Permit Fact Sheet

General Information

Permit Number:	WI-0038083-10-0
Permittee Name:	Darling Ingredients Inc
Address:	W694 White Ridge Road
City/State/Zip:	Berlin, WI 54923
Discharge Location:	Approx. ¼ - ½ mile North of the nature trail to the north of the plant
Receiving Water:	Effluent ditch leading to Harrington Creek, and the groundwater of the Fox River/Berlin Watershed (UF06), Upper Fox River Basin in Green Lake County
Stream Flow ($Q_{7,10}$):	0 cfs
Stream Classification:	Limited Aquatic Life (LAL), non-public water supply
Discharge Type:	Existing; Continuous

Facility Description

Darling Ingredients Inc. recycles inedible animal by-products, meat wastes, and cooking oils into dry rendered meat and bone meal, inedible tallow, and/or yellow grease. Wastewater generated from the processing operations is treated by an anaerobic lagoon, aerobic lagoon, final clarifier, and then discharged into the sanitary sewer or to wastewater storage lagoons and then spray irrigated to adjacent fields. Biosolids generated at the treatment plant can be land applied or taken to approved manure pits. Groundwater monitoring wells surround the storage lagoons and spray irrigation fields. Noncontact cooling water (NCCW) is discharged to Harrington Creek. NCCW is discharged from the production facility via a PVC pipe, a rip-rap area, and a culvert under a bike trail and then to a large cooling pond, approximately 450’ by 80’ by 5’ deep. Discharge from the pond is via two control box structures on either end, those discharge streams combine about 200 feet from the pond which flows to Harrington Creek. Flow is measured as it leaves the production facility, and it is hard piped to the bottom of the hill, then it open channel flows under a trail, and into a culvert that empties into the cooling pond.

Substantial Compliance Determination

Enforcement During Last Permit: A Notice of Noncompliance (NON), dated 7/18/22, was sent for failing to properly maintain the perimeter of the wastewater treatment lagoons and storage lagoons so as to protect the lagoon liner integrity. The facility has completed all previously required actions as part of the enforcement process.

After a desk top review of all discharge monitoring reports, land application reports, compliance schedule items, and a site visit on 10/19/23, this facility has been found to be in substantial compliance with their current permit.

Compliance determination entered by Mark Stanek, Wastewater Engineer on 10/19/23.

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	0.47 MGD (Avg. July 2019 – June 2024)	Representative samples shall be taken prior to discharge to Harrington Creek. Temperature monitoring only may be measured in the cooling pond and/or in the effluent channel prior to discharge to Harrington Creek and shall not occur during major rain events.

Sample Point Designation		
Sample Point Number	**Discharge Flow, Units, and Averaging Period**	**Sample Point Location, Waste Type/Sample Contents and Treatment Description (as applicable)**
002	126,408 gpd (Avg. July 2019 – June 2024 when discharging; this is a non-continuous discharge)	A sample shall be collected prior to spray irrigation.
003	N/A – did not land apply during the previous permit term	A sample shall be collected prior to land application.

Sample Point Designation For Groundwater Monitoring Systems			
System	**Sample Pt Number**	**Well Name**	**Comments**
Spray Irrigation Site	805	MW-3	Non-Point of Standard
Spray Irrigation Site	806	MW-4	Non-Point of Standard
Spray Irrigation Site	807	MW-5	Background
Spray Irrigation Site	808	MW-6	Non-Point of Standard
Spray Irrigation Site	809	MW-2	Non-Point of Standard

1 Surface Water - Monitoring and Limitations

Sample Point Number: 001- NCCW

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Weekly	Estimated	
BOD5, Total		mg/L	Annual	Grab	
Nitrogen, Ammonia (NH3-N) Total		mg/L	Annual	Grab	
Oil & Grease (Hexane)	Daily Max	15 mg/L	Annual	Grab	
Oil & Grease (Hexane)	Monthly Avg	15 mg/L	Annual	Grab	
pH Field	Daily Min	6.0 su	Quarterly	Grab	
pH Field	Daily Max	9.0 su	Quarterly	Grab	
Phosphorus, Total		mg/L	Monthly	Grab	Monitoring only upon permit effective date. See the Phosphorus Narrative Limit permit section.

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Phosphorus, Total		lbs/day	Monthly	Calculated	Monitoring only upon permit effective date. Final mass limits go into effect per the TMDL Derived WQBELs for Total Phosphorus schedule. See also the Phosphorus TMDL permit sections.
Phosphorus, Total		lbs/month	Monthly	Calculated	Calculate the total monthly discharge of phosphorus and report on the last day of the month on the eDMR. See TMDL Calculations permit section.
Phosphorus, Total		lbs/yr	Monthly	Calculated	Calculate the 12-month rolling sum of total monthly mass of phosphorus discharged and report on the last day of the month on the eDMR. See TMDL Calculations permit section.
Suspended Solids, Total	Daily Max	40 mg/L	Weekly	Grab	
Suspended Solids, Total	Monthly Avg	40 mg/L	Weekly	Grab	
Suspended Solids, Total	Daily Max	67 lbs/day	Weekly	Calculated	
Suspended Solids, Total	Monthly Avg	41 lbs/day	Weekly	Calculated	
Suspended Solids, Total		lbs/month	Monthly	Calculated	Calculate the total monthly discharge of TSS and report on the last day of the month on the eDMR. See TMDL Calculations permit section.
Suspended Solids, Total		lbs/yr	Monthly	Calculated	Calculate the 12-month rolling sum of total monthly mass of TSS discharged and report on the last day of the month on the eDMR. See TMDL Calculations permit section.

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Temperature	Daily Max	86 deg F	Weekly	Grab	Limits apply May-October. Monitoring only November-April.

Changes from Previous Permit:

- Addition of a narrative limit for total phosphorus.
- Addition of total maximum daily load (TMDL) derived limits for total phosphorus to become effective per the TMDL Derived WQBELs for Total Phosphorus schedule.
- Addition of TMDL derived limits for total suspended solids (TSS).
- Changed thermal monitoring to monitoring only November-April each year with an effluent limit of 86 ˚F as a daily maximum applicable May-October each year.

Explanation of Limits and Monitoring Requirements

Refer to the WQBEL memo, Water Quality-Based Effluent Limitations for Darling Ingredients Inc. WPDES Permit No. WI-0038083-10, by Nicole Krueger, Water Resources Engineer, for the detailed calculations, prepared by the Water Quality Bureau dated April 2, 2024, used for this reissuance.

Monitoring Frequencies – The Monitoring Frequencies for Individual Wastewater Permits guidance (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.

Thermal – Requirements for Temperature are included in NR 102 Subchapter II Water Quality Standards for Temperature and NR 106 Subchapter V Effluent Limitations for Temperature. Thermal discharges must meet the Public Health criterion of 120 degrees F and the Fish & Aquatic Life criteria which are established to protect aquatic communities from lethal and sub-lethal thermal effects. Temperature requirements are based on the Thermal Rules which became effective 10/1/2010 and are detailed in NR 102 – Water Quality Standards for Temperature and NR 106 – Effluent Limits for Temperature.

Phosphorus – Phosphorus requirements are based on the Phosphorus Rules that became effective 12/1/2010 as detailed in NR 102 Water Quality Standards and NR 217 Effluent Standards and Limitations for Phosphorus. Chapter NR 217 of the Wis. Adm. Code addresses point source dischargers of phosphorus to surface waters. The code categorically limits industrial dischargers of more than 60 pounds of phosphorus per month to 1.0 mg/L unless an alternative limit is approved. Darling Ingredients Inc's data demonstrates that the annual monthly average phosphorus loading is less than 60 lbs/month, which is the threshold for industrial dischargers in accordance with s. NR 217.04(1)(a)2, Wis. Adm. Code, and therefore a technology-based limit is not required. NR 217 also specifies WQBELs (water quality-based effluent limits) for discharges of phosphorus to surface waters of the state from publicly and privately owned wastewater facilities, noncontact cooling water discharges which contain phosphorus, concentrated animal feeding operations that discharge through alternative treatment facilities and a facility/site that is regulated under NR 216 where the standards in NR 151 and 216 are not sufficient to meet phosphorus criteria. WQBELs for phosphorus are needed whenever the discharge contains phosphorus at concentrations or loadings that will cause or contribute to an exceedance of the water quality standards.

Total Maximum Daily Load (TMDL) Derived Limits for Total Phosphorus and TSS – TMDL Approved - Waste load allocations (WLAs) specified in TMDLs are expressed as WQBELs. The WLA-derived WQBELs are consistent with

the assumptions and requirements of the approved Upper Fox Wolf River Basin (UFWRB) TMDL. The framework for this effort is a Total Maximum Daily Load (TMDL) which is the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards. The UFWRB TMDL set total phosphorus and total suspended solids (TSS) WLAs for dischargers throughout the project area. WLA-derived limits must be included in WPDES permits once the TMDL has been approved by US EPA. The UFWRB TMDL was approved by US EPA on February 7, 2020.

PFOS and PFOA – NR 106 Subchapter VIII – Permit Requirements for PFOS and PFOA Dischargers became effective on August 1, 2022. Pursuant to s. NR 106.98(3)(b), Wis. Adm. Code, the Department evaluated the need for PFOS and PFOA monitoring. Based on information available at the time the proposed permit was drafted, the Department has determined the permittee does not need to sample for PFOS or PFOA as part of this permit reissuance. The Department may re-evaluate the need for sampling at the next permit reissuance if new information becomes available that suggests PFOS or PFOA may be present in the discharge.

2 Land Treatment – Monitoring and Limitations

Sample Point Number: 002- Spray Irrigation Sites

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		gpd	Daily	Total Daily	
Hydraulic Application Rate	Daily Max	13,500 gal/ac/day	Daily	Calculated	Limit applies May-October.
Hydraulic Application Rate	Daily Max	6,800 gal/ac/day	Daily	Calculated	Limit applies November-April.
Chloride		mg/L	Monthly	Grab	
Chloride, Max Applied to Any Zone	Annual Total	170 lbs/ac/yr	Annual	Calculated	
Nitrogen, Total Kjeldahl		mg/L	Monthly	Grab	
Nitrogen, Nitrite + Nitrate Total		mg/L	Monthly	Grab	
Nitrogen, Total		mg/L	Monthly	Calculated	Total Nitrogen = Total Kjeldahl Nitrogen (mg/L) + [NO2 + NO3] Nitrogen (mg/L)
Nitrogen, Max Applied On Any Zone		lbs/ac/yr	Annual	Calculated	Use the Total Nitrogen concentration when calculating the Annual Total.

Changes from Previous Permit:

- Changed the chloride (lbs/ac/yr) parameter to “Chloride, Max Applied to Any Zone” with the Annual Total limit.
- Addition of total nitrogen monitoring.

- Addition of "Nitrogen, Max Applied On Any Zone" monitoring.

Explanation of Limits and Monitoring Requirements

Requirements for land treatment of industrial wastewater are determined in accordance with ch. NR 214, Wis. Adm. Code.

3 Groundwater – Monitoring and Limitations

3.1 Groundwater Monitoring System for Spray Irrigation Site

Location of Monitoring system: Adjacent and surrounding aerated storage ponds.

Groundwater Monitoring Well(s) to be Sampled: MW-3 **(805)**, MW-4 **(806)**, MW-5 **(807)**, MW-6 **(808)**, MW-2 **(809)**

Groundwater Monitoring Well(s) Used to Evaluate Background Groundwater Quality: MW-5 **(807)**

Groundwater Monitoring Well(s) Used for Point of Standards Application: None

Parameter	Units	Preventive Action Limit	Enforcement Standard	Frequency
Depth To Groundwater	feet	N/A	N/A	1/ 6 Months
Groundwater Elevation	feet MSL	N/A	N/A	1/ 6 Months
Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	N/A	N/A	1/ 6 Months
Chloride Dissolved	mg/L	125	250	1/ 6 Months
Nitrogen, Total Kjeldahl Dissolved	mg/L	N/A	N/A	1/ 6 Months
Nitrogen, Ammonia Dissolved	mg/L	0.97	9.7	1/ 6 Months
Nitrogen, Organic Dissolved	mg/L	2.3	N/A	1/ 6 Months
Solids, Total Dissolved	mg/L	735	N/A	1/ 6 Months
pH Field	su	8.3	N/A	1/ 6 Months
COD, Filtered	mg/L	30	N/A	1/ 6 Months

Changes from Previous Permit:

- Removed alternative concentration limits (ACLs) for the Preventive Action Limit (PAL) and Enforcement Standard (ES) for nitrite+nitrate nitrogen.
- Decreased the PAL for chloride from 210 mg/L to 125 mg/L.
- Decreased the PAL for total dissolved solids from 789 mg/L to 735 mg/L.
- Changed the pH sampling parameter from pH Lab to pH Field and updated the PALs to 6.3-8.3 s.u.

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. Alternative Concentration Limits as allowed under s. NR 140.28, Wis. Adm. Code, are established on a case by case basis.

4 Land Application - Sludge/Industrial Wastewater (industrial only)

Sample Point Number: 003- Sludge/Industrial Wastewater

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		tons/day	Daily	Total Daily	
Nitrogen, Total Kjeldahl	Annual Total	165 lbs/ac/yr	Annual	Grab	
Chloride	Annual Total	170 lbs/ac/yr	Annual	Grab	
pH (Average)		su	Annual	Grab	
Solids, Total		Percent	Annual	Grab	
PFOA + PFOS		ug/kg	Once	Calculated	Report the sum of PFOA and PFOS. See PFAS Permit Sections for more 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:

- PFAS monitoring once during the permit term is included in the permit pursuant to s. NR 214.18(5)(b), Wis. Adm. Code.

Explanation of Limits and Monitoring Requirements

Requirements for land application of industrial sludge are determined in accordance with ch. NR 214, 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.

5 Schedules

5.1 TMDL Derived Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus

The permittee shall comply with the WQBELs for Phosphorus as specified. No later than 14 days following each compliance date, the permittee shall notify the Department in writing of its compliance or noncompliance. If a submittal is required, a timely submittal fulfills the notification requirement.

Required Action	Due Date
Operational Evaluation Report: The permittee shall prepare and submit to the Department for approval an operational evaluation report. The report shall include an evaluation of collected effluent data, possible source reduction measures, operational improvements or other minor facility modifications that will optimize reductions in phosphorus discharges from the treatment plant during the period prior to complying with final phosphorus WQBELs and, where possible, enable compliance with final phosphorus WQBELs by September 30, 2027. The report shall provide a plan and schedule for implementation of the measures, improvements, and modifications as soon as possible, but not later than September 30, 2027 and state whether the measures, improvements, and modifications will enable compliance with final phosphorus WQBELs. Regardless of whether they are expected to result in compliance, the permittee shall implement the measures, improvements, and modifications in accordance with the plan and schedule specified in the operational evaluation report. If the operational evaluation report concludes that the facility can achieve final phosphorus WQBELs using the existing treatment system with only source reduction measures, operational improvements, and minor facility modifications, the permittee shall comply with the final phosphorus WQBEL by September 30, 2027 and is not required to comply with the milestones identified below for years 3 through 9 of this compliance schedule ('Preliminary Compliance Alternatives Plan', 'Final Compliance Alternatives Plan', 'Final Plans and Specifications', 'Treatment Plant Upgrade to Meet WQBELs', 'Complete Construction', 'Achieve Compliance'). STUDY OF FEASIBLE ALTERNATIVES - If the Operational Evaluation Report concludes that the permittee cannot achieve final phosphorus WQBELs with source reduction measures, operational improvements and other minor facility modifications, the permittee shall initiate a study of feasible alternatives for meeting final phosphorus WQBELs and comply with the remaining required actions of this schedule of compliance. If the Department disagrees with the conclusion of the report, and determines that the permittee can achieve final phosphorus WQBELs using the existing treatment system with only source reduction measures, operational improvements, and minor facility modifications, the Department may reopen and modify the permit to include an implementation schedule for achieving the final phosphorus WQBELs sooner than September 30, 2033.	09/30/2025
Compliance Alternatives, Source Reduction, Improvements and Modifications Status: The permittee shall submit a 'Compliance Alternatives, Source Reduction, Operational Improvements and Minor Facility Modification' status report to the Department. The report shall provide an update on the permittee's: (1) progress implementing source reduction measures, operational improvements, and minor facility modifications to optimize reductions in phosphorus discharges and, to the extent that such measures, improvements, and modifications will not enable compliance with the WQBELs, (2) status evaluating feasible alternatives for meeting phosphorus WQBELs.	09/30/2026
Preliminary Compliance Alternatives Plan: The permittee shall submit a preliminary compliance alternatives plan to the Department. If the plan concludes upgrading of the permittee’s wastewater treatment facility is necessary to achieve final phosphorus WQBELs, the submittal shall include a preliminary engineering design report. If the plan concludes Adaptive Management will be used, the submittal shall include a completed Watershed Adaptive Management Request Form 3200-139 without the Adaptive Management Plan. If water quality trading will be undertaken, the plan must state that trading will be pursued.	09/30/2027

Final Compliance Alternatives Plan: The permittee shall submit a final compliance alternatives plan to the Department. If the plan concludes upgrading of the permittee's wastewater treatment is necessary to meet final phosphorus WQBELs, the submittal shall include a final engineering design report addressing the treatment plant upgrades, and a facility plan if required pursuant to ch. NR 110, Wis. Adm. Code. If the plan concludes Adaptive Management will be implemented, the submittal shall include a completed Watershed Adaptive Management Request Form 3200-139 and an engineering report addressing any treatment system upgrades necessary to meet interim limits pursuant to s. NR 217.18, Wis. Adm. Code. If the plan concludes water quality trading will be used, the submittal shall identify potential trading partners. Note: See 'Alternative Approaches to Phosphorus WQBEL Compliance' in the Surface Water section of this permit.	09/30/2028
Progress Report on Plans & Specifications: Submit progress report regarding the progress of preparing final plans and specifications. Note: See 'Alternative Approaches to Phosphorus WQBEL Compliance' in the Surface Water section of this permit.	09/30/2029
Final Plans and Specifications: Unless the permit has been modified, revoked and reissued, or reissued to include Adaptive Management or Water Quality Trading measures or to include a revised schedule based on factors in s. NR 217.17, Wis. Adm. Code, the permittee shall submit final construction plans to the Department for approval pursuant to s. 281.41, Stats., specifying treatment plant upgrades that must be constructed to achieve compliance with final phosphorus WQBELs, and a schedule for completing construction of the upgrades by the complete construction date specified below. (Note: Permit modification, revocation and reissuance, and reissuance are subject to s. 283.53(2), Stats.) Note: See 'Alternative Approaches to Phosphorus WQBEL Compliance' in the Surface Water section of this permit.	09/30/2030
Treatment Plant Upgrade to Meet WQBELs: The permittee shall initiate construction of the upgrades. The permittee shall obtain approval of the final construction plans and schedule from the Department pursuant to s. 281.41. Stats. Upon approval of the final construction plans and schedule by the Department pursuant to s. 281.41, Stats., the permittee shall construct the treatment plant upgrades in accordance with the approved plans and specifications. Note: See 'Alternative Approaches to Phosphorus WQBEL Compliance' in the Surface Water section of this permit.	12/31/2030
Construction Upgrade Progress Report #1: The permittee shall submit a progress report on construction upgrades. Note: See 'Alternative Approaches to Phosphorus WQBEL Compliance' in the Surface Water section of this permit.	12/31/2031
Construction Upgrade Progress Report #2: The permittee shall submit a progress report on construction upgrades. Note: See 'Alternative Approaches to Phosphorus WQBEL Compliance' in the Surface Water section of this permit.	12/31/2032
Complete Construction: The permittee shall complete construction of wastewater treatment system upgrades. Note: See 'Alternative Approaches to Phosphorus WQBEL Compliance' in the Surface Water section of this permit.	08/01/2033
Achieve Compliance: The permittee shall achieve compliance with final phosphorus WQBELs. Note: See 'Alternative Approaches to Phosphorus WQBEL Compliance' in the Surface Water section of this permit.	09/30/2033

5.2 Land Treatment Management Plan

A management plan is required for the land treatment system.

Required Action	Due Date
Land Treatment Management Plan: Submit an update to the management plan to optimize the land treatment system performance and demonstrate compliance with Wisconsin Administrative Code NR 214.	12/31/2024

5.3 Groundwater Monitoring Well Site Map Submittal

Required Action	Due Date
Monitoring Well Site Map: Submit a site map in accordance with ss. NR 141.065 and NR 214.21(2)(f), Wis. Adm. Code. The site map shall include: 1. The location of the land treatment system, structure boundaries, property boundaries, any nearby surface waters and a north arrow. 2. 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. 3. The exact vertical location of the top of the casing (TOC) for each well referenced to the nearest benchmark for the national geodetic survey datum to an accuracy of 0.01 feet. 4. The elevation of the TOC for each well. 5. The exact location of the installed well on a horizontal grid system which is accurate to within one foot. 6. Direction of groundwater flow. 7. The calculated ground surface elevation for each well. Land surface contours of the land treatment system and the elevations of the groundwater shall be referenced to the U.S. geological survey or the U.S. national geodetic survey.	12/31/2024

5.4 Groundwater Monitoring Well Latitude/Longitude

Required Action	Due Date
Action: Groundwater monitoring well latitude and longitude shall be provided to the Department in decimal degrees.	12/31/2024

Explanation of Schedules

5.1 TMDL Derived Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus – This compliance schedule contains all required actions in order to achieve compliance with the TMDL-based WQBELs for total phosphorus by September 30, 2033. Limits become effective at the end of this schedule on October 1, 2033.

5.2 Land Treatment Management Plan – Section NR 214.14(5)(d), Wis. Adm. Code, requires a management plan for facilities with land treatment systems. This schedule allows the facility time to update the required management plan.

5.3 Groundwater Monitoring Well Site Map Submittal – Section NR 141.065, Wis. Adm. Code, requires a map of the land treatment system. This schedule allows the facility time to generate the appropriate required map.

5.4 Groundwater Monitoring Well Latitude/Longitude – This schedule is in addition to the groundwater monitoring well map requirements.

Attachments:

Water Quality-Based Effluent Limitations for Darling Ingredients Inc. WPDES Permit No. WI-0038083-10, by Nicole Krueger, Water Resources Engineer, dated 04/02/2024

Darling Ingredients Inc. - Land Treatment System Evaluation Report, WPDES Permit # WI-0038083, by Woody Myers, Hydrogeologist, dated May 2, 2024

Expiration Date:

September 30, 2029

Justification Of Any Waivers From Permit Application Requirements

No waivers from permit application requirements were requested or granted.

Prepared By: Sarah Donoughe, Wastewater Specialist-Adv **Date:** August 14, 2024

Notice of reissuance is published in the Berlin Journal, PO Box 10, Berlin, WI 54923-0010.

CORRESPONDENCE/MEMORANDUM

State of Wisconsin

DATE: 04/02/2024

TO: Sarah Donoughe – SER

FROM: Nicole Krueger – SER Nicole Krueger

SUBJECT: Water Quality-Based Effluent Limitations for Darling Ingredients Inc.
WPDES Permit No. WI-0038083-10

This is in response to your request for an evaluation of the need for water quality-based effluent limitations (WQBELs) using chapters NR 102, 104, 105, 106, 207, 210, 212, and 217 of the Wisconsin Administrative Code (where applicable), for the discharge from Darling Ingredients in Green Lake County. This industrial facility discharges to Harrington Creek located in the Fox River/Berlin Watershed in the Upper Fox River Basin. This discharge is included in the Upper Fox and Wolf River Basin TMDL as approved by EPA in February 2020. The evaluation of the permit recommendations is discussed in more detail in the attached report.

Based on our review, the following recommendations are made on a chemical-specific basis at Outfall 001:

Parameter	Daily Maximum	Daily Minimum	Weekly Average	Monthly Average	Six-Month Average	Footnotes
Flow Rate						1,2
BOD_5						1,2
Ammonia Nitrogen						1,2
Phosphorus Interim TMDL				 Narrative 0.20 lbs/day	 0.068 lbs/day	3,4
Oil & Grease	15 mg/L			15 mg/L		1
TSS	40 mg/L 67 lbs/day			40 mg/L 41 lbs/day		3
pH	9.0 s.u.	6.0 s.u.				1
Temperature May – October	 86 °F					5

Footnotes:

1. No changes from the current permit.
2. Monitoring only.
3. The TSS and phosphorus mass limits are based on the Total Maximum Daily Load (TMDL) for the Upper Fox and Wolf River Basin to address phosphorus water quality impairments within the TMDL area. The TMDL was approved by EPA in February 2020.
4. The interim narrative phosphorus limit shall be: "The plant shall be operated such that the amount of phosphorus being discharged on an annual basis does not increase over the permit term, and that the phosphorus reductions will occur over time through optimization."
5. Limits apply at Outfall 001. Monitoring only at Outfall 001 is recommended in the reissued permit for the months of November – April.

No WET testing is required because information related to the discharge indicates low to no risk for toxicity.

Please consult the attached report for details regarding the above recommendations. If there are any questions or comments, please contact Nicole Krueger at Nicole.Krueger@wisconsin.gov or Diane Figiel at Diane.Figiel@wisconsin.gov.

Attachments (2) – Narrative & Outfall Map

PREPARED BY: Nicole Krueger, Water Resources Engineer – SER

E-cc: Mark Stanek, Wastewater Engineer – NER
Heidi Schmitt Marquez, Regional Wastewater Supervisor – NER
Diane Figiel, Water Resources Engineer – WY/3
Kari Fleming, Environmental Toxicologist – WY/3
Michael Polkinghorn, Water Resources Engineer – NOR/Rhinelander Service Center
Nate Willis, Wastewater Engineer – WY/3

Attachment #1

Water Quality-Based Effluent Limitations for
Darling Ingredients Inc

WPDES Permit No. WI-0038083-10

Prepared by: Nicole Krueger

PART 1 – BACKGROUND INFORMATION

Facility Description

Darling Ingredients Inc. recycles inedible animal by-products, meat wastes, and cooking oils into dry rendered meat and bone meal, inedible tallow, and/or yellow grease. Wastewater generated from the processing operations is treated by an anaerobic lagoon, aerobic lagoon, final clarifier, and then discharged into the sanitary sewer or to wastewater storage lagoons and then spray irrigated to adjacent fields. Biosolids generated at the treatment plant can be land applied or taken to approved manure pits. Groundwater monitoring wells surround the storage lagoons and spray irrigation fields. Noncontact cooling water (NCCW) is discharged to Harrington Creek. The recommendations in this memo apply only to the NCCW discharge.

NCCW is discharged from the Darling International production facility via a PVC pipe, a rip-rap area, and a culvert under a bike trail and then to a large cooling pond, approximately 450' by 80' by 5' deep. Discharge from the pond is via two control box structures on either end, those discharge streams combine about 200 feet from the pond which flows to Harrington Creek.

Flow is measured as it leaves the production facility, and it is hard piped to the bottom of the hill, then it open channel flows under a trail, and into a culvert that empties into the cooling pond.

Attachment #2 is a map of the area showing the approximate location of Outfall 001.

Existing Permit Limitations

The current permit, expiring on 06/30/2024, includes the following effluent limitations and monitoring requirements.

Parameter	Daily Maximum	Daily Minimum	Weekly Average	Monthly Average	Six-Month Average	Footnotes
Flow Rate						1
BOD_5						1
Ammonia Nitrogen						1
Phosphorus						1
Oil & Grease	15 mg/L			15 mg/L		2
TSS	40 mg/L			40 mg/L		
pH	9.0 s.u.	6.0 s.u.				2
Temperature						3

Footnotes:

1. Monitoring only.

2. These limitations are not being evaluated as part of this review. Because the water quality criteria (WQC), reference effluent flow rates, and receiving water characteristics have not changed, limitations for these water quality characteristics do not need to be re-evaluated at this time.
3. Temperature data is collected 1400 feet downstream of Outfall 001. The following temperature limits are currently effective at this location:

Month	Weekly Average Effluent Limitation (°F)	Daily Maximum Effluent Limitation (°F)
JAN	49	
FEB	50	
MAR	52	
APR	55	79
MAY	65	82
JUN	76	84
JUL	81	85
AUG	81	84
SEP	73	82
OCT	61	
NOV	49	
DEC	49	

Receiving Water Information

- Name: Harrington Creek
- Waterbody Identification Code (WBIC): 143700
- Classification used in accordance with chs. NR 102 and 104, Wis. Adm. Code: This discharge is in Table 5 in ch. NR 104, Wis. Adm. Code as limited aquatic life (LAL), from the discharge to the Fox River, approximately 1.5 miles downstream of Outfall 001. The previous discharge at this location was called Beucher & Sons which is listed in ch. NR 104, Wis. Adm. Code.
  Historically, the immediate receiving water was mistakenly considered an effluent channel for 1400 feet until it reaches Harrington Creek which was considered a warmwater sport fish (WWSF) classification. This memo uses the correct classification of LAL for the limits evaluation from the discharge to the Fox River.
- Low flows used in accordance with chs. NR 106 and 217, Wis. Adm. Code: The following 7-Q_{10} and 7-Q_2 values are estimates where Outfall 001 is located because of the intermittent flow.
  7-Q_{10} = 0 cfs (cubic feet per second)
  7-Q_2 = 0 cfs
- % of low flow used to calculate limits in accordance with s. NR 106.06(4)(c)5., Wis. Adm. Code: Not applicable where low flows are zero.
- Source of background concentration data: Background concentrations are not included because they don't impact the calculated WQBEL when the receiving water low flows are equal to zero.
- Multiple dischargers: None.
- Impaired water status: Harrington Creek, approximately 1400' downstream of the holding pond, is 303(d) listed as impaired for TSS.

Effluent Information

- Flow rate(s):
  Maximum annual average = 0.50 MGD (Million Gallons per Day)
  For reference, the actual average flow from 07/01/2019 to 11/30/2023 was 0.48 MGD.
- Acute dilution factor used in accordance with s. NR 106.06(3)(c), Wis. Adm. Code: Not applicable – this facility does not have an approved Zone of Initial Dilution (ZID).
- Water source: Private well water.
- Additives: None.
- Effluent characterization: This facility is categorized as a secondary industry, so the permit application required effluent sample analyses for a limited number of common pollutants, as specified in s. NR 200.065, Table 1, Wis. Adm. Code, primarily metal substances plus ammonia, chloride, hardness and phosphorus.
- Effluent data for substances for which a single sample was analyzed is shown in the tables in Part 2 below, in the column titled "MEAN EFFL. CONC.". Otherwise, substances with multiple effluent data are shown in the tables below or in their respective parts in this evaluation.

The following table presents the average concentrations and loadings at Outfall 001 from 07/01/2019 – 11/30/2023 for all parameters with limits in the current permit to meet the requirements of s. NR 201.03(6), Wis. Adm. Code:

Parameter Averages with Limits

	Average Measurement
Oil & Grease	2.5 mg/L*
TSS	2.6 mg/L*
pH field	7.28 s.u.

*Results below the level of detection (LOD) were included as zeroes in calculation of average.

PART 2 – WATER QUALITY-BASED EFFLUENT LIMITATIONS FOR TOXIC SUBSTANCES – EXCEPT AMMONIA NITROGEN

Permit limits for toxic substances are required whenever any of the following occur:

1. The maximum effluent concentration exceeds the calculated limit (s. NR 106.05(3), Wis. Adm. Code)
2. If 11 or more detected results are available in the effluent, the upper 99th percentile (or P_{99}) value exceeds the comparable calculated limit (s. NR 106.05(4), Wis. Adm. Code)
3. If fewer than 11 detected results are available, the mean effluent concentration exceeds 1/5 of the calculated limit (s. NR 106.05(6), Wis. Adm. Code)

Acute Limits based on 1-Q_{10}

Daily maximum effluent limitations for toxic substances are based on the acute toxicity criteria (ATC), listed in ch. NR 105, Wis. Adm. Code. Previously daily maximum limits for toxic substances were calculated as two times the ATC. However, changes to ch. NR 106, Wis. Code, (September 1, 2016) require the Department to calculate acute limitations using the same mass balance equation as used for other limits along with the 1-Q_{10} receiving water low flow to determine if more restrictive effluent limitations are needed to protect the receiving stream from discharges which may cause or contribute to an exceedance of the acute water quality standards. The mass balance equation is provided below.

$$\text{Limitation} = \frac{(WQC)\,(Qs + (1-f)\,Qe) - (Qs - f\,Qe)\,(Cs)}{Qe}$$

Where:

WQC =Acute toxicity criterion or secondary acute value according to ch. NR 105, Wis. Adm. Code.

Qs = average minimum 1-day flow which occurs once in 10 years (1-day Q_{10}) if the 1-day Q_{10} flow data is not available = 80% of the average minimum 7-day flow which occurs once in 10 years (7-day Q_{10}).

Qe = Effluent flow (in units of volume per unit time) as specified in s. NR 106.06(4)(d), Wis. Adm. Code.

f = Fraction of the effluent flow that is withdrawn from the receiving water, and

Cs = Background concentration of the substance (in units of mass per unit volume) as specified in s. NR 106.06(4)(e), Wis. Adm. Code.

If the receiving water is effluent dominated under low stream flow conditions, the 1-Q_{10} method of limit calculation produces the most stringent daily maximum limitations and should be used while making reasonable potential determinations. This is the case for Darling Ingredients.

The following tables list the calculated WQBELs for this discharge along with the results of effluent sampling.

Daily Maximum Limits based on Acute Toxicity Criteria (ATC)

RECEIVING WATER FLOW = 0 cfs

SUBSTANCE	ATC	MEAN BACK-GRD.	MAX. EFFL. LIMIT**	1/5 OF EFFL. LIMIT	MEAN EFFL. CONC.
Chlorine (µg/L)	19.0		19.0	3.81	<20
Chloride (mg/L)	757		757	151	46

* The indicated hardness may differ from the effluent hardness because the effluent hardness exceeded the maximum range in ch. NR 105, Wis. Adm. Code, over which the acute criteria are applicable. In that case, the maximum of the range is used to calculate the criterion.

* * Per the changes to s. NR 106.07(3), Wis. Adm. Code, effective 09/01/2016 consideration of ambient concentrations and 1-Q_{10} flow rates yields a more restrictive limit than the 2 × ATC method of limit calculation.

Weekly Average Limits based on Chronic Toxicity Criteria (CTC)

RECEIVING WATER FLOW = 0 cfs

SUBSTANCE	CTC	MEAN BACK-GRD.	WEEKLY AVE. LIMIT	1/5 OF EFFL. LIMIT	MEAN EFFL. CONC.
Chlorine (µg/L)	7.28		7.28	1.46	<20
Chloride (mg/L)	395		395	79.0	46

* The indicated hardness may differ from the receiving water hardness because the receiving water hardness exceeded the maximum range in ch. NR 105, Wis. Adm. Code, over which the chronic criteria are applicable. In that case, the maximum of the range is used to calculate the criterion.

Conclusions and Recommendations

Based on a comparison of the effluent data and calculated effluent limitations, effluent limitations are not required for toxic substances in this section.

PFOS and PFOA – The need for PFOS and PFOA monitoring is evaluated in accordance with s. NR 106.98(2), Wis. Adm. Code. Based on the type of discharge, PFOS and PFOA monitoring is not recommended. The Department may re-evaluate the need for sampling at the next permit reissuance if new information becomes available that suggests PFOS or PFOA may be present in the discharge.

PART 3 – WATER QUALITY-BASED EFFLUENT LIMITATIONS FOR AMMONIA NITROGEN

The State of Wisconsin promulgated revised water quality standards for ammonia nitrogen in ch. NR 105, Wis. Adm. Code, effective March 1, 2004 which includes criteria based on both acute and chronic toxicity to aquatic life. Given the fact that Darling Ingredients does not currently have ammonia nitrogen limits, the need for limits is evaluated at this time.

Ammonia Nitrogen Effluent Data

	Ammonia Nitrogen mg/L
11/05/2019	0.30
11/05/2020	0.24
11/04/2021	0.33
11/22/2022	0.21
11/02/2023	0.22
Average	0.26

These concentrations are low, and well below any of the applicable criteria for the receiving water. **Therefore, no limits are recommended; however, monitoring is recommended to continue.**

PART 4 – PHOSPHORUS

Technology-Based Effluent Limit

Subchapter II of Chapter NR 217, Wis. Adm. Code, requires industrial facilities that discharge greater than 60 pounds of Total Phosphorus per month to comply with a monthly average limit of 1.0 mg/L, or an approved alternative concentration limit.

Because Darling Ingredients does not currently have an existing technology-based limit, the need for this limit in the reissued permit is evaluated. The data demonstrates that the annual monthly average phosphorus loading is less than 60 lbs/month, which is the threshold for industrials in accordance to s. NR 217.04(1)(a)2, Wis. Adm. Code, and therefore no technology-based limit is required.

Annual Average Mass Total Phosphorus Loading

Month	Result mg/L	Total Flow MG/month	Total Phosphorus lb./mo.
Nov 2019	0.08	9.52	6.4
Nov 2021	0.05	11.9	5.0
Nov 2022	0.03	11.8	2.9
Nov 2023	0.03	11.8	3.0
Average			4.3

TMDL Limits – Phosphorus

Total phosphorus (TP) effluent limits in lbs/day are calculated as recommended in the *TMDL Development and Implementation Guidance: Integrating the WPDES and Impaired Waters Programs* (April 2020) and are based on the annual phosphorus wasteload allocation (WLA) given in pounds per year. This WLA found in Appendix H of the *Total Maximum Daily Loads for Total Phosphorus and Total Suspended Solids in the Upper Fox and Wolf River Basins (UFW TMDL)* report dated February 2020 are expressed as maximum annual loads (lbs/year).

For the reasons explained in the April 30, 2012 paper entitled *Justification for Use of Monthly, Growing Season and Annual Average Periods for Expression of WPDES Permit Limits for Phosphorus Discharges in Wisconsin*, WDNR has determined that the phosphorus WQBELs set equal to WLAs would not be consistent with the assumptions and requirements of the TMDL. Therefore, limits given to facilities included in the Upper Fox and Wolf River Basins TMDL are given monthly average mass limits and, if the equivalent effluent concentration is less than or equal to 0.3 mg/L, six-month average mass limits are also included. The following equation shows the calculation of equivalent effluent concentration:

$$\text{TP Equivalent Effluent Concentration} = \text{WLA} \div (365\ \text{days/yr} * \text{Flow Rate} * \text{Conversion Factor})$$
$$= 19\ \text{lbs/yr} \div (365\ \text{days/yr} * 0.50\ \text{MGD} * 8.34)$$
$$= 0.012\ \text{mg/L}$$

Since this value is less than 0.3 mg/L, both a six-month average mass limit and a monthly average mass limit are applicable for total phosphorus. The monthly average limit is set equal to three times the six-month average limit.

$$\text{TP 6-Month Average Permit Limit} = \text{WLA} \div 365\ \text{days/yr} * \text{multiplier}$$
$$= (19\ \text{lbs/yr} \div 365\ \text{days/yr}) * 1.30$$
$$= 0.068\ \text{lbs/day}$$

$$\text{TP Monthly Average Permit Limit} = \text{TP 6-Month Average Permit Limit} * 3$$
$$= 0.068\ \text{lbs/day} * 3$$
$$= 0.20\ \text{lbs/day}$$

The multiplier used in the six-month average calculation was determined according to the implementation guidance. The default coefficient of variation of 0.6 is used because of the very limited available phosphorus data. This value, along with monitoring frequency, is used to select the multiplier. When a phosphorus limit is included in a permit, the minimum monitoring frequency is 1/week; if a different monitoring frequency is used, the stated limits should be reevaluated.

Six-month average and monthly average mass effluent limits are recommended for this discharge. The limits are equivalent to a concentration of 0.016 mg/L and 0.049 mg/L, respectively, at the maximum annual average for industries flow of 0.50 MGD.

The UFW TMDL establishes TP wasteload allocations to reduce the loading in the entire watershed including WLAs to meet water quality standards for tributaries to the Upper Fox and Wolf River.

Therefore, WLA-based WQBELs are protective of immediate receiving waters and TP WQBELs derived according to s. NR 217.13, Wis. Adm. Code are not required.

Since wasteload allocations are expressed as annual loads (lbs/yr), permits with TMDL-derived monthly average permit limits should require the permittee to calculate and report rolling 12-month sums of total monthly loads for TP. Rolling 12-month sums can be compared directly to the annual wasteload allocation.

Effluent Data
The following table summarizes effluent total phosphorus monitoring data from the current permit term.

Total Phosphorus Effluent Data

	Phosphorus mg/L
11/05/2019	0.08
11/04/2021	0.05
11/22/2022	0.03
11/02/2023	0.03
Average	0.05

There is very minimal available effluent phosphorus data for Darling Ingredients and a compliance schedule is recommended in the reissued permit.

Interim Limit
There is an extremely limited data set for phosphorus from this facility. Therefore, a narrative interim phosphorus limit is deemed more appropriate than a numeric interim phosphorus limit and a **narrative Interim Phosphorus Limitation** similar to the following is recommended: "The plant shall be operated such that the amount of phosphorus being discharged on an annual basis does not increase over the permit term, and that the phosphorus reductions will occur over time through optimization."

PART 5 – TOTAL SUSPENDED SOLIDS

Total Suspended Solids (TSS) effluent limits in lbs/day are calculated as recommended in the *TMDL Development and Implementation Guidance: Integrating the WPDES and Impaired Waters Programs* (April 2020). This WLAs found in Appendix I of the *Total Maximum Daily Loads for Total Phosphorus and Total Suspended Solids in the Upper Fox and Wolf Basins (UFW TMDL)* report dated February 2020 are expressed as maximum annual loads (lbs/year).

Revisions to chs. NR 106 and 205, Wis. Adm. Code align Wisconsin water quality-based effluent limits with 40 CFR 122.45(d), which requires WPDES permits to contain the following concentration limits, whenever practicable and necessary to protect water quality:

- Weekly average and monthly average limitations for continuous discharges subject to ch. NR 210.
- Daily maximum and monthly average limitations for all other discharges.

Darling Ingredients is an industrial facility and is therefore subject to monthly average and daily maximum TSS limits derived from TSS annual WLAs.

TSS Monthly Average Permit Limit = WLA ÷ 365 days/yr * multiplier
= (7,866 lbs/yr ÷ 365 days/yr) * 1.90
= 41 lbs/day

TSS Daily Maximum Permit Limit = WLA ÷ 365 days/yr * daily multiplier
= (7,866 lbs/yr ÷ 365 days/yr) * 3.11
= 67 lbs/day

The multiplier used in the weekly average and monthly average calculation was determined according to implementation guidance. The coefficient of variation of 0.6 was used This value, along with monitoring frequency, is used to select the multiplier. The current permit specifies TSS monitoring as quarterly. When a limit is included in a permit, the minimum monitoring frequency is 1/week; if a different monitoring frequency is used, the stated limits should be reevaluated.

Daily maximum and monthly average mass effluent limits are recommended for this discharge. The limits are equivalent to concentrations of 16 mg/L and 9.8 mg/L, respectively, at the maximum annual average flow of 0.50 MGD.

Since wasteload allocations are expressed as annual loads (lbs/yr), permits with TMDL-derived monthly average permit limits should require the permittee to calculate and report rolling 12-month sums of total monthly loads for TSS. Rolling 12-month sums can be compared directly to the annual wasteload allocation.

Effluent Data

The following table summarizes effluent total suspended solids monitoring data from the current permit term. The mass data was calculated using the reported flow on the same days.

Total Suspended Solids Effluent Data

	TSS mg/L	TSS lbs/day
08/28/2019	2	8.2
11/05/2019	2	9.4
01/15/2020	2	6.8
06/03/2020	<2	0
07/15/2020	<2	0
11/05/2020	<2	0
01/20/2021	<2	0
04/14/2021	<2	0
08/04/2021	33	31
11/04/2021	<2	0
02/09/2022	<2	0
04/27/2022	<2	0
07/27/2022	<2	0
11/22/2022	<2	0
03/15/2023	2.4	12
04/26/2023	2	11

Attachment #1

	TSS mg/L	TSS lbs/day
07/26/2023	2	11
11/02/2023	2	10
Average*	1.0	5.5

*Results below the level of detection (LOD) were included as zeroes in calculation of average.

Darling Ingredients can currently meet the TMDL-based limits, so a compliance schedule is not needed and the limits are recommended to become effective immediately.

PART 6 – WATER QUALITY-BASED EFFLUENT LIMITATIONS FOR THERMAL

Surface water quality standards for temperature took effect on October 1, 2010. These regulations are detailed in Chapters NR 102 (Subchapter II – Water Quality Standards for Temperature) and NR 106 (Subchapter V – Effluent Limitations for Temperature) of the Wisconsin Administrative Code. The daily maximum effluent temperature limitation shall be 86 °F for discharges to surface waters classified as Limited Aquatic Life according to s. NR 104.02(3)(b)1, Wis. Adm. Code, except for those classified as wastewater effluent channels and wetlands regulated under ch. NR 103 and described in s. NR 106.55(2), Wis. Adm. Code, which has a daily maximum effluent temperature limitation of 120 °F. The 86° F limit applies because the hydrologic classification is not listed as a wastewater effluent channel in ch. NR 104, Wis. Adm. Code.

The table below summarizes the maximum temperatures reported during monitoring from 05/26/2022 - 06/14/2023 during the current permit term. This data was collected 1400 feet downstream of the cooling pond outfall and not at Outfall 001 where the LAL-based limits would apply. It is assumed that if there is an exceedance to the calculated limits 1400 feet downstream of the outfall, the temperature at the Outfall would also exceed the limit.

Monthly Temperature Effluent Data, 1400 feet downstream

Month	Representative Highest Monthly Effluent Temperature		Calculated Effluent Limit	
	Weekly Maximum (°F)	Daily Maximum (°F)	Weekly Average Effluent Limitation (°F)	Daily Maximum Effluent Limitation (°F)
JAN	76	85	-	86
FEB	81	85	-	86
MAR	55	67	-	86
APR	63	68	-	86
MAY	69	70	-	86
JUN	70	90	-	**86**
JUL	89	94	-	**86**
AUG	87	98	-	**86**
SEP	76	81	-	86

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Month	Representative Highest Monthly Effluent Temperature		Calculated Effluent Limit	
	Weekly Maximum (°F)	Daily Maximum (°F)	Weekly Average Effluent Limitation (°F)	Daily Maximum Effluent Limitation (°F)
OCT	82	94	-	**86**
NOV	76	80	-	86
DEC	77	82	-	86

The table below summarizes the maximum temperatures reported during monitoring from 04/01/2014 to 08/31/2018 from Outfall 001 at the cooling pond, during the previous permit term.

Monthly Temperature Effluent Data & Limits, at Outfall 001

Month	Representative Highest Monthly Effluent Temperature		Calculated Effluent Limit	
	Weekly Maximum (°F)	Daily Maximum (°F)	Weekly Average Effluent Limitation (°F)	Daily Maximum Effluent Limitation (°F)
JAN	67	73	-	86
FEB	67	72	-	86
MAR	72	75	-	86
APR	78	81	-	86
MAY	85	89	-	**86**
JUN	89	90	-	**86**
JUL	90	92	-	**86**
AUG	90	93	-	**86**
SEP	85	91	-	**86**
OCT	79	80	-	86
NOV	72	76	-	86
DEC	68	69	-	86

Reasonable Potential

Permit limits for temperature are recommended based on the procedures in s. NR 106.56, Wis. Adm. Code.

- An acute limit for temperature is recommended for each month in which the representative daily maximum effluent temperature for that month exceeds the acute WQBEL. The representative daily maximum effluent temperature is the greater of the following:
  (a) The highest recorded representative daily maximum effluent temperature
  (b) The projected 99th percentile of all representative daily maximum effluent temperatures

- A sub−lethal limitation for temperature is recommended for each month in which the representative weekly average effluent temperature for that month exceeds the weekly average WQBEL. The representative weekly average effluent temperature is the greater of the following:
  (a) The highest weekly average effluent temperature for the month.
  (b) The projected 99th percentile of all representative weekly average effluent temperatures for the month

Comparing the representative highest effluent temperature to the calculated effluent limits determines the reasonable potential of exceeding the effluent limits. The months in which limitations are recommended are shown in bold. Based on this analysis, **daily maximum temperature limit of 86 °F is needed for the months of May – October.**

The facility is currently evaluating temperature compliance options. The following general options are available for a facility to explore potential relief from the temperature limits:

- Effluent monitoring data: Verification or additional effluent monitoring (flow and/or temperature) may be appropriate if there were questions on the representativeness of the current effluent data.
- Monthly low receiving water flows: Contract with USGS to generate monthly low flow estimates for the receiving water to be used in place of the annual low flow.
- Mixing zone studies: A demonstration of rapid and complete mixing may allow for the use of a mixing zone other than the default 25%.
- Collection of site-specific ambient temperature: default background temperatures for streams in Wisconsin, so actual data from the direct receiving water may provide for relaxed thermal limits but only if the site-specific temperatures are lower than the small stream defaults used in the above tables.
- A variance to the water quality standard: This is typically considered to be the least preferable and most complex option as it requires the evaluation of the other alternatives.

These options are explained in additional detail in the August 15, 2013 Department *Guidance for Implementation of Wisconsin's Thermal Water Quality Standards* http://dnr.wi.gov/topic/surfacewater/documents/ThermalGuidance2edition8152013.pdf.

PART 7 – WHOLE EFFLUENT TOXICITY (WET)

WET testing is used to measure, predict, and control the discharge of toxic materials that may be harmful to aquatic life. In WET tests, organisms are exposed to a series of effluent concentrations for a given time and effects are recorded. Decisions below related to the selection of representative data and the need for WET limits were made according to ss. NR 106.08 and 106.09, Wis. Adm. Code. WET monitoring frequency and toxicity reduction evaluation (TRE) recommendations were made using the best professional judgment of staff familiar with the discharge after consideration of the guidance in the *Whole Effluent Toxicity (WET) Program Guidance Document (2022).*

- Acute tests predict the concentration that causes lethality of aquatic organisms during a 48 to 96-hour exposure. To assure that a discharge is not acutely toxic to organisms in the receiving water, WET tests must produce a statistically valid LC_{50} (Lethal Concentration to 50% of the test organisms) greater than 100% effluent, according to s. NR 106.09(2)(b), Wis. Adm Code.
- Chronic tests predict the concentration that interferes with the growth or reproduction of test organisms during a seven-day exposure. To assure that a discharge is not chronically toxic to organisms in the receiving water, WET tests must produce a statistically valid IC_{25} (Inhibition Concentration) greater than the instream waste concentration (IWC), according to s. NR 106.09(3)(b), Wis. Adm Code. The

IWC is an estimate of the proportion of effluent to total volume of water (receiving water + effluent). The IWC of 100% shown in the WET Checklist summary below was calculated according to the following equation, as specified in s. NR 106.03(6), Wis. Adm Code:

$$IWC\ (as\ \%) = Q_e \div \{(1 - f)\ Q_e + Q_s\} \times 100$$

Where:

Q_e = annual average flow = 0.50 MGD = 774 cfs
f = fraction of the Q_e withdrawn from the receiving water = 0
Q_s = ¼ of the 7-Q_{10} = 0 cfs ÷ 4 = 0 cfs

- According to the *State of Wisconsin Aquatic Life Toxicity Testing Methods Manual* (s. NR 219.04, Table A, Wis. Adm. Code), a synthetic (standard) laboratory water may be used as the dilution water and primary control in acute WET tests, unless the use of different dilution water is approved by the Department prior to use. The primary control water must be specified in the WPDES permit.
- According to the *State of Wisconsin Aquatic Life Toxicity Testing Methods Manual* (s. NR 219.04, Table A, Wis. Adm. Code), receiving water must be used as the dilution water and primary control in chronic WET tests, unless the use of different dilution water is approved by the Department prior to use. The dilution water used in WET tests conducted on Outfall 001 shall be a grab sample collected from the receiving water location, upstream and out of the influence of the mixing zone and any other known discharge or lab water. The specific receiving water location must be specified in the WPDES permit.

The WET checklist was developed to help DNR staff make recommendations regarding WET limits, monitoring, and other related permit conditions. The checklist indicates whether acute and chronic WET limits are needed, based on requirements specified in s. NR 106.08, Wis. Adm. Code. The checklist steps the user through a series of questions, assesses points based on the potential for effluent toxicity, and suggests monitoring frequencies based on points accumulated during the checklist analysis. As toxicity potential increases, more points accumulate, and more monitoring is recommended to ensure that toxicity is not occurring. A summary of the WET checklist analysis completed for this permittee is shown in the table below. Staff recommendations based on best professional judgment are provided below the summary table. For guidance related to reasonable potential and the WET checklist, see Chapter 1.3 of the WET Guidance Document: https://dnr.wisconsin.gov/topic/Wastewater/WET.html.

WET Checklist Summary

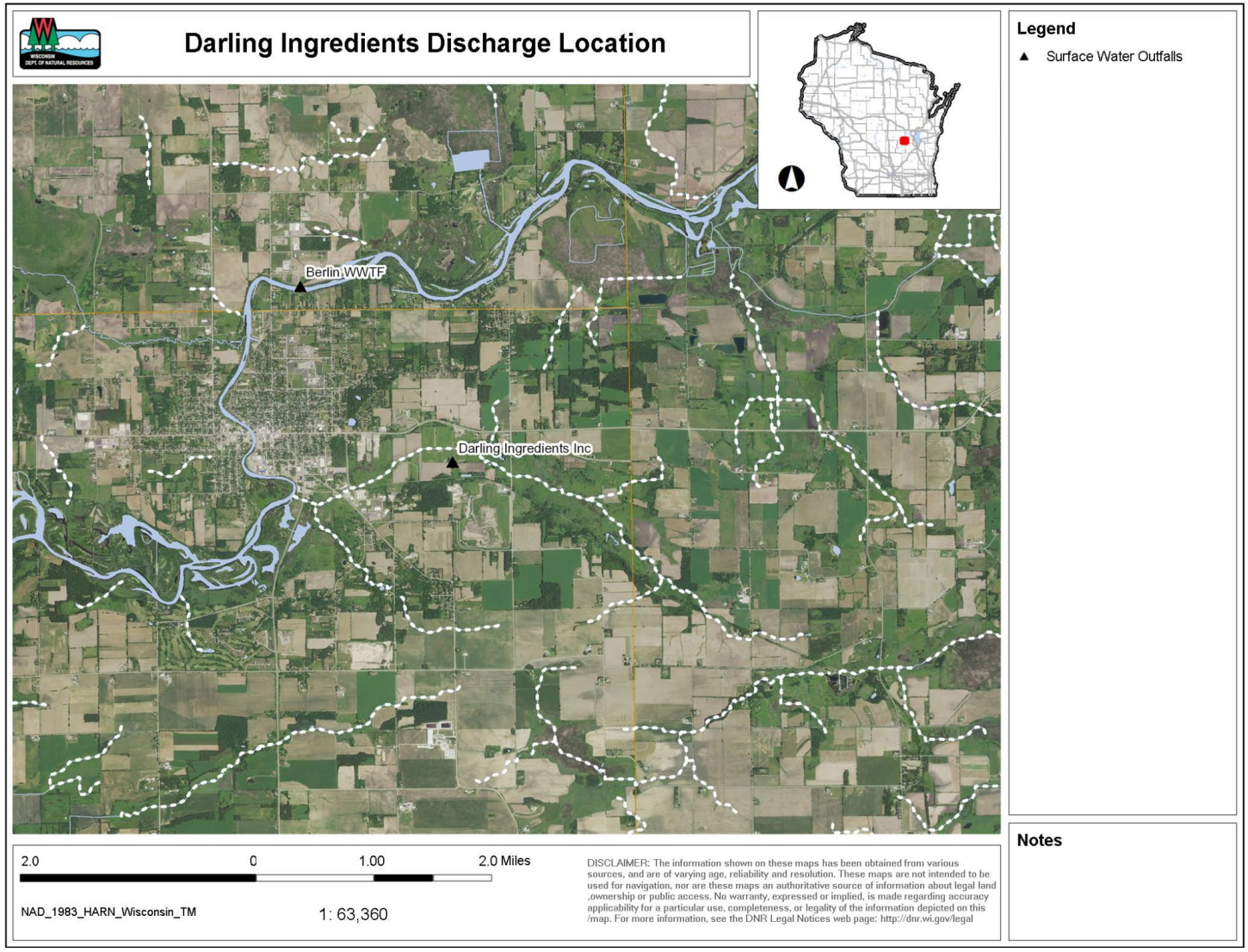
	Acute	Chronic
AMZ/IWC	Not Applicable. **0 Points**	IWC = 100%. **15 Points**
Historical Data	0 tests used to calculate RP. **5 Points**	0 tests used to calculate RP. **5 Points**
Effluent Variability	Little variability, no violations or upsets, consistent WWTF operations. **0 Points**	Same as Acute. **0 Points**
Receiving Water Classification	LAL, less than 4 miles to a WWSF classification. **5 Points**	Same as Acute. **5 Points**

Attachment #1

	Acute	Chronic
Chemical-Specific Data	No reasonable potential for limits based on ATC; Chloride detected. Additional Compounds of Concern: None. **1 Point**	No reasonable potential for limits based on CTC; Chloride detected. Additional Compounds of Concern: None. **1 Point**
Additives	No additives used. **0 Points**	No additives used. **0 Points**
Discharge Category	NCCW **0 Points**	Same as Acute. **0 Points**
Wastewater Treatment	NCCW **0 Points**	Same as Acute. **0 Points**
Downstream Impacts	No impacts known. **0 Points**	Same as Acute. **0 Points**
Total Checklist Points:	**11 Points**	**26 Points**
Recommended Monitoring Frequency (from Checklist):	No tests recommended	3 tests during permit term
Limit Required?	No	No
TRE Recommended? (from Checklist)	No	No

- The WET Checklist summarized above is suggesting a need for WET monitoring based primarily on having an IWC of 100%. Because this discharge has a low risk of toxicity and after consideration of the guidance provided in the Department's WET Program Guidance Document (2022), **no WET testing is recommended during this permit term.**

Attachment #2



CORRESPONDENCE/MEMORANDUM

State of Wisconsin

DATE: May 2, 2024 FILE REF: 5171

TO: File

FROM: Woody Myers - WCR

SUBJECT: Darling Ingredients Inc. - Land Treatment System Evaluation Report, WPDES Permit # WI-0038083

Site Information

Darling Ingredients Inc. is regulated as an industrial facility and is located at W694 Whiteridge Road, Berlin, Green Lake County. Wastewater is currently discharged to groundwater via infiltration by way of spray irrigation fields located in the NE ¼ of the NW ¼ and the NW ¼ of the NE ¼ of Section 12, T17N, R13E, Town of Berlin.

Land Treatment Effluent & Groundwater Evaluation Summary

Table 1 Land Treatment Effluent Parameters and Limits
Outfall 002 Spray Irrigation

	Current Permit WI-0038083-09		Proposed Permit WI-0038083-10	
Parameter	Limits and Units	Limit Type	Limits and Units	Limit Type
Flow Rate	- gallons		- gpd	
Hydraulic Application Rate (May-Oct)	13,500 gal/ac/day	Daily Max	13,500 gal/ac/day	Daily Max
Hydraulic Application Rate (Nov-Apr)	6,800 gal/ac/day	Daily Max	6,800 gal/ac/day	Daily Max
Chloride	- mg/l		- mg/l	
Chloride, Max Applied to Any Zone	170 lbs/ac/yr	Annual Total	170 lbs/ac/yr	Annual Total
Nitrogen, Total Kjeldahl	- mg/l		- mg/l	
Nitrogen, Nitrite + Nitrate	- mg/l		- mg/l	
***Nitrogen, Max Applied to Any Zone**	Not Required		- mg/l	
***Nitrogen, Total**	Not Required		- mg/l	

* Proposed permit changes

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Table 2 Monitoring Wells

Well	Current Permit WI-0038083-09		Proposed Permit WI-0038083-10	
	Well Location	Well Designation	Well Location	Well Designation
804 (MW-1)	Down-gradient	Non-Point of Standard	Down-gradient	Non-Point of Standard
805 (MW-3)	Down-gradient	Non-Point of Standard	Down-gradient	Non-Point of Standard
806 (MW-4)	Up-gradient	Non-Point of Standard	Up-gradient	Non-Point of Standard
807 (MW-5)	Up-gradient	Background	Up-gradient	Background
808 (MW-6)	Down-gradient	Non-Point of Standard	Down-gradient	Non-Point of Standard
809 (MW-2)	Down-gradient	Non-Point of Standard	Down-gradient	Non-Point of Standard

No proposed permit changes

Table 3 Groundwater Quality Standards

Parameter	Current Permit WI-0038083-09		Proposed WI-0038083-10	
	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	N/A	16.5 mg/l (ACL)	***N/A**	***N/A**
Chloride	210 mg/l	250 mg/l	***125 mg/l**	250 mg/l
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	2.3 mg/l	N/A	2.3 mg/l	N/A
Total Dissolved Solids	789 mg/l	N/A	***735 mg/l**	N/A
pH	6.6-8.6 su	N/A	***6.3-8.3**	N/A
COD, Filtered	33 mg/l	N/A	***30 mg/l**	N/A

* Proposed permit changes

Geology

The bedrock under this facility is the Prairie du Chien Group. This group includes the Shakopee and Oneota Formations with the Willow River, New Richmond, Hager City and Stockton Hill Members. The Prairie du Chien is comprised of dolomite with some variation in the New Richmond Member which ranges from a sandstone to siltstone (*Bedrock Geologic Map of Wisconsin*, Wisconsin Geological and Natural History Survey (WGNHS), 1982). Bedrock is anticipated to be between 20 and 100 feet below ground surface (bgs) (*Depth to Bedrock in Wisconsin,* WGNHS, 1973). The regolith consists of material ranging from fine sand to gravel. Surface soil primarily consists of the Kidder loam and the Grellton fine sandy loam (USDA NRCS Web Soil Survey).

Hydrogeology

Calculated groundwater elevation ranges between 780 and 790 feet above mean sea level (msl). Depth to groundwater was reported to be between 8 and 30 feet bgs. Groundwater flow direction was calculated to be predominately to the west southwest. Regional groundwater is anticipated to be to the west in this area of Green Lake County (*Mean Elevation of Water Table*, Map, United States Department of Interior, 1968). The site is approximately 980 feet north of an un-named creek. There are eight wells (municipal, other than municipal, private and high-capacity) within a 1,500-foot range of this facility's groundwater discharge.

Land Treatment Effluent Quality and Loading Rates

Outfall 002 is the discharge associated with the groundwater monitoring network. The following table is the average flow (hydraulic loading), nitrite + nitrate as nitrogen and chloride (concentration and mass) loading summations for the Land Treatment System.

Table 4 Land Treatment Loading Averages

Year	Flow (gallons)	Nitrite + Nitrate (mg/l)	Chloride (mg/l)	Chloride lbs/ac/day
2023	160,920	106.7	270	163.5
2022	111,430	3.86	261	148.2
2021	No Data	No Data	No Data	0
2020	110,340	32.5	288	52.0
2019	116,950	69.0	248	29.3

* Indicates partial year

Groundwater Monitoring System and Sampling Frequency

Groundwater samples were collected semi-annually from all wells. All of the groundwater sampling parameters were 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 Preventive Action Limit (PAL).

Table 5 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	
804	MW-1		818.3	791.3	781.3	10.0	37.0	WT
805	MW-3			(-2.5')	(-12.5')	10.0	12.5	WT
806	MW-4		813.1	791.1	781.1	10.0	32.0	WT
807	MW-5		860.8	825.3	810.3	15.0	50.5	WT
808	MW-6		790.9	785.9	775.9	10.0	15.0	WT
809	MW-2			(-4.5')	((-14.5")	10.0	14.5	WT

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

Effluent Quality

The nitrite + nitrate effluent concentrations fluctuate significantly and at times are high. The chloride concentrations are relatively high, but given the fairly low volume of discharge, the overall mass is low.

Groundwater Sampling Results

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.

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 ACLs where appropriate. The groundwater was evaluated by looking at approximately five years of monitoring results. PALs and ACLs are calculated from this time range. Concentrations of nitrite + nitrate in the up-gradient wells exceed the s. NR 140.10 Wis. Adm. Code PAL and ES frequently. It is assumed that the source of these exceedances is up-gradient agricultural activity. All other sampled background parameters are at typical background concentrations.

Down-gradient Groundwater Quality

The down-gradient groundwater monitoring wells are non-point of standards application wells, which means they are all within the design management zone. There are ES exceedances in these wells but the magnitude over the background concentrations, in most cases, is less than the PAL.

Land Treatment System Impact to Groundwater Quality

Concentrations and trends in the groundwater monitoring data were compared to the loading data for the land treatment system. There is not a clear correlation between the effluent loading levels and the groundwater monitoring results.

Proposed Groundwater Monitoring Requirements

Table 6 Groundwater Quality Sampling Frequency and Limits
Outfall 002 Permit WI-0038083-10

Sample Point	Well Name	Sample Frequency	Well Designation
804	MW-1	Semi-annually	Non-Point of Standard
805	MW-3	Semi-annually	Non-Point of Standard
806	MW-4	Semi-annually	Non-Point of Standard
807	MW-5	Semi-annually	Background
808	MW-6	Semi-annually	Non-Point of Standard
809	MW-2	Semi-annually	Non-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	***N/A**	***N/A**	Measured
Chloride	***125 mg/l**	250 mg/l	NR 140 Table 2
Nitrogen, Total Kjeldahl	N/A	N/A	Measured
Nitrogen, Ammonia	0.97 mg/l	9.7 mg/l	NR 140 Table 1
Nitrogen, Organic	2.3 mg/l	N/A	Calculated
Total Dissolved Solids	***735 mg/l**	N/A	Calculated
pH, Lab	***6.3-8.3 su**	N/A	Calculated
COD, Filtered	***30 mg/l**	N/A	Calculated

* Proposed permit changes

Groundwater Limit Calculations

The groundwater limits were calculated using background sampling data from May 9, 2019 – November 2, 2023. The data used was submitted by the facility or their agent. This data and the calculated mean and standard deviation are attached in appendix 1.

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 evaluated using the following equation:

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

No ACLs are recommended for the next permit issuance.

Conclusions

The groundwater monitoring wells have not been surveyed for a considerable time. The top of casing (TOC) elevation needs to be surveyed and the ground surface elevation calculated for each well.

Total nitrogen has been added to the list of required effluent sampling parameters. This result is required to calculate the nitrogen mass loaded to the spray fields. There are no limits being imposed at this time for concentration or mass loading of nitrogen.

Based on the background groundwater quality sampling results the PALs for TDS, pH and COD have been decreased to 735mg/l, 6.3-8.3 su and 30 mg/l respectively. The ACL for chloride has been replaced with the s. NR 140.12 Wis. Adm. Code PAL of 125 mg/l based on the background groundwater quality sampling results.

A conditional exemption has been granted for nitrite + nitrate. This means there are no limits for this compound in the groundwater monitoring wells at this facility and therefore there will be no ss. NR 140.24 or NR 140.26 Wis. Adm. Code response actions under the condition that there are no significant increases in the effluent nitrogen concentrations. The exemption is for the term of the reissued permit and will be re-evaluated during the next permit reissuance.

Compliance Schedule Recommendations

The groundwater monitoring wells need to be surveyed within 90 days of the reissuance of this permit. The facility should provide a table to the department with the TOC elevations above msl and the calculated ground surface elevations near the well casing for each well.

A map is required of the land Treatment system per ch. NR141.065 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."

The s. NR 214.14 (5)(d) 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 groundwater monitoring well latitude/longitude need to be provided in decimal degrees. These should be provided to the department within 90 days after the permit reissuance.

Well		Parameter		Units	Sample Date	Result
801	MW-101	00106019	Chloride Dissolved	mg/L	05/09/2019	12
					Mean	12
					Std Dev	0
801	MW-101	00141019	COD, Filtered	mg/L	05/09/2019	5
					Mean	5
					Std Dev	0
801	MW-101	00166014	Depth To Groundwater	feet	05/09/2019	803.6
					Mean	803.6
					Std Dev	0
801	MW-101	00227094	Groundwater Elevation	feet MSL	05/09/2019	47.45
					Mean	47.45
					Std Dev	0
801	MW-101	00319019	Nitrogen, Ammonia Dissolved	mg/L	05/09/2019	11
					Mean	11
					Std Dev	0
801	MW-101	00325019	Nitrogen, Total Kjeldahl Dissolved	mg/L	05/09/2019	12
					Mean	12
					Std Dev	0
801	MW-101	00329019	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	05/09/2019	38
					Mean	38
					Std Dev	0
801	MW-101	00331019	Nitrogen, Organic Dissolved	mg/L	05/09/2019	1
					Mean	1
					Std Dev	0
801	MW-101	00378012	pH Lab	su	05/09/2019	7
					Mean	7
					Std Dev	0
801	MW-101	00462019	Solids, Total Dissolved	mg/L	05/09/2019	636
					Mean	636
					Std Dev	0
804	MW-1	00106019	Chloride Dissolved	mg/L	05/09/2019	29
804	MW-1	00106019	Chloride Dissolved	mg/L	11/05/2019	41
804	MW-1	00106019	Chloride Dissolved	mg/L	05/05/2020	38
					Mean	36
					Std Dev	5.099
804	MW-1	00141019	COD, Filtered	mg/L	05/09/2019	5
804	MW-1	00141019	COD, Filtered	mg/L	11/05/2019	3.4
804	MW-1	00141019	COD, Filtered	mg/L	05/05/2020 <	3.4
					Mean	3.9333
					Std Dev	0.7542

804	MW-1	00166014	Depth To Groundwater	feet	05/09/2019		792.99
804	MW-1	00166014	Depth To Groundwater	feet	11/05/2019		28.58
804	MW-1	00166014	Depth To Groundwater	feet	05/05/2020		27.11
					Mean		282.89
					Std Dev		360.69
804	MW-1	00227094	Groundwater Elevation	feet MSL	05/09/2019		27.81
804	MW-1	00227094	Groundwater Elevation	feet MSL	11/05/2019		792.22
804	MW-1	00227094	Groundwater Elevation	feet MSL	05/05/2020		793.69
					Mean		537.91
					Std Dev		360.69
804	MW-1	00319019	Nitrogen, Ammonia Dissolved	mg/L	05/09/2019		0.14
804	MW-1	00319019	Nitrogen, Ammonia Dissolved	mg/L	11/05/2019		0.15
804	MW-1	00319019	Nitrogen, Ammonia Dissolved	mg/L	05/05/2020	<	0.15
					Mean		0.1467
					Std Dev		0.0047
804	MW-1	00325019	Nitrogen, Total Kjeldahl Dissolved	mg/L	05/09/2019		0.25
804	MW-1	00325019	Nitrogen, Total Kjeldahl Dissolved	mg/L	11/05/2019		0.19
804	MW-1	00325019	Nitrogen, Total Kjeldahl Dissolved	mg/L	05/05/2020		0.24
					Mean		0.2267
					Std Dev		0.0262
804	MW-1	00329019	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	05/09/2019		10
804	MW-1	00329019	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	11/05/2019		8.6
804	MW-1	00329019	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	05/05/2020		8.4
					Mean		9
					Std Dev		0.7118
804	MW-1	00331019	Nitrogen, Organic Dissolved	mg/L	05/09/2019		0.25
804	MW-1	00331019	Nitrogen, Organic Dissolved	mg/L	11/05/2019		0.19
804	MW-1	00331019	Nitrogen, Organic Dissolved	mg/L	05/05/2020		0.24
					Mean		0.2267
					Std Dev		0.0262
804	MW-1	00378012	pH Lab	su	05/09/2019		7.2
804	MW-1	00378012	pH Lab	su	11/05/2019		6.9
804	MW-1	00378012	pH Lab	su	05/05/2020		7
					Mean		7.0333
					Std Dev		0.1247
804	MW-1	00462019	Solids, Total Dissolved	mg/L	05/09/2019		468
804	MW-1	00462019	Solids, Total Dissolved	mg/L	11/05/2019		486
804	MW-1	00462019	Solids, Total Dissolved	mg/L	05/05/2020		472
					Mean		475.33
					Std Dev		7.7172
805	MW-3	00106019	Chloride Dissolved	mg/L	05/09/2019		75
805	MW-3	00106019	Chloride Dissolved	mg/L	11/05/2019		83
805	MW-3	00106019	Chloride Dissolved	mg/L	05/05/2020		71

805	MW-3	00106019	Chloride Dissolved	mg/L	11/05/2020		69
805	MW-3	00106019	Chloride Dissolved	mg/L	05/03/2021		55
805	MW-3	00106019	Chloride Dissolved	mg/L	11/04/2021		59
805	MW-3	00106019	Chloride Dissolved	mg/L	05/04/2022		45
805	MW-3	00106019	Chloride Dissolved	mg/L	11/22/2022		50
805	MW-3	00106019	Chloride Dissolved	mg/L	05/10/2023		47
805	MW-3	00106019	Chloride Dissolved	mg/L	11/02/2023		55
					Mean		60.9
					Std Dev		12.218
805	MW-3	00141019	COD, Filtered	mg/L	05/09/2019		5.4
805	MW-3	00141019	COD, Filtered	mg/L	11/05/2019		3.4
805	MW-3	00141019	COD, Filtered	mg/L	05/05/2020	<	3.4
805	MW-3	00141019	COD, Filtered	mg/L	11/05/2020	<	3.4
805	MW-3	00141019	COD, Filtered	mg/L	05/03/2021	<	3.2
805	MW-3	00141019	COD, Filtered	mg/L	11/04/2021	<	3.4
805	MW-3	00141019	COD, Filtered	mg/L	05/04/2022		5.3
805	MW-3	00141019	COD, Filtered	mg/L	11/22/2022	<	3.4
805	MW-3	00141019	COD, Filtered	mg/L	05/10/2023		3.4
805	MW-3	00141019	COD, Filtered	mg/L	11/02/2023	<	3.4
					Mean		3.77
					Std Dev		0.7925
805	MW-3	00166014	Depth To Groundwater	feet	05/09/2019		787.49
805	MW-3	00166014	Depth To Groundwater	feet	11/05/2019		4.15
805	MW-3	00166014	Depth To Groundwater	feet	05/05/2020		4.06
805	MW-3	00166014	Depth To Groundwater	feet	11/05/2020		785.68
805	MW-3	00166014	Depth To Groundwater	feet	05/03/2021		5.02
805	MW-3	00166014	Depth To Groundwater	feet	11/04/2021		5.54
805	MW-3	00166014	Depth To Groundwater	feet	05/04/2022		6.76
805	MW-3	00166014	Depth To Groundwater	feet	11/22/2022		6.41
805	MW-3	00166014	Depth To Groundwater	feet	05/10/2023		4.28
805	MW-3	00166014	Depth To Groundwater	feet	11/02/2023		7.66
					Mean		161.71
					Std Dev		312.44
805	MW-3	00227094	Groundwater Elevation	feet MSL	05/09/2019		3.01
805	MW-3	00227094	Groundwater Elevation	feet MSL	11/05/2019		786.35
805	MW-3	00227094	Groundwater Elevation	feet MSL	05/05/2020		786.44
805	MW-3	00227094	Groundwater Elevation	feet MSL	11/05/2020		4.82
805	MW-3	00227094	Groundwater Elevation	feet MSL	05/03/2021		785.48
805	MW-3	00227094	Groundwater Elevation	feet MSL	11/04/2021		784.96
805	MW-3	00227094	Groundwater Elevation	feet MSL	05/04/2022		783.74
					Mean		562.11
					Std Dev		353.04
805	MW-3	00319019	Nitrogen, Ammonia Dissolved	mg/L	05/09/2019		0.18
805	MW-3	00319019	Nitrogen, Ammonia Dissolved	mg/L	11/05/2019		0.15
805	MW-3	00319019	Nitrogen, Ammonia Dissolved	mg/L	05/05/2020	<	0.15
805	MW-3	00319019	Nitrogen, Ammonia Dissolved	mg/L	11/05/2020	<	0.15
805	MW-3	00319019	Nitrogen, Ammonia Dissolved	mg/L	05/03/2021	<	0.15
805	MW-3	00319019	Nitrogen, Ammonia Dissolved	mg/L	11/04/2021	<	0.1

805	MW-3	00319019	Nitrogen, Ammonia Dissolved	mg/L	05/04/2022	<	0.1
805	MW-3	00319019	Nitrogen, Ammonia Dissolved	mg/L	11/22/2022	<	0.11
805	MW-3	00319019	Nitrogen, Ammonia Dissolved	mg/L	05/10/2023		0.21
805	MW-3	00319019	Nitrogen, Ammonia Dissolved	mg/L	11/02/2023	<	0.11
					Mean		0.141
					Std Dev		0.0345
805	MW-3	00325019	Nitrogen, Total Kjeldahl Dissolved	mg/L	05/09/2019		0.42
805	MW-3	00325019	Nitrogen, Total Kjeldahl Dissolved	mg/L	11/05/2019		0.29
805	MW-3	00325019	Nitrogen, Total Kjeldahl Dissolved	mg/L	05/05/2020		0.5
805	MW-3	00325019	Nitrogen, Total Kjeldahl Dissolved	mg/L	11/05/2020		0.26
805	MW-3	00325019	Nitrogen, Total Kjeldahl Dissolved	mg/L	05/03/2021	<	0.18
805	MW-3	00325019	Nitrogen, Total Kjeldahl Dissolved	mg/L	11/04/2021	<	0.25
805	MW-3	00325019	Nitrogen, Total Kjeldahl Dissolved	mg/L	05/04/2022		0.39
805	MW-3	00325019	Nitrogen, Total Kjeldahl Dissolved	mg/L	11/22/2022		0.32
805	MW-3	00325019	Nitrogen, Total Kjeldahl Dissolved	mg/L	05/10/2023		0.66
805	MW-3	00325019	Nitrogen, Total Kjeldahl Dissolved	mg/L	11/02/2023		0.39
					Mean		0.366
					Std Dev		0.1325
805	MW-3	00329019	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	05/09/2019		23
805	MW-3	00329019	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	11/05/2019		27
805	MW-3	00329019	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	05/05/2020		24
805	MW-3	00329019	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	11/05/2020		26
805	MW-3	00329019	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	05/03/2021		19
805	MW-3	00329019	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	11/04/2021		8.3
805	MW-3	00329019	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	05/04/2022		7
805	MW-3	00329019	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	11/22/2022		8.1
805	MW-3	00329019	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	05/10/2023		18
805	MW-3	00329019	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	11/02/2023		20
					Mean		18.04
					Std Dev		7.2394
805	MW-3	00331019	Nitrogen, Organic Dissolved	mg/L	05/09/2019		0.24
805	MW-3	00331019	Nitrogen, Organic Dissolved	mg/L	11/05/2019		0.29
805	MW-3	00331019	Nitrogen, Organic Dissolved	mg/L	05/05/2020		0.5
805	MW-3	00331019	Nitrogen, Organic Dissolved	mg/L	11/05/2020		0.26
805	MW-3	00331019	Nitrogen, Organic Dissolved	mg/L	05/03/2021	<	0.18
805	MW-3	00331019	Nitrogen, Organic Dissolved	mg/L	11/04/2021	<	0.25
805	MW-3	00331019	Nitrogen, Organic Dissolved	mg/L	05/04/2022		0.39
805	MW-3	00331019	Nitrogen, Organic Dissolved	mg/L	11/22/2022		0.32
805	MW-3	00331019	Nitrogen, Organic Dissolved	mg/L	05/10/2023		0.45
805	MW-3	00331019	Nitrogen, Organic Dissolved	mg/L	11/02/2023		0.39
					Mean		0.327
					Std Dev		0.097
805	MW-3	00378012	pH Lab	su	05/09/2019		7.2
805	MW-3	00378012	pH Lab	su	11/05/2019		7.1
805	MW-3	00378012	pH Lab	su	05/05/2020		7.2
805	MW-3	00378012	pH Lab	su	11/05/2020		7.3
805	MW-3	00378012	pH Lab	su	05/03/2021		7.2
805	MW-3	00378012	pH Lab	su	11/04/2021		7.2

805	MW-3	00378012	pH Lab	su	05/04/2022		7.1
805	MW-3	00378012	pH Lab	su	11/22/2022		7.2
805	MW-3	00378012	pH Lab	su	05/10/2023		7.4
805	MW-3	00378012	pH Lab	su	11/02/2023		7.3
					Mean		7.22
					Std Dev		0.0872
805	MW-3	00462019	Solids, Total Dissolved	mg/L	05/09/2019		540
805	MW-3	00462019	Solids, Total Dissolved	mg/L	11/05/2019		620
805	MW-3	00462019	Solids, Total Dissolved	mg/L	05/05/2020		574
805	MW-3	00462019	Solids, Total Dissolved	mg/L	11/05/2020		588
805	MW-3	00462019	Solids, Total Dissolved	mg/L	05/03/2021		546
805	MW-3	00462019	Solids, Total Dissolved	mg/L	11/04/2021		454
805	MW-3	00462019	Solids, Total Dissolved	mg/L	05/04/2022		500
805	MW-3	00462019	Solids, Total Dissolved	mg/L	11/22/2022		558
805	MW-3	00462019	Solids, Total Dissolved	mg/L	05/10/2023		544
805	MW-3	00462019	Solids, Total Dissolved	mg/L	11/02/2023		528
					Mean		545.2
					Std Dev		43.71
806	MW-4	00106019	Chloride Dissolved	mg/L	05/09/2019		43
806	MW-4	00106019	Chloride Dissolved	mg/L	11/05/2019		37
806	MW-4	00106019	Chloride Dissolved	mg/L	05/05/2020		24
806	MW-4	00106019	Chloride Dissolved	mg/L	11/05/2020		33
806	MW-4	00106019	Chloride Dissolved	mg/L	05/03/2021		29
806	MW-4	00106019	Chloride Dissolved	mg/L	11/04/2021		55
806	MW-4	00106019	Chloride Dissolved	mg/L	05/04/2022		28
806	MW-4	00106019	Chloride Dissolved	mg/L	11/22/2022		32
806	MW-4	00106019	Chloride Dissolved	mg/L	05/10/2023		30
806	MW-4	00106019	Chloride Dissolved	mg/L	11/02/2023		34
					Mean		34.5
					Std Dev		8.4291
806	MW-4	00141019	COD, Filtered	mg/L	05/09/2019		5
806	MW-4	00141019	COD, Filtered	mg/L	11/05/2019		3.4
806	MW-4	00141019	COD, Filtered	mg/L	05/05/2020	<	3.4
806	MW-4	00141019	COD, Filtered	mg/L	11/05/2020	<	3.4
806	MW-4	00141019	COD, Filtered	mg/L	05/03/2021	<	3.4
806	MW-4	00141019	COD, Filtered	mg/L	11/04/2021	<	3.4
806	MW-4	00141019	COD, Filtered	mg/L	05/04/2022	<	3.4
806	MW-4	00141019	COD, Filtered	mg/L	11/22/2022	<	3.4
806	MW-4	00141019	COD, Filtered	mg/L	05/10/2023		3.4
806	MW-4	00141019	COD, Filtered	mg/L	11/02/2023	<	3.4
					Mean		3.56
					Std Dev		0.48
806	MW-4	00166014	Depth To Groundwater	feet	05/09/2019		791.41
806	MW-4	00166014	Depth To Groundwater	feet	11/05/2019		24.72
806	MW-4	00166014	Depth To Groundwater	feet	05/05/2020		23.95
806	MW-4	00166014	Depth To Groundwater	feet	11/05/2020		787.78
806	MW-4	00166014	Depth To Groundwater	feet	05/03/2021		26.86
806	MW-4	00166014	Depth To Groundwater	feet	11/04/2021		27.53

806	MW-4	00166014	Depth To Groundwater	feet	05/04/2022		28.28
806	MW-4	00166014	Depth To Groundwater	feet	11/22/2022		29.81
806	MW-4	00166014	Depth To Groundwater	feet	05/10/2023		24.67
806	MW-4	00166014	Depth To Groundwater	feet	11/02/2023		30.18
					Mean		179.52
					Std Dev		305.05
806	MW-4	00227094	Groundwater Elevation	feet MSL	05/09/2019		24.23
806	MW-4	00227094	Groundwater Elevation	feet MSL	11/05/2019		790.92
806	MW-4	00227094	Groundwater Elevation	feet MSL	05/05/2020		791.69
806	MW-4	00227094	Groundwater Elevation	feet MSL	11/05/2020		27.86
806	MW-4	00227094	Groundwater Elevation	feet MSL	05/03/2021		788.78
806	MW-4	00227094	Groundwater Elevation	feet MSL	11/04/2021		788.11
806	MW-4	00227094	Groundwater Elevation	feet MSL	05/04/2022		787.36
					Mean		571.28
					Std Dev		344.84
806	MW-4	00319019	Nitrogen, Ammonia Dissolved	mg/L	05/09/2019		0.14
806	MW-4	00319019	Nitrogen, Ammonia Dissolved	mg/L	11/05/2019		0.15
806	MW-4	00319019	Nitrogen, Ammonia Dissolved	mg/L	05/05/2020	<	0.15
806	MW-4	00319019	Nitrogen, Ammonia Dissolved	mg/L	11/05/2020	<	0.15
806	MW-4	00319019	Nitrogen, Ammonia Dissolved	mg/L	05/03/2021	<	0.15
806	MW-4	00319019	Nitrogen, Ammonia Dissolved	mg/L	11/04/2021	<	0.1
806	MW-4	00319019	Nitrogen, Ammonia Dissolved	mg/L	05/04/2022	<	0.1
806	MW-4	00319019	Nitrogen, Ammonia Dissolved	mg/L	11/22/2022	<	0.11
806	MW-4	00319019	Nitrogen, Ammonia Dissolved	mg/L	05/10/2023		0.15
806	MW-4	00319019	Nitrogen, Ammonia Dissolved	mg/L	11/02/2023	<	0.11
					Mean		0.131
					Std Dev		0.0217
806	MW-4	00325019	Nitrogen, Total Kjeldahl Dissolved	mg/L	05/09/2019		0.22
806	MW-4	00325019	Nitrogen, Total Kjeldahl Dissolved	mg/L	11/05/2019		0.18
806	MW-4	00325019	Nitrogen, Total Kjeldahl Dissolved	mg/L	05/05/2020		0.23
806	MW-4	00325019	Nitrogen, Total Kjeldahl Dissolved	mg/L	11/05/2020		0.24
806	MW-4	00325019	Nitrogen, Total Kjeldahl Dissolved	mg/L	05/03/2021	<	0.18
806	MW-4	00325019	Nitrogen, Total Kjeldahl Dissolved	mg/L	11/04/2021	<	0.25
806	MW-4	00325019	Nitrogen, Total Kjeldahl Dissolved	mg/L	05/04/2022	<	0.25
806	MW-4	00325019	Nitrogen, Total Kjeldahl Dissolved	mg/L	11/22/2022	<	0.25
806	MW-4	00325019	Nitrogen, Total Kjeldahl Dissolved	mg/L	05/10/2023		0.66
806	MW-4	00325019	Nitrogen, Total Kjeldahl Dissolved	mg/L	11/02/2023		0.39
					Mean		0.285
					Std Dev		0.1366
806	MW-4	00329019	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	05/09/2019		13
806	MW-4	00329019	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	11/05/2019		13
806	MW-4	00329019	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	05/05/2020		12
806	MW-4	00329019	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	11/05/2020		12
806	MW-4	00329019	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	05/03/2021		12
806	MW-4	00329019	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	11/04/2021		19
806	MW-4	00329019	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	05/04/2022		11
806	MW-4	00329019	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	11/22/2022		16
806	MW-4	00329019	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	05/10/2023		14

806	MW-4	00329019	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	11/02/2023		17
					Mean		13.9
					Std Dev		2.4678
806	MW-4	00331019	Nitrogen, Organic Dissolved	mg/L	05/09/2019		0.22
806	MW-4	00331019	Nitrogen, Organic Dissolved	mg/L	11/05/2019		0.18
806	MW-4	00331019	Nitrogen, Organic Dissolved	mg/L	05/05/2020		0.23
806	MW-4	00331019	Nitrogen, Organic Dissolved	mg/L	11/05/2020		0.24
806	MW-4	00331019	Nitrogen, Organic Dissolved	mg/L	05/03/2021	<	0.18
806	MW-4	00331019	Nitrogen, Organic Dissolved	mg/L	11/04/2021	<	0.25
806	MW-4	00331019	Nitrogen, Organic Dissolved	mg/L	05/04/2022	<	0.25
806	MW-4	00331019	Nitrogen, Organic Dissolved	mg/L	11/22/2022	<	0.25
806	MW-4	00331019	Nitrogen, Organic Dissolved	mg/L	05/10/2023		0.51
806	MW-4	00331019	Nitrogen, Organic Dissolved	mg/L	11/02/2023		0.39
					Mean		0.27
					Std Dev		0.0972
806	MW-4	00378012	pH Lab	su	05/09/2019		7.3
806	MW-4	00378012	pH Lab	su	11/05/2019		7.2
806	MW-4	00378012	pH Lab	su	05/05/2020		7.2
806	MW-4	00378012	pH Lab	su	11/05/2020		7.3
806	MW-4	00378012	pH Lab	su	05/03/2021		7.4
806	MW-4	00378012	pH Lab	su	11/04/2021		7.2
806	MW-4	00378012	pH Lab	su	05/04/2022		7.2
806	MW-4	00378012	pH Lab	su	11/22/2022		7.3
806	MW-4	00378012	pH Lab	su	05/10/2023		7.4
806	MW-4	00378012	pH Lab	su	11/02/2023		7.4
					Mean		7.29
					Std Dev		0.0831
806	MW-4	00462019	Solids, Total Dissolved	mg/L	05/09/2019		508
806	MW-4	00462019	Solids, Total Dissolved	mg/L	11/05/2019		484
806	MW-4	00462019	Solids, Total Dissolved	mg/L	05/05/2020		480
806	MW-4	00462019	Solids, Total Dissolved	mg/L	11/05/2020		508
806	MW-4	00462019	Solids, Total Dissolved	mg/L	05/03/2021		470
806	MW-4	00462019	Solids, Total Dissolved	mg/L	11/04/2021		506
806	MW-4	00462019	Solids, Total Dissolved	mg/L	05/04/2022		488
806	MW-4	00462019	Solids, Total Dissolved	mg/L	11/22/2022		568
806	MW-4	00462019	Solids, Total Dissolved	mg/L	05/10/2023		506
806	MW-4	00462019	Solids, Total Dissolved	mg/L	11/02/2023		480
					Mean		499.8
					Std Dev		26.313
807	MW-5	00106019	Chloride Dissolved	mg/L	05/09/2019		33
807	MW-5	00106019	Chloride Dissolved	mg/L	11/05/2019		56
807	MW-5	00106019	Chloride Dissolved	mg/L	05/05/2020		41
807	MW-5	00106019	Chloride Dissolved	mg/L	11/05/2020		44
807	MW-5	00106019	Chloride Dissolved	mg/L	05/03/2021		41
807	MW-5	00106019	Chloride Dissolved	mg/L	11/04/2021		32
807	MW-5	00106019	Chloride Dissolved	mg/L	05/04/2022		52
807	MW-5	00106019	Chloride Dissolved	mg/L	11/22/2022		66
807	MW-5	00106019	Chloride Dissolved	mg/L	05/10/2023		62

807	MW-5	00106019	Chloride Dissolved	mg/L	11/02/2023	78
					Mean	50.5
					Std Dev	14.257
807	MW-5	00141019	COD, Filtered	mg/L	05/09/2019	5
807	MW-5	00141019	COD, Filtered	mg/L	11/05/2019	3.4
807	MW-5	00141019	COD, Filtered	mg/L	05/05/2020 <	3.4
807	MW-5	00141019	COD, Filtered	mg/L	11/05/2020 <	3.4
807	MW-5	00141019	COD, Filtered	mg/L	05/03/2021 <	3.4
807	MW-5	00141019	COD, Filtered	mg/L	11/04/2021 <	3.4
807	MW-5	00141019	COD, Filtered	mg/L	05/04/2022 <	3.4
807	MW-5	00141019	COD, Filtered	mg/L	11/22/2022 <	3.4
807	MW-5	00141019	COD, Filtered	mg/L	05/10/2023	3.4
807	MW-5	00141019	COD, Filtered	mg/L	11/02/2023	13
					Mean	4.52
					Std Dev	2.8666
807	MW-5	00166014	Depth To Groundwater	feet	05/09/2019	838.8
807	MW-5	00166014	Depth To Groundwater	feet	11/05/2019	26.5
807	MW-5	00166014	Depth To Groundwater	feet	05/05/2020	26.29
807	MW-5	00166014	Depth To Groundwater	feet	11/05/2020	837.05
807	MW-5	00166014	Depth To Groundwater	feet	05/03/2021	26.18
807	MW-5	00166014	Depth To Groundwater	feet	11/04/2021	28.7
807	MW-5	00166014	Depth To Groundwater	feet	05/04/2022	27.01
807	MW-5	00166014	Depth To Groundwater	feet	11/22/2022	27.88
807	MW-5	00166014	Depth To Groundwater	feet	05/10/2023	26
807	MW-5	00166014	Depth To Groundwater	feet	11/02/2023	28.9
					Mean	189.33
					Std Dev	324.3
807	MW-5	00227094	Groundwater Elevation	feet MSL	05/09/2019	24.85
807	MW-5	00227094	Groundwater Elevation	feet MSL	11/05/2019	837.15
807	MW-5	00227094	Groundwater Elevation	feet MSL	05/05/2020	837.36
807	MW-5	00227094	Groundwater Elevation	feet MSL	11/05/2020	26.6
807	MW-5	00227094	Groundwater Elevation	feet MSL	05/03/2021	837.47
807	MW-5	00227094	Groundwater Elevation	feet MSL	11/04/2021	834.95
807	MW-5	00227094	Groundwater Elevation	feet MSL	05/04/2022	836.66
					Mean	605.01
					Std Dev	366.37
807	MW-5	00319019	Nitrogen, Ammonia Dissolved	mg/L	05/09/2019	0.14
807	MW-5	00319019	Nitrogen, Ammonia Dissolved	mg/L	11/05/2019	0.15
807	MW-5	00319019	Nitrogen, Ammonia Dissolved	mg/L	05/05/2020 <	0.15
807	MW-5	00319019	Nitrogen, Ammonia Dissolved	mg/L	11/05/2020 <	0.15
807	MW-5	00319019	Nitrogen, Ammonia Dissolved	mg/L	05/03/2021 <	0.15
807	MW-5	00319019	Nitrogen, Ammonia Dissolved	mg/L	11/04/2021 <	0.1
807	MW-5	00319019	Nitrogen, Ammonia Dissolved	mg/L	05/04/2022 <	0.1
807	MW-5	00319019	Nitrogen, Ammonia Dissolved	mg/L	11/22/2022	0.15
807	MW-5	00319019	Nitrogen, Ammonia Dissolved	mg/L	05/10/2023	0.11
807	MW-5	00319019	Nitrogen, Ammonia Dissolved	mg/L	11/02/2023 <	0.11
					Mean	0.131
					Std Dev	0.0217

807	MW-5	00325019	Nitrogen, Total Kjeldahl Dissolved	mg/L	05/09/2019		0.2
807	MW-5	00325019	Nitrogen, Total Kjeldahl Dissolved	mg/L	11/05/2019		0.18
807	MW-5	00325019	Nitrogen, Total Kjeldahl Dissolved	mg/L	05/05/2020		0.32
807	MW-5	00325019	Nitrogen, Total Kjeldahl Dissolved	mg/L	11/05/2020		0.26
807	MW-5	00325019	Nitrogen, Total Kjeldahl Dissolved	mg/L	05/03/2021	<	0.18
807	MW-5	00325019	Nitrogen, Total Kjeldahl Dissolved	mg/L	11/04/2021	<	0.25
807	MW-5	00325019	Nitrogen, Total Kjeldahl Dissolved	mg/L	05/04/2022	<	0.25
807	MW-5	00325019	Nitrogen, Total Kjeldahl Dissolved	mg/L	11/22/2022		0.28
807	MW-5	00325019	Nitrogen, Total Kjeldahl Dissolved	mg/L	05/10/2023		0.6
807	MW-5	00325019	Nitrogen, Total Kjeldahl Dissolved	mg/L	11/02/2023	<	0.35
					Mean		0.287
					Std Dev		0.1171
807	MW-5	00329019	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	05/09/2019		9.3
807	MW-5	00329019	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	11/05/2019		8.3
807	MW-5	00329019	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	05/05/2020		9.3
807	MW-5	00329019	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	11/05/2020		6.4
807	MW-5	00329019	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	05/03/2021		9.3
807	MW-5	00329019	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	11/04/2021		13
807	MW-5	00329019	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	05/04/2022		7.3
807	MW-5	00329019	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	11/22/2022		7.2
807	MW-5	00329019	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	05/10/2023		8.4
807	MW-5	00329019	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	11/02/2023		7.1
					Mean		8.56
					Std Dev		1.78
807	MW-5	00331019	Nitrogen, Organic Dissolved	mg/L	05/09/2019		0.14
807	MW-5	00331019	Nitrogen, Organic Dissolved	mg/L	11/05/2019		0.18
807	MW-5	00331019	Nitrogen, Organic Dissolved	mg/L	05/05/2020		0.32
807	MW-5	00331019	Nitrogen, Organic Dissolved	mg/L	11/05/2020		0.26
807	MW-5	00331019	Nitrogen, Organic Dissolved	mg/L	05/03/2021	<	0.18
807	MW-5	00331019	Nitrogen, Organic Dissolved	mg/L	11/04/2021	<	0.25
807	MW-5	00331019	Nitrogen, Organic Dissolved	mg/L	05/04/2022	<	0.25
807	MW-5	00331019	Nitrogen, Organic Dissolved	mg/L	11/22/2022	<	0.25
807	MW-5	00331019	Nitrogen, Organic Dissolved	mg/L	05/10/2023		0.6
807	MW-5	00331019	Nitrogen, Organic Dissolved	mg/L	11/02/2023	<	0.35
					Mean		0.278
					Std Dev		0.1231
807	MW-5	00378012	pH Lab	su	05/09/2019		7.3
807	MW-5	00378012	pH Lab	su	11/05/2019		7.2
807	MW-5	00378012	pH Lab	su	05/05/2020		7.1
807	MW-5	00378012	pH Lab	su	11/05/2020		7.3
807	MW-5	00378012	pH Lab	su	05/03/2021		7.4
807	MW-5	00378012	pH Lab	su	11/04/2021		7.2
807	MW-5	00378012	pH Lab	su	05/04/2022		7.2
807	MW-5	00378012	pH Lab	su	11/22/2022		7.3
807	MW-5	00378012	pH Lab	su	05/10/2023		7.4
807	MW-5	00378012	pH Lab	su	11/02/2023		7.4
					Mean		7.28
					Std Dev		0.098

807	MW-5	00462019	Solids, Total Dissolved	mg/L	05/09/2019		552
807	MW-5	00462019	Solids, Total Dissolved	mg/L	11/05/2019		494
807	MW-5	00462019	Solids, Total Dissolved	mg/L	05/05/2020		500
807	MW-5	00462019	Solids, Total Dissolved	mg/L	11/05/2020		496
807	MW-5	00462019	Solids, Total Dissolved	mg/L	05/03/2021		506
807	MW-5	00462019	Solids, Total Dissolved	mg/L	11/04/2021		432
807	MW-5	00462019	Solids, Total Dissolved	mg/L	05/04/2022		562
807	MW-5	00462019	Solids, Total Dissolved	mg/L	11/22/2022		592
807	MW-5	00462019	Solids, Total Dissolved	mg/L	05/10/2023		610
807	MW-5	00462019	Solids, Total Dissolved	mg/L	11/02/2023		564
					Mean		530.8
					Std Dev		51.414
808	MW-6	00106019	Chloride Dissolved	mg/L	05/09/2019		25
808	MW-6	00106019	Chloride Dissolved	mg/L	11/05/2019		42
808	MW-6	00106019	Chloride Dissolved	mg/L	05/05/2020		31
808	MW-6	00106019	Chloride Dissolved	mg/L	11/05/2020		22
808	MW-6	00106019	Chloride Dissolved	mg/L	05/03/2021		5.7
808	MW-6	00106019	Chloride Dissolved	mg/L	11/04/2021		65
808	MW-6	00106019	Chloride Dissolved	mg/L	05/04/2022		5.6
808	MW-6	00106019	Chloride Dissolved	mg/L	11/22/2022		13
808	MW-6	00106019	Chloride Dissolved	mg/L	05/10/2023		39
808	MW-6	00106019	Chloride Dissolved	mg/L	11/02/2023		45
					Mean		29.33
					Std Dev		17.987
808	MW-6	00141019	COD, Filtered	mg/L	05/09/2019		12
808	MW-6	00141019	COD, Filtered	mg/L	11/05/2019		8
808	MW-6	00141019	COD, Filtered	mg/L	05/05/2020	<	3.4
808	MW-6	00141019	COD, Filtered	mg/L	11/05/2020		13
808	MW-6	00141019	COD, Filtered	mg/L	05/03/2021		9.9
808	MW-6	00141019	COD, Filtered	mg/L	11/04/2021	<	3.4
808	MW-6	00141019	COD, Filtered	mg/L	05/04/2022		9.2
808	MW-6	00141019	COD, Filtered	mg/L	11/22/2022	<	3.4
808	MW-6	00141019	COD, Filtered	mg/L	05/10/2023		9.9
808	MW-6	00141019	COD, Filtered	mg/L	11/02/2023	<	3.4
					Mean		7.56
					Std Dev		3.6382
808	MW-6	00166014	Depth To Groundwater	feet	05/09/2019		785.62
808	MW-6	00166014	Depth To Groundwater	feet	11/05/2019		8.52
808	MW-6	00166014	Depth To Groundwater	feet	05/05/2020		8.3
808	MW-6	00166014	Depth To Groundwater	feet	11/05/2020		784.22
808	MW-6	00166014	Depth To Groundwater	feet	05/03/2021		9.04
808	MW-6	00166014	Depth To Groundwater	feet	11/04/2021		9.67
808	MW-6	00166014	Depth To Groundwater	feet	05/04/2022		10.81
808	MW-6	00166014	Depth To Groundwater	feet	11/22/2022		10.5
808	MW-6	00166014	Depth To Groundwater	feet	05/10/2023		8.64
808	MW-6	00166014	Depth To Groundwater	feet	11/02/2023		11.05
					Mean		164.64
					Std Dev		310.14

808	MW-6	00227094	Groundwater Elevation	feet MSL	05/09/2019		8
808	MW-6	00227094	Groundwater Elevation	feet MSL	11/05/2019		785.1
808	MW-6	00227094	Groundwater Elevation	feet MSL	05/05/2020		785.32
808	MW-6	00227094	Groundwater Elevation	feet MSL	11/05/2020		9.4
808	MW-6	00227094	Groundwater Elevation	feet MSL	05/03/2021		784.58
808	MW-6	00227094	Groundwater Elevation	feet MSL	11/04/2021		783.95
808	MW-6	00227094	Groundwater Elevation	feet MSL	05/04/2022		782.81
					Mean		562.74
					Std Dev		350.4
808	MW-6	00319019	Nitrogen, Ammonia Dissolved	mg/L	05/09/2019		0.21
808	MW-6	00319019	Nitrogen, Ammonia Dissolved	mg/L	11/05/2019		0.54
808	MW-6	00319019	Nitrogen, Ammonia Dissolved	mg/L	05/05/2020		0.47
808	MW-6	00319019	Nitrogen, Ammonia Dissolved	mg/L	11/05/2020		0.15
808	MW-6	00319019	Nitrogen, Ammonia Dissolved	mg/L	05/03/2021	<	0.15
808	MW-6	00319019	Nitrogen, Ammonia Dissolved	mg/L	11/04/2021	<	0.1
808	MW-6	00319019	Nitrogen, Ammonia Dissolved	mg/L	05/04/2022	<	0.1
808	MW-6	00319019	Nitrogen, Ammonia Dissolved	mg/L	11/22/2022		0.12
808	MW-6	00319019	Nitrogen, Ammonia Dissolved	mg/L	05/10/2023		0.35
808	MW-6	00319019	Nitrogen, Ammonia Dissolved	mg/L	11/02/2023	<	0.11
					Mean		0.23
					Std Dev		0.1554
808	MW-6	00325019	Nitrogen, Total Kjeldahl Dissolved	mg/L	05/09/2019		0.66
808	MW-6	00325019	Nitrogen, Total Kjeldahl Dissolved	mg/L	11/05/2019		1
808	MW-6	00325019	Nitrogen, Total Kjeldahl Dissolved	mg/L	05/05/2020		0.86
808	MW-6	00325019	Nitrogen, Total Kjeldahl Dissolved	mg/L	11/05/2020		0.75
808	MW-6	00325019	Nitrogen, Total Kjeldahl Dissolved	mg/L	05/03/2021		0.49
808	MW-6	00325019	Nitrogen, Total Kjeldahl Dissolved	mg/L	11/04/2021		0.64
808	MW-6	00325019	Nitrogen, Total Kjeldahl Dissolved	mg/L	05/04/2022		0.53
808	MW-6	00325019	Nitrogen, Total Kjeldahl Dissolved	mg/L	11/22/2022		1.2
808	MW-6	00325019	Nitrogen, Total Kjeldahl Dissolved	mg/L	05/10/2023		1.3
808	MW-6	00325019	Nitrogen, Total Kjeldahl Dissolved	mg/L	11/02/2023		0.7
					Mean		0.813
					Std Dev		0.2605
808	MW-6	00329019	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	05/09/2019		1.5
808	MW-6	00329019	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	11/05/2019		0.45
808	MW-6	00329019	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	05/05/2020		0.59
808	MW-6	00329019	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	11/05/2020		0.23
808	MW-6	00329019	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	05/03/2021		0.41
808	MW-6	00329019	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	11/04/2021		7.4
808	MW-6	00329019	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	05/04/2022		1.5
808	MW-6	00329019	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	11/22/2022		4.8
808	MW-6	00329019	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	05/10/2023		0.71
808	MW-6	00329019	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	11/02/2023		0.11
					Mean		1.77
					Std Dev		2.286
808	MW-6	00331019	Nitrogen, Organic Dissolved	mg/L	05/09/2019		0.45
808	MW-6	00331019	Nitrogen, Organic Dissolved	mg/L	11/05/2019		0.46

808	MW-6	00331019	Nitrogen, Organic Dissolved	mg/L	05/05/2020	0.39
808	MW-6	00331019	Nitrogen, Organic Dissolved	mg/L	11/05/2020	0.6
808	MW-6	00331019	Nitrogen, Organic Dissolved	mg/L	05/03/2021	0.49
808	MW-6	00331019	Nitrogen, Organic Dissolved	mg/L	11/04/2021	0.64
808	MW-6	00331019	Nitrogen, Organic Dissolved	mg/L	05/04/2022	0.53
808	MW-6	00331019	Nitrogen, Organic Dissolved	mg/L	11/22/2022	1.08
808	MW-6	00331019	Nitrogen, Organic Dissolved	mg/L	05/10/2023	0.95
808	MW-6	00331019	Nitrogen, Organic Dissolved	mg/L	11/02/2023	0.7
					Mean	0.629
					Std Dev	0.2143
808	MW-6	00378012	pH Lab	su	05/09/2019	7.2
808	MW-6	00378012	pH Lab	su	11/05/2019	7
808	MW-6	00378012	pH Lab	su	05/05/2020	6.9
808	MW-6	00378012	pH Lab	su	11/05/2020	6.9
808	MW-6	00378012	pH Lab	su	05/03/2021	6.9
808	MW-6	00378012	pH Lab	su	11/04/2021	7.2
808	MW-6	00378012	pH Lab	su	05/04/2022	6.9
808	MW-6	00378012	pH Lab	su	11/22/2022	6.8
808	MW-6	00378012	pH Lab	su	05/10/2023	7.2
808	MW-6	00378012	pH Lab	su	11/02/2023	7.3
					Mean	7.03
					Std Dev	0.1676
808	MW-6	00462019	Solids, Total Dissolved	mg/L	05/09/2019	550
808	MW-6	00462019	Solids, Total Dissolved	mg/L	11/05/2019	620
808	MW-6	00462019	Solids, Total Dissolved	mg/L	05/05/2020	640
808	MW-6	00462019	Solids, Total Dissolved	mg/L	11/05/2020	630
808	MW-6	00462019	Solids, Total Dissolved	mg/L	05/03/2021	584
808	MW-6	00462019	Solids, Total Dissolved	mg/L	11/04/2021	428
808	MW-6	00462019	Solids, Total Dissolved	mg/L	05/04/2022	576
808	MW-6	00462019	Solids, Total Dissolved	mg/L	11/22/2022	718
808	MW-6	00462019	Solids, Total Dissolved	mg/L	05/10/2023	656
808	MW-6	00462019	Solids, Total Dissolved	mg/L	11/02/2023	560
					Mean	596.2
					Std Dev	73.71
809	MW-2	00106019	Chloride Dissolved	mg/L	05/09/2019	44
809	MW-2	00106019	Chloride Dissolved	mg/L	11/05/2019	67
809	MW-2	00106019	Chloride Dissolved	mg/L	05/05/2020	53
809	MW-2	00106019	Chloride Dissolved	mg/L	11/05/2020	56
809	MW-2	00106019	Chloride Dissolved	mg/L	05/03/2021	53
809	MW-2	00106019	Chloride Dissolved	mg/L	11/04/2021	21
809	MW-2	00106019	Chloride Dissolved	mg/L	05/04/2022	49
809	MW-2	00106019	Chloride Dissolved	mg/L	11/22/2022	57
809	MW-2	00106019	Chloride Dissolved	mg/L	05/10/2023	21
809	MW-2	00106019	Chloride Dissolved	mg/L	11/02/2023	53
					Mean	47.4
					Std Dev	14.326
809	MW-2	00141019	COD, Filtered	mg/L	05/09/2019	5
809	MW-2	00141019	COD, Filtered	mg/L	11/05/2019	3.4

809	MW-2	00141019	COD, Filtered	mg/L	05/05/2020	<	3.4
809	MW-2	00141019	COD, Filtered	mg/L	11/05/2020	<	3.4
809	MW-2	00141019	COD, Filtered	mg/L	05/03/2021	<	3.4
809	MW-2	00141019	COD, Filtered	mg/L	11/04/2021	<	3.4
809	MW-2	00141019	COD, Filtered	mg/L	05/04/2022	<	3.4
809	MW-2	00141019	COD, Filtered	mg/L	11/22/2022	<	3.4
809	MW-2	00141019	COD, Filtered	mg/L	05/10/2023		3.4
809	MW-2	00141019	COD, Filtered	mg/L	11/02/2023	<	3.4
					Mean		3.56
					Std Dev		0.48
809	MW-2	00166014	Depth To Groundwater	feet	05/09/2019		785.12
809	MW-2	00166014	Depth To Groundwater	feet	11/05/2019		5.5
809	MW-2	00166014	Depth To Groundwater	feet	05/05/2020		5.52
809	MW-2	00166014	Depth To Groundwater	feet	11/05/2020		783.73
809	MW-2	00166014	Depth To Groundwater	feet	05/03/2021		6.02
809	MW-2	00166014	Depth To Groundwater	feet	11/04/2021		7.2
809	MW-2	00166014	Depth To Groundwater	feet	05/04/2022		7.81
809	MW-2	00166014	Depth To Groundwater	feet	11/22/2022		7.67
809	MW-2	00166014	Depth To Groundwater	feet	05/10/2023		5.38
809	MW-2	00166014	Depth To Groundwater	feet	11/02/2023		8.73
					Mean		162.27
					Std Dev		311.08
809	MW-2	00227094	Groundwater Elevation	feet MSL	05/09/2019		4.66
809	MW-2	00227094	Groundwater Elevation	feet MSL	11/05/2019		784.28
809	MW-2	00227094	Groundwater Elevation	feet MSL	05/05/2020		784.26
809	MW-2	00227094	Groundwater Elevation	feet MSL	11/05/2020		6.05
809	MW-2	00227094	Groundwater Elevation	feet MSL	05/03/2021		783.76
809	MW-2	00227094	Groundwater Elevation	feet MSL	11/04/2021		782.58
809	MW-2	00227094	Groundwater Elevation	feet MSL	05/04/2022		781.97
					Mean		561.08
					Std Dev		351.47
809	MW-2	00319019	Nitrogen, Ammonia Dissolved	mg/L	05/09/2019		0.14
809	MW-2	00319019	Nitrogen, Ammonia Dissolved	mg/L	11/05/2019		0.15
809	MW-2	00319019	Nitrogen, Ammonia Dissolved	mg/L	05/05/2020	<	0.15
809	MW-2	00319019	Nitrogen, Ammonia Dissolved	mg/L	11/05/2020	<	0.15
809	MW-2	00319019	Nitrogen, Ammonia Dissolved	mg/L	05/03/2021	<	0.15
809	MW-2	00319019	Nitrogen, Ammonia Dissolved	mg/L	11/04/2021	<	0.1
809	MW-2	00319019	Nitrogen, Ammonia Dissolved	mg/L	05/04/2022	<	0.1
809	MW-2	00319019	Nitrogen, Ammonia Dissolved	mg/L	11/22/2022	<	0.11
809	MW-2	00319019	Nitrogen, Ammonia Dissolved	mg/L	05/10/2023		0.11
809	MW-2	00319019	Nitrogen, Ammonia Dissolved	mg/L	11/02/2023	<	0.11
					Mean		0.127
					Std Dev		0.0215
809	MW-2	00325019	Nitrogen, Total Kjeldahl Dissolved	mg/L	05/09/2019		0.12
809	MW-2	00325019	Nitrogen, Total Kjeldahl Dissolved	mg/L	11/05/2019		0.18
809	MW-2	00325019	Nitrogen, Total Kjeldahl Dissolved	mg/L	05/05/2020		0.37
809	MW-2	00325019	Nitrogen, Total Kjeldahl Dissolved	mg/L	11/05/2020		0.22
809	MW-2	00325019	Nitrogen, Total Kjeldahl Dissolved	mg/L	05/03/2021	<	0.18

809	MW-2	00325019	Nitrogen, Total Kjeldahl Dissolved	mg/L	11/04/2021		0.49
809	MW-2	00325019	Nitrogen, Total Kjeldahl Dissolved	mg/L	05/04/2022	<	0.25
809	MW-2	00325019	Nitrogen, Total Kjeldahl Dissolved	mg/L	11/22/2022		0.3
809	MW-2	00325019	Nitrogen, Total Kjeldahl Dissolved	mg/L	05/10/2023		0.78
809	MW-2	00325019	Nitrogen, Total Kjeldahl Dissolved	mg/L	11/02/2023	<	0.35
					Mean		0.324
					Std Dev		0.1839
809	MW-2	00329019	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	05/09/2019		1.2
809	MW-2	00329019	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	11/05/2019		4.4
809	MW-2	00329019	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	05/05/2020		4.4
809	MW-2	00329019	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	11/05/2020		6.7
809	MW-2	00329019	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	05/03/2021		4.8
809	MW-2	00329019	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	11/04/2021		9.8
809	MW-2	00329019	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	05/04/2022		6.8
809	MW-2	00329019	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	11/22/2022		10
809	MW-2	00329019	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	05/10/2023		2.3
809	MW-2	00329019	Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	11/02/2023		14
					Mean		6.44
					Std Dev		3.7003
809	MW-2	00331019	Nitrogen, Organic Dissolved	mg/L	05/09/2019		0.14
809	MW-2	00331019	Nitrogen, Organic Dissolved	mg/L	11/05/2019		0.18
809	MW-2	00331019	Nitrogen, Organic Dissolved	mg/L	05/05/2020		0.37
809	MW-2	00331019	Nitrogen, Organic Dissolved	mg/L	11/05/2020		0.22
809	MW-2	00331019	Nitrogen, Organic Dissolved	mg/L	05/03/2021	<	0.18
809	MW-2	00331019	Nitrogen, Organic Dissolved	mg/L	11/04/2021		0.49
809	MW-2	00331019	Nitrogen, Organic Dissolved	mg/L	05/04/2022	<	0.25
809	MW-2	00331019	Nitrogen, Organic Dissolved	mg/L	11/22/2022		0.3
809	MW-2	00331019	Nitrogen, Organic Dissolved	mg/L	05/10/2023		0.78
809	MW-2	00331019	Nitrogen, Organic Dissolved	mg/L	11/02/2023	<	0.35
					Mean		0.326
					Std Dev		0.1818
809	MW-2	00378012	pH Lab	su	05/09/2019		7.2
809	MW-2	00378012	pH Lab	su	11/05/2019		7.2
809	MW-2	00378012	pH Lab	su	05/05/2020		7.2
809	MW-2	00378012	pH Lab	su	11/05/2020		7.4
809	MW-2	00378012	pH Lab	su	05/03/2021		7.4
809	MW-2	00378012	pH Lab	su	11/04/2021		7
809	MW-2	00378012	pH Lab	su	05/04/2022		7.3
809	MW-2	00378012	pH Lab	su	11/22/2022		7.4
809	MW-2	00378012	pH Lab	su	05/10/2023		7.6
809	MW-2	00378012	pH Lab	su	11/02/2023		7.4
					Mean		7.31
					Std Dev		0.1578
809	MW-2	00462019	Solids, Total Dissolved	mg/L	05/09/2019		426
809	MW-2	00462019	Solids, Total Dissolved	mg/L	11/05/2019		486
809	MW-2	00462019	Solids, Total Dissolved	mg/L	05/05/2020		480
809	MW-2	00462019	Solids, Total Dissolved	mg/L	11/05/2020		496
809	MW-2	00462019	Solids, Total Dissolved	mg/L	05/03/2021		492

809	MW-2	00462019	Solids, Total Dissolved	mg/L	11/04/2021	566
809	MW-2	00462019	Solids, Total Dissolved	mg/L	05/04/2022	518
809	MW-2	00462019	Solids, Total Dissolved	mg/L	11/22/2022	570
809	MW-2	00462019	Solids, Total Dissolved	mg/L	05/10/2023	394
809	MW-2	00462019	Solids, Total Dissolved	mg/L	11/02/2023	526
					Mean	495.4
					Std Dev	52.376