North Dakota Department of Environmental Quality

Division of Chemistry

Original Report Date: 10/24/19 Report Date: 12/18/19

Log Number: 19-N680

Date Collected: 10/8/19 Time Collected: 13:00

Township:

Section:

Source: Entry Point

Project: Comments:

CITY OF DEVILS LAKE ATTN: CITY AUDITOR

PO BOX 1048

DEVILS LAKE ND 58301

Date Received: 10/9/19 Time Received: 8:44

Range:

Owner: City of Devils Lake

Approved by

Inorganio

Chemical Analysis of Sample Result Units umhos/cm 583. Conductivity Dissolved Solids (C) - Total 331. mq/L Fairly Low mg/L Fairly Low Hardness Total (as CaCO3) 129. ${\tt mg/L}$ Satisfactory 267. Alkalinity (CaCO3)(Total) 8.11 Нф mg/L Satisfactory < 0.05 Iron (Fe) Satisfactory < 0.01 mg/L Manganese (Mn) mg/L 31.2 Calcium (Ca) mg/L 12.4 Magnesium (Mg) mg/L Satisfactory 76.7 Sodium (Na) mq/L 5.1 Potassium (K) < 1 mq/L Carbonate (CO3) mg/L 326. Bicarbonate (HCO3) mg/L Low 22.1 Sulfate as (SO4) Low mq/L 16.0 Chloride mg/L Satisfactory 1.170 Nitrate + Nitrite (N) mg/L 32.4 Silica (SiO2) 0.670 mg/L Fluoride (F) (IC) mg/L < 1 Hydroxide (OH) Deg C 7. Temperature hrs Delivery Time (hours) Hardness (Total) 20. gr/gal 8. < 1 UTU Turbidity 왕 55.1 Percent Sodium 2.94 Sodium Adsorption Ratio

If a result is noted with an alphanumeric code the result has been qualified as defined on the last page(s).

Not all codes are applicable to all results.

MINNESOTA VALLEY TESTING LABORATORIES, INC.



1126 N. Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890 2616 E. Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724 MEMBER 51 W. Lincoln Way ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885 **ACIL**

MVTL guarantees the accuracy of the analysis done on the sample submitted for testing. It is not possible for MVTL to guarantee that a test result obtained on a particular sample will be the same on any other sample unless all conditions affecting the sample are the same, including sampling by MVTL. As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.

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Report Date: 25 Mar 21 Lab Number: 21-W441 Work Order #:82-0539 Account #: 70963

Date Sampled: 15 Mar 21 13:15 Date Received: 16 Mar 21 9:22

Sampled By: Client

Project Name: Akra WTP Finished Water

Northeast Regional Water District

Sample Description: Akra WTP

Jeremy Schuler

13532 Highway 5

Cavalier ND 58220

Temp at Receipt: 1.3C ROI

•	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
На	* 7.6	units	N/A	SM4500-H+-B-11	16 Mar 21 17:00	RAA
Conductivity (EC)	371	umhos/cm	N/A	SM2510B-11	16 Mar 21 17:00	RAA
Total Alkalinity	156	mg/l CaCO3	20	SM2320B-11	16 Mar 21 17:00	RAA
Phenolphthalein Alk	< 20	mg/l CaCO3	20	SM2320B-11	16 Mar 21 17:00	RAA
Bicarbonate	156	mg/l CaCO3	20	SM2320B-11	16 Mar 21 17:00	RAA
Carbonate	< 20	mg/l CaCO3	20	SM2320B-11	16 Mar 21 17:00	RAA
Hydroxide	< 20	mg/l CaCO3	20	SM2320B-11	16 Mar 21 17:00	RAA
Tot Dis Solids (Summation)	195	mg/l	12.5	SM1030-F	18 Mar 21 14:39	Calculated
Percent Sodium of Cations	2.25	8	NA	N/A	18 Mar 21 12:44	Calculated
Total Hardness as CaCO3	206	mg/l	NA	SM2340B-11	18 Mar 21 12:44	Calculated
Hardness in grains/gallon	12.1	gr/gal	NA	SM2340-B	18 Mar 21 12:44	Calculated
Cation Summation	4.26	meg/L	NA	SM1030-F	25 Mar 21 12:41	Calculated
Anion Summation	3.66	meg/L	NA	SM1030-F	18 Mar 21 14:39	Calculated
Percent Error	7.58	ફ	NA	SM1030-F	25 Mar 21 12:41	Calculated
Sodium Adsorption Ratio	0.07		NA	USDA 20b	18 Mar 21 12:44	Calculated
Fluoride	0.78	mg/l	0.10	SM4500-F-C	16 Mar 21 17:00	RAA
Sulfate	19.8	mg/l	5.00	ASTM D516-11	16 Mar 21 15:17	SD
Chloride	4.4	mg/l	2.0	SM4500-Cl-E-11	17 Mar 21 14:35	SD
Nitrate-Nitrite as N	< 0.2	mg/l	0.20	EPA 353.2	18 Mar 21 14:39	SD
Calcium - Total	59.4	mg/l	1.0	EPA 200.7	18 Mar 21 12:44	MDE
Magnesium - Total	14.1	mg/l	1.0	EPA 200.7	18 Mar 21 12:44	MDE
Sodium - Total	2.2	mg/l	1.0	EPA 200.7	18 Mar 21 12:44	MDE
Potassium - Total	1.4	mg/l	1.0	EPA 200.7	18 Mar 21 12:44	MDE
Iron - Total	< 0.1	mg/l	0.10	EPA 200.7	25 Mar 21 12:41	MDE
Manganese - Total	< 0.05	mg/l	0.05	EPA 200.7	25 Mar 21 12:41	MDE