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CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

Work Order	: **WP2413356**	Page	: 1 of 10
Client	: **Manitoba Conservation & Climate**	Laboratory	: ALS Environmental - Winnipeg
Contact	: Marc Balcaen	Account Manager	: Sheriza Rajack-Ahamed
Address	: 14 Fultz Boulevard Winnipeg MB Canada R3Y 0L6	Address	: 1329 Niakwa Road East, Unit 12 Winnipeg, Manitoba Canada R2J 3T4
Telephone	: 204 945 5776	Telephone	: +1 204 255 9720
Project	: Niverville Spruce Drive - PWS 151.25	Date Samples Received	: 28-May-2024 09:46
PO	: ----	Date Analysis Commenced	: 28-May-2024
C-O-C number	: ----	Issue Date	: 03-Jun-2024 11:56
Sampler	: ----		
Site	: Niverville Spruce Drive - PWS 151.25 Op Id: 42862		
Quote number	: 2024 WTP Chemistry		
No. of samples received	: 3		
No. of samples analysed	: 3		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Gerry Vera	Analyst	Organics, Winnipeg, Manitoba
Rhovee Guevarra		Inorganics, Winnipeg, Manitoba
Rhovee Guevarra		Metals, Winnipeg, Manitoba

Summary of Guideline Breaches by Sample

SampleID/Client ID	Matrix	Analyte	Analyte Summary	Guideline	Category	Result	Limit
NIVERVILLE SPRUCE DRIVE 1 - RAW	Water	Solids, total dissolved [TDS]	Based on taste; TDS above 500 mg/L results in excessive scaling in water pipes, water heaters, boilers and appliances; TDS is composed of calcium, magnesium, sodium, potassium, carbonate, bicarbonate, chloride, sulphate and nitrate.	CDWG	AO	591 mg/L	500 mg/L
	Water	Turbidity	For systems that use groundwater, turbidity should generally be below 1.0 NTU. Filtration systems should be designed and operated to reduce turbidity levels as low as reasonably achievable and strive to achieve a treated water turbidity target from individual filters of less than 0.1 NTU.	CDWG	AO	1.49 NTU	1 NTU
	Water	Iron, total	Based on taste and staining of laundry and plumbing fixtures; no evidence exists of dietary iron toxicity in the general population.	CDWG	AO	312 µg/L	300 µg/L

General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.
Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

Unit	*Description*
-	no units
%	percent
% T/cm	% transmittance per centimetre
µg/L	micrograms per litre
µS/cm	microsiemens per centimetre
AU/cm	absorbance units per centimetre
CU	colour units (1 cu = 1 mg/l pt)
meq/L	milliequivalents per litre
mg/L	milligrams per litre
NTU	nephelometric turbidity units
pH units	pH units

>: greater than.
<: less than.
Red shading is applied where the result or the LOR is greater than the Guideline Upper Limit (or lower than the Guideline Lower Limit, if applicable).
For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.

Analytical Results Evaluation

Matrix: **Drinking Water**

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	NIVERVILLE SPRUCE DRIVE 1 - RAW	NIVERVILLE SPRUCE DRIVE 2 - TREATED	NIVERVILLE SPRUCE DRIVE 3 - DISTRIBUTION @ MID POINT	----	----	----	----
				Sampling date/time	28-May-2024 08:00	28-May-2024 08:10	28-May-2024 08:17	----	----	----	----
				Sub-Matrix	Drinking Water	Drinking Water	Drinking Water	----	----	----	----
					WP2413356-001	WP2413356-002	WP2413356-003	--------	--------	--------	--------
Physical Tests											
Absorbance, UV (@ 254nm)	----	E404/WP	AU/cm		0.0280	0.0130	----	----	----	----	----
Alkalinity, bicarbonate (as CaCO3)	----	E290/WP	mg/L		282	155	----	----	----	----	----
Alkalinity, carbonate (as CaCO3)	----	E290/WP	mg/L		<1.0	<1.0	----	----	----	----	----
Alkalinity, hydroxide (as CaCO3)	----	E290/WP	mg/L		<1.0	<1.0	----	----	----	----	----
Alkalinity, total (as CaCO3)	----	E290/WP	mg/L		282	155	----	----	----	----	----
Colour, true	----	E329/WP	CU		<5.0	<5.0	----	----	----	----	----
Conductivity	----	E100/WP	µS/cm		1120	653	----	----	----	----	----
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/WP	mg/L		145	76.2	----	----	----	----	----
Langelier index (@ 4°C)	----	EC105A/WP	-		0.311	-0.254	----	----	----	----	----
Langelier index (@ 60°C)	----	EC105A/WP	-		1.06	0.508	----	----	----	----	----
pH	----	E108/WP	pH units		8.12	8.02	----	----	----	----	----
Solids, total dissolved [TDS]	----	E162-L/WP	mg/L		591	330	----	----	----	----	----
Turbidity	----	E121/WP	NTU		1.49	<0.10	----	----	----	----	----
Transmittance, UV (@ 254nm)	----	E404/WP	% T/cm		93.8	97.0	----	----	----	----	----
Anions and Nutrients											
Ammonia, total (as N)	7664-41-7	E298/WP	mg/L		0.664	<0.0050	----	----	----	----	----
Bromide	24959-67-9	E235.Br-L/WP	mg/L		0.191	<0.050	----	----	----	----	----
Chloride	16887-00-6	E235.Cl-L/WP	mg/L		182	111	----	----	----	----	----
Fluoride	16984-48-8	E235.F/WP	mg/L		0.853	0.445	----	----	----	----	----
Nitrate (as N)	14797-55-8	E235.NO3-L/WP	mg/L		<0.0050	0.125	----	----	----	----	----
Nitrite (as N)	14797-65-0	E235.NO2-L/WP	mg/L		<0.0010	<0.0010	----	----	----	----	----
Sulfate (as SO4)	14808-79-8	E235.SO4/WP	mg/L		34.7	18.6	----	----	----	----	----
Organic / Inorganic Carbon											
Carbon, dissolved organic [DOC]	----	E358-L/WP	mg/L		1.31	1.68	----	----	----	----	----
Carbon, total organic [TOC]	----	E355-L/WP	mg/L		1.71	0.81	----	----	----	----	----

Analytical Results Evaluation

Matrix: **Drinking Water**

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	NIVERVILLE SPRUCE DRIVE 1 - RAW	NIVERVILLE SPRUCE DRIVE 2 - TREATED	NIVERVILLE SPRUCE DRIVE 3 - DISTRIBUTION @ MID POINT	----	----	----	----
				Sampling date/time	28-May-2024 08:00	28-May-2024 08:10	28-May-2024 08:17	----	----	----	----
				Sub-Matrix	Drinking Water	Drinking Water	Drinking Water	----	----	----	----
					WP2413356-001	WP2413356-002	WP2413356-003	--------	--------	--------	--------
Ion Balance											
Anion sum	----	EC101A/WP	meq/L		11.5	6.65	----	----	----	----	----
Cation sum (total)	----	EC101A/WP	meq/L		10.3	5.81	----	----	----	----	----
Ion balance (cations/anions)	----	EC101A/WP	%		89.6	87.4	----	----	----	----	----
Ion balance (APHA)	----	EC101A/WP	%		-5.50	-6.74	----	----	----	----	----
Total Metals											
Aluminum, total	7429-90-5	E420/WP	µg/L		<3.0	<3.0	3.1	----	----	----	----
Antimony, total	7440-36-0	E420/WP	µg/L		<0.10	<0.10	<0.10	----	----	----	----
Arsenic, total	7440-38-2	E420/WP	µg/L		3.03	1.76	1.75	----	----	----	----
Barium, total	7440-39-3	E420/WP	µg/L		48.2	24.2	23.7	----	----	----	----
Beryllium, total	7440-41-7	E420/WP	µg/L		<0.020	<0.020	Not Detected	----	----	----	----
Bismuth, total	7440-69-9	E420/WP	µg/L		<0.050	Not Detected	<0.050	----	----	----	----
Boron, total	7440-42-8	E420/WP	µg/L		453	442	442	----	----	----	----
Cadmium, total	7440-43-9	E420/WP	µg/L		<0.0050	<0.0050	0.0072	----	----	----	----
Calcium, total	7440-70-2	E420/WP	µg/L		30200	16500	16600	----	----	----	----
Cesium, total	7440-46-2	E420/WP	µg/L		<0.010	<0.010	<0.010	----	----	----	----
Chromium, total	7440-47-3	E420/WP	µg/L		Not Detected	Not Detected	<0.50	----	----	----	----
Cobalt, total	7440-48-4	E420/WP	µg/L		0.12	<0.10	<0.10	----	----	----	----
Copper, total	7440-50-8	E420/WP	µg/L		3.92	15.7	7.99	----	----	----	----
Iron, total	7439-89-6	E420/WP	µg/L		312	<10	<10	----	----	----	----
Lead, total	7439-92-1	E420/WP	µg/L		<0.050	<0.050	0.291	----	----	----	----
Lithium, total	7439-93-2	E420/WP	µg/L		43.8	24.4	24.7	----	----	----	----
Magnesium, total	7439-95-4	E420/WP	µg/L		16900	8500	8920	----	----	----	----
Manganese, total	7439-96-5	E420/WP	µg/L		7.70	2.36	1.64	----	----	----	----
Molybdenum, total	7439-98-7	E420/WP	µg/L		3.77	2.02	2.02	----	----	----	----
Nickel, total	7440-02-0	E420/WP	µg/L		<0.50	<0.50	0.51	----	----	----	----
Phosphorus, total	7723-14-0	E420/WP	µg/L		<50	213	212	----	----	----	----

Analytical Results Evaluation

Matrix: **Drinking Water**

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	NIVERVILLE SPRUCE DRIVE 1 - RAW	NIVERVILLE SPRUCE DRIVE 2 - TREATED	NIVERVILLE SPRUCE DRIVE 3 - DISTRIBUTION @ MID POINT	----	----	----	----
				Sampling date/time	28-May-2024 08:00	28-May-2024 08:10	28-May-2024 08:17	----	----	----	----
				Sub-Matrix	Drinking Water	Drinking Water	Drinking Water	----	----	----	----
				WP2413356-001	WP2413356-002	WP2413356-003	--------	--------	--------	--------	
Total Metals											
Potassium, total	7440-09-7	E420/WP	µg/L	9060	5050	5010	----	----	----	----	
Rubidium, total	7440-17-7	E420/WP	µg/L	4.53	2.71	2.64	----	----	----	----	
Selenium, total	7782-49-2	E420/WP	µg/L	<0.050	<0.050	<0.050	----	----	----	----	
Silicon, total	7440-21-3	E420/WP	µg/L	4990	2610	2600	----	----	----	----	
Silver, total	7440-22-4	E420/WP	µg/L	<0.010	<0.010	Not Detected	----	----	----	----	
Sodium, total	7440-23-5	E420/WP	µg/L	163000	95500	97200	----	----	----	----	
Strontium, total	7440-24-6	E420/WP	µg/L	476	254	249	----	----	----	----	
Sulfur, total	7704-34-9	E420/WP	µg/L	12200	6230	5890	----	----	----	----	
Tellurium, total	13494-80-9	E420/WP	µg/L	<0.20	<0.20	<0.20	----	----	----	----	
Thallium, total	7440-28-0	E420/WP	µg/L	<0.010	Not Detected	Not Detected	----	----	----	----	
Thorium, total	7440-29-1	E420/WP	µg/L	<0.10	Not Detected	Not Detected	----	----	----	----	
Tin, total	7440-31-5	E420/WP	µg/L	<0.10	<0.10	0.15	----	----	----	----	
Titanium, total	7440-32-6	E420/WP	µg/L	<0.30	Not Detected	<0.30	----	----	----	----	
Tungsten, total	7440-33-7	E420/WP	µg/L	Not Detected	Not Detected	Not Detected	----	----	----	----	
Uranium, total	7440-61-1	E420/WP	µg/L	0.234	0.128	0.121	----	----	----	----	
Vanadium, total	7440-62-2	E420/WP	µg/L	<0.50	<0.50	<0.50	----	----	----	----	
Zinc, total	7440-66-6	E420/WP	µg/L	<3.0	5.1	27.6	----	----	----	----	
Zirconium, total	7440-67-7	E420/WP	µg/L	<0.20	<0.20	Not Detected	----	----	----	----	
Volatile Organic Compounds											
Benzene	71-43-2	E611D/WP	mg/L	<0.00050	----	----	----	----	----	----	
Bromodichloromethane	75-27-4	E611D/WP	mg/L	<0.00050	----	----	----	----	----	----	
Bromoform	75-25-2	E611D/WP	mg/L	<0.00050	----	----	----	----	----	----	
Chloroform	67-66-3	E611D/WP	mg/L	<0.00050	----	----	----	----	----	----	
Dibromochloromethane	124-48-1	E611D/WP	mg/L	<0.00050	----	----	----	----	----	----	
Dichloromethane	75-09-2	E611D/WP	mg/L	<0.0010	----	----	----	----	----	----	
Ethylbenzene	100-41-4	E611D/WP	mg/L	<0.00050	----	----	----	----	----	----	

Analytical Results Evaluation

Matrix: **Drinking Water**

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	NIVERVILLE SPRUCE DRIVE 1 - RAW	NIVERVILLE SPRUCE DRIVE 2 - TREATED	NIVERVILLE SPRUCE DRIVE 3 - DISTRIBUTION @ MID POINT	----	----	----	----
				Sampling date/time	28-May-2024 08:00	28-May-2024 08:10	28-May-2024 08:17	----	----	----	----
				Sub-Matrix	Drinking Water	Drinking Water	Drinking Water	----	----	----	----
					WP2413356-001	WP2413356-002	WP2413356-003	--------	--------	--------	--------
Volatile Organic Compounds											
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D/WP	mg/L		<0.00050	----	----	----	----	----	----
Tetrachloroethylene	127-18-4	E611D/WP	mg/L		<0.00050	----	----	----	----	----	----
Toluene	108-88-3	E611D/WP	mg/L		<0.00050	----	----	----	----	----	----
Trichloroethane, 1,1,1-	71-55-6	E611D/WP	mg/L		<0.00050	----	----	----	----	----	----
Trichloroethane, 1,1,2-	79-00-5	E611D/WP	mg/L		<0.00050	----	----	----	----	----	----
Trichloroethylene	79-01-6	E611D/WP	mg/L		<0.00050	----	----	----	----	----	----
Xylene, m+p-	179601-23-1	E611D/WP	mg/L		<0.00040	----	----	----	----	----	----
Xylene, o-	95-47-6	E611D/WP	mg/L		<0.00030	----	----	----	----	----	----
Xylenes, total	1330-20-7	E611D/WP	mg/L		<0.00050	----	----	----	----	----	----
BTEX, total	----	E611D/WP	mg/L		<0.0010	----	----	----	----	----	----
Volatile Organic Compounds Surrogates											
Bromofluorobenzene, 4-	460-00-4	E611D/WP	%		87.0	----	----	----	----	----	----
Difluorobenzene, 1,4-	540-36-3	E611D/WP	%		102	----	----	----	----	----	----

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

Summary of Guideline Limits

Analyte	CAS Number	Unit	CDWG AO	CDWG MAC	CDWG OG
Physical Tests					
Absorbance, UV (@ 254nm)	----	AU/cm	--	--	--
Alkalinity, bicarbonate (as CaCO3)	----	mg/L	--	--	--
Alkalinity, carbonate (as CaCO3)	----	mg/L	--	--	--
Alkalinity, hydroxide (as CaCO3)	----	mg/L	--	--	--
Alkalinity, total (as CaCO3)	----	mg/L	--	--	--
Colour, true	----	CU	**15 CU**	--	--
Conductivity	----	µS/cm	--	--	--
Hardness (as CaCO3), from total Ca/Mg	----	mg/L	--	--	--
Langelier index (@ 4°C)	----	-	--	--	--
Langelier index (@ 60°C)	----	-	--	--	--
pH	----	pH units	--	--	**7 - 10.5 pH units**
Solids, total dissolved [TDS]	----	mg/L	**500 mg/L**	--	--
Transmittance, UV (@ 254nm)	----	% T/cm	--	--	--
Turbidity	----	NTU	**1 NTU**	--	--
Anions and Nutrients					
Ammonia, total (as N)	7664-41-7	mg/L	--	--	--
Bromide	24959-67-9	mg/L	--	--	--
Chloride	16887-00-6	mg/L	**250 mg/L**	--	--
Fluoride	16984-48-8	mg/L	--	**1.5 mg/L**	--
Nitrate (as N)	14797-55-8	mg/L	--	**10 mg/L**	--
Nitrite (as N)	14797-65-0	mg/L	--	**1 mg/L**	--
Sulfate (as SO4)	14808-79-8	mg/L	**500 mg/L**	--	--
Organic / Inorganic Carbon					
Carbon, dissolved organic [DOC]	----	mg/L	--	--	--
Carbon, total organic [TOC]	----	mg/L	--	--	--
Ion Balance					
Anion sum	----	meq/L	--	--	--
Cation sum (total)	----	meq/L	--	--	--
Ion balance (APHA)	----	%	--	--	--
Ion balance (cations/anions)	----	%	--	--	--
Total Metals					
Aluminum, total	7429-90-5	µg/L	--	**2900 µg/L**	**100 µg/L**
Antimony, total	7440-36-0	µg/L	--	**6 µg/L**	--
Arsenic, total	7440-38-2	µg/L	--	**10 µg/L**	--
Barium, total	7440-39-3	µg/L	--	**2000 µg/L**	--
Beryllium, total	7440-41-7	µg/L	--	--	--

Analyte	CAS Number	Unit	CDWG AO	CDWG MAC	CDWG OG
Total Metals - Continued					
Bismuth, total	7440-69-9	µg/L	--	--	--
Boron, total	7440-42-8	µg/L	--	**5000 µg/L**	--
Cadmium, total	7440-43-9	µg/L	--	**7 µg/L**	--
Calcium, total	7440-70-2	µg/L	--	--	--
Cesium, total	7440-46-2	µg/L	--	--	--
Chromium, total	7440-47-3	µg/L	--	**50 µg/L**	--
Cobalt, total	7440-48-4	µg/L	--	--	--
Copper, total	7440-50-8	µg/L	**1000 µg/L**	**2000 µg/L**	--
Iron, total	7439-89-6	µg/L	**300 µg/L**	--	--
Lead, total	7439-92-1	µg/L	--	**5 µg/L**	--
Lithium, total	7439-93-2	µg/L	--	--	--
Magnesium, total	7439-95-4	µg/L	--	--	--
Manganese, total	7439-96-5	µg/L	**20 µg/L**	**120 µg/L**	--
Molybdenum, total	7439-98-7	µg/L	--	--	--
Nickel, total	7440-02-0	µg/L	--	--	--
Phosphorus, total	7723-14-0	µg/L	--	--	--
Potassium, total	7440-09-7	µg/L	--	--	--
Rubidium, total	7440-17-7	µg/L	--	--	--
Selenium, total	7782-49-2	µg/L	--	**50 µg/L**	--
Silicon, total	7440-21-3	µg/L	--	--	--
Silver, total	7440-22-4	µg/L	--	--	--
Sodium, total	7440-23-5	µg/L	**200000 µg/L**	--	--
Strontium, total	7440-24-6	µg/L	--	**7000 µg/L**	--
Sulfur, total	7704-34-9	µg/L	--	--	--
Tellurium, total	13494-80-9	µg/L	--	--	--
Thallium, total	7440-28-0	µg/L	--	--	--
Thorium, total	7440-29-1	µg/L	--	--	--
Tin, total	7440-31-5	µg/L	--	--	--
Titanium, total	7440-32-6	µg/L	--	--	--
Tungsten, total	7440-33-7	µg/L	--	--	--
Uranium, total	7440-61-1	µg/L	--	**20 µg/L**	--
Vanadium, total	7440-62-2	µg/L	--	--	--
Zinc, total	7440-66-6	µg/L	**5000 µg/L**	--	--
Zirconium, total	7440-67-7	µg/L	--	--	--
Volatile Organic Compounds					
Benzene	71-43-2	mg/L	--	**0.005 mg/L**	--
Bromodichloromethane	75-27-4	mg/L	--	--	--
Bromoform	75-25-2	mg/L	--	--	--
BTEX, total	----	mg/L	--	--	--

Analyte	*CAS Number*	*Unit*	CDWG AO	CDWG MAC	CDWG OG				
Volatile Organic Compounds - Continued									
Chloroform	67-66-3	mg/L	--	--	--				
Dibromochloromethane	124-48-1	mg/L	--	--	--				
Dichloromethane	75-09-2	mg/L	--	**0.05 mg/L**	--				
Ethylbenzene	100-41-4	mg/L	**0.0016 mg/L**	**0.14 mg/L**	--				
Methyl-tert-butyl ether [MTBE]	1634-04-4	mg/L	**0.015 mg/L**	--	--				
Tetrachloroethylene	127-18-4	mg/L	--	**0.01 mg/L**	--				
Toluene	108-88-3	mg/L	**0.024 mg/L**	**0.06 mg/L**	--				
Trichloroethane, 1,1,1-	71-55-6	mg/L	--	--	--				
Trichloroethane, 1,1,2-	79-00-5	mg/L	--	--	--				
Trichloroethylene	79-01-6	mg/L	--	**0.005 mg/L**	--				
Xylene, m+p-	179601-23-1	mg/L	--	--	--				
Xylene, o-	95-47-6	mg/L	--	--	--				
Xylenes, total	1330-20-7	mg/L	**0.02 mg/L**	**0.09 mg/L**	--				
Volatile Organic Compounds Surrogates									
Bromofluorobenzene, 4-	460-00-4	%	--	--	--				
Difluorobenzene, 1,4-	540-36-3	%	--	--	--				

Please refer to the General Comments section for an explanation of any qualifiers detected.

Key:

CDWG — Canada Guidelines for Canadian Drinking Water Quality (JAN, 2023)

AO — Aesthetic Objective

MAC — Maximum Acceptable Concentrations

OG — Operational Guidance

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **WP2413356**	Page	: 1 of 12
Client	: **Manitoba Conservation & Climate**	Laboratory	: ALS Environmental - Winnipeg
Contact	: Marc Balcaen	Account Manager	: Sheriza Rajack-Ahamed
Address	: 14 Fultz Boulevard Winnipeg MB Canada R3Y 0L6	Address	: 1329 Niakwa Road East, Unit 12 Winnipeg, Manitoba Canada R2J 3T4
Telephone	: ----	Telephone	: +1 204 255 9720
Project	: Niverville Spruce Drive - PWS 151.25	Date Samples Received	: 28-May-2024 09:46
PO	: ----	Issue Date	: 03-Jun-2024 11:56
C-O-C number	: ----		
Sampler	: ----		
Site	: Niverville Spruce Drive - PWS 151.25 Op Id: 42862		
Quote number	: 2024 WTP Chemistry		
No. of samples received	: 3		
No. of samples analysed	: 3		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO: Data Quality Objective.
LOR: Limit of Reporting (detection limit).
RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water** Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) NIVERVILLE SPRUCE DRIVE 1 - RAW	E298	28-May-2024	29-May-2024	28 days	1 days	✓	29-May-2024	28 days	1 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) NIVERVILLE SPRUCE DRIVE 2 - TREATED	E298	28-May-2024	29-May-2024	28 days	1 days	✓	29-May-2024	28 days	1 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE NIVERVILLE SPRUCE DRIVE 1 - RAW	E235.Br-L	28-May-2024	28-May-2024	28 days	0 days	✓	28-May-2024	28 days	0 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE NIVERVILLE SPRUCE DRIVE 2 - TREATED	E235.Br-L	28-May-2024	28-May-2024	28 days	0 days	✓	28-May-2024	28 days	0 days	✓
Anions and Nutrients : Chloride in Water by IC (Low Level)										
HDPE NIVERVILLE SPRUCE DRIVE 1 - RAW	E235.Cl-L	28-May-2024	28-May-2024	28 days	0 days	✓	28-May-2024	28 days	0 days	✓
Anions and Nutrients : Chloride in Water by IC (Low Level)										
HDPE NIVERVILLE SPRUCE DRIVE 2 - TREATED	E235.Cl-L	28-May-2024	28-May-2024	28 days	0 days	✓	28-May-2024	28 days	0 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE NIVERVILLE SPRUCE DRIVE 1 - RAW	E235.F	28-May-2024	28-May-2024	28 days	0 days	✓	28-May-2024	28 days	0 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Fluoride in Water by IC										
HDPE										
NIVERVILLE SPRUCE DRIVE 2 - TREATED	E235.F	28-May-2024	28-May-2024	28 days	0 days	✓	28-May-2024	28 days	0 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
NIVERVILLE SPRUCE DRIVE 1 - RAW	E235.NO3-L	28-May-2024	28-May-2024	3 days	0 days	✓	28-May-2024	3 days	0 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
NIVERVILLE SPRUCE DRIVE 2 - TREATED	E235.NO3-L	28-May-2024	28-May-2024	3 days	0 days	✓	28-May-2024	3 days	0 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE										
NIVERVILLE SPRUCE DRIVE 1 - RAW	E235.NO2-L	28-May-2024	28-May-2024	3 days	0 days	✓	28-May-2024	3 days	0 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE										
NIVERVILLE SPRUCE DRIVE 2 - TREATED	E235.NO2-L	28-May-2024	28-May-2024	3 days	0 days	✓	28-May-2024	3 days	0 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE										
NIVERVILLE SPRUCE DRIVE 1 - RAW	E235.SO4	28-May-2024	28-May-2024	28 days	0 days	✓	28-May-2024	28 days	0 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE										
NIVERVILLE SPRUCE DRIVE 2 - TREATED	E235.SO4	28-May-2024	28-May-2024	28 days	0 days	✓	28-May-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved)										
NIVERVILLE SPRUCE DRIVE 1 - RAW	E358-L	28-May-2024	29-May-2024	3 days	1 days	✓	29-May-2024	28 days	0 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (lab preserved)										
NIVERVILLE SPRUCE DRIVE 2 - TREATED	E358-L	28-May-2024	29-May-2024	3 days	1 days	✓	29-May-2024	28 days	0 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
NIVERVILLE SPRUCE DRIVE 1 - RAW	E355-L	28-May-2024	29-May-2024	28 days	1 days	✓	29-May-2024	28 days	1 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
NIVERVILLE SPRUCE DRIVE 2 - TREATED	E355-L	28-May-2024	29-May-2024	28 days	1 days	✓	29-May-2024	28 days	1 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE										
NIVERVILLE SPRUCE DRIVE 1 - RAW	E290	28-May-2024	29-May-2024	14 days	1 days	✓	29-May-2024	14 days	2 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE										
NIVERVILLE SPRUCE DRIVE 2 - TREATED	E290	28-May-2024	29-May-2024	14 days	1 days	✓	29-May-2024	14 days	2 days	✓
Physical Tests : Colour (True) by Spectrometer (5 CU)										
HDPE										
NIVERVILLE SPRUCE DRIVE 1 - RAW	E329	28-May-2024	29-May-2024	3 days	1 days	✓	29-May-2024	3 days	1 days	✓
Physical Tests : Colour (True) by Spectrometer (5 CU)										
HDPE										
NIVERVILLE SPRUCE DRIVE 2 - TREATED	E329	28-May-2024	29-May-2024	3 days	1 days	✓	29-May-2024	3 days	1 days	✓
Physical Tests : Conductivity in Water										
HDPE										
NIVERVILLE SPRUCE DRIVE 1 - RAW	E100	28-May-2024	29-May-2024	28 days	1 days	✓	29-May-2024	28 days	2 days	✓
Physical Tests : Conductivity in Water										
HDPE										
NIVERVILLE SPRUCE DRIVE 2 - TREATED	E100	28-May-2024	29-May-2024	28 days	1 days	✓	29-May-2024	28 days	2 days	✓
Physical Tests : pH by Meter										
HDPE										
NIVERVILLE SPRUCE DRIVE 1 - RAW	E108	28-May-2024	29-May-2024	0.25 hrs	24 hrs	× EHTR-FM	29-May-2024	0.25 hrs	36 hrs	× EHTR-FM

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : pH by Meter										
HDPE NIVERVILLE SPRUCE DRIVE 2 - TREATED	E108	28-May-2024	29-May-2024	0.25 hrs	24 hrs	× EHTR-FM	29-May-2024	0.25 hrs	36 hrs	× EHTR-FM
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE NIVERVILLE SPRUCE DRIVE 1 - RAW	E162-L	28-May-2024	----	----	----		30-May-2024	7 days	2 days	✓
Physical Tests : TDS by Gravimetry (Low Level)										
HDPE NIVERVILLE SPRUCE DRIVE 2 - TREATED	E162-L	28-May-2024	----	----	----		30-May-2024	7 days	2 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE NIVERVILLE SPRUCE DRIVE 1 - RAW	E121	28-May-2024	----	----	----		29-May-2024	3 days	1 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE NIVERVILLE SPRUCE DRIVE 2 - TREATED	E121	28-May-2024	----	----	----		29-May-2024	3 days	1 days	✓
Physical Tests : UV Absorbance and Transmittance by Spectrometry										
HDPE NIVERVILLE SPRUCE DRIVE 1 - RAW	E404	28-May-2024	----	----	----		30-May-2024	3 days	2 days	✓
Physical Tests : UV Absorbance and Transmittance by Spectrometry										
HDPE NIVERVILLE SPRUCE DRIVE 2 - TREATED	E404	28-May-2024	----	----	----		30-May-2024	3 days	2 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid) NIVERVILLE SPRUCE DRIVE 1 - RAW	E420	28-May-2024	31-May-2024	180 days	3 days	✓	31-May-2024	180 days	3 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid) NIVERVILLE SPRUCE DRIVE 2 - TREATED	E420	28-May-2024	31-May-2024	180 days	3 days	✓	31-May-2024	180 days	3 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid)										
NIVERVILLE SPRUCE DRIVE 3 - DISTRIBUTION @ MID POINT	E420	28-May-2024	31-May-2024	180 days	3 days	✓	31-May-2024	180 days	3 days	✓
Volatile Organic Compounds : VOCs (Eastern Canada List) by Headspace GC-MS										
Glass vial (sodium bisulfate)										
NIVERVILLE SPRUCE DRIVE 1 - RAW	E611D	28-May-2024	29-May-2024	14 days	1 days	✓	29-May-2024	14 days	1 days	✓

Legend & Qualifier Definitions

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended

Rec. HT: ALS recommended hold time (see units).

Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water**

Evaluation: × = QC frequency outside specification; ✓ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
Alkalinity Species by Titration	E290	1466417	1	17	5.8	5.0	✓
Ammonia by Fluorescence	E298	1464814	1	20	5.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1464085	1	2	50.0	5.0	✓
Chloride in Water by IC (Low Level)	E235.Cl-L	1464086	1	5	20.0	5.0	✓
Colour (True) by Spectrometer (5 CU)	E329	1464370	1	12	8.3	5.0	✓
Conductivity in Water	E100	1466418	1	14	7.1	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1464659	1	20	5.0	5.0	✓
Fluoride in Water by IC	E235.F	1464084	1	4	25.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1464087	1	2	50.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1464088	1	2	50.0	5.0	✓
pH by Meter	E108	1466416	1	15	6.6	5.0	✓
Sulfate in Water by IC	E235.SO4	1464089	1	8	12.5	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1465322	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1469033	1	8	12.5	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1464241	1	18	5.5	5.0	✓
Turbidity by Nephelometry	E121	1464100	1	20	5.0	5.0	✓
UV Absorbance and Transmittance by Spectrometry	E404	1467792	1	15	6.6	5.0	✓
VOCs (Eastern Canada List) by Headspace GC-MS	E611D	1464486	1	12	8.3	5.0	✓
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1466417	1	17	5.8	5.0	✓
Ammonia by Fluorescence	E298	1464814	1	20	5.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1464085	1	2	50.0	5.0	✓
Chloride in Water by IC (Low Level)	E235.Cl-L	1464086	1	5	20.0	5.0	✓
Colour (True) by Spectrometer (5 CU)	E329	1464370	1	12	8.3	5.0	✓
Conductivity in Water	E100	1466418	1	14	7.1	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1464659	1	20	5.0	5.0	✓
Fluoride in Water by IC	E235.F	1464084	1	4	25.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1464087	1	2	50.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1464088	1	2	50.0	5.0	✓
pH by Meter	E108	1466416	1	15	6.6	5.0	✓
Sulfate in Water by IC	E235.SO4	1464089	1	8	12.5	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1465322	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1469033	1	8	12.5	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1464241	1	18	5.5	5.0	✓
Turbidity by Nephelometry	E121	1464100	1	20	5.0	5.0	✓
UV Absorbance and Transmittance by Spectrometry	E404	1467792	1	15	6.6	5.0	✓

Matrix: **Water**

Evaluation: × = QC frequency outside specification; ✓ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Control Samples (LCS) - Continued							
VOCs (Eastern Canada List) by Headspace GC-MS	E611D	1464486	1	12	8.3	5.0	✓
Method Blanks (MB)							
Alkalinity Species by Titration	E290	1466417	1	17	5.8	5.0	✓
Ammonia by Fluorescence	E298	1464814	1	20	5.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1464085	1	2	50.0	5.0	✓
Chloride in Water by IC (Low Level)	E235.Cl-L	1464086	1	5	20.0	5.0	✓
Colour (True) by Spectrometer (5 CU)	E329	1464370	1	12	8.3	5.0	✓
Conductivity in Water	E100	1466418	1	14	7.1	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1464659	1	20	5.0	5.0	✓
Fluoride in Water by IC	E235.F	1464084	1	4	25.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1464087	1	2	50.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1464088	1	2	50.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1464089	1	8	12.5	5.0	✓
TDS by Gravimetry (Low Level)	E162-L	1465322	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1469033	1	8	12.5	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1464241	1	18	5.5	5.0	✓
Turbidity by Nephelometry	E121	1464100	1	20	5.0	5.0	✓
UV Absorbance and Transmittance by Spectrometry	E404	1467792	1	15	6.6	5.0	✓
VOCs (Eastern Canada List) by Headspace GC-MS	E611D	1464486	1	12	8.3	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1464814	1	20	5.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1464085	1	2	50.0	5.0	✓
Chloride in Water by IC (Low Level)	E235.Cl-L	1464086	1	5	20.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1464659	1	20	5.0	5.0	✓
Fluoride in Water by IC	E235.F	1464084	1	4	25.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1464087	1	2	50.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1464088	1	2	50.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1464089	1	8	12.5	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1469033	1	8	12.5	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1464241	1	18	5.5	5.0	✓
VOCs (Eastern Canada List) by Headspace GC-MS	E611D	1464486	1	12	8.3	5.0	✓

Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Conductivity in Water	E100 ALS Environmental - Winnipeg	Water	APHA 2510 (mod)	Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, is measured by immersion of a conductivity cell with platinum electrodes into a water sample. Conductivity measurements are temperature-compensated to 25°C.
pH by Meter	E108 ALS Environmental - Winnipeg	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
Turbidity by Nephelometry	E121 ALS Environmental - Winnipeg	Water	APHA 2130 B (mod)	Turbidity is measured by the nephelometric method, by measuring the intensity of light scatter under defined conditions.
TDS by Gravimetry (Low Level)	E162-L ALS Environmental - Winnipeg	Water	APHA 2540 C (mod)	Total Dissolved Solids (TDS) are determined by filtering a sample through a glass fibre filter, with evaporation of the filtrate at 180 ± 2°C for 16 hours or to constant weight, with gravimetric measurement of the residue.
Bromide in Water by IC (Low Level)	E235.Br-L ALS Environmental - Winnipeg	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Chloride in Water by IC (Low Level)	E235.Cl-L ALS Environmental - Winnipeg	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Fluoride in Water by IC	E235.F ALS Environmental - Winnipeg	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrite in Water by IC (Low Level)	E235.NO2-L ALS Environmental - Winnipeg	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrate in Water by IC (Low Level)	E235.NO3-L ALS Environmental - Winnipeg	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Sulfate in Water by IC	E235.SO4 ALS Environmental - Winnipeg	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Alkalinity Species by Titration	E290 ALS Environmental - Winnipeg	Water	APHA 2320 B (mod)	Total alkalinity is determined by potentiometric titration to a pH 4.5 endpoint. Bicarbonate, carbonate and hydroxide alkalinity are calculated from phenolphthalein alkalinity and total alkalinity values.
Ammonia by Fluorescence	E298 ALS Environmental - Winnipeg	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Colour (True) by Spectrometer (5 CU)	E329 ALS Environmental - Winnipeg	Water	APHA 2120 C (mod)	Colour (True Colour) is determined by filtering a sample through a 0.45 micron membrane filter followed by analysis of the filtrate using the platinum-cobalt colourimetric method. Colour measurements can be highly pH dependent, and apply to the pH of the sample as received (at time of testing), without pH adjustment.
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L ALS Environmental - Winnipeg	Water	APHA 5310 B (mod)	Total Organic Carbon (Non-Purgeable), also known as NPOC (total), is a direct measurement of TOC after an acidified sample has been purged to remove inorganic carbon (IC). Analysis is by high temperature combustion with infrared detection of CO_2. NPOC does not include volatile organic species that are purged off with IC. For samples where the majority of total carbon (TC) is comprised of IC (which is common), this method is more accurate and more reliable than the TOC by subtraction method (i.e. TC minus TIC).
Dissolved Organic Carbon by Combustion (Low Level)	E358-L ALS Environmental - Winnipeg	Water	APHA 5310 B (mod)	Dissolved Organic Carbon (Non-Purgeable), also known as NPOC (dissolved), is a direct measurement of DOC after a filtered (0.45 micron) sample has been acidified and purged to remove inorganic carbon (IC). Analysis is by high temperature combustion with infrared detection of CO_2. NPOC does not include volatile organic species that are purged off with IC. For samples where the majority of DC (dissolved carbon) is comprised of IC (which is common), this method is more accurate and more reliable than the DOC by subtraction method (i.e. DC minus DIC).
UV Absorbance and Transmittance by Spectrometry	E404 ALS Environmental - Winnipeg	Water	APHA 5910 B (mod)	UV Absorbance is determined by first filtering a sample through a 0.45 micron filter, followed by UV absorbance measurement in a quartz cell at 254 nm. The analysis is carried out without pH adjustment.
Total Metals in Water by CRC ICPMS	E420 ALS Environmental - Winnipeg	Water	EPA 200.2/6020B (mod)	Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
VOCs (Eastern Canada List) by Headspace GC-MS	E611D ALS Environmental - Winnipeg	Water	EPA 8260D (mod)	Volatile Organic Compounds (VOCs) are analyzed by static headspace GC-MS. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Hardness (Calculated) from Total Ca/Mg	EC100A ALS Environmental - Winnipeg	Water	APHA 2340B	"Hardness (as CaCO3), from total Ca/Mg" is calculated from the sum of total Calcium and Magnesium concentrations, expressed in CaCO3 equivalents. "Total Hardness" refers to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially calculated from dissolved Calcium and Magnesium concentrations, because it is a property of water due to dissolved divalent cations. Hardness from total Ca/Mg is normally comparable to Dissolved Hardness in non-turbid waters.
Ion Balance using Total Metals	EC101A ALS Environmental - Winnipeg	Water	APHA 1030E	Cation Sum (using total metals), Anion Sum, and Ion Balance are calculated based on guidance from APHA Standard Methods (1030E Checking Correctness of Analysis). Minor ions are included where data is present. Ion Balance cannot be calculated accurately for waters with very low electrical conductivity (EC).
Saturation Index using Laboratory pH (Ca-T)	EC105A ALS Environmental - Winnipeg	Water	APHA 2330B	Langelier Index provides an indication of scale formation potential at a given pH and temperature, and is calculated as per APHA 2330B Saturation Index. Positive values indicate oversaturation with respect to CaCO3. Negative values indicate undersaturation of CaCO3. This calculation uses laboratory pH measurements and provides estimates of Langelier Index at temperatures of 4, 15, 20, 25, 66, and 77°C. Ryznar Stability Index is an alternative index used for scale formation and corrosion potential.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Ammonia	EP298 ALS Environmental - Winnipeg	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Preparation for Total Organic Carbon by Combustion	EP355 ALS Environmental - Winnipeg	Water		Preparation for Total Organic Carbon by Combustion
Preparation for Dissolved Organic Carbon for Combustion	EP358 ALS Environmental - Winnipeg	Water	APHA 5310 B (mod)	Preparation for Dissolved Organic Carbon
VOCs Preparation for Headspace Analysis	EP581 ALS Environmental - Winnipeg	Water	EPA 5021A (mod)	Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler. An aliquot of the headspace is then injected into the GC/MS-FID system.

QUALITY CONTROL REPORT

Work Order	: **WP2413356**	Page	: 1 of 14
Client	: Manitoba Conservation & Climate	Laboratory	: ALS Environmental - Winnipeg
Contact	: Marc Balcaen	Account Manager	: Sheriza Rajack-Ahamed
Address	: 151.25 - Niverville Spruce Drive - PWS Box 267 Niverville MB Canada R0A 1E0	Address	: 1329 Niakwa Road East, Unit 12 Winnipeg, Manitoba Canada R2J 3T4
Telephone	: ----	Telephone	: +1 204 255 9720
Project	: Niverville Spruce Drive - PWS 151.25	Date Samples Received	: 28-May-2024 09:46
PO	: ----	Date Analysis Commenced	: 28-May-2024
C-O-C number	: ----	Issue Date	: 03-Jun-2024 12:03
Sampler	: ----		
Site	: Niverville Spruce Drive - PWS 151.25 Op Id: 42862		
Quote number	: 2024 WTP Chemistry		
No. of samples received	: 3		
No. of samples analysed	: 3		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Gerry Vera	Analyst	Winnipeg Organics, Winnipeg, Manitoba
Rhovee Guevarra		Winnipeg Inorganics, Winnipeg, Manitoba
Rhovee Guevarra		Winnipeg Metals, Winnipeg, Manitoba

General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO = Data Quality Objective.
LOR = Limit of Reporting (detection limit).
RPD = Relative Percent Difference
# = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Physical Tests (QC Lot: 1464100)											
WP2413277-001	Anonymous	Turbidity	----	E121	0.10	NTU	14.7	14.6	0.820%	15%	----
Physical Tests (QC Lot: 1464370)											
WP2413356-001	NIVERVILLE SPRUCE DRIVE 1 - RAW	Colour, true	----	E329	5.0	CU	<5.0	<5.0	0	Diff <2x LOR	----
Physical Tests (QC Lot: 1465322)											
WP2413323-002	Anonymous	Solids, total dissolved [TDS]	----	E162-L	15.0	mg/L	808	834	3.11%	20%	----
Physical Tests (QC Lot: 1466416)											
WP2413404-005	Anonymous	pH	----	E108	0.10	pH units	7.73	7.65	1.04%	4%	----
Physical Tests (QC Lot: 1466417)											
WP2413404-005	Anonymous	Alkalinity, total (as CaCO3)	----	E290	2.0	mg/L	39.9	40.3	0.998%	20%	----
Physical Tests (QC Lot: 1466418)											
WP2413404-005	Anonymous	Conductivity	----	E100	1.0	µS/cm	139	138	0.433%	10%	----
Physical Tests (QC Lot: 1467792)											
WP2413356-001	NIVERVILLE SPRUCE DRIVE 1 - RAW	Absorbance, UV (@ 254nm)	----	E404	0.0050	AU/cm	0.0280	0.0290	0.0010	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1464084)											
WP2413356-001	NIVERVILLE SPRUCE DRIVE 1 - RAW	Fluoride	16984-48-8	E235.F	0.020	mg/L	0.853	0.835	2.21%	20%	----
Anions and Nutrients (QC Lot: 1464085)											
WP2413356-001	NIVERVILLE SPRUCE DRIVE 1 - RAW	Bromide	24959-67-9	E235.Br-L	0.050	mg/L	0.191	0.191	0.0001	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1464086)											
WP2413356-001	NIVERVILLE SPRUCE DRIVE 1 - RAW	Chloride	16887-00-6	E235.Cl-L	0.10	mg/L	182	182	0.198%	20%	----
Anions and Nutrients (QC Lot: 1464087)											
WP2413356-001	NIVERVILLE SPRUCE DRIVE 1 - RAW	Nitrate (as N)	14797-55-8	E235.NO3-L	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1464088)											
WP2413356-001	NIVERVILLE SPRUCE DRIVE 1 - RAW	Nitrite (as N)	14797-65-0	E235.NO2-L	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1464089)											
WP2413356-001	NIVERVILLE SPRUCE DRIVE 1 - RAW	Sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L	34.7	34.1	1.55%	20%	----
Anions and Nutrients (QC Lot: 1464814)											

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Anions and Nutrients (QC Lot: 1464814) - continued											
WP2413333-003	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.0329	0.0403	0.0074	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1464241)											
WP2413356-001	NIVERVILLE SPRUCE DRIVE 1 - RAW	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	1.71	1.70	0.008	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1464659)											
WP2413300-001	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	20.6	20.9	1.68%	20%	----
Total Metals (QC Lot: 1469033)											
WP2413345-003	Anonymous	Aluminum, total	7429-90-5	E420	0.0030	mg/L	<0.0030	<0.0030	0	Diff <2x LOR	----
		Antimony, total	7440-36-0	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00057	0.00053	0.00003	Diff <2x LOR	----
		Barium, total	7440-39-3	E420	0.00010	mg/L	0.0451	0.0448	0.736%	20%	----
		Beryllium, total	7440-41-7	E420	0.000020	mg/L	<0.000020	<0.000020	0	Diff <2x LOR	----
		Bismuth, total	7440-69-9	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Boron, total	7440-42-8	E420	0.010	mg/L	0.075	0.076	0.002	Diff <2x LOR	----
		Cadmium, total	7440-43-9	E420	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
		Calcium, total	7440-70-2	E420	0.050	mg/L	140	141	1.13%	20%	----
		Cesium, total	7440-46-2	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Chromium, total	7440-47-3	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Cobalt, total	7440-48-4	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Copper, total	7440-50-8	E420	0.00050	mg/L	0.00321	0.00315	0.00006	Diff <2x LOR	----
		Iron, total	7439-89-6	E420	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----
		Lead, total	7439-92-1	E420	0.000050	mg/L	0.000288	0.000289	0.0000003	Diff <2x LOR	----
		Lithium, total	7439-93-2	E420	0.0010	mg/L	0.0458	0.0457	0.199%	20%	----
		Magnesium, total	7439-95-4	E420	0.0050	mg/L	69.3	69.1	0.346%	20%	----
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.000950	0.000909	4.44%	20%	----
		Nickel, total	7440-02-0	E420	0.00050	mg/L	0.00118	0.00118	0.000001	Diff <2x LOR	----
		Phosphorus, total	7723-14-0	E420	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Potassium, total	7440-09-7	E420	0.050	mg/L	5.00	4.97	0.519%	20%	----
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00215	0.00205	4.77%	20%	----
		Selenium, total	7782-49-2	E420	0.000050	mg/L	0.00514	0.00545	5.74%	20%	----
		Silicon, total	7440-21-3	E420	0.10	mg/L	12.4	12.4	0.0570%	20%	----
		Silver, total	7440-22-4	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Sodium, total	7440-23-5	E420	0.050	mg/L	41.7	40.2	3.59%	20%	----
		Strontium, total	7440-24-6	E420	0.00020	mg/L	0.599	0.578	3.53%	20%	----
		Sulfur, total	7704-34-9	E420	0.50	mg/L	120	120	0.456%	20%	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Total Metals (QC Lot: 1469033) - continued											
WP2413345-003	Anonymous	Tellurium, total	13494-80-9	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Thallium, total	7440-28-0	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Thorium, total	7440-29-1	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Tin, total	7440-31-5	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Titanium, total	7440-32-6	E420	0.00030	mg/L	<0.00030	<0.00030	0	Diff <2x LOR	----
		Tungsten, total	7440-33-7	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Uranium, total	7440-61-1	E420	0.000010	mg/L	0.0114	0.0112	2.65%	20%	----
		Vanadium, total	7440-62-2	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Zinc, total	7440-66-6	E420	0.0030	mg/L	<0.0030	<0.0030	0	Diff <2x LOR	----
		Zirconium, total	7440-67-7	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
Volatile Organic Compounds (QC Lot: 1464486)											
WP2413269-001	Anonymous	Benzene	71-43-2	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Bromodichloromethane	75-27-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Bromoform	75-25-2	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Chloroform	67-66-3	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dibromochloromethane	124-48-1	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloromethane	75-09-2	E611D	1.0	µg/L	<1.0	<1.0	0	Diff <2x LOR	----
		Ethylbenzene	100-41-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Tetrachloroethylene	127-18-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Toluene	108-88-3	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Trichloroethane, 1,1,1-	71-55-6	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Trichloroethane, 1,1,2-	79-00-5	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Trichloroethylene	79-01-6	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Xylene, m+p-	179601-23-1	E611D	0.40	µg/L	<0.40	<0.40	0	Diff <2x LOR	----
		Xylene, o-	95-47-6	E611D	0.30	µg/L	<0.30	<0.30	0	Diff <2x LOR	----

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1464100)						
Turbidity	----	E121	0.1	NTU	<0.10	----
Physical Tests (QCLot: 1464370)						
Colour, true	----	E329	5	CU	<5.0	----
Physical Tests (QCLot: 1465322)						
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	<3.0	----
Physical Tests (QCLot: 1466417)						
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	<1.0	----
Physical Tests (QCLot: 1466418)						
Conductivity	----	E100	1	µS/cm	<1.0	----
Physical Tests (QCLot: 1467792)						
Absorbance, UV (@ 254nm)	----	E404	0.005	AU/cm	<0.0050	----
Anions and Nutrients (QCLot: 1464084)						
Fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 1464085)						
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	<0.050	----
Anions and Nutrients (QCLot: 1464086)						
Chloride	16887-00-6	E235.Cl-L	0.1	mg/L	<0.10	----
Anions and Nutrients (QCLot: 1464087)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1464088)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1464089)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 1464814)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Organic / Inorganic Carbon (QCLot: 1464241)						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 1464659)						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
Total Metals (QCLot: 1469033)						
Aluminum, total	7429-90-5	E420	0.003	mg/L	<0.0030	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	<0.00010	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1469033) - continued						
Arsenic, total	7440-38-2	E420	0.0001	mg/L	<0.00010	----
Barium, total	7440-39-3	E420	0.0001	mg/L	<0.00010	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	<0.000020	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	<0.000050	----
Boron, total	7440-42-8	E420	0.01	mg/L	<0.010	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	<0.0000050	----
Calcium, total	7440-70-2	E420	0.05	mg/L	<0.050	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	<0.000010	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	<0.00050	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	<0.00010	----
Copper, total	7440-50-8	E420	0.0005	mg/L	<0.00050	----
Iron, total	7439-89-6	E420	0.01	mg/L	<0.010	----
Lead, total	7439-92-1	E420	0.00005	mg/L	<0.000050	----
Lithium, total	7439-93-2	E420	0.001	mg/L	<0.0010	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	<0.0050	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	<0.00010	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	<0.000050	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	<0.00050	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	<0.050	----
Potassium, total	7440-09-7	E420	0.05	mg/L	<0.050	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	<0.00020	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	<0.000050	----
Silicon, total	7440-21-3	E420	0.1	mg/L	<0.10	----
Silver, total	7440-22-4	E420	0.00001	mg/L	<0.000010	----
Sodium, total	7440-23-5	E420	0.05	mg/L	<0.050	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	<0.00020	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	<0.50	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	<0.00020	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	<0.000010	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	<0.00010	----
Tin, total	7440-31-5	E420	0.0001	mg/L	<0.00010	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	<0.00030	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	<0.00010	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	<0.000010	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	<0.00050	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1469033) - continued						
Zinc, total	7440-66-6	E420	0.003	mg/L	<0.0030	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	<0.00020	----
Volatile Organic Compounds (QCLot: 1464486)						
Benzene	71-43-2	E611D	0.5	µg/L	<0.50	----
Bromodichloromethane	75-27-4	E611D	0.5	µg/L	<0.50	----
Bromoform	75-25-2	E611D	0.5	µg/L	<0.50	----
Chloroform	67-66-3	E611D	0.5	µg/L	<0.50	----
Dibromochloromethane	124-48-1	E611D	0.5	µg/L	<0.50	----
Dichloromethane	75-09-2	E611D	1	µg/L	<1.0	----
Ethylbenzene	100-41-4	E611D	0.5	µg/L	<0.50	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	0.5	µg/L	<0.50	----
Tetrachloroethylene	127-18-4	E611D	0.5	µg/L	<0.50	----
Toluene	108-88-3	E611D	0.5	µg/L	<0.50	----
Trichloroethane, 1,1,1-	71-55-6	E611D	0.5	µg/L	<0.50	----
Trichloroethane, 1,1,2-	79-00-5	E611D	0.5	µg/L	<0.50	----
Trichloroethylene	79-01-6	E611D	0.5	µg/L	<0.50	----
Xylene, m+p-	179601-23-1	E611D	0.4	µg/L	<0.40	----
Xylene, o-	95-47-6	E611D	0.3	µg/L	<0.30	----

Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1464100)									
Turbidity	----	E121	0.1	NTU	200 NTU	90.5	85.0	115	----
Physical Tests (QCLot: 1464370)									
Colour, true	----	E329	5	CU	250 CU	100	85.0	115	----
Physical Tests (QCLot: 1465322)									
Solids, total dissolved [TDS]	----	E162-L	3	mg/L	1000 mg/L	93.2	85.0	115	----
Physical Tests (QCLot: 1466416)									
pH	----	E108	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 1466417)									
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	100 mg/L	101	85.0	115	----
Physical Tests (QCLot: 1466418)									
Conductivity	----	E100	1	µS/cm	1410 µS/cm	99.7	90.0	110	----
Physical Tests (QCLot: 1467792)									
Absorbance, UV (@ 254nm)	----	E404	0.005	AU/cm	0.582 AU/cm	102	85.0	115	----
Anions and Nutrients (QCLot: 1464084)									
Fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	101	90.0	110	----
Anions and Nutrients (QCLot: 1464085)									
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	0.5 mg/L	102	85.0	115	----
Anions and Nutrients (QCLot: 1464086)									
Chloride	16887-00-6	E235.Cl-L	0.1	mg/L	100 mg/L	100	90.0	110	----
Anions and Nutrients (QCLot: 1464087)									
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	100	90.0	110	----
Anions and Nutrients (QCLot: 1464088)									
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	100	90.0	110	----
Anions and Nutrients (QCLot: 1464089)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	100	90.0	110	----
Anions and Nutrients (QCLot: 1464814)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	95.2	85.0	115	----
Organic / Inorganic Carbon (QCLot: 1464241)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	103	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1464659)									

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Organic / Inorganic Carbon (QCLot: 1464659) - continued									
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	110	80.0	120	----
Total Metals (QCLot: 1469033)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	90.3	80.0	120	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	104	80.0	120	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	1 mg/L	97.8	80.0	120	----
Barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	103	80.0	120	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	89.2	80.0	120	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	99.6	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	85.2	80.0	120	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	99.2	80.0	120	----
Calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	92.9	80.0	120	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	102	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	91.3	80.0	120	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	93.0	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	93.2	80.0	120	----
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	85.8	80.0	120	----
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	95.8	80.0	120	----
Lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	85.6	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	96.4	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	93.9	80.0	120	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	99.8	80.0	120	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	91.6	80.0	120	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	94.8	80.0	120	----
Potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	85.4	80.0	120	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	98.5	80.0	120	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	88.6	80.0	120	----
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	89.1	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	91.6	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	88.5	80.0	120	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	101	80.0	120	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	84.5	80.0	120	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	103	80.0	120	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	94.8	80.0	120	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	94.6	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	102	80.0	120	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 1469033) - continued									
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	89.6	80.0	120	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	96.4	80.0	120	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	93.3	80.0	120	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	0.5 mg/L	93.7	80.0	120	----
Zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	92.1	80.0	120	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	98.6	80.0	120	----
Volatile Organic Compounds (QCLot: 1464486)									
Benzene	71-43-2	E611D	0.5	µg/L	100 µg/L	100.0	70.0	130	----
Bromodichloromethane	75-27-4	E611D	0.5	µg/L	100 µg/L	110	70.0	130	----
Bromoform	75-25-2	E611D	0.5	µg/L	100 µg/L	94.5	70.0	130	----
Chloroform	67-66-3	E611D	0.5	µg/L	100 µg/L	108	70.0	130	----
Dibromochloromethane	124-48-1	E611D	0.5	µg/L	100 µg/L	98.4	70.0	130	----
Dichloromethane	75-09-2	E611D	1	µg/L	100 µg/L	109	70.0	130	----
Ethylbenzene	100-41-4	E611D	0.5	µg/L	100 µg/L	85.6	70.0	130	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	0.5	µg/L	100 µg/L	102	70.0	130	----
Tetrachloroethylene	127-18-4	E611D	0.5	µg/L	100 µg/L	98.0	70.0	130	----
Toluene	108-88-3	E611D	0.5	µg/L	100 µg/L	85.4	70.0	130	----
Trichloroethane, 1,1,1-	71-55-6	E611D	0.5	µg/L	100 µg/L	108	70.0	130	----
Trichloroethane, 1,1,2-	79-00-5	E611D	0.5	µg/L	100 µg/L	97.0	70.0	130	----
Trichloroethylene	79-01-6	E611D	0.5	µg/L	100 µg/L	101	70.0	130	----
Xylene, m+p-	179601-23-1	E611D	0.4	µg/L	200 µg/L	104	70.0	130	----
Xylene, o-	95-47-6	E611D	0.3	µg/L	100 µg/L	94.7	70.0	130	----

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 1464084)										
WP2413356-001	NIVERVILLE SPRUCE DRIVE 1 - RAW	Fluoride	16984-48-8	E235.F	1.01 mg/L	1 mg/L	101	75.0	125	----
Anions and Nutrients (QCLot: 1464085)										
WP2413356-001	NIVERVILLE SPRUCE DRIVE 1 - RAW	Bromide	24959-67-9	E235.Br-L	0.491 mg/L	0.5 mg/L	98.2	75.0	125	----
Anions and Nutrients (QCLot: 1464086)										
WP2413356-001	NIVERVILLE SPRUCE DRIVE 1 - RAW	Chloride	16887-00-6	E235.Cl-L	ND mg/L	----	ND	75.0	125	----
Anions and Nutrients (QCLot: 1464087)										
WP2413356-001	NIVERVILLE SPRUCE DRIVE 1 - RAW	Nitrate (as N)	14797-55-8	E235.NO3-L	2.45 mg/L	2.5 mg/L	98.0	75.0	125	----
Anions and Nutrients (QCLot: 1464088)										
WP2413356-001	NIVERVILLE SPRUCE DRIVE 1 - RAW	Nitrite (as N)	14797-65-0	E235.NO2-L	0.486 mg/L	0.5 mg/L	97.3	75.0	125	----
Anions and Nutrients (QCLot: 1464089)										
WP2413356-001	NIVERVILLE SPRUCE DRIVE 1 - RAW	Sulfate (as SO4)	14808-79-8	E235.SO4	96.2 mg/L	100 mg/L	96.2	75.0	125	----
Anions and Nutrients (QCLot: 1464814)										
WP2413333-003	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0920 mg/L	0.1 mg/L	92.0	75.0	125	----
Organic / Inorganic Carbon (QCLot: 1464241)										
WP2413356-002	NIVERVILLE SPRUCE DRIVE 2 - TREATED	Carbon, total organic [TOC]	----	E355-L	5.34 mg/L	5 mg/L	107	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1464659)										
WP2413300-002	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	ND mg/L	----	ND	70.0	130	----
Total Metals (QCLot: 1469033)										
WP2413345-003	Anonymous	Aluminum, total	7429-90-5	E420	0.189 mg/L	0.2 mg/L	94.4	70.0	130	----
		Antimony, total	7440-36-0	E420	0.0214 mg/L	0.02 mg/L	107	70.0	130	----
		Arsenic, total	7440-38-2	E420	0.0215 mg/L	0.02 mg/L	108	70.0	130	----
		Barium, total	7440-39-3	E420	ND mg/L	----	ND	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.0360 mg/L	0.04 mg/L	90.0	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.00968 mg/L	0.01 mg/L	96.8	70.0	130	----
		Boron, total	7440-42-8	E420	0.085 mg/L	0.1 mg/L	84.9	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00408 mg/L	0.004 mg/L	102	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.0107 mg/L	0.01 mg/L	107	70.0	130	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Total Metals (QCLot: 1469033) - continued										
WP2413345-003	Anonymous	Chromium, total	7440-47-3	E420	0.0386 mg/L	0.04 mg/L	96.4	70.0	130	----
		Cobalt, total	7440-48-4	E420	0.0189 mg/L	0.02 mg/L	94.5	70.0	130	----
		Copper, total	7440-50-8	E420	0.0180 mg/L	0.02 mg/L	90.0	70.0	130	----
		Iron, total	7439-89-6	E420	1.86 mg/L	2 mg/L	92.9	70.0	130	----
		Lead, total	7439-92-1	E420	0.0190 mg/L	0.02 mg/L	95.0	70.0	130	----
		Lithium, total	7439-93-2	E420	0.0835 mg/L	0.1 mg/L	83.5	70.0	130	----
		Magnesium, total	7439-95-4	E420	ND mg/L	----	ND	70.0	130	----
		Molybdenum, total	7439-98-7	E420	0.0204 mg/L	0.02 mg/L	102	70.0	130	----
		Nickel, total	7440-02-0	E420	0.0364 mg/L	0.04 mg/L	90.9	70.0	130	----
		Phosphorus, total	7723-14-0	E420	9.91 mg/L	10 mg/L	99.1	70.0	130	----
		Potassium, total	7440-09-7	E420	ND mg/L	----	ND	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.0205 mg/L	0.02 mg/L	102	70.0	130	----
		Selenium, total	7782-49-2	E420	0.0404 mg/L	0.04 mg/L	101	70.0	130	----
		Silicon, total	7440-21-3	E420	ND mg/L	----	ND	70.0	130	----
		Silver, total	7440-22-4	E420	0.00394 mg/L	0.004 mg/L	98.4	70.0	130	----
		Sodium, total	7440-23-5	E420	ND mg/L	----	ND	70.0	130	----
		Strontium, total	7440-24-6	E420	ND mg/L	----	ND	70.0	130	----
		Sulfur, total	7704-34-9	E420	ND mg/L	----	ND	70.0	130	----
		Tellurium, total	13494-80-9	E420	0.0419 mg/L	0.04 mg/L	105	70.0	130	----
		Thallium, total	7440-28-0	E420	0.00382 mg/L	0.004 mg/L	95.5	70.0	130	----
		Thorium, total	7440-29-1	E420	0.0218 mg/L	0.02 mg/L	109	70.0	130	----
		Tin, total	7440-31-5	E420	0.0206 mg/L	0.02 mg/L	103	70.0	130	----
		Titanium, total	7440-32-6	E420	0.0372 mg/L	0.04 mg/L	93.0	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.0197 mg/L	0.02 mg/L	98.6	70.0	130	----
		Uranium, total	7440-61-1	E420	ND mg/L	----	ND	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.102 mg/L	0.1 mg/L	102	70.0	130	----
		Zinc, total	7440-66-6	E420	0.371 mg/L	0.4 mg/L	92.8	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.0400 mg/L	0.04 mg/L	99.9	70.0	130	----
Volatile Organic Compounds (QCLot: 1464486)										
WP2413269-001	Anonymous	Benzene	71-43-2	E611D	93.0 µg/L	100 µg/L	93.0	60.0	140	----
		Bromodichloromethane	75-27-4	E611D	94.7 µg/L	100 µg/L	94.7	60.0	140	----
		Bromoform	75-25-2	E611D	86.3 µg/L	100 µg/L	86.3	60.0	140	----
		Chloroform	67-66-3	E611D	94.2 µg/L	100 µg/L	94.2	60.0	140	----
		Dibromochloromethane	124-48-1	E611D	92.3 µg/L	100 µg/L	92.3	60.0	140	----
		Dichloromethane	75-09-2	E611D	94.7 µg/L	100 µg/L	94.7	60.0	140	----
		Ethylbenzene	100-41-4	E611D	88.8 µg/L	100 µg/L	88.8	60.0	140	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	98.5 µg/L	100 µg/L	98.5	60.0	140	----
		Tetrachloroethylene	127-18-4	E611D	91.2 µg/L	100 µg/L	91.2	60.0	140	----
		Toluene	108-88-3	E611D	89.0 µg/L	100 µg/L	89.0	60.0	140	----
		Trichloroethane, 1,1,1-	71-55-6	E611D	93.6 µg/L	100 µg/L	93.6	60.0	140	----
		Trichloroethane, 1,1,2-	79-00-5	E611D	93.4 µg/L	100 µg/L	93.4	60.0	140	----
		Trichloroethylene	79-01-6	E611D	93.7 µg/L	100 µg/L	93.7	60.0	140	----
		Xylene, m+p-	179601-23-1	E611D	204 µg/L	200 µg/L	102	60.0	140	----
		Xylene, o-	95-47-6	E611D	96.4 µg/L	100 µg/L	96.4	60.0	140	----

Chain of Custody (COC)
Manitoba Drinking Water Systems

Regular Service (defaul	■ Regular Service (is 5-7 Days):
Unless otherwise reque	■ **1 Day, rush / priority** ■ **2 Day, rush / priority** ■ **3 Day, rush / priority**

Office of Drinking Water
14 Fultz Boulevard, Winnipeg, Manitoba,
Canada R3Y 0L6

Report to Operator (email PDF):		**Report to Owner (email PDF):**		**Email PDF copy to:**	
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Address:	Box 267, Niverville, MB R0A1E0	Address:	Box 267, Niverville, MB R0A1E0	DWO Address:	Box 4000 #4 HWY 502, Lac du Bonnet, MB R
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				Additional Email:	Joern.Muenster@gov.mb.ca; Marc.Balcaen@gov.mb.ca;

If an update in Owner or Operator contact information is required, please contact your Drinking Water Officer

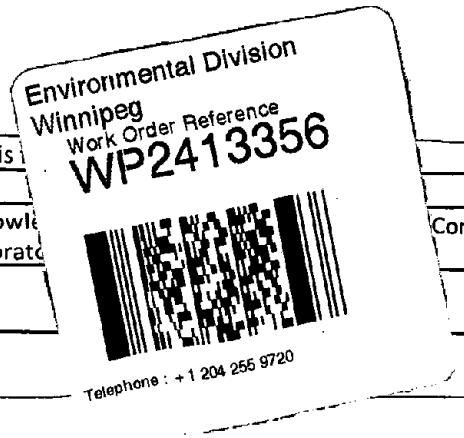
Client / Project Information:	**Lab:**	**Account:**	Agency Code: 382	Report Type: EMS (Lab-MWS)	Project: DWQ-C

Operation Name:	NIVERVILLE SPRUCE DRIVE - PWS	Expected Sample Time:	August-2024
Operation Code:	151.25		
Operation ID:	42862		
Sampled by:	Andrew Rempel		

Please record Free & Total Chlorine residuals for Distribution By-product Sampling

DO NOT COPY or RE-USE this form. Sample Number are unique to the Office of Drinking Water and provided by Drinking Water Officer.

Sample Number	Station Number	Sample Identification	Free Chlorine (mg/L)	Total Chlorine (mg/L)	Sample Date dd-mmm-yyyy	Sample Time hh:mm	Sample Matrix	Sample Type	MB-CH-PWS-V2013	MB-MET-T-CCMS	MB-VOC-PWS-V2013	# of Containers
2408AA5001	MB05OED101	Niverville Spruce Drive 1 - Raw	0	0	29-May-2024	8:00am	6	1	X		X	6
2408AA5002	MB05OED102	Niverville Spruce Drive 2 - Treated	0.91	1.12	26-May-2024	8:10am	10	1	X			4
2408AA5003	MB05OED103	Niverville Spruce Drive 3 - Distribution mid-point @	0.98	1.17	23-May-2024	8:17am	9	1		X		1



Failure to complete all portions of this
Please fill in this form LEGIBLY.
By the use of this form the user acknowl
For ALL other testing, please use Laborat

Sample Matrix: 6-Raw Water, 9-Distributed Water, 10-Treated Water
Sample Type: 1-Grab Sample
Conditions as specified by the Laboratory.

Relinquished By:		Validated By (lab use only): NO	Date & Time: MAY 28 2024 9:46am
Received By: (lab use only)		Sample Condition (lab use only) Temperature 12.7°C	Samples Received in Good Condition? Y / N

Sample Intak					
Client:	N. S. Drive				
Cheque Enclosed / COC		Yes	No		
Priority/Emergen- required (circle one)		Yes	No		
Time Sensitive H- re (i.e.		Yes	No		
Matrix (circle one		Water	Soil/solid	Air	Biota	Other
# of Bottles receiv-						
Green/White	3 X 1 L/ME	Yellow/Black				
Purple/White	9 X100	Light blue/White				
Warm red/White	3 X100	Orange/Black				
Dark Green/White		Dark Blue/White	~~1X 100ml NP~~	2X100ml	2X40ml	
Grey/black		Black/white				
Other:						
Additional Comme						

Login Che	Check yes if you have verified the following:	
	Yes	N/A
Received date/time		
Project/PO/LSD		
Quote/Office match		
Sample IDs/Descript		
Sample Date/time		
Sales Items as per C		
Express Due Dates		
Client due date mat / ALS Due date		
Client recipient ema		
Guidelines/threshold added		
Billing/payment recd		
Field data entered		
Sub-contracting For Printed		
SUBCO/Chromatogr added to client conta required analysis		
Are sub-samples req		
Has a SIF been subm for this WO?		
Has the SIF been resc		