

MVTL

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

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

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Page: 1 of 4

Barry Botnen
UND-Energy & Environmental
15 N. 23rd St.
Grand Forks ND 58201

Report Date: 26 Nov 21
Lab Number: 21-W4368
Work Order #: 82-3114
Account #: 007033
Date Sampled: 9 Nov 21 8:30
Date Received: 10 Nov 21 7:24
Sampled By: Client

Project Name: NDCS

PO #: 25411

Sample Description: NDCS-MPC-WS1

Temp at Receipt: 0.4C ROI

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Metal Digestion				EPA 200.2	11 Nov 21	RAA
pH	* 7.5	units	N/A	SM4500-H+-B-11	10 Nov 21 17:00	AC
Conductivity (EC)	1438	umhos/cm	N/A	SM2510B-11	10 Nov 21 17:00	AC
pH - Field	7.28	units	NA	SM 4500 H+ B	9 Nov 21 8:30	
Temperature - Field	15.3	Degrees C	NA	SM 2550B	9 Nov 21 8:30	
Total Alkalinity	475	mg/l CaCO3	20	SM2320B-11	10 Nov 21 17:00	AC
Phenolphthalein Alk	< 20	mg/l CaCO3	20	SM2320B-11	10 Nov 21 17:00	AC
Bicarbonate	475	mg/l CaCO3	20	SM2320B-11	10 Nov 21 17:00	AC
Carbonate	< 20	mg/l CaCO3	20	SM2320B-11	10 Nov 21 17:00	AC
Hydroxide	< 20	mg/l CaCO3	20	SM2320B-11	10 Nov 21 17:00	AC
Tot Dis Solids(Summation)	911	mg/l	12.5	SM1030-F	18 Nov 21 14:17	Calculated
Cation Summation	15.2	meq/L	NA	SM1030-F	16 Nov 21 10:36	Calculated
Anion Summation	15.9	meq/L	NA	SM1030-F	18 Nov 21 14:17	Calculated
Percent Error	-1.98	%	NA	SM1030-F	18 Nov 21 14:17	Calculated
Bromide	< 0.5 @	mg/l	0.100	EPA 300.0	15 Nov 21 19:17	RMV
Total Organic Carbon	5.9	mg/l	0.5	SM5310C-11	16 Nov 21 18:16	NAS
Dissolved Organic Carbon	5.8	mg/l	0.5	SM5310C-96	16 Nov 21 18:16	NAS
Fluoride	0.29	mg/l	0.10	SM4500-F-C	10 Nov 21 17:00	AC
Sulfate	290	mg/l	5.00	ASTM D516-11	15 Nov 21 14:26	SD
Chloride	10.6	mg/l	2.0	SM4500-Cl-E-11	10 Nov 21 10:55	SD
Nitrate-Nitrite as N	0.28	mg/l	0.20	EPA 353.2	18 Nov 21 14:17	SD
Nitrite as N	< 0.2	mg/l	0.20	EPA 353.2	10 Nov 21 14:18	SD
Phosphorus as P - Total	< 0.2	mg/l	0.20	EPA 365.1	19 Nov 21 8:56	SD
Phosphorus as P-Dissolved	< 0.2	mg/l	0.20	EPA 365.1	19 Nov 21 10:05	SD

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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Temp at Receipt: 0.4C ROI

	As Received Result		Method RL	Method Reference	Date Analyzed			Analyst
Mercury - Total	< 0.0002	mg/l	0.0002	EPA 245.1	18 Nov 21	12:33		MDE
Mercury - Dissolved	< 0.0002	mg/l	0.0002	EPA 245.1	18 Nov 21	12:33		MDE
Total Dissolved Solids	959	mg/l	10	USGS I1750-85	12 Nov 21	9:25		RAA
Calcium - Total	85.0	mg/l	1.0	6010D	16 Nov 21	10:36		MDE
Magnesium - Total	35.0	mg/l	1.0	6010D	16 Nov 21	10:36		MDE
Sodium - Total	200	mg/l	1.0	6010D	16 Nov 21	10:36		MDE
Potassium - Total	5.0	mg/l	1.0	6010D	16 Nov 21	10:36		MDE
Lithium - Total	0.045	mg/l	0.020	6010D	16 Nov 21	9:32		SZ
Aluminum - Total	< 0.1	mg/l	0.10	6010D	12 Nov 21	11:33		MDE
Iron - Total	0.98	mg/l	0.10	6010D	12 Nov 21	11:33		MDE
Silicon - Total	11.3	mg/l	0.10	6010D	16 Nov 21	13:55		SZ
Strontium - Total	1.14	mg/l	0.10	6010D	12 Nov 21	11:33		MDE
Zinc - Total	0.09	mg/l	0.05	6010D	12 Nov 21	11:33		MDE
Boron - Total	0.37	mg/l	0.10	6010D	17 Nov 21	9:08		SZ
Calcium - Dissolved	80.0	mg/l	1.0	6010D	11 Nov 21	16:00		SZ
Magnesium - Dissolved	34.3	mg/l	1.0	6010D	11 Nov 21	16:00		SZ
Sodium - Dissolved	190	mg/l	1.0	6010D	11 Nov 21	16:00		SZ
Potassium - Dissolved	4.8	mg/l	1.0	6010D	11 Nov 21	16:00		SZ
Lithium - Dissolved	0.048	mg/l	0.020	6010D	16 Nov 21	11:32		SZ
Aluminum - Dissolved	< 0.1	mg/l	0.10	6010D	15 Nov 21	9:55		MDE
Iron - Dissolved	< 0.1	mg/l	0.10	6010D	15 Nov 21	9:55		MDE
Silicon - Dissolved	11.5	mg/l	0.10	6010D	16 Nov 21	15:55		SZ
Strontium - Dissolved	1.23	mg/l	0.10	6010D	15 Nov 21	9:55		MDE
Zinc - Dissolved	0.05	mg/l	0.05	6010D	15 Nov 21	9:55		MDE

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UND-Energy & Environmental
15 N. 23rd St.
Grand Forks ND 58201

Report Date: 26 Nov 21
Lab Number: 21-W4368
Work Order #: 82-3114
Account #: 007033
Date Sampled: 9 Nov 21 8:30
Date Received: 10 Nov 21 7:24
Sampled By: Client

Project Name: NDCS

PO #: 25411

Sample Description: NDCS-MPC-WS1

Temp at Receipt: 0.4C ROI

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Boron - Dissolved	0.38	mg/l	0.10	6010D	17 Nov 21 14:08	SZ
Antimony - Total	< 0.001	mg/l	0.0010	6020B	16 Nov 21 11:07	MDE
Arsenic - Total	< 0.002	mg/l	0.0020	6020B	16 Nov 21 11:07	MDE
Barium - Total	0.0902	mg/l	0.0020	6020B	16 Nov 21 11:07	MDE
Beryllium - Total	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 11:07	MDE
Cadmium - Total	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 11:07	MDE
Chromium - Total	< 0.002	mg/l	0.0020	6020B	16 Nov 21 11:07	MDE
Cobalt - Total	< 0.002	mg/l	0.0020	6020B	16 Nov 21 11:07	MDE
Copper - Total	0.0264	mg/l	0.0020	6020B	16 Nov 21 11:07	MDE
Lead - Total	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 11:07	MDE
Manganese - Total	0.2717	mg/l	0.0020	6020B	16 Nov 21 11:07	MDE
Molybdenum - Total	< 0.002	mg/l	0.0020	6020B	16 Nov 21 11:07	MDE
Nickel - Total	0.0064	mg/l	0.0020	6020B	16 Nov 21 11:07	MDE
Selenium - Total	< 0.005	mg/l	0.0050	6020B	16 Nov 21 11:07	MDE
Silver - Total	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 11:07	MDE
Thallium - Total	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 11:07	MDE
Vanadium - Total	< 0.002	mg/l	0.0020	6020B	16 Nov 21 11:07	MDE
Antimony - Dissolved	< 0.001	mg/l	0.0010	6020B	16 Nov 21 14:31	MDE
Arsenic - Dissolved	< 0.002	mg/l	0.0020	6020B	16 Nov 21 14:31	MDE
Barium - Dissolved	0.0851	mg/l	0.0020	6020B	16 Nov 21 14:31	MDE
Beryllium - Dissolved	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 16:48	MDE
Cadmium - Dissolved	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 14:31	MDE
Chromium - Dissolved	< 0.002	mg/l	0.0020	6020B	16 Nov 21 14:31	MDE
Cobalt - Dissolved	< 0.002	mg/l	0.0020	6020B	16 Nov 21 14:31	MDE

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

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Lab Number: 21-W4368
Work Order #: 82-3114
Account #: 007033
Date Sampled: 9 Nov 21 8:30
Date Received: 10 Nov 21 7:24
Sampled By: Client

Project Name: NDCS

PO #: 25411

Sample Description: NDCS-MPC-WS1

Temp at Receipt: 0.4C ROI

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Copper - Dissolved	0.0133	mg/l	0.0020	6020B	16 Nov 21 14:31	MDE
Lead - Dissolved	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 14:31	MDE
Manganese - Dissolved	0.2154	mg/l	0.0020	6020B	16 Nov 21 14:31	MDE
Molybdenum - Dissolved	< 0.002	mg/l	0.0020	6020B	16 Nov 21 14:31	MDE
Nickel - Dissolved	0.0055	mg/l	0.0020	6020B	16 Nov 21 14:31	MDE
Selenium - Dissolved	< 0.005	mg/l	0.0050	6020B	16 Nov 21 14:31	MDE
Silver - Dissolved	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 14:31	MDE
Thallium - Dissolved	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 14:31	MDE
Vanadium - Dissolved	< 0.002	mg/l	0.0020	6020B	16 Nov 21 14:31	MDE

Bromide was analyzed at MVTL, New Ulm, MN.
ND Certification #:R-040

* Holding time exceeded

Approved by:

Claudette K. Carroll

Claudette K. Carroll, Laboratory Manager, Bismarck, ND

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Date Received: 10 Nov 21 7:24
Sampled By: Client

Project Name: NDCS

PO #: 25411

Sample Description: NDCS-MPC-WS1 Dup

Temp at Receipt: 0.4C ROI

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Metal Digestion				EPA 200.2	10 Nov 21	AC
pH	* 7.3	units	N/A	SM4500-H+-B-11	10 Nov 21 17:00	AC
Conductivity (EC)	1432	umhos/cm	N/A	SM2510B-11	10 Nov 21 17:00	AC
pH - Field	7.28	units	NA	SM 4500 H+ B	9 Nov 21 9:30	
Temperature - Field	7.28	Degrees C	NA	SM 2550B	9 Nov 21 9:30	
Total Alkalinity	572	mg/l CaCO3	20	SM2320B-11	10 Nov 21 17:00	AC
Phenolphthalein Alk	< 20	mg/l CaCO3	20	SM2320B-11	10 Nov 21 17:00	AC
Bicarbonate	572	mg/l CaCO3	20	SM2320B-11	10 Nov 21 17:00	AC
Carbonate	< 20	mg/l CaCO3	20	SM2320B-11	10 Nov 21 17:00	AC
Hydroxide	< 20	mg/l CaCO3	20	SM2320B-11	10 Nov 21 17:00	AC
Tot Dis Solids(Summation)	999	mg/l	12.5	SM1030-F	18 Nov 21 14:34	Calculated
Cation Summation	16.9	meq/L	NA	SM1030-F	15 Nov 21 9:55	Calculated
Anion Summation	17.9	meq/L	NA	SM1030-F	18 Nov 21 14:34	Calculated
Percent Error	-2.83	%	NA	SM1030-F	18 Nov 21 14:34	Calculated
Bromide	< 0.5 @	mg/l	0.100	EPA 300.0	15 Nov 21 19:38	RMV
Total Organic Carbon	5.9	mg/l	0.5	SM5310C-11	16 Nov 21 18:16	NAS
Dissolved Organic Carbon	5.8	mg/l	0.5	SM5310C-96	16 Nov 21 18:16	NAS
Fluoride	0.29	mg/l	0.10	SM4500-F-C	10 Nov 21 17:00	AC
Sulfate	294	mg/l	5.00	ASTM D516-11	15 Nov 21 14:26	SD
Chloride	10.8	mg/l	2.0	SM4500-Cl-E-11	10 Nov 21 10:55	SD
Nitrate-Nitrite as N	0.27	mg/l	0.20	EPA 353.2	18 Nov 21 14:34	SD
Nitrite as N	< 0.2	mg/l	0.20	EPA 353.2	10 Nov 21 14:18	SD
Phosphorus as P - Total	< 0.2	mg/l	0.20	EPA 365.1	19 Nov 21 8:56	SD
Phosphorus as P-Dissolved	< 0.2	mg/l	0.20	EPA 365.1	19 Nov 21 10:05	SD

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Lab Number: 21-W4369
Work Order #: 82-3114
Account #: 007033
Date Sampled: 9 Nov 21 9:30
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Sampled By: Client

Project Name: NDCS

PO #: 25411

Sample Description: NDCS-MPC-WS1 Dup

Temp at Receipt: 0.4C ROI

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Mercury - Total	< 0.0002	mg/l	0.0002	EPA 245.1	11 Nov 21 13:07	MDE
Mercury - Dissolved	< 0.0002	mg/l	0.0002	EPA 245.1	11 Nov 21 14:29	MDE
Total Dissolved Solids	967	mg/l	10	USGS 11750-85	12 Nov 21 9:25	RAA
Calcium - Total	90.7	mg/l	1.0	6010D	11 Nov 21 13:00	SZ
Magnesium - Total	39.8	mg/l	1.0	6010D	11 Nov 21 13:00	SZ
Sodium - Total	215	mg/l	1.0	6010D	11 Nov 21 13:00	SZ
Potassium - Total	5.4	mg/l	1.0	6010D	11 Nov 21 13:00	SZ
Lithium - Total	0.051	mg/l	0.020	6010D	16 Nov 21 9:32	SZ
Aluminum - Total	< 0.1	mg/l	0.10	6010D	12 Nov 21 11:33	MDE
Iron - Total	0.30	mg/l	0.10	6010D	12 Nov 21 11:33	MDE
Silicon - Total	11.7	mg/l	0.10	6010D	16 Nov 21 13:55	SZ
Strontium - Total	1.24	mg/l	0.10	6010D	12 Nov 21 11:33	MDE
Zinc - Total	0.06	mg/l	0.05	6010D	12 Nov 21 11:33	MDE
Boron - Total	0.42	mg/l	0.10	6010D	17 Nov 21 9:08	SZ
Calcium - Dissolved	90.7	mg/l	1.0	6010D	11 Nov 21 16:00	SZ
Magnesium - Dissolved	38.6	mg/l	1.0	6010D	11 Nov 21 16:00	SZ
Sodium - Dissolved	208	mg/l	1.0	6010D	11 Nov 21 16:00	SZ
Potassium - Dissolved	5.1	mg/l	1.0	6010D	11 Nov 21 16:00	SZ
Lithium - Dissolved	0.052	mg/l	0.020	6010D	16 Nov 21 11:32	SZ
Aluminum - Dissolved	< 0.1	mg/l	0.10	6010D	15 Nov 21 9:55	MDE
Iron - Dissolved	0.87	mg/l	0.10	6010D	15 Nov 21 9:55	MDE
Silicon - Dissolved	11.7	mg/l	0.10	6010D	16 Nov 21 15:55	SZ
Strontium - Dissolved	1.29	mg/l	0.10	6010D	15 Nov 21 9:55	MDE
Zinc - Dissolved	0.14	mg/l	0.05	6010D	15 Nov 21 9:55	MDE

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Sampled By: Client

Project Name: NDCS

PO #: 25411

Sample Description: NDCS-MPC-WS1 Dup

Temp at Receipt: 0.4C ROI

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Boron - Dissolved	0.42	mg/l	0.10	6010D	17 Nov 21 14:08	SZ
Antimony - Total	< 0.001	mg/l	0.0010	6020B	16 Nov 21 11:07	MDE
Arsenic - Total	< 0.002	mg/l	0.0020	6020B	16 Nov 21 11:07	MDE
Barium - Total	0.0956	mg/l	0.0020	6020B	16 Nov 21 11:07	MDE
Beryllium - Total	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 11:07	MDE
Cadmium - Total	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 11:07	MDE
Chromium - Total	< 0.002	mg/l	0.0020	6020B	16 Nov 21 11:07	MDE
Cobalt - Total	< 0.002	mg/l	0.0020	6020B	16 Nov 21 11:07	MDE
Copper - Total	< 0.01 @	mg/l	0.0020	6020B	16 Nov 21 11:07	MDE
Lead - Total	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 11:07	MDE
Manganese - Total	0.2548	mg/l	0.0020	6020B	16 Nov 21 11:07	MDE
Molybdenum - Total	< 0.002	mg/l	0.0020	6020B	16 Nov 21 11:07	MDE
Nickel - Total	0.0051	mg/l	0.0020	6020B	16 Nov 21 11:07	MDE
Selenium - Total	< 0.005	mg/l	0.0050	6020B	16 Nov 21 11:07	MDE
Silver - Total	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 11:07	MDE
Thallium - Total	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 11:07	MDE
Vanadium - Total	< 0.002	mg/l	0.0020	6020B	16 Nov 21 11:07	MDE
Antimony - Dissolved	< 0.001	mg/l	0.0010	6020B	16 Nov 21 14:31	MDE
Arsenic - Dissolved	< 0.002	mg/l	0.0020	6020B	16 Nov 21 14:31	MDE
Barium - Dissolved	0.0906	mg/l	0.0020	6020B	16 Nov 21 14:31	MDE
Beryllium - Dissolved	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 16:48	MDE
Cadmium - Dissolved	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 14:31	MDE
Chromium - Dissolved	< 0.002	mg/l	0.0020	6020B	16 Nov 21 14:31	MDE
Cobalt - Dissolved	< 0.002	mg/l	0.0020	6020B	16 Nov 21 14:31	MDE

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CERTIFICATION: ND # ND-00016

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Page: 4 of 4

Barry Botnen
UND-Energy & Environmental
15 N. 23rd St.
Grand Forks ND 58201

Report Date: 26 Nov 21
Lab Number: 21-W4369
Work Order #: 82-3114
Account #: 007033
Date Sampled: 9 Nov 21 9:30
Date Received: 10 Nov 21 7:24
Sampled By: Client

Project Name: NDCS

PO #: 25411

Sample Description: NDCS-MPC-WS1 Dup

Temp at Receipt: 0.4C ROI

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Copper - Dissolved	< 0.01 @	mg/l	0.0020	6020B	23 Nov 21 15:59	MDE
Lead - Dissolved	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 14:31	MDE
Manganese - Dissolved	0.2392	mg/l	0.0020	6020B	16 Nov 21 14:31	MDE
Molybdenum - Dissolved	< 0.002	mg/l	0.0020	6020B	16 Nov 21 14:31	MDE
Nickel - Dissolved	0.0047	mg/l	0.0020	6020B	16 Nov 21 14:31	MDE
Selenium - Dissolved	< 0.005	mg/l	0.0050	6020B	16 Nov 21 14:31	MDE
Silver - Dissolved	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 14:31	MDE
Thallium - Dissolved	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 14:31	MDE
Vanadium - Dissolved	< 0.002	mg/l	0.0020	6020B	16 Nov 21 14:31	MDE

Bromide was analyzed at MVTL, New Ulm, MN.
ND Certification #:R-040

* Holding time exceeded

Approved by:

Claudette K. Carroll

Claudette K. Carroll, Laboratory Manager, Bismarck, ND

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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Page: 1 of 4

Barry Botnen
UND-Energy & Environmental
15 N. 23rd St.
Grand Forks ND 58201

Report Date: 26 Nov 21
Lab Number: 21-W4370
Work Order #: 82-3114
Account #: 007033
Date Sampled: 9 Nov 21 10:30
Date Received: 10 Nov 21 7:24
Sampled By: Client

Project Name: NDCS

PO #: 25411

Sample Description: NDCS-MPC-WS2

Temp at Receipt: 0.4C ROI

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Metal Digestion				EPA 200.2	10 Nov 21	AC
pH	* 7.2	units	N/A	SM4500-H+-B-11	10 Nov 21 17:00	AC
Conductivity (EC)	1247	umhos/cm	N/A	SM2510B-11	10 Nov 21 17:00	AC
pH - Field	7.30	units	NA	SM 4500 H+ B	9 Nov 21 10:30	
Temperature - Field	11.1	Degrees C	NA	SM 2550B	9 Nov 21 10:30	
Total Alkalinity	580	mg/l CaCO3	20	SM2320B-11	10 Nov 21 17:00	AC
Phenolphthalein Alk	< 20	mg/l CaCO3	20	SM2320B-11	10 Nov 21 17:00	AC
Bicarbonate	580	mg/l CaCO3	20	SM2320B-11	10 Nov 21 17:00	AC
Carbonate	< 20	mg/l CaCO3	20	SM2320B-11	10 Nov 21 17:00	AC
Hydroxide	< 20	mg/l CaCO3	20	SM2320B-11	10 Nov 21 17:00	AC
Tot Dis Solids(Summation)	833	mg/l	12.5	SM1030-F	18 Nov 21 14:34	Calculated
Cation Summation	14.6	meq/L	NA	SM1030-F	15 Nov 21 9:55	Calculated
Anion Summation	15.5	meq/L	NA	SM1030-F	18 Nov 21 14:34	Calculated
Percent Error	-3.02	%	NA	SM1030-F	18 Nov 21 14:34	Calculated
Bromide	< 0.5 @	mg/l	0.100	EPA 300.0	15 Nov 21 19:59	RMV
Total Organic Carbon	3.9	mg/l	0.5	SM5310C-11	16 Nov 21 21:44	NAS
Dissolved Organic Carbon	4.0	mg/l	0.5	SM5310C-96	16 Nov 21 21:44	NAS
Fluoride	0.30	mg/l	0.10	SM4500-F-C	10 Nov 21 17:00	AC
Sulfate	176	mg/l	5.00	ASTM D516-11	15 Nov 21 14:26	SD
Chloride	6.9	mg/l	2.0	SM4500-Cl-E-11	10 Nov 21 10:55	SD
Nitrate-Nitrite as N	< 0.2	mg/l	0.20	EPA 353.2	18 Nov 21 14:34	SD
Nitrite as N	< 0.2	mg/l	0.20	EPA 353.2	10 Nov 21 14:18	SD
Phosphorus as P - Total	< 0.2	mg/l	0.20	EPA 365.1	19 Nov 21 8:56	SD
Phosphorus as P-Dissolved	< 0.2	mg/l	0.20	EPA 365.1	19 Nov 21 10:05	SD

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CERTIFICATION: ND # ND-00016

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Temp at Receipt: 0.4C ROI

	As Received Result		Method RL	Method Reference	Date Analyzed			Analyst
Mercury - Total	< 0.0002	mg/l	0.0002	EPA 245.1	11 Nov 21	13:07		MDE
Mercury - Dissolved	< 0.0002	mg/l	0.0002	EPA 245.1	11 Nov 21	14:29		MDE
Total Dissolved Solids	829	mg/l	10	USGS I1750-85	12 Nov 21	9:25		RAA
Calcium - Total	69.5	mg/l	1.0	6010D	11 Nov 21	13:00		SZ
Magnesium - Total	27.8	mg/l	1.0	6010D	11 Nov 21	13:00		SZ
Sodium - Total	200	mg/l	1.0	6010D	11 Nov 21	13:00		SZ
Potassium - Total	4.8	mg/l	1.0	6010D	11 Nov 21	13:00		SZ
Lithium - Total	0.052	mg/l	0.020	6010D	16 Nov 21	9:32		SZ
Aluminum - Total	< 0.1	mg/l	0.10	6010D	12 Nov 21	11:33		MDE
Iron - Total	0.97	mg/l	0.10	6010D	12 Nov 21	11:33		MDE
Silicon - Total	8.85	mg/l	0.10	6010D	16 Nov 21	13:55		SZ
Strontium - Total	1.11	mg/l	0.10	6010D	12 Nov 21	11:33		MDE
Zinc - Total	< 0.05	mg/l	0.05	6010D	12 Nov 21	11:33		MDE
Boron - Total	0.36	mg/l	0.10	6010D	17 Nov 21	9:08		SZ
Calcium - Dissolved	70.6	mg/l	1.0	6010D	11 Nov 21	16:00		SZ
Magnesium - Dissolved	28.0	mg/l	1.0	6010D	11 Nov 21	16:00		SZ
Sodium - Dissolved	197	mg/l	1.0	6010D	11 Nov 21	16:00		SZ
Potassium - Dissolved	4.8	mg/l	1.0	6010D	11 Nov 21	16:00		SZ
Lithium - Dissolved	0.055	mg/l	0.020	6010D	16 Nov 21	11:32		SZ
Aluminum - Dissolved	< 0.1	mg/l	0.10	6010D	15 Nov 21	9:55		MDE
Iron - Dissolved	0.99	mg/l	0.10	6010D	15 Nov 21	9:55		MDE
Silicon - Dissolved	9.18	mg/l	0.10	6010D	16 Nov 21	15:55		SZ
Strontium - Dissolved	1.16	mg/l	0.10	6010D	15 Nov 21	9:55		MDE
Zinc - Dissolved	< 0.05	mg/l	0.05	6010D	15 Nov 21	9:55		MDE

CERTIFICATION: ND # ND-00016

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Page: 3 of 4

Barry Botnen
UND-Energy & Environmental
15 N. 23rd St.
Grand Forks ND 58201

Report Date: 26 Nov 21
Lab Number: 21-W4370
Work Order #: 82-3114
Account #: 007033
Date Sampled: 9 Nov 21 10:30
Date Received: 10 Nov 21 7:24
Sampled By: Client

Project Name: NDCS

PO #: 25411

Sample Description: NDCS-MPC-WS2

Temp at Receipt: 0.4C ROI

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Boron - Dissolved	0.38	mg/l	0.10	6010D	17 Nov 21 14:08	SZ
Antimony - Total	< 0.001	mg/l	0.0010	6020B	16 Nov 21 11:07	MDE
Arsenic - Total	< 0.002	mg/l	0.0020	6020B	16 Nov 21 11:07	MDE
Barium - Total	0.0728	mg/l	0.0020	6020B	16 Nov 21 11:07	MDE
Beryllium - Total	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 11:07	MDE
Cadmium - Total	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 11:07	MDE
Chromium - Total	< 0.002	mg/l	0.0020	6020B	16 Nov 21 11:07	MDE
Cobalt - Total	< 0.002	mg/l	0.0020	6020B	16 Nov 21 11:07	MDE
Copper - Total	< 0.002	mg/l	0.0020	6020B	16 Nov 21 11:07	MDE
Lead - Total	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 11:07	MDE
Manganese - Total	0.1033	mg/l	0.0020	6020B	16 Nov 21 11:07	MDE
Molybdenum - Total	< 0.002	mg/l	0.0020	6020B	16 Nov 21 11:07	MDE
Nickel - Total	0.0025	mg/l	0.0020	6020B	16 Nov 21 11:07	MDE
Selenium - Total	< 0.005	mg/l	0.0050	6020B	16 Nov 21 11:07	MDE
Silver - Total	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 11:07	MDE
Thallium - Total	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 11:07	MDE
Vanadium - Total	< 0.002	mg/l	0.0020	6020B	16 Nov 21 11:07	MDE
Antimony - Dissolved	< 0.001	mg/l	0.0010	6020B	16 Nov 21 14:31	MDE
Arsenic - Dissolved	< 0.002	mg/l	0.0020	6020B	16 Nov 21 14:31	MDE
Barium - Dissolved	0.0686	mg/l	0.0020	6020B	16 Nov 21 14:31	MDE
Beryllium - Dissolved	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 16:48	MDE
Cadmium - Dissolved	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 14:31	MDE
Chromium - Dissolved	< 0.002	mg/l	0.0020	6020B	16 Nov 21 14:31	MDE
Cobalt - Dissolved	< 0.002	mg/l	0.0020	6020B	16 Nov 21 14:31	MDE

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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Page: 4 of 4

Barry Botnen
UND-Energy & Environmental
15 N. 23rd St.
Grand Forks ND 58201

Report Date: 26 Nov 21
Lab Number: 21-W4370
Work Order #: 82-3114
Account #: 007033
Date Sampled: 9 Nov 21 10:30
Date Received: 10 Nov 21 7:24
Sampled By: Client

Project Name: NDCS

PO #: 25411

Sample Description: NDCS-MPC-WS2

Temp at Receipt: 0.4C ROI

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Copper - Dissolved	< 0.002	mg/l	0.0020	6020B	16 Nov 21 14:31	MDE
Lead - Dissolved	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 14:31	MDE
Manganese - Dissolved	0.0986	mg/l	0.0020	6020B	16 Nov 21 14:31	MDE
Molybdenum - Dissolved	< 0.002	mg/l	0.0020	6020B	16 Nov 21 14:31	MDE
Nickel - Dissolved	0.0023	mg/l	0.0020	6020B	16 Nov 21 14:31	MDE
Selenium - Dissolved	< 0.005	mg/l	0.0050	6020B	16 Nov 21 14:31	MDE
Silver - Dissolved	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 14:31	MDE
Thallium - Dissolved	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 14:31	MDE
Vanadium - Dissolved	< 0.002	mg/l	0.0020	6020B	16 Nov 21 14:31	MDE

Bromide was analyzed at MVTL, New Ulm, MN.
ND Certification #:R-040

* Holding time exceeded

Approved by:

Claudette K. Carroll

Claudette K. Carroll, Laboratory Manager, Bismarck, ND

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Page: 1 of 4

Barry Botnen
UND-Energy & Environmental
15 N. 23rd St.
Grand Forks ND 58201

Report Date: 26 Nov 21
Lab Number: 21-W4371
Work Order #: 82-3114
Account #: 007033
Date Sampled: 9 Nov 21 13:30
Date Received: 10 Nov 21 7:24
Sampled By: Client

Project Name: NDCS

PO #: 25411

Sample Description: NDCS-1686

Temp at Receipt: 0.4C ROI

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Metal Digestion				EPA 200.2	10 Nov 21	AC
pH	* 6.9	units	N/A	SM4500-H+-B-11	10 Nov 21 17:00	AC
Conductivity (EC)	2906	umhos/cm	N/A	SM2510B-11	10 Nov 21 17:00	AC
Total Alkalinity	504	mg/l CaCO3	20	SM2320B-11	10 Nov 21 17:00	AC
Phenolphthalein Alk	< 20	mg/l CaCO3	20	SM2320B-11	10 Nov 21 17:00	AC
Bicarbonate	504	mg/l CaCO3	20	SM2320B-11	10 Nov 21 17:00	AC
Carbonate	< 20	mg/l CaCO3	20	SM2320B-11	10 Nov 21 17:00	AC
Hydroxide	< 20	mg/l CaCO3	20	SM2320B-11	10 Nov 21 17:00	AC
Tot Dis Solids(Summation)	2500	mg/l	12.5	SM1030-F	18 Nov 21 14:34	Calculated
Cation Summation	40.7	meq/L	NA	SM1030-F	15 Nov 21 10:55	Calculated
Anion Summation	40.1	meq/L	NA	SM1030-F	18 Nov 21 14:34	Calculated
Percent Error	0.77	%	NA	SM1030-F	18 Nov 21 14:34	Calculated
Bromide	< 0.5 @	mg/l	0.100	EPA 300.0	15 Nov 21 20:20	RMV
Total Organic Carbon	10.7	mg/l	0.5	SM5310C-11	16 Nov 21 21:44	NAS
Dissolved Organic Carbon	10.3	mg/l	0.5	SM5310C-96	16 Nov 21 21:44	NAS
Fluoride	0.13	mg/l	0.10	SM4500-F-C	10 Nov 21 17:00	AC
Sulfate	1410	mg/l	5.00	ASTM D516-11	15 Nov 21 14:26	SD
Chloride	24.1	mg/l	2.0	SM4500-Cl-E-11	10 Nov 21 10:55	SD
Nitrate-Nitrite as N	< 0.2	mg/l	0.20	EPA 353.2	18 Nov 21 14:34	SD
Nitrite as N	< 0.2	mg/l	0.20	EPA 353.2	10 Nov 21 14:18	SD
Phosphorus as P - Total	< 0.2	mg/l	0.20	EPA 365.1	19 Nov 21 8:56	SD
Phosphorus as P-Dissolved	< 0.2	mg/l	0.20	EPA 365.1	19 Nov 21 10:05	SD
Mercury - Total	< 0.0002	mg/l	0.0002	EPA 245.1	11 Nov 21 13:07	MDE
Mercury - Dissolved	< 0.0002	mg/l	0.0002	EPA 245.1	11 Nov 21 14:29	MDE

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
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CERTIFICATION: ND # ND-00016

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Barry Botnen
UND-Energy & Environmental
15 N. 23rd St.
Grand Forks ND 58201

Report Date: 26 Nov 21
Lab Number: 21-W4371
Work Order #: 82-3114
Account #: 007033
Date Sampled: 9 Nov 21 13:30
Date Received: 10 Nov 21 7:24
Sampled By: Client

Project Name: NDCS

PO #: 25411

Sample Description: NDCS-1686

Temp at Receipt: 0.4C ROI

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Total Dissolved Solids	2770	mg/l	10	USGS I1750-85	12 Nov 21 9:25	RAA
Calcium - Total	410	mg/l	1.0	6010D	11 Nov 21 13:00	SZ
Magnesium - Total	147	mg/l	1.0	6010D	11 Nov 21 13:00	SZ
Sodium - Total	201	mg/l	1.0	6010D	11 Nov 21 13:00	SZ
Potassium - Total	5.8	mg/l	1.0	6010D	11 Nov 21 13:00	SZ
Lithium - Total	0.078	mg/l	0.020	6010D	16 Nov 21 9:32	SZ
Aluminum - Total	< 0.1	mg/l	0.10	6010D	12 Nov 21 11:33	MDE
Iron - Total	5.46	mg/l	0.10	6010D	12 Nov 21 11:33	MDE
Silicon - Total	5.24	mg/l	0.10	6010D	16 Nov 21 13:55	SZ
Strontium - Total	3.50	mg/l	0.10	6010D	12 Nov 21 11:33	MDE
Zinc - Total	< 0.05	mg/l	0.05	6010D	12 Nov 21 11:33	MDE
Boron - Total	0.13	mg/l	0.10	6010D	17 Nov 21 9:08	SZ
Calcium - Dissolved	401	mg/l	1.0	6010D	11 Nov 21 16:00	SZ
Magnesium - Dissolved	142	mg/l	1.0	6010D	11 Nov 21 16:00	SZ
Sodium - Dissolved	200	mg/l	1.0	6010D	11 Nov 21 16:00	SZ
Potassium - Dissolved	5.6	mg/l	1.0	6010D	11 Nov 21 16:00	SZ
Lithium - Dissolved	0.082	mg/l	0.020	6010D	16 Nov 21 11:32	SZ
Aluminum - Dissolved	< 0.1	mg/l	0.10	6010D	15 Nov 21 10:55	MDE
Iron - Dissolved	5.68	mg/l	0.10	6010D	15 Nov 21 10:55	MDE
Silicon - Dissolved	5.44	mg/l	0.10	6010D	16 Nov 21 15:55	SZ
Strontium - Dissolved	3.82	mg/l	0.10	6010D	15 Nov 21 10:55	MDE
Zinc - Dissolved	< 0.05	mg/l	0.05	6010D	15 Nov 21 10:55	MDE
Boron - Dissolved	0.13	mg/l	0.10	6010D	17 Nov 21 14:08	SZ
Antimony - Total	< 0.001	mg/l	0.0010	6020B	16 Nov 21 11:07	MDE

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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UND-Energy & Environmental
15 N. 23rd St.
Grand Forks ND 58201

Report Date: 26 Nov 21
Lab Number: 21-W4371
Work Order #: 82-3114
Account #: 007033
Date Sampled: 9 Nov 21 13:30
Date Received: 10 Nov 21 7:24
Sampled By: Client

Project Name: NDCS

PO #: 25411

Sample Description: NDCS-1686

Temp at Receipt: 0.4C ROI

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Arsenic - Total	< 0.002	mg/l	0.0020	6020B	16 Nov 21 11:07	MDE
Barium - Total	0.0279	mg/l	0.0020	6020B	16 Nov 21 11:07	MDE
Beryllium - Total	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 11:07	MDE
Cadmium - Total	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 11:07	MDE
Chromium - Total	< 0.002	mg/l	0.0020	6020B	16 Nov 21 11:07	MDE
Cobalt - Total	< 0.002	mg/l	0.0020	6020B	16 Nov 21 11:07	MDE
Copper - Total	< 0.002	mg/l	0.0020	6020B	16 Nov 21 11:07	MDE
Lead - Total	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 11:07	MDE
Manganese - Total	0.5380	mg/l	0.0020	6020B	17 Nov 21 14:23	MDE
Molybdenum - Total	< 0.002	mg/l	0.0020	6020B	16 Nov 21 11:07	MDE
Nickel - Total	< 0.002	mg/l	0.0020	6020B	16 Nov 21 11:07	MDE
Selenium - Total	< 0.005	mg/l	0.0050	6020B	16 Nov 21 11:07	MDE
Silver - Total	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 11:07	MDE
Thallium - Total	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 11:07	MDE
Vanadium - Total	< 0.002	mg/l	0.0020	6020B	16 Nov 21 11:07	MDE
Antimony - Dissolved	< 0.001	mg/l	0.0010	6020B	16 Nov 21 14:31	MDE
Arsenic - Dissolved	< 0.002	mg/l	0.0020	6020B	16 Nov 21 14:31	MDE
Barium - Dissolved	0.0260	mg/l	0.0020	6020B	16 Nov 21 14:31	MDE
Beryllium - Dissolved	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 16:48	MDE
Cadmium - Dissolved	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 14:31	MDE
Chromium - Dissolved	< 0.002	mg/l	0.0020	6020B	16 Nov 21 14:31	MDE
Cobalt - Dissolved	< 0.002	mg/l	0.0020	6020B	16 Nov 21 14:31	MDE
Copper - Dissolved	< 0.002	mg/l	0.0020	6020B	16 Nov 21 14:31	MDE
Lead - Dissolved	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 14:31	MDE

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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Page: 4 of 4

Barry Botnen
UND-Energy & Environmental
15 N. 23rd St.
Grand Forks ND 58201

Report Date: 26 Nov 21
Lab Number: 21-W4371
Work Order #: 82-3114
Account #: 007033
Date Sampled: 9 Nov 21 13:30
Date Received: 10 Nov 21 7:24
Sampled By: Client

Project Name: NDCS

PO #: 25411

Sample Description: NDCS-1686

Temp at Receipt: 0.4C ROI

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Manganese - Dissolved	0.5230	mg/l	0.0020	6020B	17 Nov 21 15:06	MDE
Molybdenum - Dissolved	< 0.002	mg/l	0.0020	6020B	16 Nov 21 14:31	MDE
Nickel - Dissolved	< 0.002	mg/l	0.0020	6020B	16 Nov 21 14:31	MDE
Selenium - Dissolved	< 0.005	mg/l	0.0050	6020B	16 Nov 21 14:31	MDE
Silver - Dissolved	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 14:31	MDE
Thallium - Dissolved	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 14:31	MDE
Vanadium - Dissolved	< 0.002	mg/l	0.0020	6020B	16 Nov 21 14:31	MDE

Bromide was analyzed at MVTL, New Ulm, MN.
ND Certification #:R-040

* Holding time exceeded

Approved by:

Claudette K. Carroll

Claudette K. Carroll, Laboratory Manager, Bismarck, ND

RL = Method Reporting Limit

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

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! = Due to sample quantity + = Due to internal standard response

CERTIFICATION: ND # ND-00016

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Page: 1 of 4

Barry Botnen
UND-Energy & Environmental
15 N. 23rd St.
Grand Forks ND 58201

Report Date: 26 Nov 21
Lab Number: 21-W4372
Work Order #: 82-3114
Account #: 007033
Date Sampled: 9 Nov 21 15:00
Date Received: 10 Nov 21 7:24
Sampled By: Client

Project Name: NDCS

PO #: 25411

Sample Description: NDCS-W217

Temp at Receipt: 0.4C ROI

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Metal Digestion				EPA 200.2	10 Nov 21	AC
pH	* 7.9	units	N/A	SM4500-H+-B-11	10 Nov 21 17:00	AC
Conductivity (EC)	2750	umhos/cm	N/A	SM2510B-11	10 Nov 21 17:00	AC
Total Alkalinity	1040	mg/l CaCO3	20	SM2320B-11	10 Nov 21 17:00	AC
Phenolphthalein Alk	< 20	mg/l CaCO3	20	SM2320B-11	10 Nov 21 17:00	AC
Bicarbonate	1040	mg/l CaCO3	20	SM2320B-11	10 Nov 21 17:00	AC
Carbonate	< 20	mg/l CaCO3	20	SM2320B-11	10 Nov 21 17:00	AC
Hydroxide	< 20	mg/l CaCO3	20	SM2320B-11	10 Nov 21 17:00	AC
Tot Dis Solids(Summation)	1630	mg/l	12.5	SM1030-F	18 Nov 21 14:34	Calculated
Cation Summation	27.2	meq/L	NA	SM1030-F	15 Nov 21 10:55	Calculated
Anion Summation	31.5	meq/L	NA	SM1030-F	18 Nov 21 14:34	Calculated
Percent Error	-7.29	%	NA	SM1030-F	18 Nov 21 14:34	Calculated
Bromide	2.90	mg/l	0.100	EPA 300.0	15 Nov 21 20:42	RMV
Total Organic Carbon	1.1	mg/l	0.5	SM5310C-11	16 Nov 21 21:44	NAS
Dissolved Organic Carbon	1.2	mg/l	0.5	SM5310C-96	16 Nov 21 21:44	NAS
Fluoride	3.27	mg/l	0.10	SM4500-F-C	10 Nov 21 17:00	AC
Sulfate	< 5	mg/l	5.00	ASTM D516-11	15 Nov 21 14:26	SD
Chloride	379	mg/l	2.0	SM4500-Cl-E-11	10 Nov 21 10:55	SD
Nitrate-Nitrite as N	< 0.2	mg/l	0.20	EPA 353.2	18 Nov 21 14:34	SD
Nitrite as N	< 0.2	mg/l	0.20	EPA 353.2	10 Nov 21 14:18	SD
Phosphorus as P - Total	< 0.2	mg/l	0.20	EPA 365.1	19 Nov 21 8:56	SD
Phosphorus as P-Dissolved	< 0.2	mg/l	0.20	EPA 365.1	19 Nov 21 10:05	SD
Mercury - Total	< 0.0002	mg/l	0.0002	EPA 245.1	11 Nov 21 13:07	MDE
Mercury - Dissolved	< 0.0002	mg/l	0.0002	EPA 245.1	11 Nov 21 14:29	MDE

RL = Method Reporting Limit

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

@ = Due to sample matrix
! = Due to sample quantity

= Due to concentration of other analytes
+ = Due to internal standard response

CERTIFICATION: ND # ND-00016

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Barry Botnen
UND-Energy & Environmental
15 N. 23rd St.
Grand Forks ND 58201

Report Date: 26 Nov 21
Lab Number: 21-W4372
Work Order #: 82-3114
Account #: 007033
Date Sampled: 9 Nov 21 15:00
Date Received: 10 Nov 21 7:24
Sampled By: Client

Project Name: NDCS

PO #: 25411

Sample Description: NDCS-W217

Temp at Receipt: 0.4C ROI

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Total Dissolved Solids	1660	mg/l	10	USGS I1750-85	12 Nov 21 9:25	RAA
Calcium - Total	4.3	mg/l	1.0	6010D	11 Nov 21 13:00	SZ
Magnesium - Total	1.1	mg/l	1.0	6010D	11 Nov 21 13:00	SZ
Sodium - Total	615	mg/l	1.0	6010D	11 Nov 21 13:00	SZ
Potassium - Total	2.7	mg/l	1.0	6010D	11 Nov 21 13:00	SZ
Lithium - Total	0.090	mg/l	0.020	6010D	16 Nov 21 9:32	SZ
Aluminum - Total	< 0.1	mg/l	0.10	6010D	12 Nov 21 11:33	MDE
Iron - Total	< 0.1	mg/l	0.10	6010D	12 Nov 21 11:33	MDE
Silicon - Total	5.32	mg/l	0.10	6010D	16 Nov 21 13:55	SZ
Strontium - Total	0.17	mg/l	0.10	6010D	12 Nov 21 11:33	MDE
Zinc - Total	0.11	mg/l	0.05	6010D	12 Nov 21 11:33	MDE
Boron - Total	2.96	mg/l	0.10	6010D	17 Nov 21 9:08	SZ
Calcium - Dissolved	4.3	mg/l	1.0	6010D	11 Nov 21 16:00	SZ
Magnesium - Dissolved	1.1	mg/l	1.0	6010D	11 Nov 21 16:00	SZ
Sodium - Dissolved	617	mg/l	1.0	6010D	11 Nov 21 16:00	SZ
Potassium - Dissolved	3.0	mg/l	1.0	6010D	11 Nov 21 16:00	SZ
Lithium - Dissolved	0.102	mg/l	0.020	6010D	16 Nov 21 11:32	SZ
Aluminum - Dissolved	< 0.1	mg/l	0.10	6010D	15 Nov 21 10:55	MDE
Iron - Dissolved	< 0.1	mg/l	0.10	6010D	15 Nov 21 10:55	MDE
Silicon - Dissolved	5.52	mg/l	0.10	6010D	16 Nov 21 15:55	SZ
Strontium - Dissolved	0.19	mg/l	0.10	6010D	15 Nov 21 10:55	MDE
Zinc - Dissolved	0.11	mg/l	0.05	6010D	15 Nov 21 10:55	MDE
Boron - Dissolved	3.06	mg/l	0.10	6010D	17 Nov 21 14:08	SZ
Antimony - Total	< 0.001	mg/l	0.0010	6020B	16 Nov 21 11:07	MDE

RL = Method Reporting Limit

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CERTIFICATION: ND # ND-00016

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Barry Botnen
UND-Energy & Environmental
15 N. 23rd St.
Grand Forks ND 58201

Report Date: 26 Nov 21
Lab Number: 21-W4372
Work Order #: 82-3114
Account #: 007033
Date Sampled: 9 Nov 21 15:00
Date Received: 10 Nov 21 7:24
Sampled By: Client

Project Name: NDCS

PO #: 25411

Sample Description: NDCS-W217

Temp at Receipt: 0.4C ROI

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Arsenic - Total	< 0.002	mg/l	0.0020	6020B	16 Nov 21 11:07	MDE
Barium - Total	0.1333	mg/l	0.0020	6020B	16 Nov 21 11:07	MDE
Beryllium - Total	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 11:07	MDE
Cadmium - Total	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 11:07	MDE
Chromium - Total	< 0.002	mg/l	0.0020	6020B	16 Nov 21 11:07	MDE
Cobalt - Total	< 0.002	mg/l	0.0020	6020B	16 Nov 21 11:07	MDE
Copper - Total	0.0163	mg/l	0.0020	6020B	16 Nov 21 11:07	MDE
Lead - Total	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 11:07	MDE
Manganese - Total	0.0050	mg/l	0.0020	6020B	16 Nov 21 11:07	MDE
Molybdenum - Total	0.0053	mg/l	0.0020	6020B	16 Nov 21 11:07	MDE
Nickel - Total	< 0.002	mg/l	0.0020	6020B	16 Nov 21 11:07	MDE
Selenium - Total	< 0.005	mg/l	0.0050	6020B	16 Nov 21 11:07	MDE
Silver - Total	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 11:07	MDE
Thallium - Total	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 11:07	MDE
Vanadium - Total	< 0.002	mg/l	0.0020	6020B	16 Nov 21 11:07	MDE
Antimony - Dissolved	< 0.001	mg/l	0.0010	6020B	16 Nov 21 14:31	MDE
Arsenic - Dissolved	< 0.002	mg/l	0.0020	6020B	16 Nov 21 14:31	MDE
Barium - Dissolved	0.1295	mg/l	0.0020	6020B	16 Nov 21 14:31	MDE
Beryllium - Dissolved	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 16:48	MDE
Cadmium - Dissolved	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 14:31	MDE
Chromium - Dissolved	< 0.002	mg/l	0.0020	6020B	16 Nov 21 14:31	MDE
Cobalt - Dissolved	< 0.002	mg/l	0.0020	6020B	16 Nov 21 14:31	MDE
Copper - Dissolved	0.0114	mg/l	0.0020	6020B	16 Nov 21 14:31	MDE
Lead - Dissolved	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 14:31	MDE

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CERTIFICATION: ND # ND-00016

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Barry Botnen
UND-Energy & Environmental
15 N. 23rd St.
Grand Forks ND 58201

Report Date: 26 Nov 21
Lab Number: 21-W4372
Work Order #: 82-3114
Account #: 007033
Date Sampled: 9 Nov 21 15:00
Date Received: 10 Nov 21 7:24
Sampled By: Client

Project Name: NDCS

PO #: 25411

Sample Description: NDCS-W217

Temp at Receipt: 0.4C ROI

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Manganese - Dissolved	0.0043	mg/l	0.0020	6020B	16 Nov 21 14:31	MDE
Molybdenum - Dissolved	0.0051	mg/l	0.0020	6020B	16 Nov 21 14:31	MDE
Nickel - Dissolved	< 0.002	mg/l	0.0020	6020B	16 Nov 21 14:31	MDE
Selenium - Dissolved	< 0.005	mg/l	0.0050	6020B	16 Nov 21 14:31	MDE
Silver - Dissolved	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 14:31	MDE
Thallium - Dissolved	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 14:31	MDE
Vanadium - Dissolved	< 0.002	mg/l	0.0020	6020B	16 Nov 21 14:31	MDE

Bromide was analyzed at MVTL, New Ulm, MN.
ND Certification #:R-040

* Holding time exceeded

Approved by:

Claudette K. Carroll

Claudette K. Carroll, Laboratory Manager, Bismarck, ND

RL = Method Reporting Limit

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

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! = Due to sample quantity + = Due to internal standard response

CERTIFICATION: ND # ND-00016

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Barry Botnen
UND-Energy & Environmental
15 N. 23rd St.
Grand Forks ND 58201

Report Date: 26 Nov 21
Lab Number: 21-W4373
Work Order #: 82-3114
Account #: 007033
Date Sampled: 9 Nov 21 16:30
Date Received: 10 Nov 21 7:24
Sampled By: Client

Project Name: NDCS

PO #: 25411

Sample Description: NDCS-W395

Temp at Receipt: 0.4C ROI

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Metal Digestion				EPA 200.2	10 Nov 21	AC
pH	* 8.2	units	N/A	SM4500-H+-B-11	10 Nov 21 17:00	AC
Conductivity (EC)	2904	umhos/cm	N/A	SM2510B-11	10 Nov 21 17:00	AC
Total Alkalinity	1030	mg/l CaCO3	20	SM2320B-11	10 Nov 21 17:00	AC
Phenolphthalein Alk	< 20	mg/l CaCO3	20	SM2320B-11	10 Nov 21 17:00	AC
Bicarbonate	1030	mg/l CaCO3	20	SM2320B-11	10 Nov 21 17:00	AC
Carbonate	< 20	mg/l CaCO3	20	SM2320B-11	10 Nov 21 17:00	AC
Hydroxide	< 20	mg/l CaCO3	20	SM2320B-11	10 Nov 21 17:00	AC
Tot Dis Solids(Summation)	1740	mg/l	12.5	SM1030-F	18 Nov 21 14:34	Calculated
Cation Summation	28.7	meq/L	NA	SM1030-F	15 Nov 21 10:55	Calculated
Anion Summation	33.1	meq/L	NA	SM1030-F	18 Nov 21 14:34	Calculated
Percent Error	-7.12	%	NA	SM1030-F	18 Nov 21 14:34	Calculated
Bromide	3.20	mg/l	0.100	EPA 300.0	15 Nov 21 21:03	RMV
Total Organic Carbon	1.2	mg/l	0.5	SM5310C-11	16 Nov 21 21:44	NAS
Dissolved Organic Carbon	1.2	mg/l	0.5	SM5310C-96	16 Nov 21 21:44	NAS
Fluoride	2.31	mg/l	0.10	SM4500-F-C	10 Nov 21 17:00	AC
Sulfate	< 5	mg/l	5.00	ASTM D516-11	15 Nov 21 14:26	SD
Chloride	442	mg/l	2.0	SM4500-Cl-E-11	10 Nov 21 10:55	SD
Nitrate-Nitrite as N	< 0.2	mg/l	0.20	EPA 353.2	18 Nov 21 14:34	SD
Nitrite as N	< 0.2	mg/l	0.20	EPA 353.2	10 Nov 21 14:18	SD
Phosphorus as P - Total	< 0.2	mg/l	0.20	EPA 365.1	19 Nov 21 8:56	SD
Phosphorus as P-Dissolved	< 0.2	mg/l	0.20	EPA 365.1	19 Nov 21 10:05	SD
Mercury - Total	< 0.0002	mg/l	0.0002	EPA 245.1	11 Nov 21 13:07	MDE
Mercury - Dissolved	< 0.0002	mg/l	0.0002	EPA 245.1	11 Nov 21 14:29	MDE

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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Barry Botnen
UND-Energy & Environmental
15 N. 23rd St.
Grand Forks ND 58201

Report Date: 26 Nov 21
Lab Number: 21-W4373
Work Order #: 82-3114
Account #: 007033
Date Sampled: 9 Nov 21 16:30
Date Received: 10 Nov 21 7:24
Sampled By: Client

Project Name: NDCS

PO #: 25411

Sample Description: NDCS-W395

Temp at Receipt: 0.4C ROI

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Total Dissolved Solids	1760	mg/l	10	USGS I1750-85	12 Nov 21 9:25	RAA
Calcium - Total	4.9	mg/l	1.0	6010D	11 Nov 21 14:00	SZ
Magnesium - Total	1.8	mg/l	1.0	6010D	11 Nov 21 14:00	SZ
Sodium - Total	668	mg/l	1.0	6010D	11 Nov 21 14:00	SZ
Potassium - Total	3.1	mg/l	1.0	6010D	11 Nov 21 14:00	SZ
Lithium - Total	0.099	mg/l	0.020	6010D	16 Nov 21 9:32	SZ
Aluminum - Total	< 0.1	mg/l	0.10	6010D	12 Nov 21 11:33	MDE
Iron - Total	1.86	mg/l	0.10	6010D	12 Nov 21 11:33	MDE
Silicon - Total	5.20	mg/l	0.10	6010D	16 Nov 21 14:55	SZ
Strontium - Total	0.23	mg/l	0.10	6010D	12 Nov 21 11:33	MDE
Zinc - Total	0.60	mg/l	0.05	6010D	12 Nov 21 11:33	MDE
Boron - Total	2.79	mg/l	0.10	6010D	17 Nov 21 9:08	SZ
Calcium - Dissolved	4.9	mg/l	1.0	6010D	11 Nov 21 16:00	SZ
Magnesium - Dissolved	1.7	mg/l	1.0	6010D	11 Nov 21 16:00	SZ
Sodium - Dissolved	647	mg/l	1.0	6010D	11 Nov 21 16:00	SZ
Potassium - Dissolved	3.4	mg/l	1.0	6010D	11 Nov 21 16:00	SZ
Lithium - Dissolved	0.106	mg/l	0.020	6010D	16 Nov 21 11:32	SZ
Aluminum - Dissolved	< 0.1	mg/l	0.10	6010D	15 Nov 21 10:55	MDE
Iron - Dissolved	0.35	mg/l	0.10	6010D	15 Nov 21 10:55	MDE
Silicon - Dissolved	5.25	mg/l	0.10	6010D	16 Nov 21 15:55	SZ
Strontium - Dissolved	0.25	mg/l	0.10	6010D	15 Nov 21 10:55	MDE
Zinc - Dissolved	0.09	mg/l	0.05	6010D	15 Nov 21 10:55	MDE
Boron - Dissolved	2.87	mg/l	0.10	6010D	17 Nov 21 14:08	SZ
Antimony - Total	< 0.001	mg/l	0.0010	6020B	16 Nov 21 11:07	MDE

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

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

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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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Page: 3 of 4

Barry Botnen
UND-Energy & Environmental
15 N. 23rd St.
Grand Forks ND 58201

Report Date: 26 Nov 21
Lab Number: 21-W4373
Work Order #: 82-3114
Account #: 007033
Date Sampled: 9 Nov 21 16:30
Date Received: 10 Nov 21 7:24
Sampled By: Client

Project Name: NDCS

PO #: 25411

Sample Description: NDCS-W395

Temp at Receipt: 0.4C ROI

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Arsenic - Total	< 0.002	mg/l	0.0020	6020B	16 Nov 21 11:07	MDE
Barium - Total	0.1742	mg/l	0.0020	6020B	16 Nov 21 11:07	MDE
Beryllium - Total	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 11:07	MDE
Cadmium - Total	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 11:07	MDE
Chromium - Total	< 0.002	mg/l	0.0020	6020B	16 Nov 21 11:07	MDE
Cobalt - Total	< 0.002	mg/l	0.0020	6020B	16 Nov 21 11:07	MDE
Copper - Total	0.0075	mg/l	0.0020	6020B	16 Nov 21 11:07	MDE
Lead - Total	0.0049	mg/l	0.0005	6020B	16 Nov 21 11:07	MDE
Manganese - Total	0.0167	mg/l	0.0020	6020B	16 Nov 21 11:07	MDE
Molybdenum - Total	0.0045	mg/l	0.0020	6020B	16 Nov 21 11:07	MDE
Nickel - Total	< 0.002	mg/l	0.0020	6020B	16 Nov 21 11:07	MDE
Selenium - Total	< 0.005	mg/l	0.0050	6020B	16 Nov 21 11:07	MDE
Silver - Total	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 11:07	MDE
Thallium - Total	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 11:07	MDE
Vanadium - Total	< 0.002	mg/l	0.0020	6020B	16 Nov 21 11:07	MDE
Antimony - Dissolved	< 0.001	mg/l	0.0010	6020B	16 Nov 21 14:31	MDE
Arsenic - Dissolved	< 0.002	mg/l	0.0020	6020B	16 Nov 21 14:31	MDE
Barium - Dissolved	0.1580	mg/l	0.0020	6020B	16 Nov 21 14:31	MDE
Beryllium - Dissolved	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 16:48	MDE
Cadmium - Dissolved	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 14:31	MDE
Chromium - Dissolved	< 0.002	mg/l	0.0020	6020B	16 Nov 21 14:31	MDE
Cobalt - Dissolved	< 0.002	mg/l	0.0020	6020B	16 Nov 21 14:31	MDE
Copper - Dissolved	< 0.002	mg/l	0.0020	6020B	16 Nov 21 14:31	MDE
Lead - Dissolved	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 14:31	MDE

RL = Method Reporting Limit

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Page: 4 of 4

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Date Received: 10 Nov 21 7:24
Sampled By: Client

Project Name: NDCS

PO #: 25411

Sample Description: NDCS-W395

Temp at Receipt: 0.4C ROI

	As Received Result		Method RL	Method Reference	Date Analyzed	Analyst
Manganese - Dissolved	0.0094	mg/l	0.0020	6020B	16 Nov 21 14:31	MDE
Molybdenum - Dissolved	0.0043	mg/l	0.0020	6020B	16 Nov 21 14:31	MDE
Nickel - Dissolved	< 0.002	mg/l	0.0020	6020B	16 Nov 21 14:31	MDE
Selenium - Dissolved	< 0.005	mg/l	0.0050	6020B	16 Nov 21 14:31	MDE
Silver - Dissolved	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 14:31	MDE
Thallium - Dissolved	< 0.0005	mg/l	0.0005	6020B	16 Nov 21 14:31	MDE
Vanadium - Dissolved	< 0.002	mg/l	0.0020	6020B	16 Nov 21 14:31	MDE

Bromide was analyzed at MVTL, New Ulm, MN.
ND Certification #:R-040

* Holding time exceeded

Approved by:

Claudette K. Carroll

Claudette K. Carroll, Laboratory Manager, Bismarck, ND

RL = Method Reporting Limit

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

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CERTIFICATION: ND # ND-00016