



# North Dakota State Water Commission

900 EAST BOULEVARD AVENUE, DEPT 770 • BISMARCK, NORTH DAKOTA 58505-0850  
701-328-2750 • TTY 800-366-6888 • FAX 701-328-3696 • INTERNET: <http://swc.nd.gov>

---

December 27, 2012

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

RE: November 2012 Devils Lake Outlets Monthly Discharge and Water Quality Report

Enclosed are the monthly discharge reports for the Devils Lake Outlets for the month of November 2012 and summaries of water quality sample results and flow data. The West End and East End Outlets operated continuously until they were shutdown on November 8<sup>th</sup> and 9<sup>th</sup> for the winter, respectively.

Executive Order 2012-07 suspends water quality standards that may restrict the operation of the outlets. Some samples contained sulfates above 750 milligrams per liter (mg/L) which is used as a metric for some standards. Sulfates were detected above 750 mg/L in samples collected from the following sites below the confluence of Tolna Coulee with the Sheyenne River during the reported period: below Pekin (Highway 1), near Cooperstown, and the upstream Lake Ashtabula crossing, below Baldhill Dam, at Lisbon, and near Horace.

The attached tables contain average daily outlet discharges and water quality results from samples collected from the outlets and the corresponding upstream and downstream locations. Also included are average daily stream flow data and conductivity data obtained from the USGS gaging stations located upstream and downstream of the outlets.

If you have any questions, please contact me at 701-328-4948.

Sincerely,

Jonathan Kelsch P.E.  
Head, Construction Section  
JK:MSW:416-10

OUTLET OPERATOR NAME/ADDRESS

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

MONTHLY DISCHARGE REPORT


LOCATION: WEST END OUTLET

FACILITY: Devils Lake Outlet Project

MONITORING PERIOD	
START DATE	END DATE
11/1/12	11/30/12

LOCATION: Benson Co, ND

Devils Lake West Outlet discharged 3,426 ac-ft over 13 Days

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.51	8.63	8.57	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	NA	NA	NA	µS/cm	Continuous	Recorder
SULFATE	591	598	595	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	590	595	592	mg/L	2 x Week	GRAB
OUTLET DISCHARGE	4	243	133	cfs	Continuous	Recorder
SIGNATURE				12/27/12	701-328-4948	
NAME AND TITLE	JONATHAN KELSCH, HEAD, CONSTRUCTION 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.

Notes:

- ac-ft - Acre feet
- SU - Standard Units
- µS/cm - Microsiemens per Centimeter at 25 degrees Celsius
- mg/L - Milligrams per liter or parts per million
- cfs - Cubic feet per second
- NA - Not available

OUTLET OPERATOR NAME/ADDRESS

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

MONTHLY DISCHARGE REPORT


LOCATION: EAST END OUTLET

FACILITY: Devils Lake Outlet Project

MONITORING PERIOD	
START DATE	END DATE
11/1/12	11/30/12

LOCATION: Ramsey, Benson, Nelson, ND

Devils Lake East Outlet discharged 6,393 ac-ft over 12 Days

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.58	8.58	8.58	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	NA	NA	NA	µS/cm	Continuous	Recorder
SULFATE	1040	1040	1040	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	1040	1040	1040	mg/L	2 x Week	GRAB
OUTLET DISCHARGE	0	368	273	cfs	Continuous	Recorder
SIGNATURE				12/27/12	701-328-4948	
NAME AND TITLE	JONATHAN KELSCH, HEAD, CONSTRUCTION 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.

Notes:

- ac-ft - Acre feet
- SU - Standard Units
- µS/cm - Microsiemens per Centimeter at 25 degrees Celsius
- mg/L - Milligrams per liter or parts per million
- cfs - Cubic feet per second
- NA - Not available

OUTLET OPERATOR NAME/ADDRESS

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


MONTHLY DISCHARGE REPORT

LOCATION: UPSTREAM OF THE WEST END OUTLET (FLORA)

FACILITY: Devils Lake Outlet Project

MONITORING PERIOD	
START DATE	END DATE
11/1/12	11/30/12

LOCATION: Benson Co, ND

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.43	8.49	8.46	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	1,570	2,060	1,796	µS/cm	Continuous	Recorder
SULFATE	483	483	483	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	483	483	483	mg/L	2 x Week	GRAB
FLOW, INSTREAM	14	30	21	cfs	Continuous	Recorder
SIGNATURE				12/27/12	701-328-4948	
NAME AND TITLE	JONATHAN KELSCH, HEAD, CONSTRUCTION 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.

Notes:

- SU - Standard Units
- µS/cm - Microsiemens per Centimeter at 25 degrees Celsius
- mg/L - Milligrams per liter or parts per million
- cfs - Cubic feet per second
- USGS streamflow and specific conductance data courtesy of the USGS
- USGS data are provisional and subject to revision

OUTLET OPERATOR NAME/ADDRESS

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


MONTHLY DISCHARGE REPORT

LOCATION: DOWNSTREAM OF THE WEST END OUTLET (BREMEN)  
 UPSTREAM OF THE EAST END OUTLET

FACILITY: Devils Lake Outlet Project

MONITORING PERIOD	
START DATE	END DATE
11/1/12	11/30/12

LOCATION: Eddy Co, ND

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.52	8.61	8.57	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	1,850	1,880	1,862	µS/cm	Continuous	Recorder
SULFATE	591	592	592	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	592	594	593	mg/L	2 x Week	GRAB
FLOW, INSTREAM	31	255	172	cfs	Continuous	Recorder
SIGNATURE				12/27/12	701-328-4948	
NAME AND TITLE	JONATHAN KELSCH, HEAD, CONSTRUCTION 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.						

Notes:

- SU - Standard Units
- µS/cm - Microsiemens per Centimeter at 25 degrees Celsius
- mg/L - Milligrams per liter or parts per million
- cfs - Cubic feet per second
- USGS streamflow and specific conductance data courtesy of the USGS
- USGS data are provisional and subject to revision

OUTLET OPERATOR NAME/ADDRESS

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


MONTHLY DISCHARGE REPORT

LOCATION: DOWNSTREAM OF THE EAST END OUTLET (PEKIN)

FACILITY: Devils Lake Outlet Project

MONITORING PERIOD	
START DATE	END DATE
11/1/12	11/30/12

LOCATION: Nelson Co, ND

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.42	8.48	8.45	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	NA	NA	NA	µS/cm	Continuous	Recorder
SULFATE	650	815	733	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	650	808	729	mg/L	2 x Week	GRAB
FLOW, INSTREAM	NA	NA	NA	cfs	Continuous	Recorder
SIGNATURE				12/27/12	701-328-4948	
NAME AND TITLE	JONATHAN KELSCH, HEAD, CONSTRUCTION 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.

Notes:

- SU - Standard Units
- µS/cm - Microsiemens per Centimeter at 25 degrees Celsius
- mg/L - Milligrams per liter or parts per million
- cfs - Cubic feet per second
- NA - Not available

**Daily Outlet Discharge and Upstream and Downstream Flows  
Devils Lake Outlets**

Date	Above West End Outlet - Sheyenne River near Flora		West End Outlet		Below West End Outlet/Above East End Outlet -Sheyenne River near Bremen		East End Outlet		Below East End Outlet - Tolna Coulee near Tolna		Below East End Outlet - Sheyenne River near Cooperstown	
	Average Streamflow USGS Gage (cfs)	Average Specific Conductance USGS Gage (µS/cm)	Average Daily Outlet Discharge (cfs)	Total Daily Volume (ft³)	Average Streamflow USGS Gage (cfs)	Average Specific Conductance USGS Gage (µS/cm)	Average Daily Outlet Discharge (cfs)	Total Daily Volume (ft³)	Average Streamflow USGS Gage (cfs)	Average Specific Conductance USGS Gage (µS/cm)	Average Streamflow USGS Gage (cfs)	Average Specific Conductance USGS Gage (µS/cm)
11/1/12	16	1,650	226	19,478,087	240	1,870	368	31,841,000	381	3,000	579	2,430
11/2/12	16	1,660	224	19,324,184	240	1,880	367	31,823,000	384	3,000	578	2,460
11/3/12	15	1,630	218	18,778,787	238	1,860	367	31,824,000	385	2,990	601	2,480
11/4/12	14	1,610	221	19,052,737	228	1,860	367	33,155,000	382	3,000	625	2,510
11/5/12	20	1,600	243	20,958,769	236	1,860	367	31,815,000	385	3,000	641	2,500
11/6/12	20	1,590	240	20,700,885	255	1,860	362	31,370,000	376	3,000	656	2,500
11/7/12	20	1,570	212	18,322,076	253	1,860	360	31,148,000	371	3,000	662	2,490
11/8/12	20	1,570	113	9,767,843	206	1,850	358	30,989,000	367	3,010	671	2,460
11/9/12	23	1,570	9	801,117	60	1,860	363	24,520,000	349	3,020	675	2,460
11/10/12	26	-	7	564,607	40	-	0	1,000	0	0	675	2,460
11/11/12	28	-	7	564,607	34	-	0	1,000	0	0	677	2,450
11/12/12	30	1,660	7	608,991	31	-	0	1,000	0	0	620	2,460
11/13/12	Ice	1,690	4	307,686	-	-	-	-	0	Ssn	520	2,480
11/14/12	Ice	1,710	-	-	-	-	-	-	0	0	350	2,490
11/15/12	Ice	1,790	-	-	-	-	-	-	0	0	319	2,430
11/16/12	Ice	1,920	-	-	-	-	-	-	0	0	273	2,340
11/17/12	Ice	1,920	-	-	-	-	-	-	0	0	235	2,240
11/18/12	Ice	1,930	-	-	-	-	-	-	0	0	200	2,240
11/19/12	Ice	1,910	-	-	-	-	-	-	0	0	158	2,120
11/20/12	Ice	1,890	-	-	-	-	-	-	0	0	123	2,030
11/21/12	Ice	1,840	-	-	-	-	-	-	0	0	118	1,960
11/22/12	Ice	1,810	-	-	-	-	-	-	0	0	109	1,910
11/23/12	Ice	1,840	-	-	-	-	-	-	0	0	31	1,910
11/24/12	Ice	1,900	-	-	-	-	-	-	0	0	63	1,950
11/25/12	Ice	1,920	-	-	-	-	-	-	0	0	84	1,890
11/26/12	Ice	1,970	-	-	-	-	-	-	0	0	86	1,890
11/27/12	Ice	2,000	-	-	-	-	-	-	0	0	95	1,890
11/28/12	Ice	2,060	-	-	-	-	-	-	0	0	89	1,880
11/29/12	Ice	2,040	-	-	-	-	-	-	0	0	84	1,840
11/30/12	Ice	2,030	-	-	-	-	-	-	0	0	86	1,850
<b>Minimum</b>	14	1,570	4	307,686	31	1,850	0	1,000	0	0	31	1,840
<b>Maximum</b>	30	2,060	243	20,958,769	255	1,880	368	33,155,000	385	3,020	677	2,510
<b>Average</b>	21	1,796	133	11,479,260	172	1,862	273	23,207,333	109	901	356	2,233

<b>Total (ft³)</b>	149,230,376	<b>Total (ft³)</b>	278,488,000
<b>Total (Mgal)</b>	1,116	<b>Total (Mgal)</b>	2,083
<b>Total (Ac-ft)</b>	3,426	<b>Total (Ac-ft)</b>	6,393

**Notes:**

- cfs - cubic feet per second
- µS/cm - Microsiemens per Centimeter at 25 degrees Celsius
- ft³ - cubic feet
- Mgal - Millions of Gallons
- Ac ft - Acre Feet
- USGS streamflow and specific conductance data are preliminary and courtesy of the USGS



**Sheyenne River Upstream of West End Outlet near Flora**  
**Monthly Water Quality Summary**  
**Devils Lake Outlet Discharge Report**

Date	Time	Specific Conductance USGS Gage (µS/cm)	pH	Sulfate (mg/L)	7 Day Rolling Average of Sulfate (mg/L)	Total Suspended Solids (mg/L)	No. of days included in the 7 day Rolling Average
11/1/12	9:30	1,640	8.49	483	483	NA	7
11/2/12	-	-	-	-	-	-	-
11/3/12	-	-	-	-	-	-	-
11/4/12	-	-	-	-	-	-	-
11/5/12	-	-	-	-	-	-	-
11/6/12	8:10	1,600	8.43	483	483	NA	7
11/7/12	-	-	-	-	-	-	-
11/8/12	-	-	-	-	-	-	-
11/9/12	-	-	-	-	-	-	-
11/10/12	-	-	-	-	-	-	-
11/11/12	-	-	-	-	-	-	-
11/12/12	-	-	-	-	-	-	-
11/13/12	-	-	-	-	-	-	-
11/14/12	-	-	-	-	-	-	-
11/15/12	-	-	-	-	-	-	-
11/16/12	-	-	-	-	-	-	-
11/17/12	-	-	-	-	-	-	-
11/18/12	-	-	-	-	-	-	-
11/19/12	-	-	-	-	-	-	-
11/20/12	-	-	-	-	-	-	-
11/21/12	-	-	-	-	-	-	-
11/22/12	-	-	-	-	-	-	-
11/23/12	-	-	-	-	-	-	-
11/24/12	-	-	-	-	-	-	-
11/25/12	-	-	-	-	-	-	-
11/26/12	-	-	-	-	-	-	-
11/27/12	-	-	-	-	-	-	-
11/28/12	-	-	-	-	-	-	-
11/29/12	-	-	-	-	-	-	-
11/30/12	-	-	-	-	-	-	-
<b>Minimum</b>		1,600	8.43	483	483	NC	
<b>Maximum</b>		1,640	8.49	483	483	NC	
<b>Average</b>		1,620	8.46	483	483	NC	

**Notes:**

µS/cm - Microsiemens per Centimeter at 25 degrees Celsius  
mg/L - Milligrams per liter or parts per million  
NA - Not Analyzed  
USGS specific conductance data courtesy of the USGS  
USGS data are provisional and subject to revision





**West End Outlet  
Monthly Water Quality Summary  
Devils Lake Outlet Discharge Report**

<b>Date</b>	<b>Time</b>	<b>pH</b>	<b>Sulfate (mg/L)</b>	<b>7 Day Rolling Average of Sulfate (mg/L)</b>	<b>Total Suspended Solids (mg/L)</b>	<b>No. of days included in the 7 day Rolling Average</b>
11/1/12	9:45	8.63	598	590	NA	7
11/2/12	-	-	-	-	-	-
11/3/12	-	-	-	-	-	-
11/4/12	-	-	-	-	-	-
11/5/12	-	-	-	-	-	-
11/6/12	8:17	8.51	591	595	NA	7
11/7/12	-	-	-	-	-	-
11/8/12	-	-	-	-	-	-
11/9/12	-	-	-	-	-	-
11/10/12	-	-	-	-	-	-
11/11/12	-	-	-	-	-	-
11/12/12	-	-	-	-	-	-
11/13/12	-	-	-	-	-	-
11/14/12	-	-	-	-	-	-
11/15/12	-	-	-	-	-	-
11/16/12	-	-	-	-	-	-
11/17/12	-	-	-	-	-	-
11/18/12	-	-	-	-	-	-
11/19/12	-	-	-	-	-	-
11/20/12	-	-	-	-	-	-
11/21/12	-	-	-	-	-	-
11/22/12	-	-	-	-	-	-
11/23/12	-	-	-	-	-	-
11/24/12	-	-	-	-	-	-
11/25/12	-	-	-	-	-	-
11/26/12	-	-	-	-	-	-
11/27/12	-	-	-	-	-	-
11/28/12	-	-	-	-	-	-
11/29/12	-	-	-	-	-	-
11/30/12	-	-	-	-	-	-
<b>Minimum</b>		8.51	591	590	NC	
<b>Maximum</b>		8.63	598	595	NC	
<b>Average</b>		8.57	595	592	NC	

**Notes:**

mg/L - Milligrams per liter or parts per million  
NA - Not Analyzed



**Sheyenne River Downstream of West End Outlet/Upstream of East End Outlet near Bremen  
Monthly Water Quality Summary  
Devils Lake Outlet Discharge Report**

Date	Time	Specific Conductance USGS Gage (µS/cm)	pH	Sulfate (mg/L)	7 Day Rolling Average of Sulfate (mg/L)	Total Suspended Solids (mg/L)	No. of days included in the 7 day Rolling Average
11/1/12	9:15	1,870	8.61	591	594	NA	7
11/2/12	-	-	-	-	-	-	-
11/3/12	-	-	-	-	-	-	-
11/4/12	-	-	-	-	-	-	-
11/5/12	-	-	-	-	-	-	-
11/6/12	7:39	1,860	8.52	592	592	NA	7
11/7/12	-	-	-	-	-	-	-
11/8/12	-	-	-	-	-	-	-
11/9/12	-	-	-	-	-	-	-
11/10/12	-	-	-	-	-	-	-
11/11/12	-	-	-	-	-	-	-
11/12/12	-	-	-	-	-	-	-
11/13/12	-	-	-	-	-	-	-
11/14/12	-	-	-	-	-	-	-
11/15/12	-	-	-	-	-	-	-
11/16/12	-	-	-	-	-	-	-
11/17/12	-	-	-	-	-	-	-
11/18/12	-	-	-	-	-	-	-
11/19/12	-	-	-	-	-	-	-
11/20/12	-	-	-	-	-	-	-
11/21/12	-	-	-	-	-	-	-
11/22/12	-	-	-	-	-	-	-
11/23/12	-	-	-	-	-	-	-
11/24/12	-	-	-	-	-	-	-
11/25/12	-	-	-	-	-	-	-
11/26/12	-	-	-	-	-	-	-
11/27/12	-	-	-	-	-	-	-
11/28/12	-	-	-	-	-	-	-
11/29/12	-	-	-	-	-	-	-
11/30/12	-	-	-	-	-	-	-
<b>Minimum</b>		1,860	8.52	591	592	NC	
<b>Maximum</b>		1,870	8.61	592	594	NC	
<b>Average</b>		1,865	8.57	592	593	NC	

**Notes:**

µS/cm - Microsiemens per Centimeter at 25 degrees Celsius  
 mg/L - Milligrams per liter or parts per million  
 NA - Not Analyzed  
 USGS specific conductance data courtesy of the USGS  
 USGS data are provisional and subject to revision



**East End Outlet  
Monthly Water Quality Summary  
Devils Lake Outlet Discharge Report**

Date	Time	pH	Sulfate (mg/L)	7 Day Rolling Average of Sulfate (mg/L)	Total Suspended Solids (mg/L)	No. of days included in the 7 day Rolling Average
11/1/12	-	-	-	-	-	-
11/2/12	-	-	-	-	-	-
11/3/12	-	-	-	-	-	-
11/4/12	-	-	-	-	-	-
11/5/12	-	-	-	-	-	-
11/6/12	9:35	8.58	1040	1040	NA	-
11/7/12	-	-	-	-	-	-
11/8/12	-	-	-	-	-	-
11/9/12	-	-	-	-	-	-
11/10/12	-	-	-	-	-	-
11/11/12	-	-	-	-	-	-
11/12/12	-	-	-	-	-	-
11/13/12	-	-	-	-	-	-
11/14/12	-	-	-	-	-	-
11/15/12	-	-	-	-	-	-
11/16/12	-	-	-	-	-	-
11/17/12	-	-	-	-	-	-
11/18/12	-	-	-	-	-	-
11/19/12	-	-	-	-	-	-
11/20/12	-	-	-	-	-	-
11/21/12	-	-	-	-	-	-
11/22/12	-	-	-	-	-	-
11/23/12	-	-	-	-	-	-
11/24/12	-	-	-	-	-	-
11/25/12	-	-	-	-	-	-
11/26/12	-	-	-	-	-	-
11/27/12	-	-	-	-	-	-
11/28/12	-	-	-	-	-	-
11/29/12	-	-	-	-	-	-
11/30/12	-	-	-	-	-	-
<b>Minimum</b>		8.58	1040	1040	NC	
<b>Maximum</b>		8.58	1040	1040	NC	
<b>Average</b>		8.58	1040	1040	NC	

**Notes:**

mg/L - Milligrams per liter or parts per million  
NA - Not Analyzed



**Sheyenne River Downstream of East End Outlet near Pekin  
Monthly Water Quality Summary  
Devils Lake Outlet Discharge Report**

Date	Time	pH	Sulfate (mg/L)	7 Day Rolling Average of Sulfate (mg/L)	Total Suspended Solids (mg/L)	No. of days included in the 7 day Rolling Average
11/1/12	-	-	-	-	-	-
11/2/12	-	-	-	-	-	-
11/3/12	-	-	-	-	-	-
11/4/12	-	-	-	-	-	-
11/5/12	-	-	-	-	-	-
11/6/12	10:00	8.48	<b>815</b>	<b>808</b>	NA	7
11/7/12	-	-	-	-	-	-
11/8/12	-	-	-	-	-	-
11/9/12	-	-	-	-	-	-
11/10/12	-	-	-	-	-	-
11/11/12	-	-	-	-	-	-
11/12/12	-	-	-	-	-	-
11/13/12	-	-	-	-	-	-
11/14/12	9:30	8.42	650	650	45	7
11/15/12	-	-	-	-	-	-
11/16/12	-	-	-	-	-	-
11/17/12	-	-	-	-	-	-
11/18/12	-	-	-	-	-	-
11/19/12	-	-	-	-	-	-
11/20/12	-	-	-	-	-	-
11/21/12	-	-	-	-	-	-
11/22/12	-	-	-	-	-	-
11/23/12	-	-	-	-	-	-
11/24/12	-	-	-	-	-	-
11/25/12	-	-	-	-	-	-
11/26/12	-	-	-	-	-	-
11/27/12	-	-	-	-	-	-
11/28/12	-	-	-	-	-	-
11/29/12	-	-	-	-	-	-
11/30/12	-	-	-	-	-	-
<b>Minimum</b>		8.42	650	650	45	
<b>Maximum</b>		8.48	815	808	45	
<b>Average</b>		8.45	733	729	45	

**Notes:**

mg/L - Milligrams per liter or parts per million

NA - Not Analyzed

**Bold font and gray shading denotes sample sulfate concentration exceeds 750 mg/L**

