

Corix Multi-Utility Services Inc.

ATTN: Christina Bucci

PO Box 871

Invermere BC VOA 1KO

Date Received: 12-MAY-20

Report Date: 20-MAY-20 14:22 (MT)

Version: FINAL

Client Phone: 250-341-6158

Certificate of Analysis

Lab Work Order #: L2446045
Project P.O. #: NOT SUBMITTED
Job Reference: 3088JOB000010

C of C Numbers:

Legal Site Desc: KOOTENAYS

Lyudmyla Shvets, B.Sc. Account Manager

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

ADDRESS: 2559 29 Street NE, Calgary, AB T1Y 7B5 Canada | Phone: +1 403 291 9897 | Fax: +1 403 291 0298 ALS CANADA LTD Part of the ALS Group An ALS Limited Company



L2446045 CONTD.... PAGE 2 of 4 Version: FINAL

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2446045-1 LOCATION #1							
Sampled By: CHAD COCHRANE on 11-MAY-20 @ 09:0	00						
Matrix: WATER							
WATER							
Total Coliforms and E. Coli by MPN							
MPN - E. Coli	<1		1	MPN/100mL		12-MAY-20	R5082534
MPN - Total Coliforms	<1		1	MPN/100mL		12-MAY-20	R5082534
L2446045-2 LOCATION #2							
Sampled By: CHAD COCHRANE on 11-MAY-20 @ 09:	15						
Matrix: WATER							
Total Coliforms and E. Coli by MPN							
MPN - E. Coli	<1		1	MPN/100mL		12-MAY-20	R5082534
MPN - Total Coliforms	<1		1	MPN/100mL		12-MAY-20	R5082534
_2446045-3 LOCATION #3							
Sampled By: CHAD COCHRANE on 11-MAY-20 @ 10:0	00						
	,,						
Matrix: WATER							
Total Coliforms and E. Coli by MPN							
MPN - E. Coli	<1		1	MPN/100mL		12-MAY-20	R5082534
MPN - Total Coliforms	<1		1	MPN/100mL		12-MAY-20	R5082534
Routine Potable Water							
Chloride in Water by IC							
Chloride (CI)	22.2		0.50	mg/L		12-MAY-20	R5082279
Fluoride in Water by IC	0.005		0.000			10 MAY 20	DE000070
Fluoride (F)	0.035		0.020	mg/L		12-MAY-20	R5082279
Ion Balance Calculation Ion Balance	103			%		20-MAY-20	
TDS (Calculated)	348			mg/L		20-MAY-20	
Hardness (as CaCO3)	298			mg/L		20-MAY-20	
Nitrate in Water by IC							
Nitrate (as N)	3.58		0.020	mg/L		12-MAY-20	R5082279
Nitrate+Nitrite							
Nitrate and Nitrite (as N)	3.58		0.022	mg/L		20-MAY-20	
Nitrite in Water by IC							
Nitrite (as N)	<0.010		0.010	mg/L		12-MAY-20	R5082279
Sulfate in Water by IC	50.7		0.00			40 MAN 00	D = 0.00070
Sulfate (SO4)	56.7		0.30	mg/L		12-MAY-20	R5082279
Total Metals in Water by ICPOES Calcium (Ca)-Total	69.6		0.10	mg/L		19-MAY-20	R5092021
Iron (Fe)-Total	<0.030		0.030	mg/L		19-MAY-20	R5092021
Magnesium (Mg)-Total	30.2		0.030	mg/L		19-MAY-20	R5092021
Manganese (Mn)-Total	< 0.0050		0.0050	mg/L		19-MAY-20	R5092021
Potassium (K)-Total	1.44		0.50	mg/L		19-MAY-20	R5092021
Sodium (Na)-Total	16.9		1.0	mg/L		19-MAY-20	R5092021
Turbidity							
Turbidity	0.28		0.10	NTU		12-MAY-20	R5082073
pH, Conductivity and Total Alkalinity							
pH	7.83		0.10	pН		13-MAY-20	R5083297
Conductivity (EC)	549		2.0	uS/cm		13-MAY-20	R5083297
Bicarbonate (HCO3)	274		5.0	mg/L		13-MAY-20	R5083297
Carbonate (CO3)	<5.0		5.0	mg/L		13-MAY-20	R5083297
Hydroxide (OH)	<5.0		5.0	mg/L		13-MAY-20	R5083297
Alkalinity, Total (as CaCO3)	225		2.0	mg/L		13-MAY-20	R5083297

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

3088JOB000010 L2446045 CONTD....

Reference Information

PAGE 3 of 4 Version: FINAL

Test Method References: ALS Test Code Matrix Method Reference** **Test Description** CL-IC-N-CL Water Chloride in Water by IC EPA 300.1 (mod) Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection. F-IC-N-CL Water Fluoride in Water by IC EPA 300.1 (mod) Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection. **IONBALANCE-CL** Water Ion Balance Calculation **APHA 1030E** MET-TOT-ICP-CL Water Total Metals in Water by ICPOES EPA 200.2/6010D Water samples are digested with nitric and hydrochloric acids, and analyzed by inductively coupled plasma - optical emission spectrophotometry (EPA Method 6010B). Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. N2N3-CALC-CL Water Nitrate+Nitrite **CALCULATION** NO2-IC-N-CL Water Nitrite in Water by IC EPA 300.1 (mod) Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection. NO3-IC-N-CL Nitrate in Water by IC EPA 300.1 (mod) Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection. PH/EC/ALK-CL pH, Conductivity and Total Alkalinity APHA 4500H,2510,2320 All samples analyzed by this method for pH will have exceeded the 15 minute recommended hold time from time of sampling (field analysis is recommended for pH where highly accurate results are needed) pH measurement is determined from the activity of the hydrogen ions using a hydrogen electrode and a reference electrode. Alkalinity measurement is based on the sample's capacity to neutralize acid Conductivity measurement is based on the sample's capacity to convey an electric current SO4-IC-N-CL Water Sulfate in Water by IC EPA 300.1 (mod) Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection. TC-EC-MPN-CL Total Coliforms and E. Coli by MPN **APHA METHOD 9223** This analysis is carried out using procedures adapted from APHA Method 9223 "Enzyme Substrate Coliform Test". E. coli and Total Coliform are determined simultaneously. The sample is mixed with a mixture hydrolyzable substrates and then sealed in a multi-well packet. The packet is incubated for 18 or 24 hours and then the number of wells exhibiting a positive response are counted. The final result is obtained by comparing the positive responses to a probability table. TURBIDITY-CL Water Turbidity APHA 2130 B-Nephelometer This analysis is carried out using procedures adapted from APHA Method 2130 "Turbidity". Turbidity is determined by the nephelometric method.

** 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
CL	ALS ENVIRONMENTAL - CALGARY, ALBERTA, CANADA

Chain of Custody Numbers:

3088JOB000010 L2446045 CONTD....

Reference Information

PAGE 4 of 4 Version: FINAL

Test Method References:

ALS Test Code Matrix Method Reference** **Test Description**

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.



Workorder: L2446045 Report Date: 20-MAY-20 Page 1 of 4

Client: Corix Multi-Utility Services Inc.

PO Box 871

Invermere BC V0A 1K0

Contact: Christina Bucci

est	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CL-IC-N-CL	Water							
Batch R5082279								
WG3322483-2 LCS Chloride (Cl)			104.5		%		90-110	12-MAY-20
WG3322483-1 MB Chloride (CI)			<0.50		mg/L		0.5	12-MAY-20
F-IC-N-CL	Water							
Batch R5082279								
WG3322483-2 LCS Fluoride (F)			100.3		%		90-110	12-MAY-20
WG3322483-1 MB								
Fluoride (F)			<0.020		mg/L		0.02	12-MAY-20
MET-TOT-ICP-CL	Water							
Batch R5092021								
WG3325401-9 DUP		L2446045-3						
Calcium (Ca)-Total		69.6	68.4		mg/L	1.7	20	19-MAY-20
Iron (Fe)-Total		<0.030	<0.030	RPD-NA	mg/L	N/A	20	19-MAY-20
Magnesium (Mg)-Total		30.2	30.1		mg/L	0.5	20	19-MAY-20
Manganese (Mn)-Total		<0.0050	<0.0050	RPD-NA	mg/L	N/A	20	19-MAY-20
Potassium (K)-Total		1.44	1.44		mg/L	0.0	20	19-MAY-20
Sodium (Na)-Total		16.9	16.7		mg/L	1.3	20	19-MAY-20
WG3325401-2 LCS Calcium (Ca)-Total		TMRM	108.3		%		80-120	19-MAY-20
Iron (Fe)-Total			100.3		%		80-120	19-MAY-20
Magnesium (Mg)-Total			97.7		%		80-120	19-MAY-20
Manganese (Mn)-Total			102.9		%		80-120	19-MAY-20
Potassium (K)-Total			99.1		%		80-120	19-MAY-20
Sodium (Na)-Total			101.4		%		80-120	19-MAY-20
WG3325401-1 MB							33 120	10 1417 (1 20
Calcium (Ca)-Total			<0.10		mg/L		0.1	19-MAY-20
Iron (Fe)-Total			< 0.030		mg/L		0.03	19-MAY-20
Magnesium (Mg)-Total			<0.10		mg/L		0.1	19-MAY-20
Manganese (Mn)-Total			<0.0050		mg/L		0.005	19-MAY-20
Potassium (K)-Total			<0.50		mg/L		0.5	19-MAY-20
Sodium (Na)-Total			<1.0		mg/L		1	19-MAY-20
WG3325401-10 MS		L2446045-3			Ŭ		•	
Calcium (Ca)-Total			97.5		%		70-130	19-MAY-20
Iron (Fe)-Total			94.0		%		70-130	19-MAY-20



Workorder: L2446045 Report Date: 20-MAY-20

Page 2 of 4

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TOT-ICP-CL	Water							
Batch R5092021 WG3325401-10 MS Magnesium (Mg)-Total		L2446045-3	88.5		%		70-130	19-MAY-20
Sodium (Na)-Total			93.5		%		70-130	19-MAY-20
NO2-IC-N-CL	Water							
Batch R5082279								
WG3322483-2 LCS Nitrite (as N)			106.5		%		90-110	12-MAY-20
WG3322483-1 MB Nitrite (as N)			<0.010		mg/L		0.01	12-MAY-20
NO3-IC-N-CL	Water							
Batch R5082279)							
WG3322483-2 LCS Nitrate (as N)			105.4		%		90-110	12-MAY-20
WG3322483-1 MB Nitrate (as N)			<0.020		mg/L		0.02	12-MAY-20
PH/EC/ALK-CL	Water							
Batch R5083297	7							
WG3323209-2 LCS Conductivity (EC)			101.0		%		90-110	13-MAY-20
Alkalinity, Total (as Ca	CO3)		101.0		%		90-110 85-115	13-MAY-20
WG3323209-1 MB	,						00 110	10 101711 20
Conductivity (EC)			<2.0		uS/cm		2	13-MAY-20
Bicarbonate (HCO3)			<5.0		mg/L		5	13-MAY-20
Carbonate (CO3)			<5.0		mg/L		5	13-MAY-20
Hydroxide (OH)			<5.0		mg/L		5	13-MAY-20
Alkalinity, Total (as Ca	CO3)		<2.0		mg/L		2	13-MAY-20
SO4-IC-N-CL	Water							
Batch R5082279 WG3322483-2 LCS)							
Sulfate (SO4)			106.1		%		90-110	12-MAY-20
WG3322483-1 MB Sulfate (SO4)			<0.30		mg/L		0.3	12-MAY-20
TC-EC-MPN-CL	Water							
Batch R5082534	1							
WG3322791-1 MB MPN - E. Coli			<1		MPN/100mL		1	12-MAY-20



Workorder: L2446045 Report Date: 20-MAY-20 Page 3 of 4

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
TC-EC-MPN-CL Batch R5082534 WG3322791-1 MB	Water							
MPN - Total Coliforms			<1		MPN/100mL		1	12-MAY-20
TURBIDITY-CL	Water							
Batch R5082073								
WG3322152-2 LCS Turbidity			102.5		%		85-115	12-MAY-20
WG3322152-1 MB Turbidity			<0.10		NTU		0.1	12-MAY-20

Workorder: L2446045 Report Date: 20-MAY-20 Page 4 of 4

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 Description Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard

Sample Parameter Qualifier Definitions:

LCSD Laboratory Control Sample Duplicate

Qualifier	Description
J	Duplicate results and limits are expressed in terms of absolute difference.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Hold Time Exceedances:

All test results reported with this submission were conducted within ALS recommended hold times.

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 predetermined 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.

ALS Environmental

Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

L2446045-COFC

COC Number: 15 -

age of

	www.aisglobal.com																		
Report To	t To Conlact and company name below will appear on the final report			Report Format			Select Service Level Below - Please confirm all E&P TATs with your AM - surcharges will apply												
Сотрапу:	Corix Utilities Inc.			_	JEXCEL 「JEDO		Regular (R)												
Contact:	Christina Bucci		Quality Controt	(QC) Report with R	eport 🗹 YES	□ NO	PRIORITY (Businese Days)	4 (lay [P		չ 1								
Phone:	250-688-8560		✓ Compare Results to Criteria on Report - provide details below if box checked				NC RT	3 (day [P	-			1 December 2	Same	r				
	Company address below will appear on the final report			Select Distribution:				2 (2 day [P2]					Statu		<u>. </u>			
Street:	Sulte 5, 108 Industrial Road 2		Email 1 or Fax	christina,bucci@c	<u>mos,xing</u>	_	Date and Time Required for all E&P TATs: dd-n+mm-yy hh.mm											.mip	
City/Province;	Invermere, BC		Email 2	w ww.compliance(@corix.com		For tests that can not be performed according to the service level selected, you will be contacted.												
Postal Code:	V0A1K5		Email 3									Α	nalysis	Reque	est				
Invoice To		NO		Invoice Dis				Indic	ate Fille	ered (F),	Preserve	d (P) or	Filtered ar	nd Prese	rved (F/F) belo	.w		 I
	==,,	<u>л</u> ио	Select Invoice D	Distribution: [] EMA	IL MAIL	T FAX				- 1									I
Сотрапу:	Corix Utilities Inc.		Emeil 1 or Fax	christina.bucci@c	orix,com					Ĭ									I
Contact:	Christina Bucci		Email 2	lynsay,chalmers@	corix,com		1			J				1					I
	Project Information			<u> </u>		<u>_</u> _]			U									_
ALS Account#		 	ALS Account #:	18933			. 1			'	~								nole
Facility Name;	PMV WD						1			4	4								ı Ö
Facility Code:	4000						1			0	1-			ļ					C3/
Corix Job #	3088JOB000010		Requisitioner:						页	⋖	W								Label/Cap Colour
Region (LSD):	Kootenays		Location:				1 1	e se	위	OTAB	Σ			1					, ב
ALS Lab Wor	rk Order# (lab use only)		ALS Contact:	Lyudmyla	Sampler:	Chad Cochrane		Background colonies	Colitorm Bacteria - Total	4	4								
ALS Sample #	Sample Information	to appear on Report		Date	Time				Ĕ	্র	爿						1		i
(lab use only)	Sample ID	Sample Location	Chlorine Free, Client Supplied	(dd-mmm-yy)	(hh:mm)	Sample Type	100 ii	3ack	췽	Rou	ė								ı
	Location #1	Booster	P/A	11-May-20	9:00	Water	R	R	R										Cyan/White 250ml Sterile hope (Na ₂ S ₂ O ₃)
	Location #2	Platter PRV	1.06		9:18	Water	R	Ŕ	R										Cyan/White 250mi Sterile hdpe (Na ₂ S ₂ O ₃)
	Location #3	EKEL	0.43	•	10:00	Water	R	R	R	R	R								Cyan/White 250ml Sterile hdpe (Na ₂ S ₂ O ₃)
	Location #4			100		Water													Cyan/White I 250ml Sterile hdpe (Na ₂ S ₂ O ₃)
	Location #5					Water													Cyan/White 250ml Stenle hdpe (Na ₂ S ₂ O ₃)
	Location #6	. <u>.</u> .				Water												l	Cyan/While 250ml Sterile hdpe (Na ₂ S ₂ O ₃)
Drinking	Water (DW) Samples ¹ (client use)	Special Instructions				drop-down list					PLE CC		ON AS				_		
	en from a Regulated DW System?	below (electronic COC only) amples needs to complete the litems shown in yellow fields, mpler in yellow field ation Description & Free Chlorine reading when sampling of in the light yellow fields whenever required				Frozen					□ c						No		
Are samples for	human drinking water use?	om the light yellow	, ueine wuenekei 16d	un eu			TX.	× 600	LER IE	MPERAT	PHES *		•	FINAL	. coc	ILER TE	:MPER	RATURES *C	
TAR SELECTION OF THE PARTY OF T	N. BANKETA GERMAN AND STATE OF THE STATE OF T	I INITIAL COMME	EL FOSOSSI	St. a. b				ک				144 51		<u> </u>					
SHIPMENT REI	LEASE (cliegt use)	INITIAL SHIPN	Received by:	N (lab use only)	Inote:	1-1-	Time	<i></i>	Door	- با ليرسررا		VAL SI	HPMEN			N (la	b use	only)	
	Calen 11-May-2	20 12:30	neceived by.	12	Date:	1987 []	175	\mathcal{C}	nece	ived by	· ·			Date	1				Time;
REFER TO BACK	K PAGE FOR ALS LOCATIONS AND SAMPLI	NG INFORMATION		WHI	TE -LABORATO	RY COPY YEL	tOWL-	LIENT	COPY	,	-								OCTOBER 2015 FROAT