

August 15, 2018

Dear Sir:

Attached is Addendum No. 1 dated August 15, 2018 to the Specifications for The Manitoba Water Services Board Contract No. M.W.S.B. 1437, RM of Argyle - Baldur Water Treatment Plant Upgrades and Well Mechanization. Please verify receipt of this Addendum for our records by fax to (204) 726-6290.

ACKNOWLEDGEMENT OF RECEIPT OF ALL ADDENDUMS
MUST BE INCLUDED IN THE TENDER SUBMISSION.**

Failure to include acknowledgement shall cause the tender to be rejected. If Tender is submitted before Addendum is issued, the Board will accept a faxed acknowledgement prior to the tender closing.

Yours truly,

R. Lytle
Construction Manager

The Manitoba Water Services Board
Unit #1A - 2010 Currie Blvd.
Brandon, MB R7B 4E7

Dear Sir:

We have received Addendum No. 1 dated August 15, 2018 to the Specifications for The Manitoba Water Services Board Contract No. M.W.S.B. 1437, RM of Argyle - Baldur Water Treatment Plant Upgrades and Well Mechanization.

Yours truly,

Company

Per

THE MANITOBA WATER SERVICES BOARD

CONTRACT NO. MWSB 1437

RM of Argyle - Baldur Water Treatment Plant Upgrades and Well Mechanization

ADDENDUM NO. 1

August 15, 2018

1) PRECEDENCE

This addendum forms an integral part of the specifications describing all aspects of the work and is to be read in conjunction therewith.

2) SCOPE

The purpose of this addendum is to amend the following sections of the Tender Documents:

1. Section SPECIAL PROVISIONS:

Amend the following clause:

**2.03
UV
TREATMENT
UNITS**

UV treatment units shall be Hallett 15xs complete with the Purge Valve Relocation Kit, water supply to purge valve, solenoid valves, automatic shut-off valve option, transient voltage suppressor, and incoming and outgoing piping. Three (3) spare bulbs for the UV lamps shall be provided.

Outlet flexible tubing supplied with the UV units must be insulated. Installation must be as per manufacturer's instructions as shown in plans.

UV panel shall be a stand anchored to floor with a unistrut metal frame and 19mm HDPE sheet back support to mount UV units in permanent location approximately 1.7 m tall x 1.19 m wide. Contractor to verify exact dimensions onsite prior to installation.

2. 1.02 DESCRIPTION OF WORK:

Clarification:

The Manganese Greensand Filter must be refurbished and UV units installed and commissioned prior to the installation of the duty pump at the Baldur Water Treatment Plant to ensure a water supply (by-pass piping) is maintained for the community.

3. Section MEASUREMENT AND PAYMENT:

Amend the following clause:

**1.01
MECHANICAL
WORKS
(WATER
TREATMENT
PLANT
UPGRADE)**

1) METHOD OF MEASUREMENT – No measurement will be made for the supply and installation of mechanical works.

2) BASIS OF PAYMENT – The supply and installation of mechanical works shall be paid for at the Contract Lump Sum Price for “Mechanical Works (WTP Upgrade)”. This price shall include the supply and installation of water treatment plant UV units, UPS, UV support panel, UV purge water supply, spare bulbs, valves, piping, fittings, stainless steel bolts, washers and nuts, pipe supports, connections and for those operations incidental to the work for which no price or provisions for payment are included in the Contract.

4. See attached well Water Quality Data.

END OF ADDENDUM



RM of Argyle
ATTN: DARCY DEARSLEY
Box 40
Baldur MB ROK OBO

Date Received: 23-JAN-18
Report Date: 29-JAN-18 09:56 (MT)
Version: FINAL

Client Phone: 204-825-7285

Certificate of Analysis

Lab Work Order #: L2048273
Project P.O. #: NOT SUBMITTED
Job Reference: BALDUR
C of C Numbers:
Legal Site Desc:

Hua Wo
Chemistry Laboratory Manager

[This report shall not be reproduced except in full without the written authority of the Laboratory.]

ADDRESS: 1329 Niakwa Road East, Unit 12, Winnipeg, MB R2J 3T4 Canada | Phone: +1 204 255 9720 | Fax: +1 204 255 9721
ALS CANADA LTD Part of the ALS Group An ALS Limited Company

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2048273-1 GLENORA FIRE HALL WELL							
Sampled By: DD on 22-JAN-18 @ 13:45							
Matrix: NON TREATED MUNICIPAL							
MB Chemistry for PWS							
Alkalinity, Bicarbonate							
Bicarbonate (HCO ₃)	204		1.2	mg/L		25-JAN-18	
Alkalinity, Carbonate							
Carbonate (CO ₃)	<0.60		0.60	mg/L		25-JAN-18	
Alkalinity, Hydroxide							
Hydroxide (OH)	<0.34		0.34	mg/L		25-JAN-18	
Alkalinity, Total (as CaCO₃)							
Alkalinity, Total (as CaCO ₃)	167		1.0	mg/L		24-JAN-18	R3944636
Ammonia by colour							
Ammonia, Total (as N)	0.117		0.010	mg/L		25-JAN-18	R3945325
Bromide in Water by IC (Low Level)							
Bromide (Br)	<0.010		0.010	mg/L		24-JAN-18	R3944932
Chloride in Water by IC (Low Level)							
Chloride (Cl)	1.74		0.10	mg/L		24-JAN-18	R3944932
Colour, True							
Colour, True	<5.0		5.0	CU		23-JAN-18	R3944005
Conductivity							
Conductivity	353		1.0	umhos/cm		24-JAN-18	R3944636
Dissolved Organic Carbon by Combustion							
Dissolved Organic Carbon	0.97		0.50	mg/L		26-JAN-18	R3946374
Fluoride in Water by IC							
Fluoride (F)	0.125		0.020	mg/L		24-JAN-18	R3944932
Hardness Calculated							
Hardness (as CaCO ₃)	179	HTC	0.20	mg/L		25-JAN-18	
Langelier Index 4C							
Langelier Index (4 C)	0.074					26-JAN-18	
Langelier Index 60C							
Langelier Index (60 C)	0.85					26-JAN-18	
Nitrate in Water by IC (Low Level)							
Nitrate (as N)	<0.0050		0.0050	mg/L		24-JAN-18	R3944932
Nitrite in Water by IC (Low Level)							
Nitrite (as N)	<0.0010		0.0010	mg/L		24-JAN-18	R3944932
Sulfate in Water by IC							
Sulfate (SO ₄)	28.1		0.30	mg/L		24-JAN-18	R3944932
Total Dissolved Solids (TDS)							
Total Dissolved Solids	256		20	mg/L		25-JAN-18	R3945625
Total Metals in Water by CRC ICPMS							
Aluminum (Al)-Total	0.0041		0.0030	mg/L	24-JAN-18	24-JAN-18	R3944548
Antimony (Sb)-Total	<0.00010		0.00010	mg/L	24-JAN-18	24-JAN-18	R3944548
Arsenic (As)-Total	0.00846		0.00010	mg/L	24-JAN-18	24-JAN-18	R3944548
Barium (Ba)-Total	0.0648		0.000050	mg/L	24-JAN-18	24-JAN-18	R3944548
Beryllium (Be)-Total	<0.00010		0.00010	mg/L	24-JAN-18	24-JAN-18	R3944548
Bismuth (Bi)-Total	<0.000050		0.000050	mg/L	24-JAN-18	24-JAN-18	R3944548
Boron (B)-Total	0.028		0.010	mg/L	24-JAN-18	24-JAN-18	R3944548
Cadmium (Cd)-Total	<0.0000050		0.0000050	mg/L	24-JAN-18	24-JAN-18	R3944548
Calcium (Ca)-Total	48.3		0.050	mg/L	24-JAN-18	24-JAN-18	R3944548
Cesium (Cs)-Total	<0.000010		0.000010	mg/L	24-JAN-18	24-JAN-18	R3944548
Chromium (Cr)-Total	<0.00010		0.00010	mg/L	24-JAN-18	24-JAN-18	R3944548
Cobalt (Co)-Total	<0.00010		0.00010	mg/L	24-JAN-18	24-JAN-18	R3944548
Copper (Cu)-Total	<0.00050		0.00050	mg/L	24-JAN-18	24-JAN-18	R3944548
Iron (Fe)-Total	0.098		0.010	mg/L	24-JAN-18	24-JAN-18	R3944548
Lead (Pb)-Total	<0.000050		0.000050	mg/L	24-JAN-18	24-JAN-18	R3944548

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2048273-1 GLENORA FIRE HALL WELL							
Sampled By: DD on 22-JAN-18 @ 13:45							
Matrix: NON TREATED MUNICIPAL							
Total Metals in Water by CRC ICPMS							
Lithium (Li)-Total	0.0120		0.0010	mg/L	24-JAN-18	24-JAN-18	R3944548
Magnesium (Mg)-Total	14.1		0.0050	mg/L	24-JAN-18	24-JAN-18	R3944548
Manganese (Mn)-Total	0.349		0.00010	mg/L	24-JAN-18	24-JAN-18	R3944548
Molybdenum (Mo)-Total	0.00206		0.000050	mg/L	24-JAN-18	24-JAN-18	R3944548
Nickel (Ni)-Total	<0.00050		0.00050	mg/L	24-JAN-18	24-JAN-18	R3944548
Potassium (K)-Total	2.46		0.050	mg/L	24-JAN-18	24-JAN-18	R3944548
Phosphorus (P)-Total	<0.050		0.050	mg/L	24-JAN-18	24-JAN-18	R3944548
Rubidium (Rb)-Total	0.00112		0.00020	mg/L	24-JAN-18	24-JAN-18	R3944548
Selenium (Se)-Total	<0.000050		0.000050	mg/L	24-JAN-18	24-JAN-18	R3944548
Silicon (Si)-Total	12.4		0.10	mg/L	24-JAN-18	24-JAN-18	R3944548
Silver (Ag)-Total	<0.000010		0.000010	mg/L	24-JAN-18	24-JAN-18	R3944548
Sodium (Na)-Total	5.80		0.050	mg/L	24-JAN-18	24-JAN-18	R3944548
Strontium (Sr)-Total	0.168		0.00020	mg/L	24-JAN-18	24-JAN-18	R3944548
Tellurium (Te)-Total	<0.00020		0.00020	mg/L	24-JAN-18	24-JAN-18	R3944548
Thallium (Tl)-Total	<0.000010		0.000010	mg/L	24-JAN-18	24-JAN-18	R3944548
Thorium (Th)-Total	<0.00010		0.00010	mg/L	24-JAN-18	24-JAN-18	R3944548
Tin (Sn)-Total	0.00058		0.00010	mg/L	24-JAN-18	24-JAN-18	R3944548
Titanium (Ti)-Total	<0.00030		0.00030	mg/L	24-JAN-18	24-JAN-18	R3944548
Tungsten (W)-Total	0.00053		0.00010	mg/L	24-JAN-18	24-JAN-18	R3944548
Uranium (U)-Total	0.00242		0.000010	mg/L	24-JAN-18	24-JAN-18	R3944548
Vanadium (V)-Total	<0.00050		0.00050	mg/L	24-JAN-18	24-JAN-18	R3944548
Zinc (Zn)-Total	0.0172		0.0030	mg/L	24-JAN-18	24-JAN-18	R3944548
Zirconium (Zr)-Total	<0.000060		0.000060	mg/L	24-JAN-18	24-JAN-18	R3944548
Total Organic Carbon by Combustion							
Total Organic Carbon	1.01		0.50	mg/L		25-JAN-18	R3945301
Turbidity							
Turbidity	0.88		0.10	NTU		24-JAN-18	R3944574
UV Transmittance (Calculated)							
Transmittance, UV (254 nm)	95.1		1.0	%T/cm		23-JAN-18	R3944028
pH							
pH	7.82		0.10	pH units		24-JAN-18	R3944636

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Reference Information

Sample Parameter Qualifier Key:

Qualifier	Description
HTC	Hardness was calculated from Total Ca and/or Mg concentrations and may be biased high (dissolved Ca/Mg results unavailable).
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
ALK-CO3CO3-CALC-WP	Water	Alkalinity, Carbonate	CALCULATION
The Alkalinity of water is a measure of its acid neutralizing capacity. Alkalinity is imparted by bicarbonate, carbonate and hydroxide components of water. The fraction of alkalinity contributed by carbonate is calculated and reported as mg CO ₃ 2-/L.			
ALK-HCO3HCO3-CALC-WP	Water	Alkalinity, Bicarbonate	CALCULATION
The Alkalinity of water is a measure of its acid neutralizing capacity. Alkalinity is imparted by bicarbonate, carbonate and hydroxide components of water. The fraction of alkalinity contributed by bicarbonate is calculated and reported as mg HCO ₃ -/L.			
ALK-OHOH-CALC-WP	Water	Alkalinity, Hydroxide	CALCULATION
The Alkalinity of water is a measure of its acid neutralizing capacity. Alkalinity is imparted by bicarbonate, carbonate and hydroxide components of water. The fraction of alkalinity contributed by hydroxide is calculated and reported as mg OH-/L.			
ALK-TITR-WP	Water	Alkalinity, Total (as CaCO ₃)	APHA 2320B
The Alkalinity of water is a measure of its acid neutralizing capacity. Alkalinity is imparted by bicarbonate, carbonate and hydroxide components of water. Total alkalinity is determined by titration with a strong standard mineral acid to the successive HCO ₃ - and H ₂ CO ₃ endpoints indicated electrometrically.			
BR-L-IC-N-WP	Water	Bromide in Water by IC (Low Level)	EPA 300.1 (mod)-LR
Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.			
C-DOC-HTC-WP	Water	Dissolved Organic Carbon by Combustion	APHA 5310 B-WP
Filtered (0.45 um) sample is acidified and purged to remove inorganic carbon, then injected into a heated reaction chamber where organic carbon is oxidized to CO ₂ which is then transported in the carrier gas stream and measured via a non-dispersive infrared analyzer.			
C-TOC-HTC-WP	Water	Total Organic Carbon by Combustion	APHA 5310 B-WP
Sample is acidified and purged to remove inorganic carbon, then injected into a heated reaction chamber where organic carbon is oxidized to CO ₂ which is then transported in the carrier gas stream and measured via a non-dispersive infrared analyzer.			
CL-L-IC-N-WP	Water	Chloride in Water by IC (Low Level)	EPA 300.1 (mod)
Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.			
COLOUR-TRUE-WP	Water	Colour, True	APHA 2120C
True Colour is measured spectrophotometrically by comparison to platinum-cobalt standards using the single wavelength method (450 - 465 nm) after filtration of sample through a 0.45 um filter. Colour measurements can be highly pH dependent, and apply to the pH of the sample as received (at time of testing), without pH adjustment. Concurrent measurement of sample pH is recommended.			
EC-WP	Water	Conductivity	APHA 2510B
Conductivity of an aqueous solution refers to its ability to carry an electric current. Conductance of a solution is measured between two spatially fixed and chemically inert electrodes.			
ETL-LANGELIER-4-WP	Water	Langelier Index 4C	Calculated
ETL-LANGELIER-60-WP	Water	Langelier Index 60C	Calculated
F-IC-N-WP	Water	Fluoride in Water by IC	EPA 300.1 (mod)
Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.			
HARDNESS-CALC-WP	Water	Hardness Calculated	APHA 2340B
Hardness (also known as Total Hardness) is calculated from the sum of Calcium and Magnesium concentrations, expressed in CaCO ₃ equivalents. Dissolved Calcium and Magnesium concentrations are preferentially used for the hardness calculation.			
IONBALANCE-CALC-WP	Water	Ion Balance Calculation	APHA 1030E
Cation Sum, Anion Sum, and Ion Balance (as % difference) are calculated based on guidance from APHA Standard Methods (1030E Checking Correctness of Analysis). Because all aqueous solutions are electrically neutral, the calculated ion balance (% difference of cations minus anions)			

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
		should be near-zero.	
		Cation and Anion Sums are the total meq/L concentration of major cations and anions. Dissolved species are used where available. Minor ions are included where data is present. Ion Balance (as % difference) cannot be calculated accurately for waters with very low electrical conductivity (EC), and is reported as "Low EC" where EC < 100 uS/cm (umhos/cm). Ion Balance is calculated as:	
		Ion Balance (%) = [Cation Sum-Anion Sum] / [Cation Sum+Anion Sum]	
MET-T-CCMS-WP	Water	Total Metals in Water by CRC ICPMS	EPA 200.2/6020A (mod.)
		Water samples are digested with nitric and hydrochloric acids, and analyzed by CRC ICPMS.	
		Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.	
NH3-COL-WP	Water	Ammonia by colour	APHA 4500 NH3 F
		Ammonia in water samples forms indophenol when reacted with hypochlorite and phenol. The intensity is amplified by the addition of sodium nitroprusside and measured colourmetrically.	
NO2-L-IC-N-WP	Water	Nitrite in Water by IC (Low Level)	EPA 300.1 (mod)
		Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.	
NO3-L-IC-N-WP	Water	Nitrate in Water by IC (Low Level)	EPA 300.1 (mod)
		Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.	
PH-WP	Water	pH	APHA 4500H
		The pH of a sample is the determination of the activity of the hydrogen ions by potentiometric measurement using a standard hydrogen electrode and a reference electrode.	
SO4-IC-N-WP	Water	Sulfate in Water by IC	EPA 300.1 (mod)
		Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.	
TDS-WP	Water	Total Dissolved Solids (TDS)	APHA 2540 SOLIDS C,E
		A well-mixed sample is filtered through a glass fiber filter paper. The filtrate is then evaporated to dryness in a pre-weighed vial and dried at 180 – 2C. The increase in vial weight represents the total dissolved solids.	
TURBIDITY-WP	Water	Turbidity	APHA 2130B (modified)
		Turbidity in aqueous matrices is determined by the nephelometric method.	
UV-%TRANS-WP	Water	UV Transmittance (Calculated)	APHA 5910B
		Test method is adapted from APHA Method 5910B. A sample is filtered through a 0.45 um polyethersulfone (PES) filter and its UV Absorbance is measured in a quartz cell at 254 nm. UV Transmittance is calculated from the UV Absorbance result and reported as UV Transmittance per cm. The analysis is carried out without pH adjustment.	

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
WP	ALS ENVIRONMENTAL - WINNIPEG, MANITOBA, CANADA

Chain of Custody Numbers:

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
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GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.

mg/kg - milligrams per kilogram based on dry weight of sample

mg/kg wwt - milligrams per kilogram based on wet weight of sample

mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight

mg/L - unit of concentration based on volume, parts per million.

< - Less than.

D.L. - The reporting limit.

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

Quality Control Report

Workorder: L2048273

Report Date: 29-JAN-18

Page 1 of 8

Client: RM of Argyle
 Box 40
 Baldur MB R0K 0B0
 Contact: DARCY DEARSLEY

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
ALK-TITR-WP								
	Water							
Batch	R3944636							
WG2704709-4	LCS							
Alkalinity, Total (as CaCO3)			100.8		%		85-115	24-JAN-18
WG2704709-1	MB							
Alkalinity, Total (as CaCO3)			<1.0		mg/L		1	24-JAN-18
BR-L-IC-N-WP								
	Water							
Batch	R3944932							
WG2703998-3	DUP	L2048273-1						
Bromide (Br)		<0.010	0.016	RPD-NA	mg/L	N/A	20	24-JAN-18
WG2703998-2	LCS							
Bromide (Br)			100.4		%		85-115	24-JAN-18
WG2703998-1	MB							
Bromide (Br)			<0.010		mg/L		0.01	24-JAN-18
WG2703998-4	MS	L2048273-1						
Bromide (Br)			104.0		%		75-125	24-JAN-18
C-DOC-HTC-WP								
	Water							
Batch	R3946374							
WG2706506-2	LCS							
Dissolved Organic Carbon			96.1		%		80-120	26-JAN-18
WG2706506-1	MB							
Dissolved Organic Carbon			<0.50		mg/L		0.5	26-JAN-18
C-TOC-HTC-WP								
	Water							
Batch	R3945301							
WG2705385-2	LCS							
Total Organic Carbon			98.5		%		80-120	25-JAN-18
WG2705385-1	MB							
Total Organic Carbon			<0.50		mg/L		0.5	25-JAN-18
CL-L-IC-N-WP								
	Water							
Batch	R3944932							
WG2703998-3	DUP	L2048273-1						
Chloride (Cl)		1.74	1.74		mg/L	0.3	20	24-JAN-18
WG2703998-2	LCS							
Chloride (Cl)			100.4		%		90-110	24-JAN-18
WG2703998-1	MB							
Chloride (Cl)			<0.10		mg/L		0.1	24-JAN-18
WG2703998-4	MS	L2048273-1						
Chloride (Cl)			102.8		%		75-125	24-JAN-18
COLOUR-TRUE-WP								
	Water							

Quality Control Report

Workorder: L2048273

Report Date: 29-JAN-18

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
COLOUR-TRUE-WP								
Batch	R3944005							
WG2703904-2	LCS							
Colour, True			101.5		%		85-115	23-JAN-18
WG2703904-1	MB							
Colour, True			<5.0		CU		5	23-JAN-18
EC-WP								
Batch	R3944636							
WG2704709-3	LCS							
Conductivity			100.8		%		90-110	24-JAN-18
WG2704709-1	MB							
Conductivity			<1.0		umhos/cm		1	24-JAN-18
F-IC-N-WP								
Batch	R3944932							
WG2703998-3	DUP	L2048273-1						
Fluoride (F)		0.125	0.124		mg/L	0.4	20	24-JAN-18
WG2703998-2	LCS							
Fluoride (F)			101.4		%		90-110	24-JAN-18
WG2703998-1	MB							
Fluoride (F)			<0.020		mg/L		0.02	24-JAN-18
WG2703998-4	MS	L2048273-1						
Fluoride (F)			107.2		%		75-125	24-JAN-18
MET-T-CCMS-WP								
Batch	R3944548							
WG2704017-2	LCS							
Aluminum (Al)-Total			106.8		%		80-120	24-JAN-18
Antimony (Sb)-Total			104.2		%		80-120	24-JAN-18
Arsenic (As)-Total			102.3		%		80-120	24-JAN-18
Barium (Ba)-Total			101.6		%		80-120	24-JAN-18
Beryllium (Be)-Total			104.7		%		80-120	24-JAN-18
Bismuth (Bi)-Total			102.5		%		80-120	24-JAN-18
Boron (B)-Total			105.1		%		80-120	24-JAN-18
Cadmium (Cd)-Total			103.0		%		80-120	24-JAN-18
Calcium (Ca)-Total			102.8		%		80-120	24-JAN-18
Cesium (Cs)-Total			106.0		%		80-120	24-JAN-18
Chromium (Cr)-Total			104.1		%		80-120	24-JAN-18
Cobalt (Co)-Total			102.5		%		80-120	24-JAN-18
Copper (Cu)-Total			102.4		%		80-120	24-JAN-18



Quality Control Report

Workorder: L2048273

Report Date: 29-JAN-18

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-WP		Water						
Batch	R3944548							
WG2704017-2	LCS							
Iron (Fe)-Total			100.7		%		80-120	24-JAN-18
Lead (Pb)-Total			101.8		%		80-120	24-JAN-18
Lithium (Li)-Total			109.4		%		80-120	24-JAN-18
Magnesium (Mg)-Total			108.0		%		80-120	24-JAN-18
Manganese (Mn)-Total			104.4		%		80-120	24-JAN-18
Molybdenum (Mo)-Total			103.7		%		80-120	24-JAN-18
Nickel (Ni)-Total			102.0		%		80-120	24-JAN-18
Potassium (K)-Total			103.0		%		80-120	24-JAN-18
Phosphorus (P)-Total			104.8		%		80-120	24-JAN-18
Rubidium (Rb)-Total			105.1		%		80-120	24-JAN-18
Selenium (Se)-Total			98.3		%		80-120	24-JAN-18
Silicon (Si)-Total			99.4		%		80-120	24-JAN-18
Silver (Ag)-Total			97.7		%		80-120	24-JAN-18
Sodium (Na)-Total			104.9		%		80-120	24-JAN-18
Strontium (Sr)-Total			105.8		%		80-120	24-JAN-18
Tellurium (Te)-Total			105.9		%		80-120	24-JAN-18
Thallium (Tl)-Total			104.0		%		80-120	24-JAN-18
Thorium (Th)-Total			101.5		%		80-120	24-JAN-18
Tin (Sn)-Total			102.1		%		80-120	24-JAN-18
Titanium (Ti)-Total			100.5		%		80-120	24-JAN-18
Tungsten (W)-Total			102.9		%		80-120	24-JAN-18
Uranium (U)-Total			102.8		%		80-120	24-JAN-18
Vanadium (V)-Total			103.5		%		80-120	24-JAN-18
Zinc (Zn)-Total			100.1		%		80-120	24-JAN-18
Zirconium (Zr)-Total			100.7		%		80-120	24-JAN-18
WG2704017-1		MB						
Aluminum (Al)-Total			<0.0030		mg/L		0.003	24-JAN-18
Antimony (Sb)-Total			<0.00010		mg/L		0.0001	24-JAN-18
Arsenic (As)-Total			<0.00010		mg/L		0.0001	24-JAN-18
Barium (Ba)-Total			<0.000050		mg/L		0.00005	24-JAN-18
Beryllium (Be)-Total			<0.00010		mg/L		0.0001	24-JAN-18
Bismuth (Bi)-Total			<0.000050		mg/L		0.00005	24-JAN-18
Boron (B)-Total			<0.010		mg/L		0.01	24-JAN-18
Cadmium (Cd)-Total			<0.000005C		mg/L		0.000005	24-JAN-18



Quality Control Report

Workorder: L2048273

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-WP		Water						
Batch	R3944548							
WG2704017-1	MB							
Calcium (Ca)-Total			<0.050		mg/L		0.05	24-JAN-18
Cesium (Cs)-Total			<0.000010		mg/L		0.00001	24-JAN-18
Chromium (Cr)-Total			<0.00010		mg/L		0.0001	24-JAN-18
Cobalt (Co)-Total			<0.00010		mg/L		0.0001	24-JAN-18
Copper (Cu)-Total			<0.00050		mg/L		0.0005	24-JAN-18
Iron (Fe)-Total			<0.010		mg/L		0.01	24-JAN-18
Lead (Pb)-Total			<0.000050		mg/L		0.00005	24-JAN-18
Lithium (Li)-Total			<0.0010		mg/L		0.001	24-JAN-18
Magnesium (Mg)-Total			<0.0050		mg/L		0.005	24-JAN-18
Manganese (Mn)-Total			<0.00010		mg/L		0.0001	24-JAN-18
Molybdenum (Mo)-Total			<0.000050		mg/L		0.00005	24-JAN-18
Nickel (Ni)-Total			<0.00050		mg/L		0.0005	24-JAN-18
Potassium (K)-Total			<0.050		mg/L		0.05	24-JAN-18
Phosphorus (P)-Total			<0.050		mg/L		0.05	24-JAN-18
Rubidium (Rb)-Total			<0.00020		mg/L		0.0002	24-JAN-18
Selenium (Se)-Total			<0.000050		mg/L		0.00005	24-JAN-18
Silicon (Si)-Total			<0.10		mg/L		0.1	24-JAN-18
Silver (Ag)-Total			<0.000010		mg/L		0.00001	24-JAN-18
Sodium (Na)-Total			<0.050		mg/L		0.05	24-JAN-18
Strontium (Sr)-Total			<0.00020		mg/L		0.0002	24-JAN-18
Tellurium (Te)-Total			<0.00020		mg/L		0.0002	24-JAN-18
Thallium (Tl)-Total			<0.000010		mg/L		0.00001	24-JAN-18
Thorium (Th)-Total			<0.00010		mg/L		0.0001	24-JAN-18
Tin (Sn)-Total			<0.00010		mg/L		0.0001	24-JAN-18
Titanium (Ti)-Total			<0.00030		mg/L		0.0003	24-JAN-18
Tungsten (W)-Total			<0.00010		mg/L		0.0001	24-JAN-18
Uranium (U)-Total			<0.000010		mg/L		0.00001	24-JAN-18
Vanadium (V)-Total			<0.00050		mg/L		0.0005	24-JAN-18
Zinc (Zn)-Total			<0.0030		mg/L		0.003	24-JAN-18
Zirconium (Zr)-Total			<0.000060		mg/L		0.00006	24-JAN-18

NH3-COL-WP

Water

Quality Control Report

Workorder: L2048273

Report Date: 29-JAN-18

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
NH3-COL-WP								
Water								
Batch R3945325								
WG2705466-2	LCS							
Ammonia, Total (as N)			99.4		%		85-115	25-JAN-18
WG2705466-1	MB							
Ammonia, Total (as N)			<0.010		mg/L		0.01	25-JAN-18
NO2-L-IC-N-WP								
Water								
Batch R3944932								
WG2703998-3	DUP	L2048273-1						
Nitrite (as N)		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	24-JAN-18
WG2703998-2	LCS							
Nitrite (as N)			101.6		%		90-110	24-JAN-18
WG2703998-1	MB							
Nitrite (as N)			<0.0010		mg/L		0.001	24-JAN-18
WG2703998-4	MS	L2048273-1						
Nitrite (as N)			103.8		%		75-125	24-JAN-18
NO3-L-IC-N-WP								
Water								
Batch R3944932								
WG2703998-3	DUP	L2048273-1						
Nitrate (as N)		<0.0050	<0.0050	RPD-NA	mg/L	N/A	20	24-JAN-18
WG2703998-2	LCS							
Nitrate (as N)			100.8		%		90-110	24-JAN-18
WG2703998-1	MB							
Nitrate (as N)			<0.0050		mg/L		0.005	24-JAN-18
WG2703998-4	MS	L2048273-1						
Nitrate (as N)			103.2		%		75-125	24-JAN-18
PH-WP								
Water								
Batch R3944636								
WG2704709-2	LCS							
pH			7.41		pH units		7.3-7.5	24-JAN-18
SO4-IC-N-WP								
Water								
Batch R3944932								
WG2703998-3	DUP	L2048273-1						
Sulfate (SO4)		28.1	28.1		mg/L	0.0	20	24-JAN-18
WG2703998-2	LCS							
Sulfate (SO4)			100.9		%		90-110	24-JAN-18
WG2703998-1	MB							
Sulfate (SO4)			<0.30		mg/L		0.3	24-JAN-18
WG2703998-4	MS	L2048273-1						



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
SO4-IC-N-WP	Water							
Batch	R3944932							
WG2703998-4 MS		L2048273-1						
Sulfate (SO4)			100.9		%		75-125	24-JAN-18
TDS-WP	Water							
Batch	R3945625							
WG2704852-2 LCS								
Total Dissolved Solids			102.0		%		85-115	25-JAN-18
WG2704852-1 MB								
Total Dissolved Solids			<10		mg/L		10	25-JAN-18
TURBIDITY-WP	Water							
Batch	R3944574							
WG2704573-2 LCS								
Turbidity			99.0		%		85-115	24-JAN-18
WG2704573-1 MB								
Turbidity			<0.10		NTU		0.1	24-JAN-18
UV-%TRANS-WP	Water							
Batch	R3944028							
WG2703920-1 IRM		BLANK						
Transmittance, UV (254 nm)			100.0		%		99.5-100.5	23-JAN-18
WG2703920-2 LCS								
Transmittance, UV (254 nm)			98.6		%		85-115	23-JAN-18

Quality Control Report

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Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Quality Control Report

Workorder: L2048273

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Hold Time Exceedances:

ALS Product Description	Sample ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
Physical Tests							
pH	1	22-JAN-18 13:45	24-JAN-18 12:00	0.25	46	hours	EHTR-FM

Legend & Qualifier Definitions:

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended.
EHTR: Exceeded ALS recommended hold time prior to sample receipt.
EHTL: Exceeded ALS recommended hold time prior to analysis. Sample was received less than 24 hours prior to expiry.
EHT: Exceeded ALS recommended hold time prior to analysis.
Rec. HT: ALS recommended hold time (see units).

Notes*:
Where actual sampling date is not provided to ALS, the date (& time) of receipt is used for calculation purposes.
Where actual sampling time is not provided to ALS, the earlier of 12 noon on the sampling date or the time (& date) of receipt is used for calculation purposes. Samples for L2048273 were received on 23-JAN-18 12:40.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes 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 pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.

Environmental Division

FOR LABORATORY USE

Sample Condition Upon Receipt: Aqueous
 Frozen Cold Ambient Broken Leakage

COMMENT:

Date Sampled: JAN 22 / 18 Time: 13:45 A.M. P.M.

Location: BALDUR
(Town, Community, City)

Community Code Number: 11.00

9.1°C
 Stable

WORK ORDER NO:

LAB NO.: L2048073

DATE RECEIVED: 23-01-18

TIME RECEIVED: 10:40

BY: AG

Date Required:

Submitter's Name Printed: DARCY DEARSLBY

Sample Submitted By:

Rural Municipality/LGC/UVD: R.M. of ARGYLE

SAMPLE TYPE

- DRINKING WATER**
- Untreated Well
 - Treated Well
 - Treated Municipal
 - Non-Treated Municipal
 - Water-Surface-Raw
 - Water-Surface-Treated

PURPOSE OF TEST

- Private
- Real Estate
- Water Main

PLEASE PRINT & PRESS FIRMLY

NON-DRINKING WATER

- Sewage/Waste Water
- Lake/River
- Swimming Pool
- Whirl Pool
- Other

NOTES & CONDITIONS

1. Quote number must be provided to insure proper pricing.
2. Failure to properly complete all portions of this form may delay analysis.
3. ALS's liability limited to cost of analysis.

SERVICE REQUESTED

- REGULAR
- PRIORITY

EMERGENCY

(50% SURCHARGE)

(100% SURCHARGE)

LAB NUMBER	SAMPLE IDENTIFICATION
	GLENORA FIRE HALL WELL

ALS CUSTOMER #:	QUOTE #:
REPORT TO BE SENT TO	
NAME: DARCY DEARSLBY	
COMPANY: R.M. of ARGYLE	
ADDRESS: Box 40	
CITY/TOWN: BALDUR	PROV.: MB.
POSTAL CODE: R0K 0B0	
PHONE: 204.825.7285	
BY: MAIL <input type="checkbox"/>	FAX <input type="checkbox"/>
PICKUP <input type="checkbox"/>	
E-MAIL <input checked="" type="checkbox"/> cao@rmofargyle.ca <small>(FAX NUMBER) (EMAIL ADDRESS)</small>	
CC	
NAME: DEE GENAILLE	
ADDRESS:	
CITY/TOWN:	PROV.:
POSTAL CODE:	
PHONE:	
BY: MAIL <input type="checkbox"/>	FAX <input type="checkbox"/>
PICKUP <input type="checkbox"/>	
E-MAIL <input checked="" type="checkbox"/> dee.genaille@gov.mb.ca <small>(FAX NUMBER) (EMAIL ADDRESS)</small>	

Analyses required
pws. chemistry (mb.ch.pws.wp)

BILLING ADDRESS	SAME AS REPORT TO <input type="checkbox"/>
NAME: ANGELA MEIER	
COMPANY: MANITOBA WATER SERVICES BOARD	
ADDRESS: Box 22080 CURRIE BOULEVARD	
CITY/TOWN: BRANDON	PROV.: MB.
POSTAL CODE: R7A-6Y9	

SAMPLING INSTRUCTIONS ON REVERSE SIDE

Manitoba Technology Centre Ltd.
Part of the **ALS Laboratory Group**
12 - 1329 Niakwa Rd. E., Winnipeg, MB Canada R2J 3T4
Phone: +1 204 255 9720 Fax: +1 204 255 9721 www.alsglobal.com
A Campbell Brothers Limited Company

ACCOUNT COPY

PAYMENT PARTICULARS	
<input type="checkbox"/> INVOICE NEEDED / CLIENT'S P.O. NO.	
<input type="checkbox"/> INTERAC	
<input type="checkbox"/> CASH	Subtotal \$
<input type="checkbox"/> CHEQUE	G.S.T. \$
<input type="checkbox"/> VISA / MASTERCARD	Total \$

* OUR POLICY IS NOT TO ACCEPT SAMPLES FROM THE PRIVATE CITIZEN WITHOUT PREPAYMENT

ENTERED IN LIMS BY: