

MINNESOTA VALLEY TESTING LABORATORIES, INC.

MVTL

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

51 W. Lincoln Way ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885

MEMBER
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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Duane Friesz
City of Mandan
Water Plant 1994 38th Street
Mandan ND 58554

Report Date: 11 Aug 15
Lab Number: 15-W2830
Work Order #: 82-2101
Account #: 013030
Date Sampled: 30 Jul 15 12:45
Date Received: 30 Jul 15 13:18
Sampled By: Client

Sample Description: Lab Tap

Temp at Receipt: 18.2C ROI

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Metal Digestion				EPA 200.2	30 Jul 15	SZ
Specific Conductance	602	umhos/cm	N/A	SM2510-B	3 Aug 15 17:00	ML
pH - Field	9.40	units	NA	SM 4500 H+ B	30 Jul 15 12:45	
Total Alkalinity	69	mg/l CaCO3	20	SM2320-B	4 Aug 15 17:00	ML
Phenolphthalein Alk	< 20	mg/l CaCO3	20	SM2320-B	4 Aug 15 17:00	ML
Bicarbonate	69	mg/l CaCO3	20	SM2320-B	4 Aug 15 17:00	ML
Carbonate	< 20	mg/l CaCO3	20	SM2320-B	4 Aug 15 17:00	ML
Hydroxide	< 20	mg/l CaCO3	20	SM2320-B	3 Aug 15 17:00	ML
Tot Dis Solids(Summation)	367	mg/l	12.5	SM1030-F	11 Aug 15 1:01	Calculated
Percent Sodium of Cations	52.3	%	NA	N/A	11 Aug 15 1:01	Calculated
Total Hardness as CaCO3	135	mg/l	NA	SM2340-B	11 Aug 15 1:01	Calculated
Hardness in grains/gallon	7.89	gr/gal	NA	SM2340-B	11 Aug 15 1:01	Calculated
Cation Summation	5.89	meq/L	NA	SM1030-F	11 Aug 15 1:01	Calculated
Anion Summation	5.74	meq/L	NA	SM1030-F	6 Aug 15 10:50	Calculated
Percent Error	1.28	%	NA	SM1030-F	11 Aug 15 1:01	Calculated
Sodium Adsorption Ratio	2.65		NA	USDA 20b	11 Aug 15 1:01	Calculated
Fluoride	0.57	mg/l	0.10	SM4500-F-C	4 Aug 15 17:00	ML
Sulfate	190	mg/l	5.00	ASTM D516-07	3 Aug 15 13:31	EMS
Chloride	14.2	mg/l	1.0	SM4500-Cl-E	5 Aug 15 11:32	EMS
Nitrate-Nitrite as N	0.11	mg/l	0.10	EPA 353.2	6 Aug 15 10:50	EMS
Ammonia-Nitrogen as N	0.37	mg/l	0.10	EPA 350.1	10 Aug 15 12:01	EMS
Calcium - Total	35.2	mg/l	1.0	6010	11 Aug 15 1:01	SZ
Magnesium - Total	11.4	mg/l	1.0	6010	11 Aug 15 1:01	SZ
Sodium - Total	70.6	mg/l	1.0	6010	11 Aug 15 1:01	SZ
Potassium - Total	4.2	mg/l	1.0	6010	11 Aug 15 1:01	SZ
Iron - Total	< 0.1	mg/l	0.10	6010	5 Aug 15 12:41	SZ

RL = Method Reporting Limit

The reporting limit was elevated for any analyte requiring a dilution as coded below:

@ = Due to sample matrix # = Due to concentration of other analytes
! = Due to sample quantity + = Due to internal standard response

CERTIFICATION: ND # ND-00016

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Sample Description: Lab Tap

Temp at Receipt: 18.2C ROI

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Manganese - Total	< 0.05	mg/l	0.05	6010	5 Aug 15 12:41	SZ

Approved by:

Claudette K. Carroll

Claudette K. Carroll, Laboratory Manager, Bismarck, ND

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