Permit Fact Sheet

General Information

Permit Number	WI-0029386-11-0
Permittee Name and Address	Land O' Lakes Sanitary District #1 PO Box 246 Land O' Lakes WI 54540
Permitted Facility Name and Address	Land O Lakes Sanitary District #1 6388 Chippewa Drive, Land O'Lakes, Wisconsin
Permit Term	April 01, 2025, to March 31, 2030
Discharge Location	6388 Chippewa Drive, Land O'Lakes, Wisconsin (NW ¼ NW ¼ Section 2; T42N-R10E)
Receiving Water	Groundwater of Upper Wisconsin River via Seepage Cells in Tamarack Pioneer River of Wisconsin River (upper) in Vilas County
Discharge Type	Existing continuous discharger
Annual Average Design Flow (MGD)	0.085 MGD
Industrial or Commercial Contributors	None identified
Plant Classification	A3 - Recirculating Media Filters; SS - Sanitary Sewage Collection System
Approved Pretreatment Program?	N/A
Newspaper PN Last Published	Vilas County News Review, PO Box 1929, Eagle River, WI 54521

Facility Description

The Land O'Lakes Sanitary District owns and operates a domestic wastewater treatment system. The plant designed to treat 85,000 gallons per day currently treats an average of 37,000 gallons per day (October 2020- October 2024 data).

The treatment system consists of a 3-cell settling/septic tank with 2 parallel channels where solids can settle. The wastewater flows to a dosing/recirculating pump station where it mixes with some recirculated wastewater. It is evenly distributed from the dosing/recirculating pump station over one of four filter beds constructed of layers of fine sand and gravel. Naturally occurring microorganisms living on the filter media metabolize organic solids. The water from the filters may be recirculated back to the dosing/recirculating pump station and filtered again or discharged to one of three seepage cells. The permeable soil in the cells removes additional organic waste and suspended solids. The treated wastewater soaks into the groundwater. There are seven monitoring wells located around the seepage cells to assess any groundwater impacts of the discharge. The solids from the septic tanks are pumped regularly to prevent the discharge of accumulated solids to the seepage cells. These solids are considered septage and are regulated under NR 113, Wisconsin Administrative Code, for septage disposal.

The land treatment system is designed and accepted as a diffused surface water discharge system. The plume of the groundwater which includes the effluent flows a short distance and then "discharges" with background groundwater flow into an unnamed surface water receiving stream.

Substantial Compliance Determination

All conditions and standard requirements of the current permit are being met. There have been several minor violations of groundwater limits and late reporting. However, the facility has taken the necessary steps to correct their actions and nothing further is required.

After a desk top review of all discharge monitoring reports, CMARs, CMOM plan, and a site visit on 05/10/23, by Michelle BalkLudwig, WDNR, Land O' Lakes Sanitary District #1 has been found to be in substantial compliance with their current permit.

Sample Point Descriptions

Sample Point Designation		
Sample Point Number	**Discharge Flow, Units, and Averaging Period**	**Sample Point Location, Waste Type/Sample Contents and Treatment Description (as applicable)**
701	INFLUENT An average of 0.037 MGD (Oct. 2020 – Oct. 2024 data)	Representative samples shall be collected from the influent metering manhole.
003	EFFLUENT An average of 0.037 MGD (Oct. 2020 – Oct. 2024 data)	Representative samples shall be collected from the effluent sampling manhole prior to discharge to the seepage cells.
990	SEPTAGE Flow is not a required parameter	All septic tank solids shall be managed in compliance with chapter NR 113, Wisconsin Administrative Code, for Servicing Septic or Holding Tanks, etc.

Groundwater Monitoring Wells

Sample Point Designation For Groundwater Monitoring Systems		
Sample Pt Number	**Well Name**	**Comments**
801	MW 801	Mid-gradient non-point of standard well located between the septic tanks and sand filters.
802	MW 802	Down gradient non-point of standard well located east of Seepage Cell #1.
803	MW 803	Down gradient non-point of standard well located east of Seepage Cell #2.
804	MW 804	Down gradient non-point of standard well located east of the unnamed stream.
805	MW 805	Down gradient non-point of standard well located southeast of Seepage Cell #3.
806	MW 806 Piezometer	Down gradient non-point of standard Piezometer located near MW 803. Monitoring for only groundwater elevation is required.
807	MW 807 BACKGROUND	Upgradient well used to measure background groundwater quality and to evaluate and calculate PALs

1 Influent – Monitoring Requirements

1.1 Sample Point Number: 701- INFLUENT TO PLANT

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Daily	Total Daily	
BOD5, Total		mg/L	Monthly	24-Hr Flow Prop Comp	
Suspended Solids, Total		mg/L	Monthly	24-Hr Flow Prop Comp	
Nitrogen, Total Kjeldahl		mg/L	Monthly	24-Hr Flow Prop Comp	
Nitrogen, Organic Total		mg/L	Monthly	Calculated	Organic Nitrogen = Total Kjeldahl Nitrogen - Ammonia Nitrogen
Nitrogen, Ammonia (NH3-N) Total		mg/L	Monthly	24-Hr Flow Prop Comp	

1.1.1 Changes from Previous Permit:

Influent limitations and monitoring requirements were evaluated for this permit term and no changes were required in this permit section.

1.1.2 Explanation of Limits and Monitoring Requirements

Influent monitoring is needed to assess loading to the facility and treatment performance. The required parameters and sampling frequency are appropriate for a land treatment system as outlined in (ch NR 206, Wis. Adm. Code).

2 Land Treatment – Monitoring and Limitations

2.1 Sample Point Number: 003- EFFLUENT TO SEEPAGE CELLS

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Daily	Total Daily	
BOD5, Total	Monthly Avg	50 mg/L	Monthly	24-Hr Flow Prop Comp	
Suspended Solids, Total		mg/L	Monthly	24-Hr Flow Prop Comp	
pH Field		su	Monthly	Grab	

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Nitrogen, Total Kjeldahl		mg/L	Monthly	24-Hr Flow Prop Comp	
Nitrogen, Organic Total		mg/L	Monthly	Calculated	Organic Nitrogen = Total Kjeldahl Nitrogen - Ammonia Nitrogen
Nitrogen, Ammonia (NH3-N) Total		mg/L	Monthly	24-Hr Flow Prop Comp	
Nitrogen, Nitrite + Nitrate Total		mg/L	Monthly	24-Hr Flow Prop Comp	
Nitrogen, Total		mg/L	Monthly	Calculated	Total Nitrogen = Total Kjeldahl Nitrogen + (Nitrite + Nitrate) Nitrogen
Chloride		mg/L	Monthly	24-Hr Flow Prop Comp	

2.1.1 Changes from Previous Permit:

Effluent limitations and monitoring requirements were evaluated for this permit term and the following changes were made from the previous permit. See additional explanation of limits under "Explanation of Limits and Monitoring Requirements" below.

- The **Flow Rate** sample frequency was changed from "Continuous" to "Daily" and sample type "Continuous" to "Total Daily" to better represent practices of the facility.

2.1.2 Explanation of Limits and Monitoring Requirements

All requirements for land treatment of municipal wastewater are determined in accordance with ch. NR 206, Wis. Adm. Code. All categorical limits are based on s. NR 206.08(1) Wis. Adm. Code. More information on the limitations can be found in the "Land O' Lakes Sanitary District #1 – Land Disposal System Evaluation Report, WPDES Permit # WI-0029383" memo dated July 23, 2024.

BOD_5 - Limits are consistent with facilities approved or modified post January 1, 1990 (NR 206.05 Wis. Adm. Code).

Chlorides, total dissolved solids and total nitrogen - The department has agreed to continue waiving the 10 mg/L monthly average limit for total nitrogen, 500 mg/L monthly average limit for total dissolved solids and 250 mg/L monthly average limit for chloride based on ch. NR 206.06 Wis. Adm. Code. The variance from the limit requirements was first applied for during the 2001 permit modification. Based on reasonable potential, effluent discharge levels of chloride and total dissolved solids are expected to continue to be well below the limits. For this permit reissuance, the department evaluated compliance with 9.7 mg/L ammonia and 10 mg/L nitrate groundwater standards. Based on available data groundwater levels are increasing and enforcement standards have been exceeded multiple times. A schedule to optimize the treatment system for nitrogen reduction has been included. The waiver will be reevaluated as part of the next permit reissuance.

3 Groundwater – Monitoring and Limitations

3.1 Groundwater Monitoring System for Groundwater Monitoring System

Location of Monitoring system: Adjacent to Seepage Cells

Groundwater Monitoring Well(s) to be Sampled: MW 801, MW 802, MW 803, MW 804, MW 805, MW 806 Piezometer, MW 807 BACKGROUND

Groundwater Monitoring Well(s) Used to Evaluate Background Groundwater Quality: MW 807 BACKGROUND

Groundwater Monitoring Well(s) Used for Point of Standards Application: None of the wells meet the point of standards application well criteria. the wells are within both the property boundary and the design management zone.

Parameter	Units	Preventative Action Limit	Enforcement Standard	Frequency
Depth To Groundwater	feet	N/A	N/A	Quarterly
Groundwater Elevation	feet	N/A	N/A	Quarterly
Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	2.0	10	Quarterly
Chloride Dissolved	mg/L	125	250	Quarterly
pH Field	su	6.5	N/A	Quarterly
Nitrogen, Total Kjeldahl Dissolved	mg/L	N/A	N/A	Quarterly
Nitrogen, Ammonia Dissolved	mg/L	0.97	9.7	Quarterly
Nitrogen, Organic Dissolved	mg/L	2.2	N/A	Quarterly
Solids, Total Dissolved	mg/L	250	N/A	Quarterly

3.1.1 Changes from Previous Permit:

Groundwater limitations and monitoring requirements were evaluated for this permit term and the following changes were made from the previous permit. See additional explanation of limits under "Explanation of Limits and Monitoring Requirements" below.

- The preventative action limits (PAL) for nitrite+nitrate, pH, organic nitrogen and total dissolved solids have been adjusted per ch. NR 140 Wis. Adm. Code.
- The parameter alkalinity is no longer required and has been removed from the permit.

3.1.2 Explanation of Limits and Monitoring Requirements

Groundwater limits and requirements are determined in accordance with ch. NR 140, Wis. Adm. Code. Indicator parameter Preventive Action Limit (PAL) values are established per s. NR 140.20, Wis. Adm. Code.

For more information, please refer to the "Land O' Lakes Sanitary District #1 – Land Disposal System Evaluation Report, WPDES Permit # WI-0029383" memo dated July 23, 2024.

4 Septage Management - Monitoring and Limitations

Septage management is required in accordance ch. NR 113, Wisconsin Administrative Code. Records must be kept and made available to the Department on request. Required record keeping includes volumes of septage pumped, dates when the septage was removed, land application site DNR number and method used to satisfy pathogen and vector control, and/or the treatment plant where septage is disposed. Annual reporting is required when the permittee land applies the septage. Annual reporting is also required when the permittee disposes of septage at a designated treatment facility.

4.1 Sample Point Number: 990- Septage

4.1.1 Changes from Previous Permit:

No changes were required in this permit section.

Explanation of Limits and Monitoring Requirements

Requirements for septage management are determined in accordance with ch. NR 113, Wis. Adm. Code.

5 Schedules

5.1 Land Treatment Management Plan

A management plan is required for the land treatment system.

Required Action	Due Date
Land Treatment Management Plan Submittal: Submit an update to the management plan to optimize the land treatment system performance and demonstrate compliance with ch. NR 206, Wis. Adm. Code. The land treatment system shall be operated in accordance with the approved management plan.	06/30/2025

5.1.1 Explanation of Schedule

An updated Land Treatment Management Plan is a standard requirement once per permit term to address any changes in operation that were not previously approved.

5.2 Operation and Maintenance Improvements to Optimize Reduction of Total Nitrogen

Required Action	Due Date
Optimization of Operation and Maintenance Report: The permittee shall continue to evaluate their operation and maintenance (O & M) options to optimize the treatment and land disposal systems for the reduction to the greatest extent possible of effluent total nitrogen. The permittee shall submit semi-annual progress reports summarizing O & M actions taken for reduction of total nitrogen, data logs, observations and results. The report shall summarize effectiveness of current optimization practices and recommend additional actions to be taken, as needed. If additional actions need to be taken, these actions shall be implemented as soon as feasible. If the evaluation concludes the facility can achieve nitrogen reduction using the existing treatment system with operational improvements, and minor facility modifications, the remaining actions	06/30/2025

identified below are not required. If the report concludes upgrading the permittee's wastewater treatment is necessary to reduce nitrogen, the submittal shall include an engineering design report addressing the treatment plant upgrades, and a facility plan if required pursuant to ch. NR 110 Wis. Adm. Code. Significant changes to facility infrastructure will need to be reviewed by the department prior to implementation.	
Progress Report: The permittee shall submit a report as detailed above.	12/31/2025
Progress Report: The permittee shall submit a report as detailed above.	06/30/2026
Progress Report: The permittee shall submit a report as detailed above.	12/31/2026
Progress Report: The permittee shall submit a report as detailed above.	06/30/2027
Progress Report: The permittee shall submit a report as detailed above.	12/31/2027
Progress Report: The permittee shall submit a report as detailed above.	06/30/2028
Progress Report: The permittee shall submit a report as detailed above.	12/31/2028
Progress Report: The permittee shall submit a report as detailed above.	06/30/2029
Progress Report: The permittee shall submit a report as detailed above. In the event that this permit is not reissued prior to the expiration date, the permittee shall continue to submit a report to the Department by June 30th and December 31st.	12/31/2029

5.2.1 Explanation of Schedule

There have been multiple exceedances of nitrite+nitrate in the groundwater sampling results. Based on s. NR 140.24 Wis. Adm. Code the permittee is required to take actions to reduce effluent nitrogen.

5.3 Groundwater Monitoring Well Survey and Site Map Submittal

Required Action	Due Date
Monitoring Well Survey and Site Map: Each groundwater monitoring well shall be surveyed and recorded on a table for the elevation of the top of casing (TOC), the calculated ground surface elevation and the latitude/longitude decimal degrees. This shall be undertaken after groundwater monitoring well (804) installation or repair. Submit a site map in accordance with s. NR 141.065, Wis. Adm. Code. All monitoring well locations shall be reported to the department on a plan map drawn to a specific scale. The map shall indicate structure boundaries, property boundaries, any nearby surface waters and a north arrow. The plan shall show the wells in relation to each other, to property and structure boundaries and to a common reference point on a horizontal grid system. The origin of the grid system shall be located according to latitude and longitude or according to the state plane coordinate system. The exact vertical location of the top of the well casing shall be referenced to the nearest benchmark for the national geodetic survey datum to an accuracy of 0.01 feet. This plan map shall show the exact location of the installed well on a horizontal grid system which is accurate to within 1 foot.	01/31/2026

5.3.1 Explanation of Schedule

Accurate well information is needed to ensure the requirements of NR 140 Wis. Adm. Code are met.

Attachments

Water Flow Schematic updated September 2012

"Land O' Lakes Sanitary District #1 – Land Disposal System Evaluation Report, WPDES Permit # WI-0029383" memo dated July 23, 2024

Justification Of Any Waivers From Permit Application Requirements

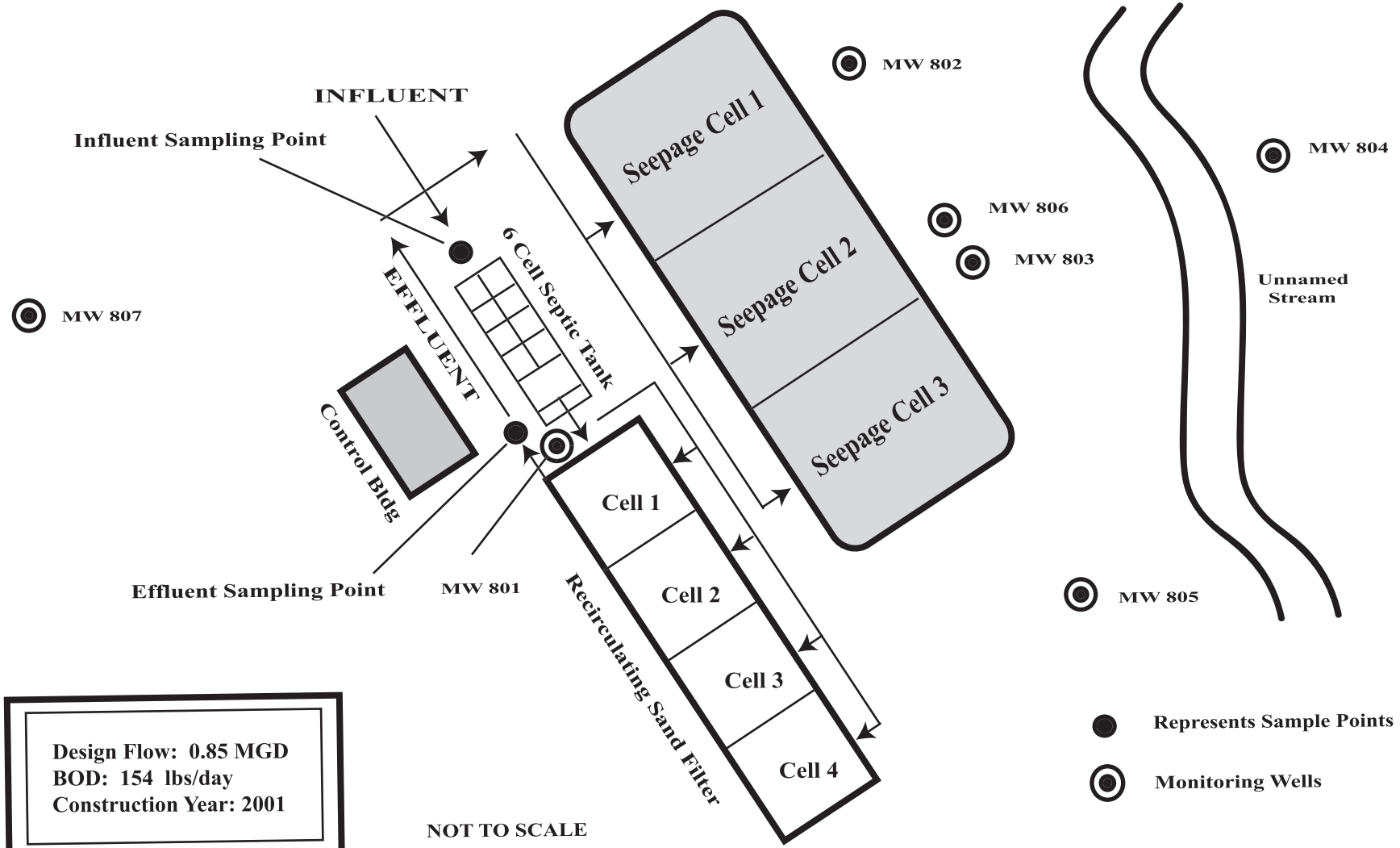
No waivers requested or granted as part of this permit reissuance.

Prepared By: Sheri A. Snowbank Wastewater Specialist **Date:** November 22, 2024

WPDES Permit No. WI-0029386

Land O'Lakes Sanitary District #1

The Land O'Lakes Sanitary District's wastewater treatment system plant is a recirculating sand filter discharging to the groundwater via seepage cells. The facility consists of a septic tank with 2 parallel channels of 3 settling cells followed by a dosing tank and recirculating pump station. The effluent lift station conveys the treated effluent to seepage cells for disposal to the groundwater. The plume of the ground water impacted by the discharge flows only a short distance and then "discharges" with the normal groundwater flow into a surface water.



CORRESPONDENCE/MEMORANDUM

State of Wisconsin

DATE: July 23, 2024 FILE REF: 6281

TO: File

FROM: Woody Myers - WCR

SUBJECT: Land O' Lakes Sanitary District # 1 - Land Disposal System Evaluation Report, WPDES Permit # WI-0029383

Site Information

The Land O Lakes Sanitary District #1 facility is located at 6388 Chippewa Drive, Land O Lakes, Vilas County. This is a Municipal Wastewater Treatment facility. Wastewater is currently treated and discharged to groundwater via infiltration by way of absorption ponds (seepage cells). The absorption ponds are located in the NW ¼ of the NW ¼ of Section 2, T42N, R10E, Town of Land O Lakes.

Land Disposal Effluent & Groundwater Evaluation Summary

Table 1 Land Disposal Outfall Sampling Point Parameters and Limits
Outfall 001 Absorption Ponds

Parameter	Current Permit WI-0029386-10		Proposed Permit WI-0029386-11	
	Limits and Units	Limit Type	Limits and Units	Limit Type
Flow Rate	- MGD		- MGD	
BOD_5	50 mg/l	Monthly Avg	50 mg/l	Monthly Avg
Total Suspended Solids	- mg/l		- mg/l	
pH, Field	- su		- su	
Nitrogen, Total Kjeldahl	- mg/l		- mg/l	
Nitrogen, Organic	- mg/l		- mg/l	
Nitrogen. Ammonia	- mg/l		- mg/l	
Nitrogen, Nitrite + Nitrate	- mg/l		- mg/l	
Nitrogen, Total	- mg/l		- mg/l	
Chloride	- mg/l		- mg/l	

No proposed permit changes

Table 2 Monitoring Wells

Well	Current Permit WI-0029386-10		Proposed Permit WI-0029386-11	
	Well Location	Well Designation	Well Location	Well Designation
801 (MW801)	Mid-gradient	Non-Point of Standard	Mid-gradient	Non-Point of Standard
802 (MW802)	Down-gradient	Non-Point of Standard	Down-gradient	Non-Point of Standard
803 (MW803)	Down-gradient	Non-Point of Standard	Down-gradient	Non-Point of Standard
804 (MW804)	Down-gradient	Non-Point of Standard	Down-gradient	Non-Point of Standard
805 (MW805)	Down-gradient	Non-Point of Standard	Down-gradient	Non-Point of Standard
806 (MW806)	Down-gradient	Non-Point of Standard	Down-gradient	Non-Point of Standard
807 (MW807)	Up-gradient	Background	Up-gradient	Background

No proposed permit changes

Table 3 Groundwater Quality Standards

Parameter	Current Permit WI-0029386-10		Proposed WI-0029386-11	
	PAL	ES	PAL	ES
Depth to Groundwater	N/A	N/A	N/A	N/A
Groundwater Elevation	N/A	N/A	N/A	N/A
Nitrogen, Nitrite + Nitrate	2.3 mg/l (ACL)	10.0 mg/l	***2.0 mg/l**	10.0 mg/l
Chloride	125 mg/l	250 mg/l	125 mg/l	250 mg/l
pH, Field	5.0-7.0 su	N/A	***4.5-6.5 su**	N/A
Nitrogen Total Kjeldahl	N/A	N/A	N/A	N/A
Nitrogen, Ammonia	0.97 mg/l	9.7 mg/l	0.97 mg/l	9.7 mg/l
Nitrogen, Organic	2.5 mg/l	N/A	***2.2 mg/l**	N/A
Total Dissolved Solids	230 mg/l	N/A	***250 mg/l**	N/A
Alkalinity, as $CaCO_3$	110 mg/l	N/A	***Discontinue**	

* Proposed permit changes

Geology

The bedrock under this facility consists of a complex of metasedimentary rocks with interbedded metavolcanics. The metasedimentary rocks include meta-argillite, meta-siltstone, quartzite and meta-greywacke (*Bedrock Geology of Wisconsin, Regional Map Series Northeast Sheet*, Wisconsin Geological and Natural History Survey (WGNHS), 1984). Bedrock is anticipated to be between 100 and 200 feet below ground surface (bgs) (*Depth to Bedrock in Wisconsin,* WGNHS, 1973). The regolith consists primarily of sand. Surface soil primarily consists of the Croswell sand and Loxley, Greenwood and Dawson peats (USDA NRCS Web Soil Survey).

Hydrogeology

Calculated groundwater elevations range between 1694 and 1697 feet above mean sea level (msl). Depth to groundwater was reported to be between 6 and 9 feet bgs. The calculated groundwater flow direction was variable. The piezometric surface in the area is relatively flat. It appears that the aquifer under the facility flows toward the creek during most of the year (between northeast and east southeast) and during the winter melt the creek recharges the aquifer (flow to the west). Regional groundwater is to the southeast in this area of Vilas County (*Plate 1. Altitude and Configuration of the Water Table, Vilas County, Wisconsin*, WGNHS, Miscellaneous Paper 89-1, 1976). The site is adjacent to an unnamed intermittent creek. The facility is approximately 1,825 feet northeast of Marsh Lake and 5,400 feet north of the Wisconsin River. There are two wells (municipal, other than municipal, private and high-capacity) within a 1,500-foot range of this facility's groundwater discharge.

Land Disposal Effluent Quality and Loading Rates

The following tables are the average flow (hydraulic loading), chloride and BOD_5 (Table 5a) and the nitrogen series loading; total, nitrite + nitrate, Kjeldahl, ammonia and organic nitrogen (Table 5b) loading summations for the land disposal system.

Table 5a Land Treatment Disposal Loading Averages

Year	Flow (MGD)	Chloride (mg/l)	BOD5 (mg/l)
2024#	0.025	61	8.2
2023	0.038	61	8.6
2022	0.038	60	22.8
2021	0.035	46	8.0
2020	0.097	43	4.9
2019	0.047	10	12.6

# Indicates partial year

Table 5b Land Disposal Loading Averages

Year	Total Nitrogen (mg/l)	Nitrite + Nitrate (mg/l)	Total Kjeldahl (mg/l)	Ammonia (mg/l)	Organic Nitrogen (mg/l)
2024#	27.60	11.00	16.40	15.20	1.30
2023	26.76	11.88	14.98	11.04	3.99
2022	23.82	12.59	13.53	9.78	3.06
2021	22.82	11.61	10.92	6.87	4.09
2020	13.36	9.59	6.68	4.59	1.21
2019	14.47	8.98	9.57	5.65	2.37

# Indicates partial year

There are several clear patterns within the sampling point (effluent) loading data. The first and most obvious is the increasing trend in nitrogen averages, omitting organic nitrogen. See Figure 1. In addition, there is a pattern for the loading of ammonia and nitrite + nitrate (monthly results for 2022), although they are the inverse of each other. See Figure 2. Note that the two vertical axis in Figure 2 are both mg/l but the scaling is different.

Groundwater Monitoring System and Sampling Frequency

All parameters are analyzed for the dissolved phase in groundwater. Established groundwater quality standards are found in Table 1 Public Health Groundwater Quality Standards s. NR 140.10 Wis. Adm. Code, and Table 2 Public Welfare Groundwater Standards s. NR 140.12 Wis. Adm. Code. The thresholds of these standards are the Enforcement Standard (ES) and the Preventative Action Limit (PAL).

Table 6 Groundwater Monitoring Well Data

Sample Point	Well Name	Elevation (feet above msl)				Length (feet)		Well Type
		Casing Top	Ground Surface	Screen Top	Screen Bottom	Screen Length	Well Depth	
801	MW 801	1702.94	1698.13	1695.1	1685.1	10.0		WT
802	MW 802	1700.97	1698.37	1689.9	1679.9	10.0		WT
803	MW 803	1700.03	1697.55	1694.1	1684.1	10.0		WT
804	MW 804	1697.34	1694.17	1691.2	1681.2	10.0		WT
805	MW 805	1701.88						
806	MW 806	1701.11	1698.62	1680.6	1675.6	5.0		P
807	MW 807	1701.37						WT

All measurements in feet
WT-Water table Observation P-Piezometer O-Other

Groundwater sampling results from this facility have been analyzed for each well to evaluate trends of the regulated compounds in groundwater and to calculate PALs for s. NR 140.22 Wis. Adm. Code Indicator Parameters and to evaluate potential exemptions under s. NR 140.28 Wis. Adm. Code. The groundwater was evaluated by looking at the groundwater data from March 21, 2019 – March 19, 2024.

Background Groundwater Quality

There were no PAL exceedances observed in the background groundwater quality and the trends for the results were stable.

Down-Gradient Groundwater Quality

There were consistent PAL and ES exceedances of nitrite + nitrate in all of the side and down-gradient wells. See Figure 3. The trends in most of this data is increasing over time. There were infrequent and low magnitude PAL exceedances of ammonia in wells 803 and 805. Because of the frequency a trend could not be determined. In addition, there is an increasing trend in the results of TDS in most of the wells.

Land Disposal System Impact to Groundwater Quality

Concentrations and trends in the groundwater monitoring data were compared to the loading data for the land disposal system. There is a clear correlation between the effluent loading levels of nitrite + nitrate and the groundwater monitoring results. The nitrite + nitrate effluent results were compared to the nitrite + nitrate groundwater results from well 803. See Figure 4. The correlation between the two sets of data indicates that an effluent level that exceeds 15 mg/l concentration will most likely have a negative impact on groundwater quality results.

Proposed Groundwater Monitoring Requirements

Table 7 Groundwater Quality Sampling Frequency and Limits Outfall 001 Permit WI-0029386-11

Sample Point	Well Name	Sample Frequency	Well Designation
801	MW 801	Quarterly	Non-Point of Standard
802	MW 802	Quarterly	Non-Point of Standard
803	MW 803	Quarterly	Background
804	MW 804	Quarterly	Non-Point of Standard
805	MW 805	Quarterly	Point of Standard
806	MW 806	Quarterly	
807	MW 807	Quarterly	
Parameter	PAL	ES	Source
Depth to Groundwater	N/A	N/A	Measured
Groundwater Elevation	N/A	N/A	Measured
Nitrogen, Nitrite + Nitrate	***2.0 mg/l**	10.0 mg/l	NR 140 Table 1
Chloride	125 mg/l	250 mg/l	NR 140 Table 2
pH, Field	***4.5-6.5 su**	N/A	Calculated
Nitrogen, Kjeldahl	N/A	N/A	Measured
Nitrogen, Ammonia	0.97 mg/l	9.7 mg/l	NR 140 Table 1
Nitrogen, Organic	***2.2 mg/l**	N/A	Calculated
Total Dissolved Solids	***250 mg/l**	N/A	Calculated
Alkalinity, as $CaCO_3$	***Discontinue**		

* Proposed permit changes

Indicator Parameter PALs

Indicator Parameter PALs are developed following the procedures described in s. NR 140.20(2), Wis. Adm. Code. Indicator parameters do not have Enforcement Standards. The PAL for an indicator parameter is a benchmark for evaluating site specific trends. When significant increases in the trends are observed, the facility and the department's response action under s. NR 140.24 Wis. Adm. Code should be to investigate the source of the compound. The following equations were used to calculate the indicator parameter PALs:

$$\sum [\text{Mean of the background groundwater quality} + \text{Minimum Increase (NR 140.20 Table 3)}] = \text{PAL}$$

And for pH:

$$\sum [\text{Mean of the background groundwater quality} \pm 1 \text{ su}] = \text{upper and lower PAL}$$

Alternative Concentration Limits

Alternative concentration Limits (ACLs) can be developed and provided for a groundwater monitoring system utilizing the procedures described in s. NR 140.28, Wis. Adm. Code. ACLs were calculated using the following equation:

$$\sum [\text{Mean of the background groundwater quality} + (2) \times \text{Standard Deviation of Results}] = \text{ACL}$$

Conclusions

The groundwater monitoring well 804 has not been sampled regularly per the WI-00 29386-10 permit requirements. The reasons have been reported as a problem with access. This well is down-gradient and used for compliance with groundwater standards. This well is needed so it either needs to be replaced or a permanent solution for access needs to be implemented.

There are multiple ES exceedances of nitrite + nitrate in the groundwater sampling results. And while these wells are designated as non-point of standards wells under s. NR 140.27 Wis. Adm. Code the department should take action under s. NR 140.24 Wis. Adm. Code. Because the trends in many of the wells are increasing over time the take no action option will not be considered.

Options:

Continued load rest optimization with overall reduction of total nitrogen effluent concentration.

Impose an initial effluent concentration limit and a schedule to reach a target limit of 15 mg/l.

No response action is required for the ammonia and TDS exceedances.

The ACL for nitrite + nitrate was evaluated, and a new ACL calculated. The new calculation based on the background groundwater quality was less than the s. NR 140.10 Wis. Adm. Code PAL. Therefore, the ACL has been receded and the s. NR 140.10 Wis. Adm. Code PAL of 2.0 mg/l will be the new groundwater limit.

The indicator parameter PALs for organic nitrogen have been decreased, the PAL for TDS increased and the PAL range for pH has been decreased based on background groundwater quality results.

The groundwater sampling parameter of alkalinity can be discontinued. The department no longer uses this indicator parameter.

Compliance Schedule Recommendations

The facility should evaluate options to optimize the treatment system and the land disposal system (absorption ponds) to reduce the nitrogen to the greatest extent possible. An initial report should be submitted to the department within 90 days of the permit reissuance. Given the nature of the optimization, a summary update should be submitted to the department semi-annually. This summary should discuss the actions taken, data logs, observations and results.

Any significant changes to facility infrastructure need to be reviewed by the department prior to implementation. Plans and Specifications need to be submitted to the department for review.

The s. NR 206.07 (2)(h) 1. Wis. Adm. Code requires a land disposal management plan for facilities with land disposal systems. The facility should review their plan within 90 days of permit reissuance and any revisions should be submitted to the department for approval.

An evaluation needs to be performed on groundwater monitoring well 804. Either a permanent solution implemented to achieve access to the well or the replacement of the well should be determined, and a brief report submitted to the department for review and approval within 60 days of the permit reissuance. If a reasonable access solution cannot be found the facility should schedule a well replacement per ch. NR 141 Wis. Adm. Code within 90 days of the submitted well inspection report.

If well 804 is replaced, the existing (old) well needs to be abandoned per ch. NR 141 Wis. Adm. Code and the abandonment documents submitted to the department within 30 days of abandonment.

The groundwater monitoring wells should be surveyed. The new survey should include the elevation of the top of casing (TOC) for the wells and a calculated ground surface elevation. And the groundwater monitoring well location needs to be provided to the department in latitude/longitude decimal degrees. These should be provided to the department within 120 days after the well (804) installation or repair.

A map is required of the land treatment system per ch. NR141.065 Wis. Admin Code.
"All monitoring well locations shall be reported to the department on a plan map drawn to a specific scale. The map shall indicate structure boundaries, property boundaries, any nearby surface waters and a north arrow. The plan shall show the wells in relation to each other, to property and structure boundaries and to a common reference point on a horizontal grid system. The origin of the grid system shall be located according to latitude and longitude or according to the state plane coordinate system. The exact vertical location of the top of the well casing shall be referenced to the nearest benchmark for the national geodetic survey datum to an accuracy of 0.01 feet. This plan map shall show the exact location of the installed well on a horizontal grid system which is accurate to within 1 foot." This map should be submitted to the department within 120 days after the well (804) installation or repair.

Figure 4
Nitrite + Nitrate

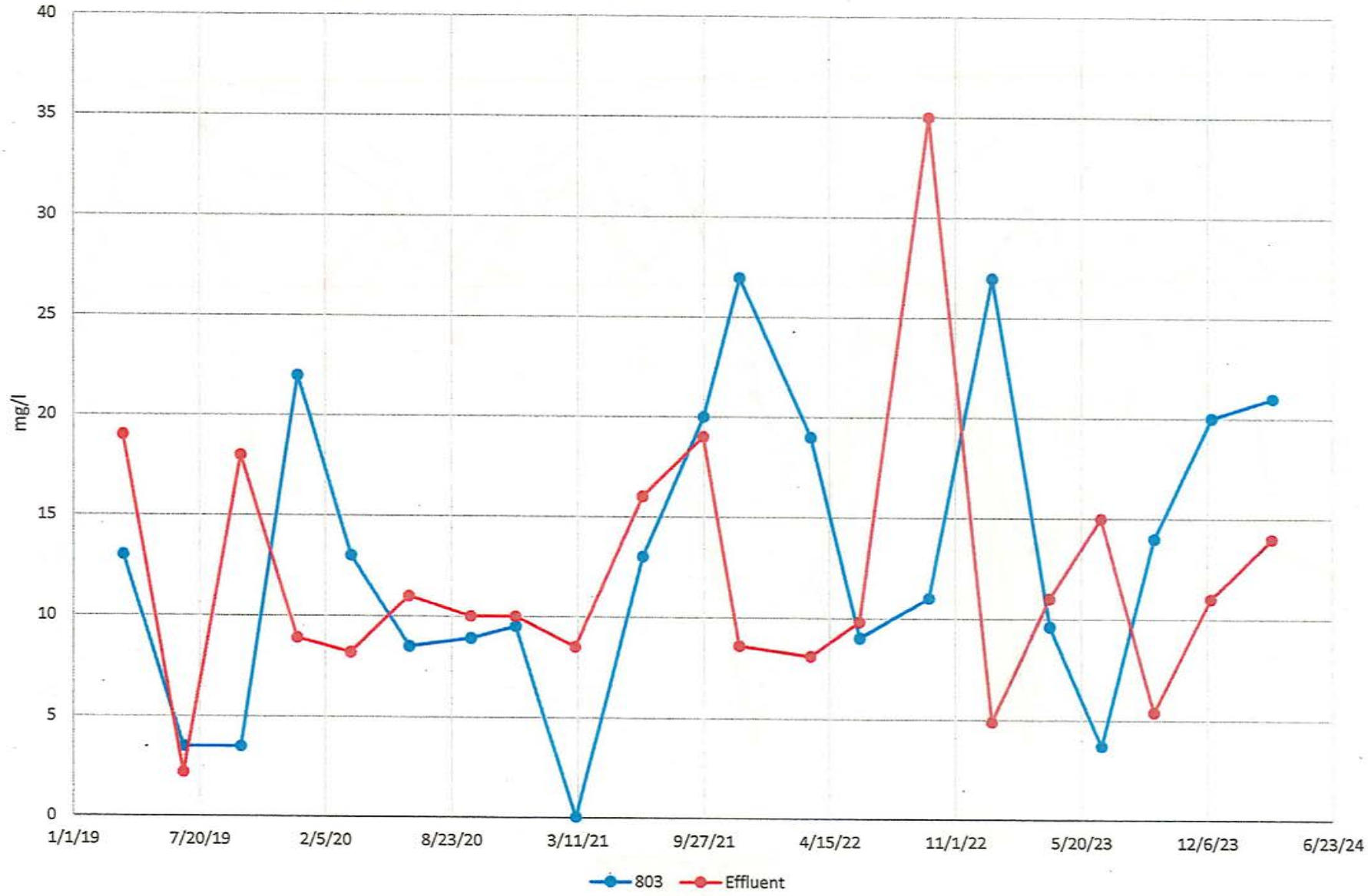


Figure 3
Nitrite + Nitrate

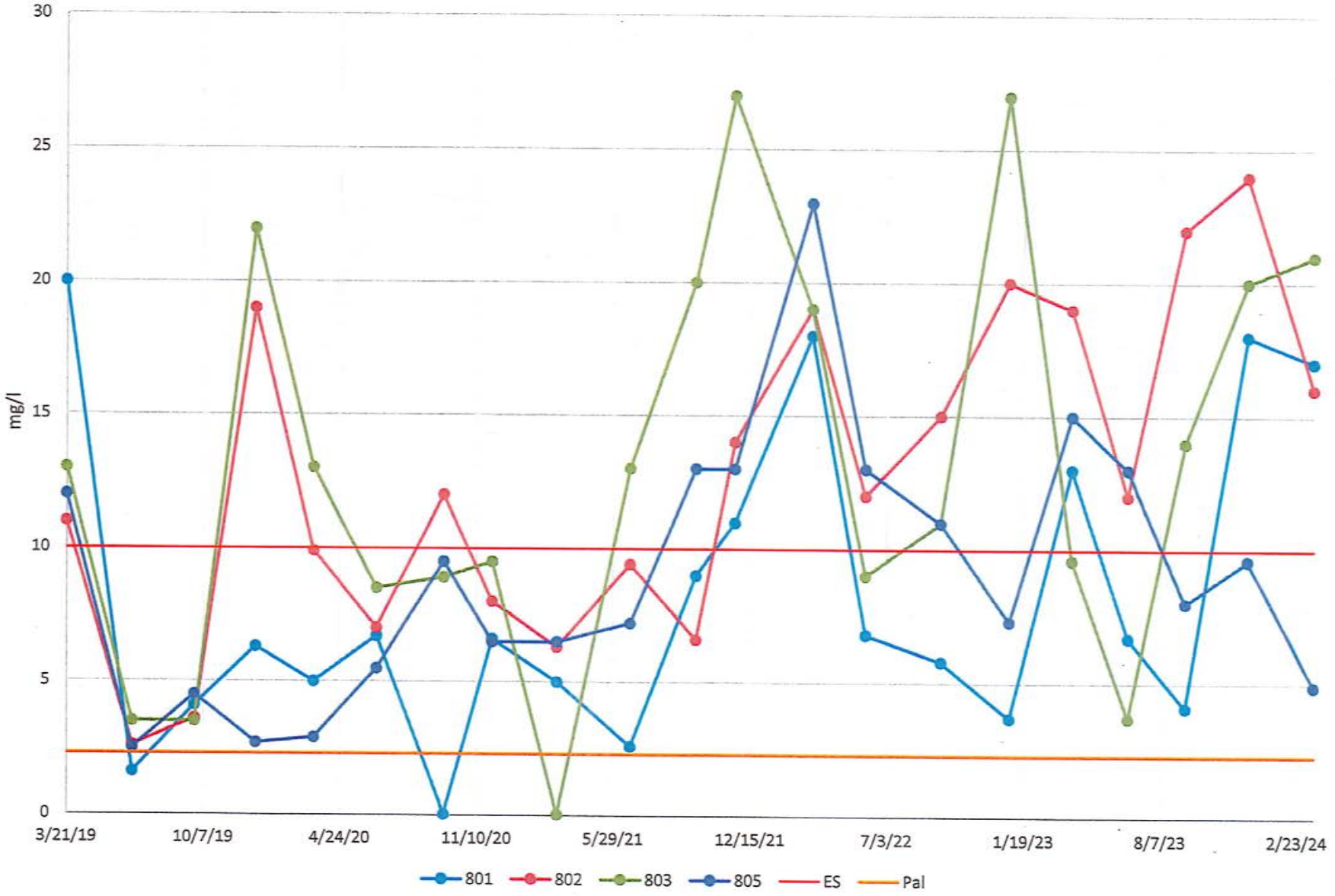


Figure 2

Ammonia vs. Nitrite + Nitrate

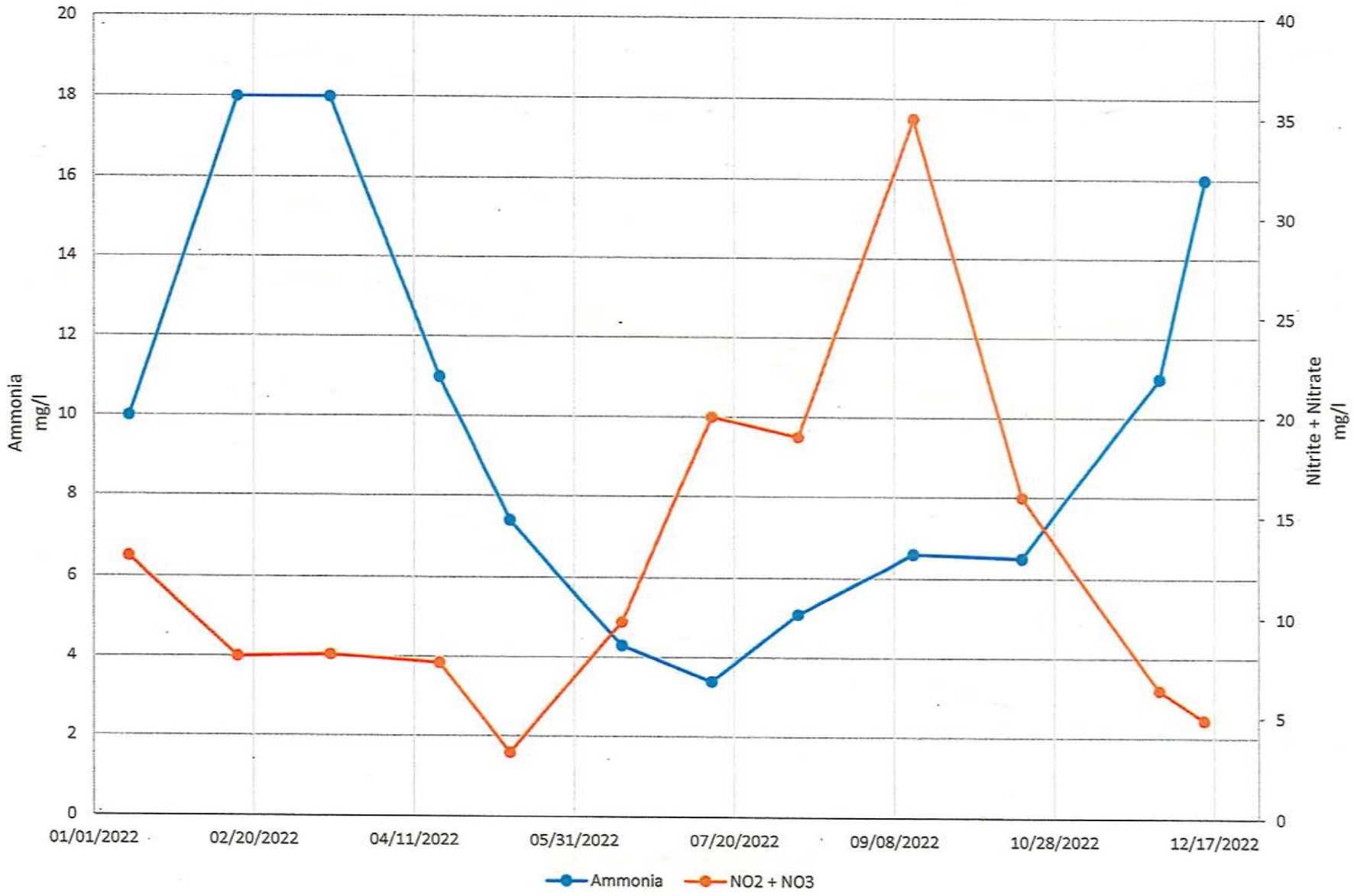
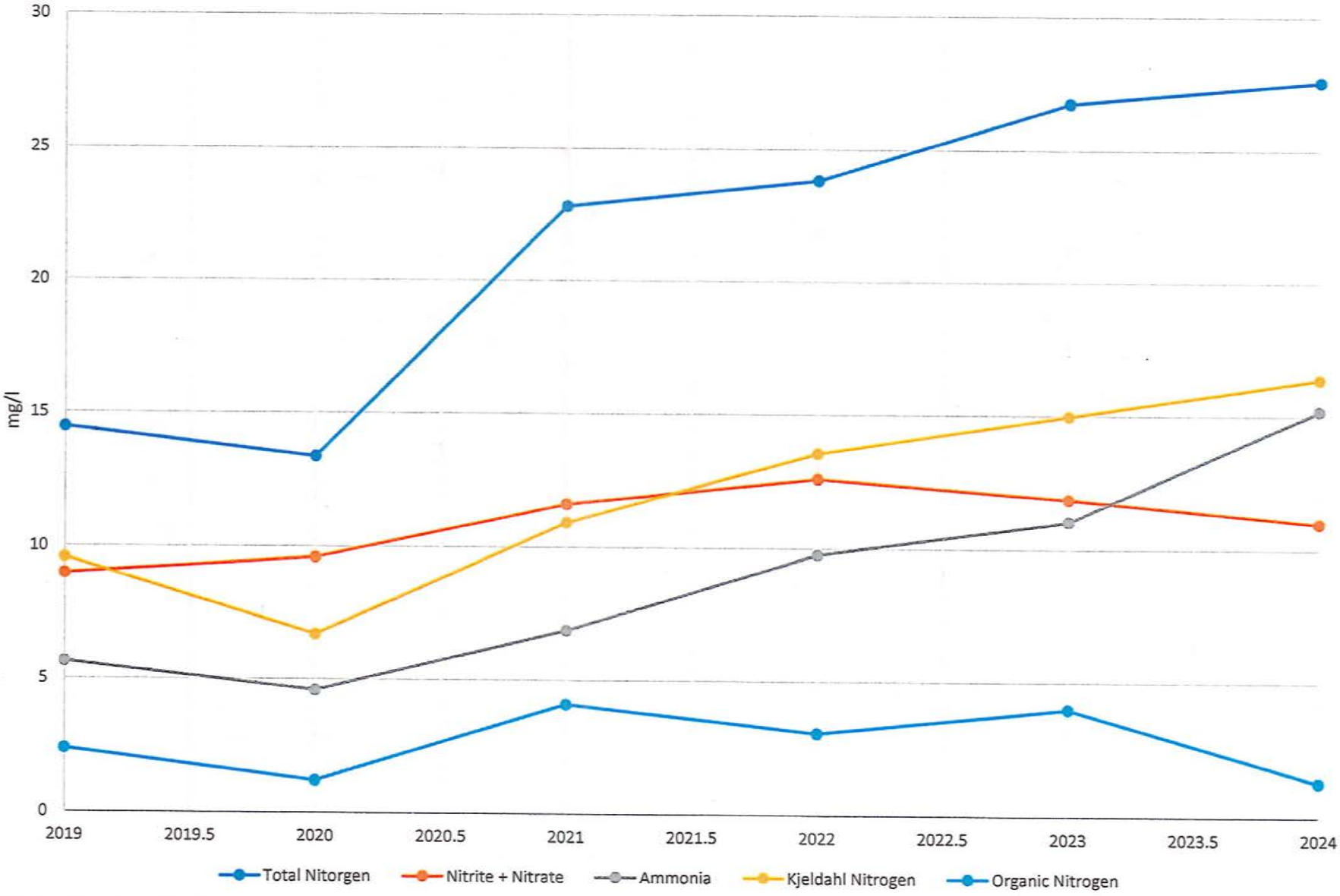


Figure 1
Nitrogen Series Effleunt



Appendix A

The following results were provided by the facility or their agent.
The mean and standard deviation were calculated electronically.

well		param	parm_	sample_date	resu	result_amt
801	MW 801	Alkalinity, Total as CaCO3 Dissolved	mg/L	03/21/2019		14
801	MW 801	Alkalinity, Total as CaCO3 Dissolved	mg/L	06/25/2019		11
801	MW 801	Alkalinity, Total as CaCO3 Dissolved	mg/L	09/24/2019		17
801	MW 801	Alkalinity, Total as CaCO3 Dissolved	mg/L	12/23/2019		11
801	MW 801	Alkalinity, Total as CaCO3 Dissolved	mg/L	03/17/2020		10
801	MW 801	Alkalinity, Total as CaCO3 Dissolved	mg/L	06/17/2020		7.1
801	MW 801	Alkalinity, Total as CaCO3 Dissolved	mg/L	09/23/2020		5.8
801	MW 801	Alkalinity, Total as CaCO3 Dissolved	mg/L	12/03/2020		6.2
801	MW 801	Alkalinity, Total as CaCO3 Dissolved	mg/L	03/08/2021		8.1
801	MW 801	Alkalinity, Total as CaCO3 Dissolved	mg/L	06/23/2021		7.7
801	MW 801	Alkalinity, Total as CaCO3 Dissolved	mg/L	09/27/2021		7
801	MW 801	Alkalinity, Total as CaCO3 Dissolved	mg/L	11/23/2021		5.8
801	MW 801	Alkalinity, Total as CaCO3 Dissolved	mg/L	03/16/2022		4.3
801	MW 801	Alkalinity, Total as CaCO3 Dissolved	mg/L	06/02/2022		4.2
801	MW 801	Alkalinity, Total as CaCO3 Dissolved	mg/L	09/20/2022		5.7
801	MW 801	Alkalinity, Total as CaCO3 Dissolved	mg/L	12/29/2022		8
801	MW 801	Alkalinity, Total as CaCO3 Dissolved	mg/L	03/31/2023		4.4
801	MW 801	Alkalinity, Total as CaCO3 Dissolved	mg/L	06/21/2023		32
801	MW 801	Alkalinity, Total as CaCO3 Dissolved	mg/L	09/13/2023		8.3
801	MW 801	Alkalinity, Total as CaCO3 Dissolved	mg/L	12/13/2023		5.4
801	MW 801	Alkalinity, Total as CaCO3 Dissolved	mg/L	03/19/2024		1.9
801	MW 801	Chloride Dissolved	mg/L	03/21/2019		28
801	MW 801	Chloride Dissolved	mg/L	06/25/2019		4.6
801	MW 801	Chloride Dissolved	mg/L	09/24/2019		21
801	MW 801	Chloride Dissolved	mg/L	12/23/2019		17
801	MW 801	Chloride Dissolved	mg/L	03/17/2020		23
801	MW 801	Chloride Dissolved	mg/L	06/17/2020		23
801	MW 801	Chloride Dissolved	mg/L	09/23/2020		0.65
801	MW 801	Chloride Dissolved	mg/L	12/03/2020		21
801	MW 801	Chloride Dissolved	mg/L	03/08/2021		26
801	MW 801	Chloride Dissolved	mg/L	06/23/2021		13
801	MW 801	Chloride Dissolved	mg/L	09/27/2021		34
801	MW 801	Chloride Dissolved	mg/L	11/23/2021		32
801	MW 801	Chloride Dissolved	mg/L	03/16/2022		43
801	MW 801	Chloride Dissolved	mg/L	06/02/2022		24
801	MW 801	Chloride Dissolved	mg/L	09/20/2022		36
801	MW 801	Chloride Dissolved	mg/L	12/29/2022		20
801	MW 801	Chloride Dissolved	mg/L	03/31/2023		40
801	MW 801	Chloride Dissolved	mg/L	06/21/2023		39
801	MW 801	Chloride Dissolved	mg/L	09/13/2023		32
801	MW 801	Chloride Dissolved	mg/L	12/13/2023		48
801	MW 801	Chloride Dissolved	mg/L	03/19/2024		63

well		param	parm_	sample_date	resu	result_amt
801	MW 801	Nitrogen, Ammonia Dissolved	mg/L	03/21/2019		0.45
801	MW 801	Nitrogen, Ammonia Dissolved	mg/L	06/25/2019		0.044
801	MW 801	Nitrogen, Ammonia Dissolved	mg/L	09/24/2019		0.067
801	MW 801	Nitrogen, Ammonia Dissolved	mg/L	12/23/2019		0.096
801	MW 801	Nitrogen, Ammonia Dissolved	mg/L	03/17/2020		0.073
801	MW 801	Nitrogen, Ammonia Dissolved	mg/L	06/17/2020		0.027
801	MW 801	Nitrogen, Ammonia Dissolved	mg/L	09/23/2020		0.038
801	MW 801	Nitrogen, Ammonia Dissolved	mg/L	12/03/2020		0.14
801	MW 801	Nitrogen, Ammonia Dissolved	mg/L	03/08/2021		0.26
801	MW 801	Nitrogen, Ammonia Dissolved	mg/L	06/23/2021		0.052
801	MW 801	Nitrogen, Ammonia Dissolved	mg/L	09/27/2021		0.22
801	MW 801	Nitrogen, Ammonia Dissolved	mg/L	11/23/2021		0.06
801	MW 801	Nitrogen, Ammonia Dissolved	mg/L	03/16/2022		0.039
801	MW 801	Nitrogen, Ammonia Dissolved	mg/L	06/02/2022		0.039
801	MW 801	Nitrogen, Ammonia Dissolved	mg/L	09/20/2022		0.01
801	MW 801	Nitrogen, Ammonia Dissolved	mg/L	12/29/2022	<	0.039
801	MW 801	Nitrogen, Ammonia Dissolved	mg/L	03/31/2023		0.063
801	MW 801	Nitrogen, Ammonia Dissolved	mg/L	06/21/2023		0.08
801	MW 801	Nitrogen, Ammonia Dissolved	mg/L	09/13/2023		0.052
801	MW 801	Nitrogen, Ammonia Dissolved	mg/L	12/13/2023		0.047
801	MW 801	Nitrogen, Ammonia Dissolved	mg/L	03/19/2024		0.13
801	MW 801	Nitrogen, Total Kjeldahl Dissolved	mg/L	03/21/2019		0.99
801	MW 801	Nitrogen, Total Kjeldahl Dissolved	mg/L	06/25/2019		0.24
801	MW 801	Nitrogen, Total Kjeldahl Dissolved	mg/L	09/24/2019		0.42
801	MW 801	Nitrogen, Total Kjeldahl Dissolved	mg/L	12/23/2019		0.29
801	MW 801	Nitrogen, Total Kjeldahl Dissolved	mg/L	03/17/2020		0.27
801	MW 801	Nitrogen, Total Kjeldahl Dissolved	mg/L	06/17/2020		0.23
801	MW 801	Nitrogen, Total Kjeldahl Dissolved	mg/L	09/23/2020		0.14
801	MW 801	Nitrogen, Total Kjeldahl Dissolved	mg/L	12/03/2020		0.38
801	MW 801	Nitrogen, Total Kjeldahl Dissolved	mg/L	03/08/2021		0.3
801	MW 801	Nitrogen, Total Kjeldahl Dissolved	mg/L	06/23/2021		0.24
801	MW 801	Nitrogen, Total Kjeldahl Dissolved	mg/L	09/27/2021		0.34
801	MW 801	Nitrogen, Total Kjeldahl Dissolved	mg/L	11/23/2021		0.2
801	MW 801	Nitrogen, Total Kjeldahl Dissolved	mg/L	03/16/2022		0.2
801	MW 801	Nitrogen, Total Kjeldahl Dissolved	mg/L	06/02/2022		0.22
801	MW 801	Nitrogen, Total Kjeldahl Dissolved	mg/L	09/20/2022		0.22
801	MW 801	Nitrogen, Total Kjeldahl Dissolved	mg/L	12/29/2022	<	0.2
801	MW 801	Nitrogen, Total Kjeldahl Dissolved	mg/L	03/31/2023		0.22
801	MW 801	Nitrogen, Total Kjeldahl Dissolved	mg/L	06/21/2023		0.27
801	MW 801	Nitrogen, Total Kjeldahl Dissolved	mg/L	09/13/2023		0.25
801	MW 801	Nitrogen, Total Kjeldahl Dissolved	mg/L	12/13/2023	<	0.2
801	MW 801	Nitrogen, Total Kjeldahl Dissolved	mg/L	03/19/2024		0.26

well		param	parm_	sample_date	resu	result_amt
801	MW 801	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	03/21/2019		20
801	MW 801	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	06/25/2019		1.6
801	MW 801	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	09/24/2019		4.1
801	MW 801	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	12/23/2019		6.3
801	MW 801	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	03/17/2020		5
801	MW 801	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	06/17/2020		6.7
801	MW 801	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	09/23/2020		0.04
801	MW 801	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	12/03/2020		6.6
801	MW 801	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	03/08/2021		5
801	MW 801	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	06/23/2021		2.6
801	MW 801	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	09/27/2021		9
801	MW 801	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	11/23/2021		11
801	MW 801	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	03/16/2022		18
801	MW 801	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	06/02/2022		6.8
801	MW 801	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	09/20/2022		5.8
801	MW 801	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	12/29/2022		3.7
801	MW 801	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	03/31/2023		13
801	MW 801	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	06/21/2023		6.7
801	MW 801	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	09/13/2023		4.1
801	MW 801	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	12/13/2023		18
801	MW 801	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	03/19/2024		17
801	MW 801	Nitrogen, Organic Dissolved	mg/L	03/21/2019		0.54
801	MW 801	Nitrogen, Organic Dissolved	mg/L	06/25/2019		0.2
801	MW 801	Nitrogen, Organic Dissolved	mg/L	09/24/2019		0.35
801	MW 801	Nitrogen, Organic Dissolved	mg/L	12/23/2019		0.2
801	MW 801	Nitrogen, Organic Dissolved	mg/L	03/17/2020		0.19
801	MW 801	Nitrogen, Organic Dissolved	mg/L	06/17/2020		0.23
801	MW 801	Nitrogen, Organic Dissolved	mg/L	09/23/2020		0.1
801	MW 801	Nitrogen, Organic Dissolved	mg/L	12/03/2020		0.24
801	MW 801	Nitrogen, Organic Dissolved	mg/L	03/08/2021		0.2
801	MW 801	Nitrogen, Organic Dissolved	mg/L	06/23/2021		0.2
801	MW 801	Nitrogen, Organic Dissolved	mg/L	09/27/2021		0.26
801	MW 801	Nitrogen, Organic Dissolved	mg/L	11/23/2021		0.2
801	MW 801	Nitrogen, Organic Dissolved	mg/L	03/16/2022		0.2
801	MW 801	Nitrogen, Organic Dissolved	mg/L	06/02/2022		0.22
801	MW 801	Nitrogen, Organic Dissolved	mg/L	09/20/2022		0.22
801	MW 801	Nitrogen, Organic Dissolved	mg/L	12/29/2022	<	0.2
801	MW 801	Nitrogen, Organic Dissolved	mg/L	03/31/2023	<	0.2
801	MW 801	Nitrogen, Organic Dissolved	mg/L	06/21/2023		0.19
801	MW 801	Nitrogen, Organic Dissolved	mg/L	09/13/2023		0.2
801	MW 801	Nitrogen, Organic Dissolved	mg/L	12/13/2023	<	0.039
801	MW 801	Nitrogen, Organic Dissolved	mg/L	03/19/2024		0.13

well		param	parm_	sample_date	resu	result_amt
801	MW 801	pH Field	su	03/21/2019		5.99
801	MW 801	pH Field	su	06/25/2019		6.09
801	MW 801	pH Field	su	09/24/2019		6.09
801	MW 801	pH Field	su	12/23/2019		5.87
801	MW 801	pH Field	su	03/17/2020		5.68
801	MW 801	pH Field	su	06/17/2020		5.49
801	MW 801	pH Field	su	09/23/2020		5.46
801	MW 801	pH Field	su	12/03/2020		5.43
801	MW 801	pH Field	su	03/08/2021		5.52
801	MW 801	pH Field	su	06/23/2021		5.39
801	MW 801	pH Field	su	09/27/2021		5.4
801	MW 801	pH Field	su	11/23/2021		5.56
801	MW 801	pH Field	su	03/16/2022		5.86
801	MW 801	pH Field	su	06/02/2022		5.52
801	MW 801	pH Field	su	09/20/2022		5.4
801	MW 801	pH Field	su	12/29/2022		5.6
801	MW 801	pH Field	su	03/31/2023		5.5
801	MW 801	pH Field	su	06/21/2023		5.5
801	MW 801	pH Field	su	09/13/2023		5.5
801	MW 801	pH Field	su	12/13/2023		5.4
801	MW 801	pH Field	su	03/19/2024		5.4

801	MW 801	Solids, Total Dissolved	mg/L	03/21/2019		110
801	MW 801	Solids, Total Dissolved	mg/L	06/25/2019		6
801	MW 801	Solids, Total Dissolved	mg/L	09/24/2019		88
801	MW 801	Solids, Total Dissolved	mg/L	12/23/2019		59
801	MW 801	Solids, Total Dissolved	mg/L	03/17/2020		83
801	MW 801	Solids, Total Dissolved	mg/L	06/17/2020		130
801	MW 801	Solids, Total Dissolved	mg/L	09/23/2020		2
801	MW 801	Solids, Total Dissolved	mg/L	12/03/2020		130
801	MW 801	Solids, Total Dissolved	mg/L	03/08/2021		180
801	MW 801	Solids, Total Dissolved	mg/L	06/23/2021		92
801	MW 801	Solids, Total Dissolved	mg/L	09/27/2021		110
801	MW 801	Solids, Total Dissolved	mg/L	11/23/2021		190
801	MW 801	Solids, Total Dissolved	mg/L	03/16/2022		290
801	MW 801	Solids, Total Dissolved	mg/L	06/02/2022		140
801	MW 801	Solids, Total Dissolved	mg/L	09/20/2022		110
801	MW 801	Solids, Total Dissolved	mg/L	12/29/2022		78
801	MW 801	Solids, Total Dissolved	mg/L	03/31/2023		180
801	MW 801	Solids, Total Dissolved	mg/L	06/21/2023		200
801	MW 801	Solids, Total Dissolved	mg/L	09/13/2023		170
801	MW 801	Solids, Total Dissolved	mg/L	12/13/2023		220
801	MW 801	Solids, Total Dissolved	mg/L	03/19/2024		250

well		param	parm_	sample_date	resu	result_amt
802	MW 802	Alkalinity, Total as CaCO3 Dissolved	mg/L	03/21/2019		15
802	MW 802	Alkalinity, Total as CaCO3 Dissolved	mg/L	06/25/2019		10
802	MW 802	Alkalinity, Total as CaCO3 Dissolved	mg/L	09/24/2019		34
802	MW 802	Alkalinity, Total as CaCO3 Dissolved	mg/L	12/23/2019		7.8
802	MW 802	Alkalinity, Total as CaCO3 Dissolved	mg/L	03/17/2020		12
802	MW 802	Alkalinity, Total as CaCO3 Dissolved	mg/L	06/17/2020		5.1
802	MW 802	Alkalinity, Total as CaCO3 Dissolved	mg/L	09/23/2020		4.8
802	MW 802	Alkalinity, Total as CaCO3 Dissolved	mg/L	12/03/2020		6.4
802	MW 802	Alkalinity, Total as CaCO3 Dissolved	mg/L	03/08/2021		15
802	MW 802	Alkalinity, Total as CaCO3 Dissolved	mg/L	06/23/2021		5.4
802	MW 802	Alkalinity, Total as CaCO3 Dissolved	mg/L	09/27/2021		11
802	MW 802	Alkalinity, Total as CaCO3 Dissolved	mg/L	11/23/2021		5.4
802	MW 802	Alkalinity, Total as CaCO3 Dissolved	mg/L	03/16/2022		4.8
802	MW 802	Alkalinity, Total as CaCO3 Dissolved	mg/L	06/02/2022		5.8
802	MW 802	Alkalinity, Total as CaCO3 Dissolved	mg/L	09/20/2022		5.8
802	MW 802	Alkalinity, Total as CaCO3 Dissolved	mg/L	12/29/2022		2.8
802	MW 802	Alkalinity, Total as CaCO3 Dissolved	mg/L	03/31/2023		8
802	MW 802	Alkalinity, Total as CaCO3 Dissolved	mg/L	06/21/2023		7.1
802	MW 802	Alkalinity, Total as CaCO3 Dissolved	mg/L	09/13/2023		1.7
802	MW 802	Alkalinity, Total as CaCO3 Dissolved	mg/L	12/13/2023		1.8
802	MW 802	Alkalinity, Total as CaCO3 Dissolved	mg/L	03/19/2024		4.9
802	MW 802	Chloride Dissolved	mg/L	03/21/2019		59
802	MW 802	Chloride Dissolved	mg/L	06/25/2019		33
802	MW 802	Chloride Dissolved	mg/L	09/24/2019		34
802	MW 802	Chloride Dissolved	mg/L	12/23/2019		34
802	MW 802	Chloride Dissolved	mg/L	03/17/2020		32
802	MW 802	Chloride Dissolved	mg/L	06/17/2020		37
802	MW 802	Chloride Dissolved	mg/L	09/23/2020		39
802	MW 802	Chloride Dissolved	mg/L	12/03/2020		35
802	MW 802	Chloride Dissolved	mg/L	03/08/2021		32
802	MW 802	Chloride Dissolved	mg/L	06/23/2021		50
802	MW 802	Chloride Dissolved	mg/L	09/27/2021		47
802	MW 802	Chloride Dissolved	mg/L	11/23/2021		43
802	MW 802	Chloride Dissolved	mg/L	03/16/2022		43
802	MW 802	Chloride Dissolved	mg/L	06/02/2022		28
802	MW 802	Chloride Dissolved	mg/L	09/20/2022		49
802	MW 802	Chloride Dissolved	mg/L	12/29/2022		49
802	MW 802	Chloride Dissolved	mg/L	03/31/2023		48
802	MW 802	Chloride Dissolved	mg/L	06/21/2023		49
802	MW 802	Chloride Dissolved	mg/L	09/13/2023		44
802	MW 802	Chloride Dissolved	mg/L	12/13/2023		43
802	MW 802	Chloride Dissolved	mg/L	03/19/2024		48

well		param	parm_	sample_date	resu	result_amt
802	MW 802	Nitrogen, Ammonia Dissolved	mg/L	03/21/2019		0.12
802	MW 802	Nitrogen, Ammonia Dissolved	mg/L	06/25/2019		0.91
802	MW 802	Nitrogen, Ammonia Dissolved	mg/L	09/24/2019		0.12
802	MW 802	Nitrogen, Ammonia Dissolved	mg/L	12/23/2019		0.12
802	MW 802	Nitrogen, Ammonia Dissolved	mg/L	03/17/2020		0.042
802	MW 802	Nitrogen, Ammonia Dissolved	mg/L	06/17/2020		0.47
802	MW 802	Nitrogen, Ammonia Dissolved	mg/L	09/23/2020		0.028
802	MW 802	Nitrogen, Ammonia Dissolved	mg/L	12/03/2020		0.027
802	MW 802	Nitrogen, Ammonia Dissolved	mg/L	03/08/2021		0.027
802	MW 802	Nitrogen, Ammonia Dissolved	mg/L	06/23/2021		0.53
802	MW 802	Nitrogen, Ammonia Dissolved	mg/L	09/27/2021		0.031
802	MW 802	Nitrogen, Ammonia Dissolved	mg/L	11/23/2021		0.039
802	MW 802	Nitrogen, Ammonia Dissolved	mg/L	03/16/2022		0.039
802	MW 802	Nitrogen, Ammonia Dissolved	mg/L	06/02/2022		0.039
802	MW 802	Nitrogen, Ammonia Dissolved	mg/L	09/20/2022		0.01
802	MW 802	Nitrogen, Ammonia Dissolved	mg/L	12/29/2022		0.055
802	MW 802	Nitrogen, Ammonia Dissolved	mg/L	03/31/2023		0.045
802	MW 802	Nitrogen, Ammonia Dissolved	mg/L	06/21/2023		0.39
802	MW 802	Nitrogen, Ammonia Dissolved	mg/L	09/13/2023		0.43
802	MW 802	Nitrogen, Ammonia Dissolved	mg/L	12/13/2023		0.72
802	MW 802	Nitrogen, Ammonia Dissolved	mg/L	03/19/2024		0.37
802	MW 802	Nitrogen, Total Kjeldahl Dissolved	mg/L	03/21/2019		0.5
802	MW 802	Nitrogen, Total Kjeldahl Dissolved	mg/L	06/25/2019		1.1
802	MW 802	Nitrogen, Total Kjeldahl Dissolved	mg/L	09/24/2019		0.53
802	MW 802	Nitrogen, Total Kjeldahl Dissolved	mg/L	12/23/2019		0.1
802	MW 802	Nitrogen, Total Kjeldahl Dissolved	mg/L	03/17/2020		0.38
802	MW 802	Nitrogen, Total Kjeldahl Dissolved	mg/L	06/17/2020		0.72
802	MW 802	Nitrogen, Total Kjeldahl Dissolved	mg/L	09/23/2020		0.2
802	MW 802	Nitrogen, Total Kjeldahl Dissolved	mg/L	12/03/2020		0.27
802	MW 802	Nitrogen, Total Kjeldahl Dissolved	mg/L	03/08/2021		0.2
802	MW 802	Nitrogen, Total Kjeldahl Dissolved	mg/L	06/23/2021		0.38
802	MW 802	Nitrogen, Total Kjeldahl Dissolved	mg/L	09/27/2021		0.34
802	MW 802	Nitrogen, Total Kjeldahl Dissolved	mg/L	11/23/2021		0.25
802	MW 802	Nitrogen, Total Kjeldahl Dissolved	mg/L	03/16/2022		0.22
802	MW 802	Nitrogen, Total Kjeldahl Dissolved	mg/L	06/02/2022		0.59
802	MW 802	Nitrogen, Total Kjeldahl Dissolved	mg/L	09/20/2022		0.01
802	MW 802	Nitrogen, Total Kjeldahl Dissolved	mg/L	12/29/2022		0.34
802	MW 802	Nitrogen, Total Kjeldahl Dissolved	mg/L	03/31/2023	<	0.2
802	MW 802	Nitrogen, Total Kjeldahl Dissolved	mg/L	06/21/2023		0.67
802	MW 802	Nitrogen, Total Kjeldahl Dissolved	mg/L	09/13/2023	<	0.2
802	MW 802	Nitrogen, Total Kjeldahl Dissolved	mg/L	12/13/2023		0.82
802	MW 802	Nitrogen, Total Kjeldahl Dissolved	mg/L	03/19/2024		0.41
802	MW 802	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	03/21/2019		11
802	MW 802	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	06/25/2019		2.6
802	MW 802	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	09/24/2019		3.6

802	MW 802	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	12/23/2019		19
802	MW 802	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	03/17/2020		9.9
802	MW 802	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	06/17/2020		7
802	MW 802	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	09/23/2020		12
802	MW 802	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	12/03/2020		8
802	MW 802	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	03/08/2021		6.3
802	MW 802	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	06/23/2021		9.4
802	MW 802	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	09/27/2021		6.6
802	MW 802	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	11/23/2021		14
802	MW 802	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	03/16/2022		19
802	MW 802	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	06/02/2022		12
802	MW 802	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	09/20/2022		15
802	MW 802	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	12/29/2022		20
802	MW 802	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	03/31/2023		19
802	MW 802	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	06/21/2023		12
802	MW 802	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	09/13/2023		22
802	MW 802	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	12/13/2023		24
802	MW 802	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	03/19/2024		16

802	MW 802	Nitrogen, Organic Dissolved	mg/L	03/21/2019		0.38
802	MW 802	Nitrogen, Organic Dissolved	mg/L	06/25/2019		0.16
802	MW 802	Nitrogen, Organic Dissolved	mg/L	09/24/2019		0.41
802	MW 802	Nitrogen, Organic Dissolved	mg/L	12/23/2019		0.1
802	MW 802	Nitrogen, Organic Dissolved	mg/L	03/17/2020		0.34
802	MW 802	Nitrogen, Organic Dissolved	mg/L	06/17/2020		0.25
802	MW 802	Nitrogen, Organic Dissolved	mg/L	09/23/2020		0.17
802	MW 802	Nitrogen, Organic Dissolved	mg/L	12/03/2020		0.27
802	MW 802	Nitrogen, Organic Dissolved	mg/L	03/08/2021		0.2
802	MW 802	Nitrogen, Organic Dissolved	mg/L	06/23/2021		0.33
802	MW 802	Nitrogen, Organic Dissolved	mg/L	09/27/2021		0.31
802	MW 802	Nitrogen, Organic Dissolved	mg/L	11/23/2021		0.25
802	MW 802	Nitrogen, Organic Dissolved	mg/L	03/16/2022		0.22
802	MW 802	Nitrogen, Organic Dissolved	mg/L	06/02/2022		0.59
802	MW 802	Nitrogen, Organic Dissolved	mg/L	09/20/2022		0.01
802	MW 802	Nitrogen, Organic Dissolved	mg/L	12/29/2022		0.28
802	MW 802	Nitrogen, Organic Dissolved	mg/L	03/31/2023	<	0.2
802	MW 802	Nitrogen, Organic Dissolved	mg/L	06/21/2023		0.27
802	MW 802	Nitrogen, Organic Dissolved	mg/L	09/13/2023	<	0.039
802	MW 802	Nitrogen, Organic Dissolved	mg/L	12/13/2023		0.1
802	MW 802	Nitrogen, Organic Dissolved	mg/L	03/19/2024		0.043

well		param	parm_	sample_date	resu	result_amt
802	MW 802	pH Field	su	03/21/2019		5.83
802	MW 802	pH Field	su	06/25/2019		5.99
802	MW 802	pH Field	su	09/24/2019		5.84
802	MW 802	pH Field	su	12/23/2019		5.67
802	MW 802	pH Field	su	03/17/2020		5.54
802	MW 802	pH Field	su	06/17/2020		5.5
802	MW 802	pH Field	su	09/23/2020		5.42
802	MW 802	pH Field	su	12/03/2020		5.47
802	MW 802	pH Field	su	03/08/2021		5.5
802	MW 802	pH Field	su	06/23/2021		5.31
802	MW 802	pH Field	su	09/27/2021		5.31
802	MW 802	pH Field	su	11/23/2021		5.41
802	MW 802	pH Field	su	03/16/2022		5.72
802	MW 802	pH Field	su	06/02/2022		5.43
802	MW 802	pH Field	su	09/20/2022		5.2
802	MW 802	pH Field	su	12/29/2022		5.2
802	MW 802	pH Field	su	03/31/2023		5.3
802	MW 802	pH Field	su	06/21/2023		5.3
802	MW 802	pH Field	su	09/13/2023		5.2
802	MW 802	pH Field	su	12/13/2023		5.2
802	MW 802	pH Field	su	03/19/2024		5.3

802	MW 802	Solids, Total Dissolved	mg/L	03/21/2019		160
802	MW 802	Solids, Total Dissolved	mg/L	06/25/2019		100
802	MW 802	Solids, Total Dissolved	mg/L	09/24/2019		200
802	MW 802	Solids, Total Dissolved	mg/L	12/23/2019		180
802	MW 802	Solids, Total Dissolved	mg/L	03/17/2020		170
802	MW 802	Solids, Total Dissolved	mg/L	06/17/2020		140
802	MW 802	Solids, Total Dissolved	mg/L	09/23/2020		100
802	MW 802	Solids, Total Dissolved	mg/L	12/03/2020		150
802	MW 802	Solids, Total Dissolved	mg/L	03/08/2021		170
802	MW 802	Solids, Total Dissolved	mg/L	06/23/2021		160
802	MW 802	Solids, Total Dissolved	mg/L	09/27/2021		150
802	MW 802	Solids, Total Dissolved	mg/L	11/23/2021		220
802	MW 802	Solids, Total Dissolved	mg/L	03/16/2022		270
802	MW 802	Solids, Total Dissolved	mg/L	06/02/2022		200
802	MW 802	Solids, Total Dissolved	mg/L	09/20/2022		230
802	MW 802	Solids, Total Dissolved	mg/L	12/29/2022		300
802	MW 802	Solids, Total Dissolved	mg/L	03/31/2023		280
802	MW 802	Solids, Total Dissolved	mg/L	06/21/2023		310
802	MW 802	Solids, Total Dissolved	mg/L	09/13/2023		340
802	MW 802	Solids, Total Dissolved	mg/L	12/13/2023		240
802	MW 802	Solids, Total Dissolved	mg/L	03/19/2024		260

well	param	parm_	sample_date	resu	result_amt
803 MW 803	Alkalinity, Total as CaCO3 Dissolved	mg/L	03/21/2019		20
803 MW 803	Alkalinity, Total as CaCO3 Dissolved	mg/L	06/25/2019		7.7
803 MW 803	Alkalinity, Total as CaCO3 Dissolved	mg/L	09/24/2019		4.5
803 MW 803	Alkalinity, Total as CaCO3 Dissolved	mg/L	12/23/2019		4.2
803 MW 803	Alkalinity, Total as CaCO3 Dissolved	mg/L	03/17/2020		8
803 MW 803	Alkalinity, Total as CaCO3 Dissolved	mg/L	06/17/2020		5.4
803 MW 803	Alkalinity, Total as CaCO3 Dissolved	mg/L	09/23/2020		4.4
803 MW 803	Alkalinity, Total as CaCO3 Dissolved	mg/L	12/03/2020		3.5
803 MW 803	Alkalinity, Total as CaCO3 Dissolved	mg/L	03/08/2021		4.4
803 MW 803	Alkalinity, Total as CaCO3 Dissolved	mg/L	06/23/2021		4.3
803 MW 803	Alkalinity, Total as CaCO3 Dissolved	mg/L	09/27/2021		14
803 MW 803	Alkalinity, Total as CaCO3 Dissolved	mg/L	11/23/2021		4.1
803 MW 803	Alkalinity, Total as CaCO3 Dissolved	mg/L	03/16/2022		3
803 MW 803	Alkalinity, Total as CaCO3 Dissolved	mg/L	06/02/2022		8.5
803 MW 803	Alkalinity, Total as CaCO3 Dissolved	mg/L	09/20/2022		11
803 MW 803	Alkalinity, Total as CaCO3 Dissolved	mg/L	12/29/2022		5.4
803 MW 803	Alkalinity, Total as CaCO3 Dissolved	mg/L	03/31/2023		11
803 MW 803	Alkalinity, Total as CaCO3 Dissolved	mg/L	06/21/2023		9.4
803 MW 803	Alkalinity, Total as CaCO3 Dissolved	mg/L	09/13/2023		3.9
803 MW 803	Alkalinity, Total as CaCO3 Dissolved	mg/L	12/13/2023		3.6
803 MW 803	Alkalinity, Total as CaCO3 Dissolved	mg/L	03/19/2024		4.7
803 MW 803	Chloride Dissolved	mg/L	03/21/2019		13
803 MW 803	Chloride Dissolved	mg/L	06/25/2019		35
803 MW 803	Chloride Dissolved	mg/L	09/24/2019		38
803 MW 803	Chloride Dissolved	mg/L	12/23/2019		35
803 MW 803	Chloride Dissolved	mg/L	03/17/2020		76
803 MW 803	Chloride Dissolved	mg/L	06/17/2020		40
803 MW 803	Chloride Dissolved	mg/L	09/23/2020		37
803 MW 803	Chloride Dissolved	mg/L	12/03/2020		36
803 MW 803	Chloride Dissolved	mg/L	03/08/2021		50
803 MW 803	Chloride Dissolved	mg/L	06/23/2021		48
803 MW 803	Chloride Dissolved	mg/L	09/27/2021		45
803 MW 803	Chloride Dissolved	mg/L	11/23/2021		46
803 MW 803	Chloride Dissolved	mg/L	03/16/2022		55
803 MW 803	Chloride Dissolved	mg/L	06/02/2022		53
803 MW 803	Chloride Dissolved	mg/L	09/20/2022		51
803 MW 803	Chloride Dissolved	mg/L	12/29/2022		44
803 MW 803	Chloride Dissolved	mg/L	03/31/2023		65
803 MW 803	Chloride Dissolved	mg/L	06/21/2023		59
803 MW 803	Chloride Dissolved	mg/L	09/13/2023		55
803 MW 803	Chloride Dissolved	mg/L	12/13/2023		55
803 MW 803	Chloride Dissolved	mg/L	03/19/2024		60

well		param	parm_	sample_date	resu	result_amt
803	MW 803	Nitrogen, Ammonia Dissolved	mg/L	03/21/2019		0.53
803	MW 803	Nitrogen, Ammonia Dissolved	mg/L	06/25/2019		0.12
803	MW 803	Nitrogen, Ammonia Dissolved	mg/L	09/24/2019		0.027
803	MW 803	Nitrogen, Ammonia Dissolved	mg/L	12/23/2019		0.038
803	MW 803	Nitrogen, Ammonia Dissolved	mg/L	03/17/2020		0.51
803	MW 803	Nitrogen, Ammonia Dissolved	mg/L	06/17/2020		4.6
803	MW 803	Nitrogen, Ammonia Dissolved	mg/L	09/23/2020		0.22
803	MW 803	Nitrogen, Ammonia Dissolved	mg/L	12/03/2020		0.027
803	MW 803	Nitrogen, Ammonia Dissolved	mg/L	03/08/2021		0.027
803	MW 803	Nitrogen, Ammonia Dissolved	mg/L	06/23/2021		2.8
803	MW 803	Nitrogen, Ammonia Dissolved	mg/L	09/27/2021		1
803	MW 803	Nitrogen, Ammonia Dissolved	mg/L	11/23/2021		0.79
803	MW 803	Nitrogen, Ammonia Dissolved	mg/L	03/16/2022		0.26
803	MW 803	Nitrogen, Ammonia Dissolved	mg/L	06/02/2022		0.039
803	MW 803	Nitrogen, Ammonia Dissolved	mg/L	09/20/2022		0.01
803	MW 803	Nitrogen, Ammonia Dissolved	mg/L	12/29/2022		0.54
803	MW 803	Nitrogen, Ammonia Dissolved	mg/L	03/31/2023		0.29
803	MW 803	Nitrogen, Ammonia Dissolved	mg/L	06/21/2023		5.6
803	MW 803	Nitrogen, Ammonia Dissolved	mg/L	09/13/2023		2.8
803	MW 803	Nitrogen, Ammonia Dissolved	mg/L	12/13/2023		0.65
803	MW 803	Nitrogen, Ammonia Dissolved	mg/L	03/19/2024		0.22
803	MW 803	Nitrogen, Total Kjeldahl Dissolved	mg/L	03/21/2019		0.75
803	MW 803	Nitrogen, Total Kjeldahl Dissolved	mg/L	06/25/2019		0.3
803	MW 803	Nitrogen, Total Kjeldahl Dissolved	mg/L	09/24/2019		0.32
803	MW 803	Nitrogen, Total Kjeldahl Dissolved	mg/L	12/23/2019		0.1
803	MW 803	Nitrogen, Total Kjeldahl Dissolved	mg/L	03/17/2020		0.94
803	MW 803	Nitrogen, Total Kjeldahl Dissolved	mg/L	06/17/2020		4.7
803	MW 803	Nitrogen, Total Kjeldahl Dissolved	mg/L	09/23/2020		0.56
803	MW 803	Nitrogen, Total Kjeldahl Dissolved	mg/L	12/03/2020		0.25
803	MW 803	Nitrogen, Total Kjeldahl Dissolved	mg/L	03/08/2021		0.2
803	MW 803	Nitrogen, Total Kjeldahl Dissolved	mg/L	06/23/2021		3.8
803	MW 803	Nitrogen, Total Kjeldahl Dissolved	mg/L	09/27/2021		1.4
803	MW 803	Nitrogen, Total Kjeldahl Dissolved	mg/L	11/23/2021		0.51
803	MW 803	Nitrogen, Total Kjeldahl Dissolved	mg/L	03/16/2022		0.48
803	MW 803	Nitrogen, Total Kjeldahl Dissolved	mg/L	06/02/2022		4.7
803	MW 803	Nitrogen, Total Kjeldahl Dissolved	mg/L	09/20/2022		1.7
803	MW 803	Nitrogen, Total Kjeldahl Dissolved	mg/L	12/29/2022		0.75
803	MW 803	Nitrogen, Total Kjeldahl Dissolved	mg/L	03/31/2023		0.67
803	MW 803	Nitrogen, Total Kjeldahl Dissolved	mg/L	06/21/2023		6.1
803	MW 803	Nitrogen, Total Kjeldahl Dissolved	mg/L	09/13/2023		3.1
803	MW 803	Nitrogen, Total Kjeldahl Dissolved	mg/L	12/13/2023		0.52
803	MW 803	Nitrogen, Total Kjeldahl Dissolved	mg/L	03/19/2024		0.64

well		param	parm_	sample_date	resu	result_amt
803	MW 803	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	03/21/2019		13
803	MW 803	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	06/25/2019		3.5
803	MW 803	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	09/24/2019		3.5
803	MW 803	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	12/23/2019		22
803	MW 803	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	03/17/2020		13
803	MW 803	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	06/17/2020		8.5
803	MW 803	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	09/23/2020		8.9
803	MW 803	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	12/03/2020		9.5
803	MW 803	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	03/08/2021		0.027
803	MW 803	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	06/23/2021		13
803	MW 803	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	09/27/2021		20
803	MW 803	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	11/23/2021		27
803	MW 803	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	03/16/2022		19
803	MW 803	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	06/02/2022		9
803	MW 803	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	09/20/2022		11
803	MW 803	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	12/29/2022		27
803	MW 803	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	03/31/2023		9.6
803	MW 803	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	06/21/2023		3.7
803	MW 803	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	09/13/2023		14
803	MW 803	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	12/13/2023		20
803	MW 803	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	03/19/2024		21
803	MW 803	Nitrogen, Organic Dissolved	mg/L	03/21/2019		0.22
803	MW 803	Nitrogen, Organic Dissolved	mg/L	06/25/2019		0.18
803	MW 803	Nitrogen, Organic Dissolved	mg/L	09/24/2019		0.32
803	MW 803	Nitrogen, Organic Dissolved	mg/L	12/23/2019		0.1
803	MW 803	Nitrogen, Organic Dissolved	mg/L	03/17/2020		0.43
803	MW 803	Nitrogen, Organic Dissolved	mg/L	06/17/2020		0.17
803	MW 803	Nitrogen, Organic Dissolved	mg/L	09/23/2020		0.34
803	MW 803	Nitrogen, Organic Dissolved	mg/L	12/03/2020		0.25
803	MW 803	Nitrogen, Organic Dissolved	mg/L	03/08/2021		0.2
803	MW 803	Nitrogen, Organic Dissolved	mg/L	06/23/2021		0.96
803	MW 803	Nitrogen, Organic Dissolved	mg/L	09/27/2021		0.37
803	MW 803	Nitrogen, Organic Dissolved	mg/L	11/23/2021		0.2
803	MW 803	Nitrogen, Organic Dissolved	mg/L	03/16/2022		0.22
803	MW 803	Nitrogen, Organic Dissolved	mg/L	06/02/2022		4.7
803	MW 803	Nitrogen, Organic Dissolved	mg/L	09/20/2022		1.7
803	MW 803	Nitrogen, Organic Dissolved	mg/L	12/29/2022		0.21
803	MW 803	Nitrogen, Organic Dissolved	mg/L	03/31/2023		0.39
803	MW 803	Nitrogen, Organic Dissolved	mg/L	06/21/2023		0.49
803	MW 803	Nitrogen, Organic Dissolved	mg/L	09/13/2023		0.25
803	MW 803	Nitrogen, Organic Dissolved	mg/L	12/13/2023	<	0.039
803	MW 803	Nitrogen, Organic Dissolved	mg/L	03/19/2024	<	0.039

well		param	parm_	sample_date	resu	result_amt
803	MW 803	pH Field	su	03/21/2019		6
803	MW 803	pH Field	su	06/25/2019		5.82
803	MW 803	pH Field	su	09/24/2019		5.63
803	MW 803	pH Field	su	12/23/2019		5.63
803	MW 803	pH Field	su	03/17/2020		5.38
803	MW 803	pH Field	su	06/17/2020		5.53
803	MW 803	pH Field	su	09/23/2020		5.37
803	MW 803	pH Field	su	12/03/2020		5.48
803	MW 803	pH Field	su	03/08/2021		5.35
803	MW 803	pH Field	su	06/23/2021		5.7
803	MW 803	pH Field	su	09/27/2021		5.17
803	MW 803	pH Field	su	11/23/2021		5.29
803	MW 803	pH Field	su	03/16/2022		5.56
803	MW 803	pH Field	su	06/02/2022		5.4
803	MW 803	pH Field	su	09/20/2022		5.3
803	MW 803	pH Field	su	12/29/2022		5.3
803	MW 803	pH Field	su	03/31/2023		5.5
803	MW 803	pH Field	su	06/21/2023		5.6
803	MW 803	pH Field	su	09/13/2023		5.4
803	MW 803	pH Field	su	12/13/2023		5.3
803	MW 803	pH Field	su	03/19/2024		5.3

803	MW 803	Solids, Total Dissolved	mg/L	03/21/2019		94
803	MW 803	Solids, Total Dissolved	mg/L	06/25/2019		130
803	MW 803	Solids, Total Dissolved	mg/L	09/24/2019		190
803	MW 803	Solids, Total Dissolved	mg/L	12/23/2019		170
803	MW 803	Solids, Total Dissolved	mg/L	03/17/2020		220
803	MW 803	Solids, Total Dissolved	mg/L	06/17/2020		140
803	MW 803	Solids, Total Dissolved	mg/L	09/23/2020		92
803	MW 803	Solids, Total Dissolved	mg/L	12/03/2020		170
803	MW 803	Solids, Total Dissolved	mg/L	03/08/2021		270
803	MW 803	Solids, Total Dissolved	mg/L	06/23/2021		170
803	MW 803	Solids, Total Dissolved	mg/L	09/27/2021		280
803	MW 803	Solids, Total Dissolved	mg/L	11/23/2021		280
803	MW 803	Solids, Total Dissolved	mg/L	03/16/2022		290
803	MW 803	Solids, Total Dissolved	mg/L	06/02/2022		230
803	MW 803	Solids, Total Dissolved	mg/L	09/20/2022		180
803	MW 803	Solids, Total Dissolved	mg/L	12/29/2022		260
803	MW 803	Solids, Total Dissolved	mg/L	03/31/2023		230
803	MW 803	Solids, Total Dissolved	mg/L	06/21/2023		260
803	MW 803	Solids, Total Dissolved	mg/L	09/13/2023		270
803	MW 803	Solids, Total Dissolved	mg/L	12/13/2023		240
803	MW 803	Solids, Total Dissolved	mg/L	03/19/2024		330

well	param	parm_	sample_date	resu	result_amt
804 MW 804	Alkalinity, Total as CaCO3 Dissolved	mg/L	11/23/2021		15
804 MW 804	Alkalinity, Total as CaCO3 Dissolved	mg/L	06/02/2022		11
804 MW 804	Alkalinity, Total as CaCO3 Dissolved	mg/L	09/20/2022		42
804 MW 804	Alkalinity, Total as CaCO3 Dissolved	mg/L	09/13/2023		21
804 MW 804	Chloride Dissolved	mg/L	11/23/2021		23
804 MW 804	Chloride Dissolved	mg/L	06/02/2022		51
804 MW 804	Chloride Dissolved	mg/L	09/20/2022		40
804 MW 804	Chloride Dissolved	mg/L	09/13/2023		41
804 MW 804	Nitrogen, Ammonia Dissolved	mg/L	11/23/2021		0.38
804 MW 804	Nitrogen, Ammonia Dissolved	mg/L	06/02/2022		0.039
804 MW 804	Nitrogen, Ammonia Dissolved	mg/L	09/20/2022		0.01
804 MW 804	Nitrogen, Ammonia Dissolved	mg/L	09/13/2023		0.067
804 MW 804	Nitrogen, Total Kjeldahl Dissolved	mg/L	11/23/2021		1
804 MW 804	Nitrogen, Total Kjeldahl Dissolved	mg/L	06/02/2022		0.45
804 MW 804	Nitrogen, Total Kjeldahl Dissolved	mg/L	09/20/2022		0.63
804 MW 804	Nitrogen, Total Kjeldahl Dissolved	mg/L	09/13/2023		0.71
804 MW 804	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	11/23/2021		2.1
804 MW 804	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	06/02/2022		11
804 MW 804	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	09/20/2022		5.2
804 MW 804	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	09/13/2023		3.9
804 MW 804	Nitrogen, Organic Dissolved	mg/L	11/23/2021		0.64
804 MW 804	Nitrogen, Organic Dissolved	mg/L	06/02/2022		0.45
804 MW 804	Nitrogen, Organic Dissolved	mg/L	09/20/2022		0.63
804 MW 804	Nitrogen, Organic Dissolved	mg/L	09/13/2023		0.64
804 MW 804	pH Field	su	11/23/2021		5.89
804 MW 804	pH Field	su	06/02/2022		5.59
804 MW 804	pH Field	su	09/20/2022		5.9
804 MW 804	pH Field	su	09/13/2023		5.8

well		param	parm_	sample_date	resu	result_amt
804	MW 804	Solids, Total Dissolved	mg/L	11/23/2021		160
804	MW 804	Solids, Total Dissolved	mg/L	06/02/2022		250
804	MW 804	Solids, Total Dissolved	mg/L	09/20/2022		160
804	MW 804	Solids, Total Dissolved	mg/L	09/13/2023		200
805	MW 805	Alkalinity, Total as CaCO3 Dissolved	mg/L	03/21/2019		9
805	MW 805	Alkalinity, Total as CaCO3 Dissolved	mg/L	06/25/2019		11
805	MW 805	Alkalinity, Total as CaCO3 Dissolved	mg/L	09/24/2019		11
805	MW 805	Alkalinity, Total as CaCO3 Dissolved	mg/L	12/23/2019		12
805	MW 805	Alkalinity, Total as CaCO3 Dissolved	mg/L	03/17/2020		11
805	MW 805	Alkalinity, Total as CaCO3 Dissolved	mg/L	06/17/2020		9.1
805	MW 805	Alkalinity, Total as CaCO3 Dissolved	mg/L	09/23/2020		9.1
805	MW 805	Alkalinity, Total as CaCO3 Dissolved	mg/L	12/03/2020		7.6
805	MW 805	Alkalinity, Total as CaCO3 Dissolved	mg/L	03/08/2021		5
805	MW 805	Alkalinity, Total as CaCO3 Dissolved	mg/L	06/23/2021		5.5
805	MW 805	Alkalinity, Total as CaCO3 Dissolved	mg/L	09/27/2021		5.2
805	MW 805	Alkalinity, Total as CaCO3 Dissolved	mg/L	11/23/2021		6.8
805	MW 805	Alkalinity, Total as CaCO3 Dissolved	mg/L	03/16/2022		1
805	MW 805	Alkalinity, Total as CaCO3 Dissolved	mg/L	06/02/2022		6.2
805	MW 805	Alkalinity, Total as CaCO3 Dissolved	mg/L	09/20/2022		5.2
805	MW 805	Alkalinity, Total as CaCO3 Dissolved	mg/L	12/29/2022		9.8
805	MW 805	Alkalinity, Total as CaCO3 Dissolved	mg/L	03/31/2023		9.4
805	MW 805	Alkalinity, Total as CaCO3 Dissolved	mg/L	06/21/2023		7.2
805	MW 805	Alkalinity, Total as CaCO3 Dissolved	mg/L	09/13/2023		5.7
805	MW 805	Alkalinity, Total as CaCO3 Dissolved	mg/L	12/13/2023		5.8
805	MW 805	Alkalinity, Total as CaCO3 Dissolved	mg/L	03/19/2024		6.9

well		param	parm_	sample_date	resu	result_amt
805	MW 805	Chloride Dissolved	mg/L	03/21/2019		30
805	MW 805	Chloride Dissolved	mg/L	06/25/2019		16
805	MW 805	Chloride Dissolved	mg/L	09/24/2019		16
805	MW 805	Chloride Dissolved	mg/L	12/23/2019		25
805	MW 805	Chloride Dissolved	mg/L	03/17/2020		25
805	MW 805	Chloride Dissolved	mg/L	06/17/2020		22
805	MW 805	Chloride Dissolved	mg/L	09/23/2020		19
805	MW 805	Chloride Dissolved	mg/L	12/03/2020		26
805	MW 805	Chloride Dissolved	mg/L	03/08/2021		31
805	MW 805	Chloride Dissolved	mg/L	06/23/2021		30
805	MW 805	Chloride Dissolved	mg/L	09/27/2021		0.46
805	MW 805	Chloride Dissolved	mg/L	11/23/2021		50
805	MW 805	Chloride Dissolved	mg/L	03/16/2022		46
805	MW 805	Chloride Dissolved	mg/L	06/02/2022		30
805	MW 805	Chloride Dissolved	mg/L	09/20/2022		44
805	MW 805	Chloride Dissolved	mg/L	12/29/2022		53
805	MW 805	Chloride Dissolved	mg/L	03/31/2023		42
805	MW 805	Chloride Dissolved	mg/L	06/21/2023		28
805	MW 805	Chloride Dissolved	mg/L	09/13/2023		50
805	MW 805	Chloride Dissolved	mg/L	12/13/2023		62
805	MW 805	Chloride Dissolved	mg/L	03/19/2024		59
805	MW 805	Nitrogen, Ammonia Dissolved	mg/L	03/21/2019		0.16
805	MW 805	Nitrogen, Ammonia Dissolved	mg/L	06/25/2019		0.096
805	MW 805	Nitrogen, Ammonia Dissolved	mg/L	09/24/2019		0.19
805	MW 805	Nitrogen, Ammonia Dissolved	mg/L	12/23/2019		0.23
805	MW 805	Nitrogen, Ammonia Dissolved	mg/L	03/17/2020		0.16
805	MW 805	Nitrogen, Ammonia Dissolved	mg/L	06/17/2020		0.4
805	MW 805	Nitrogen, Ammonia Dissolved	mg/L	09/23/2020		0.39
805	MW 805	Nitrogen, Ammonia Dissolved	mg/L	12/03/2020		0.25
805	MW 805	Nitrogen, Ammonia Dissolved	mg/L	03/08/2021		0.068
805	MW 805	Nitrogen, Ammonia Dissolved	mg/L	06/23/2021		0.064
805	MW 805	Nitrogen, Ammonia Dissolved	mg/L	09/27/2021		0.043
805	MW 805	Nitrogen, Ammonia Dissolved	mg/L	11/23/2021		0.039
805	MW 805	Nitrogen, Ammonia Dissolved	mg/L	03/16/2022		0.039
805	MW 805	Nitrogen, Ammonia Dissolved	mg/L	06/02/2022		0.039
805	MW 805	Nitrogen, Ammonia Dissolved	mg/L	09/20/2022		0.01
805	MW 805	Nitrogen, Ammonia Dissolved	mg/L	12/29/2022		0.49
805	MW 805	Nitrogen, Ammonia Dissolved	mg/L	03/31/2023		0.34
805	MW 805	Nitrogen, Ammonia Dissolved	mg/L	06/21/2023		0.43
805	MW 805	Nitrogen, Ammonia Dissolved	mg/L	09/13/2023		0.86
805	MW 805	Nitrogen, Ammonia Dissolved	mg/L	12/13/2023		1.1
805	MW 805	Nitrogen, Ammonia Dissolved	mg/L	03/19/2024		0.61

well		param	parm_	sample_date	resu	result_amt
805	MW 805	Nitrogen, Total Kjeldahl Dissolved	mg/L	03/21/2019		0.95
805	MW 805	Nitrogen, Total Kjeldahl Dissolved	mg/L	06/25/2019		0.21
805	MW 805	Nitrogen, Total Kjeldahl Dissolved	mg/L	09/24/2019		0.53
805	MW 805	Nitrogen, Total Kjeldahl Dissolved	mg/L	12/23/2019		0.45
805	MW 805	Nitrogen, Total Kjeldahl Dissolved	mg/L	03/17/2020		0.52
805	MW 805	Nitrogen, Total Kjeldahl Dissolved	mg/L	06/17/2020		0.55
805	MW 805	Nitrogen, Total Kjeldahl Dissolved	mg/L	09/23/2020		0.62
805	MW 805	Nitrogen, Total Kjeldahl Dissolved	mg/L	12/03/2020		0.55
805	MW 805	Nitrogen, Total Kjeldahl Dissolved	mg/L	03/08/2021		0.26
805	MW 805	Nitrogen, Total Kjeldahl Dissolved	mg/L	06/23/2021		0.28
805	MW 805	Nitrogen, Total Kjeldahl Dissolved	mg/L	09/27/2021		0.23
805	MW 805	Nitrogen, Total Kjeldahl Dissolved	mg/L	11/23/2021		0.32
805	MW 805	Nitrogen, Total Kjeldahl Dissolved	mg/L	03/16/2022		0.2
805	MW 805	Nitrogen, Total Kjeldahl Dissolved	mg/L	06/02/2022		0.2
805	MW 805	Nitrogen, Total Kjeldahl Dissolved	mg/L	09/20/2022		0.43
805	MW 805	Nitrogen, Total Kjeldahl Dissolved	mg/L	12/29/2022		0.66
805	MW 805	Nitrogen, Total Kjeldahl Dissolved	mg/L	03/31/2023		0.6
805	MW 805	Nitrogen, Total Kjeldahl Dissolved	mg/L	06/21/2023		0.7
805	MW 805	Nitrogen, Total Kjeldahl Dissolved	mg/L	09/13/2023		1.1
805	MW 805	Nitrogen, Total Kjeldahl Dissolved	mg/L	12/13/2023		1.3
805	MW 805	Nitrogen, Total Kjeldahl Dissolved	mg/L	03/19/2024		0.64

805	MW 805	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	03/21/2019		12
805	MW 805	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	06/25/2019		2.5
805	MW 805	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	09/24/2019		4.5
805	MW 805	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	12/23/2019		2.7
805	MW 805	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	03/17/2020		2.9
805	MW 805	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	06/17/2020		5.5
805	MW 805	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	09/23/2020		9.5
805	MW 805	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	12/03/2020		6.5
805	MW 805	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	03/08/2021		6.5
805	MW 805	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	06/23/2021		7.2
805	MW 805	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	09/27/2021		13
805	MW 805	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	11/23/2021		13
805	MW 805	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	03/16/2022		23
805	MW 805	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	06/02/2022		13
805	MW 805	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	09/20/2022		11
805	MW 805	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	12/29/2022		7.3
805	MW 805	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	03/31/2023		15
805	MW 805	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	06/21/2023		13
805	MW 805	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	09/13/2023		8
805	MW 805	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	12/13/2023		9.6
805	MW 805	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	03/19/2024		4.9

well		param	parm_	sample_date	resu	result_amt
805	MW 805	Nitrogen, Organic Dissolved	mg/L	03/21/2019		0.8
805	MW 805	Nitrogen, Organic Dissolved	mg/L	06/25/2019		0.11
805	MW 805	Nitrogen, Organic Dissolved	mg/L	09/24/2019		0.33
805	MW 805	Nitrogen, Organic Dissolved	mg/L	12/23/2019		0.22
805	MW 805	Nitrogen, Organic Dissolved	mg/L	03/17/2020		0.36
805	MW 805	Nitrogen, Organic Dissolved	mg/L	06/17/2020		0.15
805	MW 805	Nitrogen, Organic Dissolved	mg/L	09/23/2020		0.24
805	MW 805	Nitrogen, Organic Dissolved	mg/L	12/03/2020		0.3
805	MW 805	Nitrogen, Organic Dissolved	mg/L	03/08/2021		0.2
805	MW 805	Nitrogen, Organic Dissolved	mg/L	06/23/2021		0.22
805	MW 805	Nitrogen, Organic Dissolved	mg/L	09/27/2021		0.2
805	MW 805	Nitrogen, Organic Dissolved	mg/L	11/23/2021		0.32
805	MW 805	Nitrogen, Organic Dissolved	mg/L	03/16/2022		0.2
805	MW 805	Nitrogen, Organic Dissolved	mg/L	06/02/2022		0.2
805	MW 805	Nitrogen, Organic Dissolved	mg/L	09/20/2022		0.43
805	MW 805	Nitrogen, Organic Dissolved	mg/L	12/29/2022		0.2
805	MW 805	Nitrogen, Organic Dissolved	mg/L	03/31/2023		0.27
805	MW 805	Nitrogen, Organic Dissolved	mg/L	06/21/2023		0.27
805	MW 805	Nitrogen, Organic Dissolved	mg/L	09/13/2023		0.21
805	MW 805	Nitrogen, Organic Dissolved	mg/L	12/13/2023		0.18
805	MW 805	Nitrogen, Organic Dissolved	mg/L	03/19/2024	<	0.039

805	MW 805	pH Field	su	03/21/2019		5.86
805	MW 805	pH Field	su	06/25/2019		5.91
805	MW 805	pH Field	su	09/24/2019		5.8
805	MW 805	pH Field	su	12/23/2019		5.7
805	MW 805	pH Field	su	03/17/2020		5.52
805	MW 805	pH Field	su	06/17/2020		5.48
805	MW 805	pH Field	su	09/23/2020		5.47
805	MW 805	pH Field	su	12/03/2020		5.43
805	MW 805	pH Field	su	03/08/2021		5.48
805	MW 805	pH Field	su	06/23/2021		5.4
805	MW 805	pH Field	su	09/27/2021		5.29
805	MW 805	pH Field	su	11/23/2021		5.5
805	MW 805	pH Field	su	03/16/2022		5.62
805	MW 805	pH Field	su	06/02/2022		5.47
805	MW 805	pH Field	su	09/20/2022		5.4
805	MW 805	pH Field	su	12/29/2022		5.5
805	MW 805	pH Field	su	03/31/2023		5.5
805	MW 805	pH Field	su	06/21/2023		5.4
805	MW 805	pH Field	su	09/13/2023		5.4
805	MW 805	pH Field	su	12/13/2023		5.3
805	MW 805	pH Field	su	03/19/2024		5.4

well		param	parm_	sample_date	resu	result_amt
805	MW 805	Solids, Total Dissolved	mg/L	03/21/2019		140
805	MW 805	Solids, Total Dissolved	mg/L	06/25/2019		35
805	MW 805	Solids, Total Dissolved	mg/L	09/24/2019		160
805	MW 805	Solids, Total Dissolved	mg/L	12/23/2019		110
805	MW 805	Solids, Total Dissolved	mg/L	03/17/2020		96
805	MW 805	Solids, Total Dissolved	mg/L	06/17/2020		54
805	MW 805	Solids, Total Dissolved	mg/L	09/23/2020		51
805	MW 805	Solids, Total Dissolved	mg/L	12/03/2020		110
805	MW 805	Solids, Total Dissolved	mg/L	03/08/2021		110
805	MW 805	Solids, Total Dissolved	mg/L	06/23/2021		91
805	MW 805	Solids, Total Dissolved	mg/L	09/27/2021		240
805	MW 805	Solids, Total Dissolved	mg/L	11/23/2021		210
805	MW 805	Solids, Total Dissolved	mg/L	03/16/2022		300
805	MW 805	Solids, Total Dissolved	mg/L	06/02/2022		210
805	MW 805	Solids, Total Dissolved	mg/L	09/20/2022		190
805	MW 805	Solids, Total Dissolved	mg/L	12/29/2022		190
805	MW 805	Solids, Total Dissolved	mg/L	03/31/2023		200
805	MW 805	Solids, Total Dissolved	mg/L	06/21/2023		230
805	MW 805	Solids, Total Dissolved	mg/L	09/13/2023		270
805	MW 805	Solids, Total Dissolved	mg/L	12/13/2023		210
805	MW 805	Solids, Total Dissolved	mg/L	03/19/2024		170
807	MW 807	Alkalinity, Total as CaCO3 Dissolved	mg/L	03/21/2019		6.2
807	MW 807	Alkalinity, Total as CaCO3 Dissolved	mg/L	06/25/2019		5.9
807	MW 807	Alkalinity, Total as CaCO3 Dissolved	mg/L	09/24/2019		5.8
807	MW 807	Alkalinity, Total as CaCO3 Dissolved	mg/L	12/23/2019		5.1
807	MW 807	Alkalinity, Total as CaCO3 Dissolved	mg/L	03/17/2020		5.8
807	MW 807	Alkalinity, Total as CaCO3 Dissolved	mg/L	06/17/2020		5.4
807	MW 807	Alkalinity, Total as CaCO3 Dissolved	mg/L	09/23/2020		8.9
807	MW 807	Alkalinity, Total as CaCO3 Dissolved	mg/L	12/03/2020		6
807	MW 807	Alkalinity, Total as CaCO3 Dissolved	mg/L	03/08/2021		7.2
807	MW 807	Alkalinity, Total as CaCO3 Dissolved	mg/L	06/23/2021		6.3
807	MW 807	Alkalinity, Total as CaCO3 Dissolved	mg/L	09/27/2021		5.9
807	MW 807	Alkalinity, Total as CaCO3 Dissolved	mg/L	11/23/2021		5.6
807	MW 807	Alkalinity, Total as CaCO3 Dissolved	mg/L	03/16/2022		6.7
807	MW 807	Alkalinity, Total as CaCO3 Dissolved	mg/L	06/02/2022		5.8
807	MW 807	Alkalinity, Total as CaCO3 Dissolved	mg/L	09/20/2022		2.2
807	MW 807	Alkalinity, Total as CaCO3 Dissolved	mg/L	12/29/2022		9
807	MW 807	Alkalinity, Total as CaCO3 Dissolved	mg/L	03/31/2023		6.8
807	MW 807	Alkalinity, Total as CaCO3 Dissolved	mg/L	06/21/2023		5
807	MW 807	Alkalinity, Total as CaCO3 Dissolved	mg/L	09/13/2023	<	1
807	MW 807	Alkalinity, Total as CaCO3 Dissolved	mg/L	12/13/2023		4.9
807	MW 807	Alkalinity, Total as CaCO3 Dissolved	mg/L	03/19/2024		1.8
					Mean	5.585714

well	param	parm_	sample_date	resu	result_amt
807 MW 807	Chloride Dissolved	mg/L	03/21/2019		2
807 MW 807	Chloride Dissolved	mg/L	06/25/2019		0.73
807 MW 807	Chloride Dissolved	mg/L	09/24/2019		1.7
807 MW 807	Chloride Dissolved	mg/L	12/23/2019		1.7
807 MW 807	Chloride Dissolved	mg/L	03/17/2020		1.7
807 MW 807	Chloride Dissolved	mg/L	06/17/2020		0.46
807 MW 807	Chloride Dissolved	mg/L	09/23/2020		13
807 MW 807	Chloride Dissolved	mg/L	12/03/2020		1.7
807 MW 807	Chloride Dissolved	mg/L	03/08/2021		2
807 MW 807	Chloride Dissolved	mg/L	06/23/2021		0.63
807 MW 807	Chloride Dissolved	mg/L	09/27/2021		0.46
807 MW 807	Chloride Dissolved	mg/L	11/23/2021		0.32
807 MW 807	Chloride Dissolved	mg/L	03/16/2022		0.81
807 MW 807	Chloride Dissolved	mg/L	06/02/2022		0.53
807 MW 807	Chloride Dissolved	mg/L	09/20/2022		2
807 MW 807	Chloride Dissolved	mg/L	12/29/2022		0.36
807 MW 807	Chloride Dissolved	mg/L	03/31/2023		0.49
807 MW 807	Chloride Dissolved	mg/L	06/21/2023		0.86
807 MW 807	Chloride Dissolved	mg/L	09/13/2023		7.6
807 MW 807	Chloride Dissolved	mg/L	12/13/2023		1.4
807 MW 807	Chloride Dissolved	mg/L	03/19/2024		4
				Mean	2.116667
				Standard Deviation	2.908901

807 MW 807	Nitrogen, Ammonia Dissolved	mg/L	03/21/2019		0.046
807 MW 807	Nitrogen, Ammonia Dissolved	mg/L	06/25/2019		0.042
807 MW 807	Nitrogen, Ammonia Dissolved	mg/L	09/24/2019		0.027
807 MW 807	Nitrogen, Ammonia Dissolved	mg/L	12/23/2019		0.06
807 MW 807	Nitrogen, Ammonia Dissolved	mg/L	03/17/2020		0.027
807 MW 807	Nitrogen, Ammonia Dissolved	mg/L	06/17/2020		0.027
807 MW 807	Nitrogen, Ammonia Dissolved	mg/L	09/23/2020		0.094
807 MW 807	Nitrogen, Ammonia Dissolved	mg/L	12/03/2020		0.027
807 MW 807	Nitrogen, Ammonia Dissolved	mg/L	03/08/2021		0.027
807 MW 807	Nitrogen, Ammonia Dissolved	mg/L	06/23/2021		0.043
807 MW 807	Nitrogen, Ammonia Dissolved	mg/L	09/27/2021		0.027
807 MW 807	Nitrogen, Ammonia Dissolved	mg/L	11/23/2021		0.039
807 MW 807	Nitrogen, Ammonia Dissolved	mg/L	03/16/2022		0.039
807 MW 807	Nitrogen, Ammonia Dissolved	mg/L	06/02/2022		0.039
807 MW 807	Nitrogen, Ammonia Dissolved	mg/L	09/20/2022		0.01
807 MW 807	Nitrogen, Ammonia Dissolved	mg/L	12/29/2022	<	0.039
807 MW 807	Nitrogen, Ammonia Dissolved	mg/L	03/31/2023	<	0.052
807 MW 807	Nitrogen, Ammonia Dissolved	mg/L	06/21/2023	<	0.039
807 MW 807	Nitrogen, Ammonia Dissolved	mg/L	09/13/2023	<	0.039
807 MW 807	Nitrogen, Ammonia Dissolved	mg/L	12/13/2023		0.048
807 MW 807	Nitrogen, Ammonia Dissolved	mg/L	03/19/2024	<	0.039
				Mean	0.039524
				Standard Deviation	0.016168

well	param	parm_	sample_date	resu	result_amt
807 MW 807	Nitrogen, Total Kjeldahl Dissolved	mg/L	03/21/2019		0.1
807 MW 807	Nitrogen, Total Kjeldahl Dissolved	mg/L	06/25/2019		0.1
807 MW 807	Nitrogen, Total Kjeldahl Dissolved	mg/L	09/24/2019		0.12
807 MW 807	Nitrogen, Total Kjeldahl Dissolved	mg/L	12/23/2019		0.1
807 MW 807	Nitrogen, Total Kjeldahl Dissolved	mg/L	03/17/2020		0.1
807 MW 807	Nitrogen, Total Kjeldahl Dissolved	mg/L	06/17/2020		0.1
807 MW 807	Nitrogen, Total Kjeldahl Dissolved	mg/L	09/23/2020		0.3
807 MW 807	Nitrogen, Total Kjeldahl Dissolved	mg/L	12/03/2020		0.26
807 MW 807	Nitrogen, Total Kjeldahl Dissolved	mg/L	03/08/2021		0.2
807 MW 807	Nitrogen, Total Kjeldahl Dissolved	mg/L	06/23/2021		0.22
807 MW 807	Nitrogen, Total Kjeldahl Dissolved	mg/L	09/27/2021		0.2
807 MW 807	Nitrogen, Total Kjeldahl Dissolved	mg/L	11/23/2021		0.24
807 MW 807	Nitrogen, Total Kjeldahl Dissolved	mg/L	03/16/2022		0.2
807 MW 807	Nitrogen, Total Kjeldahl Dissolved	mg/L	06/02/2022		0.2
807 MW 807	Nitrogen, Total Kjeldahl Dissolved	mg/L	09/20/2022		0.01
807 MW 807	Nitrogen, Total Kjeldahl Dissolved	mg/L	12/29/2022	<	0.2
807 MW 807	Nitrogen, Total Kjeldahl Dissolved	mg/L	03/31/2023	<	0.2
807 MW 807	Nitrogen, Total Kjeldahl Dissolved	mg/L	06/21/2023	<	0.2
807 MW 807	Nitrogen, Total Kjeldahl Dissolved	mg/L	09/13/2023	<	0.2
807 MW 807	Nitrogen, Total Kjeldahl Dissolved	mg/L	12/13/2023	<	0.2
807 MW 807	Nitrogen, Total Kjeldahl Dissolved	mg/L	03/19/2024	<	0.2
				Mean	0.17381

807 MW 807	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	03/21/2019		0.03
807 MW 807	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	06/25/2019		0.03
807 MW 807	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	09/24/2019		0.031
807 MW 807	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	12/23/2019		0.17
807 MW 807	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	03/17/2020		0.036
807 MW 807	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	06/17/2020		0.04
807 MW 807	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	09/23/2020		2.2
807 MW 807	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	12/03/2020		0.04
807 MW 807	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	03/08/2021		0.04
807 MW 807	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	06/23/2021		0.04
807 MW 807	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	09/27/2021		0.04
807 MW 807	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	11/23/2021		0.04
807 MW 807	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	03/16/2022		0.073
807 MW 807	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	06/02/2022		0.1
807 MW 807	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	09/20/2022		0.054
807 MW 807	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	12/29/2022	<	0.052
807 MW 807	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	03/31/2023	<	0.052
807 MW 807	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	06/21/2023	<	0.052
807 MW 807	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	09/13/2023		0.055
807 MW 807	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	12/13/2023		0.059
807 MW 807	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	03/19/2024	<	0.052
				Mean	0.156476
				Standard Deviation	0.457943

well	param	parm_	sample_date	resu	result_amt
807 MW 807	Nitrogen, Organic Dissolved	mg/L	03/21/2019		0.1
807 MW 807	Nitrogen, Organic Dissolved	mg/L	06/25/2019		0.1
807 MW 807	Nitrogen, Organic Dissolved	mg/L	09/24/2019		0.12
807 MW 807	Nitrogen, Organic Dissolved	mg/L	12/23/2019		0.1
807 MW 807	Nitrogen, Organic Dissolved	mg/L	03/17/2020		0.1
807 MW 807	Nitrogen, Organic Dissolved	mg/L	06/17/2020		0.1
807 MW 807	Nitrogen, Organic Dissolved	mg/L	09/23/2020		0.21
807 MW 807	Nitrogen, Organic Dissolved	mg/L	12/03/2020		0.26
807 MW 807	Nitrogen, Organic Dissolved	mg/L	03/08/2021		0.2
807 MW 807	Nitrogen, Organic Dissolved	mg/L	06/23/2021		0.2
807 MW 807	Nitrogen, Organic Dissolved	mg/L	09/27/2021		0.2
807 MW 807	Nitrogen, Organic Dissolved	mg/L	11/23/2021		0.24
807 MW 807	Nitrogen, Organic Dissolved	mg/L	03/16/2022		0.2
807 MW 807	Nitrogen, Organic Dissolved	mg/L	06/02/2022		0.2
807 MW 807	Nitrogen, Organic Dissolved	mg/L	09/20/2022		0.01
807 MW 807	Nitrogen, Organic Dissolved	mg/L	12/29/2022	<	0.2
807 MW 807	Nitrogen, Organic Dissolved	mg/L	03/31/2023	<	0.2
807 MW 807	Nitrogen, Organic Dissolved	mg/L	06/21/2023	<	0.039
807 MW 807	Nitrogen, Organic Dissolved	mg/L	09/13/2023	<	0.039
807 MW 807	Nitrogen, Organic Dissolved	mg/L	12/13/2023	<	0.039
807 MW 807	Nitrogen, Organic Dissolved	mg/L	03/19/2024	<	0.039
				Mean	0.137905

807 MW 807	pH Field	su	03/21/2019		5.71
807 MW 807	pH Field	su	06/25/2019		5.72
807 MW 807	pH Field	su	09/24/2019		5.68
807 MW 807	pH Field	su	12/23/2019		5.79
807 MW 807	pH Field	su	03/17/2020		5.45
807 MW 807	pH Field	su	06/17/2020		4.94
807 MW 807	pH Field	su	09/23/2020		5.51
807 MW 807	pH Field	su	12/03/2020		5.47
807 MW 807	pH Field	su	03/08/2021		5.46
807 MW 807	pH Field	su	06/23/2021		5.26
807 MW 807	pH Field	su	09/27/2021		5.21
807 MW 807	pH Field	su	11/23/2021		5.42
807 MW 807	pH Field	su	03/16/2022		5.71
807 MW 807	pH Field	su	06/02/2022		5.37
807 MW 807	pH Field	su	09/20/2022		5.3
807 MW 807	pH Field	su	12/29/2022		5.5
807 MW 807	pH Field	su	03/31/2023		5.5
807 MW 807	pH Field	su	06/21/2023		5.4
807 MW 807	pH Field	su	09/13/2023		5.4
807 MW 807	pH Field	su	12/13/2023		5.4
807 MW 807	pH Field	su	03/19/2024		5.3
				Mean	5.452381

well		param	parm_	sample_date	resu	result_amt
807	MW 807	Solids, Total Dissolved	mg/L	03/21/2019		7
807	MW 807	Solids, Total Dissolved	mg/L	06/25/2019		2
807	MW 807	Solids, Total Dissolved	mg/L	09/24/2019		95
807	MW 807	Solids, Total Dissolved	mg/L	12/23/2019		14
807	MW 807	Solids, Total Dissolved	mg/L	03/17/2020		48
807	MW 807	Solids, Total Dissolved	mg/L	06/17/2020		81
807	MW 807	Solids, Total Dissolved	mg/L	09/23/2020		3
807	MW 807	Solids, Total Dissolved	mg/L	12/03/2020		40
807	MW 807	Solids, Total Dissolved	mg/L	03/08/2021		59
807	MW 807	Solids, Total Dissolved	mg/L	06/23/2021		94
807	MW 807	Solids, Total Dissolved	mg/L	09/27/2021		99
807	MW 807	Solids, Total Dissolved	mg/L	11/23/2021		48
807	MW 807	Solids, Total Dissolved	mg/L	03/16/2022		21
807	MW 807	Solids, Total Dissolved	mg/L	06/02/2022		35
807	MW 807	Solids, Total Dissolved	mg/L	09/20/2022		23
807	MW 807	Solids, Total Dissolved	mg/L	12/29/2022		30
807	MW 807	Solids, Total Dissolved	mg/L	03/31/2023		18
807	MW 807	Solids, Total Dissolved	mg/L	06/21/2023		88
807	MW 807	Solids, Total Dissolved	mg/L	09/13/2023		28
807	MW 807	Solids, Total Dissolved	mg/L	12/13/2023		16
807	MW 807	Solids, Total Dissolved	mg/L	03/19/2024		14
					Mean	41.09524