

Permit Fact Sheet

General Information

Permit Number:	WI-0061158-10-0	
Permittee Name:	BRULE SANITARY DISTRICT #1	
Address:	P.O. Box 64	
City/State/Zip:	BRULE WI 54820	
Discharge Location:	SW¼ NW¼ of Section 13; T47N-R10W, Town of Brule	
Receiving Water:	The groundwater of the Bois Brule River Watershed in the Lake Superior Drainage Basin in Douglas County	
Discharge Type:	Existing seasonal	
Design Flow(s)	Annual Average	0.031 MGD
Significant Industrial Loading?	No	
Operator at Proper Grade?	Yes	
Approved Pretreatment Program?	N/A	

Facility Description

The Brule Sanitary District #1 wastewater treatment facility serves a population of approximately 240 with no significant industrial contributors. The annual average design flow is 31,000 gallons per day with actual flows averaging 22,000 gallons per day (June 2019- June 2024 data).

The system consists of three treatment ponds where naturally occurring bacteria already in the wastewater treat the waste stream by breaking down the organic matter. From the ponds the treated water (called effluent) is discharged to two seepage cells. The sandy soil in the bottom of the seepage cells help filter the water further, as it percolates through the soil eventually reaching groundwater. There are three monitoring wells located around the seepage cells to assess any groundwater impacts of the discharge.

Substantial Compliance Determination

Enforcement During Last Permit: There have been some minor late reporting violations, and two violations (Treatment Facility Overflow and Sludge Management Plan) that will be addressed through stepped enforcement process. Nothing further is required.

After a desk top review of all DMRs and CMARs, and a site visit on 8/6/2024 by Eric de Venecia, WDNR, the Brule SD has been found to be in substantial compliance with their current permit.

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 0.022 MGD (June 2019 – June 2024 data)	Representative samples shall be taken at the main lift station (located at Ranger Station Road and Highway 2) in the wet well downstream of the comminutor.

Sample Point Designation		
Sample Point Number	Discharge Flow, Units, and Averaging Period	Sample Point Location, Waste Type/Sample Contents and Treatment Description (as applicable)
001	EFFLUENT TO SEEPAGE An average of 0.06 MGD during periods of discharge (May – October). (June 2019 – June 2024 data)	Representative samples shall be taken at manhole #3 prior to discharge to the seepage cells.
002	SLUDGE Minimal sludge production, sludge was removed in 1999	Representative samples of lagoon sludge shall be collected by compositing several samples from across the bottom of the primary pond.

Sample Point Designation For Groundwater Monitoring Systems		
Sample Pt Number	Well Name	Comments
801	MW 93-1	Upgradient well used to calculate PALs located north of ponds 2 and 3 and south of the primary pond.
802	MW 93-2	Down gradient well measures a perched water table located south of seepage cell 2
803	MW 93-3	Down gradient point of standard well located south of seepage cell 1.

1 Influent – Monitoring Requirements

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	Total Daily	Continuous	
BOD5, Total		mg/L	2/Month	Grab	
Suspended Solids, Total		mg/L	2/Month	Grab	
Nitrogen, Total Kjeldahl		mg/L	Monthly	Grab	
Nitrogen, Ammonia (NH3-N) Total		mg/L	Monthly	Grab	
Nitrogen, Organic Total		mg/L	Monthly	Calculated	Organic Nitrogen = Total Kjeldahl - Ammonia Nitrogen

Changes from Previous Permit:

Influent limitations and monitoring requirements were re-evaluated for the proposed 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” to better represent practices at the facility.

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 (NR 206.09(2), Wis. Adm. Code).

2 Land Treatment – Monitoring and Limitations

Sample Point Number: 001- DISCHARGE 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	2/Month	Grab	
Suspended Solids, Total		mg/L	2/Month	Grab	
pH Field		su	2/Month	Grab	
Nitrogen, Total Kjeldahl		mg/L	Monthly	Grab	
Nitrogen, Nitrite + Nitrate Total		mg/L	Monthly	Grab	
Nitrogen, Ammonia (NH3-N) Total		mg/L	Monthly	Grab	
Nitrogen, Organic Total		mg/L	Monthly	Calculated	Organic Nitrogen = Total Kjeldahl Nitrogen - Ammonia Nitrogen
Nitrogen, Total		mg/L	Monthly	Calculated	Total Nitrogen = Total Kjeldahl Nitrogen + (Nitrite + Nitrate) Nitrogen
Solids, Total Dissolved		mg/L	Monthly	Grab	
Chloride	Daily Max	250 mg/L	Monthly	Grab	

Changes from Previous Permit:

Effluent limitations and monitoring requirements were re-evaluated for the proposed permit term and no changes were required in this permit section. Sampling requirements and frequencies are the same as the previous permit.

Explanation of Limits and Monitoring Requirements

All requirements for land treatment of municipal wastewater are determined in accordance with NR 206 Wis. Adm. Code. The monitoring frequency and limits for Flow, BOD5, Dissolved Solids, Total Nitrogen, Chloride and pH have not changed from the previous permit term. All categorical limits are based on NR 206.08(1) Adm. Code. More information on the limitations can be found in the “Brule Sanitary District #1 – Land Disposal System Evaluation Report, WPDES Permit # WI-0061158” memo dated July 24, 2024.

BOD and Chloride – Limitations are consistent with facilities approved or modified post January 1, 1990 (NR 206.05 Wis. Adm. Code).

Total Nitrogen - The department has agreed to continue waiving the 10 mg/L monthly average for total nitrogen based on ch NR 206.06 Wis. Adm. Code. The variance from the limit requirement was first applied for during the 1997 permit modification. For this permit reissuance, the department evaluated compliance with 9.7 mg/L ammonia and 10 mg/L nitrate groundwater standards in the down gradient enforcement standard well (MW 803). Based on available data groundwater levels are well below standards and the quality of the effluent is considered excellent. The waiver will be reevaluated as part of the next permit reissuance.

Note: Any on-going chronic exceedances of the 9.7 mg/L ammonia and/or 10 mg/L nitrate groundwater enforcement standards will likely require initiation of appropriate enforcement action potentially resulting in additional operational and/or treatment system improvements.

Sampling Frequency - The “Monitoring Frequencies for Individual Wastewater Permits” guidance document (April 12, 2021) recommends that standard monitoring frequencies be included in individual wastewater permits based on the size and type of the facility, in order to characterize effluent quality and variability, to detect events of noncompliance, and to ensure fairness and consistency in permits issued across the state. Guidance and requirements in administrative code were considered when determining the appropriate monitoring frequencies for pollutants that have final effluent limits in effect during this permit term. The department has determined at this time that the facility meets the guidance and no changes in the monitoring frequency is required this permit term.

3 Groundwater – Monitoring and Limitations

3.1 Groundwater Monitoring System for Groundwater Monitoring Wells

Location of Monitoring system: Located around the perimeter of the wastewater treatment system

Groundwater Monitoring Well(s) to be Sampled: 801, 802, 803

Groundwater Monitoring Well(s) Used to Evaluate Background Groundwater Quality: 801

Groundwater Monitoring Well(s) Used for Point of Standards Application: 803

Parameter	Units	Preventative Action Limit	Enforcement Standard	Frequency
Depth To Groundwater	feet	N/A	N/A	Annual
Groundwater Elevation	feet MSL	N/A	N/A	Annual
Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	2.0	10	Annual
Chloride Dissolved	mg/L	125	250	Annual
pH Field	su	7.3	N/A	Annual

Nitrogen, Total Kjeldahl Dissolved	mg/L	N/A	N/A	Annual
Nitrogen, Ammonia Dissolved	mg/L	0.97	9.7	Annual
Nitrogen, Organic Dissolved	mg/L	2.2	N/A	Annual
Solids, Total Dissolved	mg/L	470	N/A	Annual

Changes from Previous Permit:

Groundwater limitations and monitoring requirements were re-evaluated for the proposed 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 parameter **pH Lab** has been removed this permit term.
- The Preventative Action Limit (PAL) for **Total Dissolved Solids** was increased from 468 to 470 mg/L to follow rounding protocols.

Explanation of Limits and Monitoring Requirements

Groundwater limits and requirements are determined in accordance with ch NR 140 Wis. Adm. Code. Indicator parameter Preventative Action Limit (PAL) values are established per ch NR 140.20 Wis. Adm. Code. For more information, please refer to the “Brule Sanitary District #1 – Land Disposal System Evaluation Report, WPDES Permit # WI-0061158” memo dated July 24, 2024.

4 Land Application - Monitoring and Limitations

Municipal Sludge Description						
Sample Point	Sludge Class (A or B)	Sludge Type (Liquid or Cake)	Pathogen Reduction Method	Vector Attraction Method	Reuse Option	Amount Reused/Disposed (Dry Tons/Year)
002	B	Liquid	Sludge was last removed in 1999 and removal is not anticipated this permit term. If removal is needed see the land application and schedule sections of the permit for more information.			
Does sludge management demonstrate compliance? Yes						
Is additional sludge storage required? No						
Is Radium-226 present in the water supply at a level greater than 2 pCi/liter? The community water supply is provided by private wells. Radium-226 levels are unknown, but a nearby community to the north (Iron River) has levels below the level of detection (2021 sample data).						
Is a priority pollutant scan required? No						

Sample Point Number: 002- LAGOON SLUDGE

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Solids, Total		Percent	Once	Composite	
Arsenic Dry Wt	Ceiling	75 mg/kg	Once	Composite	
Arsenic Dry Wt	High Quality	41 mg/kg	Once	Composite	
Cadmium Dry Wt	Ceiling	85 mg/kg	Once	Composite	
Cadmium Dry Wt	High Quality	39 mg/kg	Once	Composite	
Copper Dry Wt	Ceiling	4,300 mg/kg	Once	Composite	
Copper Dry Wt	High Quality	1,500 mg/kg	Once	Composite	
Lead Dry Wt	Ceiling	840 mg/kg	Once	Composite	
Lead Dry Wt	High Quality	300 mg/kg	Once	Composite	
Mercury Dry Wt	Ceiling	57 mg/kg	Once	Composite	
Mercury Dry Wt	High Quality	17 mg/kg	Once	Composite	
Molybdenum Dry Wt	Ceiling	75 mg/kg	Once	Composite	
Nickel Dry Wt	Ceiling	420 mg/kg	Once	Composite	
Nickel Dry Wt	High Quality	420 mg/kg	Once	Composite	
Selenium Dry Wt	Ceiling	100 mg/kg	Once	Composite	
Selenium Dry Wt	High Quality	100 mg/kg	Once	Composite	
Zinc Dry Wt	Ceiling	7,500 mg/kg	Once	Composite	
Zinc Dry Wt	High Quality	2,800 mg/kg	Once	Composite	
Nitrogen, Total Kjeldahl		Percent	Per Application	Composite	
Nitrogen, Ammonia (NH3-N) Total		Percent	Per Application	Composite	
Phosphorus, Total		Percent	Per Application	Composite	
Phosphorus, Water Extractable		% of Tot P	Per Application	Composite	
Potassium, Total Recoverable		Percent	Per Application	Composite	
PFOA + PFOS		ug/kg	Once	Calculated	Report the sum of PFOA and PFOS. See PFAS Permit Sections for more

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
					information.
PFAS Dry Wt			Once	Grab	Perfluoroalkyl and Polyfluoroalkyl Substances based on updated DNR PFAS List. See PFAS Permit Sections for more information.

Changes from Previous Permit:

Sludge limitations and monitoring requirements were re-evaluated for the proposed 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.

- List 1 (Metals) and PFOS+PFOA monitoring is required during the second year of the permit term (2026).
- Because it’s recommended that List 2 (Nutrients) are monitored with the List 1 monitoring, they have been added to the table.
- Due to changes within the land application forms, the 3400-049 (“Characteristics Report”), 3400-052 (“Other Methods of Disposal”) and 3400-055 (Annual Land Application”) will need to be submitted each year.

Explanation of Limits and Monitoring Requirements

Requirements for land application of municipal sludge are determined in accordance with ch. NR 204 Wis. Adm. Code. Ceiling and high-quality limits for metals in sludge are specified in s. NR 204.07(5). Requirements for pathogens are specified in s. NR 204.07(6) and in s. NR 204.07 (7) for vector attraction requirements.

List 2 Nutrient monitoring – Monitoring for List 2 (nutrients) is highly recommended at the same time as the monitoring of List 1 (metals) in year 2 of the permit (2026). Results will assist in the determination of the acres needed for land application of sludge should it be necessary. The number of acres needed is also required for the Sludge Management Schedule (see schedules for more information).

PCB monitoring – PCB monitoring is not required this permit term but will be included in the next reissuance. The facility stated in their application they don’t have plans to remove sludge during the permit term, there are no potential industrial sources, and a review of historic PCB data was well below high quality and ceiling limitations. s. NR 204.07 Wis. Adm. Code.

PFAS- The presence and fate of PFAS in municipal and industrial sludges is an emerging public health concern. EPA is currently developing a risk assessment to determine future land application rates and expects to release this risk assessment by the end of 2024. In the interim, the department has developed the “Interim Strategy for Land Application of Biosolids and Industrial Sludges Containing PFAS”.

Collecting sludge data on PFAS concentrations from a wide range of wastewater treatment facilities will help protect public health from exposure to elevated levels of PFAS and determine the department’s implementation of EPA’s recommendations. To quantitate this risk, PFAS sampling has been included in the proposed WPDES permit pursuant to ss. NR 214.18(5)(b) and NR 204.06(2)(b)9., Wis. Adm. Code.

Change in form submittal – In prior permit reissuances when it has been noted in the application that sludge would not be removed during the permit term, the department required sampling during the second year of the permit term and the sludge characteristic report (3400-049) would be generated only during that year. Due to moving to electronic submittal of forms via Switchboard, forms 3400-049 (“Characteristics Report”), 3400-052 (“Other Methods of Disposal”) and

3400-055 (“Annual Land Application”) will now be generated by the department and the permittee will be required to submit all three reports each year of the permit term. This change was adopted to provide the permittee flexibility because many lagoon desludging projects can be unexpected, are delayed or staggered over multiple years. Additionally, it is used to officially report that no land application of sludge has occurred, and annual submittal of the forms is required per the standard requirements section.

- Sludge analysis during the second year of the permit term has been included. There are check boxes available on the electronic forms to identify if desludging didn’t occur.
- Sludge characteristics report (3400-049) – at the top of the form check “yes” or “no” in the box identifying if any land application occurred that year. Complete the form if required or identify the year samples will be or have been taken in the comments section.
- 3400-052 (“Other Methods of Disposal”) and 3400-055 (“Annual Land Application”) - The reports are technically 2 separate forms that are now combined in one location but separated onto two different tabs. If you answer “No” to both listed questions the forms are complete. If you need to answer “Yes” to either question the corresponding form tabs will go from gray to blue indicating information can be entered on the report.

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.	03/31/2025

5.2 Sludge Management Plan

Required Action	Due Date
<p>Submit a Sludge Management Plan: The permittee shall submit a management plan for approval if removal of sludge will occur during this permit term. The plan shall demonstrate compliance with ch. NR 204 Wis. Adm. Code and at minimum address 1) How and where is sludge sampled; 2) Available sludge storage details and location(s); 3)How will the sludge be removed with details on volume, characterization and how will the treatment plant continue to function during the drawdown; 4) Describe the type of transportation and spreading vehicles and loading and unloading practices; 5) Identify approved land application sites, apply for needed sites, site limitations, total acres needed and vegetative cover management; 6) Specify record keeping procedures including site loading; 7) Address contingency plans for adverse weather and odor/nuisance abatement; and 8) Include any other pertinent information such as other disposal options that may be used or specifications of any pretreatment processes</p> <p>Once approved, all sludge management activities shall be conducted in accordance with the plan. Any changes to the plan must be approved by the Department prior to implementing the changes. No desludging may occur unless approval from the Department is obtained. Daily logs shall be kept that record where the sludge has been disposed.</p> <p>The plan is due at least 60 days prior to desludging.</p>	

Explanation of Schedules

Land Treatment Management Plan – The Land Management Plan has been approved, but updated plans are required if there are management changes.

Sludge Management Plan - If the lagoons are to be de-sludged during this permit term a management plan is needed to show compliance with ch NR 204, Wis. Adm. Code. There are outlines available to assist in plan development.

Attachments:

Water Flow Schematic created January 2022

“Brule Sanitary District #1 – Land Disposal System Evaluation Report, WPDES Permit # WI-0061158” memo dated July 24, 2024

Expiration Date:

December 31, 2029

Justification Of Any Waivers From Permit Application Requirements

N/A – Discharges to groundwater

Prepared By: Sheri A. Snowbank **Wastewater Specialist**

Date: August 9, 2024

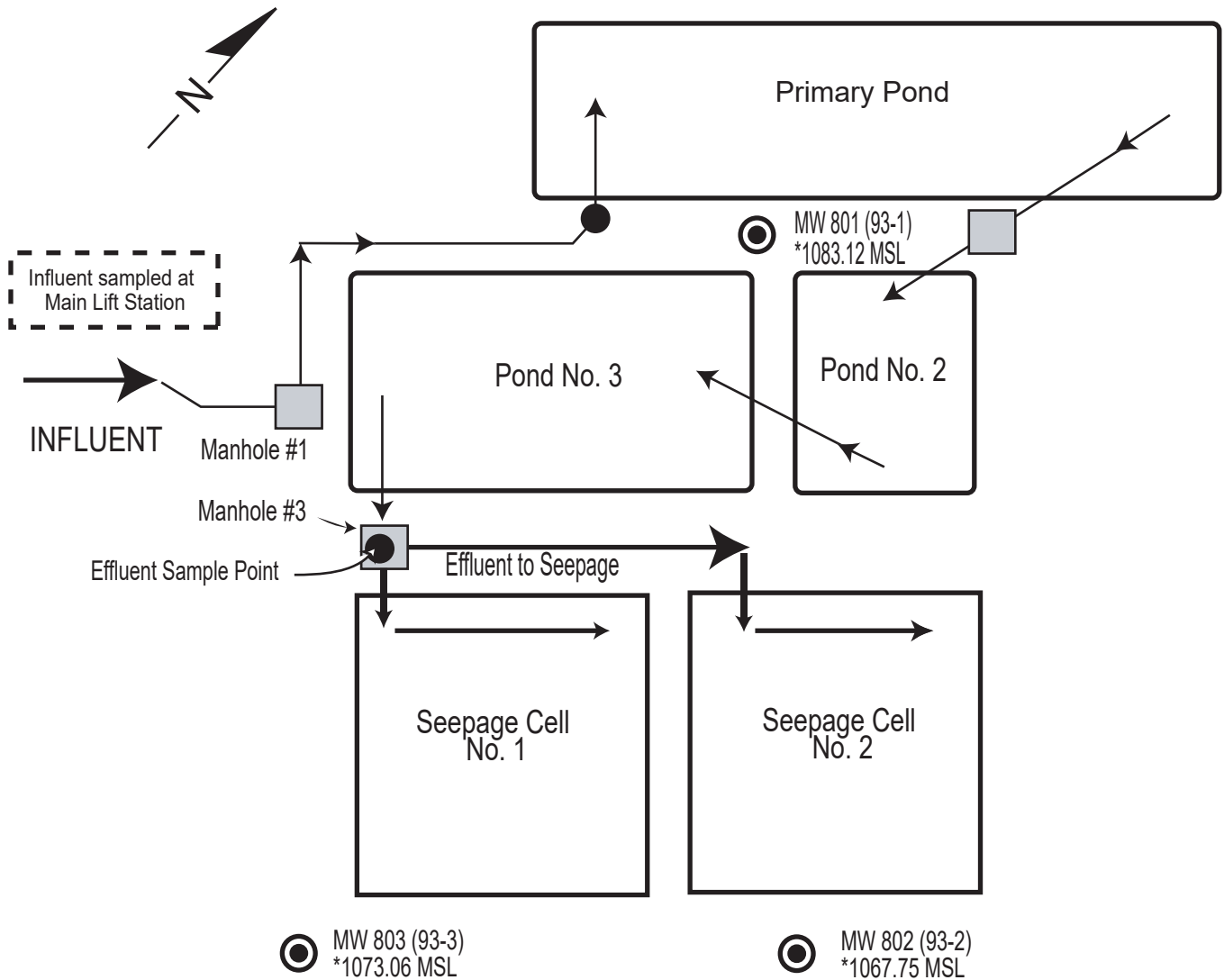
Date updated based on Factcheck comments: No comments received (September 18, 2024)




Date updated based on public notice comments:

Notice of reissuance was published in the Superior Telegram, 1226 Ogden Ave, Superior, WI 54880-1584.

Brule Sanitary District Wastewater Treatment Plant

The Brule wastewater treatment plant consists of three treatment ponds (a new primary pond was constructed in 1999), followed by two seepage cells. Treated water percolates to the groundwater through the soil in the bottoms of the seepage cells. There are three groundwater monitoring wells around the perimeter of the system. The diagram below shows the treatment units and sampling locations.



-  Groundwater Monitoring Well
 * Pipe Top Elevation in Mean Sea Level
-  Manhole
-  Sampling Point


Not to Scale

Flow: 31,250 gpd
 BOD: 101 lbs/day
 Constructed: 1979
 Upgraded 1999

DATE: 07/24/2024

FILE REF: 5316

TO: File

FROM: Woody Myers - WCR 

SUBJECT: Brule Sanitary District # 1 - Land Disposal System Evaluation Report,
WPDES Permit # WI-0061158

Site Information

Brule Sanitary District # 1 is a municipal wastewater treatment facility located at 14299 Old Hwy 2, Brule, Douglas County. Wastewater is currently treated and discharged to groundwater via infiltration by way of absorption ponds (seepage cells) located in the SW ¼ of the NE ¼ of Section 13, T47N, R10W, Town of Brule.

Land Disposal Effluent & Groundwater Evaluation Summary

**Table 1 Land Treatment Effluent Parameters and Limits
Outfall 001 Absorption Ponds**

Parameter	Current Permit WI-0061158-09		Proposed Permit WI-0061158-10	
	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, Nitrite + Nitrate	- mg/l		- mg/l	
Nitrogen, Ammonia	- mg/l		- mg/l	
Nitrogen, Organic	- mg/l		- mg/l	
Nitrogen, Total	- mg/l		- mg/l	
Total Dissolved Solids	- mg/l		- mg/l	
Chloride	250 mg/l	Daily Max	250 mg/l	Daily Max

No proposed permit changes

Table 2 Monitoring Wells

Well	Current Permit WI-0061158-09		Proposed Permit WI-0061158-10	
	Well Location	Well Designation	Well Location	Well Designation
801	Up-gradient	Background	Up-gradient	Background
802	Down-gradient	Non-Point of Standard	Down-gradient	Non-Point of Standard
803	Down-gradient	Point of Standard	Down-gradient	Point of Standard

No proposed permit changes

Table 3 Groundwater Quality Standards

Parameter	Current Permit WI-0061158-09		Proposed WI-0061158-10	
	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	2.0 mg/l	10.0 mg/l	mg/l	10.0 mg/l
Chloride	125 mg/l	250 mg/l	125 mg/l	250 mg/l
pH, Field	5.9-7.9 su	N/A	5.3-7.3 su	N/A
pH, Lab	5.9-7.9 su	N/A	*Discontinue	
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	2.2 mg/l	N/A	2.2 mg/l	N/A
Total Dissolved Solids	468 mg/l	N/A	*470 mg/l	N/A

* Proposed permit changes

Geology

The bedrock under this facility is expected to be the Freda, Nonesuch and Copper Harbor formations of the Oronto Group. They are comprised of feldspathic sandstone, siltstone, shale and conglomerate (*Bedrock Geologic Map of Wisconsin*, Wisconsin Geological and Natural History Survey (WGNHS), 1982). Bedrock is anticipated to be between 200 and 300 feet below ground surface (bgs) (*Depth to Bedrock in Wisconsin*, WGNHS, 1973). The regolith consists of material ranging from gravel to sand with occasional cobbles. Surface soil primarily consists of the Rubicon sand and Sultz sand (USDA NRCS Web Soil Survey).

Hydrogeology

Calculated groundwater elevations range between 1005 and 1057 feet above mean sea level (msl). Depth to groundwater was reported to be between 10 and 70 feet bgs. The difference in depth to groundwater and calculated groundwater elevations is due to the difference in a perched water table and the main regional aquifer. Groundwater flow direction is estimated to be to the west to southwest. Regional groundwater is to the west in this area of Douglas County (*Mean Elevation of Water Table*, Map, United States Department of Interior, 1968). The site is approximately 720 feet north of Sandy Run Creek which empties into the Brule River approximately 5,600 feet down-stream to the west. There are four 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 table is the average flow (hydraulic loading), nitrite + nitrate as nitrogen, chloride and BOD₅ loading summations for the Land Disposal System.

Table 5 Land Treatment Disposal Loading Averages

Year	Flow (MGD)	Nitrogen (mg/l)	Chloride (mg/l)	BOD ₅ (mg/l)
2023	0.050	0.11	57	14.4
2022	0.052	0.39	65	12.4
2021	0.042	0.19	63	7.1
2020	0.053	0.23	54	9.8
2019	0.053	0.26	56	15.0

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	801	1083.12	1080.4	1024.4	1014.4	10.0	68.0	WT
802	802	1067.75	1064.8	1054.2	1044.2	10.0	20.6	WT (perched)
803	803	1073.06	1069.9	1008.3	998.3	10.0	71.6	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 October 14, 2014 – October 11, 2023.

Background Groundwater Quality

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 and exemptions including alternative concentration limits (ACL) where appropriate. The groundwater was evaluated by looking at approximately ten years of monitoring results. PALs and ACLs are calculated from this time range.

There was only one exceedance of the PAL for nitrite + nitrate in 2014. Since then, the trend has been consistent and declining. There were no other PAL exceedances observed in the background groundwater quality and the trends for the results were consistent and stable.

Down-Gradient Groundwater Quality

There were no ES exceedances for any of the required parameters. The only compound that exceeded its PAL was ammonia. These exceedances were observed in groundwater monitoring well 802 a non-point of standards well. The exceedances are consistent, and the trend is stable ranging between 2.2 and 2.8 mg/l.

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 were no correlations between the effluent loading levels and the groundwater monitoring results.

Proposed Groundwater Monitoring Requirements

**Table 7 Groundwater Quality Sampling Frequency and Limits
Outfall 001 Permit WI-0061158-10**

Sample Point	Well Name	Sample Frequency	Well Designation
801	801	Annual	Background
802	802	Annual	Non-Point of Standard
803	803	Annual	Point of Standard
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	5.3-7.3 su	N/A	Calculated
pH, Lab	*Discontinue		
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	*470 mg/l	N/A	Calculated

* 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 indicator parameter PALs for use in the upcoming permit WI-0061158-10 were calculated using results from groundwater monitoring well 801 from October 14, 2014 – October 11, 2023 using the following equation:

$$\sum [\text{Background groundwater quality} + \text{Minimum Increase (NR 140.20 Table 3)}]$$

The only change to the indicator parameter PALs was to TDS which was increased slightly to follow rounding protocols.

Exemptions

Exemptions including ACLs can be developed and provided for a groundwater monitoring system utilizing the procedures described in s. NR 140.28, Wis. Adm. Code. Potential ACLs for use in the upcoming permit WI-00601158-10 were calculated using results from groundwater monitoring well 801 from October 14, 2014 – October 11, 2023. The background results did not support a s. NR 140.28 Wis. Adm. Code exemption or ACL.

Conclusions

The groundwater monitoring system at Brule Sanitary District is a-typical. Groundwater monitoring well 802 is in a perched aquifer. Because the other two groundwater monitoring wells (801 and 803) are in a deeper main aquifer the calculation of a groundwater flow direction is not possible. However, the

department in the past and is again waiving the need for a third well in the main aquifer for the purpose of calculating the groundwater flow direction. An estimate of groundwater flow direction is based on the two deeper wells on-site and a private well to the west of the facility and the direction of the Brule River.

There were exceedances of the groundwater quality standards in one well for one parameter. Well 802 had consistent and stable PAL exceedances for ammonia. However, well 802 is a non-point of standard well so no s. NR 140.24 Wis. Adm. Code response actions will be required.

There are no proposed changes to the effluent sampling parameters or their associated limits.

There was one slight change to the PAL for TDS based on department rounding protocol and no exemptions were appropriate based on the background groundwater quality at this facility.

The groundwater quality sampling for pH lab should be discontinued and in-field pH sampling should be conducted.

Compliance Schedule Recommendations

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.

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

well	param	unit	sample_date	res	result_amt
801	801	Chloride Dissolved	mg/L	10/14/2014 0:00	2.3
801	801	Chloride Dissolved	mg/L	10/15/2015 0:00	3
801	801	Chloride Dissolved	mg/L	10/13/2016 0:00	6.3
801	801	Chloride Dissolved	mg/L	10/04/2017 0:00	3
801	801	Chloride Dissolved	mg/L	10/22/2018 0:00	2.9
801	801	Chloride Dissolved	mg/L	10/08/2019 0:00	2.4
801	801	Chloride Dissolved	mg/L	10/07/2020 0:00	2.8
801	801	Chloride Dissolved	mg/L	10/06/2021 0:00	1.1
801	801	Chloride Dissolved	mg/L	10/19/2022 0:00	3.1
801	801	Chloride Dissolved	mg/L	10/11/2023 0:00	1.6
				Mean	2.85
				Standard Dev	1.309389
801	801	Nitrogen, Ammonia Dissolved	mg/L	10/14/2014 0:00	0.09
801	801	Nitrogen, Ammonia Dissolved	mg/L	10/15/2015 0:00 <	0.06
801	801	Nitrogen, Ammonia Dissolved	mg/L	10/13/2016 0:00 <	0.044
801	801	Nitrogen, Ammonia Dissolved	mg/L	10/04/2017 0:00 <	0.074
801	801	Nitrogen, Ammonia Dissolved	mg/L	10/22/2018 0:00 <	0.036
801	801	Nitrogen, Ammonia Dissolved	mg/L	10/08/2019 0:00 <	0.028
801	801	Nitrogen, Ammonia Dissolved	mg/L	10/07/2020 0:00 <	0.042
801	801	Nitrogen, Ammonia Dissolved	mg/L	10/06/2021 0:00 <	0.047
801	801	Nitrogen, Ammonia Dissolved	mg/L	10/19/2022 0:00 <	0.023
801	801	Nitrogen, Ammonia Dissolved	mg/L	10/11/2023 0:00 <	0.023
				Mean	0.0467
				Standard Dev	0.02101
801	801	Nitrogen, Total Kjeldahl Dissolved	mg/L	10/14/2014 0:00	0.2
801	801	Nitrogen, Total Kjeldahl Dissolved	mg/L	10/15/2015 0:00 <	0.2
801	801	Nitrogen, Total Kjeldahl Dissolved	mg/L	10/13/2016 0:00 <	0.15
801	801	Nitrogen, Total Kjeldahl Dissolved	mg/L	10/04/2017 0:00	0.36
801	801	Nitrogen, Total Kjeldahl Dissolved	mg/L	10/22/2018 0:00	0.092
801	801	Nitrogen, Total Kjeldahl Dissolved	mg/L	10/08/2019 0:00 <	0.13
801	801	Nitrogen, Total Kjeldahl Dissolved	mg/L	10/07/2020 0:00 <	0.5
801	801	Nitrogen, Total Kjeldahl Dissolved	mg/L	10/06/2021 0:00	0.39
801	801	Nitrogen, Total Kjeldahl Dissolved	mg/L	10/19/2022 0:00	0.5
801	801	Nitrogen, Total Kjeldahl Dissolved	mg/L	10/11/2023 0:00	0.23
				Mean	0.2752
				Standard Dev	0.143218

801	801	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	10/14/2014 0:00	2
801	801	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	10/15/2015 0:00	1.8
801	801	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	10/13/2016 0:00	1.8
801	801	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	10/04/2017 0:00	1.6
801	801	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	10/22/2018 0:00	1.2
801	801	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	10/08/2019 0:00	1.2
801	801	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	10/07/2020 0:00	1.1
801	801	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	10/06/2021 0:00	1.1
801	801	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	10/19/2022 0:00	1
801	801	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	10/11/2023 0:00	1.1
				Mean	1.39
				Standard Dev	0.350571
801	801	Nitrogen, Organic Dissolved	mg/L	10/14/2014 0:00	0.11
801	801	Nitrogen, Organic Dissolved	mg/L	10/15/2015 0:00 <	0.2
801	801	Nitrogen, Organic Dissolved	mg/L	10/13/2016 0:00 <	0.02
801	801	Nitrogen, Organic Dissolved	mg/L	10/04/2017 0:00	0.32
801	801	Nitrogen, Organic Dissolved	mg/L	10/22/2018 0:00 <	0.2
801	801	Nitrogen, Organic Dissolved	mg/L	10/08/2019 0:00 <	0.2
801	801	Nitrogen, Organic Dissolved	mg/L	10/07/2020 0:00 <	0.2
801	801	Nitrogen, Organic Dissolved	mg/L	10/06/2021 0:00 <	0.4
801	801	Nitrogen, Organic Dissolved	mg/L	10/19/2022 0:00	0.49
801	801	Nitrogen, Organic Dissolved	mg/L	10/11/2023 0:00 <	0.4
				Mean	0.254
				Standard Dev	0.137782
801	801	pH Lab	su	10/14/2014 0:00	7.6
801	801	pH Lab	su	10/15/2015 0:00	7.5
801	801	pH Lab	su	10/13/2016 0:00	7.7
801	801	pH Lab	su	10/04/2017 0:00	7.7
801	801	pH Lab	su	10/22/2018 0:00	7.8
801	801	pH Lab	su	10/08/2019 0:00	7.6
801	801	pH Lab	su	10/07/2020 0:00	7.8
801	801	pH Lab	su	10/06/2021 0:00	7.9
801	801	pH Lab	su	10/19/2022 0:00	7.9
801	801	pH Lab	su	10/11/2023 0:00	7.9
				Mean	7.74
801	801	Solids, Total Dissolved	mg/L	10/14/2014 0:00	250
801	801	Solids, Total Dissolved	mg/L	10/15/2015 0:00	250
801	801	Solids, Total Dissolved	mg/L	10/13/2016 0:00	274
801	801	Solids, Total Dissolved	mg/L	10/04/2017 0:00	264
801	801	Solids, Total Dissolved	mg/L	10/22/2018 0:00	254
801	801	Solids, Total Dissolved	mg/L	10/08/2019 0:00	270
801	801	Solids, Total Dissolved	mg/L	10/07/2020 0:00	250
801	801	Solids, Total Dissolved	mg/L	10/06/2021 0:00	213
801	801	Solids, Total Dissolved	mg/L	10/19/2022 0:00	275
801	801	Solids, Total Dissolved	mg/L	10/11/2023 0:00	259
				Mean	255.9
				Standard Dev	17.07308

802	802	Chloride Dissolved	mg/L	10/14/2014 0:00	41
802	802	Chloride Dissolved	mg/L	10/15/2015 0:00	35
802	802	Chloride Dissolved	mg/L	10/13/2016 0:00	37.9
802	802	Chloride Dissolved	mg/L	10/04/2017 0:00	38.1
802	802	Chloride Dissolved	mg/L	10/22/2018 0:00	40.7
802	802	Chloride Dissolved	mg/L	10/08/2019 0:00	37.4
802	802	Chloride Dissolved	mg/L	10/07/2020 0:00	37.6
802	802	Chloride Dissolved	mg/L	10/06/2021 0:00	41.3
802	802	Chloride Dissolved	mg/L	10/19/2022 0:00	47.3
802	802	Chloride Dissolved	mg/L	10/11/2023 0:00	47.1

802	802	Nitrogen, Ammonia Dissolved	mg/L	10/14/2014 0:00	2.15
802	802	Nitrogen, Ammonia Dissolved	mg/L	10/15/2015 0:00	2.52
802	802	Nitrogen, Ammonia Dissolved	mg/L	10/13/2016 0:00	2.6
802	802	Nitrogen, Ammonia Dissolved	mg/L	10/04/2017 0:00	2.8
802	802	Nitrogen, Ammonia Dissolved	mg/L	10/22/2018 0:00	2.4
802	802	Nitrogen, Ammonia Dissolved	mg/L	10/08/2019 0:00	2.2
802	802	Nitrogen, Ammonia Dissolved	mg/L	10/07/2020 0:00	2.4
802	802	Nitrogen, Ammonia Dissolved	mg/L	10/06/2021 0:00	2.4
802	802	Nitrogen, Ammonia Dissolved	mg/L	10/19/2022 0:00	2.6
802	802	Nitrogen, Ammonia Dissolved	mg/L	10/11/2023 0:00	2.4

802	802	Nitrogen, Total Kjeldahl Dissolved	mg/L	10/14/2014 0:00	3.4
802	802	Nitrogen, Total Kjeldahl Dissolved	mg/L	10/15/2015 0:00	3.4
802	802	Nitrogen, Total Kjeldahl Dissolved	mg/L	10/13/2016 0:00	3.1
802	802	Nitrogen, Total Kjeldahl Dissolved	mg/L	10/04/2017 0:00	3.8
802	802	Nitrogen, Total Kjeldahl Dissolved	mg/L	10/22/2018 0:00	4.3
802	802	Nitrogen, Total Kjeldahl Dissolved	mg/L	10/08/2019 0:00	3.3
802	802	Nitrogen, Total Kjeldahl Dissolved	mg/L	10/07/2020 0:00	3.3
802	802	Nitrogen, Total Kjeldahl Dissolved	mg/L	10/06/2021 0:00	4
802	802	Nitrogen, Total Kjeldahl Dissolved	mg/L	10/19/2022 0:00	3.7
802	802	Nitrogen, Total Kjeldahl Dissolved	mg/L	10/11/2023 0:00	3.3

802	802	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	10/14/2014 0:00	0.02
802	802	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	10/15/2015 0:00 <	0.05
802	802	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	10/13/2016 0:00	0.018
802	802	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	10/04/2017 0:00	0.013
802	802	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	10/22/2018 0:00	0.012
802	802	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	10/08/2019 0:00 <	0.009
802	802	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	10/07/2020 0:00	0.014
802	802	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	10/06/2021 0:00 <	0.007
802	802	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	10/19/2022 0:00 <	0.007
802	802	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	10/11/2023 0:00	0.032

802	802	Nitrogen, Organic Dissolved	mg/L	10/14/2014 0:00	1.25
802	802	Nitrogen, Organic Dissolved	mg/L	10/15/2015 0:00	0.88
802	802	Nitrogen, Organic Dissolved	mg/L	10/13/2016 0:00 <	0.2
802	802	Nitrogen, Organic Dissolved	mg/L	10/04/2017 0:00	0.99
802	802	Nitrogen, Organic Dissolved	mg/L	10/22/2018 0:00	1.8
802	802	Nitrogen, Organic Dissolved	mg/L	10/08/2019 0:00	1
802	802	Nitrogen, Organic Dissolved	mg/L	10/07/2020 0:00	0.9
802	802	Nitrogen, Organic Dissolved	mg/L	10/06/2021 0:00	1.5
802	802	Nitrogen, Organic Dissolved	mg/L	10/19/2022 0:00	1
802	802	Nitrogen, Organic Dissolved	mg/L	10/11/2023 0:00	0.89

802	802	pH Lab	su	10/14/2014 0:00	6.5
802	802	pH Lab	su	10/15/2015 0:00	6.6
802	802	pH Lab	su	10/13/2016 0:00	6.5
802	802	pH Lab	su	10/04/2017 0:00	6.3
802	802	pH Lab	su	10/22/2018 0:00	6.5
802	802	pH Lab	su	10/08/2019 0:00	6.5
802	802	pH Lab	su	10/07/2020 0:00	6.6
802	802	pH Lab	su	10/06/2021 0:00	6.8
802	802	pH Lab	su	10/19/2022 0:00	6.6
802	802	pH Lab	su	10/11/2023 0:00	6.5

802	802	Solids, Total Dissolved	mg/L	10/14/2014 0:00	300
802	802	Solids, Total Dissolved	mg/L	10/15/2015 0:00	310
802	802	Solids, Total Dissolved	mg/L	10/13/2016 0:00	304
802	802	Solids, Total Dissolved	mg/L	10/04/2017 0:00	510
802	802	Solids, Total Dissolved	mg/L	10/22/2018 0:00	298
802	802	Solids, Total Dissolved	mg/L	10/08/2019 0:00	282
802	802	Solids, Total Dissolved	mg/L	10/07/2020 0:00	472
802	802	Solids, Total Dissolved	mg/L	10/06/2021 0:00	313
802	802	Solids, Total Dissolved	mg/L	10/19/2022 0:00	376
802	802	Solids, Total Dissolved	mg/L	10/11/2023 0:00	303

803	803	Chloride Dissolved	mg/L	10/14/2014 0:00	43
803	803	Chloride Dissolved	mg/L	10/15/2015 0:00	36
803	803	Chloride Dissolved	mg/L	10/13/2016 0:00	39
803	803	Chloride Dissolved	mg/L	10/04/2017 0:00	35.2
803	803	Chloride Dissolved	mg/L	10/22/2018 0:00	36
803	803	Chloride Dissolved	mg/L	10/08/2019 0:00	35
803	803	Chloride Dissolved	mg/L	10/07/2020 0:00	38.3
803	803	Chloride Dissolved	mg/L	10/06/2021 0:00	36
803	803	Chloride Dissolved	mg/L	10/19/2022 0:00	37.2
803	803	Chloride Dissolved	mg/L	10/11/2023 0:00	41.4

803	803	Nitrogen, Ammonia Dissolved	mg/L	10/14/2014 0:00 <	0.06
803	803	Nitrogen, Ammonia Dissolved	mg/L	10/15/2015 0:00 <	0.06
803	803	Nitrogen, Ammonia Dissolved	mg/L	10/13/2016 0:00 <	0.044
803	803	Nitrogen, Ammonia Dissolved	mg/L	10/04/2017 0:00 <	0.074
803	803	Nitrogen, Ammonia Dissolved	mg/L	10/22/2018 0:00	0.038
803	803	Nitrogen, Ammonia Dissolved	mg/L	10/08/2019 0:00 <	0.028
803	803	Nitrogen, Ammonia Dissolved	mg/L	10/07/2020 0:00 <	0.042
803	803	Nitrogen, Ammonia Dissolved	mg/L	10/06/2021 0:00 <	0.047
803	803	Nitrogen, Ammonia Dissolved	mg/L	10/19/2022 0:00 <	0.023
803	803	Nitrogen, Ammonia Dissolved	mg/L	10/11/2023 0:00 <	0.023

803	803	Nitrogen, Total Kjeldahl Dissolved	mg/L	10/14/2014 0:00	0.3
803	803	Nitrogen, Total Kjeldahl Dissolved	mg/L	10/15/2015 0:00	0.2
803	803	Nitrogen, Total Kjeldahl Dissolved	mg/L	10/13/2016 0:00 <	0.15
803	803	Nitrogen, Total Kjeldahl Dissolved	mg/L	10/04/2017 0:00	0.29
803	803	Nitrogen, Total Kjeldahl Dissolved	mg/L	10/22/2018 0:00	0.15
803	803	Nitrogen, Total Kjeldahl Dissolved	mg/L	10/08/2019 0:00	0.14
803	803	Nitrogen, Total Kjeldahl Dissolved	mg/L	10/07/2020 0:00 <	0.5
803	803	Nitrogen, Total Kjeldahl Dissolved	mg/L	10/06/2021 0:00	0.34
803	803	Nitrogen, Total Kjeldahl Dissolved	mg/L	10/19/2022 0:00	0.43
803	803	Nitrogen, Total Kjeldahl Dissolved	mg/L	10/11/2023 0:00	0.46

803	803	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	10/14/2014 0:00	0.94
803	803	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	10/15/2015 0:00	1
803	803	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	10/13/2016 0:00	0.85
803	803	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	10/04/2017 0:00	0.81
803	803	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	10/22/2018 0:00	0.83
803	803	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	10/08/2019 0:00	0.81
803	803	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	10/07/2020 0:00	0.7
803	803	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	10/06/2021 0:00	0.7
803	803	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	10/19/2022 0:00	0.56
803	803	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	10/11/2023 0:00	0.53

803	803	Nitrogen, Organic Dissolved	mg/L	10/14/2014 0:00	0.3
803	803	Nitrogen, Organic Dissolved	mg/L	10/15/2015 0:00	0.2
803	803	Nitrogen, Organic Dissolved	mg/L	10/13/2016 0:00 <	0.2
803	803	Nitrogen, Organic Dissolved	mg/L	10/04/2017 0:00	0.25
803	803	Nitrogen, Organic Dissolved	mg/L	10/22/2018 0:00 <	0.2
803	803	Nitrogen, Organic Dissolved	mg/L	10/08/2019 0:00 <	0.2
803	803	Nitrogen, Organic Dissolved	mg/L	10/07/2020 0:00 <	0.2
803	803	Nitrogen, Organic Dissolved	mg/L	10/06/2021 0:00 <	0.4
803	803	Nitrogen, Organic Dissolved	mg/L	10/19/2022 0:00	0.42
803	803	Nitrogen, Organic Dissolved	mg/L	10/11/2023 0:00	0.44

803	803	pH Lab	su	10/14/2014 0:00	7.1
803	803	pH Lab	su	10/15/2015 0:00	7.2
803	803	pH Lab	su	10/13/2016 0:00	7.2
803	803	pH Lab	su	10/04/2017 0:00	7.1
803	803	pH Lab	su	10/22/2018 0:00	7.3
803	803	pH Lab	su	10/08/2019 0:00	7.2
803	803	pH Lab	su	10/07/2020 0:00	7.2
803	803	pH Lab	su	10/06/2021 0:00	7.6
803	803	pH Lab	su	10/19/2022 0:00	7.7
803	803	pH Lab	su	10/11/2023 0:00	7.5

803	803	Solids, Total Dissolved	mg/L	10/14/2014 0:00	420
803	803	Solids, Total Dissolved	mg/L	10/15/2015 0:00	430
803	803	Solids, Total Dissolved	mg/L	10/13/2016 0:00	422
803	803	Solids, Total Dissolved	mg/L	10/04/2017 0:00	416
803	803	Solids, Total Dissolved	mg/L	10/22/2018 0:00	444
803	803	Solids, Total Dissolved	mg/L	10/08/2019 0:00	452
803	803	Solids, Total Dissolved	mg/L	10/07/2020 0:00	450
803	803	Solids, Total Dissolved	mg/L	10/06/2021 0:00	402
803	803	Solids, Total Dissolved	mg/L	10/19/2022 0:00	404
803	803	Solids, Total Dissolved	mg/L	10/11/2023 0:00	426