

# 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.

AN EQUAL OPPORTUNITY EMPLOYER

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

Report Date: 24 Jul 19  
Lab Number: 19-W2401  
Work Order #: 82-1795  
Account #: 013030  
Date Sampled: 16 Jul 19 11:10  
Date Received: 16 Jul 19 13:05  
Sampled By: Client

Sample Description: TP201

Temp at Receipt: 13.0C ROI

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Conductivity (EC)	559	umhos/cm	N/A	SM2510-B	16 Jul 19 17:00	SVS
pH - Field	9.40	units	NA	SM 4500 H+ B	16 Jul 19 11:10	
Total Alkalinity	62	mg/l CaCO3	20	SM2320-B	16 Jul 19 17:00	SVS
Phenolphthalein Alk	< 20	mg/l CaCO3	20	SM2320-B	16 Jul 19 17:00	SVS
Bicarbonate	40	mg/l CaCO3	20	SM2320-B	16 Jul 19 17:00	SVS
Carbonate	22	mg/l CaCO3	20	SM2320-B	16 Jul 19 17:00	SVS
Hydroxide	< 20	mg/l CaCO3	20	SM2320-B	16 Jul 19 17:00	SVS
Tot Dis Solids(Summation)	338	mg/l	12.5	SM1030-F	24 Jul 19 7:55	Calculated
Percent Sodium of Cations	49.4	%	NA	N/A	24 Jul 19 7:55	Calculated
Total Hardness as CaCO3	131	mg/l	NA	SM2340-B	24 Jul 19 7:55	Calculated
Hardness in grains/gallon	7.68	gr/gal	NA	SM2340-B	24 Jul 19 7:55	Calculated
Cation Summation	5.43	meq/L	NA	SM1030-F	24 Jul 19 7:55	Calculated
Anion Summation	5.28	meq/L	NA	SM1030-F	18 Jul 19 9:37	Calculated
Percent Error	1.45	%	NA	SM1030-F	24 Jul 19 7:55	Calculated
Sodium Adsorption Ratio	2.34		NA	USDA 20b	24 Jul 19 7:55	Calculated
Fluoride	0.67	mg/l	0.10	SM4500-F-C	16 Jul 19 17:00	SVS
Sulfate	179	mg/l	5.00	ASTM D516-07	18 Jul 19 8:56	EMS
Chloride	11.0	mg/l	1.0	SM4500-Cl-E	18 Jul 19 9:37	EV
Nitrate-Nitrite as N	< 0.1	mg/l	0.10	EPA 353.2	17 Jul 19 10:45	EV
Ammonia-Nitrogen as N	0.40	mg/l	0.20	EPA 350.1	23 Jul 19 14:48	EV
Calcium - Total	33.1	mg/l	1.0	EPA 200.7	24 Jul 19 7:55	SZ
Magnesium - Total	11.8	mg/l	1.0	EPA 200.7	24 Jul 19 7:55	SZ
Sodium - Total	61.5	mg/l	1.0	EPA 200.7	24 Jul 19 7:55	SZ
Potassium - Total	4.4	mg/l	1.0	EPA 200.7	24 Jul 19 7:55	SZ
Iron - Total	< 0.1	mg/l	0.10	EPA 200.7	23 Jul 19 12:07	SZ
Manganese - Total	< 0.05	mg/l	0.05	EPA 200.7	23 Jul 19 12:07	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

MVTL

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Approved by: Claudette K. Carroll

Claudette K. Carroll, Laboratory Manager, Bismarck, ND

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