

North Dakota State Water Commission

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June 27, 2008

North Dakota Department of Health
Division of Water Quality
PO Box 5520
Bismarck, ND – 58506-5520

U.S. Environmental Protection Agency
Attn: Enforcement Office (ENF-PT)
1595, Wynkoop Street
Denver, CO 80202-1129

RE: North Dakota Pollutant Discharge Elimination System
Permit Number: ND-0026247

Enclosed are the Discharge Monitoring Reports for the Devils Lake Outlet Project, permit number ND-0026247, for the month of May 2008 and the summaries of the sample results and flow data.

The days the outlet discharged are highlighted in yellow in the summaries. Attached to the summaries are the tables showing average daily outlet discharge, increase in the base sulfate concentration at Bremen because of the outlet operation, water quality results of the samples collected from the upstream location, downstream location and the outlet, the average daily stream flow data and the conductivity data obtained from the USGS gaging station at the upstream and the downstream location.

If you have any questions regarding these reports, please contact me at 701-328-4958.

Bruce Engelhardt P.E.
Head, Investigations Section
BE:SP:416-10
Enclosure

NORTH DAKOTA POLLUTANT DISCHARGE ELIMINATION SYSTEM (NDPDES)
DISCHARGE MONITORING REPORT (DMR)

PERMITTEE NAME/ADDRESS
 ND State Water Commission
 ADDRESS: Bismarck ND 58506


1 / Month
 Outlet General Summary
 F- FINAL
 MINOR

ND-0026247
 PERMIT NUMBER
 001 A
 OUTFALL NO.

FACILITY: Devils Lake Outlet Project
 LOCATION: Benson Co, ND

MONITORING PERIOD
 5/1/08 TO 5/31/08

NO DISCHARGE:

PARAMETER	QUANTITY OR LOADING		QUANTITY OR CONCENTRATION		NO. EX.	FREQUENCY OF ANALYSIS	SAMPLE TYPE
	AVERAGE	MAXIMUM	MINIMUM	AVERAGE			
pH	XXXXX	XXXXX	8.4	8.6		Daily	Grab
EFFLUENT GROSS VALUE			7.0 (see Perm) MINIMUM	9.0 (See Perm) MAXIMUM		Weekly	GRAB
SOLIDS, TOTAL SUSPENDED	XXXXX	XXXXX				Weekly	Grab
EFFLUENT GROSS VALUE			*****	100 mg/l DAILY MAX		Weekly	GRAB
SPECIFIC CONDUCTANCE	XXXXX	XXXXX	1344	2085		Continuous	Recorder
EFFLUENT GROSS VALUE			REPORT MINIMUM	REPORT MAXIMUM		Continuous	Recorder
SULFATE	XXXXX	XXXXX		744.33		5 x Week	Grab
EFFLUENT GROSS VALUE			*****	REPORT MAX 7 DAY AVG		5 x Week	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	0.56	5.67	XXXXXX	XXXXXX		Continuous	Recorder
EFFLUENT GROSS VALUE	REPORT 30 DA AVG	100 (see perm) DAILY MAX				Continuous	Recorder
FLOW, TOTAL	XXXXXX	11.25	XXXXXX	XXXXXX		Continuous	Calc
EFFLUENT GROSS VALUE	*****	REPORT 30 DA TOTAL				Monthly	CALC
DURATION OF DISCHARGE	XXXXXX	XXXXXX	XXXXXX	5		Monthly	Calc
EFFLUENT GROSS VALUE				REPORT MAXIMUM		Monthly	CALC
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT.		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT		TELEPHONE	DATE	
Bruce Engelhardt Head, Investigations Section					701-328-4958	6/27/08	
TYPED OR PRINTED					Number	Mo - Day - Year	
COMMENT AND EXPLANATION OF ANY VIOLATIONS	(Reference all attachments here)						

Attach summary individual sample results and flow data for outlet, upstream & downstream monitoring locations.
 Provide process control monitoring information by attachment or through electronic media.

Daily Outlet Discharge for the Month of May 2008

Date May 2008	Average Daily Outlet Discharge (cfs)	Total Daily Volume (cu-ft)
1	5.49	474722
2	5.67	489991
3	4.84	418200
4	0.11	9579
5	1.29	111107
6	0.00	0.00
7	0.00	0.00
8	0.00	0.00
9	0.00	0.00
10	0.00	0.00
11	0.00	0.00
12	0.00	0.00
13	0.00	0.00
14	0.00	0.00
15	0.00	0.00
16	0.00	0.00
17	0.00	0.00
18	0.00	0.00
19	0.00	0.00
20	0.00	0.00
21	0.00	0.00
22	0.00	0.00
23	0.00	0.00
24	0.00	0.00
25	0.00	0.00
26	0.00	0.00
27	0.00	0.00
28	0.00	0.00
29	0.00	0.00
30	0.00	0.00
31	0.00	0.00

Total		1,503,599	cu-ft
Total		11.25	Mgal
Total		34.52	Ac-ft
Average Flow	0.56	cfs	

DISCHARGE MONITORING REPORT (DMR)

1 / Month
Upstream General Summary

PERMITTEE NAME/ADDRESS
ND State Water Commission
ADDRESS: Bismarck ND 58506

ND-0026247	001 A
PERMIT NUMBER	OUTFALL NO.

MONITORING PERIOD	5/1/08	TO	5/31/08
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NO DISCHARGE:

FACILITY: Devils Lake Outlet Project
LOCATION: Benson Co, ND

PARAMETER	SAMPLE MEASUREMENT PERMIT REQUIREMENT	QUANTITY OR LOADING			QUALITY OR CONCENTRATION			NO. EX.	FREQUENCY OF ANALYSIS	SAMPLE TYPE	
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM				UNITS
pH	SAMPLE MEASUREMENT PERMIT REQUIREMENT	XXXXX	XXXXX	XXX	8.3	8.6	SU		Daily	Grab	
UPSTREAM	SAMPLE MEASUREMENT PERMIT REQUIREMENT	XXXXX	XXXXX	XXX	REPORT MINIMUM	REPORT MAXIMUM	SU		Weekly	GRAB	
SOLIDS, TOTAL SUSPENDED	SAMPLE MEASUREMENT PERMIT REQUIREMENT	XXXXX	XXXXX	XXX	6.7	7.0	mg/L		Weekly	Grab	
UPSTREAM	SAMPLE MEASUREMENT PERMIT REQUIREMENT	XXXXX	XXXXX	XXX	REPORT 30 DA AVG	REPORT DAILY MAX	MG/L		Weekly	GRAB	
SPECIFIC CONDUCTANCE	SAMPLE MEASUREMENT PERMIT REQUIREMENT	XXXXX	XXXXX	XXX	1510	1730	umho/cm		Continuous	Recorder	
UPSTREAM	SAMPLE MEASUREMENT PERMIT REQUIREMENT	XXXXX	XXXXX	XXX	REPORT MINIMUM	REPORT MAXIMUM	umho/cm		Continuous	Recorder	
SULFATE	SAMPLE MEASUREMENT PERMIT REQUIREMENT	XXXXX	XXXXX	XXX	418.05	384.86	mg/L		5 x Week	Grab	
UPSTREAM	SAMPLE MEASUREMENT PERMIT REQUIREMENT	XXXXX	XXXXX	XXX	REPORT 30 DA AVG	REPORT MAX 7 DAY AVG	MG/L		5 x Week	GRAB	
FLOW, INSTREAM	SAMPLE MEASUREMENT PERMIT REQUIREMENT	18.91	58.58	cfs	XXXXX	XXXXX	xxx		Continuous	Recorder	
UPSTREAM	SAMPLE MEASUREMENT PERMIT REQUIREMENT	REPORT 30 DA AVG	REPORT DAILY MAX	cfs	XXXXX	XXXXX			Continuous	Recorder	
	SAMPLE MEASUREMENT PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT PERMIT REQUIREMENT										
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		TELEPHONE			DATE						
Bruce Engelhardt		701-328-4958			6/27/08						
Head, Investigations Section		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT			Number			Mo - Day - Year			
TYPED OR PRINTED		Number			Mo - Day - Year						

(Reference all attachments here)

COMMENT AND EXPLANATION OF ANY VIOLATIONS

Attach summary individual sample results and flow data for outlet, upstream & downstream monitoring locations.
Provide process control monitoring information by attachment or through electronic media.
Instream samples and measurements for this summary pertain only to time periods when outlet is actually operated.

EPA FORM 3320-1 (REV. 9-88) TEMPLATE COPY

Average daily streamflow and conductivity data at the upstream location near Flora

USGS Gaging Station Data		
Sheyenne River Above Devils Lake		
Date May 2008	Streamflow (cfs)	EC ($\mu\text{S}/\text{cm}$)
1	58.58	1518.02
2	49.43	1505.52
3	41.84	1477.81
4	30.76	1487.40
5	24.93	1508.54
6	21.50	1530.52
7	20.03	1554.47
8	18.79	1576.56
9	17.04	1580.21
10	15.57	1581.25
11	16.31	1599.90
12	17.89	1619.17
13	18.85	1628.13
14	17.23	1664.17
15	16.54	1696.88
16	15.43	1714.38
17	15.98	1728.96
18	16.42	1731.98
19	18.23	1720.52
20	17.66	1708.65
21	15.82	1685.42
22	14.28	1669.06
23	12.65	1685.83
24	11.35	1700.83
25	10.14	1712.60
26	9.56	1712.08
27	8.59	1715.73
28	7.23	1723.65
29	6.50	1729.58
30	8.59	1732.13
31	12.34	1744.69
Average	18.91	1643.37
Maximum	58.58	1744.69
Minimum	6.50	1477.81

Increase in base sulfate and flow at downstream location Bremen because of outlet operation

Date April/May 2008	Average Daily Outlet Flow (cfs)	Gaged flow at Bremen	Sulfate at the Outlet (mg/L)	Sulfate at Bremen (mg/L)	Baseflow at Bremen (cfs)	Background Concentration (mg/L)	Target sulfate at Bremen based on the permit (mg/L)	7 Day Rolling Average of sulfate at Bremen during the operating period (mg/L)	7 Day Rolling Average of actual measured sulfate at Bremen during the operating period (mg/L)	No. of days included in the 7 day Rolling average
5/1/08	5.49	89.88	731	429	84.38	409.34	450.00	434.45	427.57	7
5/2/08	5.67	81.68	735	428	76.01	405.09	450.00	445.10	434.29	7
5/3/08	4.84	58.39	-	-	53.55	-	-	449.09	437.50	7
5/4/08	0.11	48.40	-	-	48.28	-	-	448.91	432.80	7
5/5/08	1.29	34.28	767	428	33.00	414.79	450.00	448.91	428.00	7
5/6/08	0.00	29.52	-	394	29.52	-	-	-	-	-
5/7/08	0.00	25.64	-	386	25.64	-	-	-	-	-
5/8/08	0.00	21.52	-	386	21.52	-	-	-	-	-
5/9/08	0.00	21.85	-	391	21.85	-	-	-	-	-
5/10/08	0.00	21.71	-	-	21.71	-	-	-	-	-
5/11/08	0.00	14.93	-	-	14.93	-	-	-	-	-
5/12/08	0.00	16.79	-	416	16.79	-	-	-	-	-
5/13/08	0.00	22.33	-	414	22.33	-	-	-	-	-
5/14/08	0.00	20.25	-	418	20.25	-	-	-	-	-
5/15/08	0.00	20.56	-	419	20.56	-	-	-	-	-
5/16/08	0.00	17.44	-	432	17.44	-	-	-	-	-
5/17/08	0.00	14.98	-	-	14.98	-	-	-	-	-
5/18/08	0.00	13.70	-	-	13.70	-	-	-	-	-
5/19/08	0.00	18.78	-	478	18.78	-	-	-	-	-
5/20/08	0.00	18.22	-	481	18.22	-	-	-	-	-
5/21/08	0.00	17.42	-	479	17.42	-	-	-	-	-
5/22/08	0.00	16.84	-	479	16.84	-	-	-	-	-
5/23/08	0.00	15.51	-	475	15.51	-	-	-	-	-
5/24/08	0.00	12.77	-	-	12.77	-	-	-	-	-
5/25/08	0.00	11.99	-	-	11.99	-	-	-	-	-
5/26/08	0.00	8.55	-	-	8.55	-	-	-	-	-
5/27/08	0.00	5.86	-	445	5.86	-	-	-	-	-
5/28/08	0.00	4.71	-	443	4.71	-	-	-	-	-
5/29/08	0.00	4.08	-	443	4.08	-	-	-	-	-
5/30/08	0.00	4.83	-	421	4.83	-	-	-	-	-
5/31/08	0.00	5.81	-	-	5.81	-	-	-	-	-

Average daily streamflow and conductivity data at the downstream location near Bremen

USGS Gaging Station Data		
Sheyenne River Below Devils Lake		
Date May 2008	Streamflow (cfs)	EC ($\mu\text{S/cm}$)
1	89.88	1563.13
2	81.68	1579.79
3	58.39	1573.96
4	48.40	1580.83
5	34.28	1554.69
6	29.52	1503.33
7	25.64	1494.15
8	21.52	1530.10
9	21.85	1544.27
10	21.71	1557.19
11	14.93	1575.63
12	16.79	1591.67
13	22.33	1593.23
14	20.25	1596.04
15	20.56	1613.13
16	17.44	1635.00
17	14.98	1655.10
18	13.70	1692.81
19	18.78	1723.96
20	18.22	1742.71
21	17.42	1751.15
22	16.84	1757.29
23	15.51	1760.21
24	12.77	1761.77
25	11.99	1759.58
26	8.55	1735.21
27	5.86	1718.02
28	4.71	1715.31
29	4.08	1712.08
30	4.83	1687.72
31	5.81	1695.59
Average	23.20	1643.70
Maximum	89.88	1761.77
Minimum	4.08	1494.15