

**North Dakota Department of Environmental Quality Public Notice**  
**Reissue of an NDPDES Permit**

Public Notice Date: 5/3/2021

Public Notice Number: ND-2021-010

**Purpose of Public Notice**

The Department intends to reissue the following North Dakota Pollutant Discharge Elimination System (NDPDES) Discharge Permit under the authority of Section 61-28-04 of the North Dakota Century Code.

**Permit Information**

Application Date: 1/28/2021

Application Number: ND0026000

Applicant Name: Cargill Corn Milling (Progold)

Mailing Address: 18049 Co Rd 8 E, Wahpeton, ND 58075

Telephone Number: 701.671.1901

Proposed Permit Expiration Date: 6/30/2026

**Facility Description**

The reapplication is for Cargill Corn Milling near Wahpeton, North Dakota. This facility uses a wet milling process to produce corn syrup and livestock feed. The facility processes approximately 95,000 bushels of corn per day. The processes generate approximately 1.15 million gallons of wastewater per day. Treated wastewater can be discharged from the mechanical treatment system or the ponds at varying rates, depending on the characteristics of the wastewater and the Red River of the North. The discharge is in the NE 1/4 of Section 7, Township 133N, Range 47W and is to the Red River of the North, a Class I stream, from outfall 001 via a diffuser.

**Tentative Determinations**

Proposed effluent limitations and other permit conditions have been made by the Department. They assure that State Water Quality Standards and applicable provisions of the FWPCA will be protected.

**Information Requests and Public Comments**

Copies of the application, draft permit, and related documents are available for review. For further information on making public comments/public comment tips please visit: <https://deq.nd.gov/PublicCommentTips.aspx>. Comments or requests should be directed to the ND Dept of Env Quality, Div of Water Quality, 918 East Divide Ave, Bismarck ND 58501-1947 or by calling 701.328.5210.

All comments received by June 05, 2021 will be considered prior to finalizing the permit. If there is significant interest, a public hearing will be scheduled. Otherwise, the Department will issue the final permit within sixty (60) days of this notice. If you require special facilities or assistance relating to a disability, call TDD at 1.800.366.6868.

**FACT SHEET FOR NDPDES PERMIT  
ND0026000**

**CARGILL CORN MILLING (PROGOLD)**

**DATE OF THIS FACT SHEET – April 2021**

**INTRODUCTION**

The Federal Clean Water Act (CWA, 1972, and later amendments in 1977, 1981, and 1987, etc.) established water quality goals for the navigable (surface) waters of the United States. One mechanism for achieving the goals of the CWA is the National Pollutant Discharge Elimination System (NPDES), which the US Environmental Protection Agency (EPA) oversees. In 1975, the State of North Dakota was delegated primacy of the NPDES program by EPA. The North Dakota Department of Environmental Quality, hereafter referred to as “department”, has been designated the state water pollution control agency for all purposes of the Federal Water Pollution Control Act, as amended [33 U.S.C. 1251, et seq.], and is authorized to take all action necessary or appropriate to secure to this state the benefits of the act and similar federal acts. The department’s authority and obligations for the wastewater discharge permit program is in the North Dakota Administrative Code (NDAC) 33.1-16 which was adopted under North Dakota Century Code (NDCC) chapter 61-28. In North Dakota, these permits are referred to as North Dakota Pollutant Discharge Elimination System (NDPDES) permits.

The following rules or regulations apply to NDPDES permits:

- Procedures the department follows for issuing NDPDES permits (NDAC chapter 33.1-16-01),
- Standards of Quality for Waters of the State (NDAC chapter 33.1-16-02.1).

These rules require any treatment facility operator to obtain an NDPDES permit before discharging wastewater to state waters. They also define the basis for limits on each discharge and for other requirements imposed by the permit.

According to NDAC section 33.1-16-01-08, the department must prepare a draft permit and accompanying fact sheet and make it available for public review. The department must also publish an announcement (public notice) during a period of thirty days, informing the public where a draft permit may be obtained and where comments regarding the draft permit may be sent (NDAC section 33.1-16-01-07). For more information regarding preparing and submitting comments about the fact sheet and permit, please see **Appendix A – Public Involvement**. Following the public comment period, the department may make changes to the draft NDPDES permit. The department will summarize the responses to comments and changes to the permit in **Appendix D – Response to Comments**.

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FACT SHEET FOR NDPDES PERMIT ND0026000

CARGILL CORN MILLING (PROGOLD)

**EXPIRATION DATE: June 30, 2026**

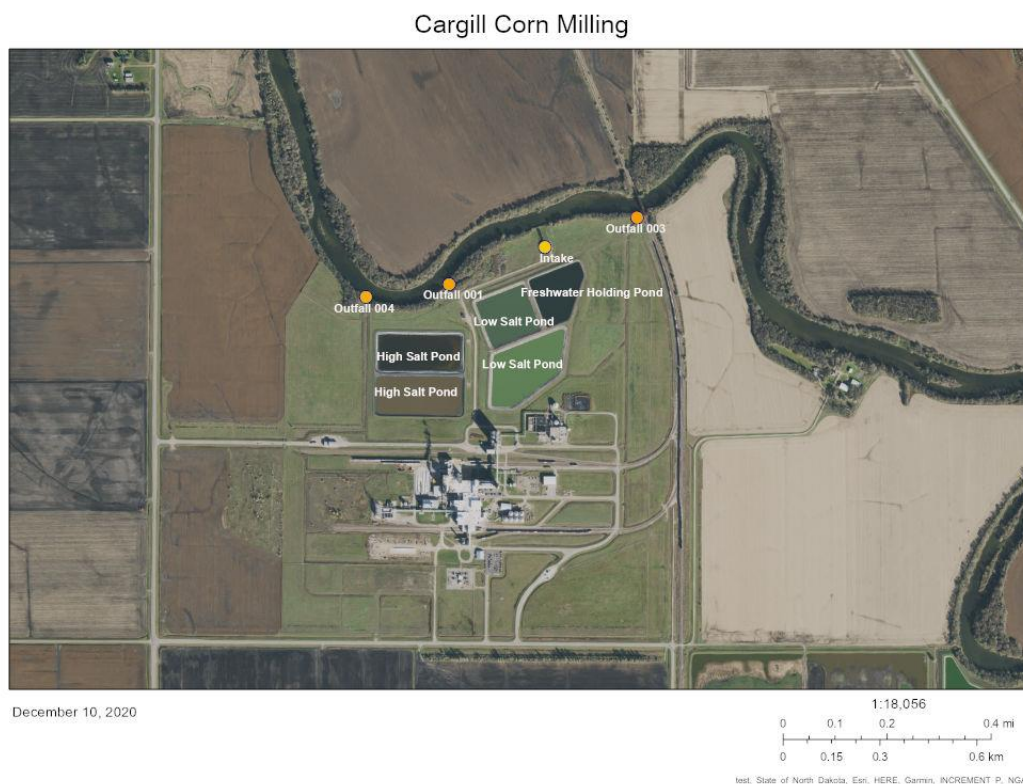
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**APPENDIX D – RESPONSE TO COMMENTS.....55**

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**BACKGROUND INFORMATION**

<b>Table 1: General Facility Information</b>	
Applicant:	Cargill Corn Milling (Progold)
Facility Name and Address:	Cargill Corn Milling (Progold) 18049 Co Rd 8 E Wahpeton ND 58075 701.671.1901
Permit Number:	ND0026000
Permit Type:	Major, Non-POTW, Reissuance
Type of Treatment:	Mechanical Treatment Plant with storage ponds
SIC Code:	2046 – Food and Kindred Products – Grain Mill Products-Wet Corn Milling
NAICS Code:	311221 – Wet Corn Milling
Discharge Location:	Red River of the North, Class I water body Latitude: 46.3504726 Longitude: -96.641491
Hydrologic Code:	09020104 – Upper Red River

**Figure 1: Aerial Photograph of Cargill Corn Milling (Progold).**

## **FACILITY DESCRIPTION**

### **History**

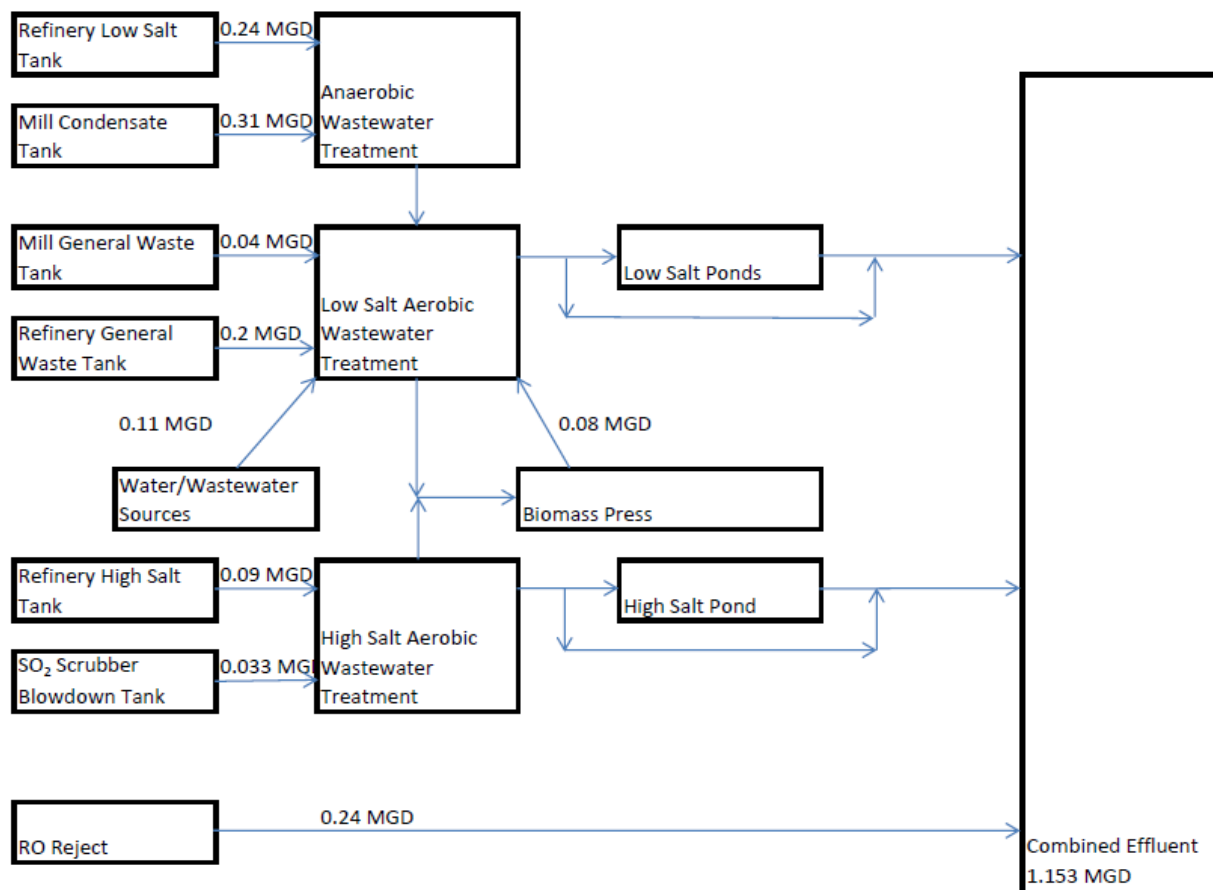
The Cargill Corn Milling (Progold) facility processes corn utilizing a wet milling technique for the production of high fructose corn syrup and livestock feed. The facility processes approximately 95,000 standard bushels of corn per day. The process generates approximately 1.15 million gallons of wastewater per day. The discharge consists primarily of treated wastewater from the wet milling process of corn into high fructose corn syrup and associated livestock feed. The discharge also consists of wastewater from support processes such as reverse osmosis water treatment, cooling tower and boiler blow-down, and syrup rail car vessel cleaning.

### **Treatment System**

The wastewater treatment system consists of an anaerobic digester (anaflux reactor), activated sludge process called a sequencing batch reactor (SBR) and four storage ponds with a total capacity of 98 million gallons. Two of the ponds are for storing high salt wastewater, and the other two ponds are for storing wastewater from other plant sources. The high salt wastewater ponds (brine ponds) have a capacity of 24 million gallons each, the primary wastewater pond has a capacity of 30 million gallons, and the secondary wastewater pond has a capacity of 20 million gallons. Treated wastewater can be discharged from the mechanical treatment system or the ponds at varying rates, depending on the characteristics of the wastewater and the Red River.

Process wastewater from the plant is segregated for treatment. High salt wastewater (steep and mill scrubbers and strong ion exchange waste) is treated to reduce biological oxygen demand (BOD) and stored in the brine ponds until river conditions are suitable for discharge. The remaining process waste streams are treated according to BOD strength. High BOD wastewater from weak ion exchange, evaporation and dryer condensers, transport cleaning, etc., are routed through the anaerobic treatment unit. The high BOD strength waste is then mixed with the general plant waste for aerobic treatment in an SBR. Based on the quality of effluent from the SBR, effluent is either discharged or stored in a general wastewater storage pond. The facility is also adding carbon trailer transfer water, gravity belt thickener wash water, and lime press wash water as additional waste streams. Wastewater from a reverse osmosis water treatment unit at the plant is combined with treated effluent before being discharged. All domestic wastewater is sent to the city of Wahpeton for treatment and is not discharged with process wastewater.

The following flow diagram was submitted by Cargill with their reapplication.



## Outfall Description

Outfall 001. Active. Final Outfall. Process Wastewater			
Latitude: 46.3504726		Longitude: -96.641491	
County: Richland			
Township: 133		Range: 47	
Section: 7		QQ: A	
Receiving Stream: Red River of the North		Classification: Class 1	
Outfall Description: This is the final discharge of process wastewater combined from all plant sources. The discharge enters the receiving stream through a diffuser.			

Outfall 002. Active. Internal Outfall. High Salt Wastewater			
Latitude: 46.3504726		Longitude: -96.641491	
County: Richland			
Township: 133		Range: 47	
Section: 7		QQ: A	
Receiving Stream: Red River of the North		Classification: Class 1	
Outfall Description: This is an internal discharge of high salt wastewater or from the brine ponds. This discharge is combined with process wastewater from all plant sources and enters the receiving stream through the diffuser from outfall 001.			

Outfall 003. Active. Final Outfall. East Plant Area Runoff			
Latitude: 46.3505500		Longitude: -96.6398000	
County: Richland			
Township: 133		Range: 47	
Section: 7		QQ: A	
Receiving Stream: Red River of the North		Classification: Class 1	
Outfall Description: This is an intermittent discharge consisting of storm runoff from the east area of the plant site, and off-site drainage from upstream areas.			

Outfall 004. Active. Final Outfall. West Plant Area Runoff			
Latitude: 46.3505500		Longitude: -96.6478000	
County: Richland			
Township: 133		Range: 47	
Section: 7		QQ: B	
Receiving Stream: Red River of the North		Classification: Class 1	
Outfall Description: This is an intermittent discharge, via a drop structure, consisting of storm runoff from the west area of the plant site.			

### PERMIT STATUS

The department issued the previous permit for the facility on July 1, 2016. The permit was then modified on October 01, 2017. The previous permit had effluent limits on the following parameters: pH, 5-day BOD, Total Suspended Solids (TSS), Ammonia, Sulfate, Chloride, and Whole Effluent Toxicity.

The department has been in contact with Cargill Corn Milling to obtain information to reissue their permit. The department received EPA applications Form 1, and Form 2C, on January 28, 2021. The application was accepted by the department March 15, 2021. Effluent sample data has been provided to the department through official laboratory reports, discharge monitoring reports, and the permit application Form 2C.

### SUMMARY OF COMPLIANCE WITH PREVIOUS PERMIT ISSUED

Four (4) inspections of the facility have been conducted from July 1, 2016 to December 31, 2020. The facility was in non-compliance in December 2016, April and May 2018, and February, April, October and November 2019 for effluent limitation exceedances (**Table 3**). The facility did not have effluent limitation exceedances in 2020 (**Table 3**) and were back into compliance. The department's assessment of the compliance is based on review of the facility's Discharge Monitoring Report (DMR) forms and inspections conducted by the department.

Cargill is a continuous discharger. A summary of the data follows:

<b>Table 2: DMR data summary for Cargill Corn Milling (Progold) from 07/01/2016 through 12/31/2020.</b>								
<b>Disch Pt</b>	<b>Location</b>	<b>Parameter</b>	<b>Ave Conc</b>	<b>Range</b>	<b>Units</b>	<b>Ave Load</b>	<b>Max Load</b>	<b>Max Load Units</b>
001A	Down Stream	Ammonia as Nitrogen	0.10	0.02 - 0.3	mg/L			
001A	Effluent	Ammonia as Nitrogen	1.08	0.02 - 14.1	mg/L			
001A	Up Stream	Ammonia as Nitrogen	0.13	0.02 - 0.636	mg/L			
001A	Effluent	Biochemical Oxygen Demand	8.28	2 - 42.3	mg/L	85.69	459	lb/d



<b>Table 2:</b> DMR data summary for Cargill Corn Milling (Progold) from 07/01/2016 through 12/31/2020.								
<b>Disch Pt</b>	<b>Location</b>	<b>Parameter</b>	<b>Ave Conc</b>	<b>Range</b>	<b>Units</b>	<b>Ave Load</b>	<b>Max Load</b>	<b>Max Load Units</b>
001A	Effluent	Chemical Oxygen Demand		-				
001A	Down Stream	Chlorides	17.94	12.9 - 33.7	mg/l			
001A	Effluent	Chlorides	641.34	70.2 - 2496	mg/l			
001A	Up Stream	Chlorides	17.91	9.9 - 54.9	mg/l			
001A	Down Stream	Conductivity	744.56	363 - 1369	uS/cm			
001A	Effluent	Conductivity	4146.46	1330 - 12560	uS/cm			
001A	Up Stream	Conductivity	764.78	313 - 1391	uS/cm			
001A	Effluent	Discharge Flow in Million Gals		-		1.12	3.62	MGD
001A	Down Stream	Dissolved Oxygen	9.69	6.02 - 14.85	mg/l			
001A	Up Stream	Dissolved Oxygen	10.35	4.15 - 17.1	mg/l			
001A	Up Stream	Flow in the Receiving Stream		-		1136.33	6190	ft3/sec
001A	Effluent	Flow Total Month		-			58.49	MGAL
001A	Effluent	Nitrogen, Total as N	4.31	0.1 - 18.5	mg/L			
001A	Effluent	Oil & Grease		- 0	mg/l			
001A	Effluent	Oil and Grease Visual		-			0	Y=1;N=0
001A	Down Stream	pH		7.82 - 8.51	S.U.			
001A	Effluent	pH		7.63 - 8.87	S.U.			
001A	Up Stream	pH		7.42 - 8.78	S.U.			
001A	Effluent	Phosphorus Total	16.48	0.206 - 67.7	mg/L			
001A	Down Stream	Sulfates	202.30	22.8 - 478	mg/l			
001A	Effluent	Sulfates	443.98	141 - 2299	mg/l			
001A	Up Stream	Sulfates	194.87	21.5 - 481	mg/l			
001A	Down Stream	Temperature in Celsius	14.95	1.5 - 25.5	deg C			
001A	Up	Temperature in Celsius	12.56	0 - 33.1	deg C			

**Table 2:** DMR data summary for Cargill Corn Milling (Progold) from 07/01/2016 through 12/31/2020.

Disch Pt	Location	Parameter	Ave Conc	Range	Units	Ave Load	Max Load	Max Load Units
	Stream							
001A	Effluent	Total Days Discharging/Month		-			31	d/mo
001A	Down Stream	Total Dissolved Solids	526.28	240 - 980	mg/l			
001A	Up Stream	Total Dissolved Solids	531.22	136 - 1010	mg/l			
001A	Effluent	Total Organic Carbon		-				
001A	Effluent	Total Suspended Solids	11.34	1 - 34	mg/l	114.35	723	#/Day
001M	Effluent	Acrolein, ug/L	20.00	10 - 100	ug/L			
001M	Effluent	Chromium Total ug/l	6.34	0.01 - 10	ug/l			
001M	Effluent	Copper Total ug/l	30.28	0.01 - 178	ug/L			
001M	Effluent	Lead Total ug/l	18.53	0.02 - 100	ug/l			
001M	Effluent	Selenium Total ug/l	33.09	0.01 - 100	ug/l			
001M	Effluent	Zinc Total ug/l	45.92	0.02 - 182	ug/l			
001W	Effluent	Acute Toxic Unit StatRe Ceriodaphnia TSM3B		<1	TU a			
001W	Effluent	Acute Toxic Unit StatRe Fat Hd Minnows TSN6C		<1	TU a			
001W	Effluent	Chronic Toxic Unit StatRe Ceriodaphnia TTP3B		-				
001W	Effluent	Chronic Toxic Unit StatRe Fat Hd Minnows TTP6C		-				
002A	Down Stream	Ammonia as Nitrogen	0.11	0.1 - 0.24	mg/L			
002A	Up Stream	Ammonia as Nitrogen	0.13	0.1 - 0.39	mg/L			
002A	Down Stream	Chlorides	18.85	12.9 - 33.7	mg/l			
002A	Internal	Chlorides	1511.88	664 - 2496	mg/l			
002A	Up Stream	Chlorides	17.23	11.3 - 42.8	mg/l			
002A	Down Stream	Conductivity	564.28	363 - 856	uS/cm			
002A	Internal	Conductivity	6991.97	3084 - 99220	uS/cm			
002A	Up Stream	Conductivity	559.85	313 - 827	uS/cm			

**Table 2:** DMR data summary for Cargill Corn Milling (Progold) from 07/01/2016 through 12/31/2020.

Disch Pt	Location	Parameter	Ave Conc	Range	Units	Ave Load	Max Load	Max Load Units
002A	Internal	Discharge Flow in Million Gals		-		0.77	3.34	MGD
002A	Down Stream	Dissolved Oxygen	8.67	6.69 - 12.19	mg/l			
002A	Up Stream	Dissolved Oxygen	9.32	4.15 - 14.88	mg/l			
002A	Internal	Flow Total Month					25.8	MGAL
002A	Down Stream	pH		7.82 - 8.46	S.U.			
002A	Up Stream	pH		7.68 - 8.53	S.U.			
002A	Down Stream	Sulfates	74.77	29.2 - 156	mg/l			
002A	Internal	Sulfates	599.65	200 - 950	mg/l			
002A	Up Stream	Sulfates	72.55	19.8 - 162	mg/l			
002A	Down Stream	Temperature in Celsius	17.85	4.4 - 25.5	deg C			
002A	Up Stream	Temperature in Celsius	14.63	0.4 - 25.9	deg C			
002A	Internal	Total Days Discharging/Month					31	d/mo
002A	Down Stream	Total Dissolved Solids	348.36	240 - 472	mg/l			
002A	Up Stream	Total Dissolved Solids	353.61	240 - 480	mg/l			
002G	Internal	Alkalinity	249.00	0 - 476	mg/l			
002G	Internal	Bicarbonate (as HCO <sub>3</sub> )	303.75	0 - 581	mg/L			
002G	Internal	Calcium Total	53.85	16.1 - 80.3	mg/l			
002G	Internal	Carbonate (CO <sub>3</sub> )	5.00	0 - 10	mg/L			
002G	Internal	Chlorides	2364.75	905 - 3350	mg/l			
002G	Internal	Conductivity	8165.00	3872 - 10450	uS/cm			
002G	Internal	Flouride Total	0.08	0 - 0.13	mg/L			
002G	Internal	Hardness as CaCO <sub>3</sub>	382.50	133 - 543	mg/l			
002G	Internal	Hydroxide (OH)	5.00	0 - 10	mg/L			
002G	Internal	Iron Total	1.95	0.05 - 7.5	mg/l			
002G	Internal	Magnesium Total	60.83	22.6 - 85.7	mg/l			

**Table 2:** DMR data summary for Cargill Corn Milling (Progold) from 07/01/2016 through 12/31/2020.

Disch Pt	Location	Parameter	Ave Conc	Range	Units	Ave Load	Max Load	Max Load Units
002G	Internal	Manganese Total	11.44	0.026 - 33.6	mg/l			
002G	Internal	Nitrate Nitrite Total	7.03	0.03 - 28	mg/l			
002G	Internal	pH		7.74 - 8	S.U.			
002G	Internal	Phosphorus Total	36.35	16.2 - 50.2	mg/L			
002G	Internal	Potassium Total	78.35	33.4 - 109	mg/L			
002G	Internal	Silica Total	9.53	0 - 24.9	mg/L			
002G	Internal	Sodium	1872.00	793 - 2295	mg/L			
002G	Internal	Sodium % of total cations	0.13	0 - 0.226	%			
002G	Internal	Sodium Absorption Ratio	31.33	0 - 55	1U			
002G	Internal	Sulfates	780.50	304 - 996	mg/l			
002G	Internal	Total Dissolved Solids	5492.50	2320 - 6820	mg/l			
002G	Internal	Total Suspended Solids	30.60	5.4 - 79	mg/l			
002G	Internal	Turbidity	27.43	0 - 81	NTU			
003S	Effluent	Oil & Grease		-				
003S	Effluent	Oil and Grease Visual		-			0	Y=1;N=0
003S	Effluent	pH		7.21 - 7.93	S.U.			
003S	Effluent	Total Suspended Solids	3.30	1 - 7.2	mg/l			
004S	Effluent	Oil & Grease	N/A	N/A				
004S	Effluent	Oil and Grease Visual					0	Y=1;N=0
004S	Effluent	pH		7.34 - 7.57	S.U.			
004S	Effluent	Total Suspended Solids	10.45	3 - 22	mg/l			

### Summary of DMR Data Excursions

Seven (7) excursions occurred from July 1, 2016 through December 31, 2020 for Cargill Corn Milling. One (1) exceedance was 40 percent or greater above the limit.

**Table 3:** Summary of DMR data excursions for Cargill Corn Milling (Progold) from 07/01/2016 through 12/31/2020.

Disch Pt	Location	Month	Parameter	Min Conc	Avg Conc	Max Conc	Units Conc	Excursions	TRC Exceedance
001A	Effluent	12/1/2016	BOD5	2	13.31	42.3	mg/L	1	Yes
001A	Effluent	5/1/2018	BOD5	4.4	14.58	30.2	mg/L	1	No
001A	Effluent	2/1/2019	BOD5	3.48	18.7	31.2	mg/L	1	No
001A	Effluent	10/1/2019	BOD5	2	7.83	27.6	mg/L	1	No
001A	Effluent	11/1/2019	Sulfates	704	1187	2299	mg/l	1	No
002A	Down Stream	4/1/2018	TDS	424	454	472	mg/l	2	No

### PROPOSED PERMIT LIMITS AND SELF MONITORING REQUIREMENTS

The discharge of wastewater generated in the wet corn milling process is regulated under 40 CFR 406, Subpart A. The New Source Performance Standards (40 CFR 406.15) provides production-based limitations for 5-day BOD (BOD5) and total suspended solids (TSS). The new source effluent limitations guidelines are summarized in the table below:

<b>Table 4:</b> New Source Performance Standards 40 CFR 406.15.		
Parameter	Federal Requirements	
	30 Day Average	Daily Maximum
	(In pounds per 1000 stbu)	
BOD	20	60
TSS	25	75

Effluent limitations based solely on the categorical standards could not be supported by the receiving stream. The ambient dissolved oxygen concentrations have been documented to drop below the water quality standard of 5 mg/l as a daily minimum. As allowed by NDAC 33.1-16-01-13(5), the department must include effluent limitations, if the water quality-based limitations are more stringent than the standards of performance for new sources.

In developing the original permit, it was determined that the receiving stream could not support the pollutant loadings allowed by the federal standards. The determination was based on modeling done with the STREAMDO model (STREAMDO IV and supplemental ammonia toxicity models, EPA Region VIII WMD, Bruce Zander and Jed Love, September 1990). The model was used to project the amount of BOD that could be assimilated by the receiving stream, without compromising the instream dissolved oxygen standard of 5 mg/l. The model has not been calibrated or verified for the Red River of the North at Wahpeton.

Due to the receiving water not being able to support the categorical standards outlined in 40 CFR 406.15, the department proposes the following alternate production-based limits:

<b>Table 5: Proposed alternate production-based limits.</b>		
Parameter	This Permit	
	30 Day Average	Daily Maximum
	(In pounds per 1000 stbu)	
BOD	8.3	12.5
TSS	12.5	25.0

The values for allowable pounds of BOD5 and TSS per thousand bushels of corn processed are based on a comparison of the treatment system and treatment methods evaluated in the development document for grain mills point source category (Grain Processing segment of the Grain Mills Point Source Category, EPA-440/1-1/74-028a, March 1974). The BOD was determined by using Alternative D and the TSS was determined by using Alternative C of the development document for grain mills point source category. In addition, the concentration of these pollutants allowed in discharge permits for comparable discharges in the state are generally in the range of 25 to 30 mg/l.

### Effluent Limitations

Samples taken in compliance with the monitoring requirements specified in this permit shall be taken prior to leaving the facility property or entering the receiving stream.

The permittee must limit and monitor all discharges as specified below:

<b>Table 6: Effluent Limitations and Monitoring Requirements Outfall 001.</b>					
Parameter	Effluent Limitations				
	Quantity		Concentration		
	Avg. Monthly Limit	Daily Maximum Limit	Avg. Monthly Limit	Avg. Weekly Limit	Daily Maximum Limit
Biochemical Oxygen Demand BOD5	788 lbs/day	1,187 lbs/day	20 mg/l	*	30 mg/l
Total Suspended Solids (TSS)	1,187 lbs/day	2,375 lbs/day	30 mg/l	*	45 mg/l
pH 1/	Between 7.0 to 9.0 s.u.				
Ammonia as N	Refer to Ammonia Table				
Oil and Grease 2/	*	*	*	*	10 mg/l
Oil and Grease Visual 2/	*	*	*	*	Report Yes or No
Sulfates Total as SO <sub>4</sub> mg/l	*	*	1,489 mg/l	*	2,002 mg/l
Chlorides Total mg/l	*	*	3,826 mg/l	*	5,146 mg/l
Phosphorus Total mg/l	*	*	*	*	*
Nitrogen Total mg/l	*	*	*	*	*
Stream flow upstream 3/	*	*	*	*	*
Flow Effluent, MGD	Report Avg. Monthly Value	Report Max. Daily Value	*	*	*
Total Drain, MGAL	*	Report Monthly Total	*	*	*
*. This parameter is not limited. However, the department may impose limitations based on sample history and to protect the receiving waters.					
1/ The pH, an instantaneous limitation, shall be between 7.0 s.u. and 9.0 s.u. Any single					

**Table 6: Effluent Limitations and Monitoring Requirements Outfall 001.**

Parameter	Effluent Limitations				
	Quantity		Concentration		
	Avg. Monthly Limit	Daily Maximum Limit	Avg. Monthly Limit	Avg. Weekly Limit	Daily Maximum Limit
analysis and or measurement beyond this limitation shall be considered a violation of the conditions of this permit.					
2/ The effluent shall be visibly examined weekly for a sheen or floating oil. If present, a grab sample shall be analyzed for oil and grease to ensure compliance with the concentration limitations.					
3/ Daily flows of the Red River, measured at the United States Geological Survey (USGS) gauge station in Wahpeton, North Dakota, shall be recorded during periods of discharge. Should the gauge at Wahpeton be inoperable or affected by ice backwater, an estimated flow, based on other gauging stations, would be acceptable.					
<p>Stipulations:</p> <p>The dates of discharge, frequency of analyses, total number of gallons discharged, discharge flow rates, and number of exceedances shall also be included on the Discharge Monitoring Reports (DMR).</p> <p>Samples collected for compliance with the monitoring specified in this section shall be representative of the final discharge of the combined waste stream and shall be taken prior to mixing with any receiving waters or stormwater runoff.</p> <p>Best Management Practices (BMPs) are to be utilized so that there shall be no discharge of floating debris, oil, scum and other floating materials in sufficient amounts to be unsightly or deleterious, or oily wastes that produce a visible sheen on the surface of the receiving water.</p>					

**Table 7: Ammonia Effluent Limitations and Monitoring Requirements Outfall 001.**

Parameter	Effluent Limitations		
	Avg. Monthly Limit	Avg. Weekly Limit	Daily Maximum Limit
Ammonia 1/	†	*	‡
Stream flow upstream, cfs 2/	*	*	*
Temperature upstream, ° C 2/, 3/	*	*	*
pH upstream, S.U. 2/, 3/	*	*	*
1/ Calculations must be performed for each discharge sample. If an exceedance is detected on any single sample, the exceedance must be reported on the DMR.			
2/ Sample must be collected/ recorded the same day as the ammonia sample. The upstream flow, temperature, and pH may be obtained from the USGS gauging station at Wahpeton, North Dakota, if data is not available at the designated upstream monitoring location.			
3/ If the upstream values are not collected then following minimum values base on the 90 <sup>th</sup> percentile upstream STORET and USGS data are to be used: pH: 8.4 S.U., Temperature 23.4 ° C, and ammonia 0.25 mg/l. If the upstream flow is not available then, the 30B10 critical low flow of 137 cfs shall be used. The maximum mixing factor is 25.0%.			
† Chronic Standard (Average Monthly Limit)			

**Table 7: Ammonia Effluent Limitations and Monitoring Requirements Outfall 001.**

Effluent Limitations			
Parameter	Avg. Monthly Limit	Avg. Weekly Limit	Daily Maximum Limit
<p>The 30-day average concentration of total ammonia (expressed as N in mg/L) does not exceed, more often than once every three years on the average, the numerical value given by the following formula; and the highest 4-day average concentration of total ammonia within the 30-day averaging period does not exceed 2.5 times the numerical value given by the following formula:</p> $(CV) \left( \frac{0.0577}{1 + 10^{7.688 - pH}} \right) + \left( \frac{2.487}{1 + 10^{pH - 7.688}} \right)$ <p>where CV = 2.85, when <math>T \leq 14^{\circ}\text{C}</math>; or  <math>CV = 1.45 * 10^{0.028 * (25 - T)}</math>, when <math>T &gt; 14^{\circ}\text{C}</math>.  Receiving stream pH is used for the calculation</p> <p>‡ Acute Standard (Daily Maximum Limit)  The one-hour average concentration of total ammonia (expressed as N in mg/l) does not exceed, more often than once every three years on the average, the numerical value given by the following formula:</p> $\frac{0.411}{1 + 10^{7.204 - pH}} + \frac{58.4}{1 + 10^{pH - 7.204}}$ <p>where salmonids are absent; or</p> $\frac{0.275}{1 + 10^{7.204 - pH}} + \frac{39.0}{1 + 10^{pH - 7.204}}$ <p>where salmonids are present.</p>			
<b>Stipulations</b>			
The maximum mixing factor is 25.0%.			

**Table 8: Effluent Limitations and Monitoring Requirements Outfall 002.**

Effluent Limitations					
Parameter	Quantity		Concentration		
	Avg. Monthly Limit	Daily Maximum Limit	Avg. Monthly Limit	Avg. Weekly Limit	Daily Maximum Limit
Electrical Conductivity	*	*	*	*	*
Sulfates Total as SO <sub>4</sub> mg/l	*	*	*	*	*
Chlorides Total mg/l	*	*	*	*	*
General Water Chemistry 1/	*	*	*	*	*
Flow Effluent, MGD	Report Avg. Monthly Value	Report Max. Daily Value	*	*	*



**Table 8: Effluent Limitations and Monitoring Requirements Outfall 002.**

Effluent Limitations					
	Quantity		Concentration		
Parameter	Avg. Monthly Limit	Daily Maximum Limit	Avg. Monthly Limit	Avg. Weekly Limit	Daily Maximum Limit
Total Drain, MGAL	*	Report Monthly Total	*	*	*
*. This parameter is not limited. However, the department may impose limitations based on sample history and to protect the receiving waters.					
Samples taken in compliance with the monitoring requirements specified in this permit shall be taken prior to combining with any other waste stream.					
Dates of discharge, frequency of analyses, total number of gallons discharged, and discharge flow rates shall also be included on the Discharge Monitoring Report forms.					
1/ The following parameters shall be sampled and analyzed for:					
Sodium	Sulfate	Hardness Total as CaCO3	Nitrate and Nitrite		
Calcium	Carbonate	Total Dissolved Solids	Phosphorus (Total)		
Magnesium	Bicarbonate	Sodium Adsorption Ratio	Turbidity		
Potassium	Hydroxide	Percent Sodium	Fluoride		
Silica	Alkalinity	Iron	Total Suspended Solids		
Chloride	Conductivity	Manganese	pH		

**Table 9: Benchmark Values for Outfall 003\*.**

Parameter	Benchmark Values
Oil and Grease	No Visible Sheen (15 mg/L)
pH	Between 6.0 and 9.0 S.U.
TSS	100 mg/L

\* Benchmark concentrations should not be interpreted as stormwater effluent limitations, individual wastewater effluent limitations, or as state water quality standards. Benchmark concentrations provide an appropriate level to determine whether a facility's stormwater pollution prevention measures are effective. A pollutant concentration that is above the benchmark value represents a potential water quality concern and the need to improve the facility's best management practices. If your samples exceed the benchmark, the best management practices shall be revised to reduce future concentrations.

**Table 10: Benchmark Values for Outfall 004\*.**

Parameter	Benchmark Values
Oil and Grease	No Visible Sheen (15 mg/L)
pH	Between 6.0 and 9.0 S.U.
TSS	100 mg/L

\* Benchmark concentrations should not be interpreted as stormwater effluent limitations, individual wastewater effluent limitations, or as state water quality standards. Benchmark concentrations provide an appropriate level to determine whether a facility's stormwater pollution prevention measures are effective. A pollutant concentration that is above the benchmark value represents a potential water quality concern and the need to improve the facility's best management practices. If your samples exceed the benchmark, the best management practices shall be revised to reduce future concentrations.

### SELF-MONITORING REQUIREMENTS

All effluent samples shall be collected at a point following the addition of all process waste streams and prior to entering the Red River of the North.

<b>Table 11: Self-Monitoring Requirements for Outfall 001.</b>		
<b>Effluent Parameter</b>	<b>Frequency</b>	<b>Sample Type</b>
BOD5, mg/L	Weekly	Grab
TSS, mg/L	Weekly	Grab
pH	Weekly	Grab
Ammonia as N	Weekly	Grab
pH Upstream	Weekly	Grab
Temperature Upstream	Weekly	Instantaneous
Oil and Grease Visual	Weekly <sup>a</sup>	Visual
Oil and Grease	Conditional <sup>a</sup>	Grab
Electrical Conductivity <sup>b</sup>	Weekly/Daily	Grab/Instantaneous
Sulfates Total as SO <sub>4</sub> , mg/L	Weekly	Grab
Chlorides Total, mg/L	Weekly	Grab
Phosphorus Total, mg/L	Weekly	Grab
Nitrogen Total, mg/L	Weekly	Grab
WET, TU <sub>a</sub>	Quarterly	Grab
WET, TU <sub>c</sub>	1/ permit cycle	Grab
Metals	Semiannual	Grab
Stream flow upstream	Daily	Instantaneous
Flow Effluent, MGD	Continuous	Recorder
Total Drain, MGAL	Monthly	Calculated
<b>Notes:</b>		
a.	The effluent shall be visibly examined weekly for a sheen or floating oil. If present, a grab sample shall be analyzed for oil and grease to ensure compliance with the concentration limitations.	
b.	Instantaneous measurements with a direct reading instrument are also acceptable.	

<b>Table 12: Self-Monitoring Requirements for Outfall 002</b>		
<b>Effluent Parameter</b>	<b>Frequency</b>	<b>Sample Type</b>
Electrical Conductivity	Daily	Grab
Sulfates Total as SO <sub>4</sub> , mg/L	Weekly	Grab
Chlorides Total, mg/L	Weekly	Grab
General Chemistry 1/	Annual	Grab
Duration of Discharge (Days)	Monthly	Calculated
Flow Effluent, MGD	Continuous	Recorder
Total Drain, MGAL	Monthly	Calculated
<b>Notes:</b>		

Table 12: Self-Monitoring Requirements for Outfall 002			
Effluent Parameter		Frequency	Sample Type
1/ The following parameters shall be sampled and analyzed for:			
Sodium Sulfate	Hardness Total as CaCO3	Nitrate and Nitrite	
Calcium Carbonate	Total Dissolved Solids	Phosphorus (Total)	
Magnesium Bicarbonate	Sodium Adsorption Ratio	Turbidity	
Potassium Hydroxide	Percent Sodium	Fluoride	
Silica Alkalinity	Iron	Total Suspended Solids	
Chloride Conductivity	Manganese	pH	

<b>Table 13: Self-Monitoring Requirements for Outfall 003</b>		
<b>Effluent Parameter</b>	<b>Frequency</b>	<b>Sample Type</b>
Oil and Grease	Annual	Grab
pH	Annual	Grab
TSS	Annual	Grab
<b>Notes:</b>		

<b>Table 14: Self-Monitoring Requirements for Outfall 004</b>		
<b>Effluent Parameter</b>	<b>Frequency</b>	<b>Sample Type</b>
Oil and Grease	Annual	Grab
pH	Annual	Grab
TSS	Annual	Grab
<b>Notes:</b>		

**Instream Monitoring Requirements**

The Red River shall be monitored during all periods of discharge. The minimum river sampling requirements are described below.

Samples taken in compliance with the requirements of this section shall be taken at the following locations:

- Upstream of the facility's discharge, at a location in the vicinity of the facility's raw water intake from the Red River, and
- Downstream of the facility's discharge, in the vicinity of the road bridge one mile west of Brushvale, Minnesota.

<b>Table 15: Red River Instream Self-Monitoring Requirements</b>			
Parameter	Frequency		Sample Type
	<b>Outfall 001 1/</b>	<b>Outfall 002 2/</b>	
Total Dissolved Solids TDS	Monthly	Weekly	Grab
Sulfate Total	Monthly	Weekly	Grab
Chloride Total	Monthly	Weekly	Grab
Ammonia as N	Monthly	Weekly	Grab
Dissolved Oxygen 3/ 4/	Weekly	Weekly	Grab
pH 3/	Monthly	Weekly	Grab
Electrical Conductivity 3/	Weekly	Daily	Grab
Temperature in C 3/	Monthly	Weekly	Grab
<p>1/ When high salt wastewater is being stored, no discharge from 002.</p> <p>2/ When high salt wastewater is being discharged from 002.</p> <p>3/ Direct reading and/or continuous recording instruments installed instream may be used for D.O., E.C., or pH.</p> <p>4/ Shall be collected between 6 a.m. and 9 a.m.</p> <p>When dangerous conditions exist for personnel (i.e. thin ice, melting ice, flooding, etc.) the scheduled river sampling may be suspended until conditions are deemed suitable.</p>			

### **SURFACE WATER QUALITY-BASED EFFLUENT LIMITS**

The North Dakota State Water Quality Standards (NDAC Chapter 33.1-16-02.1) are designed to protect existing water quality and preserve the beneficial uses of North Dakota's surface waters. Wastewater discharge permits must include conditions that ensure the discharge will meet the surface water quality standards. Water quality-based effluent limits may be based on an individual waste load allocation or on a waste load allocation developed during a basin wide total maximum daily load (TMDL) study. TMDLs result from a scientific study of the water body and are developed in order to reduce pollution from all sources.

Currently a TMDL has not been developed for the receiving water body. The Red River is listed as impaired under Section 303(d) for fish consumption and recreation. Fish consumption is impaired by methyl mercury and recreation is impaired by *Escherichia coli*. The impairment is for the Red River of the North from its confluence with the Ottertail River downstream to its confluence with the Whiskey Creek on the MN side. The TMDL priority level for this stream reach is low.

#### **Numerical Criteria for the Protection of Aquatic Life and Recreation**

Numerical water quality criteria are listed in the water quality standards for surface waters (NDAC Chapter 33.1-16-02.1). They specify the maximum levels of pollutants allowed in receiving water to protect aquatic life and recreation in and on the water. The department uses numerical criteria along with chemical and physical data for the wastewater and receiving water to derive the effluent limits in the discharge permit. When surface water quality-based limits are more stringent or potentially more stringent than technology-based limits, the discharge must meet the water quality-based limits.

### **Numerical Criteria for the Protection of Human Health**

The U.S. EPA has published numeric water quality criteria for the protection of human health that are applicable to dischargers. These criteria are designed to protect humans from exposure to pollutants linked to cancer and other diseases, based on consuming fish and shellfish and drinking contaminated surface waters. The water quality standards also include radionuclide criteria to protect humans from the effects of radioactive substances.

### **Narrative Criteria**

Narrative water quality criteria (NDAC Chapter 33.1-16-02.1-08) limit concentrations of pollutants from exceeding applicable standards of the receiving waters. The department adopted a narrative biological goal solely to provide an additional assessment method that can be used to identify impaired surface waters.

### **Antidegradation**

The purpose of North Dakota's Antidegradation Policy (NDAC Chapter 33.1-16-02(Appendix IV)) is to:

- Provide all waters of the state one of three levels of antidegradation protection.
- Determine whether authorizing the proposed regulated activity is consistent with antidegradation requirements.

The department's fact sheet demonstrates that the existing and designated uses of the receiving water will be protected under the conditions of the proposed permit.

### **Mixing Zones**

The department's WQS contain a Mixing Zone and Dilution Policy and Implementation Procedure, NDAC Chapter 33.1-16-02.1 (Appendix III). This policy addresses how mixing and dilution of point source discharges with receiving waters will be addressed in developing chemical-specific and whole effluent toxicity discharge limitations for point source discharges. Depending upon site-specific mixing patterns and environmental concerns, some pollutants/criteria may be allowed a mixing zone or dilution while others may not. In all cases, mixing zone and dilution allowances shall be limited, as necessary, to protect the integrity of the receiving water's ecosystem and designated uses.

## **EVALUATION OF SURFACE WATER QUALITY-BASED EFFLUENT LIMITS FOR NUMERIC CRITERIA**

**Outfall 001:** All process wastewater is combined and discharged through this outfall.

**Outfall 002:** This is an internal point for monitoring high salt wastewater and/or discharges from the brine ponds. The point has been designated to identify conditions that apply to the discharge of high salt wastewater. No limitations apply directly to this point as it is limited by the requirements specified for the total mixed wastewater at outfall 001 and instream limitations.

**Outfalls 003 and 004:** These discharges are for stormwater runoff from the plant site. The effluent quality from these outfalls must be controlled through the implementation of best management practices.

***Biochemical Oxygen Demand (BOD<sub>5</sub>)***

**Outfall 001:** The department has reviewed the BOD<sub>5</sub> data and sampling frequency. Four excursions occurred for this parameter, and one excursion was above the technical review criteria (TRC).

The department determined to continue with BOD<sub>5</sub> limits of 20 mg/l (30-day arithmetic average) and 30 mg/l (daily maximum) and loading limits of 788 pounds per day (30 day arithmetic average) and a daily maximum to 1,187 pounds per day.

The proposed limitations are based upon utilizing Alternative D of development document for grain mills point source category (Grain Processing segment of the Grain Mills Point Source Category, EPA-440/1-1/74-028a, March 1974). The loading was based upon processing 95,000 standard bushels per day with BOD<sub>5</sub> factors of 8.3 pounds per 1,000 standard bushels (30 day arithmetic average) and 12.5 pounds per 1,000 standard bushels (daily maximum), with a discharge rate of 3.62 MGD.

The department has determined to continue with a sampling frequency of weekly based on the previous permit.

***Total Suspended Solids (TSS)***

**Outfall 001:** The department has reviewed the TSS data and the sampling frequency. No excursions occurred for this parameter.

The department determined to continue with TSS limits of 30 mg/l (30 day arithmetic average) and 45 mg/l (daily maximum) and loading limits of 1,187 pounds per day (30 day arithmetic average) and a daily max of 2,375 pounds per day.

The proposed changes are based upon utilizing Alternative C of development document for grain mills point source category (Grain Processing segment of the Grain Mills Point Source Category, EPA-440/1-1/74-028a, March 1974). The loading was based upon processing 95,000 standard bushels per day with TSS factors of 12.5 pounds per 1,000 standard bushels (30-day arithmetic average) and 25 pounds per 1,000 standard bushels (daily maximum), with a discharge rate of 3.62 MGD.

The department has determined to continue with a sampling frequency of weekly based on the previous permit.

**Outfall 003:** The department is proposing a benchmark value of 100 mg/L of TSS based upon the requirements of the stormwater industrial general permit NDR050000, Appendix (1)(N), which requires industrial facilities with an SIC codes of 2041-2048 to sample discharges from their outfalls.

**Outfall 004:** The department is proposing a benchmark value of 100 mg/L of TSS based upon the requirements of the stormwater industrial general permit NDR050000, Appendix (1)(N), which requires industrial facilities with an SIC codes of 2041-2048 to sample discharges from their outfalls.

***Dissolved Oxygen***

**Outfall 001:** The department has reviewed the dissolved oxygen data and the sampling frequency. The department proposes to continue with monitoring and a sampling frequency of weekly based on the previous permit.

***pH***

**Outfall 001:** The limitations for pH are based on the state water quality standards applicable to this water body. In accordance with NDAC § 33.1-16-02.1, the pH of Class I and IA water bodies “shall remain between 7.0 and 9.0.”

The department has reviewed the pH data and the sampling frequency. No excursions occurred for this parameter. The department proposes to continue the pH range to 7.0 to 9.0 with a sampling frequency of weekly based on NDAC § 33.1-16-02.1.

**Outfall 003:** The department is proposing to continue a benchmark pH value of 6.0 to 9.0 based upon the new requirements of the stormwater industrial general permit NDR050000, Appendix (1)(N), which requires industrial facilities with an SIC codes of 2041-2048 to sample discharges from their outfalls.

**Outfall 004:** The department is proposing to continue a benchmark pH value of 6.0 to 9.0 based upon the new requirements of the stormwater industrial general permit NDR050000, Appendix (1)(N), which requires industrial facilities with an SIC codes of 2041-2048 to sample discharges from their outfalls.

***Ammonia as N***

**Outfall 001:** The department has conducted a reasonable potential analysis for ammonia as N. Based on this analysis it was determined that there is reasonable potential to exceed the North Dakota Standards of Quality for Waters of the State for ammonia as N.

Refer to **Appendix C** for a detailed explanation on the criteria used to determine reasonable potential for this outfall. The department proposes to continue with the ammonia effluent sampling frequency of weekly based on NDAC § 33.1-16-02.1 and the previous permit.

The department is proposing the following requirements for ammonia as N.



**Table 16: Ammonia Effluent Values and Monitoring Requirements Outfall 001**

Parameter	Effluent Limitations			Monitoring Requirements	
	Avg. Monthly Limit	Avg. Weekly Limit	Daily Maximum Limit	Sample Frequency	Sample Type
Ammonia 1/	†	*	‡	1/Week	Grab
Stream flow upstream, cfs 2/	*	*	*	1/Week	Instantaneous
Temperature upstream, ° C 2/, 3/	*	*	*	1/Week	Instantaneous
pH upstream, S.U. 2/, 3/	*	*	*	1/Week	Instantaneous

1/ Calculations must be performed for each discharge sample. If an exceedance is detected on any single sample, the exceedance must be reported on the DMR.

2/ Sample must be collected/ recorded the same day as the ammonia sample. The upstream flow, temperature, and pH may be obtained from the USGS gauging station at Wahpeton, North Dakota, if data is not available at the designated upstream monitoring location (Part I(C)(2) of the permit).

3/ If the upstream values are not collected then following minimum values base on the 90<sup>th</sup> percentile upstream STORET and USGS data are to be used: pH: 8.4 S.U., Temperature 23.9 ° C, and ammonia 0.25 mg/l. If the upstream flow is not available then, the 30B10 critical low flow of 137 cfs shall be used. The maximum mixing factor is 25.0%.

† Chronic Standard (Average Monthly Limit)

The 30-day average concentration of total ammonia (expressed as N in mg/L) does not exceed, more often than once every three years on the average, the numerical value given by the following formula; and the highest 4-day average concentration of total ammonia within the 30-day averaging period does not exceed 2.5 times the numerical value given by the following formula:

$$(CV) \left( \frac{0.0577}{1 + 10^{7.688 - pH}} \right) + \left( \frac{2.487}{1 + 10^{pH - 7.688}} \right)$$

where CV = 2.85, when  $T \leq 14^{\circ}\text{C}$ ; or  
 $CV = 1.45 * 10^{0.028 * (25 - T)}$ , when  $T > 14^{\circ}\text{C}$ .

Receiving stream pH is used for the calculation

‡ Acute Standard (Daily Maximum Limit)

The one-hour average concentration of total ammonia (expressed as N in mg/l) does not exceed, more often than once every three years on the average, the numerical value given by the following formula:

$$\frac{0.411}{1 + 10^{7.204 - pH}} + \frac{58.4}{1 + 10^{pH - 7.204}}$$

where salmonids are absent; or

<b>Table 16: Ammonia Effluent Values and Monitoring Requirements Outfall 001</b>					
Parameter	Effluent Limitations			Monitoring Requirements	
	Avg. Monthly Limit	Avg. Weekly Limit	Daily Maximum Limit	Sample Frequency	Sample Type
	$\frac{0.275}{1 + 10^{7.204-pH}} + \frac{39.0}{1 + 10^{pH-7.204}}$ where salmonids are present.				
<b>Stipulations</b>					
The maximum mixing factor is 25.0%.					

The permittee must perform the calculations provided in **Table 17** for each discharge sample utilizing the upstream temperature, pH, and stream flow. If the upstream data is not available at the time of sampling, the following 90<sup>th</sup> percentile upstream STORET and USGS data must be used: pH: 8.4 S.U., Temperature 23.9 ° C, and ammonia 0.25 mg/l. If the upstream flow is not available then, the 30B10 critical low flow of 137 cfs shall be used. The maximum mixing factor is 25.0%. If an exceedance is detected on any one sample, the exceedance must be reported on the DMR.

### ***Oil and Grease Visual***

**Outfall 001:** The department has reviewed the oil and grease visual data and the frequency. No excursions occurred for this parameter. The department proposes to continue with the oil and grease visual requirement of weekly and report if present which is based on the previous permit.

**Outfall 003:** The department is proposing a benchmark value of no visible sheen (15 mg/L) of oil and grease based upon the new requirements of the stormwater industrial general permit NDR050000, Appendix (1)(N), which requires industrial facilities with an SIC codes of 2041-2048 to sample discharges from their outfalls.

**Outfall 004:** The department is proposing a benchmark value of no visible sheen (15 mg/L) of oil and grease based upon the new requirements of the stormwater industrial general permit NDR050000, Appendix (1)(N), which requires industrial facilities with an SIC codes of 2041-2048 to sample discharges from their outfalls.

### ***Oil and Grease***

**Outfall 001:** The department has reviewed the oil and grease data and sampling frequency. No excursions occurred for this parameter. The department proposes to continue with a limit of 10.0 mg/l for oil and grease and conditional sampling frequency of weekly if a sheen is present which is based on the previous permit.

### ***Total Dissolved Solids (TDS)***

**Outfall 001:** The department has reviewed the TDS data and sampling frequency. The department proposes monitoring of TDS only when outfall 002 is being combined with this outfall.

**Outfall 002:** The department has reviewed the TDS data and sampling frequency. Two (2) excursions occurred for this parameter and this excursion did not exceed the TRC.

The previous permit had an instream TDS limit of 460 mg/l. Currently, the department does not have a WQS for TDS. Minnesota does currently have a WQS, which is 500 mg/l and is based upon a secondary maximum daily limit (MDL) for drinking water, which is a non-enforceable MDL. Minnesota currently does not have a TMDL for TDS on the stream reach which the facility discharges to. The ambient concentration of TDS can at times be above the previous effluent limitation, restricting when the facility can discharge. In addition, the USACOE has changed their management plan on how they operate White Rock Dam on Lake Traverse (**Appendix C**).

Over the past permit cycle, the facility has been sampling upstream and downstream of their discharge point for TDS. The department has conducted a paired *t*-test to determine if the facility is impacting/contributing to the high TDS of the receiving stream. The paired *t*-test showed that the facility is not impacting the TDS concentration of the receiving stream (**Appendix C**).

The department is proposing to remove the 460 mg/l downstream limitation based upon the paired *t*-test evaluation of new data, North Dakota not currently having a TDS WQS, and that the Minnesota WQS is based upon a secondary MDL (which is non-enforceable).

The department proposes to have monitoring of TDS upstream and downstream to continue to collect data on TDS. The department proposes to continue with a sampling frequency of weekly when discharging from outfall 002. The sampling frequency is based on the previous permit and BPJ.

### ***Electrical Conductivity***

**Outfall 001:** The department has reviewed the electrical conductivity data and the sampling frequency. Electrical conductivity (EC) provides a quick indication of effluent TDS. The department proposes to continue with a sampling frequency of weekly based on the previous permit.

**Outfall 002:** The department has reviewed the electrical conductivity data and the sampling frequency. Electrical conductivity (EC) provides a quick indication of effluent TDS. The department proposes to continue with a sampling frequency of daily based on the previous permit.

### ***Sulfate Total***

**Outfall 001:** The department has reviewed the sulfate data for outfall 001. One excursion occurred for this parameter. The excursion did not meet the TRC criteria of greater than 40% above the effluent limitation. Based on discharge monitoring data from July 1, 2011 through December 31, 2020, it was determined that there is no reasonable potential to exceed the North Dakota Standards of Quality for Waters of the State for sulfate (**Appendix C**).

The department proposes to remove discharge rate/dilution ratio limitation since there is no RP but retain the effluent limitations of the previous permit. The department has determined to continue with the previous permit limitations of 1,489 mg/l (monthly average) and 2,002 mg/l (daily maximum) with weekly sampling. This is based upon BPJ (previous permit).

**Outfall 002:** The department has reviewed the sulfate data for outfall 002. This parameter is monitoring only for this outfall. The department proposes to continue monitoring with a sampling frequency of weekly. This is based on NDAC § 33.1-16-02.1 and BPJ (previous permit).

### ***Chloride Total***

**Outfall 001:** The department has reviewed the chloride data. No excursions occurred for this parameter. Based on discharge monitoring data from July 1, 2011 through December 31, 2020, it was determined that there is no reasonable potential to exceed the North Dakota Standards of Quality for Waters of the State for chloride (**Appendix C**).

The department proposes to remove discharge rate/dilution ratio limitation since there is no RP but retain the effluent limitations of the previous permit. The department has determined to continue with the previous permit limitations of 3,826 mg/l (monthly average) and 5,146 mg/l (daily maximum) with weekly sampling. This is based upon BPJ (previous permit).

**Outfall 002:** The department has reviewed the chloride data for outfall 002. This parameter is monitoring only for this outfall. The department proposes to continue monitoring with a sampling frequency of weekly. This is based on NDAC § 33.1-16-02.1 and BPJ (previous permit).

### ***Phosphorus Total***

**Outfall 001:** The department has reviewed the phosphorus data and sampling frequency. The department proposes to continue with a sampling frequency of weekly based on the previous permit. This is in anticipation of the departments Nutrient Reduction Strategy implementation.

### ***Total Organic Carbon (TOC)***

**Outfall 001:** The department has reviewed the total organic carbon data and sampling frequency. The department has sufficient historical data for TOC at this outfall. Currently, there is no WQS for TOC.

The department proposes to remove the conditional sampling for TOC. Total Organic Carbon has not been tested since 2011 when sampling was switched from required to when requested by downstream users in the July 2011 permit reissuance. Since the permit change, it has not been requested to be sampled by downstream users for ten (10) years.

### ***Chemical Oxygen Demand (COD)***

**Outfall 001:** The department has reviewed the chemical oxygen demand data and sampling frequency. The department has sufficient historical data for COD at this outfall. Currently, there is no WQS for COD.

The department proposes to remove the conditional sampling for TOC. Total Organic Carbon has not been tested since 2011 when sampling was switched from required to when requested by downstream users in the July 2011 permit reissuance. Since the permit change, it has not been requested to be sampled by downstream users for ten (10) years.

### **General Chemical Analysis**

**Outfall 002:** The department has reviewed the general chemical analysis data and sampling frequency. The department proposes to continue with a sampling frequency of yearly based on the previous permit and NDAC 33.1-16-02.1.

### **Metals**

**Outfall 001:** The department has reviewed the available metals data (**Appendix C**). The department conducted a reasonable potential analysis for Copper and Selenium (**Appendix C**). It was determined that there is no reasonable potential to exceed the North Dakota Standards of Quality for Waters of the State for Copper and Selenium.

The department proposes to continue monitoring for the following metals parameters: selenium, acrolein, chromium, copper, lead, and zinc. The department is proposing continued monitoring for the above referenced metals with a sampling frequency of semiannual. This is based on NDAC 33.1-16-02.1 and best professional judgment.

### **Human Health**

The department determined the applicant's discharge is unlikely to contain chemicals regulated to protect human health. The department will re-evaluate this discharge for impacts to human health at the next permit reissuance.

### **Whole Effluent Toxicity**

**Outfall 001:** The department has conducted a reasonable potential analysis for whole effluent toxicity (WET). Based on this analysis, it was determined that there is reasonable potential to exceed the acute standard of 0.3 Toxic Units (TUa). See **Appendix C** for a detailed explanation on the criteria used to determine reasonable potential for this outfall.

The data set consisted of 23 tests and indicated no toxicity occurred to the fathead minnows and *Ceriodaphnia dubia*. On 08/19/2010 the department granted Cargill's request to reduce its quarterly acute toxicity requirements to alternating species between *Ceriodaphnia dubia* and *Pimephales promelas*. On 10/4/2013, the department revoked the provision to allow for alternating species due to toxicity being above the permit limit. The facility did not request a reduction in sampling for this permit cycle.

The department is proposing to continue the sampling frequency of quarterly, based on best professional judgment and other similar permits.

The department is proposing the following requirements for WET.

**Acute Toxicity Testing**

Table 17: WET requirements for Outfall 001						
Implementation	Limitations Imposed					
Effluent Dilution	0%(Control)	12.5%	25%	50%	75%	100%
Dilution Water	Red River of the North <sup>a</sup>					
Testing Type	Acute Toxicity					
Species and Test Type	Ceriodaphnia dubia 48 Hour Acute Static Renewal 20°C					
	Pimephales promelas 96 Hour Acute Static Renewal 20°C					
Endpoint	Survival reported as TUa					
Compliance Point	End of pipe					
Sample Frequency	Quarterly					
Sample Type	Grab					
Maximum Daily Limit (MDL)	<1 TUa					
Average Monthly Limit (AML)	<1 TUa					
Test Failure	The 48-hour LC50 effluent value must be <1 TUa to indicate a passing test. Any 48-hour LC50 effluent value >1 TUa will constitute a failure. Tests in which the control survival is less than 90% are invalid and must be repeated.					
Reporting Requirements	The permittee shall report the following results of each toxicity test on the DMR for that reporting period:  Report the highest TUa for Ceriodaphnia dubia, Parameter No. TSM3B. Report the highest TUa for Pimephales promelas, Parameter No. TSN6C.					
When possible, sampling shall be done when outfall 002 is in operation.						
If acute toxicity occurs in a routine test, an additional test shall be initiated within four weeks of the date of the initial sample. Should acute toxicity occur in the second test, testing shall be conducted at a frequency of once a month and the implementation of a 5.Toxicity Reduction Evaluation (TRE) shall be determined by the department. Should there be no discharge during a specified sampling time frame; sampling shall be performed as soon as there is a discharge.						
a. When dangerous conditions exist for personnel (i.e. thin ice, melting ice, flooding, etc.) the permittee may utilize moderately hard reconstituted water upon request and approval by the department.						

The department is proposing a TU<sub>a</sub> of less than 1 (<1) in order to meet the requirements of NDAC 33.1-16-02.1-08(a)(4), which states that “[a]ll waters of the state shall be: ...Free from substances attributable to municipal, industrial, or other discharges or agricultural practices in concentrations or combinations which are toxic or harmful to humans, animals, plants, or resident aquatic biota. For surface water, this standard will be enforced in part through appropriate whole effluent toxicity requirements in North Dakota pollutant discharge elimination system permits.” This limit will need to be met at the end-of-pipe with no allowance for a zone of initial dilution (ZID), in accordance with NDAC 33.1-16-02.1, Appendix III, which states: “Acute whole effluent toxicity (WET) limits shall be achieved at the end-of-pipe with no allowance for a ZID.”

Acute toxicity test requirements are set out in the latest revision of "Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms," EPA-821-R-02-012 (Fifth Ed., October 2002).

**Chronic Toxicity Testing**

The department does not have enough data to conduct a reasonable potential analysis for TU<sub>c</sub>.

The department is proposing monitoring for chronic toxicity with a sampling frequency of once (1) per permit cycle.

Below are the testing requirements for chronic whole effluent testing.

<b>Chronic WET requirements for Outfall 001</b>						
Implementation	Monitoring Only					
Effluent Dilution	0%(Control)	6.25%	12.5%	25%	50%	100%
Dilution Water	<b>Red River of the North</b>					
Species and Test Type	<i>Ceriodaphnia dubia</i> – 7-Day Chronic – Static Renewal – 25°C					
	Fathead Minnow – 7-Day Chronic – Static Renewal – 25°C					
Endpoint	Survival and Reproduction ( <i>Ceriodaphnia dubia</i> ) – IC25 reported as TU <sub>c</sub>					
	Larval Growth and Survival (Fathead Minnow) – IC25 reported as TU <sub>c</sub>					
Compliance Point	Monitoring Only					
Sample Frequency	1/permit cycle					
Test Acceptability	<p>Test acceptability for <i>Daphnia dubia</i> chronic must have a 80% or greater survival of all control organisms and an average of 15 or more young per surviving female in the control solutions, and 60% of surviving control females must produce three broods. If this condition is not satisfied, the test must be repeated.</p> <p>Test acceptability for <i>Pimephales promelas</i> chronic must have 80% or greater survival in controls and an average dry weight per surviving organism in control chambers equals or exceeds 0.25 mg. If this condition is not satisfied, the test must be repeated.</p>					
Reporting Requirements	<p>The permittee shall report the following results of each toxicity test on the DMR for that reporting period:</p> <p><b><i>Pimephales promelas</i> (Fathead Minnow)</b></p> <p>a. Report the highest TU<sub>c</sub> for Fathead minnow, Parameter No. TTP3B</p> <p><b><i>Ceriodaphnia dubia</i> (Water Flea)</b></p> <p>Report the highest TU<sub>c</sub> for <i>Ceriodaphnia dubia</i>, Parameter No. TTB6C.</p> <p>Cargill shall request their WET testing providers to report a TU<sub>a</sub> for a 48-hour survival <i>Ceriodaphnia dubia</i> and for <i>Pimephales promelas</i> which can be derived from the chronic test. The reason for this is to develop a representative Acute-to-Chronic (ACR) which is used in determining reasonable potential and/or permit limitations.</p>					

The chronic toxicity test requirements are set out in the latest revision of "Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms," EPA-821-R-02-013 (Fourth Ed., October 2002).

**CWA Section 316(b)**

The department reviewed the CWA section 316(b) criteria. The facility has a designed intake of 5.76 MGD, but the actual intake is 1.14 mgd. Of the 1.14 mgd that is brought in, only 0.22 mgd (19 percent) is used for cooling water. Based upon only 19% of the intake water being used specifically for cooling water, the facility is not subject to Section 316(b) of the CWA.

**Test Procedures**

The collection and transportation of all samples shall conform to EPA preservation techniques and holding times. All laboratory tests shall be performed by a North Dakota certified laboratory in conformance with test procedures pursuant to 40 CFR 136, unless other test procedures have been specified or approved by EPA as an alternate test procedure under 40 CFR 136.5. The method of determining the total amount of water discharged shall provide results within 10 percent of the actual amount.

**OTHER PERMIT CONDITIONS**

**Special Conditions**

***Comprehensive Water Resource Management Plan***

The department proposes to continue with the Comprehensive Water Resource Management Plan.

***Contingency Plan***

The department proposes to continue with the Contingency Plan based upon WQS and best professional judgment in order to maintain the designated use criteria of the Red River of the North for downstream users. The department proposes to remove the standard operating procedures for Part 3(a) of the contingency plan based on the no reasonable potential for sulfate and chloride to cause an exceedance of the WQS and the removal of the restricted discharge rates.

***Stormwater***

The department proposes to continue quarterly inspections of the plant site and discharge conveyances. This based upon the re-issued NDR050000 Industrial Stormwater Permit (like discharges) and best professional judgment.

**PERMIT ISSUANCE PROCEDURES**

**Permit Modifications**

The department may modify this permit to impose numerical limits, if necessary to comply with water quality standards for surface waters, with sediment quality standards, or with water quality standards for ground waters, based on new information from sources such as inspections, effluent monitoring, outfall studies, and effluent mixing studies.

The department may also modify this permit to comply with new or amended state or federal regulations.

**Proposed Permit Issuance**

This proposed permit meets all statutory requirements for the department to authorize a wastewater discharge. The permit includes limits and conditions to protect human health and aquatic life, and the beneficial uses of waters of the State of North Dakota. The department proposes to issue this permit for a term of five (5) years.



## **APPENDIX A - PUBLIC INVOLVEMENT INFORMATION**

### **Permit Reissuance**

The department proposes to reissue a permit to **Cargill Corn Milling (Progold)**. The permit includes wastewater discharge limits and other conditions. This fact sheet describes the facility and the department's reasons for requiring permit conditions.

The department will place a Public Notice of Draft on **May 3, 2021** in **The Forum and the Wahpeton Daily News** to inform the public and to invite comment on the proposed draft North Dakota Pollutant Discharge Elimination System permit and fact sheet.

The Notice –

- Tells where copies of the draft permit and fact sheet are available for public evaluation.
- Offers to provide assistance to accommodate special needs.
- Urges people to submit their comments before the end of the comment period.
- Informs the public that if there is significant interest, a public hearing will be scheduled.

You may obtain further information from the department by telephone, 701.328.5210 or by writing to the address listed below.

North Dakota Department of Environmental Quality  
Division of Water Quality  
918 East Divide Avenue, 4<sup>th</sup> Floor  
Bismarck, ND 58501

The primary author of this permit and fact sheet is Patrick Schuett.

**North Dakota Department of Environmental Quality Public Notice  
Reissue of an NDPDES Permit**

Public Notice Date: 5/3/2021

Public Notice Number: ND-2021-010

**Purpose of Public Notice**

The Department intends to reissue the following North Dakota Pollutant Discharge Elimination System (NDPDES) Discharge Permit under the authority of Section 61-28-04 of the North Dakota Century Code.

**Permit Information**

Application Date: 1/28/2021

Application Number: ND0026000

Applicant Name: Cargill Corn Milling (Progold)

Mailing Address: 18049 Co Rd 8 E, Wahpeton, ND 58075

Telephone Number: 701.671.1901

Proposed Permit Expiration Date: 6/30/2026

**Facility Description**

The reapplication is for Cargill Corn Milling near Wahpeton, North Dakota. This facility uses a wet milling process to produce corn syrup and livestock feed. The facility processes approximately 95,000 bushels of corn per day. The processes generate approximately 1.15 million gallons of wastewater per day. Treated wastewater can be discharged from the mechanical treatment system or the ponds at varying rates, depending on the characteristics of the wastewater and the Red River of the North. The discharge is in the NE 1/4 of Section 7, Township 133N, Range 47W and is to the Red River of the North, a Class I stream, from outfall 001 via a diffuser.

**Tentative Determinations**

Proposed effluent limitations and other permit conditions have been made by the Department. They assure that State Water Quality Standards and applicable provisions of the FWPCA will be protected.

**Information Requests and Public Comments**

Copies of the application, draft permit, and related documents are available for review. For further information on making public comments/public comment tips please visit: <https://deq.nd.gov/PublicCommentTips.aspx>. Comments or requests should be directed to the ND Dept of Env Quality, Div of Water Quality, 918 East Divide Ave, Bismarck ND 58501-1947 or by calling 701.328.5210.

All comments received by June 05, 2021 will be considered prior to finalizing the permit. If there is significant interest, a public hearing will be scheduled. Otherwise, the Department will issue the final permit within sixty (60) days of this notice. If you require special facilities or assistance relating to a disability, call TDD at 1.800.366.6868.

## APPENDIX B – GLOSSARY

### DEFINITIONS Standard Permit BP 2019.05.29

1. “**Act**” means the Clean Water Act.
2. “**Average monthly discharge limitation**” means the highest allowable average of “daily discharges” over a calendar month, calculated as the sum of all “daily discharges” measured during a calendar month divided by the number of “daily discharges” measured during that month.
3. “**Average weekly discharge limitation**” means the highest allowable average of “daily discharges” over a calendar week, calculated as the sum of all “daily discharges” measured during a calendar week divided by the number of “daily discharges” measured during that week.
4. “**Best management practices**” (BMPs) means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage areas.
5. “**Bypass**” means the intentional diversion of waste streams from any portion of a treatment facility.
6. “**Composite**” sample means a combination of at least 4 discrete sample aliquots, collected over periodic intervals from the same location, during the operating hours of a facility not to exceed a 24-hour period. The sample aliquots must be collected and stored in accordance with procedures prescribed in the most recent edition of Standard Methods for the Examination of Water and Wastewater.
7. “**Daily discharge**” means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the “daily discharge” is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the “daily discharge” is calculated as the average measurement of the pollutant over the day.
8. “**Department**” means the North Dakota Department of Environmental Quality, Division of Water Quality.
9. “**DMR**” means discharge monitoring report.
10. “**EPA**” means the United States Environmental Protection Agency.
11. “**Geometric mean**” means the  $n^{\text{th}}$  root of a product of  $n$  factors, or the antilogarithm of the arithmetic mean of the logarithms of the individual sample values.
12. “**Grab**” for monitoring requirements, means a single “dip and take” sample collected at a representative point in the discharge stream.

13. **"Instantaneous"** for monitoring requirements, means a single reading, observation, or measurement. If more than one sample is taken during any calendar day, each result obtained shall be considered.
14. **"Maximum daily discharge limitation"** means the highest allowable "daily discharge."
15. **"Salmonid"** means of, belonging to, or characteristic of the family Salmonidae, which includes the salmon, trout, and whitefish.
16. **"Sanitary Sewer Overflows (SSO)"** means untreated or partially treated sewage overflows from a sanitary sewer collection system.
17. **"Severe property damage"** means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
18. **"Total drain"** means the total volume of effluent discharged.
19. **"Upset"** means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

**DEFINITIONS Whole Effluent Toxicity (WET) BP 2017.04.06**

20. **"Acute toxic unit" ("TUa")** is a measure of acute toxicity. TUa is the reciprocal of the effluent concentration that causes 50 percent of the organisms to die by the end on the acute exposure period (i.e.,  $100/\text{"LC50"}$ ).
21. **"Chronic toxic unit" ("TUc")** is a measure of chronic toxicity. TUc is the reciprocal of the effluent concentration that causes no observable effect on the test organisms by the end of the chronic exposure period (i.e.,  $100/\text{"IC25"}$ ).
22. **"Inhibition concentration", ("IC")**, is a point estimate of the toxicant concentration that causes a given percent reduction (p) in a non-quantal biological measurement (e.g., reproduction or growth) calculated from a continuous model (e.g., Interpolation Method).
23. **"LC50"** means the concentration of toxicant (e.g., effluent) which is lethal to 50 percent of the organisms exposed in the time period prescribed by the test.
24. **"No observed effect concentration", ("NOEC")**, is the highest concentration of toxicant (e.g., effluent) to which organisms are exposed in a chronic toxicity test [full life-cycle or partial life-cycle (short term) test], that causes no observable adverse effects on the test organisms (i.e., the highest concentration of effluent in which the values for the observed responses are not statistically significantly different from the controls).

## APPENDIX C – DATA AND TECHNICAL CALCULATIONS

### Critical Low Flow Determination

The department obtained stream flow data from USGS site 05051500 from April 1, 2001 to March 31, 2021. Below are the critical low flows calculated by the USGS SW Toolbox.

DFLOW 1B3 (ACUTE)	89.8	CFS
DFLOW 4B3 (CHRONIC)	103.2	CFS
DFLOW 1Q10 (ACUTE)	117.5	CFS
DFLOW 7Q10 (CHRONIC)	143.4	CFS
DFLOW 30B10 (AMMONIA)	137.5	CFS

***RESULTS: USGS 05051500 RED RIVER OF THE NORTH AT WAHPETON, ND***				
File Edit View Help				
All available data from Apr 1, 2001 through Mar 31, 2021 are included in analysis				
Climatic year defined as Apr 1 - Mar 31				
Display Options: 05051500 Copy to Clipboard				
Seasonal Calculation?	No			
Season Or Year Start	1-Apr			
Season Or Year End	31-Mar			
Years Included in Calculations	2000-2020			
Start	2000			
End	2021			
Flow Statistic	Flow Value	Percentile	x-day avg.	Excur. per 3 yr.
1B3	89.825	0.31%	0.9	
4B3	103.21	0.86%	0.9	
30B3	273.18	6.69%	0.9	
30B10	137.54	2.31%	0.3	
Flow Statistic	Flow Value	Percentile	1-day Excur. per 3 yr.	
7Q10	143.44	2.51%	0.6	
1Q10	117.54	1.60%	0.75	
Harmonic Mean	591.38	36.26%	N/A	
Harmonic Mean, Adjusted	591.38	36.26%	N/A	
Double-click on biological flow value (xBy column) to view excursion analysis result for a gage				

### Effluent Limitation Guidelines (ELG) Calculations

#### BOD<sub>5</sub>

The proposed limitations are based upon utilizing Alternative D of development document for grain mills point source category (Grain Processing segment of the Grain Mills Point Source Category, EPA-440/1-1/74-028a, March 1974). The loading was based upon processing 95,000 standard bushels per day with BOD<sub>5</sub> factors of 8.3 pounds per 1,000 standard bushels (30-day arithmetic average) and 12.5 pounds per 1,000 standard bushels (daily maximum).

The following formula was utilized to determine the loading calculations:

$$\left( \frac{Qty \text{ processed per day}}{1,000} \right) \times factors$$

#### TSS

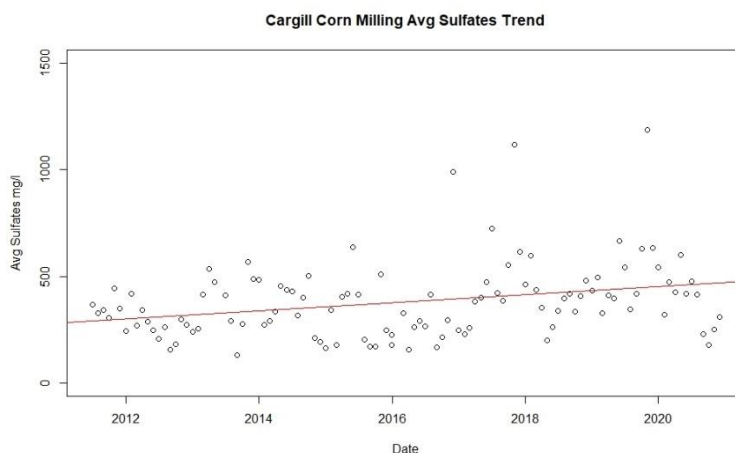
The proposed changes are based upon utilizing Alternative C of development document for grain mills point source category (Grain Processing segment of the Grain Mills Point Source Category, EPA-440/1-1/74-028a, March 1974). The loading was based upon processing 95,000 standard bushels per day with TSS factors of 12.5 pounds per 1,000 standard bushels (30-day arithmetic average) and 25 pounds per 1,000 standard bushels (daily maximum).

The following formula was utilized to determine the loading calculations:

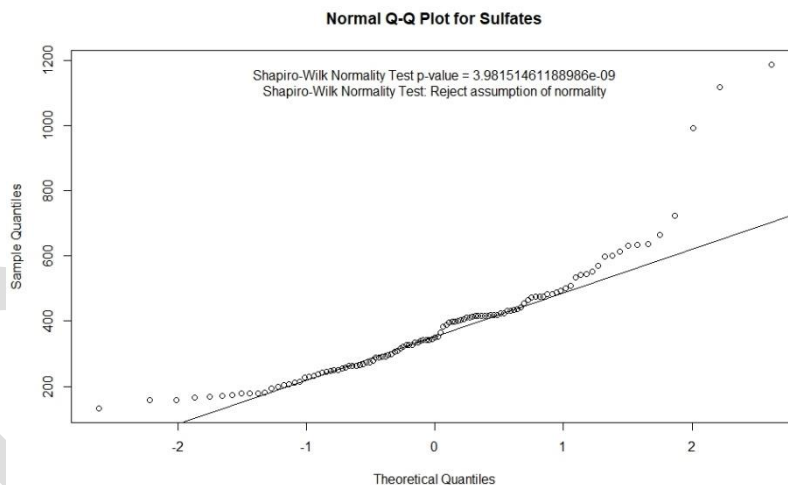
The Bois De Sioux River has high ambient TDS which is released from Lake Traverse at White Rock Dam. White Rock Dam is managed by the US Army Corps of Engineers (USACOE). Historically, discharges from White Rock Dam were seasonal, but in 2020, the USACOE changed the management of Lake Traverse where releases from Lake Traverse will be continuous potentially having adverse effects on dischargers to the Red River of the North. The department will monitor any potential effects that the change in operation of White Rock Dam may have on dischargers to the Red River of the North.

### **Sulfate**

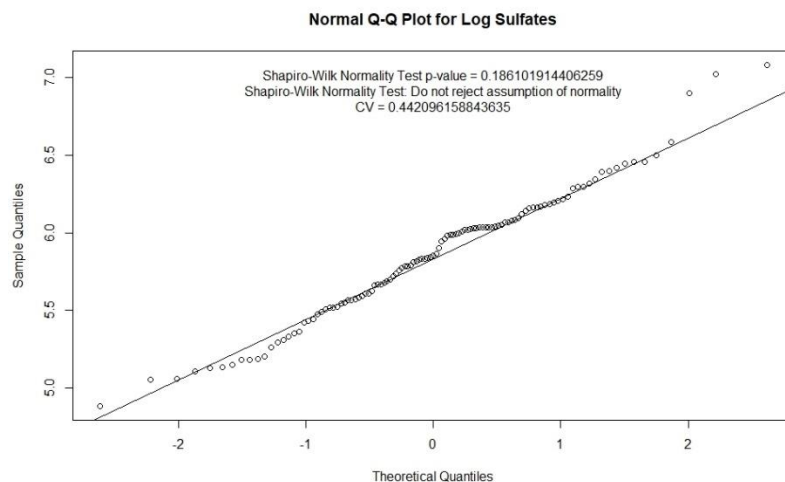
The department reviewed the sulfate data from July 01, 2011 through December 31, 2020. Below is a plot of the sulfate concentrations:



Sulfate concentrations have been trending upward since July of 2011. For calculating the Coefficient of Variance, the department checked the normality of the sulfate concentrations. Below is the q-q plot for sulfates and the Shapiro-Wilk Normality test results.



Due to the data not being normally distributed (rejecting the assumption of normality), the sulfate data was log transformed and checked tested for log normality. Below is the q-q plot for the log of sulfates and the results from performing a Shapiro-Wilk Normality test, and the determined CV to be utilized in the Reasonable Potential Analysis.



The CV was calculated by utilizing the following equation:

$$\widehat{CV}(x) = [\exp(\hat{\sigma}_y^2) - 1]^{\frac{1}{2}}$$

where:

$$\hat{\sigma}_y^2 = \text{estimated variance} = \sum[(y_i - \hat{\mu})^2] / (k - 1),$$

$$\hat{\mu}_y = \text{estimated mean} = \sum(y_i) / k,$$

$$y_i = \ln(x_i), \text{ and}$$

$$k = \text{sample size}$$

The reasonable potential determination for sulfate is provided below. The determination is conducted utilizing the Technical Support Document for Water Quality-based Toxics Control, EPA/505/2-90-001, March 1991 (TSD; March 1991).

The coefficient of variation used was 0.4, the median of the average flow (from submitted DMRs) was utilized as the daily average flow and the median of the average effluent concentrations (from submitted DMRs) was utilized as the effluent concentration. Medians were utilized for these two values as the median of the averages is more representative of facility and is thus a better representation than to average an average. The department also utilized the average of the upstream sulfate data as the upstream concentration since the WQS for sulfate is a 30-day average. The chronic criterion was lowered to 200 mg/l from 250 mg/l to provide assimilative capacity for potential future growth in the area.



FACT SHEET FOR NDPDES PERMIT ND0026000  
CARGILL CORN MILLING (PROGOLD)  
**EXPIRATION DATE: June 30, 2026**  
Page 40 of 55

**Reasonable Potential (RP)  
Determination**

Technical Support Document (TSD) For Water Quality-based Toxics Control  
EPA/505/2-90-001; March 1991

Facility Name:	Cargill Corn Milling	Receiving Stream:	Red River of the North
NDPDES Permit:	ND0026000	1Q10 Acute	117.5 cfs
Daily Maximum Flow (mgd):	3.60	1B3 Acute	89.8 cfs
Daily Average Flow (mgd):	1.14	7Q10 Chronic	143.44 cfs
Stream Design Mixing:	50.0%	4B3 Chronic	103.2 cfs
Statistical Multiplier:	1.1		
Upstream Concentration:	121.4500 mg/l		
Effluent Concentration (max):	349.3000 mg/l		
		Parameter:	Sulfate
		Outfall:	001
RWC	$\frac{(StatQeCe)+(Cs(pmf)Qs)}{Qe+(pmf)Qs}$		

RWC = Receiving water concentration, the resultant magnitude of concentration in the receiving water after effluent discharge concentration (also known as the in-stream waste concentration)

Stat = Statistical multiplier for effluent parameter (Table 3-1 and 3-2; page 57 of the TSD)

Qe = Effluent Design Flow

Ce = Highest effluent concentration reported.

pmf = Partial mix factor, percent of Qs allowed for mixing by State authority.

Qs = Receiving Water Flow (1Q10 or 1B3 for acute and 7Q10 or 4B3 for chronic)

Cs = Background concentration of the receiving water.

Qe - Acute	3.60	mgd	Qs - 1Q10	75.91	mgd
Qe - Chronic	1.14	mgd	Qs - 1B3	58.01	mgd
Ce	349.3000	mg/l	Qs - 7Q10	92.66	mgd
Cs	121.4500	mg/l	Qs - 4B3	66.67	mgd
Stat	1.10				
pmf	50.0%				

Acute RP		Chronic RP	
RWC - 1Q10	144.2166 mg/l	RWC - 7Q10	127.7606 mg/l
RWC - 1B3	150.4638 mg/l	RWC - 4B3	130.1398 mg/l
Criterion Maximum Concentration (CMC)		Criterion Continuous Concentration (CCC)	
Acute Criterion	NA mg/l	Chronic Criterion	200.0000 mg/l

If the calculated RWC is greater than its respective criterion then there is RP and if RWC is less than the criterion then there is no RP.

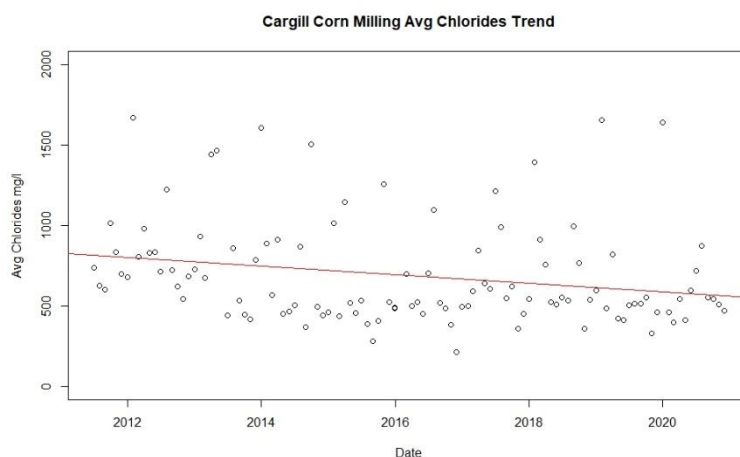
CMC RP Present:		CCC RP Present:	
1Q10 Acute OR	NO	7Q10 Chronic OR	NO
1B3 Acute	NO	4B3 Chronic	NO

The North Dakota State Water Quality Standards (WQS) Chapter 33-16-02.1 use biologically based design and harmonic mean flows to determine Water Quality Based Effluent Limits (WQBELs) and Whole Effluent Toxicity (WET) limits.

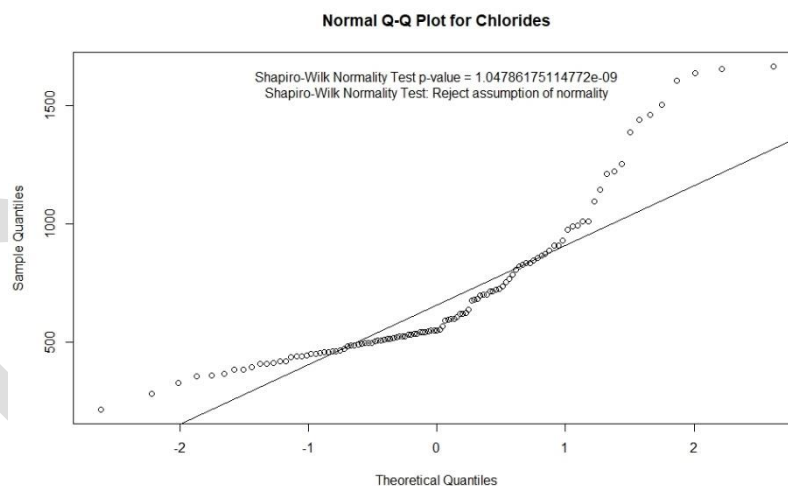
The reasonable potential analysis determines that there is no reasonable potential for the discharge to cause an exceedance of the WQS for sulfate.

### Chloride

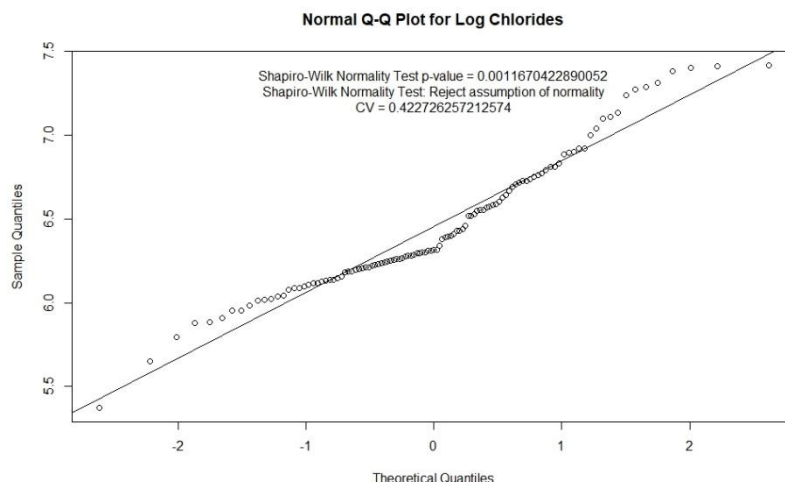
The department reviewed the chloride data from July 01, 2011 through December 31, 2020. Below is a plot of the chloride concentrations:



Chloride concentrations have been trending downward since July of 2011. For calculating the Coefficient of Variance, the department checked the normality of the chloride concentrations. Below is the q-q plot for sulfates and the Shapiro-Wilk Normality test results.



Due to the data not being normally distributed (rejecting the assumption of normality), the chloride data was log transformed and checked tested for log normality. Below is the q-q plot for the log of chlorides and the results from performing a Shapiro-Wilk Normality test, and the determined CV to be utilized in the Reasonable Potential Analysis.



The CV was calculated by utilizing the following equation:

$$\widehat{CV}(x) = [\exp(\hat{\sigma}_y^2) - 1]^{\frac{1}{2}}$$

where:

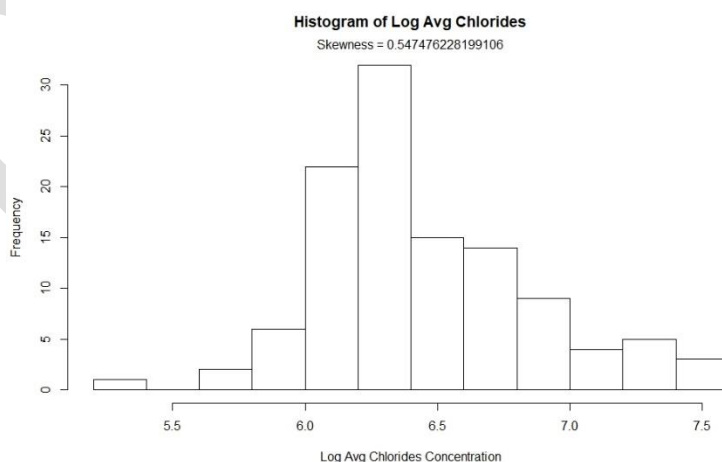
$$\hat{\sigma}_y^2 = \text{estimated variance} = \sum[(y_i - \hat{\mu})^2] / (k - 1),$$

$$\hat{\mu}_y = \text{estimated mean} = \sum(y_i) / k,$$

$$y_i = \ln(x_i), \text{ and}$$

$$k = \text{sample size}$$

Due to the Shapiro-Wilks test rejecting the assumption of normality on the log transformed data, the department created a histogram of the log transformed data (below) and performed a skewness test. Based on the skewness test result of 0.5, and it being right at the cutoff for being considered symmetrical (range from -0.5 to 0.5 being symmetric), the department determined to assume the data is lognormally distributed.



The reasonable potential determination for chloride is provided below. The determination is conducted utilizing the Technical Support Document for Water Quality-based Toxics Control, EPA/505/2-90-001, March 1991 (TSD; March 1991). The coefficient of variation used was 0.4.

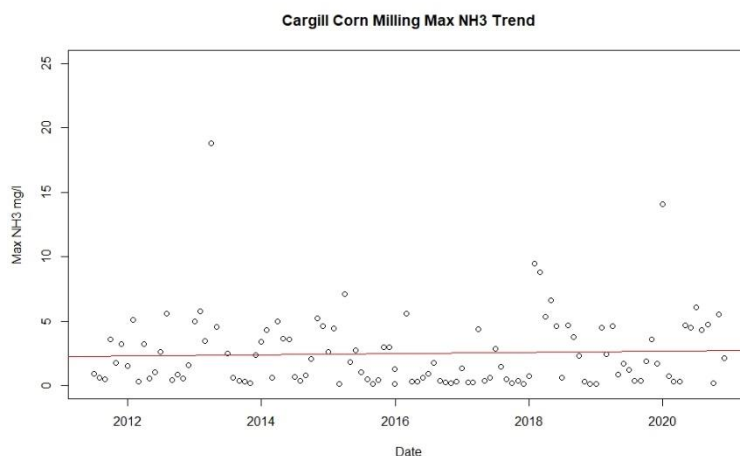
The coefficient of variation used was 0.4, the median of the average flow (from submitted DMRs) was utilized as the daily average flow and the median of the average effluent concentrations (from submitted DMRs) was utilized as the effluent concentration. Medians were utilized for these two values as the median of the averages is more representative of facility and is thus a better representation than to average an average. The department also utilized the average of the upstream chloride data as the upstream concentration since the WQS for chloride is a 30-day average. The chronic criterion was lowered to 80 mg/l from 100 mg/l to provide assimilative capacity for potential future growth in the area.

Receiving Water Concentration (RWC) Reasonable Potential (RP) Determination					
Technical Support Document (TSD) For Water Quality-based Toxics Control EPA/505/2-90-001; March 1991					
Facility Name:	Cargill Corn Milling	Receiving Stream:	Red River of the North		
NDPDES Permit:	ND0026000	1Q10 Acute	117.5 cfs		
Daily Maximum Flow (mgd):	3.60	1B3 Acute	89.8 cfs		
Daily Average Flow (mgd):	1.14	7Q10 Chronic	143.44 cfs		
Stream Design Mixing:	50.0%	4B3 Chronic	103.2 cfs		
Statistical Multiplier:	1.1				
Upstream Concentration:	14.4900	mg/l	Parameter:		
Effluent Concentration (max):	552.0000	mg/l	Chloride		
			Outfall:		
RWC	$\frac{(StatQeCe)+(Cs(pmf)Qs)}{Qe+(pmf)Qs}$		001		
RWC = Receiving water concentration, the resultant magnitude of concentration in the receiving water after effluent discharge concentration (also known as the in-stream waste concentration)					
Stat = Statistical multiplier for effluent parameter (Table 3-1 and 3-2; page 57 of the TSD)					
Qe = Effluent Design Flow					
Ce = Highest effluent concentration reported.					
pmf = Partial mix factor, percent of Qs allowed for mixing by State authority.					
Qs = Receiving Water Flow (1Q10 or 1B3 for acute and 7Q10 or 4B3 for chronic)					
Cs = Background concentration of the receiving water.					
Qe - Acute	3.60	mgd	Qs - 1Q10	75.91	mgd
Qe - Chronic	1.14	mgd	Qs - 1B3	58.01	mgd
Ce	552.0000	mg/l	Qs - 7Q10	92.66	mgd
Cs	14.4900	mg/l	Qs - 4B3	66.67	mgd
Stat	1.10				
pmf	50.0%				
Acute RP		Chronic RP			
RWC - 1Q10	65.8408	mg/l	RWC - 7Q10	28.7237	mg/l
RWC - 1B3	79.9318	mg/l	RWC - 4B3	34.0902	mg/l
Criterion Maximum Concentration (CMC)		Criterion Continuous Concentration (CCC)			
Acute Criterion	NA	mg/l	Chronic Criterion	80.0000	mg/l
If the calculated RWC is greater than its respective criterion then there is RP and if RWC is less than the criterion then there is no RP.					
CMC RP Present:		CCC RP Present:			
1Q10 Acute OR	NO	7Q10 Chronic OR		NO	
1B3 Acute	NO	4B3 Chronic		NO	
The North Dakota State Water Quality Standards (WQS) Chapter 33-16-02.1 use biologically based design and harmonic mean flows to determine Water Quality Based Effluent Limits (WQBELs) and Whole Effluent Toxicity (WET) limits.					

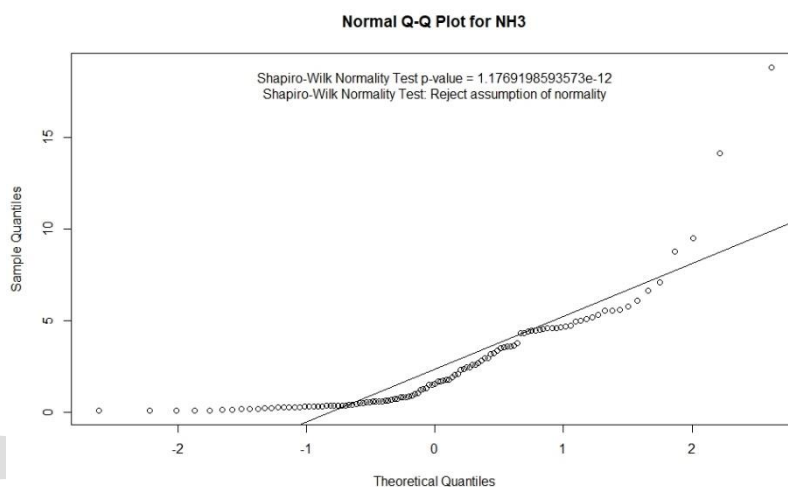
The Chronic Criterion was decreased to 80 mg/l from 100 mg/l in order to provide assimilative capacity for potential future growth in the area. The analysis showed no reasonable potential for the facility to cause an exceedance of the water quality standards for chloride.

### Ammonia

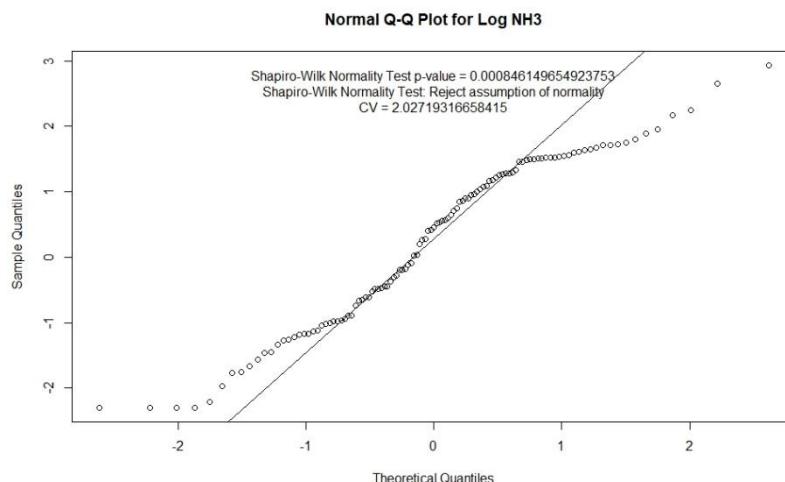
The department reviewed the Ammonia data from July 01, 2011 through December 31, 2020. Below is a plot of the chloride concentrations:



Ammonia concentrations have been slightly trending upward since July of 2011. For calculating the Coefficient of Variance, the department checked the normality of the ammonia concentrations. Below is the q-q plot for ammonia and the Shapiro-Wilk Normality test results.



Due to the data not being normally distributed (rejecting the assumption of normality), the ammonia data was log transformed and checked tested for log normality. Below is the q-q plot for the log of ammonia and the results from performing a Shapiro-Wilk Normality test, and the determined CV to be utilized in the Reasonable Potential Analysis.



The CV was calculated by utilizing the following equation:

$$\widehat{CV}(x) = [\exp(\hat{\sigma}_y^2) - 1]^{\frac{1}{2}}$$

where:

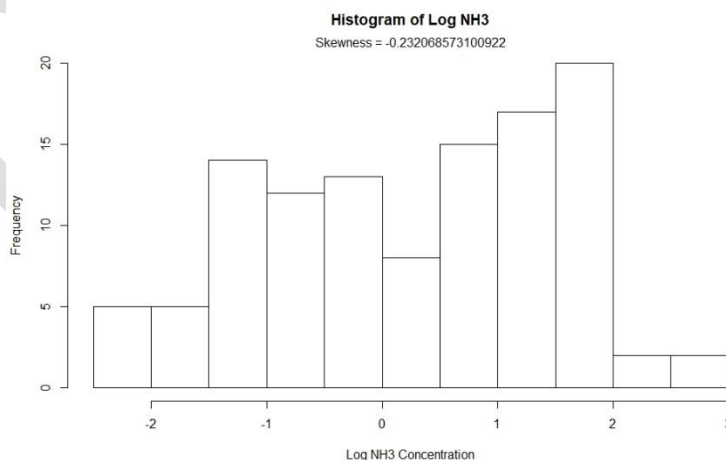
$$\hat{\sigma}_y^2 = \text{estimated variance} = \sum[(y_i - \hat{\mu})^2] / (k - 1),$$

$$\hat{\mu}_y = \text{estimated mean} = \sum(y_i) / k,$$

$$y_i = \ln(x_i), \text{ and}$$

$$k = \text{sample size}$$

Due to the Shapiro-Wilks test rejecting the assumption of normality on the log transformed data, the department created a histogram of the log transformed data (below) and performed a skewness test. Based on the skewness test result of -0.23, and it being in the range of -0.5 to 0.5 the data is considered symmetrical, the department determined to assume the data is lognormally distributed.



The reasonable potential determination for ammonia is provided below. The determination is conducted utilizing the Technical Support Document for Water Quality-based Toxics Control, EPA/505/2-90-001, March 1991 (TSD; March 1991). The coefficient of variation used was 2.0.

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The coefficient of variation used was 2.0, the median of the average flow (from submitted DMRs) was utilized as the daily average flow and the maximum effluent concentration (from submitted DMRs) was utilized as the effluent concentration due to acute criterion in NDAC § 33.1-16-02.1. The median effluent flow was utilized as the median of the averages is more representative of facility and is thus a better representation than to average an average. The department utilized the 90<sup>th</sup> percentile of the upstream ammonia data as the upstream concentration since the WQS contains acute and chronic criterion. The receiving stream flow was the 30B10 critical low flow (137 cfs) as allowed under NDAC 33.1-16-02.1 for parameters with a 30-day average WQS.

## Receiving Water Concentration (RWC) Reasonable Potential (RP) Determination

Technical Support Document (TSD) For Water Quality-based Toxics Control  
EPA/505/2-90-001; March 1991

Facility Name:	Cargill Corn Milling	Receiving Stream:	Red River of the North
NDPDES Permit:	ND0026000	1Q10 Acute	117.5 cfs
Daily Maximum Flow (mgd):	3.60	1B3 Acute	89.8 cfs
Daily Average Flow (mgd):	1.14	30B10 Chronic	137.5 cfs
Stream Design Mixing:	25.0%	4B3 Chronic	103.21 cfs
Statistical Multiplier:	2.0		
Upstream Concentration:	0.2500 mg/l	Parameter:	Ammonia
Effluent Concentration (max):	18.8000 mg/l		
		Outfall:	001
RWC	$\frac{(\text{StatQeCe}) + (\text{Cs}(\text{pmf})\text{Qs})}{\text{Qe} + (\text{pmf})\text{Qs}}$		

RWC = Receiving water concentration, the resultant magnitude of concentration in the receiving water after effluent discharge concentration (also known as the in-stream waste concentration)

Stat = Statistical multiplier for effluent parameter (Table 3-1 and 3-2; page 57 of the TSD)

Qe = Effluent Design Flow

Ce = Highest effluent concentration reported.

pmf = Partial mix factor, percent of Qs allowed for mixing by State authority.

Qs = Receiving Water Flow (1Q10 or 1B3 for acute and 7Q10 or 4B3 for chronic)

Cs = Background concentration of the receiving water.

Qe - Acute	3.60	mgd	Qs - 1Q10	75.91	mgd
Qe - Chronic	1.14	mgd	Qs - 1B3	58.01	mgd
Ce	18.8000	mg/l	Qs - 30B10	88.83	mgd
Cs	0.2500	mg/l	Qs - 4B3	66.67	mgd
Stat	2.00				
pmf	25.0%				

Acute RP		Chronic RP	
RWC - 1Q10	6.2058 mg/l	RWC - 30B10	2.0738 mg/l
RWC - 1B3	7.6776 mg/l	RWC - 4B3	2.6409 mg/l
Criterion Maximum Concentration (CMC)		Criterion Continuous Concentration (CCC)	
Acute Criterion	3.88 mg/l	Chronic Criterion	0.4600 mg/l

If the calculated RWC is greater than its respective criterion then there is RP and if RWC is less than the criterion then there is no RP.

CMC RP Present:		CCC RP Present:	
1Q10 Acute OR	YES	30B10 Chronic OR	YES
1B3 Acute	YES	4B3 Chronic	YES

The North Dakota State Water Quality Standards (WQS) Chapter 33-16-02.1 use biologically based design and harmonic mean flows to determine Water Quality Based Effluent Limits (WQBELs) and Whole Effluent Toxicity (WET) limits.

The analysis showed a reasonable potential for the facility to cause and exceedance of the WQS based upon utilizing the 90<sup>th</sup> percentile data.

## Whole Effluent Toxicity

The reasonable potential determination for whole effluent toxicity is provided below. The determination is conducted utilizing the Technical Support Document For Water Quality-based

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Toxics Control, EPA/505/2-90-001, March 1991 (TSD; March 1991). The coefficient of variance was 0.1. The detection level was utilized as all concentrations were below detect (< 1.0).

## Whole Effluent Toxicity (WET) Reasonable Potential (RP) Determination

Technical Support Document (TSD) For Water Quality-based Toxics Control  
EPA/505/2-90-001; March 1991

Facility Name:	Cargill Corn Milling	Receiving Stream:	Red River of the North
NDPDES Permit:	ND0026000	1Q10 Acute	117.5 cfs
Effluent Flow (mgd):	3.600	1B3 Acute	89.8 cfs
Stream Design Mixing:	0.0%	7Q10 Chronic	cfs
WET TUa (max):	1.00	4B3 Chronic	cfs
ACR:			
Statistical Multiplier:	1.1		

RWC	$\frac{StatQeCe}{Qe+(pmf)Qs}$	Outfall:
		001

RWC = Receiving water concentration, the resultant magnitude of toxicity in the receiving water after effluent discharge in TUs (also known as the in-stream waste concentration)

Stat = Statistical multiplier for effluent parameter (Table 3-1 and 3-2; page 57 of the TSD)

Qe = Effluent Design Flow

Ce = Highest Toxicity Unit (TU) reported. (Use 1 if no WET data is available.)

pmf = Partial mix factor, percent of Qs allowed for mixing by State authority.

Qs = Receiving Water Flow (1Q10 or 1B3 for acute and 7Q10 or 4B3 for chronic)

Qe	3.600	mgd	Qs - Acute	75.905	mgd
Ce	1.00	TU	Qs - Acute 1B3	58.011	mgd
pmf	0.0%		Qs - Chronic		mgd
Stat	1.1		Qs - Chronic 4B3		mgd
ACR	0.00				

Acute RP		Chronic RP	
RWC - 1Q10	1.10 TUa	RWC - 7Q10	0.00 TUc
RWC - 1B3	1.10 TUa	RWC - 4B3	0.00 TUc

Criterion Maximum Concentration (CMC)		Criterion Continuous Concentration (CCC)	
Acute Criterion	0.3 TUa	Chronic Criterion	TUc

If the calculated RWC is greater than its respective criterion then there is RP and if RWC is less than the criterion then there is no RP.

CMC RP Present:		CCC RP Present:	
1Q10 Acute OR	YES	7Q10 Chronic OR	N/A
1B3 Acute	YES	4B3 Chronic	N/A

The North Dakota State Water Quality Standards (WQS) Chapter 33-16-02.1 use biologically based design flows to determine Whole Effluent Toxicity (WET) limits for acute and chronic endpoints.

The reasonable potential analysis shows that there is a reasonable potential to discharge toxic pollutants. Under the WQS, waters of the state shall be free of industrial discharges of pollutants in concentrations or combinations which are toxic or harmful to humans, animals, plants, or resident aquatic biota.

## Metals

The department conducted the following review of the metals.



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The NDDEQ has developed the following tool to evaluate a single sample result to the North Dakota Standards of Quality for Waters of the State. A detailed explanation of the calculations and limits for the parameters listed can be found in ch 33.1-16-02.1-9, Table 1.

Parameters indicated as "HD-Hardness Dependent" are less toxic as the calcium carbonate hardness of the receiving stream increases. The calcium carbonate hardness of the effluent or the receiving stream is entered above. A hardness value in grains per gallon can also be entered.

Items in bold italic and underline indicate a parameter that needs further evaluation. Parameters listed above must be analyzed using an EPA approved method (40 CFR 136) that has a detection limit at or below the limits listed in 40 CFR 136 or the current version of the North Dakota Standards of Quality for Waters of the State

Facility Name		Cargill Corn Milling					Print Date:	3/10/2021			
Location		001M					Below are the current or calculated acute, chronic and human health standards based on the data entered.				
Enter Grains/Gallon or		0									
Hardness - Total (CaCO3) mg/l		400									
Safety Factor(multiplier):											
Enter Concentration Values							µg/l	µg/l	µg/l	µg/l	
Parameter		Detect	MDL/DL /RL	mg/l	µg/l	µg/l	Acute	Chronic	Human Health Class I,II	Human Health Class III	
Acrolein		<	10		100	100	3	3	3	400	
Antimony						0			5.6	640	
Arsenic						0	340	150	10		
Beryllium						0			4		
Cadmium	HD					0	7.4	2.39	5.00		
Chromium - Total			1		2	2			100		
Chromium (III)	HD					0	5612	268			
Chromium (VI)						0	16	11			
Copper	HD		0.5		178	178	52	30.5	1000.0		
Lead	HD	<	0.5		100	100	477	18.6	15.0		
Mercury						0	1.7	0.012	0.05	0.051	
Molybdenum - Total						0					
Nickel	HD					0	1516	168.5	100.0	4200	
Selenium		<	1		100	100	20	5	50		
Silver	HD					0	41				
Thallium						0			0.24	0.47	
Zinc	HD		20		182	182	388	387.8	7400.0	26000	
Cyanide - Total						0	22	5.2	4	400	
Phenols						0		300	4000	300000	

**Comments:**

The maximum values reported for each parameter from 07/01/2011 -12/31/2020 were used. Non-detects were entered at the detection limit value.

**Acrolein:** All results were below method detection level. No further analysis conducted

**Lead:** Highest value was below method detection level. The highest detected level was 0.77 µg/l. No further analysis conducted.

**Selenium:** Highest value was below method detection level. The highest detected level was 12.8 µg/l. Most RL were 1 µg/l, except for the one analysis.

Based upon the metals review, the department conducted a reasonable potential analysis for Copper and Selenium.

**Copper**

The reasonable potential determination for copper is provided below. The determination is conducted utilizing the Technical Support Document for Water Quality-based Toxics Control, EPA/505/2-90-001, March 1991 (TSD; March 1991). The coefficient of variance was 0.6, and the upstream concentration was the maximum detected value.

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Receiving Water Concentration (RWC) Reasonable Potential (RP) Determination			
Technical Support Document (TSD) For Water Quality-based Toxics Control EPA/505/2-90-001; March 1991			
Facility Name:	Cargill Corn Milling	Receiving Stream:	Red River of the North
NDPDES Permit:	ND0026000	1Q10 Acute	117.5 cfs
Daily Maximum Flow (mgd):	3.60	1B3 Acute	89.8 cfs
Daily Average Flow (mgd):	1.14	7Q10 Chronic	143.44 cfs
Stream Design Mixing:	50.0%	4B3 Chronic	103.2 cfs
Statistical Multiplier:	1.8		
Upstream Concentration:	2.2000 mg/l		Parameter:
Effluent Concentration (max):	178.0000 mg/l		Copper
RWC = $\frac{(\text{StatQeCe}) + (\text{Cs}(\text{pmf})\text{Qs})}{\text{Qe} + (\text{pmf})\text{Qs}}$			Outfall:
			001
RWC = Receiving water concentration, the resultant magnitude of concentration in the receiving water after effluent discharge concentration (also known as the in-stream waste concentration)			
Stat = Statistical multiplier for effluent parameter (Table 3-1 and 3-2; page 57 of the TSD)			
Qe = Effluent Design Flow			
Ce = Highest effluent concentration reported.			
pmf = Partial mix factor, percent of Qs allowed for mixing by State authority.			
Qs = Receiving Water Flow (1Q10 or 1B3 for acute and 7Q10 or 4B3 for chronic)			
Cs = Background concentration of the receiving water.			
Qe - Acute	3.60 mgd	Qs - 1Q10	75.91 mgd
Qe - Chronic	1.14 mgd	Qs - 1B3	58.01 mgd
Ce	178.0000 mg/l	Qs - 7Q10	92.66 mgd
Cs	2.2000 mg/l	Qs - 4B3	66.67 mgd
Stat	1.80		
pmf	50.0%		
Acute RP		Chronic RP	
RWC - 1Q10	29.7680 mg/l	RWC - 7Q10	9.8414 mg/l
RWC - 1B3	37.3328 mg/l	RWC - 4B3	12.7225 mg/l
Criterion Maximum Concentration (CMC)		Criterion Continuous Concentration (CCC)	
Acute Criterion	52 mg/l	Chronic Criterion	30.5000 mg/l
If the calculated RWC is greater than its respective criterion then there is RP and if RWC is less than the criterion then there is no RP.			
CMC RP Present:		CCC RP Present:	
1Q10 Acute OR	NO	7Q10 Chronic OR	NO
1B3 Acute	NO	4B3 Chronic	NO
The North Dakota State Water Quality Standards (WQS) Chapter 33-16-02.1 use biologically based design and harmonic mean flows to determine Water Quality Based Effluent Limits (WQBELs) and Whole Effluent Toxicity (WET) limits.			

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The analysis determined that no reasonable potential to exceed the North Dakota Standards of Quality for Waters of the State for copper.

### Selenium

The reasonable potential determination for selenium is provided below. The determination is conducted utilizing the Technical Support Document for Water Quality-based Toxics Control, EPA/505/2-90-001, March 1991 (TSD; March 1991). The coefficient of variance was 0.6, and the upstream concentration was the maximum detected value.

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Receiving Water Concentration (RWC) Reasonable Potential (RP) Determination			
Technical Support Document (TSD) For Water Quality-based Toxics Control EPA/505/2-90-001; March 1991			
Facility Name:	Cargill Corn Milling	Receiving Stream:	Red River of the North
NDPDES Permit:	ND0026000	1Q10 Acute	117.5 cfs
Daily Maximum Flow (mgd):	3.60	1B3 Acute	89.8 cfs
Daily Average Flow (mgd):	1.14	7Q10 Chronic	143.44 cfs
Stream Design Mixing:	50.0%	4B3 Chronic	103.2 cfs
Statistical Multiplier:	1.8		
Upstream Concentration:	3.0000 mg/l	Parameter:	
Effluent Concentration (max):	12.8000 mg/l	Selenium	
RWC	$\frac{(StatQeCe) + (Cs(pmf)Qs)}{Qe + (pmf)Qs}$		Outfall:
			001
RWC = Receiving water concentration, the resultant magnitude of concentration in the receiving water after effluent discharge concentration (also known as the in-stream waste concentration)			
Stat = Statistical multiplier for effluent parameter (Table 3-1 and 3-2; page 57 of the TSD)			
Qe = Effluent Design Flow			
Ce = Highest effluent concentration reported.			
pmf = Partial mix factor, percent of Qs allowed for mixing by State authority.			
Qs = Receiving Water Flow (1Q10 or 1B3 for acute and 7Q10 or 4B3 for chronic)			
Cs = Background concentration of the receiving water.			
Qe - Acute	3.60 mgd	Qs - 1Q10	75.91 mgd
Qe - Chronic	1.14 mgd	Qs - 1B3	58.01 mgd
Ce	12.8000 mg/l	Qs - 7Q10	92.66 mgd
Cs	3.0000 mg/l	Qs - 4B3	66.67 mgd
Stat	1.80		
pmf	50.0%		
Acute RP		Chronic RP	
RWC - 1Q10	4.7362 mg/l	RWC - 7Q10	3.4813 mg/l
RWC - 1B3	5.2126 mg/l	RWC - 4B3	3.6627 mg/l
Criterion Maximum Concentration (CMC)		Criterion Continuous Concentration (CCC)	
Acute Criterion	20 mg/l	Chronic Criterion	5.0000 mg/l
If the calculated RWC is greater than its respective criterion then there is RP and if RWC is less than the criterion then there is no RP.			
CMC RP Present:		CCC RP Present:	
1Q10 Acute OR	NO	7Q10 Chronic OR	NO
1B3 Acute	NO	4B3 Chronic	NO
The North Dakota State Water Quality Standards (WQS) Chapter 33-16-02.1 use biologically based design and harmonic mean flows to determine Water Quality Based Effluent Limits (WQBELs) and Whole Effluent Toxicity (WET) limits.			

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The analysis determined that no reasonable potential to exceed the North Dakota Standards of Quality for Waters of the State for selenium.

## Statistical Analysis of TDS

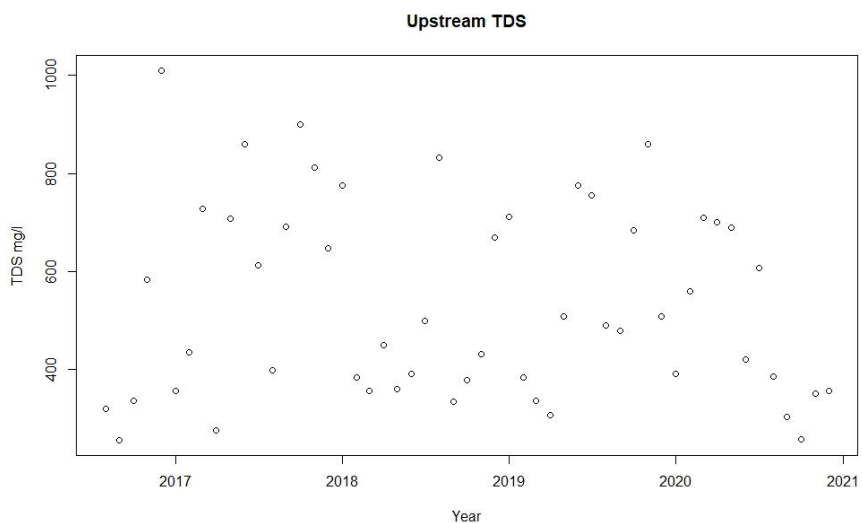
### Data

During the past permit cycle (5 years), the facility has been collecting upstream and downstream data. The data being utilized for this analysis spans from July 01, 2016 through December 31, 2020. Sampling of upstream and downstream data were collected on the same day, and therefore can be considered paired data. There was a total of 53 paired sample results (n=53). R-Studio was utilized to perform the data analysis.

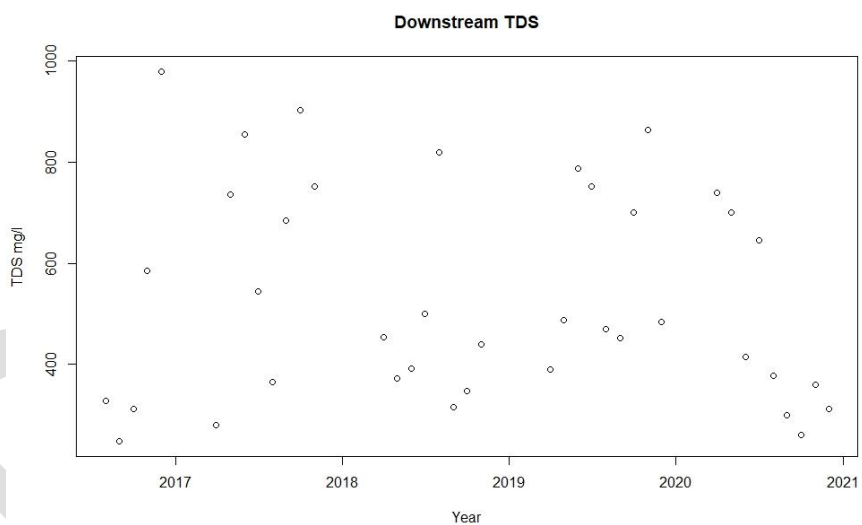
### Normality Analysis

The department first checked the normality of the data. The upstream and downstream samples were filtered out and plotted. Below are the plots for the upstream and downstream TDS samples.

**Figure 2: Scatter plot of the upstream TDS.**

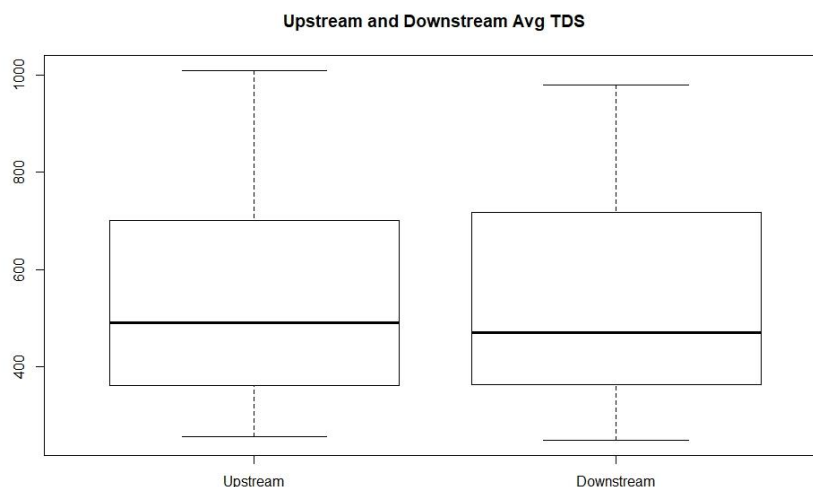


**Figure 3: Scatter plot of the downstream TDS Concentrations.**



The department also created box plots of the upstream and downstream TDS for a side-by-side comparison of the data.

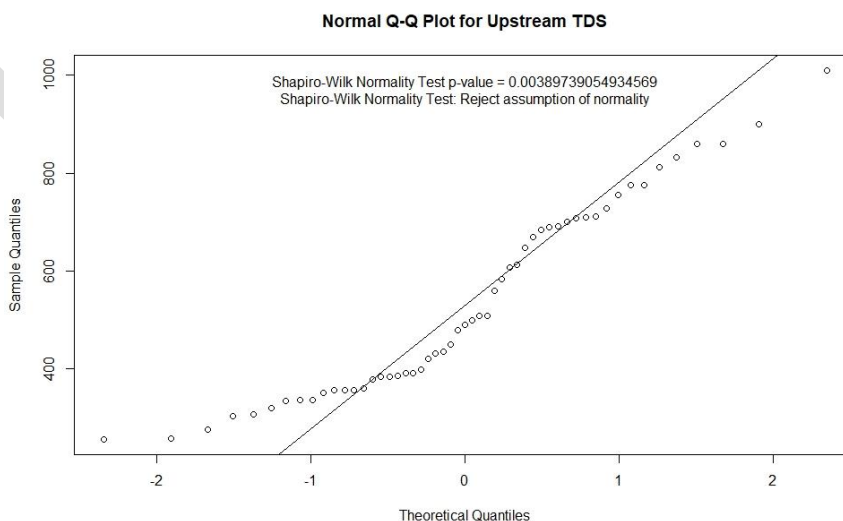
**Figure 4: Box plot of Upstream and Downstream TDS data.**



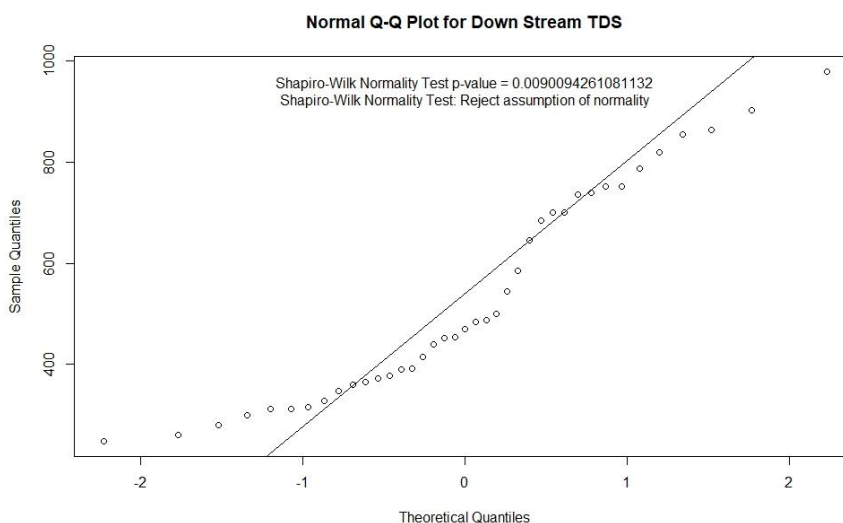
Based upon the box plots, the median downstream TDS concentration were slightly lower than the median upstream TDS concentration. The upstream max was higher than the downstream max and the upstream minimum is higher than the downstream minimum. The upper quartile and the lower quartile if the downstream TDS were slightly higher than the upstream upper and lower quartiles (respectively). There appeared to be no outliers for neither the upstream nor downstream data points.

The upstream and downstream data were then plotted on a QQ-plot (probability plot) to check for normality. A Shapiro-Wilk Normality test was also conducted on the data sets with a confidence level set to 95 percent (95%) where  $H_0$ : Fail to reject assumption of normality and  $H_a$ : Reject the assumption of normality. Below are the plots along with the Shapiro-Wilk Normality test results.

**Figure 5: QQ plot and Shapiro-Wilk Normality Test for Upstream TDS.**



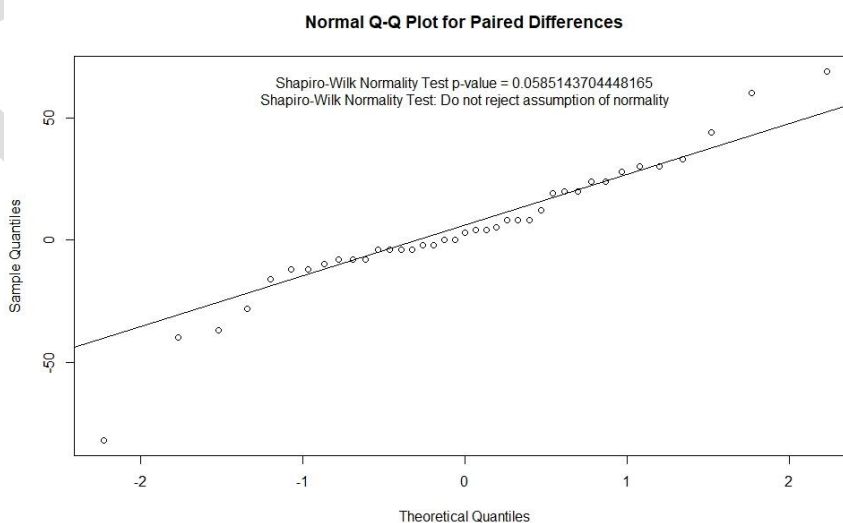
**Figure 6: QQ plot and Shapiro-Wilk Normality Test for Down Stream TDS.**



For both the upstream and downstream Shapiro-Wilk Normality test,  $H_0$  is rejected for  $H_a$  with a p-value  $< 0.05$ . The assumption of normality is rejected, meaning that the data are not normally distributed. Though the upstream and downstream data are not normally distributed, for a paired t-test the paired differences must be normally distributed.

The department then determined the pair differences (subtracting the downstream from the upstream), then produced a QQ plot and ran a Shapiro-Wilk Normality test on the paired differences with a confidence level set to 95 percent (95%) where  $H_0$ : Fail to reject assumption of normality and  $H_a$ : Reject the assumption of normality. Below is the QQ plot (probability plot) and the Shapiro-Wilk Normality test results for the paired differences.

**Figure 7: QQ plot and Shapiro-Wilk Normality test results for the paired differences.**



With a p-value  $> 0.05$ ,  $H_0$  is accepted, the paired differences can be assumed to be normally distributed. With assuming the paired differences assumed to be normally distributed, a Paired t-test (a parametric test) can be performed on the data set.

**Paired  $t$ -test**

With the paired differences being normally distributed, a Paired  $t$ -test can be performed on the data set. The Paired  $t$ -test was had a 95 percent (95%) confidence interval where  $H_0$  = Upstream TDS is equal to the downstream TDS and  $H_a$  = Upstream TDS is greater than the downstream TDS. Below is the Paired  $t$ -test results.

**Figure 8: Paired  $t$ -test Results for Receiving Stream TDS.**

**Paired  $t$ -test**

```
data: upstream$ddataParameterAvg and dwnstream$ddataParameterAvg
t = 1.0273, df = 38, p-value = 0.1554
alternative hypothesis: true difference in means is greater than 0
95 percent confidence interval:
-2.827334      Inf
sample estimates:
mean of the differences
      4.410256
```

Based upon the p-value of 0.155 (greater than 0.05),  $H_0$  is failed to be rejected. The upstream TDS is equal to the downstream TDS. This is also reinforced by a t-score of 1.0273 and a  $t_{\alpha}$  of 1.686 (obtained from a  $t$ -table where  $df=38$  and  $t_{0.05}$ ) where the t-score is less than the value obtained from the  $t$ -table. Therefore,  $H_0$  is failed to be rejected. This indicates that the facility does not have an impact on the receiving stream TDS.

#### **APPENDIX D – RESPONSE TO COMMENTS**

Any comments received during the public notice period will be placed here.

DRAFT



Permit No: ND0026000  
Effective Date: July 1, 2021  
Expiration Date: June 30, 2026

AUTHORIZATION TO DISCHARGE UNDER THE  
NORTH DAKOTA POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with Chapter 33.1-16-01 of the North Dakota Department of Health rules as promulgated under Chapter 61-28 (North Dakota Water Pollution Control Act) of the North Dakota Century Code,

Cargill Corn Milling

is authorized to discharge from their corn wet milling facility located at Wahpeton, North Dakota

to the Red River of the North

provided all the conditions of this permit are met.

This permit and the authorization to discharge shall expire at midnight,

June 30, 2026.

Signed this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

\_\_\_\_\_  
Karl H. Rockeman, P.E.  
Director  
Division of Water Quality

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## DEFINITIONS

### DEFINITIONS Standard Permit BP 2019.05.29

1. **"Act"** means the Clean Water Act.
2. **"Average monthly discharge limitation"** means the highest allowable average of "daily discharges" over a calendar month, calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of "daily discharges" measured during that month.
3. **"Average weekly discharge limitation"** means the highest allowable average of "daily discharges" over a calendar week, calculated as the sum of all "daily discharges" measured during a calendar week divided by the number of "daily discharges" measured during that week.
4. **"Best management practices"** (BMPs) means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage areas.
5. **"Bypass"** means the intentional diversion of waste streams from any portion of a treatment facility.
6. **"Composite"** sample means a combination of at least 4 discrete sample aliquots, collected over periodic intervals from the same location, during the operating hours of a facility not to exceed a 24 hour period. The sample aliquots must be collected and stored in accordance with procedures prescribed in the most recent edition of Standard Methods for the Examination of Water and Wastewater.
7. **"Daily discharge"** means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the "daily discharge" is calculated as the average measurement of the pollutant over the day.
8. **"Department"** means the North Dakota Department of Environmental Quality, Division of Water Quality.
9. **"DMR"** means discharge monitoring report.
10. **"EPA"** means the United States Environmental Protection Agency.
11. **"Geometric mean"** means the  $n^{\text{th}}$  root of a product of  $n$  factors, or the antilogarithm of the arithmetic mean of the logarithms of the individual sample values.
12. **"Grab"** for monitoring requirements, means a single "dip and take" sample collected at a representative point in the discharge stream.
13. **"Instantaneous"** for monitoring requirements, means a single reading, observation, or measurement. If more than one sample is taken during any calendar day, each result obtained shall be considered.
14. **"Maximum daily discharge limitation"** means the highest allowable "daily discharge."
15. **"Salmonid"** means of, belonging to, or characteristic of the family Salmonidae, which includes the salmon, trout, and whitefish.

16. **"Sanitary Sewer Overflows (SSO)"** means untreated or partially treated sewage overflows from a sanitary sewer collection system.
17. **"Severe property damage"** means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
18. **"Total drain"** means the total volume of effluent discharged.
19. **"Upset"** means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

**DEFINITIONS Whole Effluent Toxicity (WET) BP 2017.04.06**

20. **"Acute toxic unit" ("TUa")** is a measure of acute toxicity. TUa is the reciprocal of the effluent concentration that causes 50 percent of the organisms to die by the end on the acute exposure period (i.e.,  $100/\text{"LC50"}$ ).
21. **"Chronic toxic unit" ("TUc")** is a measure of chronic toxicity. TUc is the reciprocal of the effluent concentration that causes no observable effect on the test organisms by the end of the chronic exposure period (i.e.,  $100/\text{"IC25"}$ ).
22. **"Inhibition concentration", ("IC")**, is a point estimate of the toxicant concentration that causes a given percent reduction (p) in a non-quantal biological measurement (e.g., reproduction or growth) calculated from a continuous model (e.g., Interpolation Method).
23. **"LC50"** means the concentration of toxicant (e.g., effluent) which is lethal to 50 percent of the organisms exposed in the time period prescribed by the test.
24. **"No observed effect concentration", ("NOEC")**, is the highest concentration of toxicant (e.g., effluent) to which organisms are exposed in a chronic toxicity test [full life-cycle or partial life-cycle (short term) test], that causes no observable adverse effects on the test organisms (i.e., the highest concentration of effluent in which the values for the observed responses are not statistically significantly different from the controls).

## OUTFALL DESCRIPTIONS

Outfall 001. Active. Final Outfall. Process Wastewater			
Latitude: 46.3504726	Longitude: -96.641491		
Township: 133	Range: 47	Section: 7	QQ: A
Receiving Stream: Red River of the North		Classification: Class 1	
Outfall Description: This is the final discharge of process wastewater combined from all plant sources. The discharge enters the receiving stream through a diffuser.			

Outfall 002. Active. Internal Outfall. High Salt Wastewater			
Latitude: 46.3504726	Longitude: -96.641491		
Township: 133	Range: 47	Section: 7	QQ: A
Receiving Stream: Red River of the North		Classification: Class 1	
Outfall Description: This is an internal discharge of high salt wastewater or from the brine ponds. This discharge is combined with process wastewater from all plant sources and enters the receiving stream through the diffuser from outfall 001.			

Outfall 003. Active. Final Outfall. East Plant Area Runoff			
Latitude: 46.3505500	Longitude: -96.6398000		
Township: 133	Range: 47	Section: 7	QQ: A
Receiving Stream: Red River of the North		Classification: Class 1	
Outfall Description: This is an intermittent discharge consisting of storm runoff from the east area of the plant site, and off-site drainage from upstream areas.			

Outfall 004. Active. Final Outfall. West Plant Area Runoff			
Latitude: 46.3505500	Longitude: -96.6478000		
Township: 133	Range: 47	Section: 7	QQ: B
Receiving Stream: Red River of the North		Classification: Class 1	
Outfall Description: This is an intermittent discharge, via a drop structure, consisting of storm runoff from the west area of the plant site.			

## PERMIT SUBMITTALS SUMMARY

Coverage Point	Submittal	Frequency	First Submittal Date
001A	Discharge Monitoring Report	Monthly	August 31, 2021
001M	Discharge Monitoring Report	Semi-annual	January 31, 2022
001W	Discharge Monitoring Report	Quarterly	October 31, 2021
002A	Discharge Monitoring Report	Monthly	August 31, 2021
002G	Discharge Monitoring Report	Annual	July 31, 2022
003S	Discharge Monitoring Report	Annual	July 31, 2022
004S	Discharge Monitoring Report	Annual	July 31, 2022
Application Renewal	NPDES Application Renewal	1/permit cycle	January 1, 2026

## **SPECIAL CONDITIONS**

### **Comprehensive Water Resource Management Plan**

The permittee shall be involved in the ongoing review of the comprehensive water resource management plan involving the reach of the Red River from Wahpeton to Fargo. The plan is designed to evaluate and implement management strategies aimed at maintaining designated use criteria and providing optimal quality for growing water supply demands on the Red River. At a minimum the permittee must coordinate their discharge activities with those of other dischargers in the area to minimize the cumulative impact on the Red River from all discharges in the Wahpeton area. The permittee must restrict, and if necessary cease, the discharge from outfall 002, while other facilities in the area are discharging, such that it does not cause interference with other facilities discharges and downstream effluent limitations, or cause adverse effects for downstream users. If necessary, the department may direct the permittee to restrict or cease discharging from outfall 002 to allow other facilities in the area to discharge. The permittee must notify downstream users identified in the Contingency Plan of any effluent non-compliance while operating outfall 002.

### **Contingency Plan**

The permittee shall maintain a contingency plan outlining steps that will be taken in response to incidents or circumstances which may adversely impact the receiving stream and downstream uses. The goal of the plan is to minimize any impacts to the receiving stream and keep downstream users informed of incidents which may potentially interfere with their intended use. At a minimum the plan shall contain the following items:

1. List of key personnel responsible for implementing and maintaining the plan.
2. List of downstream users to be notified in the event of an incident. At a minimum, the list must include the water treatment plants at Fargo, North Dakota, Moorhead, Minnesota, and Grand Forks, North Dakota.
3. The standard operating procedures to be employed in response to the following:
  - a. Upsets in the wastewater treatment process.
  - b. Spills of untreated wastewater stored high salt wastewater, sludges, chemicals used in processing and finished product.
4. Brief description of spill prevention procedures, equipment or materials available for spill response, and backup or auxiliary systems.
5. Material Safety Data Sheets for chemicals used in processing which have a reasonable potential to impact surface water and all cooling tower or boiler water additives.
6. Facility layout map identifying the location of response equipment and site drainage including storm conveyances which have a reasonable potential to carry spilled material to the receiving stream.

The plan may reflect requirements for Spill Prevention Control and Countermeasures (SPCC) plans required under 40 CFR 112. The contingency plan may incorporate, by reference, all relevant parts of a SPCC plan developed for the facility.

The permittee shall amend the plan whenever there is a change at the facility which materially increases the potential for an incident adversely impacting the receiving stream or the plan proves ineffective in protecting downstream uses. A copy of any amendments to the plan shall be provided to the following upon request: Minnesota Pollution Control Agency, Water Quality Division; the Public Works Departments of the cities of Grand Forks, North Dakota; Fargo, North Dakota; and Moorhead, Minnesota. The permittee shall provide an updated copy of the Contingency Plan to the department when amendments are made to the plan.

## I. LIMITATIONS AND MONITORING REQUIREMENTS

### A. Discharge Authorization

During the effective period of this permit, the permittee is authorized to discharge pollutants from the outfalls as specified to the following: **Red River of the North, a Class 1 stream.**

This permit authorizes the discharge of only those pollutants resulting from facility processes, waste streams, and operations that have been clearly identified in the permit application process. Samples taken in compliance with the monitoring requirements specified in this permit shall be taken prior to leaving the facility property or entering the receiving stream.

The permittee must limit and monitor all discharges as specified below:

DRAFT



Effluent Limitations and Monitoring Requirements <b>Outfall 001</b>							
	Effluent Limitations					Monitoring Requirements	
	Quantity		Concentration				
Parameter	Avg. Monthly Limit	Daily Maximum Limit	Avg. Monthly Limit	Avg. Weekly Limit	Daily Maximum Limit	Sample Frequency	Sample Type
Biochemical Oxygen Demand BOD5	788 lbs/day	1,187 lbs/day	20 mg/l	*	30 mg/l	Weekly	Grab
Total Suspended Solids (TSS)	1,187 lbs/day	2,375 lbs/day	30 mg/l	*	45 mg/l	Weekly	Grab
pH 1/	Between 7.0 to 9.0 s.u.					Weekly	Grab
Ammonia as N	Refer to Ammonia Table					Weekly	Grab
Oil and Grease 2/	*	*	*	*	10 mg/l	Conditional /Weekly	Grab
Oil and Grease Visual 2/	*	*	*	*	Report Yes or No	Weekly	Visual
Total Dissolved Solids mg/l 3/	*	*	*	*	*	Weekly	Grab
Electrical Conductivity 4/	*	*	*	*	*	Weekly	Grab
Sulfates Total as SO <sub>4</sub> mg/l	*	*	1,489 mg/l	*	2,002 mg/l	Weekly	Grab
Chlorides Total mg/l	*	*	3,826 mg/l	*	5,146 mg/l	Weekly	Grab
Phosphorus Total mg/l	*	*	*	*	*	Weekly	Grab
Nitrogen Total mg/l	*	*	*	*	*	Weekly	Grab
Metals	*	*	*	*	*	Semi-annual	Grab
Stream flow upstream 5/	*	*	*	*	*	Daily	Instantaneous
WET, TUa	Refer to Part I(F)(1)					Quarterly	Grab
WET, TUC	Refer to Part I(F)(2)					1/Permit Cycle	Composite
Flow Effluent, MGD	Report Avg. Monthly Value	Report Max. Daily Value	*	*	*	Continuous	Recorder
Total Drain, MGAL	*	Report Monthly Total	*	*	*	1/month	Calculated

\*. This item is not limited or applicable for the stated parameter. However, the department may impose limitations based on sample history and to protect the receiving waters.

1/ The pH, an instantaneous limitation, shall be between 7.0 s.u. and 9.0 s.u. Any single analysis and or measurement beyond this limitation shall be considered a violation of the conditions of this permit.

2/ The effluent shall be visibly examined weekly for a sheen or floating oil. If present, a grab sample shall be analyzed for oil and grease to ensure compliance with the concentration limitations.

3/ Monitoring required only when discharging from 002.

4/ Instantaneous measurements with a direct reading instrument are also acceptable.

5/ Daily flows of the Red River, measured at the USGS gauge station in Wahpeton, North Dakota, shall be recorded during periods of discharge. Should the gauge at Wahpeton be inoperable or affected by ice backwater, an estimated flow, based on other gauging stations, would be acceptable.

Effluent Limitations and Monitoring Requirements <b>Outfall 001</b>							
	Effluent Limitations					Monitoring Requirements	
	Quantity		Concentration				
Parameter	Avg. Monthly Limit	Daily Maximum Limit	Avg. Monthly Limit	Avg. Weekly Limit	Daily Maximum Limit	Sample Frequency	Sample Type

Stipulations:

The dates of discharge, frequency of analyses, total number of gallons discharged, discharge flow rates, and number of exceedances shall also be included on the Discharge Monitoring Reports (DMR).

Samples collected for compliance with the monitoring specified in this section shall be representative of the final discharge of the combined waste stream and shall be taken prior to mixing with any receiving waters or storm runoff.

Best Management Practices (BMPs) are to be utilized so that there shall be no discharge of floating debris, oil, scum and other floating materials in sufficient amounts to be unsightly or deleterious, or oily wastes that produce a visible sheen on the surface of the receiving water.

Ammonia Effluent Limitations and Monitoring Requirements <b>Outfall 001</b>					
Parameter	Effluent Limitations			Monitoring Requirements	
	Avg. Monthly Limit	Avg. Weekly Limit	Daily Maximum Limit	Sample Frequency	Sample Type
Ammonia 1/	†	*	‡	Weekly	Grab
Stream flow upstream, cfs 2/	*	*	*	Weekly	Instantaneous
Temperature upstream, °C 2/, 3/	*	*	*	Weekly	Instantaneous
pH upstream, S.U. 2/, 3/	*	*	*	Weekly	Instantaneous

1/ Calculations must be performed for each discharge sample. If an exceedance is detected on any single sample, the exceedance must be reported on the DMR.

2/ Sample must be collected/ recorded the same day as the ammonia sample. The upstream flow, temperature, and pH may be obtained from the USGS gauging station at Wahpeton, North Dakota, if data is not available at the designated upstream monitoring location.

3/ If the upstream values are not collected then following minimum values base on the 90<sup>th</sup> percentile upstream STORET and USGS data are to be used: pH: 8.4 S.U., Temperature 23.4 °C, and ammonia 0.25 mg/l. If the upstream flow is not available then, the 30B10 critical low flow of 137 cfs shall be used. The maximum mixing factor is 25.0%.

† Chronic Standard (Average Monthly Limit)  
The 30-day average concentration of total ammonia (expressed as N in mg/L) does not exceed, more often than once every three years on the average, the numerical value given by the following formula; and the highest 4-day average concentration of total ammonia within the 30-day averaging period does not exceed 2.5 times the numerical value given by the following formula:

$$(CV) \left( \frac{0.0577}{1 + 10^{7.688 - pH}} \right) + \left( \frac{2.487}{1 + 10^{pH - 7.688}} \right)$$

where CV = 2.85, when T ≤ 14°C; or  
CV = 1.45 \* 10<sup>0.028\*(25-T)</sup>, when T > 14°C.  
Receiving stream pH is used for the calculation

‡ Acute Standard (Daily Maximum Limit)  
The one-hour average concentration of total ammonia (expressed as N in mg/l) does not exceed, more often than once every three years on the average, the numerical value given by the following formula:

$$\frac{0.411}{1 + 10^{7.204 - pH}} + \frac{58.4}{1 + 10^{pH - 7.204}}$$

where salmonids are absent; or

$$\frac{0.275}{1 + 10^{7.204 - pH}} + \frac{39.0}{1 + 10^{pH - 7.204}}$$

where salmonids are present.

**Stipulations**

Ammonia Effluent Limitations and Monitoring Requirements <b>Outfall 001</b>					
Parameter	Effluent Limitations			Monitoring Requirements	
	Avg. Monthly Limit	Avg. Weekly Limit	Daily Maximum Limit	Sample Frequency	Sample Type
The maximum mixing factor is 25.0%.					

The permittee is authorized to discharge from the high salt wastewater system including the brine pond through Outfall 002. The facility must restrict, and if necessary, cease, the discharge from outfall 002, upon notification from other facilities in the area of their intent to discharge. If the discharge from outfall 002 continues while other facilities are discharging, the discharge may not cause interference with other facilities discharges and downstream effluent limitations or cause adverse effects for downstream users. If necessary, the department may direct the permittee to restrict or cease discharging from outfall 002 to allow other facilities in the area to discharge. Any discharge shall be limited and monitored by the permittee as specified below:

Effluent Limitations and Monitoring Requirements <b>Outfall 002</b>							
	Effluent Limitations					Monitoring Requirements	
	Quantity		Concentration				
Parameter	Avg. Monthly Limit	Daily Maximum Limit	Avg. Monthly Limit	Avg. Weekly Limit	Daily Maximum Limit	Sample Frequency	Sample Type
Electrical Conductivity	*	*	*	*	*	Daily	Grab
Sulfates Total as SO <sub>4</sub> mg/l	*	*	*	*	*	Weekly	Grab
Chlorides Total mg/l	*	*	*	*	*	Weekly	Grab
General Water Chemistry 1/	*	*	*	*	*	Annual	Grab
Flow Effluent, MGD	Report Avg. Monthly Value	Report Max. Daily Value	*	*	*	Continuous	Recorder
Total Drain, MGAL	*	Report Monthly Total	*	*	*	Monthly	Calculated
Stipulations:							
*. This item is not limited or applicable for the stated parameter. However, the department may impose limitations based on sample history and to protect the receiving waters.							
Samples taken in compliance with the monitoring requirements specified in this permit shall be taken prior to combining with any other waste stream.							
Dates of discharge, frequency of analyses, total number of gallons discharged, and discharge flow rates shall also be included on the Discharge Monitoring Reports.							
Any discharge from this interior point shall be managed in a manner that ensures compliance with the effluent limitations identified for the combined wastewater discharge (outfall 001).							
1/ The following parameters shall be sampled and analyzed for:							
Sodium	Sulfate	Hardness Total as CaCO <sub>3</sub>			Nitrate and Nitrite		
Calcium	Carbonate	Total Dissolved Solids			Phosphorus (Total)		
Magnesium	Bicarbonate	Sodium Adsorption Ratio			Turbidity		
Potassium	Hydroxide	Percent Sodium			Fluoride		
Silica	Alkalinity	Iron			Total Suspended Solids		
Chloride	Conductivity	Manganese			pH		

#### B. Outfalls 003 and 004. Stormwater

The permittee is authorized to discharge stormwater runoff through 003 and 004. These stormwater discharges shall be limited and monitored as follows:

Benchmark Values for <b>Outfall 003*</b> and <b>Outfall 004*</b>			
Parameter	Benchmark Trigger Values	Sample Frequency	Sample Type
Oil and Grease	No Visible Sheen (15 mg/L)	Annual	Visual/grab
pH	Between 6.0 and 9.0 S.U.	Annual	Grab
TSS	100 mg/L	Annual	Grab

\* Benchmark concentrations should not be interpreted as stormwater effluent limitations, individual wastewater effluent limitations, or as state water quality standards. Benchmark concentrations provide an appropriate level to determine whether a facility's stormwater pollution prevention measures are effective. A pollutant concentration that is above the benchmark value represents a potential water quality concern and the need to improve the facility's best management practices. If your samples exceed the benchmark, the best management practices shall be revised to reduce future concentrations.

1. The quality of stormwater discharges from the plant site shall reflect the best which is attainable through the use of Best Management Practices and shall not cause a violation of the state water quality standards.
2. The facility shall be operated and maintained to minimize, to the extent reasonably practicable, stormwater contact with raw materials, intermediate products, finished products, by-products or waste materials. The material handling activities including loading/unloading, storage and processing at the plant shall be conducted in a manner to minimize exposure to stormwater. Good housekeeping practices should be employed to maintain a clean, orderly facility. Spill prevention and response procedures must be employed to minimize the potential for the discharge of spilled material with stormwater.
3. The adherence to a Spill Prevention Control and Countermeasures (SPCC) plans developed to satisfy 40 CFR 112 also serves as a stormwater pollution prevention measure.
4. The plant site and discharge conveyances must be inspected quarterly by the permittee. The inspection shall be made to assess the overall adherence to, and effectiveness of Best Management Practices used at the facility. Items to consider include evidence of non-storm related discharges, erosion and sedimentation, deterioration or ineffectiveness of structural controls. If necessary, the stormwater pollution prevention practices shall be revised based on the observations and deficiencies noted during the inspection. The permittee shall maintain inspection records for a period of at least three (3) years.

### **C. Red River Instream Monitoring Requirements**

#### **1. Instream Monitoring Requirements**

The Red River shall be monitored during all periods of discharge. The minimum river sampling requirements are described below.

Samples taken in compliance with the requirements of this section shall be taken at the following locations:

- a. Upstream of the facility's discharge, at a location in the vicinity of the facility's raw water intake from the Red River, and

- b. Downstream of the facility's discharge, in the vicinity of the road bridge one mile west of Brushvale, Minnesota.

Red River Instream Monitoring Requirements			
Parameter	Frequency		Sample Type
	Outfall 001 1/	Outfall 002 2/	
Total Dissolved Solids TDS	Monthly	Weekly	Grab
Sulfate Total	Monthly	Weekly	Grab
Chloride Total	Monthly	Weekly	Grab
Ammonia as N	Monthly	Weekly	Grab
Dissolved Oxygen 3/ 4/	Weekly	Weekly	Grab
pH 3/	Monthly	Weekly	Grab
Electrical Conductivity 3/	Weekly	Daily	Grab
Temperature in C 3/	Monthly	Weekly	Grab
<p>1/ When high salt wastewater is being stored, no discharge from 002.</p> <p>2/ When high salt wastewater is being discharged from 002.</p> <p>3/ Direct reading and/or continuous recording instruments installed instream may be used for D.O., E.C., or pH</p> <p>4/ Shall be collected between 6 a.m. and 9 a.m.</p> <p>When dangerous conditions exist for personnel (i.e. thin ice, melting ice, flooding, etc.) the scheduled river sampling may be suspended until conditions are deemed suitable.</p>			

#### D. Whole Effluent Toxicity (WET) Requirements BP 2021.01.26

##### 1. Acute Toxicity Testing

Acute toxicity tests shall be conducted in general accordance with the procedures set out in the latest revision of "Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms," EPA-821-R-02-012 (Fifth Ed., October 2002). The permittee shall conduct an acute 48-hour static renewal toxicity test using freshwater fleas, *Ceriodaphnia dubia* and an acute 96-hour static renewal toxicity test using fathead minnows, *Pimephales promelas*.

##### Toxicity is defined as:

**Acute test failure is defined as lethality to 50% or more of the test organisms exposed to 100% effluent or >1.0 TUa for *Ceriodaphnia dubia* 48 hour and fathead minnow 96-hour test.** The 48 hour and 96-hour effluent value must be <1.0 TUa to indicate a passing test. Any 48 hour or 96-hour effluent value of >1.0 TUa will constitute a failure. Tests in which the control survival is less than 90% are invalid and must be repeated.

Acute WET requirements for <b>Outfall 001</b>						
Effluent Dilution	0%(Control)	12.5%	25%	50%	75%	100%
Dilution Water	<b>Red River<sup>a</sup></b>					
Species and Test Type	<i>Ceriodaphnia dubia</i> - 48 Hour Acute - Static Renewal - 20°C					
	Fathead minnow - 96 Hour Acute - Static Renewal - 20°C					
Endpoint	TUa					
Compliance Point	<b>End-of-pipe</b>					

If toxicity occurs in a routine test, an additional test shall be initiated within 14 days from the date of the initial toxicity findings. Should there be no discharge during a specified sampling time frame; sampling shall be performed as soon as there is a discharge. Should toxicity occur in the second test, testing shall be conducted at a frequency of once a month and the implementation of a 5.Toxicity Reduction Evaluation (TRE) shall be determined by the department. If no toxicity is found in the second test, testing shall occur as outlined in the permit.

The permittee shall report the following results of each toxicity test on the DMR for that reporting period:

***Pimephales promelas* (Fathead Minnow)**

- a. Report the highest TUa for Fathead minnow, Parameter No. TSN6C.

***Ceriodaphnia dubia* (Water Flea)**

- a. Report the highest TUa for *Ceriodaphnia dubia*, Parameter No. TSM3B.

- a. When dangerous conditions exist for personnel (i.e. thin ice, melting ice, flooding, etc.) the permittee may utilize moderately hard reconstituted water upon request and approval by the department.

## 2. Chronic Toxicity Testing

Chronic toxicity testing is monitoring only, at a frequency of once (1) per permit cycle. Test acceptability for *Daphnia dubia* chronic must have an 80% or greater survival of all control organisms and an average of 15 or more young per surviving female in the control solutions, and 60% of surviving control females must produce three broods. If this condition is not satisfied, the test must be repeated.

Test acceptability for *Pimephales promelas* chronic must have 80% or greater survival in controls and an average dry weight per surviving organism in control chambers equals or exceeds 0.25 mg. If this condition is not satisfied, the test must be repeated.



Chronic WET requirements for <b>Outfall 001</b>						
Implementation	Monitoring Only					
Effluent Dilution	0%(Control)	6.25%	12.5%	25%	50%	100%
Dilution Water	<b>Red River of the North</b>					
Species and Test Type	<i>Ceriodaphnia dubia</i> – 7-Day Chronic – Static Renewal – 25°C					
	Fathead Minnow – 7-Day Chronic – Static Renewal – 25°C					
Endpoint	Survival and Reproduction ( <i>Ceriodaphnia dubia</i> ) – IC25 reported as TUC					
	Larval Growth and Survival (Fathead Minnow) – IC25 reported as TUC					
Compliance Point	Monitoring Only					
Sample Frequency	1/permit cycle					
Test Acceptability	<p>Test acceptability for <i>Daphnia dubia</i> chronic must have a 80% or greater survival of all control organisms and an average of 15 or more young per surviving female in the control solutions, and 60% of surviving control females must produce three broods. If this condition is not satisfied, the test must be repeated.</p> <p>Test acceptability for <i>Pimephales promelas</i> chronic must have 80% or greater survival in controls and an average dry weight per surviving organism in control chambers equals or exceeds 0.25 mg. If this condition is not satisfied, the test must be repeated.</p>					
Reporting Requirements	<p>The permittee shall report the following results of each toxicity test on the DMR for that reporting period:</p> <p><b><i>Pimephales promelas</i> (Fathead Minnow)</b></p> <p>a. Report the highest TUC for Fathead minnow, Parameter No. TTP3B</p> <p><b><i>Ceriodaphnia dubia</i> (Water Flea)</b></p> <p>Report the highest TUC for <i>Ceriodaphnia dubia</i>, Parameter No. TTB6C.</p> <p>Cargill shall request their WET testing providers to report a TUA for a 48 hour survival <i>Ceriodaphnia dubia</i> and for <i>Pimephales promelas</i> which can be derived from the chronic test. The reason for this is to develop a representative Acute-to-Chronic (ACR) which is used in determining reasonable potential and/or permit limitations.</p>					

The chronic toxicity tests shall be conducted in general accordance with the procedures set out in the latest revision of "Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms," EPA-821-R-02-013 (Fourth Ed., October 2002). Test species shall consist of freshwater fleas, *Ceriodaphnia dubia* and fathead minnows, *Pimephales promelas*.

### 3. Reduced Monitoring for Toxicity Testing

#### a. Alternating Species

If the results of a minimum of four consecutive samples taken over at least a 12 month period indicate no toxicity, the permittee may request the Department for a test reduction. This reduction would only be testing one species per sampling frequency. If fathead minnows are used first then the next test would be *C. dubia* or vice versa and continue alternating. The department may approve or deny the request, based on the biomonitoring results and other available information. If the request is approved, the test procedures are to be the same as outlined in 1. Acute Toxicity Testing and/or 2. Chronic Toxicity Testing.

This provision is revoked at the time of permit reissuance/renewal. Permittees may request alternating species after the conditions of this section are met under the reissued permit.

If toxicity occurs in any single species test the provision for alternating species shall be immediately revoked and 1. Acute Toxicity Testing and/or 2. Chronic Toxicity Testing shall be followed in whole.

b. Monthly Testing

If the results of 5. Toxicity Reduction Evaluation (TRE) have been accepted by the department or a period of time has indicated no toxicity, the permittee may request the department to allow a reduction from monthly to quarterly toxicity testing for both species. The department may approve or deny the request, based on the bio-monitoring results and other available information. If the request is approved, the test procedures are to be the same as outlined in 1. Acute Toxicity Testing and/or 2. Chronic Toxicity Testing.

**4. Reporting Requirements**

Test results shall be submitted with the Discharge Monitoring Report (DMR) form for each reporting period. The format for the report shall be consistent with the above reference manual(s) as outlined in the section "Report Preparation and Test Review." Each lab generated report shall document the findings for each species reference toxicity testing chart.

**5. Toxicity Reduction Evaluation (TRE)**

If toxicity is detected, and it is determined by the department that a TRE is necessary, the permittee shall be so notified and shall initiate a TRE immediately thereafter. A TRE shall reference the latest revision of "*Technical Support Document for Water Quality-based Toxics Control*," EPA/505/2-90-001 – PB91-127415 (March 1991). The purpose of the TRE will be to establish the cause of the toxicity, locate the source(s) of the toxicity, and control or provide treatment for the toxicity.

If the TRE establishes that the toxicity cannot be eliminated by the current treatment system, the permittee shall submit a proposed compliance plan to the department. The plan shall include the proposed approach to control toxicity and a proposed compliance schedule for achieving control. If the approach and schedule are acceptable to the department, this permit may be reopened and modified.

If the TRE shows that the toxicity is caused by a toxicant(s) that may be controlled with specific numerical limitations or proper discharge management as approved by the department, the permittee may:

Submit an alternative control program for compliance with the numerical requirements; or

If necessary, provide a modified biomonitoring protocol which compensates for the pollutant(s) being controlled numerically.

If acceptable to the department, this permit may be reopened and modified to incorporate any additional numerical limitations, a modified compliance schedule if judged necessary by the department, and/or a modified biomonitoring protocol.

Failure to conduct an adequate TRE, or failure to submit a plan or program as described above, or the submittal of a plan or program judged inadequate by the department, shall in no way relieve the permittee from maintaining compliance with the whole effluent toxicity requirements of this permit.

## II. MONITORING, RECORDING, AND REPORTING REQUIREMENTS BP 2020.10.19

### A. Representative Sampling (Routine and Non-Routine Discharges)

All samples and measurements taken shall be representative of the monitored discharge.

In order to ensure that the effluent limits set forth in this permit are not violated at times other than when routine samples are taken, the permittee must collect additional samples at the appropriate outfall whenever any discharge occurs that may reasonably be expected to cause or contribute to a violation that is unlikely to be detected by a routine sample. The permittee must analyze the additional samples for those parameters limited under **Part I Effluent Limitations and Monitoring** requirements of this permit that are likely to be affected by the discharge.

The permittee must collect such additional samples as soon as the spill, discharge, or bypassed effluent reaches the outfall. The samples must be analyzed in accordance with **B. Test Procedures**. The permittee must report all additional monitoring in accordance with **D. Additional Monitoring**.

### B. Test Procedures

The collection and transportation of all samples shall conform with EPA preservation techniques and holding times found in 40 CFR 136. All laboratory tests shall be performed by a North Dakota certified laboratory in conformance with test procedures pursuant to 40 CFR 136, unless other test procedures have been specified in this permit or approved by EPA as an alternate test procedure under 40 CFR 136.5. The method of determining the total amount of water discharged shall provide results within 10 percent of the actual amount.

### C. Recording of Results

Records of monitoring information shall include:

1. the date, exact place and time of sampling or measurements;
2. the name(s) of the individual(s) who performed the sampling or measurements;
3. the name of the laboratory;
4. the date(s) and time(s) analyses were performed;
5. the name(s) of the individual(s) who performed the analyses;
6. the analytical techniques or methods used; and
7. the results of such analyses.

### D. Additional Monitoring

If the discharge is monitored more frequently than this permit requires, all additional results, if in compliance with **B. Test Procedures**, shall be included in the summary on the Discharge Monitoring Report.

### E. Reporting of Monitoring Results

1. Monitoring results shall be summarized and reported to the department using Discharge Monitoring Reports (DMRs). If no discharge occurs during a reporting period, "No Discharge" shall be reported. The permittee must submit DMRs electronically using the electronic information reporting system unless requirements in subsection 3 are met.

2. Prior to December 21, 2025, the permittee may elect to electronically submit the following compliance monitoring data and reports instead of mailing paper forms. Beginning December 21, 2025, the permittee must report the following using the electronic reporting system:
  - a. General permit reports [e.g., notices of intent (NOI); notices of termination (NOT); no exposure certifications (NOE)];
  - b. Municipal separate storm sewer system program reports;
  - c. Pretreatment program reports;
  - d. Sewer overflow/bypass event reports; and
  - e. Clean Water Act 316(b) annual reports
3. The permittee may seek a waiver from electronic reporting. To obtain a waiver, the permittee must complete and submit an Application for Temporary Electronic Reporting Waiver form (SFN 60992) to the department. The department will have 120 days to approve or deny the waiver request. Once the waiver is approved, the permittee may submit paper versions of monitoring data and reports to the department.
  - a. One of the following criteria must be met in order to obtain a waiver. The department reserves the right to deny any waiver request, even if they meet one of the criteria below.
    1. No internet access,
    2. No computer access,
    3. Annual DMRs (upon approval of the department),
    4. Employee turnover (3-month periods only), or
    5. Short duration permits (upon approval of the department)

All reports must be postmarked by the last day of the month following the end of each reporting period. All original documents and reports required herein shall be signed and submitted to the department at the following address:

ND Department of Environmental Quality  
Division of Water Quality  
918 East Divide Ave  
Bismarck ND 58501-1947

#### **F. Records Retention**

All records and information (including calibration and maintenance) required by this permit shall be kept for at least three years or longer if requested by the department or EPA.

### **III. COMPLIANCE RESPONSIBILITIES**

#### **A. Duty to Comply**

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

**B. Proper Operation and Maintenance**

The permittee shall at all times maintain in good working order and operate as efficiently as possible all treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit. If necessary to achieve compliance with the conditions of this permit, this shall include the operation and maintenance of backup or auxiliary systems.

**C. Planned Changes**

The department shall be given advance notice of any planned changes at the permitted facility or of an activity which may result in permit noncompliance. Any anticipated facility expansions, production increase, or process modifications which might result in new, different, or increased discharges of pollutants shall be reported to the department as soon as possible. Changes which may result in a facility being designated a "new source" as determined in 40 CFR 122.29(b) shall also be reported.

**D. Duty to Provide Information**

The permittee shall furnish to the department, within a reasonable time, any information which the department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the department, upon request, copies of records required to be kept by this permit. When a permittee becomes aware that it failed to submit any relevant facts or submitted incorrect information in a permit application or any report, it shall promptly submit such facts or information.

**E. Signatory Requirements**

All applications, reports, or information submitted to the department shall be signed and certified.

All permit applications shall be signed by a responsible corporate officer, a general partner, or a principal executive officer or ranking elected official.

All reports required by the permit and other information requested by the department shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

The authorization is made in writing by a person described above and submitted to the department;  
and

The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters.

If an authorization under E. Signatory Requirements is no longer accurate for any reason, a new authorization satisfying the above requirements must be submitted to the department prior to or together with any reports, information, or applications to be signed by an authorized representative.

Any person signing a document under this section shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

**F. Twenty-four Hour Notice of Noncompliance Reporting**

1. The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally as soon as possible, but no later than twenty-four (24) hours from the time the permittee first became aware of the circumstances. The following occurrences of noncompliance shall be included in the oral report to the department at 701.328.5210:
  - a. Any lagoon cell overflow or any unanticipated bypass which exceeds any effluent limitation in the permit under G. Bypass of Treatment Facilities;
  - b. Any upset which exceeds any effluent limitation in the permit under H. Upset Conditions; or
  - c. Violation of any daily maximum effluent or instantaneous discharge limitation for any of the pollutants listed in the permit.
2. A written submission shall also be provided within five days of the time that the permittee became aware of the circumstances. The written submission shall contain:
  - a. A description of the noncompliance and its cause;
  - b. The period of noncompliance, including exact dates and times;
  - c. The estimated time noncompliance is expected to continue if it has not been corrected; and
  - d. Steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

Reports shall be submitted to the address in Part II.E. Reporting of Monitoring Results. The department may waive the written report on a case by case basis if the oral report has been received within 24 hours by the department at 701.328.5210 as identified above.

All other instances of noncompliance shall be reported no later than at the time of the next Discharge Monitoring Report submittal. The report shall include the four items listed in this subsection.

**G. Bypass of Treatment Facilities**

1. Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to any of the following provisions in this section.
2. Bypass exceeding limitations-notification requirements.
  - a. Anticipated Bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten (10) days before the date of bypass.
  - b. Unanticipated Bypass. The permittee shall submit notice of an unanticipated bypass as required under F. Twenty-four Hour Notice of Noncompliance Reporting.
3. Prohibition of Bypass. Bypass is prohibited, and the department may take enforcement action against a permittee for bypass, unless:
  - a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
  - b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

- c. The permittee submitted notices as required under the 1. Anticipated Bypass subsection of this section.

The department may approve an anticipated bypass, after considering its adverse effects, if the department determines that it will meet the three (3) conditions listed above.

#### **H. Upset Conditions**

An upset constitutes an affirmative defense to an action brought for noncompliance with technology-based permit effluent limitations if the requirements of the following paragraph are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

1. An upset occurred and the permittee can identify its cause(s);
2. The permitted facility was, at the time being, properly operated;
3. The permittee submitted notice of the upset as required under F. Twenty-four Hour Notice of Noncompliance Reporting and
4. The permittee complied with any remedial measures required under I. Duty to Mitigate.

In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

#### **I. Duty to Mitigate**

The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment. The permittee, at the department's request, shall provide accelerated or additional monitoring as necessary to determine the nature and impact of any discharge.

#### **J. Removed Materials**

Collected screenings, grit, solids, sludges, or other pollutants removed in the course of treatment shall be buried or disposed of in such a manner to prevent any pollutant from entering any waters of the state or creating a health hazard. Sludge/digester supernatant and filter backwash shall not be directly blended with or enter either the final plant discharge and/or waters of the state. The permit issuing authority shall be contacted prior to the disposal of any sewage sludges. At that time, concentration limitations and/or self-monitoring requirements may be established.

#### **K. Duty to Reapply**

Any request to have this permit renewed should be made six months prior to its expiration date.

### **IV. GENERAL PROVISIONS**

#### **A. Inspection and Entry**

The permittee shall allow department and EPA representatives, at reasonable times and upon the presentation of credentials if requested, to enter the permittee's premises to inspect the wastewater treatment facilities and monitoring equipment, to sample any discharges, and to have access to and copy any records required to be kept by this permit.

#### **B. Availability of Reports**

Except for data determined to be confidential under 40 CFR Part 2, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the department and EPA. As required by the Act, permit applications, permits, and effluent data shall not be considered confidential.

**C. Transfers**

This permit is not transferable except upon the filing of a Statement of Acceptance by the new party and subsequent department approval. The current permit holder should inform the new controller, operator, or owner of the existence of this permit and also notify the department of the possible change.

**D. New Limitations or Prohibitions**

The permittee shall comply with any effluent standards or prohibitions established under Section 306(a), Section 307(a), or Section 405 of the Act for any pollutant (toxic or conventional) present in the discharge or removed substances within the time identified in the regulations even if the permit has not yet been modified to incorporate the requirements.

**E. Permit Actions**

This permit may be modified, revoked and reissued, or terminated for cause. This includes the establishment of limitations or prohibitions based on changes to Water Quality Standards, the development and approval of waste load allocation plans, the development or revision to water quality management plans, changes in sewage sludge practices, or the establishment of prohibitions or more stringent limitations for toxic or conventional pollutants and/or sewage sludges. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

**F. Need to Halt or Reduce Activity Not a Defense**

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

**G. State Laws**

Nothing in this permit shall be construed to preclude the institution of legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation preserved under Section 510 of the Act.

**H. Oil and Hazardous Substance Liability**

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Act.

**I. Property Rights**

The issuance of this permit does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

**J. Severability**

The provisions of this permit are severable, and if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.