

North Dakota State Water Commission

900 EAST BOULEVARD AVENUE, DEPT 770 • BISMARCK, NORTH DAKOTA 58505-0850
701-328-2750 • TDD 701-328-2750 • FAX 701-328-3696 • INTERNET: <http://swc.nd.gov>

July 30, 2009

North Dakota Department of Health
Division of Water Quality
918, East Divide Avenue
Bismarck, ND – 58501-1947

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

Enclosed are the discharge reports for the Devils Lake Outlet for the period between June 25th and June 30th 2009 and the summaries of the sample results and flow data. Discharge occurred on all the days in the reporting period.

In the last Discharge Monitoring Report submitted for the discharge period between June 1st and June 24th 2009, we had mentioned that future discharges would be reported in the form accepted by your Department. Though an agreement regarding the reporting format has not been achieved, in order to document the discharges during June 25 to June 30th time period, the discharge is reported in the format that we are proposing.

Attached to the summaries are the tables showing average daily outlet discharge, 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.

Sincerely,

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

OUTLET OPERATOR NAME/ADDRESS

NAME: ND State Water Commission
 ADDRESS: 900 E Boulevard Avenue,
 Bismarck ND 58505

MONTHLY DISCHARGE REPORT

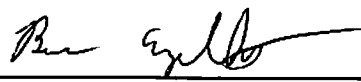
LOCATION: AT OUTLET

FACILITY: Devils Lake Outlet Project

MONITORING PERIOD	
START DATE	END DATE
6/25/09	6/30/09

LOCATION: Benson Co, ND

Devils Lake Outlet discharged 858 ac-ft over 6 Days

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.49	9.19	8.75	SU	4 x Week	GRAB
SPECIFIC CONDUCTANCE	1667.68	1798.86	1709.24	umho/cm	Continuous	Recorder
SULFATE	569.00	600.00	579.00	mg/L	4 x Week	GRAB
7 DAY AVERAGE OF SULFATE	576.60	582.80	580.93	mg/L	4 x Week	GRAB
OUTLET DISCHARGE	26.73	97.97	72.09	cfs	Continuous	Recorder
SIGNATURE				7/30/09	701-328-4958	
NAME AND TITLE	BRUCE ENGELHARDT, HEAD, INVESTIGATIONS SECTION			DATE	TELEPHONE NUMBER	
COMMENT AND EXPLANATION OF ANY VIOLATIONS						
Summary of individual sample results and flow data for outlet, upstream & downstream monitoring locations attached.						

**Water Quality Results of the samples collected at the outlet
Devils Lake Outlet**

Date	Time	Sampler	Average Daily EC from Outlet Telemetry (µS/cm)	Lab pH	Lab Sulfate (mg/L)	7 Day Rolling Average of Sulfate for the operating period (mg/L)	Total Suspended Solids (mg/L)	No. of days included in the 7 day Rolling average
6/25/09	11:45	NDSWC	1,798.86	8.82	577	576.6	-	7
6/26/09	15:00	NDSWC	1,741.27	9.19	600	582.8	-	7
6/27/09	-	-	1,690.86	-	-	582.8	-	7
6/28/09	-	-	1,667.68	-	-	582.8	-	7
6/29/09	18:00	NDSWC	1,674.81	8.49	570	582	-	7
6/30/09	8:30	NDSWC	1,681.95	8.5	569	578.6	14	7

Daily Outlet Discharge

Date	Average Daily Outlet Discharge (cfs)	Total Daily Volume (cu-ft)
6/25/09	26.73	2,309,402
6/26/09	37.34	3,226,514
6/27/09	90.39	7,809,504
6/28/09	95.17	8,222,555
6/29/09	84.92	7,336,769
6/30/09	97.97	8,464,757

Total		37,369,500	cu-ft
Total		280	Mgal
Total		858	Ac-ft
Average Flow	72.09	cfs	

OUTLET OPERATOR NAME/ADDRESS

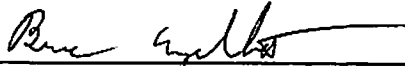
NAME: ND State Water Commission
 ADDRESS: 900 E Boulevard Avenue
 Bismarck ND 58505

MONTHLY DISCHARGE REPORT

LOCATION: UPSTREAM OF THE OUTLET (FLORA)

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

MONITORING PERIOD	
START DATE	END DATE
6/25/09	6/30/09

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	820.00	8.33	8.25	SU	4 x Week	GRAB
SPECIFIC CONDUCTANCE	1320.00	1380.00	1355.00	umho/cm	Continuous	Recorder
SULFATE	243.00	357.00	300.50	mg/L	4 x Week	GRAB
7 DAY AVERAGE OF SULFATE	251.60	289.60	262.10	mg/L	4 x Week	GRAB
FLOW, INSTREAM	78.00	303.00	167.17	cfs	Continuous	Recorder
SIGNATURE				7/30/09	701-328-4958	
NAME AND TITLE	BRUCE ENGELHARDT, HEAD, INVESTIGATIONS SECTION			DATE	TELEPHONE NUMBER	
COMMENT AND EXPLANATION OF ANY VIOLATIONS						
Summary of individual sample results and flow data for outlet, upstream & downstream monitoring locations attached.						
Instream samples and measurements for this summary pertain only to time periods when outlet is actually operated.						

**Water Quality Results of the samples collected from the upstream location near Flora
 Sheyenne River Above Devils Lake Outlet Near Flora**

Date	Time	Sampler	USGS EC (μS/cm)	Lab pH	Lab Sulfate (mg/L)	7 Day Rolling Average of Sulfate for the operating period (mg/L)	Total Suspended Solids (mg/L)	No. of days included in the 7 day Rolling average
6/25/09	11:30	NDSWC	1320	8.27	246	259.2	-	7
6/26/09	17:30	NDSWC	1350	8.33	243	251.6	-	7
6/27/09	-	-	-	-	-	251.6	-	7
6/28/09	-	-	-	-	-	251.6	-	7
6/29/09	17:45	NDSWC	1380	8.2	356	269	-	7
6/30/09	8:45	NDSWC	1370	8.21	357	289.6	11	7

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

USGS Gaging Station Data		
Sheyenne River Above Devils Lake		
Date	Streamflow (cfs)	EC (μS/cm)
6/25/09	83	1330
6/26/09	78	1250
6/27/09	171	1340
6/28/09	303	1360
6/29/09	218	1370
6/30/09	150	1380

OUTLET OPERATOR NAME/ADDRESS

NAME: ND State Water Commission
 ADDRESS: 900 E Boulevard Avenue
 Bismarck ND 58505


MONTHLY DISCHARGE REPORT

LOCATION: DOWNSTREAM OF THE OUTLET (BREMEN)

FACILITY: Devils Lake Outlet Project

LOCATION: Benson Co, ND

MONITORING PERIOD	
START DATE	END DATE
6/25/09	6/30/09

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.22	8.35	8.28	SU	4 x Week	GRAB
SPECIFIC CONDUCTANCE	1480.00	1540.00	1502.50	umho/cm	Continuous	Recorder
SULFATE	338.00	462.00	404.25	mg/L	4 x Week	GRAB
7 DAY AVERAGE OF SULFATE	356.00	390.80	365.13	mg/L	4 x Week	GRAB
FLOW, INSTREAM	120.00	381.00	246.00	cfs	Continuous	Recorder
SIGNATURE				7/30/09	701-328-4958	
NAME AND TITLE	BRUCE ENGELHARDT, HEAD, INVESTIGATIONS SECTION			DATE	TELEPHONE NUMBER	
COMMENT AND EXPLANATION OF ANY VIOLATIONS						
Summary of individual sample results and flow data for outlet, upstream & downstream monitoring locations attached.						
Instream samples and measurements for this summary pertain only to time periods when outlet is actually operated.						

**Water Quality Results of the samples collected from the downstream location near Bremen
Sheyenne River Below Devils Lake Outlet Near Bremen**

Date	Time	Sampler	USGS EC (μS/cm)	Lab pH	Lab Sulfate (mg/L)	7 Day Rolling Average of Sulfate for the operating period (mg/L)	Total Suspended Solids (mg/L)	No. of days included in the 7 day Rolling average
6/25/09	11:00	NDSWC	1480	8.3	338	356	-	7
6/26/09	15:45	NDSWC	1540	8.35	356	357	-	7
6/27/09	-	-	-	-	-	357	-	7
6/28/09	-	-	-	-	-	357	-	7
6/29/09	17:15	NDSWC	1480	8.22	461	373	-	7
6/30/09	9:20	NDSWC	1510	8.23	462	390.8	8	7

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

USGS Gaging Station Data		
Sheyenne River Below Devils Lake		
Date	Streamflow (cfs)	EC (μS/cm)
6/25/09	137	1460
6/26/09	120	1500
6/27/09	186	1420
6/28/09	317	1530
6/29/09	381	1500
6/30/09	335	1510