

Bijaya Adhikari

From: Kelly McHugh <Kelly_McHugh@gov.nt.ca>
Sent: June 15, 2018 12:01 PM
To: Lloyd Gruben
Cc: Bijaya Adhikari; Mardy Semmler; Dean Ahmet; ITH
Subject: FW: Pit PW10 lab results June 8
Attachments: L2109586_XLR.xls; L2109586_COA.PDF

Good morning,

Forwarding lab results for 1835-78-C and 1835-78-A from samples collected on June 8, 2018. Total suspended solid levels are 1950 and 2800 mg/L respectively.

Mársı | Kinanāskomitin | Thank you | Merci | Hąı' | Quana | Qujannamiik | Quyanainni | Máhsı | Máhsı | Mahsi

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-----Original Message-----

From: Rick.Zolkiewski@alsglobal.com [mailto:Rick.Zolkiewski@alsglobal.com]
Sent: Thursday, June 14, 2018 9:14 AM
To: Kelly McHugh; ITH; doug@egrubens.com
Subject: L2109586 COA [Job #]

Hello,

Please find enclosed your certificate of analysis. For any questions regarding the report, please contact your account manager.

Notes / Abbreviations:

COC = Chain of Custody

SRC = Sample Receipt Confirmation

COA = Certificate of Analysis

If you need Adobe Acrobat Reader, just click the following link:

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GOVERNMENT OF NWT
ATTN: ALEXIS CAMPBELL
5009 49 STREET
P.O. BOX 1320
YELLOWKNIFE NT X1A 2L9

Date Received: 11-JUN-18
Report Date: 14-JUN-18 09:09 (MT)
Version: FINAL

Client Phone: 867-767-9083

Certificate of Analysis

Lab Work Order #: L2109586
Project P.O. #: NOT SUBMITTED
Job Reference:
C of C Numbers:
Legal Site Desc:

Rick Zolkiewski
General Manager

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ADDRESS: 314 Old Airport Road, Unit 116, Yellowknife, NT X1A 3T3 Canada | Phone: +1 867 873 5593 |
ALS CANADA LTD Part of the ALS Group An ALS Limited Company

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L2109586-1	L2109586-2	L2109586-3		
		Description	WATER	WATER	WATER		
		Sampled Date	08-JUN-18	08-JUN-18	08-JUN-18		
		Sampled Time	11:12	12:09	13:54		
		Client ID	1835-78-C	1835-78-A	1835-73-A-3		
Grouping	Analyte						
WATER							
Physical Tests	pH (pH)	8.00	8.08	7.72			
	Total Suspended Solids (mg/L)	1950	2800	40.1			
Volatile Organic Compounds	Benzene (mg/L)	<0.00050	<0.00050	<0.00050			
	EthylBenzene (mg/L)	<0.00050	<0.00050	<0.00050			
	Toluene (mg/L)	<0.00050	<0.00050	<0.00050			
	o-Xylene (mg/L)	<0.00050	<0.00050	<0.00050			
	m+p-Xylene (mg/L)	<0.00050	<0.00050	<0.00050			
	Xylenes (mg/L)	<0.00071	<0.00071	<0.00071			
	F1(C6-C10) (mg/L)	<0.10	<0.10	<0.10			
	F1-BTEX (mg/L)	<0.10	<0.10	<0.10			
	Surrogate: 4-Bromofluorobenzene (SS) (%)	80.8	79.9	81.5			
	Surrogate: 3,4-Dichlorotoluene (SS) (%)	109.7	115.4	114.6			
	Surrogate: 1,4-Difluorobenzene (SS) (%)	96.8	97.2	98.4			
Hydrocarbons	F2 (>C10-C16) (mg/L)	<0.10	<0.10	<0.10			
	F3 (C16-C34) (mg/L)	<0.25	<0.25	<0.25			
	F4 (C34-C50) (mg/L)	<0.25	<0.25	<0.25			
	Surrogate: 2-Bromobenzotrifluoride (%)	94.7	104.2	92.2			

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
BTXS,F1-ED	Water	BTEX, Styrene and F1 (C6-C10)	EPA 5021/8015&8260 GC-MS & FID
EC-SCREEN-VA	Water	Conductivity Screen (Internal Use Only)	APHA 2510
Qualitative analysis of conductivity where required during preparation of other tests - e.g. TDS, metals, etc.			
F2,F3,F4-ED	Water	F2, F3, F4	EPA 3510/CCME PHC CWS-GC-FID
Water samples are spiked with 2-BBTF surrogate, and extracted by reciprocal action shaker for 30 minutes using a single micro-extraction with 2 mL hexane. After extraction, hexane extracts are dispensed into GC vials for GC-FID analysis.			
PH-PCT-VA	Water	pH by Meter (Automated)	APHA 4500-H pH Value
This analysis is carried out using procedures adapted from APHA Method 4500-H "pH Value". The pH is determined in the laboratory using a pH electrode			
It is recommended that this analysis be conducted in the field.			
TSS-VA	Water	Total Suspended Solids by Gravimetric	APHA 2540 D - GRAVIMETRIC
This analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, TSS is determined by drying the filter at 104 degrees celsius. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.			

** 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
ED	ALS ENVIRONMENTAL - EDMONTON, ALBERTA, CANADA
VA	ALS ENVIRONMENTAL - VANCOUVER, BRITISH COLUMBIA, CANADA

Chain of Custody Numbers:

GLOSSARY OF REPORT TERMS

Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

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 of sample.

mg/L - milligrams per litre.

< - Less than.

D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).

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: L2109586

Report Date: 14-JUN-18

Page 1 of 4

Client: GOVERNMENT OF NWT
 5009 49 STREET P.O. BOX 1320
 YELLOWKNIFE NT X1A 2L9

Contact: ALEXIS CAMPBELL

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BTXS,F1-ED		Water						
Batch	R4074971							
WG2794683-7	LCS							
Benzene			98.4		%		70-130	12-JUN-18
Toluene			97.6		%		70-130	12-JUN-18
EthylBenzene			90.4		%		70-130	12-JUN-18
m+p-Xylene			99.7		%		70-130	12-JUN-18
o-Xylene			103.6		%		70-130	12-JUN-18
F1(C6-C10)			N/A		ug/L			12-JUN-18
F1(C6-C10)			N/A		mg/L			12-JUN-18
WG2794683-8	LCS							
Benzene			N/A		ug/L			12-JUN-18
Benzene			N/A		mg/L			12-JUN-18
Toluene			N/A		ug/L			12-JUN-18
Toluene			N/A		mg/L			12-JUN-18
EthylBenzene			N/A		ug/L			12-JUN-18
EthylBenzene			N/A		mg/L			12-JUN-18
m+p-Xylene			N/A		ug/L			12-JUN-18
m+p-Xylene			N/A		mg/L			12-JUN-18
o-Xylene			N/A		ug/L			12-JUN-18
o-Xylene			N/A		mg/L			12-JUN-18
F1(C6-C10)			93.2		%		70-130	12-JUN-18
WG2794683-6	MB							
Benzene			<0.00050		mg/L		0.0005	12-JUN-18
Toluene			<0.00050		mg/L		0.0005	12-JUN-18
EthylBenzene			<0.00050		mg/L		0.0005	12-JUN-18
m+p-Xylene			<0.00050		mg/L		0.0005	12-JUN-18
o-Xylene			<0.00050		mg/L		0.0005	12-JUN-18
F1(C6-C10)			<0.10		mg/L		0.1	12-JUN-18
Surrogate: 1,4-Difluorobenzene (SS)			98.0		%		70-130	12-JUN-18
Surrogate: 4-Bromofluorobenzene (SS)			80.7		%		70-130	12-JUN-18
Surrogate: 3,4-Dichlorotoluene (SS)			116.3		%		70-130	12-JUN-18
F2,F3,F4-ED		Water						
Batch	R4082200							
WG2794919-2	LCS							
F2 (>C10-C16)			103.1		%		70-130	12-JUN-18
F3 (C16-C34)			96.2		%		70-130	12-JUN-18
F4 (C34-C50)			96.8		%		70-130	12-JUN-18



Quality Control Report

Workorder: L2109586

Report Date: 14-JUN-18

Page 2 of 4

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
F2,F3,F4-ED								
	Water							
Batch	R4082200							
WG2794919-1	MB							
F2 (>C10-C16)			<0.10		mg/L		0.1	12-JUN-18
F3 (C16-C34)			<0.25		mg/L		0.25	12-JUN-18
F4 (C34-C50)			<0.25		mg/L		0.25	12-JUN-18
Surrogate: 2-Bromobenzotrifluoride			75.3		%		60-140	12-JUN-18
PH-PCT-VA								
	Water							
Batch	R4082140							
WG2795475-2	CRM	VA-PH7-BUF						
pH			7.01		pH		6.9-7.1	13-JUN-18
TSS-VA								
	Water							
Batch	R4082658							
WG2795529-8	LCS							
Total Suspended Solids			91.6		%		85-115	13-JUN-18
WG2795529-7	MB							
Total Suspended Solids			<3.0		mg/L		3	13-JUN-18

Quality Control Report

Workorder: L2109586

Report Date: 14-JUN-18

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

Quality Control Report

Workorder: L2109586

Report Date: 14-JUN-18

Page 4 of 4

Hold Time Exceedances:

ALS Product Description	Sample ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
Physical Tests							
pH by Meter (Automated)							
	1	08-JUN-18 11:12	13-JUN-18 12:46	0.25	122	hours	EHTR-FM
	2	08-JUN-18 12:09	13-JUN-18 12:46	0.25	121	hours	EHTR-FM
	3	08-JUN-18 13:54	13-JUN-18 12:46	0.25	119	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 L2109586 were received on 11-JUN-18 09:30.

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.

