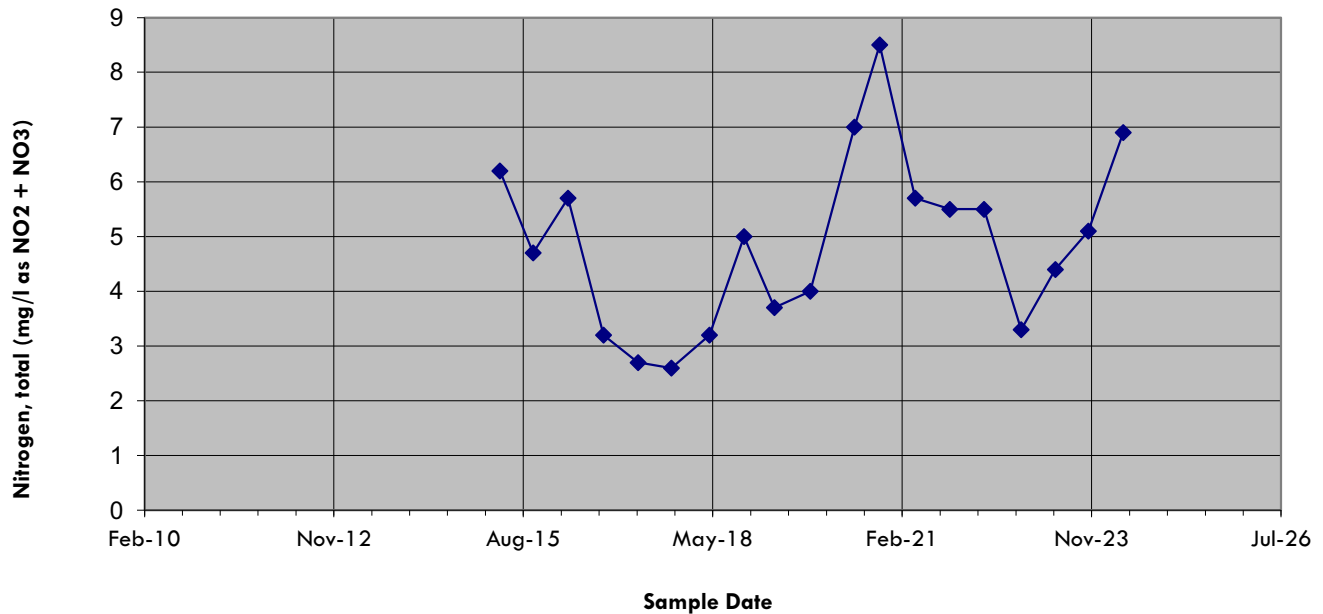
Calculations						
Count						19
Mean						1.37
Std Dev						2.52
2 X SD (ACL)						5.04
ACL, Calculated						6.41
ACL, Rounded						6.5

Duplicate Data Not Used for Calculations						

Note: Current PAL = 2 mg/l; ES = 10 mg/l
 J = Result is an estimated value below the laboratory's limit of quantitation.
 B = Compound detected in blank.

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MW-91AR: Nitrogen (NO2 + NO3)

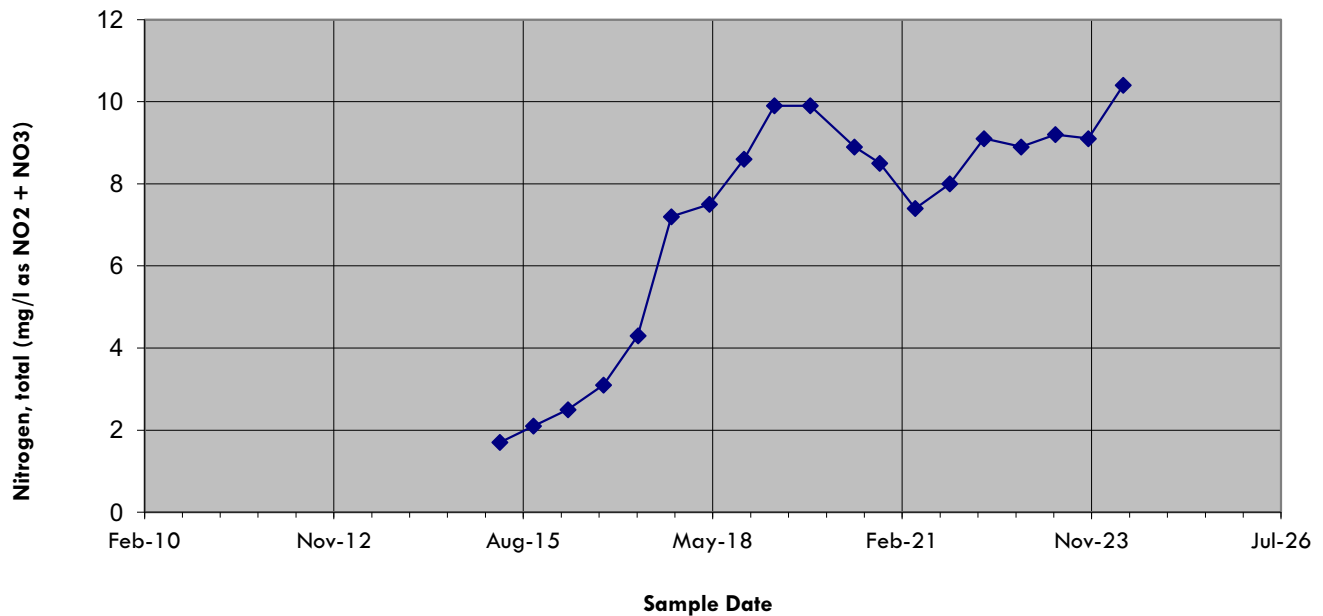


Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-91AR	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	01	6.2	4/13/2015	6.2	6.2	
MW-91AR	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	01	4.7	10/7/2015	4.7	4.7	M
MW-91AR	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	01	5.7	4/8/2016	5.7	5.7	
MW-91AR	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	01	3.2	10/12/2016	3.2	3.2	
MW-91AR	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	01	2.7	4/12/2017	2.7	2.7	
MW-91AR	NITRITE PLUS NITRATE, DIS. 1 DET. (MG/L AS N)	01	2.6	10/5/2017	2.6	2.6	
MW-91AR	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	01	3.2	4/24/2018	3.2	3.2	
MW-91AR	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	01	5	10/24/2018	5	5	
MW-91AR	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	01	3.7	4/3/2019	3.7	3.7	
MW-91AR	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	01	4	10/9/2019	4	4	
MW-91AR	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	01	4	10/9/2019	4	4	
MW-91AR	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	01	7	5/29/2020	7	7	
MW-91AR	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	01	8.3	10/9/2020	8.5	8.5	
MW-91AR	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	01	5.7	4/14/2021	5.7	5.7	
MW-91AR	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	01	5.5	10/14/2021	5.5	5.5	
MW-91AR	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	01	5.5	4/13/2022	5.5	5.5	
MW-91AR	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	01	3.3	10/25/2022	3.3	3.3	
MW-91AR	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	01	4.4	4/25/2023	4.4	4.4	
MW-91AR	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	01	5.1	10/16/2023	5.1	5.1	
MW-91AR	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	01	6.9	4/16/2024	6.9	6.9	
Calculations							
Count						19	
Mean						4.89	
Std Dev						1.60	
2 X SD (ACL)						3.20	
ACL, Calculated						8.09	
ACL, Rounded						8.1	
Duplicate Data Not Used for Calculations							

Note: Current PAL = 2 mg/l; ES = 10 mg/l
M = Failed method QC check.

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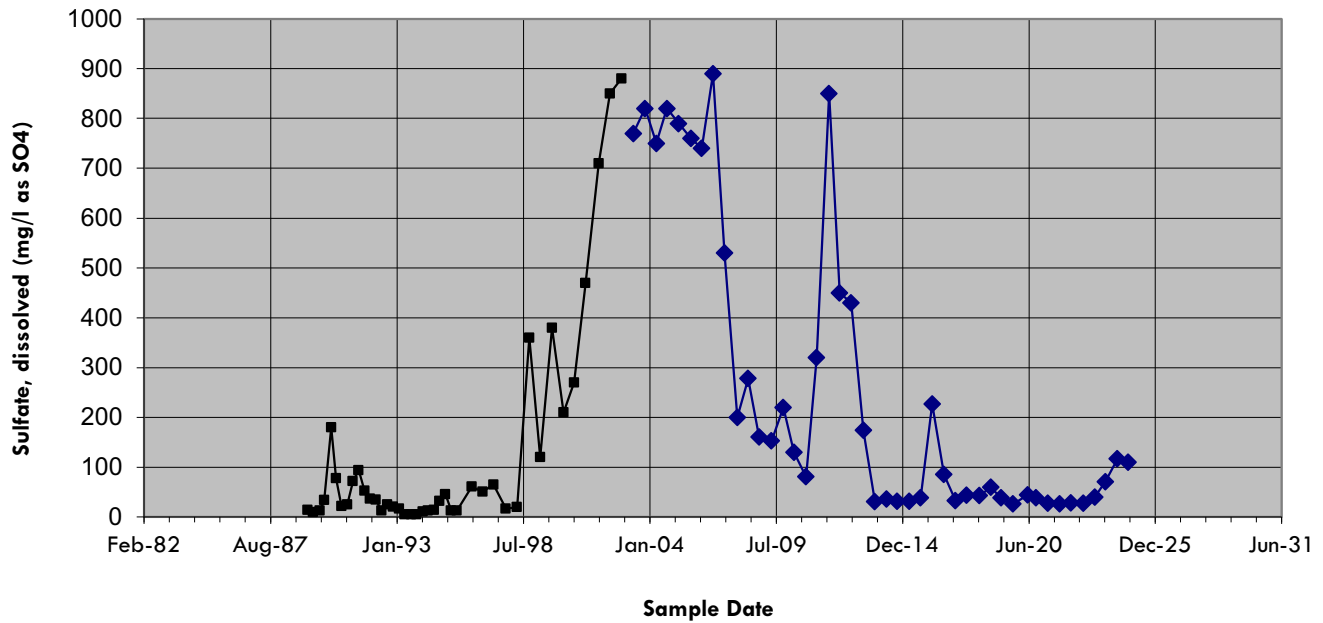
MW-91B: Nitrogen (NO2 + NO3)



Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-91B	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	01	1.7	4/13/2015	1.7		M
MW-91B	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	01	2.1	10/8/2015	2.1		
MW-91B	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	01	2.5	4/8/2016	2.5		
MW-91B	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	01	3.1	10/12/2016	3.1		
MW-91B	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	01	4.3	4/12/2017	4.3		
MW-91B	NITRITE PLUS NITRATE, DIS. 1 DET. (MG/L AS N)	01	7.2	10/5/2017	7.2		
MW-91B	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	01	7.5	4/24/2018	7.5		
MW-91B	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	01	8.6	10/24/2018	8.6		
MW-91B	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	01	9.9	4/3/2019	9.9		
MW-91B	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	01	9.9	10/9/2019	9.9		
MW-91B	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	01	8.9	5/29/2020	8.9		
MW-91B	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	01	8.5	10/9/2020	8.5	8.5	Calculation based on last 8 rounds for consistency with other ACLs at this well
MW-91B	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	01	7.4	4/14/2021	7.4	7.4	
MW-91B	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	01	8	10/14/2021	8	8	
MW-91B	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	01	9.1	4/13/2022	9.1	9.1	
MW-91B	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	01	8.9	10/25/2022	8.9	8.9	
MW-91B	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	01	9.2	4/25/2023	9.2	9.2	
MW-91B	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	01	9.1	10/16/2023	9.1	9.1	
MW-91B	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	01	10.4	4/16/2024	10.4	10.4	
Calculations							
Count						8	
Mean						8.83	
Std Dev						0.89	
2 X SD (ACL)						1.79	
ACL, Calculated						10.61	
ACL, Rounded						11	
Duplicate Data Not Used for Calculations							

Note: Current PAL = 2 mg/l; ES = 10 mg/l
M = Failed method QC check.

MW-91A/91AR: Sulfate



Note: MW-91AR replaced MW-91A in April 2003.

Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-91A	SULFATE, DISSOLVED (MG/L SO4)	01	14	3/21/1989	14		
MW-91A	SULFATE, DISSOLVED (MG/L SO4)	01	10	6/15/1989	10		
MW-91A	SULFATE, DISSOLVED (MG/L SO4)	01	13	9/27/1989	13		
MW-91A	SULFATE, DISSOLVED (MG/L SO4)	01	34	12/6/1989	34		
MW-91A	SULFATE, DISSOLVED (MG/L SO4)	01	180	3/29/1990	180		
MW-91A	SULFATE, DISSOLVED (MG/L SO4)	01	78	6/13/1990	78		
MW-91A	SULFATE, DISSOLVED (MG/L SO4)	01	22	9/6/1990	22		
MW-91A	SULFATE, DISSOLVED (MG/L SO4)	01	25	12/7/1990	25		
MW-91A	SULFATE, DISSOLVED (MG/L SO4)	01	72	3/4/1991	72		
MW-91A	SULFATE, DISSOLVED (MG/L SO4)	01	94	6/3/1991	94		
MW-91A	SULFATE, DISSOLVED (MG/L SO4)	01	53	9/6/1991	53		
MW-91A	SULFATE, DISSOLVED (MG/L SO4)	01	37	12/3/1991	37		
MW-91A	SULFATE, DISSOLVED (MG/L SO4)	01	35	3/2/1992	35		
MW-91A	SULFATE, DISSOLVED (MG/L SO4)	01	13	6/1/1992	13		
MW-91A	SULFATE, DISSOLVED (MG/L SO4)	01	25	9/2/1992	25		
MW-91A	SULFATE, DISSOLVED (MG/L SO4)	01	21	12/1/1992	21		
MW-91A	SULFATE, DISSOLVED (MG/L SO4)	01	17	3/9/1993	17		
MW-91A	SULFATE, DISSOLVED (MG/L SO4)	01	<10	6/2/1993	5		
MW-91A	SULFATE, DISSOLVED (MG/L SO4)	01	<10	9/13/1993	5		
MW-91A	SULFATE, DISSOLVED (MG/L SO4)	01	<10	12/7/1993	5		
MW-91A	SULFATE, DISSOLVED (MG/L SO4)	01	11	3/14/1994	11		
MW-91A	SULFATE, DISSOLVED (MG/L SO4)	01	13	6/6/1994	13		
MW-91A	SULFATE, DISSOLVED (MG/L SO4)	01	14	9/12/1994	14		
MW-91A	SULFATE, DISSOLVED (MG/L SO4)	01	32	12/5/1994	32		
MW-91A	SULFATE, DISSOLVED (MG/L SO4)	01	46	3/6/1995	46		
MW-91A	SULFATE, DISSOLVED (MG/L SO4)	01	13	6/6/1995	13		
MW-91A	SULFATE, DISSOLVED (MG/L SO4)	01	13	9/5/1995	13		
MW-91A	SULFATE, DISSOLVED (MG/L SO4)	01	61	4/29/1996	61		
MW-91A	SULFATE, DISSOLVED (MG/L SO4)	01	51	10/16/1996	51		
MW-91A	SULFATE, DISSOLVED (MG/L SO4)	01	65	4/8/1997	65		
MW-91A	SULFATE, DISSOLVED (MG/L SO4)	01	17	10/20/1997	17		
MW-91A	SULFATE, DISSOLVED (MG/L SO4)	01	20	4/14/1998	20		
MW-91A	SULFATE, DISSOLVED (MG/L SO4)	01	360	10/27/1998	360		
MW-91A	SULFATE, DISSOLVED (MG/L SO4)	01	120	4/16/1999	120		B
MW-91A	SULFATE, DISSOLVED (MG/L SO4)	01	380	10/21/1999	380		

Point Name	Parameter	Mult Sample ID	Report Value	Sample Date	Graph Value	Calculation Value	Notes
MW-91A	SULFATE, DISSOLVED (MG/L SO4)	01	210	4/20/2000	210		
MW-91A	SULFATE, DISSOLVED (MG/L SO4)	01	270	10/4/2000	270		
MW-91A	SULFATE, DISSOLVED (MG/L SO4)	01	470	4/3/2001	470		
MW-91A	SULFATE, DISSOLVED (MG/L SO4)	01	710	10/30/2001	710		
MW-91A	SULFATE, DISSOLVED (MG/L SO4)	01	850	4/25/2002	850		
MW-91A	SULFATE, DISSOLVED (MG/L SO4)	01	880	10/25/2002	880		
MW-91AR	SULFATE, DISSOLVED (MG/L SO4)	01	770	4/28/2003	770		
MW-91AR	SULFATE, DISSOLVED (MG/L SO4)	01	820	10/30/2003	820		
MW-91AR	SULFATE, DISSOLVED (MG/L SO4)	01	750	4/27/2004	750		
MW-91AR	SULFATE, DISSOLVED (MG/L SO4)	01	820	10/12/2004	820		
MW-91AR	SULFATE, DISSOLVED (MG/L SO4)	01	790	4/15/2005	790		
MW-91AR	SULFATE, DISSOLVED (MG/L SO4)	01	760	10/26/2005	760		
MW-91AR	SULFATE, DISSOLVED (MG/L SO4)	01	740	4/13/2006	740		
MW-91AR	SULFATE, DISSOLVED (MG/L SO4)	01	890	10/12/2006	890		
MW-91AR	SULFATE, DISSOLVED (MG/L SO4)	01	530	4/10/2007	530		
MW-91AR	SULFATE, DISSOLVED (MG/L SO4)	01	200	10/31/2007	200		
MW-91AR	SULFATE, DISSOLVED (MG/L SO4)	01	278	4/17/2008	278		
MW-91AR	SULFATE, DISSOLVED (MG/L SO4)	01	161	10/10/2008	161		
MW-91AR	SULFATE, DISSOLVED (MG/L SO4)	01	153	4/22/2009	153		
MW-91AR	SULFATE, DISSOLVED (MG/L SO4)	01	220	10/27/2009	220		
MW-91AR	SULFATE, DISSOLVED (MG/L SO4)	01	130	4/14/2010	130		
MW-91AR	SULFATE, DISSOLVED (MG/L SO4)	01	81	10/21/2010	81		
MW-91AR	SULFATE, DISSOLVED (MG/L SO4)	01	320	4/6/2011	320		
MW-91AR	SULFATE, DISSOLVED (MG/L SO4)	01	850	10/21/2011	850		
MW-91AR	SULFATE, DISSOLVED (MG/L SO4)	01	450	4/4/2012	450		
MW-91AR	SULFATE, DISSOLVED (MG/L SO4)	01	430	10/4/2012	430		
MW-91AR	SULFATE, DISSOLVED (MG/L SO4)	01	174	4/18/2013	174		
MW-91AR	SULFATE, TOTAL (MG/L SO4)	01	31.3	10/14/2013	31.3		
MW-91AR	SULFATE, DISSOLVED (MG/L SO4)	01	36.1	4/17/2014	36.1		
MW-91AR	SULFATE, TOTAL (MG/L SO4)	01	31.7	10/2/2014	31.7		
MW-91AR	SULFATE, DISSOLVED (MG/L SO4)	01	31.9	4/13/2015	31.9	31.9	Data period used in calculation to match period used for PAL calculations
MW-91AR	SULFATE, DISSOLVED (MG/L SO4)	01	38.7	10/7/2015	38.7	38.7	
MW-91AR	SULFATE, DISSOLVED (MG/L SO4)	01	227	4/8/2016	227	227	
MW-91AR	SULFATE, DISSOLVED (MG/L SO4)	01	85.5	10/12/2016	85.5	85.5	
MW-91AR	SULFATE, DISSOLVED (MG/L SO4)	01	33.2	4/12/2017	33.2	33.2	
MW-91AR	SULFATE, DISSOLVED (MG/L SO4)	01	43.7	10/5/2017	43.7	43.7	
MW-91AR	SULFATE, DISSOLVED (MG/L SO4)	01	43.1	4/24/2018	43.1	43.1	
MW-91AR	SULFATE, DISSOLVED (MG/L SO4)	01	59.8	10/24/2018	59.8	59.8	
MW-91AR	SULFATE, DISSOLVED (MG/L SO4)	01	38.9	4/3/2019	38.9	38.9	
MW-91AR	SULFATE, DISSOLVED (MG/L SO4)	01	26.4	10/9/2019	26.4	26.4	
MW-91AR	SULFATE, DISSOLVED (MG/L SO4)	01	44.7	5/29/2020	44.7	44.7	
MW-91AR	SULFATE, DISSOLVED (MG/L SO4)	01	38.5	10/9/2020	38.5	38.5	
MW-91AR	SULFATE, DISSOLVED (MG/L SO4)	01	27.9	4/14/2021	27.9	27.9	
MW-91AR	SULFATE, DISSOLVED (MG/L SO4)	01	26.3	10/14/2021	26.3	26.3	
MW-91AR	SULFATE, DISSOLVED (MG/L SO4)	01	28.1	4/13/2022	28.1	28.1	
MW-91AR	SULFATE, DISSOLVED (MG/L SO4)	01	28	10/25/2022	28	28	
MW-91AR	SULFATE, DISSOLVED (MG/L SO4)	01	40.1	4/25/2023	40.1	40.1	
MW-91AR	SULFATE, DISSOLVED (MG/L SO4)	01	70.8	10/10/2023	70.8	70.8	
MW-91AR	SULFATE, DISSOLVED (MG/L SO4)	01	117	4/16/2024	117	117	
MW-91AR	SULFATE, DISSOLVED (MG/L SO4)	01	110	10/2/2024	110	110	
Std Dev						47.96	
2 X SD (ACL)						95.93	
ACL, Calculated						153.91	
ACL, Rounded						160	

Duplicate Data Not Used for Calculations							

Note: Current PAL = 125 mg/l; ES = 250 mg/l

B = Compound detected in blank.

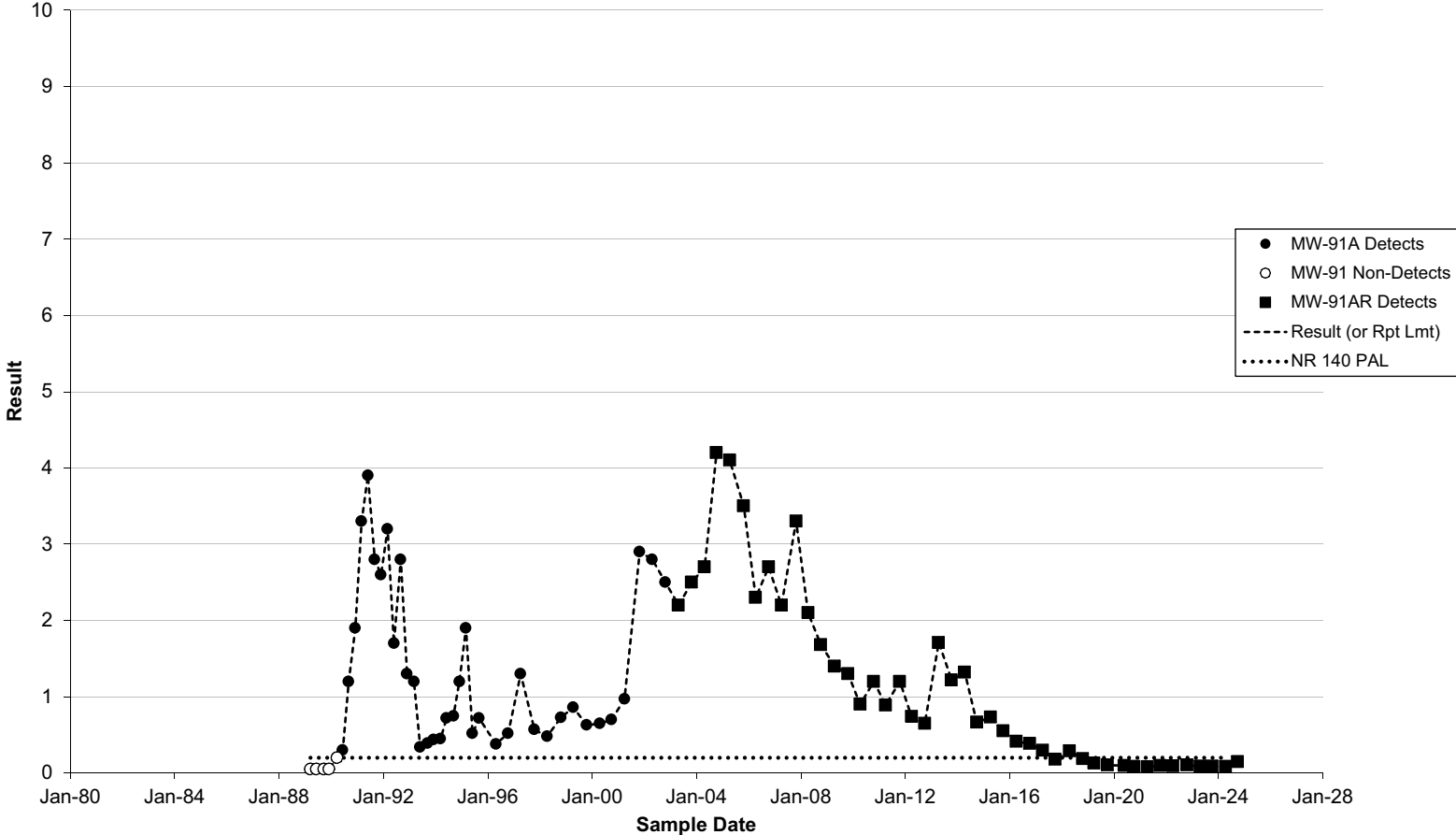
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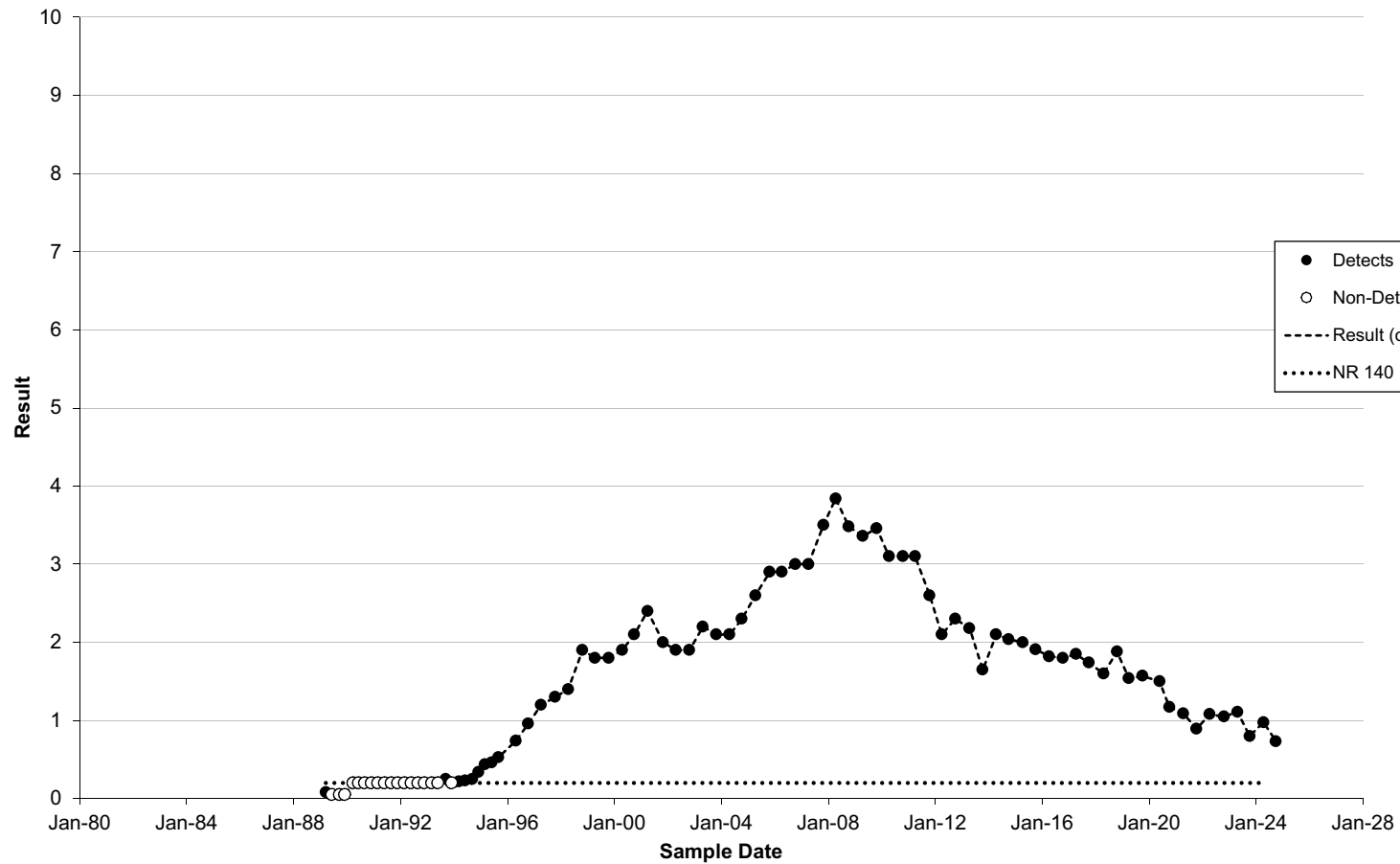
Appendix C

Historical Data Time Series Plots

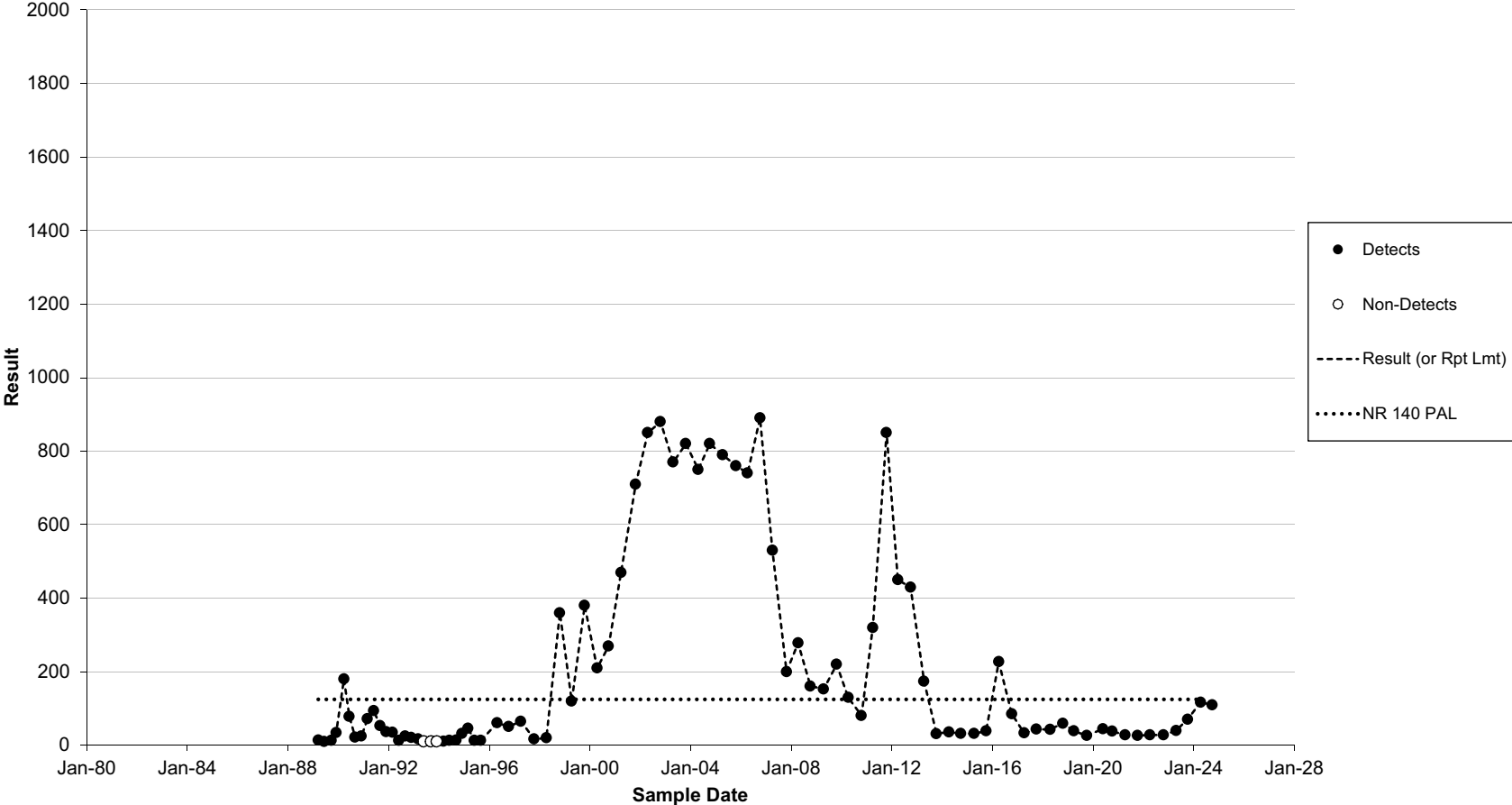
Wisconsin Power & Light Company
Columbia Dry Ash Disposal Facility
MW-91A/MW-91AR - Boron, dissolved (mg/l as B)



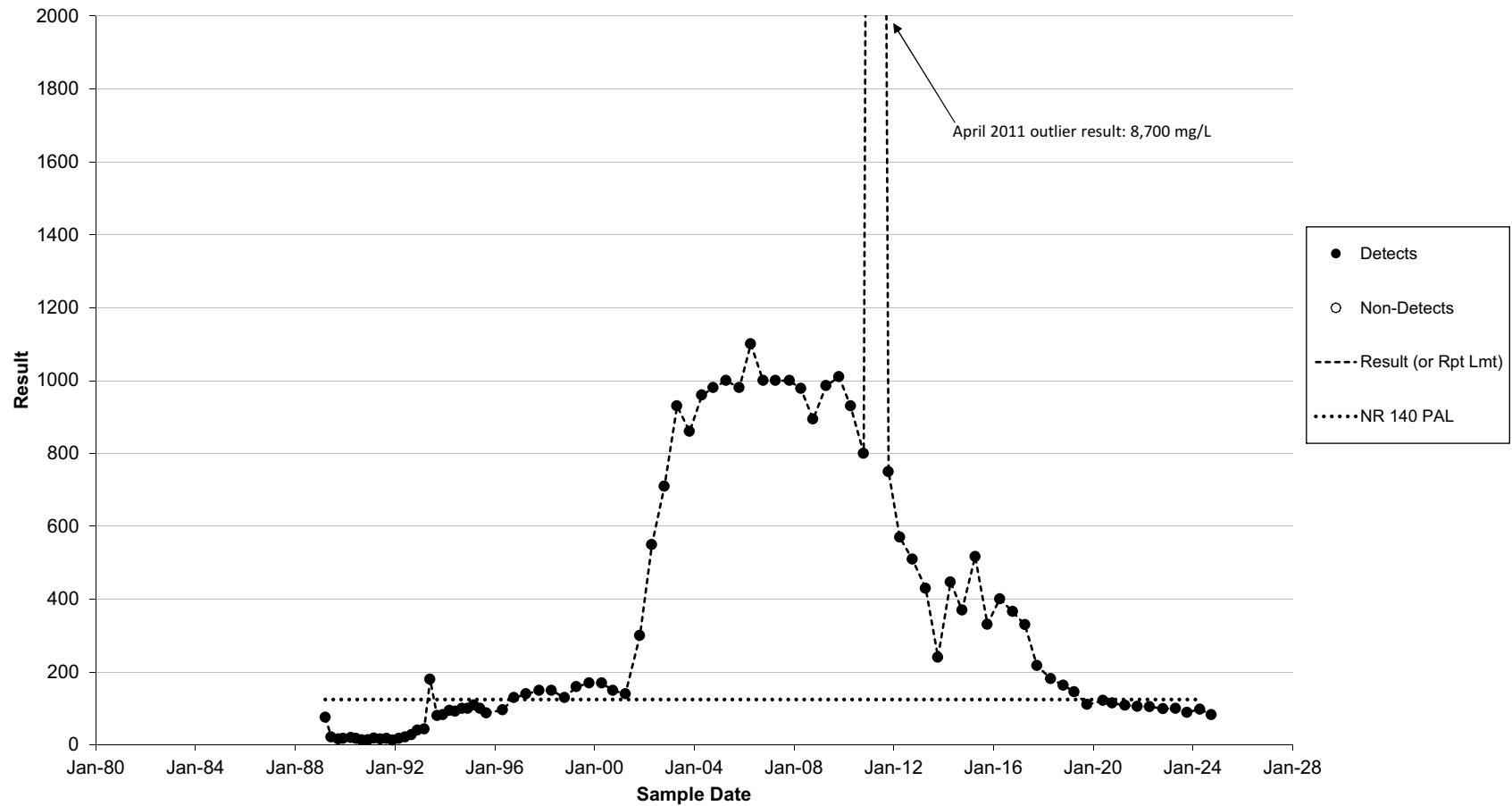
Wisconsin Power & Light Company
Columbia Dry Ash Disposal Facility
MW-91B - Boron, dissolved (mg/l as B)



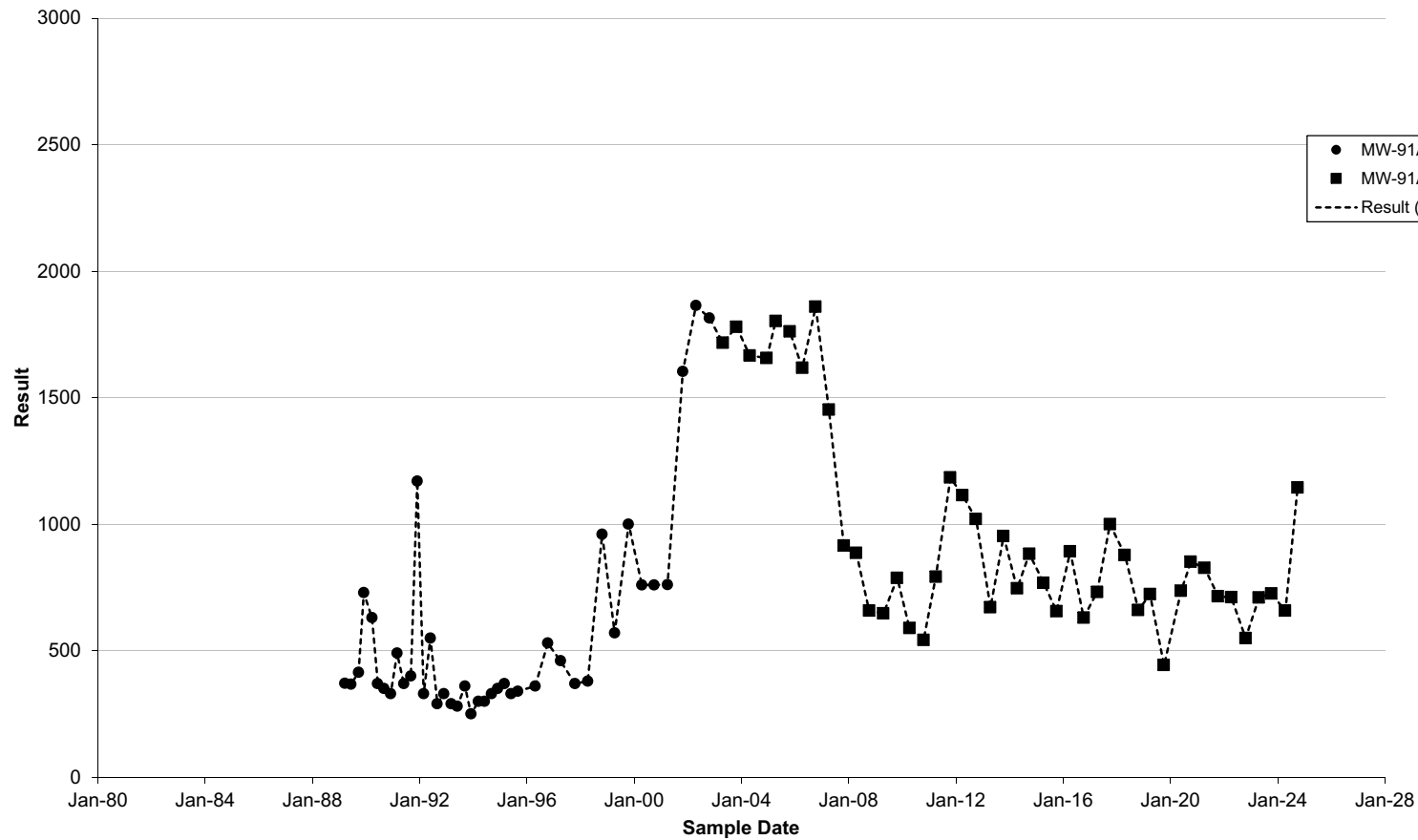
Wisconsin Power & Light Company
Columbia Dry Ash Disposal Facility
MW-91A - Sulfate, dissolved (mg/l as SO4)



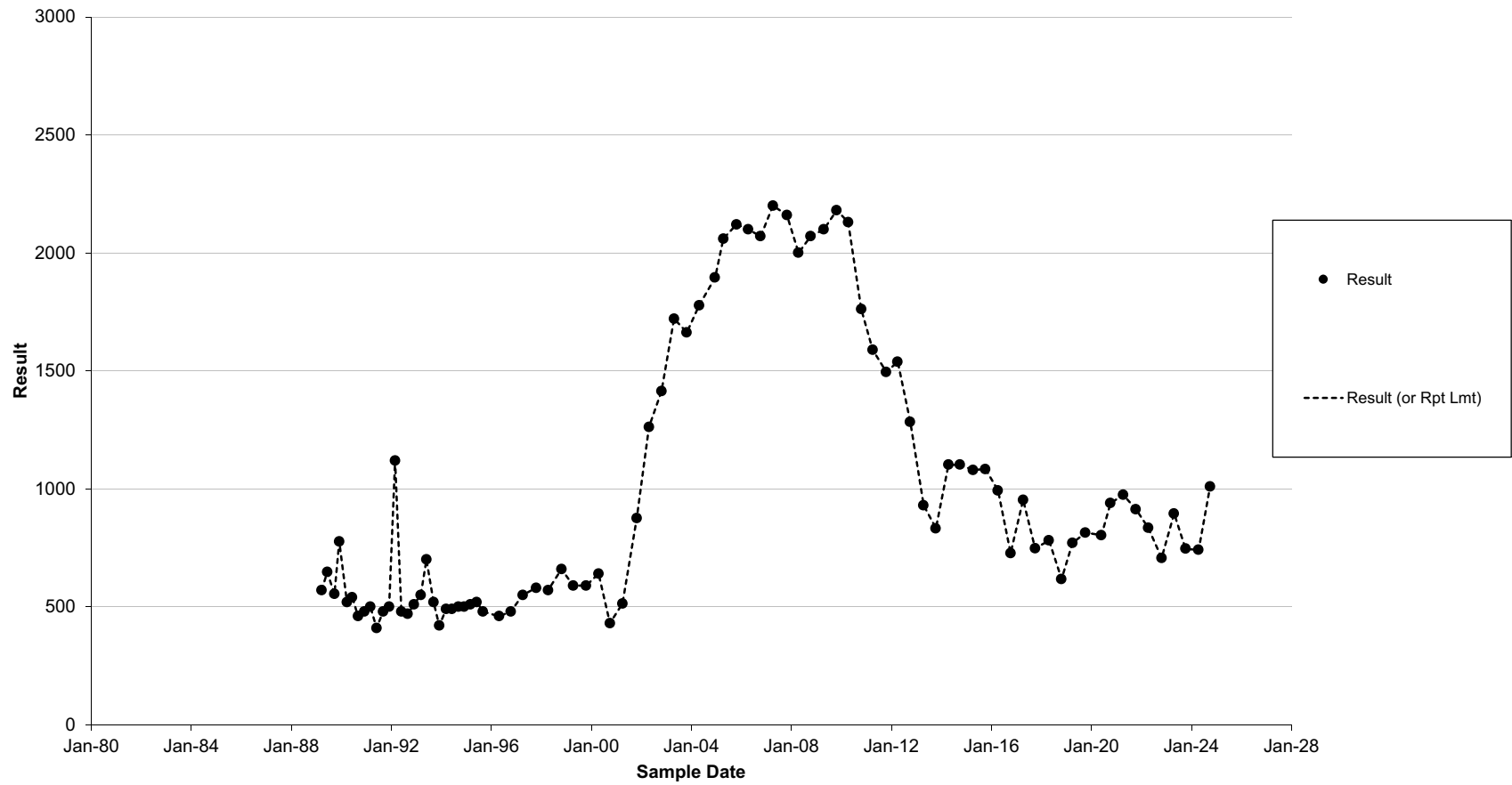
Wisconsin Power & Light Company
Columbia Dry Ash Disposal Facility
MW-91B - Sulfate, dissolved (mg/l as SO₄)



Wisconsin Power & Light Company
Columbia Dry Ash Disposal Facility
MW-91A/MW-91AR - Specific conductance-field (umhos/cm @ 25c)



Wisconsin Power & Light Company
Columbia Dry Ash Disposal Facility
MW-91B - Specific conductance-field (umhos/cm @ 25c)



Appendix D

Copy of False Groundwater Exceedance Demonstration



Alliant Energy
4902 North Biltmore Lane
P.O. Box 77007
Madison, WI 53707-1007

1-800-ALLIANT (800-255-4268)
alliantenergy.com

January 21, 2025

Mr. Tyler Sullivan
Wisconsin Department of Natural Resources
3911 Fish Hatchery Road
Fitchburg, WI 53711-5367

**Subject: November 2024 Resampling Event - Environmental Monitoring Data
Submittal and Demonstration of False Groundwater Exceedance
Wisconsin Power and Light Company – Columbia Ash Disposal Facility
Portage, Wisconsin
License #3025**

Dear Mr. Sullivan:

On behalf of Wisconsin Power and Light Company (WPL), Alliant Energy is providing the enclosed summary and data submittal for the groundwater sampling performed at the WPL Columbia Ash Disposal Facility during November 2024. The work was performed by SCS Engineers (SCS). The work was performed in accordance with the Department's May 3, 2024, Conditional Plan of Operation Approval Modification, Initial Permitting of Coal Combustion Residuals (CCR) Landfill for the ADF.

The November 2024 resampling event confirmed a subset of the results previously reported to the Department, and in response, WPL has prepared a Demonstration of False Groundwater Exceedance. WPL respectfully requests Department concurrence with this Demonstration in accordance with NR 508.06(1)(c).

Please call me at (608) 458-3197 with any questions regarding this information.

Sincerely,

A handwritten signature in dark ink, appearing to read "Matt Bizjack", with a stylized flourish at the end.

Matt Bizjack
Senior Environmental Specialist
Alliant Energy Corporate Services, Inc.

Enclosures

Cc: Brian Clepper – WPL Columbia Energy Center
Jeff Maxted – Alliant Energy Corporate Services, Inc.
Meghan Blodgett, Thomas Karwoski – SCS Engineers

January 21, 2025
File No. 25224067.00

GEMS Data Submittal Contact – WA/5
Wisconsin Department of Natural Resources
Bureau of Waste Management
P.O. Box 7921
Madison, WI 53707-7921

Subject: November 2024 Resampling Event – Environmental Monitoring Data Submittal and
Demonstration of False Groundwater Exceedance
Wisconsin Power and Light Company
Columbia Dry Ash Disposal Facility
Portage, Wisconsin
License No. 03025

Dear GEMS Submittal Contact:

This letter summarizes the monitoring results for a groundwater resampling event performed at the Columbia Dry Ash Disposal Facility (ADF) in November 2024. This resampling was performed in response to detection of groundwater constituents above applicable standards at some CCR monitoring wells during the October 2024 semiannual event.

The November 2024 resampling confirmed some of the exceedances observed in the October 2024 results. For these confirmed exceedances, this letter presents a demonstration of false groundwater exceedance in accordance with NR 508.06(1)(c).

Monitoring was performed in accordance with the site-specific monitoring program approved by the Wisconsin Department of Natural Resources (DNR) in the May 3, 2024, Conditional Plan of Operation Approval Modification, Initial Permitting of Coal Combustion Residuals (CCR) Landfill for the ADF. Where applicable, groundwater analytical results are compared to well-specific Preventive Action Limits (PALs) or Alternative Concentration Limits (ACLs) approved in the May 3, 2024, Approval.

The data submittal includes this letter and the following attachments:

- Groundwater Quality Standard Exceedances (**Table 1**).
- Site Location Map, Site Plan, and October 2024 Groundwater Flow Map (**Figures 1-3**).
- Environmental Monitoring Data Certification Form (**Attachment A**).
- Information supporting the demonstration of false groundwater exceedance (**Attachments B-F**).
- Compact disc (CD) containing the November results in DNR electronic data submittal format (**Attachment G**, included only with hard copy of report).



1 MONITORING PROGRAM COMMENTS

In the December 30, 2024, data submittal letter for October 2024 semiannual sampling event results, WPL indicated an intention to resample CCR monitoring wells MW-33AR, MW-309, and MW-310 for select parameters detected at concentrations above applicable standards during the October 2024 monitoring event. These well locations are shown on **Figure 2**.

As described in the approved site Groundwater Sampling and Analysis Plan, WPL may retest potential groundwater exceedances during additional sampling events between the routine semiannual events. The resampling event at MW-309 and MW-310 was performed on November 5, 2024. The laboratory analytical report was issued on November 20, 2024. SCS Engineers (SCS) performed the monitoring. Pace Analytical Services, Inc., of Green Bay, Wisconsin, provided laboratory analysis.

Retesting at MW-33AR is still anticipated prior to the April 2025 routine monitoring event. As of the date of this submittal, the sample collection has been completed but the laboratory analytical report has not been issued. Resample results for MW-33AR will therefore be submitted under separate cover. An additional False Exceedance Demonstration will also be submitted if resampling confirms any potential exceedances previously reported for MW-33AR.

2 OCTOBER 2024 SAMPLING RESULTS

Groundwater quality results for the October 2024 monitoring event were compared to NR 140 PALs and enforcement standards (ESs), or to well-specific PALs and ACLs where applicable. Exceedances detected during the October 2024 monitoring event were previously summarized in the December 30, 2024, GEMS data submittal.

Parameters which were detected at concentrations exceeding applicable standards during October 2024, and for which WPL indicated an intention to resample to confirm exceedances, are summarized in **Table 1**. November 2024 resample results for MW-309 and MW-310 are included in **Table 1**.

A summary of resample results is provided below. For exceedances that were confirmed by the resampling, a demonstration of false exceedance is also provided below.

3 NOVEMBER 2024 RESAMPLE RESULTS

Calcium

Calcium was detected above the well-specific PAL (80 mg/L) at CCR monitoring well MW-310 during the October 2024 sampling event. The November 2024 resampling result (100 mg/L) confirmed this exceedance.

Chloride

Chloride was detected above the well-specific ACL (820 mg/L) at CCR monitoring well MW-309 during the October 2024 sampling event. The November 2024 resampling result (743 mg/L) did not confirm this exceedance.

Chloride was detected above the well-specific ACL (330 mg/L) at CCR monitoring well MW-310 during the October 2024 sampling event. The November 2024 resampling result (435 mg/L) confirmed this exceedance.

Sulfate

Sulfate was detected above the NR 140 PAL (125 mg/L) at CCR monitoring wells MW-309 and MW-310 during the October 2024 sampling event. Well-specific ACLs have not been established for these wells. The November 2024 resampling results confirmed the PAL exceedances at MW-309 and MW-310.

Total Dissolved Solids

Total Dissolved Solids (TDS) was detected above the well-specific PAL (2,100 mg/L) at CCR monitoring well MW-309 during the October 2024 sampling event. The November 2024 resample result (1,630 mg/L) did not confirm this exceedance.

TDS was detected above the well-specific PAL (990 mg/L) at CCR monitoring well MW-310 during the October 2024 sampling event. The November 2024 resample result (1,190 mg/L) confirmed this exceedance.

Summary

Based on the October and November monitoring events, parameters and wells with confirmed NR 140 exceedances include:

- Calcium: MW-310
- Chloride: MW-310
- Sulfate: MW-309 and MW-310
- TDS: MW-310

4 DEMONSTRATION OF FALSE EXCEEDANCE REQUIREMENTS

NR 508.06 RESPONSES WHEN A GROUNDWATER STANDARD IS ATTAINED OR EXCEEDED AT A CCR WELL

If a PAL, ACL, or ES is attained or exceeded at a CCR well according to s. NR 140.14 and the value is confirmed, the owner or operator of the CCR landfill shall continue detection monitoring in accordance with s. NR 507.15 (3) (L) and shall respond in accordance with all of the following requirements.

WPL notified the Department of the detection of possible groundwater exceedances in site CCR wells in the October 2024 monitoring event with the GEMS data submittal transmitted to DNR on December 30, 2024. A resampling event in November 2024 confirmed some of those exceedances as described above. This submittal includes a False Exceedance Demonstration for those confirmed exceedances.

NR 508.06(1)(C) DEMONSTRATION OF FALSE EXCEEDANCE SUBMITTAL REQUIREMENTS

The owner or operator may demonstrate that a reported value represents a false exceedance of a groundwater standard in accordance with s. NR 507.28(3) and shall submit the demonstration within 60 days of the groundwater standard attainment or exceedance. If the department does not concur with the written demonstration within 30 days after receipt of the demonstration, the owner or operator shall begin assessment monitoring in accordance with sub. (2). If the department concurs within 30 days after receipt of the demonstration, the owner or operator is not required to begin assessment monitoring. The owner or operator shall include the demonstration in the annual groundwater monitoring and corrective action report.

This submittal serves as a demonstration of false exceedance in accordance with NR 507.28(3). A copy of this demonstration will be included in the annual groundwater monitoring and corrective action report for monitoring performed in 2024.

The November 2024 resampling event laboratory analytical report was issued on November 20, 2024. Sixty days after this date is January 19, 2025, which is a Sunday, and the following Monday is a state holiday. In accordance with Wisconsin Statute 900.001(4) and NR 506.17(4)(a), WPL therefore understands that the deadline for submittal of this demonstration is January 21, 2025.

NR 507.28(3) DEMONSTRATION OF FALSE GROUNDWATER EXCEEDANCE

The owner or operator may demonstrate, by resampling or other means, that a source other than the solid waste disposal facility caused the contamination or that the sample result attaining or exceeding a groundwater standard is due to an error. The owner or operator shall notify the department of the intent to either begin assessment monitoring or determine that a false exceedance has occurred. The owner or operator shall submit the statement of intent with the notification required in s. NR 507.30 (1). The owner or operator shall submit the written demonstration of false exceedance with the results of the next routine monitoring.

This demonstration presents evidence that a source other than the Columbia ADF caused the standards exceedances discussed in this report. In the December 30, 2024, GEMS data submittal for the ADF, WPL indicated an intent to submit a demonstration of false groundwater standards exceedance should resampling confirm an exceedance. While NR 507.28(3) requires submittal of the demonstration with the results of the next routine monitoring, WPL understands that in the case of exceedances at CCR monitoring wells the submittal timeline in NR 508.06(1)(c) applies.

5 DEMONSTRATION OF FALSE EXCEEDANCE

OVERVIEW OF DEMONSTRATION

This Demonstration includes:

- Background information.
- Evaluation of potential that exceedances are due to methodology or analysis.

- Evaluation of potential that exceedances are due to natural sources or man-made sources other than the CCR Units.
- Demonstration conclusions.

Historical monitoring results from background and compliance sampling for the CCR Rule constituent results with an exceedance are provided in **Table 2**. Sampling results through October 2024 have previously been submitted to GEMS. This report includes the submittal of November 2024 resampling results in GEMS format.

ALTERNATIVE SOURCES

This section discusses the potential alternative sources for the confirmed exceedances at downgradient wells MW-309 and MW-310; identifies the most likely alternative source(s); and presents the lines of evidence indicating that an alternative source is the most likely cause of the observed exceedances.

Natural Variation

The groundwater standards to which MW-309 and MW-310 are compared are based on either values listed in NR 140 (sulfate) or well-specific PALs and ACLs based on baseline sampling at each well (calcium, chloride, and TDS). Well-specific ACLs were not established for MW-309 and MW-310 because baseline results collected during 2018 did not exceed the NR 140 PAL. If concentrations of a constituent that is naturally present in the aquifer vary with time, then the potential exists that the compliance sampling concentrations may be higher than baseline concentrations due to natural temporal variation.

Temporal variation can occur seasonally or due to longer-term events such as changes in infiltration patterns and groundwater flow directions caused by wet or dry years.

Based on comparison to the upgradient wells (MW-301 and MW-84A) and historical data available from before the landfill's construction, it appears likely that calcium concentrations observed at MW-310 may at least partially reflect natural variation. A time series plot showing calcium concentrations at the CCR monitoring wells, including MW-301 and MW-84A, is included in **Attachment B**. The October and November 2024 concentrations at MW-310 (108 mg/L and 100 mg/L) are within the historical range detected at upgradient well MW-301.

Historical calcium data for non-CCR rule wells at the ADF and select wells associated with the nearby Ash Ponds Facility (License #2525) are included in **Attachment C**. The earliest available data for wells associated with the ADF are from September 1984. Initial placement of CCR in test plots in Module 1 of the ADF was approved in October 1984, and CCR disposal began sometime after that. Therefore, the initial groundwater monitoring results represent pre-disposal conditions for the ADF. These historical data show fluctuating calcium concentrations. Of the ADF and Ash Ponds wells closest to MW-309 and MW-310, 15 wells show concentrations above 100 mg/L.

Based on comparison to the upgradient wells, it appears likely that chloride, sulfate, and TDS concentrations at MW-309 and MW-310 in October and November 2024 reflect man-made sources. Regardless of the source, natural temporal variations in infiltration and groundwater flow direction may have contributed to the confirmed groundwater standards exceedances at MW-309 and MW-310.

Man-Made Alternative Sources: Sulfate

Based on the historic groundwater flow directions and on previous investigations at the site, the ash ponds and other site conditions present prior to CCR placement in the ADF appear to be the most likely cause of the sulfate standards exceedances at MW-309 and MW-310.

Sulfate concentrations detected at MW-309 and MW-310 during October and November 2024 were similar to concentrations detected in April and June 2023 under the Federal CCR Rule monitoring program, and sulfate concentrations at MW-309 declined during fall 2023 and spring 2024 sampling events.

The following lines of evidence indicate that the standard exceedances for sulfate in wells MW-309 and MW-310 are due to one or more alternative sources:

- Historical sulfate concentrations at nearby non-CCR monitoring wells indicate that elevated and variable sulfate concentrations were present in the same general area of the site prior to the landfill's operation.
- The baseline data set at MW-309 and MW-310 was collected over a short period of time from February through September 2018, and likely does not represent the full range of temporal variability in background concentrations at these monitoring wells.
- The concentration of sulfate at MW-309 increased in April and June 2023, decreased in October 2023 through June 2024, and increased again in October 2024. These short-term fluctuations are not an expected behavior in response to a release from the landfill.
- Because MW-309 and MW-310 are shallow wells located near the plant entrance road, influences from surface water infiltration, precipitation, or dissolution of sulfate impurities in rock salt (a deicing material) may be accentuated.
- Groundwater pumping for dewatering in the ash pond area during 2022-2023 and unusually high precipitation during 2024 likely induced changes in groundwater levels and flow patterns that may have contributed to short-term changes in sulfate concentrations at MW-309 and MW-310.

These lines of evidence and the supporting data are discussed in more detail in the following sections.

Area Background Concentrations for Sulfate

The October and November concentrations at MW-309 were within the range of concentrations detected in the early 1980s at nearby Ash Ponds Facility monitoring wells MW-59 and MW-216R. As noted above, CCR placement in the ADF began sometime after October 1984. Time series plots of historical data at MW-59 and MW-216R are included in **Attachment B**. Sulfate concentrations at these wells have exhibited substantial variability over the life of the monitoring wells, suggesting that a source of sulfate was present on site prior to the early 1980s and sulfate concentrations in the vicinity of MW-309 and MW-310 have been sensitive to short-term changes in groundwater flow conditions as well as operational changes at the Ash Ponds Facility.

Sulfate Concentration Changes with Time

The baseline data set for MW-309 and MW-310 was collected during a relatively short period of time, from February through September 2018. As discussed above, substantial fluctuations in sulfate concentrations have been observed at other site monitoring wells over the course of the decades of sampling performed at the ADF and Ash Ponds Facility.

The concentration of sulfate reported for samples from MW-309 increased in early 2023, decreased in late 2023 through the April and June 2024 sampling events, and increased again during the October and November 2024 sampling events. These short-term increases and decreases are not an expected behavior in response to a release from the landfill. The previous increase was attributed to alternative sources as discussed in Alternative Source Demonstrations (ASDs) prepared for the 2023 monitoring events under the Federal CCR Rule.

The historical sulfate concentrations from MW-309 and MW-310 are shown on the time series plots in **Attachment B**.

Influence of Groundwater Flow Pattern Changes

Groundwater pumping for dewatering at the Ash Ponds Facility likely induced changes in groundwater levels and flow patterns that may have contributed to short-term changes in sulfate concentrations at MW-309 and MW-310. In 2022, dewatering wells were installed around the Secondary Pond, and groundwater was pumped to lower the water table below the pond to facilitate CCR removal and pond closure. Pumped groundwater was discharged to the Primary Ash Pond. In 2023, groundwater was pumped from dewatering wells installed around the Primary Ash Pond to lower the water table below the pond to facilitate CCR removal and pond closure. The pumped groundwater was discharged to the large cooling pond south of the generating station.

The dewatering activities at the Primary Ash Pond were completed in September 2023, and excavation of CCR material from the Primary Ash Pond was completed in early October 2023. For comparison, the April 2022, October 2022, April 2023, and October 2023 water table maps are provided in **Attachment D**.

The April 2022 water table map shows radial flow away from the Primary Ash Pond and flow to the northwest in the Mod 4-6 area. The October 2022 water table map shows the influence of dewatering around the Secondary Pond. The April 2023 water table map shows the influence of initial dewatering around the Primary Ash Pond, and potentially some residual effects of the 2022 dewatering around the Secondary Pond. The October 2023 and April 2024 maps both show a westerly flow direction to the west of the Primary Pond. All maps continue to show flow being generally to the north and/or northwest in Mod 4-6, but hydraulic gradients and flow paths likely varied locally as dewatering was started and stopped at different locations.

In addition to influence from dewatering activities conducted in 2022-2023, groundwater flow at the site in summer and fall 2024 was likely influenced by unusually high overall precipitation and several intense rain events. During 2024, Columbia County experienced the highest total precipitation in a May-July three-month period on record (**Attachment E**). Site-specific rain measurements were recorded as part of landfill construction oversight activities in 2024 and include unusually heavy rain events of 5.5" on June 2, 5.5" on June 21-22, 3.75" over the weekend preceding July 15, and 4.75" on September 22. The overall high precipitation and numerous intense rain events led to substantial

surface runoff and subsequent infiltration. These precipitation events and subsequent infiltration appear to have had a short-term effect on groundwater flow at the site, as evidenced by unusual groundwater flow patterns observed during the August 2024 (**Attachment D**) and October 2024 (**Figure 3**) monitoring events.

Surface Water Infiltration Effects

Because MW-309 and MW-310 are shallow wells located near the plant entrance road and adjacent to a ditch that collects and conveys runoff from the road, influences from surface water infiltration, precipitation, or dissolution of sulfate impurities in rock salt (a deicing material) may be accentuated. These factors contribute to temporal variability. As discussed above, multiple unusually intense precipitation events occurred at the site during summer 2024 that likely led to increased infiltration in the ditch adjacent to MW-309 and MW-310.

The influence of surface water infiltration and road salt impacts is apparent in the chloride monitoring results for MW-309 and MW-310.

While chloride provides the strongest indication of impacts from surface water infiltration, concentrations of other parameters can also vary to the surface water impacts. Sulfate can be present as an impurity in rock salt used for deicing. Surface water infiltration can also affect seasonal water levels and local flow directions. Precipitation was abnormally high at the site during summer 2024, which likely contributed to increased surface water infiltration and variability in groundwater flow patterns.

Man-Made Alternative Sources: Chloride and TDS

Road salt use appears to be the most likely cause of the chloride and TDS standards exceedances at MW-310.

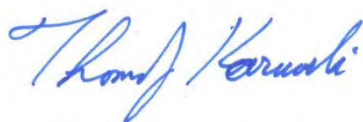
Monitoring well MW-310 is located adjacent to the plant entrance road (Murray Rd), where elevated chloride concentrations due to road salt are likely. In order to be located as close as possible to the waste boundary of the ADF, these wells are located between Murray Rd and the stormwater ditch on the south side of the road. At this location, there is high potential for impacts from road salt to result in increased chloride concentrations in groundwater. October-November 2024 chloride concentrations at MW-310 were lower than baseline concentrations at nearby well MW-309 and within the range of historic concentrations at non-CCR well MW-86 (**Attachment B**). MW-86 is located on the east side of the ADF near US Highway 51. Elevated concentrations at both MW-309 and MW-86 have been attributed to impacts from road salt.

Chloride is a major component of dissolved solids, and historical TDS results at MW-310 are highly correlated with chloride concentrations (R^2 value of 0.91, **Attachment F**). The PAL exceedance for TDS at MW-310 in October-November 2024 is therefore also attributable to impacts from road salt.

6 CONCLUSIONS

The lines of evidence discussed above regarding the standards exceedances for calcium, chloride, sulfate, and/or TDS at MW-309 and MW-310 in October-November 2024 demonstrate that the exceedances were caused by sources other than the Columbia ADF. In accordance with NR 508.06(1)(c), if the Department concurs with this demonstration within 30 days of receipt the owner or operator is not required to begin assessment monitoring.

Sincerely,



Tom Karwoski, PG
Project Manager
SCS Engineers



Sherren Clark, PG, PE
Project Director
SCS Engineers

MDB/AJR_REO/TK

cc: Tyler Sullivan, Wisconsin Department of Natural Resources (e-copy only)
Matt Bizjack, Alliant Energy (e-copy only)
Jeff Maxted, Alliant Energy (e-copy only)
Brian Clepper, WPL-Columbia (e-copy only)

Encl. Table 1 – Groundwater Standards Exceedance Summary
Figure 1 – Site Location Map
Figure 2 – Site Plan and Monitoring Well Locations
Figure 3 – October 2024 Shallow Groundwater Flow Map
Attachment A – Environmental Monitoring Data Certification Form
Attachment B – Time Series Plots
Attachment C – Calcium Historical Data Summary
Attachment D – Historical Groundwater Flow Maps
Attachment E – Columbia County Precipitation Graphs
Attachment F – TDS-Cl Correlation Plot
Attachment G – Compact disc (CD) containing the results in Wisconsin DNR electronic data submittal format – (GEMS Data Submittal Contact copy only)

I:\25224067.00\Deliverables\240120 Demonstration of False Exceedance\250121_COL ADF_Demonstration of False Exceedance_Final.docx

Table 1

Groundwater Standards Exceedance Summary

Table 1. Monitoring Results - November 2024 Resample Results and Exceedance Confirmation
WPL-Columbia Dry Ash Disposal Facility / SCS Engineers Project #25224067.00
License #03025

Parameter	Units	Sample ID	Groundwater Standard for Comparison	Standard Type	Collected Date	Result	Resample Confirmed Exceedance?
Calcium, Total	mg/L	MW-310	80	Well-Specific PAL	10/1/2024*	108	Yes
					11/5/2024	100	
Chloride, Total	mg/L	MW-309	820	ACL	10/1/2024*	971	No
					11/5/2024	743	
		MW-310	330	ACL	10/1/2024*	420	Yes
					11/5/2024	435	
Hardness, Total	mg/L	MW-33AR	390	Well-Specific PAL	10/2/2024*	415	TBD, Resampling Planned
Sulfate, Total	mg/L	MW-33AR	200	ACL	10/2/2024*	224	TBD, Resampling Planned
		MW-309	125 / 250	NR 140 PAL / ES	10/1/2024*	142	Yes
					11/5/2024	131	
		MW-310	125 / 250	NR 140 PAL / ES	10/1/2024*	179	Yes
					11/5/2024	194	
Total Dissolved Solids	mg/L	MW-309	2,100	Well-Specific PAL	10/1/2024*	2,180	No
					11/5/2024	1,630	
		MW-310	990	Well-Specific PAL	10/1/2024*	1,210	Yes
					11/5/2024	1,190	

Abbreviations:

mg/L = milligrams per liter

TBD = To be determined

ACL = Alternative Concentration Limit

PAL = Preventive Action Limit

ES = Enforcement Standard

Notes:

*: October 2024 sample results included for reference. These results were previously submitted in the December 30, 2024 GEMS data submittal.

Created By:

RM

Last Modified:

RM

Checked By:

MDB

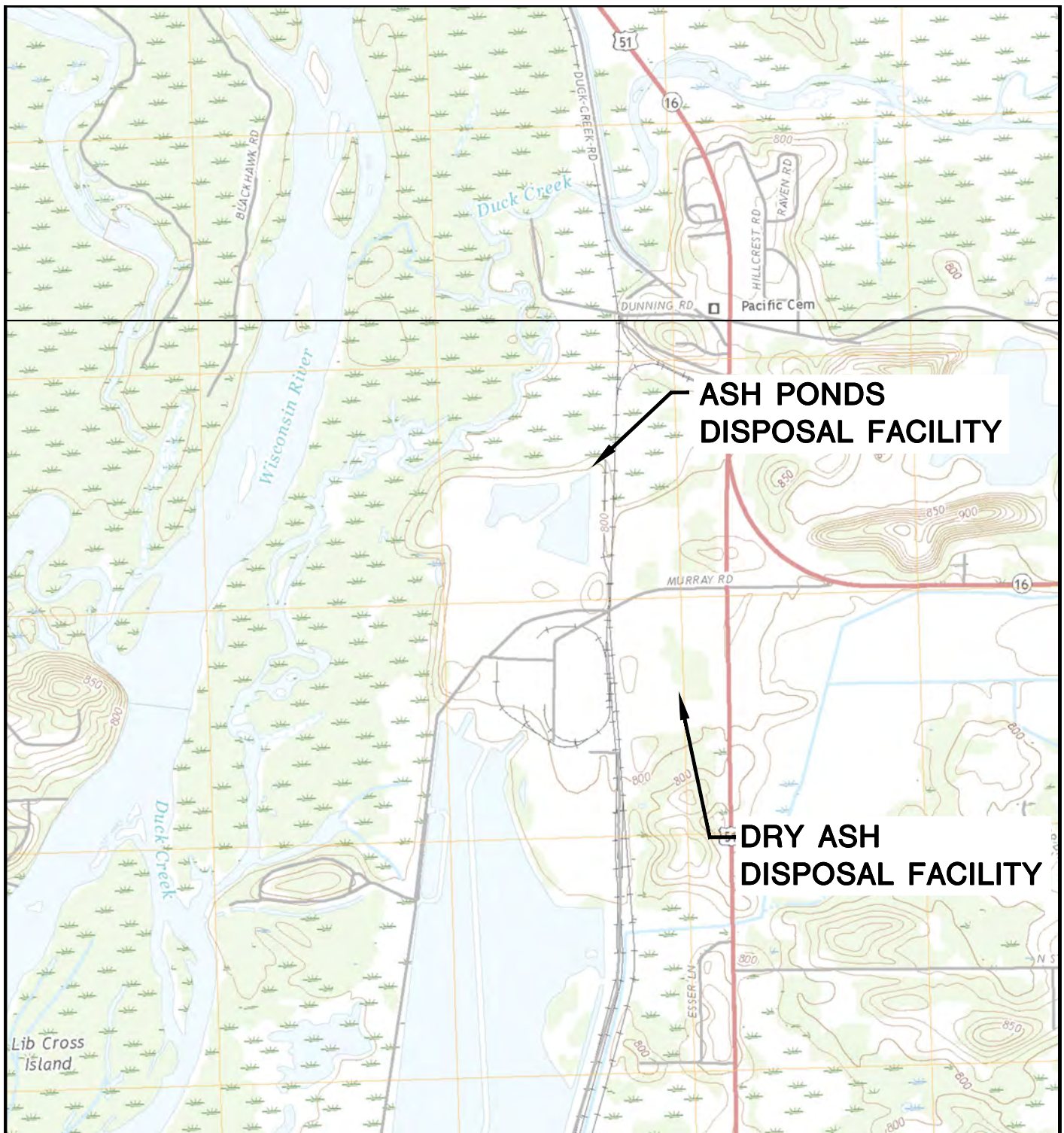
Date: 1/10/2025

Date: 1/10/2025

Date: 1/10/2025

Figures

- 1 Site Location Map
- 2 Site Plan and Monitoring Well Locations
- 3 October 2024 Shallow Groundwater Flow Map

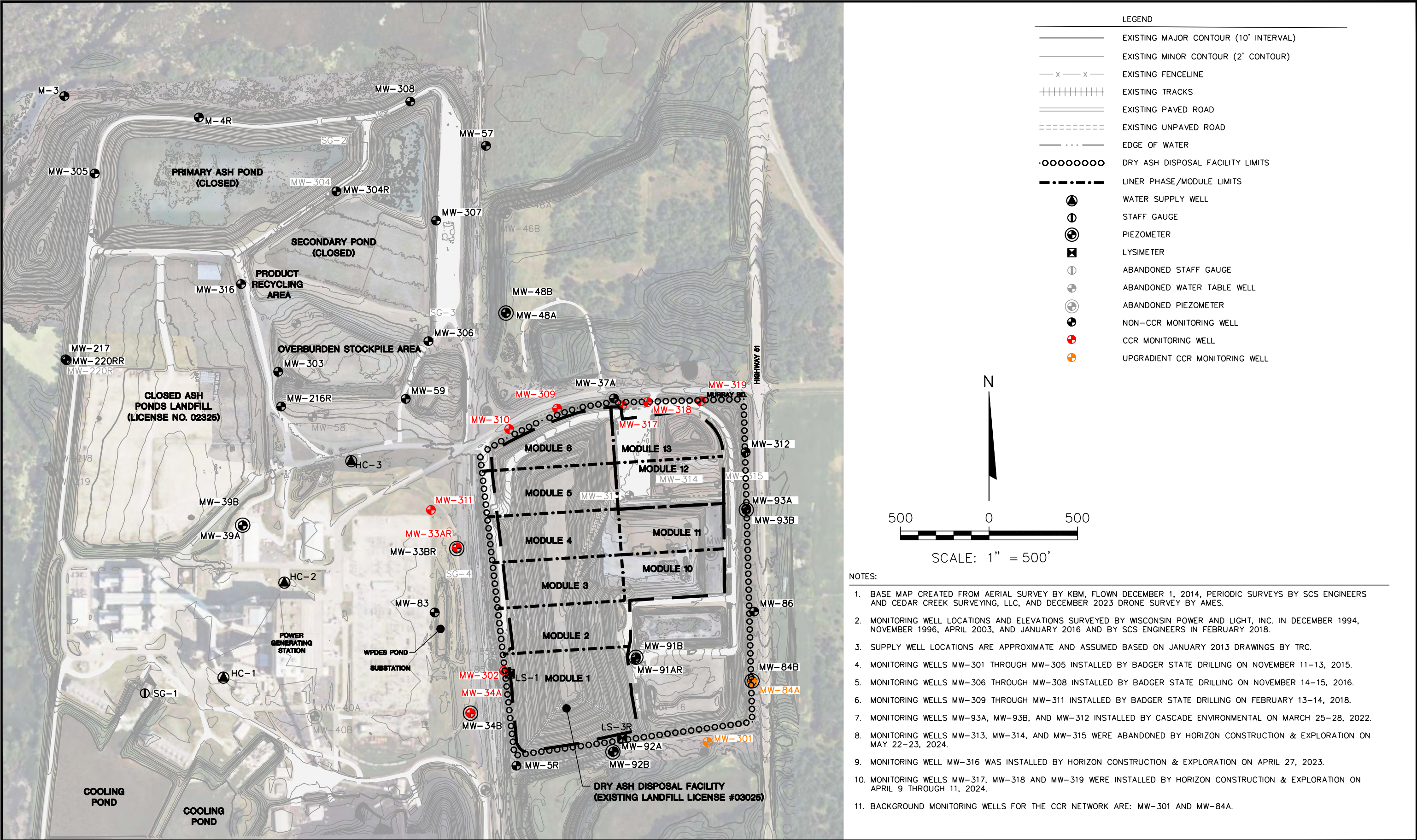


POYNETTE QUADRANGLE
WISCONSIN-COLUMBIA CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)
2018
SCALE: 1" = 2,000'



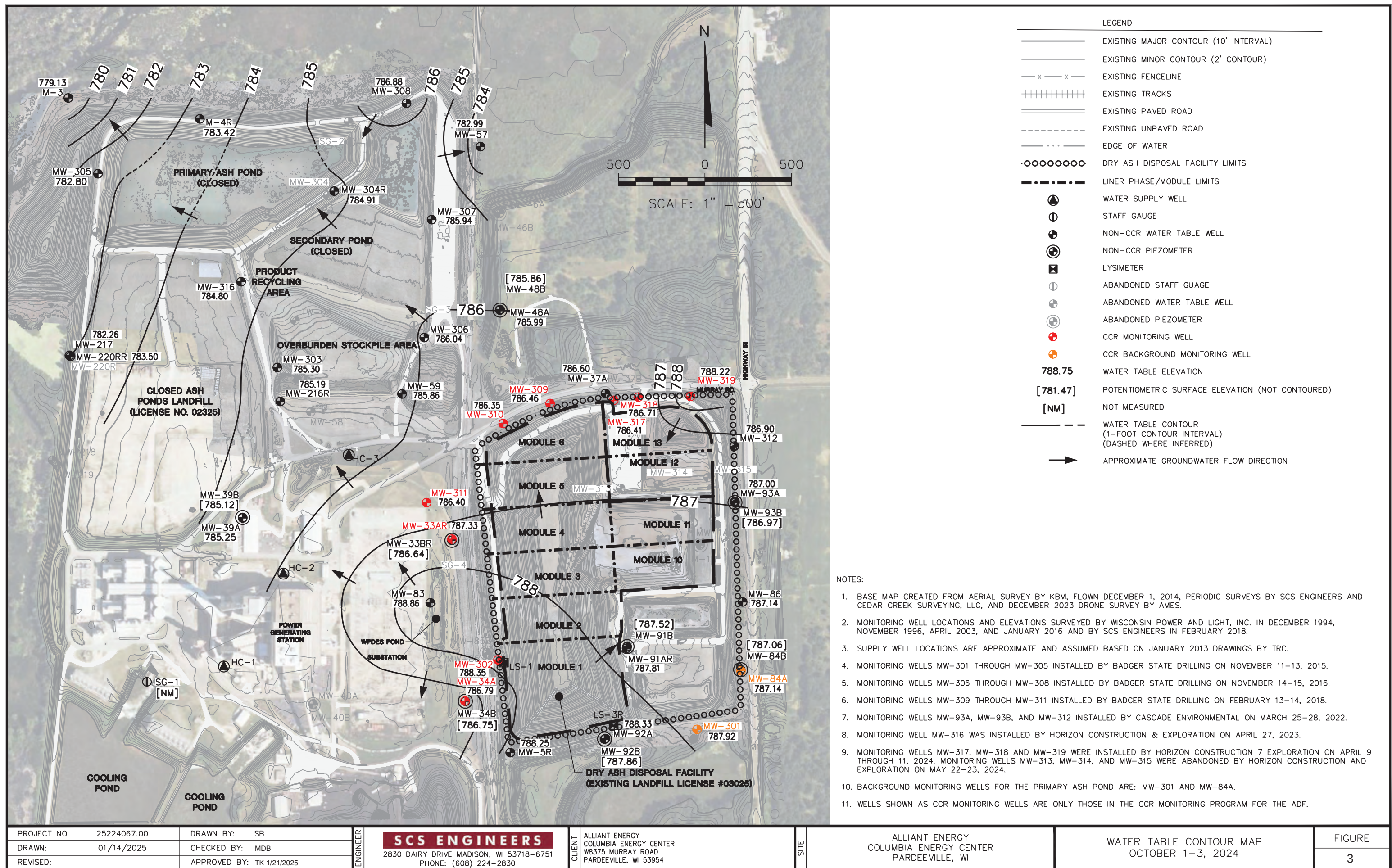
CLIENT ALLIANT ENERGY COLUMBIA ENERGY CENTER W8375 MURRAY ROAD PARDEEVILLE, WI 53954	SITE ALLIANT ENERGY COLUMBIA ENERGY CENTER PARDEEVILLE, WI	SITE LOCATION MAP	
PROJECT NO. 25219067.00	DRAWN BY: BSS	SCS ENGINEERS 2830 DAIRY DRIVE MADISON, WI 53718-6751 PHONE: (608) 224-2830	FIGURE
DRAWN: 12/02/2019	CHECKED BY: MDB		1
REVISED: 01/10/2020	APPROVED BY: TK 01/30/2020		

I:\25219067.00\Drawings\CCR 2019 Annual Report\Site Location Map.dwg, 1/30/2020 3:38:21 PM



PROJECT NO.	25224067.00	DRAWN BY:	SB	ENGINEER	SCS ENGINEERS 2830 DAIRY DRIVE MADISON, WI 53718-6751 PHONE: (608) 224-2830	CLIENT ALLIANT ENERGY COLUMBIA ENERGY CENTER W8375 MURRAY ROAD PARDEEVILLE, WI 53954	SITE	ALLIANT ENERGY COLUMBIA ENERGY CENTER PARDEEVILLE, WI	SITE PLAN AND MONITORING WELL LOCATIONS COLUMBIA DRY ASH DISPOSAL FACILITY	FIGURE
DRAWN:	01/13/2025	CHECKED BY:	RM							2
REVISED:	01/13/2025	APPROVED BY:	TK 1/21/2025							

I:\25224067.00\Drawings\2024 State Figures\02_2024 COL State Figure.dwg, 1/13/2025 11:31:19 AM





Attachment A

Environmental Monitoring Data Certification Form

Save...

Print...

Clear Data

State of Wisconsin
Department of Natural Resources
dnr.wi.gov

Environmental Monitoring Data Certification

Form 4400-231 (R 5/17)

Notice: Personally identifiable information collected will be used for program administration and enforcement purposes. The Department may also provide this information to requesters as required under Wisconsin's Open Records law, ss. 19.31 to 19.39, Wis. Stats. When submitting monitoring data, the owner or operator of the facility, practice or activity is required to notify the Department in writing that a groundwater standard or an explosive gas level has been attained or exceeded, as specified in ss. NR 140.24(1)(a); NR 140.26(1)(a); NR 507.30NR 635.14(9)(a); NR 635.18(20) and NR 507.30, Wis. Adm. Code. Failure to report may result in fines, forfeitures or other penalties resulting from enforcement under ss. 289.97, 291.97 or 299.95, Wis. Stats

Instructions:

- **Prepare one form for each license or monitoring ID.**
- **Please type or print legibly.**
- Attach a notification of any values that attain or exceed groundwater standards (that is, preventive action limits, enforcement standards or alternative concentration limits). The notification must include a preliminary analysis of the cause and significance of each value.
- Attach a notification of any gas values that attain or exceed explosive gas levels.
- Send the original signed form, any notification, and Electronic Data Deliverable[EDD] to:

GEMS Data Submittal Contact - WA/5
Wisconsin Department of Natural Resources
P.O. Box 7921
Madison, WI 53707-7921

Monitoring Data Submittal Information

Name of entity submitting data (laboratory, consultant, facility owner)

SCS Engineers

Contact for questions about data formatting. Include data preparer's name, telephone number and Email address:

Name

Meghan Blodgett

Phone No. (include area code)

(608) 216-7362

Email

mblodgett@scsengineers.com

Facility Name

WPL Columbia Dry Ash

License # / Monitoring ID

03025

Facility ID (FID)

111049180

Actual sampling dates (e.g., July 2-6, 2003)

November 5, 2024

The enclosed results are for sampling required in the month(s) of: (e.g., June 2003)

November 2024

Type of Data Submitted (Check all that apply):

☒ Groundwater monitoring data from monitoring wells

☐ Gas monitoring data

☐ Groundwater monitoring data from private water supply wells

☐ Air monitoring data

☐ Leachate monitoring data

☐ Other (specify):

Notification attached?

☐ No. No groundwater standards or explosive gas limits were exceeded.

☒ Yes, a notification of values exceeding a groundwater standard is attached. It includes a list of monitoring points, dates, sample values, groundwater standard and preliminary analysis of the cause and significance of any concentration.

☐ Yes, a notification of values exceeding an explosive gas limit is attached. It includes the monitoring points, dates, sample values and explosive gas limits.

Certification

To the best of my knowledge, the information reported and statements made on this data submittal and attachments are true and correct. Furthermore, I have attached complete notification of any sampling values meeting or exceeding groundwater standards or explosive gas levels, and a preliminary analysis of the cause and significance of concentrations exceeding groundwater standards.

Facility Representative Name (Print)

Meghan Blodgett

Title

Senior Project Professional

Phone No. (include area code)

(608) 216-7362

Signature

1/20/2024

Date Signed (mm/dd/yyyy)

For DNR Use Only

Check action taken, and record date and your initials. Describe on back side if necessary.

☐ Found uploading problems on _____ Initials

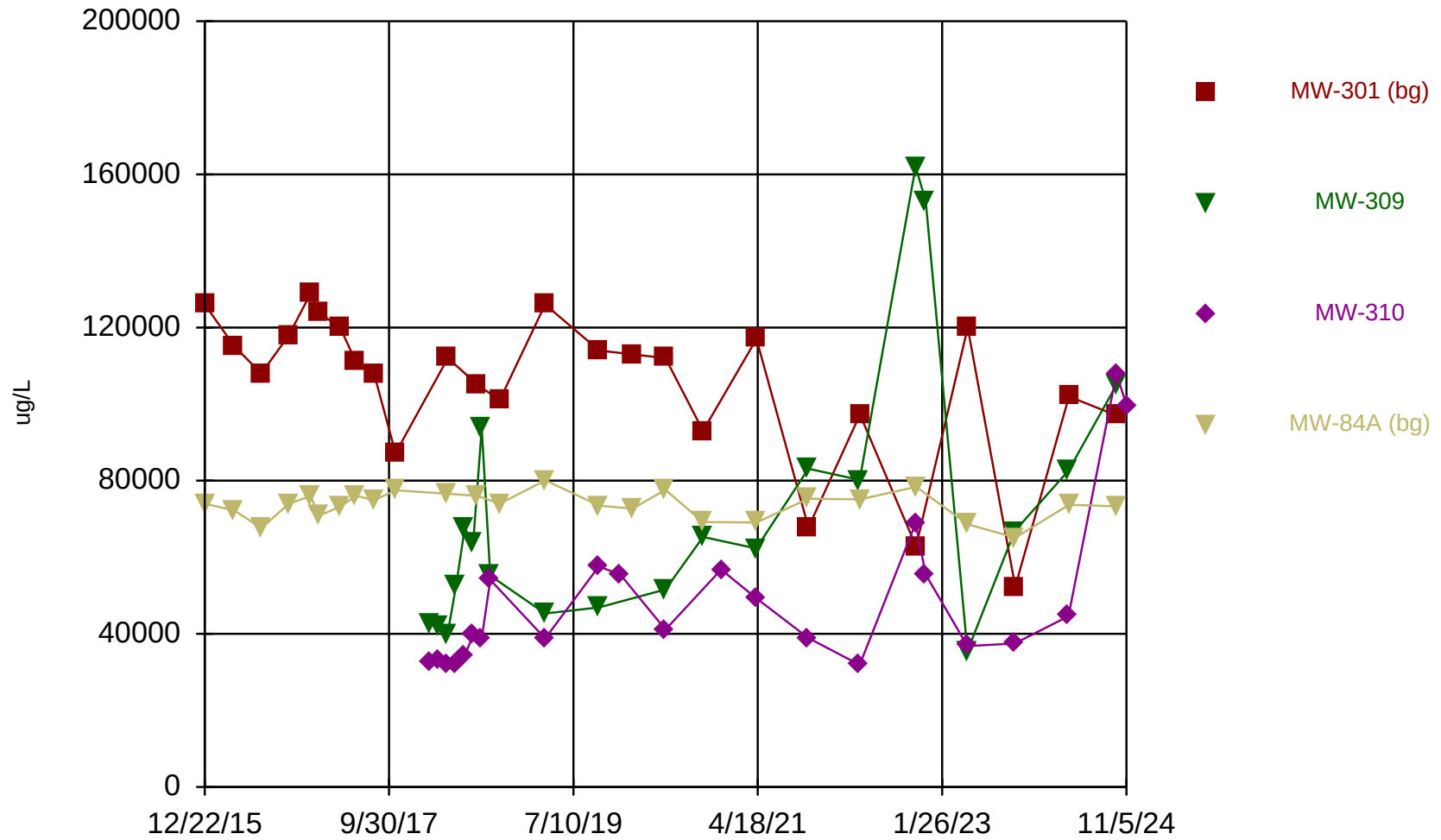
☐ Notified contact of problems on _____ Uploaded data successfully on _____

EDD format(s): ☐ Diskette ☐ CD (initial submittal and follow-up) ☐ E-mail (follow-up only) ☐ Other: _____

Attachment B

Time Series Plots

Calcium



Time Series Analysis Run 1/10/2025 2:48 PM

Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

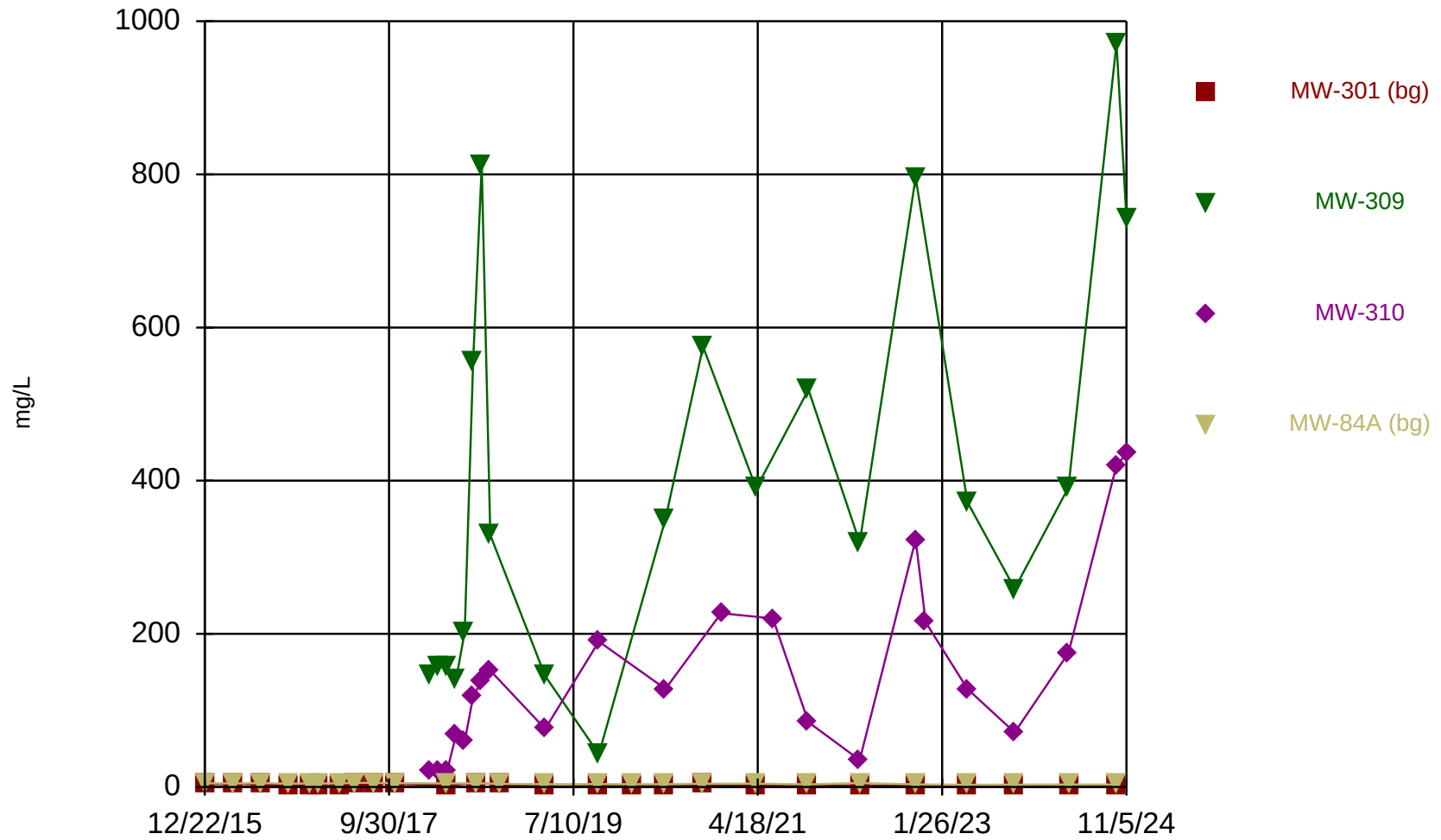
Time Series

Constituent: Calcium (ug/L) Analysis Run 1/10/2025 2:49 PM

Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

	MW-301 (bg)	MW-309	MW-310	MW-84A (bg)
12/22/2015	126000			74000
4/5/2016	115000			72200
7/8/2016	108000			67600
10/13/2016	118000			74000
12/29/2016	129000			76000
1/25/2017	124000			70800
4/11/2017	120000			73200
6/6/2017	111000			76100
8/8/2017	108000			74900
10/23/2017	87200			
10/24/2017				77500
2/21/2018		42700	32400	
3/23/2018		41800	33400	
4/23/2018		39600	32100	
4/25/2018	112000			76600
5/24/2018		52700	32100	
6/23/2018		67600	34300	
7/23/2018		63800	39700	
8/8/2018	105000			76000
8/22/2018		93600	38800	
9/21/2018		55200	54100	
10/24/2018	101000			74000
4/2/2019	126000	45300	38800	
4/3/2019				80100
10/8/2019		46900	57600	
10/9/2019	114000			73500
12/23/2019			55400	
2/3/2020	113000			72700
5/29/2020	112000	51600	41100	77600
10/8/2020	93000	65300		69200
12/11/2020			56800 (R)	
4/13/2021		62300	49300	
4/14/2021	117000			69100
10/14/2021	67800	83100	38900	75300
4/12/2022		80200	31900	
4/13/2022	97300			75100
10/26/2022		162000	68900	
10/27/2022	62800			78400
11/30/2022		153000	55500	
4/26/2023		35500	36800	
4/27/2023	120000			68600
10/9/2023		66800	37500	
10/11/2023	52300			65100
4/15/2024		82600	44600	
4/17/2024	102000			73700
10/1/2024		105000	108000	
10/2/2024	97000			73300
11/5/2024			99700	

Chloride



Time Series Analysis Run 1/10/2025 2:48 PM

Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

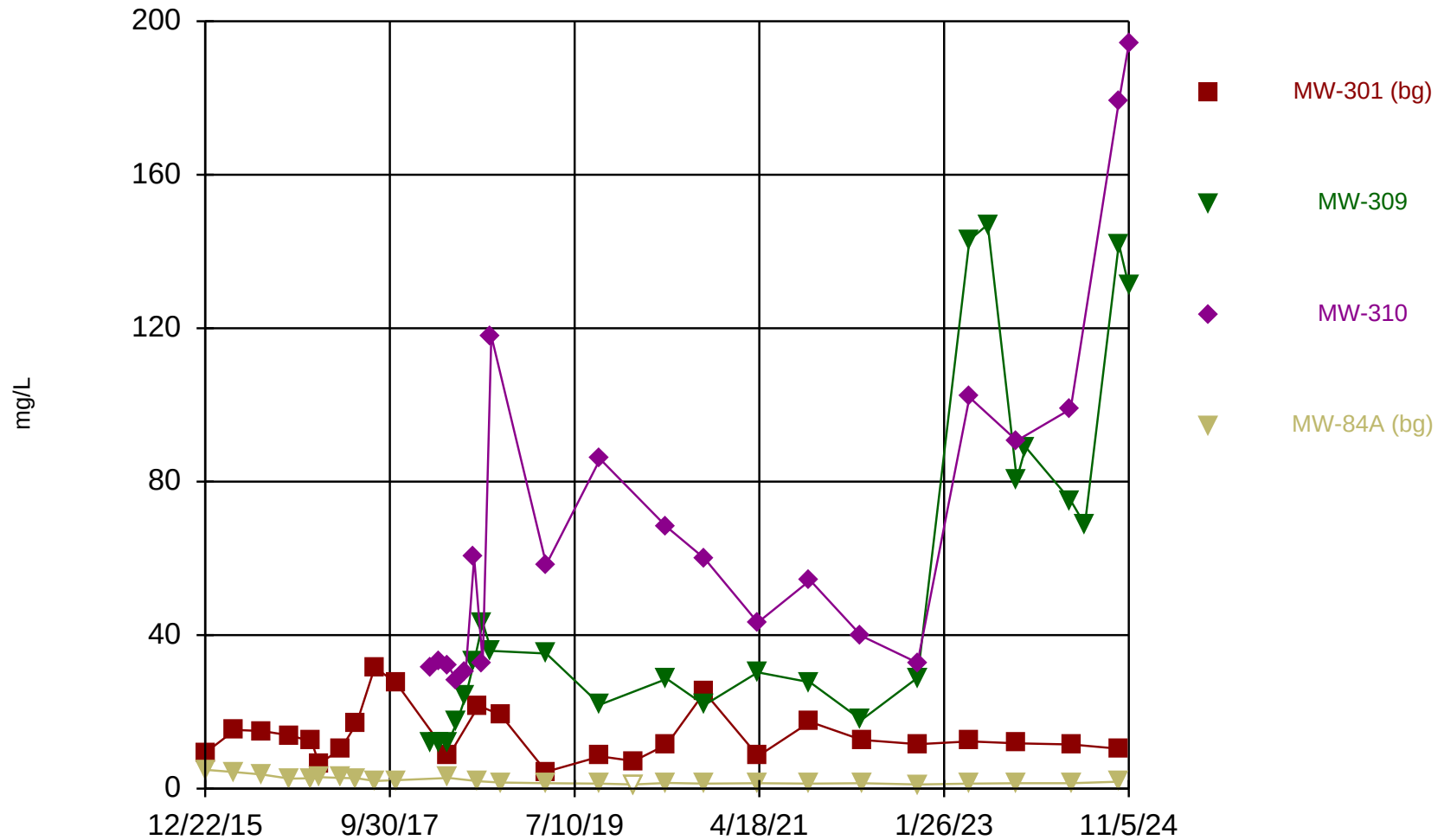
Time Series

Constituent: Chloride (mg/L) Analysis Run 1/10/2025 2:49 PM

Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

	MW-301 (bg)	MW-309	MW-310	MW-84A (bg)
12/22/2015	3.7 (J)			4.9
4/5/2016	4			4.7
7/8/2016	3.5 (J)			5.1
10/13/2016	2.2			4.3
12/29/2016	2 (J)			4.7
1/25/2017	1.5 (J)			4.6
4/11/2017	2			4.9
6/6/2017	3.5			5.5
8/8/2017	5.5			5.5
10/23/2017	4			
10/24/2017				5.1
2/21/2018		147	19.8	
3/23/2018		157	21.7	
4/23/2018		157	22.1	
4/25/2018	2.3			4.8
5/24/2018		141	68.6	
6/23/2018		203	59.8	
7/23/2018		557	118	
8/8/2018	5.2			4.9
8/22/2018		811	139	
9/21/2018		329	152	
10/24/2018	3.2			4.2
4/2/2019	0.79 (J)	145	76	
4/3/2019				3.6
10/8/2019		43.2	190	
10/9/2019	1.7 (J)			3.9
2/3/2020	1.3 (J)			3.7
5/29/2020	2 (J)	350	128	3.7
10/8/2020	3.4	575		4.3
12/11/2020			227 (R)	
4/13/2021		390		
4/14/2021	1.5 (J)			4.4
6/11/2021			220 (R)	
10/14/2021	2.7	519	84.6	3.5
4/12/2022		319	35.2	
4/13/2022	1.9 (J)			5.2
10/26/2022		796	323	
10/27/2022	2.3			3.4
11/30/2022			215	
4/26/2023		372	128	
4/27/2023	1.5 (J)			3
10/9/2023		259	71.3	
10/11/2023	2.1			3.1
4/15/2024		391	175	
4/17/2024	1.6 (J)			3.2
10/1/2024		971	420	
10/2/2024	1.5 (J)			3.3
11/5/2024		743	435	

Sulfate



Time Series Analysis Run 1/10/2025 2:48 PM

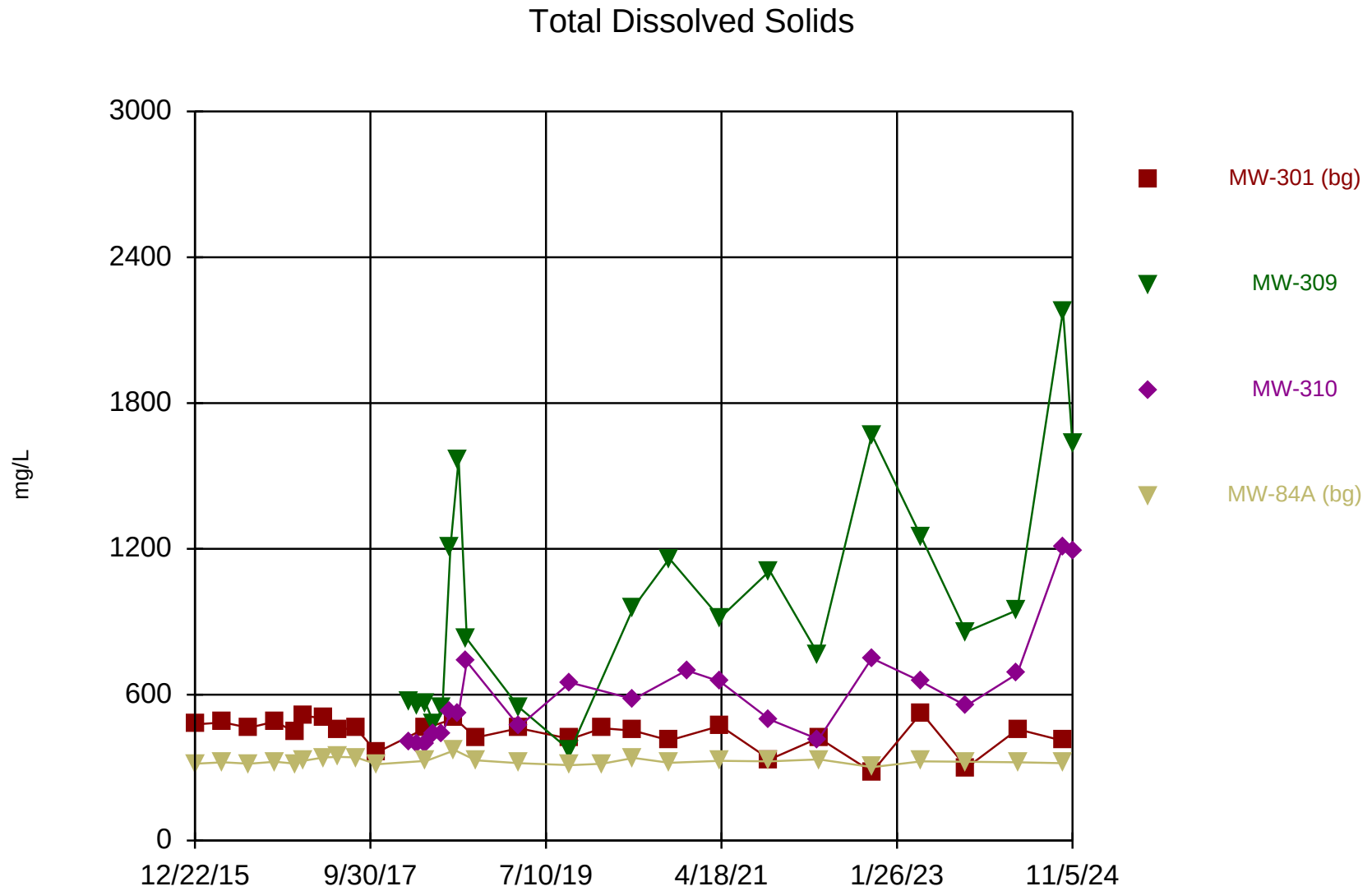
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

Time Series

Constituent: Sulfate (mg/L) Analysis Run 1/10/2025 2:49 PM

Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

	MW-301 (bg)	MW-309	MW-310	MW-84A (bg)
12/22/2015	9.3			4.9
4/5/2016	15.3			4.3
7/8/2016	15			3.7 (J)
10/13/2016	13.9			2.6 (J)
12/29/2016	12.3 (J)			2.7 (J)
1/25/2017	6.5			3
4/11/2017	10.3			2.8 (J)
6/6/2017	17.1			2.7 (J)
8/8/2017	31.6			2 (J)
10/23/2017	27.5			
10/24/2017				2.2 (J)
2/21/2018		12.2	31.6	
3/23/2018		12.2	33.1	
4/23/2018		12	32	
4/25/2018	8.6			2.8 (J)
5/24/2018		17.5	28	
6/23/2018		24.1	30.4	
7/23/2018		33.1	60.2	
8/8/2018	21.6			1.9 (J)
8/22/2018		43.3	32.8	
9/21/2018		35.9	118	
10/24/2018	19.2			1.6 (J)
4/2/2019	4.4	35.2	58.4	
4/3/2019				1.4 (J)
10/8/2019		21.9	85.9	
10/9/2019	8.4			1.3 (J)
2/3/2020	7.2			<2.2 (U)
5/29/2020	11.5	28.6	68.2	1.5 (J)
10/8/2020	25.1	21.8	60	1.3 (J)
4/13/2021		30.3	43.3	
4/14/2021	8.5			1.4 (J)
10/14/2021	17.4	27.7	54.3	1.3 (J)
4/12/2022		17.9	39.8	
4/13/2022	12.7			1.4 (J)
10/26/2022		28.9	32.8	
10/27/2022	11.6			1.1 (J)
4/26/2023		143 (X)	102	
4/27/2023	12.3			1.3 (J)
6/29/2023		147 (X)		
10/9/2023		80.6	90.7	
10/11/2023	11.8			1.4 (J)
11/9/2023		89		
4/15/2024		75.1	98.9	
4/17/2024	11.5			1.4 (J)
6/4/2024		68.8		
10/1/2024		142	179	
10/2/2024	10.4			1.8 (J)
11/5/2024		131	194	



Time Series Analysis Run 1/10/2025 2:48 PM

Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

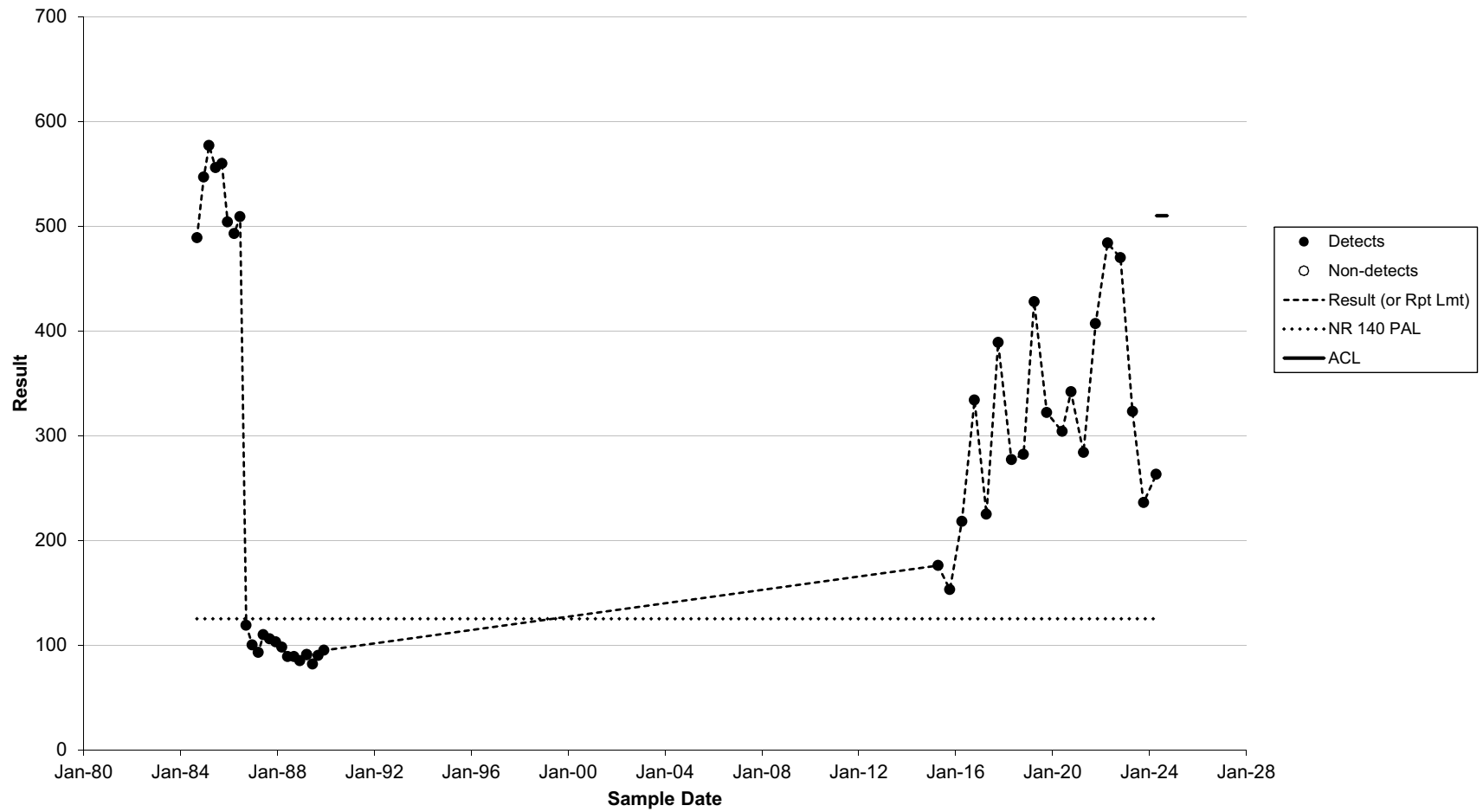
Time Series

Constituent: Total Dissolved Solids (mg/L) Analysis Run 1/10/2025 2:49 PM

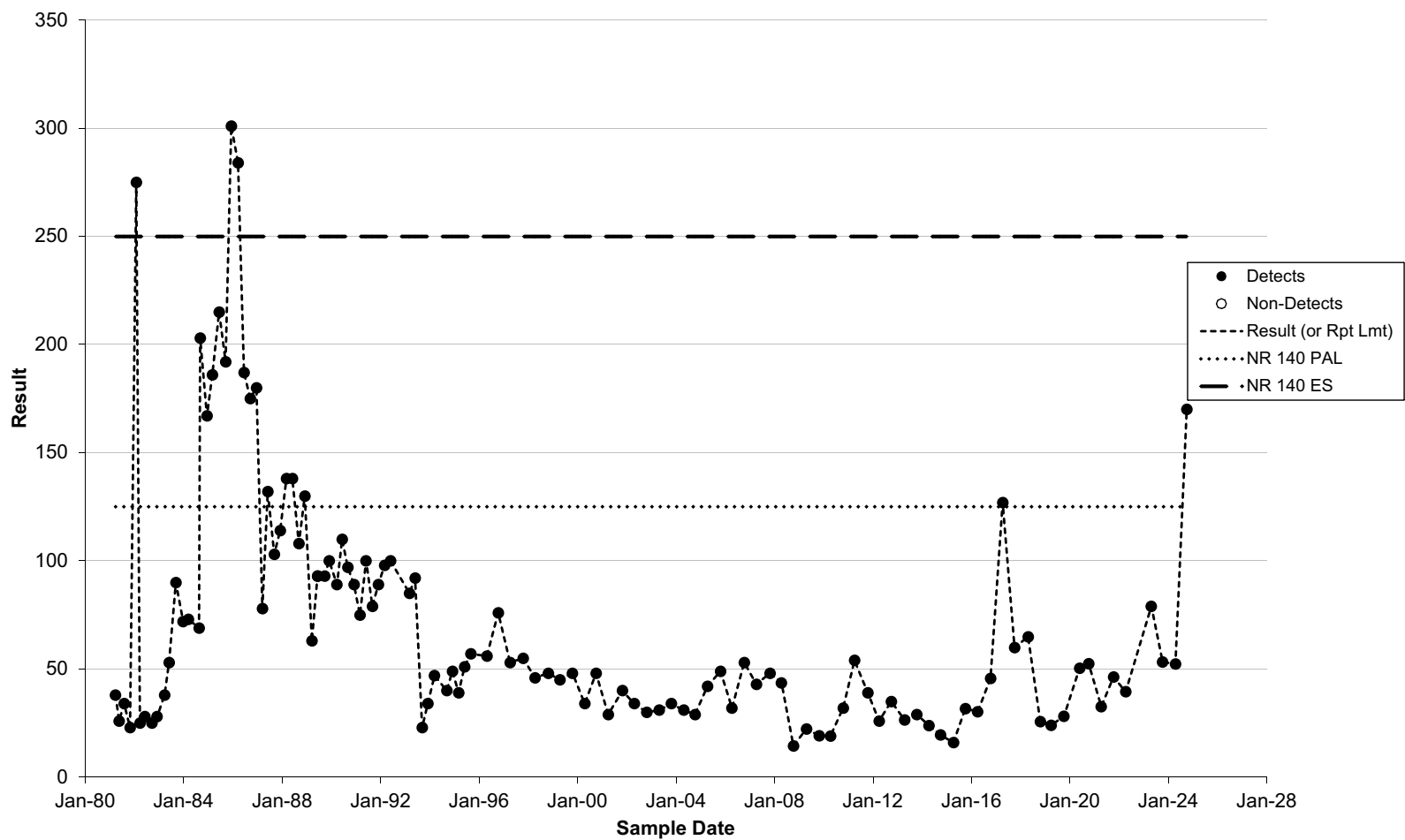
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

	MW-301 (bg)	MW-309	MW-310	MW-84A (bg)
12/22/2015	478			316
4/5/2016	486			322
7/8/2016	464			316
10/13/2016	490			324
12/29/2016	444			316
1/25/2017	514			328
4/11/2017	502			342
6/6/2017	458			344
8/8/2017	462			342
10/23/2017	362			
10/24/2017				314
2/21/2018		576	406	
3/23/2018		552	398	
4/23/2018		562	396	
4/25/2018	464			328
5/24/2018		478	436	
6/23/2018		548	438	
7/23/2018		1210	532	
8/8/2018	502			372
8/22/2018		1570	526	
9/21/2018		830	736	
10/24/2018	424			330
4/2/2019	462	548	470	
4/3/2019				318
10/8/2019		370	650	
10/9/2019	418			310
2/3/2020	462			316
5/29/2020	452	960	582	340
10/8/2020	412	1160		320
12/11/2020			700 (R)	
4/13/2021		916	654	
4/14/2021	472			328
10/14/2021	334	1110	498	326
4/12/2022		764	416	
4/13/2022	422			334
10/26/2022		1670	750	
10/27/2022	282			302
4/26/2023		1250	654	
4/27/2023	526			326
10/9/2023		858	554	
10/11/2023	300			324
4/15/2024		948	686	
4/17/2024	458			322
10/1/2024		2180	1210	
10/2/2024	410			318
11/5/2024		1630	1190	

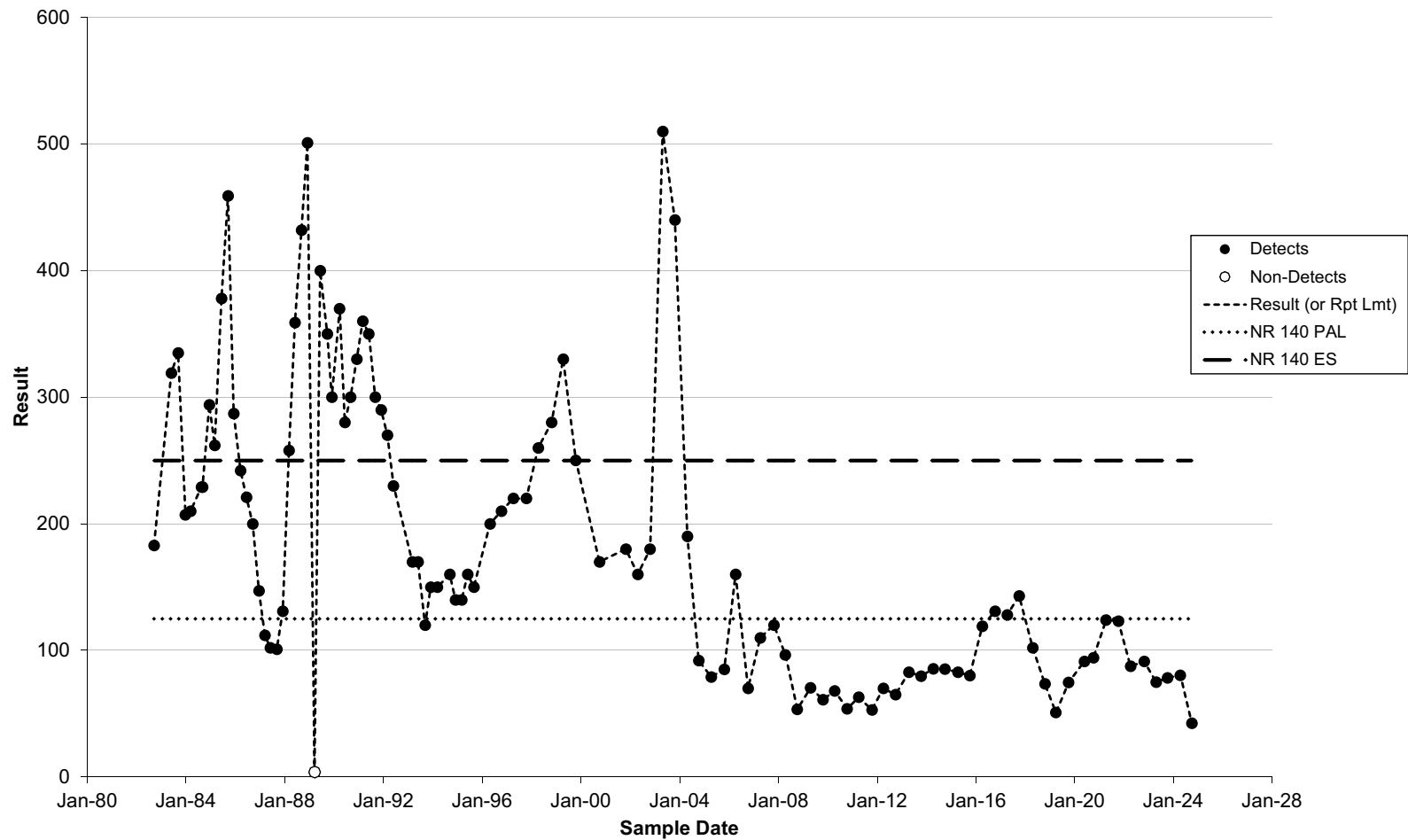
Wisconsin Power & Light Company
Columbia Dry Ash Disposal Facility
MW-86 - Chloride (mg/l as Cl)



Wisconsin Power & Light Company
Columbia Ash Ponds Disposal Facility
W59 (W-2) - Sulfate (mg/L as SO₄)



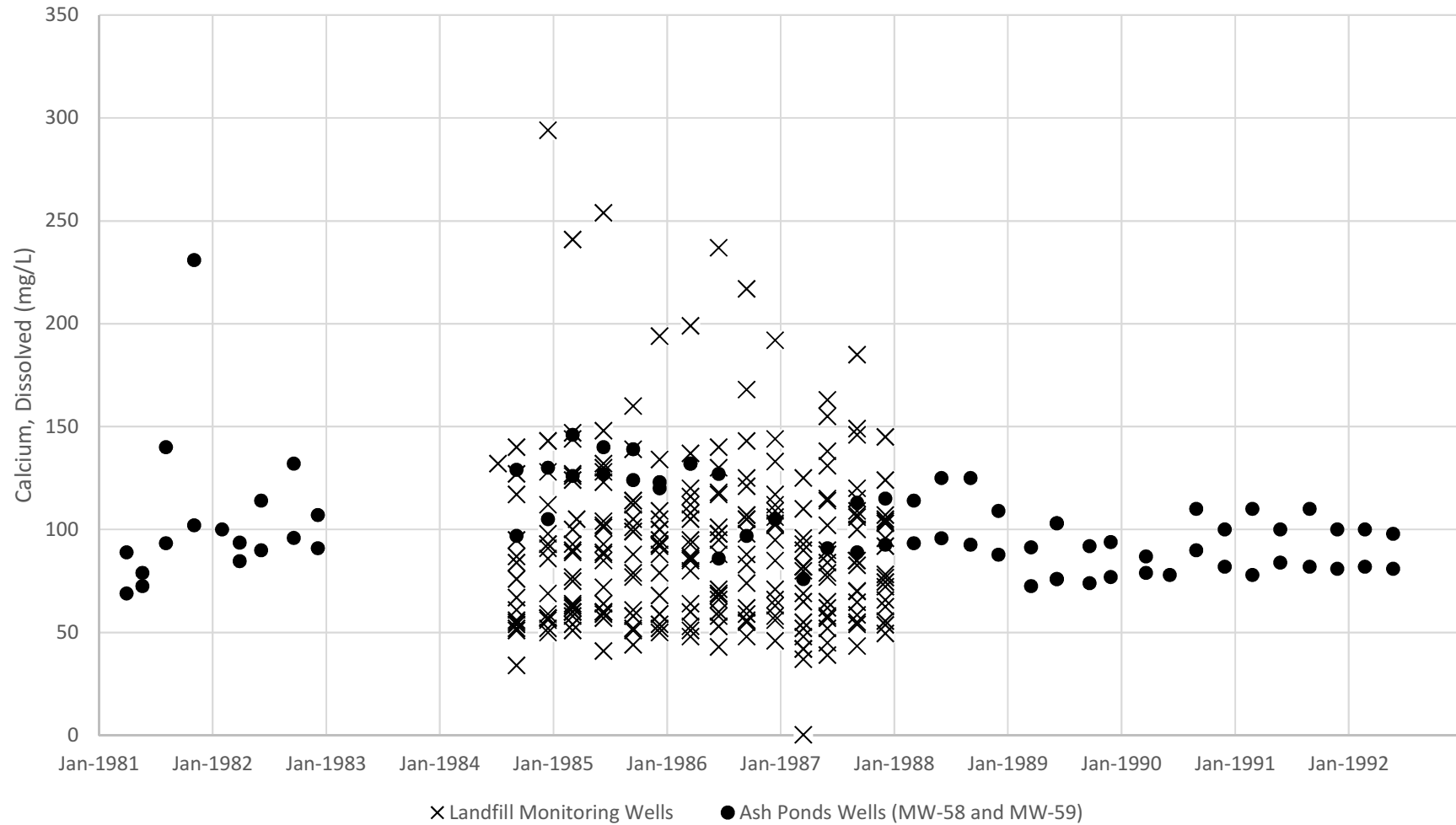
Wisconsin Power & Light Company
Columbia Ash Ponds Disposal Facility
W-216/MW-216R - Sulfate (mg/L as SO₄)



Attachment C

Calcium Historical Data Summary

Historical Calcium Concentrations



Historical Calcium Results
License #3025 Wells and Select License #2325 Wells

Lic#	Point ID	Point Name	Parameter Description	Sample Date	Result Value	Result Unit
3025	43	MW88B	CALCIUM, DISSOLVED (MG/L CA)	12/17/1984	86	mg/L
3025	43	MW88B	CALCIUM, DISSOLVED (MG/L CA)	3/7/1985	75	mg/L
3025	43	MW88B	CALCIUM, DISSOLVED (MG/L CA)	6/14/1985	85	mg/L
3025	43	MW88B	CALCIUM, DISSOLVED (MG/L CA)	9/18/1985	79	mg/L
3025	43	MW88B	CALCIUM, DISSOLVED (MG/L CA)	12/12/1985	88	mg/L
3025	43	MW88B	CALCIUM, DISSOLVED (MG/L CA)	3/21/1986	95	mg/L
3025	43	MW88B	CALCIUM, DISSOLVED (MG/L CA)	6/20/1986	95	mg/L
3025	43	MW88B	CALCIUM, DISSOLVED (MG/L CA)	9/18/1986	98	mg/L
3025	43	MW88B	CALCIUM, DISSOLVED (MG/L CA)	12/19/1986	103	mg/L
3025	43	MW88B	CALCIUM, DISSOLVED (MG/L CA)	3/20/1987	82	mg/L
3025	43	MW88B	CALCIUM, DISSOLVED (MG/L CA)	6/5/1987	102	mg/L
3025	43	MW88B	CALCIUM, DISSOLVED (MG/L CA)	9/9/1987	106	mg/L
3025	43	MW88B	CALCIUM, DISSOLVED (MG/L CA)	12/9/1987	124	mg/L
3025	42	MW88A	CALCIUM, DISSOLVED (MG/L CA)	12/17/1984	294	mg/L
3025	42	MW88A	CALCIUM, DISSOLVED (MG/L CA)	3/7/1985	241	mg/L
3025	42	MW88A	CALCIUM, DISSOLVED (MG/L CA)	6/14/1985	254	mg/L
3025	42	MW88A	CALCIUM, DISSOLVED (MG/L CA)	9/18/1985	160	mg/L
3025	42	MW88A	CALCIUM, DISSOLVED (MG/L CA)	12/12/1985	194	mg/L
3025	42	MW88A	CALCIUM, DISSOLVED (MG/L CA)	3/21/1986	199	mg/L
3025	42	MW88A	CALCIUM, DISSOLVED (MG/L CA)	6/20/1986	140	mg/L
3025	42	MW88A	CALCIUM, DISSOLVED (MG/L CA)	9/18/1986	168	mg/L
3025	42	MW88A	CALCIUM, DISSOLVED (MG/L CA)	12/19/1986	133	mg/L
3025	42	MW88A	CALCIUM, DISSOLVED (MG/L CA)	3/20/1987	110	mg/L
3025	42	MW88A	CALCIUM, DISSOLVED (MG/L CA)	6/5/1987	131	mg/L
3025	42	MW88A	CALCIUM, DISSOLVED (MG/L CA)	9/9/1987	149	mg/L
3025	42	MW88A	CALCIUM, DISSOLVED (MG/L CA)	12/9/1987	105	mg/L
3025	41	MW86	CALCIUM, DISSOLVED (MG/L CA)	9/7/1984	76	mg/L
3025	41	MW86	CALCIUM, DISSOLVED (MG/L CA)	12/17/1984	98	mg/L
3025	41	MW86	CALCIUM, DISSOLVED (MG/L CA)	3/7/1985	127	mg/L
3025	41	MW86	CALCIUM, DISSOLVED (MG/L CA)	6/14/1985	89	mg/L
3025	41	MW86	CALCIUM, DISSOLVED (MG/L CA)	9/18/1985	114	mg/L
3025	41	MW86	CALCIUM, DISSOLVED (MG/L CA)	12/12/1985	100	mg/L
3025	41	MW86	CALCIUM, DISSOLVED (MG/L CA)	3/21/1986	105	mg/L
3025	41	MW86	CALCIUM, DISSOLVED (MG/L CA)	6/20/1986	98	mg/L
3025	41	MW86	CALCIUM, DISSOLVED (MG/L CA)	9/18/1986	107	mg/L
3025	41	MW86	CALCIUM, DISSOLVED (MG/L CA)	12/19/1986	102	mg/L
3025	41	MW86	CALCIUM, DISSOLVED (MG/L CA)	3/20/1987	80	mg/L
3025	41	MW86	CALCIUM, DISSOLVED (MG/L CA)	6/5/1987	114	mg/L
3025	41	MW86	CALCIUM, DISSOLVED (MG/L CA)	9/9/1987	100	mg/L
3025	41	MW86	CALCIUM, DISSOLVED (MG/L CA)	12/9/1987	95.8	mg/L
3025	40	MW85	CALCIUM, DISSOLVED (MG/L CA)	9/7/1984	87	mg/L
3025	40	MW85	CALCIUM, DISSOLVED (MG/L CA)	12/17/1984	93	mg/L
3025	40	MW85	CALCIUM, DISSOLVED (MG/L CA)	3/7/1985	89	mg/L
3025	40	MW85	CALCIUM, DISSOLVED (MG/L CA)	6/14/1985	130	mg/L
3025	40	MW85	CALCIUM, DISSOLVED (MG/L CA)	9/18/1985	114	mg/L
3025	40	MW85	CALCIUM, DISSOLVED (MG/L CA)	12/12/1985	93	mg/L
3025	40	MW85	CALCIUM, DISSOLVED (MG/L CA)	3/21/1986	87	mg/L
3025	40	MW85	CALCIUM, DISSOLVED (MG/L CA)	6/20/1986	69	mg/L
3025	40	MW85	CALCIUM, DISSOLVED (MG/L CA)	9/18/1986	88	mg/L
3025	40	MW85	CALCIUM, DISSOLVED (MG/L CA)	12/19/1986	85	mg/L
3025	40	MW85	CALCIUM, DISSOLVED (MG/L CA)	3/20/1987	69	mg/L
3025	40	MW85	CALCIUM, DISSOLVED (MG/L CA)	6/5/1987	84	mg/L

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Lic#	Point ID	Point Name	Parameter Description	Sample Date	Result Value	Result Unit
3025	40	MW85	CALCIUM, DISSOLVED (MG/L CA)	9/9/1987	82.6	mg/L
3025	40	MW85	CALCIUM, DISSOLVED (MG/L CA)	12/9/1987	76.6	mg/L
3025	39	MW84B	CALCIUM, DISSOLVED (MG/L CA)	9/7/1984	55	mg/L
3025	39	MW84B	CALCIUM, DISSOLVED (MG/L CA)	12/17/1984	57	mg/L
3025	39	MW84B	CALCIUM, DISSOLVED (MG/L CA)	3/7/1985	58	mg/L
3025	39	MW84B	CALCIUM, DISSOLVED (MG/L CA)	6/14/1985	60	mg/L
3025	39	MW84B	CALCIUM, DISSOLVED (MG/L CA)	9/18/1985	52	mg/L
3025	39	MW84B	CALCIUM, DISSOLVED (MG/L CA)	12/12/1985	54	mg/L
3025	39	MW84B	CALCIUM, DISSOLVED (MG/L CA)	3/21/1986	51	mg/L
3025	39	MW84B	CALCIUM, DISSOLVED (MG/L CA)	6/20/1986	53	mg/L
3025	39	MW84B	CALCIUM, DISSOLVED (MG/L CA)	9/18/1986	55	mg/L
3025	39	MW84B	CALCIUM, DISSOLVED (MG/L CA)	12/19/1986	56	mg/L
3025	39	MW84B	CALCIUM, DISSOLVED (MG/L CA)	3/20/1987	42	mg/L
3025	39	MW84B	CALCIUM, DISSOLVED (MG/L CA)	6/5/1987	58	mg/L
3025	39	MW84B	CALCIUM, DISSOLVED (MG/L CA)	9/9/1987	54	mg/L
3025	39	MW84B	CALCIUM, DISSOLVED (MG/L CA)	12/9/1987	55.6	mg/L
3025	38	MW84A	CALCIUM, DISSOLVED (MG/L CA)	9/7/1984	54	mg/L
3025	38	MW84A	CALCIUM, DISSOLVED (MG/L CA)	12/17/1984	56	mg/L
3025	38	MW84A	CALCIUM, DISSOLVED (MG/L CA)	3/7/1985	60	mg/L
3025	38	MW84A	CALCIUM, DISSOLVED (MG/L CA)	6/14/1985	59	mg/L
3025	38	MW84A	CALCIUM, DISSOLVED (MG/L CA)	9/18/1985	58	mg/L
3025	38	MW84A	CALCIUM, DISSOLVED (MG/L CA)	12/12/1985	68	mg/L
3025	38	MW84A	CALCIUM, DISSOLVED (MG/L CA)	3/21/1986	60	mg/L
3025	38	MW84A	CALCIUM, DISSOLVED (MG/L CA)	6/20/1986	53	mg/L
3025	38	MW84A	CALCIUM, DISSOLVED (MG/L CA)	9/18/1986	56	mg/L
3025	38	MW84A	CALCIUM, DISSOLVED (MG/L CA)	12/19/1986	58	mg/L
3025	38	MW84A	CALCIUM, DISSOLVED (MG/L CA)	3/20/1987	42	mg/L
3025	38	MW84A	CALCIUM, DISSOLVED (MG/L CA)	6/5/1987	57	mg/L
3025	38	MW84A	CALCIUM, DISSOLVED (MG/L CA)	9/9/1987	58.6	mg/L
3025	38	MW84A	CALCIUM, DISSOLVED (MG/L CA)	12/9/1987	62.6	mg/L
3025	37	MW82B	CALCIUM, DISSOLVED (MG/L CA)	9/7/1984	67	mg/L
3025	37	MW82B	CALCIUM, DISSOLVED (MG/L CA)	12/17/1984	69	mg/L
3025	37	MW82B	CALCIUM, DISSOLVED (MG/L CA)	3/7/1985	77	mg/L
3025	37	MW82B	CALCIUM, DISSOLVED (MG/L CA)	6/14/1985	88	mg/L
3025	37	MW82B	CALCIUM, DISSOLVED (MG/L CA)	9/18/1985	101	mg/L
3025	37	MW82B	CALCIUM, DISSOLVED (MG/L CA)	12/12/1985	105	mg/L
3025	37	MW82B	CALCIUM, DISSOLVED (MG/L CA)	3/21/1986	120	mg/L
3025	37	MW82B	CALCIUM, DISSOLVED (MG/L CA)	6/20/1986	118	mg/L
3025	37	MW82B	CALCIUM, DISSOLVED (MG/L CA)	9/18/1986	121	mg/L
3025	37	MW82B	CALCIUM, DISSOLVED (MG/L CA)	12/19/1986	117	mg/L
3025	37	MW82B	CALCIUM, DISSOLVED (MG/L CA)	3/20/1987	90	mg/L
3025	37	MW82B	CALCIUM, DISSOLVED (MG/L CA)	6/5/1987	115	mg/L
3025	37	MW82B	CALCIUM, DISSOLVED (MG/L CA)	9/9/1987	85	mg/L
3025	37	MW82B	CALCIUM, DISSOLVED (MG/L CA)	12/9/1987	92	mg/L
3025	36	MW82A	CALCIUM, DISSOLVED (MG/L CA)	7/9/1984	132	mg/L
3025	36	MW82A	CALCIUM, DISSOLVED (MG/L CA)	12/17/1984	128	mg/L
3025	36	MW82A	CALCIUM, DISSOLVED (MG/L CA)	3/7/1985	124	mg/L
3025	36	MW82A	CALCIUM, DISSOLVED (MG/L CA)	6/14/1985	132	mg/L
3025	36	MW82A	CALCIUM, DISSOLVED (MG/L CA)	9/18/1985	112	mg/L
3025	36	MW82A	CALCIUM, DISSOLVED (MG/L CA)	12/12/1985	93	mg/L
3025	36	MW82A	CALCIUM, DISSOLVED (MG/L CA)	3/21/1986	80	mg/L
3025	36	MW82A	CALCIUM, DISSOLVED (MG/L CA)	6/20/1986	69	mg/L

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3025	36	MW82A	CALCIUM, DISSOLVED (MG/L CA)	9/18/1986	74	mg/L
3025	36	MW82A	CALCIUM, DISSOLVED (MG/L CA)	12/19/1986	71	mg/L
3025	36	MW82A	CALCIUM, DISSOLVED (MG/L CA)	3/20/1987	0.32	mg/L
3025	36	MW82A	CALCIUM, DISSOLVED (MG/L CA)	6/5/1987	77	mg/L
3025	36	MW82A	CALCIUM, DISSOLVED (MG/L CA)	9/9/1987	70.2	mg/L
3025	36	MW82A	CALCIUM, DISSOLVED (MG/L CA)	12/9/1987	74.5	mg/L
3025	35	MW81	CALCIUM, DISSOLVED (MG/L CA)	12/17/1984	91	mg/L
3025	35	MW81	CALCIUM, DISSOLVED (MG/L CA)	3/7/1985	90	mg/L
3025	35	MW81	CALCIUM, DISSOLVED (MG/L CA)	6/14/1985	93	mg/L
3025	35	MW81	CALCIUM, DISSOLVED (MG/L CA)	9/18/1985	88	mg/L
3025	35	MW81	CALCIUM, DISSOLVED (MG/L CA)	6/20/1986	88	mg/L
3025	35	MW81	CALCIUM, DISSOLVED (MG/L CA)	6/5/1987	88	mg/L
3025	35	MW81	CALCIUM, DISSOLVED (MG/L CA)	9/7/1987	85	mg/L
3025	34	MW80B	CALCIUM, DISSOLVED (MG/L CA)	9/7/1984	56	mg/L
3025	34	MW80B	CALCIUM, DISSOLVED (MG/L CA)	12/17/1984	57	mg/L
3025	34	MW80B	CALCIUM, DISSOLVED (MG/L CA)	3/7/1985	60	mg/L
3025	34	MW80B	CALCIUM, DISSOLVED (MG/L CA)	6/14/1985	60	mg/L
3025	34	MW80B	CALCIUM, DISSOLVED (MG/L CA)	9/18/1985	58	mg/L
3025	34	MW80B	CALCIUM, DISSOLVED (MG/L CA)	12/12/1985	59	mg/L
3025	34	MW80B	CALCIUM, DISSOLVED (MG/L CA)	3/21/1986	53	mg/L
3025	34	MW80B	CALCIUM, DISSOLVED (MG/L CA)	6/20/1986	58	mg/L
3025	34	MW80B	CALCIUM, DISSOLVED (MG/L CA)	9/18/1986	59	mg/L
3025	34	MW80B	CALCIUM, DISSOLVED (MG/L CA)	12/19/1986	63	mg/L
3025	34	MW80B	CALCIUM, DISSOLVED (MG/L CA)	3/20/1987	48	mg/L
3025	34	MW80B	CALCIUM, DISSOLVED (MG/L CA)	6/5/1987	62	mg/L
3025	34	MW80B	CALCIUM, DISSOLVED (MG/L CA)	9/9/1987	70	mg/L
3025	34	MW80B	CALCIUM, DISSOLVED (MG/L CA)	12/9/1987	65.8	mg/L
3025	33	MW80A	CALCIUM, DISSOLVED (MG/L CA)	9/7/1984	61	mg/L
3025	33	MW80A	CALCIUM, DISSOLVED (MG/L CA)	12/17/1984	59	mg/L
3025	33	MW80A	CALCIUM, DISSOLVED (MG/L CA)	3/7/1985	63	mg/L
3025	33	MW80A	CALCIUM, DISSOLVED (MG/L CA)	6/14/1985	64	mg/L
3025	33	MW80A	CALCIUM, DISSOLVED (MG/L CA)	9/18/1985	61	mg/L
3025	33	MW80A	CALCIUM, DISSOLVED (MG/L CA)	12/12/1985	59	mg/L
3025	33	MW80A	CALCIUM, DISSOLVED (MG/L CA)	3/21/1986	64	mg/L
3025	33	MW80A	CALCIUM, DISSOLVED (MG/L CA)	6/20/1986	68	mg/L
3025	33	MW80A	CALCIUM, DISSOLVED (MG/L CA)	9/18/1986	62	mg/L
3025	33	MW80A	CALCIUM, DISSOLVED (MG/L CA)	12/19/1986	66	mg/L
3025	33	MW80A	CALCIUM, DISSOLVED (MG/L CA)	3/20/1987	55	mg/L
3025	33	MW80A	CALCIUM, DISSOLVED (MG/L CA)	6/5/1987	52	mg/L
3025	33	MW80A	CALCIUM, DISSOLVED (MG/L CA)	9/9/1987	55	mg/L
3025	33	MW80A	CALCIUM, DISSOLVED (MG/L CA)	12/9/1987	53.7	mg/L
3025	10	MW5	CALCIUM, DISSOLVED (MG/L CA)	9/7/1984	84	mg/L
3025	10	MW5	CALCIUM, DISSOLVED (MG/L CA)	12/17/1984	93	mg/L
3025	10	MW5	CALCIUM, DISSOLVED (MG/L CA)	3/7/1985	93	mg/L
3025	10	MW5	CALCIUM, DISSOLVED (MG/L CA)	6/14/1985	104	mg/L
3025	10	MW5	CALCIUM, DISSOLVED (MG/L CA)	9/18/1985	105	mg/L
3025	10	MW5	CALCIUM, DISSOLVED (MG/L CA)	12/12/1985	95	mg/L
3025	10	MW5	CALCIUM, DISSOLVED (MG/L CA)	3/21/1986	116	mg/L
3025	10	MW5	CALCIUM, DISSOLVED (MG/L CA)	6/20/1986	117	mg/L
3025	10	MW5	CALCIUM, DISSOLVED (MG/L CA)	9/18/1986	125	mg/L
3025	10	MW5	CALCIUM, DISSOLVED (MG/L CA)	12/19/1986	112	mg/L
3025	10	MW5	CALCIUM, DISSOLVED (MG/L CA)	3/20/1987	82	mg/L

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3025	10	MW5	CALCIUM, DISSOLVED (MG/L CA)	6/5/1987	88	mg/L
3025	10	MW5	CALCIUM, DISSOLVED (MG/L CA)	9/9/1987	115	mg/L
3025	10	MW5	CALCIUM, DISSOLVED (MG/L CA)	12/9/1987	104	mg/L
3025	9	MW4	CALCIUM, DISSOLVED (MG/L CA)	9/7/1984	140	mg/L
3025	9	MW4	CALCIUM, DISSOLVED (MG/L CA)	12/17/1984	143	mg/L
3025	9	MW4	CALCIUM, DISSOLVED (MG/L CA)	3/7/1985	144	mg/L
3025	9	MW4	CALCIUM, DISSOLVED (MG/L CA)	6/14/1985	148	mg/L
3025	9	MW4	CALCIUM, DISSOLVED (MG/L CA)	9/18/1985	139	mg/L
3025	9	MW4	CALCIUM, DISSOLVED (MG/L CA)	12/12/1985	134	mg/L
3025	9	MW4	CALCIUM, DISSOLVED (MG/L CA)	3/21/1986	137	mg/L
3025	9	MW4	CALCIUM, DISSOLVED (MG/L CA)	6/20/1986	130	mg/L
3025	9	MW4	CALCIUM, DISSOLVED (MG/L CA)	9/18/1986	143	mg/L
3025	9	MW4	CALCIUM, DISSOLVED (MG/L CA)	12/19/1986	144	mg/L
3025	9	MW4	CALCIUM, DISSOLVED (MG/L CA)	3/20/1987	125	mg/L
3025	9	MW4	CALCIUM, DISSOLVED (MG/L CA)	6/5/1987	138	mg/L
3025	9	MW4	CALCIUM, DISSOLVED (MG/L CA)	9/9/1987	146	mg/L
3025	9	MW4	CALCIUM, DISSOLVED (MG/L CA)	12/9/1987	145	mg/L
3025	23	MW37B	CALCIUM, DISSOLVED (MG/L CA)	9/7/1984	34	mg/L
3025	23	MW37B	CALCIUM, DISSOLVED (MG/L CA)	12/17/1984	50	mg/L
3025	23	MW37B	CALCIUM, DISSOLVED (MG/L CA)	3/7/1985	62	mg/L
3025	23	MW37B	CALCIUM, DISSOLVED (MG/L CA)	6/14/1985	72	mg/L
3025	23	MW37B	CALCIUM, DISSOLVED (MG/L CA)	6/20/1986	60	mg/L
3025	23	MW37B	CALCIUM, DISSOLVED (MG/L CA)	6/5/1987	39	mg/L
3025	22	MW37A	CALCIUM, DISSOLVED (MG/L CA)	9/7/1984	51	mg/L
3025	22	MW37A	CALCIUM, DISSOLVED (MG/L CA)	12/17/1984	57	mg/L
3025	22	MW37A	CALCIUM, DISSOLVED (MG/L CA)	3/7/1985	64	mg/L
3025	22	MW37A	CALCIUM, DISSOLVED (MG/L CA)	6/14/1985	64	mg/L
3025	22	MW37A	CALCIUM, DISSOLVED (MG/L CA)	6/20/1986	66	mg/L
3025	22	MW37A	CALCIUM, DISSOLVED (MG/L CA)	6/5/1987	65	mg/L
3025	21	MW34B	CALCIUM, DISSOLVED (MG/L CA)	12/17/1984	112	mg/L
3025	21	MW34B	CALCIUM, DISSOLVED (MG/L CA)	3/7/1985	51	mg/L
3025	21	MW34B	CALCIUM, DISSOLVED (MG/L CA)	6/14/1985	41	mg/L
3025	21	MW34B	CALCIUM, DISSOLVED (MG/L CA)	9/18/1985	44	mg/L
3025	21	MW34B	CALCIUM, DISSOLVED (MG/L CA)	12/12/1985	79	mg/L
3025	21	MW34B	CALCIUM, DISSOLVED (MG/L CA)	3/21/1986	85	mg/L
3025	21	MW34B	CALCIUM, DISSOLVED (MG/L CA)	6/20/1986	71	mg/L
3025	21	MW34B	CALCIUM, DISSOLVED (MG/L CA)	9/18/1986	83	mg/L
3025	21	MW34B	CALCIUM, DISSOLVED (MG/L CA)	3/20/1987	65	mg/L
3025	21	MW34B	CALCIUM, DISSOLVED (MG/L CA)	6/5/1987	155	mg/L
3025	21	MW34B	CALCIUM, DISSOLVED (MG/L CA)	9/9/1987	64.7	mg/L
3025	21	MW34B	CALCIUM, DISSOLVED (MG/L CA)	12/9/1987	78.3	mg/L
3025	20	MW34A	CALCIUM, DISSOLVED (MG/L CA)	9/7/1984	127	mg/L
3025	20	MW34A	CALCIUM, DISSOLVED (MG/L CA)	12/17/1984	57	mg/L
3025	20	MW34A	CALCIUM, DISSOLVED (MG/L CA)	3/7/1985	147	mg/L
3025	20	MW34A	CALCIUM, DISSOLVED (MG/L CA)	6/14/1985	128	mg/L
3025	20	MW34A	CALCIUM, DISSOLVED (MG/L CA)	9/18/1985	77	mg/L
3025	20	MW34A	CALCIUM, DISSOLVED (MG/L CA)	12/12/1985	50	mg/L
3025	20	MW34A	CALCIUM, DISSOLVED (MG/L CA)	3/21/1986	86	mg/L
3025	20	MW34A	CALCIUM, DISSOLVED (MG/L CA)	6/20/1986	237	mg/L
3025	20	MW34A	CALCIUM, DISSOLVED (MG/L CA)	9/18/1986	217	mg/L
3025	20	MW34A	CALCIUM, DISSOLVED (MG/L CA)	12/19/1986	192	mg/L
3025	20	MW34A	CALCIUM, DISSOLVED (MG/L CA)	3/20/1987	96	mg/L

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Lic#	Point ID	Point Name	Parameter Description	Sample Date	Result Value	Result Unit
3025	20	MW34A	CALCIUM, DISSOLVED (MG/L CA)	6/5/1987	163	mg/L
3025	20	MW34A	CALCIUM, DISSOLVED (MG/L CA)	9/9/1987	185	mg/L
3025	20	MW34A	CALCIUM, DISSOLVED (MG/L CA)	12/9/1987	72.3	mg/L
3025	15	MW25	CALCIUM, DISSOLVED (MG/L CA)	3/20/1985	105	mg/L
3025	15	MW25	CALCIUM, DISSOLVED (MG/L CA)	6/14/1985	102	mg/L
3025	15	MW25	CALCIUM, DISSOLVED (MG/L CA)	9/18/1985	99	mg/L
3025	15	MW25	CALCIUM, DISSOLVED (MG/L CA)	12/12/1985	100	mg/L
3025	15	MW25	CALCIUM, DISSOLVED (MG/L CA)	3/21/1986	112	mg/L
3025	15	MW25	CALCIUM, DISSOLVED (MG/L CA)	6/20/1986	101	mg/L
3025	15	MW25	CALCIUM, DISSOLVED (MG/L CA)	9/18/1986	105	mg/L
3025	15	MW25	CALCIUM, DISSOLVED (MG/L CA)	12/19/1986	106	mg/L
3025	15	MW25	CALCIUM, DISSOLVED (MG/L CA)	3/20/1987	52	mg/L
3025	15	MW25	CALCIUM, DISSOLVED (MG/L CA)	6/5/1987	79	mg/L
3025	15	MW25	CALCIUM, DISSOLVED (MG/L CA)	9/9/1987	107	mg/L
3025	15	MW25	CALCIUM, DISSOLVED (MG/L CA)	12/9/1987	107	mg/L
3025	8	MW1B	CALCIUM, DISSOLVED (MG/L CA)	9/7/1984	117	mg/L
3025	8	MW1B	CALCIUM, DISSOLVED (MG/L CA)	12/17/1984	143	mg/L
3025	8	MW1B	CALCIUM, DISSOLVED (MG/L CA)	3/7/1985	126	mg/L
3025	8	MW1B	CALCIUM, DISSOLVED (MG/L CA)	6/14/1985	123	mg/L
3025	8	MW1B	CALCIUM, DISSOLVED (MG/L CA)	9/18/1985	112	mg/L
3025	8	MW1B	CALCIUM, DISSOLVED (MG/L CA)	12/12/1985	109	mg/L
3025	8	MW1B	CALCIUM, DISSOLVED (MG/L CA)	3/21/1986	108	mg/L
3025	8	MW1B	CALCIUM, DISSOLVED (MG/L CA)	6/20/1986	98	mg/L
3025	8	MW1B	CALCIUM, DISSOLVED (MG/L CA)	9/18/1986	105	mg/L
3025	8	MW1B	CALCIUM, DISSOLVED (MG/L CA)	12/19/1986	95	mg/L
3025	8	MW1B	CALCIUM, DISSOLVED (MG/L CA)	3/20/1987	82	mg/L
3025	8	MW1B	CALCIUM, DISSOLVED (MG/L CA)	6/5/1987	90	mg/L
3025	8	MW1B	CALCIUM, DISSOLVED (MG/L CA)	9/9/1987	109	mg/L
3025	8	MW1B	CALCIUM, DISSOLVED (MG/L CA)	12/9/1987	103	mg/L
3025	7	MW1A	CALCIUM, DISSOLVED (MG/L CA)	9/7/1984	95	mg/L
3025	7	MW1A	CALCIUM, DISSOLVED (MG/L CA)	12/17/1984	93	mg/L
3025	7	MW1A	CALCIUM, DISSOLVED (MG/L CA)	3/7/1985	100	mg/L
3025	7	MW1A	CALCIUM, DISSOLVED (MG/L CA)	6/14/1985	101	mg/L
3025	7	MW1A	CALCIUM, DISSOLVED (MG/L CA)	9/18/1985	99	mg/L
3025	7	MW1A	CALCIUM, DISSOLVED (MG/L CA)	12/12/1985	92	mg/L
3025	7	MW1A	CALCIUM, DISSOLVED (MG/L CA)	3/21/1986	93	mg/L
3025	7	MW1A	CALCIUM, DISSOLVED (MG/L CA)	6/20/1986	98	mg/L
3025	7	MW1A	CALCIUM, DISSOLVED (MG/L CA)	9/18/1986	107	mg/L
3025	7	MW1A	CALCIUM, DISSOLVED (MG/L CA)	12/19/1986	109	mg/L
3025	7	MW1A	CALCIUM, DISSOLVED (MG/L CA)	3/20/1987	93	mg/L
3025	7	MW1A	CALCIUM, DISSOLVED (MG/L CA)	9/9/1987	120	mg/L
3025	11	MW16	CALCIUM, DISSOLVED (MG/L CA)	9/7/1984	52	mg/L
3025	11	MW16	CALCIUM, DISSOLVED (MG/L CA)	12/17/1984	52	mg/L
3025	11	MW16	CALCIUM, DISSOLVED (MG/L CA)	3/7/1985	54	mg/L
3025	11	MW16	CALCIUM, DISSOLVED (MG/L CA)	6/14/1985	57	mg/L
3025	11	MW16	CALCIUM, DISSOLVED (MG/L CA)	9/18/1985	51	mg/L
3025	11	MW16	CALCIUM, DISSOLVED (MG/L CA)	12/12/1985	52	mg/L
3025	11	MW16	CALCIUM, DISSOLVED (MG/L CA)	3/21/1986	48	mg/L
3025	11	MW16	CALCIUM, DISSOLVED (MG/L CA)	6/20/1986	43	mg/L
3025	11	MW16	CALCIUM, DISSOLVED (MG/L CA)	9/18/1986	48	mg/L
3025	11	MW16	CALCIUM, DISSOLVED (MG/L CA)	12/19/1986	46	mg/L
3025	11	MW16	CALCIUM, DISSOLVED (MG/L CA)	3/20/1987	37	mg/L

Historical Calcium Results
License #3025 Wells and Select License #2325 Wells

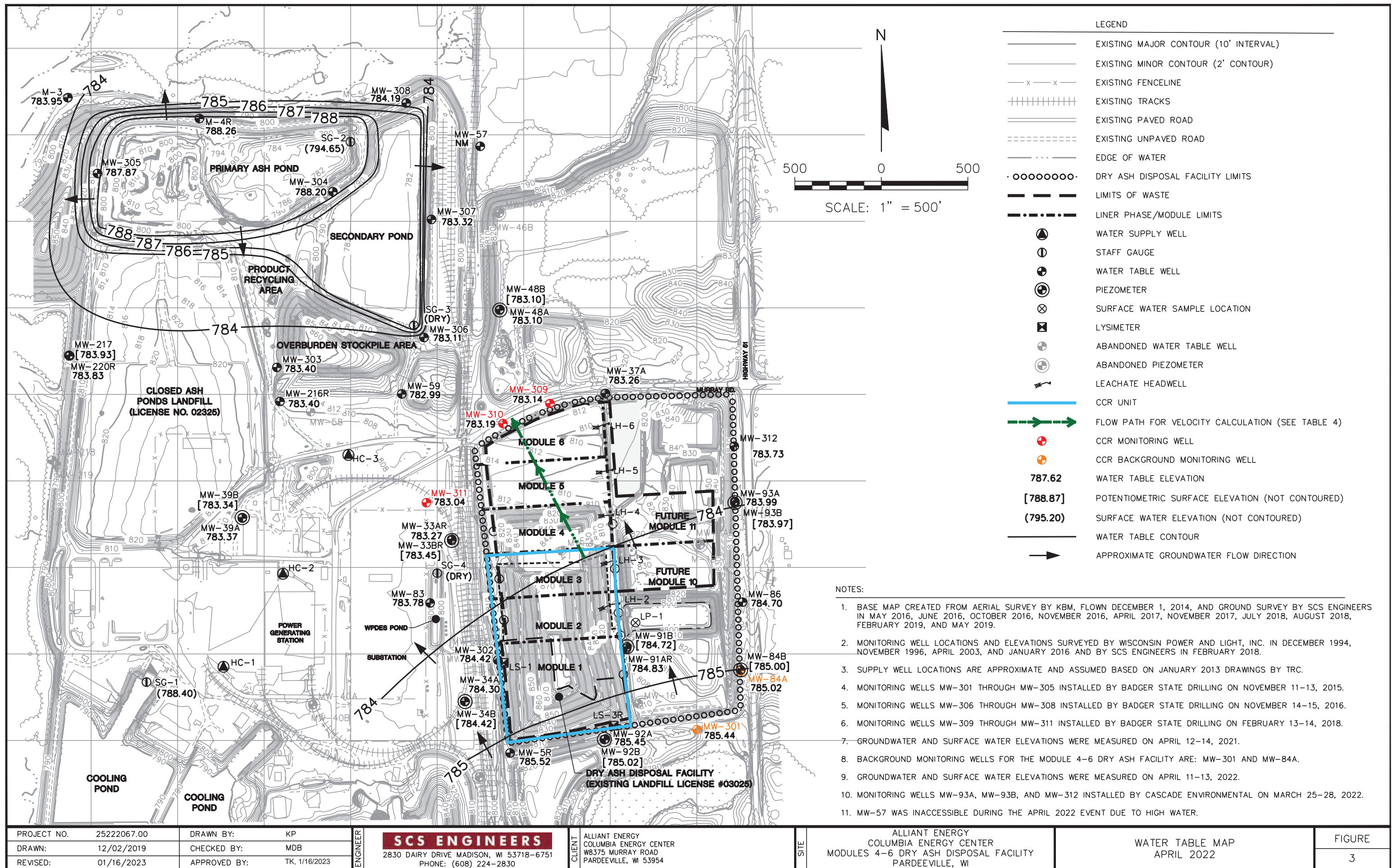
Lic#	Point ID	Point Name	Parameter Description	Sample Date	Result Value	Result Unit
3025	11	MW16	CALCIUM, DISSOLVED (MG/L CA)	6/5/1987	45	mg/L
3025	11	MW16	CALCIUM, DISSOLVED (MG/L CA)	9/9/1987	43.4	mg/L
3025	11	MW16	CALCIUM, DISSOLVED (MG/L CA)	12/9/1987	49.5	mg/L
2325	108	W59 (W-2)	CALCIUM, TOTAL (MG/L CA)	3/30/1981	89	mg/L
2325	108	W59 (W-2)	CALCIUM, TOTAL (MG/L CA)	5/21/1981	72.5	mg/L
2325	108	W59 (W-2)	CALCIUM, TOTAL (MG/L CA)	8/4/1981	93.3	mg/L
2325	108	W59 (W-2)	CALCIUM, TOTAL (MG/L CA)	11/3/1981	102	mg/L
2325	108	W59 (W-2)	CALCIUM, TOTAL (MG/L CA)	2/1/1982	100	mg/L
2325	108	W59 (W-2)	CALCIUM, TOTAL (MG/L CA)	3/30/1982	84.6	mg/L
2325	108	W59 (W-2)	CALCIUM, TOTAL (MG/L CA)	6/7/1982	90	mg/L
2325	108	W59 (W-2)	CALCIUM, TOTAL (MG/L CA)	9/20/1982	96	mg/L
2325	108	W59 (W-2)	CALCIUM, TOTAL (MG/L CA)	12/7/1982	91	mg/L
2325	108	W59 (W-2)	CALCIUM, DISSOLVED (MG/L CA)	9/7/1984	97	mg/L
2325	108	W59 (W-2)	CALCIUM, DISSOLVED (MG/L CA)	12/17/1984	105	mg/L
2325	108	W59 (W-2)	CALCIUM, DISSOLVED (MG/L CA)	3/7/1985	126	mg/L
2325	108	W59 (W-2)	CALCIUM, DISSOLVED (MG/L CA)	6/14/1985	127	mg/L
2325	108	W59 (W-2)	CALCIUM, DISSOLVED (MG/L CA)	9/18/1985	124	mg/L
2325	108	W59 (W-2)	CALCIUM, DISSOLVED (MG/L CA)	12/12/1985	123	mg/L
2325	108	W59 (W-2)	CALCIUM, DISSOLVED (MG/L CA)	3/21/1986	132	mg/L
2325	108	W59 (W-2)	CALCIUM, DISSOLVED (MG/L CA)	6/20/1986	86	mg/L
2325	108	W59 (W-2)	CALCIUM, DISSOLVED (MG/L CA)	9/18/1986	97	mg/L
2325	108	W59 (W-2)	CALCIUM, DISSOLVED (MG/L CA)	12/19/1986	105	mg/L
2325	108	W59 (W-2)	CALCIUM, DISSOLVED (MG/L CA)	3/20/1987	76	mg/L
2325	108	W59 (W-2)	CALCIUM, DISSOLVED (MG/L CA)	6/5/1987	91	mg/L
2325	108	W59 (W-2)	CALCIUM, DISSOLVED (MG/L CA)	9/9/1987	89	mg/L
2325	108	W59 (W-2)	CALCIUM, DISSOLVED (MG/L CA)	12/9/1987	92.6	mg/L
2325	108	W59 (W-2)	CALCIUM, DISSOLVED (MG/L CA)	3/10/1988	93.4	mg/L
2325	108	W59 (W-2)	CALCIUM, DISSOLVED (MG/L CA)	6/7/1988	95.8	mg/L
2325	108	W59 (W-2)	CALCIUM, DISSOLVED (MG/L CA)	9/8/1988	92.7	mg/L
2325	108	W59 (W-2)	CALCIUM, DISSOLVED (MG/L CA)	12/7/1988	87.8	mg/L
2325	108	W59 (W-2)	CALCIUM, DISSOLVED (MG/L CA)	3/22/1989	91.4	mg/L
2325	108	W59 (W-2)	CALCIUM, DISSOLVED (MG/L CA)	6/13/1989	76	mg/L
2325	108	W59 (W-2)	CALCIUM, DISSOLVED (MG/L CA)	6/14/1989	76	mg/L
2325	108	W59 (W-2)	CALCIUM, DISSOLVED (MG/L CA)	9/27/1989	74	mg/L
2325	108	W59 (W-2)	CALCIUM, DISSOLVED (MG/L CA)	12/4/1989	77	mg/L
2325	108	W59 (W-2)	CALCIUM, DISSOLVED (MG/L CA)	3/28/1990	79	mg/L
2325	108	W59 (W-2)	CALCIUM, DISSOLVED (MG/L CA)	6/12/1990	78	mg/L
2325	108	W59 (W-2)	CALCIUM, DISSOLVED (MG/L CA)	9/5/1990	90	mg/L
2325	108	W59 (W-2)	CALCIUM, DISSOLVED (MG/L CA)	12/6/1990	82	mg/L
2325	108	W59 (W-2)	CALCIUM, DISSOLVED (MG/L CA)	3/5/1991	78	mg/L
2325	108	W59 (W-2)	CALCIUM, DISSOLVED (MG/L CA)	6/3/1991	84	mg/L
2325	108	W59 (W-2)	CALCIUM, DISSOLVED (MG/L CA)	9/6/1991	82	mg/L
2325	108	W59 (W-2)	CALCIUM, DISSOLVED (MG/L CA)	12/4/1991	81	mg/L
2325	108	W59 (W-2)	CALCIUM, DISSOLVED (MG/L CA)	3/2/1992	82	mg/L
2325	108	W59 (W-2)	CALCIUM, DISSOLVED (MG/L CA)	6/1/1992	81	mg/L
2325	107	W58 (W-1)	CALCIUM, TOTAL (MG/L CA)	3/30/1981	69	mg/L
2325	107	W58 (W-1)	CALCIUM, TOTAL (MG/L CA)	5/21/1981	79	mg/L
2325	107	W58 (W-1)	CALCIUM, TOTAL (MG/L CA)	8/4/1981	140	mg/L
2325	107	W58 (W-1)	CALCIUM, TOTAL (MG/L CA)	11/3/1981	231	mg/L
2325	107	W58 (W-1)	CALCIUM, TOTAL (MG/L CA)	3/30/1982	93.6	mg/L
2325	107	W58 (W-1)	CALCIUM, TOTAL (MG/L CA)	6/7/1982	114	mg/L
2325	107	W58 (W-1)	CALCIUM, TOTAL (MG/L CA)	9/20/1982	132	mg/L

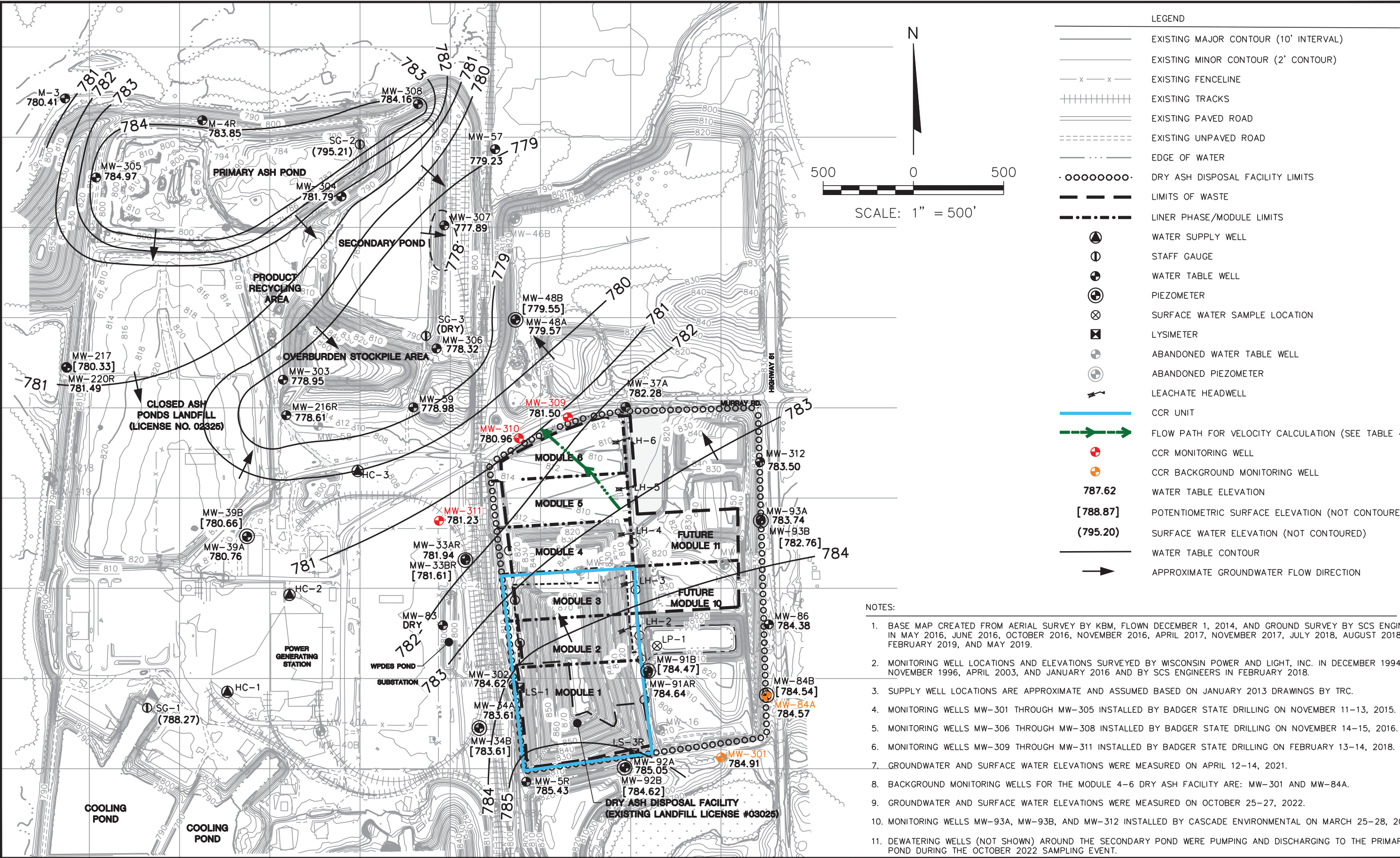
Historical Calcium Results
License #3025 Wells and Select License #2325 Wells

Lic#	Point ID	Point Name	Parameter Description	Sample Date	Result Value	Result Unit
2325	107	W58 (W-1)	CALCIUM, TOTAL (MG/L CA)	12/7/1982	107	mg/L
2325	107	W58 (W-1)	CALCIUM, DISSOLVED (MG/L CA)	9/7/1984	129	mg/L
2325	107	W58 (W-1)	CALCIUM, DISSOLVED (MG/L CA)	12/17/1984	130	mg/L
2325	107	W58 (W-1)	CALCIUM, DISSOLVED (MG/L CA)	3/7/1985	146	mg/L
2325	107	W58 (W-1)	CALCIUM, DISSOLVED (MG/L CA)	6/14/1985	140	mg/L
2325	107	W58 (W-1)	CALCIUM, DISSOLVED (MG/L CA)	9/18/1985	139	mg/L
2325	107	W58 (W-1)	CALCIUM, DISSOLVED (MG/L CA)	12/12/1985	120	mg/L
2325	107	W58 (W-1)	CALCIUM, DISSOLVED (MG/L CA)	3/21/1986	132	mg/L
2325	107	W58 (W-1)	CALCIUM, DISSOLVED (MG/L CA)	6/20/1986	127	mg/L
2325	107	W58 (W-1)	CALCIUM, DISSOLVED (MG/L CA)	9/9/1987	113	mg/L
2325	107	W58 (W-1)	CALCIUM, DISSOLVED (MG/L CA)	12/9/1987	115	mg/L
2325	107	W58 (W-1)	CALCIUM, DISSOLVED (MG/L CA)	3/10/1988	114	mg/L
2325	107	W58 (W-1)	CALCIUM, DISSOLVED (MG/L CA)	6/7/1988	125	mg/L
2325	107	W58 (W-1)	CALCIUM, DISSOLVED (MG/L CA)	9/8/1988	125	mg/L
2325	107	W58 (W-1)	CALCIUM, DISSOLVED (MG/L CA)	12/7/1988	109	mg/L
2325	107	W58 (W-1)	CALCIUM, DISSOLVED (MG/L CA)	3/22/1989	72.5	mg/L
2325	107	W58 (W-1)	CALCIUM, DISSOLVED (MG/L CA)	6/13/1989	103	mg/L
2325	107	W58 (W-1)	CALCIUM, DISSOLVED (MG/L CA)	6/14/1989	103	mg/L
2325	107	W58 (W-1)	CALCIUM, DISSOLVED (MG/L CA)	9/27/1989	92	mg/L
2325	107	W58 (W-1)	CALCIUM, DISSOLVED (MG/L CA)	12/4/1989	94	mg/L
2325	107	W58 (W-1)	CALCIUM, DISSOLVED (MG/L CA)	3/28/1990	87	mg/L
2325	107	W58 (W-1)	CALCIUM, DISSOLVED (MG/L CA)	9/5/1990	110	mg/L
2325	107	W58 (W-1)	CALCIUM, DISSOLVED (MG/L CA)	12/6/1990	100	mg/L
2325	107	W58 (W-1)	CALCIUM, DISSOLVED (MG/L CA)	3/5/1991	110	mg/L
2325	107	W58 (W-1)	CALCIUM, DISSOLVED (MG/L CA)	6/3/1991	100	mg/L
2325	107	W58 (W-1)	CALCIUM, DISSOLVED (MG/L CA)	9/6/1991	110	mg/L
2325	107	W58 (W-1)	CALCIUM, DISSOLVED (MG/L CA)	12/4/1991	100	mg/L
2325	107	W58 (W-1)	CALCIUM, DISSOLVED (MG/L CA)	3/2/1992	100	mg/L
2325	107	W58 (W-1)	CALCIUM, DISSOLVED (MG/L CA)	6/1/1992	98	mg/L

Attachment D

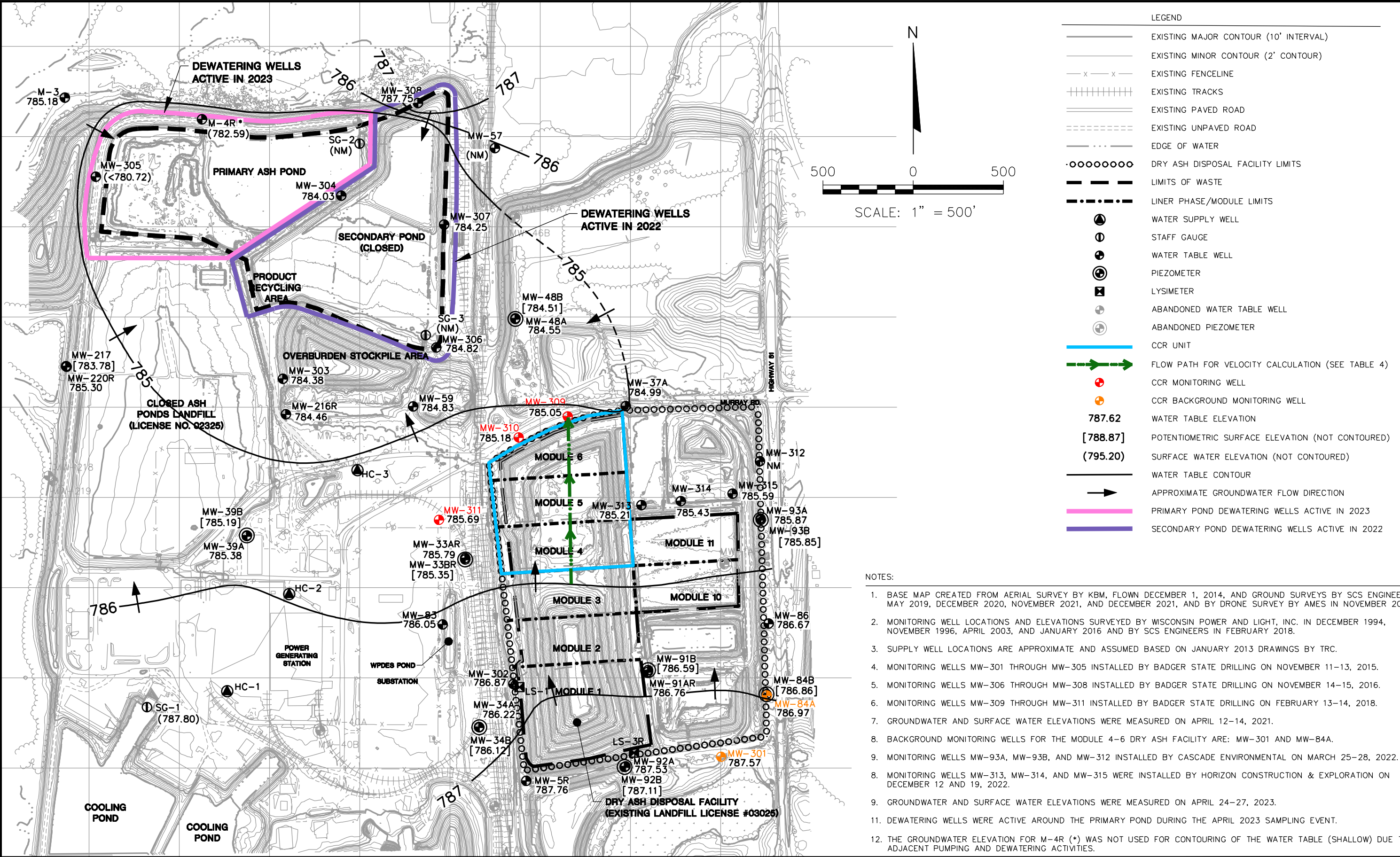
Historical Groundwater Flow Maps





PROJECT NO.	25222067.00	DRAWN BY:	KP	ENGINEER	SCS ENGINEERS 2830 DAIRY DRIVE MADISON, WI 53718-6751 PHONE: (608) 224-2830	CLIENT	ALLIANT ENERGY COLUMBIA ENERGY CENTER W8375 MURRAY ROAD PARDEEVILLE, WI 53954	SITE	ALLIANT ENERGY COLUMBIA ENERGY CENTER MODULES 4-6 DRY ASH DISPOSAL FACILITY PARDEEVILLE, WI	WATER TABLE MAP OCTOBER 2022	FIGURE
DRAWN:	12/15/2022	CHECKED BY:	MDB								
REVISED:	12/30/2022	APPROVED BY:	TK, 1/16/2023								

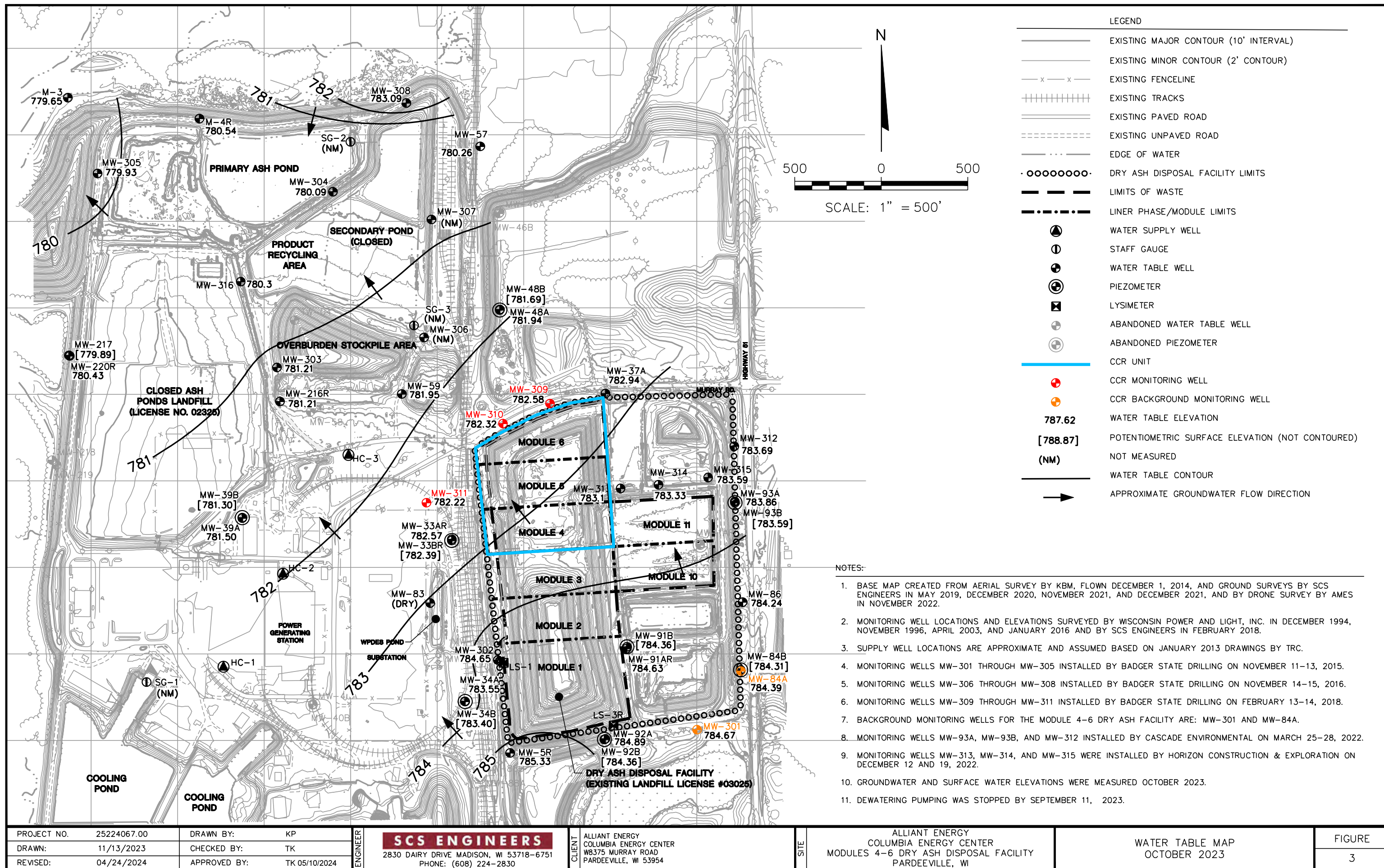
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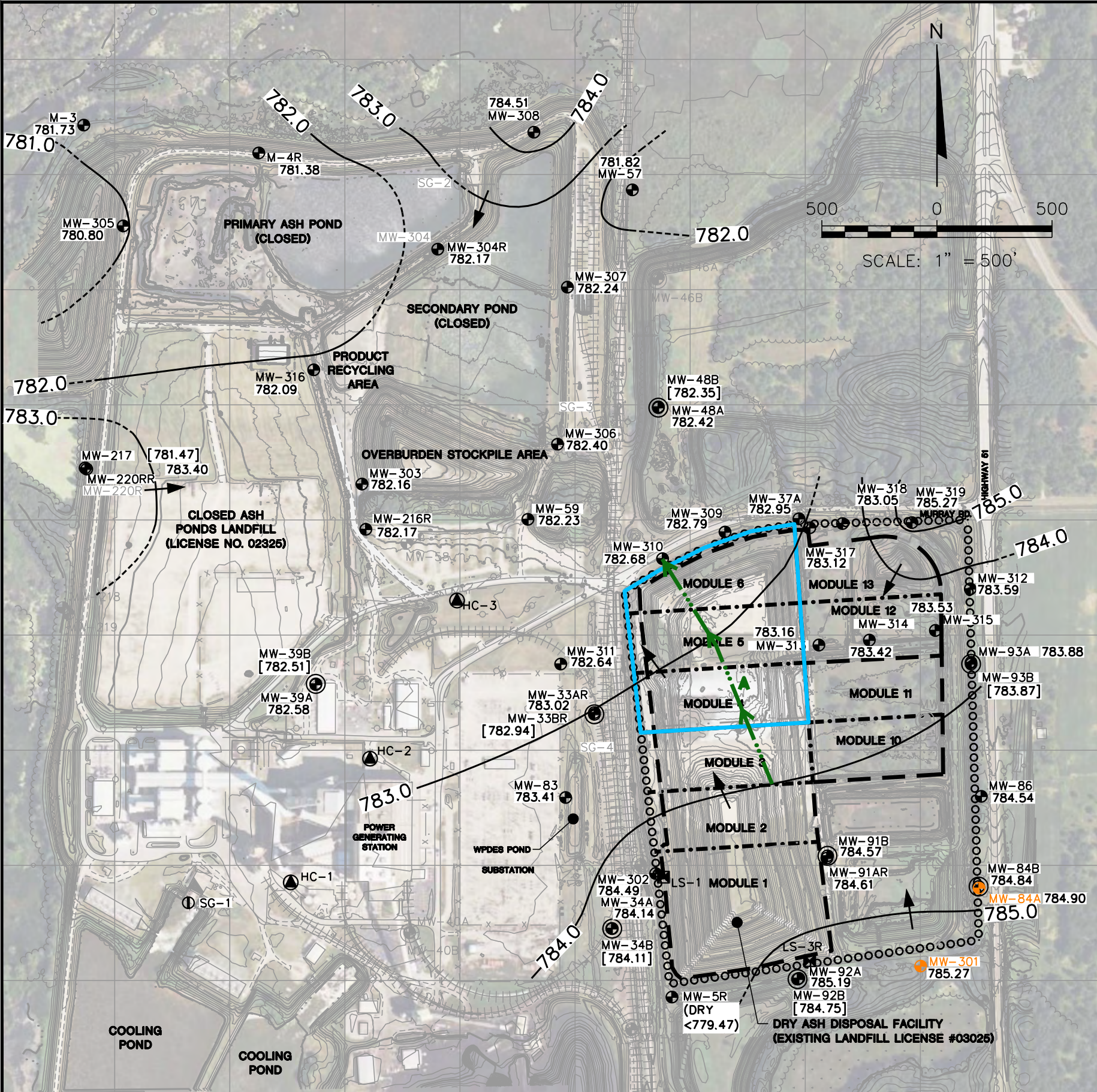


- NOTES:
1. BASE MAP CREATED FROM AERIAL SURVEY BY KBM, FLOWN DECEMBER 1, 2014, AND GROUND SURVEYS BY SCS ENGINEERS IN MAY 2019, DECEMBER 2020, NOVEMBER 2021, AND DECEMBER 2021, AND BY DRONE SURVEY BY AMES IN NOVEMBER 2022.
 2. MONITORING WELL LOCATIONS AND ELEVATIONS SURVEYED BY WISCONSIN POWER AND LIGHT, INC. IN DECEMBER 1994, NOVEMBER 1996, APRIL 2003, AND JANUARY 2016 AND BY SCS ENGINEERS IN FEBRUARY 2018.
 3. SUPPLY WELL LOCATIONS ARE APPROXIMATE AND ASSUMED BASED ON JANUARY 2013 DRAWINGS BY TRC.
 4. MONITORING WELLS MW-301 THROUGH MW-305 INSTALLED BY BADGER STATE DRILLING ON NOVEMBER 11-13, 2015.
 5. MONITORING WELLS MW-306 THROUGH MW-308 INSTALLED BY BADGER STATE DRILLING ON NOVEMBER 14-15, 2016.
 6. MONITORING WELLS MW-309 THROUGH MW-311 INSTALLED BY BADGER STATE DRILLING ON FEBRUARY 13-14, 2018.
 7. GROUNDWATER AND SURFACE WATER ELEVATIONS WERE MEASURED ON APRIL 12-14, 2021.
 8. BACKGROUND MONITORING WELLS FOR THE MODULE 4-6 DRY ASH FACILITY ARE: MW-301 AND MW-84A.
 9. MONITORING WELLS MW-93A, MW-93B, AND MW-312 INSTALLED BY CASCADE ENVIRONMENTAL ON MARCH 25-28, 2022.
 8. MONITORING WELLS MW-313, MW-314, AND MW-315 WERE INSTALLED BY HORIZON CONSTRUCTION & EXPLORATION ON DECEMBER 12 AND 19, 2022.
 9. GROUNDWATER AND SURFACE WATER ELEVATIONS WERE MEASURED ON APRIL 24-27, 2023.
 11. DEWATERING WELLS WERE ACTIVE AROUND THE PRIMARY POND DURING THE APRIL 2023 SAMPLING EVENT.
 12. THE GROUNDWATER ELEVATION FOR M-4R (*) WAS NOT USED FOR CONTOURING OF THE WATER TABLE (SHALLOW) DUE TO ADJACENT PUMPING AND DEWATERING ACTIVITIES.

PROJECT NO. 25223067.00		DRAWN BY: KP		ENGINEER SCS ENGINEERS 2830 DAIRY DRIVE MADISON, WI 53718-6751 PHONE: (608) 224-2830	CLIENT ALLIANT ENERGY COLUMBIA ENERGY CENTER W8375 MURRAY ROAD PARDEEVILLE, WI 53954	SITE ALLIANT ENERGY COLUMBIA ENERGY CENTER MODULES 4-6 DRY ASH DISPOSAL FACILITY PARDEEVILLE, WI	WATER TABLE MAP APRIL 2023	FIGURE
DRAWN: 10/12/2023		CHECKED BY: NLB						3
REVISED: 01/22/2024		APPROVED BY: TK 1/29/2024						

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(DRY)

EXISTING MAJOR CONTOUR (10' INTERVAL)

EXISTING MINOR CONTOUR (2' CONTOUR)

EXISTING FENCELINE

EXISTING TRACKS

EXISTING PAVED ROAD

EXISTING UNPAVED ROAD

EDGE OF WATER

DRY ASH DISPOSAL FACILITY LIMITS

LINER PHASE/MODULE LIMITS

WATER SUPPLY WELL

STAFF GAUGE

WATER TABLE WELL

PIEZOMETER

LYSIMETER

ABANDONED WATER TABLE WELL

ABANDONED PIEZOMETER

CCR MONITORING WELL

CCR BACKGROUND MONITORING WELL

WATER TABLE ELEVATION

POTENTIOMETRIC SURFACE ELEVATION (NOT CONTOURED)

SURFACE WATER ELEVATION (NOT CONTOURED)

WATER TABLE CONTOUR (1-FOOT CONTOUR INTERVAL) (DASHED WHERE INFERRED)

APPROXIMATE GROUNDWATER FLOW DIRECTION

FLOW PATH FOR VELOCITY CALCULATION (SEE TABLE 4)

CCR UNIT

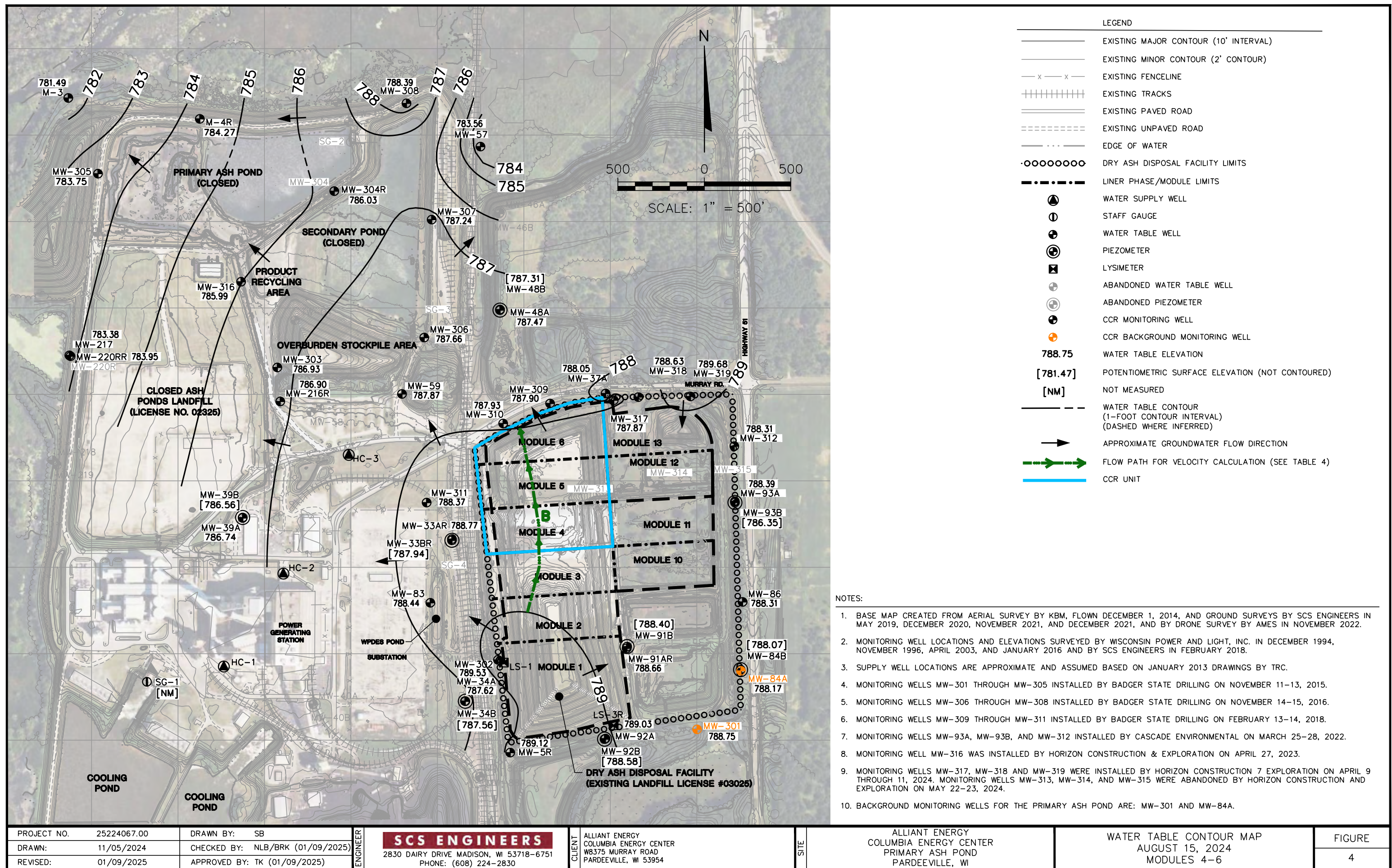
NOTES:

1. BASE MAP CREATED FROM AERIAL SURVEY BY KBM, FLOWN DECEMBER 1, 2014, AND GROUND SURVEYS BY SCS ENGINEERS IN MAY 2019, DECEMBER 2020, NOVEMBER 2021, AND DECEMBER 2021, AND BY DRONE SURVEY BY AMES IN NOVEMBER 2022.
2. MONITORING WELL LOCATIONS AND ELEVATIONS SURVEYED BY WISCONSIN POWER AND LIGHT, INC. IN DECEMBER 1994, NOVEMBER 1996, APRIL 2003, AND JANUARY 2016 AND BY SCS ENGINEERS IN FEBRUARY 2018.
3. SUPPLY WELL LOCATIONS ARE APPROXIMATE AND ASSUMED BASED ON JANUARY 2013 DRAWINGS BY TRC.
4. MONITORING WELLS MW-301 THROUGH MW-305 INSTALLED BY BADGER STATE DRILLING ON NOVEMBER 11-13, 2015.
5. MONITORING WELLS MW-306 THROUGH MW-308 INSTALLED BY BADGER STATE DRILLING ON NOVEMBER 14-15, 2016.
6. MONITORING WELLS MW-309 THROUGH MW-311 INSTALLED BY BADGER STATE DRILLING ON FEBRUARY 13-14, 2018.
7. BACKGROUND MONITORING WELLS FOR THE PRIMARY ASH POND ARE: MW-301 AND MW-84A.
8. MONITORING WELLS MW-93A, MW-93B, AND MW-312 INSTALLED BY CASCADE ENVIRONMENTAL ON MARCH 25-28, 2022.
8. MONITORING WELLS MW-313, MW-314, AND MW-315 WERE INSTALLED BY HORIZON CONSTRUCTION & EXPLORATION ON DECEMBER 12 AND 19, 2022.
9. MONITORING WELL MW-316 WAS INSTALLED BY HORIZON CONSTRUCTION & EXPLORATION ON APRIL 27, 2023.
10. MONITORING WELLS MW-317, MW-318 AND MW-319 WERE INSTALLED BY HORIZON CONSTRUCTION 7 EXPLORATION ON APRIL 9 THROUGH 11, 2024.

PROJECT NO.	25224067.00	DRAWN BY:	SB	ENGINEER	SCS ENGINEERS 2830 DAIRY DRIVE MADISON, WI 53718-6751 PHONE: (608) 224-2830	CLIENT	ALLIANT ENERGY COLUMBIA ENERGY CENTER W8375 MURRAY ROAD PARDEEVILLE, WI 53954	SITE	ALLIANT ENERGY COLUMBIA ENERGY CENTER PRIMARY ASH POND PARDEEVILLE, WI	WATER TABLE CONTOUR MAP APRIL 15-17, 2024 MODULES 4-6	FIGURE
DRAWN:	11/05/2024	CHECKED BY:	NLB/BRK (01/06/2025)								
REVISED:	12/06/2024	APPROVED BY:	TK (01/06/2025)								3

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09/26/2025 - Classification: Internal - ECRM13592497

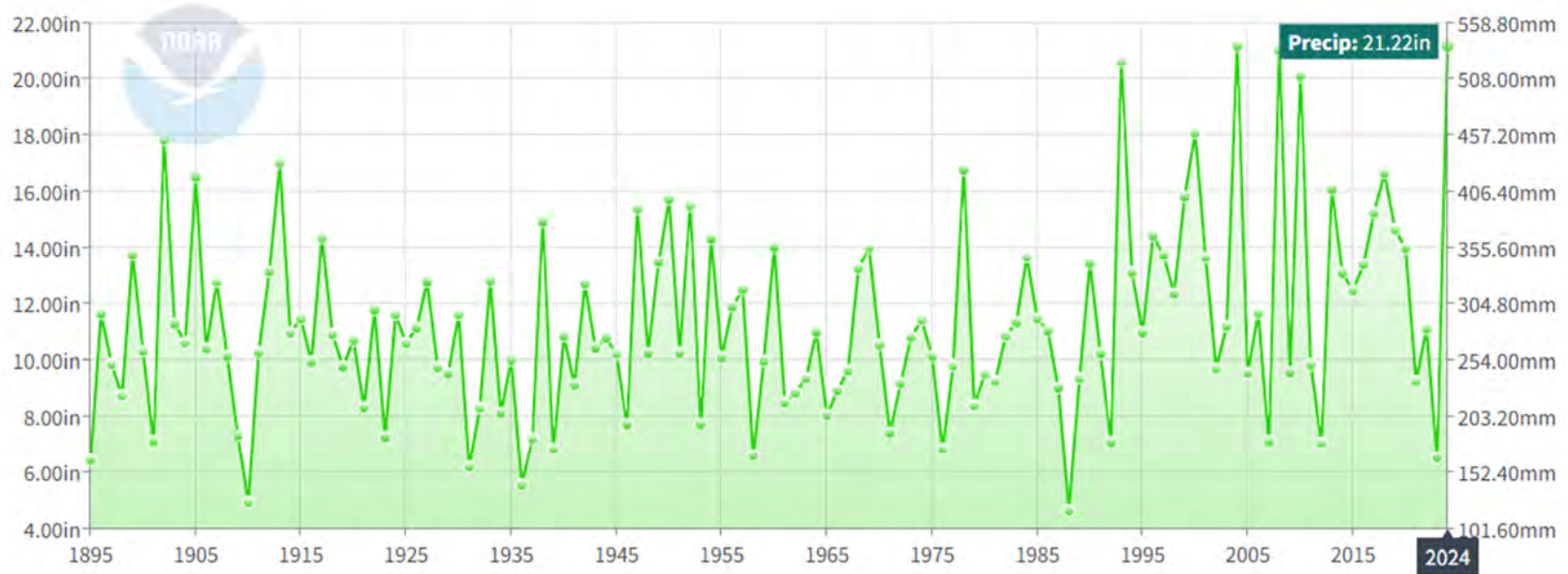


Attachment E

Columbia County Precipitation Graphs

Columbia County, Wisconsin Precipitation

May-July



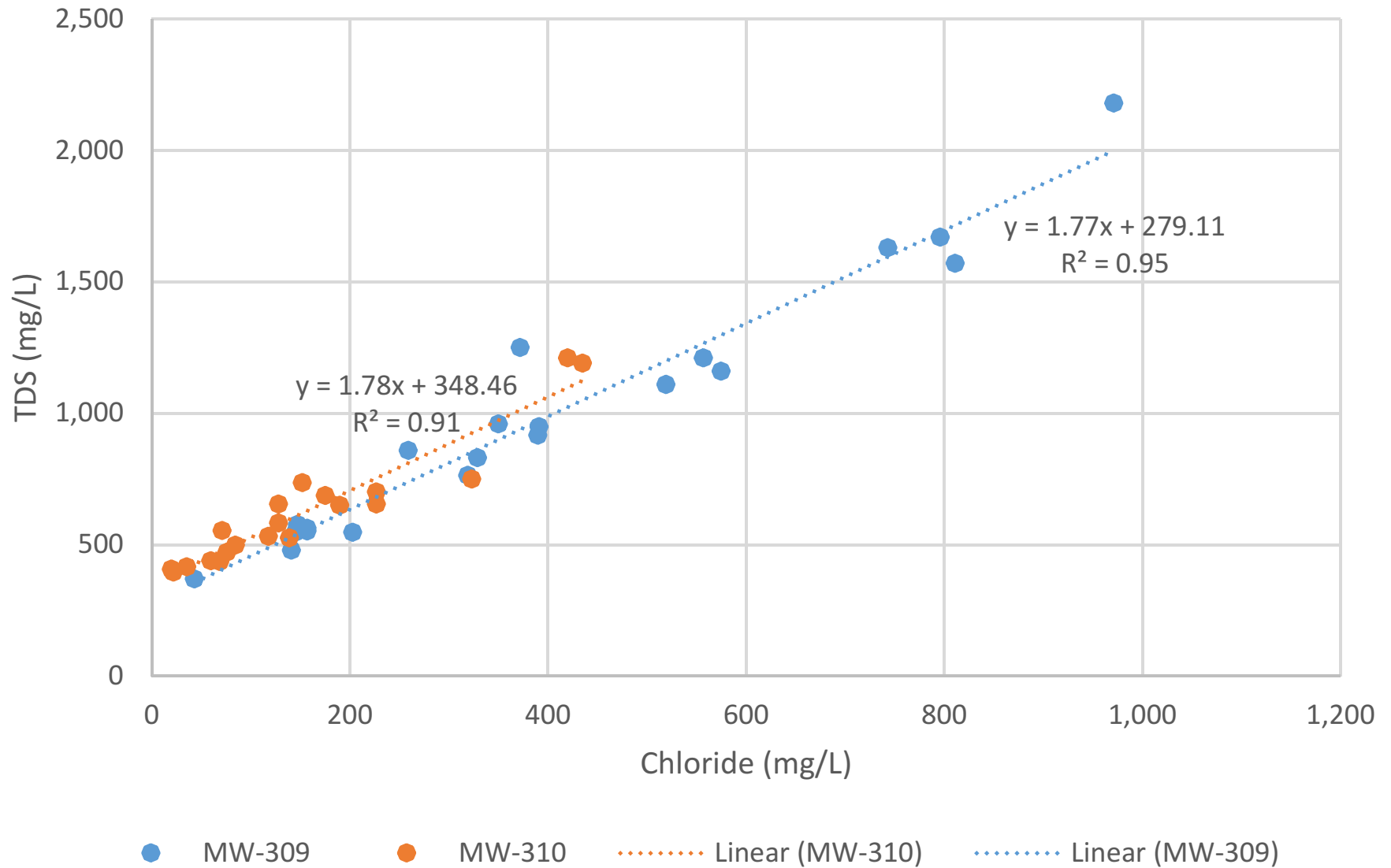
Powered by ZingChart

2024 3-month precipitation totals, Columbia County, Wisconsin. <https://www.ncei.noaa.gov/access/monitoring/climate-at-a-glance/county/time-series/WI-021/pcp/3/7/1895-2024>, accessed 1/16/2024.

Attachment F

TDS-CI Correlation Plot

MW-309 and MW-310, Comparison of TDS to Cl



Attachment G

Compact disc (CD) containing the results in Wisconsin DNR electronic data submittal format – (GEMS Data Submittal Contact copy only)

From: Bizjack, Matthew <MatthewBizjack@alliantenergy.com>
Sent: Tuesday, February 18, 2025 4:57 PM
To: Sullivan, Tyler J - DNR; Joseph.Lourigan
Cc: Maxted, Jeffrey; Karwoski, Thomas; Clark, Sherren; Blodgett, Meghan
Subject: WPL Columbia ADF - Demonstration of False Exceedance Supplemental Information
Attachments: Sanitas Report COL Mod 4-6 Mann Kendall_All Detection Monitoring_rev1.pdf

Categories: Filed by Newforma

This email originated from outside of SCS Engineers. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Tyler and Joe,

On behalf of Wisconsin Power and Light Columbia Energy Center, Alliant Energy is providing the enclosed supplemental information to support the Demonstration of False Exceedance previously submitted to the Department on January 21, 2025 for the Columbia Ash Disposal Facility (License #3025). This information is provided to support the original Demonstration's conclusion that observed exceedances were caused by sources other than the Columbia ADF.

Attached are statistical analyses for trends of detection monitoring parameters completed for parameter/well pairs that showed confirmed exceedances for PAL or ACLs in the October 2024 monitoring event. The trend analyses show that any trend observed for these parameter/well pairs are not statistically significant at a 98% confidence interval.

We are also providing additional context for boron and chloride concentrations at site wells compared to available GEMS data for leachate monitoring points LP-1 (leachate pond) and LS-1 (lysimeter). Chloride and boron are generally considered conservative tracers in groundwater. If either the landfill or the leachate pond were the source of groundwater standards exceedances at MW-309 and MW-310, one would expect to see concentrations of these two parameters at similar ratios to what is detected at site lysimeters or the leachate pond.

- At LP-1
 - Historical boron concentrations have been variable and ranged from 570 µg/L – 5,830 µg/L
 - Chloride concentrations have generally increased, with an historic range of 27.8 mg/L – 726 mg/L
 - This chloride concentration range overlaps with the chloride concentration ranges detected at MW-309 and MW-310, but boron concentrations at MW-309 and MW-310 are much lower (1-2 orders of magnitude).
- At LS-1
 - Chloride concentrations LS-1 chloride range from non-detect to 27.2 mg/L
 - Boron concentrations historically ranged from non-detect to 11,000 µg/L, but have been between approximately 4,000 µg/L - ~6,500 µg/L since the mid-1990s.
 - These chloride concentrations are lower than those detected at MW-309 and MW-310 since detection monitoring began, but the boron concentrations at LS-1 in the last 30 years are 1-2 orders of magnitude higher than concentrations at MW-309 and MW-310.
- LS-3R is typically dry and has only been sampled four times since the 1990s, so results from this monitoring point were not evaluated here.

Matt Bizjack | Senior Environmental Specialist

Pronouns: He/him/his

Alliant Energy

4902 N Biltmore Lane | Madison, WI 53718

Office: (608) 458-3197

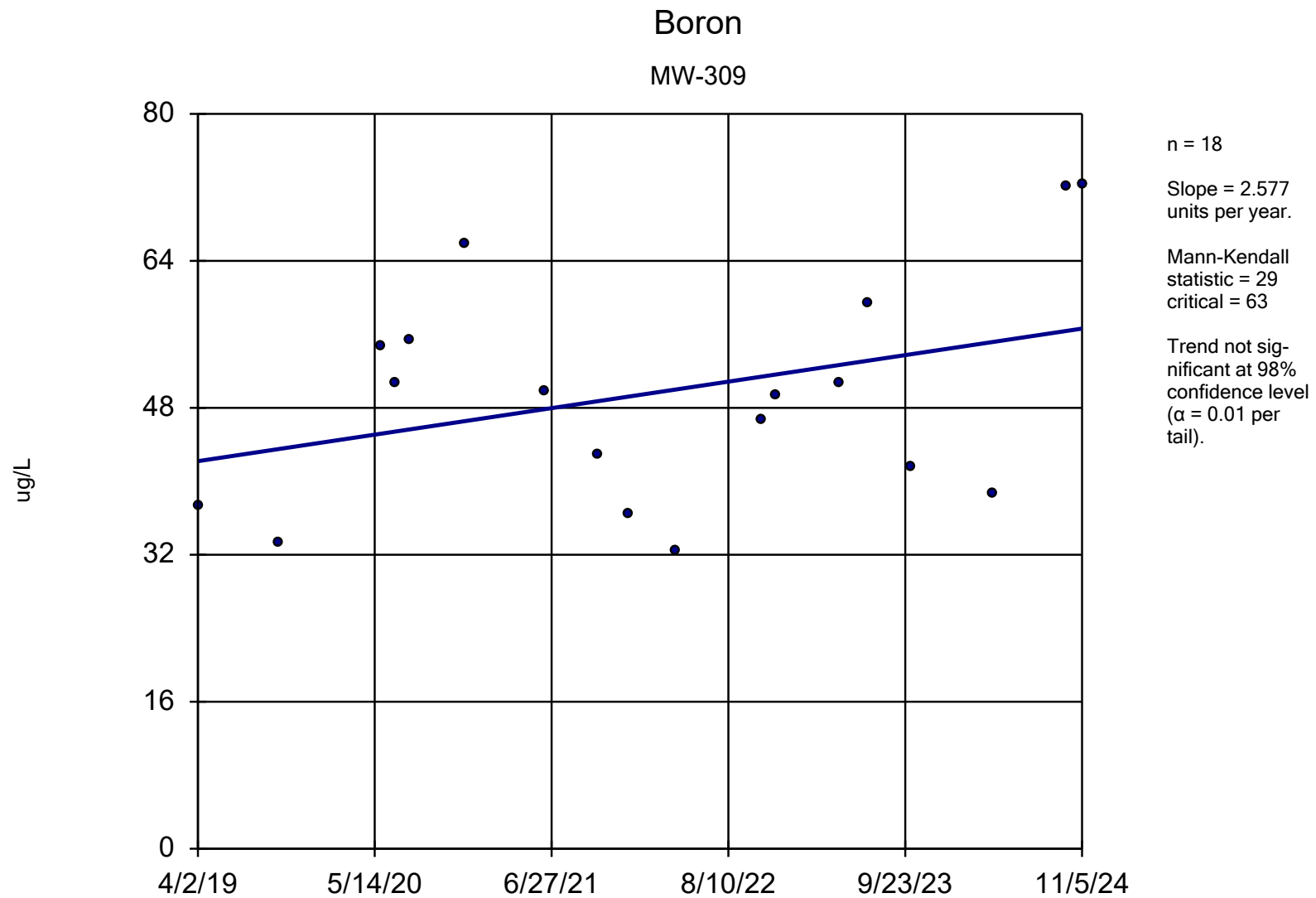
alliantenergy.com | matthewbizjack@alliantenergy.com

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Trend Test

Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020 Printed 2/14/2025, 9:59 AM

<u>Constituent</u>	<u>Well</u>	<u>Slope</u>	<u>Calc.</u>	<u>Critical</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Normality</u>	<u>Xform</u>	<u>Alpha</u>	<u>Method</u>
Boron (ug/L)	MW-309	2.577	29	63	No	18	0	n/a	n/a	0.02	NP
Boron (ug/L)	MW-310	-1.291	-17	-39	No	13	0	n/a	n/a	0.02	NP
Boron (ug/L)	MW-311	-0.3136	-6	-35	No	12	0	n/a	n/a	0.02	NP
Calcium (ug/L)	MW-309	9995	36	39	No	13	0	n/a	n/a	0.02	NP
Calcium (ug/L)	MW-310	1539	11	48	No	15	0	n/a	n/a	0.02	NP
Calcium (ug/L)	MW-311	-806.2	-18	-35	No	12	0	n/a	n/a	0.02	NP
Chloride (mg/L)	MW-309	89.48	32	39	No	13	0	n/a	n/a	0.02	NP
Chloride (mg/L)	MW-310	36.1	22	44	No	14	0	n/a	n/a	0.02	NP
Chloride (mg/L)	MW-311	0.1379	12	35	No	12	0	n/a	n/a	0.02	NP
Field pH (Std. Units)	MW-309	0	1	78	No	21	0	n/a	n/a	0.02	NP
Field pH (Std. Units)	MW-310	-0.01796	-32	-63	No	18	0	n/a	n/a	0.02	NP
Field pH (Std. Units)	MW-311	-0.00...	-6	-39	No	13	0	n/a	n/a	0.02	NP
Fluoride (mg/L)	MW-309	0	-7	-35	No	12	100	n/a	n/a	0.02	NP
Fluoride (mg/L)	MW-310	0	-20	-35	No	12	100	n/a	n/a	0.02	NP
Fluoride (mg/L)	MW-311	0	-9	-35	No	12	91.67	n/a	n/a	0.02	NP
Sulfate (mg/L)	MW-309	16.5	50	53	No	16	0	n/a	n/a	0.02	NP
Sulfate (mg/L)	MW-310	13.73	26	39	No	13	0	n/a	n/a	0.02	NP
Sulfate (mg/L)	MW-311	-2.588	-32	-35	No	12	0	n/a	n/a	0.02	NP
Total Dissolved Solids (mg/L)	MW-309	171.2	34	39	No	13	0	n/a	n/a	0.02	NP
Total Dissolved Solids (mg/L)	MW-310	53.84	31	39	No	13	0	n/a	n/a	0.02	NP
Total Dissolved Solids (mg/L)	MW-311	-2.122	-18	-35	No	12	0	n/a	n/a	0.02	NP

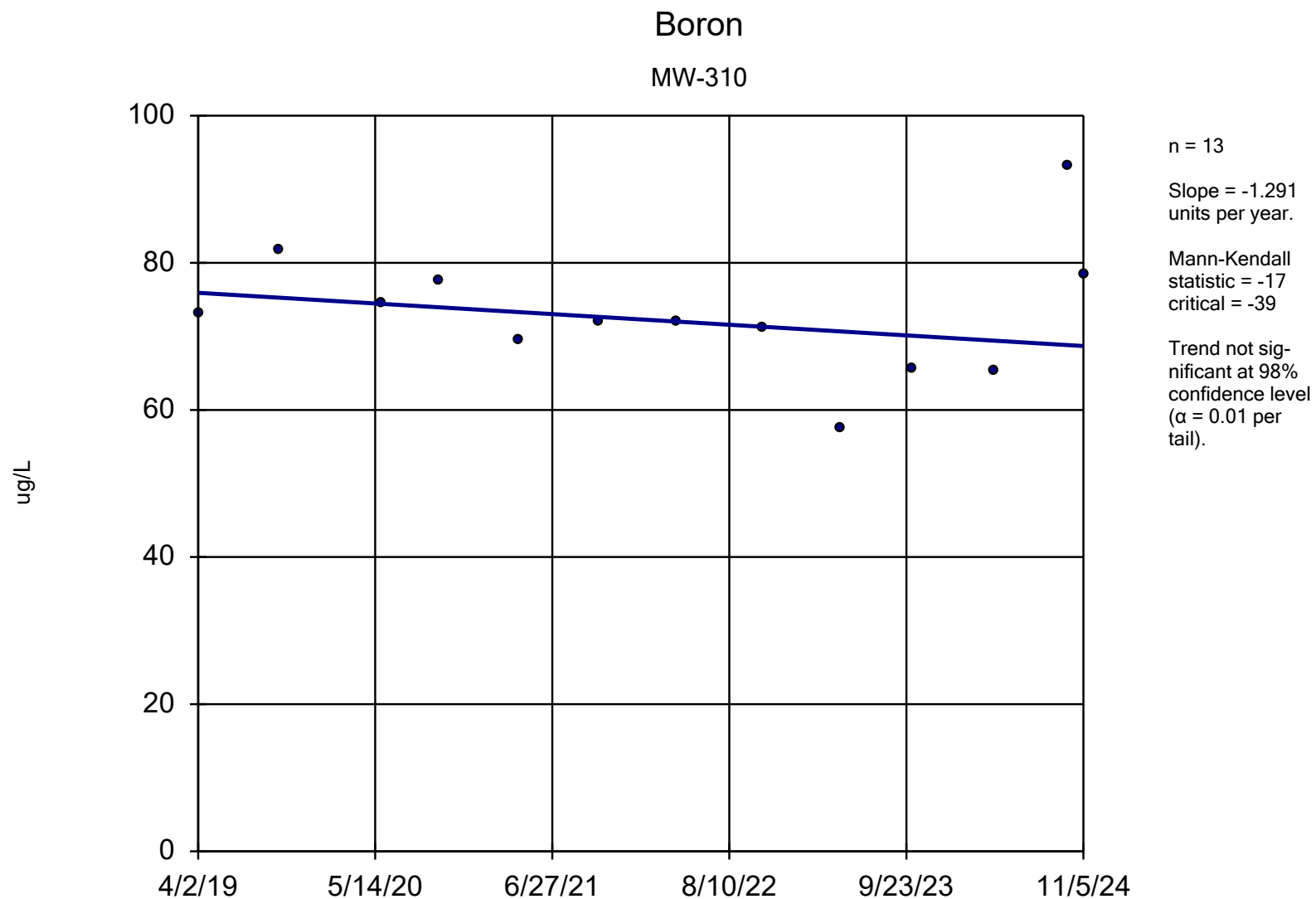


Sen's Slope and 98% Confidence Band Analysis Run 2/14/2025 9:57 AM View: COL MOD 4-6
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

Sen's Slope Estimator

Constituent: Boron (ug/L) Analysis Run 2/14/2025 9:59 AM View: COL MOD 4-6
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

	MW-309
4/2/2019	37.4
10/8/2019	33.4
5/29/2020	54.6
6/30/2020	50.7
8/6/2020	55.3
12/11/2020	65.9 (R)
6/11/2021	49.9 (R)
10/14/2021	42.9
12/21/2021	36.4
4/12/2022	32.5
10/26/2022	46.6
11/30/2022	49.3
4/26/2023	50.8
6/29/2023	59.4
10/9/2023	41.5
4/15/2024	38.7
10/1/2024	72.1
11/5/2024	72.3



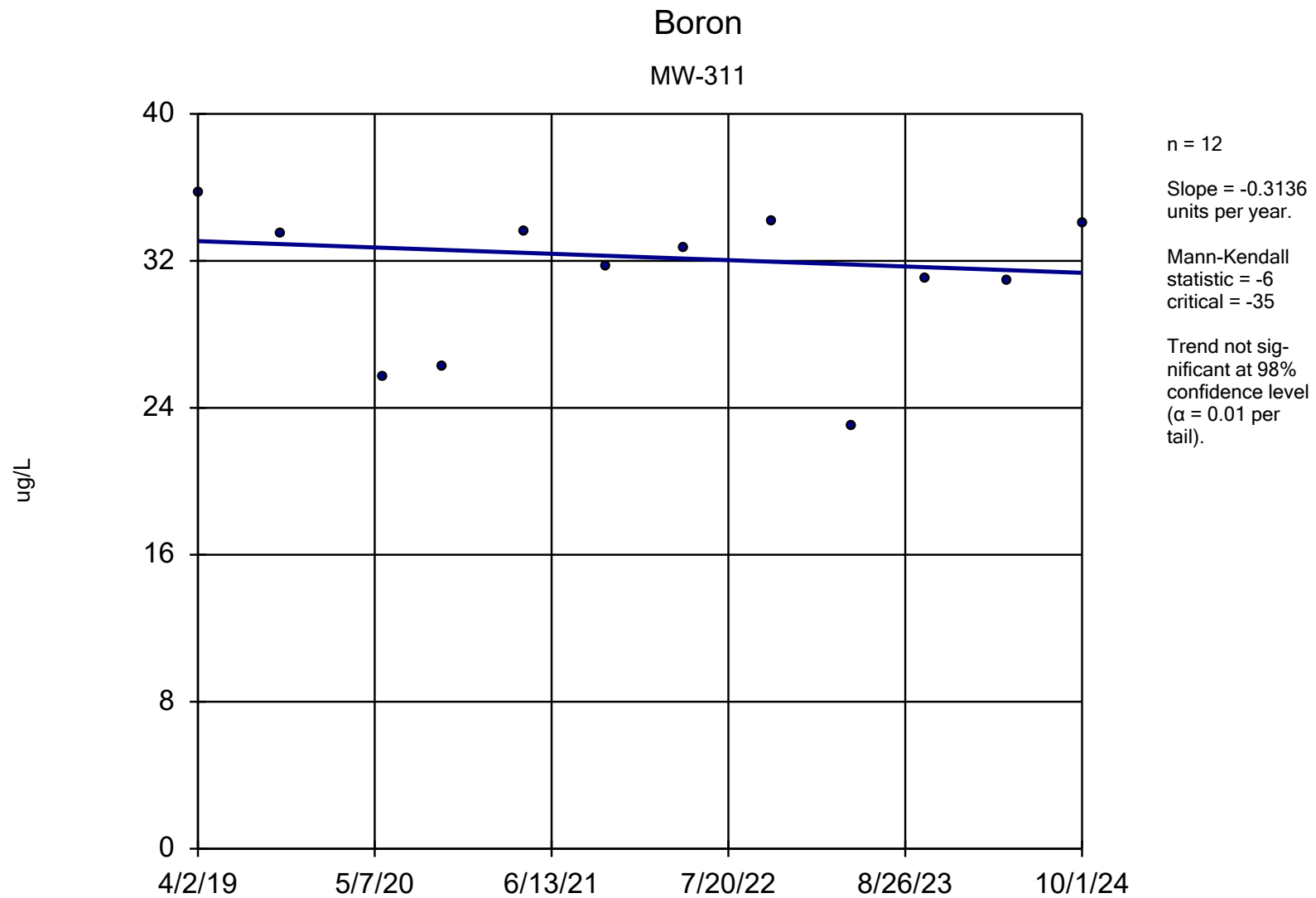
Sen's Slope and 98% Confidence Band Analysis Run 2/14/2025 9:57 AM View: COL MOD 4-6
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

Sen's Slope Estimator

Constituent: Boron (ug/L) Analysis Run 2/14/2025 9:59 AM View: COL MOD 4-6
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

MW-310

4/2/2019	73
10/8/2019	81.8
5/29/2020	74.4
10/8/2020	77.6
4/13/2021	69.6
10/14/2021	72
4/12/2022	72
10/26/2022	71.3
4/26/2023	57.5
10/9/2023	65.6
4/15/2024	65.2
10/1/2024	93.1
11/5/2024	78.4



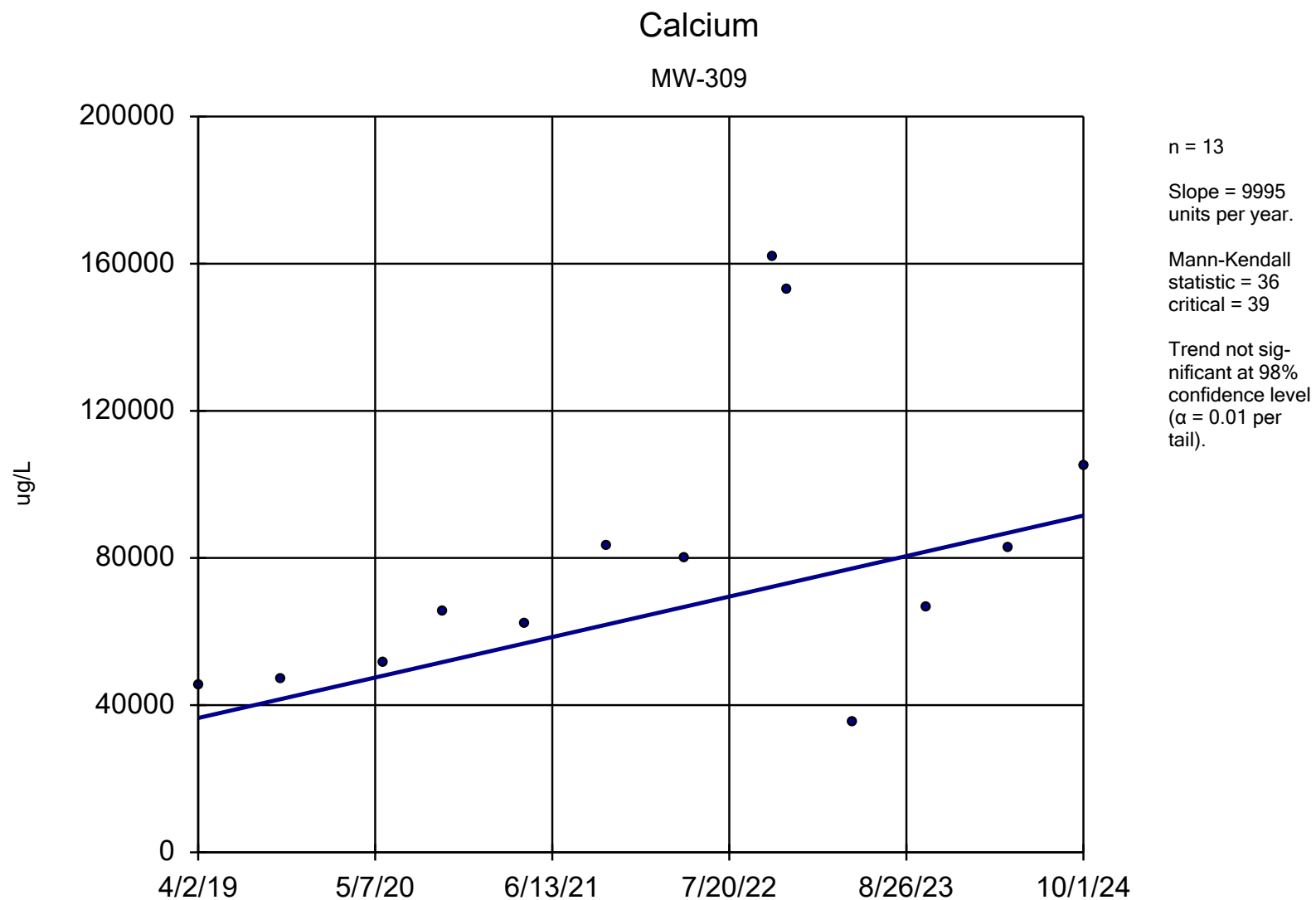
Sen's Slope and 98% Confidence Band Analysis Run 2/14/2025 9:57 AM View: COL MOD 4-6
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

Sen's Slope Estimator

Constituent: Boron (ug/L) Analysis Run 2/14/2025 10:00 AM View: COL MOD 4-6
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

MW-311

4/2/2019	35.7
10/8/2019	33.5
5/29/2020	25.7
10/8/2020	26.2
4/14/2021	33.6
10/14/2021	31.7
4/12/2022	32.7
10/27/2022	34.2
4/26/2023	23
10/9/2023	31
4/15/2024	30.9
10/1/2024	34



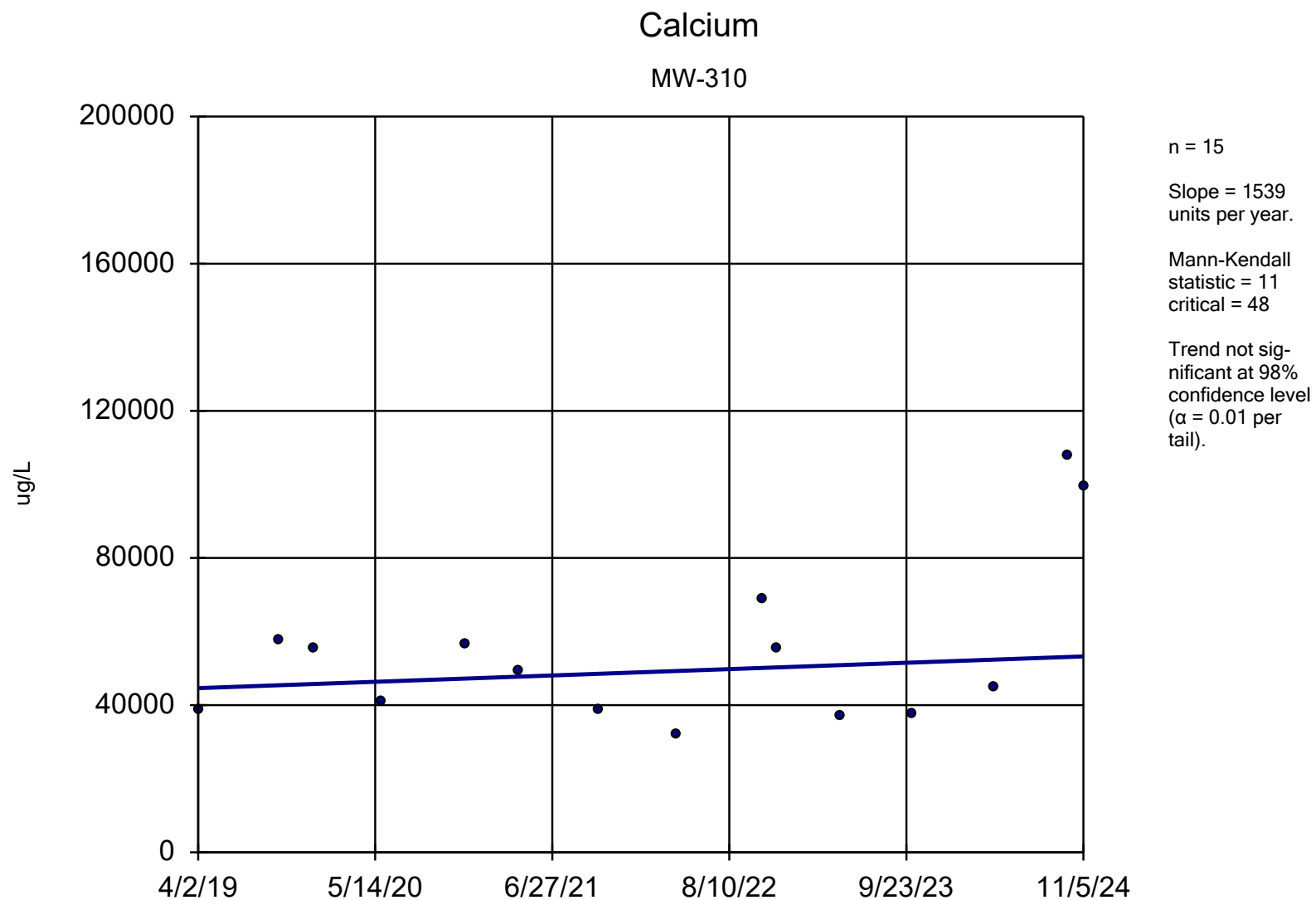
Sen's Slope and 98% Confidence Band Analysis Run 2/14/2025 9:57 AM View: COL MOD 4-6
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

Sen's Slope Estimator

Constituent: Calcium (ug/L) Analysis Run 2/14/2025 10:00 AM View: COL MOD 4-6
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

MW-309

4/2/2019	45300
10/8/2019	46900
5/29/2020	51600
10/8/2020	65300
4/13/2021	62300
10/14/2021	83100
4/12/2022	80200
10/26/2022	162000
11/30/2022	153000
4/26/2023	35500
10/9/2023	66800
4/15/2024	82600
10/1/2024	105000



Sen's Slope and 98% Confidence Band Analysis Run 2/14/2025 9:57 AM View: COL MOD 4-6
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

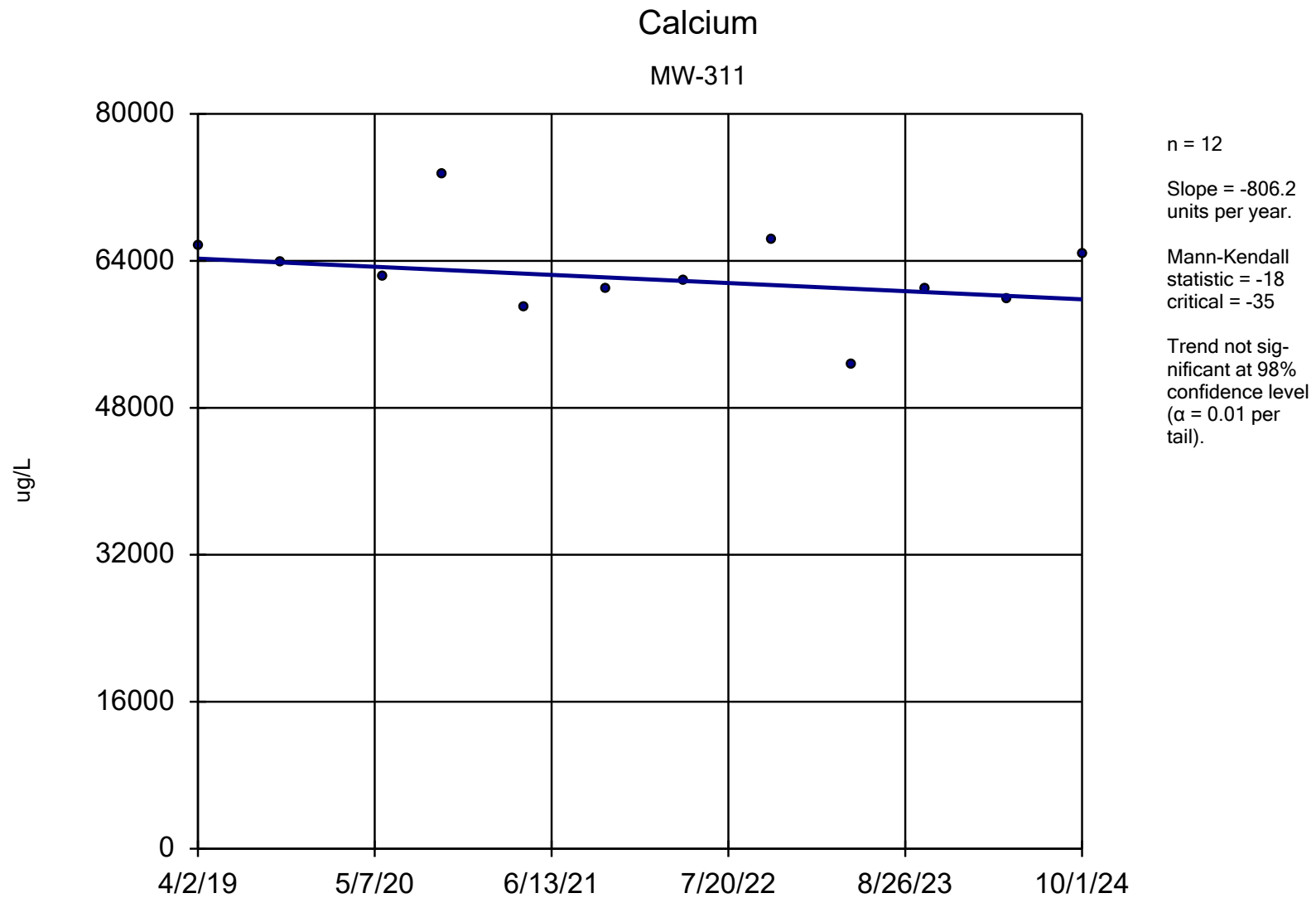
Sen's Slope Estimator

Constituent: Calcium (ug/L) Analysis Run 2/14/2025 10:00 AM View: COL MOD 4-6

Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

MW-310

4/2/2019	38800
10/8/2019	57600
12/23/2019	55400
5/29/2020	41100
12/11/2020	56800 (R)
4/13/2021	49300
10/14/2021	38900
4/12/2022	31900
10/26/2022	68900
11/30/2022	55500
4/26/2023	36800
10/9/2023	37500
4/15/2024	44600
10/1/2024	108000
11/5/2024	99700



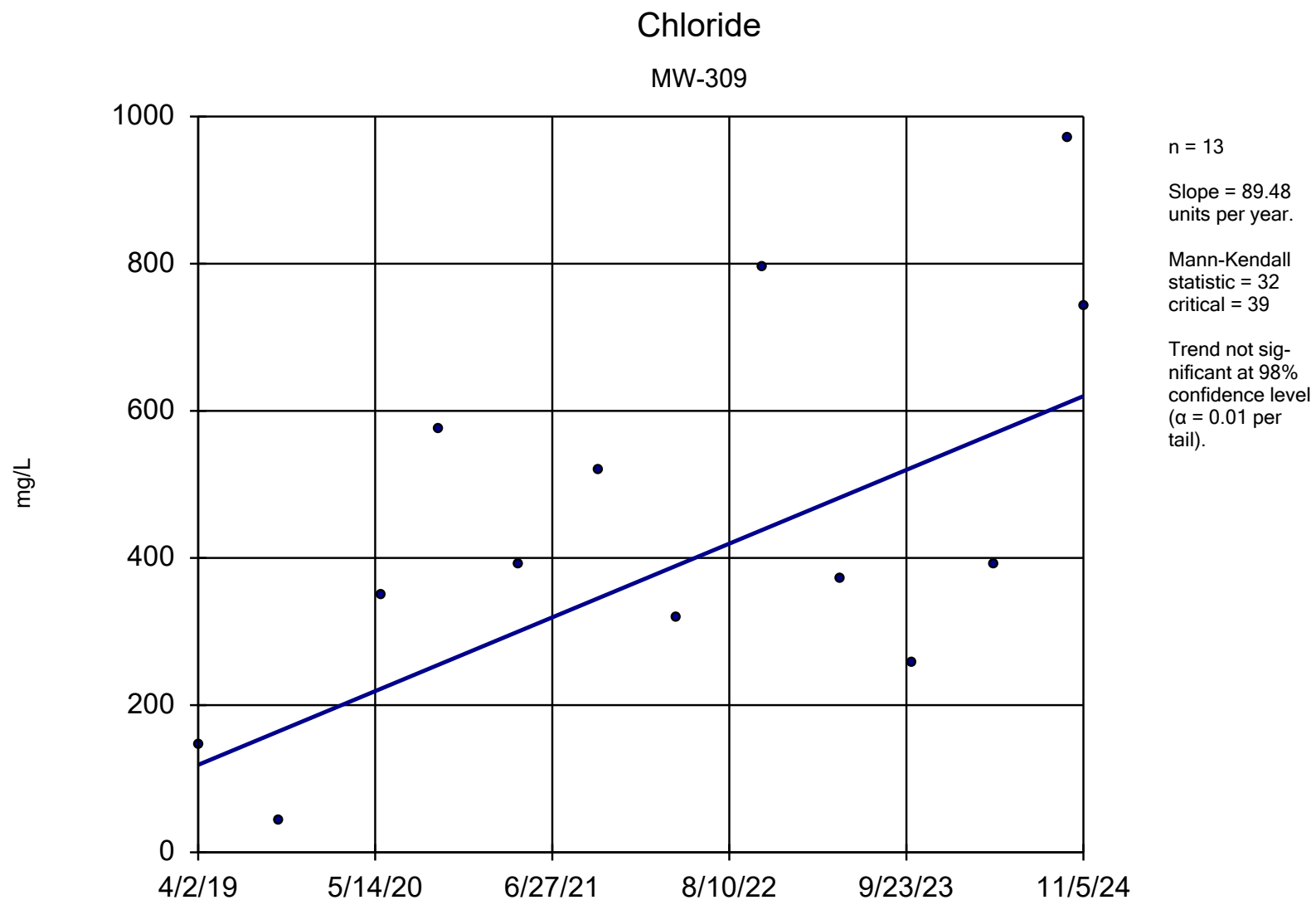
Sen's Slope and 98% Confidence Band Analysis Run 2/14/2025 9:57 AM View: COL MOD 4-6
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

Sen's Slope Estimator

Constituent: Calcium (ug/L) Analysis Run 2/14/2025 10:00 AM View: COL MOD 4-6
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

MW-311

4/2/2019	65600
10/8/2019	63900
5/29/2020	62200
10/8/2020	73400
4/14/2021	59000
10/14/2021	61000
4/12/2022	61800
10/27/2022	66300
4/26/2023	52800
10/9/2023	60900
4/15/2024	59900
10/1/2024	64800



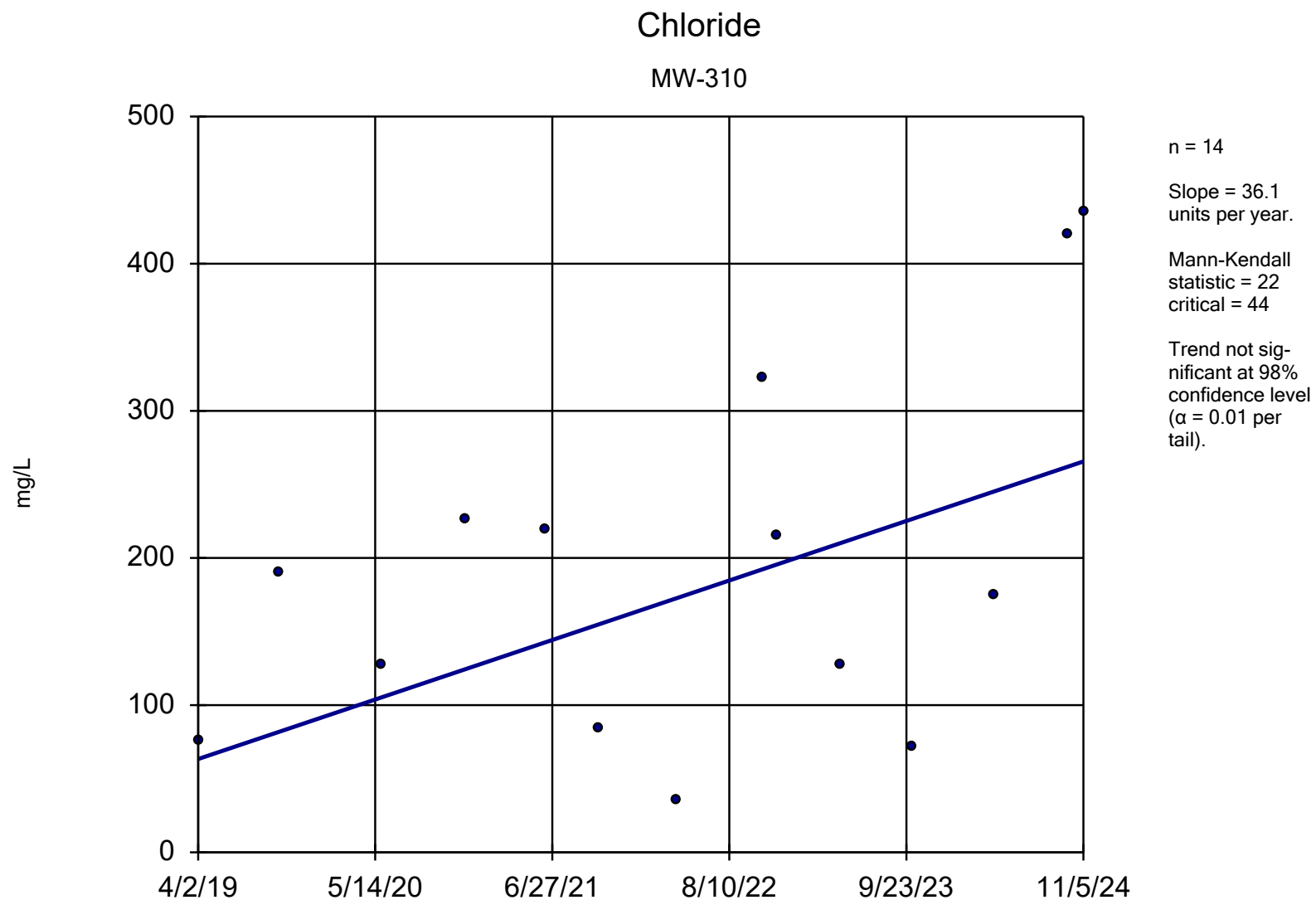
Sen's Slope and 98% Confidence Band Analysis Run 2/14/2025 9:57 AM View: COL MOD 4-6
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

Sen's Slope Estimator

Constituent: Chloride (mg/L) Analysis Run 2/14/2025 10:00 AM View: COL MOD 4-6
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

MW-309

4/2/2019	145
10/8/2019	43.2
5/29/2020	350
10/8/2020	575
4/13/2021	390
10/14/2021	519
4/12/2022	319
10/26/2022	796
4/26/2023	372
10/9/2023	259
4/15/2024	391
10/1/2024	971
11/5/2024	743

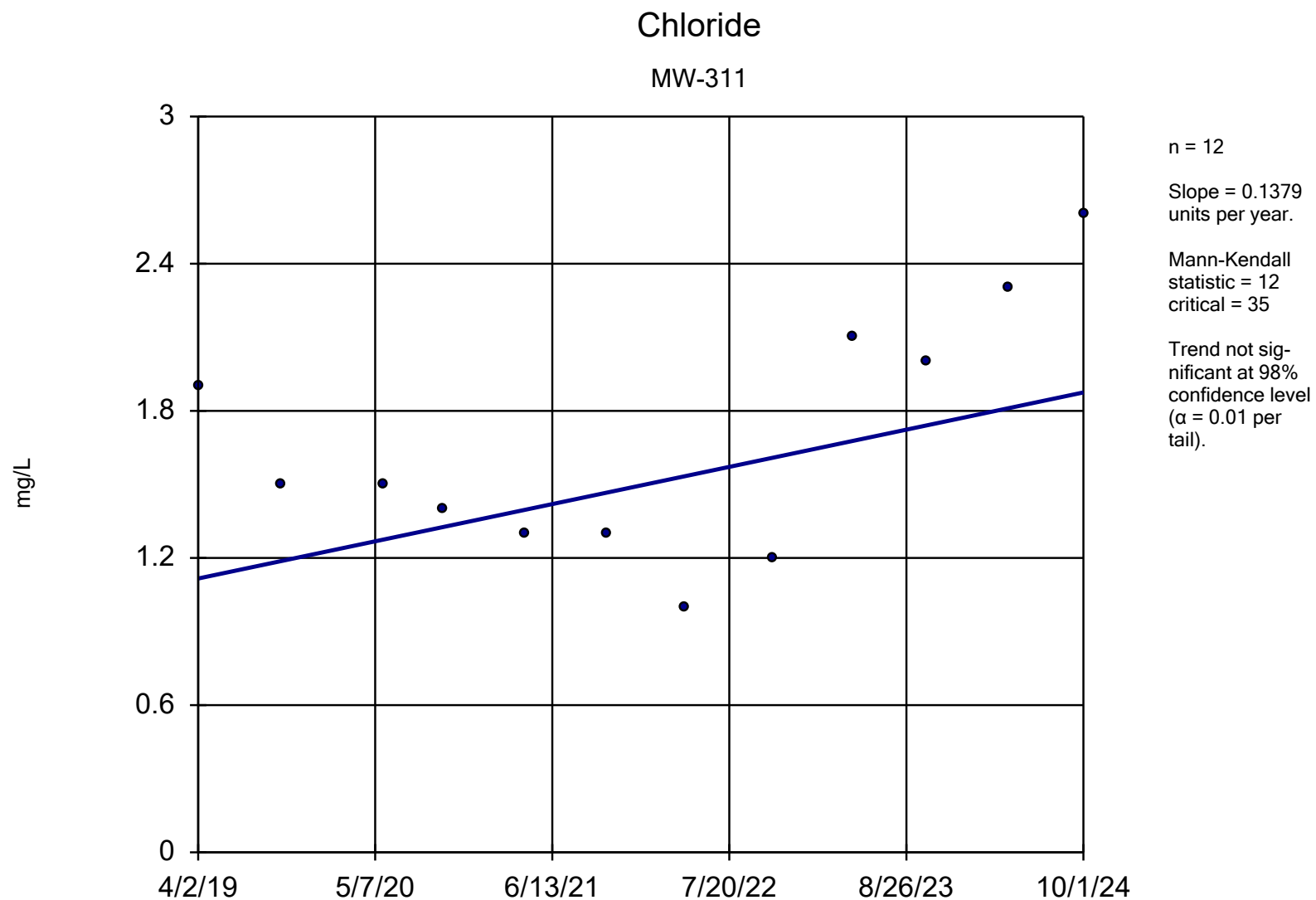


Sen's Slope and 98% Confidence Band Analysis Run 2/14/2025 9:58 AM View: COL MOD 4-6
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

Sen's Slope Estimator

Constituent: Chloride (mg/L) Analysis Run 2/14/2025 10:00 AM View: COL MOD 4-6
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

	MW-310
4/2/2019	76
10/8/2019	190
5/29/2020	128
12/11/2020	227 (R)
6/11/2021	220 (R)
10/14/2021	84.6
4/12/2022	35.2
10/26/2022	323
11/30/2022	215
4/26/2023	128
10/9/2023	71.3
4/15/2024	175
10/1/2024	420
11/5/2024	435



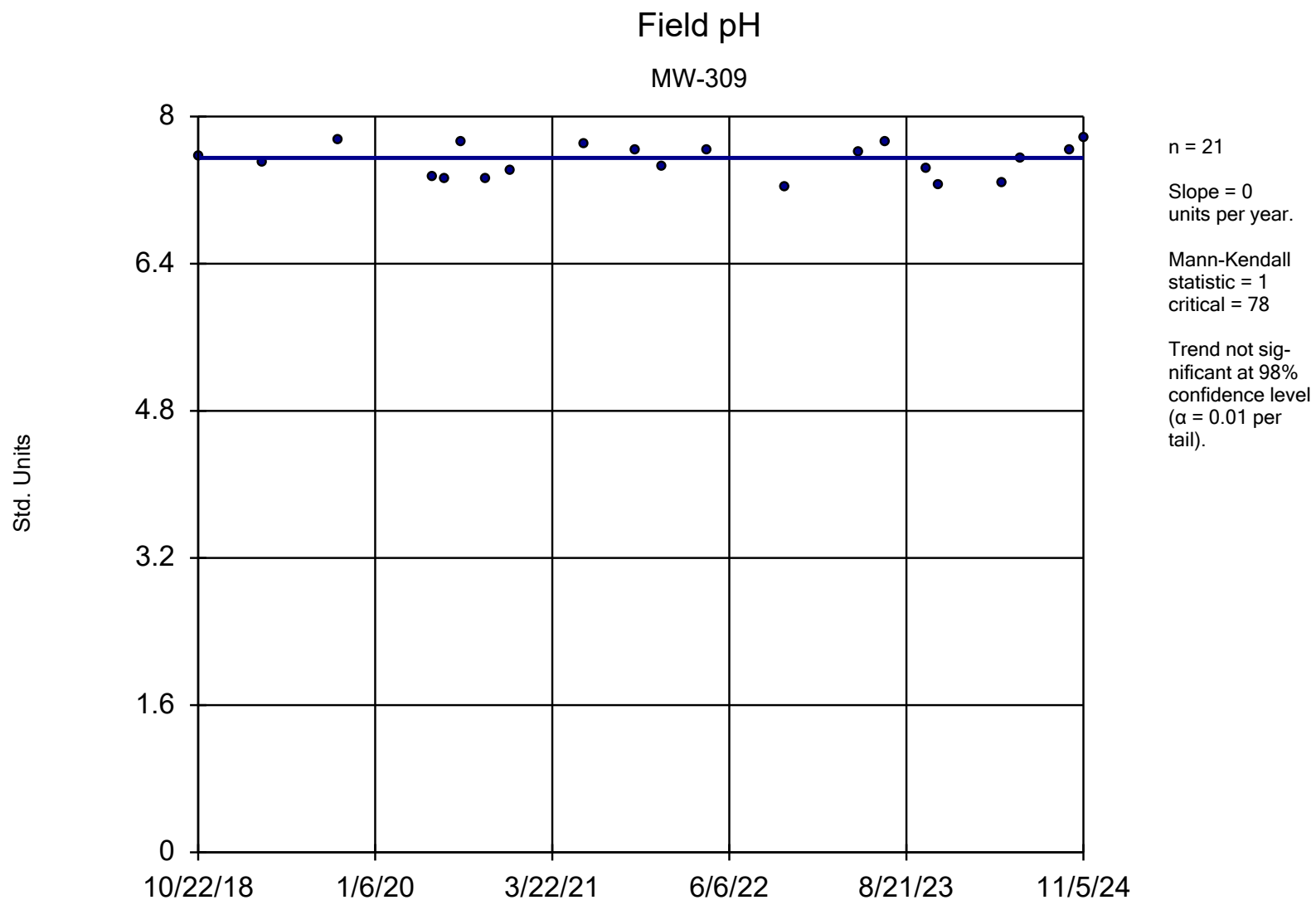
Sen's Slope and 98% Confidence Band Analysis Run 2/14/2025 9:58 AM View: COL MOD 4-6
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

Sen's Slope Estimator

Constituent: Chloride (mg/L) Analysis Run 2/14/2025 10:00 AM View: COL MOD 4-6
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

MW-311

4/2/2019	1.9 (J)
10/8/2019	1.5 (J)
5/29/2020	1.5 (J)
10/8/2020	1.4 (J)
4/14/2021	1.3 (J)
10/14/2021	1.3 (J)
4/12/2022	1 (J)
10/27/2022	1.2 (J)
4/26/2023	2.1
10/9/2023	2 (J)
4/15/2024	2.3
10/1/2024	2.6



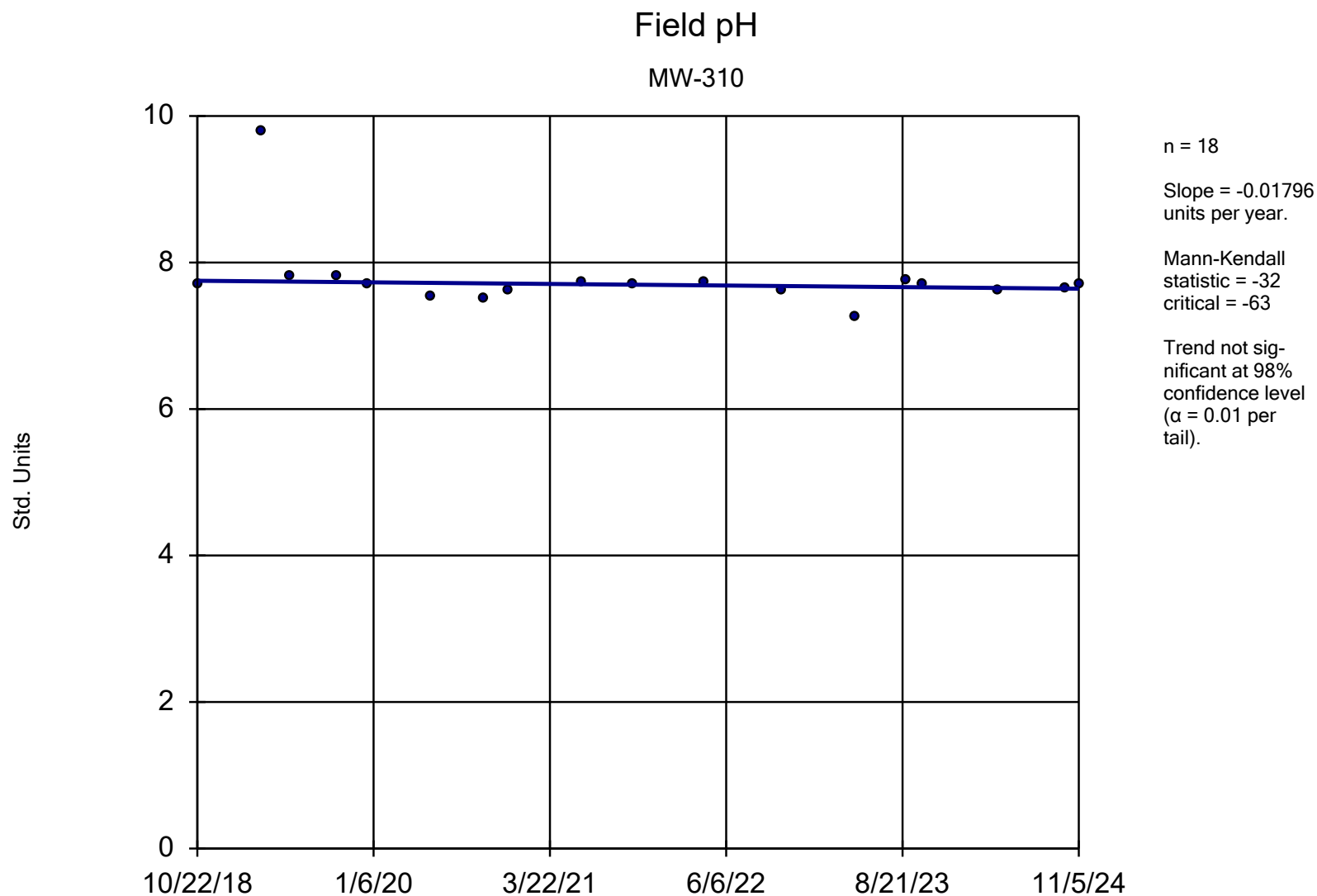
Sen's Slope and 98% Confidence Band Analysis Run 2/14/2025 9:58 AM View: COL MOD 4-6
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

Sen's Slope Estimator

Constituent: Field pH (Std. Units) Analysis Run 2/14/2025 10:00 AM View: COL MOD 4-6
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

MW-309

10/22/2018	7.56
4/2/2019	7.49
10/8/2019	7.75
5/29/2020	7.35
6/30/2020	7.33
8/6/2020	7.72
10/8/2020	7.33
12/11/2020	7.42
6/11/2021	7.71 (R)
10/14/2021	7.64
12/21/2021	7.45
4/12/2022	7.64
10/26/2022	7.23
4/26/2023	7.61
6/29/2023	7.72
10/9/2023	7.43
11/9/2023	7.25
4/15/2024	7.27
6/4/2024	7.55
10/1/2024	7.64
11/5/2024	7.77

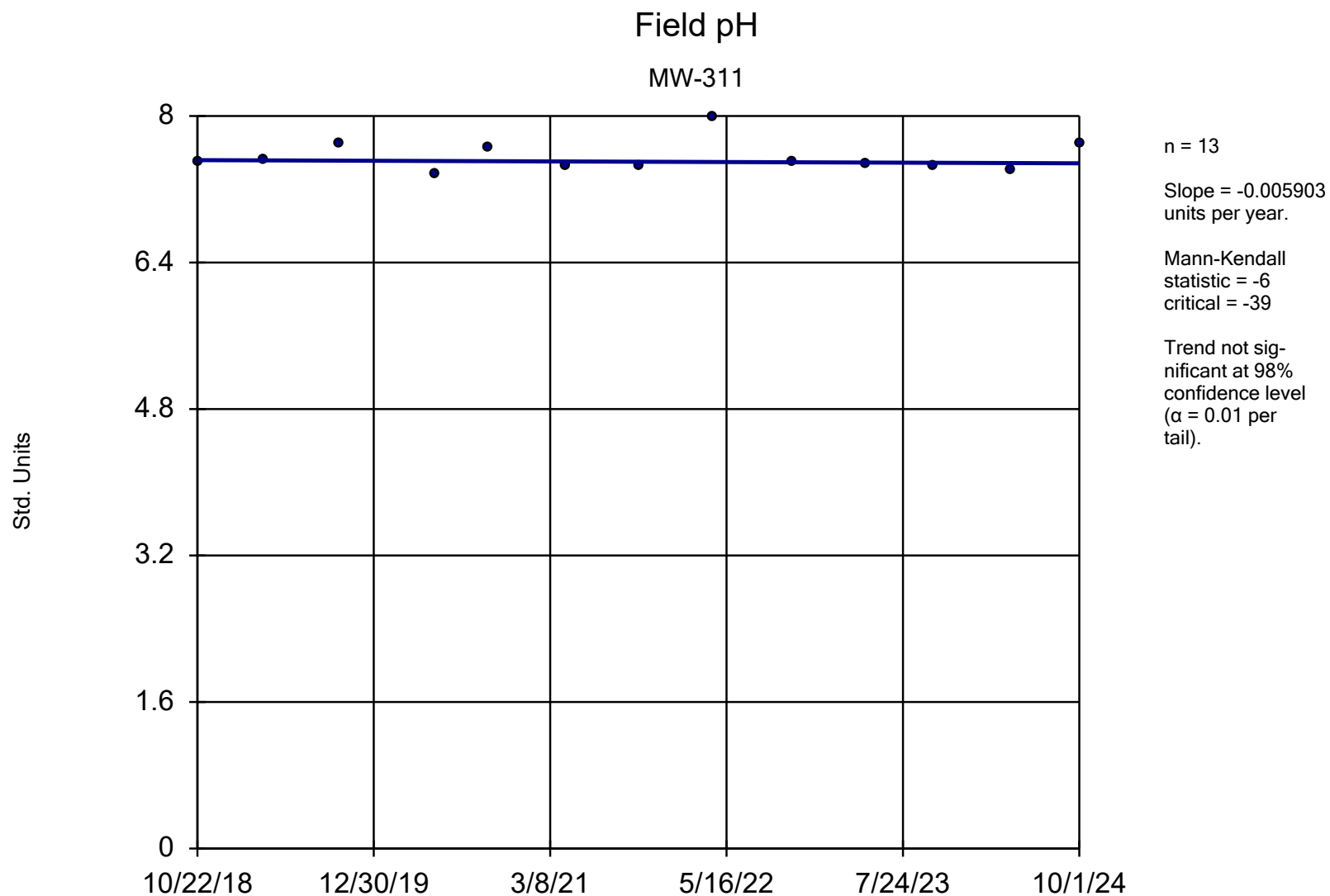


Sen's Slope and 98% Confidence Band Analysis Run 2/14/2025 9:58 AM View: COL MOD 4-6
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

Sen's Slope Estimator

Constituent: Field pH (Std. Units) Analysis Run 2/14/2025 10:00 AM View: COL MOD 4-6
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

	MW-310
10/22/2018	7.7
4/2/2019	9.79 (X)
6/12/2019	7.82
10/8/2019	7.82
12/23/2019	7.7
5/29/2020	7.54
10/8/2020	7.52
12/11/2020	7.62
6/11/2021	7.73 (R)
10/14/2021	7.7
4/12/2022	7.74
10/26/2022	7.61
4/26/2023	7.27
8/31/2023	7.75
10/9/2023	7.7
4/15/2024	7.63
10/1/2024	7.65
11/5/2024	7.7



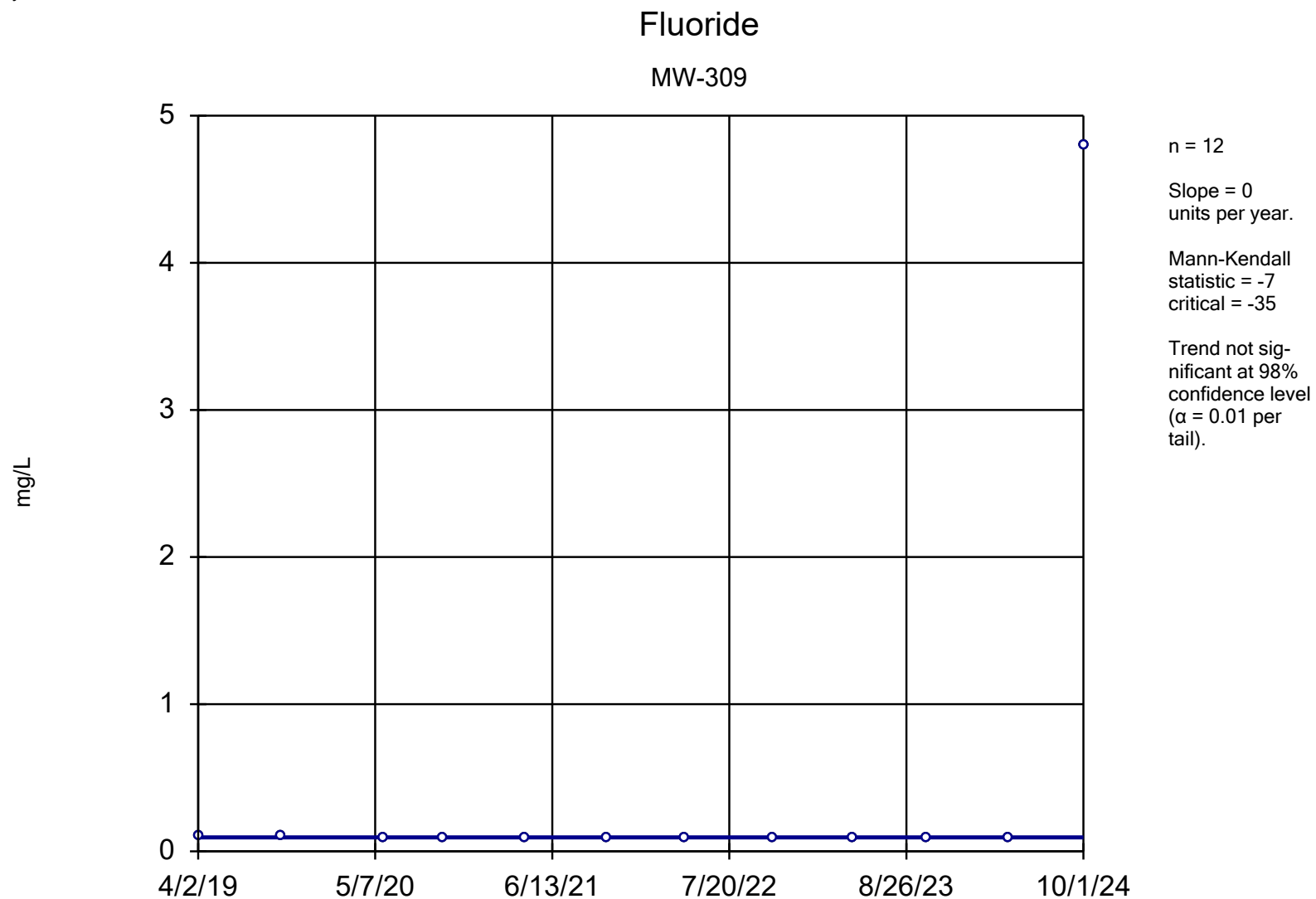
Sen's Slope and 98% Confidence Band Analysis Run 2/14/2025 9:58 AM View: COL MOD 4-6
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

Sen's Slope Estimator

Constituent: Field pH (Std. Units) Analysis Run 2/14/2025 10:00 AM View: COL MOD 4-6
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

MW-311

10/22/2018	7.5
4/2/2019	7.51
10/8/2019	7.69
5/29/2020	7.37
10/8/2020	7.66
4/14/2021	7.46
10/14/2021	7.45
4/12/2022	8
10/27/2022	7.5
4/26/2023	7.48
10/9/2023	7.46
4/15/2024	7.4
10/1/2024	7.71



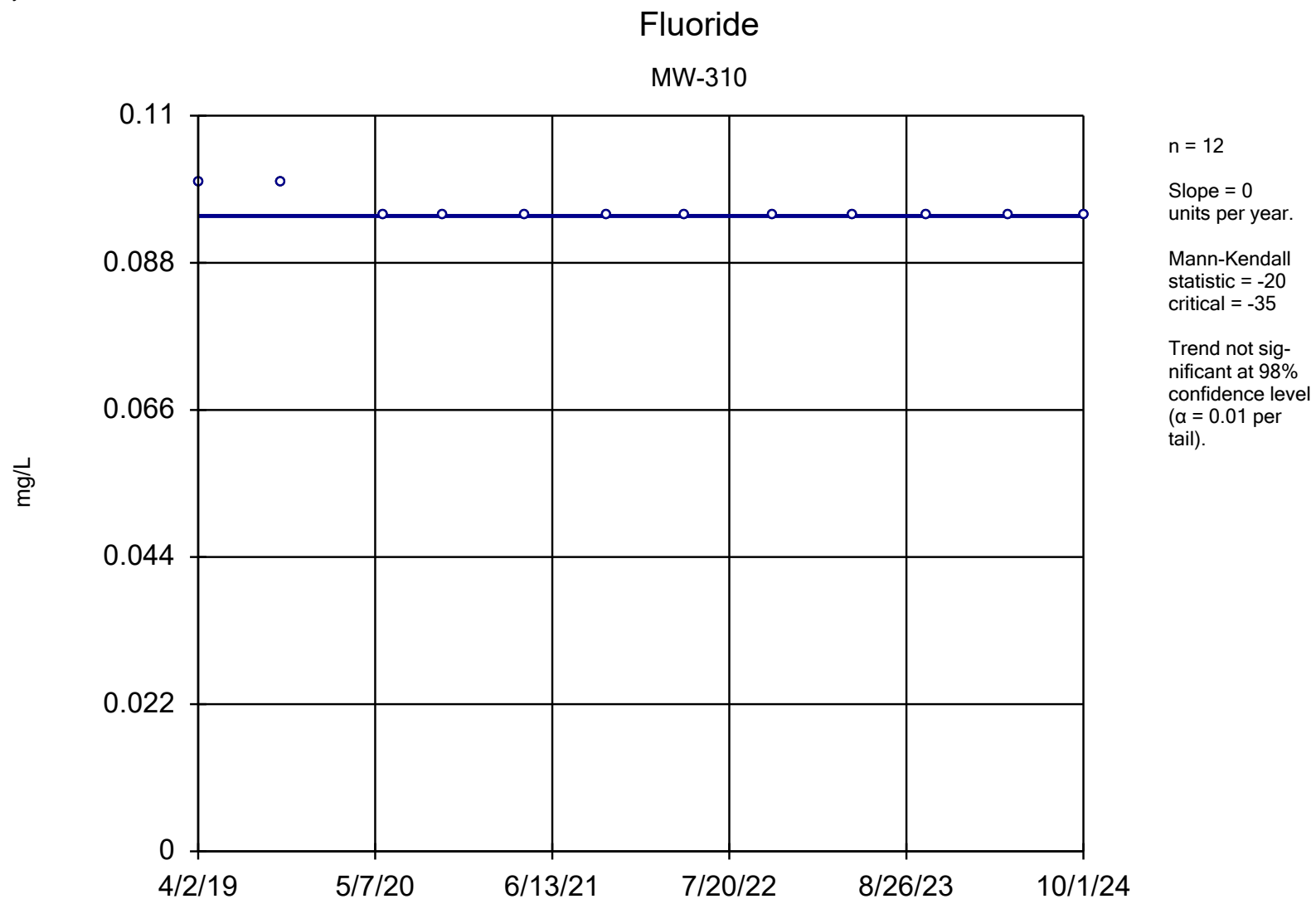
Sen's Slope and 98% Confidence Band Analysis Run 2/14/2025 9:58 AM View: COL MOD 4-6
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

Sen's Slope Estimator

Constituent: Fluoride (mg/L) Analysis Run 2/14/2025 10:00 AM View: COL MOD 4-6
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

MW-309

4/2/2019	<0.1 (U)
10/8/2019	<0.1 (U)
5/29/2020	<0.095 (U)
10/8/2020	<0.095 (U)
4/13/2021	<0.095 (U)
10/14/2021	<0.095 (U)
4/12/2022	<0.095 (U)
10/26/2022	<0.095 (U)
4/26/2023	<0.095 (U)
10/9/2023	<0.095 (U)
4/15/2024	<0.095 (U)
10/1/2024	<4.8 (U)



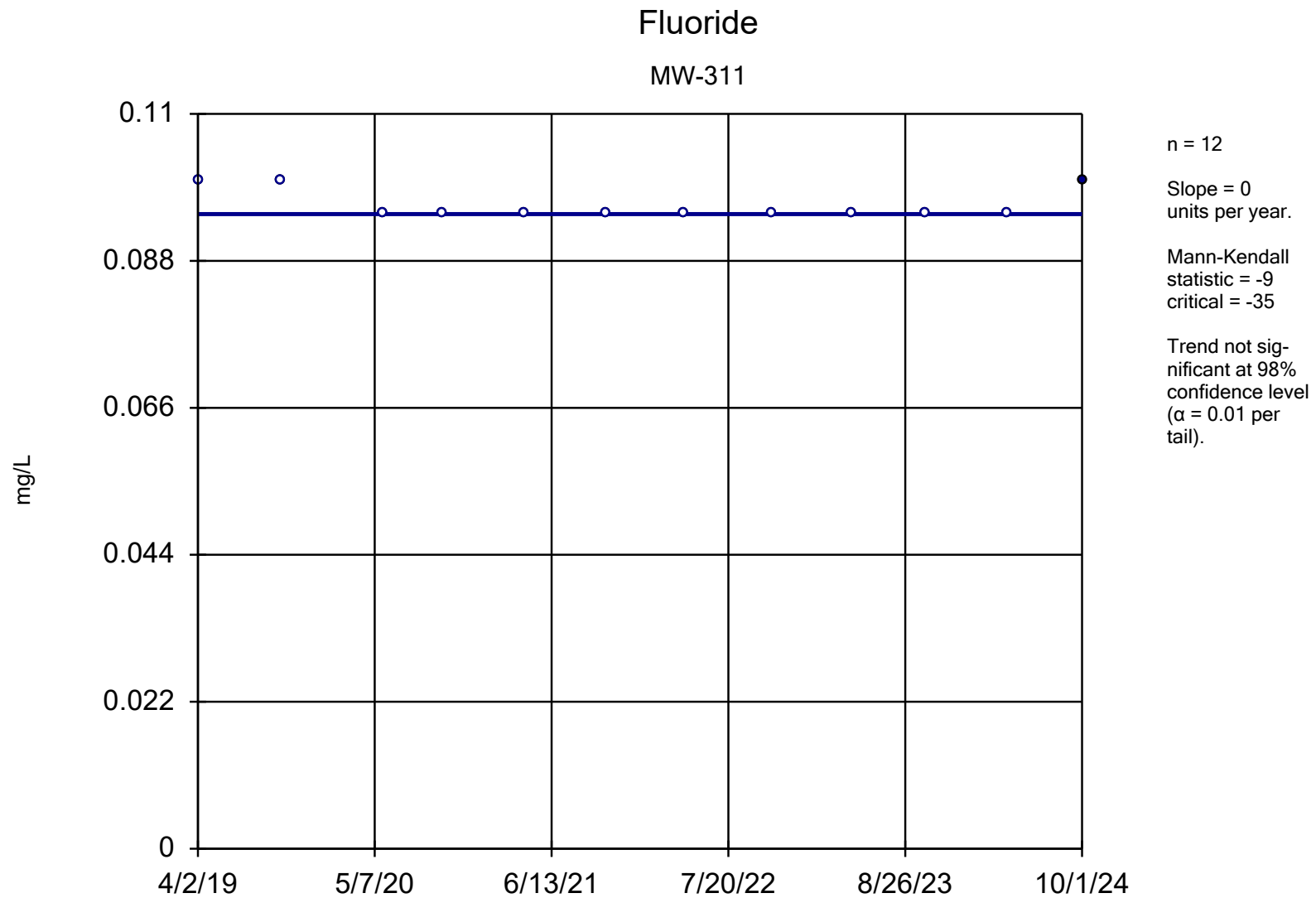
Sen's Slope and 98% Confidence Band Analysis Run 2/14/2025 9:58 AM View: COL MOD 4-6
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

Sen's Slope Estimator

Constituent: Fluoride (mg/L) Analysis Run 2/14/2025 10:00 AM View: COL MOD 4-6
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

MW-310

4/2/2019	<0.1 (U)
10/8/2019	<0.1 (U)
5/29/2020	<0.095 (U)
10/8/2020	<0.095 (U)
4/13/2021	<0.095 (U)
10/14/2021	<0.095 (U)
4/12/2022	<0.095 (U)
10/26/2022	<0.095 (U)
4/26/2023	<0.095 (U)
10/9/2023	<0.095 (U)
4/15/2024	<0.095
10/1/2024	<0.095

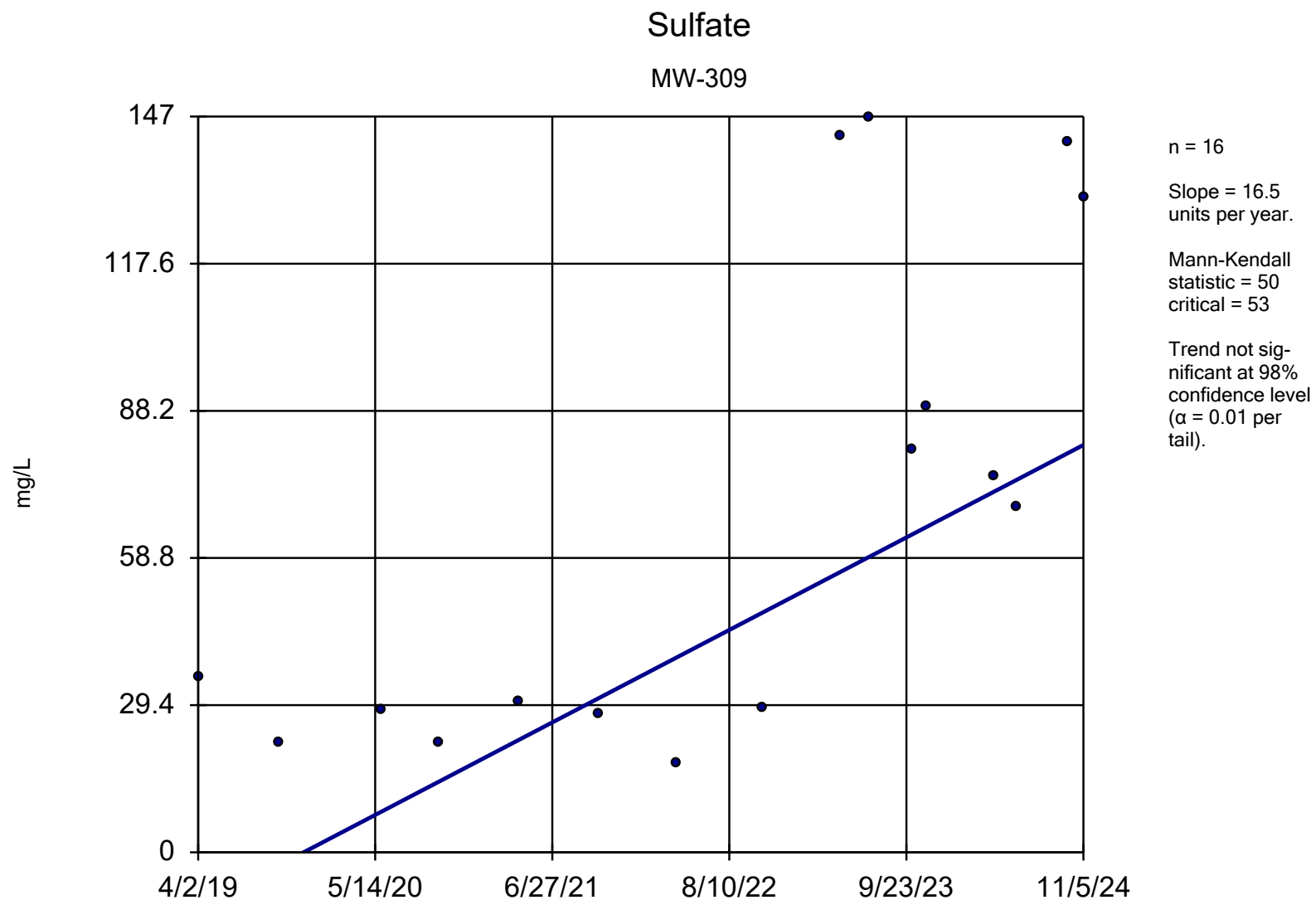


Sen's Slope and 98% Confidence Band Analysis Run 2/14/2025 9:58 AM View: COL MOD 4-6
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

Sen's Slope Estimator

Constituent: Fluoride (mg/L) Analysis Run 2/14/2025 10:00 AM View: COL MOD 4-6
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

	MW-311
4/2/2019	<0.1 (U)
10/8/2019	<0.1 (U)
5/29/2020	<0.095 (U)
10/8/2020	<0.095 (U)
4/14/2021	<0.095 (U)
10/14/2021	<0.095 (U)
4/12/2022	<0.095 (U)
10/27/2022	<0.095 (U)
4/26/2023	<0.095 (U)
10/9/2023	<0.095 (U)
4/15/2024	<0.095
10/1/2024	0.1 (J)

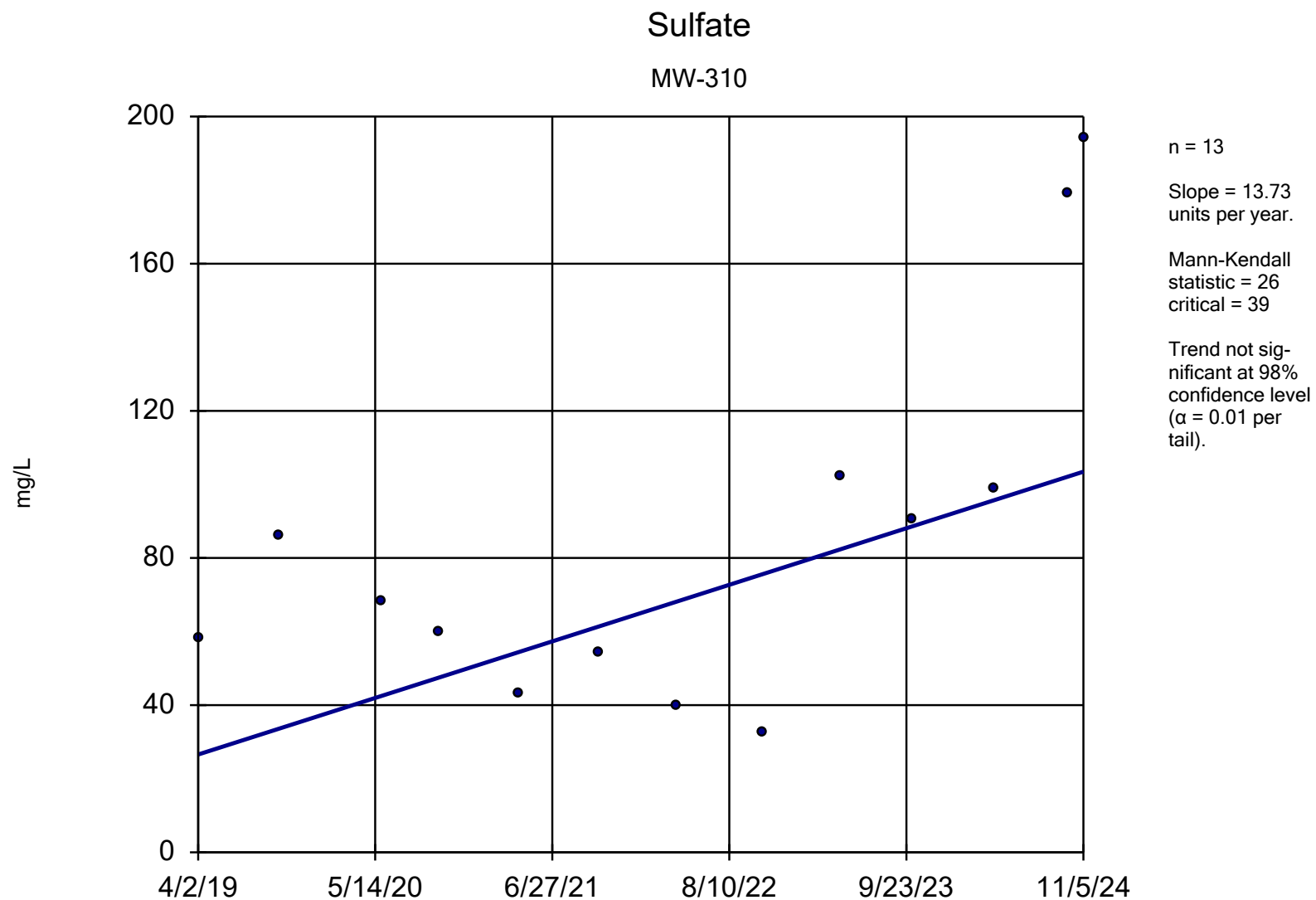


Sen's Slope and 98% Confidence Band Analysis Run 2/14/2025 9:58 AM View: COL MOD 4-6
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

Sen's Slope Estimator

Constituent: Sulfate (mg/L) Analysis Run 2/14/2025 10:00 AM View: COL MOD 4-6
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

	MW-309
4/2/2019	35.2
10/8/2019	21.9
5/29/2020	28.6
10/8/2020	21.8
4/13/2021	30.3
10/14/2021	27.7
4/12/2022	17.9
10/26/2022	28.9
4/26/2023	143 (X)
6/29/2023	147 (X)
10/9/2023	80.6
11/9/2023	89
4/15/2024	75.1
6/4/2024	68.8
10/1/2024	142
11/5/2024	131



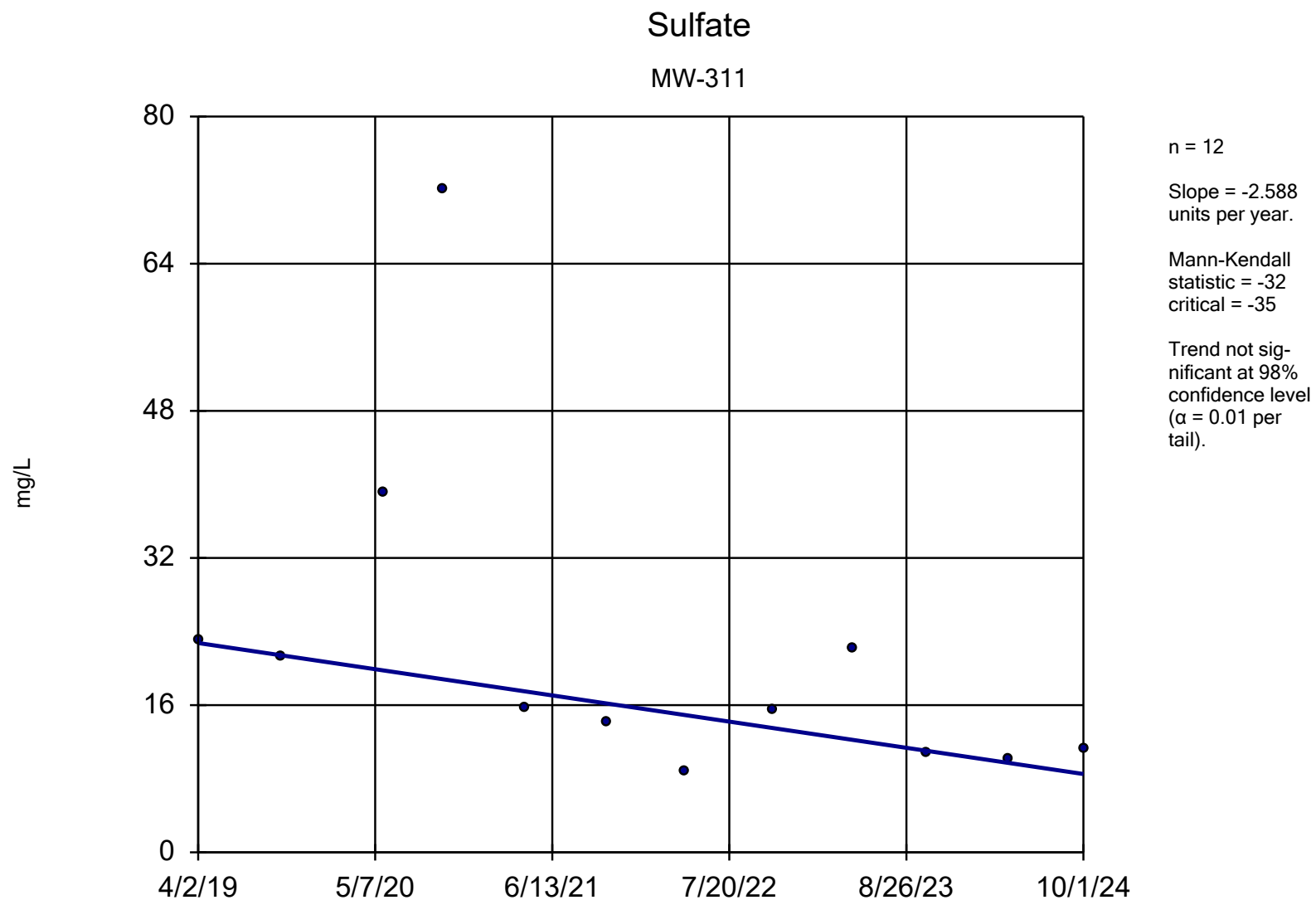
Sen's Slope and 98% Confidence Band Analysis Run 2/14/2025 9:58 AM View: COL MOD 4-6
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

Sen's Slope Estimator

Constituent: Sulfate (mg/L) Analysis Run 2/14/2025 10:00 AM View: COL MOD 4-6
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

MW-310

4/2/2019	58.4
10/8/2019	85.9
5/29/2020	68.2
10/8/2020	60
4/13/2021	43.3
10/14/2021	54.3
4/12/2022	39.8
10/26/2022	32.8
4/26/2023	102
10/9/2023	90.7
4/15/2024	98.9
10/1/2024	179
11/5/2024	194



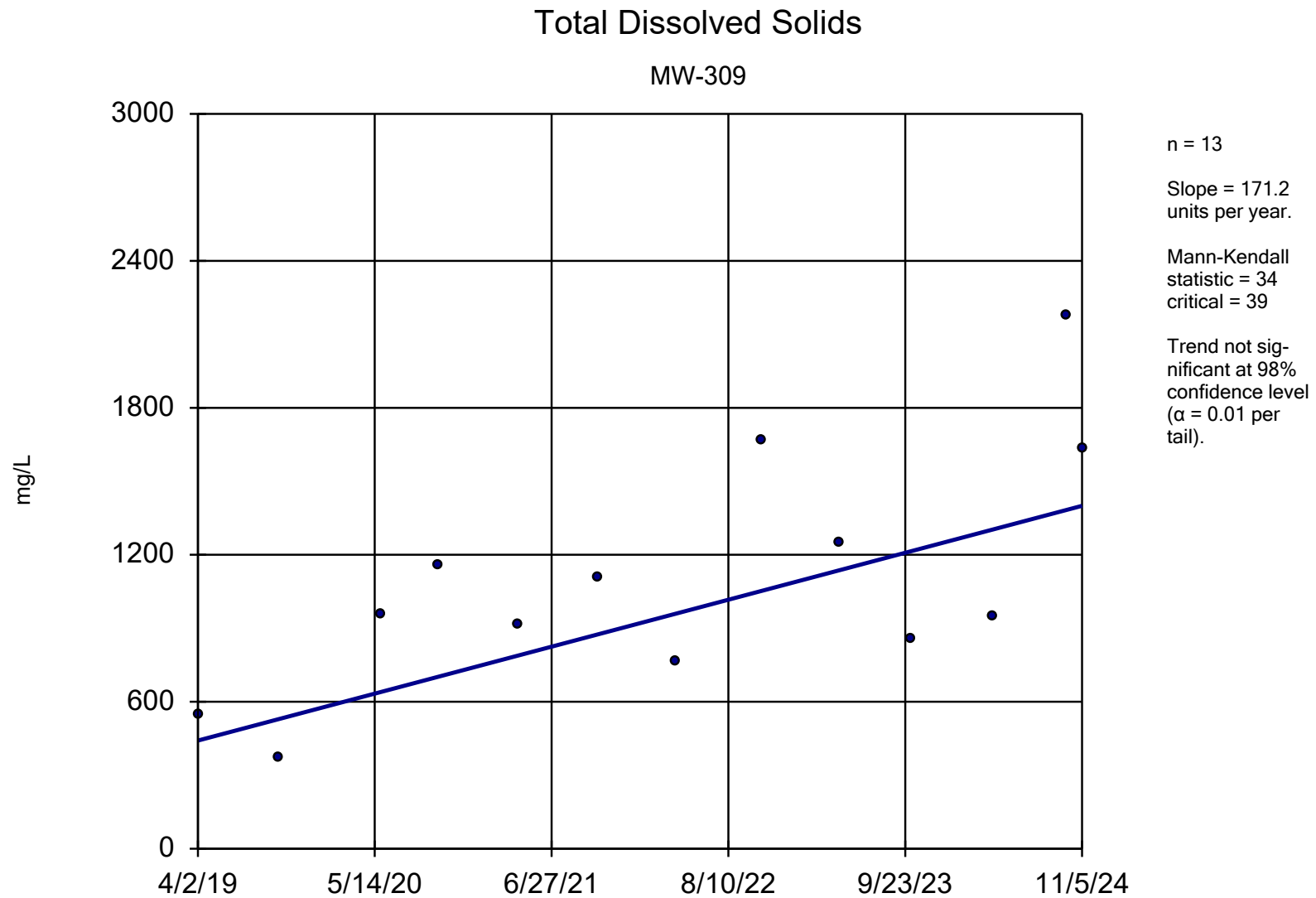
Sen's Slope and 98% Confidence Band Analysis Run 2/14/2025 9:59 AM View: COL MOD 4-6
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

Sen's Slope Estimator

Constituent: Sulfate (mg/L) Analysis Run 2/14/2025 10:00 AM View: COL MOD 4-6
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

MW-311

4/2/2019	23.1
10/8/2019	21.2
5/29/2020	39.1
10/8/2020	72.1
4/14/2021	15.6
10/14/2021	14.2
4/12/2022	8.9
10/27/2022	15.5
4/26/2023	22.2
10/9/2023	10.8
4/15/2024	10.1
10/1/2024	11.2



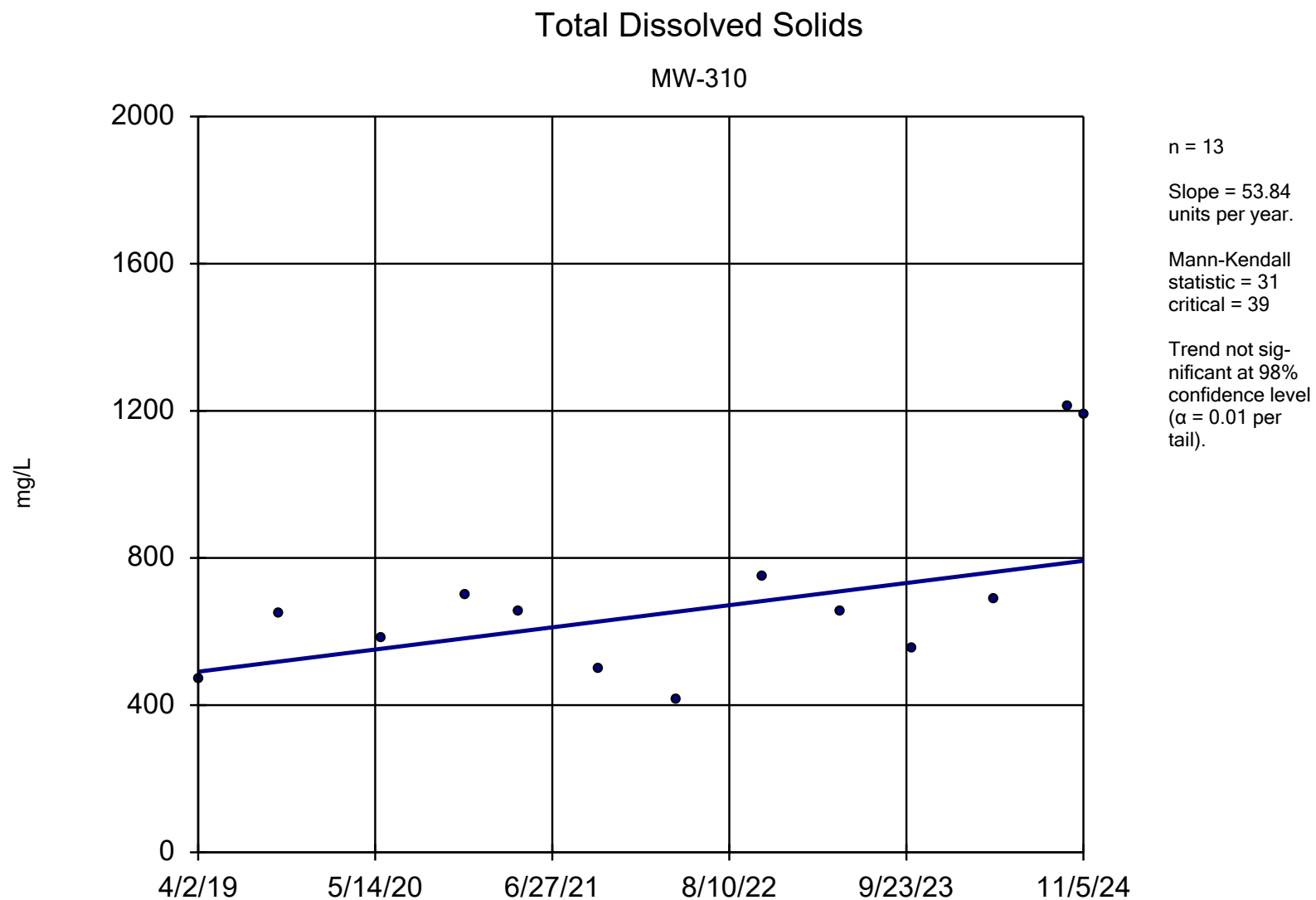
Sen's Slope and 98% Confidence Band Analysis Run 2/14/2025 9:59 AM View: COL MOD 4-6
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

Sen's Slope Estimator

Constituent: Total Dissolved Solids (mg/L) Analysis Run 2/14/2025 10:00 AM View: COL MOD 4-6
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

MW-309

4/2/2019	548
10/8/2019	370
5/29/2020	960
10/8/2020	1160
4/13/2021	916
10/14/2021	1110
4/12/2022	764
10/26/2022	1670
4/26/2023	1250
10/9/2023	858
4/15/2024	948
10/1/2024	2180
11/5/2024	1630

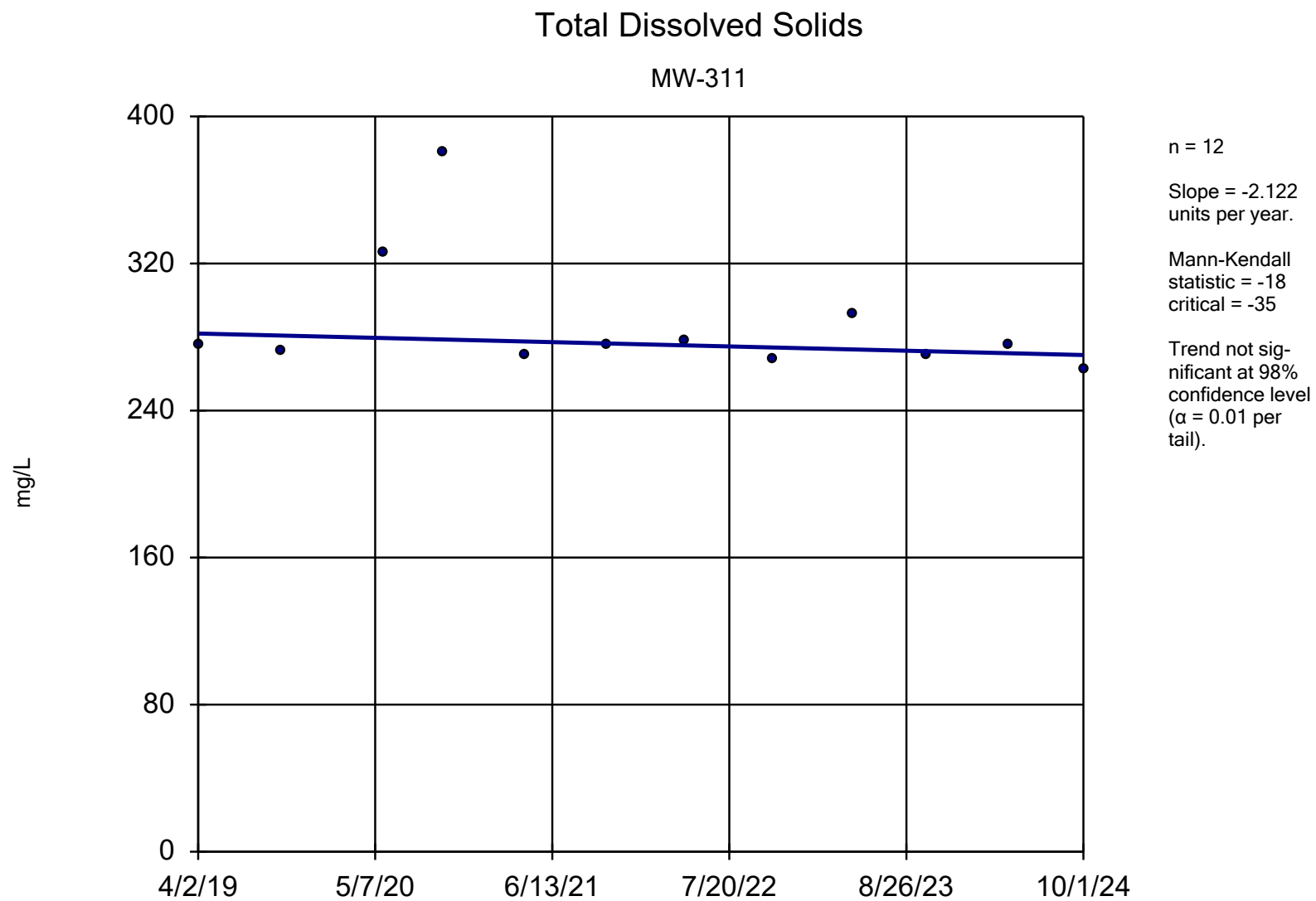


Sen's Slope and 98% Confidence Band Analysis Run 2/14/2025 9:59 AM View: COL MOD 4-6
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

Sen's Slope Estimator

Constituent: Total Dissolved Solids (mg/L) Analysis Run 2/14/2025 10:00 AM View: COL MOD 4-6
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

	MW-310
4/2/2019	470
10/8/2019	650
5/29/2020	582
12/11/2020	700 (R)
4/13/2021	654
10/14/2021	498
4/12/2022	416
10/26/2022	750
4/26/2023	654
10/9/2023	554
4/15/2024	686
10/1/2024	1210
11/5/2024	1190



Sen's Slope and 98% Confidence Band Analysis Run 2/14/2025 9:59 AM View: COL MOD 4-6
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

Sen's Slope Estimator

Constituent: Total Dissolved Solids (mg/L) Analysis Run 2/14/2025 10:00 AM View: COL MOD 4-6
Columbia Energy Center Client: SCS Engineers Data: December - Chem- export-Dec2020

MW-311

4/2/2019	276
10/8/2019	272
5/29/2020	326
10/8/2020	380
4/14/2021	270
10/14/2021	276
4/12/2022	278
10/27/2022	268
4/26/2023	292
10/9/2023	270
4/15/2024	276
10/1/2024	262