



Gull Lake Basin Management Board
ATTN: DAVID CAIRNS / JEFF SUGGETT
Box 31, Grp 327, RR3
Beausejour MB R0E 0C0

Date Received: 21-JUL-22
Report Date: 05-AUG-22 14:18 (MT)
Version: FINAL

Client Phone: 204-799-1554

Certificate of Analysis

Lab Work Order #: L2724152
Project P.O. #: NOT SUBMITTED
Job Reference: GULL LAKE, MB
C of C Numbers:
Legal Site Desc:



Hua Wo
Chemistry Laboratory Manager

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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
L2724152-1 6LBMB Sampled By: CLIENT on 21-JUL-22 @ 11:30 Matrix: LAKE/RIVER Nitrate + Nitrite Nitrate in Water by IC Nitrate (as N) Nitrate+Nitrite Nitrate and Nitrite as N Nitrite in Water by IC Nitrite (as N) Miscellaneous Parameters Phosphorus (P)-Total Total Kjeldahl Nitrogen Zebra Mussel veliger Note: No Zebra Mussel veligers observed. Total and E. coli, 1:10 dilution by QT97 Total Coliforms Escherichia Coli	<0.020 0.0246 1.65 0.0 1890 50	 MBHT MBHT	 0.0030 0.20 0 10 10	 mg/L mg/L mg/L mg/L mg/L Count/samp MPN/100mL MPN/100mL	 27-JUL-22	22-JUL-22 26-JUL-22 22-JUL-22 04-AUG-22 28-JUL-22 22-JUL-22 24-JUL-22 24-JUL-22	R5828134 R5828298 R5828298

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

Reference Information

Sample Parameter Qualifier Key:

Qualifier	Description
MBHT	The APHA 30 hour hold time was exceeded for microbiological testing. Samples processed within 48 hours from time of sampling may be valid in some cases (refer to Health Canada guidance).

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
N-TOTKJ-WP	Water	Total Kjeldahl Nitrogen	APHA 4500 NorgD (modified)
Aqueous samples are digested in a block digester with sulfuric acid and copper sulfate as a catalyst. Total Kjeldahl Nitrogen is then analyzed using a discrete analyzer with colorimetric detection.			
NO2+NO3-CALC-WP	Water	Nitrate+Nitrite	CALCULATION
NO2-IC-N-WP	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-WP	Water	Nitrate in Water by IC	EPA 300.1 (mod)
Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.			
P-T-COL-WP	Water	Phosphorus, Total	APHA 4500 P PHOSPHORUS-L
This analysis is carried out using procedures adapted from APHA METHOD 4500-P "Phosphorus". Total Phosphorus is determined colourmetrically after persulphate digestion of the sample.			
TC,EC10-QT97-WP	Water	Total and E. coli, 1:10 dilution by QT97	APHA 9223B QT97
Analysis is carried out using procedures adapted from APHA 9223 "Enzyme Substrate Coliform Test". Total coliforms and Eschericia coli bacteria are simultaneously determined by mixing a 1:10 dilution of sample with a product containing hydrolyzable substrates and sealing in a 97-well packet. The packet is incubated at 35.0 +/- 0.5 degrees C for 18 or 24 hours and then the number of wells exhibiting positive responses are counted. The final results are obtained by comparing the number of positive responses to a probability table.			
ZEBRA-ID-WP	Water	Zebra Mussel Identification	Microscopic Examination
Samples are sieved through a 75 micrometer sieve and examined under a polarized light stereoscopic microscope at 50x.			

** 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:

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: L2724152

Report Date: 05-AUG-22

Page 1 of 4

Client: Gull Lake Basin Management Board

Box 31, Grp 327, RR3

Beausejour MB R0E 0C0

Contact: DAVID CAIRNS / JEFF SUGGETT

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
N-TOTKJ-WP								
Water								
Batch	R5830156							
WG3752392-10	LCS							
Total Kjeldahl Nitrogen			95.5		%		75-125	28-JUL-22
WG3752392-9	MB							
Total Kjeldahl Nitrogen			<0.20		mg/L		0.2	28-JUL-22
NO2-IC-N-WP								
Water								
Batch	R5828134							
WG3751543-3	DUP	L2724152-1						
Nitrite (as N)		<0.010	<0.010	RPD-NA	mg/L	N/A	20	22-JUL-22
WG3751543-2	LCS							
Nitrite (as N)			101.0		%		90-110	22-JUL-22
WG3751543-1	MB							
Nitrite (as N)			<0.010		mg/L		0.01	22-JUL-22
WG3751543-4	MS	L2724152-1						
Nitrite (as N)			103.3		%		75-125	22-JUL-22
NO3-IC-N-WP								
Water								
Batch	R5828134							
WG3751543-3	DUP	L2724152-1						
Nitrate (as N)		<0.020	<0.020	RPD-NA	mg/L	N/A	20	22-JUL-22
WG3751543-2	LCS							
Nitrate (as N)			102.1		%		90-110	22-JUL-22
WG3751543-1	MB							
Nitrate (as N)			<0.020		mg/L		0.02	22-JUL-22
WG3751543-4	MS	L2724152-1						
Nitrate (as N)			104.7		%		75-125	22-JUL-22
P-T-COL-WP								
Water								
Batch	R5836262							
WG3754265-26	LCS							
Phosphorus (P)-Total			100.9		%		80-120	04-AUG-22
WG3754265-25	MB							
Phosphorus (P)-Total			<0.0030		mg/L		0.003	04-AUG-22
TC,EC10-QT97-WP								
Water								
Batch	R5828298							
WG3751712-2	DUP	L2724152-1						
Total Coliforms		1890	1720		MPN/100mL	9.3	65	24-JUL-22
Escherichia Coli		50	30		MPN/100mL	51	65	24-JUL-22
WG3751712-1	MB							
Total Coliforms			<1		MPN/100mL		1	24-JUL-22

Quality Control Report

Workorder: L2724152

Report Date: 05-AUG-22

Page 2 of 4

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
TC,EC10-QT97-WP	Water							
Batch	R5828298							
WG3751712-1 MB								
Escherichia Coli			<1		MPN/100mL		1	24-JUL-22

Quality Control Report

Workorder: L2724152

Report Date: 05-AUG-22

Page 3 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 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: L2724152

Report Date: 05-AUG-22

Page 4 of 4

Hold Time Exceedances:

ALS Product Description	Sample ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
Bacteriological Tests							
Total and E. coli, 1:10 dilution by QT97							
	1	21-JUL-22 11:30	24-JUL-22 18:35	30	79	hours	EHT

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 L2724152 were received on 21-JUL-22 14:00.

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.



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L2724152-COFC

of Custody / Analytical Request Form

WORK ORDER NO: _____

FOR LABORATORY USE ONLY (SHADED AREAS)

Sample Condition Upon Receipt: ☐ ACCEPTABLE ☐ NON ACCEPTABLE
☐ Frozen ☐ Cold ☐ Ambient ☐ Broken ☐ Leakage ☐ Incorrect Sample Container

LAB NO.: _____

DATE RECEIVED: 21-07-22

TIME RECEIVED: 2.00

COMMENT: _____

BY: AS TEMP: 22.00C

Date Sampled: July 21/22 Time: 11:30 A.M. ☒ P.M. ☐

Date Required: ASAP

Location: Gull Lake Mb
(Town, Community, City)

Submitter's Name Printed: David Cairns

Sample Submitted By: _____

Community Code Number: _____

Rural Municipality/LGC/UVD: _____

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 ☐ SAME DAY
(50% SURCHARGE) (100% SURCHARGE) (200% SURCHARGE)

LAB NUMBER	SAMPLE IDENTIFICATION	ALS CUSTOMER #	QUOTE #
	61BMB	W10797	
		REPORT TO BE SENT TO	
		NAME: <u>David Cairns</u>	
		COMPANY: <u>Gull Lake Basin Mgmt Board</u>	
		ADDRESS: <u>Box 31 GP 327 RR 3</u>	
		CITY/TOWN: <u>Beasejour</u> / PROV.: <u>mb</u>	
		POSTAL CODE: <u>R0E 0C0</u>	
		PHONE: <u>204-799-1554</u>	
		BY: MAIL ☐ FAX ☐	
		E-MAIL ☒ <u>glbmb16@gmail.com</u> (FAX NUMBER) (EMAIL ADDRESS)	
		CC	
		NAME: _____	
		ADDRESS: _____	
		CITY/TOWN: _____ / PROV.: _____	
		POSTAL CODE: _____	
		PHONE: _____	
		BY: MAIL ☐ FAX ☐	
		E-MAIL ☐ _____ (FAX NUMBER) (EMAIL ADDRESS)	

Analyses required _____

BILLING ADDRESS

SAME AS REPORT TO ☒

NAME: _____
COMPANY: _____
ADDRESS: _____
CITY/TOWN: _____ / PROV.: _____
POSTAL CODE: _____

PAYMENT PARTICULARS (CASH NOT ACCEPTED)

☐ INVOICE NEEDED / CLIENT'S P.O. NO. _____
☐ INTERAC
☐ CHEQUE Subtotal \$ _____
☐ VISA G.S.T. \$ _____
☐ MASTERCARD Total \$ _____

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

SAMPLING INSTRUCTIONS ON REVERSE SIDE
ALS ENVIRONMENTAL

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