



August 25, 2022

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

RE: July 2022 Devils Lake Outlets Monthly Discharge and Water Quality Report

Division of Water Quality:

The monthly discharge report for the Devils Lake Outlets for the month of July 2022 is enclosed. The East Outlet operated at an average rate of 118 cubic feet per second (cfs) and the West Outlet operated at an average rate of 161 cfs. Due to consistent rain events the outlets began operating consistently in early July. A total of 17,116 acre-feet were discharged in July.

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.

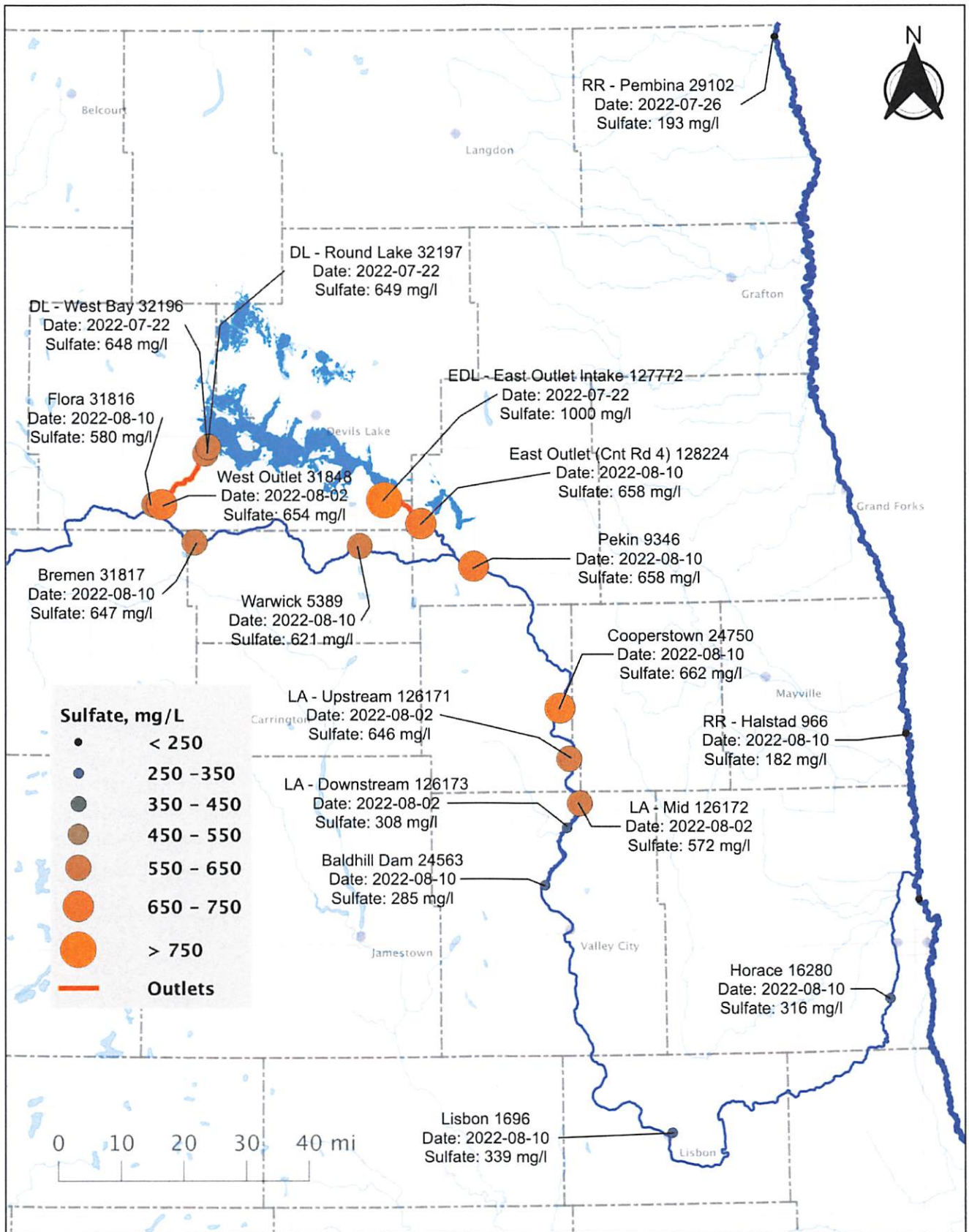
If you have any questions, please contact me at (701) 328-2762.

Sincerely,

A handwritten signature in blue ink that reads "Chris Korkowski".

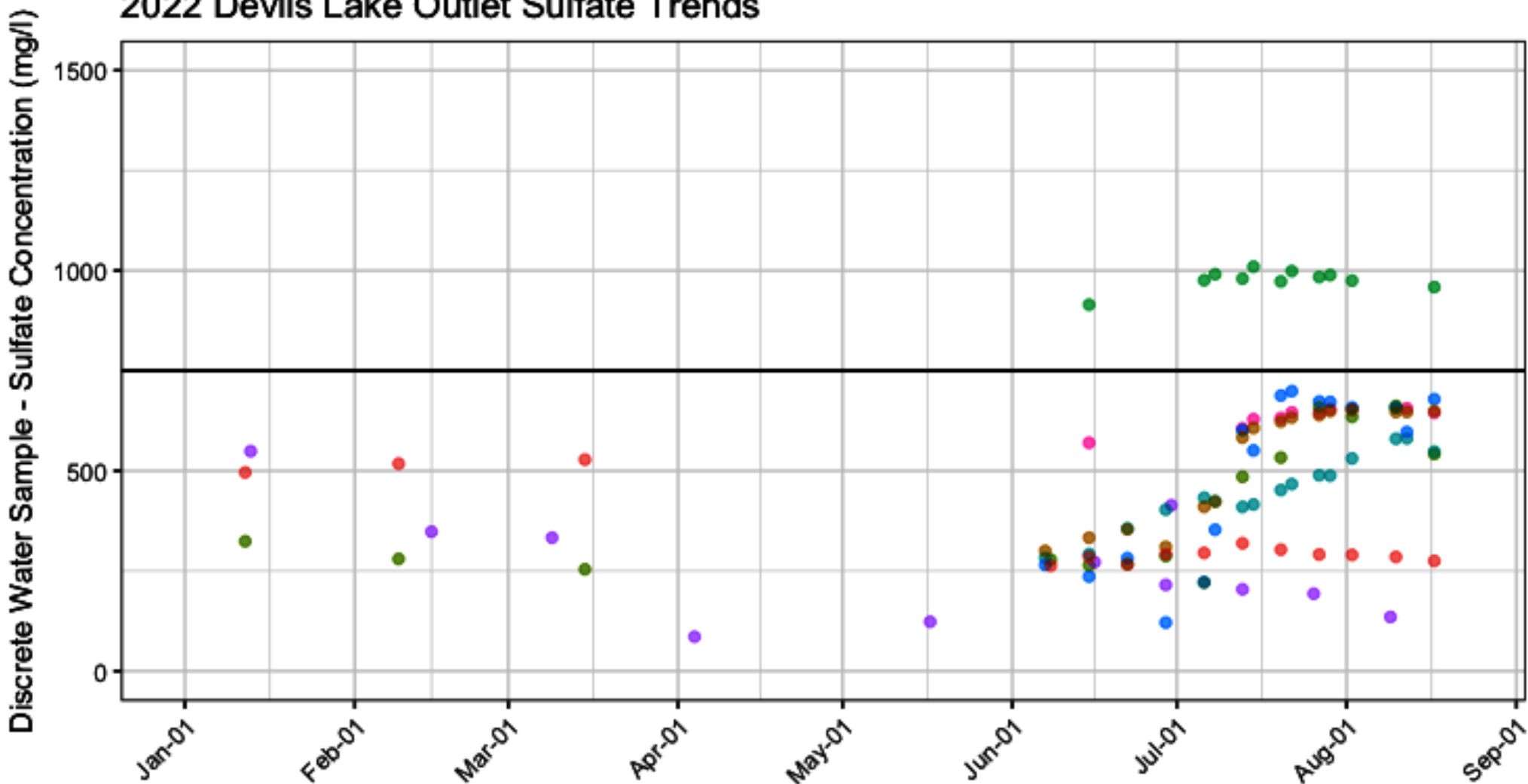
Christopher Korkowski, P.E.
Chief of the Investigations Section, Water Development

CK:pp/416-10
Enclosure



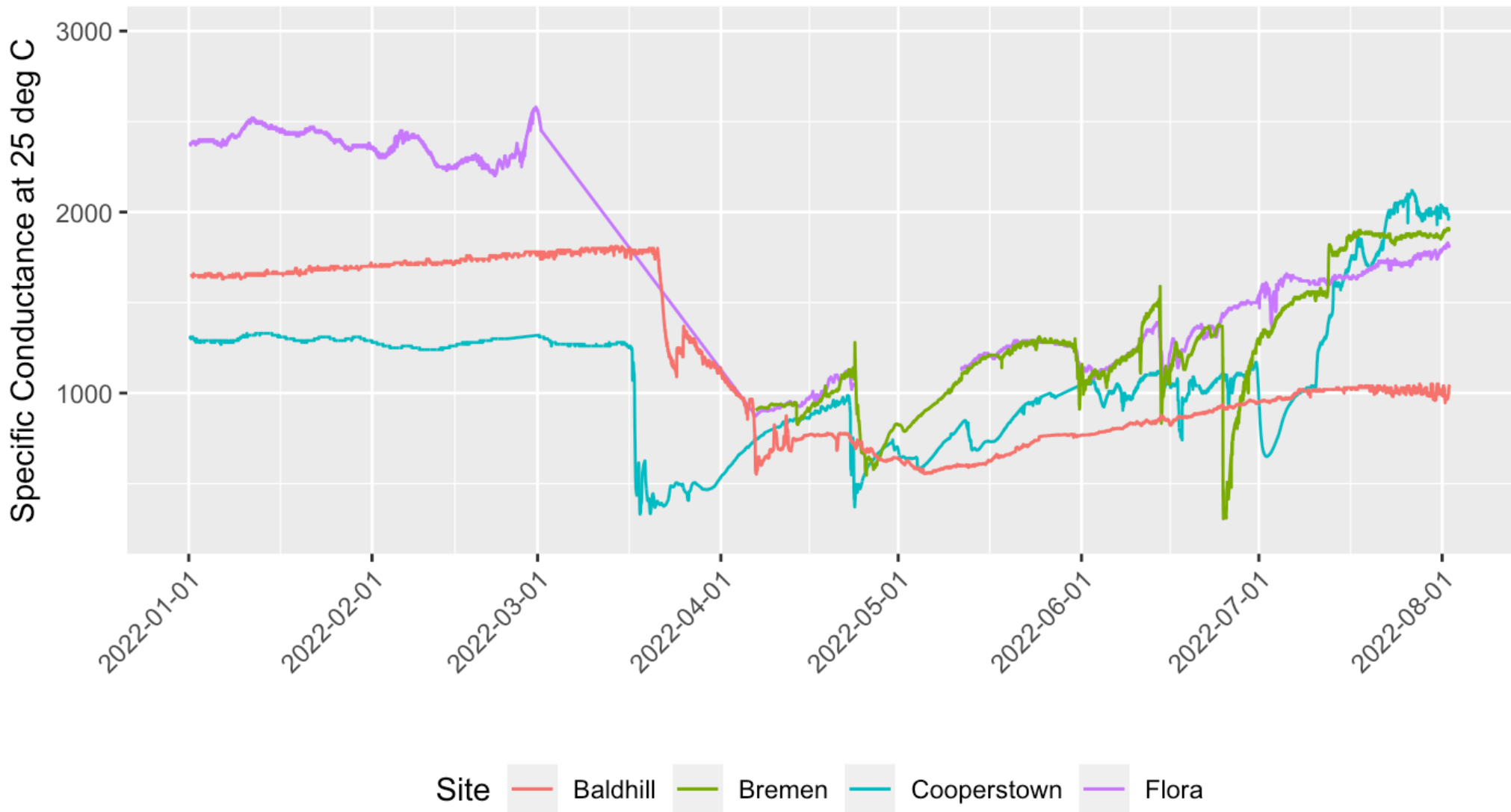
**Devils Lake Outlet Operations
Preliminary Sulfate Concentrations
08/17/2022**

2022 Devils Lake Outlet Sulfate Trends



- Location**
- Baldhill - 24563
 - Bremer - 31817
 - Cooperstown - 24750
 - East End - 128224
 - Flora - 31816
 - Pekin - 9346
 - Pembina - 29102
 - West End - 31848

2022 Upper Sheyenne River Specific Conductance



OUTLET OPERATOR NAME/ADDRESS
 NAME: ND Dept. of Water Resources
 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
7/1/22	7/31/22

LOCATION: Benson Co, ND

Devils Lake West Outlet 9884 ac-ft over 23 Days

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.68	8.83	9	SU	2 X Week	GRAB
SULFATE	606	654	635	mg/l	2 X Week	GRAB
7 DAY AVERAGE OF SULFATE	606	650	632	mg/L	Average	GRAB
OUTLET DISCHARGE	0	248	161	cfs	Continuous	Recorder
SIGNATURE				8/25/22	701-328-2762	
NAME AND TITLE	CHRISTOPHER KORKOWSKI, CHIEF OF INVESTIGATIONS SECTION, WATER DEVELOPMENT DIVISION			DATE	TELEPHONE NUMBER	
COMMENT AND EXPLANATION OF ANY VIOLATIONS						
A summary of individual sample results and flow data for both outlets, and upstream & downstream monitoring location is 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 Dept. of Water Resources
 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
7/1/22	7/31/22

LOCATION: Ramsey, Benson, Nelson Co, ND

Devils Lake East Outlet 7232 ac-ft over 27 Days

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.38	8.56	8	SU	2 X Week	GRAB
SPECIFIC CONDUCTANCE	2890	2920	2911	µS/cm	Continuous	Recorder
SULFATE	973	1010	988	mg/L	2 X Week	GRAB
7 DAY AVERAGE OF SULFATE	976	995	987	mg/l	Average	GRAB
OUTLET DISCHARGE	0	219	118	cfs	Continuous	Recorder
SIGNATURE				8/25/22	701-328-2762	
NAME AND TITLE	CHRISTOPHER KORKOWSKI, CHIEF OF INVESTIGATIONS SECTION, WATER DEVELOPMENT DIVISION			DATE	TELEPHONE NUMBER	
COMMENT AND EXPLANATION OF ANY VIOLATIONS						

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 Dept. of Water Resources
 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
7/1/22	7/31/22

LOCATION: Benson, ND

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.28	8.48	8	SU	2 X Week	GRAB
SPECIFIC CONDUCTANCE	1620	1780	1704	µS/cm	Continuous	Recorder
SULFATE	410	489	447	mg/L	2 X Week	GRAB
7 DAY AVERAGE OF SULFATE	413	489	444	mg/l	Average	GRAB
FLOW, INSTREAM	9.02	37.4	23	cfs	Continuous	Recorder
SIGNATURE	<i>Chris Korkowski</i>			8/25/22	701-328-2762	
NAME AND TITLE	CHRISTOPHER KORKOWSKI, CHIEF OF INVESTIGATIONS SECTION, WATER DEVELOPMENT DIVISION			DATE	TELEPHONE NUMBER	
COMMENT AND EXPLANATION OF ANY VIOLATIONS						
A summary of individual sample results and flow data for both outlets, and upstream & downstream monitoring location is 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 Dept. of Water Resources
 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
7/1/22	7/31/22

LOCATION: Eddy Co, ND

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.3	8.82	9	SU	2 X Week	GRAB
SPECIFIC CONDUCTANCE	1530	1890	1785	µS/cm	Continuous	Recorder
SULFATE	410	649	571	mg/L	2 X Week	GRAB
7 DAY AVERAGE OF SULFATE	410	644	556	mg/l	Average	GRAB
FLOW, INSTREAM	61	269	180	cfs	Continuous	Recorder
SIGNATURE				8/25/22	701-328-2762	
NAME AND TITLE	CHRISTOPHER KORKOWSKI, CHIEF OF INVESTIGATIONS SECTION, WATER DEVELOPMENT DIVISION			DATE	TELEPHONE NUMBER	
COMMENT AND EXPLANATION OF ANY VIOLATIONS						
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Notes:

- ac-ft - Acre feet
- SU - Standard Units
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- mg/L - milligrams per liter or parts per million
- cfs - cubic feet per second
- NA - Not available

OUTLET OPERATOR NAME/ADDRESS
 NAME: ND Dept. of Water Resources
 ADDRESS: 900 E Boulevard Avenue,
 Bismarck ND 58505


MONTHLY DISCHARGE REPORT

LOCATION: DOWNSTREAM OF BOTH OUTLETS (PEKIN)

FACILITY: Devils Lake Outlet Project

MONITORING PERIOD	
START DATE	END DATE
7/1/22	7/31/22

LOCATION: Nelson Co, ND

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.16	8.53	8	SU	2 X Week	GRAB
SULFATE	222	699	557	mg/L	2 X Week	GRAB
7 DAY AVERAGE OF SULFATE	222	694	530	mg/L	Average	GRAB
FLOW, INSTREAM	NA	NA	NA	cfs	Continuous	Recorder
SIGNATURE				8/25/22	701-328-2762	
NAME AND TITLE	CHRISTOPHER KORKOWSKI, CHIEF OF INVESTIGATIONS SECTION, WATER DEVELOPMENT DIVISION			DATE	TELEPHONE NUMBER	
COMMENT AND EXPLANATION OF ANY VIOLATIONS						
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Notes:

- ac-ft - Acre feet
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- mg/L - milligrams per liter or parts per million
- cfs - cubic feet per second
- NA - Not available

OUTLET OPERATOR NAME/ADDRESS
 NAME: ND Dept. of Water Resources
 ADDRESS: 900 E Boulevard Avenue,
 Bismarck ND 58505

MONTHLY DISCHARGE REPORT

LOCATION: DOWNSTREAM OF BOTH OUTLETS (COOPERSTOWN)

FACILITY: Devils Lake Outlet Project

MONITORING PERIOD	
START DATE	END DATE
7/1/22	7/31/22

LOCATION: Griggs Co, ND

PARAMETER	MINIMUM	MAXIMUM	AVERAGE	UNITS	SAMPLING FREQUENCY	TYPE
pH	8.22	8.48	8	SU	2 X Week	GRAB
SPECIFIC CONDUCTANCE	984	2100	1626	µS/cm	Continuous	Recorder
SULFATE	221	659	475	mg/L	2 X Week	GRAB
7 DAY AVERAGE OF SULFATE	221	659	475	mg/l	Average	GRAB
FLOW, INSTREAM	313	1010	485	cfs	Continuous	Recorder
SIGNATURE	<i>Chris Korkowski</i>			8/25/22	701-328-2762	
NAME AND TITLE	CHRISTOPHER KORKOWSKI, CHIEF OF INVESTIGATIONS SECTION, WATER DEVELOPMENT DIVISION			DATE	TELEPHONE NUMBER	
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Notes:

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 mg/L - milligrams per liter or parts per million
 cfs - cubic feet per second
 NA - Not available

Date	Above West End Outlet - Shayenne River near Flora		West End Outlet		Below West End Outlet/Above East End Outlet -Shayenne River near Bremen		East End Outlet		Below East End Outlet - Toina Coulée near Toina		Below East End Outlet - Shayenne River near Cooperstown		Sum of Outlets	
	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)	Average Daily Outlet Discharge (cfs)	Total Daily Volume (ft3)
7/1/2022	37.4	1610	0	0	82.3	1350	0	0	0.49	1760	946	821	0	0
7/2/2022	35.1	1600	0	0	77.7	1350	0	0	0.39	1680	1010	683	0	0
7/3/2022	33	1600	0	0	72.1	1430	0	0	0.33	1640	1010	761	0	0
7/4/2022	32	1640	0	6000	67	1470	0	0	0.3	1600	772	872	0	6000
7/5/2022	32.7	1660	0	0	66.1	1490	152	13102000	66.5	2910	511	939	152	13102000
7/6/2022	32.9	-	1	91000	64.2	1530	219	18888000	252	2920	399	984	220	18979000
7/7/2022	32	-	0	0	65.7	1540	168	14488000	177	2920	341	1010	168	14488000
7/8/2022	31.2	1620	0	0	63.7	1560	168	14553000	173	2920	313	1030	168	14553000
7/9/2022	30.1	1620	0	0	61.7	1560	168	14551000	175	2920	388	1040	168	14551000
7/10/2022	30.8	1620	0	0	65.6	1560	168	14552000	188	2920	420	1250	168	14552000
7/11/2022	29	1630	115	9958000	61	1580	168	14533000	176	2920	409	1310	283	24491000
7/12/2022	33.3	1620	229	19746000	160	1820	167	14446000	177	2920	398	1430	396	34192000
7/13/2022	32.2	1650	245	21173000	238	1790	168	14477000	178	2920	387	1640	413	35650000
7/14/2022	28.1	1650	242	20903000	265	1800	168	14484000	188	2920	373	1630	410	35387000
7/15/2022	25	1650	244	21044000	269	1870	167	14470000	184	2910	371	1690	411	35514000
7/16/2022	24.2	1650	245	21191000	268	1890	167	14456000	181	2910	407	1760	413	35647000
7/17/2022	22.7	1650	246	21275000	266	1900	167	14457000	186	-	470	1880	414	35732000
7/18/2022	21.2	1680	248	21402000	266	-	167	14438000	-	-	509	1850	415	35840000
7/19/2022	18.5	1700	248	21388000	260	1890	165	14277000	-	-	528	1720	413	35665000
7/20/2022	16.4	1720	245	21154000	256	1880	166	14353000	213	2910	532	1780	411	35507000
7/21/2022	15.8	1730	246	21231000	253	1880	165	14263000	213	-	529	1880	411	35494000
7/22/2022	15.7	1740	246	21259000	255	1880	137	11818000	-	-	523	-	383	33077000
7/23/2022	15.9	1740	245	21125000	264	1860	54	4697000	-	-	514	2050	299	25822000
7/24/2022	15.4	1730	245	21181000	257	1870	81	6979000	93.2	2900	509	2060	326	28160000
7/25/2022	13.8	1720	244	21067000	255	1880	79	6840000	90.2	2940	505	2100	323	27907000
7/26/2022	11.8	1750	242	20907000	252	1860	77	6679000	94.6	2920	460	2120	319	27586000
7/27/2022	10.1	1770	242	20899000	249	1890	56	4840000	80.8	2910	420	2100	298	25739000
7/28/2022	9.52	1780	242	20888000	247	1890	80	6878000	75.2	2900	411	2000	321	27766000
7/29/2022	9.52	1780	242	20889000	248	1880	75	6497000	83.8	2890	402	2020	317	27386000
7/30/2022	9.02	1790	242	20897000	249	1880	80	6924000	91.8	2880	391	2030	322	27821000
7/31/2022	-	-	241	20852000	248	1890	48	4105000	-	-	377	2040	289	24957000
Minimum	9	1600	0	0	61	1350	0	0	0	1600	313	683	0	0
Maximum	37	1790	248	21402000	269	1900	219	18888000	252	2940	1010	2120	466	40290000
Average	23	1624	161	13887935	180	1675	118	10162742	124	2598	485	1499	278	24050677
			Total (Mgal)	3220			Total (Mgal)	2357					Total (Mgal)	5577
			Total (Ac-ft)	9884			Total (Ac-ft)	7232					Total (Ac-ft)	17116

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
- NC - Not calculated

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)	Number of samples included in 7-day Average
7/1/22	-	-	-	-	-	-	-
7/2/22	-	-	-	-	-	-	-
7/3/22	-	-	-	-	-	-	-
7/4/22	-	-	-	-	-	-	-
7/5/22	-	-	-	-	-	-	-
7/6/22	08:05:00	-	8.37	433	433	NA	1
7/7/22	-	-	-	-	-	-	-
7/8/22	07:55:00	1620	8.35	424	429	NA	1
7/9/22	-	-	-	-	-	-	-
7/10/22	-	-	-	-	-	-	-
7/11/22	-	-	-	-	-	-	-
7/12/22	-	-	-	-	-	-	-
7/13/22	08:05:00	1650	8.45	410	417	NA	1
7/14/22	-	-	-	-	-	-	-
7/15/22	08:45:00	1650	8.28	416	413	NA	1
7/16/22	-	-	-	-	-	-	-
7/17/22	-	-	-	-	-	-	-
7/18/22	-	-	-	-	-	-	-
7/19/22	-	-	-	-	-	-	-
7/20/22	08:10:00	1720	8.48	452	434	NA	1
7/21/22	-	-	-	-	-	-	-
7/22/22	09:05:00	1740	8.33	467	460	NA	1
7/23/22	-	-	-	-	-	-	-
7/24/22	-	-	-	-	-	-	-
7/25/22	-	-	-	-	-	-	-
7/26/22	-	-	-	-	-	-	-
7/27/22	08:05:00	1770	8.36	489	478	26	1
7/28/22	-	-	-	-	-	-	-
7/29/22	08:00:00	1780	8.29	488	489	NA	1
7/30/22	-	-	-	-	-	-	-
7/31/22	-	-	-	-	-	-	-
Minimum		1620	8.28	410	413	26	
Maximum		1780	8.48	489	489	26	
Average		1704	8	447	444	26	

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

italic font denotes preliminary results

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

Date	Time	Specific Conductance from Telemetry System ($\mu\text{S}/\text{cm}$)	pH	Sulfate (mg/L)	7 Day Rolling Average of Sulfate (mg/L)	Total Suspended Solids (mg/L)	Number of samples included in 7-day Average
7/1/22	-	-	-	-	-	-	-
7/2/22	-	-	-	-	-	-	-
7/3/22	-	-	-	-	-	-	-
7/4/22	-	-	-	-	-	-	-
7/5/22	-	-	-	-	-	-	-
7/6/22	-	-	-	-	-	-	-
7/7/22	-	-	-	-	-	-	-
7/8/22	-	-	-	-	-	-	-
7/9/22	-	-	-	-	-	-	-
7/10/22	-	-	-	-	-	-	-
7/11/22	-	-	-	-	-	-	-
7/12/22	-	-	-	-	-	-	-
7/13/22	08:15:00	-	8.68	606	606	NA	1
7/14/22	-	-	-	-	-	-	-
7/15/22	08:55:00	-	8.7	629	618	NA	1
7/16/22	-	-	-	-	-	-	-
7/17/22	-	-	-	-	-	-	-
7/18/22	-	-	-	-	-	-	-
7/19/22	-	-	-	-	-	-	-
7/20/22	08:20:00	-	8.73	632	631	NA	1
7/21/22	-	-	-	-	-	-	-
7/22/22	09:15:00	-	8.82	646	639	NA	1
7/23/22	-	-	-	-	-	-	-
7/24/22	-	-	-	-	-	-	-
7/25/22	-	-	-	-	-	-	-
7/26/22	-	-	-	-	-	-	-
7/27/22	08:20:00	-	8.81	645	646	12	1
7/28/22	-	-	-	-	-	-	-
7/29/22	07:50:00	-	8.83	654	650	NA	1
7/30/22	-	-	-	-	-	-	-
7/31/22	-	-	-	-	-	-	-
Minimum			8.68	606	606	12	
Maximum			8.83	654	650	12	
Average			9	635	632	12	

Notes:

$\mu\text{S}/\text{cm}$ - microsiemens per Centimeter at 25 degrees Celsius

mg/L - milligrams per liter or parts per million

NA - Not analyzed

italic font denotes preliminary results

Sheyenne River Downstream of West End Outlet/Upstream of East End Outlet (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)	Number of samples included in 7- day Average
7/1/22	-	-	-	-	-	-	-
7/2/22	-	-	-	-	-	-	-
7/3/22	-	-	-	-	-	-	-
7/4/22	-	-	-	-	-	-	-
7/5/22	-	-	-	-	-	-	-
7/6/22	07:41:00	1530	8.33	410	410	NA	1
7/7/22	-	-	-	-	-	-	-
7/8/22	08:20:00	1560	8.3	423	417	NA	1
7/9/22	-	-	-	-	-	-	-
7/10/22	-	-	-	-	-	-	-
7/11/22	-	-	-	-	-	-	-
7/12/22	-	-	-	-	-	-	-
7/13/22	07:36:00	1790	8.66	583	503	NA	1
7/14/22	-	-	-	-	-	-	-
7/15/22	08:25:00	1870	8.67	607	595	NA	1
7/16/22	-	-	-	-	-	-	-
7/17/22	-	-	-	-	-	-	-
7/18/22	-	-	-	-	-	-	-
7/19/22	-	-	-	-	-	-	-
7/20/22	07:43:00	1880	8.71	623	615	NA	1
7/21/22	-	-	-	-	-	-	-
7/22/22	08:45:00	1880	8.7	633	628	NA	1
7/23/22	-	-	-	-	-	-	-
7/24/22	-	-	-	-	-	-	-
7/25/22	-	-	-	-	-	-	-
7/26/22	-	-	-	-	-	-	-
7/27/22	07:35:00	1890	8.76	639	636	73	1
7/28/22	-	-	-	-	-	-	-
7/29/22	08:25:00	1880	8.82	649	644	NA	1
7/30/22	-	-	-	-	-	-	-
7/31/22	-	-	-	-	-	-	-
Minimum		1530	8.3	410	410	73	
Maximum		1890	8.82	649	644	73	
Average		1785	9	571	556	73	

Notes:

μ S/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

italic font denotes preliminary results

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

Date	Time	Specific Conductance USGS Gage (μ S/cm)	pH	Sulfate (mg/L)	7 Day Rolling Average of Sulfate (mg/L)	Total Suspended Solids (mg/L)	Number of samples included in 7-day Average
7/1/22	-	-	-	-	-	-	-
7/2/22	-	-	-	-	-	-	-
7/3/22	-	-	-	-	-	-	-
7/4/22	-	-	-	-	-	-	-
7/5/22	-	-	-	-	-	-	-
7/6/22	09:25:00	2920	8.51	976	976	NA	1
7/7/22	-	-	-	-	-	-	-
7/8/22	10:50:00	2920	8.5	991	984	NA	1
7/9/22	-	-	-	-	-	-	-
7/10/22	-	-	-	-	-	-	-
7/11/22	-	-	-	-	-	-	-
7/12/22	-	-	-	-	-	-	-
7/13/22	09:35:00	2920	8.54	980	986	NA	1
7/14/22	-	-	-	-	-	-	-
7/15/22	07:00:00	2910	8.39	1010	995	NA	1
7/16/22	-	-	-	-	-	-	-
7/17/22	-	-	-	-	-	-	-
7/18/22	-	-	-	-	-	-	-
7/19/22	-	-	-	-	-	-	-
7/20/22	09:36:00	2910	8.56	973	992	NA	1
7/21/22	-	-	-	-	-	-	-
7/22/22	07:20:00	-	8.47	999	986	NA	1
7/23/22	-	-	-	-	-	-	-
7/24/22	-	-	-	-	-	-	-
7/25/22	-	-	-	-	-	-	-
7/26/22	-	-	-	-	-	-	-
7/27/22	10:00:00	2910	8.52	984	992	6	1
7/28/22	-	-	-	-	-	-	-
7/29/22	10:00:00	2890	8.38	989	987	NA	1
7/30/22	-	-	-	-	-	-	-
7/31/22	-	-	-	-	-	-	-
Minimum		2890	8.38	973	976	6	
Maximum		2920	8.56	1010	995	6	
Average		2911	8	988	987	6	

Notes:

μ S/cm - microsiemens per Centimeter at 25 degrees Celsius

mg/L - milligrams per liter or parts per million

NA - Not analyzed

italic font denotes preliminary results

**Sheyenne River Downstream of Both Outlets Near Pekin
Monthly Water Quality Summary
Devils Lake Outlet Discharge Report**

Date	Time	Specific Conductance Laboratory Analysis (µS/cm)	pH	Sulfate (mg/L)	7 Day Rolling Average of Sulfate (mg/L)	Total Suspended Solids (mg/L)	Number of samples included in 7-day Average
7/1/22	-	-	-	-	-	-	-
7/2/22	-	-	-	-	-	-	-
7/3/22	-	-	-	-	-	-	-
7/4/22	-	-	-	-	-	-	-
7/5/22	-	-	-	-	-	-	-
7/6/22	10:00:00	-	8.16	222	222	NA	1
7/7/22	-	-	-	-	-	-	-
7/8/22	11:20:00	-	8.53	353	288	NA	1
7/9/22	-	-	-	-	-	-	-
7/10/22	-	-	-	-	-	-	-
7/11/22	-	-	-	-	-	-	-
7/12/22	-	-	-	-	-	-	-
7/13/22	10:00:00	-	8.42	601	477	NA	1
7/14/22	-	-	-	-	-	-	-
7/15/22	07:25:00	-	8.32	551	576	NA	1
7/16/22	-	-	-	-	-	-	-
7/17/22	-	-	-	-	-	-	-
7/18/22	-	-	-	-	-	-	-
7/19/22	-	-	-	-	-	-	-
7/20/22	10:15:00	-	8.53	688	620	NA	1
7/21/22	-	-	-	-	-	-	-
7/22/22	07:45:00	-	8.46	699	694	NA	1
7/23/22	-	-	-	-	-	-	-
7/24/22	-	-	-	-	-	-	-
7/25/22	-	-	-	-	-	-	-
7/26/22	-	-	-	-	-	-	-
7/27/22	10:30:00	-	8.53	673	686	42	1
7/28/22	-	-	-	-	-	-	-
7/29/22	10:25:00	-	8.49	672	673	NA	1
7/30/22	-	-	-	-	-	-	-
7/31/22	-	-	-	-	-	-	-
Minimum			8.16	222	222	42	
Maximum			8.53	699	694	42	
Average			8	557	530	42	

Notes:

µS/cm - microsiemens per Centimeter at 25 degrees Celsius

mg/L - milligrams per liter or parts per million

NA - Not analyzed

italic font denotes preliminary results

Bold font denotes sample sulfate concentration exceeds 750 mg/L

Sheyenne River Downstream of Both Outlets Near Cooperstown
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)	Number of samples included in 7-day Average
7/1/22	-	-	-	-	-	-	-
7/2/22	-	-	-	-	-	-	-
7/3/22	-	-	-	-	-	-	-
7/4/22	-	-	-	-	-	-	-
7/5/22	-	-	-	-	-	-	-
7/6/22	10:45:00	984	8.22	221	221	NA	1
7/7/22	-	-	-	-	-	-	-
7/8/22	-	-	-	-	-	-	-
7/9/22	-	-	-	-	-	-	-
7/10/22	-	-	-	-	-	-	-
7/11/22	-	-	-	-	-	-	-
7/12/22	-	-	-	-	-	-	-
7/13/22	11:00:00	1640	8.37	485	485	NA	1
7/14/22	-	-	-	-	-	-	-
7/15/22	-	-	-	-	-	-	-
7/16/22	-	-	-	-	-	-	-
7/17/22	-	-	-	-	-	-	-
7/18/22	-	-	-	-	-	-	-
7/19/22	-	-	-	-	-	-	-
7/20/22	11:00:00	1780	8.48	533	533	NA	1
7/21/22	-	-	-	-	-	-	-
7/22/22	-	-	-	-	-	-	-
7/23/22	-	-	-	-	-	-	-
7/24/22	-	-	-	-	-	-	-
7/25/22	-	-	-	-	-	-	-
7/26/22	-	-	-	-	-	-	-
7/27/22	11:30:00	2100	8.47	659	659	78	1
7/28/22	-	-	-	-	-	-	-
7/29/22	-	-	-	-	-	-	-
7/30/22	-	-	-	-	-	-	-
7/31/22	-	-	-	-	-	-	-
Minimum		984	8.22	221	221	78	
Maximum		2100	8.48	659	659	78	
Average		1626	8	475	475	78	

Notes:

µS/cm - microsiemens per Centimeter at 25 degrees Celsius

mg/L - milligrams per liter or parts per million

NA - Not analyzed

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Bold font denotes sample sulfate concentration exceeds 750 mg/L