



North Dakota State Water Commission

900 EAST BOULEVARD AVENUE, DEPT 770 • BISMARCK, NORTH DAKOTA 58505-0850
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October 30, 2012

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

RE: September 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 September 2012 and summaries of water quality sample results and flow data. Both the West End and East End Outlets operated continuously throughout the reported period. Discharges from the East End Outlet remained reduced to maintain an optimal blend of outlet discharges and the natural Sheyenne River baseflow.

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 three Lake Ashtabula crossing locations.

The attached tables contain average daily outlet discharges and water quality results from samples collected from both 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
9/1/12	9/30/12

LOCATION: Benson Co, ND

Devils Lake West Outlet discharged 13,626 ac-ft over 30 Days

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.52	8.77	8.69	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	NA	NA	NA	µS/cm	Continuous	Recorder
SULFATE	566	595	583	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	574	594	583	mg/L	2 x Week	GRAB
OUTLET DISCHARGE	206	255	229	cfs	Continuous	Recorder
SIGNATURE	<i>Jon Kelsch</i>			10/30/12	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
9/1/12	9/30/12

LOCATION: Ramsey, Benson, Nelson, ND

Devils Lake East Outlet discharged 18,086 ac-ft over 30 Days

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.55	8.77	8.69	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	NA	NA	NA	µS/cm	Continuous	Recorder
SULFATE	1010	1030	1019	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	1010	1025	1018	mg/L	2 x Week	GRAB
OUTLET DISCHARGE	199	357	310	cfs	Continuous	Recorder
SIGNATURE				10/30/12	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
9/1/12	9/30/12

LOCATION: Benson Co, ND

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.31	8.49	8.44	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	1,870	2,040	1,973	µS/cm	Continuous	Recorder
SULFATE	580	681	640	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	582	669	636	mg/L	2 x Week	GRAB
FLOW, INSTREAM	0	3	2	cfs	Continuous	Recorder
SIGNATURE				10/30/12	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

LOCATION: Eddy Co, ND

MONITORING PERIOD	
START DATE	END DATE
9/1/12	9/30/12

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.50	8.73	8.65	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	1,880	1,940	1,900	µS/cm	Continuous	Recorder
SULFATE	582	599	590	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	582	597	587	mg/L	2 x Week	GRAB
FLOW, INSTREAM	210	238	230	cfs	Continuous	Recorder
SIGNATURE				10/30/12	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
9/1/12	9/30/12

LOCATION: Nelson Co, ND

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.41	8.58	8.52	SU	2 x Week	GRAB
SPECIFIC CONDUCTANCE	NA	NA	NA	µS/cm	Continuous	Recorder
SULFATE	806	848	820	mg/L	2 x Week	GRAB
7 DAY AVERAGE OF SULFATE	811	828	817	mg/L	2 x Week	GRAB
FLOW, INSTREAM	NA	NA	NA	cfs	Continuous	Recorder
SIGNATURE	<i>Jon Kelsch</i>			10/30/12	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)
9/1/12	3	1,870	233	20,074,331	234	1,940	321	27,815,000	335	2,950	529	2,400
9/2/12	2	1,890	238	20,547,619	238	1,930	321	27,791,000	338	2,960	533	2,420
9/3/12	2	1,880	239	20,650,797	237	1,910	321	27,782,000	340	2,960	536	2,440
9/4/12	2	1,890	250	21,595,600	237	1,900	321	27,785,000	337	2,950	536	2,460
9/5/12	2	1,910	249	21,470,802	232	1,910	319	27,662,000	337	2,960	540	2,480
9/6/12	2	1,920	248	21,394,285	232	1,900	317	27,473,000	334	2,960	544	2,490
9/7/12	2	1,920	242	20,878,598	233	1,900	317	27,442,000	331	2,960	550	-
9/8/12	2	1,920	238	20,487,488	234	1,900	315	27,275,000	328	2,970	553	-
9/9/12	2	1,930	231	19,949,503	230	1,900	314	27,238,000	333	2,970	551	-
9/10/12	2	1,950	232	20,033,299	232	1,900	315	27,293,000	334	2,970	547	-
9/11/12	2	1,960	231	19,943,691	233	1,900	314	27,194,000	329	2,970	541	-
9/12/12	1	1,970	222	19,146,709	228	1,900	309	26,760,000	323	2,970	533	2,510
9/13/12	1	1,980	210	18,075,646	217	1,900	295	25,532,000	310	2,970	530	2,520
9/14/12	0	1,990	209	18,038,979	210	1,890	297	25,775,000	306	2,960	533	2,540
9/15/12	0	2,000	212	18,243,676	214	1,880	302	26,162,000	296	2,960	534	2,550
9/16/12	1	2,000	212	18,295,696	220	1,900	301	26,079,000	288	2,960	528	2,560
9/17/12	2	2,010	220	18,997,393	227	1,880	300	26,022,000	287	2,950	524	2,550
9/18/12	3	2,010	222	19,117,873	234	1,890	304	26,363,000	292	2,960	520	2,550
9/19/12	2	2,020	219	18,927,611	236	1,900	281	18,508,000	256	2,950	517	2,570
9/20/12	1	2,040	216	18,655,283	223	1,890	298	15,228,000	122	2,960	513	2,580
9/21/12	2	2,040	216	18,667,389	229	1,900	282	24,483,000	280	2,970	516	2,580
9/22/12	1	2,040	206	17,788,670	225	1,900	250	21,645,000	245	2,960	511	2,560
9/23/12	3	2,030	224	19,277,364	225	1,890	199	17,255,000	198	2,960	457	2,550
9/24/12	3	2,020	211	18,224,731	234	1,880	274	24,123,000	247	2,950	454	2,430
9/25/12	3	2,010	234	20,157,894	235	1,900	352	30,459,000	344	2,960	481	2,410
9/26/12	3	2,000	238	20,494,545	236	1,900	354	30,640,000	351	2,970	471	2,470
9/27/12	3	2,000	255	22,010,894	237	1,900	355	30,751,000	352	2,960	461	2,450
9/28/12	3	2,000	242	20,836,868	237	1,900	356	30,826,000	355	2,960	506	2,440
9/29/12	3	2,000	243	20,931,231	235	1,900	357	30,892,000	357	2,950	548	2,560
9/30/12	3	1,990	239	20,635,794	235	1,900	347	27,564,000	348	2,950	566	2,570
Minimum	0	1,870	206	17,788,670	210	1,880	199	15,228,000	112	2,950	454	2,400
Maximum	3	2,040	255	22,010,894	238	1,940	357	30,892,000	357	2,970	575	2,580
Average	2	1,973	229	19,785,009	230	1,900	310	26,260,567	301	2,960	524	2,507

Total (ft³)	593,550,259
Total (Mgal)	4,440
Total (Ac-ft)	13,626

Total (ft³)	787,817,000
Total (Mgal)	5,893
Total (Ac-ft)	18,086

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
9/1/12	-	-	-	-	-	-	-
9/2/12	-	-	-	-	-	-	-
9/3/12	-	-	-	-	-	-	-
9/4/12	9:00	1,870	8.43	580	582	41	7
9/5/12	-	-	-	-	-	-	-
9/6/12	8:30	1,920	8.48	601	591	NA	7
9/7/12	-	-	-	-	-	-	-
9/8/12	-	-	-	-	-	-	-
9/9/12	-	-	-	-	-	-	-
9/10/12	-	-	-	-	-	-	-
9/11/12	8:30	1,960	8.45	627	614	NA	7
9/12/12	-	-	-	-	-	-	-
9/13/12	9:15	2,040	8.48	656	642	NA	7
9/14/12	-	-	-	-	-	-	-
9/15/12	-	-	-	-	-	-	-
9/16/12	-	-	-	-	-	-	-
9/17/12	-	-	-	-	-	-	-
9/18/12	8:15	2,010	8.45	681	669	33	7
9/19/12	-	-	-	-	-	-	-
9/20/12	16:35	2,000	8.49	657	669	NA	7
9/21/12	-	-	-	-	-	-	-
9/22/12	-	-	-	-	-	-	-
9/23/12	-	-	-	-	-	-	-
9/24/12	-	-	-	-	-	-	-
9/25/12	8:00	1,970	8.31	666	662	NA	7
9/26/12	-	-	-	-	-	-	-
9/27/12	9:15	1,990	8.39	654	660	NA	7
9/28/12	-	-	-	-	-	-	-
9/29/12	-	-	-	-	-	-	-
9/30/12	-	-	-	-	-	-	-
Minimum		1,870	8.31	580	582	33	
Maximum		2,040	8.49	681	669	41	
Average		1,970	8.44	640	636	37	

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**

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
9/1/12	-	-	-	-	-	-
9/2/12	-	-	-	-	-	-
9/3/12	-	-	-	-	-	-
9/4/12	9:15	8.71	582	581	26	7
9/5/12	-	-	-	-	-	-
9/6/12	8:45	8.70	566	574	NA	7
9/7/12	-	-	-	-	-	-
9/8/12	-	-	-	-	-	-
9/9/12	-	-	-	-	-	-
9/10/12	-	-	-	-	-	-
9/11/12	8:45	8.68	582	574	NA	7
9/12/12	-	-	-	-	-	-
9/13/12	9:25	8.77	588	585	NA	7
9/14/12	-	-	-	-	-	-
9/15/12	-	-	-	-	-	-
9/16/12	-	-	-	-	-	-
9/17/12	-	-	-	-	-	-
9/18/12	8:35	8.65	578	583	26	7
9/19/12	-	-	-	-	-	-
9/20/12	16:55	8.74	595	587	NA	7
9/21/12	-	-	-	-	-	-
9/22/12	-	-	-	-	-	-
9/23/12	-	-	-	-	-	-
9/24/12	-	-	-	-	-	-
9/25/12	8:20	8.52	593	594	NA	7
9/26/12	-	-	-	-	-	-
9/27/12	9:25	8.74	577	585	NA	7
9/28/12	-	-	-	-	-	-
9/29/12	-	-	-	-	-	-
9/30/12	-	-	-	-	-	-
Minimum		8.52	566	574	26	
Maximum		8.77	595	594	26	
Average		8.69	583	583	26	

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
9/1/12	-	-	-	-	-	-	-
9/2/12	-	-	-	-	-	-	-
9/3/12	-	-	-	-	-	-	-
9/4/12	8:30	1,900	8.66	586	582	50	7
9/5/12	-	-	-	-	-	-	-
9/6/12	8:10	1,900	8.72	585	586	NA	7
9/7/12	-	-	-	-	-	-	-
9/8/12	-	-	-	-	-	-	-
9/9/12	-	-	-	-	-	-	-
9/10/12	-	-	-	-	-	-	-
9/11/12	7:50	1,900	8.66	586	586	NA	7
9/12/12	-	-	-	-	-	-	-
9/13/12	8:50	1,900	8.73	594	590	NA	7
9/14/12	-	-	-	-	-	-	-
9/15/12	-	-	-	-	-	-	-
9/16/12	-	-	-	-	-	-	-
9/17/12	-	-	-	-	-	-	-
9/18/12	7:45	1,870	8.64	599	597	52	7
9/19/12	-	-	-	-	-	-	-
9/20/12	-	-	-	-	-	-	-
9/21/12	-	-	-	-	-	-	-
9/22/12	-	-	-	-	-	-	-
9/23/12	-	-	-	-	-	-	-
9/24/12	-	-	-	-	-	-	-
9/25/12	7:35	1,900	8.50	582	582	NA	7
9/26/12	-	-	-	-	-	-	-
9/27/12	8:55	1,900	8.67	595	589	NA	7
9/28/12	-	-	-	-	-	-	-
9/29/12	-	-	-	-	-	-	-
9/30/12	-	-	-	-	-	-	-
Minimum		1,870	8.50	582	582	50	
Maximum		1,900	8.73	599	597	52	
Average		1,896	8.65	590	587	51	

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
9/1/12	-	-	-	-	-	-
9/2/12	-	-	-	-	-	-
9/3/12	-	-	-	-	-	-
9/4/12	10:30	8.77	1010	1010	<5	-
9/5/12	-	-	-	-	-	-
9/6/12	12:10	8.67	1010	1010	NA	-
9/7/12	-	-	-	-	-	-
9/8/12	-	-	-	-	-	-
9/9/12	-	-	-	-	-	-
9/10/12	-	-	-	-	-	-
9/11/12	9:55	8.70	1020	1015	NA	-
9/12/12	-	-	-	-	-	-
9/13/12	-	-	-	-	-	-
9/14/12	-	-	-	-	-	-
9/15/12	-	-	-	-	-	-
9/16/12	13:20	8.73	1020	1020	NA	-
9/17/12	-	-	-	-	-	-
9/18/12	9:50	8.69	1020	1020	6	-
9/19/12	-	-	-	-	-	-
9/20/12	10:30	8.72	1020	1020	NA	-
9/21/12	-	-	-	-	-	-
9/22/12	-	-	-	-	-	-
9/23/12	-	-	-	-	-	-
9/24/12	-	-	-	-	-	-
9/25/12	10:10	8.55	1020	1020	NA	-
9/26/12	-	-	-	-	-	-
9/27/12	12:30	8.72	1030	1025	NA	-
9/28/12	-	-	-	-	-	-
9/29/12	-	-	-	-	-	-
9/30/12	-	-	-	-	-	-
Minimum		8.55	1010	1010	6	
Maximum		8.77	1030	1025	6	
Average		8.69	1019	1018	6	

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
9/1/12	-	-	-	-	-	-
9/2/12	-	-	-	-	-	-
9/3/12	-	-	-	-	-	-
9/4/12	10:55	8.55	819	813	34	7
9/5/12	-	-	-	-	-	-
9/6/12	12:40	8.41	806	813	NA	7
9/7/12	-	-	-	-	-	-
9/8/12	-	-	-	-	-	-
9/9/12	-	-	-	-	-	-
9/10/12	-	-	-	-	-	-
9/11/12	10:20	8.51	816	811	NA	7
9/12/12	-	-	-	-	-	-
9/13/12	-	-	-	-	-	-
9/14/12	-	-	-	-	-	-
9/15/12	-	-	-	-	-	-
9/16/12	13:50	8.55	818	817	NA	7
9/17/12	-	-	-	-	-	-
9/18/12	10:20	8.56	828	823	31	7
9/19/12	-	-	-	-	-	-
9/20/12	11:00	8.58	817	821	NA	7
9/21/12	-	-	-	-	-	-
9/22/12	-	-	-	-	-	-
9/23/12	-	-	-	-	-	-
9/24/12	-	-	-	-	-	-
9/25/12	10:35	8.42	808	813	NA	7
9/26/12	-	-	-	-	-	-
9/27/12	13:00	8.56	848	828	NA	7
9/28/12	-	-	-	-	-	-
9/29/12	-	-	-	-	-	-
9/30/12	-	-	-	-	-	-
Minimum		8.41	806	811	31	
Maximum		8.58	848	828	34	
Average		8.52	820	817	33	

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

